

VOLUME III - DRAWINGS

LIST OF DRAWINGS-PALAKKAD IMC-PUDUSSERY CENTRAL

DESIGN, CONSTRUCTION, TESTING, COMMISSIONING AND OPERATION & MAINTENANCE OF INFRASTRUCTURE WORKS AT PUDUSSERY CENTRAL OF PALAKKAD
NODE IN KERALA UNDER EXTENSION OF CHENNAI BENGALURU INDUSTRIAL CORRIDOR (CBIC) TO KOCHI VIA COIMBATORE "ON EPC BASIS"

DRAWING NO. GENERAL			DRAWING TITLE			REV	DRAWING NO. ELECTRICAL			DRAWING TITLE			REV	DRAWING NO. STRUCTURE			DRAWING TITLE			REV
72301100-PAL-IMC-C-LD-0001			LIST OF DRAWINGS, SHEET 1 OF 1			R0	72301100-PAL-IMC-C-PW-LN-0002			LEGENDS, NOTES, AND ABBREVIATIONS			R0	72301100-PAL-IMC-C-STR-WL-0005			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 1 STRUCTURES (SHEET 1 OF 2)			R0
							72301100-PAL-IMC-C-PW-OS-0003			OVERALL SCHEME FOR POWER DISTRIBUTION ACROSS PUDUSSERY CENTRAL			R0	72301100-PAL-IMC-C-STR-WL-0006			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 1 STRUCTURES (SHEET 2 OF 2)			R0
ROAD							72301100-PAL-IMC-C-PW-SLD-0004			SINGLE LINE DIAGRAM FOR 110KV/11KV MAIN RECEIVING SUBSTATION (MRSS)			R0	72301100-PAL-IMC-C-STR-WL-0007			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 2 STRUCTURES (SHEET 1 OF 2)			R0
72301100-PAL-IMC-RD-DR-CH-0006			ROAD NETWORK PLAN PUDUSSERY CENTRAL			R0	72301100-PAL-IMC-C-PW-SLD-0005			SINGLE LINE DIAGRAM FOR MRSS-11KV RING 1 TO 3 NETWORK			R0	72301100-PAL-IMC-C-STR-WL-0008			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 2 STRUCTURES (SHEET 2 OF 2)			R0
72301100-PAL-IMC-RD-DR-CH-0007			TYPICAL CROSS SECTIONS SHEET 1			R0	72301100-PAL-IMC-C-PW-SLD-0006			SINGLE LINE DIAGRAM FOR 110KV/33KV MAIN RECEIVING SUBSTATION (MRSS)			R0	72301100-PAL-IMC-C-STR-WL-0009			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 3 STRUCTURES (SHEET 1 OF 2)			R0
72301100-PAL-IMC-RD-DR-CH-0008			TYPICAL CROSS SECTIONS SHEET 2			R0	72301100-PAL-IMC-C-PW-SLD-0007			SINGLE LINE DIAGRAM FOR MRSS-11KV RING 4 TO 6 NETWORK			R0	72301100-PAL-IMC-C-STR-WL-0010			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 3 STRUCTURES (SHEET 2 OF 2)			R0
72301100-PAL-IMC-RD-DR-CH-0009			TYPICAL CROSS SECTIONS SHEET 3			R0	72301100-PAL-IMC-C-PW-SLD-0008			SINGLE LINE DIAGRAM FOR MRSS-11KV RING 7 TO 9 NETWORK			R0	72301100-PAL-IMC-C-STR-WL-0011			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 4 STRUCTURES (SHEET 1 OF 2)			R0
WET UTILITIES							72301100-PAL-IMC-C-PW-SLD-0009			SINGLE LINE DIAGRAM FOR MRSS-11KV RING 10 TO 12 NETWORK			R0	72301100-PAL-IMC-C-STR-WL-0012			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 4 STRUCTURES (SHEET 2 OF 2)			R0
72301100-PAL-IMC-C-WT-LN-0002			WATER NETWORK - GENERAL NOTES, LEGENDS AND ABBREVIATIONS			R0	72301100-PAL-IMC-C-PW-SLD-0010			SINGLE LINE DIAGRAM FOR MRSS-11KV RING 13 TO 16 NETWORK			R0	72301100-PAL-IMC-C-STR-WL-0013			GENERAL LAYOUT OF BOX CULVERT BOX CULVERT FOR GROUP 5 STRUCTURES (SHEET 1 OF 2)			R0
72301100-PAL-IMC-C-WT-OL-0003			WATER NETWORK, OVERALL LAYOUT PLAN			R0	72301100-PAL-IMC-C-PW-SLD-0011			SINGLE LINE DIAGRAM FOR MRSS-11KV RING 17 TO 19 NETWORK			R0	72301100-PAL-IMC-C-STR-WL-0014			GENERAL LAYOUT OF BOX CULVERT BOX CULVERT FOR GROUP 5 STRUCTURES (SHEET 2 OF 2)			R0
72301100-PAL-IMC-C-RW-LN-0002			REUSE NETWORK - GENERAL NOTES, LEGENDS AND ABBREVIATIONS			R0	72301100-PAL-IMC-C-PW-SLD-0012			TYPICAL SINGLE LINE DIAGRAM FOR LT AUX SWITCHBOARD FOR WTP/STP/CETP			R0	72301100-PAL-IMC-C-STR-WL-0015			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 6 STRUCTURES (SHEET 1 OF 2)			R0
72301100-PAL-IMC-C-RW-OL-0003			REUSE NETWORK, OVERALL LAYOUT PLAN			R0	72301100-PAL-IMC-C-PW-SLD-0013			TYPICAL SINGLE LINE DIAGRAM FOR 11KV, 3WAY, 4WAY & 5WAY RMLUs			R0	72301100-PAL-IMC-C-STR-WL-0016			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 6 STRUCTURES (SHEET 2 OF 2)			R0
72301100-PAL-IMC-C-SW-LN-0002			SEWER NETWORK - GENERAL NOTES, LEGENDS AND ABBREVIATIONS			R0	72301100-PAL-IMC-C-PW-SLD-0014			TYPICAL SINGLE LINE DIAGRAM FOR COMPACT SUBSTATIONS (CSS)			R0	72301100-PAL-IMC-C-STR-WL-0017			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 7 STRUCTURES (SHEET 1 OF 2)			R0
72301100-PAL-IMC-C-SW-OL-0003			SEWER NETWORK, OVERALL LAYOUT PLAN			R0	72301100-PAL-IMC-C-PW-SLD-0015			TYPICAL SLD FOR STREET LIGHTING FEEDER PILLAR			R0	72301100-PAL-IMC-C-STR-WL-0018			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 7 STRUCTURES (SHEET 2 OF 2)			R0
72301100-PAL-IMC-C-EF-LN-0002			EFFLUENT NETWORK - GENERAL NOTES, LEGENDS AND ABBREVIATIONS			R0	72301100-PAL-IMC-C-PW-OPD-0016			OVERALL EHV/HV POWER DISTRIBUTION NETWORK PLAN			R0	72301100-PAL-IMC-C-STR-WL-0019			GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 7 STRUCTURES (SHEET 2 OF 2)			R0
72301100-PAL-IMC-C-EF-OL-0003			EFFLUENT NETWORK, OVERALL LAYOUT PLAN(SHEET 1 OF 2)			R0	72301100-PAL-IMC-C-PW-OCR-0048			OVERALL 11KV CABLE ROUTING NETWORK PLAN			R0	72301100-PAL-IMC-C-STR-WL-0020			PUDUSSERY CENTRAL STRUCTURAL KEY PLAN			R0
72301100-PAL-IMC-C-EF-OL-0003			EFFLUENT NETWORK, OVERALL LAYOUT PLAN(SHEET 2 OF 2)			R0	72301100-PAL-IMC-C-PW-OCT-0080			OVERALL RCC CABLE TRENCH AND CONDUIT NETWORK PLAN			R0							
72301100-PAL-IMC-W-SWL-LN-0002			STORM WATER NETWORK - GENERAL NOTES, LEGENDS AND ABBREVIATIONS			R0	72301100-PAL-IMC-C-PW-GA-0112			TYPICAL RCC MANHOLE DETAILS FOR EHV CABLING			R0	72301100-PAL-IMC-C-STR-WL-0021						
72301100-PAL-IMC-W-SWL-OL-0003			STORM WATER NETWORK, OVERALL LAYOUT PLAN(SHEET 1 OF 7)			R0	72301100-PAL-IMC-C-PW-GA-0113			TYPICAL RCC CABLE TRENCH SECTION FOR HT/LT CABLING ALONG ROW			R0	72301100-PAL-IMC-C-STR-WL-0022			GENERAL ARRANGEMENTOF ROB FOR EXTERNAL CONNECTIVITY OF PUDUSSERY CENTRAL			R0
72301100-PAL-IMC-W-SWL-OL-0003			STORM WATER NETWORK, OVERALL LAYOUT PLAN(SHEET 2 OF 7)			R0	72301100-PAL-IMC-C-PW-GA-0114			TYPICAL 220kv RCC CABLE TRENCH SECTION (FROM EXTERNAL SOURCE STATION TO PROJECT BOUNDARY			R0							
72301100-PAL-IMC-W-SWL-OL-0003			STORM WATER NETWORK, OVERALL LAYOUT PLAN(SHEET 3 OF 7)			R0	72301100-PAL-IMC-C-PW-GA-0115			TYPICAL 220kv BURIED HDPE DUCT CONFIGURATION (FROM PROJECT BOUNDARY TO MRSS)			R0							
72301100-PAL-IMC-W-SWL-OL-0003			STORM WATER NETWORK, OVERALL LAYOUT PLAN(SHEET 4 OF 7)			R0	72301100-PAL-IMC-C-PW-GA-0116			TYPICAL CABLE TRENCH SECTIONS ON DIFFERENT ROADS			R0							
72301100-PAL-IMC-W-SWL-OL-0003			STORM WATER NETWORK, OVERALL LAYOUT PLAN(SHEET 5 OF 7)			R0	72301100-PAL-IMC-C-PW-SA-0117			TYPICAL SYSTEM ARCHITECTURE LAYOUT FOR ELECTRICAL SCADA			R0							
72301100-PAL-IMC-W-SWL-OL-0003			STORM WATER NETWORK, OVERALL LAYOUT PLAN(SHEET 6 OF 7)			R0	72301100-PAL-IMC-C-PW-OSL-0118			OVERALL STREET LIGHTING NETWORK PLAN			R0							
72301100-PAL-IMC-W-SWL-OL-0003			STORM WATER NETWORK, OVERALL LAYOUT PLAN(SHEET 7 OF 7)			R0	72301100-PAL-IMC-C-PW-FP-0150			LV FEEDER PILLAR LOCATION PLAN			R0							
72301100-PAL-IMC-C-CETP-LP-0001			CETP LAYOUT (SHEET 1 OF 1)			R0														
72301100-PAL-IMC-C-STP-LP-0001			STP LAYOUT (SHEET 1 OF 1)			R0														

R0	AR	RK	SP	AUG 2022	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT

**National Industrial Corridor
Development Corporation Limited**
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION

Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

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CH2M HILL INDIA PVT. LTD.

PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

LIST OF DRAWINGS
SHEET 1 OF 1

DRAWN BY :	AR	DATE :09-MAY-25
CHECKED BY :	RK	DATE :09-MAY-25
AUTHORIZED BY :	SP	DATE :09-MAY-25

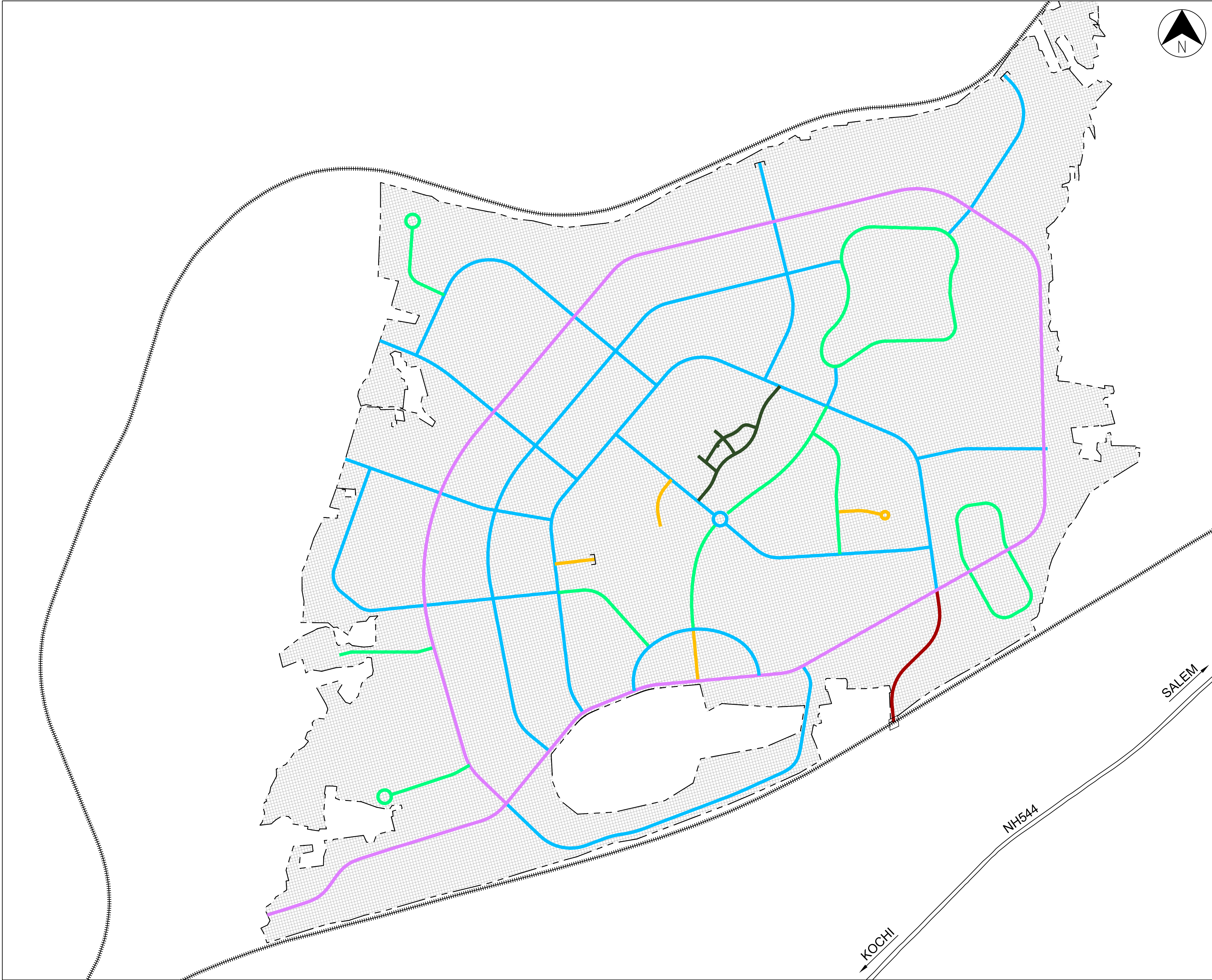
DRAWING NO.	REVISION
72301100-PAL-IMC-C-LD-0001	R0

DRAWING SCALE : NTS

@A-

FILENAME : 72301100-PAL-IMC-LD-0001.dwg PLOT SCALE : 1:1

FILENAME: 72301100 PLOT DATE: PLOT TIME:



LEGEND

- ARTERIAL ROADS
- SUB ARTERIAL ROADS
- COLLECTOR ROADS
- LOCAL INDUSTRIAL STREETS
- LOCAL RESIDENTIAL STREETS
- LOCAL RESIDENTIAL STREETS
- PROJECT BOUNDARY
- PROJECT AREA

Revision	By	Checked	Approved	Date	Description
R0	SB	SK	KG	15-APR-25	TENDER DRAWING
T0	SB	SK	KG	APR 2023	TENDER DRAWING

CLIENT
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PACKAGE
DRAWING TITLE

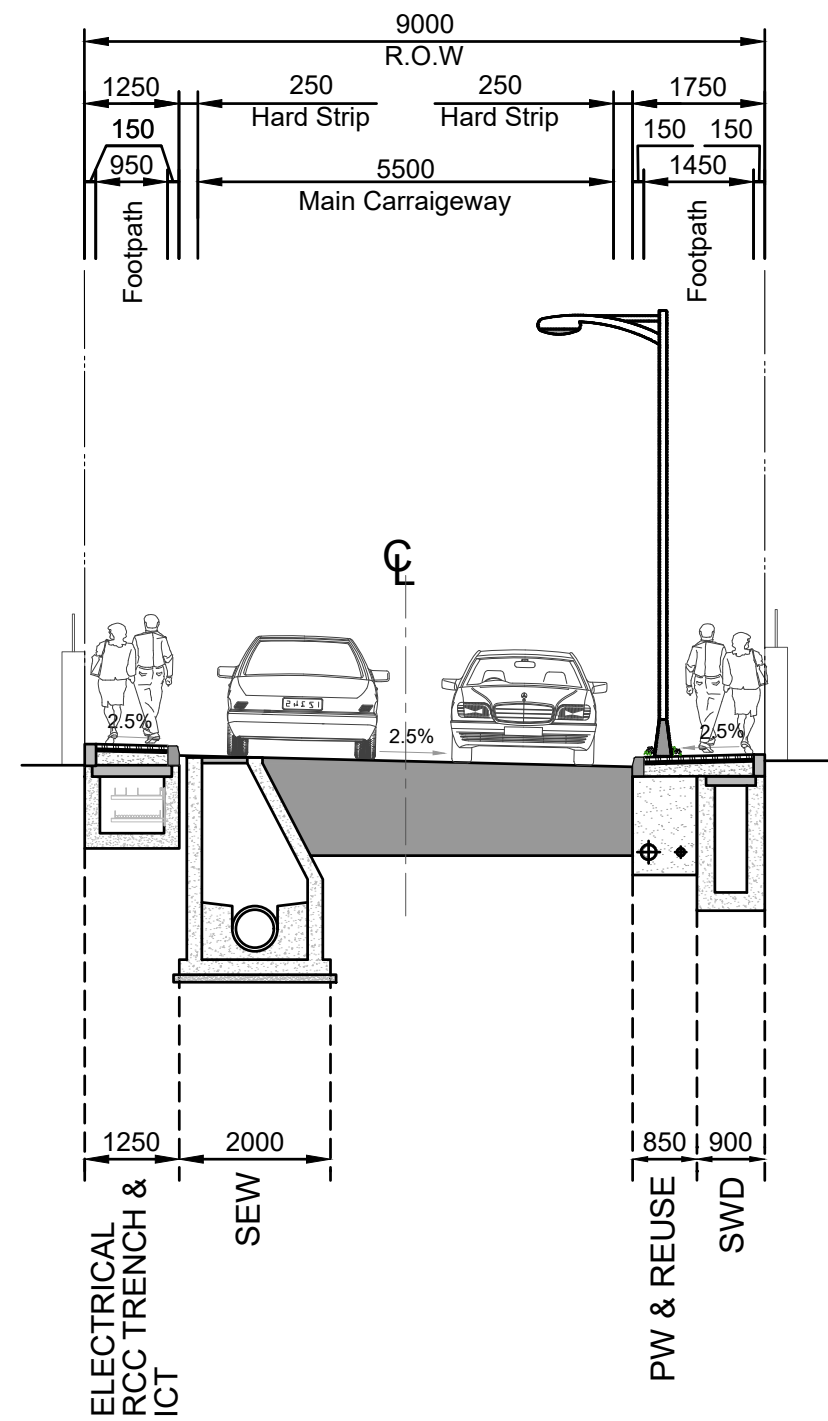
**ROAD NETWORK PLAN
PUDUSERRY CENTRAL**

DRAWN BY : SB DATE : APR 2023
CHECKED BY : SK DATE : APR 2023
AUTHORIZED BY : KG DATE : APR 2023

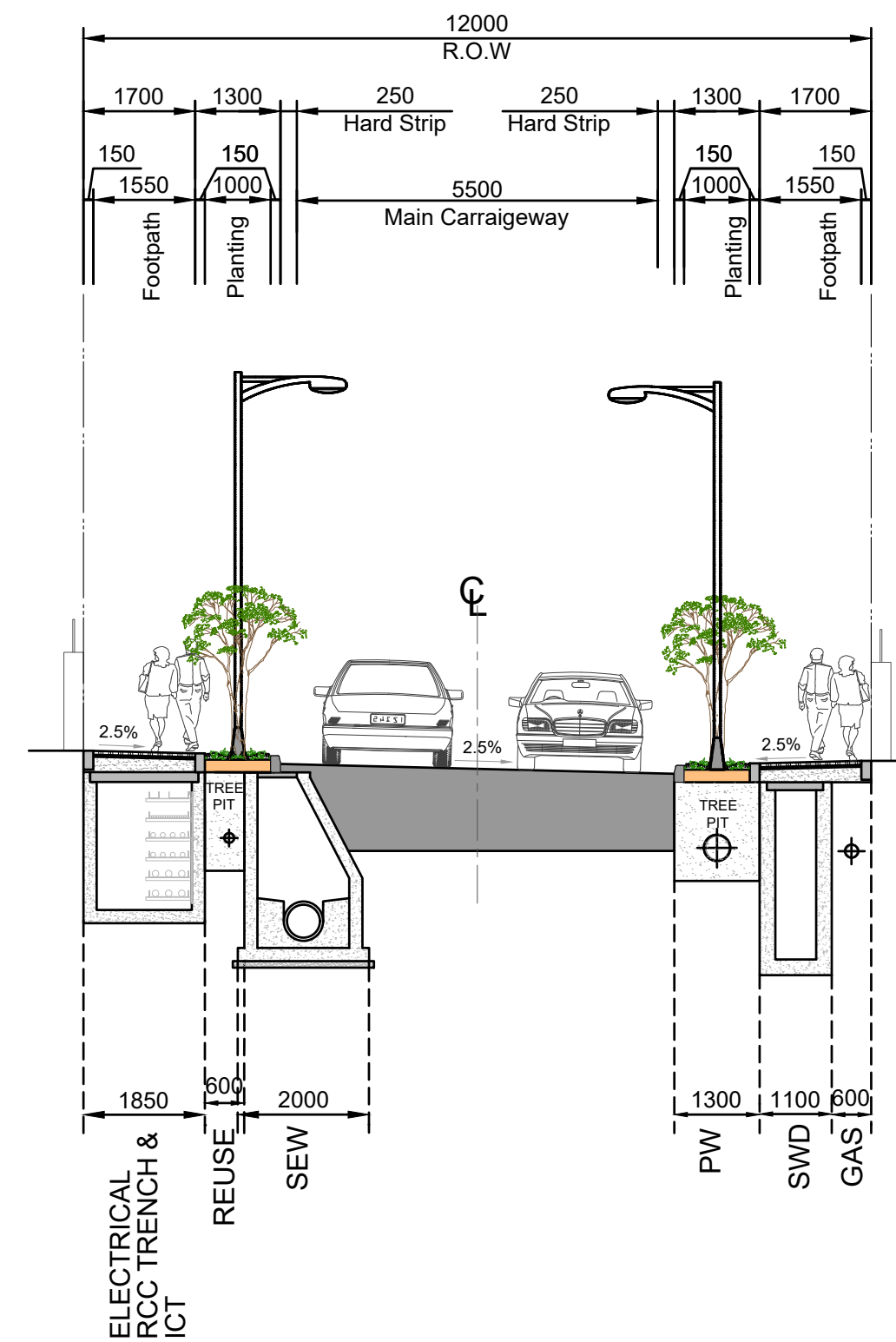
DRAWING NO. REVISION
72301100-PAL-IMC-RD-CH-0006 R0

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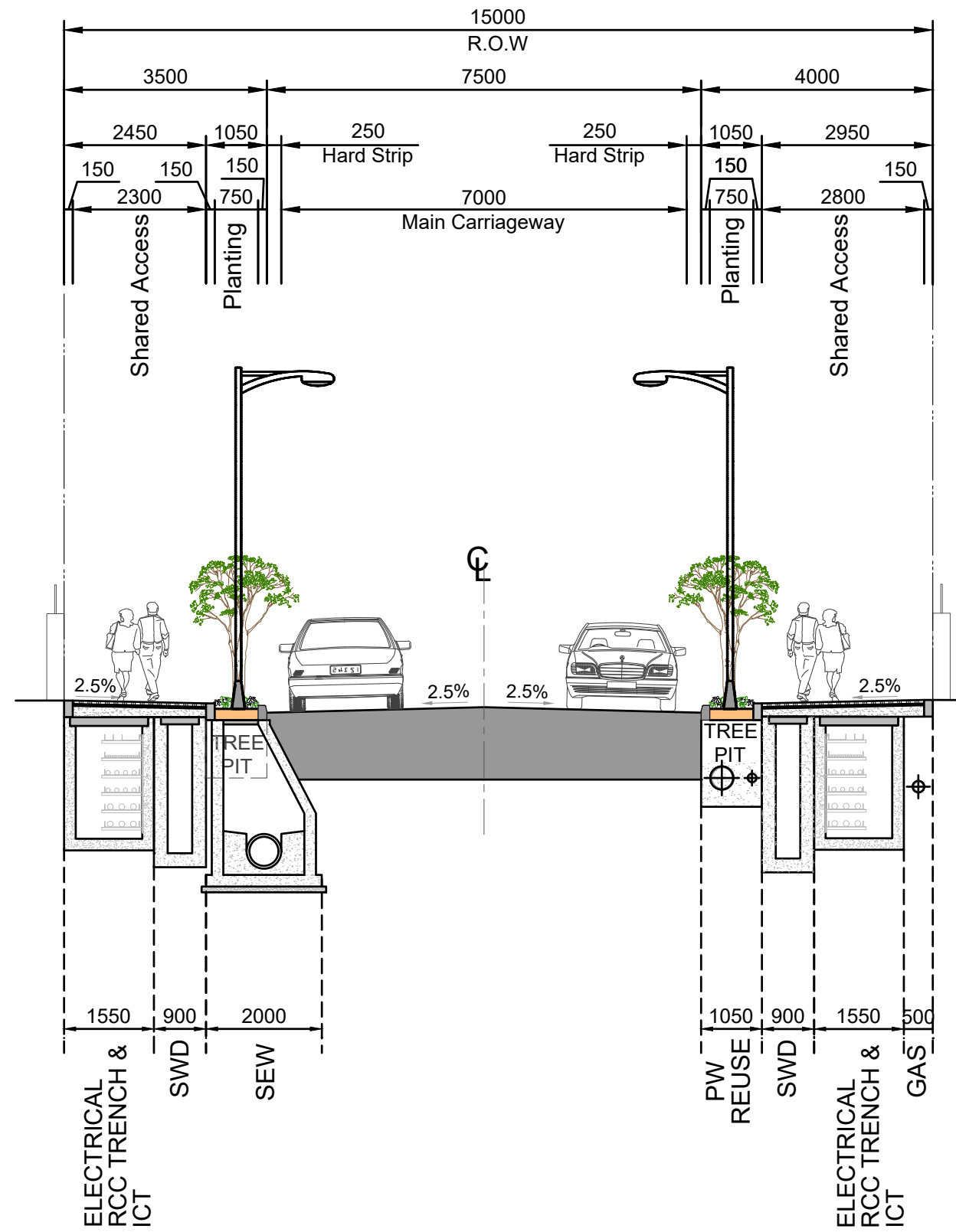
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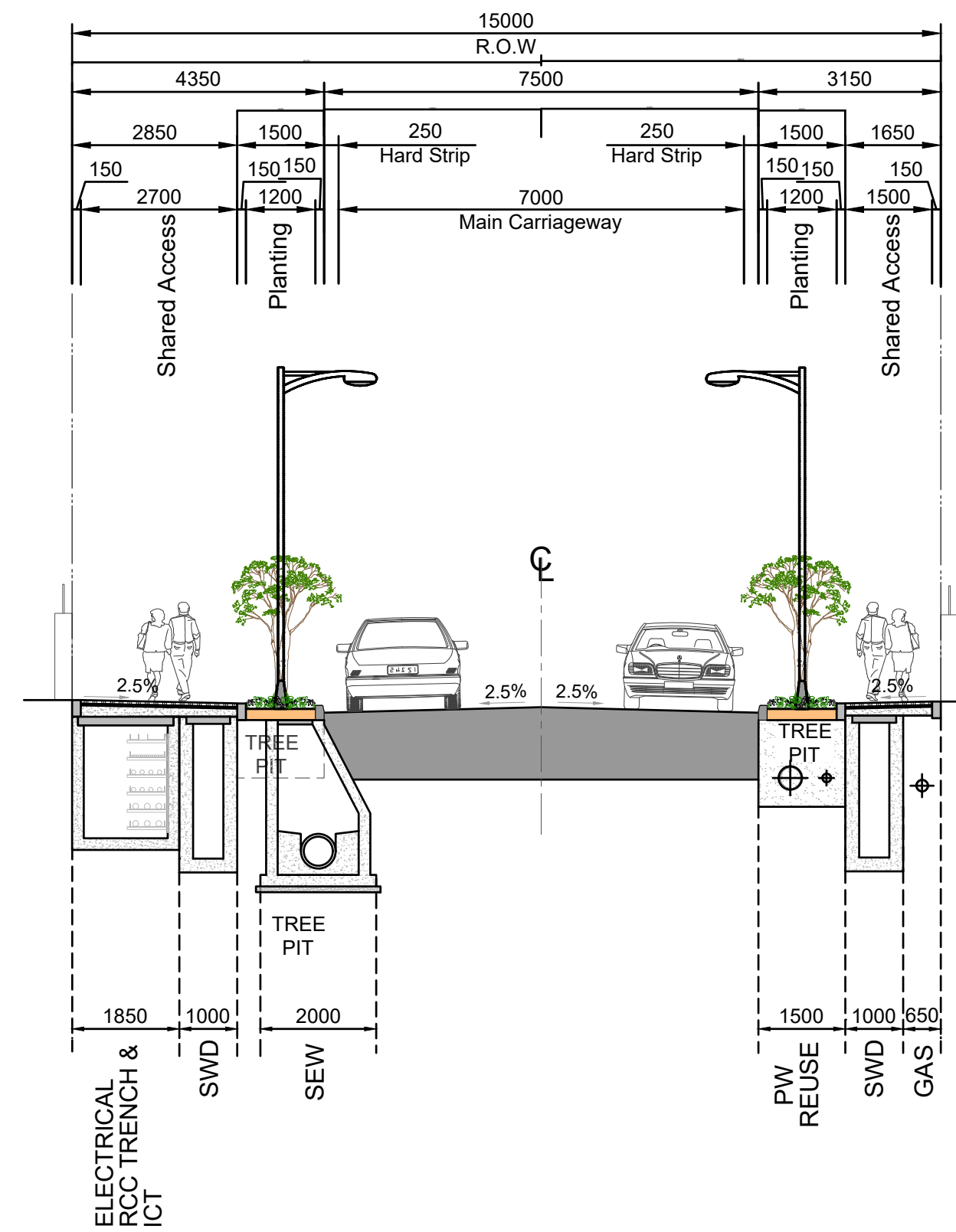
TYPICAL CROSS SECTION : 9m CORRIDOR



TYPICAL CROSS SECTION : 12m CORRIDOR

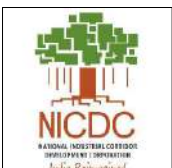


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TYPICAL CROSS SECTION : 15m CORRIDOR (B)

R0	SB	SK	KG	15-APR-25	TENDER DRAWING
T0	SB	SK	KG	APR 2023	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

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PACKAGE

DRAWING TITLE

TYPICAL CROSS SECTIONS SHEET 1

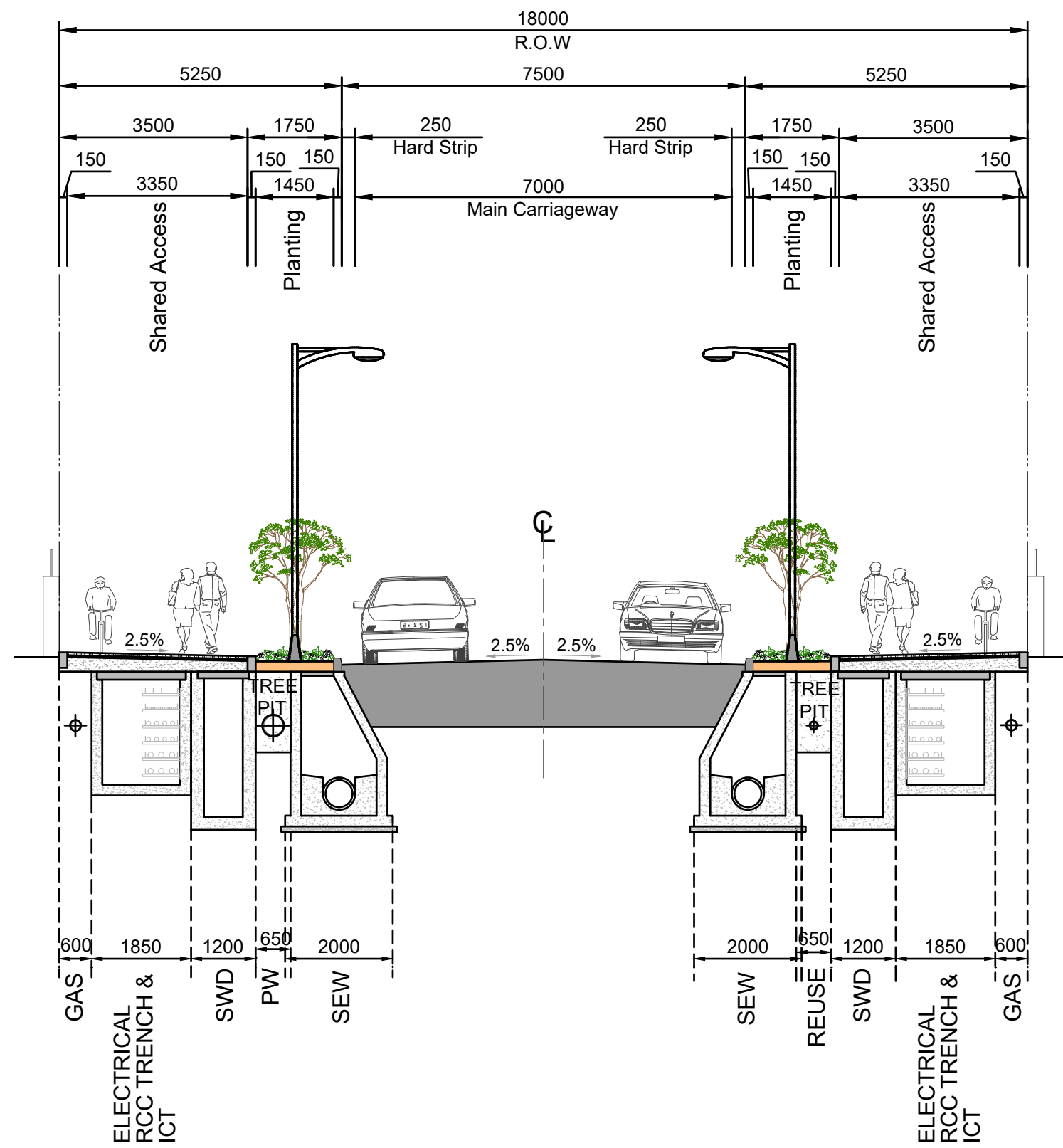
DRAWN BY : SB DATE :APR 2023
CHECKED BY : SK DATE :APR 2023
AUTHORIZED BY : KG DATE :APR 2023

DRAWING NO. REVISION
72301100-PAL-IMC-RD-CH-0007 R0

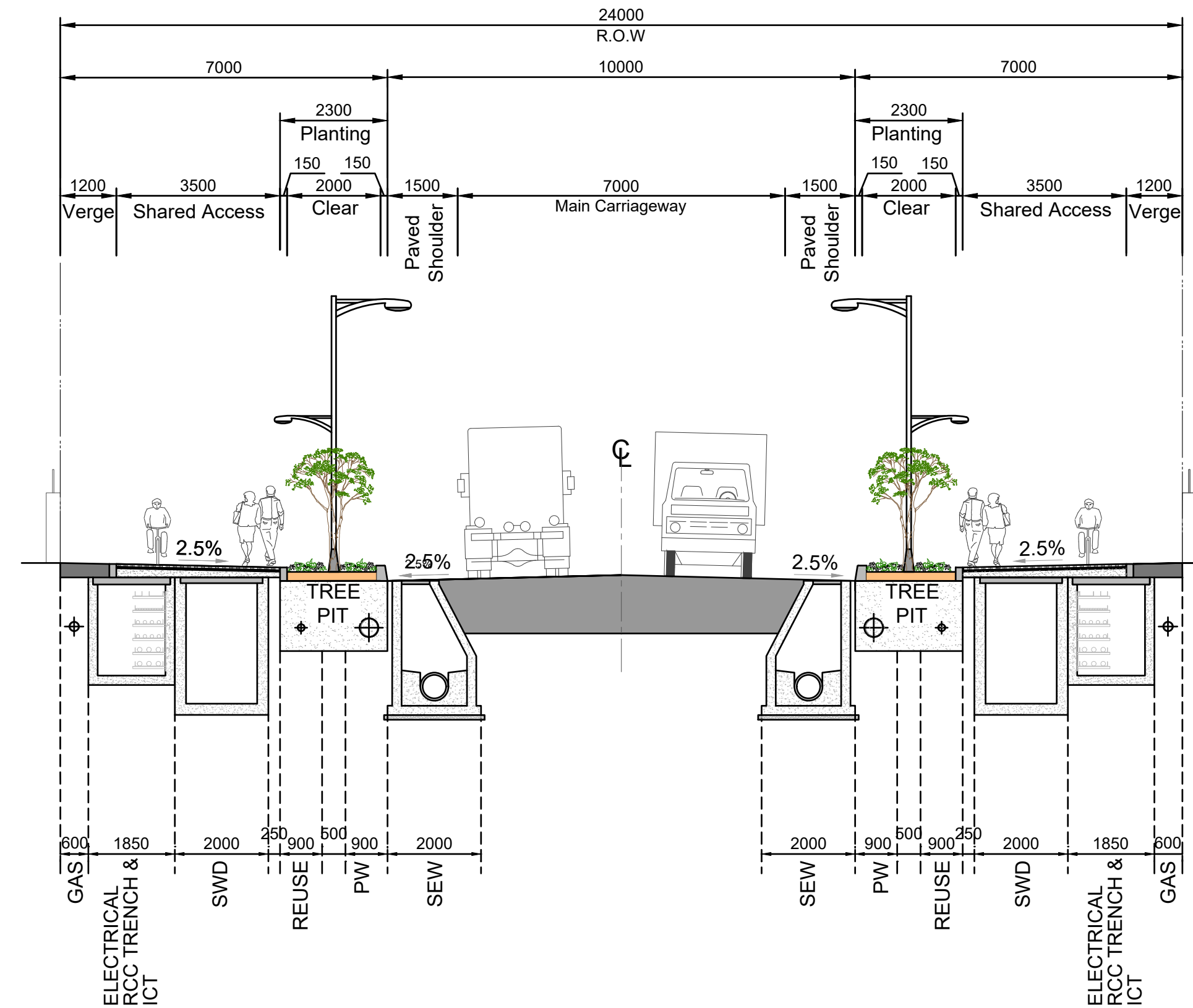
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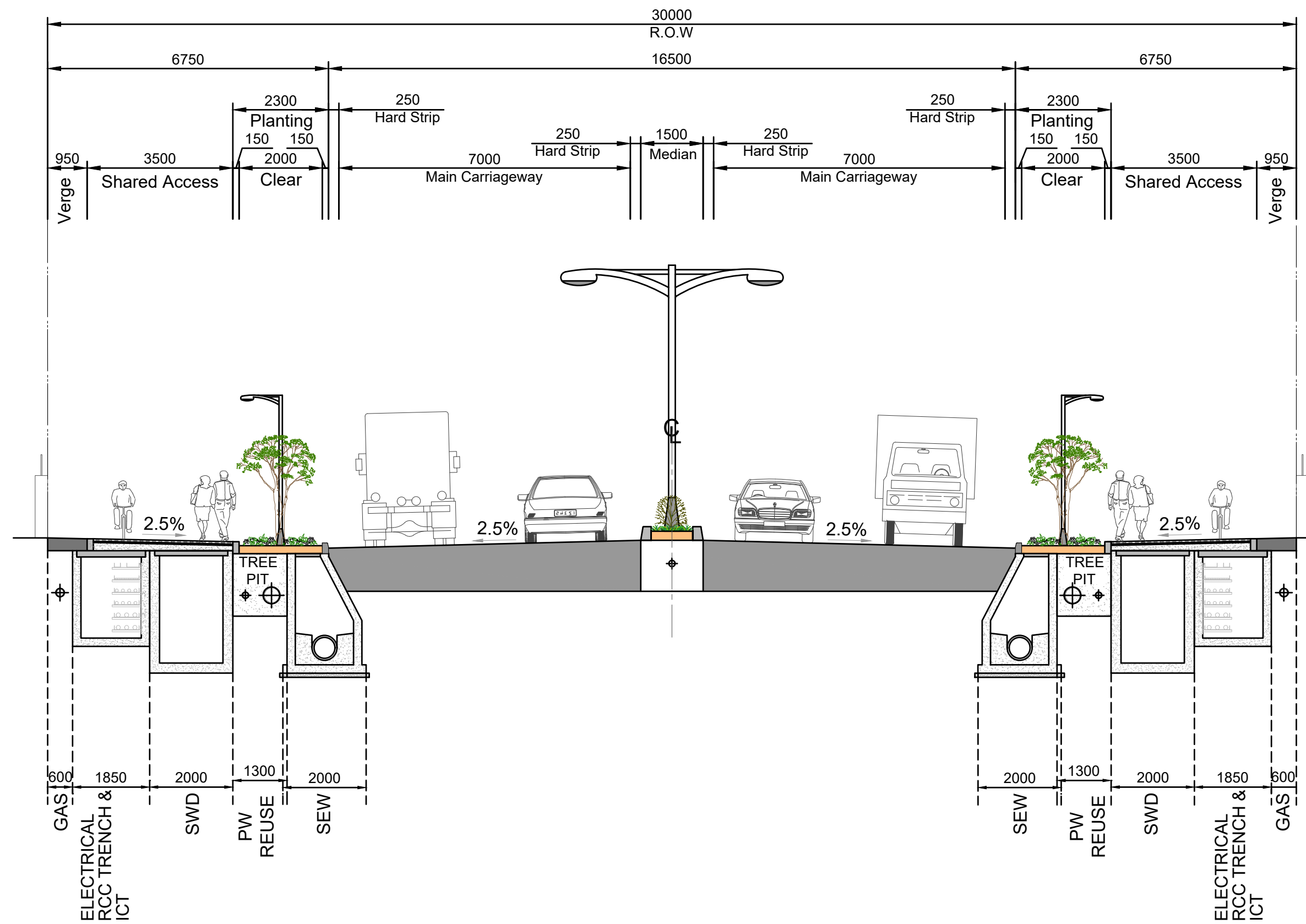
FILENAME: PLOT DATE: PLOT TIME:



TYPICAL CROSS SECTION : 18m CORRIDOR



TYPICAL CROSS SECTION : 24m CORRIDOR



TYPICAL CROSS SECTION : 30m CORRIDOR

Revision	By	Checked	Approved	Date	Description
R0	SB	SK	KG	15-APR-25	TENDER DRAWING
T0	SB	SK	KG	APR 2023	TENDER DRAWING

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NODAL AGENCY
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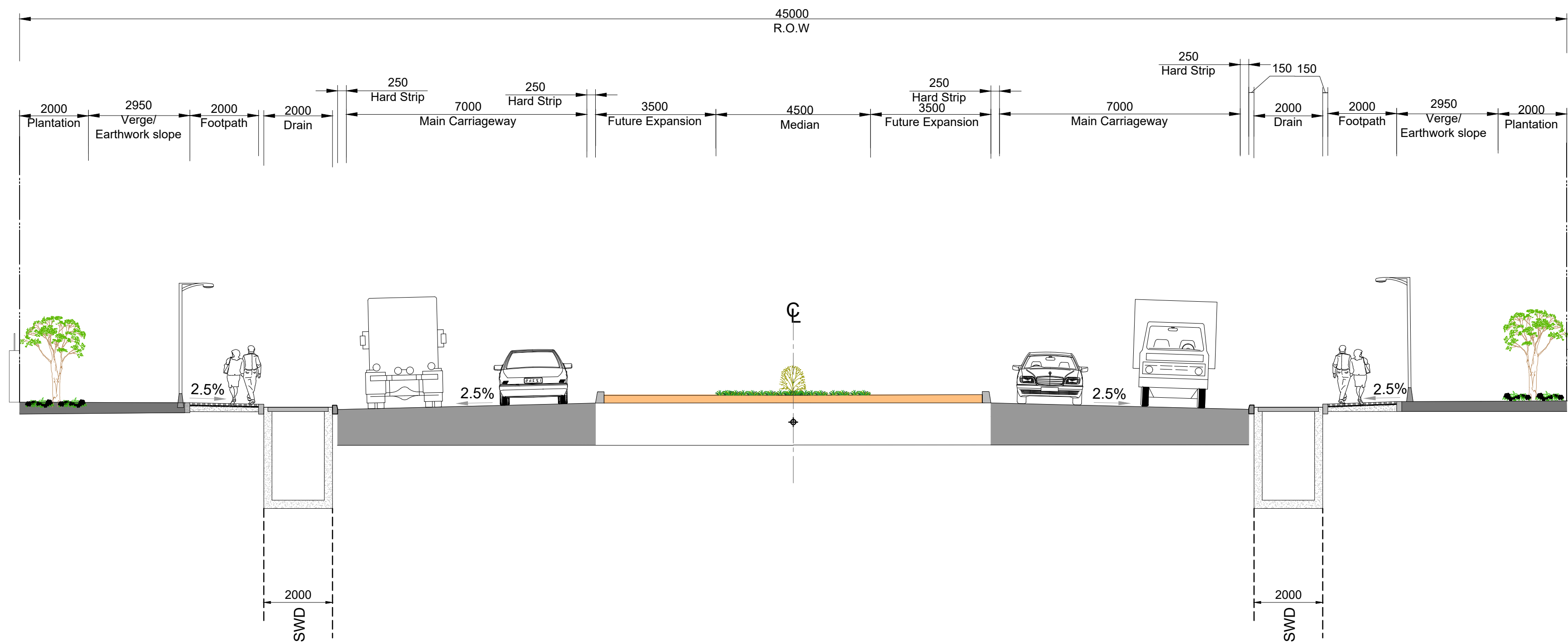
CONSULTANT
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PACKAGE
DRAWING TITLE

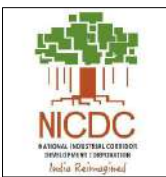
TYPICAL CROSS SECTIONS SHEET 2

DRAWN BY :	SB	DATE :APR 2023
CHECKED BY :	SK	DATE :APR 2023
AUTHORIZED BY :	KG	DATE :APR 2023
DRAWING NO.	72301100-PAL-IMC-RD-CH-0008	REVISION R0
DRAWING SCALE :	1:6000	@A1
FILENAME :	72301100-PAL-IMC-RD-CH-0008.dwg	PLOT SCALE :



TYPICAL CROSS SECTION : 45m CORRIDOR (EXTERNAL CONNECTIVITY)

R0	SB	SK	KG	15-APR-25	TENDER DRAWING
T0	SB	SK	KG	APR 2023	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

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PACKAGE

DRAWING TITLE
TYPICAL CROSS SECTIONS SHEET 3

DRAWN BY : SB DATE :APR 2023
CHECKED BY : SK DATE :APR 2023
AUTHORIZED BY : KG DATE :APR 2023

DRAWING NO. REVISION
72301100-PAL-IMC-RD-CH-0009 R0

DRAWING SCALE : 1:6000 @A1

FILENAME : 72301100-PAL-IMC-RD-CH-0008.dwg PLOT SCALE :

NOTES:

1. PIPE WORK SHALL BE LAID IN DEFINED SERVICE CORRIDORS.
2. WATER PIPE SHALL HAVE MINIMUM 1000 MM COVER ABOVE THE CROWN. AT LOCATIONS WHERE MINIMUM COVER IS NOT AVAILABLE PIPE SHALL BE ENCASED IN CONCRETE C35 WITH MINIMUM REINFORCEMENT. FOR ROADS CROSSINGS, WATER PIPE SHALL BE ENCASED IN CONCRETE.
3. FOR UTILITIES RESERVATION CROSS SECTION REFER TO DRAWINGS NO. 72301100-PAL-IMC-C-0001, 72301100-PAL-IMC-C-0002.
4. FOR TYPICAL PIPE BEDDING DETAILS REFER TO DRAWING NO. 72301100-PAL-IMC-C-WT-SD-0035.
5. THE PIPELINE LAYOUT INCORPORATES ALIGNMENTS/ROUTING AS PER THE LATEST MASTER PLAN AVAILABLE. THIS BASE PLAN MAY BE FURTHER REVISED/UPDATED.
6. SYMBOLS FOR THE VALVE CHAMBERS IS ONLY A SCHEMATIC REPRESENTATION. THE VALVE CHAMBER TO BE CONSTRUCTED AT SUITABLE LOCATION ACCORDING TO THE SITE CONDITIONS.
7. ISOLATION VALVE SHOWN IN THE DRAWING ARE AS PER THE FOLLOWING TYPES:

(i) GATE VALVE ON PIPES OF DIAMETER UPTO ND 300MM.

(ii) BUTTERFLY VALVE ON PIPES OF DIAMETER GREATER THAN ND 300MM.

LEGENDS:

- PW

Ø500 DI PW TRANSMISSION LINE
- PW

Ø400 DI PW LINE
- PW

Ø250 HDPE PW LINE
- PW

Ø200 HDPE PW LINE
- PW

Ø180 HDPE PW LINE
- PW

Ø125 HDPE PW LINE
- GATE VALVE
- WASH OUT
- ESR
- TIE IN CONNECTION POINT
- END CAP
- CLEAR WATER PUMP STATION

ABBREVIATIONS:

- DI

DUCTILE IRON PIPE
- ESR

ELEVATED SERVICE RESERVOIR
- GSR

GROUND SERVICE RESERVOIR
- HDPE

HIGH DENSITY POLYETHYLENE
- ID

INNER DIAMETER
- NB

NOMINAL BORE
- OD

OUTER DIAMETER
- PW

POTABLE WATER
- RWPS

RAW WATER PUMPING STATION
- WTP

WATER TREATMENT PLANT

R0	RS	NV	SG	15-APR-25	TENDER DRAWING
T0	RS	NV	SG	APR 2023	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT



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DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
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EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

WATER NETWORK
GENERAL NOTES, LEGENDS
AND ABBREVIATIONS

DRAWN BY :	RS	DATE :APR 2023
CHECKED BY :	NV	DATE :APR 2023
AUTHORIZED BY :	SG	DATE :APR 2023

DRAWING NO.	REVISION
72301100-PAL-IMC-C-WT-LN-0002	R0

DRAWING SCALE : NTS

@A1

FILENAME : 72301100-PAL-IMC-C-WT-LN-0002.dwg

PLOT SCALE : 1:1

FILENAME: 72301100-PAL-IMC-C-WT-OL-0003.dwg PLOT DATE: 4/18/2025 PLOT TIME: 6:25:27 PM



NOTES:

- ALL DIMENSIONS ARE IN METERS UNLESS STATED OTHERWISE.
- FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS REFER TO DWG. NO. 72301100-PAL-IMC-C-WT-LN-0002.
- PIPE MATERIAL IS AS PER THE FOLLOWING:
D ≤ 300MM (ID) : HDPE PE 100 PN 6
350MM ≤ D ≤ 1000MM (NB) : DI K-7

LEGENDS:

	PW	Ø500 DI PW TRANSMISSION LINE
	PW	Ø400 DI PW LINE
	PW	Ø250 HDPE PW LINE
	PW	Ø225 HDPE PW LINE
	PW	Ø180 HDPE PW LINE
	PW	Ø125 HDPE PW LINE
		GATE VALVE
		WASH OUT
		ESR
		TIE IN CONNECTION POINT
		END CAP
		CLEAR WATER PUMP STATION

0 50 100 150 200 250 600
SCALE 1:6000 @ A1 ; 1:12000 @ A3 METRES

R0	RS	NV	SG	15-APR-25	TENDER DRAWING
T0	RS	NV	SG	APR 2023	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

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NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
Kinra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

CONSULTANT

Jacobs
CH2M HILL INDIA PVT. LTD.

PROJECT

PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

WATER NETWORK OVERALL LAYOUT PLAN

DRAWN BY: RS DATE: APR 2023

CHECKED BY: NV DATE: APR 2023

AUTHORIZED BY: SG DATE: APR 2023

DRAWING NO.	REVISION
72301100-PAL-IMC-C-WT-OL-0003	R0

DRAWING SCALE: 1:6000 @A1

FILENAME: 72301100-PAL-IMC-C-WT-OL-0003.dwg PLOT SCALE: 1:1

NOTES:

1. PIPE WORK SHALL BE LAID IN DEFINED SERVICE CORRIDORS.
2. WATER PIPE SHALL HAVE MINIMUM 1000 MM COVER ABOVE THE CROWN. AT LOCATIONS WHERE MINIMUM COVER IS NOT AVAILABLE PIPE SHALL BE ENCASED IN CONCRETE C35 WITH MINIMUM REINFORCEMENT. FOR ROADS CROSSINGS, WATER PIPE SHALL BE ENCASED IN CONCRETE.
3. FOR UTILITIES RESERVATION CROSS SECTION REFER TO DRAWINGS NO. 72301100-PAL-IMC-C-0001, 72301100-PAL-IMC-C-0002.
4. FOR TYPICAL PIPE BEDDING DETAILS REFER TO DRAWING NO. 72301100-PAL-IMC-C-RW-SD-0035.
5. THE PIPELINE LAYOUT INCORPORATES ALIGNMENTS/ROUTING AS PER THE LATEST MASTER PLAN AVAILABLE. THIS BASE PLAN MAY BE FURTHER REVISED/UPDATED.
6. SYMBOLS FOR THE VALVE CHAMBERS IS ONLY A SCHEMATIC REPRESENTATION. THE VALVE CHAMBER TO BE CONSTRUCTED AT SUITABLE LOCATION ACCORDING TO THE SITE CONDITIONS.
7. ISOLATION VALVE SHOWN IN THE DRAWING ARE AS PER THE FOLLOWING TYPES:

(I) GATE VALVE ON PIPES OF DIAMETER UPTO ND 300MM.

(II) BUTTERFLY VALVE ON PIPES OF DIAMETER GREATER THAN ND 300MM.

