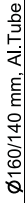
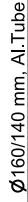


ANNEXURE-H (POLE-3)



SECTION R-R



SECTION P-P

Contract No. CC-C5(451-SR2)HVDC-30637G10(CA-15871-5821 dated 2017-01-25	 भारत भारिक पारपरिपिड		Classification No. BB-64
Client POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)	Station Name Raigarh	Project name +800kV, 6000MW HVDC Raigarh-Puglur Terminals	
ABB BHARAT HEAVY ELECTRICALS. LTD. TRANSMISSION BUSINESS GROUP	Based on Prepared 2018-01-10 Approved Naik Ashish 2018-01-12 Doc. Kind Layout drawing	Status Issued Item designation -	Language Hindi 01
ABB DC Yard Pole3-Layout&Sections	Document number 1JNL100484-562	Revision 01	Sheet No. 10 / 11
ABB ABB AB - HVDC			

01	Revision made are marked. Also refer last page for revision notes.	Huzair, FM	Naik, Ashish	2018-06-29
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Revision History :

Revision No.

Date

Sheet No.

Notes updated

Revision Note

01

28-06-2018

Sheet 1

Notes updated

Equipment position updated & North East coordinates added

Sheet 2

Section Line S-S are added

Sheet 3

Dimensions and Tube size updated

Sheet 4

Dimensions updated

Sheet 5

Tube size updated

Sheet 6

Dimensions and Tube size updated

Sheet 7

Dimensions updated

Sheet 8

Dimensions updated & Section view S-S added

Sheet 9

Dimensions updated

Sheet 10

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ANNEXURE-H (POLE-3)

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Revision History :

Revision No.

Date

Sheet No.

Notes updated

Revision Note

01

28-06-2018

Sheet 1

Notes updated

Equipment position updated & North East coordinates added

Sheet 2

Section Line S-S are added

Sheet 3

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Sheet 4

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Sheet 5

Tube size updated

Sheet 6

Dimensions and Tube size updated

Sheet 7

Dimensions updated

Sheet 8

Dimensions updated & Section view S-S added

Sheet 9

Dimensions updated

Sheet 10

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ANNEXURE-H (POLE-3)

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ANNEXURE-H (POLE-3)

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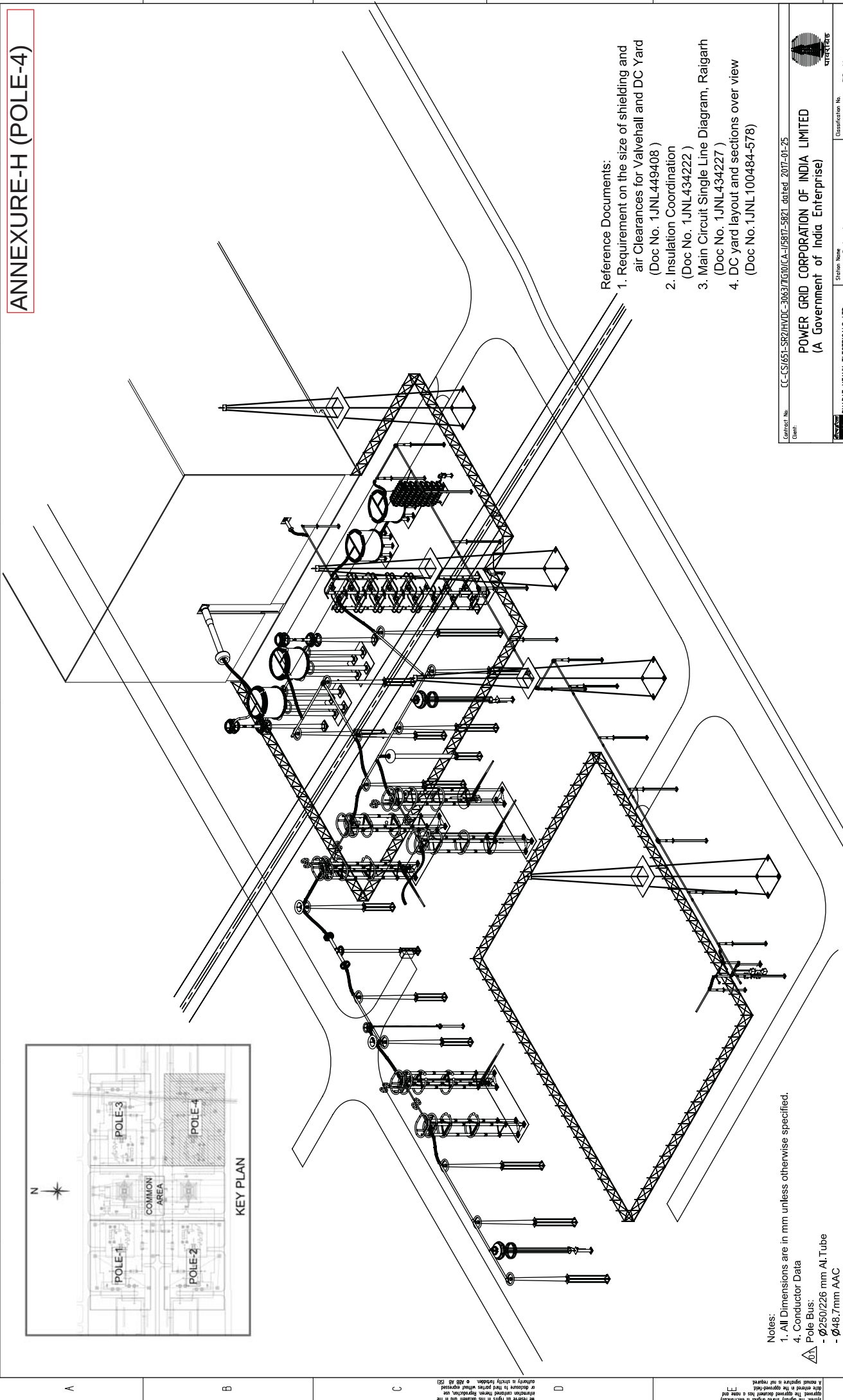
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ANNEXURE-H (POLE-4)



- Reference Documents:
- 1. Requirement on the size of shielding and air Clearances for Valvehall and DC Yard (Doc No. 1JNL449408)
 - 2. Insulation Coordination (Doc No. 1JNL434222)
 - 3. Main Circuit Single Line Diagram, Raigarh (Doc No. 1JNL434227)
 - 4. DC yard layout and sections over view (Doc No. 1JNL100484-578)

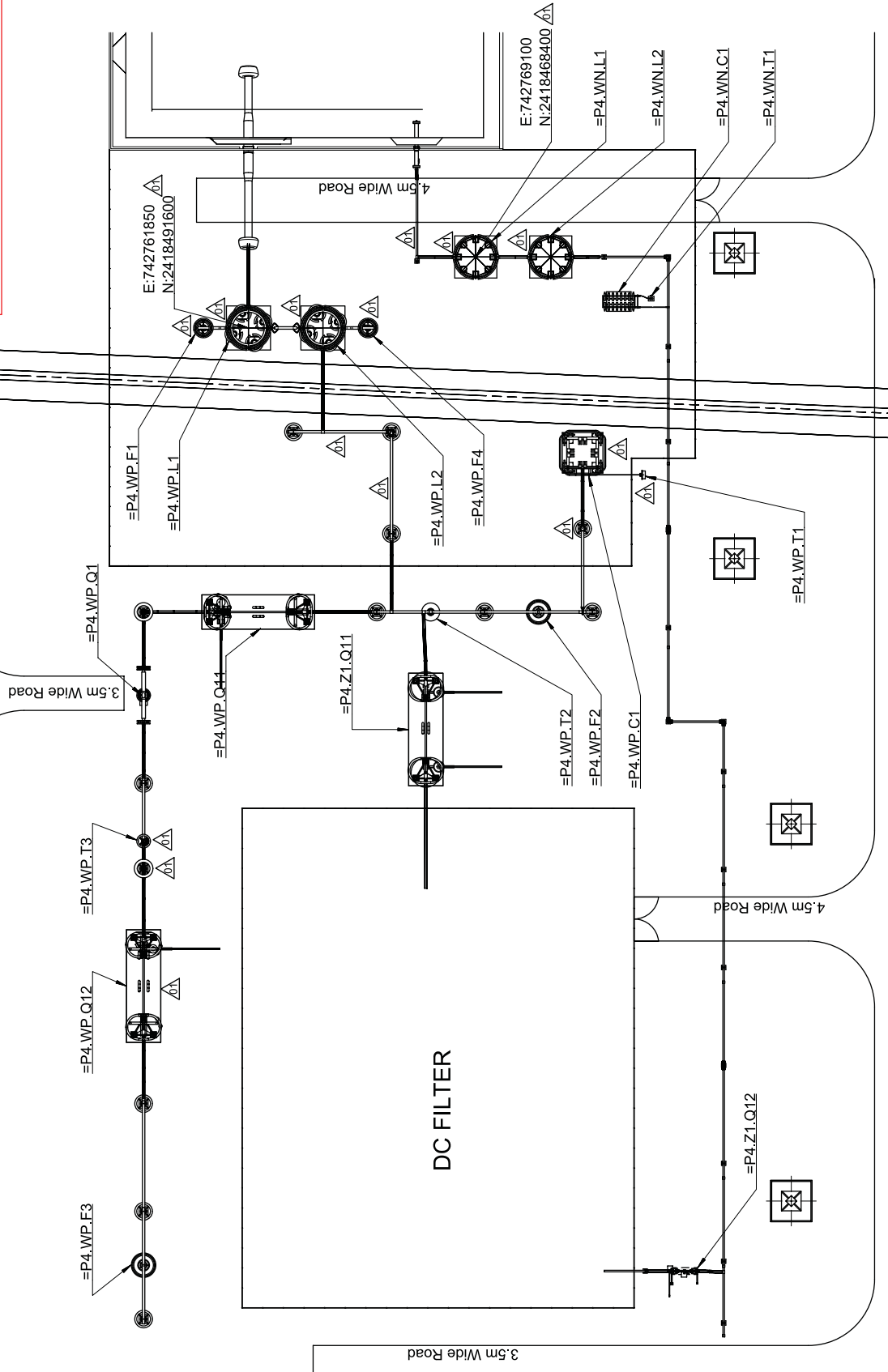
- Notes:
- 1. All Dimensions are in mm unless otherwise specified.
 - 4. Conductor Data
 - Pole Bus:
 - Ø250/226 mm Al.Tube
 - Ø48.7mm AAC
 - Neutral Bus:
 - Ø160/140mm Al.Tube
 - Ø32.6mm AAC
 - Damping wire:
 - Ø48.7mm AAC for Ø250/226 mm Al.Tube (Length of damping wire Shall be 2/3 of the length of the bus bar)
 - Ø29.0mm AAC for Ø160/140mm Al.Tube (Length of damping wire Shall be 2/3 of the length of the bus bar)

Revision made are marked. Also refer last page for revision notes.	
Rev	Revision
01	

Huzair, FM		Naik, Ashish		2018-06-29	
Prepared		Approved		Date	

Contract No. CC-CS/051-SR2/HVDC-3063/7650/CA-IP587-5821 dated 2017-01-25		Client: POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Station Name: Raigarh		Classification No. PB-64	
Project name: +800KV, 6000MW HVDC Raigarh-Pugaurh Terminals		Status: Issued		Free designation: -		Document number: 1JNL100484-563	
Prepared: Huzair, FM		Approved: Naik, Ashish		Doc. and Layout drawing		Revision: 01	
2018-01-10		2018-01-12		Pole4-Layout&Sections DC Yard		Language: -	
Sheet: 1 / 11		Sheet: 1 / 11		Sheet: 1 / 11		Sheet: 1 / 11	

ANNEXURE-H (POLE-4)



Contract No: CC-CS/651-SR2/HVDC-3063/7G10/CA-1/5817-5821 dated 2017-01-25

Client:

Client	Comments
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POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

	Station Name Rairath	Classification No. FJB-64
BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION BUSINESS GROUP		

TRANSMISSION BUSINESS UNIT	Project name
Based on -	
Prepared Huzair, FM	2018-01-10
Approved Naik Ashish	2018-01-12

HVDC Raigarh-Pugtural
±800KV, 6000MW
Terminals

Doc. Kind	Layout drawing	Status	Item designation

DC Yard	
Issued	_____
Date Rec'd	_____
DC Yard	_____

	Document number	FUW/DCHUB/TM	REF ID: U1	Language =

ABB AB - HVDC

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	Huzair, FM	Naik, Ashish	2018-06-29
	Prepared	Approved	Date

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01	Revision made are marked. Also refer last page for revision notes.
Rev	Revision

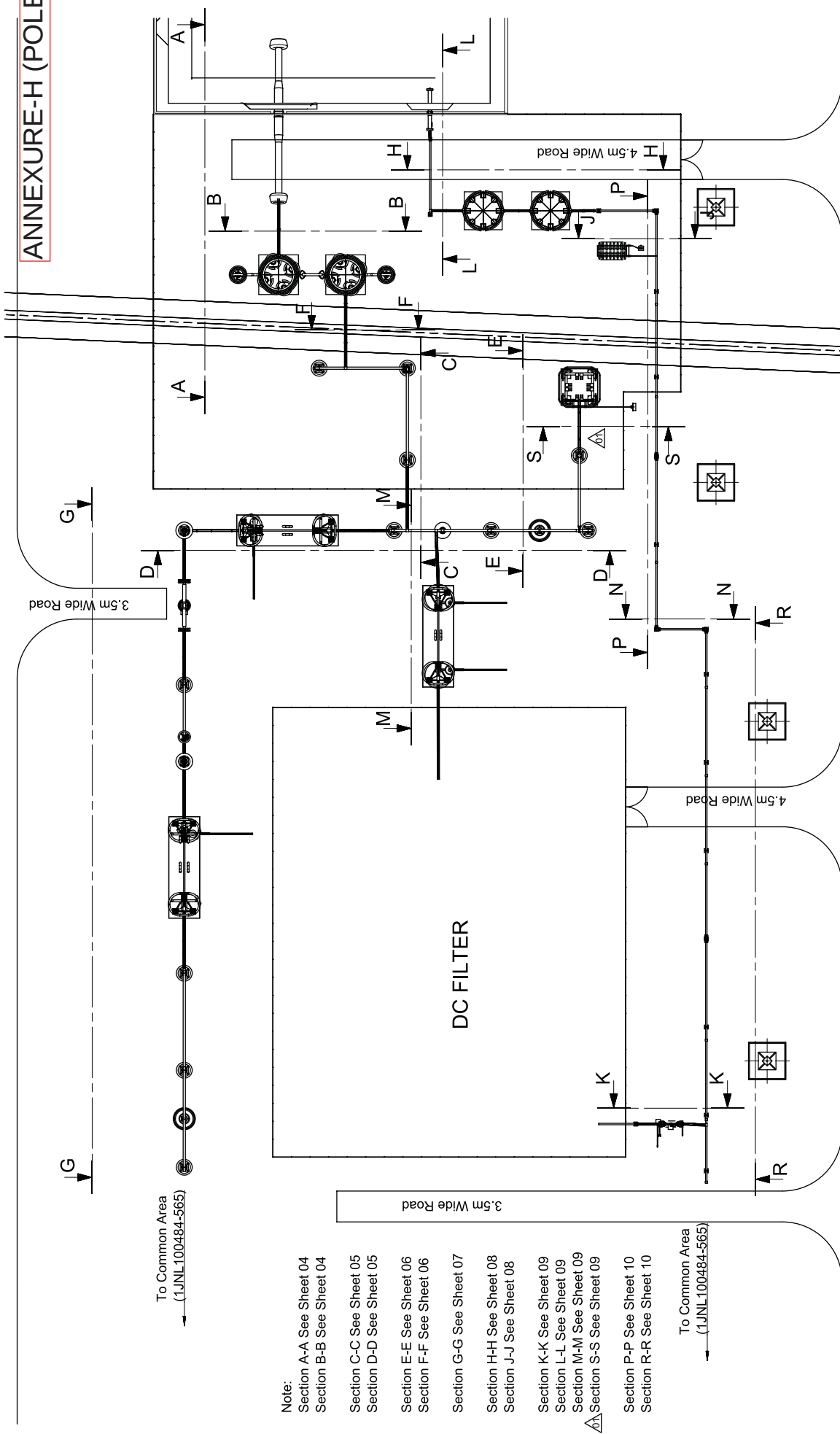
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ANNEXURE-H (POLE-4)



- Note:
- Section A-A See Sheet 04
 - Section B-B See Sheet 04
 - Section C-C See Sheet 05
 - Section D-D See Sheet 05
 - Section E-E See Sheet 06
 - Section F-F See Sheet 06
 - Section G-G See Sheet 07
 - Section H-H See Sheet 08
 - Section J-J See Sheet 08
 - Section K-K See Sheet 09
 - Section L-L See Sheet 09
 - Section M-M See Sheet 09
 - Section S-S See Sheet 09
 - Section P-P See Sheet 10
 - Section R-R See Sheet 10

To Common Area
(1JNL100484-565)

To Common Area
(1JNL100484-565)

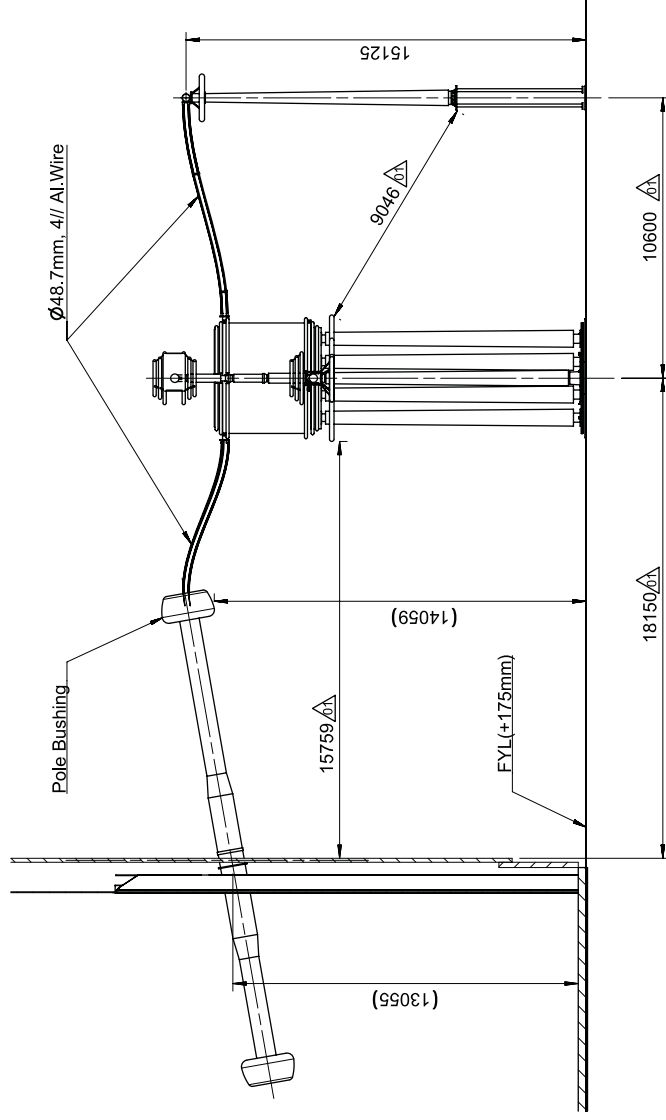
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POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Station Name Raigarh	
Classification No. PB-64		Project name +800KV, 6000MW HVDC Raigarh-Pugaur Terminals	
Based on Huzair FM 2018-01-10		Status Issued	
Approved Naik Ashish 2018-01-12		Revised 01	
Doc. Area Layout Drawing		Document number 1JNL100484-563	
Pole4-Layout & Sections		Language -	
DC Yard		Sheet 3 / 11	

Revision made are marked. Also refer last page for 01 revision notes.		Huzair, FM		Naik, Ashish		2018-06-29	
Rev		Prepared		Approved		Date	

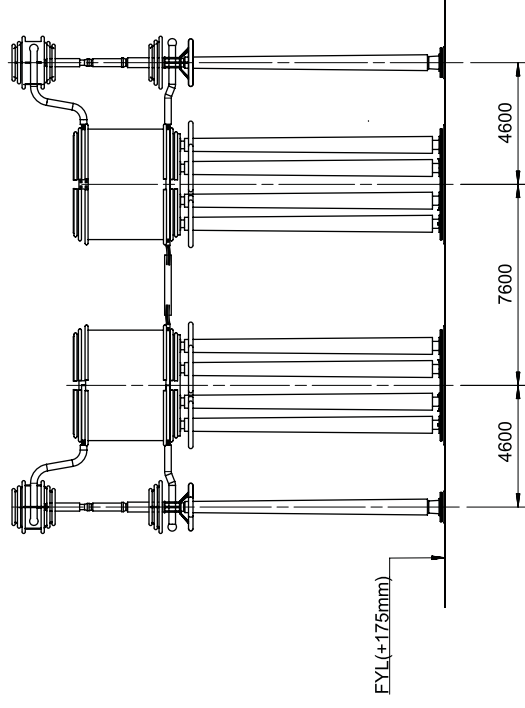
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ANNEXURE-H (POLE-4)



SECTION A-A

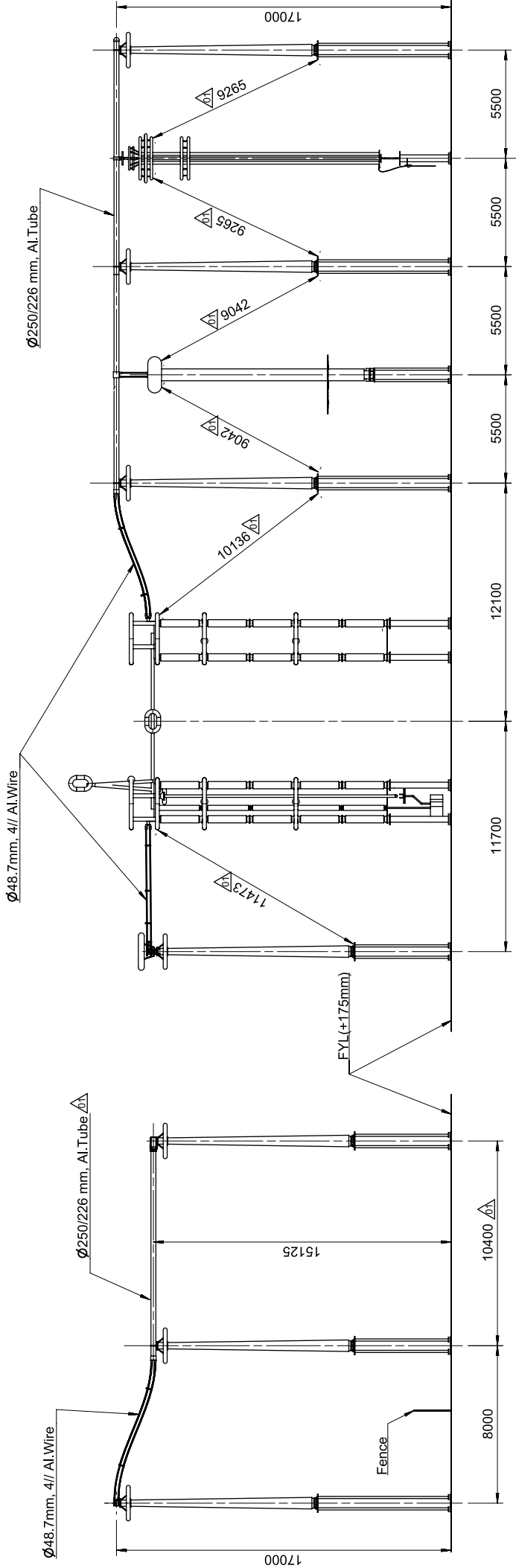


SECTION B-B

Contract No. (Client):	CC-151651-SR21HVDC-30637G10/LA-1587-5821 dated 2017-01-25				
	 POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)				
	 ABB		SHARAT HEAVY ELECTRICALS PVT. LTD. TRANSMISSION BUSINESS GROUP		
Standard on:	Section Name Raigarh		Classification No. PB-64		
Prepared by:	2018-01-10		Project name 800KV, 6000MW HVDC Raigarh-Puglur		
Approved:	2018-01-12		. Terminals		
Doc. Code	Layout drawing				
Drawn by:	Status Issued				
Item designation	-				
DC Yard	Item designation PGGIDCHUBTPM				
	Rev ind 01				
	Language -				
	Document number 1JNL100484-563				
	ABB AB - HVDC				
	Sheet No. 4 / 11				

01	Revision made are marked. Also refer last page for revision notes.	Huzair, FM	Naik, Ashish	2018-06-25
Rev	Revision	Prepared	Approved	Date

ANNEXURE-H (POLE-4)



SECTION C-C

SECTION D-D

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Contract No. CC-CS/051-SR2HVDC-3063/7510/CA-15817-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



Station Name: Raigarh
Classification No. PB-64

Project name: +800KV, 6000MW HVDC Raigarh-Pugatur
Terminals

Prepared: Huzair FM 2018-01-10
Approved: Naik Ashish 2018-01-12

Doc. kind: Layout drawing

Status: Issued

Item designation: PGGI/DC-HUBTPM

Rev. no: 01

Language: -

Sheet: 5 / 11

Revision made are marked. Also refer last page for 01 revision notes.

Rev: 01

Date: 2018-06-29

Approved: Huzair, FM

Approved: Naik, Ashish

Approved: 2018-06-29

Approved: Huzair, FM

Approved: Naik, Ashish

Approved: 2018-06-29

Approved: Huzair, FM

Approved: Naik, Ashish

Approved: 2018-06-29

Approved: Huzair, FM

Approved: Naik, Ashish

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Approved: Huzair, FM

Approved: Naik, Ashish

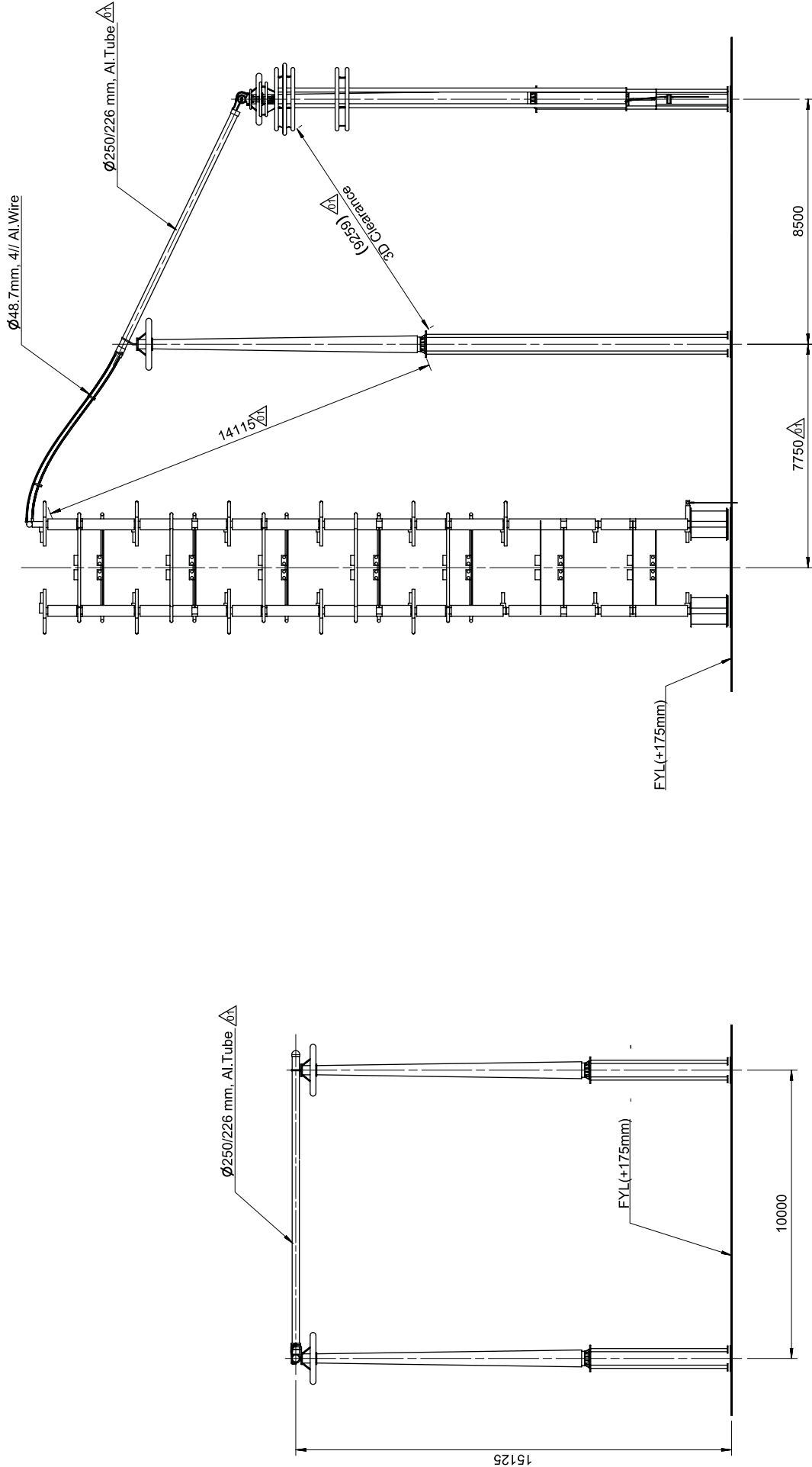
Approved: 2018-06-29

Approved: Huzair, FM

Approved: Naik, Ashish

Approved: 2018-06-29

ANNEXURE-H (POLE-4)



SECTION F-F

SECTION E-E

Contract No. CC-CS/051-SR2HVDC-3063/71510/CA-15817-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



Station Name: Raigarh
Classification No. PB-64
Project Name: +800KV, 6000MW HVDC Raigarh-Pugatur
Terminals
Prepared: Huzair FM 2018-01-10
Approved: Naik Ashish 2018-01-12
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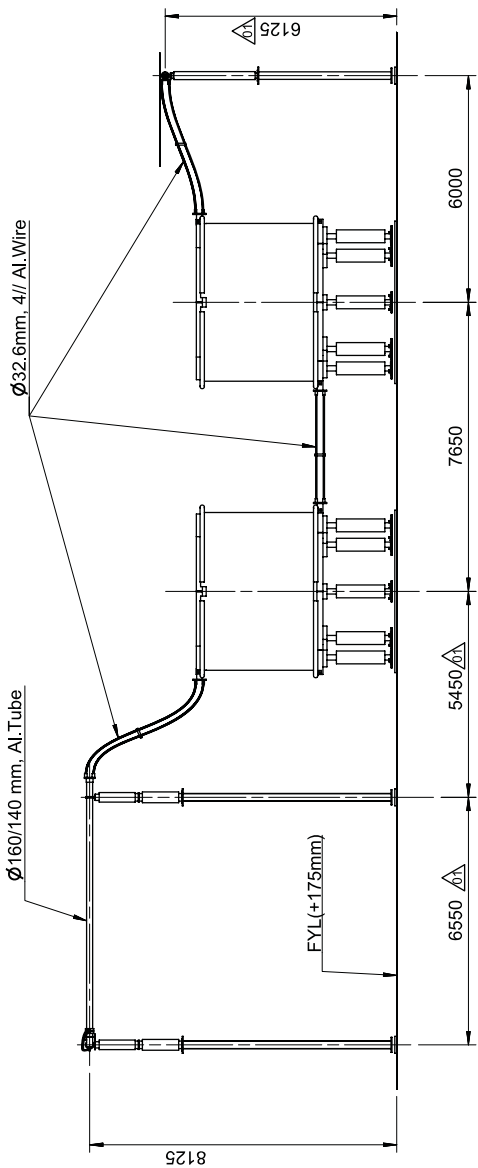
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Rev. No. 01
Document number: 1JNL100484-563