LEGENDS:

- RW

Ø450 DI RW TRANSMISSION LINE
- RW

Ø400 DI RW LINE
- RW

Ø280 DI RW LINE
- RW

Ø225 HDPE RW LINE
- RW

Ø200 HDPE RW LINE
- RW

Ø180 HDPE RW LINE
- RW

Ø125 HDPE RW LINE
- GATE VALVE
- WASH OUT
- ESR
- PUMP STATION
- END CAP

ABBREVIATIONS:

- HDPE

HIGH DENSITY POLYETHYLENE
- ID

INNER DIAMETER
- OD

OUTER DIAMETER
- DI

DUCTILE IRON PIPE
- NB

NOMINAL BORE
- RESR

REUSE ELEVATED SERVICE RESERVOIR
- RW

REUSE WATER
- STP

SEWAGE TREATMENT PLANT
- CETP

COMMON EFFLUENT TREATMENT PLANT

R0	RS	NV	SG	15-APR-25	TENDER DRAWING
T0	RS	NV	SG	APR 2023	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description



CLIENT

National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

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DEVELOPMENT CORPORATION
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PACKAGE

DRAWING TITLE

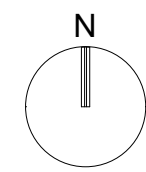
REUSE NETWORK
GENERAL NOTES, LEGENDS
AND ABBREVIATIONS

DRAWN BY :	RS	DATE :APR 2023
CHECKED BY :	NV	DATE :APR 2023
AUTHORIZED BY :	SG	DATE :APR 2023

DRAWING NO.	REVISION
72301100-PAL-IMC-C-RW-LN-0002	R0

DRAWING SCALE : NTS @A1

FILENAME : 72301100-PAL-IMC-C-RW-LN-0002.dwg PLOT SCALE : 1:1



NOTES:

1. BUILDING PLOT BOUNDARIES SHOWN ARE INDICATIVE ONLY AND SHOULD BE VERIFIED BEFORE CONSTRUCTION.
2. A MINIMUM COVER DEPTH OF 1.0M SHALL BE PROVIDED AT ALL LOCATIONS. WHERE THIS IS NOT POSSIBLE, SHALLOWER DEPTHS MAY BE ACCEPTABLE SUBJECT TO THE PROVISION OF CONCRETE ENCASING.
3. GROUND WATER MAY BE ENCOUNTERED AT FORMATION/TRENCH INVERT LEVEL ALONG THE ENTIRE PIPELINE ROUTE. NECESSARY MEASURES TO PREVENT FLOATATION OF PIPES AND STRUCTURES SHALL BE ADOPTED PRIOR TO BACKFILLING.
4. GRAVITY FOUL PIPES SHALL BE DWC FOR DIAMETER LESS THAN OR EQUAL TO 500MM AND RCC FOR DIAMETER GREATER THAN 500MM UNLESS SPECIFIED OTHERWISE.
5. INVERT LEVELS SHOWN IN THE MANHOLE LABELS ARE OF OUTGOING PIPE.
6. LOCATION OF MANHOLES, CHAMBERS AND ANCILLARY WORKS ARE INDICATIVE.
7. CONTRACTOR SHALL SUBMIT PIPE PROFILE DRAWINGS MARKING CROSSINGS WITH OTHER SERVICES AND OBTAIN APPROVAL OF THE ENGINEER PRIOR TO COMMENCEMENT OF WORKS.
8. GRAVITY SEWER PIPE SHALL BE DWC SN8 FOR ALL DIAMETER, WHEN PIPE DEPTH EXCEEDS 7.0 METERS.
9. FOR UTILITIES RESERVATION CROSS SECTION REFER TO DRAWINGS NO. 72301100-PAL-IMC-C-0001, 72301100-PAL-IMC-C-0002.
- 10.FOR TYPICAL BEDDING DETAILS FOR DWC PE PIPE REFER TO DRAWING NO. 72301100-PAL-IMC-C-SW-SD-0035.
- 11.FOR TYPICAL BEDDING DETAILS FOR RCC PIPE REFER TO DRAWING NO. 72301100-PAL-IMC-C-SW-SD-0036.
- 12.THE PIPELINE LAYOUT INCORPORATES ALIGNMENTS/ROUTING AS PER THE LATEST MASTER PLAN AVAILABLE. THIS BASE PLAN MAY BE FURTHER REVISED/UPDATED.

LEGENDS:

- DWC,500mm PE SN 8
- DWC,400mm PE SN 8
- DWC,300mm PE SN 8
- DWC,250mm PE SN 8
- DWC,200mm PE SN 8
- MANHOLE
- ▲

STP

ABBREVIATIONS:

- DWC

DOUBLE WALL CORRUGATED
- RCC

REINFORCED CEMENT CONCRETE
- NP3

NON PRESSURE CLASS 3
- NP4

NON PRESSURE CLASS 4
- SN

NOMINAL RING STIFFNESS
- NB

NOMINAL BORE
- EPS

EFFLUENT PUMPING STATION
- STP

SEWAGE TREATMENT PLANT
- CETP

COMMON EFFLUENT TREATMENT PLANT
- MH

MANHOLE
- GL

GROUND LEVEL
- IL

INVERT LEVEL

R0	RS	NV	SG	15-APR-25	TENDER DRAWING
T0	RS	NV	SG	APR 2023	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description



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PACKAGE

DRAWING TITLE

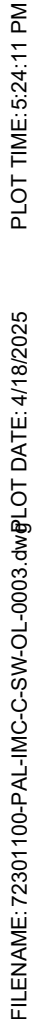
SEWER NETWORK
GENERAL NOTES, LEGENDS
AND ABBREVIATIONS

DRAWN BY :	RS	DATE :APR 2023
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DRAWING NO.	REVISION
72301100-PAL-IMC-C-SW-LN-0002	R0

DRAWING SCALE : NTS @A1

FILENAME : 72301100-PAL-IMC-C-SW-LN-0002.dwg PLOT SCALE : 1:1



Label	Elevation (Ground) (m)	Elevation (Invert) (m)	Depth of Manhole (m)
MH-1	135.73	134.51	1.22
MH-2	135.59	134.35	1.24
MH-3	135.43	134.20	1.23
MH-4	135.30	134.08	1.22
MH-5	135.16	133.92	1.24
MH-6	134.99	133.77	1.22
MH-7	134.86	133.63	1.23
MH-8	134.72	133.45	1.27
MH-9	134.53	133.28	1.25
MH-10	134.39	133.19	1.20
MH-11	134.30	133.07	1.23
MH-12	134.59	132.96	1.63
MH-13	134.95	132.84	2.11
MH-14	135.65	132.72	2.93
MH-15	135.40	132.60	2.80
MH-16	134.80	132.48	2.32
MH-17	134.30	132.38	1.92
MH-18	134.10	132.30	1.80
MH-19	133.70	132.22	1.48
MH-20	133.50	132.73	1.38
MH-21	133.40	132.01	1.39
MH-22	133.20	131.90	1.30
MH-23	132.99	131.72	1.27
MH-24	134.73	133.53	1.20
MH-25	134.82	132.95	1.87
MH-26	135.64	134.08	1.56
MH-27	135.21	133.77	1.44
MH-28	134.93	133.48	1.45
MH-29	134.63	133.20	1.43
MH-30	134.36	133.04	1.32
MH-31	134.20	132.77	1.43
MH-32	133.93	132.73	1.20
MH-33	133.77	132.69	1.28
MH-34	134.03	132.83	1.20
MH-35	134.11	132.78	1.33
MH-36	134.16	132.66	1.50
MH-37	134.22	132.61	1.61
MH-38	134.22	132.57	1.65
MH-39	134.31	132.53	1.78
MH-40	134.51	132.49	2.02
MH-41	137.16	135.96	1.20
MH-42	137.35	135.92	1.43
MH-43	137.28	135.76	1.52
MH-44	136.89	135.29	1.60
MH-45	136.45	134.75	1.66
MH-46	136.44	134.58	1.36
MH-47	136.33	134.97	1.36
MH-48	136.12	134.71	1.41
MH-49	135.86	134.53	1.33
MH-50	135.68	134.30	1.38
MH-51	135.45	134.13	1.32
MH-52	135.28	134.04	1.24
MH-53	135.20	134.00	1.20
MH-54	137.02	135.55	1.47
MH-55	136.71	135.35	1.36
MH-56	136.50	135.30	1.20
MH-57	137.07	135.73	1.33
MH-58	136.84	135.84	1.30
MH-59	136.67	135.24	1.43
MH-60	136.49	135.16	1.33
MH-61	136.31	135.02	1.29
MH-62	136.16	134.88	1.28
MH-63	136.02	134.75	1.27
MH-64	135.89	134.63	1.26
MH-65	135.77	134.23	1.54
MH-66	135.33	133.94	1.39
MH-67	135.33	133.86	1.47
MH-68	135.19	133.81	1.38
MH-69	135.02	133.65	1.37
MH-70	134.80	133.87	1.23
MH-71	134.69	132.46	2.23
MH-72	134.47	132.38	2.09
MH-73	134.34	132.32	2.02
MH-74	134.16	132.25	1.91
MH-75	134.02	132.19	1.81
MH-76	133.80	132.11	1.71
MH-77	134.01	132.03	1.98
MH-78	133.56	131.94	1.62
MH-79	133.46	131.82	1.64
MH-80	132.92	131.72	1.20
MH-81	133.01	131.65	1.36
MH-82	133.02	131.67	1.47
MH-83	133.22	131.53	1.69
MH-84	138.06	136.86	1.20
MH-85	138.77	136.74	2.03
MH-86	138.73	136.52	2.21
MH-87	137.61	135.56	2.05
MH-88	136.66	135.36	1.30
MH-89	136.88	135.68	1.20
MH-90	137.20	135.57	1.63
MH-91	137.20	135.47	1.73
MH-92	137.03	135.33	1.70
MH-93	136.87	135.20	1.67
MH-94	136.77	135.12	1.65
MH-95	136.69	135.06	1.63
MH-96	136.61	134.99	1.62
MH-97	136.42	134.86	1.56
MH-98	136.29	134.75	1.54
MH-99	136.20	134.67	1.53
MH-100	136.08	134.59	1.49
MH-101	136.05	134.50	1.55
MH-102	136.23	134.42	1.81
MH-103	136.66	134.34	2.32
MH-104	136.33	135.06	1.27
MH-105	136.17	134.94	1.20
MH-106	136.10	134.87	1.26
MH-107	136.13	134.42	1.92
MH-108	136.10	134.14	1.96
MH-109	136.00	134.06	1.94
MH-110	135.80	133.97	1.83
MH-111	135.70	133.88	1.82
MH-112	135.60	133.74	1.86
MH-113	135.60	133.64	1.96
MH-114	135.20	133.58	1.62
MH-115	135.00	133.52	1.48
MH-116	134.80	133.48	1.32
MH-117	135.60	133.02	2.58
MH-118	134.38	133.15	2.23
MH-119	133.51	132.52	1.99
MH-120	133.89	132.40	1.49
MH-121	132.77	131.37	1.40
MH-122	140.02	138.82	1.20
MH-123	140.74	138.72	2.02
MH-124	141.40	138.61	2.79

Label	Elevation (Ground) (m)	Elevation (Invert) (m)	Depth of Manhole (m)
MH-125	141.16	138.52	2.64
MH-126	140.83	138.43	2.40
MH-127	140.48	138.36	2.12
MH-128	140.12	138.28	1.84
MH-129	139.87	138.19	1.68
MH-130	139.36	137.84	1.52
MH-131	139.41	137.77	1.57
MH-132	138.45	136.95	1.50
MH-133	138.04	136.52	1.52
MH-134	137.62	136.10	1.52
MH-135	137.19	135.99	1.20
MH-136	137.31	135.88	1.43
MH-137	137.46	135.78	1.68
MH-138	137.50	135.61	1.89
MH-139	136.77	134.13	2.64
MH-140	135.23	133.97	1.26
MH-141	135.08	133.88	1.20
MH-142	135.21	133.76	1.45
MH-143	135.33	133.75	1.78
MH-144	135.62	133.53	2.09
MH-145	135.80	133.37	2.43
MH-146	135.90	133.31	2.59
MH-147	135.77	133.16	2.61
MH-148	135.40	133.12	2.28
MH-149	135.17	133.07	2.10
MH-150	134.66	132.62	2.04
MH-151	133.85	132.04	1.81
MH-152	133.28	131.86	1.42
MH-153	133.22	131.74	2.18
MH-154	132.40	131.00	1.40
MH-155	132.50	130.96	1.54
MH-156	132.65	130.93	1.72
MH-157	133.00	130.91	2.09
MH-158	133.10	130.89	2.21
MH-159	133.32	130.77	2.55
MH-160	133.31	130.75	2.56
MH-161	133.34	130.74	2.60
MH-162	132.71	130.72	1.99
MH-163	132.50	130.00	2.50
MH-164	131.47	129.33	2.14
MH-165	130.81	128.98	1.83
MH-166	130.46	128.96	1.50
MH-167	130.99	128.93	2.06
MH-168	131.85	128.91	2.94
MH-169	132.82	128.88	3.94
MH-170	132.82	128.85	3.97
MH-171	132.82	128.82	4.00
MH-172	132.82	128.80	4.02
MH-173	132.82	128.77	4.05
MH-174	132.82	128.74	4.08
MH-175	132.82	128.73	4.09
MH-176	132.82	128.70	4.12
MH-177	132.82	128.67	4.15
MH-178	132.82	128.64	4.18
MH-179	132.82	128.61	4.21
MH-180	132.82	128.57	4.25
MH-181	133.09	128.55	4.54
MH-182	132.07	128.52	3.55
MH-183	131.52	128.49	3.03
MH-184	131.33	128.46	2.87
MH-185	130.74	128.43	2.31
MH-186	129.94	128.27	1.67
MH-187	129.74	127.93	1.81
MH-188	129.83	127.93	1.90
MH-189	131.03	129.71	1.32
MH-190	134.63	132.37	2.26
MH-191	133.45	131.26	2.19
MH-192	132.37	129.95	2.42
MH-193	131.03	129.49	1.54
MH-194	130.64	128.65	1.99
MH-195	129.77	128.04	1.73
MH-196	129.16	127.96	1.20
MH-197	129.25	127.87	1.38
MH-198	129.08	127.78	1.30
MH-199	129.13	127.67	1.46
MH-200	129.40	127.65	1.75
MH-201	129.19	127.22	1.97
MH-202	128.72	127.19	1.53
MH-203	128.72	127.13	1.59
MH-204	128.60	127.03	1.57
MH-205	128.50	126.93	1.57
MH-206	127.72	126.41	1.31
MH-207	127.50	126.30	1.20
MH-208	127.46	126.21	1.25
MH-209	127.46	126.13	1.33
MH-210	127.46	126.03	1.43
MH-211	127.46	125.93	1.53
MH-212	128.40	125.52	2.88
MH-213	128.30	125.50	2.80
MH-214	128.20	125.48	2.7

TENDER / BID DOCUMENTS

NOTES:

1. BUILDING PLOT BOUNDARIES SHOWN ARE INDICATIVE ONLY AND SHOULD BE VERIFIED BEFORE CONSTRUCTION.
2. A MINIMUM COVER DEPTH OF 1.0M SHALL BE PROVIDED AT ALL LOCATIONS. WHERE THIS IS NOT POSSIBLE, SHALLOWER DEPTHS MAY BE ACCEPTABLE SUBJECT TO THE PROVISION OF CONCRETE ENCASING.
3. GROUND WATER MAY BE ENCOUNTERED AT FORMATION/TRENCH INVERT LEVEL ALONG THE ENTIRE PIPELINE ROUTE. NECESSARY MEASURES TO PREVENT FLOATATION OF PIPES AND STRUCTURES SHALL BE ADOPTED PRIOR TO BACKFILLING.
4. GRAVITY FOUL PIPES SHALL BE DWC FOR DIAMETER LESS THAN OR EQUAL TO 500MM AND RCC FOR DIAMETER GREATER THAN 500MM UNLESS SPECIFIED OTHERWISE.
5. INVERT LEVELS SHOWN IN THE MANHOLE LABELS ARE OF OUTGOING PIPE.
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LEGENDS:

	RCC,700mm NP3
	RCC,600mm NP3
	DWC,500mm PE SN 8
	DWC,400mm PE SN 8
	DWC,300mm PE SN 8
	DWC,250mm PE SN 8
	DWC,200mm PE SN 8
	MANHOLE
	CETP

ABBREVIATIONS:

DWC	DOUBLE WALL CORRUGATED
RCC	REINFORCED CEMENT CONCRETE
NP3	NON PRESSURE CLASS 3
NP4	NON PRESSURE CLASS 4
SN	NOMINAL RING STIFFNESS
NB	NOMINAL BORE
EPS	EFFLUENT PUMPING STATION
STP	SEWAGE TREATMENT PLANT
CETP	COMMON EFFLUENT TREATMENT PLANT
MH	MANHOLE
GL	GROUND LEVEL
IL	INVERT LEVEL

R0	RS	NV	SG	15-APR-25	TENDER DRAWING
T0	RS	NV	SG	APR 2023	TENDER DRAWING
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DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT



CH2M HILL INDIA PVT. LTD.

PROJECT

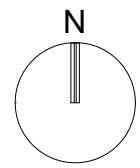
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
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PACKAGE

DRAWING TITLE

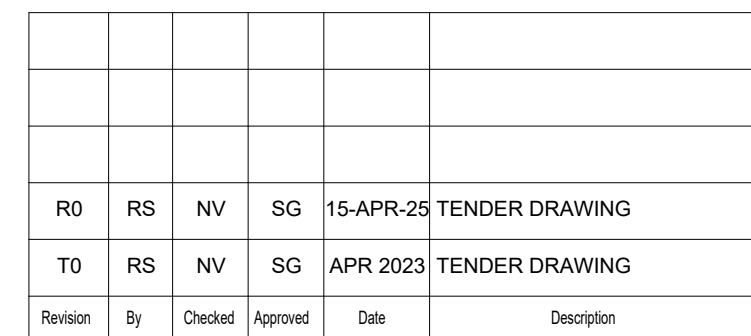
EFFLUENT NETWORK
GENERAL NOTES, LEGENDS
AND ABBREVIATIONS

DRAWN BY :	RS	DATE :APR 2023
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AUTHORIZED BY :	SG	DATE :APR 2023
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DRAWING SCALE : NTS		@A1
FILENAME : 72301100-PAL-IMC-C-EF-LN-0002.dwg PLOT SCALE : 1:1		



1. ALL DIMENSIONS ARE IN METERS UNLESS STATED OTHERWISE.
2. FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS REFER TO DWG. NO. 72301100-PAL-IMC-C-EF-LN-0002.
3. PIPE MATERIAL IS AS PER THE FOLLOWING:
D ≤ 500MM (NB) : DWC PE SN 8
D > 500MM (NB) : RCC NP 3
FOR ROAD CROSSINGS RCC NP 4

	RCC,700mm NP3
	RCC,600mm NP3
	DWC,500mm PE SN 8
	DWC,400mm PE SN 8
	DWC,300mm PE SN 8
	DWC,250mm PE SN 8
	DWC,200mm PE SN 8
	MANHOLE
	CETP



NODAL AGENCY

**KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION**

Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

EFFLUENT NETWORK
OVERALL LAYOUT PLAN
SHEET 1 OF 2

DRAWN BY :	RS	DATE :APR 2023
CHECKED BY :	NV	DATE :APR 2023
AUTHORIZED BY :	SG	DATE :APR 2023
DRAWING NO.		REVISION
723011100-PAL-IMC-C-EF-OL-0003		R0
DRAWING SCALE : 1:6000		@A1
FILENAME : 723011100-PAL-IMC-C-EF-OL-0003.dwg		PLOT SCALE : 1:1

Label	Elevation (Ground) (m)	Elevation (Invert) (m)	Depth of Manhole (m)
MH-1	150.99	149.79	1.20
MH-2	151.45	149.69	1.76
MH-3	151.75	149.61	2.14
MH-4	151.87	149.50	2.37
MH-5	151.78	149.39	2.39
MH-6	151.63	149.27	2.36
MH-7	151.48	149.16	2.32
MH-8	151.35	149.05	2.30
MH-9	151.20	148.94	2.26
MH-10	151.00	148.83	2.17
MH-11	150.70	148.74	1.96
MH-12	150.32	148.65	1.67
MH-13	149.85	148.22	1.63
MH-14	149.35	147.55	1.80
MH-15	148.64	147.13	1.51
MH-16	148.27	146.66	1.61
MH-17	147.78	146.15	1.63
MH-18	147.28	145.67	1.61
MH-19	146.80	145.16	1.64
MH-20	146.28	144.70	1.58
MH-21	145.83	144.22	1.61
MH-22	145.35	143.75	1.60
MH-23	144.88	143.34	1.54
MH-24	144.48	142.94	1.54
MH-25	143.89	142.09	1.80
MH-26	143.17	141.32	1.85
MH-27	142.40	140.58	1.82
MH-28	141.67	139.89	1.78
MH-29	140.99	138.77	2.22
MH-30	139.85	138.29	1.56
MH-31	139.90	138.49	1.41
MH-32	139.58	138.37	1.21
MH-33	139.45	138.25	1.20
MH-34	139.41	137.98	1.43
MH-35	139.10	137.58	1.52
MH-36	138.70	137.15	1.55
MH-37	138.27	136.76	1.51
MH-38	137.87	136.32	1.55
MH-39	137.40	135.82	1.58
MH-40	136.90	135.38	1.52
MH-41	136.47	134.88	1.59
MH-42	135.97	134.40	1.57
MH-43	135.49	133.72	1.77
MH-44	134.80	132.99	1.81
MH-45	134.07	132.38	1.69
MH-46	133.48	131.73	1.75
MH-47	132.82	131.28	1.54
MH-48	132.36	130.00	2.36
MH-49	131.10	129.57	1.53
MH-50	130.70	129.25	1.45
MH-51	130.36	128.89	1.47
MH-52	130.01	128.59	1.42
MH-53	129.68	128.37	1.31
MH-54	129.47	128.21	1.26
MH-55	129.31	128.01	1.30
MH-56	129.12	127.81	1.31
MH-57	128.89	127.58	1.31
MH-58	128.68	127.38	1.30
MH-59	128.48	127.18	1.30
MH-60	128.27	126.96	1.31
MH-61	128.06	126.34	1.72
MH-62	127.45	125.71	1.75
MH-63	127.16	125.96	1.20
MH-64	127.50	125.87	1.63
MH-65	127.29	125.76	1.53
MH-66	127.00	125.65	1.35
MH-67	126.85	125.42	1.43
MH-68	126.52	125.28	1.24
MH-69	126.37	124.97	1.40
MH-70	126.06	124.68	1.38
MH-71	125.78	124.40	1.38
MH-72	125.49	123.99	1.50
MH-73	125.16	123.63	1.53
MH-74	124.81	123.38	1.43
MH-75	124.56	123.31	1.25
MH-76	124.60	123.26	1.34
MH-77	124.93	122.22	1.71
MH-78	127.33	125.52	1.81
MH-79	126.62	124.82	1.80
MH-80	125.93	123.89	2.04
MH-81	124.99	123.51	1.48
MH-82	124.63	123.20	1.43
MH-83	124.80	123.15	1.65
MH-84	125.00	123.09	1.91
MH-85	125.29	123.01	2.28
MH-86	126.21	122.93	3.28
MH-87	126.10	122.85	3.25
MH-88	125.88	122.77	3.11
MH-89	125.55	122.68	2.87
MH-90	125.23	122.60	2.63
MH-91	124.80	122.52	2.28
MH-92	124.46	122.44	2.02
MH-93	124.27	122.35	1.92
MH-94	124.08	122.27	1.81
MH-95	124.59	123.25	1.34
MH-96	124.34	123.05	1.29
MH-97	124.13	122.93	1.20
MH-98	124.12	122.82	1.30
MH-99	124.27	122.70	1.57
MH-100	124.42	122.81	1.61
MH-101	124.57	122.47	2.10
MH-102	124.71	122.35	2.36
MH-103	124.86	122.24	2.62
MH-104	124.93	122.17	2.76
MH-105	125.00	122.10	2.90
MH-106	131.53	130.33	1.20
MH-107	131.53	130.18	1.35
MH-108	131.27	129.93	1.34
MH-109	131.03	129.68	1.35
MH-110	130.77	129.42	1.35
MH-111	130.51	129.15	1.36
MH-112	130.24	128.91	1.33
MH-113	130.00	128.64	1.36
MH-114	129.73	128.34	1.39
MH-115	129.43	128.13	1.30
MH-116	129.27	127.88	1.34
MH-117	129.97	127.66	1.31
MH-118	128.77	127.44	1.33
MH-119	128.54	127.15	1.39
MH-120	128.24	126.72	1.52
MH-121	127.82	126.40	1.42
MH-122	127.49	125.94	1.55
MH-123	127.03	125.48	1.55
MH-124	126.56	125.05	1.51

Label	Elevation (Ground) (m)	Elevation (Invert) (m)	Depth of Manhole (m)
MH-125	126.14	124.80	1.34
MH-126	125.94	124.44	1.50
MH-127	125.58	124.16	1.42
MH-128	125.26	123.74	1.52
MH-129	124.84	123.35	1.49
MH-130	124.46	122.91	1.55
MH-131	124.00	122.80	1.20
MH-132	124.03	122.68	1.35
MH-133	131.09	129.24	1.85
MH-134	130.32	128.46	1.86
MH-135	129.55	127.69	1.86
MH-136	128.77	126.94	1.83
MH-137	128.03	126.21	1.82
MH-138	127.29	126.09	1.20
MH-139	144.50	143.30	1.20
MH-140	144.44	142.46	1.98
MH-141	143.47	141.36	2.11
MH-142	142.41	140.67	1.74
MH-143	141.79	140.16	1.63
MH-144	141.29	139.64	1.65
MH-145	140.76	138.93	1.83
MH-146	140.03	138.17	1.86
MH-147	139.26	137.54	1.72
MH-148	138.75	137.43	1.32
MH-149	138.95	137.33	1.62
MH-150	138.48	136.72	1.76
MH-151	137.80	136.01	1.79
MH-152	137.09	135.31	1.78
MH-153	136.39	134.63	1.76
MH-154	135.71	133.96	1.75
MH-155	135.04	133.84	1.20
MH-156	135.22	133.70	1.52
MH-157	134.80	132.94	1.86
MH-158	134.00	132.34	1.66
MH-159	133.45	131.75	1.70
MH-160	132.85	131.22	1.63
MH-161	132.33	130.83	1.50
MH-162	131.93	130.65	1.28
MH-163	131.78	130.51	1.27
MH-164	131.62	130.32	1.30
MH-165	131.41	130.12	1.29
MH-166	131.21	129.91	1.30
MH-167	130.99	129.79	1.20
MH-168	138.10	136.90	1.20
MH-169	138.20	136.79	1.41
MH-170	138.32	136.68	1.64
MH-171	138.54	136.57	1.97
MH-172	138.99	136.46	2.53
MH-173	139.41	136.35	2.78
MH-174	139.02	136.24	2.78
MH-175	138.40	136.13	2.27
MH-176	137.98	136.03	1.95
MH-177	137.54	135.93	1.61
MH-178	137.06	135.50	1.56
MH-179	136.60	135.10	1.50
MH-180	136.21	134.62	1.59
MH-181	135.70	134.02	1.68
MH-182	135.11	133.28	1.83
MH-183	134.37	132.75	1.62
MH-184	133.86	132.20	1.66
MH-185	133.31	131.66	1.65
MH-186	132.76	131.06	1.70
MH-187	132.16	130.02	2.14
MH-188	131.10	129.37	1.73
MH-189	130.57	129.22	1.35
MH-190	130.42	128.77	1.65
MH-191	129.94	128.51	1.43
MH-192	129.69	128.33	1.36
MH-193	129.52	128.17	1.35
MH-194	129.35	127.97	1.38
MH-195	129.16	127.76	1.40
MH-196	128.93	127.56	1.37
MH-197	128.73	127.31	1.42
MH-198	128.48	127.07	1.41
MH-199	128.23	126.83	1.41
MH-200	128.00	126.30	1.70
MH-201	127.48	126.11	1.37
MH-202	127.30	125.93	1.37
MH-203	127.49	125.86	1.63
MH-204	127.25	125.78	1.47
MH-205	127.05	125.64	1.41
MH-206	126.80	125.40	1.40
MH-207	126.57	125.01	1.56
MH-208	126.17	124.83	1.34
MH-209	126.01	124.52	1.49
MH-210	125.69	124.06	1.63
MH-211	125.63	123.89	1.74
MH-212	125.06	123.63	1.43
MH-213	124.82	123.43	1.39
MH-214	124.60	123.20	1.40
MH-215	124.40	123.15	1.25
MH-216	124.50	123.10	1.40
MH-217	124.59	122.47	2.12
MH-218	124.89	122.44	2.45
MH-219	125.35	122.38	2.97
MH-220	125.61	122.32	3.29
MH-221	125.88	122.26	3.62
MH-222	125.70	122.22	3.48
MH-223	125.52	121.91	3.61
MH-224	125.49	121.86	3.63
MH-225	125.28	121.80	3.48
MH-226	124.96	121.74	3.22
MH-227	124.71	121.69	3.02
MH-228	124.39	121.64	2.75
MH-229	124.06	121.58	2.48
MH-230	123.70	121.52	2.18
MH-231	123.71	121.38	2.33
MH-232	123.35	121.34	2.01
MH-233	122.99	121.29	1.70
MH-234	122.70	121.25	1.45
MH-235	122.77	121.21	1.56
MH-236	122.09	121.17	1.92
MH-237	122.37	121.13	2.24
MH-238	122.75	122.05	1.70
MH-239	123.36	121.97	1.39
MH-240	123.48	121.88	1.60
MH-241	123.66	121.77	1.89
MH-242	123.81	121.67	2.14
MH-243	124.00	121.57	2.43
MH-244	124.31	121.48	2.83
MH-245	124.77	121.36	3.41
MH-246	125.25	121.24	4.01
MH-247	125.71	121.11	4.60
MH-248	126.20	120.98	5.22

Label	Elevation (Ground) (m)	Elevation (Invert) (m)	Depth of Manhole (m)
MH-249	126.71	120.86	5.85
MH-250	127.00	120.77	6.23
MH-251	137.31	136.07	1.24
MH-252	137.15	135.93	1.22
MH-253	137.03	135.83	1.20
MH-254	136.95	135.73	1.22
MH-255	136.85	135.64	1.21
MH-256	136.74	135.51	1.23
MH-257	136.60	135.39	1.21
MH-258	136.49	135.27	1.22
MH-259	136.37	135.16	1.21
MH-260	136.26	135.05	1.21
MH-261	136.14	134.94	1.20
MH-262	136.11	134.25	1.86
MH-263	132.99	131.72	1.27
MH-264	132.82	131.62	1.20
MH-265	132.73	131.53	1.20
MH-266	132.70	131.46	1.24
MH-267	132.60	131.37	1.23
MH-268	133.12	131.26	1.86
MH-269	133.84	131.15	2.69
MH-270	134.49	131.04	3.45
MH-271	135.02	130.96	4.06
MH-272	135.33	130.88	4.45
MH-273	135.20	130.71	4.49
MH-274	135.46	130.60	4.86
MH-275	135.31	130.49	4.82
MH-276	135.16	130.39	4.77
MH-277	134.70	130.28	4.42
MH-278	133.28	132.08	1.20
MH-279	133.40	132.02	1.40
MH-280	133.44	131.95	1.49
MH-281	133.50	131.90	1.60
MH-282	133.59	131.83	1.76
MH-283	133.65	131.77	1.88
MH-284	133.76	131.67	2.09
MH-285	133.86	131.59	2.27
MH-286	133.98	131.51	2.47
MH-287	134.11	131.41	2.70
MH-288	134.19	131.32	2.87
MH-289	134.60	130.19	4.41
MH-290	134.83	130.09	4.74
MH-291	134.70	130.01	4.69
MH-292	134.60	129.92	4.68
MH-293	134.18	129.98	1.20
MH-294	134.35	132.85	1.50
MH-295	138.50	137.25	1.25
MH-296	138.33	137.04	1.29
MH-297	138.12	136.92	1.20
MH-298	142.93	141.73	1.20
MH-299	142.91	141.62	1.29
MH-300	142.70	141.50	1.20
MH-301	142.69	140.93	1.76
MH-302	142.04	140.84	1.20
MH-303	142.02	140.65	1.37
MH-304	141.75	140.55	1.20
MH-305	141.70	140.36	1.34
MH-306	141.46	140.24	1.22
MH-307	141.33	140.01	1.32
MH-308	141.12	139.92	1.20
MH-309	141.12	139.83	1.29
MH-310	141.12	139.76	1.36
MH-311	141.00	139.65	1.35
MH-312	140.98	139.54	1.44
MH-313	140.98	139.43	1.55
MH-314	140.98	139.31	1.67
MH-315	140.98	139.23	1.75
MH-316	140.98	139.14	1.84
MH-317	140.98	139.07	1.91
MH-318	140.98	139.01	1.97
MH-319	140.69	138.35	2.34
MH-320	139.44	137.35	2.09
MH-321	138.47	137.27	1.20
MH-322	138.57	136.68	1.89
MH-323	137.77	136.48	1.29
MH-324	137.60	136.29	1.31
MH-325	137.40	136.20	1.20
MH-326	137.48	136.09	1.39
MH-327	137.74	135.98	1.76
MH-328	138.16	135.87	2.29
MH-329	138.32	135.76	2.56
MH-330	138.92	135.68	3.24
MH-331	139.24	135.59	3.65
MH-332	139.53	135.43	4.09
MH-333	139.82	135.31	4.52
MH-334	139.80	135.34	4.46
MH-335	139.60	135.27	4.33
MH-336	139.50	135.21	4.29
MH-337	139.50	135.14	4.36
MH-338	139.40	135.06	4.34
MH-339	139.40	134.97	4.43
MH-340	139.40	134.87	4.53
MH-341	139.40	134.77	4.63
MH-342	139.36	134.70	4.66
MH-343	139.20	134.65	4.55
MH-344	138.07	134.50	3.57
MH-345	137.45	134.43	3.02
MH-346	136.54	134.32	2.22
MH-347	135.77	134.04	1.73
MH-348	135.14	133.90	1.24
MH-349	135.02	133.72	1.30
MH-350	134.83	133.72	1.11
MH-351	134.83	132.66	2.17
MH-352	134.67	132.54	2.13
MH-353	134.52	132.42	2.10
MH-354	134.30	132.30	2.00
MH-355	141.35	140.35	1.00
MH-356	141.35	140.03	1.32
MH-357	141.35	139.91	1.44
MH-358	141.35	139.79	1.56
MH-359	141.35	139.67	1.68
MH-360	141.35	139.59	1.76
MH-361	141.35	139.51	1.84
MH-362	141.35	139.37	1.98
MH-363	140.48	138.53	1.95
MH-364	139.61	137.35	2.26
MH-365	138.44	136.11	2.33
MH-366	158.52	157.32	1.20
MH-367	158.52	156.97	1.55
MH-368	158.11	156.68	1.43
MH-369	157.64	156.04	1.60
MH-370	157.17	155.66	1.51
MH-371	156.80	155.24	1.56
MH-372	156.39	154.81	1.58

NOTES:

1. BUILDING PLOT BOUNDARIES SHOWN ARE INDICATIVE ONLY AND SHOULD BE VERIFIED BEFORE CONSTRUCTION.
2. GROUND WATER MAY BE ENCOUNTERED AT FORMATION/TRENCH INVERT LEVEL ALONG THE ENTIRE PIPELINE ROUTE. NECESSARY MEASURES TO PREVENT FLOATATION OF PIPES AND STRUCTURES SHALL BE ADOPTED PRIOR TO BACKFILLING.
3. CONTRACTOR SHALL SUBMIT DRAIN PROFILE DRAWINGS MARKING CROSSINGS WITH OTHER SERVICES AND OBTAIN APPROVAL OF THE ENGINEER PRIOR TO COMMENCEMENT OF WORKS.
4. FOR UTILITIES RESERVATION CROSS SECTION REFER TO DRAWINGS NO. 72301100-PAL-IMC-C-0001, 72301100-PAL-IMC-C-0002.

LEGENDS:

- STORM DRAIN WIDTH - 0.5M
- STORM DRAIN WIDTH - 0.6M
- STORM DRAIN WIDTH - 0.8M
- STORM DRAIN WIDTH - 0.9M
- STORM DRAIN WIDTH - 1.2M
- STORM DRAIN WIDTH - 1.5M
- STORM DRAIN WIDTH - 2.2M
- CATCH BASIN CHAMBER
- DRAIN OUTFALL

ABBREVIATIONS:

- GLGROUND LEVEL
- ILINVERT LEVEL
- CBCATCH BASIN
- SWDSTORM WATER DRAIN
- LLENGTH
- WWIDTH

R0	RS	NV	SG	15-APR-25	TENDER DRAWING
T0	RS	NV	SG	APR 2023	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT



National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

Jacobs

CH2M HILL INDIA PVT. LTD.

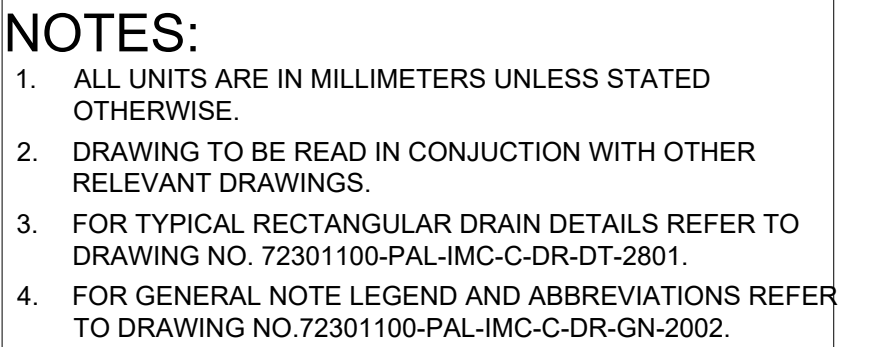
PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
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PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
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PACKAGE

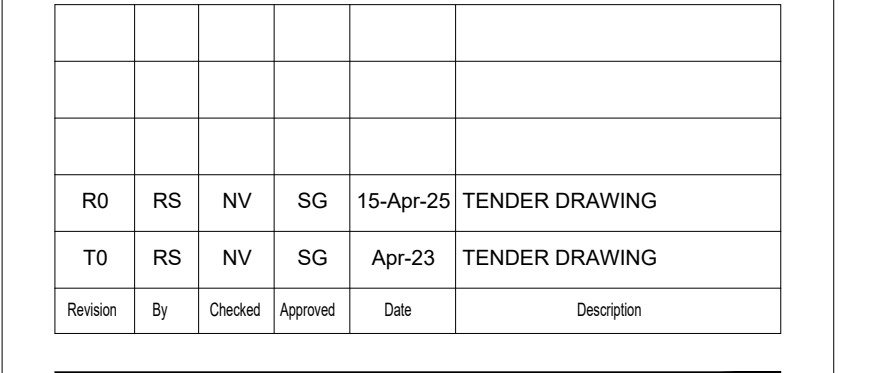
DRAWING TITLE

STORM WATER NETWORK
GENERAL NOTES, LEGENDS
AND ABBREVIATIONS

DRAWN BY :	RS	DATE :APR 2023
CHECKED BY :	NV	DATE :APR 2023
AUTHORIZED BY :	SG	DATE :APR 2023
DRAWING NO.	REVISION	
72301100-PAL-IMC-C-SWL-LN-0002	R0	
DRAWING SCALE : NTS		@A1
FILENAME : 72301100-PAL-IMC-C-SWL-LN-0002.dwg		PLOT SCALE : 1:1



 STORM DRAIN WIDTH - 0.5M
 STORM DRAIN WIDTH - 0.6M
 STORM DRAIN WIDTH - 0.8M
 STORM DRAIN WIDTH - 0.9M
 STORM DRAIN WIDTH - 1.2M
 STORM DRAIN WIDTH - 1.5M
 STORM DRAIN WIDTH - 2.2M
 CATCH BASIN CHAMBER
 DRAIN OUTFALL



NODAL AGENCY

**KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION**

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PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

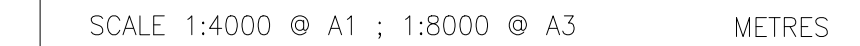
DRAWN BY :	RS	DATE :	Apr-23
CHECKED BY :	NV	DATE :	Apr-23
AUTHORIZED BY :	SG	DATE :	Apr-23
DRAWING NO.		REVISION	
72301100-PAL-IMC-C-SWL-OL-0003		R0	
DRAWING SCALE : 4.208333333		@A1	



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- 2



Revision	By	Checked	Approved	Date	Description
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**National Industrial Corridor
Development Corporation Limited**
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

**KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION**
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

JACOBS
CH2M HILL INDIA PVT. LTD.

PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

DRAWING TITLE

STORM WATER NETWORK
OVERALL DRAINAGE LAYOUT PLAN
SHEET 2 OF 7

CHECKED BY :	NV	DATE :	Apr-23
AUTHORIZED BY :	SG	DATE :	Apr-23
DRAWING NO.		REVISION	
72301100-PAL-IMC-C-SWL-OL-0003		R0	
DRAWING SCALE : 4.208333333			@A1
FILENAME : 72301100-PAL-IMC-C-SWL-OL-0003.dwg		PLOT SCALE : 1:1	

FILENAME: 72301100-PAL-IMC-C-SWL-OL-0003.dwg PLOT DATE: 4/18/2025 PLOT TIME: 6:23:04 PM

DETAILS OF STORM WATER NETWORK OF PUDUSSERY NODE											
Start Node	Elevation Ground (Start) (m)	Invert (Start) (m)	Stop Node	Elevation Ground (Stop) (m)	Invert (Stop) (m)	Avg Depth (m)	Span (m)	Flow (m³/s)	Length (Scaled) (m)		
CB-1564	149.81	149.31	CB-1565	149.46	148.96	0.5	0.5	0.02	28.7		
CB-1565	149.46	148.96	CB-1566	149.1	148.6	0.5	0.5	0.05	28.6		
CB-1566	149.1	148.6	CB-1567	148.82	148.32	0.5	0.5	0.06	26.8		
CB-1567	150	149.5	CB-1568	149.75	149.25	0.5	0.5	0.11	22.7		
CB-1568	149.75	149.25	CB-1569	149.42	148.92	0.5	0.5	0.2	26.1		
CB-1569	149.42	148.92	CB-1560	149.08	148.58	0.5	0.5	0.31	26.3		
CB-1560	149.08	148.58	CB-1561	148.74	148.24	0.5	0.5	0.4	25		
CB-1567	148.82	147.73	CB-1561	148.74	147.74	1.04	0.9	0.41	21.3		
CB-1567	148.82	147.09	O-57	148	147	1.37	0.9	0.48	12.9		
CB-1776	137.12	136.62	CB-1775	137.64	137.19	0.57	0.5	0.02	28.8		
CB-1777	137.22	136.55	CB-1776	137.12	136.62	0.58	0.5	0.05	27.9		
CB-1778	136.81	136.31	CB-1777	137.22	136.55	0.58	0.5	0.08	26.2		
CB-1779	135.11	134.61	CB-1778	136.81	135.17	1.07	0.5	0.11	27.7		
CB-1780	134.89	134.39	CB-1779	135.11	134.61	0.5	0.5	0.14	27.3		
CB-1781	133.21	132.71	CB-1780	134.89	133.14	1.13	0.5	0.18	21.3		
CB-1782	131.96	131.46	CB-1781	133.21	131.79	0.96	0.5	0.22	16.6		
CB-1783	131.89	131.29	CB-1782	131.96	131.36	0.6	0.5	0.26	21.4		
CB-1783	131.89	131.29	CB-1797	131.62	131.02	0.6	0.5	0.35	29.3		
CB-1789	133.09	132.05	CB-1788	132.61	132.11	0.77	0.5	0.07	29.8		
CB-1790	133.16	132.01	CB-1789	133.09	132.05	1.1	0.5	0.13	17.2		
CB-1790	133.16	131.81	CB-1791	132.65	131.75	1.12	0.6	0.17	18.3		
CB-1792	132.27	131.57	CB-1791	132.65	131.75	0.8	0.6	0.21	18.5		
CB-1793	132.15	131.45	CB-1792	132.27	131.57	0.7	0.6	0.25	20.6		
CB-1794	130.27	131.37	CB-1793	132.15	131.45	0.7	0.6	0.28	20.4		
CB-1795	131.56	130.86	CB-1794	132.07	131.03	0.87	0.6	0.31	17.7		
CB-1796	131.68	130.54	CB-1795	131.56	130.56	1.07	0.6	0.34	17		
CB-1797	131.62	130.53	CB-1796	131.68	130.54	1.11	0.9	0.36	17.8		
CB-1797	131.62	127.45	O-56	128.4	127.4	2.59	0.9	0.73	7.3		
CB-1361	148.45	147.95	CB-1362	148.9	147.84	0.78	0.5	0.02	18.1		
CB-1362	148.9	147.84	CB-1363	148.9	147.77	1.09	0.5	0.03	16.9		
CB-1363	148.9	147.77	CB-1364	148.9	147.73	1.15	0.5	0.04	16.7		
CB-1364	148.9	147.73	CB-1365	148.8	147.69	1.14	0.5	0.07	18.8		
CB-1365	148.8	147.69	CB-1366	148.6	147.64	1.03	0.5	0.09	22.4		
CB-1366	148.6	147.64	CB-1367	148.27	147.59	0.81	0.5	0.13	24.4		
CB-1367	148.27	147.59	CB-1368	147.98	147.48	0.59	0.5	0.18	22.1		
CB-1368	147.98	147.48	CB-1369	147.69	147.19	0.5	0.5	0.23	15		
CB-1369	147.69	147.19	CB-1370	147.57	147.07	0.5	0.5	0.26	17.1		
CB-1370	147.57	147.07	CB-1371	147.27	146.77	0.5	0.5	0.29	25.9		
CB-1371	147.27	146.77	CB-1372	146.99	146.49	0.9	0.5	0.33	26.5		
CB-1372	146.99	146.49	CB-1373	146.66	146.16	0.5	0.5	0.36	21.9		
CB-1373	146.66	146.16	CB-1374	146.26	145.76	0.5	0.5	0.37	22.5		
CB-1374	146.26	145.56	CB-1375	146.12	145.42	0.7	0.6	0.39	26.8		
CB-1375	146.12	145.42	CB-1376	145.97	145.27	0.7	0.6	0.4	19.7		
CB-1347	148.83	147.92	CB-1346	148.45	147.95	0.7	0.5	0.01	15.8		
CB-1348	149	147.78	CB-1347	148.83	147.92	1.06	0.5	0.02	18.4		
CB-1349	149.04	147.72	CB-1348	149	147.78	1.27	0.5	0.04	16		
CB-1350	148.9	147.68	CB-1349	149.04	147.72	1.27	0.5	0.06	21		
CB-1351	148.58	147.63	CB-1350	148.9	147.68	1.09	0.5	0.08	24.7		
CB-1352	148.91	147.58	CB-1351	148.58	147.63	1.14	0.5	0.09	23.6		
CB-1353	149	147.54	CB-1352	148.91	147.58	1.4	0.5	0.11	22.7		
CB-1354	148.7	147.4	CB-1353	149	147.54	1.38	0.5	0.13	18		
CB-1355	147.59	147.09	CB-1354	148.7	147.4	0.9	0.5	0.14	15.6		
CB-1355	147.59	147.09	CB-1356	147.2	146.7	0.5	0.5	0.15	28.8		
CB-1356	147.2	146.7	CB-1357	146.82	146.32	0.5	0.5	0.17	29.9		
CB-1357	146.82	146.32	CB-1358	146.36	145.86	0.5	0.5	0.18	29.2		
CB-1358	146.36	145.86	CB-1359	146.22	145.72	0.5	0.5	0.19	25.2		
CB-1359	146.22	145.72	CB-1360	146.11	145.61	0.47	0.57	0.5	0.2		
CB-1360	146.11	145.47	CB-1377	145.92	145.42	0.57	0.5	0.21	2.7		
CB-1377	145.92	145.22	CB-1376	145.7	145.2	0.74	0.6	0.21	19.3		
CB-1376	145.97	144.9	O-55	145.3	144.88	1.05	0.9	0.6	20.2		
CB-2	135.99	135.32	CB-1	135.89	135.39	0.58	0.5	0.02	12.5		
CB-3	135.96	135.26	CB-2	135.99	135.32	0.68	0.5	0.05	23.1		
CB-4	135.83	135.21	CB-3	135.96	135.26	0.66	0.5	0.08	28.8		
CB-5	135.66	135.15	CB-4	135.83	135.21	0.57	0.5	0.12	29.4		
CB-6	135.66	135.15	CB-5	135.48	134.98	0.51	0.5	0.14	34.1		
CB-7	135.35	134.85	CB-6	135.48	134.98	0.5	0.5	0.17	45.8		
CB-7	135.35	134.85	CB-14	135.27	134.7	0.54	0.5	0.2	23		
CB-9	135.9	135.4	CB-8	135.97	135.47	0.5	0.5	0.05	25.9		
CB-10	135.81	135.31	CB-9	135.9	135.4	0.5	0.5	0.09	21.9		
CB-10	135.81	135.31	CB-11	135.67	135.17	0.5	0.5	0.14	25.8		
CB-12	135.55	135.05	CB-11	135.67	135.17	0.5	0.5	0.16	26.8		
CB-13	135.38	134.88	CB-12	135.55	135.05	0.5	0.5	0.17	29.1		
CB-14	135.27	134.7	CB-13	135.38	134.88	0.54	0.5	0.17	23.2		
CB-14	135.27	134.7	O-54	135	134.5	0.54	0.5	0.37	9.9		
CB-16	132.89	132.39	CB-15	133.22	132.68	0.52	0.5	0.01	14.7		
CB-16	132.89	132.04	CB-17	131.99	131.49	0.68	0.5	0.03	29.4		
CB-17	131.99	131.49	CB-18	131.4	130.9	0.5	0.5	0.06	29.7		
CB-18	131.4	130.82	CB-19	130.75	130.25	0.54	0.5	0.09	28.3		
CB-19	130.75	130.25	CB-20	130.41	129.91	0.5	0.5	0.11	28.4		
CB-20	130.41	129.91	CB-30	130.42	129.88	0.52	0.5	0.14	15.1		
CB-22	132.79	132.23	CB-21	132.93	132.43	0.53	0.5	0.02	28.7		
CB-23	133.29	132.16	CB-22	132.79	132.23	0.84	0.5	0.04	26.5		
CB-24	133.26	132.12	CB-23	133.29	132.16	1.13	0.5	0.06	15.7		
CB-25	133.34	132.09	CB-24	133.26	132.12	1.19	0.5	0.07	13.6		
CB-26	132.58	132.05	CB-25	133.34	132.09	0.89	0.5	0.08	20.9		
CB-27	132.13	131.63	CB-26	132.58	132.05	0.52	0.5	0.07	22.3		
CB-28	131.68	131.18	CB-27	132.13	131.63	0.5	0.5	0.1	22.4		
CB-29	131.05	130.55	CB-28	131.68	131.05	0.57	0.5	0.11	24.8		
CB-30	130.42	129.92	CB-29	131.05	130.47	0.54	0.5	0.13	27.9		
CB-30	130.42	129.68	O-53	130.68	129.66	0.88	0.8	0.26	24.4		
CB-31	132.16	131.66	CB-32	132.1	131.44	0.58	0.5	0.01	23.2		
CB-32	132.1	131.44	CB-33	131.98	131.35	0.64	0.5	0.03	23		
CB-33	131.98	131.35	CB-34	131.8	131.28	0.57	0.5	0.04	20.2		
CB-34	131.8	131.28	CB-35	131.76	131.23	0.52	0.5	0.05	22.4		
CB-35	131.76	131.23	CB-36	131.76	131.18	0.55	0.5	0.08	27.8		
CB-36	131.76	131.18	CB-37	131.6	131.1	0.54	0.5	0.1	27.3		
CB-37	131.6	131.1	CB-38	131.4	130.9	0.5	0.5	0.13	28		
CB-38	131.4	130.9	CB-39	131.38	130.85	0.52	0.5	0.15	27.1		
CB-39	131.38	130.65	CB-40	131.35	130.62	0.73	0.6	0.17	26.3		
CB-40	131.35	130.62	CB-41	131.27	130.57	0.72	0.6	0.19	28.7		
CB-41	131.27	130.57	CB-42	131.27	130.54	0.72	0.6	0.2	29.7		
CB-42	131.27	130.54	CB-30	131.1	130.4	0.72	0.6	0.22	28		
CB-43	132.31	131.73	CB-44	131.82	131.32	0.54	0.5	0.02	20.4		
CB-44	131.82	131.32	CB-45	131.62	131.12	0.5	0.5	0.05	22.6		
CB-45	131.62	131.12	CB-46	131.42	130.92	0.5	0.5	0.07	19.2		
CB-46	131.42	130.92	CB-47	131.31	130.81	0.5	0.5	0.08	19		
CB-47	131.31	130.81	CB-48	131.1	130.76	0.52	0.5	0.08	23.9		
CB-48	131.31	130.76	CB-49	131.2	130.7	0.52	0.5	0.09	24.1		
CB-49	131.2	130.7	CB-50	131.2	130.66	0.52	0.5	0.1	20.6		
CB-50	131.2	130.62	CB-51	131.2	130.61	0.56	0.5	0.11	22.2		
CB-51	131.2	130.61	CB-52	131.19	130.58	0.6	0.5	0.11	19.1		
CB-52	131.19	130.58	CB-53	131.18	130.54	0.63	0.5	0.11	19.7		
CB-53	131.18	130.54	CB-54	131.15	130.51	0.64	0.5	0.11	14.8		
CB-54	131.15	130.51	CB-55	131.1	130.47	0.64	0.5	0.12	20.4		
CB-55	131.1	130.47	CB-56	131.1	130.42	0.66	0.5	0.12	25.8		
CB-56	131.1	130.42	CB-57	131.1	130.37	0.71	0.5	0.13	22.3		
CB-57	131.1	130.37	CB-58	131.1	130.33	0.75	0.5	0.13	20.2		