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Rev	Prepared	Approved	Date

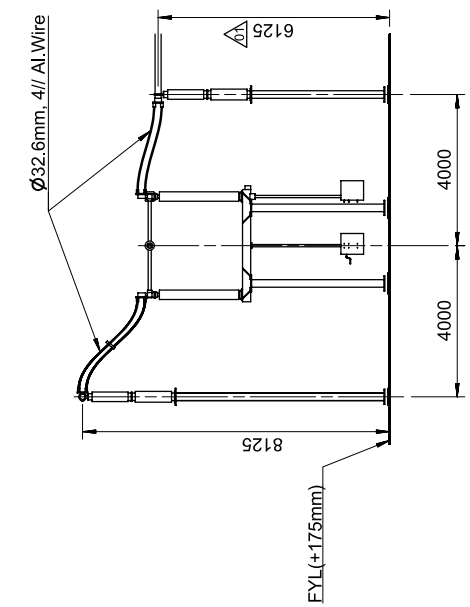
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Rev	Approved	Document number

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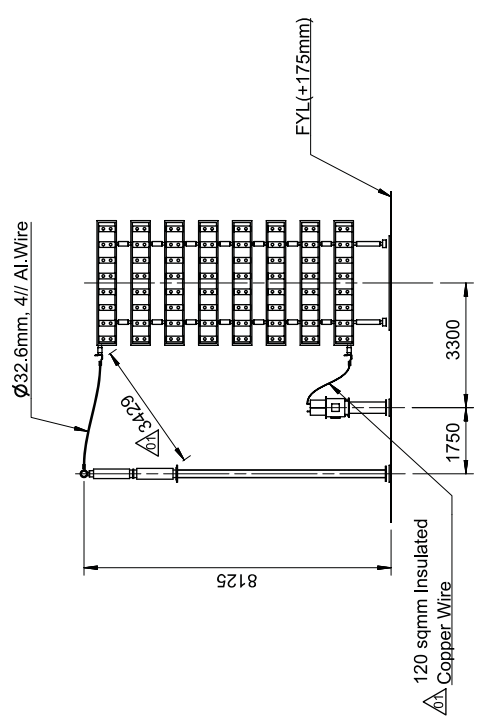
ANNEXURE-H (POLE-4)



SECTION H-H



SECTION K-K

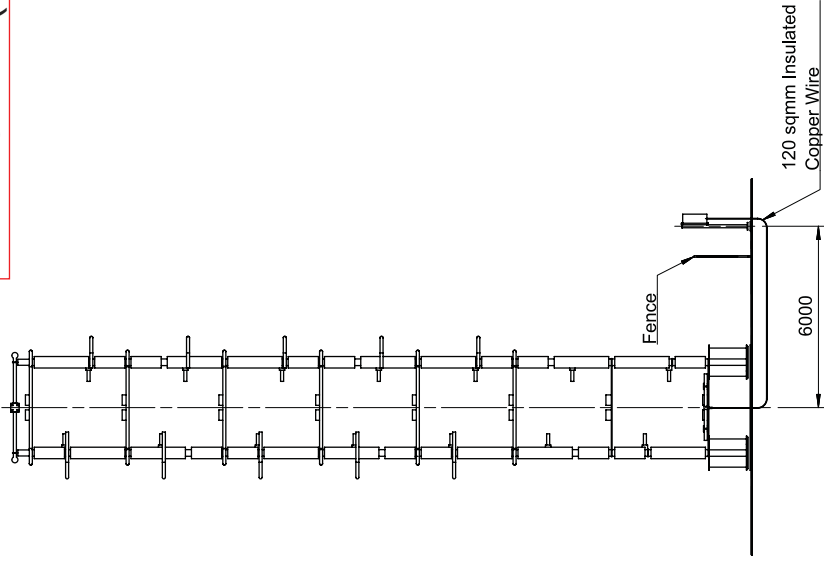


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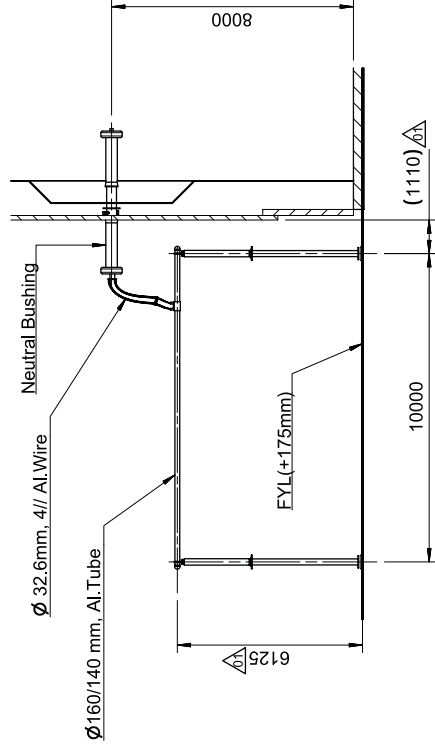
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Client	POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)
Contract No.	BB-64
Station Name	Raigarh
Project name	+800KV, 6000MW HVDC Raigarh-Pugaurh Terminals
Prepared	Huzair FM
Approved	Naik Ashish
Doc. No.	Layout Drawing
Doc. Date	2018-01-10
Doc. Rev.	2018-01-12
Status	Issued
Item designation	PGGI/DCHUBTPM
Rev. No.	01
Language	-
Document number	1JNL100484-563
ABB	ABB AB - HVDC

Revision made are marked. Also refer last page for 01 revision notes.	Huzair, FM	Naik, Ashish	2018-06-29
Rev	Prepared	Approved	Date

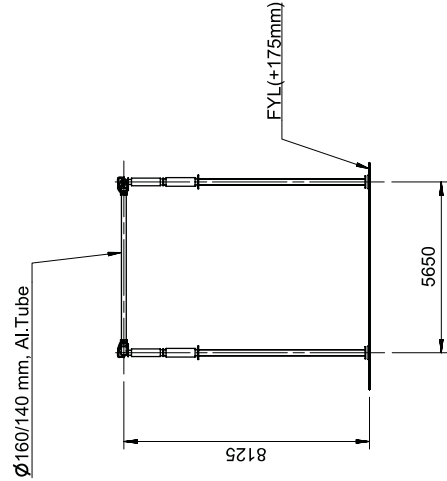
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SECTION S-S

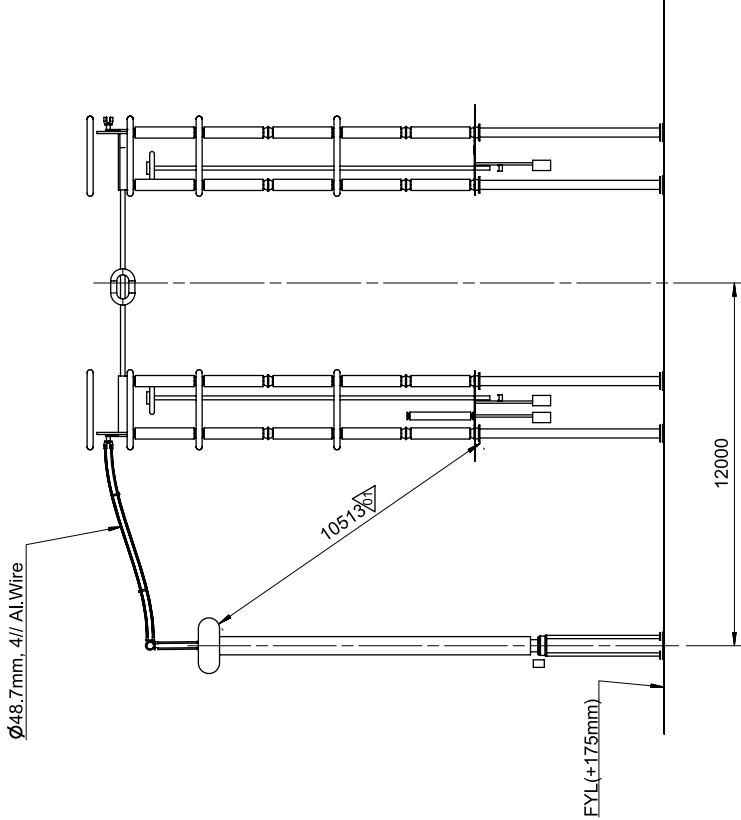


SECTION L-L



SECTION N-N

SECTION M-M



Contract No. CC-CS/551-SR2HVDC-3063/7510/CA-IP5817-5821 dated 2017-01-25

Client: POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)



Station Name Raigarh

Classification No. PB-64

Project name: +800KV, 6000MW HVDC Raigarh-Pugatur Terminals

Prepared: Huzair FM 2018-01-10

Approved: Naik Ashish 2018-01-12

Doc. Area Layout Drawing

Status: Issued

Item designation: PGGI/DCHUBTPM

Revision: 01

Document number: 1JNL100484-563

Language: -

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Rev 01

Date 2018-06-29

Prepared Huzair, FM

Approved Naik, Ashish

Date 2018-06-29

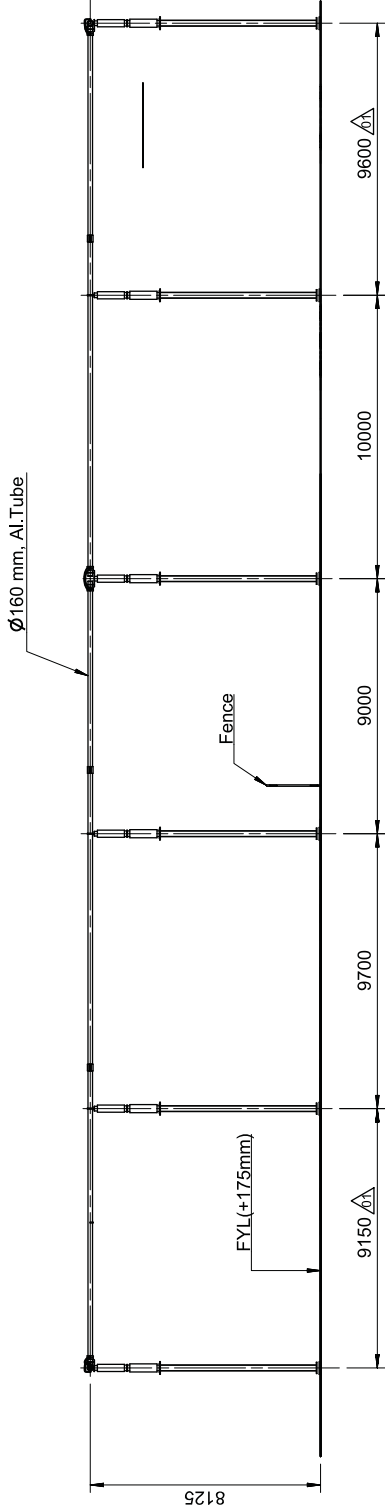
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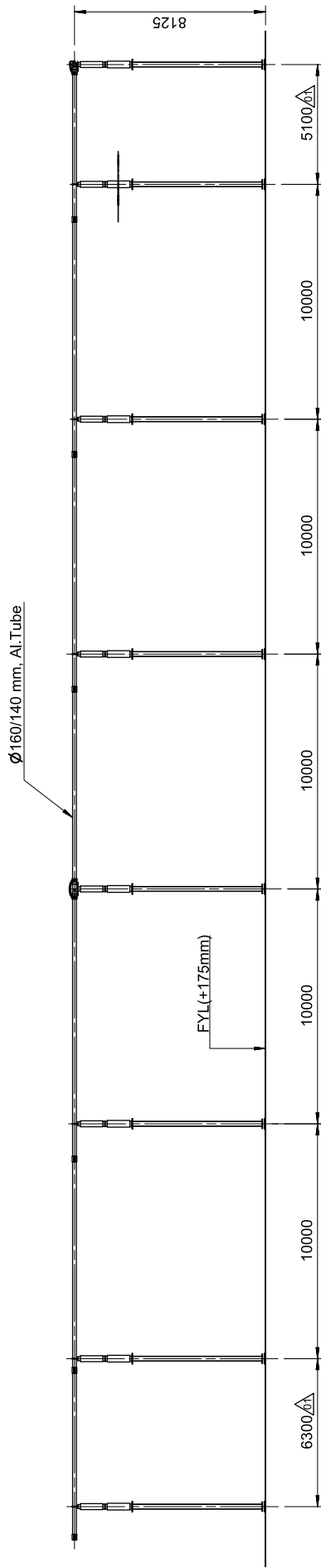
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ANNEXURE-H (POLE-4)



SECTION P-P



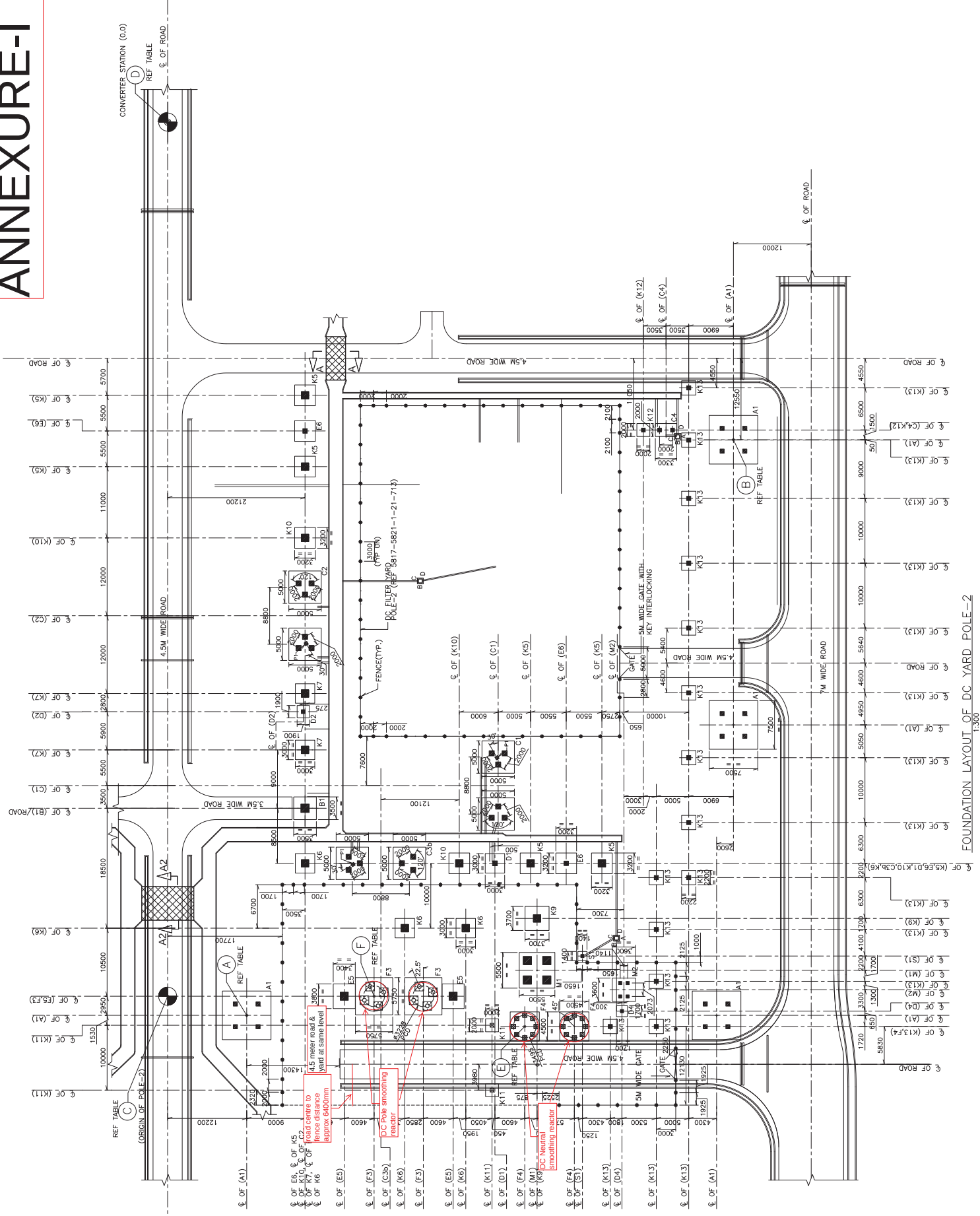
SECTION R-R

Contract No. CC-CS/051-SR2HVDC-3063/7/510/CA-IP587-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. PB-64	
Client		Station Name Raigarh		Project name	
RAIGARH HEAVY ELECTRICALS LTD. TRANSMISSION BUSINESS GROUP		Based on		+800KV, 6000MW HVDC Raigarh-Pugatur Terminals	
Prepared Huzair FM		2018-01-10		Status	
Approved Naik Ashish		2018-01-12		Issued	
Doc. And Layout drawing		Pole4-Layout & Sections DC Yard		Item designation	
Revision made are marked. Also refer last page for 01 revision notes.		Huzair, FM		PGGI/DC/HUB/TPM	
Naik, Ashish		2018-06-29		Document number	
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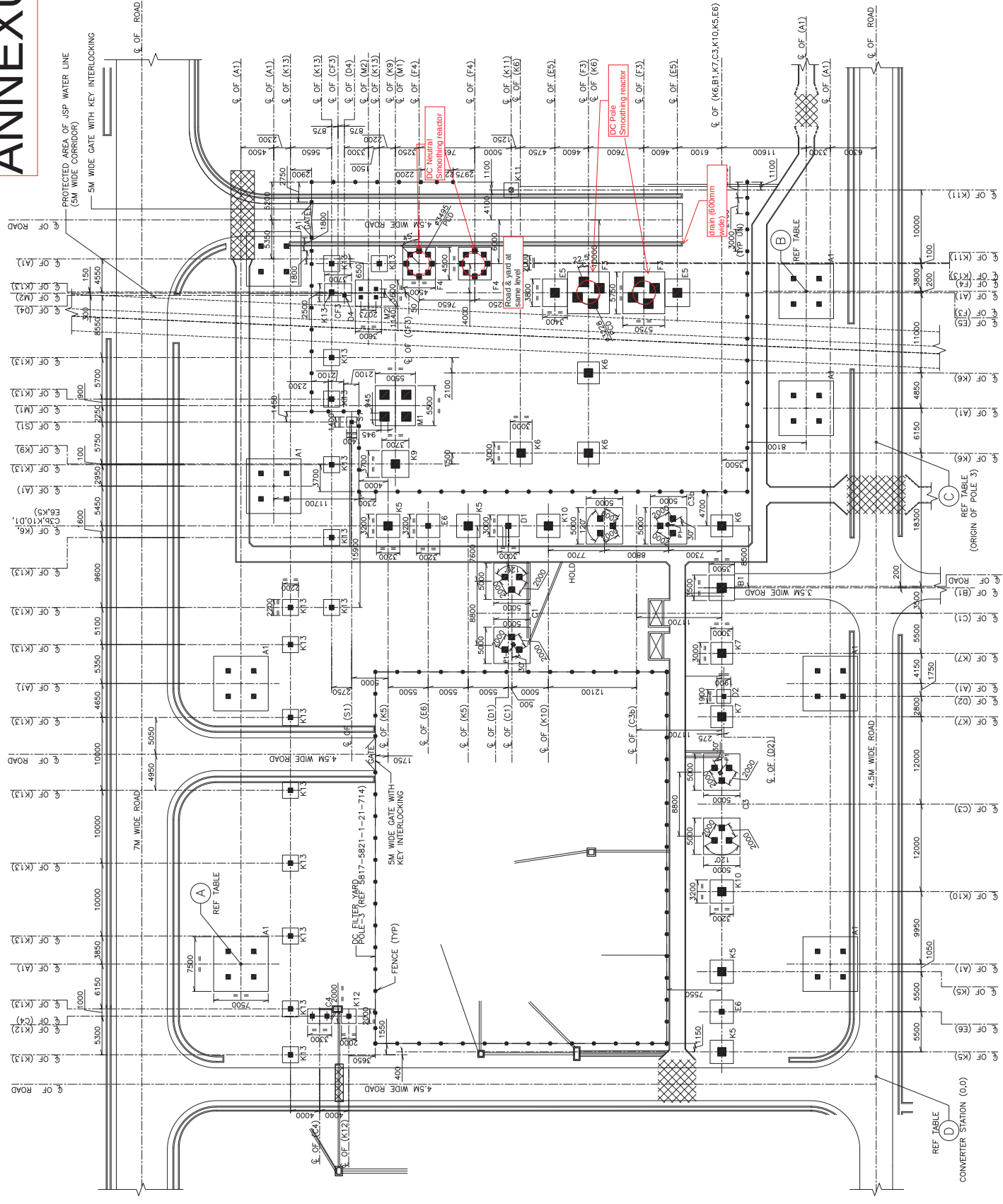
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				Sheet 4		Dimensions updated									
				Sheet 5		Dimensions and Tube size updated									
				Sheet 6		Dimensions and Tube size updated									
				Sheet 7		Dimensions and Tube size updated									
				Sheet 8		Dimensions updated									
				Sheet 9		Dimensions updated & Section S-S are added									
				Sheet 10		Dimensions updated									
Revision made are marked. Also refer last page for 01 revision notes.															
Rev		Revision		Huzair, FM		Naik, Ashish		2018-06-29							
Prepared		Approved		Date											
Contract No.		CC-CS/451-SR2HVDC-3063/7/15/0/CA-1/5817-5821		Station Name		Raigarh		Classification No.		PB-64					
Client		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Project name		+800KV, 6000MW HVDC Raigarh-Puglur . Terminals		Item designation							
Based on		Huzair FM		2018-01-10		2018-01-12		Revised							
Approved		Naik Ashish		2018-01-12		2018-01-12		Revised							
Doc. kind		Layout Drawing		Status		Issued		Revised							
Pole4_Layout&Sections		PGGI/DC/HUB/TPM		Document number		1JNL100484-563		Language		-					
DC Yard		ABB AB - HVDC		Sheet		11 / 11		Sheet		11 / 11					
ABB		ABB AB		11 / 11		11 / 11		11 / 11		11 / 11					



ANNEXURE-I



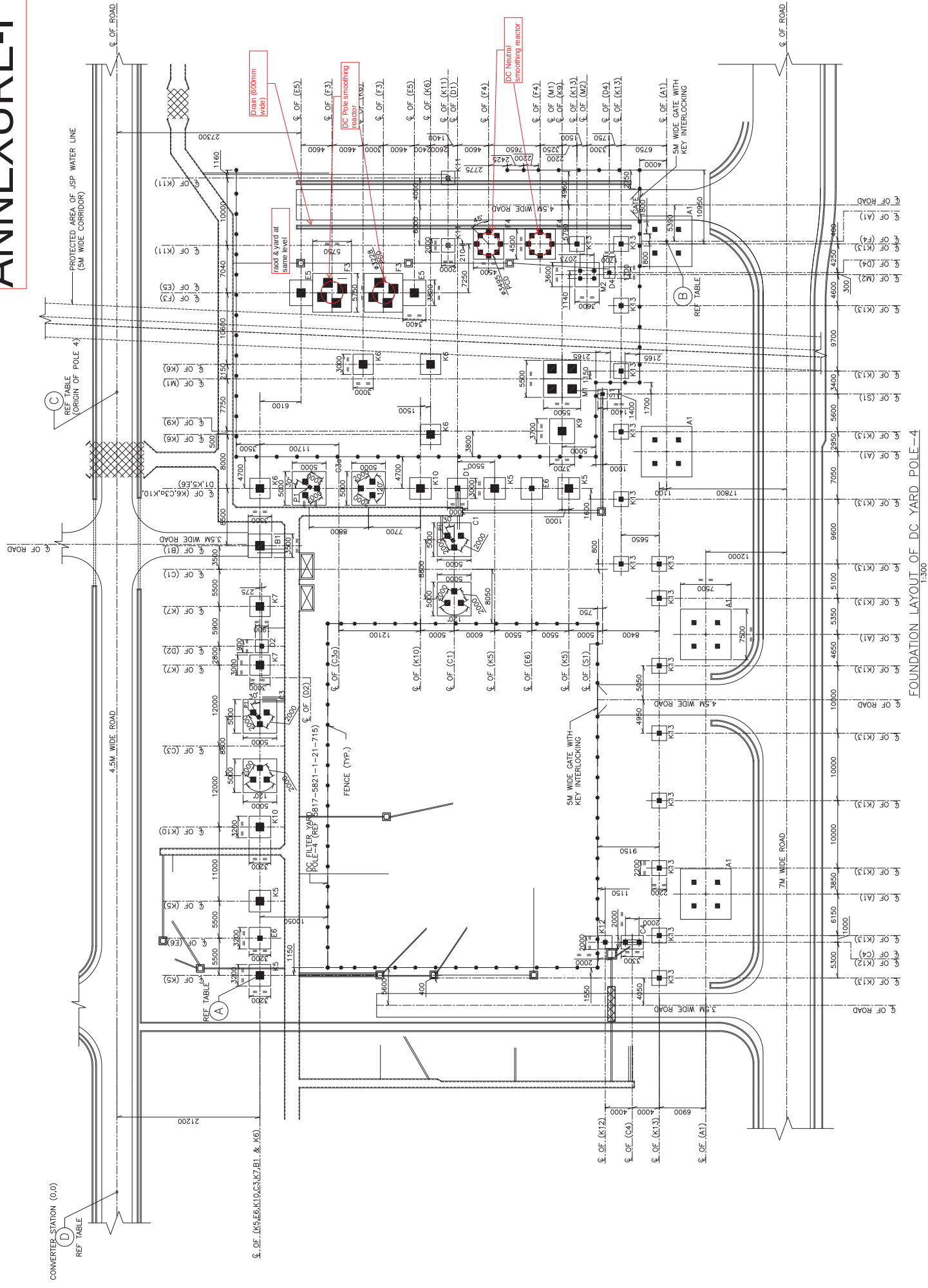
ANNEXURE-I

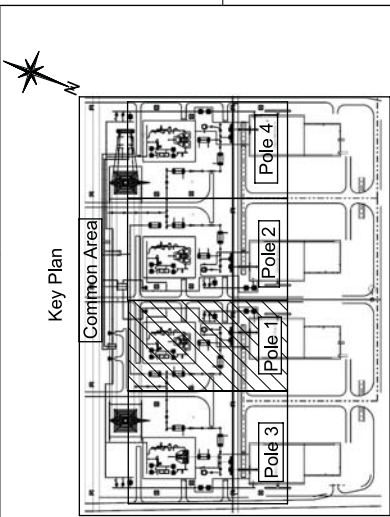


FOUNDATION LAYOUT OF DC YARD POLE-3

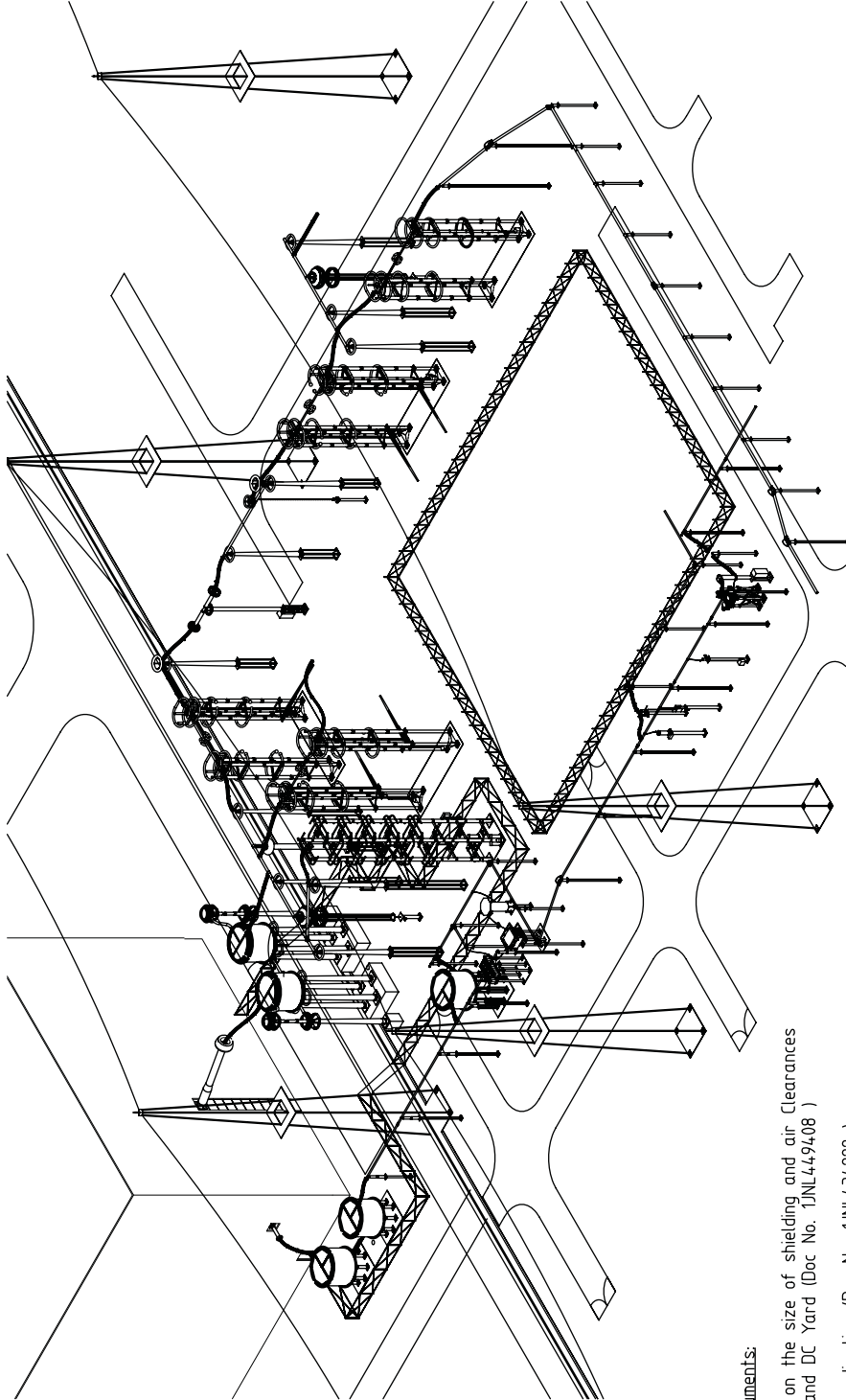
1 OF 1:300

ANNEXURE-I





ANNEXURE-J (POLE-1)



Reference Documents:

- 1. Requirement on the size of shielding and air Clearances for Valvehall and DC Yard (Doc No. 1JNL449408)
- 2. Insulation Coordination (Doc No. 1JNL434222)
- 3. Main Circuit Single Line Diagram, Pugalur (Doc No. 1JNL437657)
- 4. DC Yard Layout and section Overview (Doc No. 1JNL100485-230)

Notes: 01

- 1. All Dimensions are in mm unless otherwise specified.
- 2. Conductor Data
Pole Bus:
 - Ø 250/226 mm Al.Tube
 - Ø 48.7mm, AACNeutral Bus:
 - Ø 250/230 mm Al.Tube
 - Ø 160/14.0mm Al.Tube
 - Ø 32.6mm, AACDamping wires:
 - Ø 250/226 & Ø 250/230 mm Al.Tube (Length of the damping wire shall be = 2/3 of length of the busbar tube.)
 - Ø 48.7mm, AAC for Ø 160/14.0mm Al.Tube (Length of the damping wire shall be = 2/3 of length of the busbar tube.)
- 3. Refer OGA drawing for slope details 1JNL100336-120 sheet.2

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Contract No: CC-CS/051-SR2HVDC-3063/7510/CA-15817-5821 dated: 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