FILENAME: 72301100-PAL-IMC-C-SWL-OL-0003.dwg PLOT DATE: 4/18/2025 PLOT TIME: 6:23:40 PM

DETAILS OF STORM WATER NETWORK OF PUDUSSERY NODE										
Start Node	Elevation Ground (Start) (m)	Invert (Start) (m)	Stop Node	Elevation Ground (Stop) (m)	Invert (Stop) (m)	Avg Depth (m)	Span (m)	Flow (m ³ /s)	Length (Scaled) (m)	
CB-435	134.5	133.81	CB-436	134.2	133.7	0.6	0.5	0.03	17	
CB-436	134.2	133.7	CB-437	134.08	133.58	0.5	0.5	0.05	21	
CB-437	134.08	133.58	CB-438	134.08	133.55	0.52	0.5	0.08	16.9	
CB-438	134.08	133.55	CB-439	134.08	133.51	0.55	0.5	0.11	21.3	
CB-439	134.08	133.51	CB-440	134.08	133.46	0.6	0.5	0.13	23.7	
CB-440	134.08	133.46	0-43	134.68	133.41	0.94	0.5	0.14	22.8	
CB-441	135.33	134.83	CB-442	135.57	134.73	0.67	0.5	0.03	27.8	
CB-442	135.57	134.73	CB-443	135.63	134.67	0.9	0.5	0.06	27	
CB-443	135.63	134.67	CB-444	135.22	134.62	0.78	0.5	0.09	26.1	
CB-444	135.22	134.62	CB-445	135.43	134.57	0.73	0.5	0.09	25.7	
CB-445	135.43	134.57	CB-446	135.14	134.54	0.73	0.5	0.1	17	
CB-446	135.14	134.54	CB-449	135.15	134.48	0.64	0.5	0.1	29.5	
CB-447	137.11	136.61	CB-448	136.35	135.85	0.5	0.5	0.02	44.5	
CB-448	136.35	135.15	CB-449	135.16	134.66	0.85	0.5	0.04	24.4	
CB-449	135.16	134.66	CB-454	135.15	134.48	0.59	0.5	0.05	13	
CB-450	135.84	135.34	CB-451	135.83	135.22	0.55	0.5	0.03	26.2	
CB-451	135.83	135.22	CB-452	135.78	135.16	0.61	0.5	0.06	28.8	
CB-453	135.51	135.01	CB-452	135.78	135.16	0.56	0.5	0.09	28	
CB-453	135.51	135.01	CB-454	135.3	134.8	0.5	0.5	0.12	28.9	
CB-454	135.3	134.8	CB-463	135.4	134.74	0.58	0.5	0.15	29.2	
CB-455	138.72	138.22	CB-456	138.48	137.98	0.5	0.5	0.04	19.5	
CB-456	138.48	137.98	CB-457	138.49	137.91	0.54	0.5	0.04	24.7	
CB-457	138.49	137.91	CB-458	138.29	137.79	0.54	0.5	0.07	29.8	
CB-458	138.29	137.79	CB-459	137.69	137.19	0.5	0.5	0.08	33.5	
CB-459	137.69	137.19	CB-460	136.54	136.04	0.7	0.5	0.09	18	
CB-461	136.5	135	CB-460	137.14	136.52	0.56	0.5	0.1	25.8	
CB-462	135.91	135.41	CB-461	136.5	135.88	0.56	0.5	0.12	23.5	
CB-463	135.4	134.9	CB-462	135.91	135.41	0.5	0.5	0.15	28	
CB-463	135.4	134.9	CB-464	135.15	134.45	0.78	0.6	0.33	23.7	
CB-464	135.15	133.98	0-42	135	133.97	1.1	0.9	0.47	15.8	
CB-465	141.32	140.57	CB-466	140.73	140.23	0.63	0.5	0.04	16.9	
CB-466	140.73	139.56	CB-467	139.74	139.24	0.83	0.5	0.08	16.5	
CB-467	139.74	139.1	CB-468	139.41	138.91	0.57	0.5	0.11	9.6	
CB-468	139.41	138.51	CB-474	138.89	138.39	0.7	0.5	0.11	6.3	
CB-469	141.3	140.8	CB-470	141.24	140.55	0.6	0.5	0.01	24.8	
CB-470	141.24	140.2	CB-471	140.19	139.69	0.77	0.5	0.03	25.7	
CB-471	140.19	139.17	CB-472	139.43	138.93	0.76	0.5	0.04	11.8	
CB-472	139.43	138.42	CB-473	138.78	138.28	0.76	0.5	0.04	7.1	
CB-474	138.89	138.22	CB-473	138.78	138.28	0.58	0.5	0.04	18.7	
0-41	138.56	138.06	CB-474	138.89	138.22	0.58	0.5	0.14	19.9	
CB-476	138.6	137.9	CB-475	138.49	137.99	0.6	0.5	0.03	22.2	
CB-477	138.7	137.86	CB-476	138.6	137.9	0.77	0.5	0.05	15.8	
CB-478	138.8	137.82	CB-477	138.7	137.86	0.91	0.5	0.07	18.6	
CB-478	138.8	136.37	CB-492	136.5	136	1.47	0.5	0.1	18.5	
CB-480	137.7	137.2	CB-479	137.85	137.35	0.5	0.5	0.05	24.5	
CB-481	137.7	137.16	CB-480	137.7	137.2	0.52	0.5	0.01	22.4	
CB-482	137.7	137.11	CB-481	137.7	137.16	0.56	0.5	0.15	22.7	
CB-483	137.7	136.89	CB-482	137.7	136.81	0.79	0.8	0.25	15.3	
CB-484	137.7	136.89	CB-483	137.7	136.5	0.81	0.8	0.28	14	
CB-485	137.2	136.5	CB-484	137.7	136.69	0.86	0.8	0.33	18.5	
CB-486	137.2	136.19	CB-485	137.2	136.2	1.01	0.9	0.39	19.3	
CB-487	137.1	136.1	CB-486	137.2	136.19	1.01	0.9	0.43	17.6	
CB-487	137.1	136.03	CB-488	136.9	135.9	1.04	0.9	0.49	19.3	
CB-489	136.8	135.8	CB-488	136.9	135.9	1	0.9	0.55	22.6	
CB-490	136.8	135.38	CB-489	136.8	135.5	1.36	0.9	0.63	22.8	
CB-491	136.5	135.2	CB-490	136.8	135.38	1.36	0.9	0.68	27.4	
CB-492	136.5	135.14	CB-491	136.5	135.2	1.33	0.9	0.7	27.6	
CB-492	136.5	135.14	0-40	136.38	135.08	1.33	0.9	0.8	9.1	
CB-494	131.68	130.89	CB-493	131.73	131.23	0.64	0.5	0.01	28.8	
CB-495	131.47	130.82	CB-494	131.68	130.89	0.72	0.5	0.04	29.5	
CB-496	131.47	130.73	CB-495	131.47	130.82	0.7	0.5	0.04	29	
CB-497	131.3	130.68	CB-496	131.47	130.73	0.68	0.5	0.09	28.6	
CB-574	131.11	130.52	CB-497	131.3	130.68	0.61	0.5	0.16	18.8	
CB-498	138.99	138.49	CB-499	139.4	138.22	0.84	0.5	0.01	27.1	
CB-499	139.4	138.22	CB-500	139.02	138.07	1.07	0.5	0.02	27.8	
CB-500	139.02	138.07	CB-501	138.41	137.91	0.73	0.5	0.04	27.1	
CB-501	138.41	137.91	CB-502	137.99	137.49	0.5	0.5	0.06	24.5	
CB-502	137.99	137.49	CB-503	137.54	137.04	0.5	0.5	0.08	25.4	
CB-503	137.54	137.04	CB-504	137.06	136.56	0.5	0.5	0.1	28.8	
CB-504	137.06	136.56	CB-505	136.6	136.1	0.5	0.5	0.12	26.6	
CB-505	136.6	136.1	CB-506	136.21	135.71	0.5	0.5	0.13	23.7	
CB-506	136.21	135.71	CB-507	135.7	135.19	0.51	0.5	0.14	30	
CB-507	135.7	135.19	CB-508	135.11	134.61	0.51	0.5	0.15	28.9	
CB-508	135.11	134.46	CB-509	134.37	133.87	0.58	0.5	0.16	29.3	
CB-509	134.37	133.78	CB-510	133.87	133.37	0.55	0.5	0.18	20.2	
CB-510	133.87	133.26	CB-511	133.31	132.81	0.56	0.5	0.2	22.4	
CB-512	132.78	132.28	CB-511	133.31	132.71	0.55	0.5	0.22	21.4	
CB-512	132.78	132.15	CB-513	132.17	131.67	0.56	0.5	0.24	24	
CB-513	132.17	131.32	CB-570	131.12	130.61	0.68	0.5	0.25	35.5	
CB-514	137.69	137.19	CB-515	137.23	136.73	0.5	0.5	0.02	26.8	
CB-515	137.23	136.73	CB-516	136.8	136.3	0.5	0.5	0.05	27.4	
CB-516	136.8	136.3	CB-517	136.49	135.85	0.52	0.5	0.08	25.7	
CB-517	136.49	135.85	CB-518	135.84	135.34	0.52	0.5	0.12	25.1	
CB-518	135.84	135.34	CB-519	135.39	134.89	0.5	0.5	0.13	28.5	
CB-519	135.39	134.89	CB-520	135.18	134.68	0.5	0.5	0.19	28.5	
CB-520	135.18	134.68	CB-521	134.63	134.13	0.5	0.5	0.22	27.9	
CB-521	134.63	134.13	CB-522	134.34	133.84	0.5	0.5	0.25	24.9	
CB-522	134.34	133.84	CB-523	133.95	133.45	0.5	0.5	0.28	25.6	
CB-523	133.95	133.45	CB-524	133.49	132.99	0.5	0.5	0.31	29.4	
CB-524	133.49	132.99	CB-525	133.06	132.56	0.5	0.5	0.34	28.1	
CB-525	133.06	132.56	CB-526	132.63	132.13	0.5	0.5	0.37	27.3	
CB-526	132.63	131.76	CB-541	131.75	131.25	0.58	0.5	0.38	25.3	
CB-528	137.31	136.75	CB-527	137.66	137.16	0.53	0.5	0.01	22.4	
CB-529	136.87	136.21	CB-528	137.31	136.75	0.61	0.5	0.01	29.1	
CB-530	136.44	135.69	CB-529	136.87	136.21	0.71	0.5	0.03	28.7	
CB-531	136.01	135.31	CB-530	136.44	135.69	0.63	0.5	0.01	28.2	
CB-532	135.58	135.08	CB-531	136.01	135.51	0.5	0.5	0.03	27.4	
CB-533	135.09	134.59	CB-532	135.58	135.08	0.5	0.5	0.08	28.5	
CB-534	134.67	134.17	CB-533	135.09	134.59	0.5	0.5	0.13	28.3	
CB-535	134.31	133.81	CB-534	134.67	134.17	0.5	0.5	0.18	24.4	
CB-536	133.9	133.4	CB-535	134.31	133.81	0.5	0.5	0.22	27.9	
CB-537	133.41	132.91	CB-536	133.9	133.4	0.5	0.5	0.26	29.4	
CB-538	133.01	132.51	CB-537	133.41	132.91	0.5	0.5	0.29	25.2	
CB-539	132.61	132.11	CB-538	133.01	132.51	0.5	0.5	0.32	27.4	
CB-540	132.14	131.57	CB-539	132.61	132.11	0.54	0.5	0.34	27.6	
CB-540	132.14	131.57	CB-541	131.75	131.25	0.54	0.5	0.35	28.2	
CB-541	131.75	131.05	CB-542	131.7	131	0.7	0.8	0.69	9.2	
CB-543	131.37	130.67	CB-542	131.7	130.79	0.8	0.8	0.69	12.3	
CB-543	131.37	130.67	CB-544	131.2	130.5	0.7	0.8	0.69	24.4	
CB-544	131.2	129.9	CB-545	131.2	129.88	1.31	0.9	0.7	25.1	
CB-545	131.2	129.88	CB-546	131.2	129.87	1.32	0.9	0.71	21.1	
CB-546	131.2	129.87	CB-547	131.2	129.85	1.34	0.9	0.73	27.2	
CB-547	131.2	129.85	CB-548	131.2	129.84	1.36	0.9	0.73	29.1	
CB-548	131.2	129.84	CB-569	131.17	129.82	1.36	0.9	0.73	23.5	
CB-550	139.89	139.16	CB-549	139.9	139.4	0.62	0.5	0.01	24.3	
CB-551	139.88	139.07	CB-550	139.89	139.16	0.77	0.5	0.03	25.5	
CB-552	139.75	139.02</								

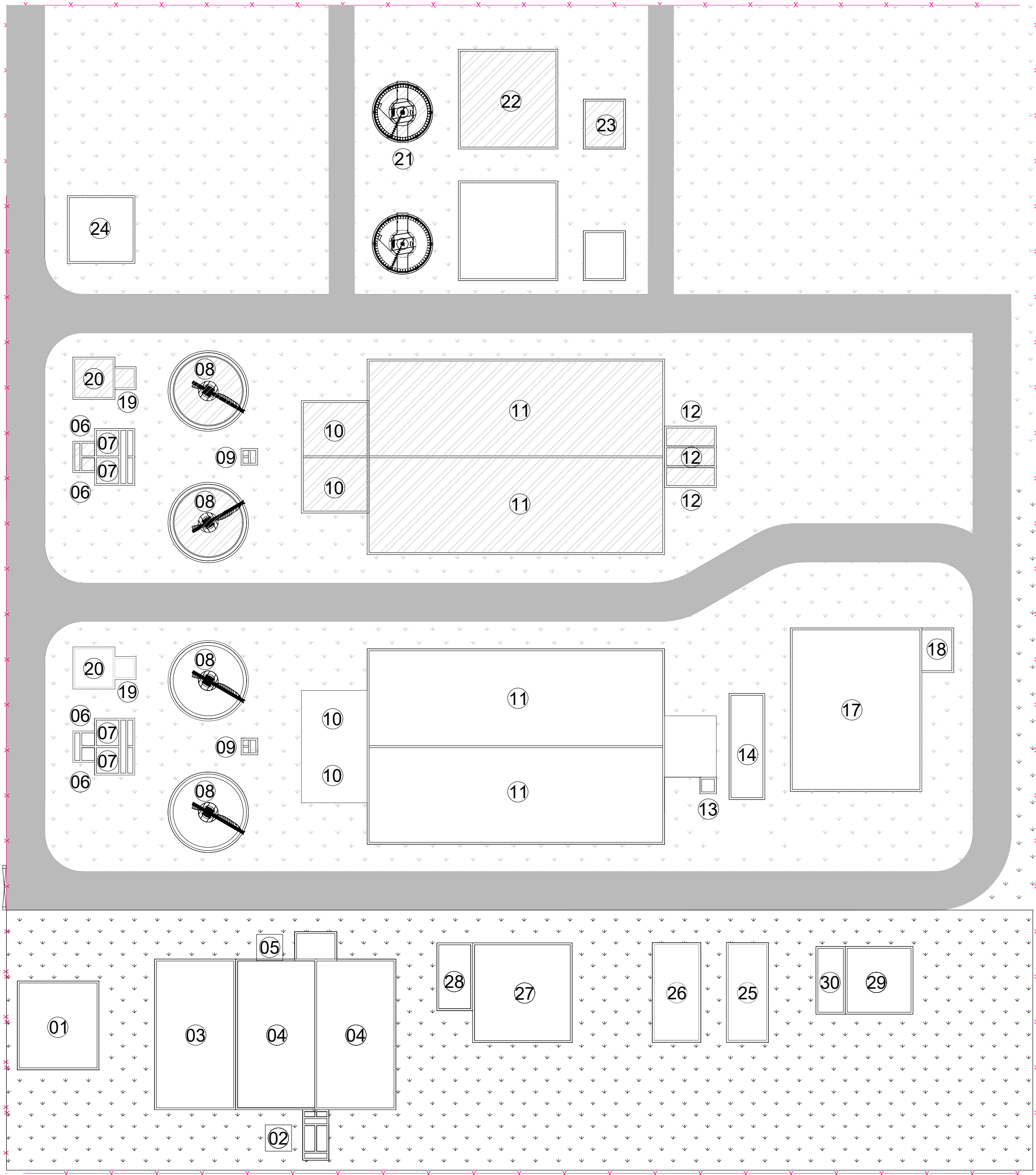
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DETAILS OF STORM WATER NETWORK OF PUDUSSERY NODE										
Start Node	Elevation Ground (Start) (m)	Invert (Start) (m)	Stop Node	Elevation Ground (Stop) (m)	Invert (Stop) (m)	Avg Depth (m)	Span (m)	Flow (m ³ /s)	Length (Scaled) (m)	
CB-935	127.5	126.2	CB-957	127.47	126.17	1.3	0.9	0.76	23.6	
CB-936	136.93	136.43	CB-937	136.66	135.92	0.62	0.5	0.06	29.9	
CB-937	136.66	135.92	CB-938	135.86	135.36	0.62	0.5	0.16	27.9	
CB-938	135.86	135.07	CB-939	134.99	134.49	0.65	0.5	0.24	28.9	
CB-939	134.99	134.15	CB-940	134.06	133.56	0.67	0.5	0.33	29.2	
CB-940	134.06	133.42	CB-941	133.43	132.93	0.57	0.5	0.4	24.5	
CB-941	133.43	132.68	CB-942	132.7	132.2	0.62	0.5	0.48	24.1	
CB-942	132.7	131.62	CB-943	132.06	131.36	0.89	0.6	0.55	25.6	
CB-943	132.06	131.2	CB-944	131.65	130.95	0.78	0.6	0.62	25.1	
CB-944	131.65	130.82	CB-945	131.29	130.59	0.76	0.6	0.7	23.1	
CB-945	131.29	130.45	CB-946	130.87	130.17	0.77	0.6	0.77	28.4	
CB-946	130.87	130.04	CB-947	130.52	129.82	0.76	0.8	0.84	21.9	
CB-947	130.52	129.52	CB-948	130	129.3	0.8	0.8	0.86	32.3	
CB-948	130	129.17	CB-949	129.6	128.9	0.77	0.8	0.91	26.3	
CB-949	129.6	128.78	CB-950	129.19	128.49	0.76	0.8	1.01	28.1	
CB-950	129.19	128.4	CB-951	128.87	128.17	0.75	0.8	1.12	23.4	
CB-951	128.87	128.07	CB-952	128.55	127.85	0.75	0.8	1.11	21.6	
CB-952	128.55	127.74	CB-953	128.23	127.53	0.76	0.8	1.1	21.1	
CB-953	128.23	127.44	CB-954	127.95	127.25	0.74	0.8	1.1	19.2	
CB-954	127.95	126.95	CB-955	127.82	126.82	1	0.9	1.23	27.2	
CB-955	127.82	126.52	CB-956	127.94	126.5	1.37	1.5	1.33	27.1	
CB-956	127.94	126.33	CB-957	127.47	126.17	1.45	1.5	1.33	24.7	
CB-958	127.08	125.78	CB-957	127.47	125.92	1.42	1.5	1.86	21.5	
CB-959	126.59	125.29	CB-958	127.08	125.43	1.47	1.5	1.85	22.1	
CB-960	126.58	125.23	CB-959	126.99	125.69	1.3	1.5	1.86	21.9	
CB-961	126.38	125.08	CB-960	126.53	125.23	1.3	1.5	1.87	28.5	
CB-962	126.38	124.76	CB-961	126.38	124.78	1.61	1.5	1.88	28.1	
CB-962	126.38	124.76	CB-983	126.38	124.75	1.62	1.5	1.88	19.9	
CB-964	129.09	128.42	CB-983	129.2	128.7	0.68	0.5	0.01	20	
CB-965	128.98	128.36	CB-964	129.09	128.42	0.64	0.5	0.08	28.5	
CB-965	128.98	128.36	CB-966	128.81	128.31	0.56	0.5	0.15	28.8	
CB-967	128.54	128.04	CB-966	128.81	128.31	0.5	0.5	0.22	28.9	
CB-968	129.02	127.79	CB-967	128.54	127.84	0.97	0.8	0.3	25.7	
CB-969	128.19	127.49	CB-968	129.02	127.79	0.97	0.8	0.37	29.8	
CB-970	128.28	127.17	CB-969	128.19	127.19	1.05	0.9	0.46	28	
CB-971	128.05	127.05	CB-970	128.28	127.17	1.05	0.9	0.5	29.3	
CB-971	128.05	126.66	CB-978	127.49	126.49	1.2	0.9	0.52	25.6	
CB-973	128.44	127.59	CB-972	128.48	127.98	0.88	0.5	0.01	21.2	
CB-974	128.5	127.47	CB-973	128.44	127.59	0.94	0.5	0.03	24.6	
CB-975	128.37	127.41	CB-974	128.5	127.47	1	0.5	0.05	29.5	
CB-976	128.25	127.36	CB-975	128.37	127.41	0.89	0.5	0.09	24.2	
CB-977	127.67	127.17	CB-976	128.25	127.36	0.7	0.5	0.11	22.5	
CB-978	127.49	126.99	CB-977	127.67	127.17	0.5	0.5	0.12	21.9	
CB-979	127.08	126.08	CB-978	127.49	126.23	1.13	0.9	0.63	22.7	
CB-980	126.52	125.52	CB-979	127.08	125.69	1.19	0.9	0.64	25.8	
CB-981	126.53	125.2	CB-980	126.52	125.22	1.32	0.9	0.67	26.7	
CB-982	126.38	125.08	CB-981	126.53	125.2	1.32	0.9	0.7	23.4	
CB-983	126.38	125.05	CB-982	126.38	125.08	1.31	0.9	0.69	24.4	
CB-984	126.38	124.44	CB-983	126.38	124.45	1.93	1.5	2.49	18.9	
CB-984	126.38	124.21	C-28	126	124.1	2.03	1.5	2.49	22.3	
CB-986	126.1	125.6	CB-985	126.73	126.11	0.56	0.5	0.02	25.5	
CB-987	125.55	125.05	CB-986	126.1	125.51	0.55	0.5	0.04	23	
CB-988	125.09	124.59	CB-987	125.55	124.97	0.54	0.5	0.06	19.1	
CB-989	124.8	124.3	CB-988	125.09	124.59	0.5	0.5	0.08	16.1	
CB-990	124.58	123.97	CB-989	124.8	124.3	0.56	0.5	0.1	17.5	
CB-991	123.91	123.41	CB-990	124.58	123.97	0.56	0.5	0.14	28	
CB-992	123.7	123.2	CB-991	123.91	123.41	0.5	0.5	0.16	19	
CB-993	123.66	123.16	CB-992	123.7	123.2	0.5	0.5	0.17	17.4	
CB-994	123.57	123.07	CB-993	123.66	123.16	0.5	0.5	0.2	22.1	
CB-995	123.27	122.77	CB-994	123.57	123.07	0.5	0.5	0.26	24	
CB-996	122.97	122.47	CB-995	123.27	122.77	0.5	0.5	0.36	24.6	
CB-997	122.7	122.2	CB-996	122.97	122.47	0.5	0.6	0.46	23.9	
CB-998	122.7	121.68	CB-997	122.7	121.7	1.01	0.9	0.49	25.2	
CB-998	122.7	121.68	CB-100	122.7	121.67	1.02	0.9	0.51	22.9	
CB-1000	126.1	125.6	CB-999	126.73	126.17	0.53	0.5	0.01	28.5	
CB-1001	125.49	124.99	CB-1000	126.1	125.52	0.54	0.5	0.04	26.3	
CB-1002	124.8	124.3	CB-1001	125.49	124.68	0.65	0.5	0.07	19.2	
CB-1003	124.65	124.15	CB-1002	124.8	124.3	0.5	0.5	0.1	21.9	
CB-1004	124.26	123.76	CB-1003	124.65	124.15	0.5	0.5	0.13	28.7	
CB-1005	123.93	123.43	CB-1004	124.26	123.76	0.5	0.5	0.16	25.6	
CB-1006	123.64	123.14	CB-1005	123.93	123.43	0.5	0.5	0.18	23	
CB-1007	123.33	122.83	CB-1006	123.64	123.14	0.5	0.5	0.21	21.5	
CB-1008	123.09	122.59	CB-1007	123.33	122.83	0.5	0.5	0.25	21.7	
CB-1009	122.77	122.27	CB-1008	123.09	122.59	0.5	0.5	0.28	28	
CB-1010	122.7	121.97	CB-1009	122.77	122.07	0.72	0.6	0.31	28.6	
CB-1011	122.5	121.5	CB-1010	122.7	121.67	1.02	0.9	0.82	29	
CB-1011	122.5	121.2	C-27	122.73	121.18	1.42	0.9	0.86	22.9	
CB-1012	125.27	124.77	CB-1013	125.48	124.49	0.75	0.5	0.01	28.1	
CB-1013	125.48	124.49	CB-1014	125.78	124.39	1.19	0.5	0.04	28.6	
CB-1014	125.78	124.39	CB-1015	125.98	124.34	1.51	0.5	0.07	28.4	
CB-1015	125.98	124.34	CB-1016	125.9	124.29	1.63	0.5	0.13	25.5	
CB-1016	125.9	124.29	CB-1017	125.6	124.23	1.49	0.5	0.12	26.7	
CB-1017	125.6	124.23	CB-1018	125.63	124.38	1.3	0.6	0.2	25.9	
CB-1018	125.43	124.93	CB-1019	125.67	124.36	1.76	0.8	0.27	24.9	
CB-1019	126.03	123.96	CB-1020	125.35	123.88	1.77	0.8	0.26	22.2	
CB-1020	125.35	123.88	CB-1021	124.31	123.61	1.08	0.8	0.25	26.8	
CB-1021	124.31	123.57	CB-1022	123.97	123.27	0.72	0.8	0.25	30	
CB-1022	123.97	123.06	CB-1036	123.46	122.76	0.81	0.8	0.33	29.6	
CB-6420	126.3	125.8	CB-6421	126.2	125.7	0.5	0.5	0.12	30.1	
CB-6421	126.2	125.7	CB-6422	126.2	125.65	0.53	0.5	0.12	27.3	
CB-6422	126.2	125.65	CB-6423	126.1	125.59	0.53	0.6	0.19	28.8	
CB-6423	126.1	125.59	CB-6424	126.1	125.53	0.54	0.6	0.18	26.4	
CB-6424	126.1	125.53	CB-6425	125.9	125.4	0.53	0.6	0.18	26.8	
CB-6425	125.9	125.4	CB-6426	125.8	125.3	0.5	0.6	0.17	29.6	
CB-6426	125.8	125.3	CB-6427	125.8	125.25	0.52	0.6	0.17	23.3	
CB-6427	125.8	125.25	CB-6428	125.5	125	0.52	0.6	0.3	24.8	
CB-6428	125.5	124.5	CB-6429	125.5	124.48	1.01	0.9	0.36	28.8	
CB-6429	125.5	124.48	CB-1029	125.5	124.46	1.03	0.9	0.35	25.4	
CB-1023	125.96	125.46	CB-1024	125.96	125.04	0.71	0.5	0.01	27.5	
CB-1024	125.96	125.04	CB-1025	125.58	124.99	0.75	0.5	0.04	20.4	
CB-1025	125.58	124.99	CB-1026	125.55	124.93	0.6	0.5	0.04	19.7	
CB-1026	125.55	124.93	CB-1027	125.55	124.85	0.66	0.5	0.04	27.1	
CB-1027	125.55	124.85	CB-1028	125.55	124.78	0.74	0.5	0.04	26.5	
CB-1028	125.55	124.78	CB-1041	125.3	124.8	0.58	0.5	0.09	25.3	
CB-1029	125.5	124.2	CB-1030	125.89	124.19	1.75	0.9	0.38	17.7	
CB-1030	125.89	124.19	CB-1031	125.05	124.1	1.51	0.9	0.37	29.1	
CB-1031	125.05	123.86	CB-1032	124.67	123.67	1.1	0.9	0.38	28.2	
CB-1032	124.67	123.5	CB-1033	124.31	123.31	1.08	0.9	0.36	29.2	
CB-1033	124.31	123.14	CB-1034	123.94	122.94	1.09	0.9	0.47	29.2	
CB-1034	123.94	122.77	CB-1035	123.58	122.58	1.08	0.9	0.47	28.6	
CB-1036	123.46	122.46	CB-1035	123.58	122.58	1	0.9	0.6	23	
CB-1036	123.46	121.81	C-26	122.73	121.73	1.33	0.9	0.92	11	
CB-1037	128.06	127.56	CB-1038	127.5	127	0.5	0.5	0.01	28.3	
CB-1038	127.5	126.83	CB-1039	126.75	126.25	0.59	0.5	0.03	29.2	
CB-1039	126.75	126.09	CB-1040	126.05	125.55	0.58	0.5	0.06	27.2	
CB-1040	126.05									

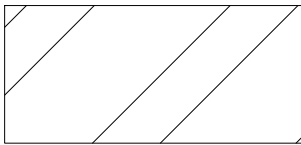
DETAILS OF STORM WATER NETWORK OF PUDUSSERY NODE										
Start Node	Elevation Ground (Start) (m)	Invert (Start) (m)	Stop Node	Elevation Ground (Stop) (m)	Invert (Stop) (m)	Avg Depth (m)	Span (m)	Flow (m ³ /s)	Length (Scaled) (m)	
CB-1457	126.56	126.06	CB-1458	126.22	125.72	0.5	0.5	0.08	22.4	
CB-1458	126.22	125.72	CB-1459	125.85	125.35	0.5	0.5	0.15	23.7	
CB-1459	125.85	125.35	CB-1460	125.55	125.05	0.5	0.5	0.21	19.2	
CB-1460	125.55	125.05	CB-1461	125.2	124.7	0.5	0.5	0.27	21.5	
CB-1461	125.2	124.7	CB-1462	124.78	124.28	0.5	0.5	0.33	25.7	
CB-1462	124.78	124.28	CB-1463	124.32	123.82	0.5	0.5	0.41	29	
CB-1463	124.32	123.82	CB-1464	124.02	123.52	0.5	0.6	0.48	24.8	
CB-1464	124.02	123.52	CB-1465	123.81	123.31	0.7	0.6	0.55	24.3	
CB-1465	123.81	123.31	CB-1466	123.67	122.97	0.7	0.6	0.61	24.5	
CB-1466	123.67	122.97	CB-1467	123.51	122.81	0.7	0.8	0.67	27.8	
CB-1467	123.51	122.81	CB-1468	123.37	122.67	0.7	0.8	0.73	22.2	
CB-1468	123.37	122.67	CB-1469	123.25	122.55	0.7	0.8	0.78	20.9	
CB-1469	123.25	122.55	CB-1470	123.07	122.37	0.7	0.8	0.83	28	
CB-1470	123.07	122.37	CB-1471	122.96	121.96	1	0.9	0.88	19.9	
CB-1471	122.96	121.96	CB-1472	122.81	121.81	1	0.9	0.93	25.7	
CB-1472	122.81	121.81	CB-1473	122.68	122.68	1	0.9	0.98	20.1	
CB-1473	122.68	121.68	CB-1474	122.54	121.54	1	0.9	1.02	26	
CB-1474	122.54	121.54	CB-1475	122.36	121.36	1	0.9	1.07	29.3	
CB-1475	122.36	121.36	CB-1476	122.19	121.19	1	0.9	1.12	28.2	
CB-1476	122.19	121.17	CB-1477	121.97	120.97	1.01	0.9	1.16	29.7	
CB-1477	121.97	120.77	CB-1478	121.59	120.59	1.1	0.9	1.2	27.5	
CB-1478	121.59	120.19	CB-1479	120.99	119.99	1.2	0.9	1.26	29.7	
CB-1479	120.99	119.73	CB-1480	120.6	119.6	1.13	0.9	1.31	19.8	
CB-1480	120.6	119.27	CB-1481	120.1	119.1	1.16	0.9	1.3	25.7	
CB-1481	120.1	118.78	CB-1482	118.59	118.1	1.16	0.9	1.3	28	
CB-1482	118.59	118.23	CB-1483	118.04	118.04	1.18	0.9	1.39	29.2	
CB-1483	118.04	117.71	CB-1484	118.52	117.52	1.17	0.9	1.38	27.3	
CB-1484	118.52	117.29	CB-1485	118.13	117.13	1.12	0.9	1.37	23.9	
CB-1485	118.13	116.83	CB-1486	118.08	117.78	1.3	0.9	1.37	24.7	
CB-1486	118.08	116.78	CB-1488	118.18	116.76	1.36	1.5	1.32	23.1	
CB-1488	118.18	117.56	CB-1487	118.33	117.83	0.56	0.5	0.15	28.2	
CB-1488	118.18	116.76	CB-1521	118.21	116.75	1.44	1.5	1.61	22.1	
CB-1490	127.04	126.54	CB-1489	127.15	126.65	0.5	0.5	0.01	12.6	
CB-1490	127.04	126.54	CB-1491	126.92	126.4	0.51	0.5	0.01	15.2	
CB-1491	126.92	126.4	CB-1492	126.64	126.14	0.51	0.5	0.02	15.6	
CB-1492	126.64	126.14	CB-1493	126.28	125.78	0.5	0.5	0.03	21.1	
CB-1493	126.28	125.78	CB-1494	126.55	126.05	0.5	0.5	0.05	19.8	
CB-1494	126.55	125.45	CB-1495	125.47	124.97	0.5	0.5	0.07	28.8	
CB-1495	125.47	124.97	CB-1496	125.02	124.52	0.5	0.5	0.11	29	
CB-1496	125.02	124.52	CB-1497	124.52	124.02	0.5	0.5	0.15	29.5	
CB-1497	124.52	124.02	CB-1498	124.12	123.62	0.5	0.5	0.19	28.8	
CB-1498	124.12	123.62	CB-1499	123.84	123.34	0.5	0.5	0.24	28.3	
CB-1499	123.84	123.34	CB-1500	123.67	123.17	0.5	0.6	0.28	28.9	
CB-1500	123.67	123.17	CB-1501	123.5	123	0.5	0.6	0.32	28.8	
CB-1501	123.5	122.8	CB-1502	123.33	122.63	0.7	0.6	0.36	29.1	
CB-1502	123.33	122.63	CB-1503	123.16	122.46	0.7	0.6	0.4	29.1	
CB-1503	123.16	122.46	CB-1504	122.98	122.28	0.7	0.6	0.43	28.5	
CB-1504	122.98	122.28	CB-1505	122.82	122.12	0.7	0.6	0.45	27.2	
CB-1505	122.82	122.12	CB-1506	122.65	121.95	0.7	0.6	0.46	27.9	
CB-1506	122.65	121.95	CB-1507	122.5	121.8	0.7	0.6	0.47	21.3	
CB-1507	122.5	121.8	CB-1508	122.33	121.63	0.7	0.6	0.48	29.9	
CB-1508	122.33	121.63	CB-1509	122.22	121.52	0.7	0.6	0.5	23.7	
CB-1509	122.22	121.52	CB-1510	122.09	121.39	0.7	0.6	0.52	21.9	
CB-1510	122.09	121.39	CB-1511	121.98	121.24	0.72	0.6	0.53	19.9	
CB-1511	121.98	121.24	CB-1512	121.67	120.97	0.72	0.6	0.55	26.7	
CB-1512	121.67	120.74	CB-1513	121.16	120.46	0.81	0.6	0.57	28.3	
CB-1513	121.16	120.22	CB-1514	120.68	119.98	0.82	0.6	0.59	24.3	
CB-1514	120.68	119.68	CB-1515	120.09	119.39	0.85	0.6	0.6	28.3	
CB-1515	120.09	119.06	CB-1516	119.48	118.78	0.87	0.6	0.6	28	
CB-1516	119.48	118.43	CB-1517	118.84	118.14	0.88	0.6	0.6	29.2	
CB-1517	118.84	117.93	CB-1518	118.42	117.72	0.81	0.6	0.59	21	
CB-1518	118.42	117.61	CB-1519	118.1	117.4	0.75	0.6	0.59	21	
CB-1519	118.1	117.1	CB-1520	118.07	117.07	1	0.9	0.59	20.3	
CB-1520	118.07	117.07	CB-1521	118.21	117.05	1.08	0.9	0.58	29.7	
CB-1521	118.21	116.45	O-14	118.15	116.43	1.74	1.5	2.14	27.4	
CB-1523	140.12	139.62	CB-1522	140.53	140	0.52	0.5	0.01	19.1	
CB-1524	139.29	138.79	CB-1523	140.12	139.26	0.68	0.5	0.03	23.7	
CB-1525	138.75	138.25	CB-1524	139.29	138.29	0.5	0.5	0.07	27	
CB-1526	138.71	138.15	CB-1525	138.75	138.25	0.53	0.5	0.12	18.8	
CB-1526	138.71	138.15	CB-1527	138.08	137.58	0.53	0.5	0.16	28.2	
CB-1527	138.08	137.46	CB-1528	137.42	136.92	0.56	0.5	0.21	27	
CB-1528	137.42	136.92	CB-1529	137.06	136.56	0.5	0.5	0.27	29.3	
CB-1529	137.06	136.56	CB-1530	136.5	136	0.5	0.5	0.31	28.1	
CB-1530	136.5	136	CB-1531	135.97	135.47	0.5	0.5	0.34	26.4	
CB-1531	135.97	135.47	CB-1532	135.33	134.83	0.5	0.5	0.36	36.4	
CB-1532	135.33	134.66	CB-1533	134.73	134.23	0.59	0.5	0.37	21.4	
CB-1533	134.73	133.73	CB-1534	134.83	133.71	1.04	0.9	0.38	28.8	
CB-1534	134.8	133.71	CB-1535	134.9	133.69	1.15	0.9	0.39	39.4	
CB-1535	134.9	133.69	CB-1536	135.22	133.67	1.38	0.9	0.41	28.7	
CB-1536	135.22	133.67	CB-1537	135.12	133.65	1.51	0.9	0.43	29.8	
CB-1537	135.12	133.65	CB-1538	135.1	133.64	1.46	0.9	0.45	12.2	
CB-1538	135.05	133.63	CB-1539	135.1	133.64	1.44	0.9	0.47	12.9	
CB-1540	135.06	133.62	CB-1539	135.05	133.63	1.43	0.9	0.49	18.2	
CB-1541	135.09	133.61	CB-1540	135.06	133.62	1.46	0.9	0.5	29.4	
CB-1542	135.23	133.59	CB-1541	135.09	133.61	1.56	0.9	0.53	19	
CB-1542	135.23	133.59	CB-1542	134.9	133.58	1.48	0.9	0.52	21.5	
CB-1543	134.22	133.72	CB-1544	134.76	133.67	0.8	0.5	0.14	25.1	
CB-1544	134.76	133.47	CB-1545	134.6	133.44	1.22	0.6	0.22	29.2	
CB-1545	134.6	133.44	CB-1546	134.29	133.42	1.01	0.6	0.21	23.8	
CB-1546	134.29	133.42	CB-1547	133.95	133.25	0.78	0.6	0.21	19.8	
CB-1547	133.95	133.25	CB-1548	134.47	133.23	0.94	0.6	0.21	17	
CB-1548	134.47	133.23	CB-1556	134.9	133.21	1.44	0.6	0.25	24.4	
CB-1550	134.0	134	CB-1547	134.73	134.23	0.94	0.5	0.25	24.8	
CB-1551	135.72	134.01	CB-1550	134.8	134.01	0.92	0.5	0.05	29.3	
CB-1552	134.21	133.95	CB-1551	135.12	134.08	0.94	0.5	0.09	27.2	
CB-1553	134.99	133.9	CB-1552	134.71	133.95	0.92	0.5	0.14	24.8	
CB-1554	135.5	133.85	CB-1553	134.99	133.9	1.37	0.6	0.2	25.5	
CB-1555	135.15	133.62	CB-1554	135.5	133.65	1.69	0.6	0.24	27.9	
CB-1556	134.9	133.6	CB-1555	135.15	133.62	1.41	0.6	0.25	27	
CB-1556	134.9	132.91	O-13	134.73	132.89	1.92	1.5	0.93	20.7	
CB-1558	148.44	147.94	CB-1569	148.12	147.62	0.5	0.5	0.0	16.4	
CB-1569	148.12	147.62	CB-1577	147.75	147.25	0.5	0.5	0.03	28.9	
CB-1571	149.2	148.27	CB-1570	149.14	148.64	0.72	0.5	0.01	18.7	
CB-1572	148.46	148.06	CB-1571	149.2	148.27	0.88	0.5	0.02	29.9	
CB-1573	148.45	147.95	CB-1572	148.86	148.08	0.64	0.5	0.04	20.6	
CB-1574	148.06	147.54	CB-1573	148.45	147.95	0.78	0.5	0.05	28.2	
CB-1575	147.56	147	CB-1574	148.04	147.54	0.5	0.5	0.1	28.2	
CB-1576	147.48	146.99	CB-1575	147.56	147.06	0.5	0.5	0.13	26.3	
CB-1577	147.75	146.94	CB-1576	147.48	146.99	0.65	0.5	0.15	24.4	
CB-1577	147.75	146.74	CB-1601	147.68	146.72	0.99	0.6	0.2	22.2	
CB-1578	153.32	152.53	CB-1579	152.52	152.02	0.65	0.5	0.12	25.6	
CB-1579	152.52	151.56	CB-1580	151.53	151.03	0.73	0.5	0.16	26.6	
CB-1580	151.53	151.02	CB-1581	150.97	150.47	0.5	0.5	0.18	27.7	
CB-1581	150.97	150.13	CB-1582	150.16	149.66	0.67	0.5	0.2	23.7	

DETAILS OF STORM WATER NETWORK OF PUDUSSERY NODE										
Start Node	Elevation Ground (Start) (m)	Invert (Start) (m)	Stop Node	Elevation Ground (Stop) (m)	Invert (Stop) (m)	Avg Depth (m)	Span (m)	Flow (m ³ /s)	Length (Scaled) (m)	
CB-1986	130.91	130.41	CB-1987	130.63	130.13	0.5	0.5	0.08	24.6	
CB-1987	130.63	130.13	CB-1988	130.62	130.09	0.52	0.5	0.1	21.7	
CB-1988	130.62	130.09	CB-1989	130.7	130.04	0.6	0.5	0.1	23.9	
CB-1989	130.7	130.04	CB-1990	130.42	129.91	0.58	0.5	0.11	24.9	
CB-1990	130.42	129.91	CB-1991	130	129.5	0.5	0.5	0.12	20.3	
CB-1991	130	129.5	CB-1992	129.69	129.19	0.5	0.5	0.13	27.6	
CB-1992	129.69	129.19	CB-1993	129.48	128.98	0.5	0.5	0.16	24.7	
CB-1993	129.48	128.98	CB-1994	129.32	128.82	0.5	0.5	0.18	23.3	
CB-1994	129.32	128.82	CB-1995	129.12	128.62	0.5	0.5	0.21	21.9	
CB-1995	129.12	128.62	CB-1996	128.89	128.39	0.5	0.5	0.23	28.6	
CB-1996	128.89	128.39	CB-1997	128.68	128.18	0.5	0.5	0.26	26.5	
CB-1997	128.68	128.18	CB-1998	128.48	127.98	0.5	0.5	0.28	25	
CB-1998	128.48	127.98	CB-1999	128.27	127.77	0.5	0.5	0.3	27.2	
CB-1999	128.27	127.77	CB-2000	127.84	127.34	0.5	0.5	0.32	25.2	
CB-2000	127.84	127.34	CB-2037	127.4	126.9	0.5	0.5	0.33	24.4	
CB-2002	132.33	131.83	CB-2001	132.8	132.3	0.5	0.5	0.03	28	
CB-2003	131.92	131.42	CB-2002	132.33	131.83	0.5	0.5	0.06	26.2	
CB-2004	131.8	131.3	CB-2003	131.92	131.42	0.5	0.5	0.07	10.4	
CB-2004	131.8	131.3	CB-2008	131.59	131.09	0.5	0.5	0.07	18.2	
CB-2006	132.49	131.97	CB-2005	132.8	132.3	0.51	0.5	0.03	27.5	
CB-2007	131.92	131.42	CB-2006	132.49	131.97	0.51	0.5	0.06	27.3	
CB-2008	131.59	131.09	CB-2007	131.92	131.36	0.53	0.5	0.07	13.1	
CB-2008	131.59	131.09	CB-2009	131.5	131	0.5	0.5	0.15	20.5	
CB-2009	131.5	131	CB-2010	131.36	130.86	0.5	0.5	0.16	40.1	
CB-2010	131.36	130.86	CB-2011	131.25	130.75	0.5	0.5	0.18	29.6	
CB-2011	131.25	130.75	CB-2012	130.98	130.48	0.5	0.5	0.21	28.9	
CB-2012	130.98	130.48	CB-2013	130.75	130.25	0.5	0.5	0.24	29.9	
CB-2013	130.75	130.25	CB-2014	130.52	130.02	0.5	0.5	0.27	25.3	
CB-2014	130.52	130.02	CB-2015	130.08	129.58	0.5	0.5	0.28	25.2	
CB-2015	130.08	129.38	CB-2016	129.99	129.29	0.7	0.6	0.29	27.1	
CB-2016	129.99	129.29	CB-2020	129.96	129.26	0.7	0.8	0.29	27.5	
CB-2017	131.5	131	CB-2018	131.46	130.67	0.65	0.5	0.01	18	
CB-2018	131.46	130.67	CB-2019	131.38	130.56	0.81	0.5	0.02	18.3	
CB-2019	131.38	130.56	CB-2020	131.3	130.5	0.81	0.5	0.04	19.1	
CB-2020	131.3	130.5	CB-2021	131.24	130.47	0.78	0.5	0.06	13	
CB-2021	131.24	130.47	CB-2022	130.8	130.3	0.63	0.5	0.08	17	
CB-2022	130.8	130.3	CB-2023	131	130.26	0.62	0.5	0.11	18.6	
CB-2023	131	130.26	CB-2024	130.87	130.22	0.69	0.5	0.13	21.9	
CB-2024	130.87	130.22	CB-2025	130.64	130.14	0.57	0.5	0.15	18.4	
CB-2025	130.64	129.94	CB-2026	130.64	129.92	0.71	0.6	0.18	18.6	
CB-2026	130.64	129.92	CB-2027	130.56	129.86	0.71	0.6	0.2	17.3	
CB-2027	130.56	129.54	CB-2028	130.08	129.38	0.86	0.6	0.21	16.1	
CB-2028	130.08	129.38	CB-2029	130.18	129.35	0.77	0.6	0.21	17.6	
CB-2029	130.18	129.35	CB-2030	129.96	129.26	0.77	0.6	0.21	8.8	
CB-2031	129.33	128.63	CB-2030	129.96	128.9	0.88	0.8	0.5	26.6	
CB-2032	128.67	127.97	CB-2031	129.33	128.18	0.93	0.8	0.51	20.2	
CB-2033	127.86	127.16	CB-2032	128.67	127.4	0.99	0.8	0.54	23.9	
CB-2034	127.5	126.8	CB-2033	127.86	127.03	0.76	0.8	0.58	23.2	
CB-2035	127.5	126.18	CB-2034	127.5	126.2	1.31	0.9	0.61	23.5	
CB-2036	127.5	126.17	CB-2035	127.5	126.18	1.32	0.9	0.63	27.8	
CB-2037	127.4	126.1	CB-2036	127.5	126.17	1.32	0.9	0.63	19	
CB-2038	127.3	126	CB-2037	127.4	126.1	1.3	0.9	0.96	21	
CB-2038	127.3	125.7	CB-2039	127.3	125.69	1.61	0.9	1.08	24.8	
CB-2039	127.3	125.69	CB-2043	127.3	125.67	1.62	0.9	1.08	27	
CB-2041	126.86	125.8	CB-2040	126.37	125.87	0.78	0.5	0.04	25.2	
CB-2042	126.87	125.74	CB-2041	126.86	125.8	1.1	0.5	0.08	26.7	
CB-2043	127.3	125.69	CB-2042	126.87	125.74	1.37	0.5	0.12	27.4	
CB-2043	127.3	124.59	CB-2047	127.28	124.58	2.71	1.2	1.18	15.1	
CB-2045	126.81	125.96	CB-2044	126.6	126.1	0.67	0.5	0.03	28.6	
CB-2046	126.74	125.86	CB-2045	126.81	125.96	0.86	0.5	0.03	29	
CB-2047	127.28	125.68	CB-2046	126.74	125.86	1.24	0.5	0.03	27.8	
CB-2047	127.28	124.58	O-2	127	124.56	2.57	1.2	1.55	29	
CB-2048	147.76	147.08	CB-2049	147.06	146.56	0.59	0.5	0.13	26.3	
CB-2049	147.06	146.39	CB-2050	146.35	145.85	0.58	0.5	0.2	27.2	
CB-2050	146.35	145.83	CB-2051	145.5	145.4	0.51	0.5	0.27	21.9	
CB-2051	145.3	145.31	CB-2052	145.38	144.98	0.54	0.5	0.34	21.2	
CB-2052	145.38	144.77	CB-2053	144.86	144.36	0.55	0.5	0.43	20.7	
CB-2053	144.86	143.83	CB-2054	144.3	143.6	0.86	0.6	0.49	23.3	
CB-2054	144.3	143.22	CB-2055	143.68	142.98	0.89	0.6	0.57	23.4	
CB-2055	143.68	142.56	CB-2056	142.98	142.28	0.91	0.6	0.61	27.8	
CB-2056	142.98	141.85	CB-2057	142.28	141.58	0.92	0.6	0.65	26.8	
CB-2057	142.28	141.2	CB-2058	141.64	140.94	0.89	0.6	0.66	25.6	
CB-2058	141.64	140.48	CB-2059	140.91	140.21	0.93	0.6	0.66	27.2	
CB-2059	140.91	137.8	CB-2089	138.2	137.5	1.9	0.6	0.66	29.8	
CB-2060	144.36	143.54	CB-2061	143.57	143.07	0.66	0.5	0.07	23.7	
CB-2061	143.57	142.87	CB-2062	142.81	142.31	0.6	0.5	0.11	27.8	
CB-2062	142.81	142.31	CB-2063	142.87	142.25	0.96	0.5	0.15	28.1	
CB-2063	142.87	141.11	CB-2064	141.06	140.56	1.13	0.5	0.19	27.4	
CB-2064	141.06	140.56	CB-2065	140.84	140.34	0.5	0.5	0.23	30.1	
CB-2065	140.84	139.15	CB-2066	139.14	138.64	1.1	0.5	0.25	25.2	
CB-2066	139.14	138.64	CB-2067	138.6	138.1	0.5	0.5	0.27	29	
CB-2068	138.55	137.85	CB-2067	138.6	137.9	0.7	0.6	0.27	24.8	
CB-2069	138.5	137.8	CB-2068	138.55	137.85	0.7	0.6	0.28	24.8	
CB-2070	138.4	137.7	CB-2069	138.5	137.8	0.7	0.6	0.29	24	
CB-2071	138.4	137.68	CB-2070	138.4	137.7	0.71	0.8	0.32	23.1	
CB-2072	138.3	137.6	CB-2071	138.4	137.68	0.71	0.8	0.33	29.6	
CB-2072	138.3	137.3	CB-2088	138.3	137.28	1.01	0.9	0.34	27.5	
CB-2073	148.76	148.14	CB-2074	148.24	147.74	0.56	0.5	0.02	20	
CB-2074	148.24	147.62	CB-2075	147.75	147.25	0.56	0.5	0.05	18.6	
CB-2075	147.75	147.15	CB-2076	147.28	146.78	0.55	0.5	0.08	18.8	
CB-2076	147.28	146.66	CB-2077	146.85	146.35	0.56	0.5	0.1	15.7	
CB-2077	146.85	146.22	CB-2078	146.36	145.86	0.57	0.5	0.12	17.6	
CB-2078	146.36	145.73	CB-2079	145.85	145.35	0.56	0.5	0.14	19	
CB-2079	145.85	145.21	CB-2080	145.32	144.82	0.57	0.5	0.15	19.7	
CB-2080	145.32	144.71	CB-2081	144.91	144.41	0.56	0.5	0.17	14.7	
CB-2081	144.91	144.31	CB-2082	144.45	143.95	0.55	0.5	0.19	18	
CB-2082	144.45	143.83	CB-2083	143.84	143.34	0.56	0.5	0.22	24.2	
CB-2083	143.84	143.18	CB-2084	143.09	142.59	0.58	0.5	0.25	29.4	
CB-2084	143.09	142.42	CB-2085	142	141.88	0.58	0.5	0.26	29.1	
CB-2085	142.43	141.88	CB-2086	141.58	141.08	0.58	0.5	0.32	29.9	
CB-2086	141.58	140.87	CB-2087	140.82	140.32	0.6	0.5	0.34	27.6	
CB-2087	140.82	138.32	CB-2088	138.3	137.8	1.5	0.5	0.36	26	
CB-2088	138.2	137.2	CB-2088	138.3	137.28	1.01	0.9	0.66	23.5	
CB-2090	138.1	137.1	CB-2089	138.2	137.2	1	0.9	1.22	19.8	
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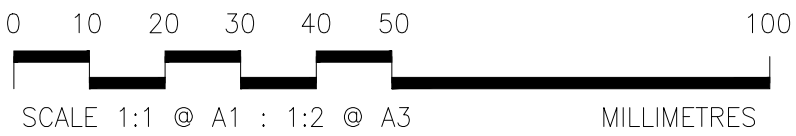
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MARK	DESCRIPTION
1	LIFT STATION
2	DRUM SCREEN
3	BUFFER TANK
4	EQUALISATION TANK
5	PUMP HOUSE
6	FLASH MIXER TANK
7	FLOCCULATION TANK
8	PRIMARY CLARIFIER
9	DISTRIBUTION CHAMBER
10	PRE-ANOXIC TANK
11	AERATION TANK
12	MEMBRANE TANK
13	MEMBRANE BACKWASH TANK
14	MBR PERMEATE/BACKPLUSE PUMPS AND BLOWER
17	PERMEATE STORAGE TANK
18	PERMEATE DISPOSAL PUMP HOUSE
19	PRIMARY SLUDGE SUMP
20	PRIMARY SLUDGE PUMP HOUSE
21	SLUDGE THICKENER
22	DEWATERING BUILDING
23	SLUDGE HOLDING TANK
24	CHEMICAL BUILDING
25	BLOWER BUILDING
26	MCC CUM OPERATOR ROOM
27	CONFERENCE ROOM
28	LABORATORY CUM OFFICE
29	TRANSFORMER AREA
30	DG SET



PHASE 2



R0	RS	JM	SG	15-APR-25	TENDER DRAWING
T0	RS	JM	SG	MAY 2023	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT
 National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building, Connaught Place, New Delhi - 110001

NODAL AGENCY
KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

CONSULTANT
Jacobs
CH2M HILL INDIA PVT. LTD.

PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

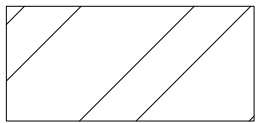
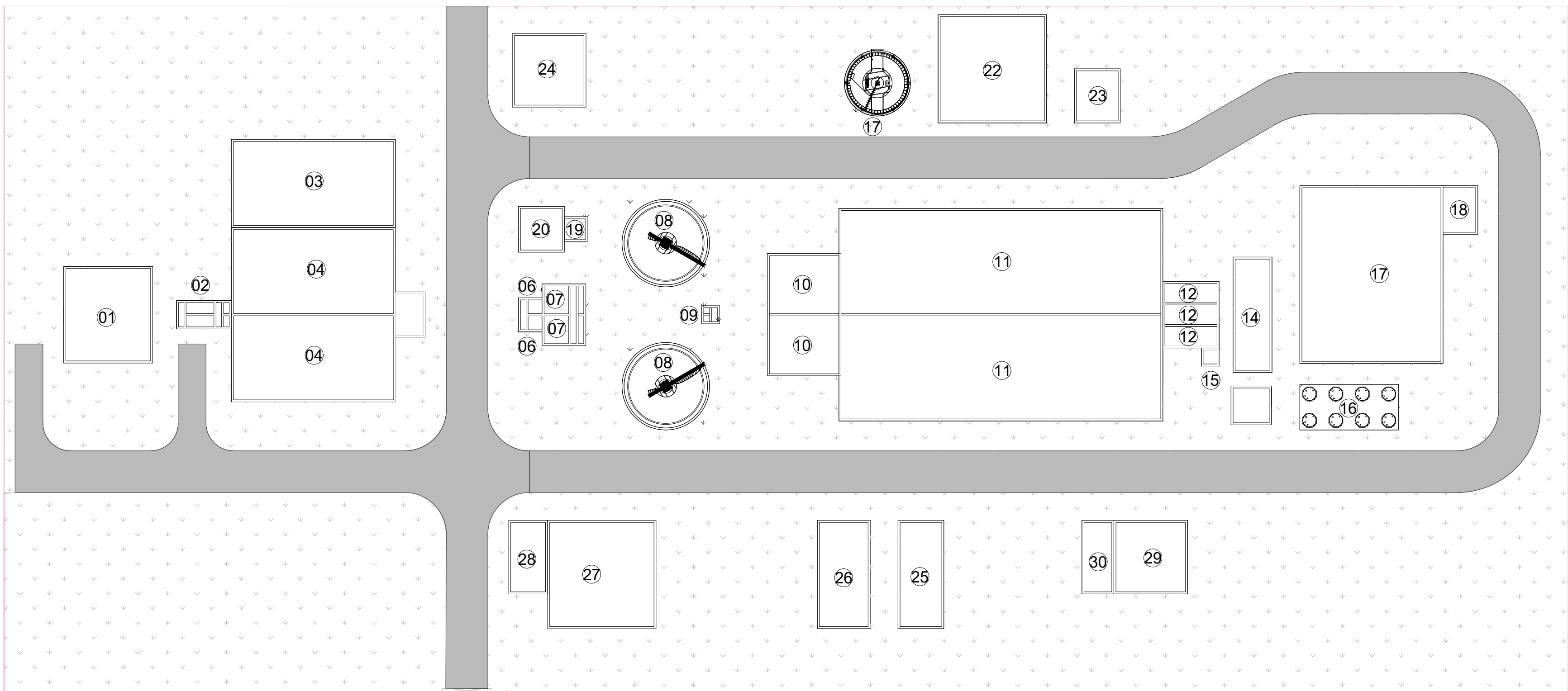
PACKAGE

DRAWING TITLE

CETP LAYOUT
(SHEET 1 OF 1)

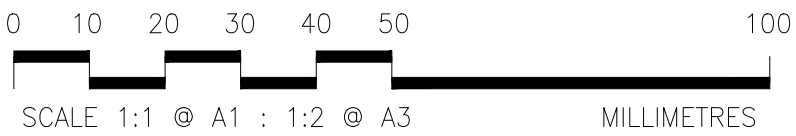
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CHECKED BY :	JM	DATE :	MAY 2023
AUTHORIZED BY :	SG	DATE :	MAY 2023
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FILENAME: 72301100-PAL-IMC-C-STP-LP-0001.dwg PLOT DATE: 4/18/2025 PLOT TIME: 6:23:34 PM



PHASE 2

MARK	DESCRIPTION
1	LIFT STATION
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29	TRANSFORMER AREA
30	DG SET



R0	RS	JM	SG	15-APR-25	TENDER DRAWING
T0	RS	JM	SG	MAY 2023	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

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PACKAGE

DRAWING TITLE

STP LAYOUT
(SHEET 1 OF 1)

DRAWN BY :	RS	DATE :	MAY 2023
CHECKED BY :	JM	DATE :	MAY 2023
AUTHORIZED BY :	SG	DATE :	MAY 2023

DRAWING NO.	REVISION
72301100-PAL-IMC-C-STP-LP-0001	R0

DRAWING SCALE : 1:1 @A1

FILENAME : 72301100-PAL-IMC-C-STP-LP-0001.dwg PLOT SCALE : 1:1

FILENAME: PLOT DATE: PLOT TIME:

EQUIPMENT	
LEGEND	DESCRIPTION
	POWER TRANSFORMER WITH OLTC
	VACCUM CIRCUIT BREAKER WITH MOTORIZED
	POTENTIAL TRANSFORMER (1CORE)
	POTENTIAL TRANSFORMER (2CORE)
	CURRENT TRANSFORMER
	ISOLATOR (ISO)
	SURGE SUPPRESSOR WITH CAPACITIVE VOLTAGE DEVICE/INDICATOR(CVD/CVI)
	CAPACITIVE VOLTAGE DEVICE/INDICATOR (CVD/CVI)
	EARTH
	MOTORIZED 3-POSITION CIRCUIT BRAEKER
	HIGH SPEED EARTH SWITCH
	MINIATURE CIRCUIT BREAKER
	TERMINATION
	FAULT PASSAGE INDICATOR (FPI)
	GENERATOR
	NON-SEGREGATED PHASE BUS DUCT
	AIR CIRCUIT BREAKER
	LB SWITCH WITH EARTH SWITCH
	DISCONNECTOR WITH EARTH SWITCH
	ANNUNCIATER WINDOW
	MAIN RECEIVING SUBSTATION
	ZONAL SUBSTATION
	11kV COMPACT SUBSTAION (CSS)
	3 - WAY RMU
	4 - WAY RMU
	5 - WAY RMU
	6 - WAY RMU
	LIGHTNING ARRESTOR
	ELECTRICAL / MECHANICAL INTERLOCK
	MOULDED CASE CIRCUIT BREAKER (MCCB)
	CONTACTOR
	CAPACITOR BANK
	CONTROL TRANSFORMER
	EARTH FAULT RELAY
	STARTER RELAY

EQUIPMENT	
LEGEND	DESCRIPTION
	OUTDOOR DG SET
	FUSE
	AUXILIARY TRANSFORMER WITH OCTC
	RING MAIN UNIT
	COMPACT SUBSTATION
	MOTORISED MOULDED CASE CIRCUIT BREAKER (MCCB)
	DIRECT ONE LINE STARTER
	VARIABLE FREQUENCY DRIVE
	SOFT STARTER
	STAR DELTA STARTER

METERING DEVICE	
SYMBOL	DESCRIPTION
	AMMETER SELECTOR SWITCH
	VOLTMETER SELECTOR SWITCH
	VOLTMETER (DIGITAL)
	AMMETER (DIGITAL)
	MULTI FUNCTION METER
	AUTO MAINS FAILURE
	FREQUENCY METER

ABBREVIATIONS	
SYMBOL	DESCRIPTION
IC	INCOMER
OG	OUTGOING
BC	BUS COUPLER
DS	DISCONNECTOR SWITCH
CONT.	CONTACTOR
MCCB	MOULDED CASE CIRCUIT BREAKER
VCB	VACCUM CIRCUIT BREAKER
LILO	LINE IN LINE OUT
LBS	LOAD BREAK SWITCH
FPI	FAULT PASSAGE INDICATOR
VPI	VOLTAGE PRESENCE INDICATOR
TVM	TRIVECTOR METER
GIS	GAS INSULATED SWITCHGEAR
CSS	COMPACT SUBSTATION
MRSS	MAIN RECEIVING SUBSTATION
ZSS	ZONAL SUBSTATION
MD	MAXIMUM DEMAND
SFU	SWITCH FUSE UNIT
OCTC	OFF CIRCUIT TAP CHANGER
OLTC	ON LOAD TAP CHANGER

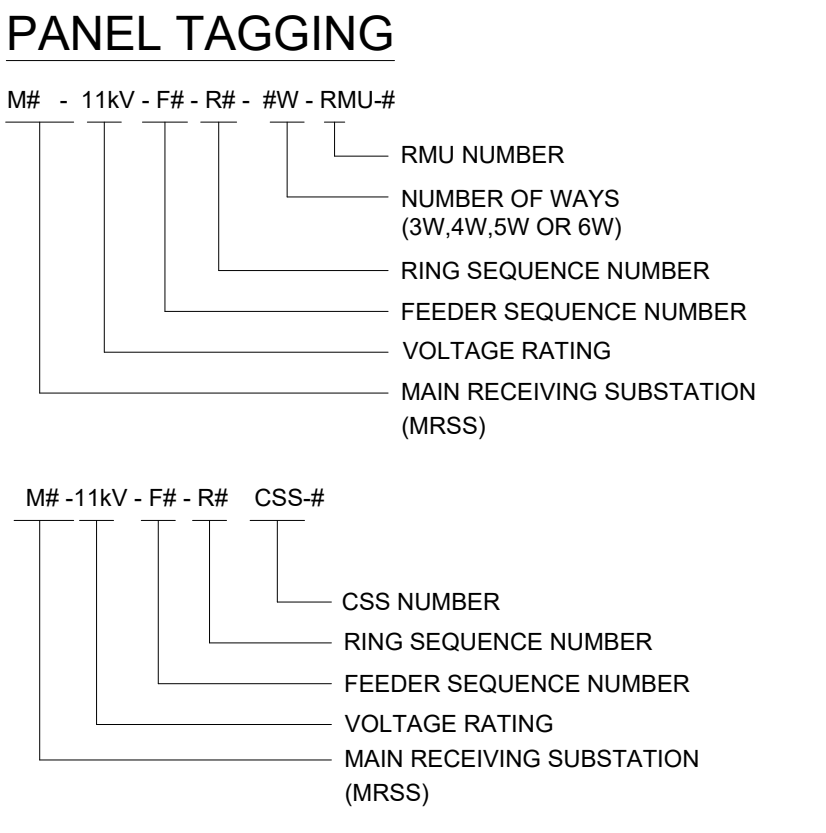
MANHOLES (LxWxD)	
	MH-TYPE-1 (2750x2000x2470)
11KV RING CABLES	
	11KV RING1 CABLE
	11KV RING2 CABLE
	11KV RING3 CABLE
	11KV RING4 CABLE
	11KV RING5 CABLE
	11KV RING6 CABLE
	11KV RING7 CABLE
	11KV RING8 CABLE
	11KV RING9 CABLE
	11KV RING10 CABLE
	11KV RING11 CABLE
	11KV RING12 CABLE
	11KV RING13 CABLE
	11KV RING14 CABLE
	11KV RING15 CABLE
	11KV RING16 CABLE
	11KV RING17 CABLE
	11KV RING18 CABLE
	11KV RING19 CABLE
	11KV LOOPING CABLE

POWER DISTRIBUTION NETWORK	
	11KV HATCH
	415V HATCH
	110KV CABLE

INDICATING LAMPS (LED TYPE)		
LEGEND	DESCRIPTION	
	R	RED-R PHASE
	Y	YELLOW-Y PHASE
	B	BLUE-B PHASE
	R	ON
	G	OFF

ROAD CROSSING (LEGEND)	
LEGEND	DESCRIPTION
	HDPE CONDUIT
	CABLE PULL PIT
	DUCT BANK FOR ROAD CROSSING
	CABLE TRENCH

NOTES	
110KV GIS PANEL:	11KV RMU:
01. DESIGN PARAMETERS: A) APPLICATION : INDOOR B) SYSTEM VOLTAGE : 220kV +6%,-9% C) HIGHEST SYSTEM VOLTAGE : 245kV D) SYSTEM FREQUENCY : 50HZ +3%,-3% E) FAULT LEVEL : 40KA /1Sec F) AMBIENT TEMPERATURE : 50° C	02. DESIGN PARAMETERS: A) APPLICATION : OUTDOOR B) SYSTEM VOLTAGE : 11kV +6%,-9% C) HIGHEST SYSTEM VOLTAGE : 12kV D) SYSTEM FREQUENCY : 50HZ +3%,-3% E) FAULT LEVEL FOR 11KV : CB/LBS 20kA / 3Sec F) AMBIENT TEMPERATURE : 50° C
	11KV INDOOR GIS PANEL:
	03. DESIGN PARAMETERS: A) APPLICATION : INDOOR B) SYSTEM VOLTAGE : 11kV +6%,-9% C) HIGHEST SYSTEM VOLTAGE : 12kV D) SYSTEM FREQUENCY : 50HZ +3%,-3% E) FAULT LEVEL : CB 25kA /1Sec & ES 25kA/1Sec F) AMBIENT TEMPERATURE : 50° C G) PROTECTION LEVEL : IP4X
05. 110 kV GIS SHALL BE DOUBLE BUSBAR TYPE AND EACH BAY SHALL BE COMPLETED WITH GANG OPERATED 3 POSITION DISCONNECTOR CUM EARTH SWITCH, SF6 INSULATED CIRCUIT BREAKER AND HIGH SPEED EARTH SWITCH ETC.	
06. THE INDOOR 11 kV GIS PANEL SHALL HAVE VCB BREAKER, THREE POSITION DISCONNECTING SWITCH AND COPPER BUS BAR SHALL BE ENCLOSED IN SF6 GAS. CIRCUIT-BREAKER AND THREE POSITION SWITCH DRIVES ARE TO BE DESIGNED WITH MECHANICAL INTERROGATION INTERLOCKS. THREE-POSITION DISCONNECTOR (ON-OFF-EARTH) IS TO BE DESIGNED WITH SEPARATE MANUAL AND/OR MOTORIZED DRIVES FOR THE DISCONNECTOR AND EARTH SWITCH FUNCTIONS.	
07. THE HT SWITCHBOARD WILL BE SINGLE BUS BAR TYPE. THE BREAKERS WILL BE FIXED TYPE ON THE FLOOR AND EQUIPPED WITH THREE POSITION DISCONNECTOR EARTH SWITCH. THE SWITCHBOARD SHALL BE PROVIDED FOR EXTENSION IN EITHER DIRECTION.	
08. ALL PROTECTIVE RELAYS WILL BE NUMERICAL TYPE WITH COMMUNICATION COMPATIBILITY AS PER IEC 61850. THE NUMERICAL RELAYS SHALL BE WITH PROGRAMMABLE LOGIC AND CAPABLE OF COMMUNICATING WITH SUB STATION RTU VIA FIBRE OPTIC SERIAL BUS THROUGH IEC STANDARD 61850.	
09. SWITCHGEAR CONTROL SUPPLY FOR PROTECTIVE RELAYS, AUXILIARY RELAYS, BREAKER CLOSING COIL, TRIPPING COIL & INDICATION LAMPS WILL BE OPERATED THROUGH 110V DC. SPRING CHARGING MOTOR, LAMP & SPACE HEATER WILL BE OPERATED THROUGH 230V AC SUPPLY. FOR SCADA EACH MRSS / ZSS WILL HAVE DEDICATED 230V UPS SYSTEM WITH SMPS FOR 24V DC REQUIREMENT. RMU & CSS WILL HAVE INBUILT POWER PACK UNIT WITH BATTERY BACKUP TO CATER THE DC LOAD OF FRTU & CONTROL SUPPLY FOR RMU/CSS. THE INPUT POWER SUPPLY FOR POWER PACK WILL BE FED FROM AUXILIARY VT OF RMU/CSS. BATTERY AUTONOMY TIME WILL 8 HOURS FOR 110V BATTERY SYSTEM.	
10. MULTIFUNCTION METER WILL BE MICROPROCESSOR BASED GIVING DETAILS OF VOLTS, AMPS, FREQUENCY, KW, KWH, PF, KVA, KVARH AND MAXIMUM DEMAND. IT SHALL BE COMMUNICABLE TYPE THROUGH RS 485 PORT. ACCURACY WILL BE CLASS 0.5S.	
11. THE INTERLOCK SHALL BE PROVIDED BETWEEN BUSBAR ISOLATOR & OUTGOING EARTHING SWITCH AND INTERLOCK BETWEEN BUSBAR ISOLATOR AND CIRCUIT-BREAKER.	
12. MECHANICAL INTERLOCK SHALL BE PROVIDED BETWEEN THE SWITCH DISCONNECTOR AND THE OUTGOING EARTHING SWITCH.	
13. OPERATING SEQUENCE OF SWITCHGEAR BREAKER SHALL BE O-0.3S-CO-180S-CO & RMU BREAKER SHALL BE O-3M-CO-3M-CO.	
14. THE TWO INCOMING FEEDERS OF THE SWITCHBOARDS SHALL NOT RUN IN PARALLEL AND SHALL BE FEEDING THE LOADS ON THE RESPECTIVE BUS SECTIONS.	
15. PARALLELING OF TRANSFORMERS SHALL NOT BE DONE HOWEVER, INCASE OF FAILURE OF ONE TRANSFORMER THE OTHER BUS SECTION / TRANSFORMERS SHALL CATER TO THE TOTAL LOAD REQUIREMENT.	
16. INDOOR SWITCHBOARD SHALL BE SUITABLE WITH CONVENTIONAL LOCAL OPERATION FROM THE BOARD AND SUBSTATION SCADA SYSTEM AS WELL AS REMOTE CONTROLLED THROUGH IEC 61850 PROTOCOL.	
17. THE SUB-STATION CAN BE AN UNMANNED ONE AND REMOTE CONTROLLED FROM SCADA SYSTEM.	
18. PROPOSED THAT ALL THE PLOT CONSUMER UP TO 100KVA POWER DEMAND WILL RECEIVE 415V SUPPLY THROUGH CSS AND PLOT CONSUMER UP TO 6000KVA POWER DEMAND WILL RECEIVE POWER THROUGH 11KV RING MAIN UNIT.	
19. TO MAINTAIN THE REDUNDANCY AND RELIABILITY IN THE POWER SUPPLY DISTRIBUTION NETWORK, 11 KV RING MAIN UNITS SHALL BE CONNECTED IN A RING. THE HV SUPPLY DISTRIBUTION SYSTEM SHALL BE PLANNED IN RING FORMATION WITH AN OPEN POINT, SO AS TO OPERATE THE SYSTEM AS RADIAL FEEDER. EACH RING START & END SHALL BE CONNECTED THROUGH THE FEEDERS ON THE DIFFERENT BUSES.	
20. DISTRIBUTION TRANSFORMER LOADING SHALL BE DESIGNED SUCH THAT EACH TRANSFORMER IS NOT LOADED BEYOND APPROXIMATELY 85%.	
21. RMU WILL BE EQUIPPED WITH NECESSARY FIELD REMOTE TERMINAL UNIT, FAULT CIRCUIT INDICATOR AND VOLTAGE PASSAGE INDICATOR /CAPACITIVE VOLTAGE INDICATOR, MECHANICAL MIMIC, RMU FRTU WILL HAVE DISPLAY UNIT AND PROVISION FOR SCADA REMOTE CONTROL.	
22. 110 kV INCOMING CABLE FROM PROJECT BOUNDARY TO MRSS SHALL BE THROUGH BURIED HDPE PIPE.	
23. ALL 11KV/LT & OFC CABLES SHALL BE LAID THROUGH RCC CABLE TRENCH WITH FRP CABLE TRAYS ALONG THE ROW.	
24. 11 kV INCOMING POWER SUPPLY TO CETP & SWM ETC. SHALL BE TAPPED FROM NEAREST 11kV RMU AT TWO DIFFERENT POINTS. IF MAXIMUM DEMAND OF EACH PROCESS PLANT EXCEEDS 100KVA THEN DEDICATED 11KV RMU/DRY TYPE TRANSFORMER/LT SWITCHBOARD ARRANGEMENT SHALL BE CONSIDERED FOR EACH PROCESS PLANT. IF THE LOAD IS LESS THAN 100kVA THEN DEDICATED LV SWITCHBOARD SHALL BE CONSIDERED WHICH SHALL BE FED FROM TWO DIFFERENT POWER POINTS.	
25. RATING OF DISCONNECTOR BREAKER, BUSBAR OF 110kV & 11kV GIS ARE TENTATIVE ONLY.	
26. TRANSFORMER RATINGS ARE INDICATIVE ONLY WHICH SHALL BE FINALIZED DURING DETAILED ENGINEERING.	
27. SUPPLY AND INSTALLATION OF 110KV CABLES FROM EXTERNAL SUBSTATION TO PROJECT BOUNDARY THROUGH RCC TRENCH ONLY	
28. DEDICATED ELECTRICAL ROOM SHALL BE CONSIDERED FOR CETP AND SWM PLANT.	
29. DIMENSIONS OF RCC CABLE TRENCHES AND DUCT CONFIGURATIONS ARE TENTATIVE ONLY. ACTUAL DIMENSIONS SHALL BE FINALIZED BY EPC CONTRACTOR DURING DETAILED ENGINEERING.	
30. ROAD CROSSING DUCT SHALL BE INSTALLED AT A DEPTH OF 1000MM FROM FRL.	
31. CABLING FROM RCC CABLE TRENCH TO RESPECTIVE PLOT SHALL BE LAID THROUGH FLEXIBLE ADAPTER & EXTENSION PIPE.	
32. STREET LIGHTING CABLING SHALL BE SIMPLE BURIED.	
33. EACH BUS OF 11KV GIS SHALL BE PROVIDED WITH SOLAR INCOMERS WHICH SHALL BE FED FROM SOLAR FARM BY OTHER AGENCY/CONTRACTOR IN FUTURE.	



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Revision	By	Checked	Approved	Date	Description

CLIENT

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NODAL AGENCY

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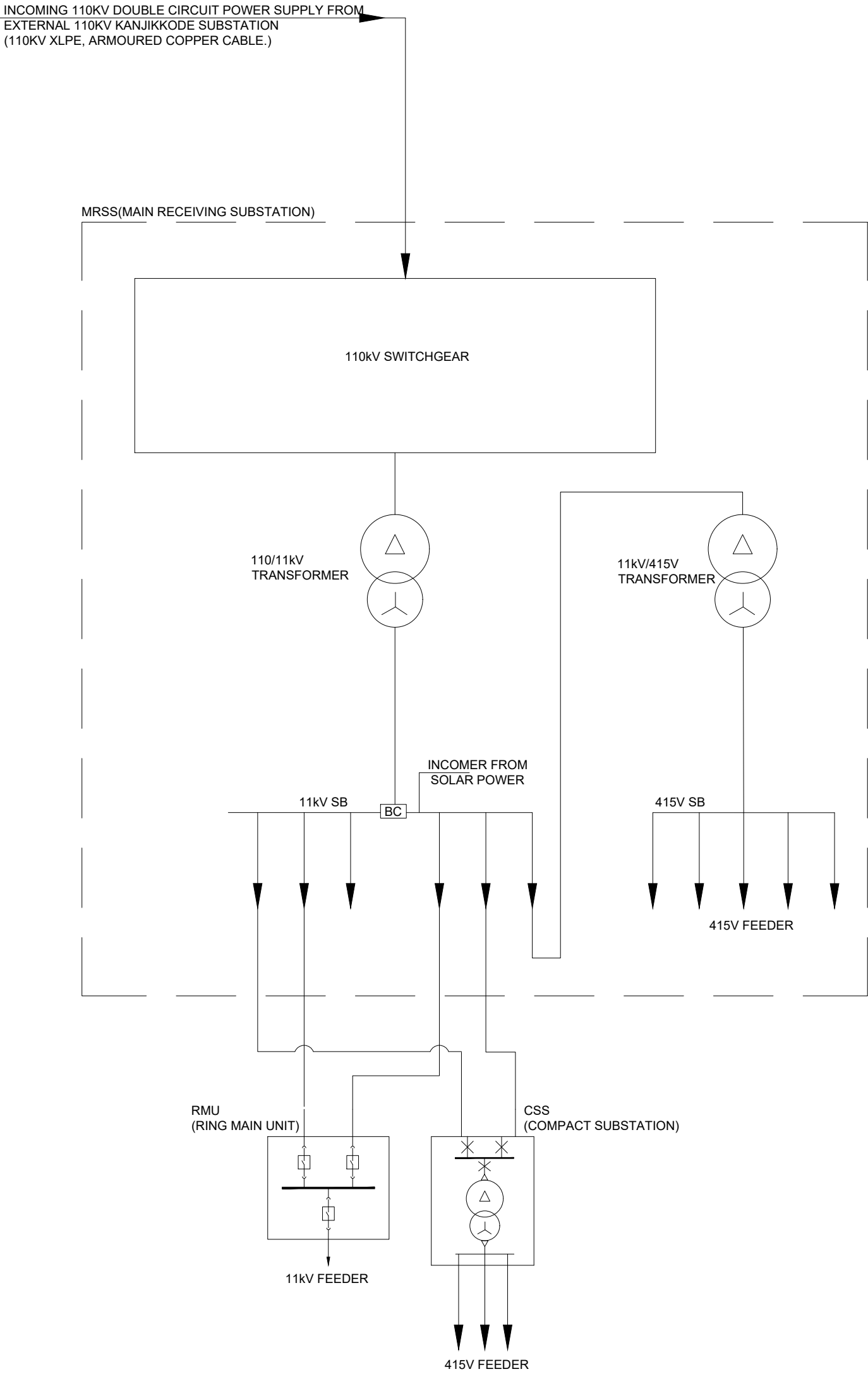
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PACKAGE

DRAWING TITLE
LEGENDS, NOTES AND ABBREVIATIONS

DRAWN BY : AR	DATE : 09-MAY-25
CHECKED BY : R	DATE : 09-MAY-25
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DRAWING NO. 72301100-PAL-IMC-C-PW-LN-0002	REVISION R0
DRAWING SCALE : NTS	
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REFERENCE DRAWINGS:-

1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.

2) SINGLE LINE DIAGRAM FOR 110KV/11KV MAIN
RECEIVING SUBSTATION (MRSS)
DWG. NO. 72301100-PAL-IMC-C-PW-SLD-0004.

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CONSULTANT

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PROJECT

UNDER EXTENSION OF CHENNAI
BENGALURU INDUSTRIAL CORRIDOR
(CBIC) TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

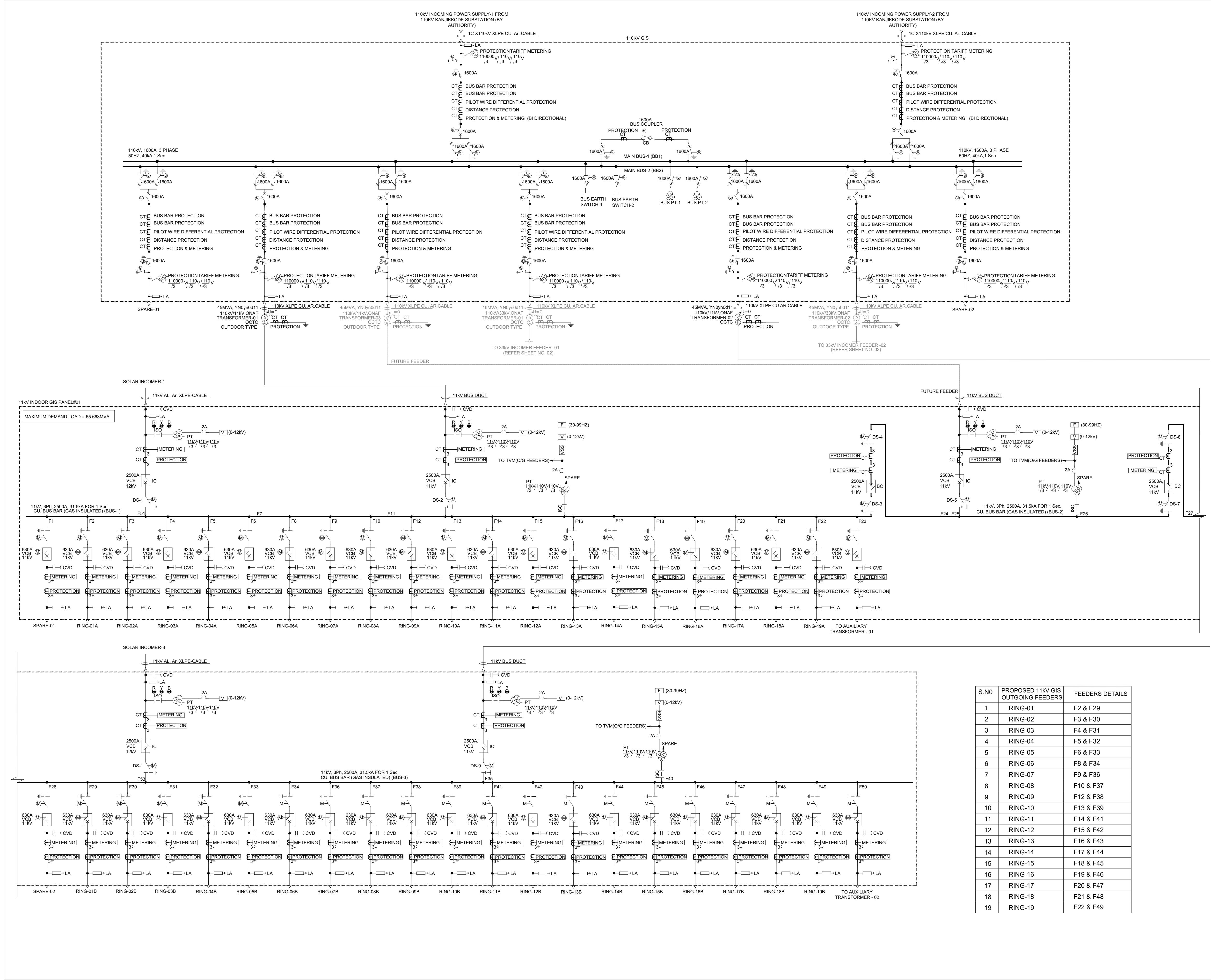
OVERALL SCHEME FOR POWER DISTRIBUTION
ACROSS PUDUSSERY CENTRAL

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25

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72301100-PAL-IMC-C-PW-OS-0003	R0

DRAWING SCALE : NTS

FILENAME : 72301100-PAL-IMC-C-PW-OS-0003.DWG PLOT SCALE : -:@A1



NOTES :-

- 1) BI DIRECTIONAL METERING SHALL BE PROVIDED AT 110KV INCOMERS.

REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) OVERALL SCHEME FOR POWER DISTRIBUTION ACROSS PUDUSSERY CENTRAL AND WEST.
DWG NO. 72301100-PAL-IMC-C-PW-OS-0003.
DWG NO. 72301100-PAL-IMC-W-PW-OCR-0042.

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RO	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT

National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building, Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

CONSULTANT

Jacobs
CH2M HILL INDIA PVT. LTD.

PROJECT

PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

SINGLE LINE DIAGRAM FOR 110kV/11kV MAIN RECEIVING SUBSTATION (MRSS)

DRAWN BY : AR DATE : 09-MAY-25

CHECKED BY : RK DATE : 09-MAY-25

AUTHORIZED BY : SP DATE : 09-MAY-25

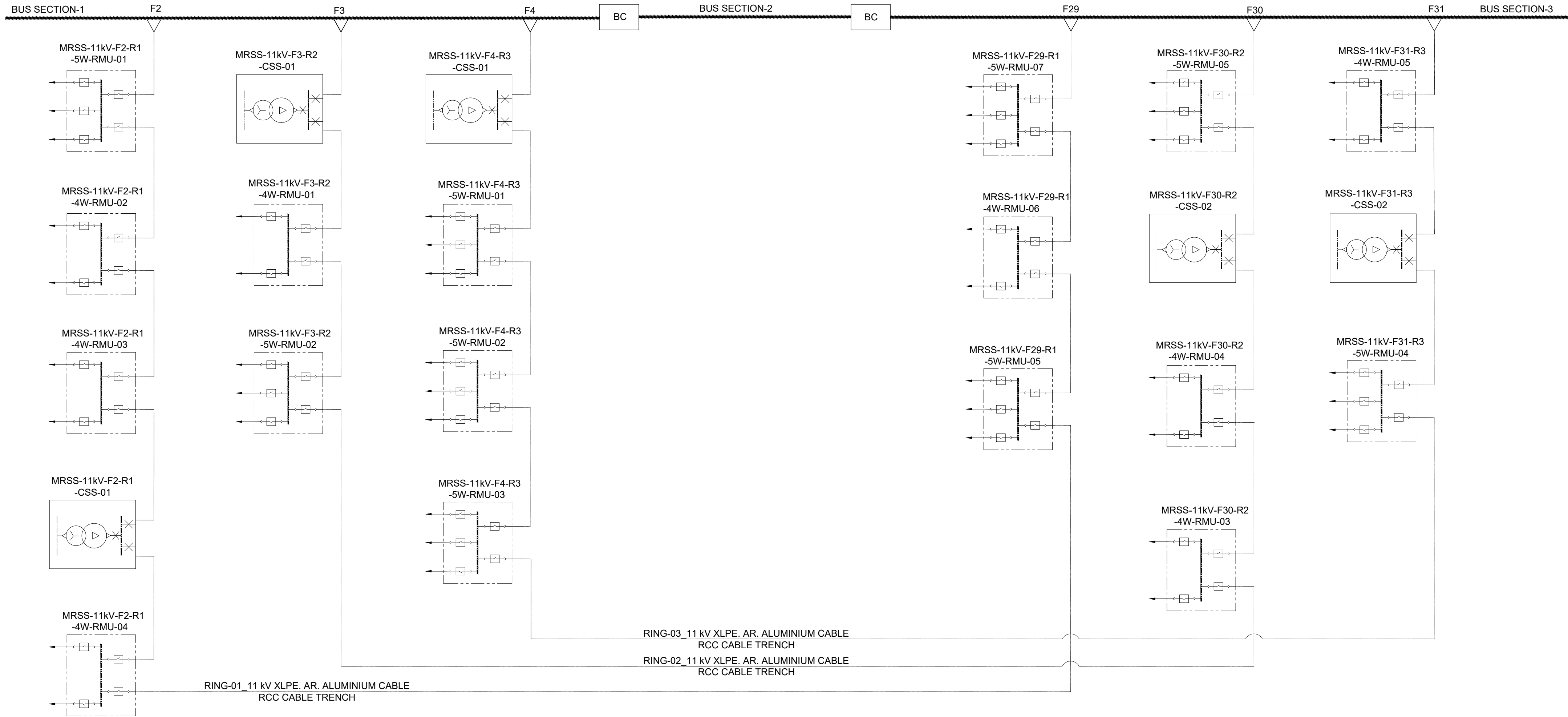
DRAWING NO. 72301100-PAL-IMC-C-PW-SLD-0004

REVISION R0

DRAWING SCALE : NTS

FILENAME : 72301100-PAL-IMC-C-PW-SLD-0004.DWG PLOT SCALE : @A1

MRSS-11KV GIS OUTGOING FEEDERS RING 1 TO 3 FORMATIONS



REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) OVERALL SCHEME FOR POWER DISTRIBUTION ACROSS
PUDDUSERRY CENTRAL.
DWG NO. 72301100-PAL-IMC-C-PW-OS-0003.
- 3) SINGLE LINE DIAGRAM FOR 220kV/33kV/11kV MAIN
RECEIVING SUBSTATION (MRSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0004.
- 4) TYPICAL SINGLE LINE DIAGRAM FOR 11kV, 3WAY ,
4WAY & 5WAY RMUs.
DWG.NO. 72301100-PAL-IMC-C-PW-SLD-0013.
- 5) TYPICAL SINGLE LINE DIAGRAM FOR COMPACT
SUBSTATIONS (CSS)
DWG. NO. 72301100-PAL-IMC-C-PW-SLD-0014.

NOTES:-

- 1) FEEDER NUMBERS SHOWN ARE INDICATIVE ONLY.
EACH RING SHALL BE FED FROM TWO DIFFERENT BUS
SECTIONS.

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT
 National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY
KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

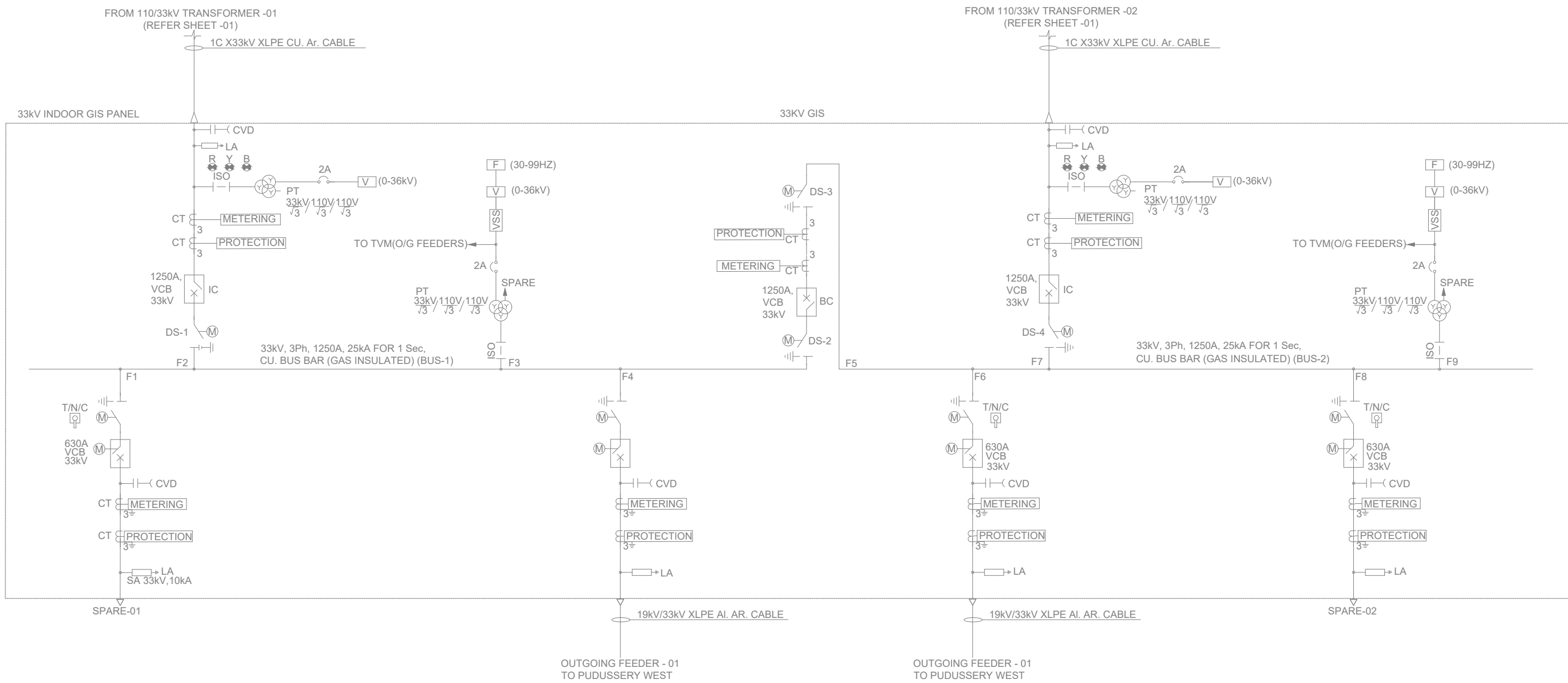
CONSULTANT
 CH2M HILL INDIA PVT. LTD.

PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE
DRAWING TITLE
SINGLE LINE DIAGRAM FOR
MRSS-11KV RING 1 TO 3 NETWORK

DRAWN BY : AR	DATE : 09-MAY-25
CHECKED BY : RK	DATE : 09-MAY-25
AUTHORIZED BY : SP	DATE : 09-MAY-25
DRAWING NO. 72301100-PAL-IMC-C-PW-SLD-0005	REVISION R0

DRAWING SCALE : NTS
FILENAME : 72301100-PAL-IMC-C-PW-SLD-0005.DWG PLOT SCALE : @A1



- NOTES :-
- 1) BI DIRECTIONAL METERING SHALL BE PROVIDED AT 110kV INCOMERS.
- REFERENCE DRAWINGS:-
- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
 - 2) OVERALL SCHEME FOR POWER DISTRIBUTION ACROSS PUDUSSERY CENTRAL AND WEST.
DWG NO. 72301100-PAL-IMC-C-PW-OS-0003.
DWG NO. 72301100-PAL-IMC-W-PW-OCR-0042.

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT



National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION

Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

Jacobs
CH2M HILL INDIA PVT. LTD.

PROJECT

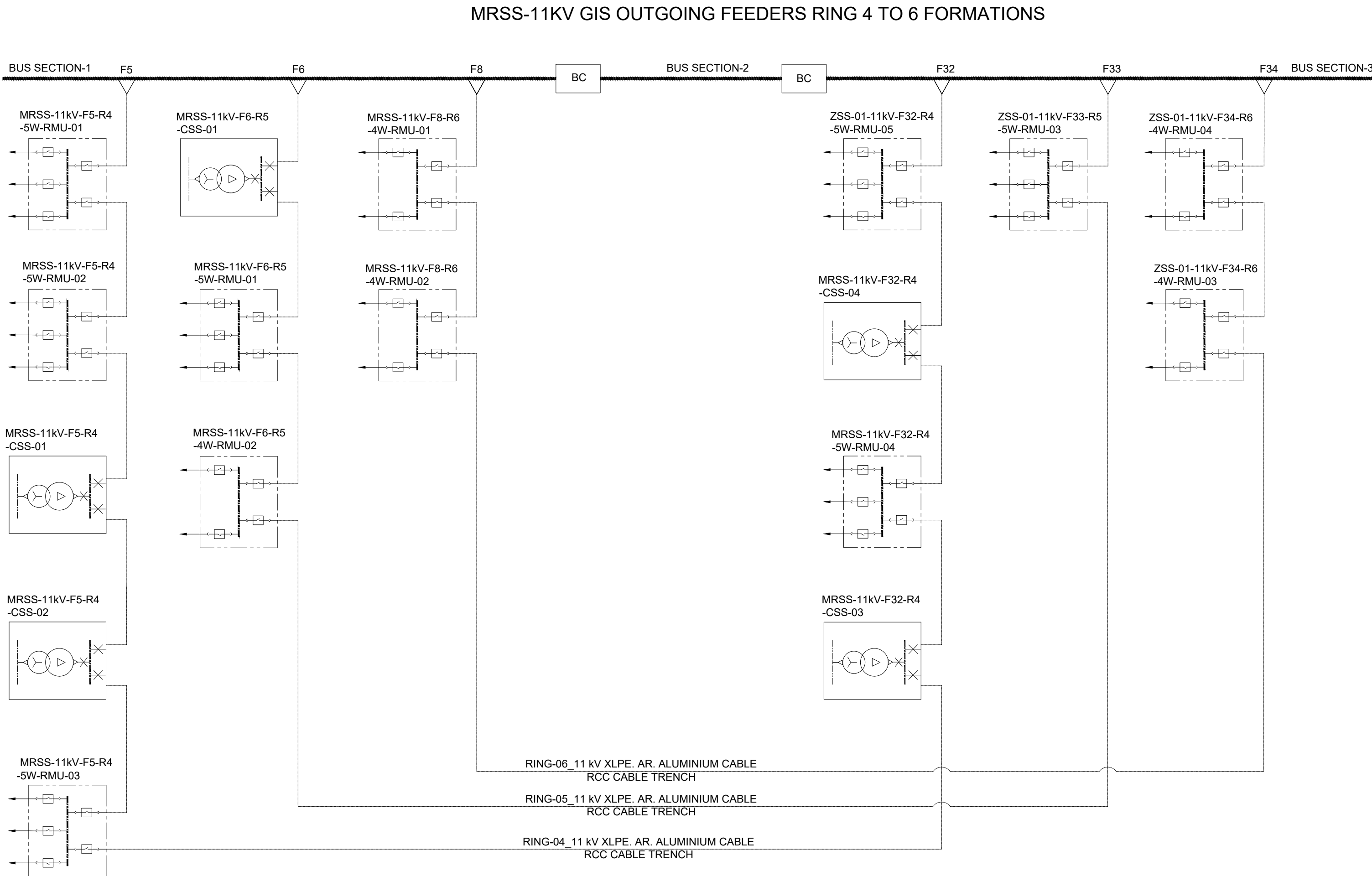
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

SINGLE LINE DIAGRAM FOR 110kV/33kV
MAIN RECEIVING SUBSTATION (MRSS)

DRAWN BY : AR		DATE : 09-MAY-25
CHECKED BY : RK		DATE : 09-MAY-25
AUTHORIZED BY : SP		DATE : 09-MAY-25
DRAWING NO.		REVISION RO
72301100-PAL-IMC-C-PW-SLD-0006		
DRAWING SCALE : NTS		
FILENAME : 72301100-PAL-IMC-C-PW-SLD-0004.DWG		PLOT SCALE : @A1



REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) OVERALL SCHEME FOR POWER DISTRIBUTION ACROSS PUDUSSERY CENTRAL.
DWG NO. 72301100-PAL-IMC-C-PW-OS-0003.
- 3) SINGLE LINE DIAGRAM FOR 220kV/33kV/11kV MAIN RECEIVING SUBSTATION (MRSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0004.
- 4) SINGLE LINE DIAGRAM FOR 33kV/11kV ZONAL SUBSTATION (ZSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0006.
- 5) TYPICAL SINGLE LINE DIAGRAM FOR 11kV, 3WAY, 4WAY & 5WAY RMUs.
DWG.NO. 72301100-PAL-IMC-C-PW-SLD-0013.
- 6) TYPICAL SINGLE LINE DIAGRAM FOR COMPACT SUBSTATIONS (CSS)
DWG. NO. 72301100-PAL-IMC-C-PW-SLD-0014.

NOTES:-

- 1) FEEDER NUMBERS SHOWN ARE INDICATIVE ONLY. EACH RING SHALL BE FED FROM TWO DIFFERENT BUS SECTIONS.

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Revision	By	Checked	Approved	Date	Description

CLIENT



National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

**KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION**
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

Jacobs
CH2M HILL INDIA PVT. LTD.

PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

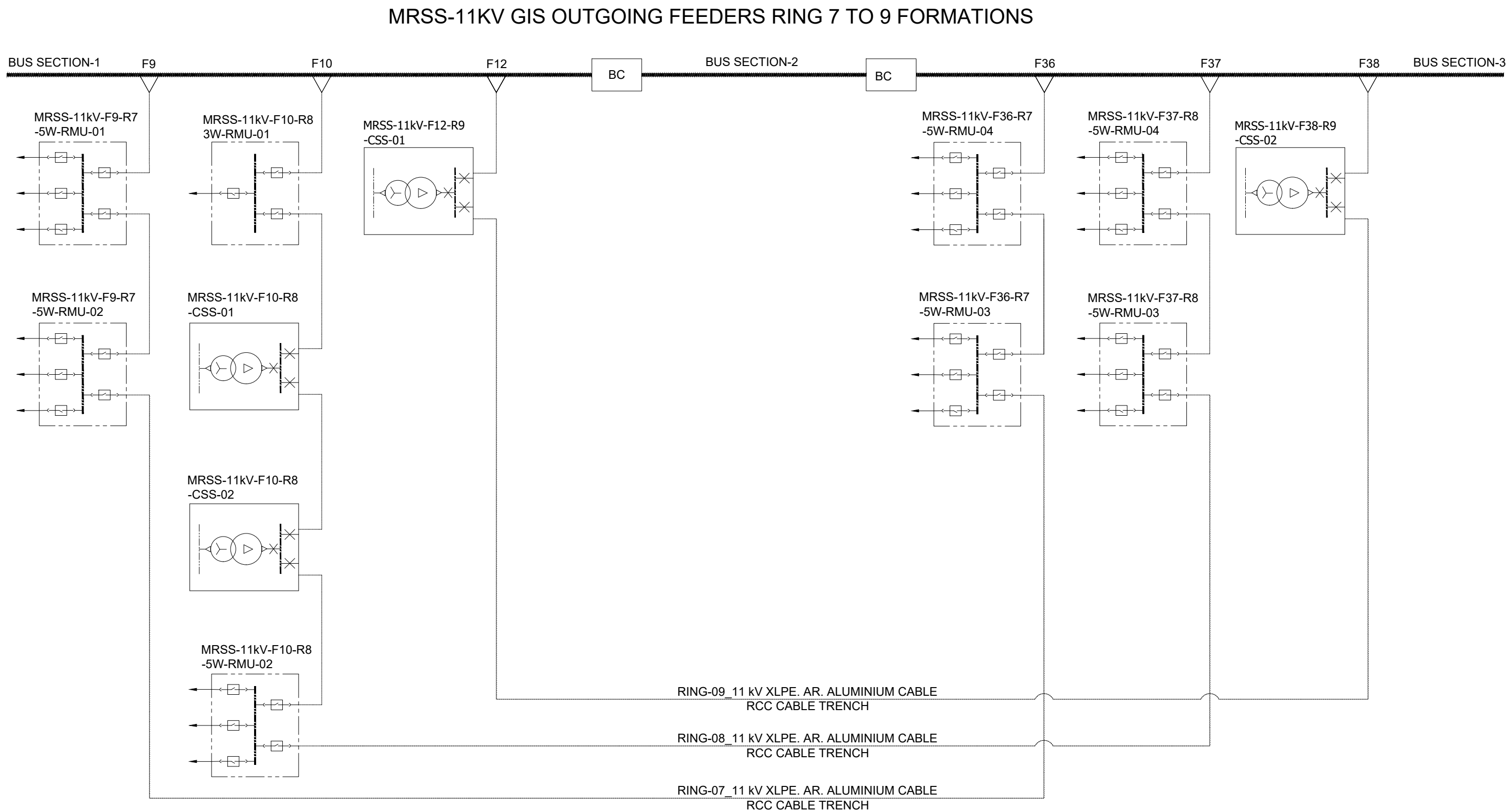
PACKAGE

DRAWING TITLE
SINGLE LINE DIAGRAM FOR
MRSS-11KV RING 4 TO 6 NETWORK

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25

DRAWING NO.	REVISION
72301100-PAL-IMC-C-PW-SLD-0007	R0

DRAWING SCALE : NTS
FILENAME : 72301100-PAL-IMC-C-PW-SLD-0007.DWG PLOT SCALE : @A1



REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) OVERALL SCHEME FOR POWER DISTRIBUTION ACROSS
PUDUSERRY CENTRAL.
DWG NO. 72301100-PAL-IMC-C-PW-OS-0003.
- 3) SINGLE LINE DIAGRAM FOR 220kV/33kV/11kV MAIN
RECEIVING SUBSTATION (MRSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0004.
- 4) SINGLE LINE DIAGRAM FOR 33kV/11kV ZONAL
SUBSTATION (ZSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0006.
- 5) TYPICAL SINGLE LINE DIAGRAM FOR 11kV, 3WAY ,
4WAY & 5WAY RMUs.
DWG.NO. 72301100-PAL-IMC-C-PW-SLD-0013.
- 6) TYPICAL SINGLE LINE DIAGRAM FOR COMPACT
SUBSTATIONS (CSS)
DWG. NO. 72301100-PAL-IMC-C-PW-SLD-0014.

NOTES :-

- 1) FEEDER NUMBERS SHOWN ARE INDICATIVE ONLY.
EACH RING SHALL BE FED FROM TWO DIFFERENT BUS
SECTIONS.

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT

 National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

**KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION**
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

Jacobs
CH2M HILL INDIA PVT. LTD.

PROJECT

UNDER EXTENSION OF CHENNAI
BENGALURU INDUSTRIAL CORRIDOR
(CBIC) TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE
SINGLE LINE DIAGRAM FOR
MRSS-11KV RING 7 TO 9 NETWORK

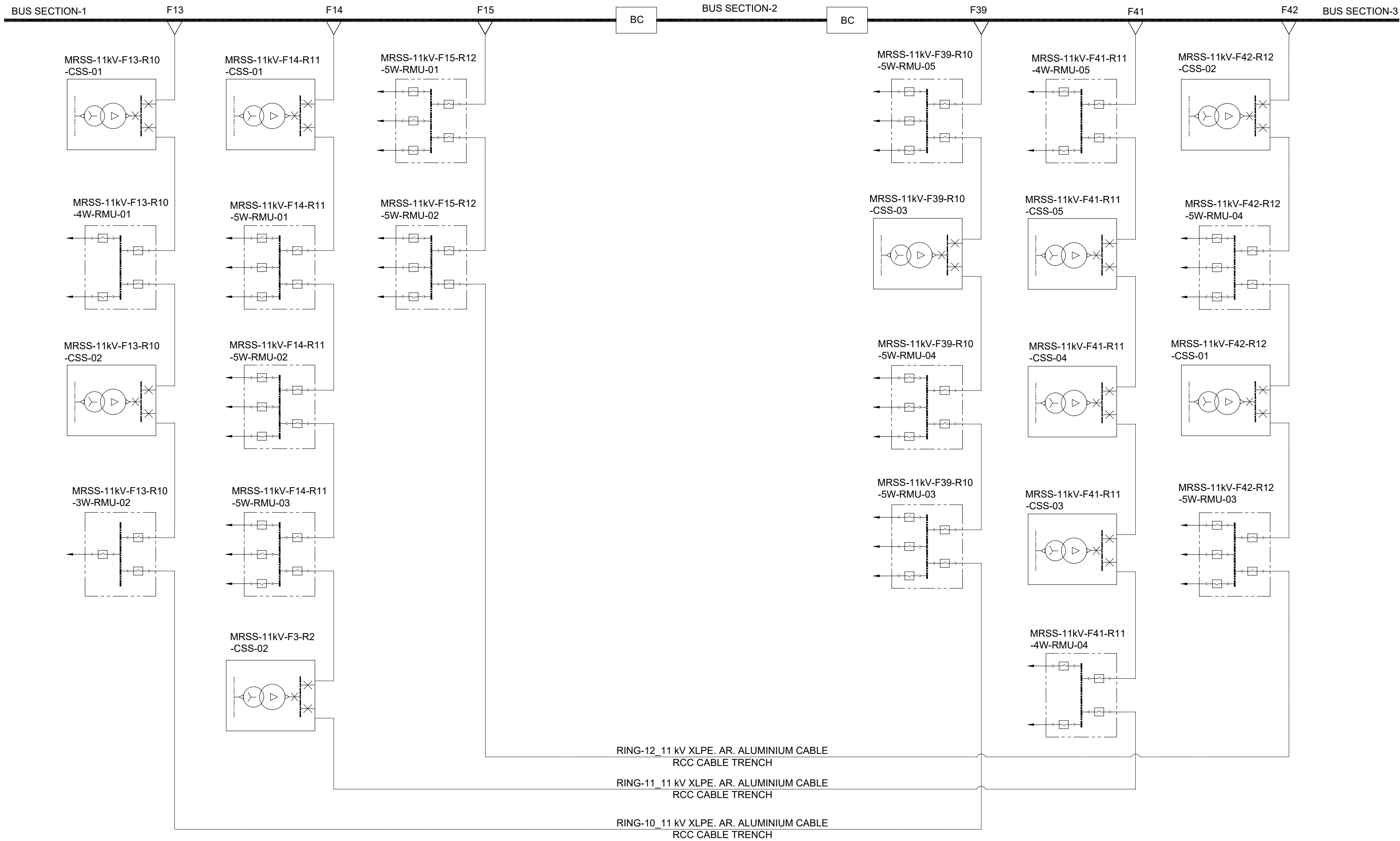
DRAWN BY : AR	DATE : 09-MAY-25
CHECKED BY : RK	DATE : 09-MAY-25
AUTHORIZED BY : SP	DATE : 09-MAY-25

DRAWING NO.	REVISION
72301100-PAL-IMC-C-PW-SLD-0008	R0

DRAWING SCALE : NTS

FILENAME : 72301100-PAL-IMC-C-PW-SLD-0008.DWG PLOT SCALE : @A1

MRSS-11KV GIS OUTGOING FEEDERS RING 10 TO 12 FORMATIONS



REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) OVERALL SCHEME FOR POWER DISTRIBUTION ACROSS PUDUSERRY CENTRAL.
DWG NO. 72301100-PAL-IMC-C-PW-OS-0003.
- 3) SINGLE LINE DIAGRAM FOR 220kV/33kV/11kV MAIN RECEIVING SUBSTATION (MRSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0004.
- 4) SINGLE LINE DIAGRAM FOR 33kV/11kV ZONAL SUBSTATION (ZSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0006.
- 5) TYPICAL SINGLE LINE DIAGRAM FOR 11kV, 3WAY , 4WAY & 5WAY RMUs.
DWG.NO. 72301100-PAL-IMC-C-PW-SLD-0013.
- 6) TYPICAL SINGLE LINE DIAGRAM FOR COMPACT SUBSTATIONS (CSS)
DWG. NO. 72301100-PAL-IMC-C-PW-SLD-0014.

NOTES :-

- 1) FEEDER NUMBERS SHOWN ARE INDICATIVE ONLY. EACH RING SHALL BE FED FROM TWO DIFFERENT BUS SECTIONS.

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Revision	By	Checked	Approved	Date	Description

CLIENT
 National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building, Connaught Place, New Delhi - 110001

NODAL AGENCY
KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

CONSULTANT
Jacobs
CH2M HILL INDIA PVT. LTD.

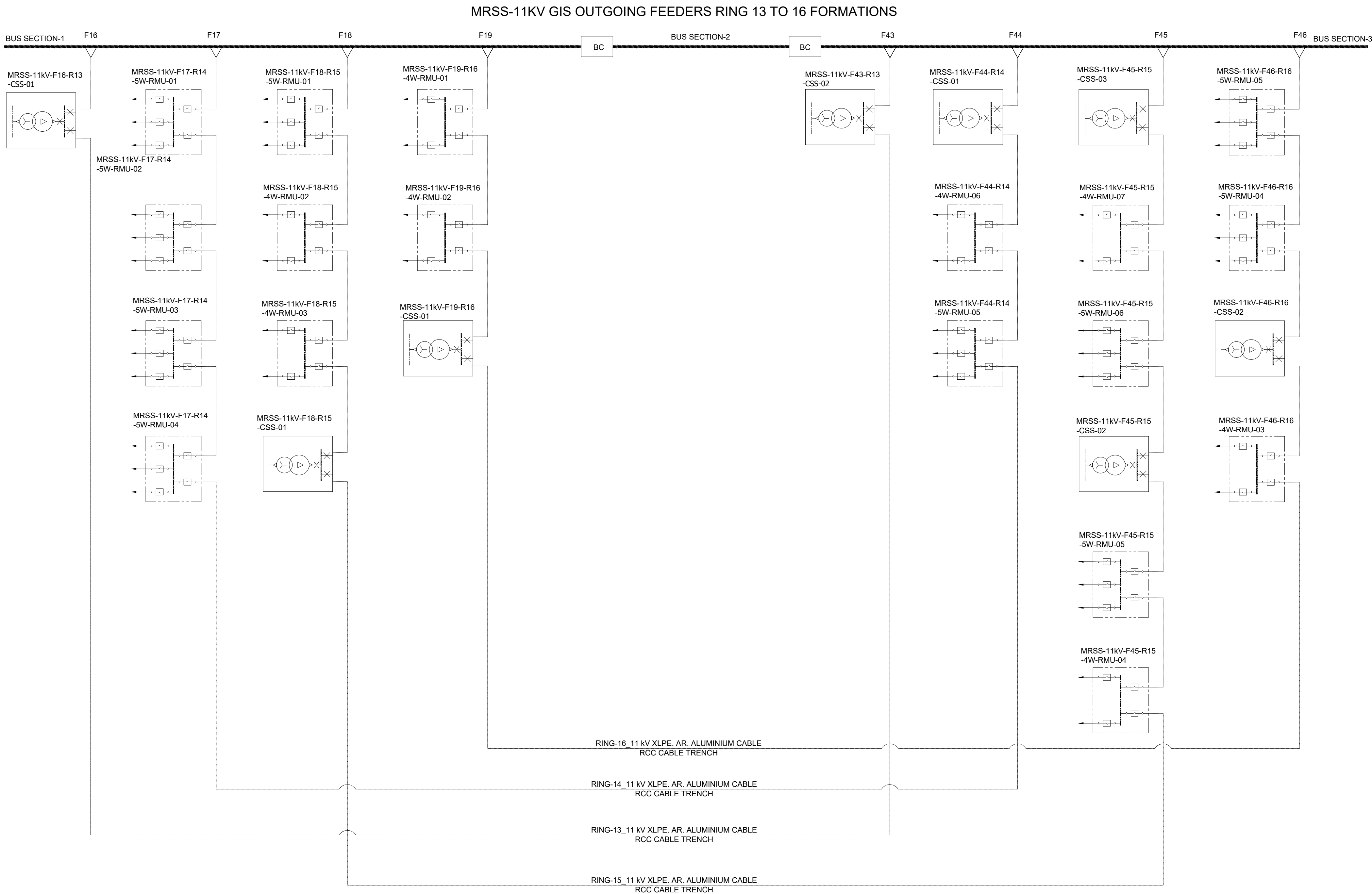
PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE
DRAWING TITLE
SINGLE LINE DIAGRAM FOR MRSS-11KV RING 10 TO 12 NETWORK

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25

DRAWING NO.	REVISION
72301100-PAL-IMC-C-PW-SLD-0009	R0

DRAWING SCALE :	NTS
FILENAME :	72301100-PAL-IMC-C-PW-SLD-0009.DWG
PLOT SCALE :	@A1



- REFERENCE DRAWINGS:-**
- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
 - 2) OVERALL SCHEME FOR POWER DISTRIBUTION ACROSS
PUDUSERRY CENTRAL.
DWG NO. 72301100-PAL-IMC-C-PW-OS-0003.
 - 3) SINGLE LINE DIAGRAM FOR 220kV/33kV/11kV MAIN
RECEIVING SUBSTATION (MRSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0004.
 - 4) SINGLE LINE DIAGRAM FOR 33kV/11kV ZONAL
SUBSTATION (ZSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0006.
 - 5) TYPICAL SINGLE LINE DIAGRAM FOR 11kV, 3WAY,
4WAY & 5WAY RMUs.
DWG.NO. 72301100-PAL-IMC-C-PW-SLD-0013.
 - 6) TYPICAL SINGLE LINE DIAGRAM FOR COMPACT
SUBSTATIONS (CSS)
DWG. NO. 72301100-PAL-IMC-C-PW-SLD-0014.

- NOTES :-**
- 1) FEEDER NUMBERS SHOWN ARE INDICATIVE ONLY.
EACH RING SHALL BE FED FROM TWO DIFFERENT BUS
SECTIONS.

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Revision	By	Checked	Approved	Date	Description

CLIENT



**National Industrial Corridor
Development Corporation Limited**
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

**KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION**
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

Jacobs
CH2M HILL INDIA PVT. LTD.

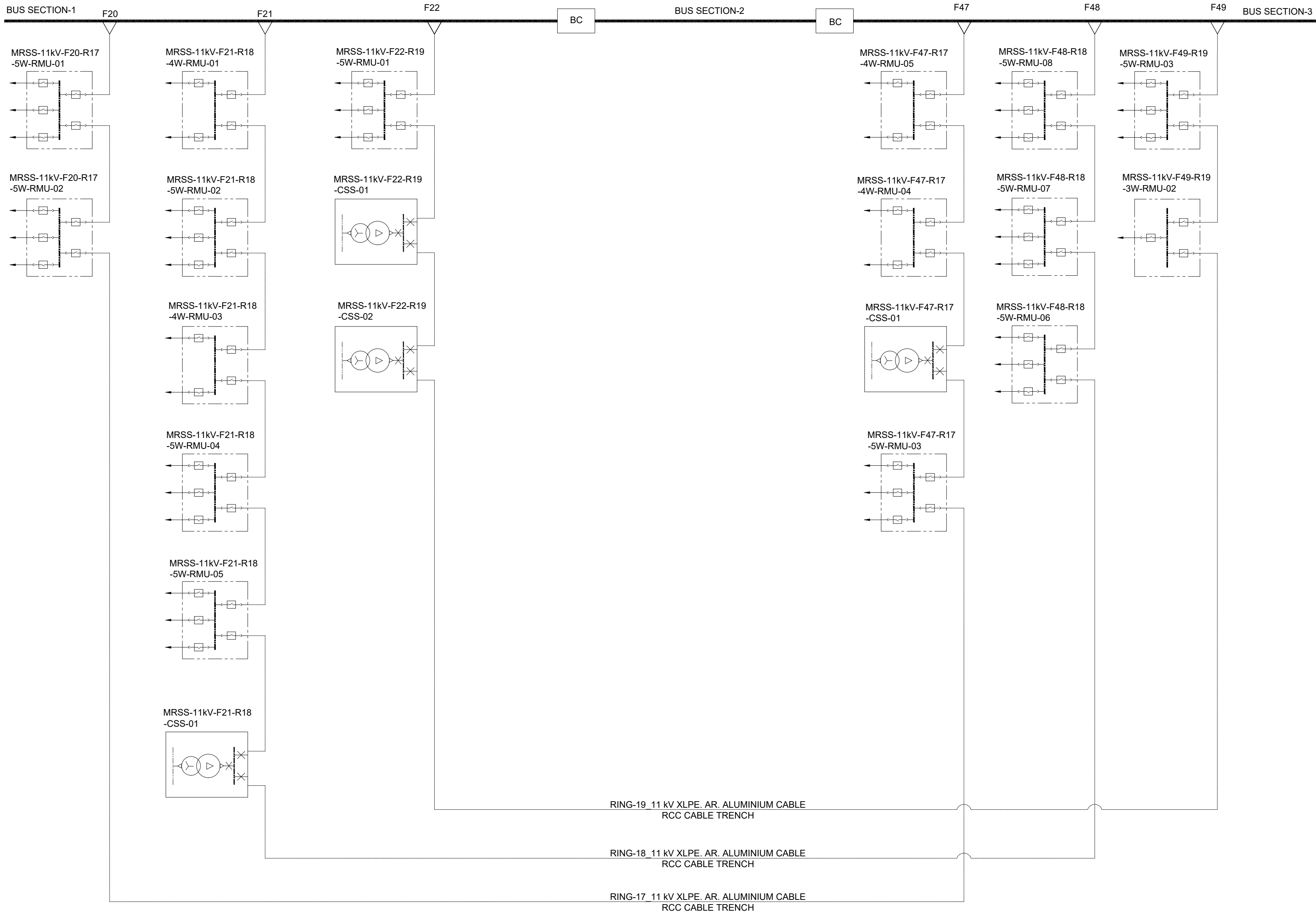
PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE
SINGLE LINE DIAGRAM FOR
MRSS-11KV RING 13 TO 16 NETWORK

DRAWN BY : AR	DATE : 09-MAY-25
CHECKED BY : RK	DATE : 09-MAY-25
AUTHORIZED BY : SP	DATE : 09-MAY-25
DRAWING NO. 72301100-PAL-IMC-C-PW-SLD-0010	REVISION R0
DRAWING SCALE : NTS	
FILENAME : 72301100-PAL-IMC-C-PW-SLD-0010.DWG PLOT SCALE : @A1	

MRSS-11KV GIS OUTGOING FEEDERS RING 17 TO 19 FORMATIONS



REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) OVERALL SCHEME FOR POWER DISTRIBUTION ACROSS PUDUSERRY CENTRAL.
DWG NO. 72301100-PAL-IMC-C-PW-OS-0003.
- 3) SINGLE LINE DIAGRAM FOR 220kV/33kV/11kV MAIN RECEIVING SUBSTATION (MRSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0004.
- 4) SINGLE LINE DIAGRAM FOR 33kV/11kV ZONAL SUBSTATION (ZSS)
DWG NO. 72301100-PAL-IMC-C-PW-SLD-0006.
- 5) TYPICAL SINGLE LINE DIAGRAM FOR 11kV, 3WAY, 4WAY & 5WAY RMUs.
DWG.NO. 72301100-PAL-IMC-C-PW-SLD-0013.
- 6) TYPICAL SINGLE LINE DIAGRAM FOR COMPACT SUBSTATIONS (CSS)
DWG. NO. 72301100-PAL-IMC-C-PW-SLD-0014.

NOTES :-

- 1) FEEDER NUMBERS SHOWN ARE INDICATIVE ONLY. EACH RING SHALL BE FED FROM TWO DIFFERENT BUS SECTIONS.

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT
 National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building, Connaught Place, New Delhi - 110001

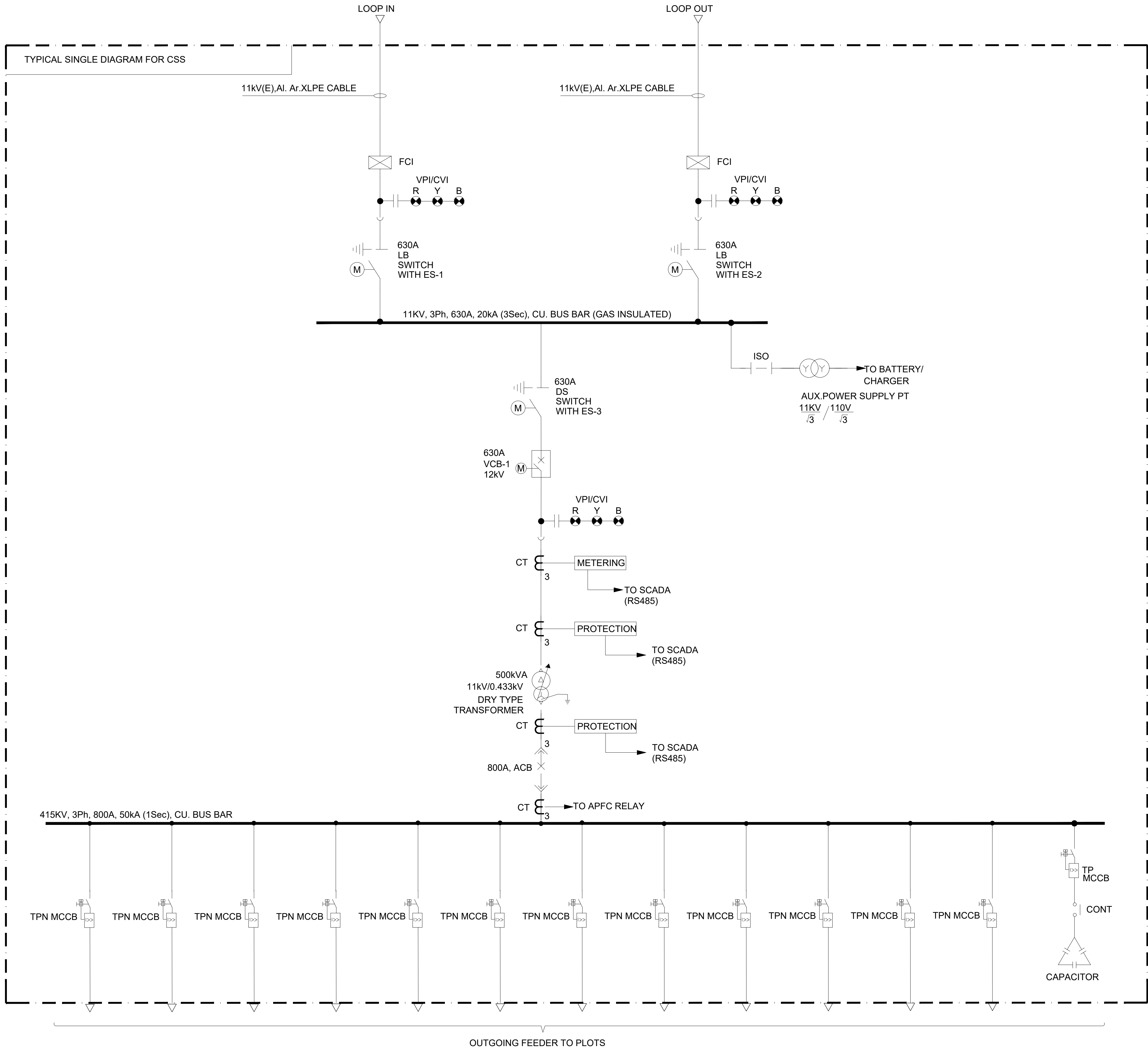
NODAL AGENCY
KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

CONSULTANT
 CH2M HILL INDIA PVT. LTD.

PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE
DRAWING TITLE
SINGLE LINE DIAGRAM FOR
MRSS-11KV RING 17 TO 19 NETWORK

DRAWN BY : AR	DATE : 09-MAY-25
CHECKED BY : RK	DATE : 09-MAY-25
AUTHORIZED BY : SP	DATE : 09-MAY-25
DRAWING NO. 72301100-PAL-IMC-C-PW-SLD-0011	REVISION R0
DRAWING SCALE : NTS	
FILENAME : 72301100-PAL-IMC-C-PW-SLD-0011.DWG	PLOT SCALE : @A1



REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) SINGLE LINE DIAGRAM FOR MRSS-11KV RING NETWORK
DWG NO. 72301100-CBIC-KAN-DWG-PW-SLD-0005.
- 3) SINGLE LINE DIAGRAM FOR ZSS-1 TO 5 11kV RING
NETWORK DWG.NO. 72301100-PAL-IMC-C-PW-SLD-0007
TO 0011.

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT
 National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY
**KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION**
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT
Jacobs
CH2M HILL INDIA PVT. LTD.

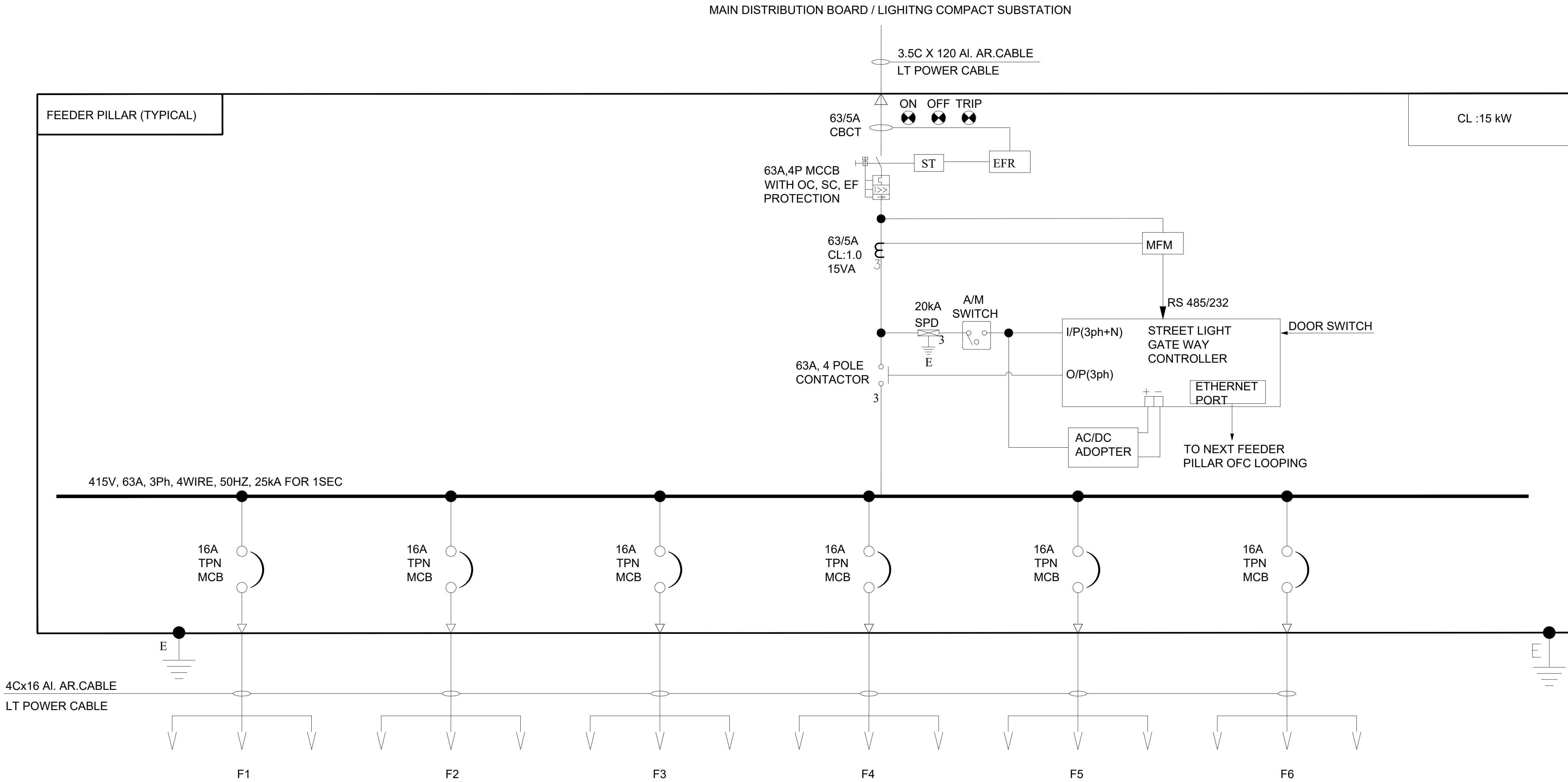
PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE
TYPICAL SINGLE LINE DIAGRAM FOR
COMPACT SUBSTATIONS (CSS)

DRAWN BY : VP	DATE : 09-MAY-25
CHECKED BY : SK	DATE : 09-MAY-25
AUTHORIZED BY : MM	DATE : 09-MAY-25
DRAWING NO. 72301100-PAL-IMC-C-PW-SLD-0014	REVISION R0

DRAWING SCALE : NTS
FILENAME : 72301100-PAL-IMC-C-PW-SLD-0014.DWG PLOT SCALE : @A1



REFERENCE DRAWINGS :-

- 1) OVERALL STREET LIGHTING NETWORK PLAN
DWG. NO.72301100-PAL-IMC-C-PW-OSL-0118.
- 2) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT

 National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

**KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION**
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

Jacobs
CH2M HILL INDIA PVT. LTD.

PROJECT

PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

TYPICAL SLD FOR STREET LIGHTING FEEDER PILLAR

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25
DRAWING NO.	REVISION		
72301100-PAL-IMC-C-PW-SLD-0015	R0		
DRAWING SCALE :	NTS		
FILENAME :	72301100-PAL-IMC-C-PW-SLD-0015.DWG	PLOT SCALE :	@A1

KEY PLAN

REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) SINGLE LINE DIAGRAM FOR 220KV/33KV/11KV MAIN
RECEIVING SUBSTATION (MRSS)
DWG. NO. 72301100-PAL-IMC-C-PW-SLD-0004.
- 3) SINGLE LINE DIAGRAM FOR 33/11KV ZONAL SUBSTATION
(ZSS)
DWG. NO. 72301100-PAL-IMC-C-PW-SLD-0006.
- 4) TYPICAL 220KV RCC CABLE TRENCH SECTION (FROM
EXTERNAL SOURCE STATION TO PROJECT BOUNDARY)
DWG. NO. 72301100-PAL-IMC-C-PW-GA-0114.
- 5) TYPICAL 220KV BURIED HDPE DUCT CONFIGURATION
(FROM PROJECT BOUNDARY TO MRSS)
DWG. NO. 72301100-PAL-IMC-C-PW-GA-0115.

LEGENDS:-

S.I No.	SYMBOL	DESCRIPTION	UNITS	QTY.
1		11kV HATCH	-	-
2		415V HATCH	-	-
3		110kV CABLE	meters	3708
4				
5				
6				
7				
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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

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National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
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NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION

Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

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M HILL INDIA PVT. LT

PROJECT

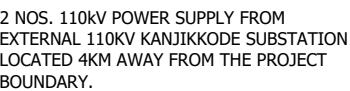
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

OVERALL EHV/HV POWER DISTRIBUTION NETWORK PLAN

DRAWN BY : AR		DATE : 09-MAY-25
CHECKED BY : RK		DATE : 09-MAY-25
AUTHORIZED BY : SP		DATE : 09-MAY-25
DRAWING NO.		REVISION
72301100-PAL-IMC-C-PW-OPD-0016		R0
DRAWING SCALE : 1:6		
FILENAME : 72301100-PAL-IMC-C-PW-OPD-0016.DWG	PLOT SCALE : @A1	

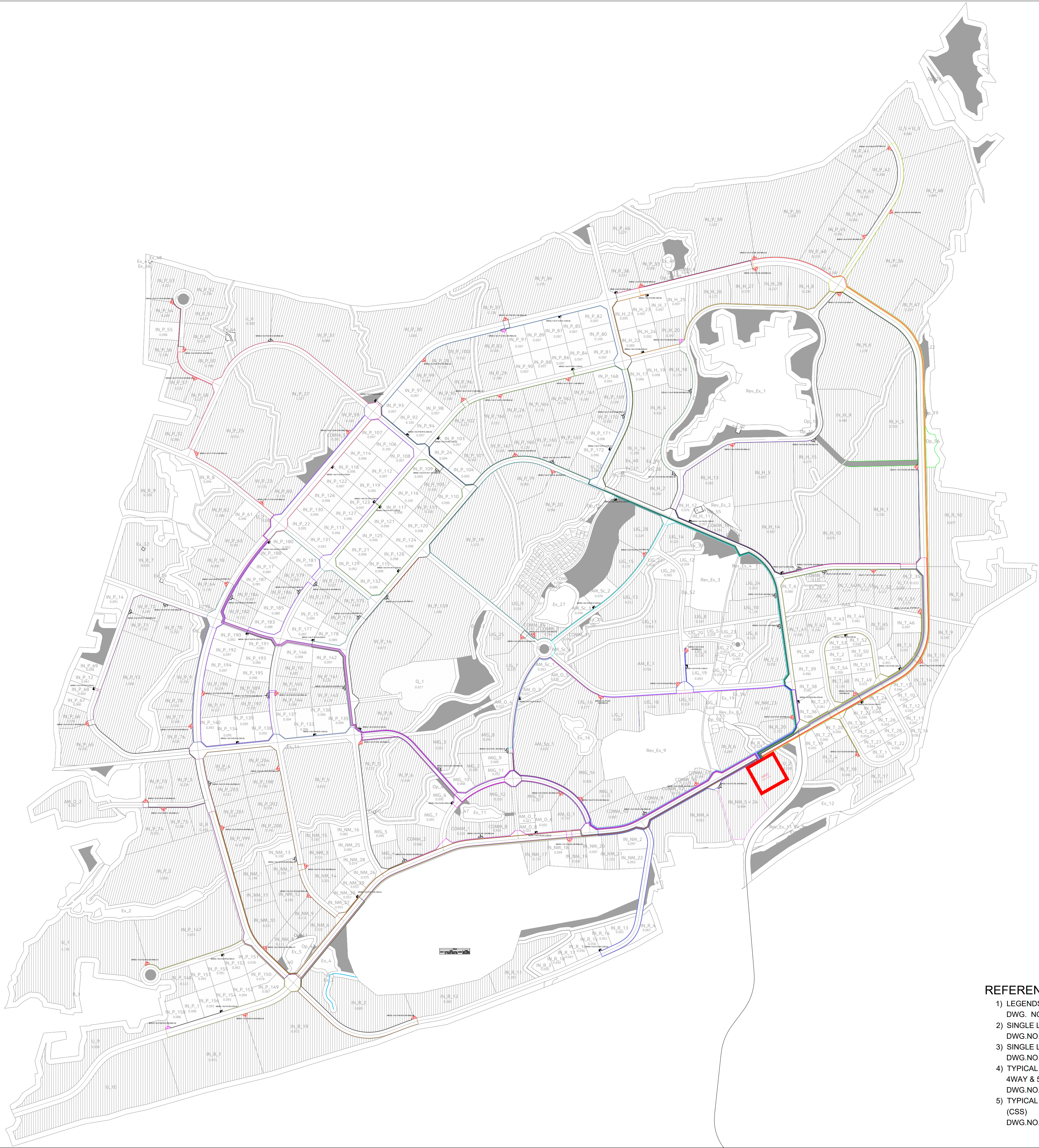


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FILENAME: PLOT DATE: PLOT TIME:



REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) SINGLE LINE DIAGRAM FOR MRSS-11KV RING NETWORK
DWG.NO.72301100-PAL-IMC-C-PW-SLD-0005
- 3) SINGLE LINE DIAGRAM FOR ZSS-1 TO 5 11KV RING NETWORK
DWG.NO. 72301100-PAL-IMC-C-PW-SLD-0007 TO 0011
- 4) TYPICAL SINGLE LINE DIAGRAM FOR 11KV,3WAY,
4WAY & 5WAY RMUs
DWG.NO.72301100-PAL-IMC-C-PW-SLD-0013
- 5) TYPICAL SINGLE LINE DIAGRAM FOR COMPACT SUBSTATION
(CSS)
DWG.NO.72301100-PAL-IMC-C-PW-SLD-0014



KEY PLAN

LEGENDS:-

S.I No.	SYMBOL	DESCRIPTION	UNITS	QUANTITY
1		11kV HATCH	-	-
2		415V HATCH	-	-
3		MRSS-RING-1	meters	2424
4		MRSS-RING-2	meters	3100
5		MRSS-RING-3	meters	2450
6		MRSS-RING-4	meters	3412
7		MRSS-RING-5	meters	3085
8		MRSS-RING-6	meters	3823
9		MRSS-RING-7	meters	4032
10		MRSS-RING-8	meters	4655
11		MRSS-RING-9	meters	3584
12		MRSS-RING-10	meters	4268
13		MRSS-RING-11	meters	4728
14		MRSS-RING-12	meters	3938
15		MRSS-RING-13	meters	4428
16		MRSS-RING-14	meters	6555
17		MRSS-RING-15	meters	6630
18		MRSS-RING-16	meters	6103
19		MRSS-RING-17	meters	5575
20		MRSS-RING-18	meters	5692
21		MRSS-RING-19	meters	4407
22		LOOP CABLE	meters	
23		5 - WAY RMU	Nos.	
24		4 - WAY RMU	Nos.	
25		3 - WAY RMU	Nos.	
26		CSS	Nos.	36

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RO	AR	RT	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT

 National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION

Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

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PROJECT

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DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

OVERALL 11KV CABLE ROUTING NETWORK PLAN

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25

DRAWING NO.	REVISION
72301100-PAL-IMC-C-PW-OCR-0048	R0

DRAWING SCALE : 1:8

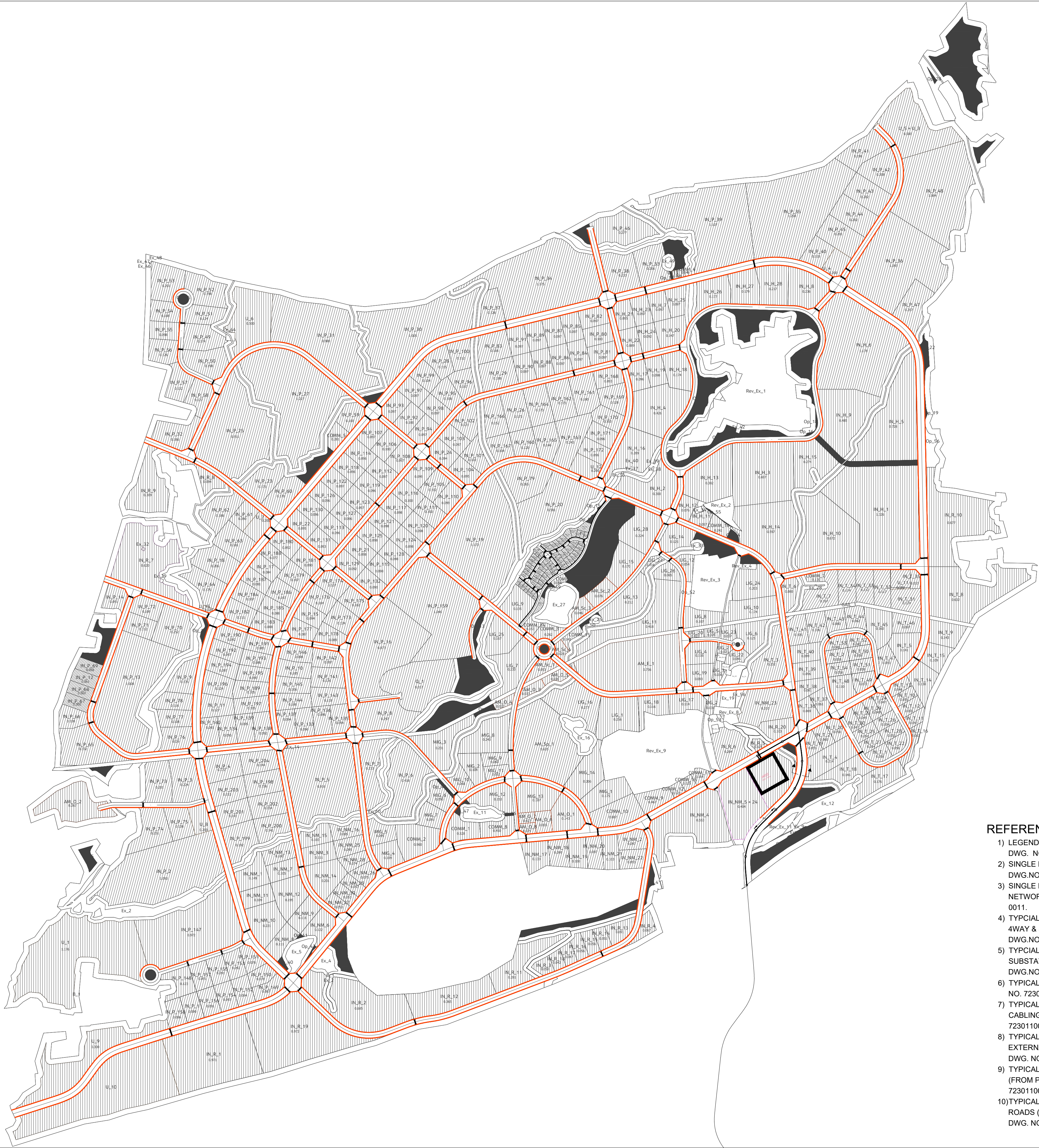
FILENAME : 72301100-PAL-IMC-C-PW-OCR-0048.DWG PLOT SCALE : @A1

Switch off PLOT STAMP

FILENAME:

PLOT DATE:

PLOT TIME:



REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) SINGLE LINE DIAGRAM FOR MRSS-11kV RING NETWORK
DWG.NO.72301100-PAL-IMC-C-PW-SLD-0005.
- 3) SINGLE LINE DIAGRAM FOR ZSS-1 TO 5 11kV RING NETWORK DWG.NO. 72301100-PAL-IMC-C-PW-SLD-0007 TO 0011.
- 4) TYPICAL SINGLE LINE DIAGRAM FOR 11kV,3WAY, 4WAY & 5WAY RMUs
DWG.NO.72301100-PAL-IMC-C-PW-SLD-0013.
- 5) TYPICAL SINGLE LINE DIAGRAM FOR COMPACT SUBSTATION (CSS)
DWG.NO.72301100-PAL-IMC-C-PW-SLD-0014.
- 6) TYPICAL RCC MANHOLE DETAILS FOR EHV CABLING DWG. NO. 72301100-PAL-IMC-C-PW-GA-0112.
- 7) TYPICAL RCC CABLE TRENCH SECTION FOR HT/LT CABLING ALONG ROW DWG. NO. 72301100-PAL-IMC-C-PW-GA-0113.
- 8) TYPICAL 220KV RCC CABLE TRENCH SECTION (FROM EXTERNAL SOURCE STATION TO PROJECT BOUNDARY)
DWG. NO. 72301100-PAL-IMC-C-PW-GA-0114.
- 9) TYPICAL 220KV BURIED HDPE DUCT CONFIGURATION (FROM PROJECT BOUNDARY TO MRSS) DWG. NO. 72301100-PAL-IMC-C-PW-GA-0115.
- 10) TYPICAL CABLE TRENCH SECTIONS ON DIFFERENT ROADS (FOR SECTION 1-1)
DWG. NO. 72301100-PAL-IMC-C-PW-GA-0116.



KEY PLAN

LEGENDS:-

S.I No.	SYMBOL	DESCRIPTION	UNITS	QTY.
1		11kV HATCH	-	-
2		415V HATCH	-	-
3		RCC CABLE TRENCH 1.85M X 2.1M (W X D)	meters	46352
4		RCC CABLE TRENCH 1.25M X 1.2M (W X D)	meters	788
5		220KV UG CABLE (1C X 1000 Sq.mm) LAID IN DWX HDPE PIPES 1.76m X 2.2m (W X D)	meters	622
6		ROAD CROSSING WITH DWX HDPE PIPES	-	-
7		MANHOLE (2.7m X 2m)	Nos.	9

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RO	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

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Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION

Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

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PROJECT

PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

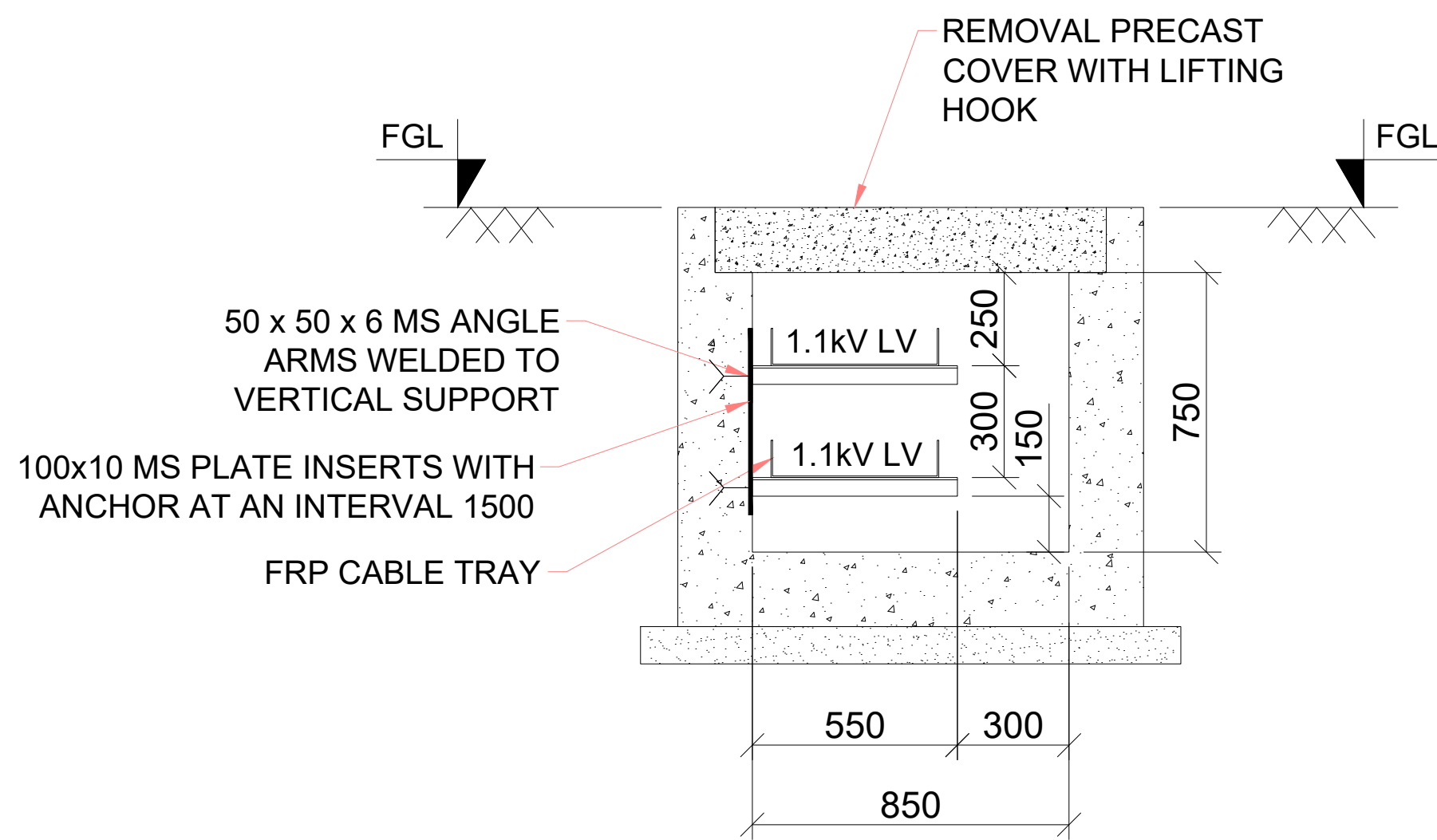
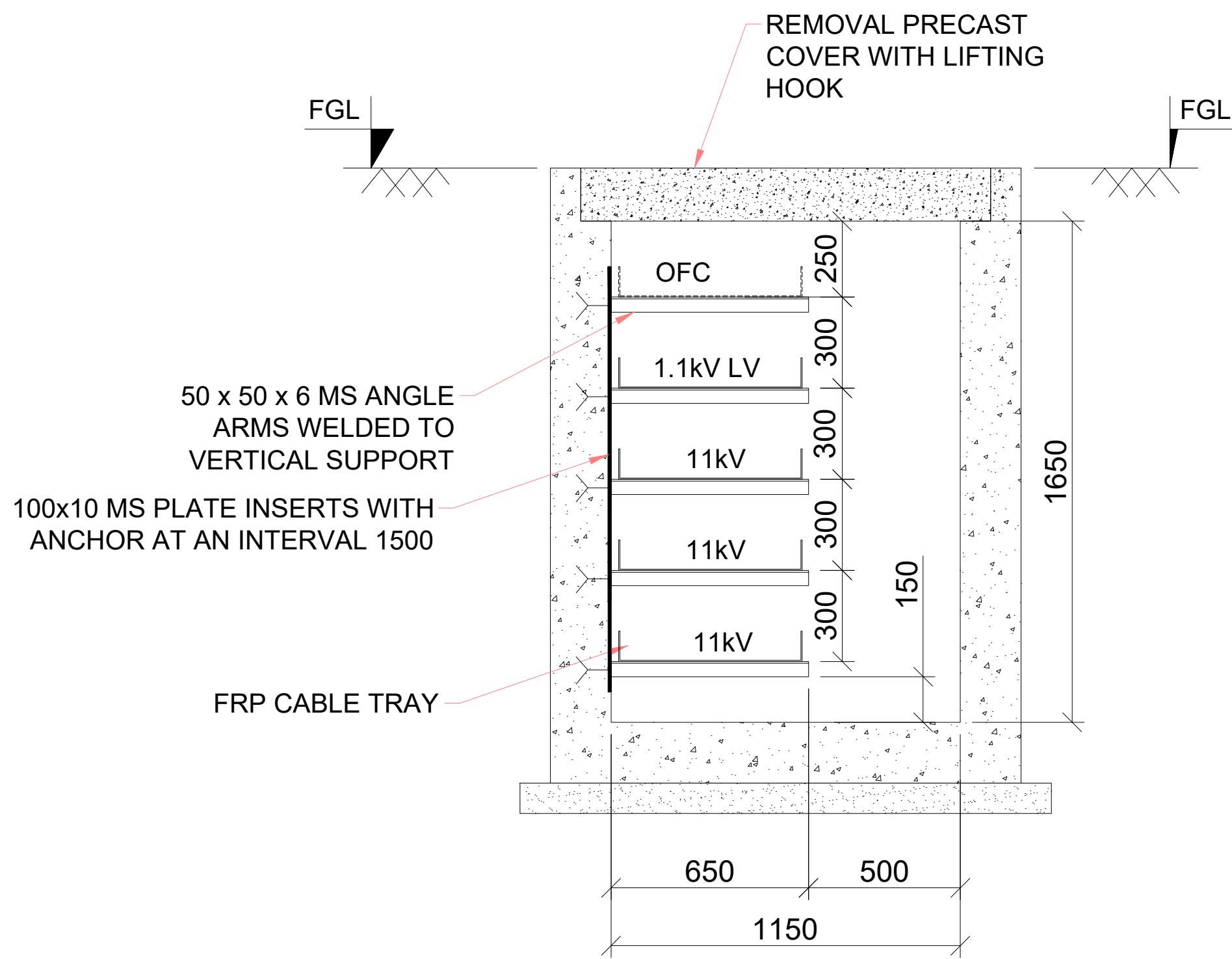
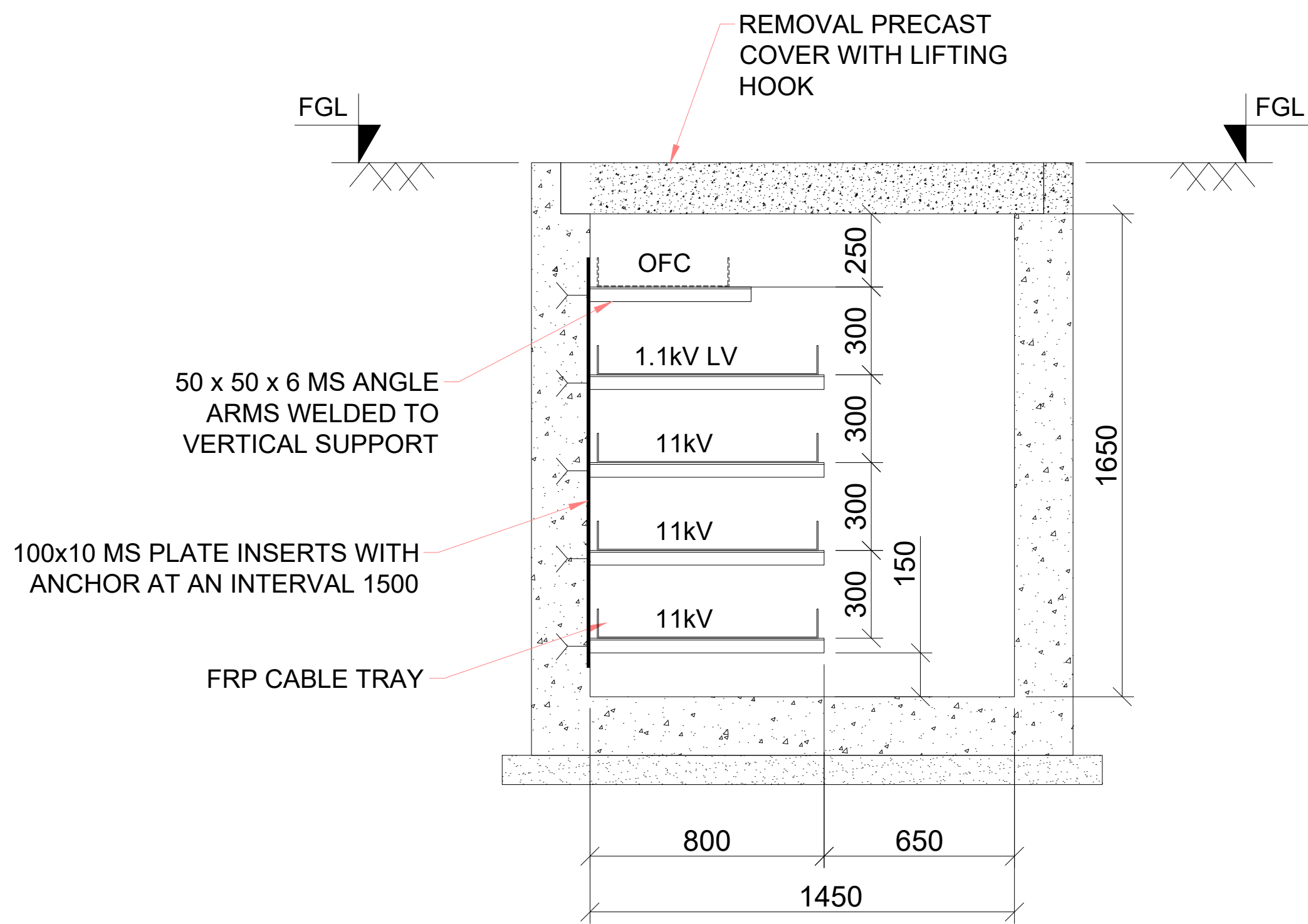
OVERALL RCC CABLE TRENCH AND CONDUIT NETWORK PLAN

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25

DRAWING NO.	REVISION
72301100-PAL-IMC-C-PW-OCT-0080	R0

DRAWING SCALE : 1:6

FILENAME : 72301100-PAL-IMC-C-PW-OCT-0080.DWG PLOT SCALE : @A1



REFERENCE DRAWINGS:-

- 1) OVERALL RCC CABLE TRENCH AND CONDUIT NETWORK PLAN
DWG. NO. 72301100-PAL-IMC-C-PW-OCT-0080.

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

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Trivandrum- 695 010

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PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

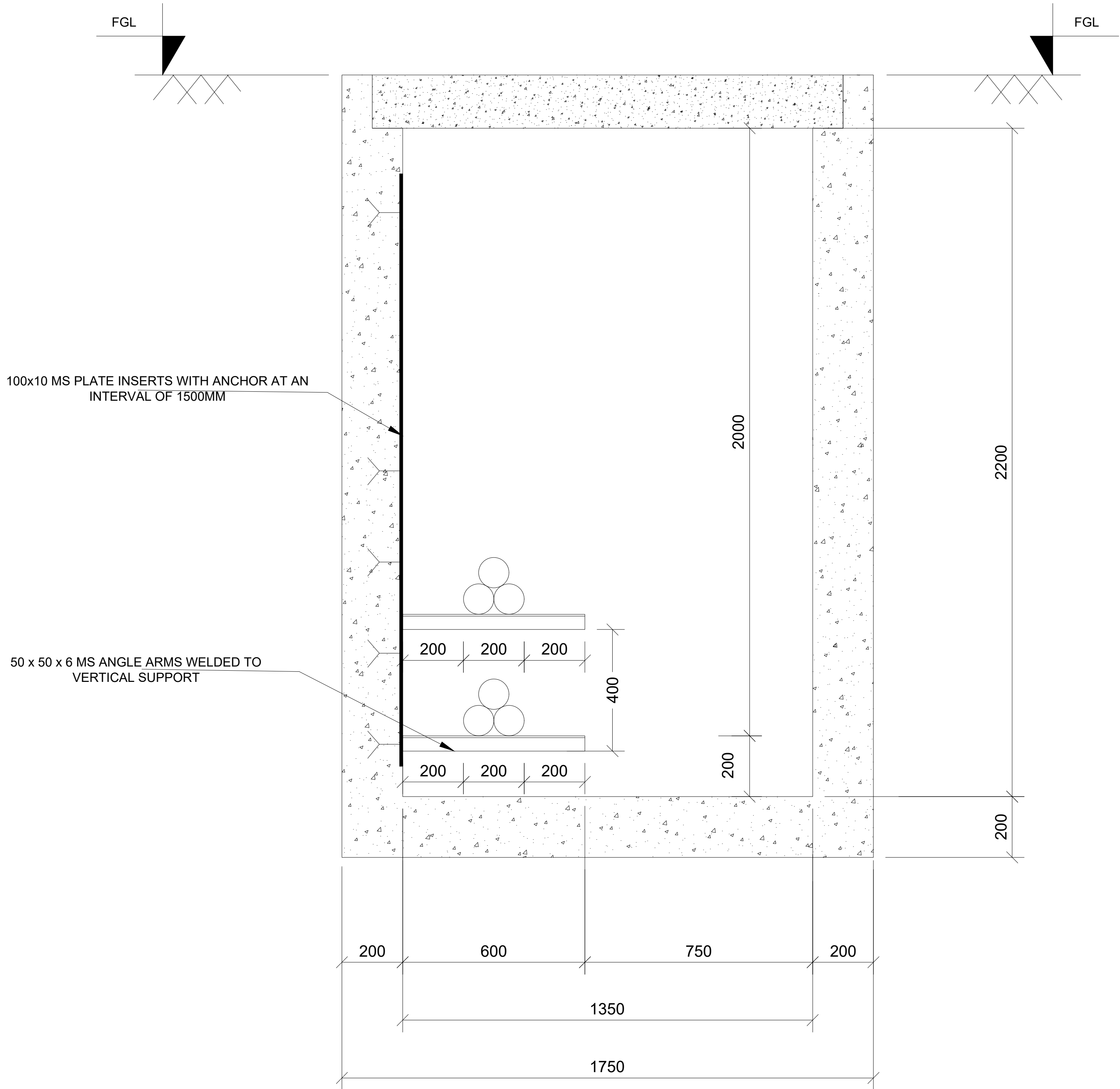
DRAWING TITLE
TYPICAL RCC CABLE TRENCH SECTION FOR HT/LT CABLING ALONG ROW

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25

DRAWING NO.	REVISION
72301100-PAL-IMC-C-PW-GA-0113	R0

DRAWING SCALE :

FILENAME : 72301100-PAL-IMC-C-PW-GA-0113.DWG PLOT SCALE : @A1



110kV RCC CABLE TRENCH SECTION WITH BRACKET ARRANGEMENT FROM NEAREST EXTERNAL SS TO PROJECT BOUNDARY SITE

REFERENCE DRAWINGS:-

- 1) OVERALL RCC CABLE TRENCH AND CONDUIT NETWORK PLAN
DWG. NO. 72301100-PAL-IMC-C-PW-OCT-0080.

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT
 **National Industrial Corridor Development Corporation Limited**
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY
KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

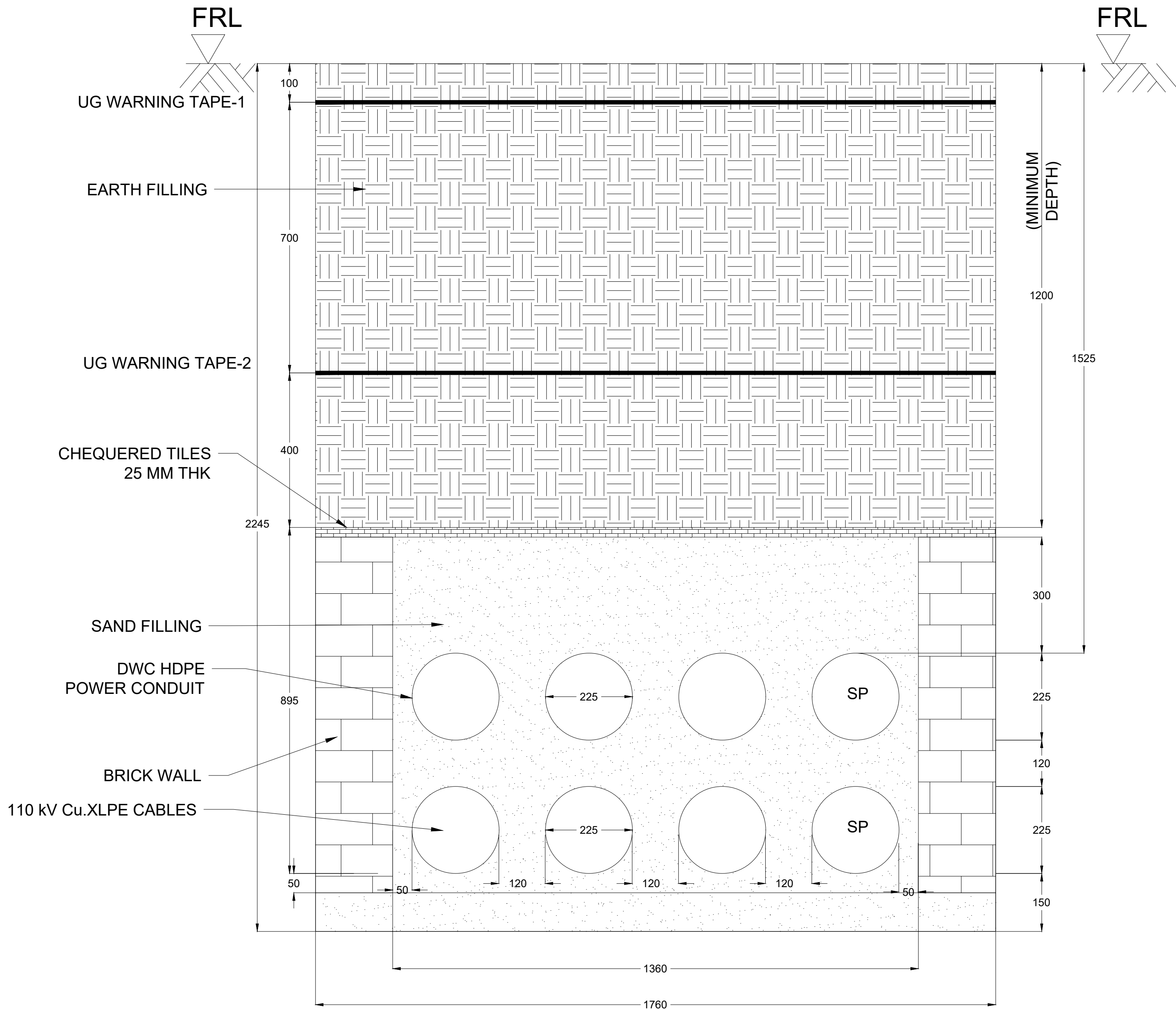
CONSULTANT
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PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE
DRAWING TITLE
TYPICAL 110kV RCC CABLE TRENCH SECTION
(FROM EXTERNAL SOURCE STATION TO PROJECT BOUNDARY)

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25
DRAWING NO.	REVISION		
72301100-PAL-IMC-C-PW-GA-0114	R0		

DRAWING SCALE :
FILENAME : 72301100-PAL-IMC-C-PW-GA-0114.DWG PLOT SCALE : @A1



TYPICAL CABLE TRENCH CONFIGURTION FOR 110KV CABLES THROUGH BURIED
HDPE DWC PIPES (FROM PROJECT BOUNDARY TO MRSS)

REFERENCE DRAWINGS:-
1) OVERALL RCC CABLE TRENCH AND CONDUIT
NETWORK PLAN
DWG. NO. 72301100-PAL-IMC-C-PW-OCT-0080.