Classification No: PGB-64

Project name: +800KV, 6000MW HVDC Raigarh-Pugalur Terminals

Station Name: Pugalur

Based on: THIRUCHUNAPALI VIJAYA BHASKAR TRANSMISSION BUSINESS GROUP

Prepared: Thiruchunapali, Vijaya, Bhaskar 2018-01-10

Approved: Naik, Ashish 2018-01-23

Doc. Area: Layout Drawing

Item designation: Issued

Rev. no: 01

Document number: 1JNL100484-560

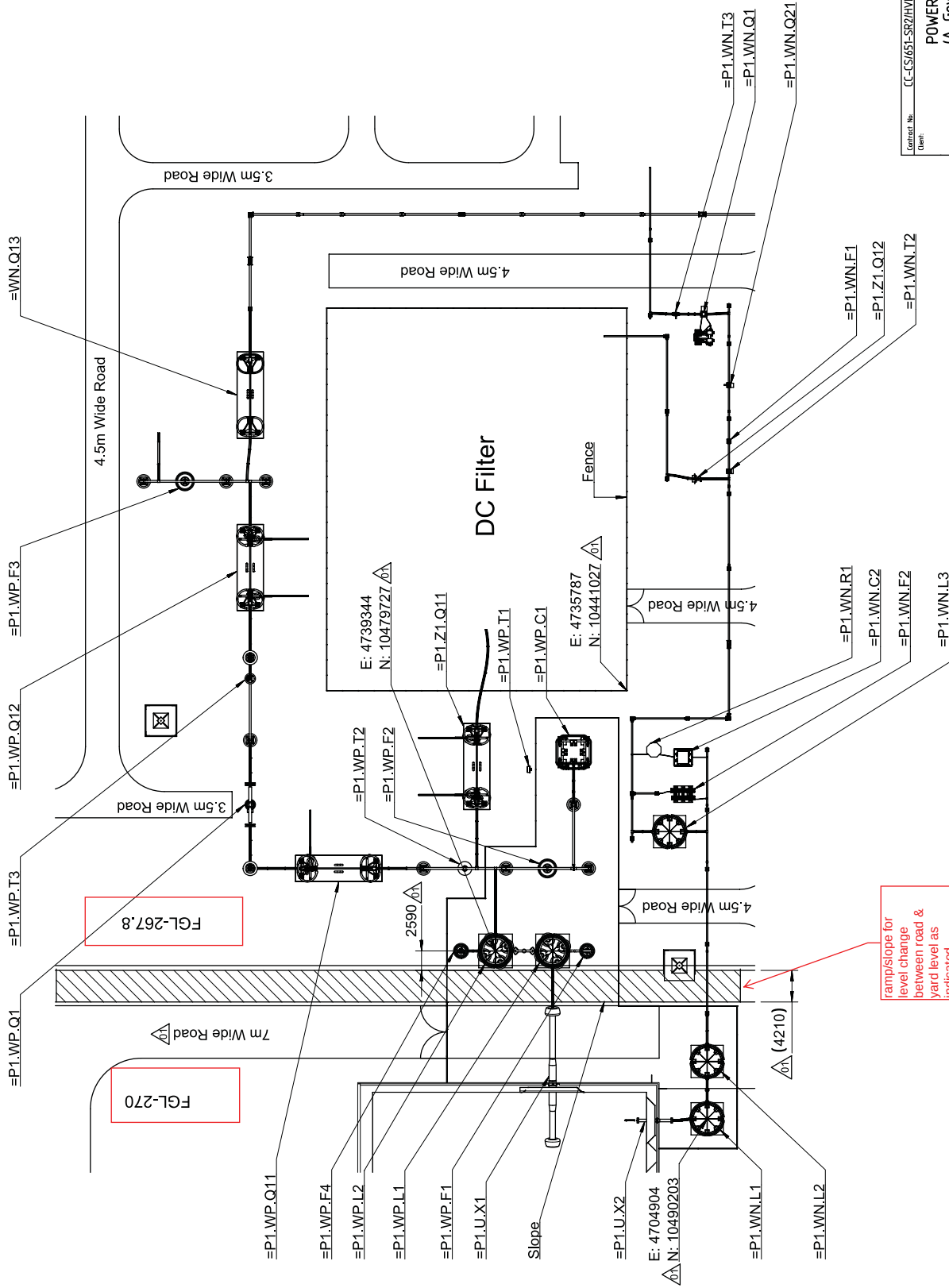
Rev. no: 01

Language: English

Sheet: 1 / 13

Revisions made are marked. Also refer last page for 01 revision notes.	Thiruchunapali, Vijaya, Bhaskar	Naik, Ashish	2018-06-26
Rev	Prepared	Approved	Date

ANNEXURE-J (POLE-1)



Contract No. CC-CS/651-SR2/HVDC-3063/7650/CA-IP587-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



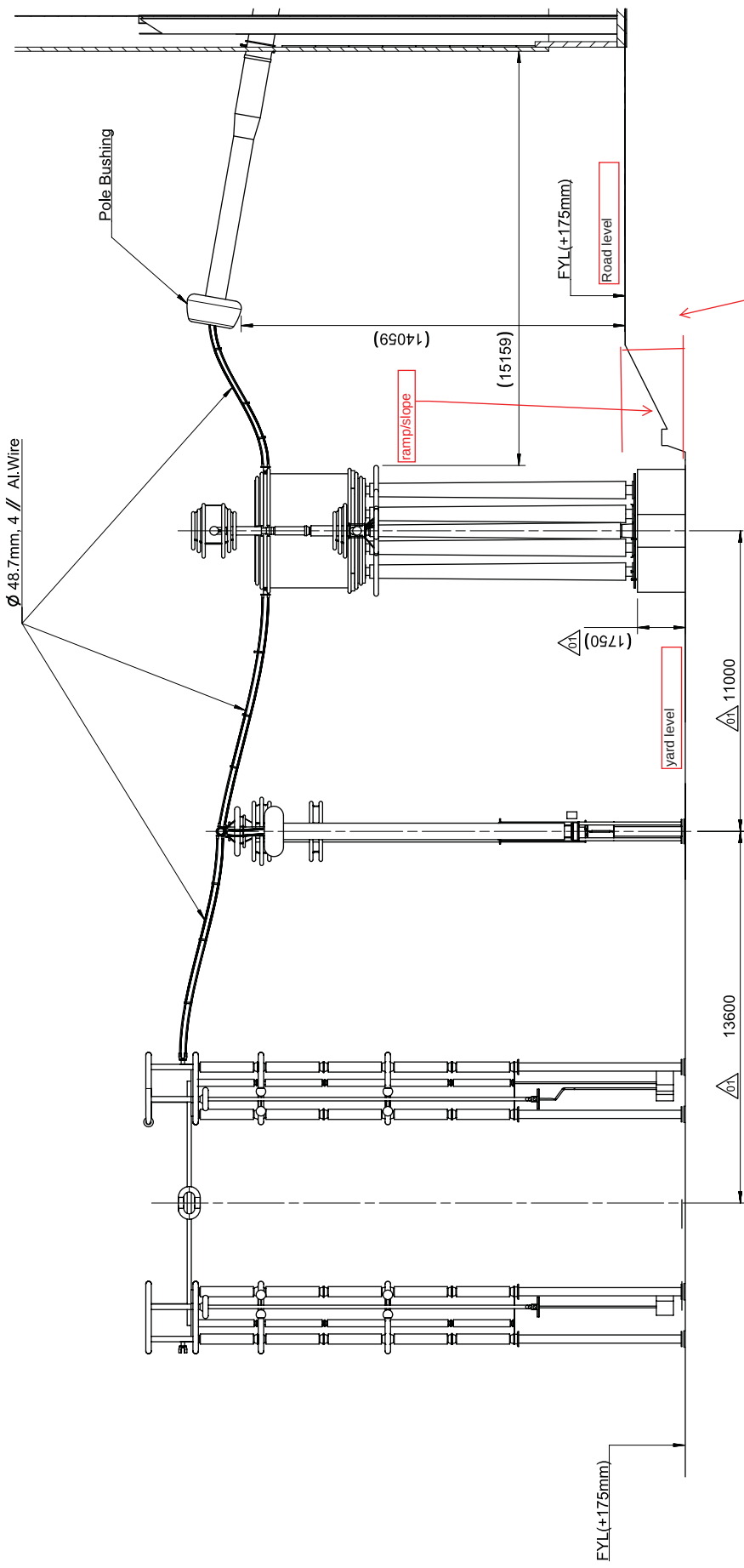
Station Name: Pugalur
Classification No. FB-64
Project name: +800KV, 6000MW HVDC Raigarh-Pugalur Terminals
Prepared: Thiruchunapali, Vijaya, Bhaskar 2018-01-10
Approved: Naik, Ashish 2018-01-23
Doc. No. Layout Drawing

Status: Issued
Revision: 01
Document number: 1JNL 100484-560
Item designation: PGG/IDCHUBTPM
Revision: 01
Language: English
Sheet: 2 / 13

Revisions made are marked. Also refer last page for 01 revision notes.
Rev. Revision
Thiruchunapali, Vijaya, Bhaskar
Naik, Ashish
2018-06-26
Date

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ANNEXURE-J (POLE-1)

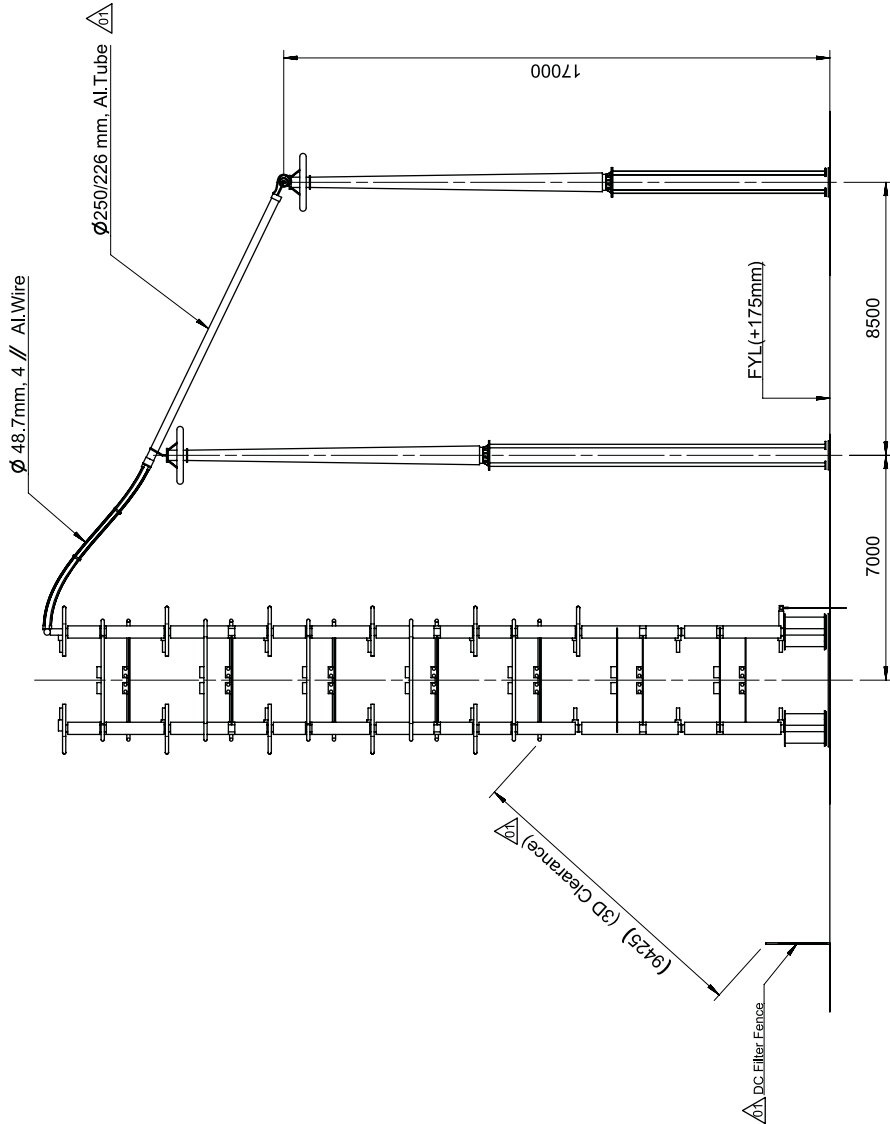


SECTION C-C

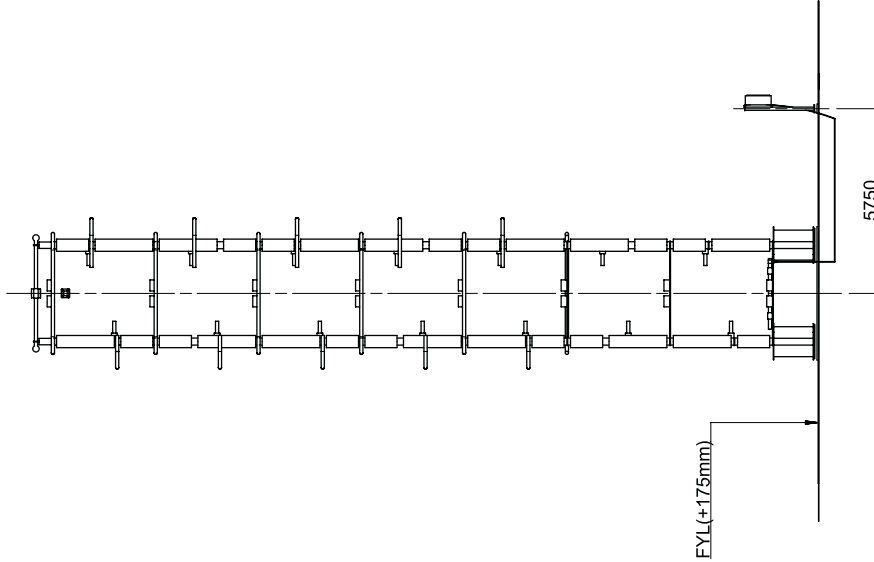
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Client		Project name		Station Name	
Bharat Heavy Electricals Ltd. TRANSMISSION BUSINESS GROUP		+800KV, 6000MW HVDC Raigarh-Pugatur Terminals		Pugatur	
Based on		Approved		Doc. No.	
Thiruchunapali, Vijaya, Bhaskar		Naik, Ashish		2018-01-23	
Doc. No.		Doc. No.		Doc. No.	
Layout Drawing		Pole1 Layout & Sections		DC Yard	
Status		Issued		Item designation	
Revised		PGGI/DC-HUBTPM		Revised	
Document number		1JNL100484-560		Language	
ABB		ABB AB - HVDC		Sheet	
5/13					

Revisions made are marked. Also refer last page for revision notes.		Thiruchunapali, Vijaya, Bhaskar		Naik, Ashish		2018-06-26	
01		Revision		Approved		Date	

Revisions made are marked. Also refer last page for revision notes.		Thiruchunapali, Vijaya, Bhaskar		Naik, Ashish		2018-06-26	
01		Revision		Approved		Date	



SECTION D-D

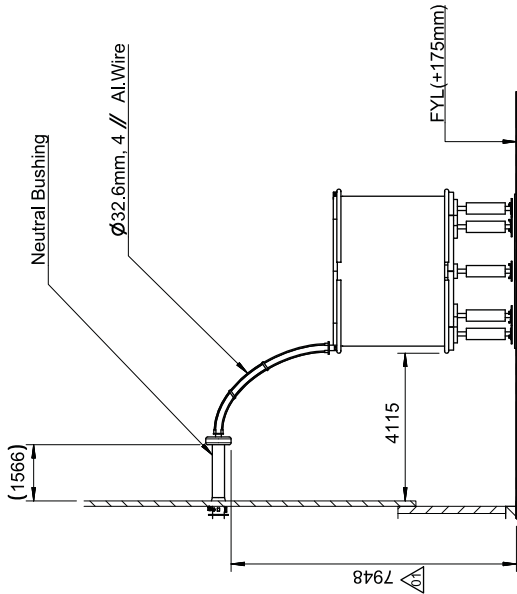


SECTION E-E

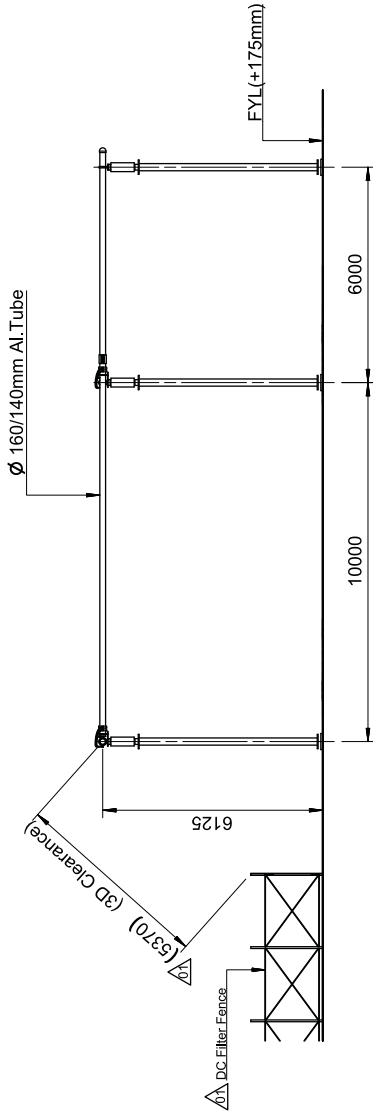
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Client		PROJECT NAME		Station Name	
PROJECT NAME		+800KV, 6000MW HVDC Raigarh-Pugdhar		Pugdhar	
Based on		Thiruchunapalli, Vijaya, Bhaskar		2018-01-23	
Approved		Naik, Ashish		2018-01-23	
Doc. No.		Layout Drawing		2018-01-23	
Status		Issued		Item designation	
Revised		PGG/IDCHUBTPM		Revised 01	
Document number		1JNL 100484-560		Language	
Sheet		6 / 13		Sheet	

Revisions made are marked. Also refer last page for revision notes.		Thiruchunapalli, Vijaya, Bhaskar		Naik, Ashish		2018-06-26	
01		Revision		Approved		Date	

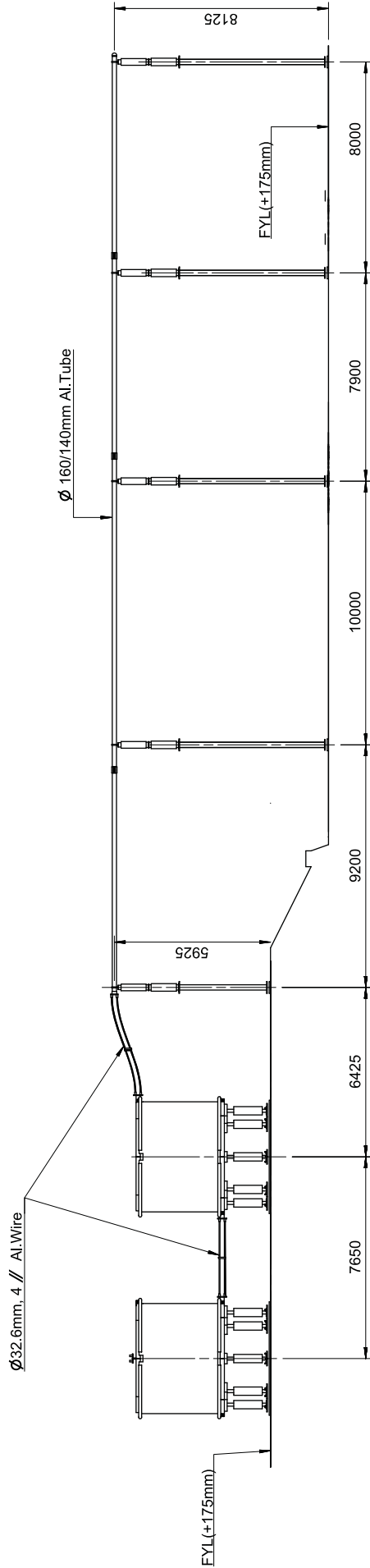
ANNEXURE-J (POLE-1)



SECTION G-G



SECTION F-F



SECTION H-H

Contract No. CC-CS/051-SR2HVDC-3063/7510/CA-15817-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

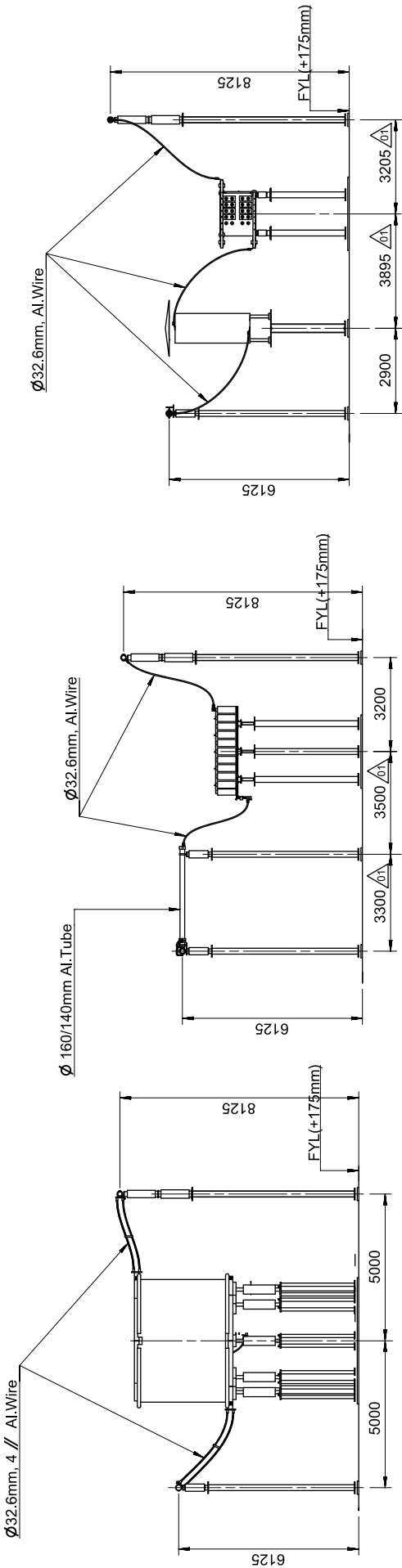


Project name: HVDC RAIGARH-PUGLUR
+800KV, 6000MW HVDC Raigarh-Puglur
Terminals
Status: Issued
Revised: 01
Document number: 1JNL100484-560

Revisions made are marked. Also refer last page for revision notes.
01 revision notes.

Revised: 01
Document number: 1JNL100484-560

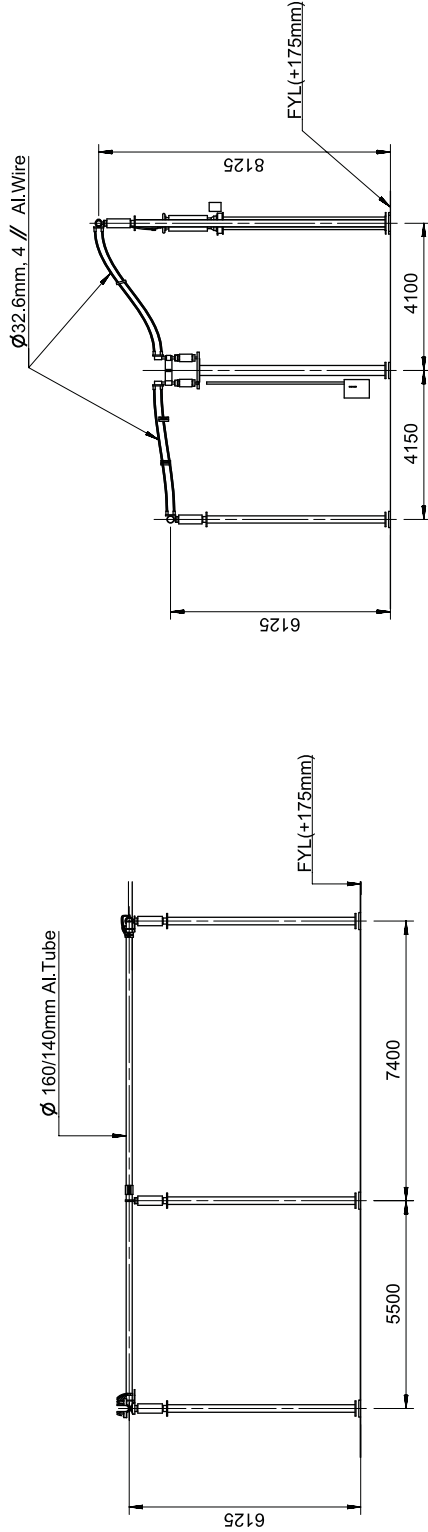
ANNEXURE-J (POLE-1)



SECTION J-J

SECTION K-K

SECTION L-L



SECTION M-M

SECTION N-N

Contract No. CC-CS/651-SR2/HVDC-3063/71510/CA-1/5817-5821 dated 2017-01-25

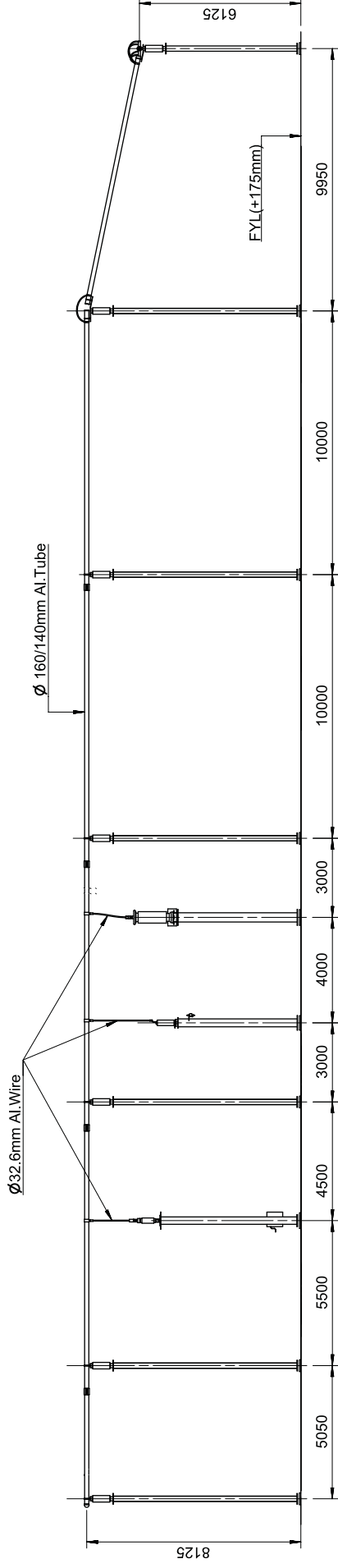


POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

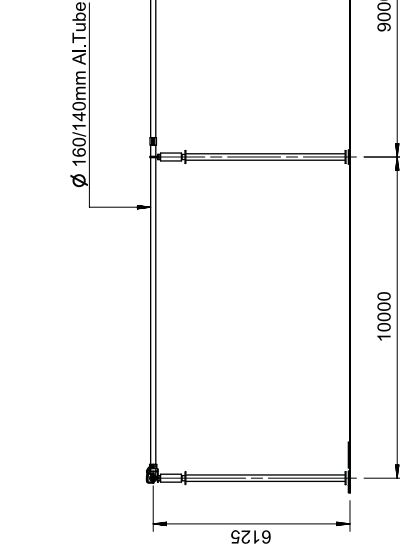
Client: POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. PB-64
Contract No. CC-CS/651-SR2/HVDC-3063/71510/CA-1/5817-5821 dated 2017-01-25		Project name: +800KV, 6000MW HVDC Raigarh-Pugdhar Terminals
Based on: Thiruchunapalli, Vijaya, Bhaskar 2018-01-10		Station Name: Pugdhar
Approved: Naik, Ashish		Doc. No: 2018-01-23
Doc. Name: Layout Drawing		Item designation: PGGI/DCHUBTPM
Status: Issued		Rev. No: 01
Pole1 Layout & Sections DC Yard		Document number: 1JNL100484-560
ABB		ABB AB - HVDC

Revisions made are marked. Also refer last page for revision notes.		Thiruchunapalli, Vijaya, Bhaskar	Naik, Ashish	2018-06-26
01	Revision	Prepared	Approved	Date

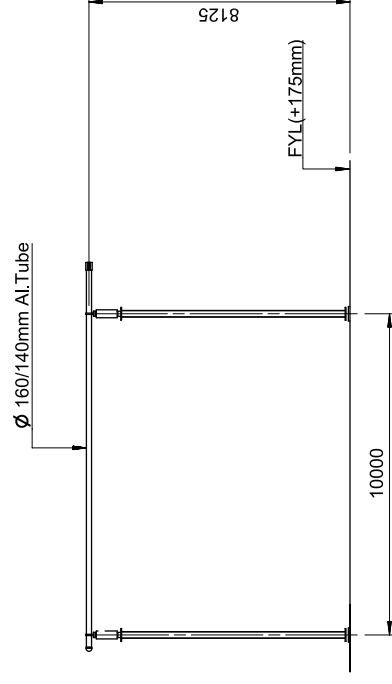
ANNEXURE-J (POLE-1)



SECTION R-R



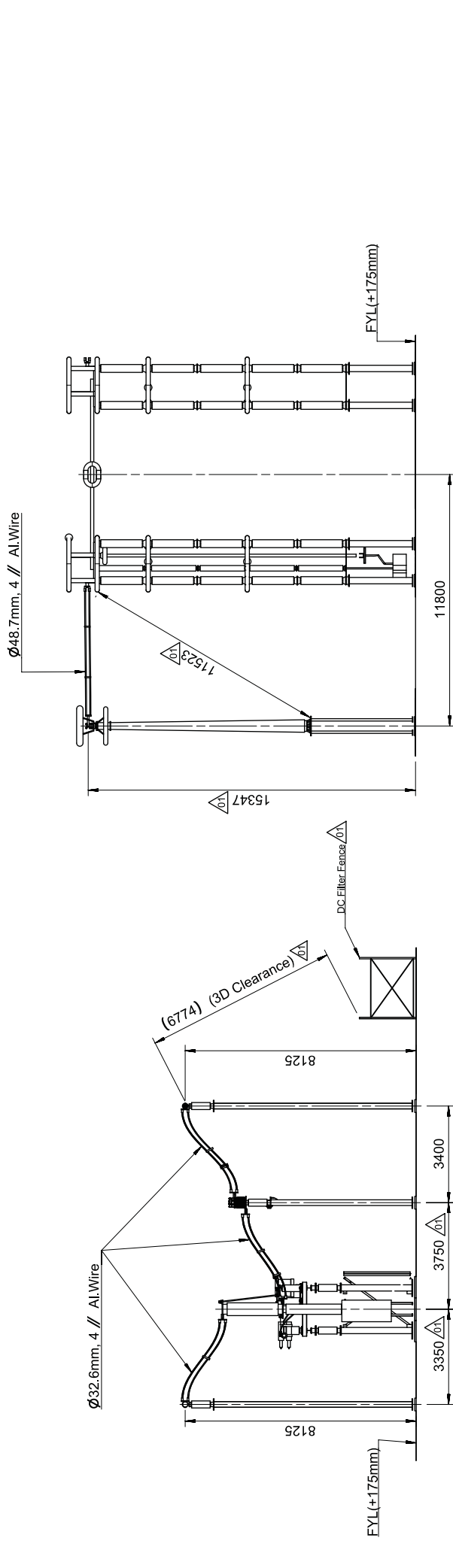
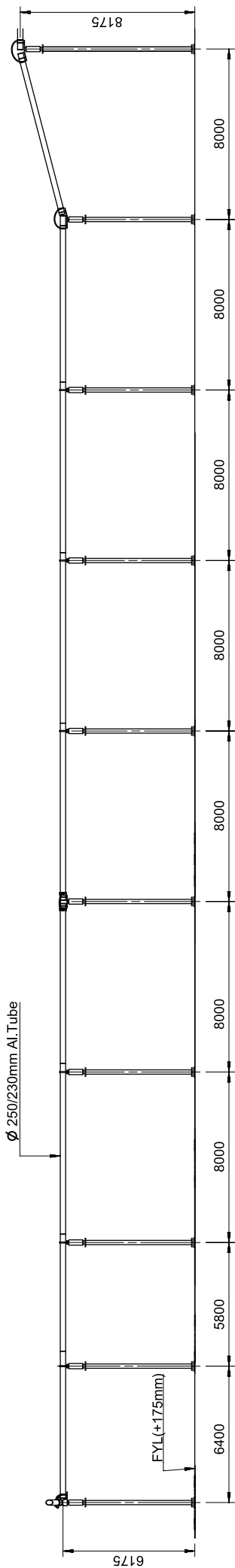
SECTION P-P



SECTION S-S

Contract No. CC-LSI651-SR2/HVDC-30637G/0(CA-JI5871-5821 dated 2017-01-25)		Client:		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		 पारवर्तिक	
 ABB BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION BUSINESS GROUP		Station Name Pugalur		Classification No. PB-64			
Based on Prepared Thiruchunapali, Vijaya Bhaskar2018-01-10 Approved Naik, Ashish Doc. No. Layout drawing Date 2018-01-23		Project name Terminals					
Title Pole1 Layout & Sections DC Yard		Status		Item designation			
		Issued		PGGI/DCHUBTPM		Language	
		Prep. detd		Rev. no. 01			
		Document number		1JNL 100484-560		Sheet no. 9 / 13	
ABB		ABB AB - HVDC					
Revisions made are marked. Also refer last page for revision notes.		Thiruchunapali, Vijaya, Bhaskar		Naik, Ashish		2018-06-26	
01 Revision		Prepared		Approved		Date	