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

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 National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
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NODAL AGENCY
KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

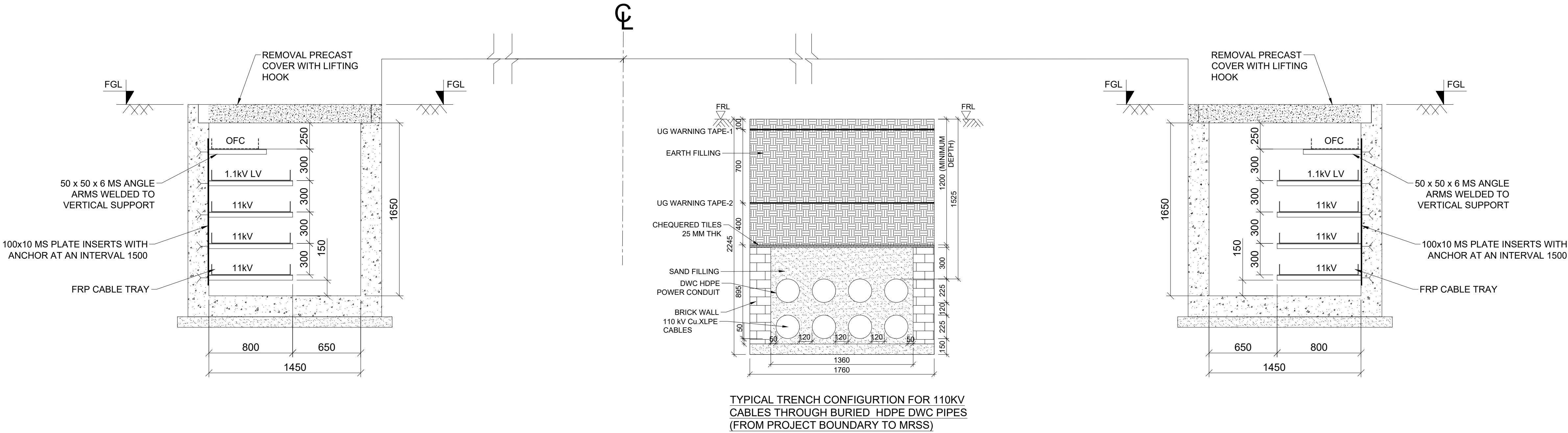
CONSULTANT
 CH2M HILL INDIA PVT. LTD.

PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

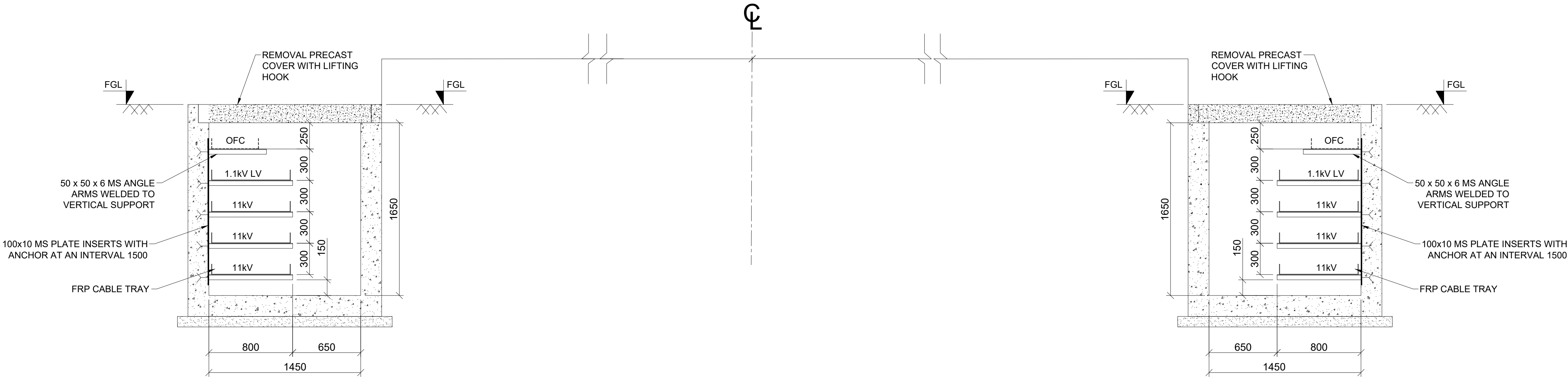
PACKAGE
DRAWING TITLE
TYPICAL 110KV BURIED HDPE DUCT CONFIGURATION
(FROM PROJECT BOUNDARY TO MRSS)

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25
DRAWING NO.	REVISION		
72301100-PAL-IMC-C-PW-GA-0115	R0		
DRAWING SCALE :	NTS		
FILENAME :	72301100-PAL-IMC-C-PW-GA-0115.DWG	PLOT SCALE :	

REFERENCE DRAWINGS:-
1) OVERALL RCC CABLE TRENCH AND CONDUIT NETWORK PLAN
DWG. NO. 72301100-PAL-IMC-C-PW-OCT-0080.



TYPICAL ROAD CROSS SECTION - 1-1



TYPICAL ROAD CROSS SECTION

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

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NODAL AGENCY
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Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

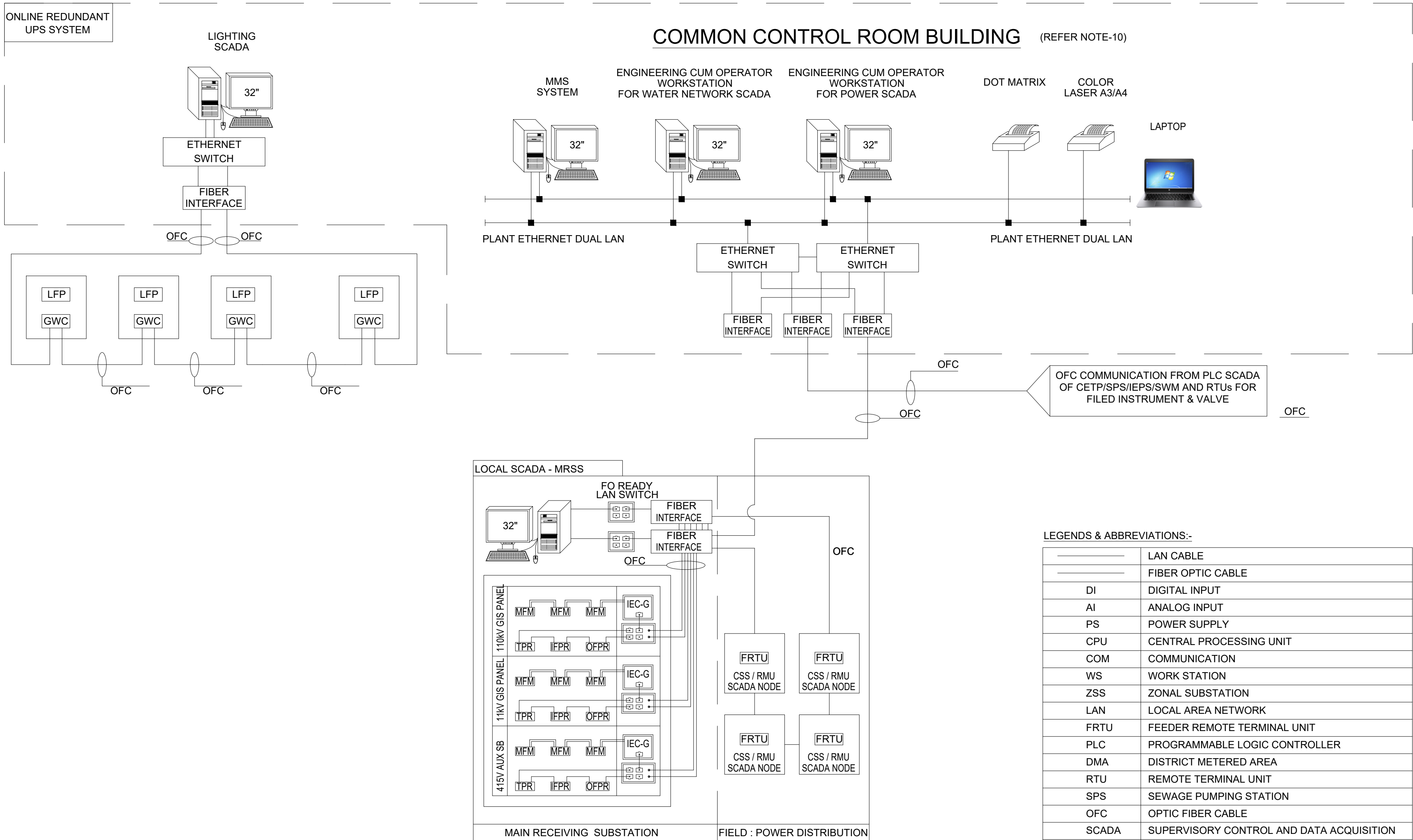
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PACKAGE
DRAWING TITLE
TYPICAL CABLE TRENCH SECTIONS ON DIFFERENT ROADS

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25
DRAWING NO.	72301100-PAL-IMC-C-PW-GA-0116		
REVISION	R0		

DRAWING SCALE :
FILENAME : 72301100-PAL-IMC-C-PW-GA-0116.DWG PLOT SCALE : @A1



- NOTES:
- MRSS SHALL BE PROVIDED WITH DEDICATED SCADA SYSTEM.
 - ALL ELECTRICAL EQUIPMENTS FED FROM RESPECTIVE SUBSTATION SHOULD BE INTERFACED WITH RESPECTIVE SUBSTATION SCADA.
 - ALL METERS & RELAYS OF 110kV, 33kV & 11kV SWITCHGEARS, LIGHTING FEEDER PILLARS, POWER FEEDER PILLARS, HM FEEDER PILLAR, 415V AUXILIARY SWITCHBOARD AND DG AMF PANEL ETC SHOULD HAVE SCADA COMPATIBILITY WITH RS 485 COMMUNICATION PORT AND ALL MFM & RELAYS OF THOSE SWITCHGEARS SHOULD BE INTERFACED WITH RESPECTIVE SUBSTATION SCADA THROUGH FOC RING NETWORK.
 - TRANSFORMER OIL TEMP LOW & HIGH, WINDING TEMP LOW & HIGH, BUCHHOLZ RELAY, MOG, OLTC VOLTAGE SETTINGS, TAP POSITIONS AND PRV STATUS ETC SHOULD BE INTERFACED WITH SCADA.
 - ALL SUBSTATION SCADA SHALL BE INTERCONNECTED THROUGH FO CABLE IN RING FORMATION AND TO BE CONNECTED TO COMMON CONTROL ROOM BUILDING.
 - ALL RMUS, CSS, LIGHTING FEEDER PILLARS, HM FEEDER PILLAR AND POWER FEEDER PILLAR ETC WHICH ARE FED FROM SUBSTATION SHALL BE INTERFACED WITH RESPECTIVE SUBSTATION SCADA THROUGH FO RING NETWORK.
 - REDUNDANCY SERVER IS TO BE PROVIDED FOR EACH SUBSTATION SCADA AND SCADA AT COMMON CONTROL ROOM BUILDING.
 - MINIMUM 3 OPERATOR WORK STATIONS AND ONE ENGINEERING WORK STATION SHALL BE PROVIDED FOR SCADA AT COMMON CONTROL ROOM BUILDING.
 - WATER SCADA LIKE FILED INSTRUMENTS, VALVES, STP, CETP, SWM, PUMP HOUSE AND ELECTRICAL EQUIPMENTS OF ALL STP/CETP/PUMP HOUSE ETC SHOULD BE INTERFACED WITH PLC SCADA OF WATER WHICH SHALL BE INTERFACED WITH MAIN SCADA IN COMMON CONTROL ROOM BUILDING.
 - MAIN SCADA SYSTEM AT COMMON CONTROL ROOM BUILDING SHALL BE INTERFACED WITH SCADA AT MRSS.
 - GATE WAY CONTROLLER OF EACH LIGHTING FEEDER PILLAR/HIGH MAST FEEDER PILLAR SHALL BE INTERFACED WITH DEDICATED LIGHTING SCADA TO BE LOCATED AT COMMON CONTROL ROOM.
 - BATTERY CHARGER AND UPS AT MRSS SHALL BE SCADA COMPATIBLE AND SHALL BE INTERFACED WITH RESPECTIVE SUBSTATION SCADA.

REFERENCE DRAWINGS:-

- LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.

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R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

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National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building, Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

CONSULTANT

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PROJECT

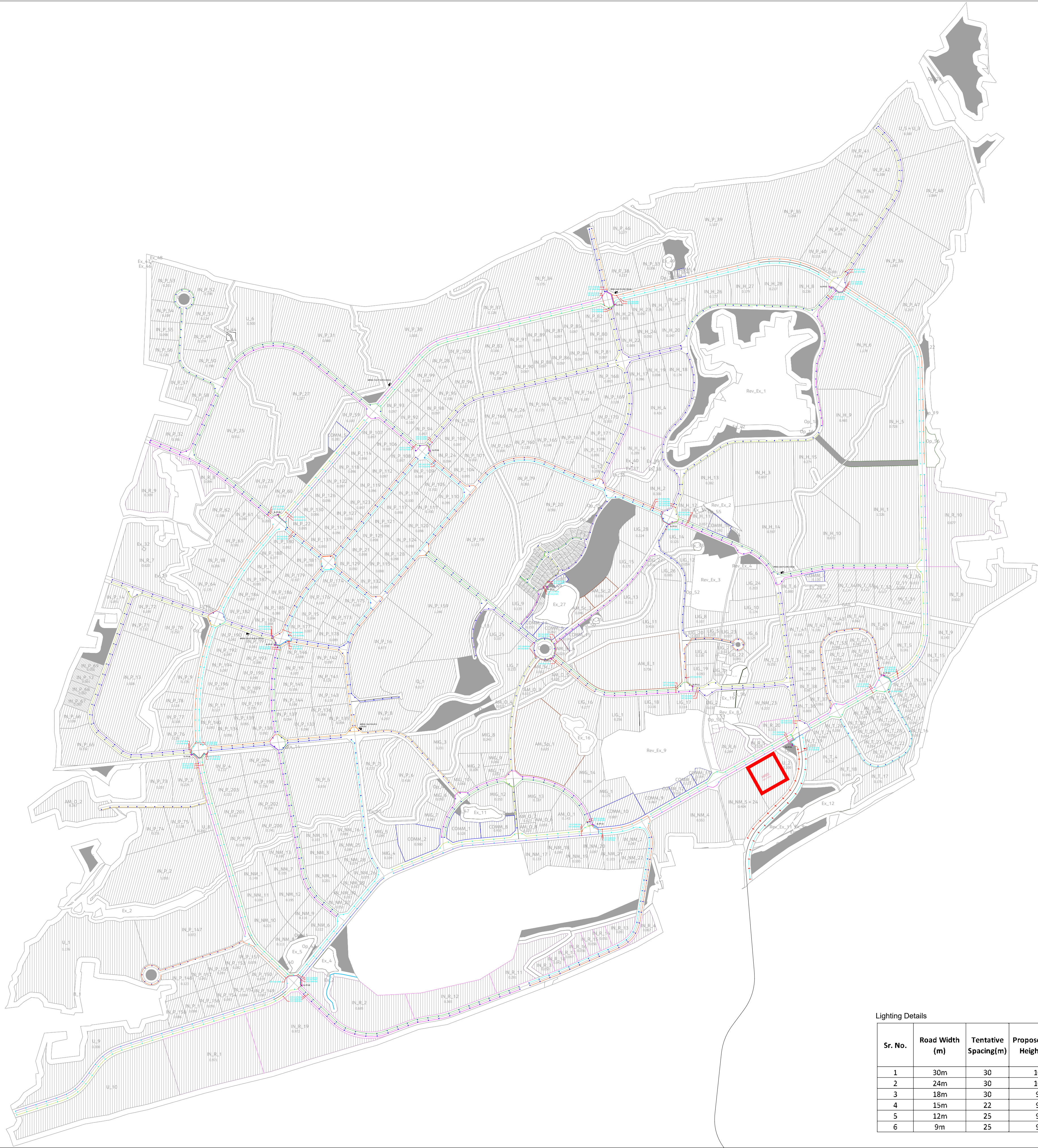
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

TYPICAL SYSTEM ARCHITECTURE LAYOUT FOR ELECTRICAL SCADA

DRAWN BY : AR	DATE : 09-MAY-25
CHECKED BY : RK	DATE : 09-MAY-25
AUTHORIZED BY : SP	DATE : 09-MAY-25
DRAWING NO. 72301100-PAL-IMC-C-PW-SA-0117	REVISION R0
DRAWING SCALE : NTS	
FILENAME : 72301100-PAL-IMC-C-PW-SA-0117.DWG PLOT SCALE : @A1	



Lighting Details

Sr. No.	Road Width (m)	Tentative Spacing(m)	Proposed Pole Height (m)	Configuration	Type of Pole
1	30m	30	10	Double Sided-Opposite	Double Arm
2	24m	30	10	Double Sided-Opposite	Single Arm
3	18m	30	9	Double Sided-Opposite	Single Arm
4	15m	22	9	Single Sided	Single Arm
5	12m	25	9	Single Sided	Single Arm
6	9m	25	9	Single Sided	Single Arm



KEY PLAN

REFERENCE DRAWINGS:-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.

LEGENDS:-

S.I No.	SYMBOL	DESCRIPTION	UNITS	QTY.
1		10M HEIGHT SINGLE ARM STREET LIGHTING POLE WITH 126W LED LIGHTING FIXTURE	Nos.	489
2		9M HEIGHT SINGLE ARM STREET LIGHTING POLE WITH 126W LED LIGHTING FIXTURE	Nos.	1189
3		10M HEIGHT DOUBLE ARM STREET LIGHTING POLE WITH 126W LED LIGHTING FIXTURE	Nos.	26
4		LIGHTING FEEDER PILLAR	Nos.	14
5		CIRCUIT (CKT) - 1	-	-
6		CIRCUIT (CKT) - 2	-	-
7		CIRCUIT (CKT) - 3	-	-
8		CIRCUIT (CKT) - 4	-	-
9		CIRCUIT (CKT) - 5	-	-
10		CIRCUIT (CKT) - 6	-	-
11		CIRCUIT (CKT) - 7	-	-
12		CIRCUIT (CKT) - 8	-	-
13		CIRCUIT (CKT) - 9	-	-

-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
R0	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

CLIENT

 National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building, Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

CONSULTANT

Jacobs
CH2M HILL INDIA PVT. LTD.

PROJECT

PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

OVERALL STREET LIGHTING NETWORK PLAN

DRAWN BY :	AR	DATE :	09-MAY-25
CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25

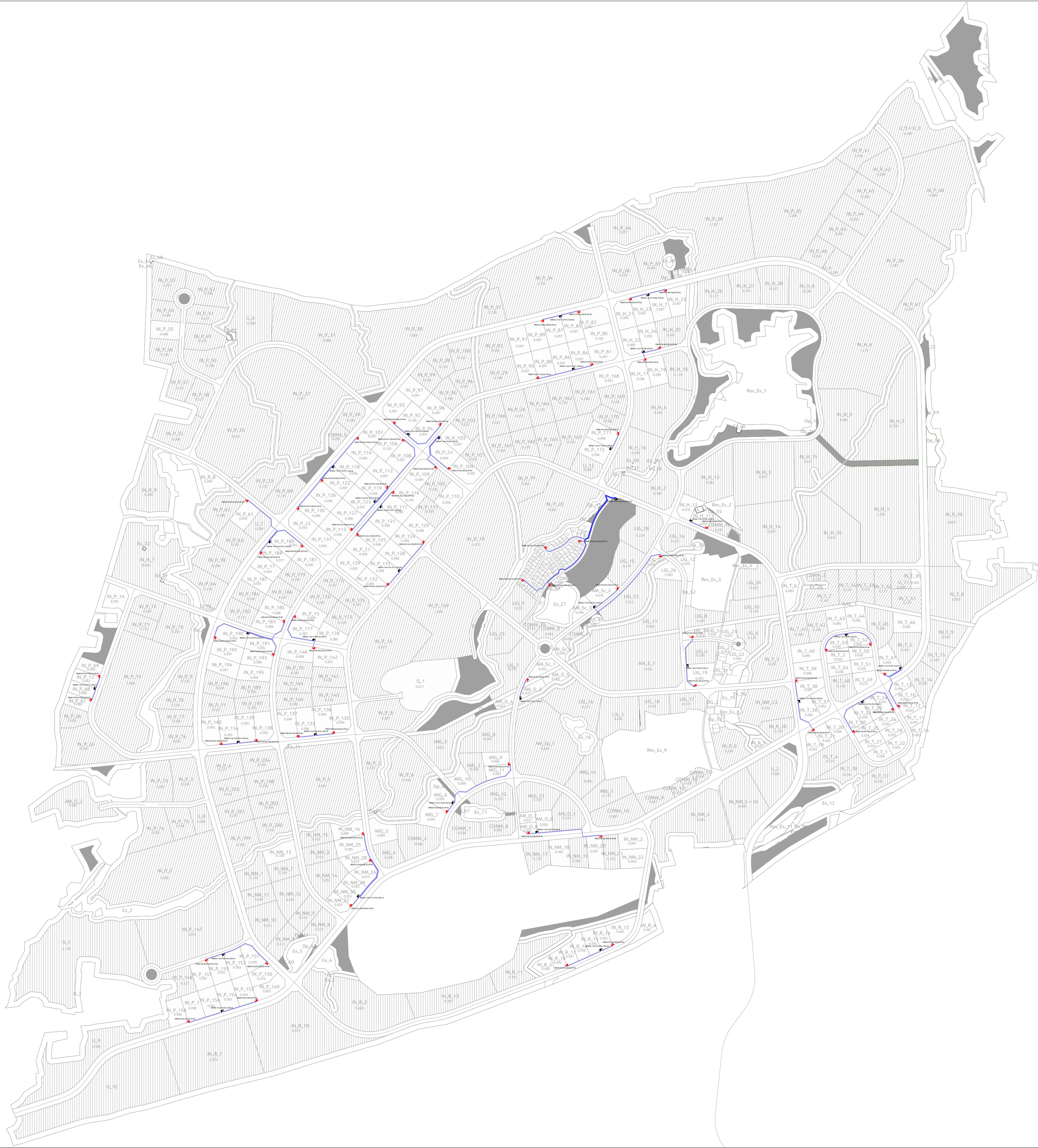
DRAWING NO.	REVISION
72301100-PAL-IMC-C-PW-OSL-0118	R0

DRAWING SCALE : 1:8

FILENAME : 72301100-PAL-IMC-C-PW-OSL-0118.DWG PLOT SCALE : @A1

Switch off PLOT STAMP

FILENAME: PLOT DATE: PLOT TIME:



KEY PLAN

REFERENCE DRAWINGS :-

- 1) LEGENDS, NOTES AND ABBREVIATIONS
DWG. NO. 72301100-PAL-IMC-C-PW-LN-0002.
- 2) SINGLE LINE DIAGRAM FOR MRSS-11KV RING NETWORK
DWG.NO.72301100-PAL-IMC-C-PW-SLD-0005
- 3) SINGLE LINE DIAGRAM FOR ZSS-1 TO 5 11KV RING NETWORK
DWG.NO. 72301100-PAL-IMC-C-PW-SLD-0007 TO 0011
- 4) TYPICAL SINGLE LINE DIAGRAM FOR 11KV,3WAY, 4WAY & 5WAY RMUs
DWG.NO.72301100-PAL-IMC-C-PW-SLD-0013
- 5) TYPICAL SINGLE LINE DIAGRAM FOR COMPACT SUBSTATION (CSS)
DWG.NO.72301100-PAL-IMC-C-PW-SLD-0014

LEGENDS:-

S.I No.	SYMBOL	DESCRIPTION	UNITS	QUANTITY
1		11KV HATCH	-	-
2		415V HATCH	-	-
3		CSS TO FP CABLE	meters	7106
4		LV FEEDER PILLAR	Nos.	68
5		CSS	Nos.	36

-	-	-	-	-	-
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-	-	-	-	-	-
-	-	-	-	-	-
RO	AR	RK	SP	09-MAY-25	TENDER DRAWING
Revision	By	Checked	Approved	Date	Description

NICDC
National Industrial Corridor Development Corporation Limited

National Industrial Corridor
Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

**KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION**

Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

Jacobs
CH2M HILL INDIA PVT. LTD.

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PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
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PACKAGE

DRAWING TITLE

LV FEEDER PILLAR LOCATION PLAN

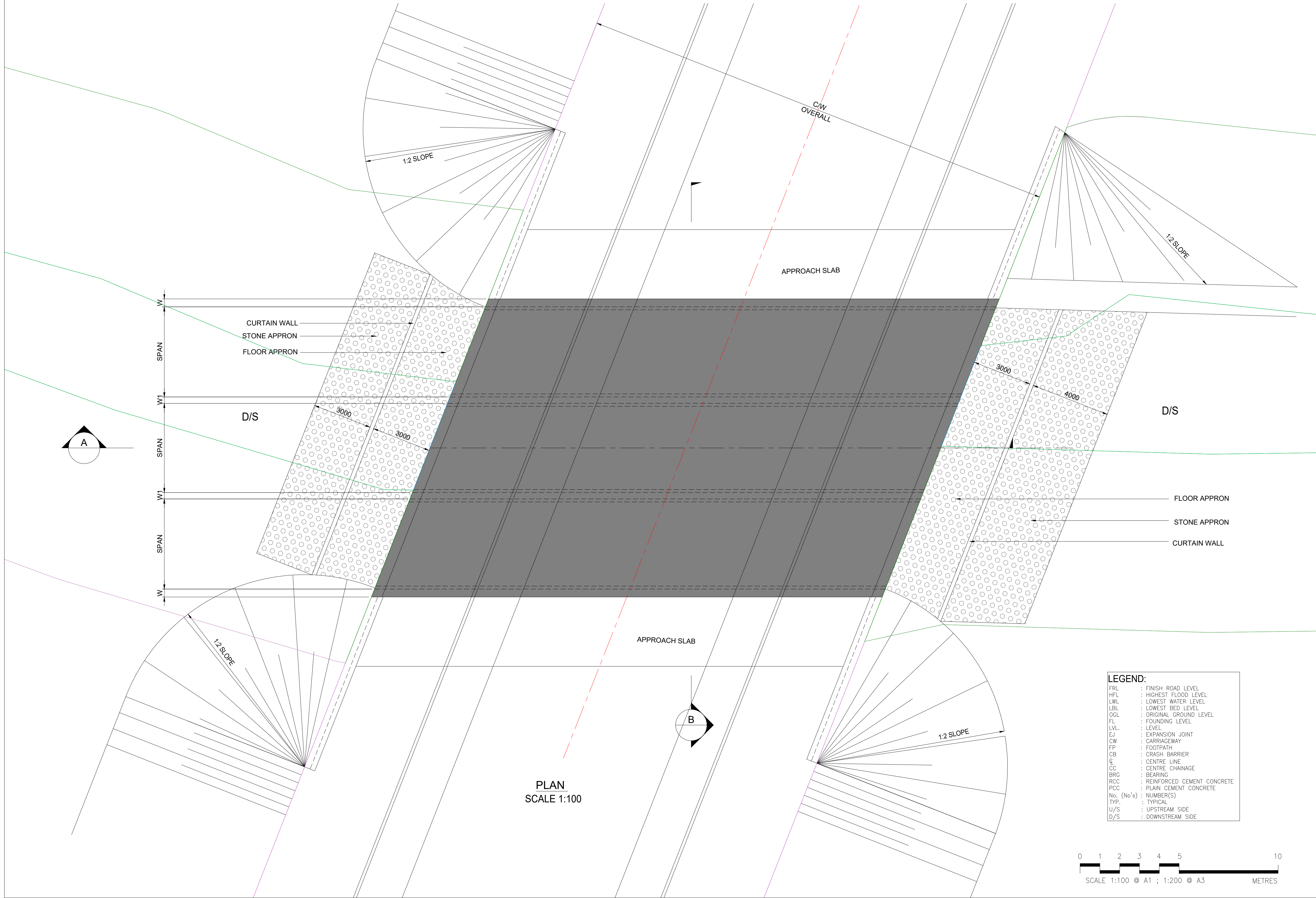
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CHECKED BY :	RK	DATE :	09-MAY-25
AUTHORIZED BY :	SP	DATE :	09-MAY-25

DRAWING NO.	REVISION
72301100-PAL-IMC-C-PW-FP-0150	R0

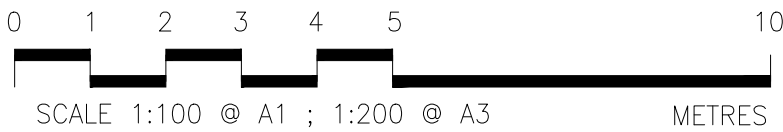
DRAWING SCALE : 1:5

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FILENAME: 72301100-
PLOT DATE: 15-APR-25
PLOT TIME: 10:10:10



LEGEND:	
FRL	: FINISH ROAD LEVEL
HFL	: HIGHEST FLOOD LEVEL
LWL	: LOWEST WATER LEVEL
LBL	: LOWEST BED LEVEL
OGL	: ORIGINAL GROUND LEVEL
FL	: FOUNDING LEVEL
LVL	: LEVEL
EJ	: EXPANSION JOINT
CW	: CARRIAGEWAY
FP	: FOOTPATH
CB	: CRASH BARRIER
CL	: CENTRE LINE
CC	: CENTRE CHAINAGE
BRG	: BEARING
RCC	: REINFORCED CEMENT CONCRETE
PCC	: PLAIN CEMENT CONCRETE
No. (No's)	: NUMBER(S)
TYP.	: TYPICAL
U/S	: UPSTREAM SIDE
D/S	: DOWNSTREAM SIDE



NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS ARE NOT TO BE SCALED ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
- THE FOUNDATION HAS BEEN DESIGNED WITH A NET 2 SAFE BEARING CAPACITY 12.0 kN/m².
- GRADE OF STEEL SHALL BE Fe-500D (TMT BARS) CONFIRM TO IS:1786.
- FILLER TYPE EXP. JOINT SHALL BE IN ACCORDANCE TO THE SECTION 2605 OF THE MORTH SPECIFICATIONS FOR THE ROAD AND BRIDGE WORKS (FOURTH REVISION).
- GRADE OF CONCRETE FOR VARIOUS COMPONENTS ARE GIVEN BELOW.

TOP & BASE SLAB ANDS WALLS	----- M35
PCC CURTAIN WALL	----- M25
PCC	----- M10
CRASH BARRIER	----- M40
APPROACH SLAB	----- M30
RCC RETAINING WALL	----- M30
- 65mm THK. WEARING COURSE COMPRISING OF 40mm BITUMINOUS CONCRETE OVERLAID WITH 25mm THICK BITUMEN MASTIC LAYER SHALL BE PROVIDED IN CONFORMITY WITH SECTION 500 OF MORTH SPECIFICATIONS.
- BACK FILLING BEHIND ABUTMENTS SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX : 6 OF IRC : 78-2014 HAVING PROPERTIES C=0, 0-30° Y=20° & 4d = 20 kN/m².
- WEEP HOLES, SPACED @ 1000mm c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN STAGGERED MANNER IN SIDE WALL AS SHOWN.
- THE STRUCTURE IS TO BE DESIGNED AS PER SEVERE CONDITION OF EXPOSURE.
- CLEAR COVER FOR VARIOUS COMPONENTS WILL BE, FOR TOP SLAB OF BOX 40MM, WALL AND BASE SLAB OF BOX 50MM.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT APPROVED HIGHWAY DRAWINGS FOR STRUCTURE ORIENTATION, SKEW, FRL & CAMBER/SUPER ELEVATION ETC.
- 600mm THK. AND 300mm THK. FILTER MEDIA SHALL BE PROVIDED BEHIND BOX AND RETAINING WALL RESPECTIVELY AS PER IRC: 78
- FLOW DIRECTION SHOWN IN THE DRAWING SHOULD BE CHECKED BEFORE CONSTRUCTION. BED PROTECTION FOR UPSTREAM AND DOWN STREAM SHALL BE BASED ON THE FLOW DIRECTION IN SITE.
- STONE PITCHING AND FILTER MATERIAL UNDER STONE PITCHING SHALL BE AS PER MORTH SPECIFICATION SECTION 2500 AND IRC:89. WEIGHT OF SINGLE STONE SHOULD NOT BE LESS THAN 40KG.
- LOOSE AND UNSUITABLE MATERIAL BELOW BOX TO BE REPLACED BY GRANULAR MATERIAL AS PER SITE CONDITION.
- FOR SECTION MARKING AND DETAIL REFER SHEET 2 OF 2 OF THIS DRAWING.
- TABLE 1 IS VALID FOR GROUP 4 STRUCTURES.
- FOR LENGTH OF RETAINING WALL AND SECTIONS REFER SEPARATE DRAWINGS.

R0	US	AG	SG	15-APR-25	TENDER DRAWING
A	US	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN
Revision	By	Checked	Approved	Date	Description

CLIENT



National Industrial Corridor Development Corporation Limited
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NODAL AGENCY

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PACKAGE

DRAWING TITLE

GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 1 STRUCTURES (SHEET 1 OF 2)

DRAWN BY :	US	DATE :AUG 2022
CHECKED BY :	AG	DATE :AUG 2022
AUTHORIZED BY :	SG	DATE :AUG 2022

DRAWING NO.	REVISION
72301100-PAL-IMC-C-STR-WL-0005	R0

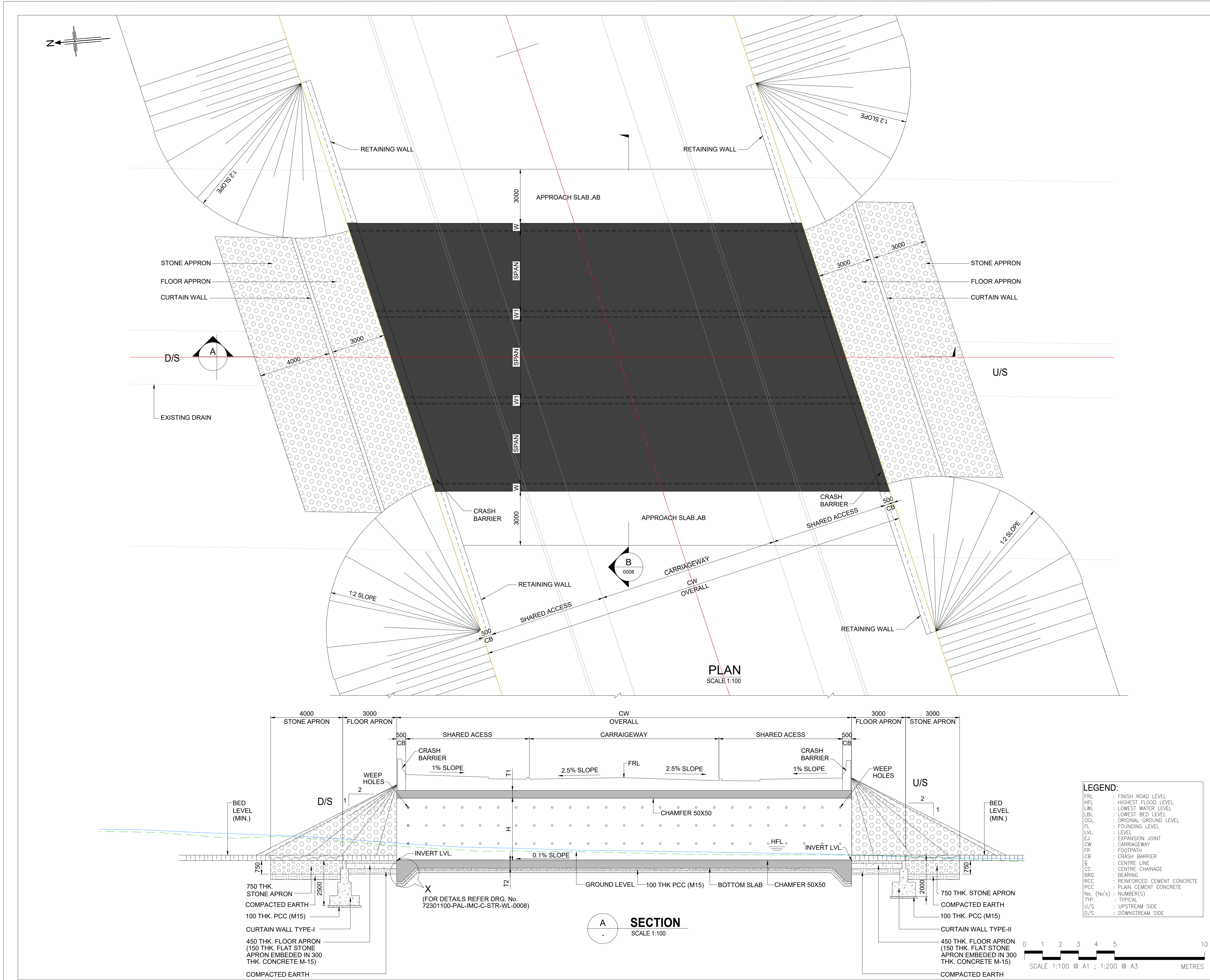
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PLOT SCALE : 1:1

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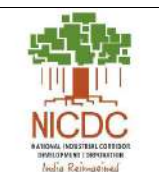


NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
- DIMENSIONS ARE NOT TO BE SCALED ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
- THE FOUNDATION HAS BEEN DESIGNED WITH A NET 2 SAFE BEARING CAPACITY 12.0 kN/m².
- GRADE OF STEEL SHALL BE Fe-500D (TMT BARS) CONFIRM TO IS-1786.
- FILLER TYPE EXP. JOINT SHALL BE IN ACCORDANCE TO THE SECTION 2605 OF THE MORTH SPECIFICATIONS FOR THE ROAD AND BRIDGE WORKS (FOURTH REVISION).
- GRADE OF CONCRETE FOR VARIOUS COMPONENTS ARE GIVEN BELOW.
TOP & BASE SLAB ANDS WALLS M35
PCC CURTAIN WALL M25
PCC M10
CRASH BARRIER M40
APPROACH SLAB M30
RCC RETAINING WALL M30
- 65mm THK. WEARING COURSE COMPRISING OF 40mm BITUMINOUS CONCRETE OVERLAID WITH 25mm THICK BITUMEN MASTIC LAYER SHALL BE PROVIDED IN CONFORMITY WITH SECTION 500 OF MORTH SPECIFICATIONS.
- BACK FILLING BEHIND ABUTMENTS SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX - 6 OF IRC - 78-2014 HAVING PROPERTIES C=0, Ø=30°, Y=20° & Sd = 20 KN/m².
- WEEP HOLES, SPACED @ 1000mm c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN STAGGERED MANNER IN SIDE WALL AS SHOWN.
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- STONE PITCHING AND FILTER MATERIAL UNDER STONE PITCHING SHALL BE AS PER MORTH SPECIFICATION SECTION 2500 AND IRC:89. WEIGHT OF SINGLE STONE SHOULD NOT BE LESS THAN 40KG.
- LOOSE AND UNSUITABLE MATERIAL BELOW BOX TO BE REPLACED BY GRANULAR MATERIAL AS PER SITE CONDITION.
- FOR SECTION MARKING AND DETAIL REFER SHEET 2 OF 2 OF THIS DRAWING.
- TABLE 1 IS VALID FOR GROUP 2 STRUCTURES.
- FOR LENGTH OF RETAINING WALL AND SECTIONS REFER SEPARATE DRAWINGS.

R0	SB	AG	SG	15-APR-25	TENDER DRAWING
A	SB	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN
Revision	By	Checked	Approved	Date	Description

CLIENT



National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION

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Trivandrum- 695 010

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PACKAGE

DRAWING TITLE

GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 2 STRUCTURES (SHEET 1 OF 2)

DRAWN BY :	SB	DATE :AUG 2022
CHECKED BY :	AG	DATE :AUG 2022
AUTHORIZED BY :	SG	DATE :AUG 2022
DRAWING NO.	72301100-PAL-IMC-C-STR-WL-0007	REVISION
		R0
DRAWING SCALE :	AS SHOWN	@A1
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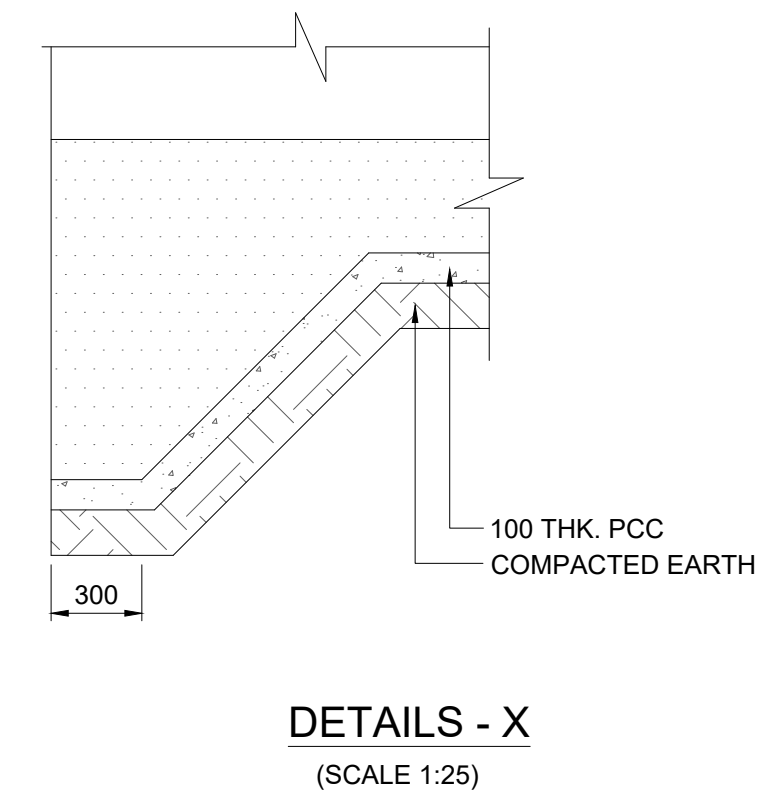
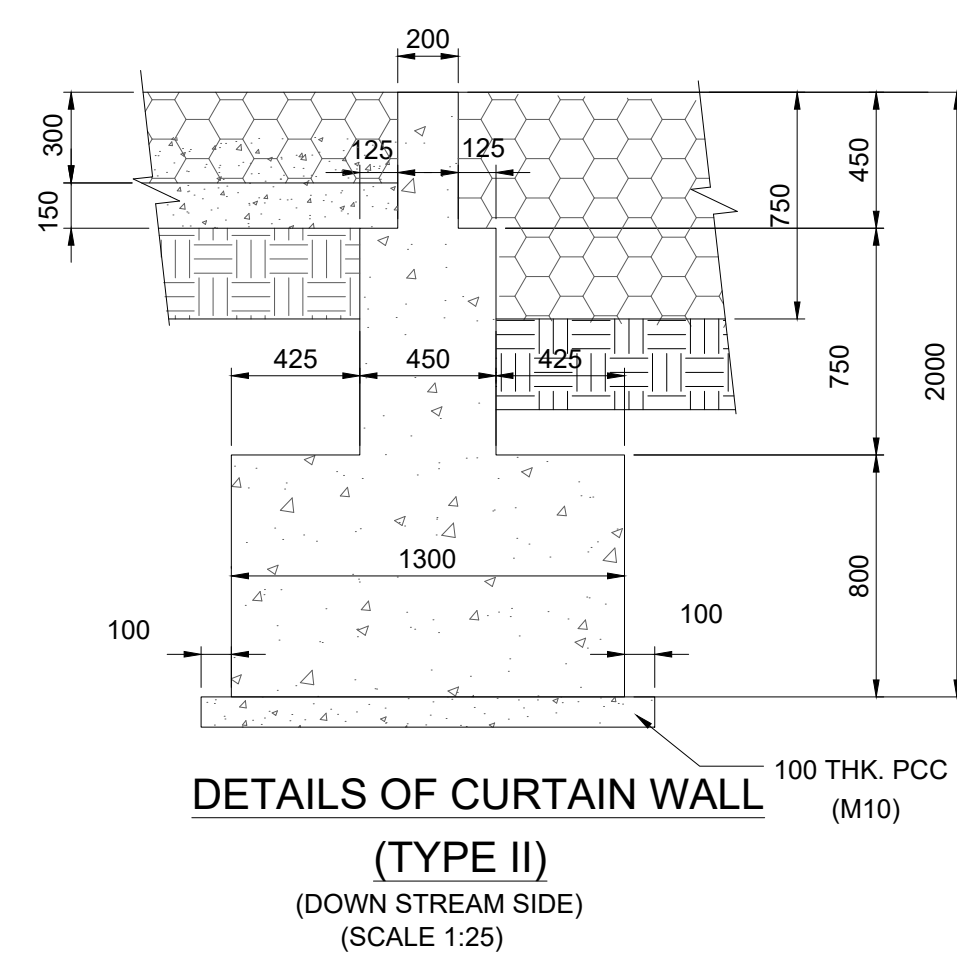
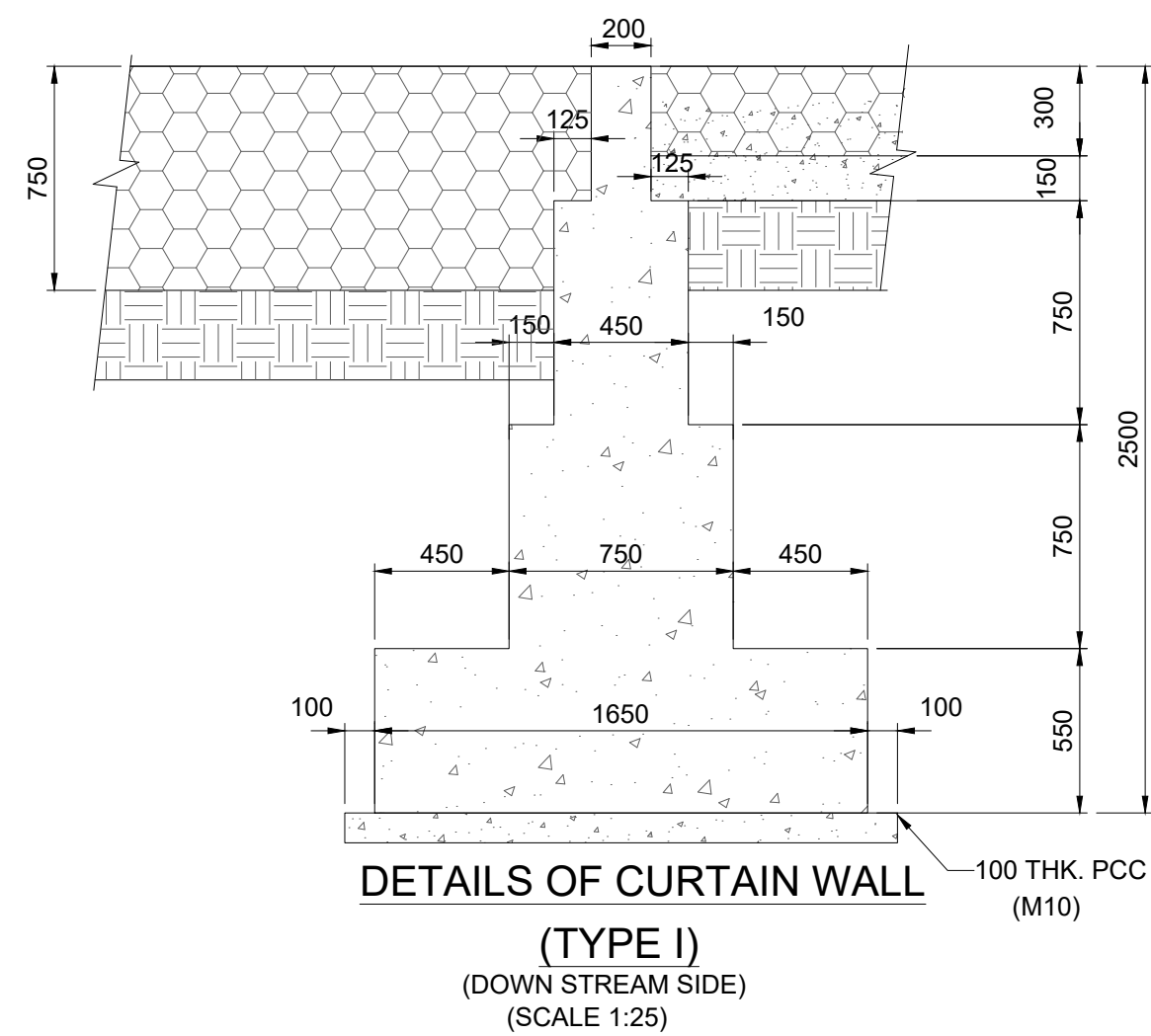
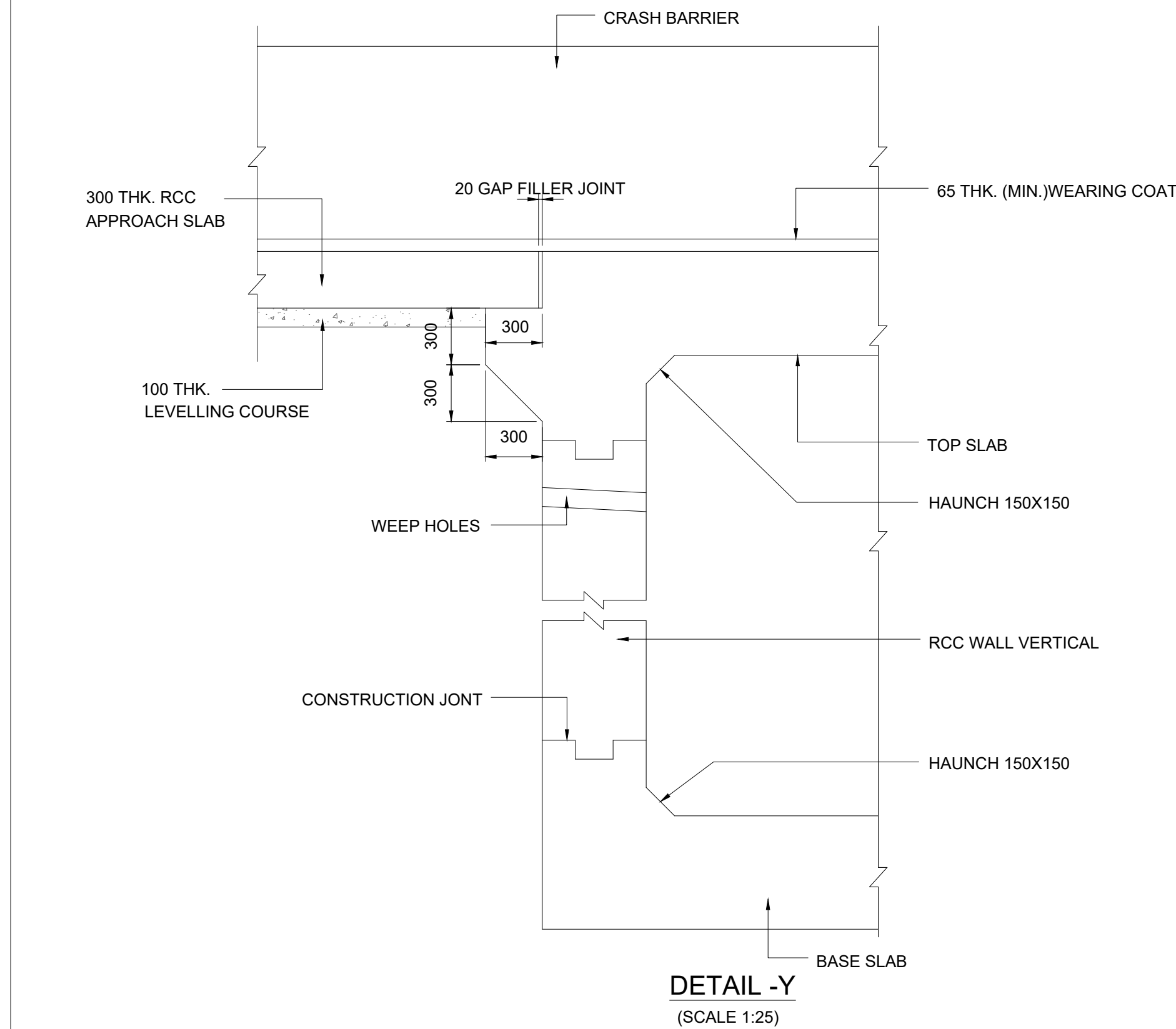
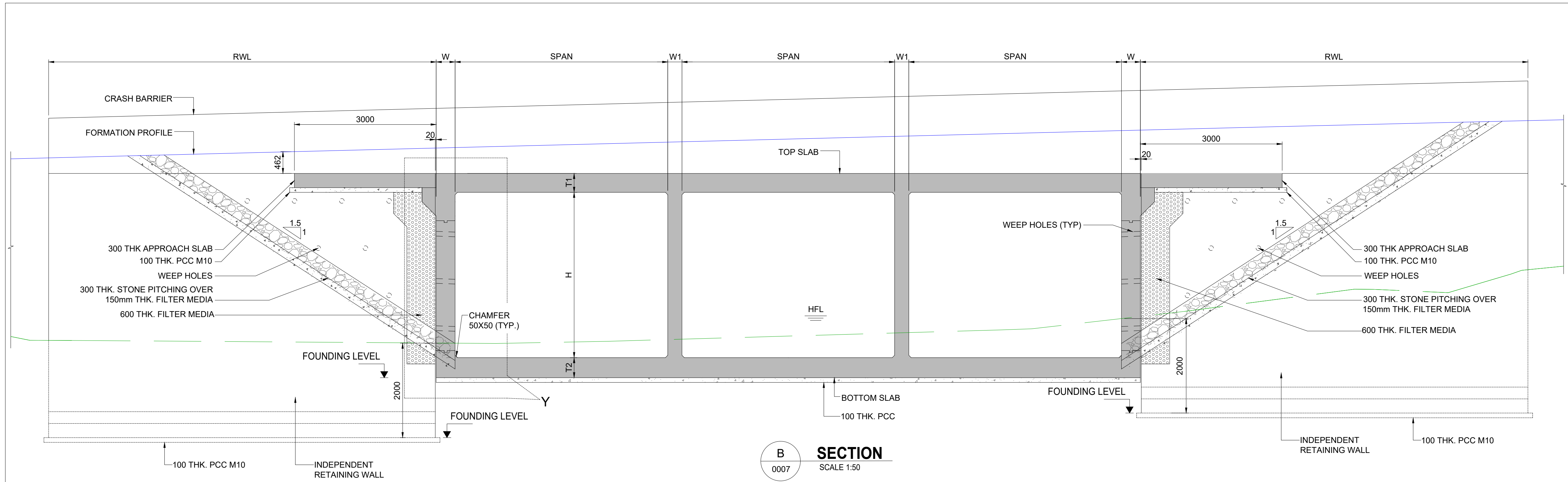
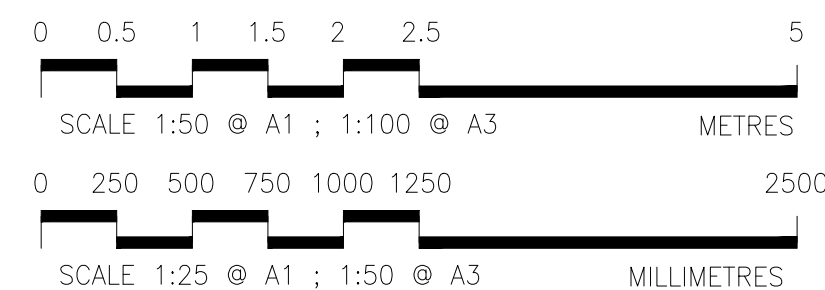