ANNEXURE-J (POLE-1)



SECTION T-T

SECTION V-V

Contract No. CC-CS/051-SR2HVDC-3063/7510/CA-1587-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



Station Name: Pugalur
Classification No. FBB-64
Project name: +800KV, 6000MW HVDC Raigarh-Pugalur
Terminals
Prepared: Thiruchunapali, Vijaya, Bhaskar
Approved: Naik, Ashish
Doc. No. 2018-01-23
Layout Drawing

Status: Issued
Revised: PGGI/DCHUBTPM
Document number: 1JNL 100484-560
Revision designation: ABB AB - HVDC

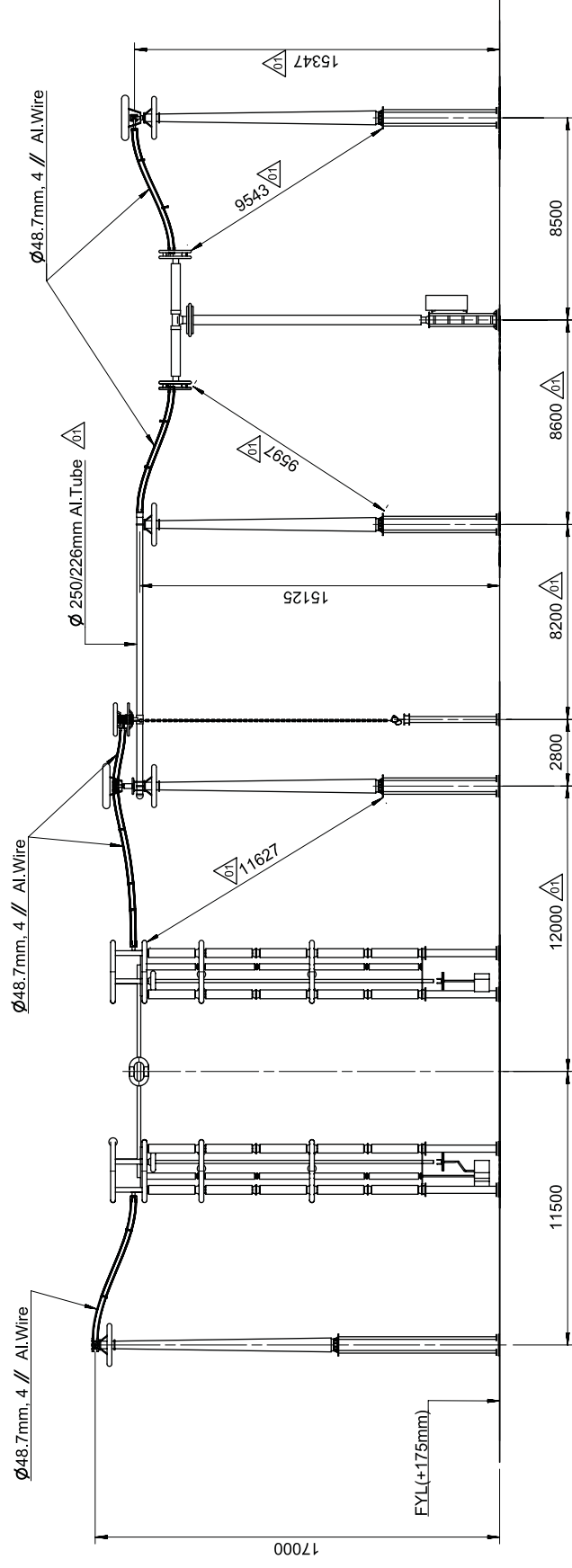
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Thiruchunapali, Vijaya, Bhaskar
Naik, Ashish
2018-06-26
Date

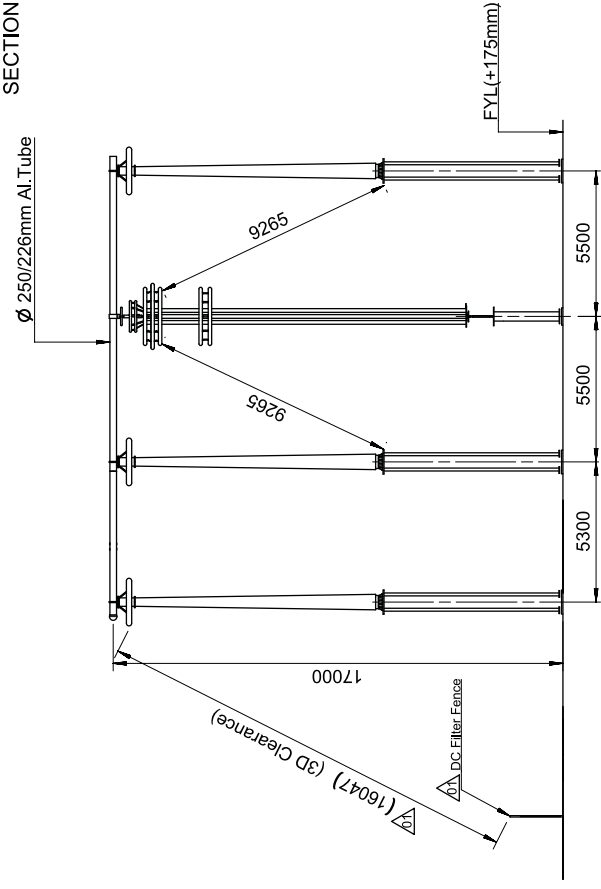
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Prepared: 4
Revision: 3
Revision: 2
Revision: 1

10 / 13
Sheet

ANNEXURE-J (POLE-1)



SECTION W-W

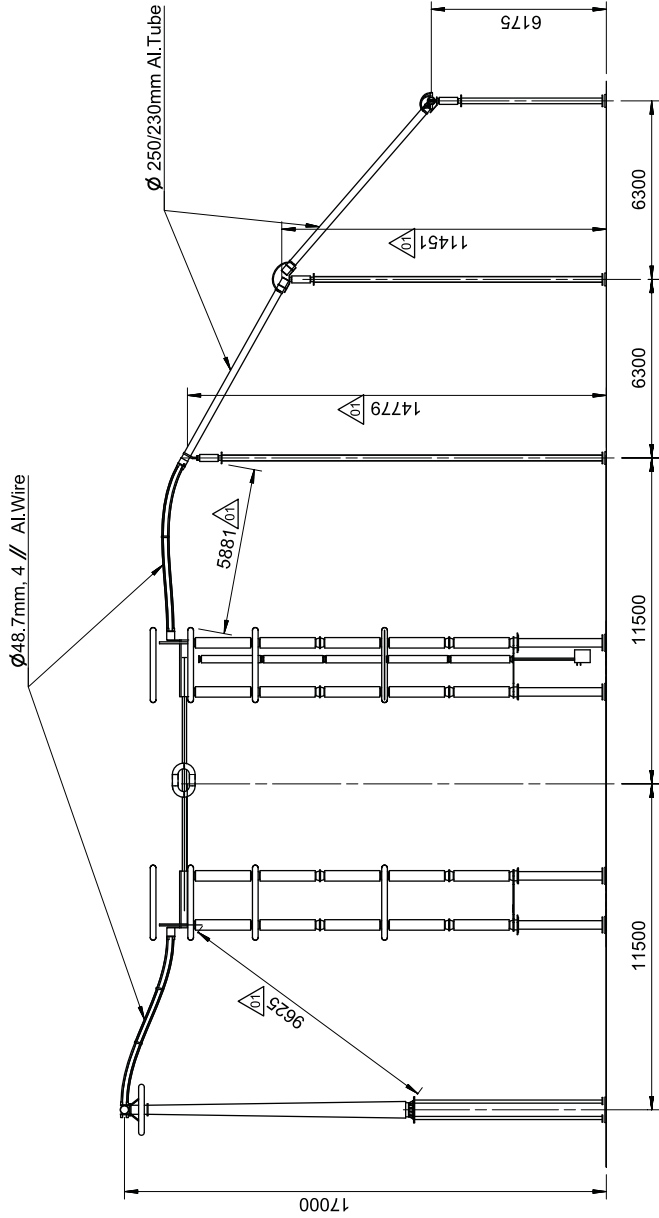


SECTION X-X

Contract No.	CC-C5/651-582/HVDC-3063/JTG10/CA-1/5871-5821 dated 2017-01-25				
Client:	POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)				
 Bharat Heavy Electricals Ltd. Transmission Business Group	Station Name	Pugulur		Classification No.	EB-64
	Based on			Project name	±800kV, 6000MW HVDC Raigarh-Pugulur Terminals
	Prepared	Thiruchanpalai, Vijaya Bhaskar2018-01-10			
	Approved	Naik. Ashish 2018-01-23			
	Disc. Kind	Layout drawing		Status	Item designation
The	Pole1 Layout & Sections DC Yard			Issued	
	Drawing detail			PGGI/DCHUB1TPM	Rev. no. 01
	Document number			Language	
6	ABB AB - HVDC			1JNL100484-560	
				Sheet of 11/13	

01	Revisions made are marked. Also refer last page for revision notes.	Thiruchunapali, Vijaya, Bhaskar	2018-06-26
Rev	Revision	Prepared	Date
		Approved	Date
		Naik, Ashish	2018-06-26

ANNEXURE-J (POLE-1)



SECTION Y-Y

Contract No. CC-CS/051-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25

Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



Station Name: Pugalur

Classification No. PB-64

Project name: +800KV, 6000MW HVDC Raigarh-Pugalur

Terminals

Based on: Thiruchunapali, Vijaya, Bhaskar2018-01-10

Approved: Naik, Ashish

Doc. No: 2018-01-23

Doc. Name: Layout Drawing

Status: Issued

Item designation: PGGI/DC-HUBTPM

Rev. No: 01

Document number: 1JNL100484-560

Language: English

Sheet: 12 / 13

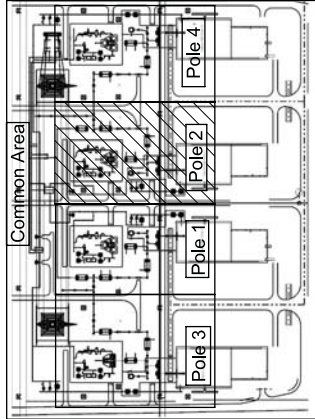
Revisions made are marked. Also refer last page for revision notes.		Thiruchunapali, Vijaya, Bhaskar	Naik, Ashish	2018-06-26
01	Rev	Revision	Approved	Date

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ANNEXURE-J (POLE-2)



Key Plan

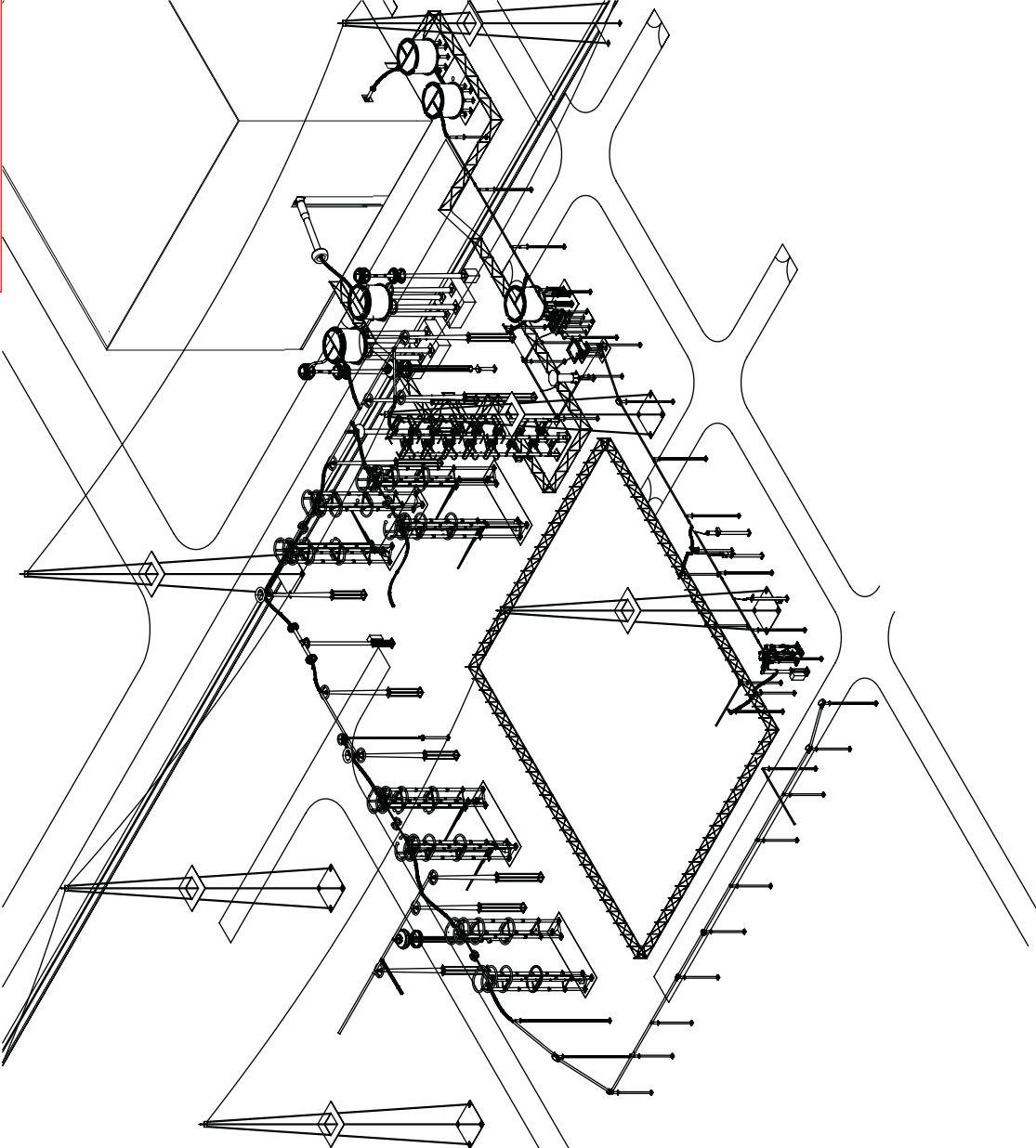


Reference Documents:

1. Requirement on the size of shielding and air Clearances for Valvehall and DC Yard (Doc No. 1JNL449408)
2. Insulation Coordination (Doc No. 1JNL434222)
3. Main Circuit Single Line Diagram, Pugalur (Doc No. 1JNL437657)
4. DC Yard Layout and section Overview (Doc No. 1JNL100485-230)

Notes:

1. All Dimensions are in mm unless otherwise specified.
2. Conductor Data
Pole Bus:
 - Ø 250/226 mm Al.Tube
 - Ø 48.7mm, AACNeutral Bus:
 - Ø 250/230 mm Al.Tube
 - Ø 160/140mm Al.Tube
 - Ø 32.6mm, AACDamping wires:
 - Ø 250/226 & Ø 250/230 mm Al.Tube (Length of the damping wire shall be = 2/3 of length of the busbar tube.)
 - Ø 48.7mm, AAC for Ø 160/140mm Al.Tube (Length of the damping wire shall be = 2/3 of length of the busbar tube.)
3. Refer OGA drawing for slope details 1JNL100336-120 sheet.2



Contract No. CC-CS-051-SR2HVDC-3063/7610/CA-15817-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

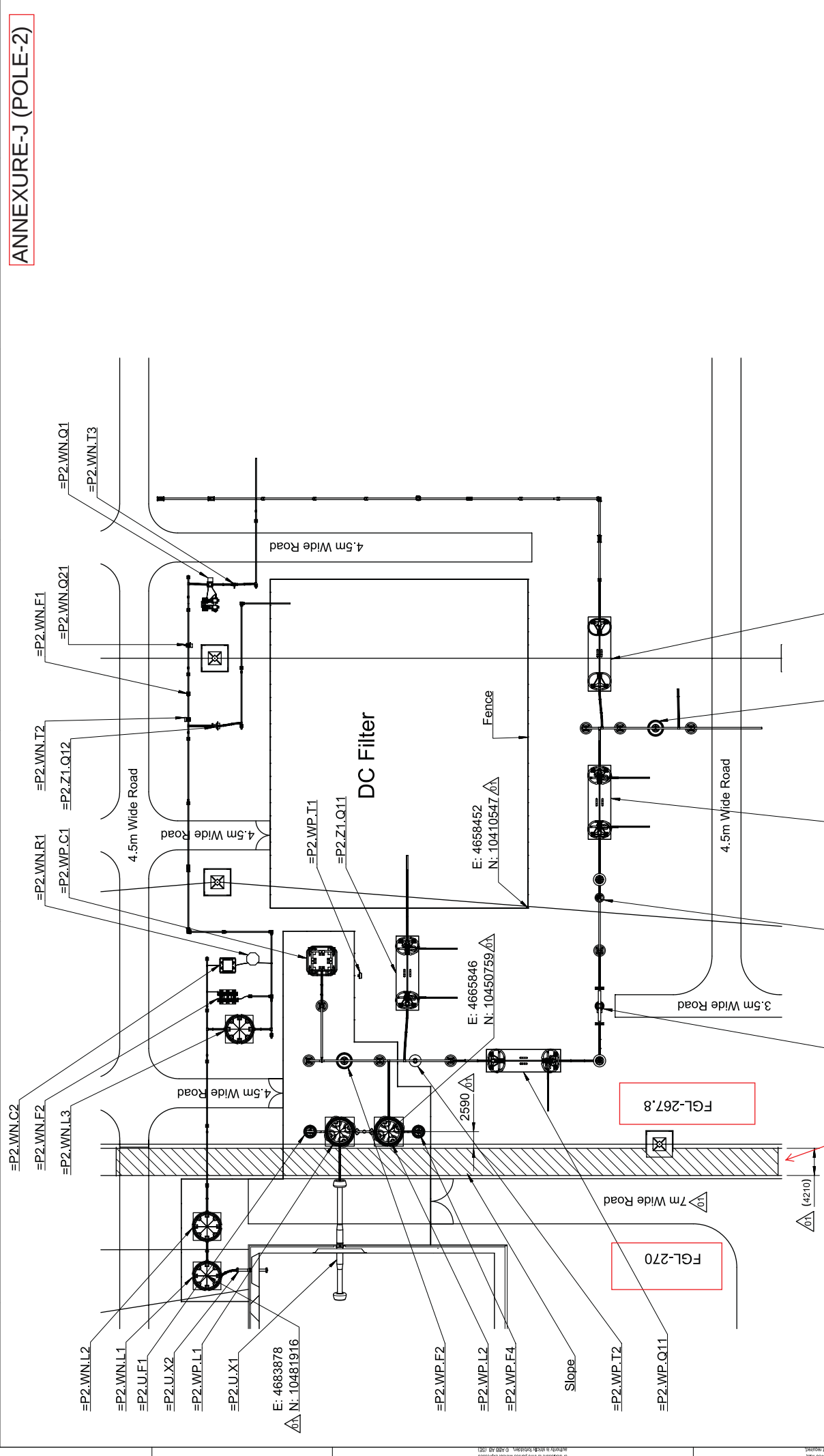


Project Name: HVDC RAIGARH-PUGALUR
+800KV, 6000MW HVDC Raigarh-Pugalur
Terminals
Status: Issued
Revision: 01
Document number: 1JNL100484-564

Station Name: Pugalur
Classification No. PGB-64
Based on: Thiruchunapali, Vijaya, Bhaskar
Approved: Naik, Ashish
Doc. No.: 2018-01-23
Pole2 Layout & Sections
DC Yard
ABB AB - HVDC
2018-06-26
Naik, Ashish
Thiruchunapali, Vijaya, Bhaskar
Revisions made are marked. Also refer last page for revision notes.

Revisions made are marked. Also refer last page for revision notes.

ANNEXURE-J (POLE-2)

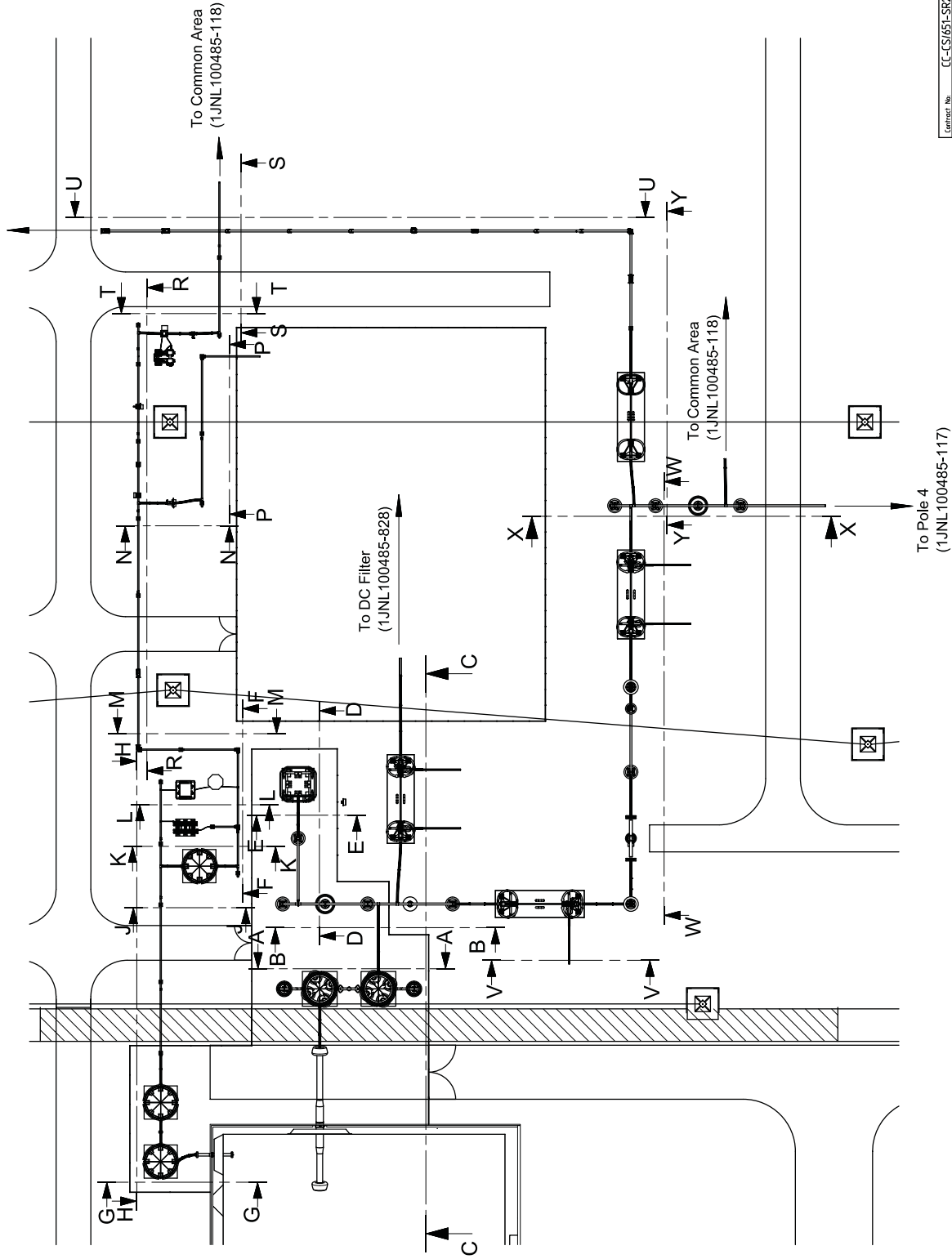


Contract No.	CC-CS(05)-SR2HVDC-3063/7510/CA-1587-5821 dated 2017-01-25
Client	POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)
Station Name	Pugulur
Classification No.	PB-64
Project name	+800KV, 6000MW HVDC Raigarh-Pugulur Terminals
Prepared	Thiruchunapali, Vijaya, Bhaskar
Approved	Naik, Ashish
Doc. No.	2018-01-23
Doc. Name	Layout Drawing
Status	Issued
Rev. No.	01
Rev. Date	2018-06-26
Rev. Description	Revisions made are marked. Also refer last page for revision notes.
Rev. No.	01
Rev. Date	2018-06-26
Rev. Description	Revisions made are marked. Also refer last page for revision notes.

Contract No.	CC-CS(05)-SR2HVDC-3063/7510/CA-1587-5821 dated 2017-01-25
Client	POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)
Station Name	Pugulur
Classification No.	PB-64
Project name	+800KV, 6000MW HVDC Raigarh-Pugulur Terminals
Prepared	Thiruchunapali, Vijaya, Bhaskar
Approved	Naik, Ashish
Doc. No.	2018-01-23
Doc. Name	Layout Drawing
Status	Issued
Rev. No.	01
Rev. Date	2018-06-26
Rev. Description	Revisions made are marked. Also refer last page for revision notes.
Rev. No.	01
Rev. Date	2018-06-26
Rev. Description	Revisions made are marked. Also refer last page for revision notes.

ANNEXURE-J (POLE-2)

To Common Area
(1JNL100485-118)



Note:

- Section A-A See Sheet 04
- Section B-B See Sheet 04
- Section C-C See Sheet 05
- Section D-D See Sheet 06
- Section E-E See Sheet 06
- Section F-F See Sheet 07
- Section G-G See Sheet 07
- Section H-H See Sheet 07
- Section J-J See Sheet 08
- Section K-K See Sheet 08
- Section L-L See Sheet 08
- Section M-M See Sheet 08
- Section N-N See Sheet 08
- Section P-P See Sheet 09
- Section R-R See Sheet 09
- Section S-S See Sheet 09
- Section T-T See Sheet 10
- Section U-U See Sheet 10
- Section V-V See Sheet 10
- Section W-W See Sheet 11
- Section X-X See Sheet 11
- Section Y-Y See Sheet 12

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POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

Contract No. CC-CS/551-SR2HVDC-3063/7510/CA-15817-5821 dated 2017-01-25
Client:

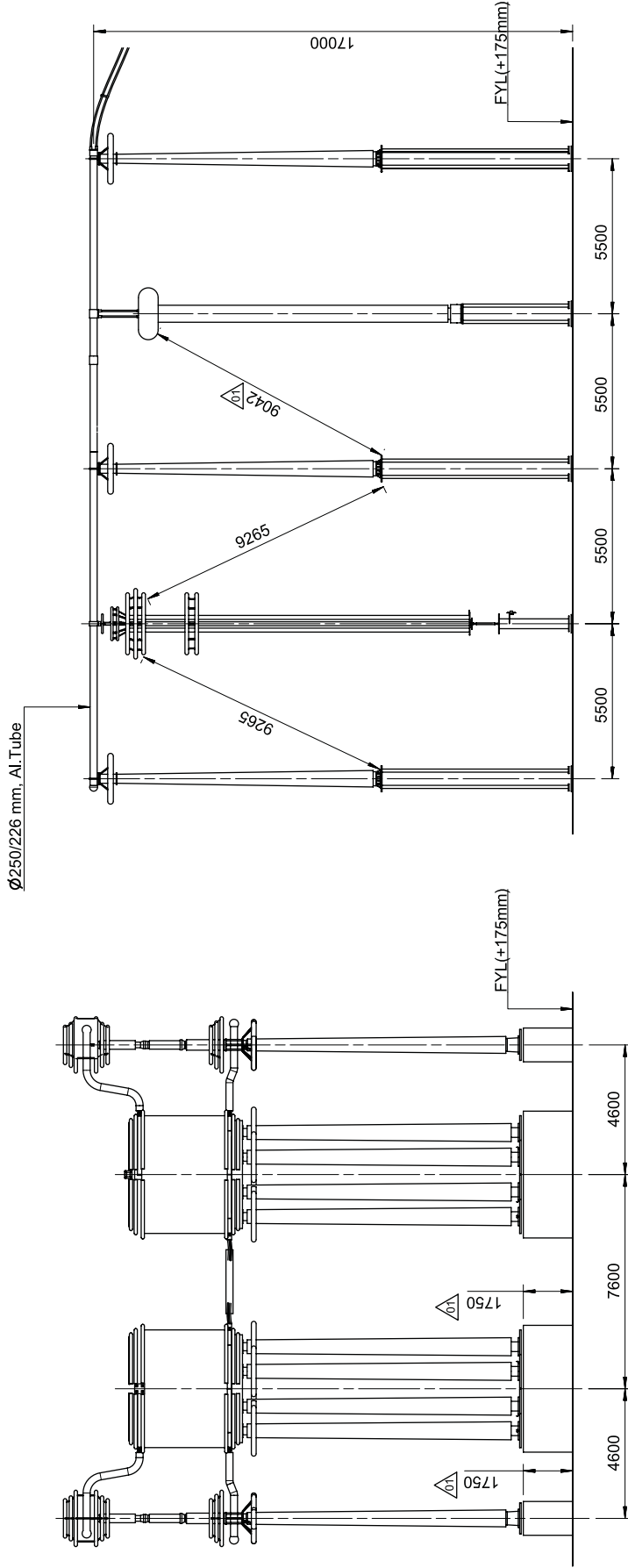
SHRI RANJAN KUMAR ENTERPRISES LTD.
TRANSMISSION BUSINESS GROUP
Project name: +800KV, 6000MW HVDC Raigarh-Pugdhar
Terminals
Prepared: Thiruchunapalli, Vijaya, Bhaskar
Approved: Naik, Ashish
Doc. No: 2018-01-23
Layout Drawing

Status: Issued
Revision: 01
Document number: 1JNL100484-564
Revision: 3 / 13

Revisions made are marked. Also refer last page for revision notes.
01
Revision
Thiruchunapalli, Vijaya, Bhaskar
Naik, Ashish
2018-06-26
Date

Revisions made are marked. Also refer last page for revision notes.
01
Revision
Thiruchunapalli, Vijaya, Bhaskar
Naik, Ashish
2018-06-26
Date

ANNEXURE-J (POLE-2)



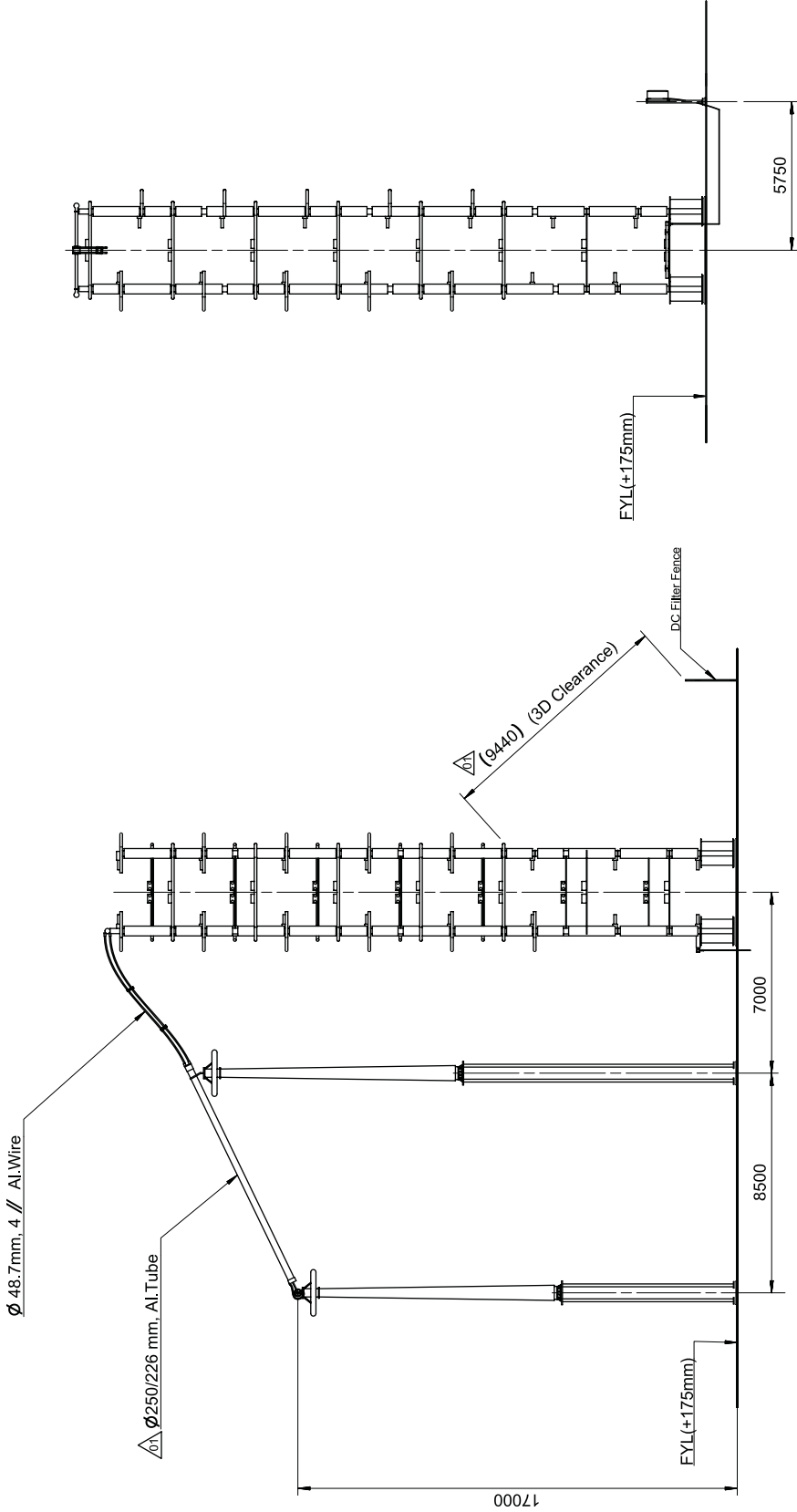
SECTION A-A

SECTION B-B

Contract No. CC-CS/051-SR2HVDC-3063/7510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. FB-64	
Client:		Station Name		Project name	
Thiruchunapali, Vijaya, Bhaskar		Pugulur		+800KV, 6000MW HVDC Raigarh-Pugulur	
Based on		Drawn on		Terminals	
Prepared		Thiruchunapali, Vijaya, Bhaskar		2018-01-10	
Approved		Naik, Ashish		2018-01-23	
Doc. No.		Layout Drawing		Status	
Pole2 Layout & Sections		Issued		Item designation	
DC Yard		PGGI/DCHUBTPM		Rev no. 01	
Thiruchunapali, Vijaya, Bhaskar		Naik, Ashish		Document number	
Revisions made are marked. Also refer last page for 01 revision notes.		Approved		1JNL 100484-564	
Rev		Revision		Language	
1		2		Sheet - 4 / 13	

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SECTION D-D

SECTION E-E

Contract No. CC-CS/51-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



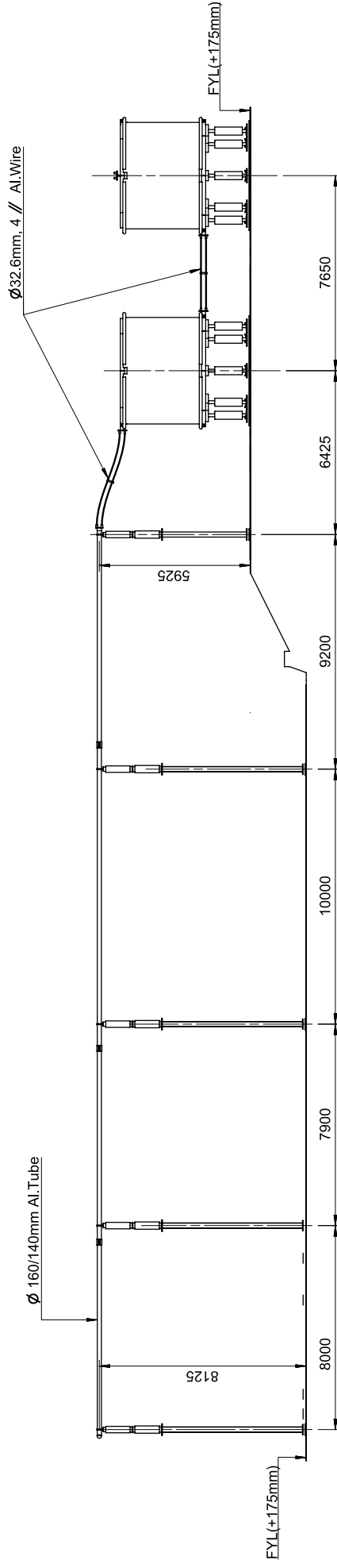
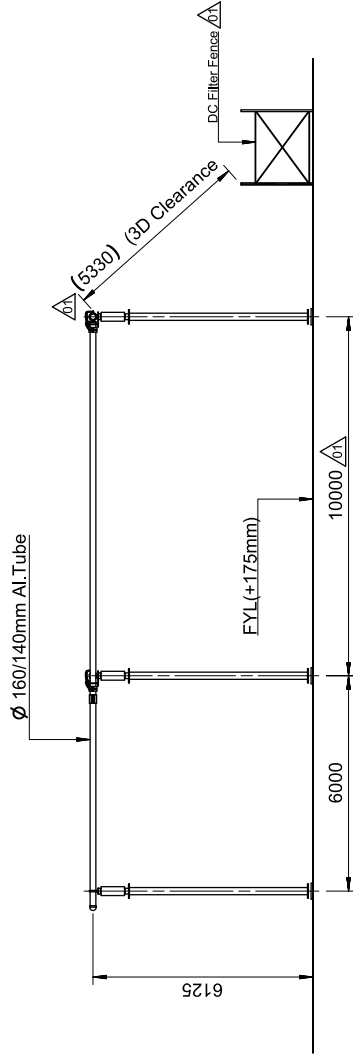
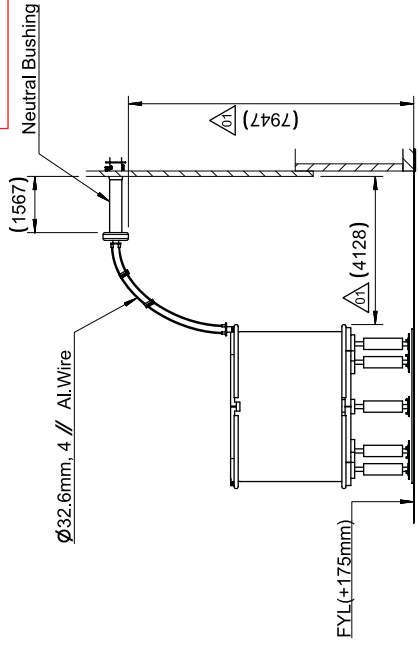
Station Name: Pugalur
Classification No. PB-64
Project name: +800KV, 6000MW HVDC Raigarh-Pugalur
Terminals
Prepared: Thiruchunapali, Vijaya, Bhaskar
Approved: Naik, Ashish
Doc. No. 2018-01-23
Doc. Rev. 1

Status: Issued
Item designation: PGGI/DC-HUBTPM
Rev. no. 01
Document number: 1JNL100484-564
Language: English
Sheet: 6 / 13

Revisions made are marked. Also refer last page for revision notes.	Thiruchunapali, Vijaya, Bhaskar	Naik, Ashish	2018-06-26
01	Rev	Revision	Date

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1	2	3	4	5	6	7	8

ANNEXURE-J (POLE-2)

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Revisions made are marked. Also refer last page for revision notes.

Thiruchunapali,
Vijaya, Bhaskar

Naik, Ashish	2018-06-26
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APP A

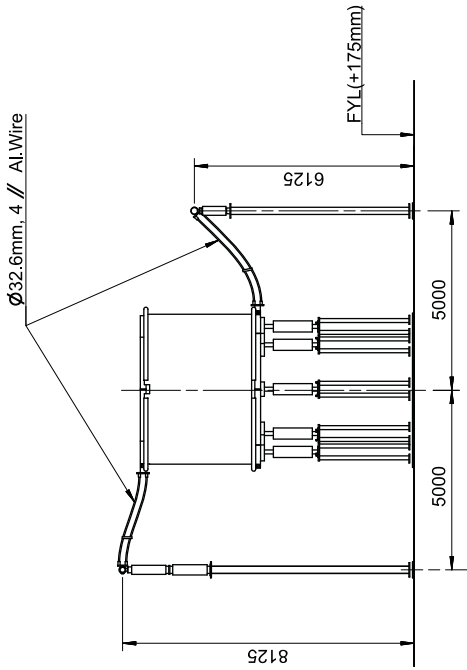
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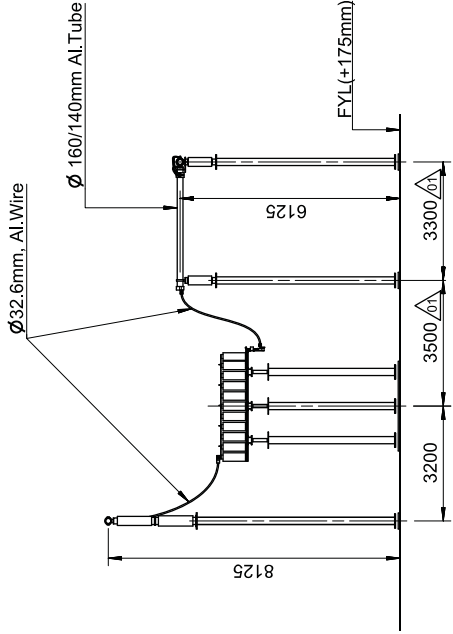
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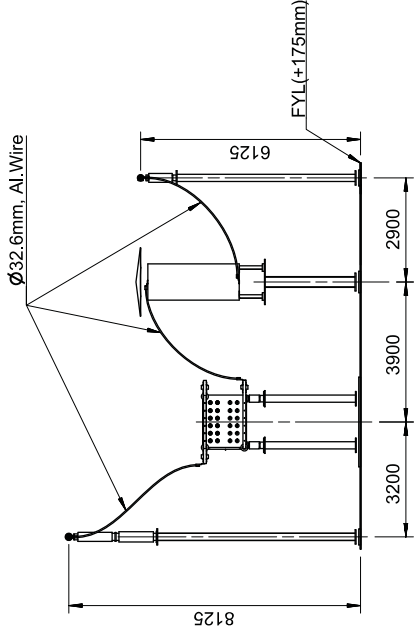
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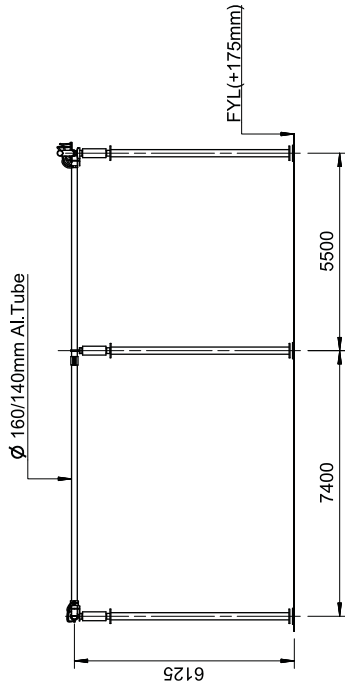
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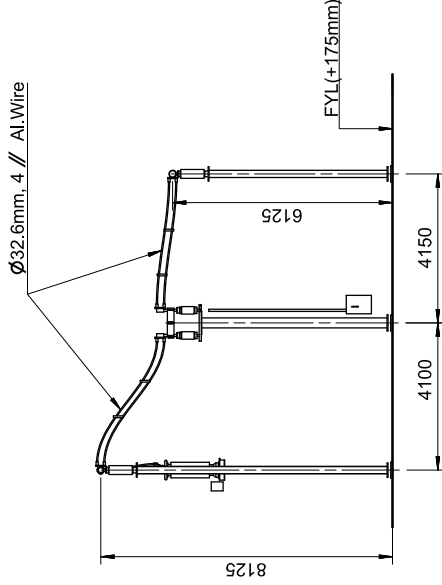
SECTION K-K



SECTION L-L



SECTION M-M



SECTION N-N

POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



Contract No. CC-CS/651-SR2HVDC-3063/7510/CA-1587-5821 dated 2017-01-25
Client:

SHREE HARSHAN HEAVY ELECTRICALS LTD.
TRANSMISSION BUSINESS GROUP

Station Name Pugalur
Classification No. FIB-64

Project name +800KV, 6000MW HVDC Raigarh-Pugalur
Terminals

Prepared Thiruchunappali, Vijaya, Bhaskar

Approved Naik, Ashish

Doc. No. 2018-01-23

Layout drawing

Status Issued

Item designation PGGI/DCHUBTPM

Rev no. 01

Language

Document number 1JNL100484-564

Sheet 8 / 13

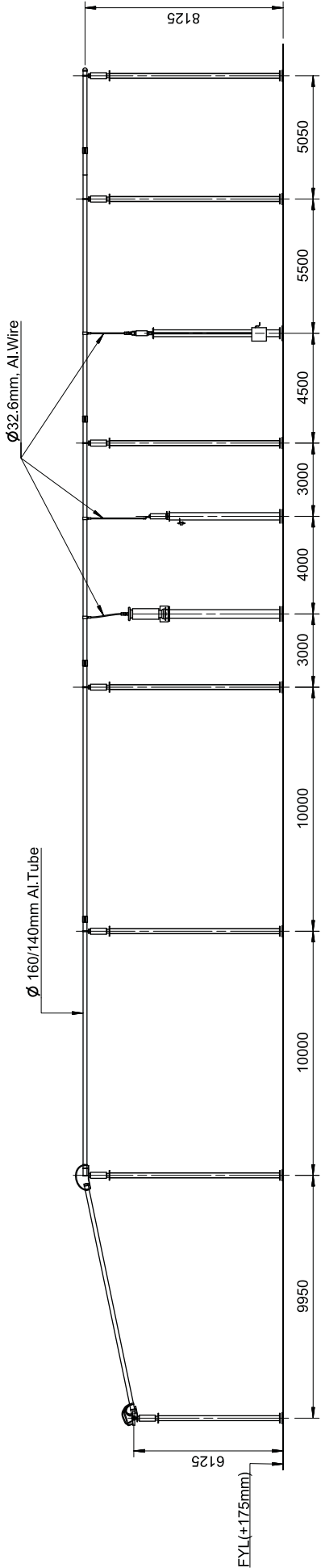
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01	Revisions made are marked. Also refer last page for revision notes.	Thiruchunappali, Vijaya, Bhaskar	2018-06-26

Thiruchunappali, Vijaya, Bhaskar

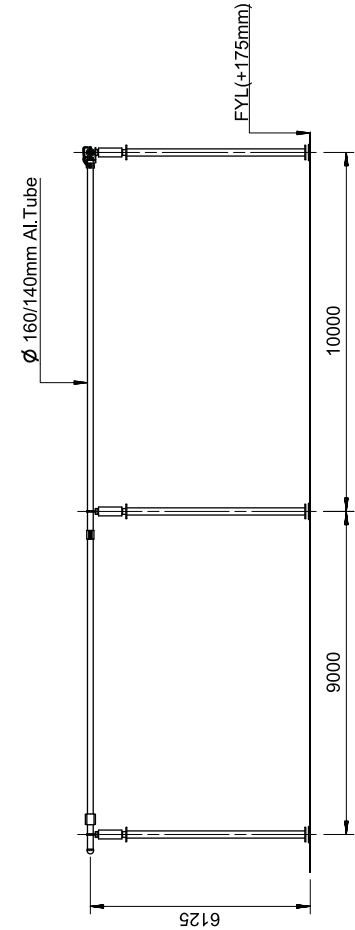
Naik, Ashish

2018-06-26

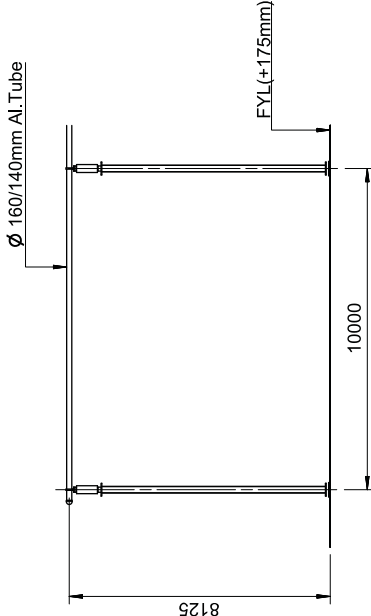
ANNEXURE-J (POLE-2)



SECTION R-R



SECTION P-P



SECTION S-S

Contract No. CC-CS-051-SR2HVDC-3063/7510/CA-15817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. PB-64	
Client		Station Name		Project name	
Thiruchunapali, Vijaya, Bhaskar		Pugdhar		+800KV, 6000MW HVDC Raigarh-Pugdhar	
Based on		Doc. No.		Document number	
Thiruchunapali, Vijaya, Bhaskar		2018-01-23		1JNL 100484-564	
Approved		Status		Revision	
Naik, Ashish		Issued		Rev no. 01	
Layout drawing		Term designation		Language	
Pole2 Layout & Sections		PGGI/DC/HUB/TPM		Sheet 9 / 13	
DC Yard		Document number		Sheet 9 / 13	
Thiruchunapali, Vijaya, Bhaskar		1JNL 100484-564		Sheet 9 / 13	

Contract No. CC-CS-051-SR2HVDC-3063/7510/CA-15817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. PB-64	
Client		Station Name		Project name	
Thiruchunapali, Vijaya, Bhaskar		Pugdhar		+800KV, 6000MW HVDC Raigarh-Pugdhar	
Based on		Doc. No.		Document number	
Thiruchunapali, Vijaya, Bhaskar		2018-01-23		1JNL 100484-564	
Approved		Status		Revision	
Naik, Ashish		Issued		Rev no. 01	
Layout drawing		Term designation		Language	
Pole2 Layout & Sections		PGGI/DC/HUB/TPM		Sheet 9 / 13	
DC Yard		Document number		Sheet 9 / 13	
Thiruchunapali, Vijaya, Bhaskar		1JNL 100484-564		Sheet 9 / 13	

Contract No. CC-CS-051-SR2HVDC-3063/7510/CA-15817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. PB-64	
Client		Station Name		Project name	
Thiruchunapali, Vijaya, Bhaskar		Pugdhar		+800KV, 6000MW HVDC Raigarh-Pugdhar	
Based on		Doc. No.		Document number	
Thiruchunapali, Vijaya, Bhaskar		2018-01-23		1JNL 100484-564	
Approved		Status		Revision	
Naik, Ashish		Issued		Rev no. 01	
Layout drawing		Term designation		Language	
Pole2 Layout & Sections		PGGI/DC/HUB/TPM		Sheet 9 / 13	
DC Yard		Document number		Sheet 9 / 13	
Thiruchunapali, Vijaya, Bhaskar		1JNL 100484-564		Sheet 9 / 13	

Revisions made are marked. Also refer last page for 01 revision notes.

Thiruchunapali, Vijaya, Bhaskar

Naik, Ashish

2018-06-26

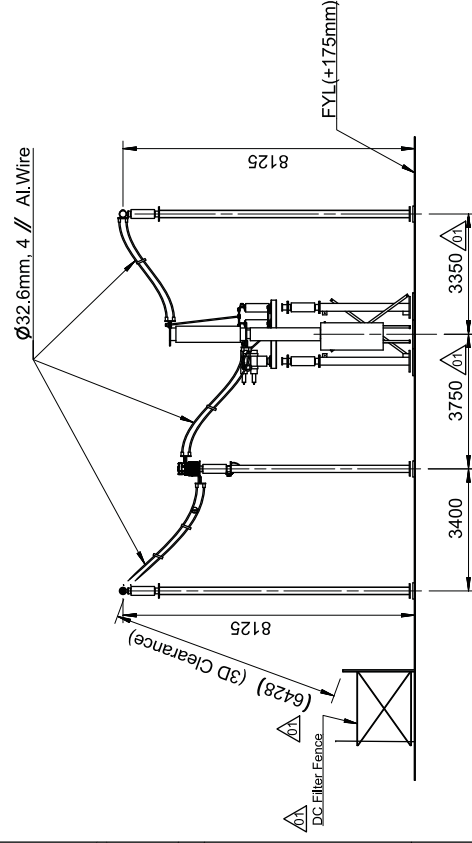
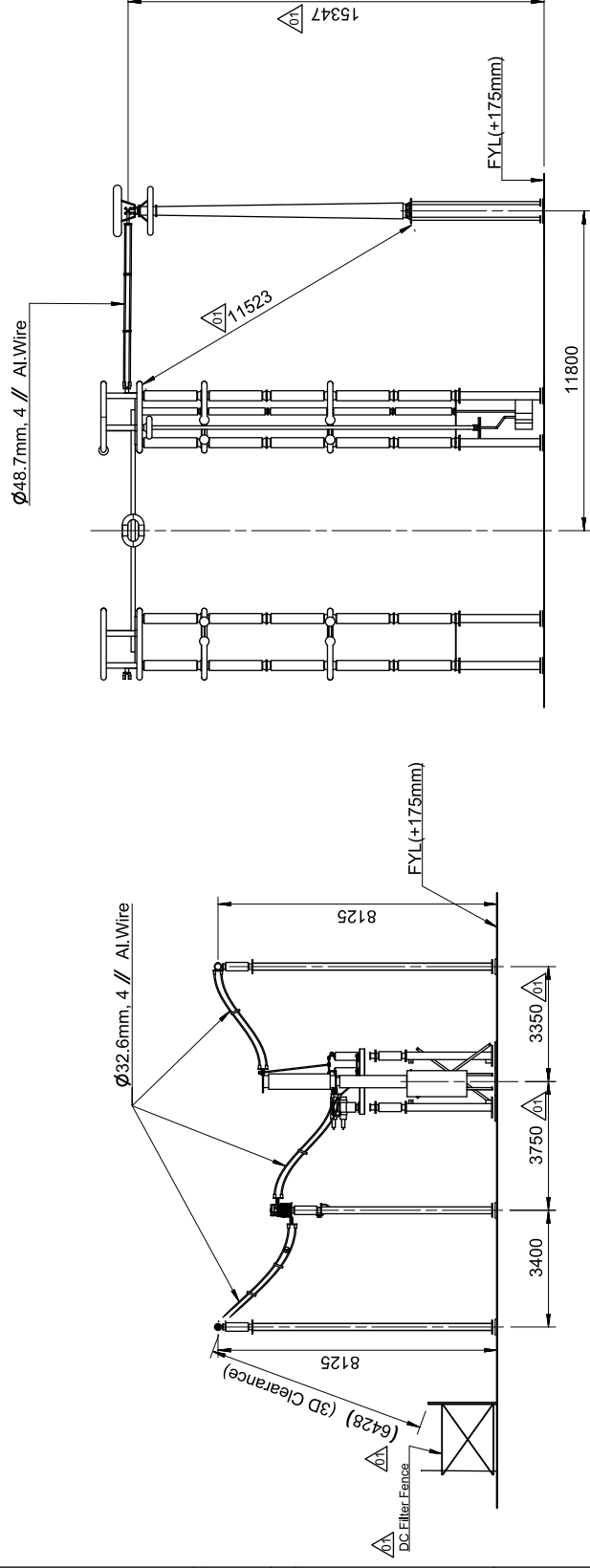
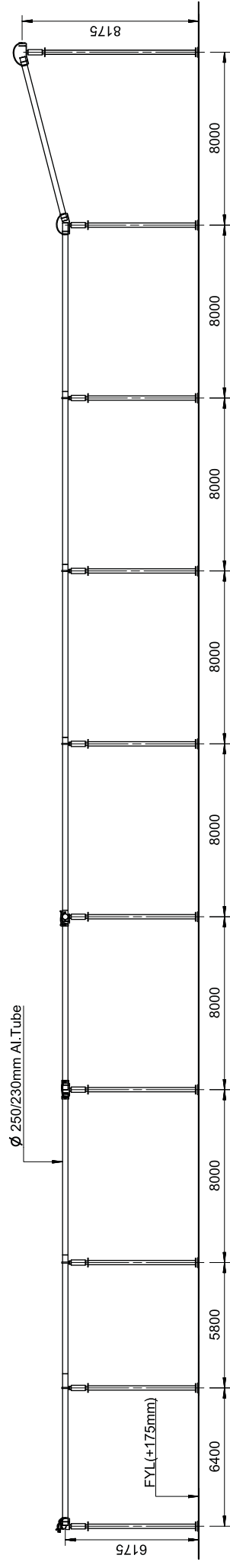
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ABB AB - HVDC

1JNL 100484-564

9 / 13

ANNEXURE-J (POLE-2)

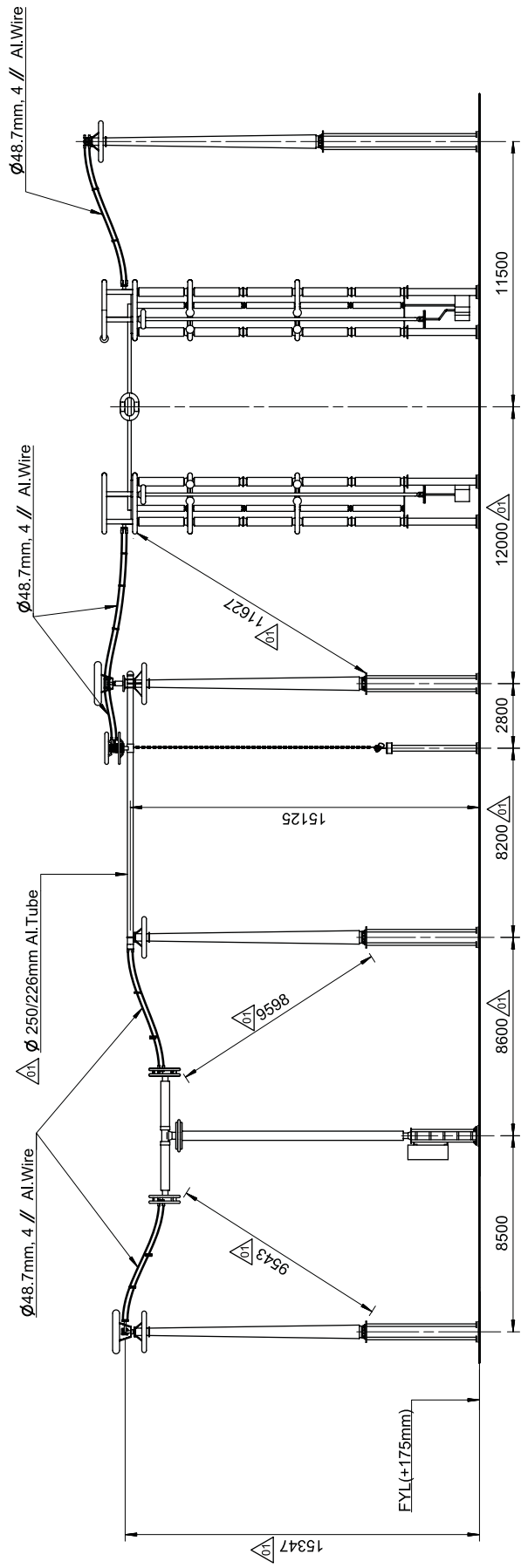


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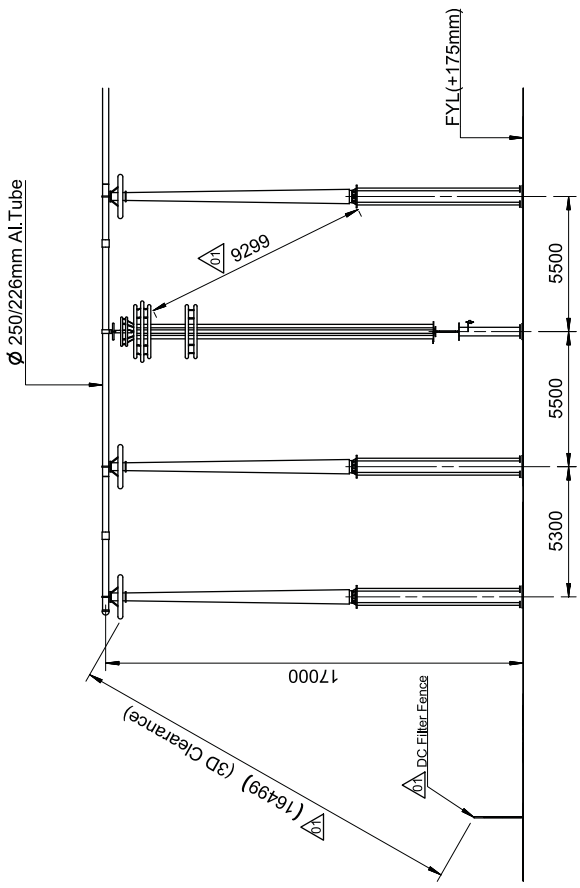
SECTION T-T

Contract No. CC-LS1651-SR2/HVDC-30637G/0/CA-J15871-5821 dated 2017-01-25		Client:		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		 पारवर्तिक	
Based on		Station Name		Classification No.		RB-64	
Bharat Heavy Electricals Ltd. Transmission Business Group		Pugalur					
Project name							
Prepared		Thiruchunapali, Vijaya Bhaskar		+800KV, 6000MW HVDC Raigarh-Pugalur			
Approved		Naik, Ashish		Terminals			
Doc. No.		2018-01-23					
Layout drawing							
Status		Issued		Item designation			
Pole2 Layout & Sections		PGGI/DCHUBTPM		Rev end		01	
DC Yard		Document number		Language			
1JNL 100484-564		ABB		ABB AB - HVDC		10/13	
Revisions made are marked. Also refer last page for revision notes.		Thiruchunapali, Vijaya, Bhaskar		Naik, Ashish		2018-06-26	
Rev		Revision		Date			

ANNEXURE-J (POLE-2)



SECTION W-W



SECTION X-X

Contract No. CC-CS/051-SR2HVDC-3063/7510/CA-IP587-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. PB-64	
Client		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Station Name	
Project Name		+800KV, 6000MW HVDC Raigarh-Puglur		Puglur	
Based on		Thiruchunapali, Vijaya, Bhaskar		Project Name	
Prepared		Thiruchunapali, Vijaya, Bhaskar		+800KV, 6000MW HVDC Raigarh-Puglur	
Approved		Naik, Ashish		Terminals	
Doc. No.		2018-01-23		Status	
Layout Drawing		Pole2 Layout & Sections		Issued	
DC Yard		DC Yard		Revised	
Document number		1JNL 100484-564		Language	
ABB		ABB AB - HVDC		Sheet	
Thiruchunapali, Vijaya, Bhaskar		Naik, Ashish		11 / 13	

Revisions made are marked. Also refer last page for revision notes.		Thiruchunapali, Vijaya, Bhaskar		Naik, Ashish		2018-06-26	
01		Revision		Approved		Date	