TABLE-1 SHOWING DETAILS OF GROUP 2 STRUCTURES

SL No.	ROAD	STRUCTURE NO.	DESIGN CHAINAGES	NO OF CELLS	CELL DIMENSIONS(m)		CARRIAGEWAY (CW)	ELEMENT DIMENSIONS(m)				EXISTING GROUND LEVEL (GL) (m)	FORMATION LEVEL (FRL) (m)	HIGHEST FLOOD LEVEL (HFL) (m)	FOUNDING LEVEL (FL) (m)
					CLEAR SPAN (SPAN)	CLEAR HEIGHT (H)		THK. OF OUTER WALL (W)	THK. OF INNER WALL (W1)	THK. OF TOP SLAB (T1)	THK. OF BOTTOM SLAB (T2)				
1	ML-24m ROW	2	2202.051	3	4.50	3.50	24.0	0.4	0.3	0.4	0.425	145.268	149.439	146.328	144.290
2	ROAD 3-18m ROW	10	1310.451	3	4.50	3.75	18.0	0.4	0.3	0.4	0.425	136.974	140.71	137.16	135.490
3	ROAD 11-18m ROW	15	293.964	3	4.50	3.50	18.0	0.4	0.3	0.4	0.425	134.411	138.811	135.024	133.570
4	ROAD 20-18m ROW	19	72.274	3	4.50	4.00	18.0	0.4	0.3	0.4	0.425	129.029	133.339	129.643	127.750



NOTES:

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- FOR SECTION MARKING AND DETAIL REFER SHEET 1 OF 2 OF THIS DRAWING

Revision	By	Checked	Approved	Date	Description
R0	SB	AG	SG	15-APR-25	TENDER DRAWING
A	SB	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN

CLIENT
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NODAL AGENCY
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PACKAGE
DRAWING TITLE

GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 2 STRUCTURES (SHEET 2 OF 2)

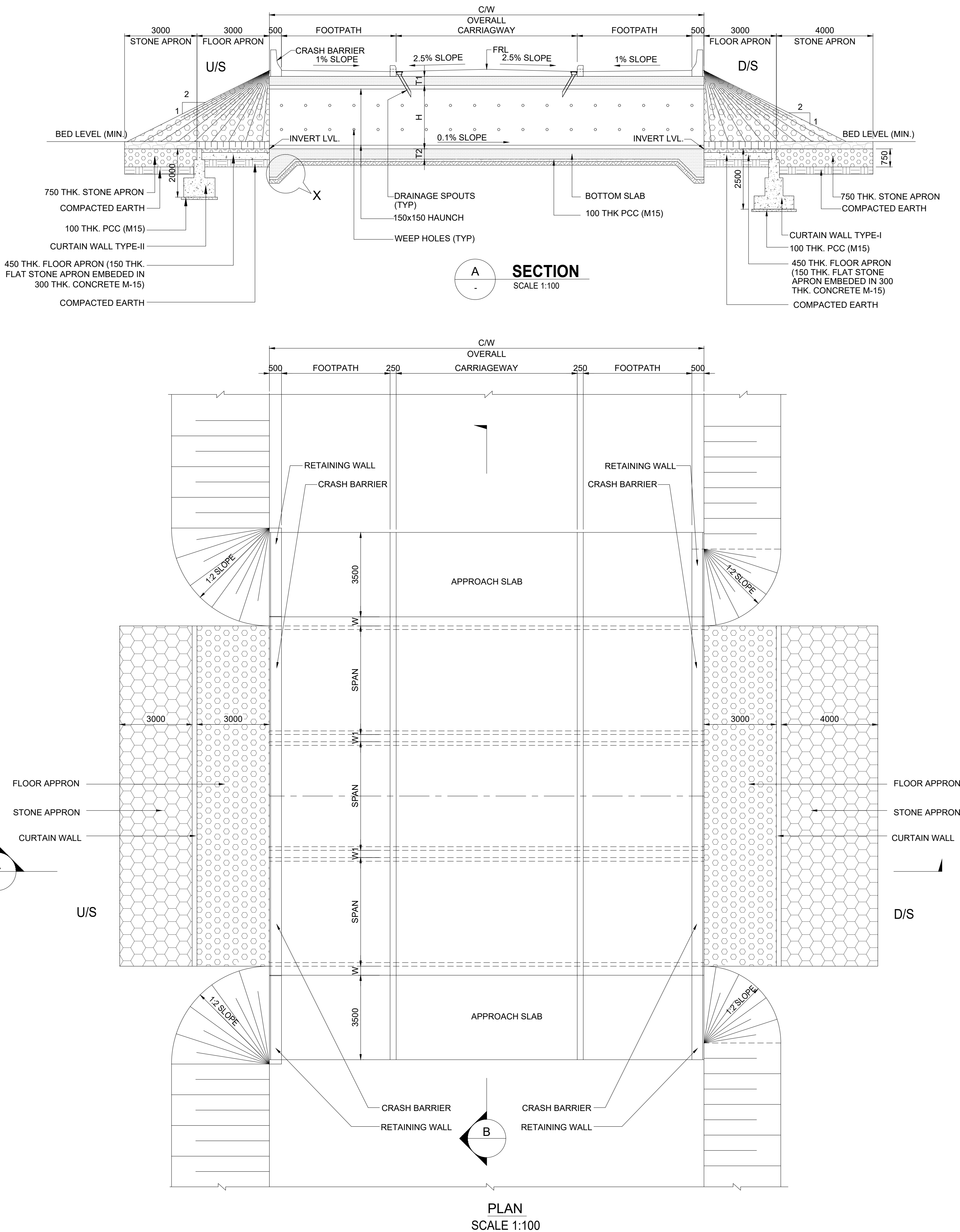
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CHECKED BY : AG	DATE :AUG 2022
AUTHORIZED BY : SG	DATE :AUG 2022
DRAWING NO. 72301100-PAL-IMC-C-STR-WL-0008	REVISION R0
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PLOT TIME:

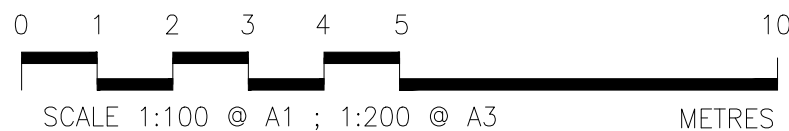
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FILENAME:

72301100
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LEGEND:	
FRL	: FINISH ROAD LEVEL
HFL	: HIGHEST FLOOD LEVEL
LWL	: LOWEST WATER LEVEL
LBL	: LOWEST BED LEVEL
OGL	: ORIGINAL GROUND LEVEL
FL	: FOUNDING LEVEL
LVL	: LEVEL
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CW	: CARRIAGEWAY
FP	: FOOTPATH
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RCC	: REINFORCED CEMENT CONCRETE
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No. (No's)	: NUMBER(S)
TYP.	: TYPICAL
U/S	: UPSTREAM SIDE
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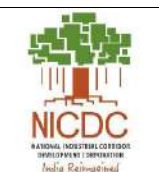
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- THE FOUNDATION HAS BEEN DESIGNED WITH A NET 2 SAFE BEARING CAPACITY 12.0 kN/m².
- GRADE OF STEEL SHALL BE Fe-500D (TMT BARS) CONFIRM TO IS-1786.
- FILLER TYPE EXP. JOINT SHALL BE IN ACCORDANCE TO THE SECTION 2605 OF THE MORTH SPECIFICATIONS FOR THE ROAD AND BRIDGE WORKS (FOURTH REVISION).
- GRADE OF CONCRETE FOR VARIOUS COMPONENTS ARE GIVEN BELOW.

TOP & BASE SLAB ANDS WALLS	-----	M35
PCC CURTAIN WALL	-----	M25
PCC	-----	M10
CRASH BARRIER	-----	M40
APPROACH SLAB	-----	M30
RCC RETAINING WALL	-----	M30
- 65mm THK. WEARING COURSE COMPRISING OF 40mm BITUMINOUS CONCRETE OVERLAID WITH 25mm THICK BITUMEN MASTIC LAYER SHALL BE PROVIDED IN CONFORMITY WITH SECTION 500 OF MORTH SPECIFICATIONS.
- BACK FILLING BEHIND ABUTMENTS SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX - 6 OF IRC - 78-2014 HAVING PROPERTIES C=0, Ø=30°, Y=20° & Sd = 20 kN/m².
- WEEP HOLES, SPACED @ 1000mm c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN STAGGERED MANNER IN SIDE WALL AS SHOWN.
- THE STRUCTURE IS TO BE DESIGNED AS PER SEVERE CONDITION OF EXPOSURE.
- CLEAR COVER FOR VARIOUS COMPONENTS WILL BE, FOR TOP SLAB OF BOX 40MM, WALL AND BASE SLAB OF BOX 50MM.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT APPROVED HIGHWAY DRAWINGS FOR STRUCTURE ORIENTATION, SKEW, FRL & CAMBER/SUPER ELEVATION ETC.
- 600mm THK. AND 300mm THK. FILTER MEDIA SHALL BE PROVIDED BEHIND BOX AND RETAINING WALL RESPECTIVELY AS PER IRC- 78
- FLOW DIRECTION SHOWN IN THE DRAWING SHOULD BE CHECKED BEFORE CONSTRUCTION. BED PROTECTION FOR UPSTREAM AND DOWN STREAM SHALL BE BASED ON THE FLOW DIRECTION IN SITE.
- STONE PITCHING AND FILTER MATERIAL UNDER STONE PITCHING SHALL BE AS PER MORTH SPECIFICATION SECTION 2500 AND IRC-89. WEIGHT OF SINGLE STONE SHOULD NOT BE LESS THAN 40KG.
- LOOSE AND UNSUITABLE MATERIAL BELOW BOX TO BE REPLACED BY GRANULAR MATERIAL AS PER SITE CONDITION.
- FOR SECTION MARKING AND DETAIL REFER SHEET 2 OF 2 OF THIS DRAWING.
- TABLE 1 IS VALID FOR GROUP 3 STRUCTURES.
- FOR LENGTH OF RETAINING WALL AND SECTIONS REFER SEPARATE DRAWINGS.

R0	US	AG	SG	15-APR-25	TENDER DRAWING
A	US	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN
Revision	By	Checked	Approved	Date	Description

CLIENT



National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building, Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION

Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

CONSULTANT

JACOBS

CH2M HILL INDIA PVT. LTD.

PROJECT

PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

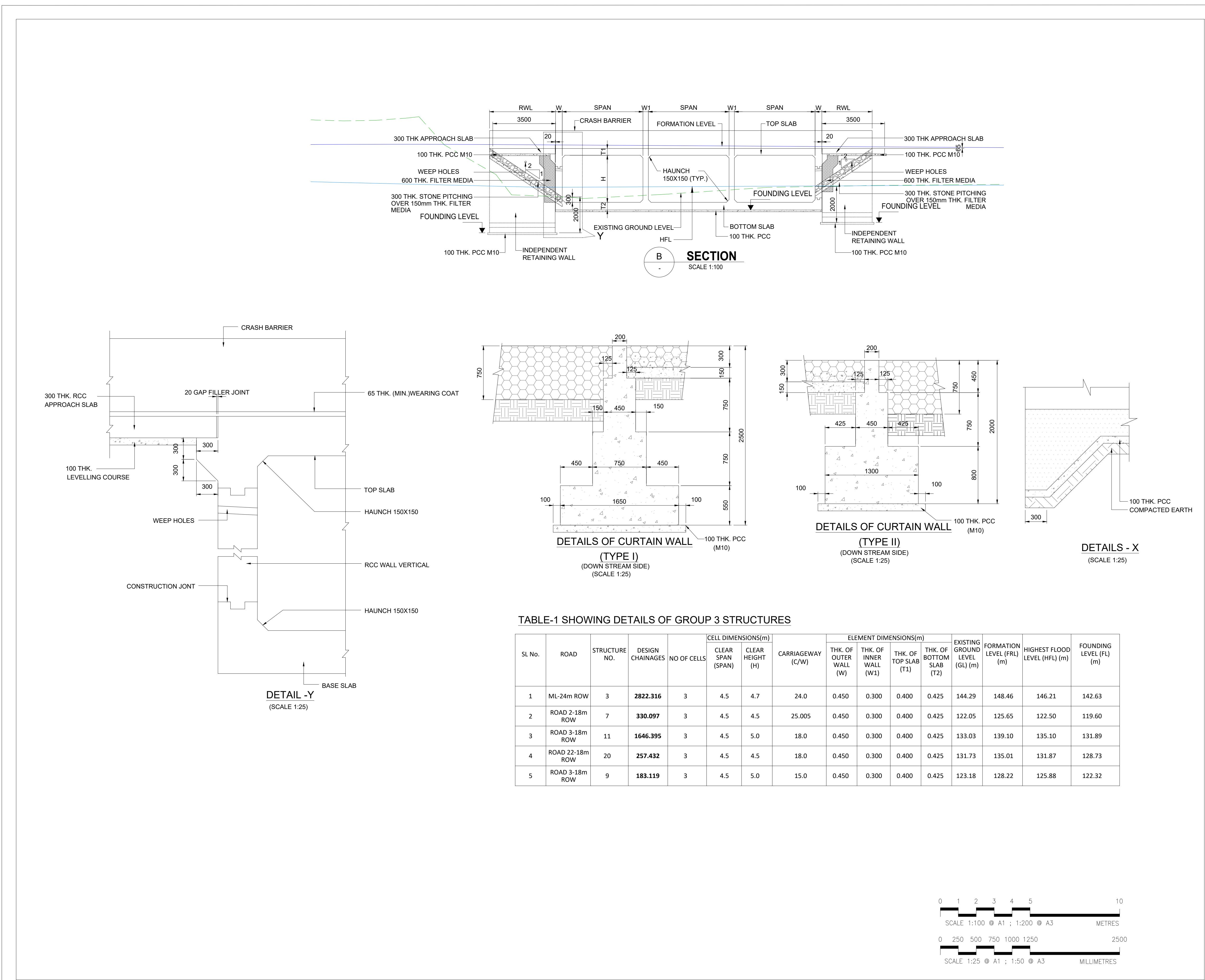
GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 3 STRUCTURES (SHEET 1 OF 2)

DRAWN BY :	US	DATE :AUG 2022
CHECKED BY :	AG	DATE :AUG 2022
AUTHORIZED BY :	SG	DATE :AUG 2022

DRAWING NO.	REVISION
72301100-PAL-IMC-C-STR-WL-0009	R0

DRAWING SCALE : AS SHOWN @A1

FILENAME : 72301100-PAL-IMC-C-STR-WL-0009.dwg PLOT SCALE : 1:1

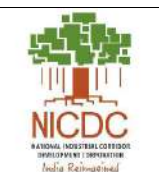


NOTES:

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METERS UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
2. FOR SECTION MARKING AND DETAIL REFER SHEET 1 OF 2 OF THIS DRAWING.

R0	US	AG	SG	15-APR-25	TENDER DRAWING
A	US	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN
Revision	By	Checked	Approved	Date	Description

CLIENT



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NODAL AGENCY

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PACKAGE

DRAWING TITLE

GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 3 STRUCTURES (SHEET 2 OF 2)

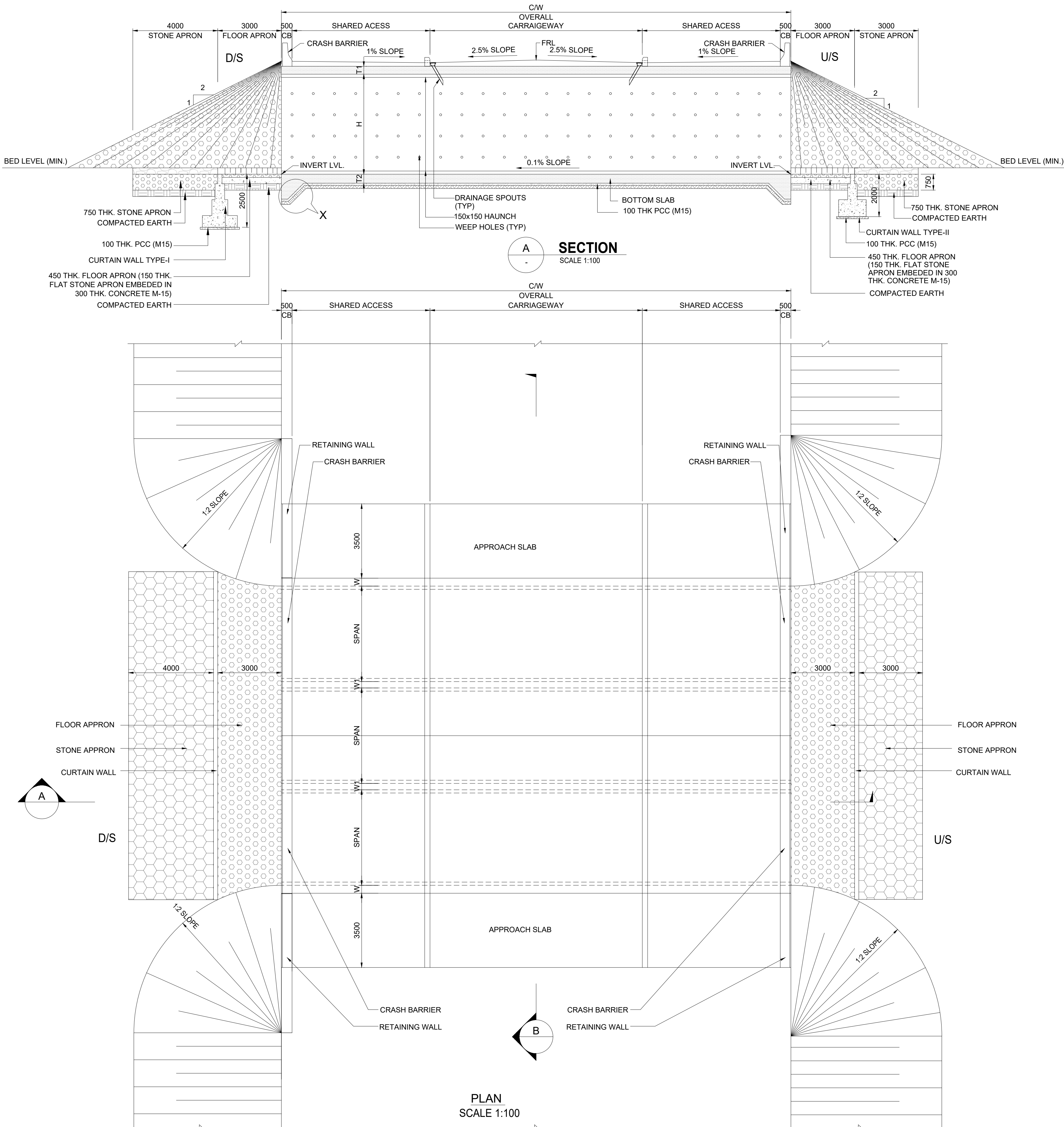
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CHECKED BY :	AG	DATE :AUG 2022
AUTHORIZED BY :	SG	DATE :AUG 2022

DRAWING NO.	REVISION
72301100-PAL-IMC-C-STR-WL-0010	R0

DRAWING SCALE : AS SHOWN @A1

FILENAME : 72301100-PAL-IMC-C-STR-WL-0010.dwg PLOT SCALE : 1:1

FILENAME: 72301100
PLOT DATE: 15-APR-25
PLOT TIME: 10:10 AM



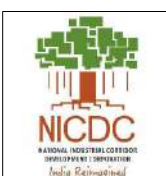
NOTES:

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- GRADE OF STEEL SHALL BE Fe-500D (TMT BARS) CONFIRM TO IS-1786.
- FILLER TYPE EXP. JOINT SHALL BE IN ACCORDANCE TO THE SECTION 2605 OF THE MORTH SPECIFICATIONS FOR THE ROAD AND BRIDGE WORKS (FOURTH REVISION).
- GRADE OF CONCRETE FOR VARIOUS COMPONENTS ARE GIVEN BELOW.

TOP & BASE SLAB ANDS WALLS	-----	M35
PCC CURTAIN WALL	-----	M25
PCC	-----	M10
CRASH BARRIER	-----	M40
APPROACH SLAB	-----	M30
RCC RETAINING WALL	-----	M30
- 65mm THK. WEARING COURSE COMPRISING OF 40mm BITUMINOUS CONCRETE OVERLAID WITH 25mm THICK BITUMEN MASTIC LAYER SHALL BE PROVIDED IN CONFORMITY WITH SECTION 500 OF MORTH SPECIFICATIONS.
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- THE STRUCTURE IS TO BE DESIGNED AS PER SEVERE CONDITION OF EXPOSURE.
- CLEAR COVER FOR VARIOUS COMPONENTS WILL BE, FOR TOP SLAB OF BOX 40MM, WALL AND BASE SLAB OF BOX 50MM.
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R0	US	AG	SG	15-APR-25	TENDER DRAWING
A	US	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN
Revision	By	Checked	Approved	Date	Description

CLIENT



**National Industrial Corridor
Development Corporation Limited**
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NODAL AGENCY

**KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION**

Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

Jacobs

CH2M HILL INDIA PVT. LTD.

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PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

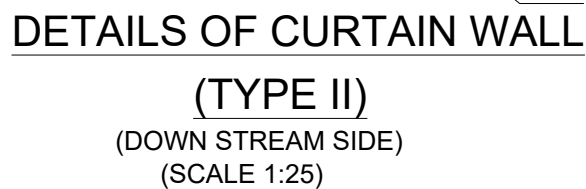
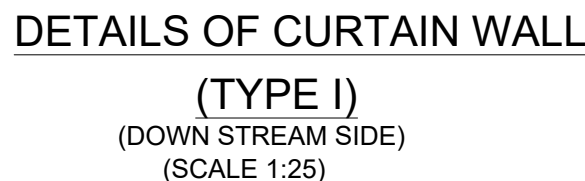
GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 4 STRUCTURES (SHEET 1 OF 2)

DRAWN BY :	US	DATE :AUG 2022
CHECKED BY :	AG	DATE :AUG 2022
AUTHORIZED BY :	SG	DATE :AUG 2022

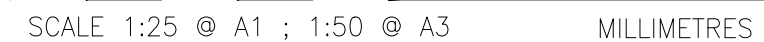
DRAWING NO.	REVISION
72301100-PAL-IMC-C-STR-WL-0011	R0

DRAWING SCALE : AS SHOWN @A1

FILENAME : 72301100-PAL-IMC-C-STR-WL-0011.dwg PLOT SCALE : 1:1



SL No.	ROAD	STRUCTURE NO.	DESIGN CHAINAGES	NO OF CELLS	CELL DIMENSIONS(m)		CARRIAGEWAY (C/W)	ELEMENT DIMENSIONS(m)				EXISTING GROUND LEVEL (GL) (m)	FORMATION LEVEL (FRL) (m)	HIGHEST FLOOD LEVEL (HFL) (m)	FOUNDING LEVEL (FL) (m)
					CLEAR SPAN (SPAN)	CLEAR HEIGHT (H)		THK. OF OUTER WALL (W)	THK. OF INNER WALL (W1)	THK. OF TOP SLAB (T1)	THK. OF BOTTOM SLAB (T2)				
1	ML-24m ROW	4	3532.556	3	4.5	3.0	24.0	0.400	0.300	0.400	0.425	141.39	145.11	142.21	140.53
2	ML-24m ROW	5	4885.656	3	4.5	3.0	24.0	0.400	0.300	0.400	0.425	135.65	138.57	135.86	134.19
3	ROAD 8-18m ROW	14	272.927	3	4.5	2.4	18.0	0.400	0.300	0.400	0.425	129.29	131.97	129.56	128.45
4	ROAD 14-18m ROW	17	154.909	3	4.5	2.628	18.0	0.400	0.300	0.400	0.425	150.02	152.64	150.36	148.96
5	ROAD 8-15m ROW	23	267.310	3	4.5	3.0	15.0	0.400	0.300	0.400	0.425	120.79	124.32	121.36	119.97
6	ROAD 9-15m ROW	24	200.706	3	4.5	2.8	15.0	0.400	0.300	0.400	0.425	127.89	131.06	127.88	126.80
7	ROAD 11-15m ROW	27	91.833	3	4.5	2.8	15.0	0.400	0.300	0.400	0.425	127.06	129.20	128.06	125.31



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2. DIMENSIONS ARE NOT TO BE SCALED ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
3. FOR SECTION MARKING AND DETAIL REFER SHEET 1 OF 2 OF THIS DRAWING

Revision	By	Checked	Approved	Date	Description
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NICDC
NATIONAL INSTITUTE FOR
DIAGNOSTIC CENTRAL
DISEASE CONTROL

KERALA INDUSTRIAL INFRASTRUCTURE
DEVELOPMENT CORPORATION

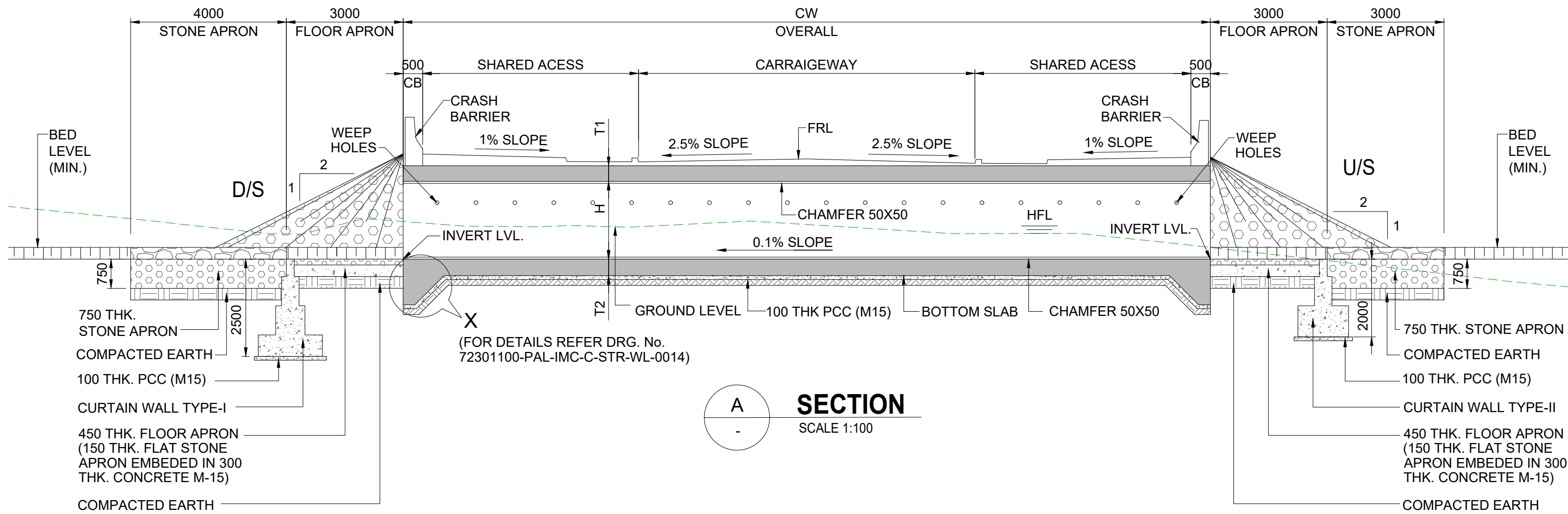
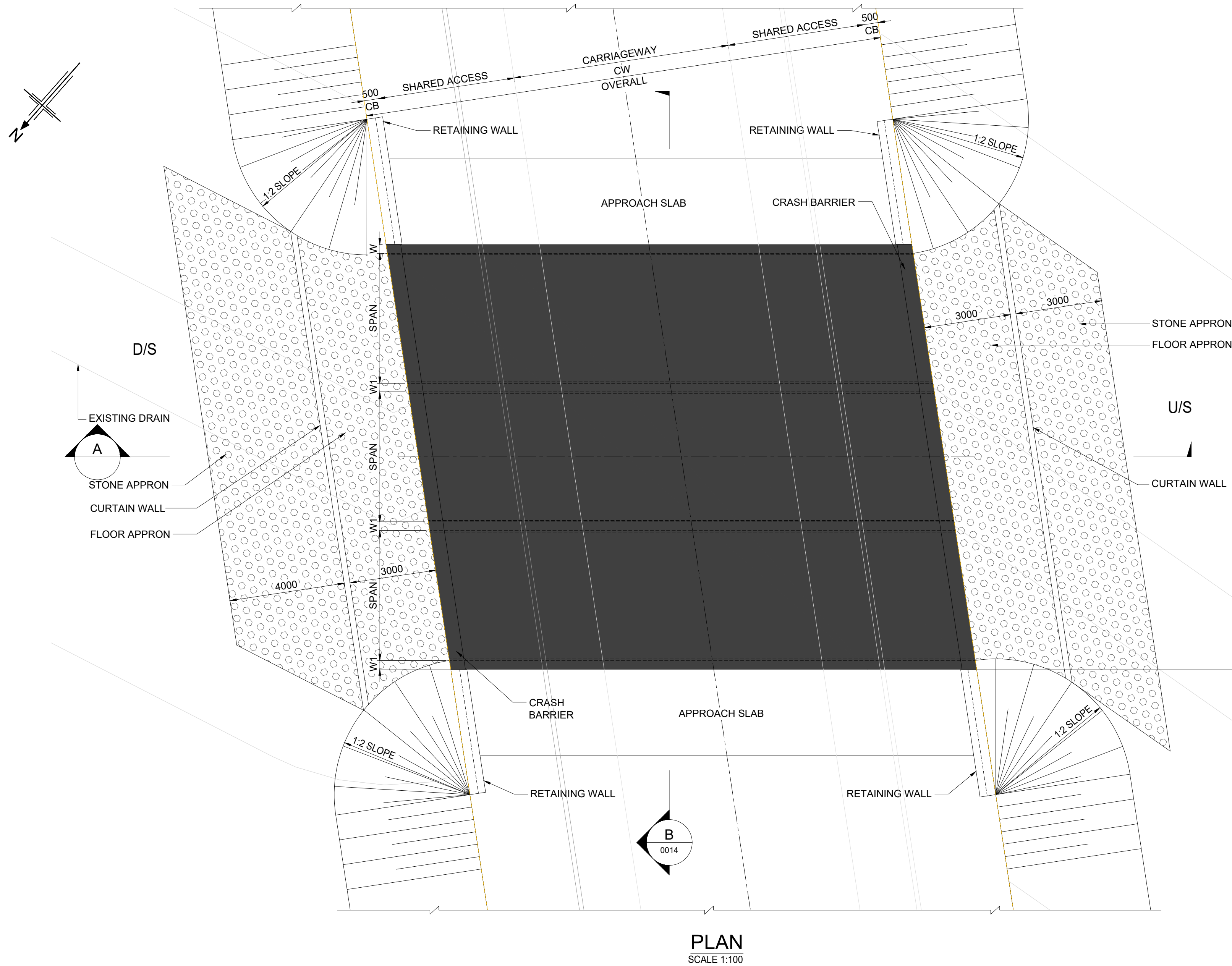
Jacobs

PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY
DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT
PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER
EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

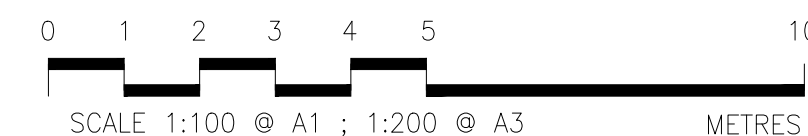
DRAWING TITLE

FILENAME: 72301100-PAL-IMC-C-STR-WL-0013.dwg PLOT DATE: 15-APR-25 TENDER DRAWING PLOT TIME: 15-APR-25 TENDER DRAWING

72301100
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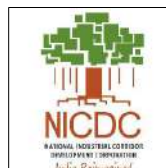
LEGEND:	
FRL	: FINISH ROAD LEVEL
HFL	: HIGHEST FLOOD LEVEL
LWL	: LOWEST WATER LEVEL
LBL	: LOWEST BED LEVEL
OGL	: ORIGINAL GROUND LEVEL
FL	: FLOODING LEVEL
LVL	: LEVEL
EJ	: EXPANSION JOINT
CW	: CARRIAGEWAY
FP	: FOOTPATH
CB	: CRASH BARRIER
CC	: CENTRE CHAINAGE
BRG	: BEARING
RCC	: REINFORCED CEMENT CONCRETE
PCC	: PLAIN CEMENT CONCRETE
No. (No's)	: NUMBER(S)
TYP	: TYPICAL
U/S	: UPSTREAM SIDE
D/S	: DOWNSTREAM SIDE



- NOTES:**
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TOP & BASE SLAB ANDS WALLS	----- M35
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 - FOR LENGTH OF RETAINING WALL AND SECTIONS REFER SEPARATE DRAWINGS.

Revision	By	Checked	Approved	Date	Description
R0	SB	AG	SG	15-APR-25	TENDER DRAWING
A	SB	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN

CLIENT
 National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building, Connaught Place, New Delhi - 110001

NODAL AGENCY
KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

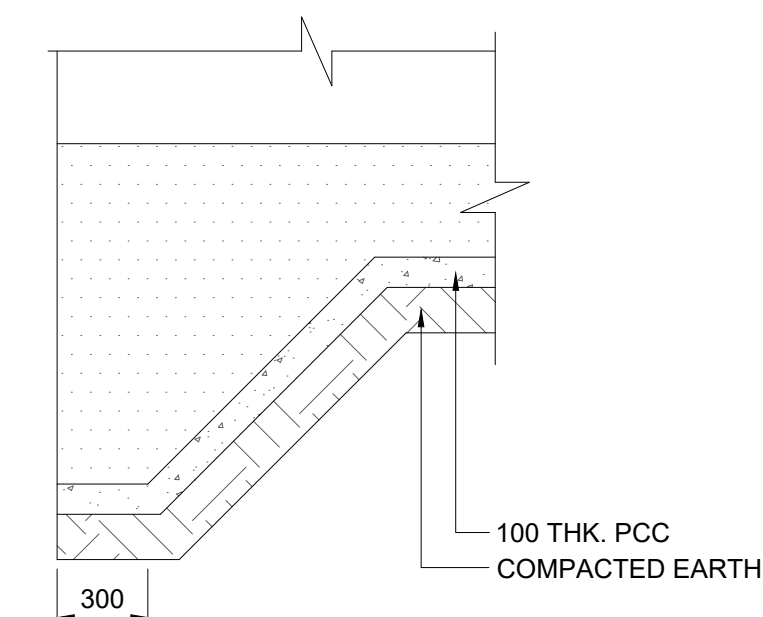
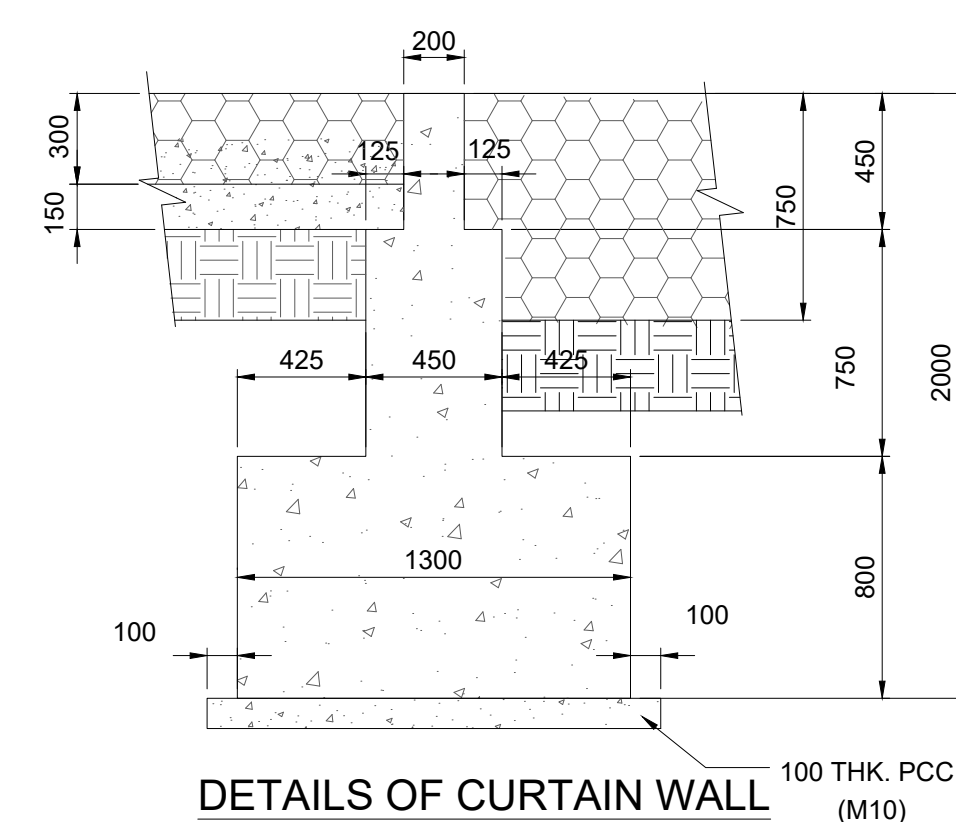
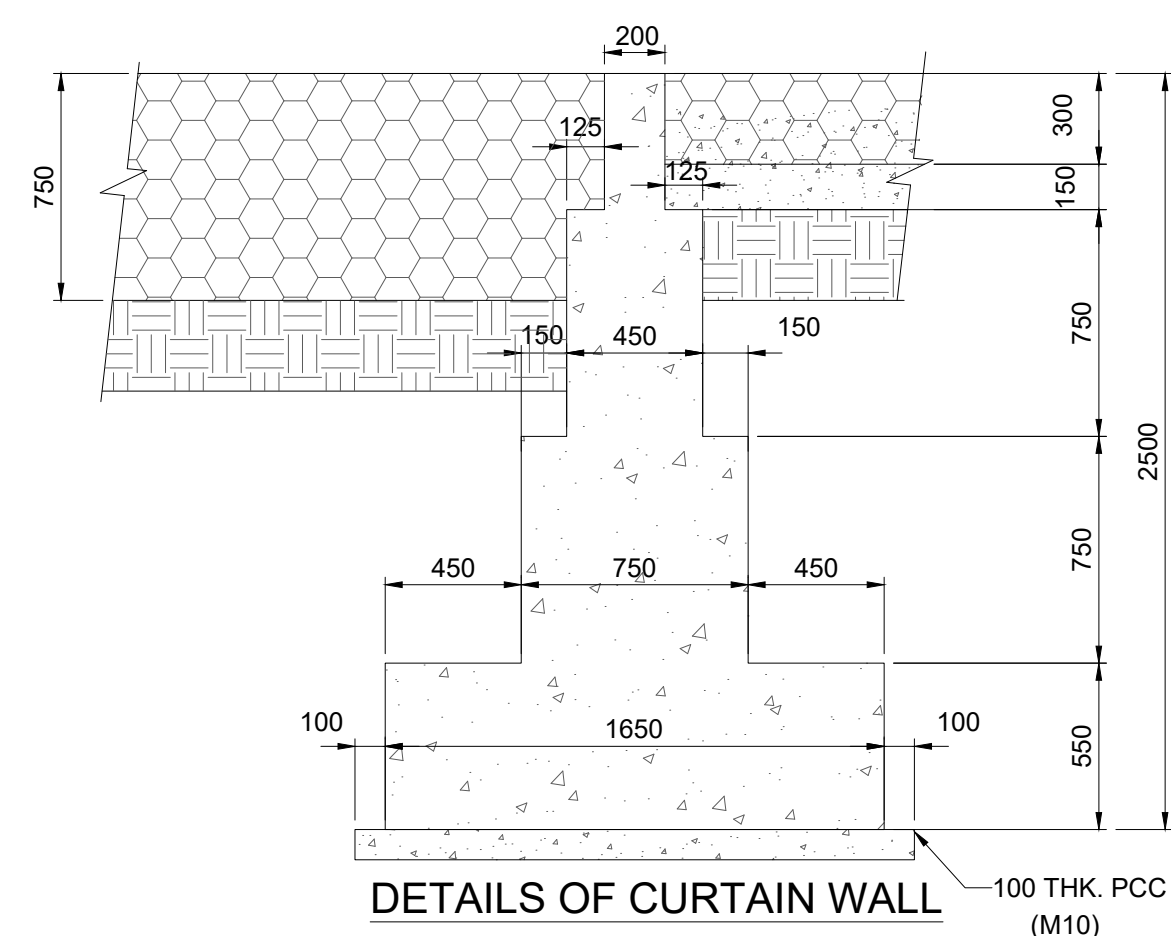
CONSULTANT
 CH2M HILL INDIA PVT. LTD.

PROJECT
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PACKAGE
DRAWING TITLE

GENERAL LAYOUT OF BOX CULVERT
BOX CULVERT FOR GROUP 5 STRUCTURES
(SHEET 1 OF 2)

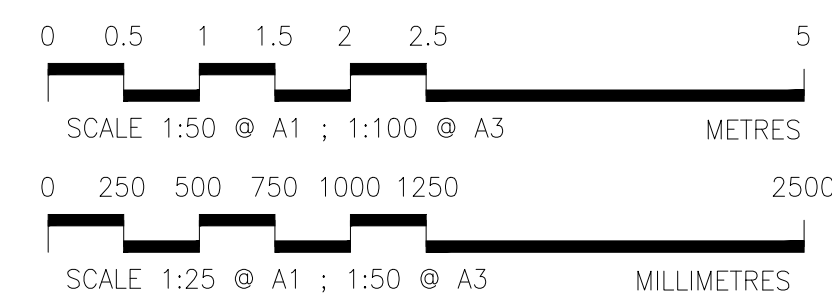
DRAWN BY :	SB	DATE :AUG 2022
CHECKED BY :	AG	DATE :AUG 2022
AUTHORIZED BY :	SG	DATE :AUG 2022
DRAWING NO.	72301100-PAL-IMC-C-STR-WL-0013	REVISION
		R0
DRAWING SCALE :	AS SHOWN	@A1
FILENAME :	72301100-PAL-IMC-C-STR-WL-0013.dwg	PLOT SCALE : 1:1



(TYPE II)
(DOWN STREAM SIDE)
(SCALE 1:25)

DETAILS - X
(SCALE 1:25)

SL No.	ROAD	STRUCTURE NO.	DESIGN CHAINAGES	NO OF CELLS	CELL DIMENSIONS(m)		CARRIAGEWAY (CW)	ELEMENT DIMENSIONS(m)				EXISTING GROUND LEVEL (GL) (m)	FORMATION LEVEL (FRL) (m)	HIGHEST FLOOD LEVEL (HFL) (m)	FOUNDING LEVEL (FL) (m)
					CLEAR SPAN (SPAN)	CLEAR HEIGHT (H)		THK. OF OUTER WALL (W)	THK. OF INNER WALL (W1)	THK. OF TOP SLAB (T1)	THK. OF BOTTOM SLAB (T2)				
1	ROAD 1-18m ROW	6	1128.356	3	4.50	2.00	18.00	0.3	0.3	0.4	0.425	130.69	132.53	130.80	129.80
2	ROAD 3-18m ROW	12	2302.710	3	4.50	1.80	18.00	0.3	0.3	0.4	0.425	137.18	139.17	137.73	136.10
3	ROAD 11-18m ROW	16	697.984	3	4.50	2.00	18.00	0.3	0.3	0.4	0.425	137.28	138.94	137.20	135.74
4	ROAD 18-18m ROW	18	64.861	3	4.50	1.40	26.702	0.3	0.3	0.4	0.425	137.92	139.48	138.47	136.90
5	ROAD 3-15m ROW	21	216.551	3	4.50	1.65	15.00	0.3	0.3	0.4	0.425	138.35	140.30	138.07	137.35
6	ROAD 7-15m ROW	22	391.321	3	4.50	1.95	15.00	0.3	0.3	0.4	0.425	134.08	133.96	134.20	132.83



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R0	RS	NV	SG	15-APR-25	TENDER DRAWING
A	RS	NV	SG	AUG 2022	DRAFT PRELIMINARY DESIGN
Revision	By	Checked	Approved	Date	Description



NICDC
NATIONAL INSTITUTE OF
DIETETICS & COMMUNITY
DIETITIAN

**National Industrial Corridor
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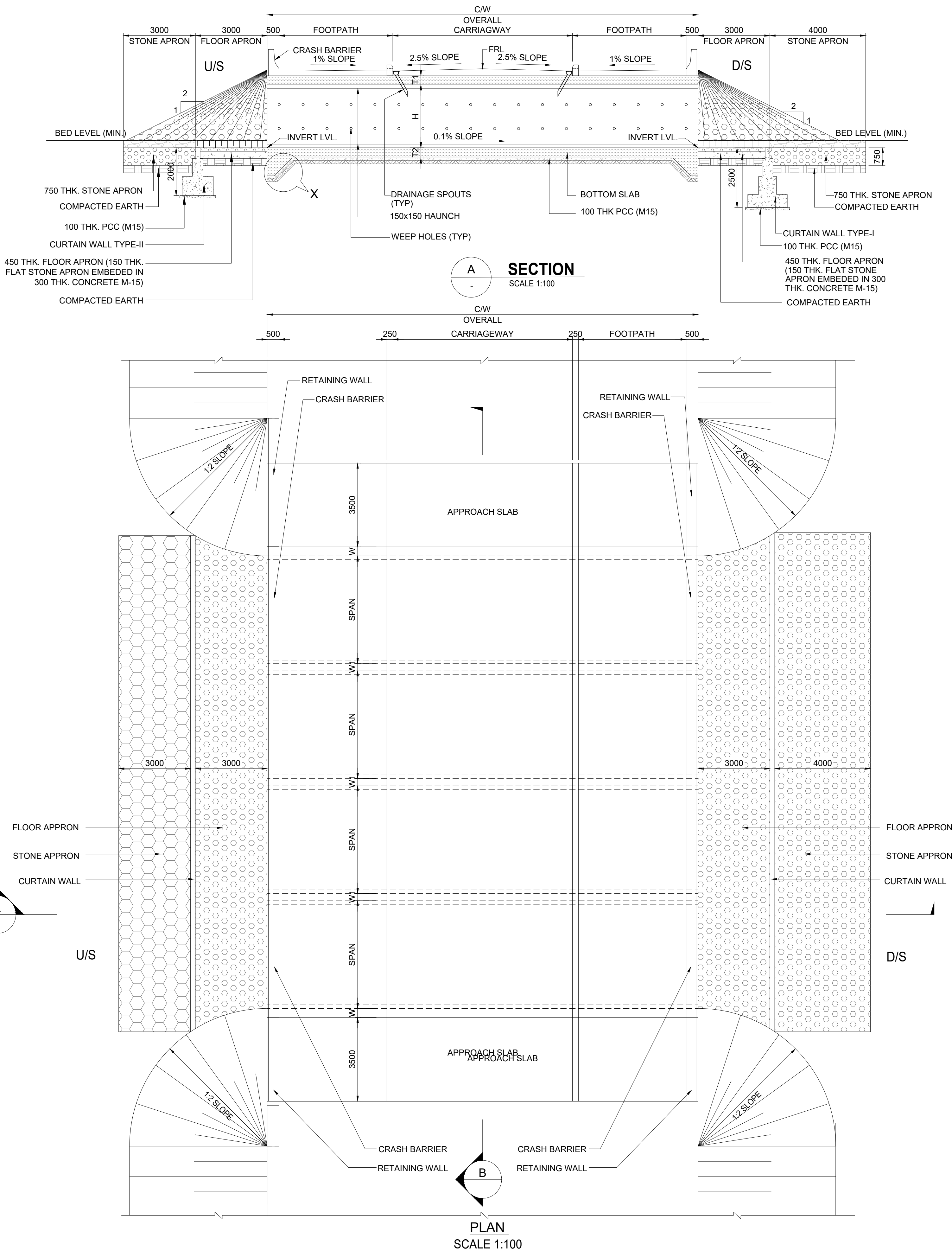
DRAWING TITLE

GENERAL LAYOUT OF BOX CULVERT
BOX CULVERT FOR GROUP 5 STRUCTURES
(SHEET 2 OF 2)

DRAWN BY : SB		DATE :AUG 2022
CHECKED BY : AG		DATE :AUG 2022
AUTHORIZED BY : SG		DATE :AUG 2022
DRAWING NO. 72301100-PAL-IMC-C-STR-WL-0014		REVISION R0
DRAWING SCALE : AS SHOWN		@A
FILENAME : 72301100-PAL-IMC-C-STR-WL-0014.dwg		PLOT SCALE : 1:1

FILENAME: 72301100-PAL-IMC-C-STR-WL-0015.dwg PLOT DATE: 15-APR-25 TENDER DRAWING PLOT TIME: 10:00 AM

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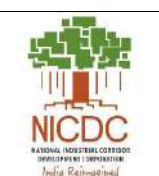
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PCC	-----	M10
CRASH BARRIER	-----	M40
APPROACH SLAB	-----	M30
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- THE STRUCTURE IS TO BE DESIGNED AS PER SEVERE CONDITION OF EXPOSURE.
- CLEAR COVER FOR VARIOUS COMPONENTS WILL BE, FOR TOP SLAB OF BOX 40MM, WALL AND BASE SLAB OF BOX 50MM.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT APPROVED HIGHWAY DRAWINGS FOR STRUCTURE ORIENTATION, SKEW, FRL & CAMBER/SUPER ELEVATION ETC.
- 600mm THK. AND 300mm THK. FILTER MEDIA SHALL BE PROVIDED BEHIND BOX AND RETAINING WALL RESPECTIVELY AS PER IRC: 78.
- FLOW DIRECTION SHOWN IN THE DRAWING SHOULD BE CHECKED BEFORE CONSTRUCTION. BED PROTECTION FOR UPSTREAM AND DOWN STREAM SHALL BE BASED ON THE FLOW DIRECTION IN SITE.
- STONE PITCHING AND FILTER MATERIAL UNDER STONE PITCHING SHALL BE AS PER MORTH SPECIFICATION SECTION 2500 AND IRC:89. WEIGHT OF SINGLE STONE SHOULD NOT BE LESS THAN 40KG.
- LOOSE AND UNSUITABLE MATERIAL BELOW BOX TO BE REPLACED BY GRANULAR MATERIAL AS PER SITE CONDITION.
- FOR SECTION MARKING AND DETAIL REFER SHEET 2 OF 2 OF THIS DRAWING.
- TABLE 1 IS VALID FOR GROUP 6 STRUCTURES.
- FOR LENGTH OF RETAINING WALL AND SECTIONS REFER SEPARATE DRAWINGS.

R0	US	AG	SG	15-APR-25	TENDER DRAWING
A	US	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN
Revision	By	Checked	Approved	Date	Description

CLIENT



National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building,
Connaught Place, New Delhi - 110001

NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION

Kinfra House, 31/2312, Sasthamangalam,
Trivandrum- 695 010

CONSULTANT

JACOBS

CH2M HILL INDIA PVT. LTD.

PROJECT

PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 6 STRUCTURES (SHEET 1 OF 2)

DRAWN BY :	US	DATE :AUG 2022
CHECKED BY :	AG	DATE :AUG 2022
AUTHORIZED BY :	SG	DATE :AUG 2022

DRAWING NO.	REVISION
72301100-PAL-IMC-C-STR-WL-0015	R0

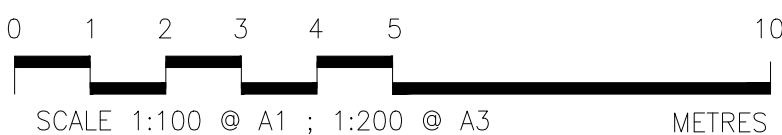
DRAWING SCALE : AS SHOWN

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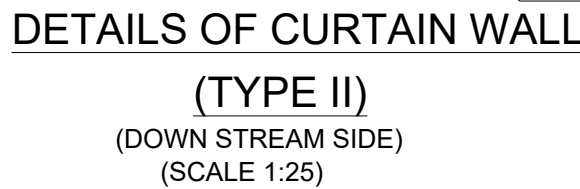
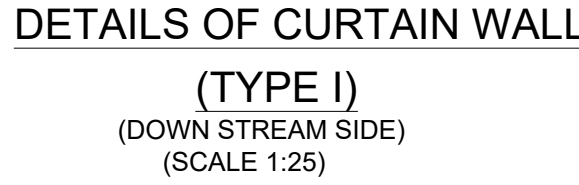
PLOT SCALE : 1:1

LEGEND:	
FRL	: FINISH ROAD LEVEL
HFL	: HIGHEST FLOOD LEVEL
LWL	: LOWEST WATER LEVEL
LBL	: LOWEST BED LEVEL
OGL	: ORIGINAL GROUND LEVEL
FL	: FOUNDING LEVEL
LVL	: LEVEL
EJ	: EXPANSION JOINT
CW	: CARRIAGEWAY
FP	: FOOTPATH
CB	: CRASH BARRIER
C	: CENTRE LINE
CC	: CENTRE CHAINAGE
BRG	: BEARING
RCC	: REINFORCED CEMENT CONCRETE
PCC	: PLAIN CEMENT CONCRETE
No. (No's)	: NUMBER(S)
TYP.	: TYPICAL
U/S	: UPSTREAM SIDE
D/S	: DOWNSTREAM SIDE



1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METERS UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.