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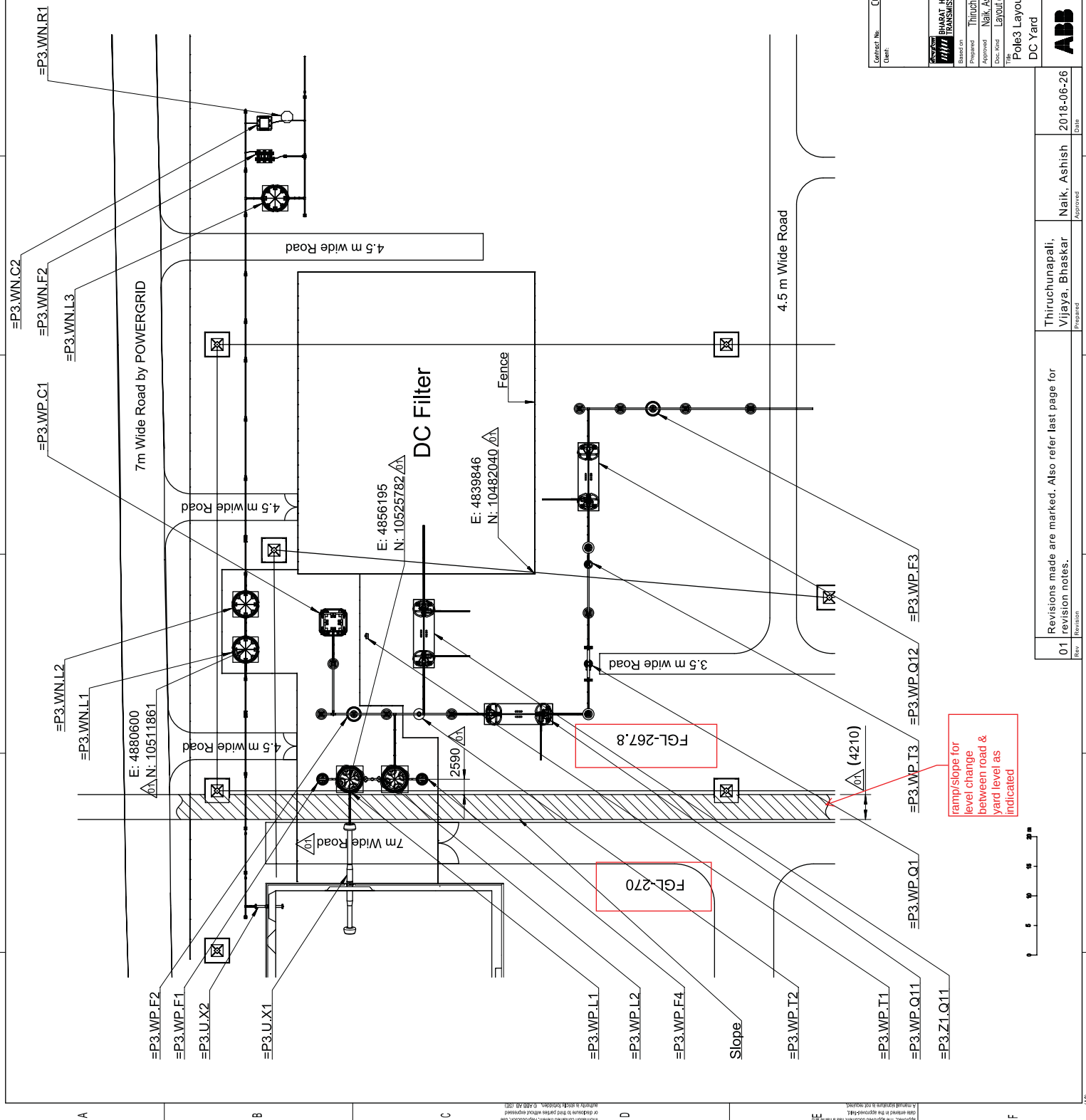
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	Revision No.	Date	Sheet No.	Revision Note				
	01	26-06-2018	Sheet 1	Notes updated				
			Sheet 2	Dimensions to slope updated				
				Equipment north east coordinate added				
				Road size modified				
			Sheet 4	Dimensions updated				
			Sheet 5	Dimensions updated				
				Tube size updated				
			Sheet 6	Section D-B view updated to show sectional clearance to DC Filter fence				
				Dimensions updated				
			Sheet 7	Views updated and sectional clearance to DC Filter fence shown				
			Sheet 8	Dimensions updated				
			Dimensions updated					
Sheet 10	Section T-I view updated and sectional clearance to DC Filter fence shown							
	Dimensions updated							
Sheet 11	Tube size updated							
	Section X-X view updated and sectional clearance to DC Filter fence shown							
Sheet 12	Dimensions updated							
B								
	C							
D								
	E							
F		Contract No. CC-CS/451-SR2HVDC-3063/T/510/CA-1/5817-5821 dated 2017-01-25						
	Client							
	POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)							
								
	Classification No. PB-64							
	Station Name Pugalur							
	Project name							
	+800KV, 6000MW HVDC Raigarh-Pugalur							
	Terminals							
	Based on							
	Thiruchunapalli, Vijaya, Baskar2018-01-10							
	Approved Naik, Ashish 2018-01-23							
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Revised								
PGGI/DC-HUBTPM								
Revised								
01								
Language								
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Document number								
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ABB AB - HVDC								
Pole2 Layout & Sections								
Layout And Sections								
Thiruchunapalli, Vijaya, Baskar								
Naik, Ashish								
2018-06-26								
Revisions made are marked. Also refer last page for revision notes.								
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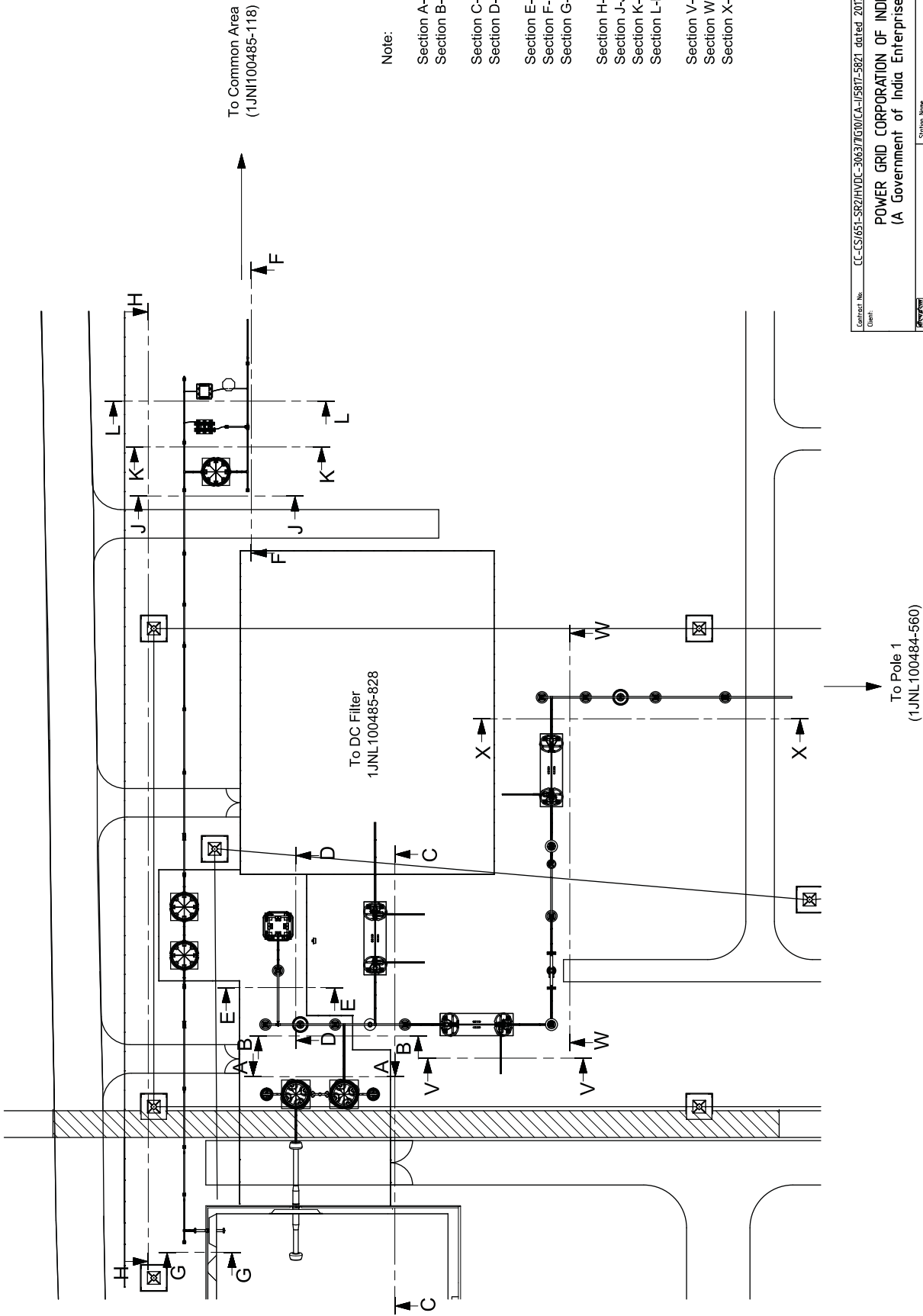
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ANNEXURE-J (POLE-3)



Contract No.	CC-C5651-SR2HVDC-30637G10(CA-F587-582) dated 2017-01-25
Client:	POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)
 ABB	ABB AB - HVDC
 ABB	1JNL 100484-566
 ABB	Document number
 ABB	PGGI/DC/HUB/TPM
 ABB	Row no: 01
 ABB	Language
 ABB	Sheet no: 2 / 9
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ANNEXURE-J (POLE-3)



Note:

- Section A-A see sheet number 4
- Section B-B see sheet number 4
- Section C-C see sheet number 5
- Section D-D see sheet number 5
- Section E-E see sheet number 6
- Section F-F see sheet number 6
- Section G-G see sheet number 6
- Section H-H see sheet number 7
- Section J-J see sheet number 7
- Section K-K see sheet number 7
- Section L-L see sheet number 7
- Section V-V see sheet number 8
- Section W-W see sheet number 8
- Section X-X see sheet number 8

Contract No. CC-CS/651-SR2HVDC-3063/7510/CA-15817-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



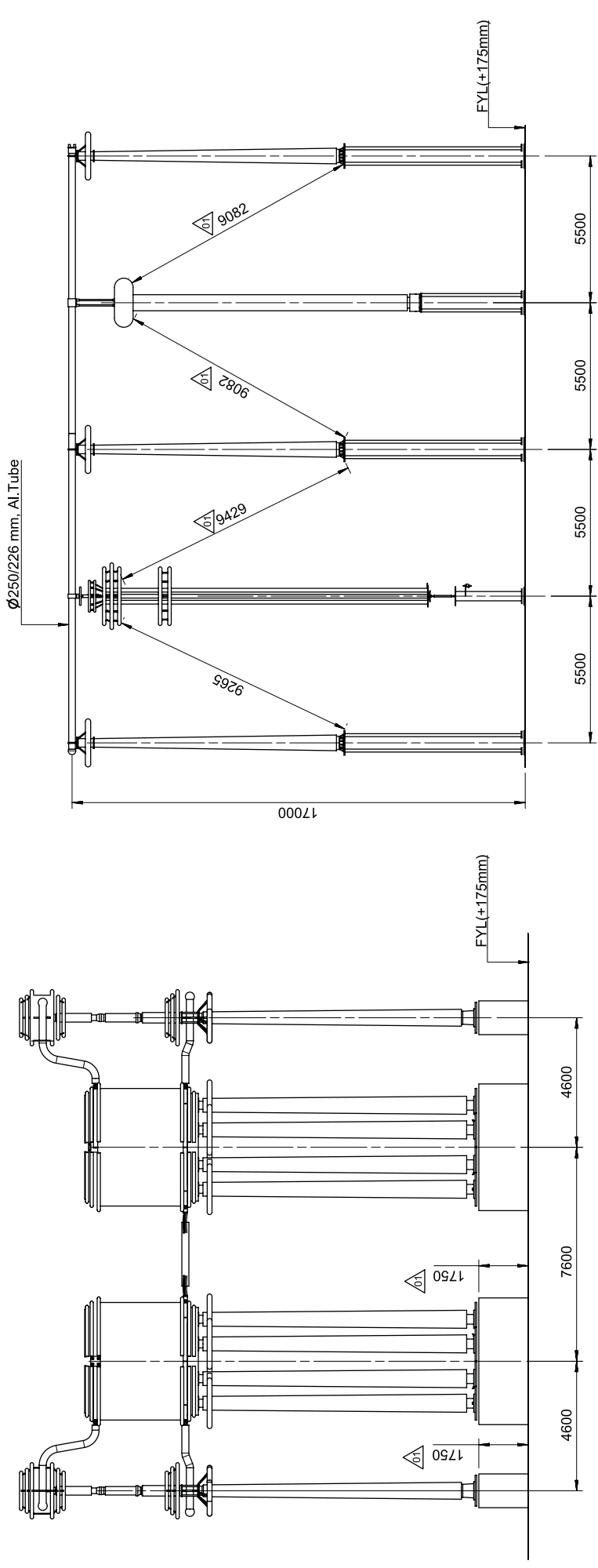
Station Name: Pugalur
Project name: +800KV, 6000MW HVDC Raigarh-Pugalur
Terminals
Prepared: Thiruchunappali, Vijaya, Bhaskar
Approved: Naik, Ashish
Doc. No: 2018-01-23
Layout Drawing

Status: Issued
Revision: 01
Document number: 1JNL100484-566
Revision number: 3 / 9

Revisions made are marked. Also refer last page for revision notes.	Thiruchunappali, Vijaya, Bhaskar	Naik, Ashish	2018-06-26
Rev	Revision	Approved	Date

01	Revision	Approved	Date
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ANNEXURE-J (POLE-3)



SECTION A-A

SECTION B-B

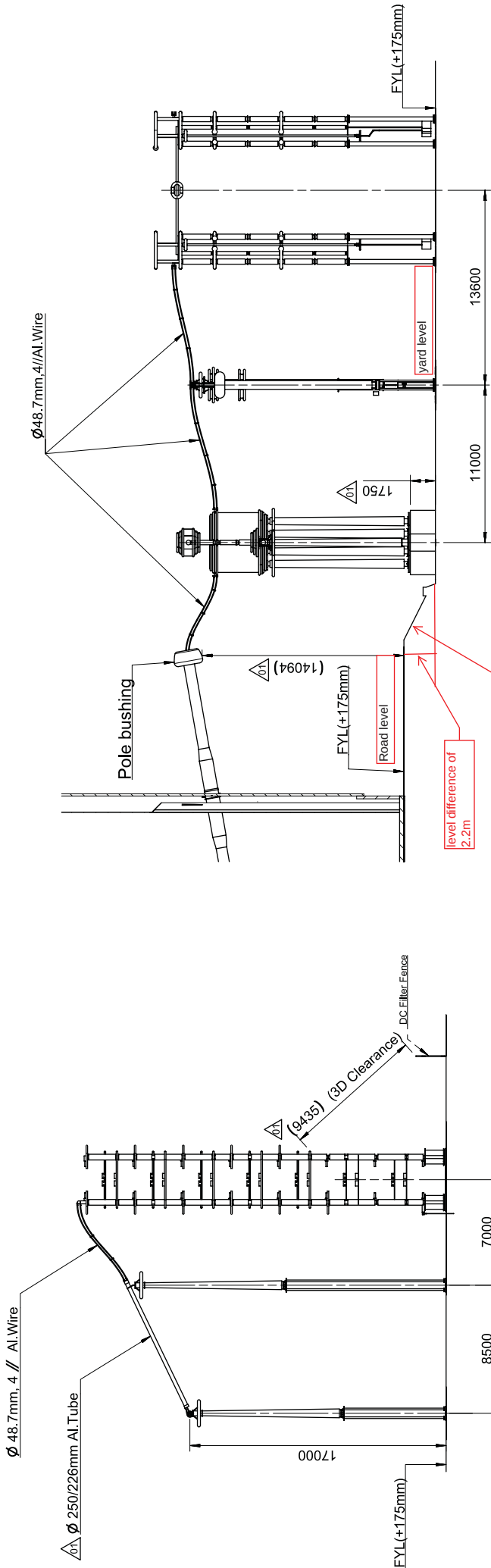
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Contract No.	CC-CS/651-SR2HVDC-3063/7510/CA-15817-5821 dated 2017-01-25
Client	POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)
Station Name	Pugulur
Classification No.	FJB-64
Project name	+800KV, 6000MW HVDC Raigarh-Pugulur Terminals
Prepared	Thiruchunapali, Vijaya, Bhaskar
Approved	Naik, Ashish
Doc. No.	2018-01-23
Doc. Name	Layout Drawing
Status	Issued
Item designation	PGGI/DCHUBTPM
Rev. no.	01
Language	English
Document number	1JNL100484-566
Rev. no.	01
Language	English
Document number	1JNL100484-566

Revisions made are marked. Also refer last page for revision notes.	Thiruchunapali, Vijaya, Bhaskar	Naik, Ashish	2018-06-26
Rev.	01	01	01
Revision	01	01	01

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ANNEXURE-J (POLE-3)



SECTION D-D

SECTION C-C

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Contract No. CC-CS/051-SR2HVDC-3063/71510/CA-15817-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



Project name: HVDC RAIGARH-PUGTLUR
+800KV, 6000MW HVDC RAIGARH-PUGTLUR
Terminals
Based on: Thiruchunapali, Vijaya, Bhaskar
Approved: Naik, Ashish
Doc. No.: 2018-01-23
Layout Drawing

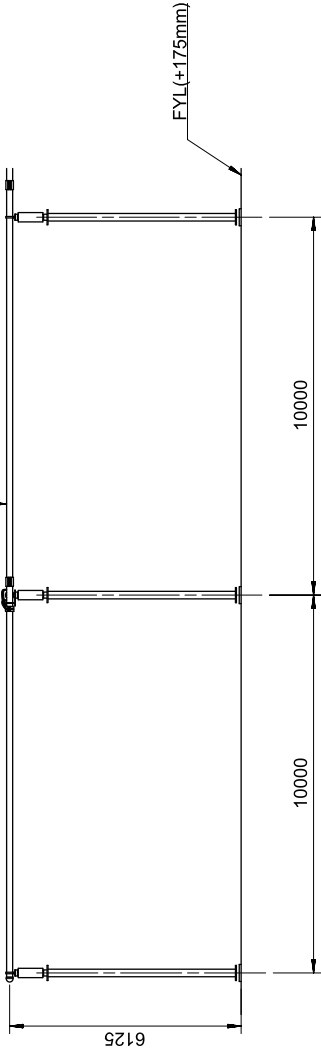
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Thiruchunapali, Vijaya, Bhaskar
Naik, Ashish
2018-06-26
Date

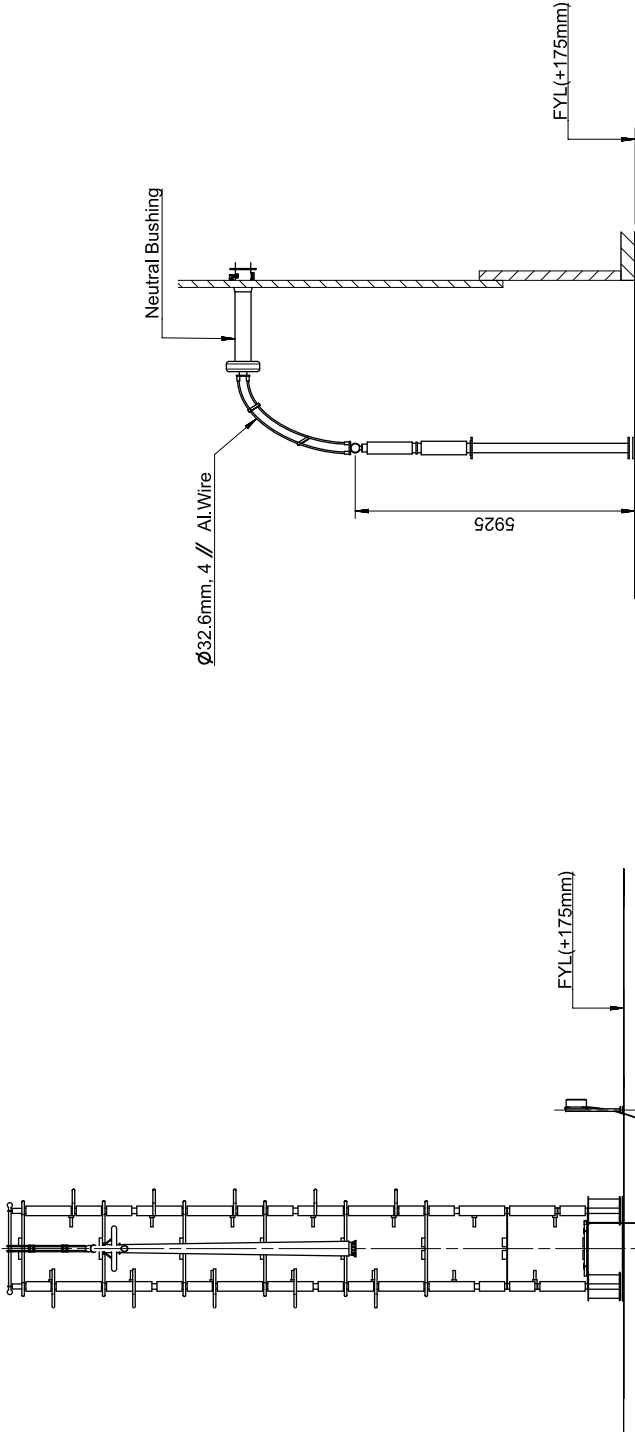
Prepared: Approved: Date

ANNEXURE-J (POLE-3)

Ø 160/140mm Al.Tube



SECTION F-F



SECTION E-E

SECTION G-G

Contract No. CC-CS/651-SR2HVDC-3063/7510/CA-15817-5821 dated 2017-01-25

Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



Station Name: Pugalur

Classification No. FJB-64

Project name: +800KV, 6000MW HVDC Raigarh-Pugalur

Terminals

Prepared: Thiruchinapalli, Vijaya, Bhaskar

Approved: Naik, Ashish

Doc. No. 2018-01-23

Layout Drawing

Status: Issued

Revised: PGGI/DCHUBTPM

Revised: 01

Language

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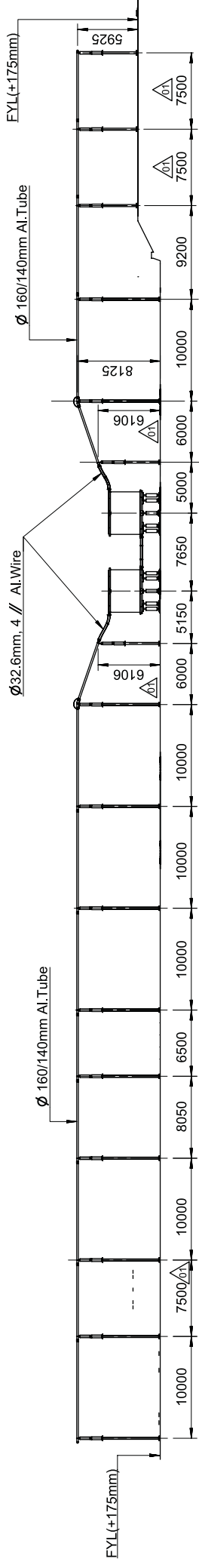
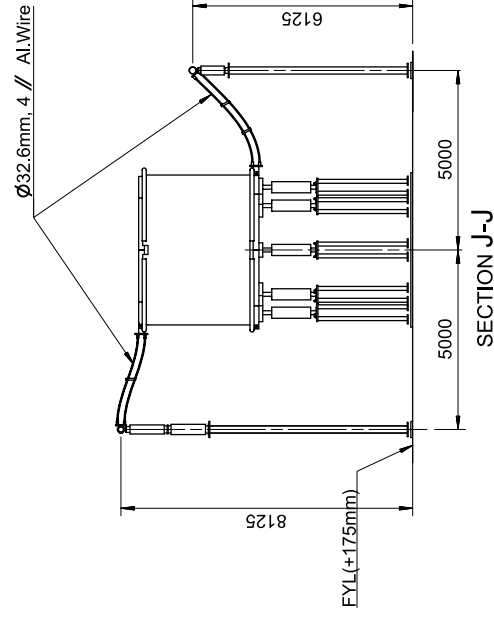
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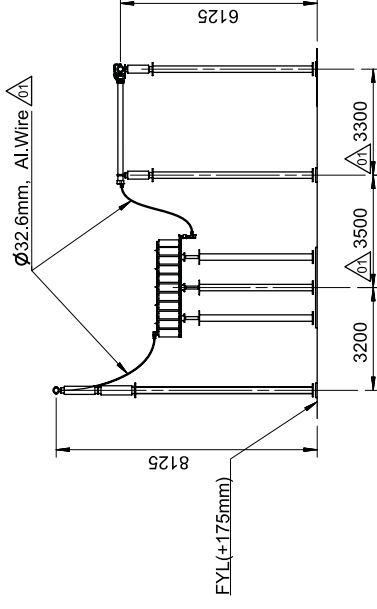
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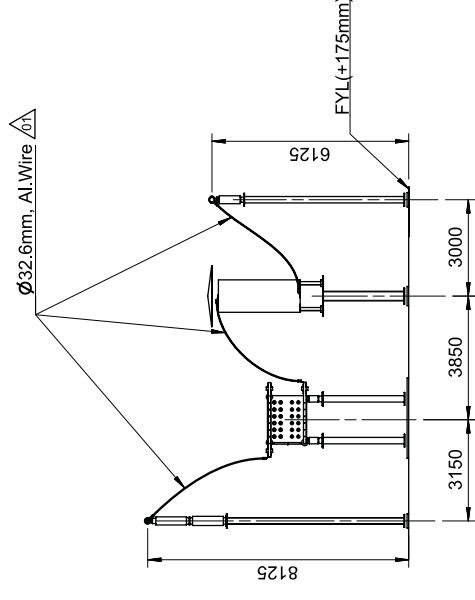
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SECTION H-H 

SECTION J-J



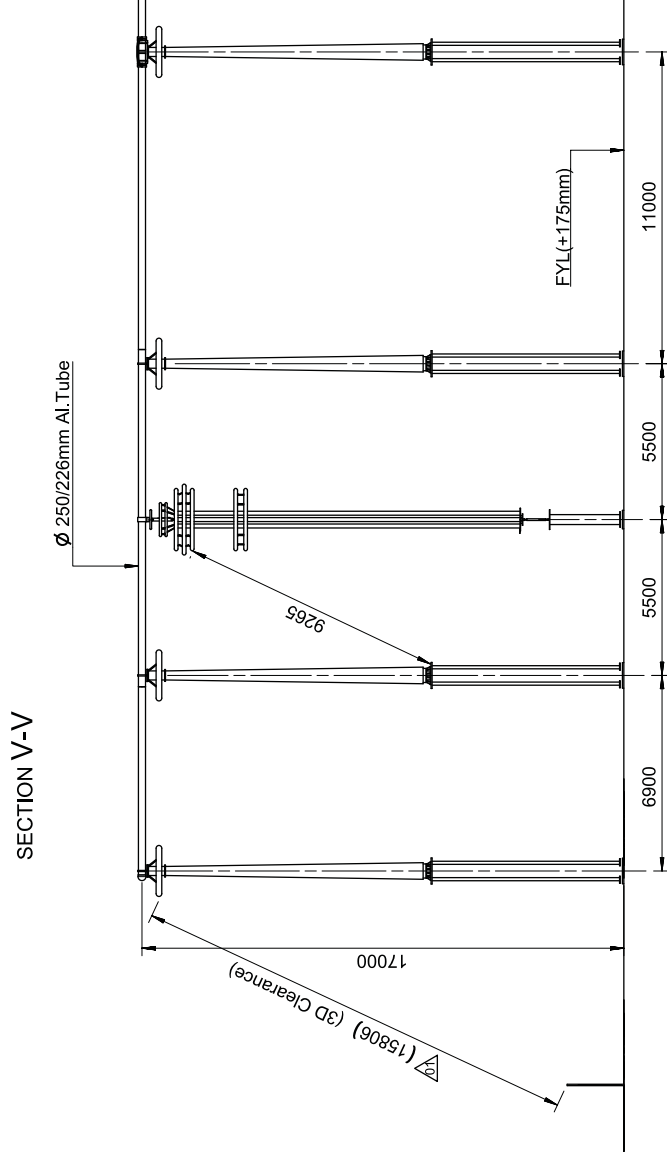
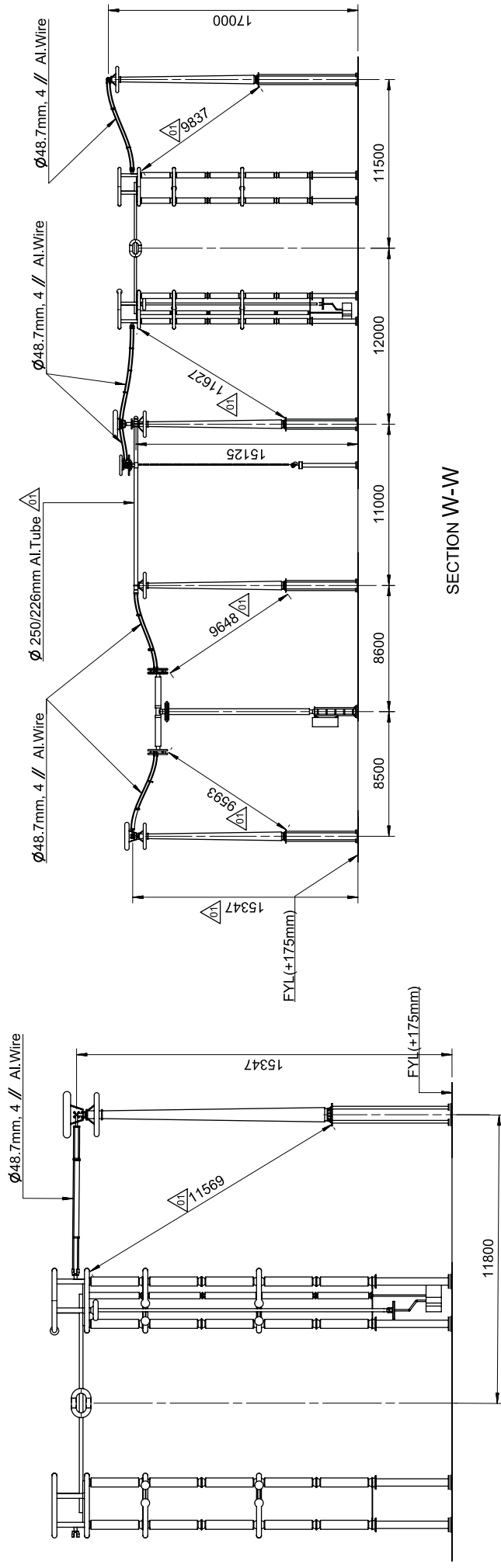
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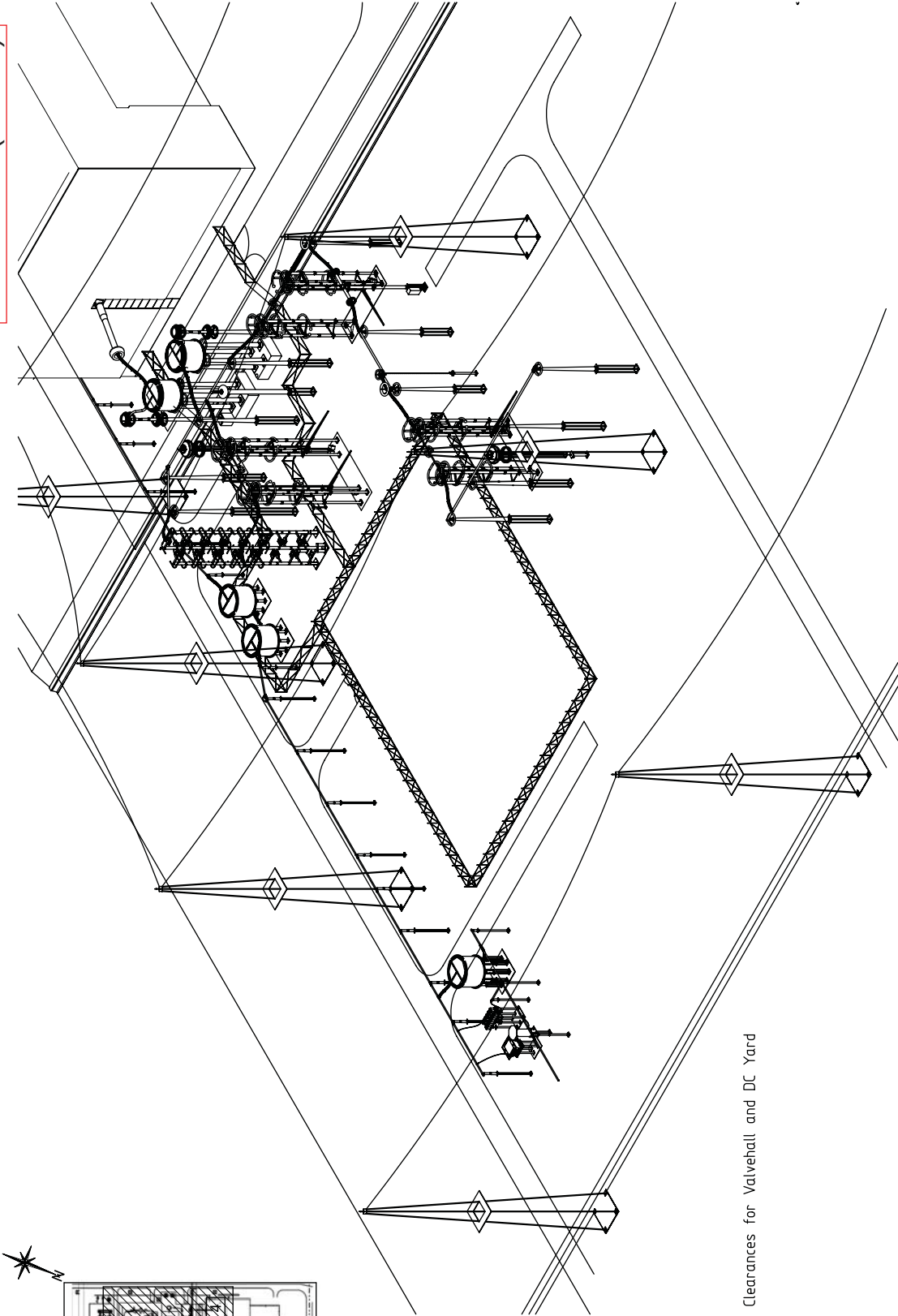
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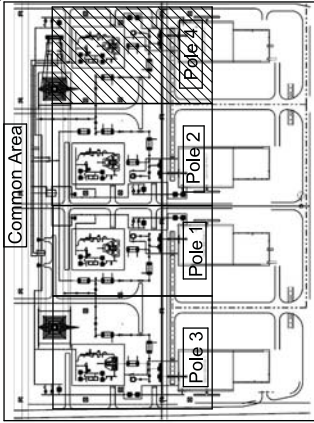
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Client:	POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)				
 भारत भारी भारत भारी	SHARAT HEAVY ELECTRICALS LTD. TRANSMISSION BUSINESS GROUP	Station Name	Pugulur	Classification No.	F-1B-64
	Based on	Project name			
	Prepared	Thiruchanpalai, Vijaya Bhaskar			
	Approved	Naik. Ashish 2018-01-23			
		Disc. Kind Layout drawing			
The	Pole#3 Layout & Sections DC Yard		Status	Issued	Item designation
			Wing detail	PGGI/DCHUB/TPM	Rev. ref. 01
			Document number	Language	
		ABB AB - HVDC	1JNL100484-566		 Sheet# 8 / 9

01	Revisions made are marked. Also refer last page for revision notes.	Thiruchunapali, Vijaya, Bhaskar	Naik, Ashish	2018-06-2
Rev	Revision	Prepared	Approved	Date

ANNEXURE-J (POLE-4)



Key Plan



Reference Documents: 01

1. Requirement on the size of shielding and air Clearances for Valvehall and DC Yard (Doc No. 1JNL449408)

2. Insulation Coordination (Doc No. 1JNL434222)

3. Main Circuit Single Line Diagram, Pugalur (Doc No. 1JNL437657)

4. DC Yard Layout and Sections Overview (Doc No. 1JNL100485-230)

Notes: 01

1. All Dimensions are in mm unless otherwise specified.
2. Conductor Data
- Pole Bus:
- $\varnothing$ 250/226 mm Al.Tube
 - $\varnothing$ 48.7mm ,AAC
- Neutral Bus:
- $\varnothing$ 160/140mm Al.Tube
 - $\varnothing$ 32.6mm ,AAC
- Damping wires:
- $\varnothing$ 250/226mm Al.Tube (Length of the damping wire shall be = 2/3 of length of the busbar tube.)
 - $\varnothing$ 29mm, AAC for $\varnothing$ 160/140mm Al.Tube (Length of the damping wire shall be = 2/3 of length of the busbar tube.)
3. Refer OGA drawing for slope details 1JNL100336-120 sheet.2

Contract No. CC-CS/051-SR2HVDC-3063/1510/CA-15817-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



Station Name: Pugalur
Classification No. PB-64
Project name: +800KV, 6000MW HVDC Raigarh-Pugalur
Terminals

Prepared: Thiruchunapali, Vijaya, Bhaskar
Approved: Naik, Ashish
Doc. No. 1JNL100485-230
Layout Drawing
Pole4 Layout & Sections
DC Yard

Status: Issued
Revised: PGGI/DCHUBTPM
Revision: 01
Document number: 1JNL100485-117

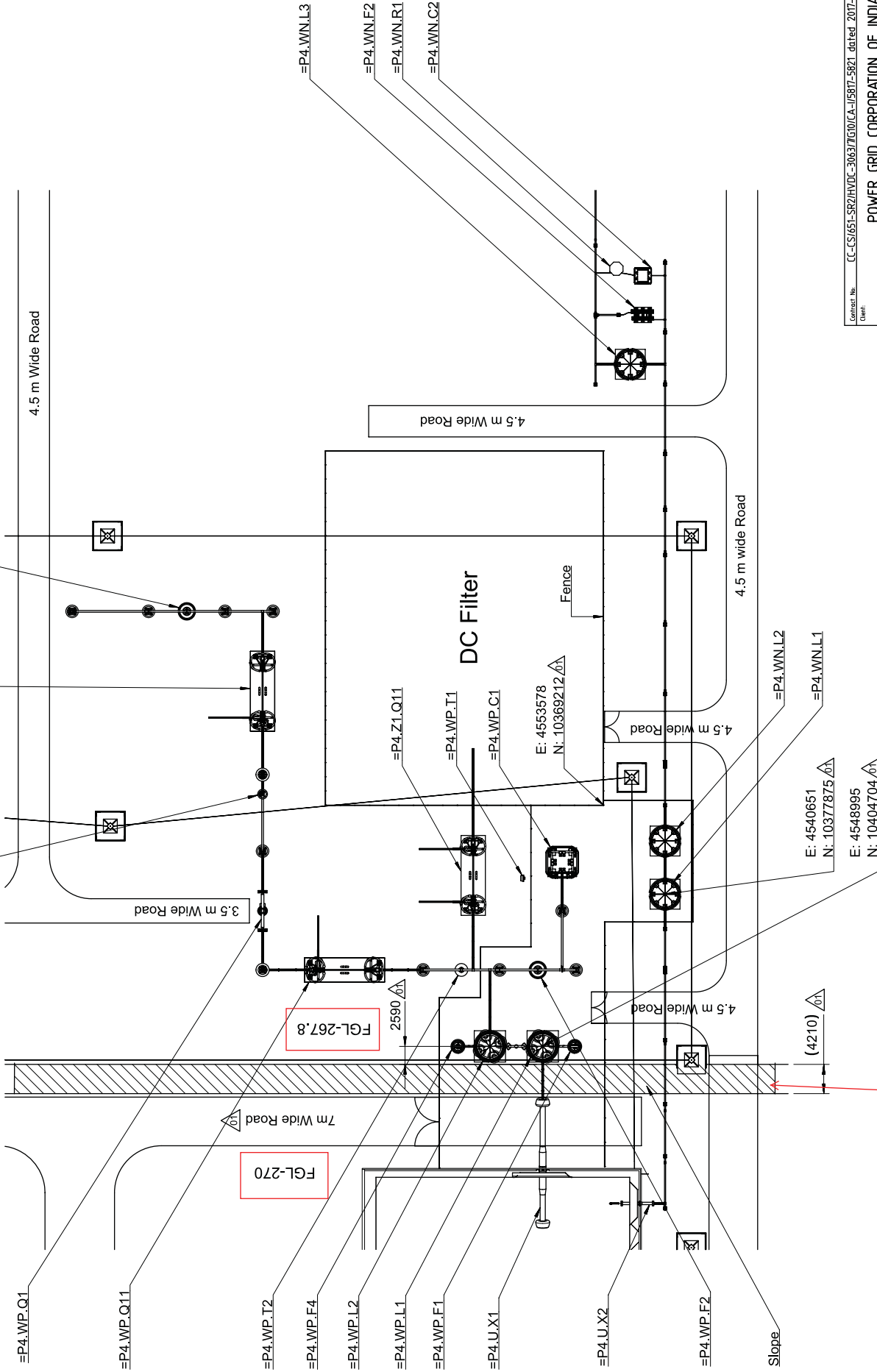
Sheet: 1 / 9

Thiruchunapali, Vijaya, Bhaskar
Naik, Ashish
2018-06-26

Revisions made are marked. Also refer last page for 01 revision notes.

Revised: 01
Revision: 01

ANNEXURE-J (POLE-4)



ramp/slope for level change between road & yard level as indicated

Contract No. CC-CS/051-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. PB-64	
Client		THIRUCHUNAPALI, VIJAYA, BHASKAR TRANSMISSION BUSINESS GROUP		Project name	
Based on		Thiruchunapali, Vijaya, Bhaskar		+800KV, 6000MW HVDC Raigarh-Puglur Terminals	
Prepared		Naik, Ashish		Doc. No.	
Approved		Naik, Ashish		2018-01-23	
Doc. No.		Layout Drawing		Status	
Pole4 Layout & Sections		Issued		Item designation	
DC Yard		PGG/IDCHUBTPM		Rev. no. 01	
1JNL 100485-117		Document number		Language	
ABB		ABB AB - HVDC		Sheet 2 / 9	

Revisions made are marked. Also refer last page for 01 revision notes.		Thiruchunapali, Vijaya, Bhaskar		Naik, Ashish		2018-06-26	
Rev		Revision		Approved		Date	

ANNEXURE-J (POLE-4)

Note:

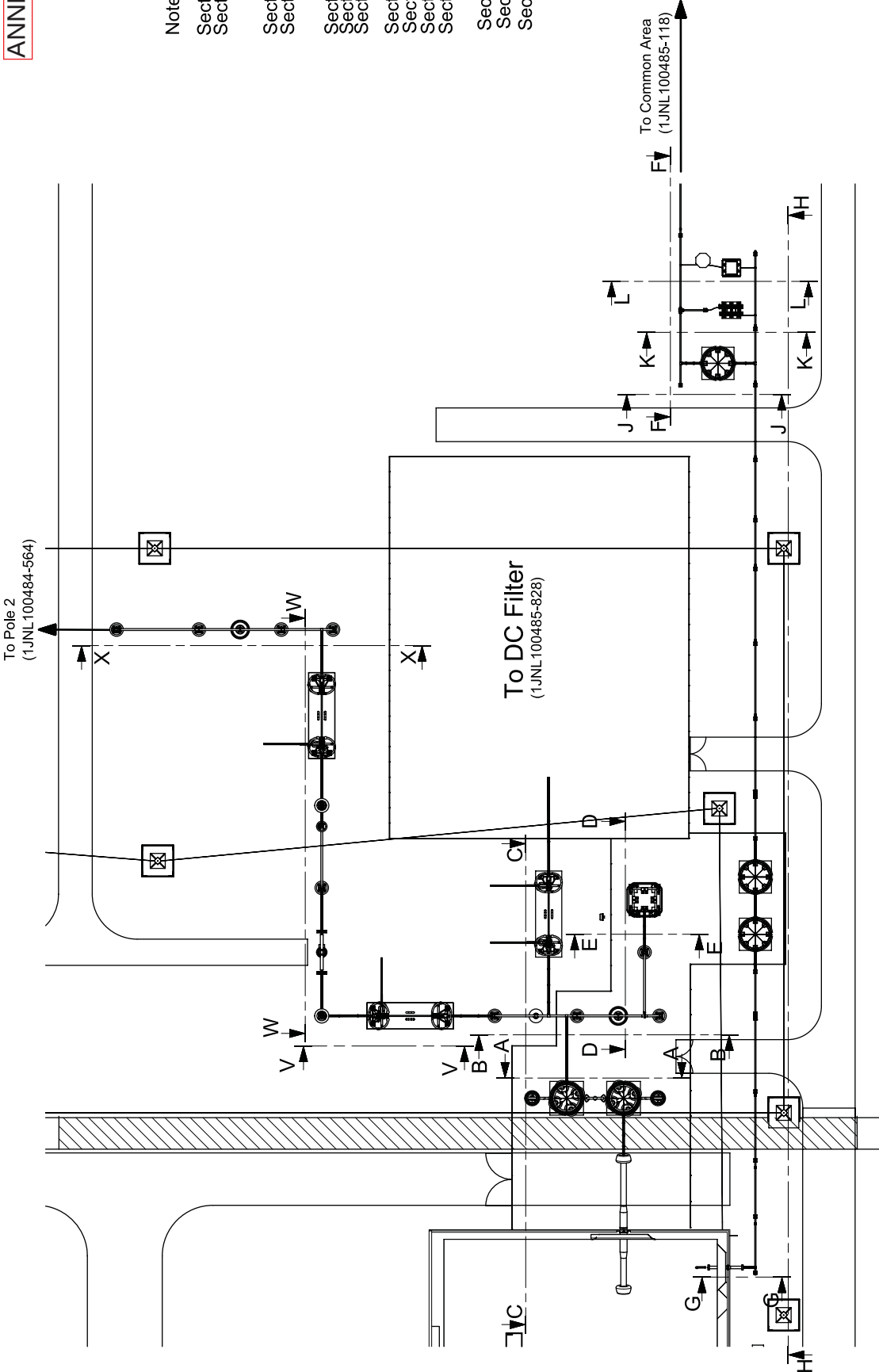
Section A-A see sheet 4
Section B-B see sheet 4

Section C-C see sheet 5
Section D-D see sheet 5

Section E-E see sheet 6
Section F-F see sheet 6
Section G-G see sheet 6

Section H-H see sheet 7
Section J-J see sheet 7
Section K-K see sheet 7
Section L-L see sheet 7

Section V-V see sheet 8
Section W-W see sheet 8
Section X-X see sheet 8



Contract No. CC-CS/551-SR2HVDC-3063/71510/CA-1P5817-5821 dated 2017-01-25

Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



Station Name: Pugalur
Classification No. PB-64

Project name: +800KV, 6000MW HVDC Raigarh-Pugalur
Terminals

Prepared: Thiruchunapali, Vijaya, Bhaskar
Approved: Naik, Ashish
Doc. No: 2018-01-23

Layout Drawing

Status: Issued
Rev. No: 01
Document number: 1JNL100485-117

Item designation: PGGI/DC-HUB/TPM

Language: English

Sheet: 3 / 9

Revisions made are marked. Also refer last page for 01 revision notes.

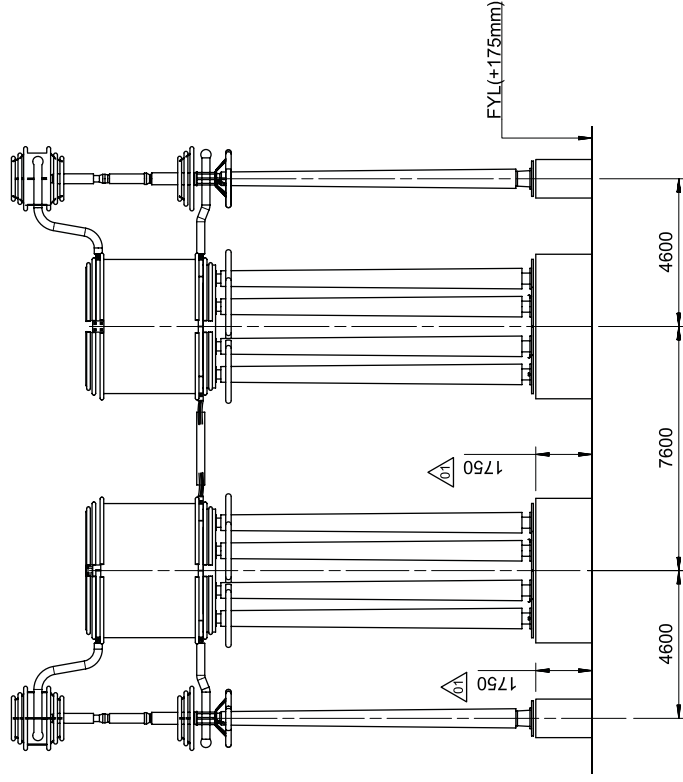
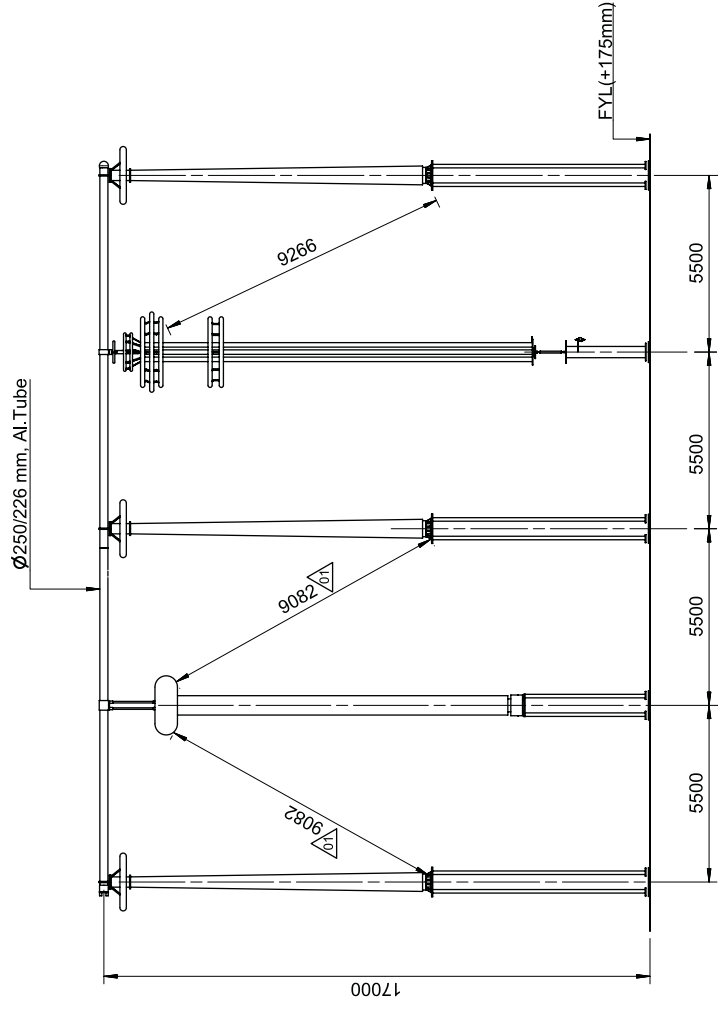
Thiruchunapali, Vijaya, Bhaskar

Naik, Ashish

2018-06-26

2018-06-26

2018-06-26



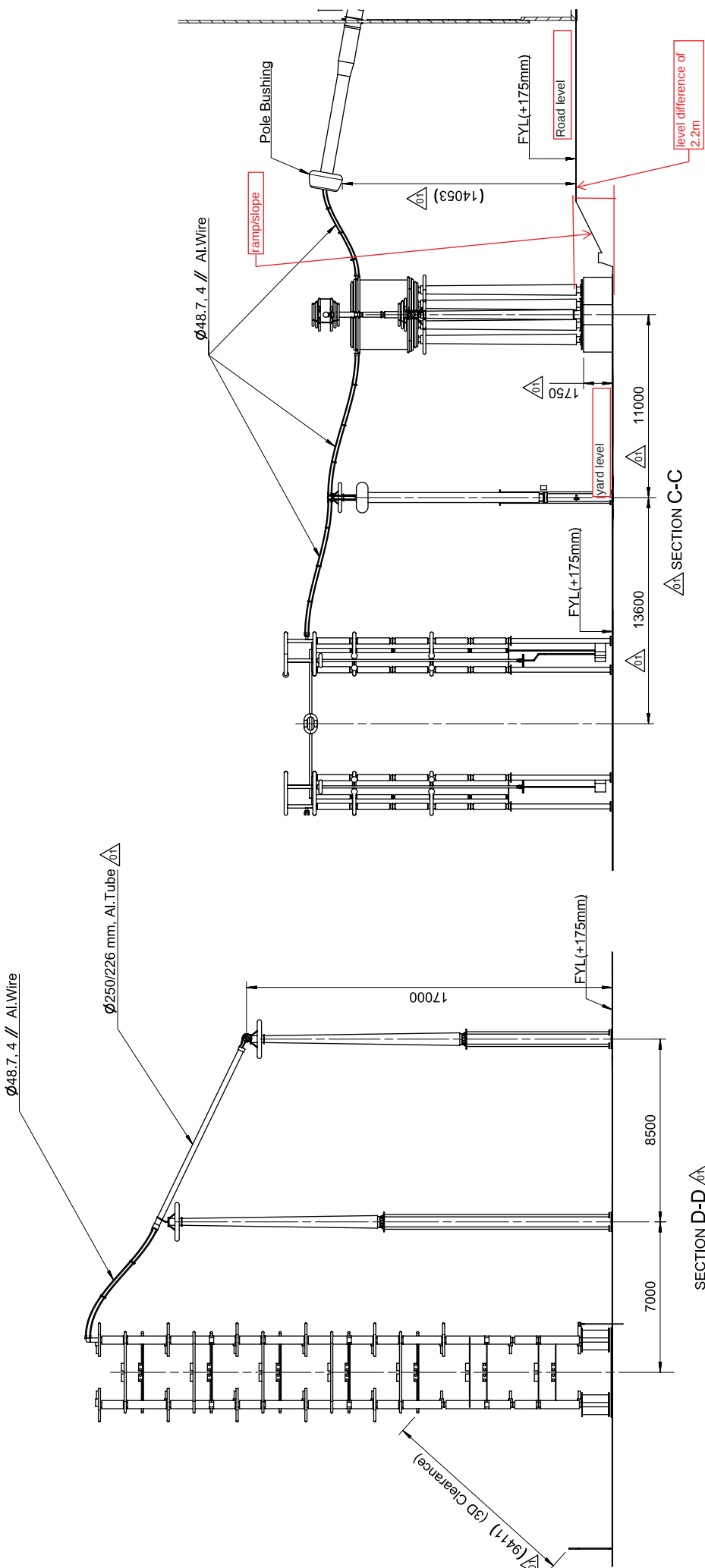
SECTION B-B

SECTION A-A

Contract No.	CC-CS(651-SR2)HVDC-3063/TG(W/CA)-1587-5821 dated 2017-01-25
Client:	POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)
 भारती हेवी इलेक्ट्रिकल्स लिमिटेड	Classification No. FIB-44
	Station Name Pugulur
	Project Name ±800kV, 6000MW HVDC Raigarh-Pugulur Terminals
Status on 	Issued
Prepared Approved Naik, Ashish 2018-01-23	Item Designation Pole4 Layout & Sections DC Yard
Title Layout drawing	Weight sheet PGGI/DCHUB/TPM
Drawn Checked Approved 2018-01-23	Language 01
Document number 1 JNL 100485-117	Sheet of 4 / 9

01	Revisions made are marked. Also refer last page for revision notes.	Thiruchunapali, Vijaya, Bhaskar	Naik, Ashish	2018-06-26
Rev	Revision	Prepared	Approved	Date

ANNEXURE-J (POLE-4)



Contract No. CC-CS/651-SR2HVDC-3063/7510/CA-1587-5821 dated 2017-01-25
Client: POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

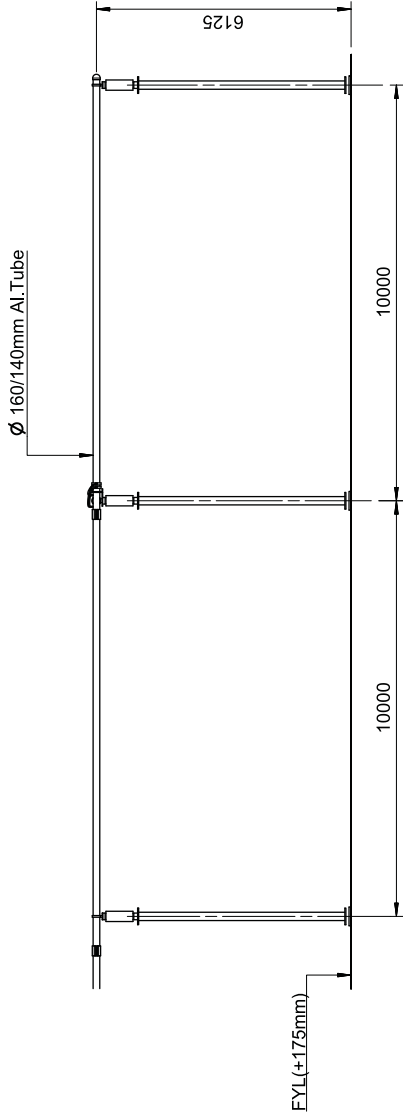


Station Name: Pugalur
Classification No: FB-64
Project name: +800KV, 6000MW HVDC Raigarh-Pugalur
Terminals
Based on: Thiruchunapali, Vijaya, Bhaskar
Prepared: Naik, Ashish
Approved: Naik, Ashish
Doc. No: 2018-01-23
Layout Drawing

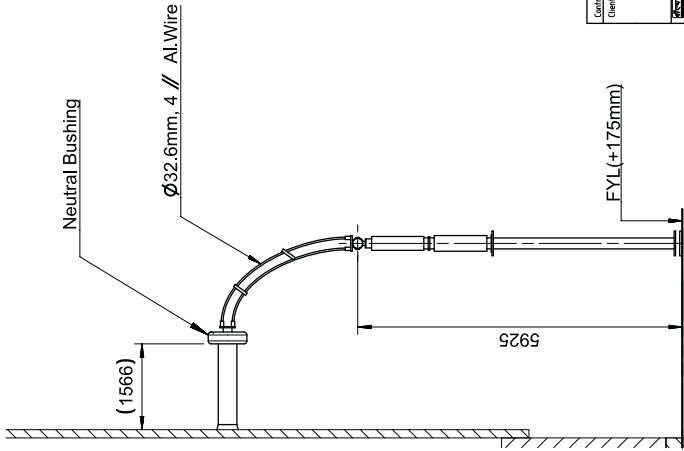
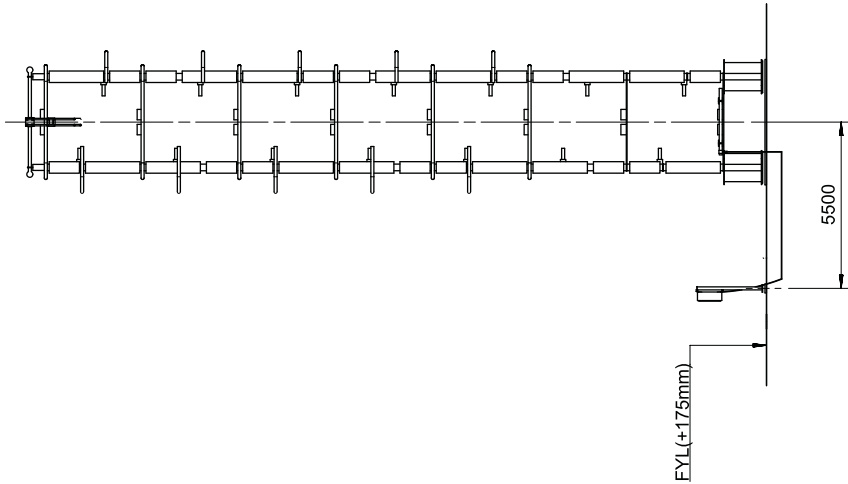
Status: Issued
Revision: 01
Document number: 1JNL100485-117
ABB AB - HVDC

Revisions made are marked. Also refer last page for 01 revision notes.
Thiruchunapali, Vijaya, Bhaskar
Naik, Ashish
2018-06-26
Date

ANNEXURE-J (POLE-4)



SECTION F-F



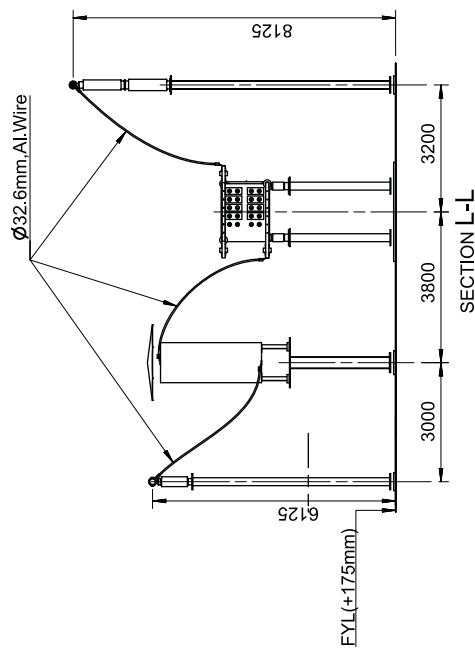
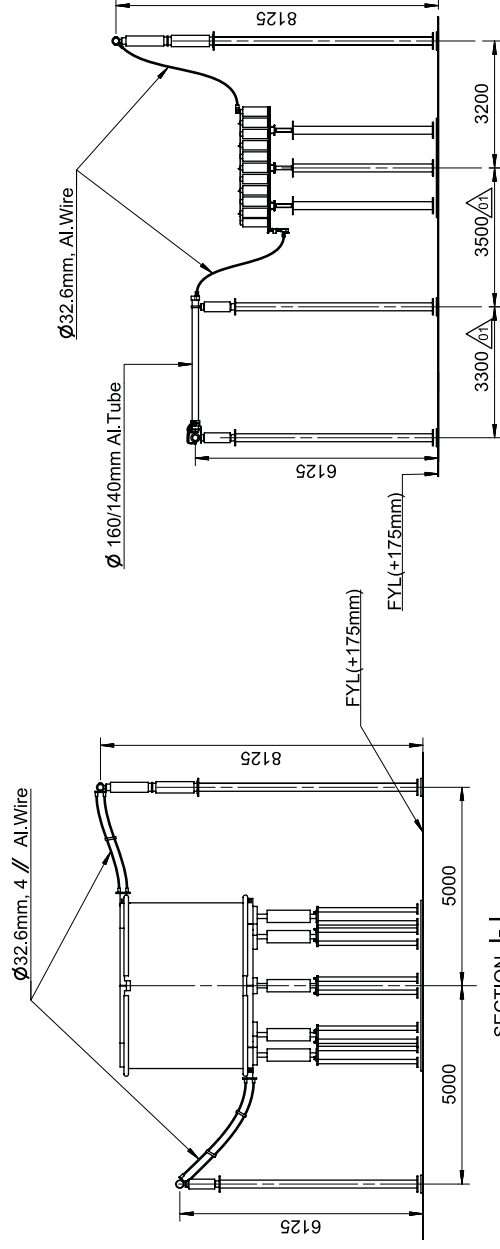
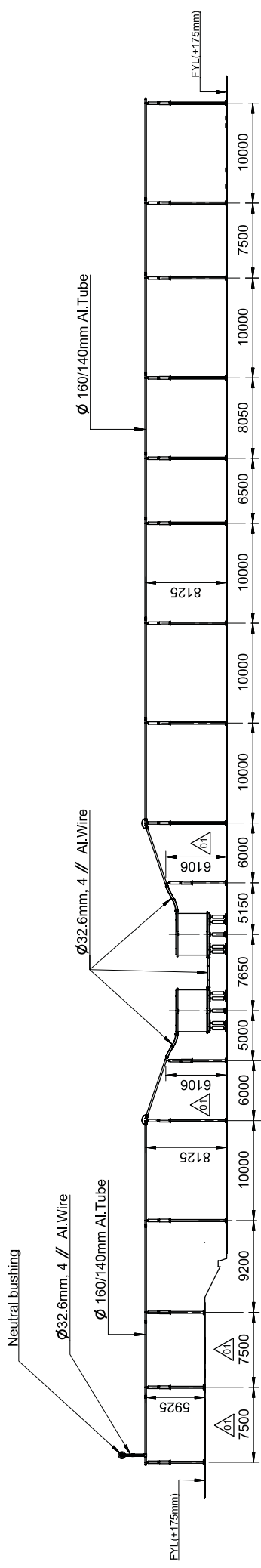
SECTION G-G

Contract No. CC-CS/651-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. PB-64	
Client		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Project name	
Contract No. CC-CS/651-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		+800KV, 6000MW HVDC Raigarh-Pugatpur Terminals	
Contract No. CC-CS/651-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Status	
Contract No. CC-CS/651-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Issued	
Contract No. CC-CS/651-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Revised	
Contract No. CC-CS/651-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Document number	
Contract No. CC-CS/651-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		1JNL100485-117	
Contract No. CC-CS/651-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Revision	
Contract No. CC-CS/651-SR2HVDC-3063/7/510/CA-1/5817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		6 / 9	

Revisions made are marked. Also refer last page for 01 revision notes.		Thiruchunapali, Vijaya, Bhaskar		Naik, Ashish		2018-06-26	
Rev		Revision		Approved		Date	