2. FOR SECTION MARKING AND DETAIL REFER SHEET 1 OF 2 OF THIS DRAWING.



SL No.	ROAD	STRUCTURE NO.	DESIGN CHAINAGES	NO OF CELLS	CELL DIMENSIONS(m)		CARRIAGEWAY (C/W)	ELEMENT DIMENSIONS(m)				EXISTING GROUND LEVEL (GL) (m)	FORMATION LEVEL (FRL) (m)	HIGHEST FLOOD LEVEL (HFL) (m)	FOUNDING LEVEL (FL) (m)
					CLEAR SPAN (SPAN)	CLEAR HEIGHT (H)		THK. OF OUTER WALL (W)	THK. OF INNER WALL (W1)	THK. OF TOP SLAB (T1)	THK. OF BOTTOM SLAB (T2)				
1	ROAD 5-18m ROW	13	59.706	4	4.5	2.4	18.0	0.300	0.300	0.400	0.425	124.89	127.76	125.18	124.06
2	ROAD 10-15m ROW	26	1470.000	4	8.125	3.050	15.0	0.500	0.350	0.700	0.725	143.03	145.70	143.79	141.93


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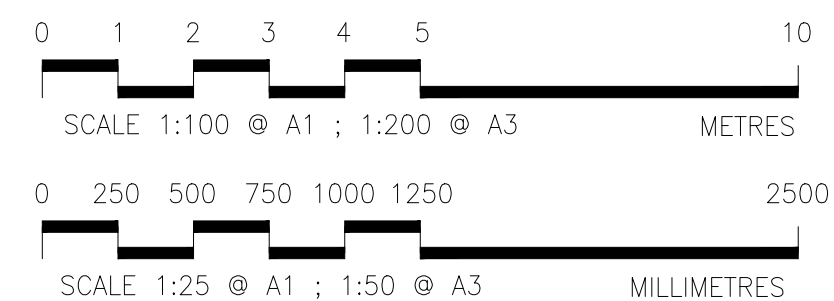
CONSULTANT **Jacobs**
CH2M HILL INDIA PVT. LTD.

PACKAGE	
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GENERAL ARRANGEMENT OF
X CULVERT FOR GROUP 6 STRUCTURES
(SHEET 2 OF 2)

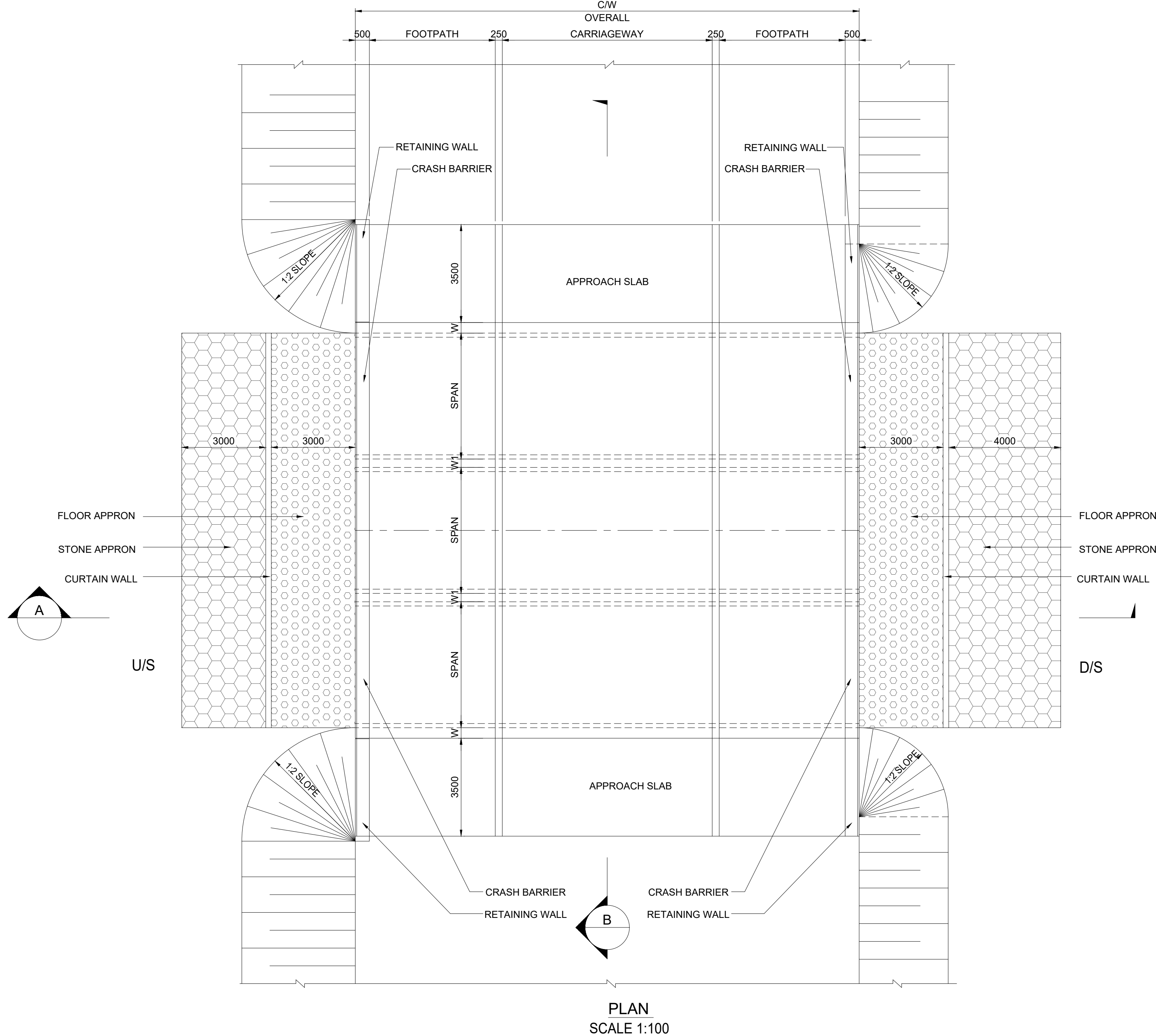
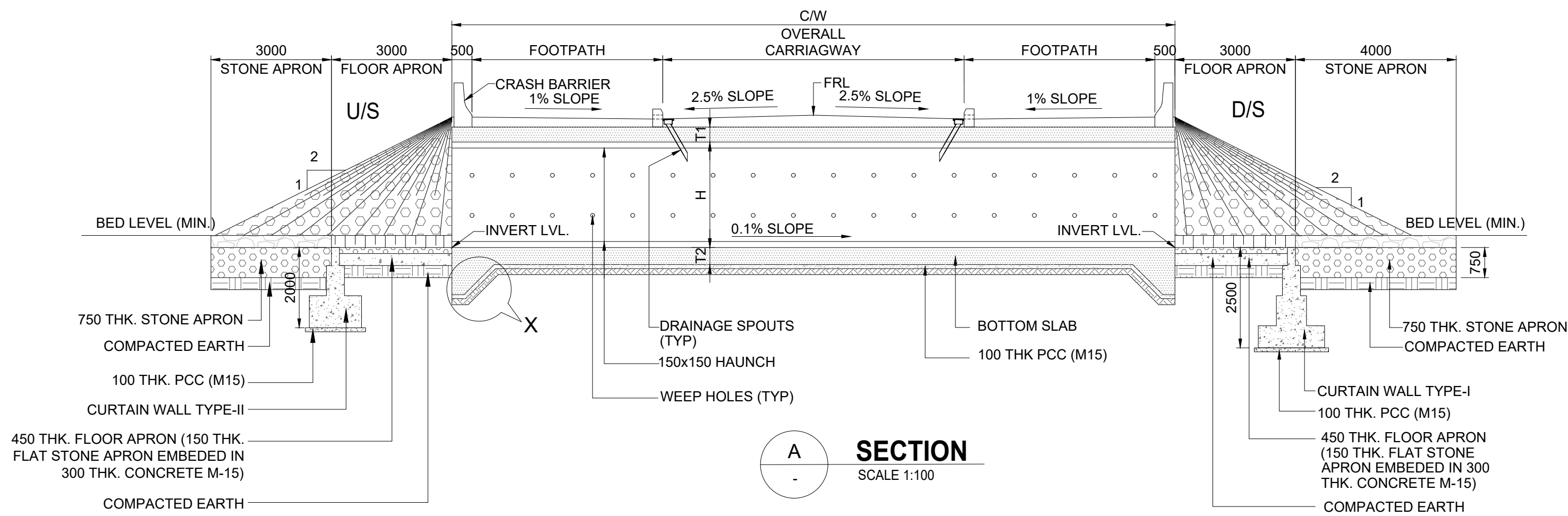
DRAWING NO.	REVISION
72301100-PAL-IMC-C-STR-WL-0016	R0

FILENAME : 72301100-PAL-IMC-C-STR-WL-0016.dwg PLOT SCALE : 1:1

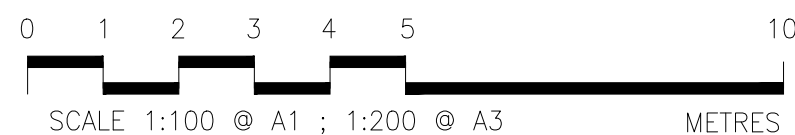


FILENAME: 72301100
PLOT DATE: 72301100
PLOT TIME: 72301100

72301100
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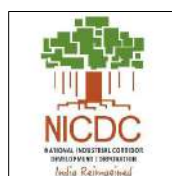
NOTES:

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- DIMENSIONS ARE NOT TO BE SCALED ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
- THE FOUNDATION HAS BEEN DESIGNED WITH A NET 2 SAFE BEARING CAPACITY 12.0 kN/m².
- GRADE OF STEEL SHALL BE Fe-500D (TMT BARS) CONFIRM TO IS-1786.
- FILLER TYPE EXP. JOINT SHALL BE IN ACCORDANCE TO THE SECTION 2605 OF THE MORTH SPECIFICATIONS FOR THE ROAD AND BRIDGE WORKS (FOURTH REVISION).
- GRADE OF CONCRETE FOR VARIOUS COMPONENTS ARE GIVEN BELOW.

TOP & BASE SLAB ANDS WALLS	-----	M35
PCC CURTAIN WALL	-----	M25
PCC	-----	M10
CRASH BARRIER	-----	M40
APPROACH SLAB	-----	M30
RCC RETAINING WALL	-----	M30
- 65mm THK. WEARING COURSE COMPRISING OF 40mm BITUMINOUS CONCRETE OVERLAID WITH 25mm THICK BITUMEN MASTIC LAYER SHALL BE PROVIDED IN CONFORMITY WITH SECTION 500 OF MORTH SPECIFICATIONS.
- BACK FILLING BEHIND ABUTMENTS SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX - 6 OF IRC - 78-2014 HAVING PROPERTIES C=0, Ø=30° Y=20° & Sd = 20 kN/m².
- WEEP HOLES, SPACED @ 1000mm c/c BOTH HORIZONTALLY AND VERTICALLY SHALL BE PROVIDED IN STAGGERED MANNER IN SIDE WALL AS SHOWN.
- THE STRUCTURE IS TO BE DESIGNED AS PER SEVERE CONDITION OF EXPOSURE.
- CLEAR COVER FOR VARIOUS COMPONENTS WILL BE, FOR TOP SLAB OF BOX 40MM, WALL AND BASE SLAB OF BOX 50MM.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH RELEVANT APPROVED HIGHWAY DRAWINGS FOR STRUCTURE ORIENTATION, SKEW, FRL & CAMBER/SUPER ELEVATION ETC.
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- TABLE 1 IS VALID FOR GROUP 7 STRUCTURES.
- FOR LENGTH OF RETAINING WALL AND SECTIONS REFER SEPARATE DRAWINGS.

Revision	By	Checked	Approved	Date	Description
R0	US	AG	SG	15-APR-25	TENDER DRAWING
A	US	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN

CLIENT



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NODAL AGENCY

KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION

Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

CONSULTANT

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PACKAGE

DRAWING TITLE

GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 7 STRUCTURES (SHEET 1 OF 2)

DRAWN BY :	US	DATE :AUG 2022
CHECKED BY :	AG	DATE :AUG 2022
AUTHORIZED BY :	SG	DATE :AUG 2022

DRAWING NO.	REVISION
72301100-PAL-IMC-C-STR-WL-0017	R0

DRAWING SCALE : AS SHOWN @A1

FILENAME : 72301100-PAL-IMC-C-STR-WL-0017.dwg PLOT SCALE : 1:1

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PLOT DATE:
PLOT TIME:

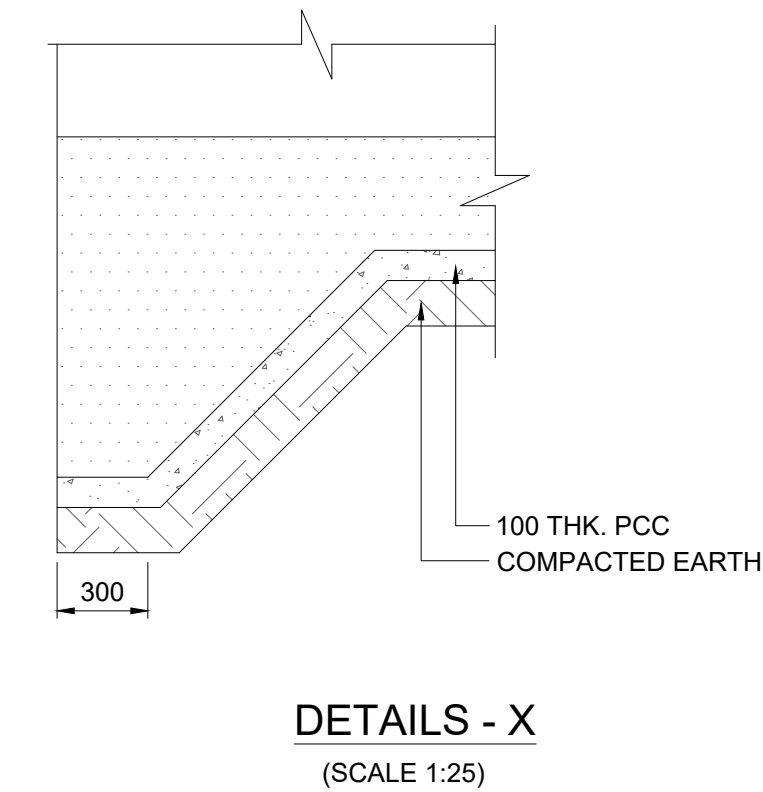
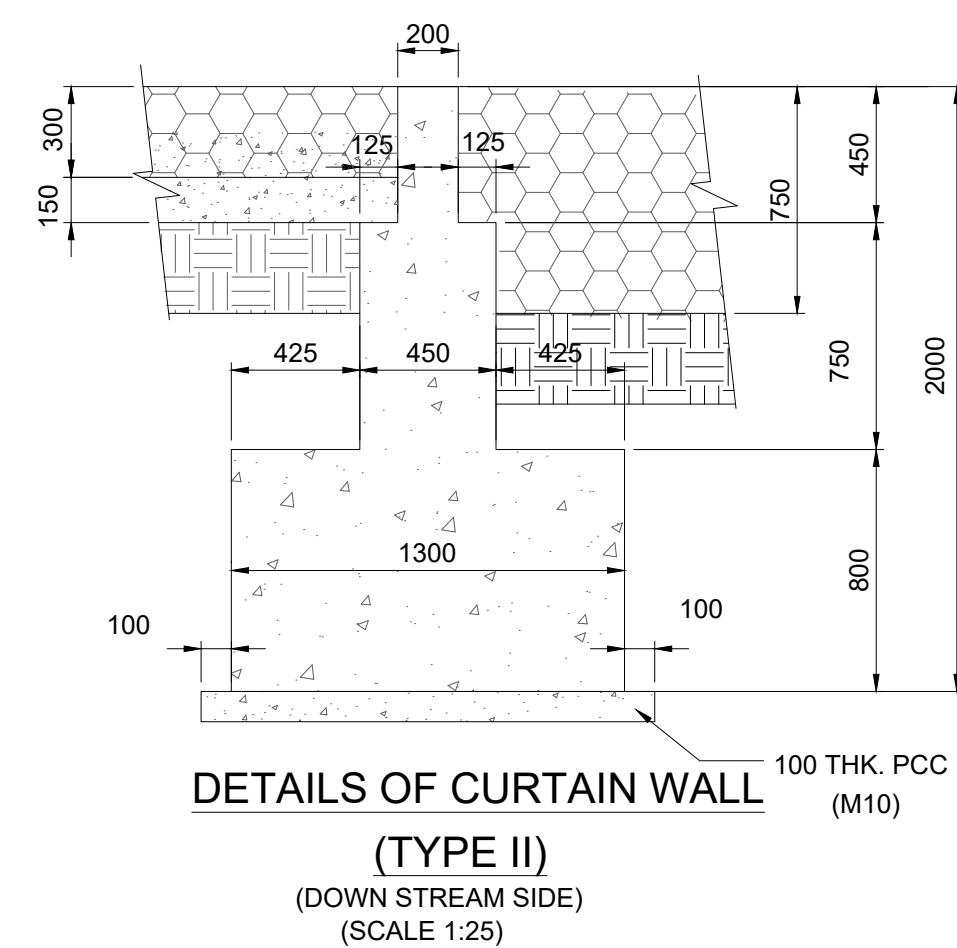
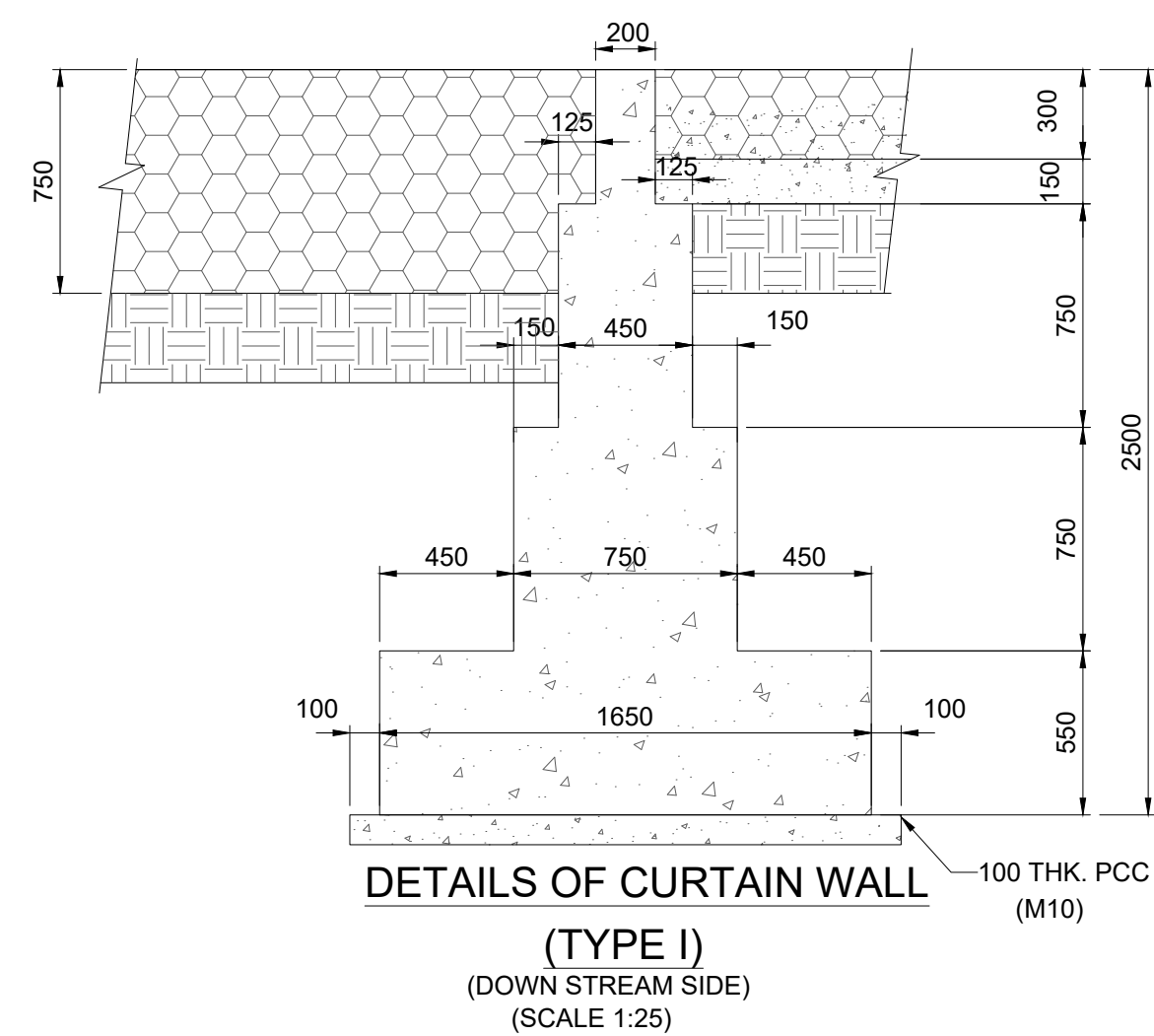
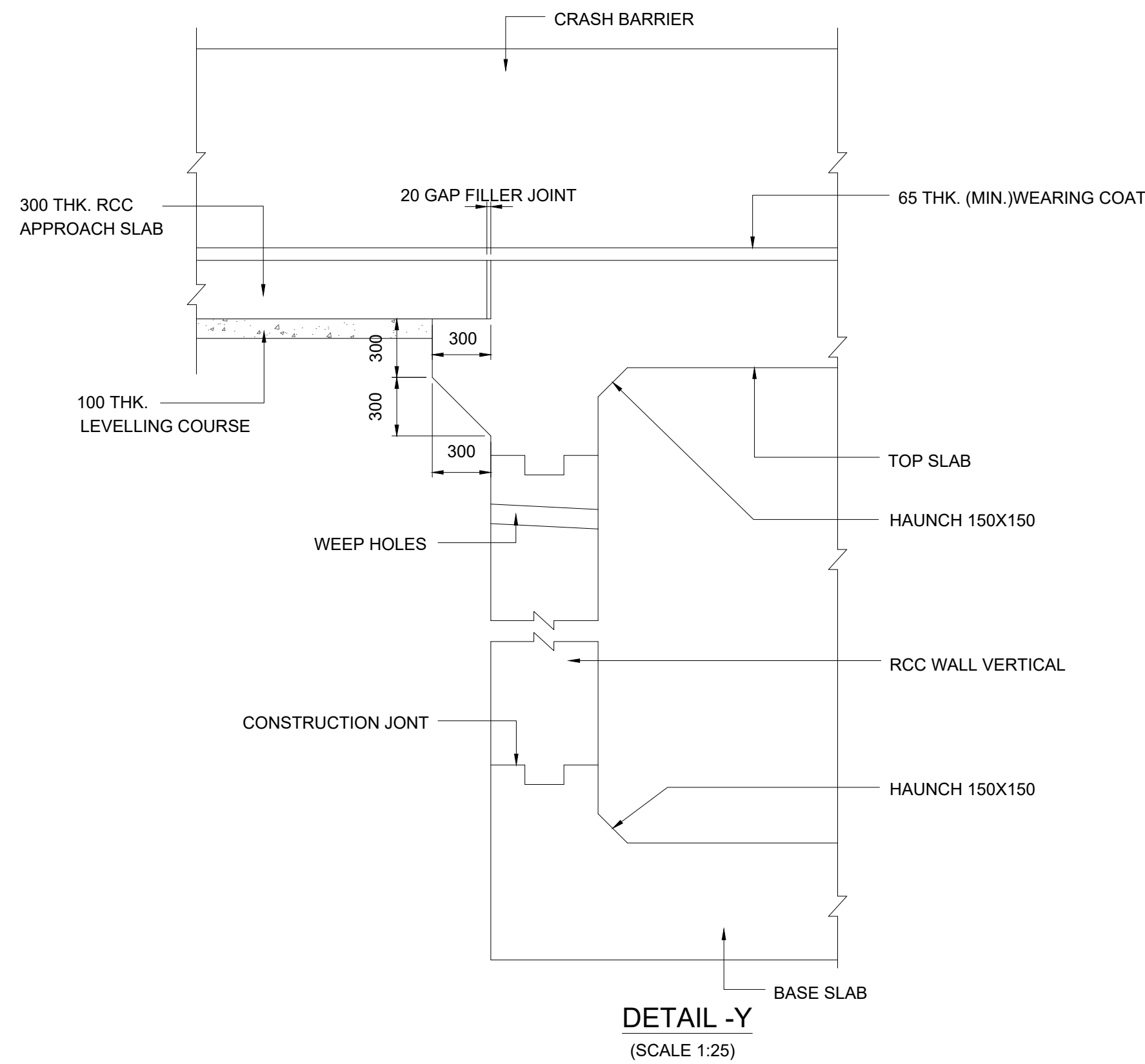
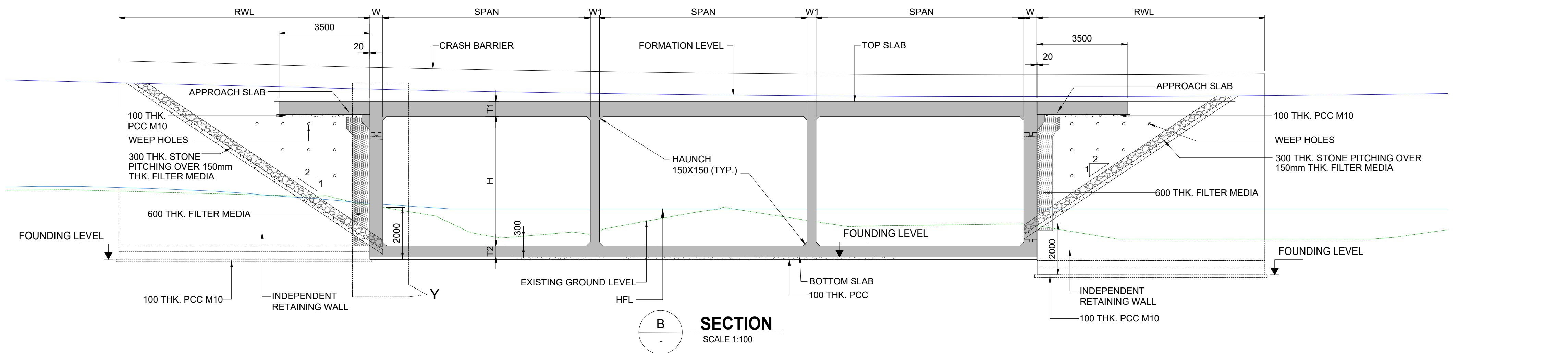
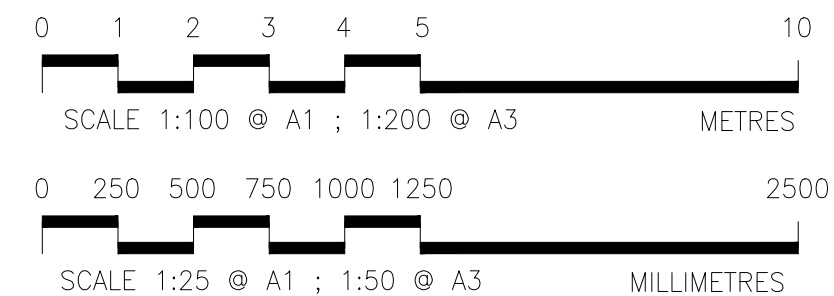


TABLE-1 SHOWING DETAILS OF GROUP 7 STRUCTURES

SL No.	ROAD	STRUCTURE NO.	DESIGN CHAINAGES	NO OF CELLS	CELL DIMENSIONS(m)		CARRIAGEWAY (C/W)	ELEMENT DIMENSIONS(m)				EXISTING GROUND LEVEL (GL) (m)	FORMATION LEVEL (FRL) (m)	HIGHEST FLOOD LEVEL (HFL) (m)	FOUNDING LEVEL (FL) (m)
					CLEAR SPAN (SPAN)	CLEAR HEIGHT (H)		THK. OF OUTER WALL (W)	THK. OF INNER WALL (W1)	THK. OF TOP SLAB (T1)	THK. OF BOTTOM SLAB (T2)				
1	Road 10-15m ROW	25	1100.000	3	8.015	4.991	15.00	0.500	0.350	0.700	0.725	135.71	140.20	135.80	133.85



NOTES:

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METERS UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
2. FOR SECTION MARKING AND DETAIL REFER SHEET 1 OF 2 OF THIS DRAWING.

Revision	By	Checked	Approved	Date	Description
R0	RS	NV	SG	15-APR-25	TENDER DRAWING
A	RS	NV	SG	AUG 2022	DRAFT PRELIMINARY DESIGN

CLIENT
National Industrial Corridor Development Corporation Limited
8th Floor, Tower-1, LIC, Jeevan Bharti Building, Connaught Place, New Delhi - 110001

NODAL AGENCY
KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
Kinfra House, 31/2312, Sasthamangalam, Trivandrum- 695 010

CONSULTANT
Jacobs
CH2M HILL INDIA PVT. LTD.

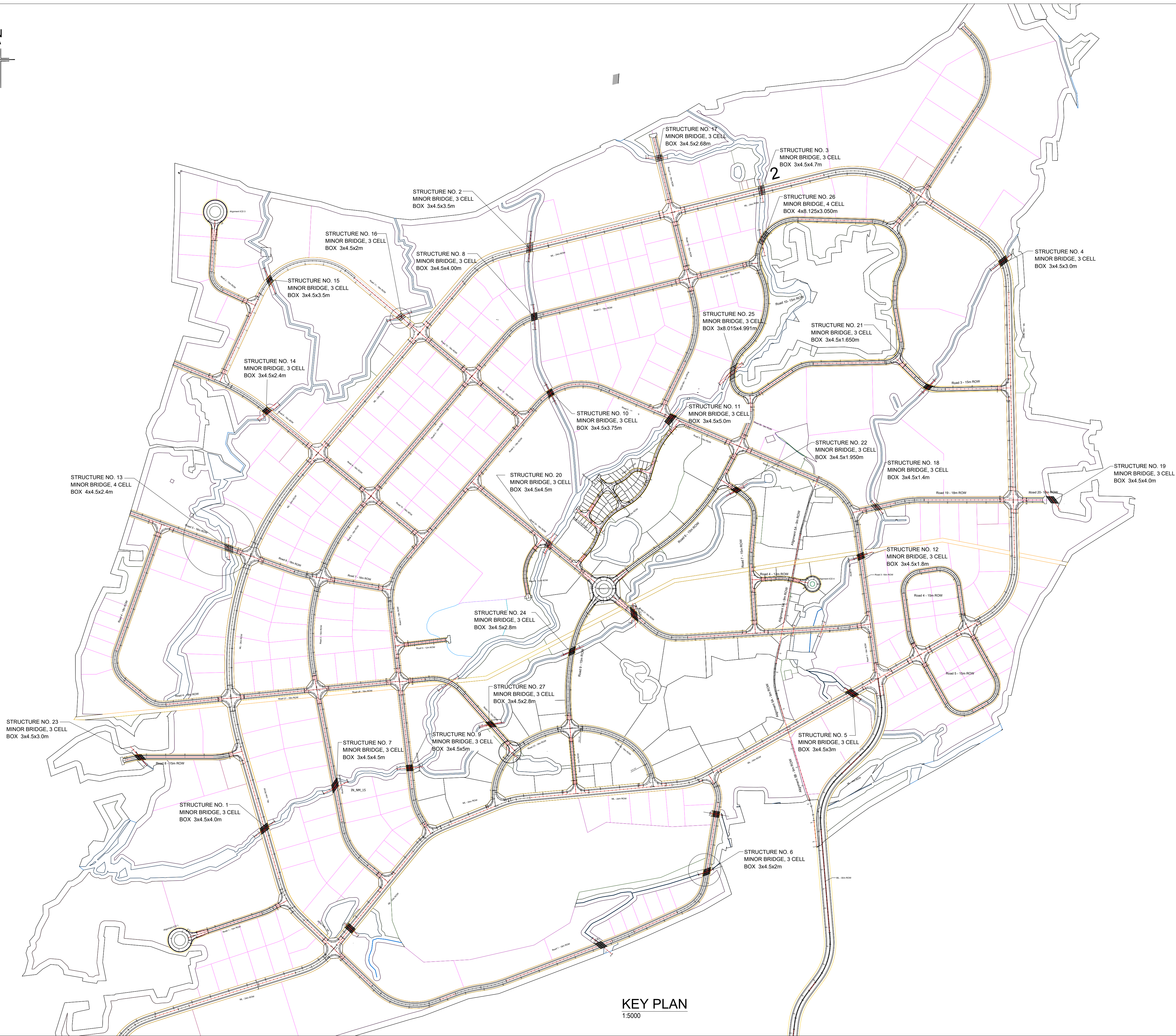
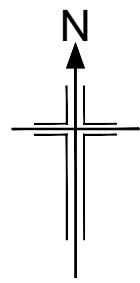
PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE
DRAWING TITLE

GENERAL ARRANGEMENT OF BOX CULVERT FOR GROUP 7 STRUCTURES (SHEET 2 OF 2)

DRAWN BY : US	DATE :JUL 2022
CHECKED BY : AG	DATE :JUL 2022
AUTHORIZED BY : SG	DATE :AUG 2022
DRAWING NO. 72301100-PAL-IMC-C-STR-WL-0018	REVISION R0
DRAWING SCALE : AS SHOWN	@A1
FILENAME : 72301100-PAL-IMC-C-STR-WL-0018.dwg	PLOT SCALE : 1:1

FILENAME: 72301100-PAL-IMC-C-STR-WL-0021.dwg PLOT DATE: 15-APR-25 TENDER DRAWING PLOT TIME: 15-APR-25 TENDER DRAWING



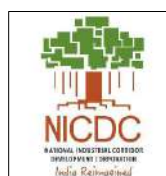
KEY PLAN
1:5000

NOTES:

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Revision	By	Checked	Approved	Date	Description
R0	SB	AG	SG	15-APR-25	TENDER DRAWING
A	SB	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN

CLIENT



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Development Corporation Limited
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PROJECT

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EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE

DRAWING TITLE

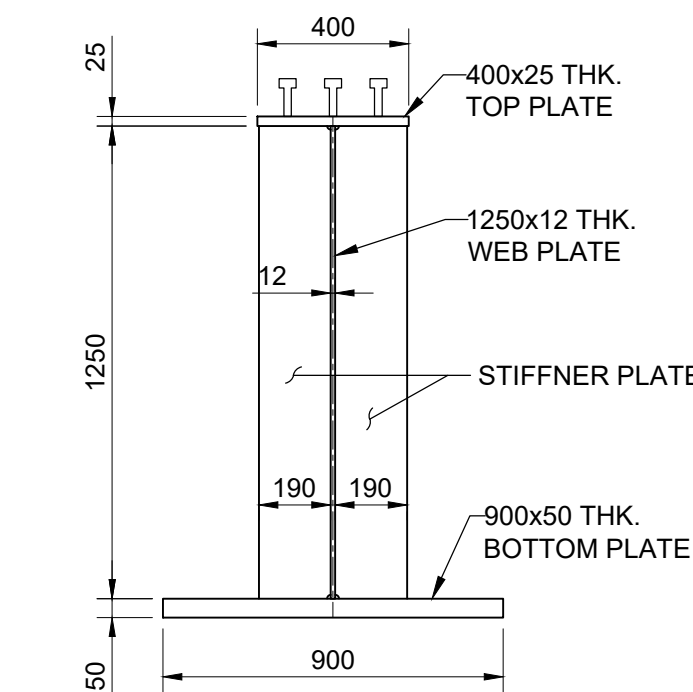
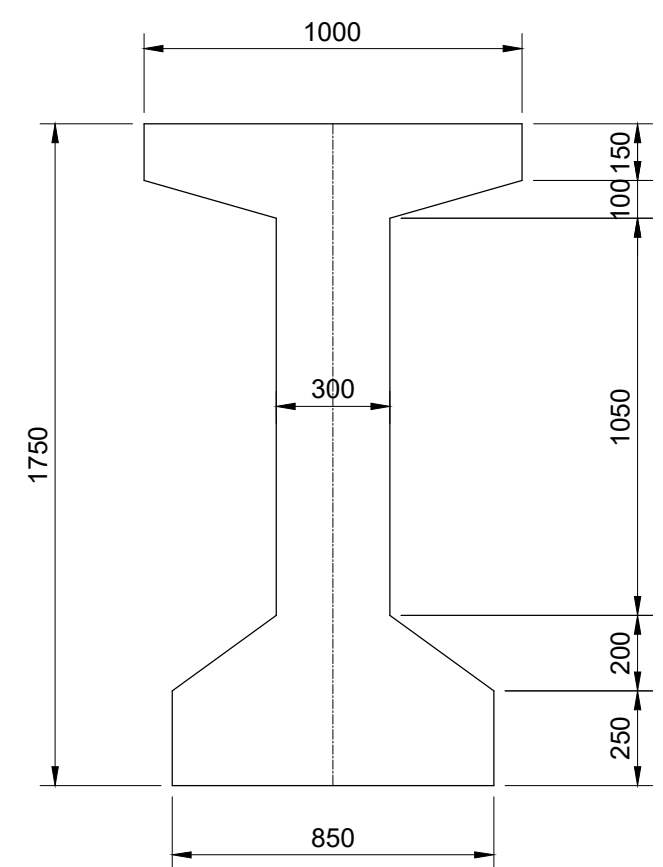
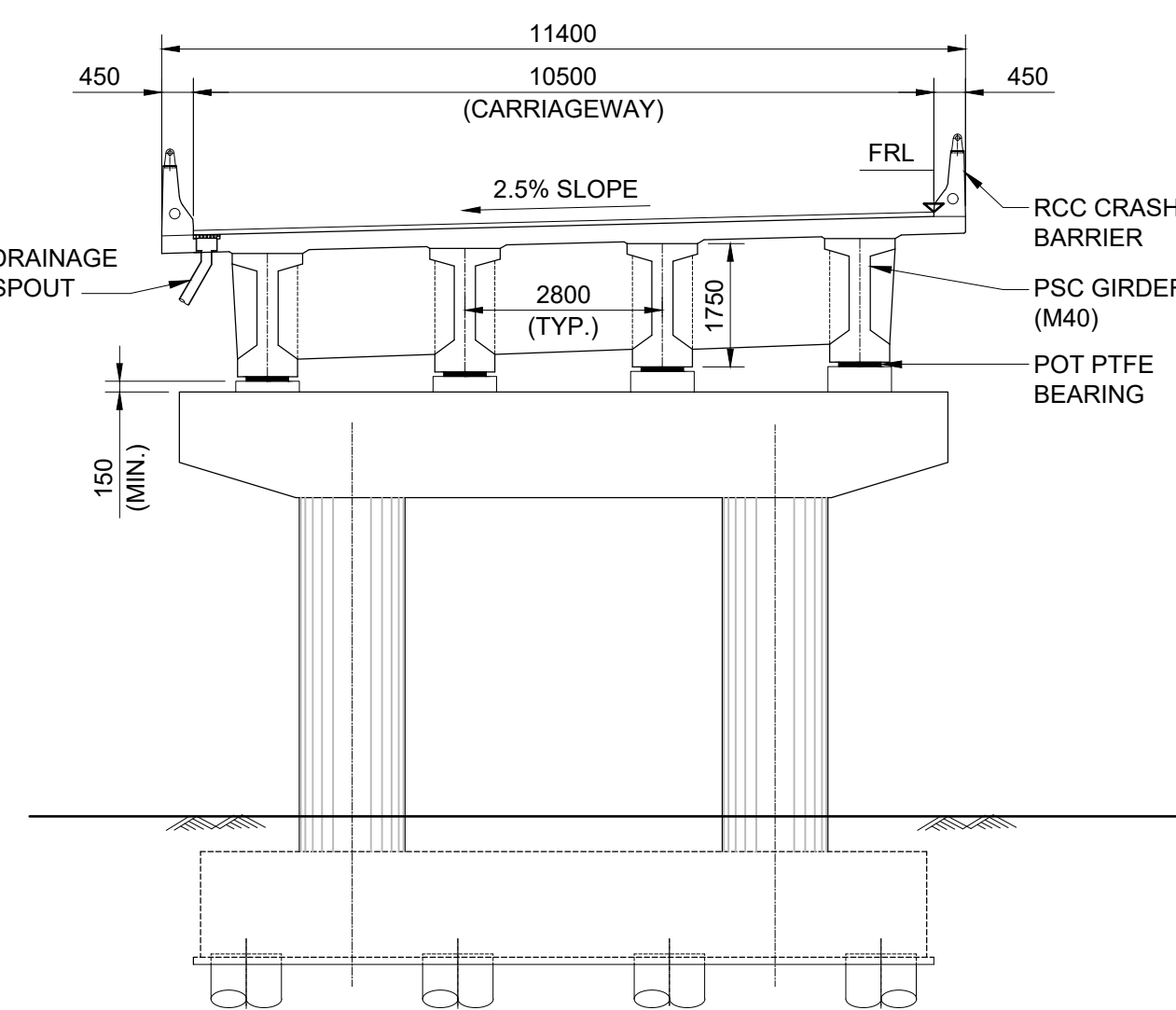
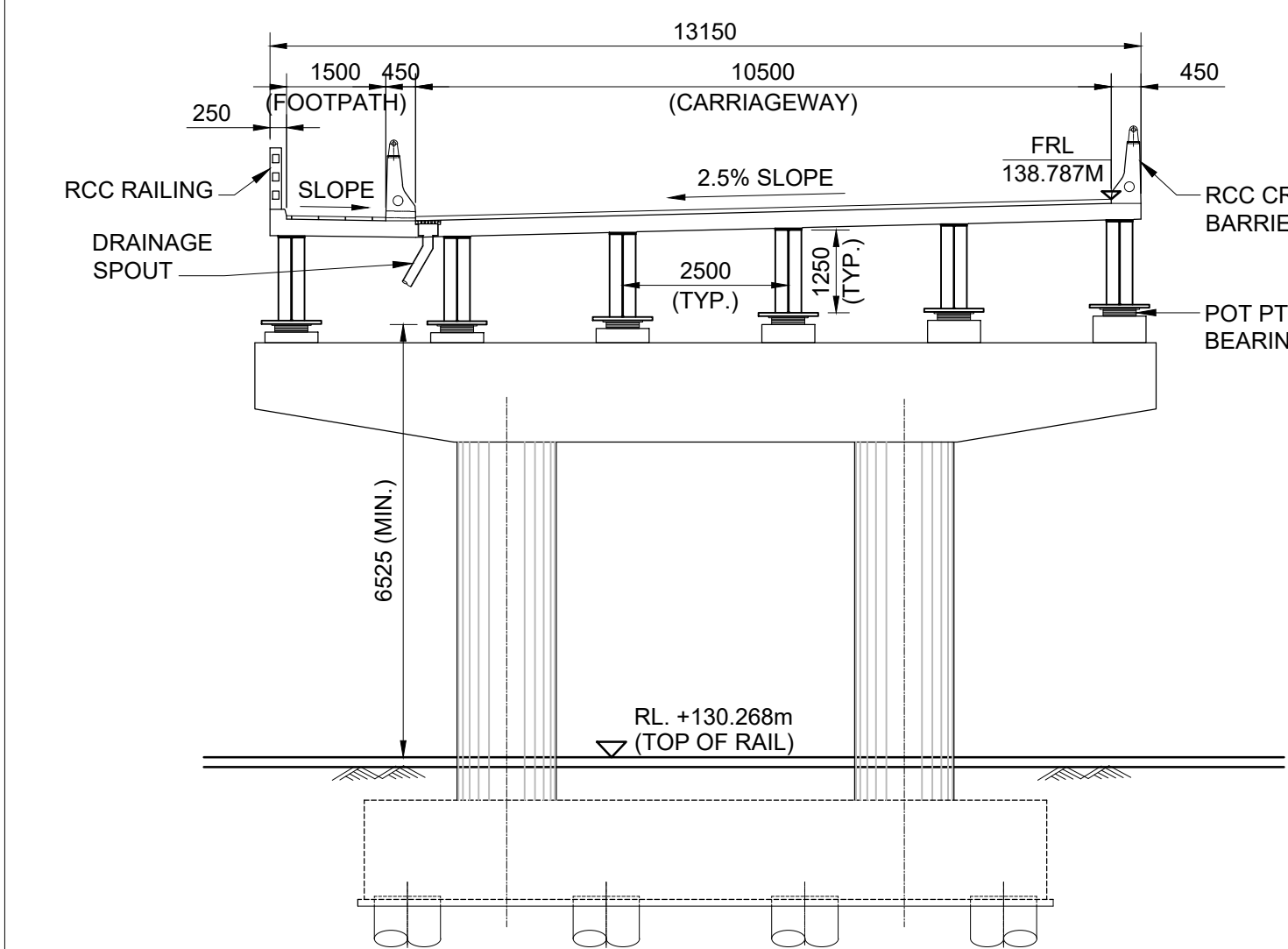
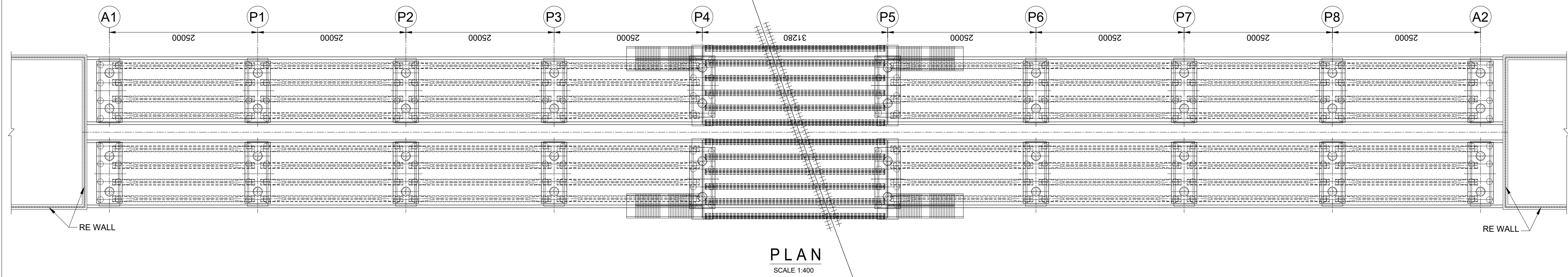
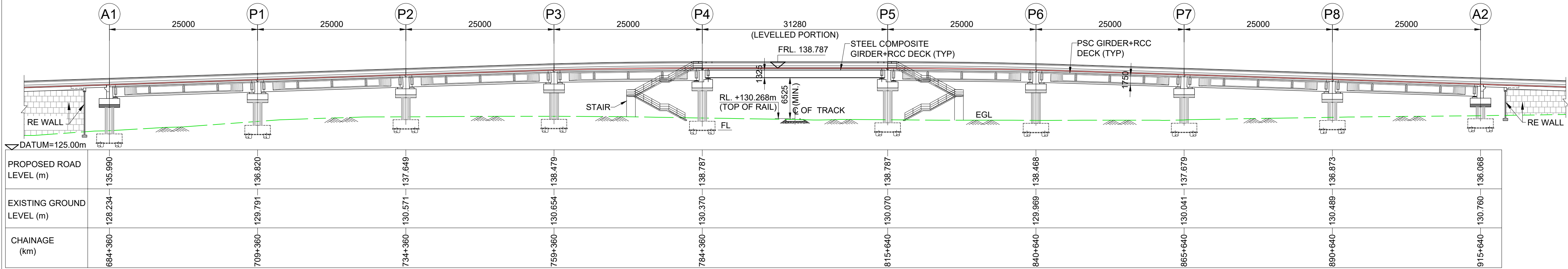
PUDUSSERY CENTRAL
STRUCTURAL
KEY PLAN

DRAWN BY :	SB	DATE :	AUG 2022
CHECKED BY :	AG	DATE :	AUG 2022
AUTHORIZED BY :	SG	DATE :	AUG 2022

DRAWING NO.	REVISION
72301100-PAL-IMC-C-STR-WL-0021	R0

DRAWING SCALE : AS SHOWN @A1

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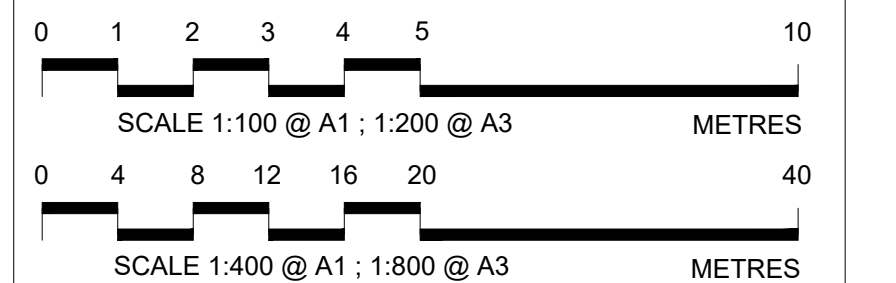


- ALL THE DIMENSIONS SHOULD BE VERIFIED AND RECONCILED AT SITE BEFORE EXECUTION OF WORKS.
- AT THE TIME OF EXECUTION OF FOUNDATION WORKS, EXISTING TRACK SHOULD BE PROTECTED WITH SHEET PILES (IF REQUIRED).
- FOR INSPECTION OF BEARING, PROVISION FOR REMOVAL OF INSPECTION LADDER & INSPECTION PLATFORM SHALL BE KEPT.
- WORK SHOULD BE CARRIED OUT BY CONTRACTOR UNDER THE SUPERVISION OF RAILWAY ENGINEER WITH IN THE RAILWAY BOUNDARY LIMITS.
- THE TYPE OF FOUNDATION SHOWN IN THIS DRG. IS TENTATIVE AND SHOULD BE DECIDED BY THE SITE ENGINEER AS PER ACTUAL SOIL STRATA MET WITH.
- PROVISION OF CLAMPS IN THE SUPER STRUCTURE FOR SUPPORTING THE A.C. TRACTION WIRE TO BE MADE IN CONSULTATION WITH THE CONCERNED AUTHORITIES.
- REPRESENTATIVE OF TELECOM AND SIGNALLING DEPTT. SHOULD BE MADE AVAILABLE BEFORE COMMENCEMENT OF PROP. WORK IN THE VICINITY OF THE SIGNAL AND TELECOM CABLE.
- DRAINAGE ARRANGEMENT WILL BE PROVIDED AVOIDING CROSSING OF TRACKS BELOW.
- ALL PRECAUTION SHOULD BE TAKEN TO ENSURE SAFETY OF TRACK WHILE EXECUTING THE WORK.
- RAILWAY SPANS ARE KEPT IN STRAIGHT ALIGNMENT AND ARE FREE OF ANY TYPE OF CURVE INCLUDING TRANSITION.

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NOTES:

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- STRUCTURAL DETAILS AND DIMENSION SHOWN IN THIS DRAWING ARE TENTATIVE AND SHALL BE FINALIZED IN DETAIL DESIGN.
- THE CONTRACTOR SHALL CARRYOUT TOPOGRAPHICAL SURVEY TO FINALIZE THE ROB LONGITUDINAL PROFILE AND LENGTH OF THE VIADUCT AND EMBANKMENT PORTION. THE NOS. OF SPAN SHOWN HERE ARE TENTATIVE AND MAY CHANGE DURING THE GAD APPROVAL FROM THE CONCERNED RAILWAY AUTHORITY.
- DURING THE CONSTRUCTION OF BRIDGE, RAILWAY TRACK WILL BE PROTECTED.
- SKEW ANGLE OF ROB HAS BEEN ASSUMMED AS 0 DEGREE.
- MIN. HEIGHT OF LOWEST MEMBER OF BRIDGE FROM TOP OF RAIL LEVEL SHOULD BE 6.525M.
- SANCTION OF CRS SHOULD BE OBTAINED TO START THE CONSTRUCTION OF PROPOSED WORK.
- THE BRIDGE WHEN CONSTRUCTED MUST BE CLEAR OF MOVING DIMENSIONS.
- CROSS SLOPE OF 2.5% IN CARRIAGEWAY SHALL BE PROVIDED.
- THE BRIDGE WILL BE DESIGNED FOR IRC LOADING AS UNDER
(A) ROB SHALL BE DESIGNED FOR THREE LANE CLASS-A LOADING OR SINGLE LANE 70R WHEELED / TRACKED + ONE LANE CLASS-A LOADING WHICH EVER IS SEVERE AND GOVERNING.
(B) FOOTPATH LOADING AS PER CLAUSE - 209 OF IRC:6-2000 WITH A BASIC INTENSITY OF 500 Kg/sqm.
- SUITABLE JACKING POINT MAY BE PROVIDED FOR LIFTING OF GIRDER FOR INSPECTION / REPAIR OF BEARING.
- SUITABLE SPACE WILL PROVIDED AT EACH END OF GIRDERS FOR INSPECTION PURPOSE.
- 2.0M HIGH & 50M LONG RCC WALL TO BE PROVIDED ON BOTH SIDE ROB AT NORTHERN RAILWAY BOUNDARY TO AVOID TRESPASSING.
- NO. AND DIA OF COLUMNS ARE TENTATIVE SUBJECT TO FINAL DESIGN MENTIONED ON GAD.
- THIS IS ELECTRIFIED SECTION.
- THIS ROB DOES NOT FALL ON DFC ROUTE & DOUBLE STACK CONTAINER ROUTE.
- STAIRCASE WILL BE PROVIDED OUTSIDE RAILWAY BOUNDARY.
- BEARING:- POT CUM PTFE TYPE BEARING.
- STRIP SEAL TYPE EXPANSION JOINT OF APPROVED MAKE AS PER MOST SPECIFICATIONS SHALL BE PROVIDED IN DECK AT EXPANSION GAP.
- DRAINAGE SPOUT AND WEARING COAT SHALL BE AS PER MOST STANDARD SPECIFICATION.



Revision	By	Checked	Approved	Date	Description
R0	SR	AG	SG	08-MAY-25	TENDER DRAWING
A	US	AG	SG	AUG 2022	DRAFT PRELIMINARY DESIGN

CLIENT
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NODAL AGENCY
KERALA INDUSTRIAL INFRASTRUCTURE DEVELOPMENT CORPORATION
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CONSULTANT
Jacobs
CH2M HILL INDIA PVT. LTD.

PROJECT
PREPARATION OF DETAILED MASTER PLAN AND PRELIMINARY DESIGN REPORT FOR ROADS & SERVICES/UTILITIES FOR IMC AT PALAKKAD NODE AND KOCHI GLOBAL CITY IN KERALA UNDER EXTENSION OF CBIC TO KOCHI VIA COIMBATORE

PACKAGE
DRAWING TITLE

GENERAL ARRANGEMENT OF ROB FOR EXTERNAL CONNECTIVITY OF PUDUSSERY CENTRAL

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