SECTION E-E

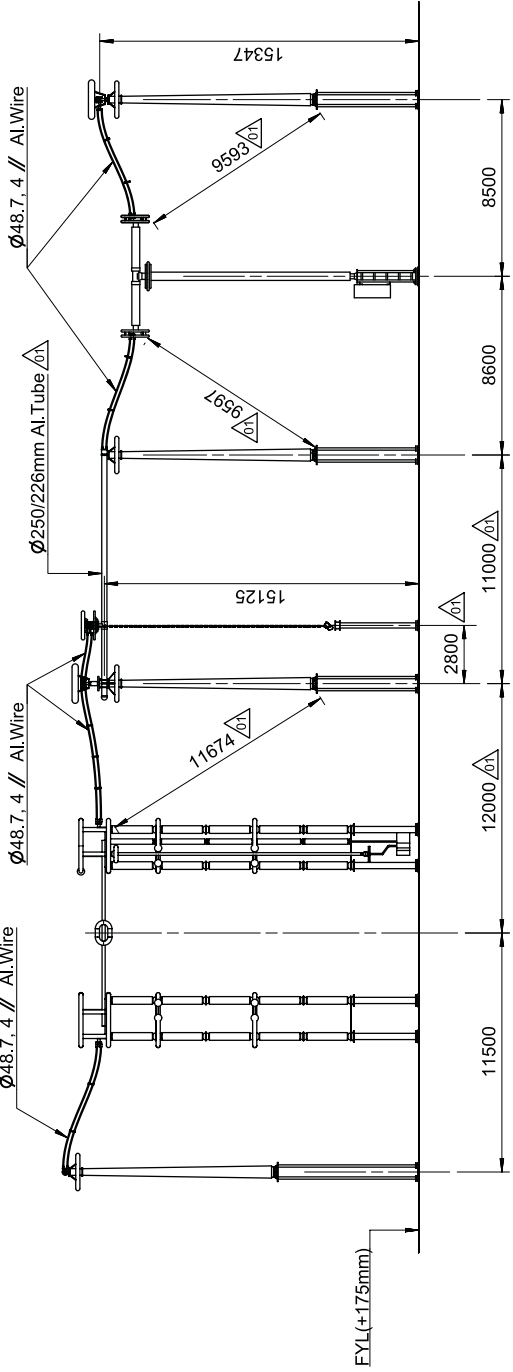
ANNEXURE-J (POLE-4)



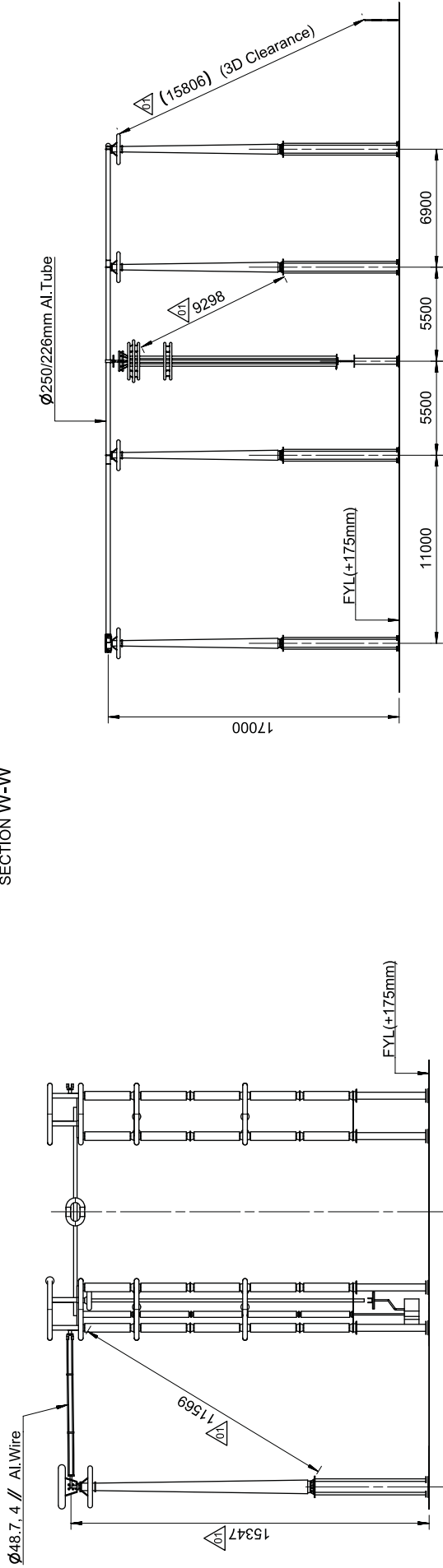
Contract No. CC-CSI-552/HVDC-30637/G/CA-1587-5821 dated 2017-01-25	 POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. PB-64
Client	SHAKTI HEAVY ELECTRICALS, LTD. TRANSMISSION BUSINESS GROUP		Slacker Name Pugulur
 ABB	ABB AB - HVDC		 ABB
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	Revisions made are marked. Also refer last page for 01 revision notes.		Thiruchunappali, Vijaya, Bhaskar	2018-06-26
Rev	Revision		Prepared	Approved
				Date

ANNEXURE-J (POLE-4)



SECTION W-W



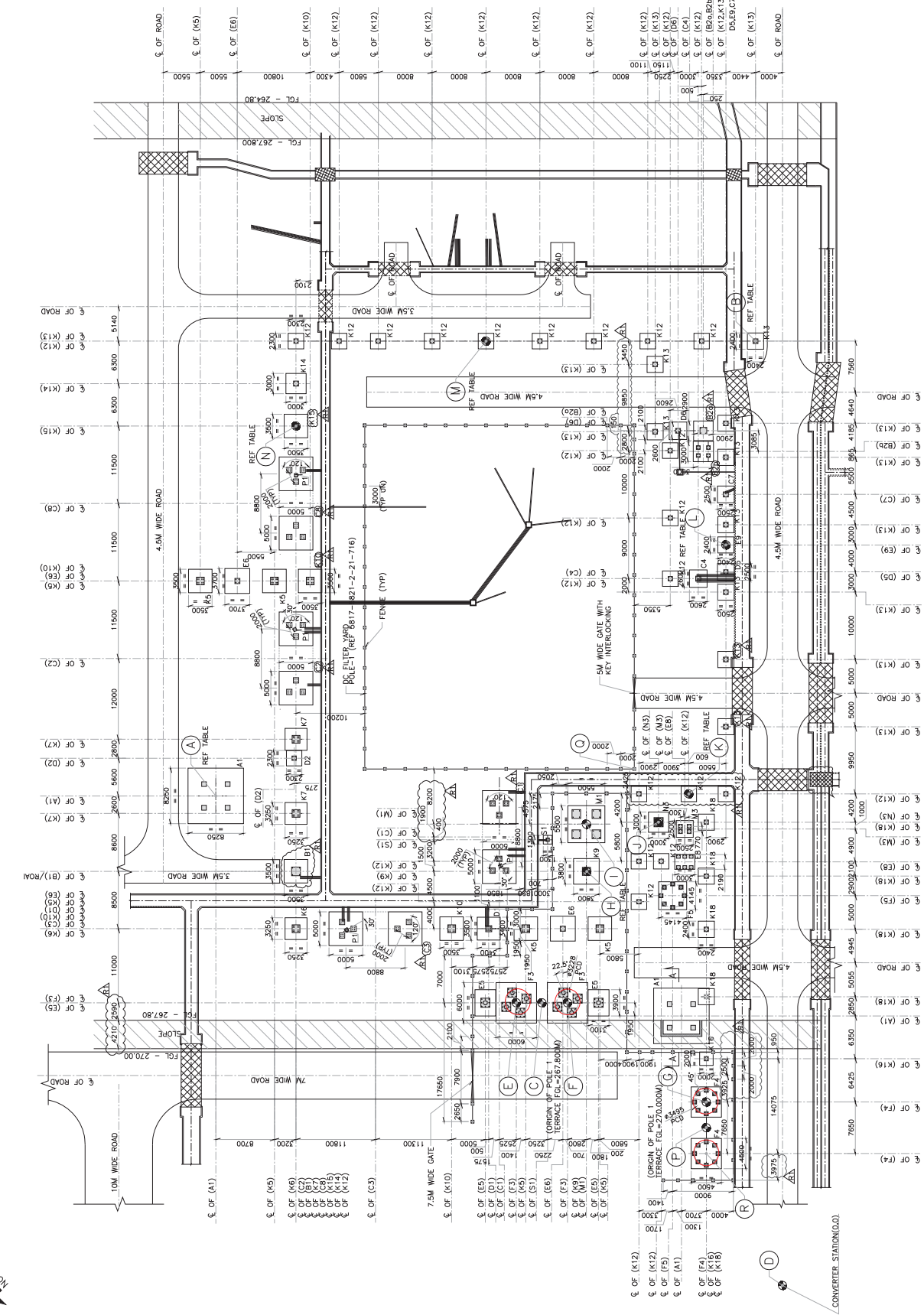
SECTION X-X

SECTION V-V

Contract No. CC-CS-651-SR2HVDC-3063/7510/CA-15817-5821 dated 2017-01-25		POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)		Classification No. FIB-64	
Client:		SHREE RENEWABLES LTD. TRANSMISSION BUSINESS GROUP		Station Name Pugalur	
Project name		+800KV, 6000MW HVDC Raigarh-Pugalur Terminals		Based on	
Prepared		Thiruchunappali, Vijaya, Bhaskar		Approved	
Doc. No.		Naik, Ashish		Date	
Layout Drawing		2018-01-23		Status	
Pole4 Layout & Sections		Issued		Item designation	
DC Yard		PGGI/DCHUBTPM		Rev no	
Document number		1JNL100485-117		Language	
ABB		ABB AB - HVDC		Sheet	

Revisions made are marked. Also refer last page for revision notes.		Thiruchunappali, Vijaya, Bhaskar		Naik, Ashish		2018-06-26	
01		Rev		Revision		Date	

1		2		3		4		5		6		7		8	
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				01		26-06-2018		Sheet 1		Notes updated					
								Sheet 2		Reference documents updated					
								Sheet 4		Dimensions updated					
								Sheet 5		Tube size updated					
B								Sheet 7		Dimensions updated					
										Section D-D view updated to show sectional clearance to DC Filler fence					
										Dimensions updated					
										Tube size updated					
								Sheet 8		Dimensions updated					
C										Section X-X view updated and sectional clearance to DC Filler fence shown					
D															
E															
F		This document is issued by means of a computerized system. The digital signature is a mandatory requirement. The approved document has a unique and identifiable signature. The digital signature is a mandatory requirement. The approved document has a unique and identifiable signature.													
ANNEXURE-J (POLE-4)															
POWER GRID CORPORATION OF INDIA LIMITED (A Government of India Enterprise)															
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LEGEND

- A --- BRACKETS
- B --- DISCONNECTOR/GROUNDING SWITCH
- C --- CURRENT TRANSFORMER
- D --- REACTOR
- E --- CABLE
- F --- CABLE TRAY
- G --- CABLE TRAY
- H --- CABLE TRAY
- I --- CABLE TRAY
- J --- CABLE TRAY
- K --- CABLE TRAY
- L --- CABLE TRAY
- M --- CABLE TRAY
- N --- CABLE TRAY
- O --- CABLE TRAY
- P --- CABLE TRAY
- Q --- CABLE TRAY
- R --- CABLE TRAY
- S --- CABLE TRAY
- T --- CABLE TRAY
- U --- CABLE TRAY
- V --- CABLE TRAY
- W --- CABLE TRAY
- X --- CABLE TRAY
- Y --- CABLE TRAY
- Z --- CABLE TRAY

NOTES:

1. ALL DIMENSIONS ARE INDICATED IN MILLIMETERS AND LEVELS ARE IN METERS.
2. DRAWINGS SHALL NOT BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ANY DOUBT OR DISCREPANCY IN THIS DRAWING SHALL BE BROUGHT TO THE NOTICE OF ENGINEER-IN-CHARGE BEFORE STARTING THE WORK.
4. GRADES OF CONCRETE SHALL BE AS FOLLOWS UNLESS SPECIFIED OTHERWISE:
 - a) FOR DC WORKS --- M25
 - b) FOR DC WORKS --- M25
 - c) FOR DC WORKS --- M25
5. ALL REINFORCEMENT SHALL BE HIGH YIELD STRENGTH DEFORMED BAR OF GRADE F450 CONFORMING TO IS: 1786.
6. DEVELOPMENT LENGTH SHALL BE 50 TIMES THE DIA OF BAR.
7. LAP LENGTH SHALL BE 50 TIMES THE SMALLER DIA LAPPED.
8. LAPS SHALL BE STAGGERED AS PER IS-456-2000. NOT MORE THAN 50% OF BARS SHALL BE LAPPED AT A SECTION.
9. FOR CO-JOINTS REFER Dwg No. 5817-5821-2-11-010

ENGINEERING REFERENCE DRAWINGS

1. STANDARD DRAWING FOR CONCRETE WORKS---5817-5821-2-00-002
2. STANDARD REINFORCEMENT DETAILS---5817-5821-2-00-007
3. PUGLUR CONVERTER STATION DRAIN LAYOUT---5817-5821-2-14-001
4. PUGLUR CONVERTER STATION OVERALL OUTDOOR CABLE LAYOUT---5817-5821-2-22-001
5. PUGLUR CONVERTER STATION ROAD LAYOUT---5817-5821-2-11-010
6. PUGLUR CONVERTER STANDARD LAYOUT AND DETAILS OF CHAINING FENCE---5817-5821-2-00-012

CONSTRUCTION REFERENCE DRAWINGS

1. STANDARD DRAWING FOR CONCRETE WORKS---5817-5821-2-00-002
2. STANDARD REINFORCEMENT DETAILS---5817-5821-2-00-007
3. PUGLUR CONVERTER STATION DRAIN LAYOUT---5817-5821-2-14-001
4. PUGLUR CONVERTER STATION OVERALL OUTDOOR CABLE LAYOUT---5817-5821-2-22-001
5. PUGLUR CONVERTER STATION ROAD LAYOUT---5817-5821-2-11-010
6. PUGLUR CONVERTER STANDARD LAYOUT AND DETAILS OF CHAINING FENCE---5817-5821-2-00-012

FOR APPROVAL

POWER GRID CORPORATION OF INDIA LIMITED
(A government of India Enterprise)

±800 kV 6000 MW RAIGARH - PUGLUR
HVDC Terminal

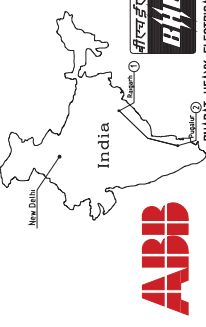


ABB
ABB ELECTRONICS LTD.
TRANSMISSION BUSINESS GROUP

ABE'S CONSULTANT
TATA Consulting
Engineers Limited

CONVERTER STATION
DC YARD POLE - 1
OVERALL FOUNDATION LAYOUT
SHEET 01 OF 03

Rev	1	2	3	4	5	6	7	8	9	10	11	12
Date	27-11-2023	12-12-2018	21-05-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018
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Checked by	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE
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Project	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE

Rev	1	2	3	4	5	6	7	8	9	10	11	12
Date	27-11-2023	12-12-2018	21-05-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018
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Scale	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED
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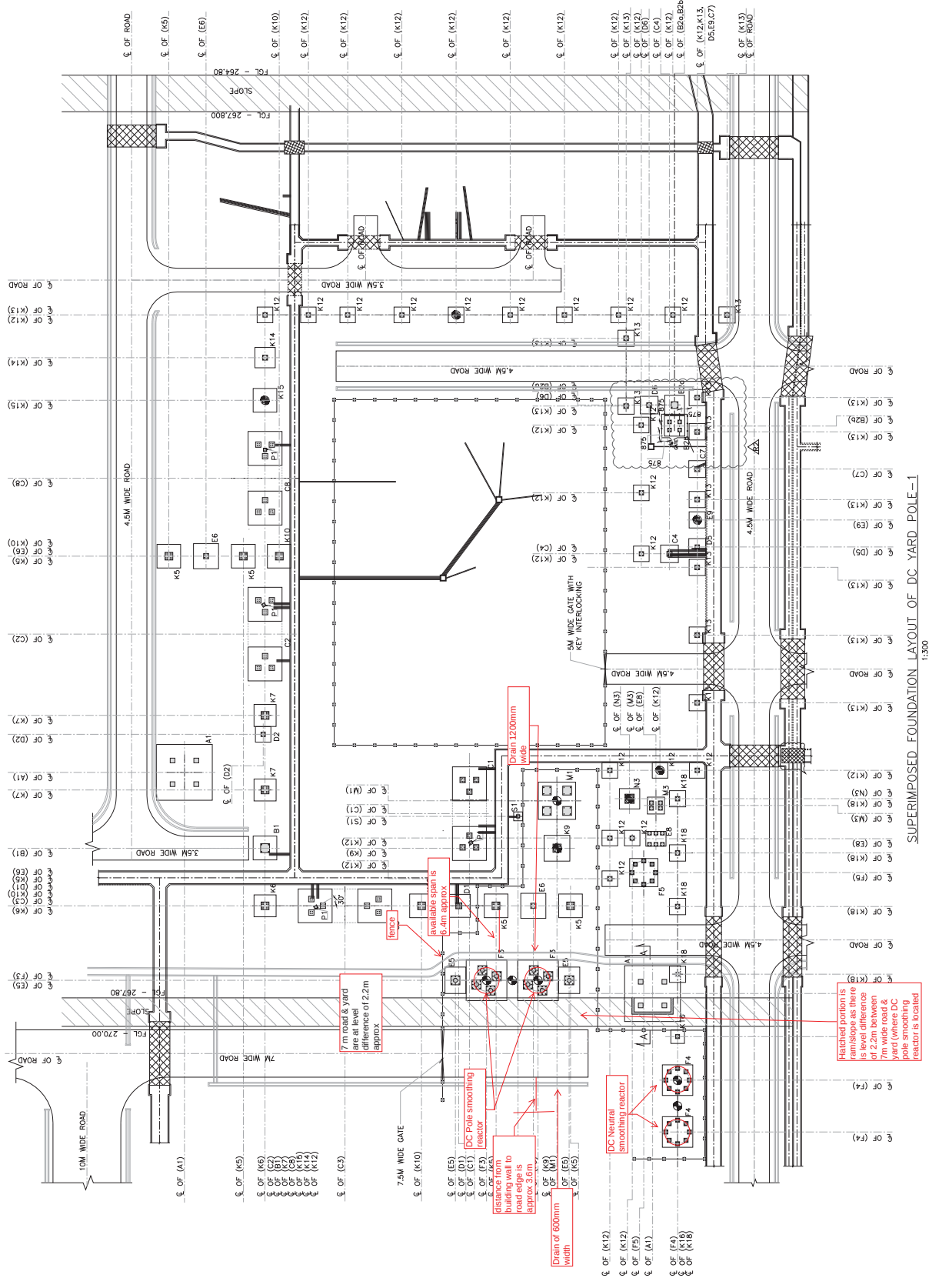
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Scale	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED
Project	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE

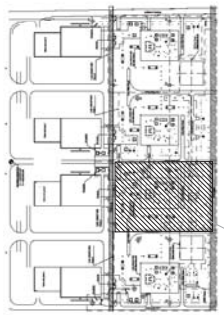
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Scale	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED
Project	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE

Rev	1	2	3	4	5	6	7	8	9	10	11	12
Date	27-11-2023	12-12-2018	21-05-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018
Drawn by	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE
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Scale	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED
Project	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE

Rev	1	2	3	4	5	6	7	8	9	10	11	12
Date	27-11-2023	12-12-2018	21-05-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018	12-12-2018
Drawn by	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE
Checked by	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE
Scale	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED	AS NOTED
Project	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE	ABE

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KEY PLAN

DC YARD POLE - 2

LEGEND

- BREAKERS
- DISCONNECTOR/GROUNDING SWITCH
- CURRENT TRANSFORMER
- REACTOR
- CAPACITOR
- RESISTOR
- JUNCTION BOX
- CENTER LINE

NOTES:

1. ALL DIMENSIONS ARE INDICATED IN MILLIMETERS AND LEVELS ARE IN METERS.
2. DRAWINGS SHALL NOT BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ANY DOUBT OR DISCREPANCY IN THIS DRAWING SHALL BE BROUGHT TO THE NOTICE OF ENGINEER-IN-CHARGE BEFORE STARTING THE WORK.
4. GRADE OF CONCRETE SHALL BE AS FOLLOWS UNG.
 - 1) FOR PCC WORKS - M25
 - 2) FOR RCC WORKS - M40
5. ALL REINFORCEMENT SHALL BE HIGH YIELD STRENGTH DEFORMED BAR OF GRADE F450 CONFORMING TO IS: 1786.
6. DEVELOPMENT LENGTH SHALL BE 50 TIMES THE DIA OF BAR.
7. LAP LENGTH SHALL BE 50 TIMES THE SMALLER DIA LAPPED.
8. LAPS SHALL BE STAGGERED AS PER IS-456-2000. NOT MORE THAN 50% OF BARS SHALL BE LAPPED AT A SECTION.
9. FOR CO-JOINTS REFER Dwg No. 5817-5821-2-21-721 (SH 02 OF 03)

ENGINEERING REFERENCE DRAWINGS

1. STANDARD DRAWING FOR CONCRETE WORKS--5817-5821-2-00-002
2. STANDARD REINFORCEMENT DETAILS--5817-5821-2-00-007
3. PUGALUR CONVERTER STATION LAYOUT--5817-5821-2-14-001
4. PUGALUR CONVERTER STATION OVERALL OUTDOOR CABLE LAYOUT--5817-5821-2-22-001
5. PUGALUR CONVERTER STATION ROAD LAYOUT--5817-5821-2-11-010
6. PUGALUR CONVERTER STATION STANDARD LAYOUT AND DETAILS OF CHAINING FENCE--5817-5821-2-00-012

CONSTRUCTION REFERENCE DRAWINGS

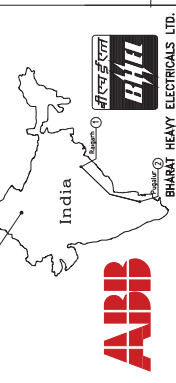
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4. PUGALUR CONVERTER STATION OVERALL OUTDOOR CABLE LAYOUT--5817-5821-2-22-001
5. PUGALUR CONVERTER STATION ROAD LAYOUT--5817-5821-2-11-010
6. PUGALUR CONVERTER STATION STANDARD LAYOUT AND DETAILS OF CHAINING FENCE--5817-5821-2-00-012

FOUNDATION LAYOUT OF DC YARD POLE - 2

FOR APPROVAL

POWER GRID CORPORATION OF INDIA LIMITED
(A government of India Enterprise)

±800 kV 6000 MW RAIGARH - PUGALUR
HVDC Terminal



ABRB

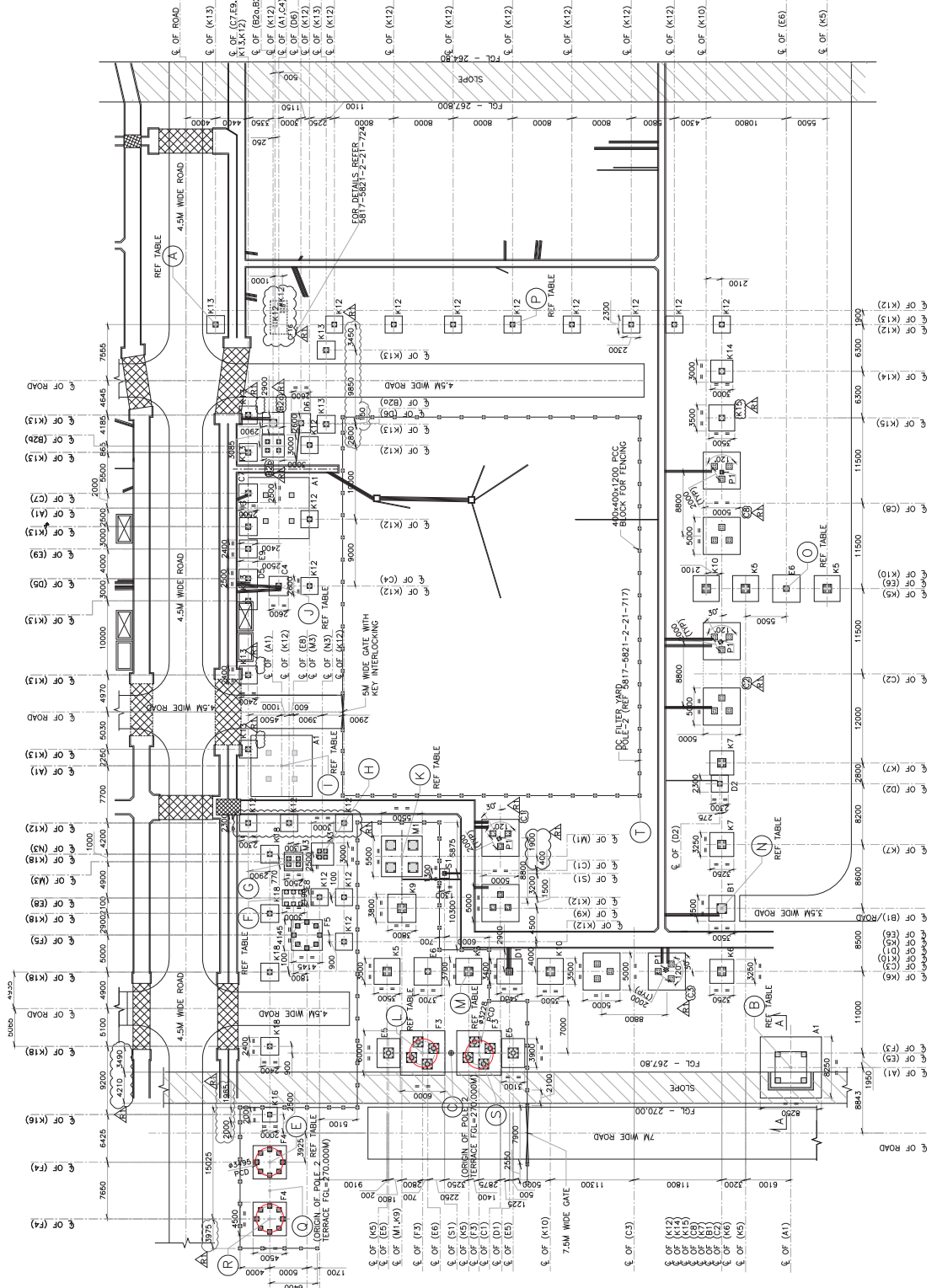
ABRB ENGINEERS LTD.
TRANSMISSION BUSINESS GROUP

Civil and Building Works Incl. El. and Mech. Services

ABRB'S CONSULTANT
TATA Consulting Engineers Limited

CONVERTER STATION
DC YARD POLE - 2
OVERALL FOUNDATION LAYOUT
SHEET 01 OF 03

Bangalore, Karnataka
Scale: (As Shown)
Drawing No. 5817-5821-2-21-721 R2



FOUNDATION LAYOUT OF DC YARD POLE - 2

(FOR CONSTRUCTION REFERENCE DRAWING NO. 5817-5821-2-21-721, SH 01 OF 03)
(K12 BELONGS TO COMMON AREA. FOR DETAILS OF C16 FOUNDATIONS REFER
DWG NO. 5817-5821-2-21-724, SHEET 01 OF 04)

0 50 100 mm

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CONVERTER STATION

DC YARD POLE - 2

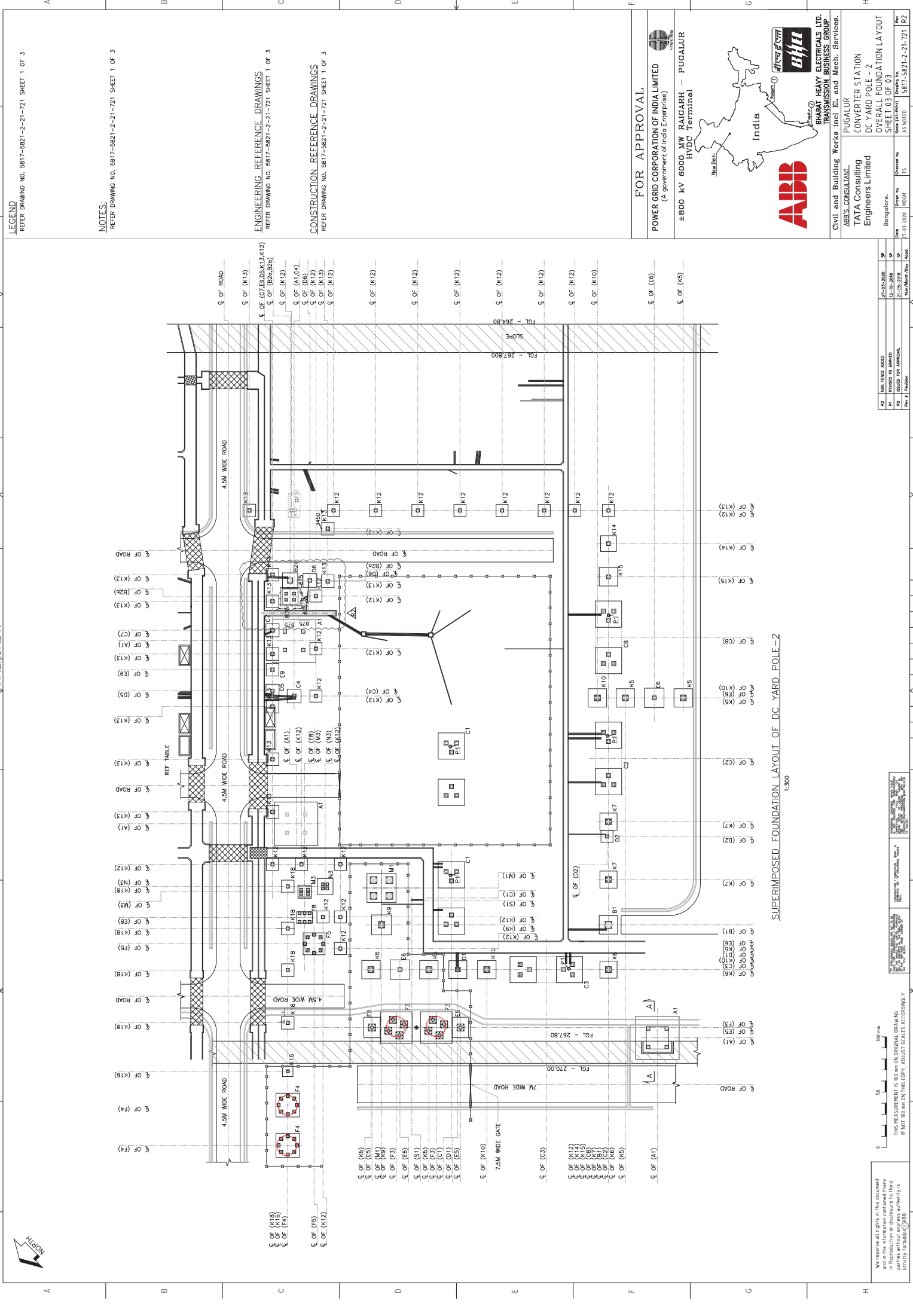
OVERALL FOUNDATION LAYOUT

SHEET 01 OF 03

Bangalore, Karnataka

Scale: (As Shown)

Drawing No. 5817-5821-2-21-721 R2



LEGEND
REFER DRAWING NO. 5817-5821-2-21-721 SHEET 1 OF 3

NOTES:
REFER DRAWING NO. 5817-5821-2-21-721 SHEET 1 OF 3

ENGINEERING REFERENCE DRAWINGS
REFER DRAWING NO. 5817-5821-2-21-721 SHEET 1 OF 3

CONSTRUCTION REFERENCE DRAWINGS
REFER DRAWING NO. 5817-5821-2-21-721 SHEET 1 OF 3

FOR APPROVAL
POWER GRID CORPORATION OF INDIA LIMITED
(A government of India Enterprise)

±800 kV 6000 MW RAIGARH – PUGALUR
HVDC Terminal

India

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PUGALUR
CONVERTER STATION
DC YARD POLE - 2
OVERALL FOUNDATION LAYOUT
SHEET 03 OF 03

Rev	1	2	3	4	5	6	7	8	9	10	11	12
Date	27-02-2020	12-10-2018	21-05-2018	14-04-2018	14-04-2018	14-04-2018	14-04-2018	14-04-2018	14-04-2018	14-04-2018	14-04-2018	14-04-2018
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Checked by	15	15	15	15	15	15	15	15	15	15	15	15
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Rev # Revision

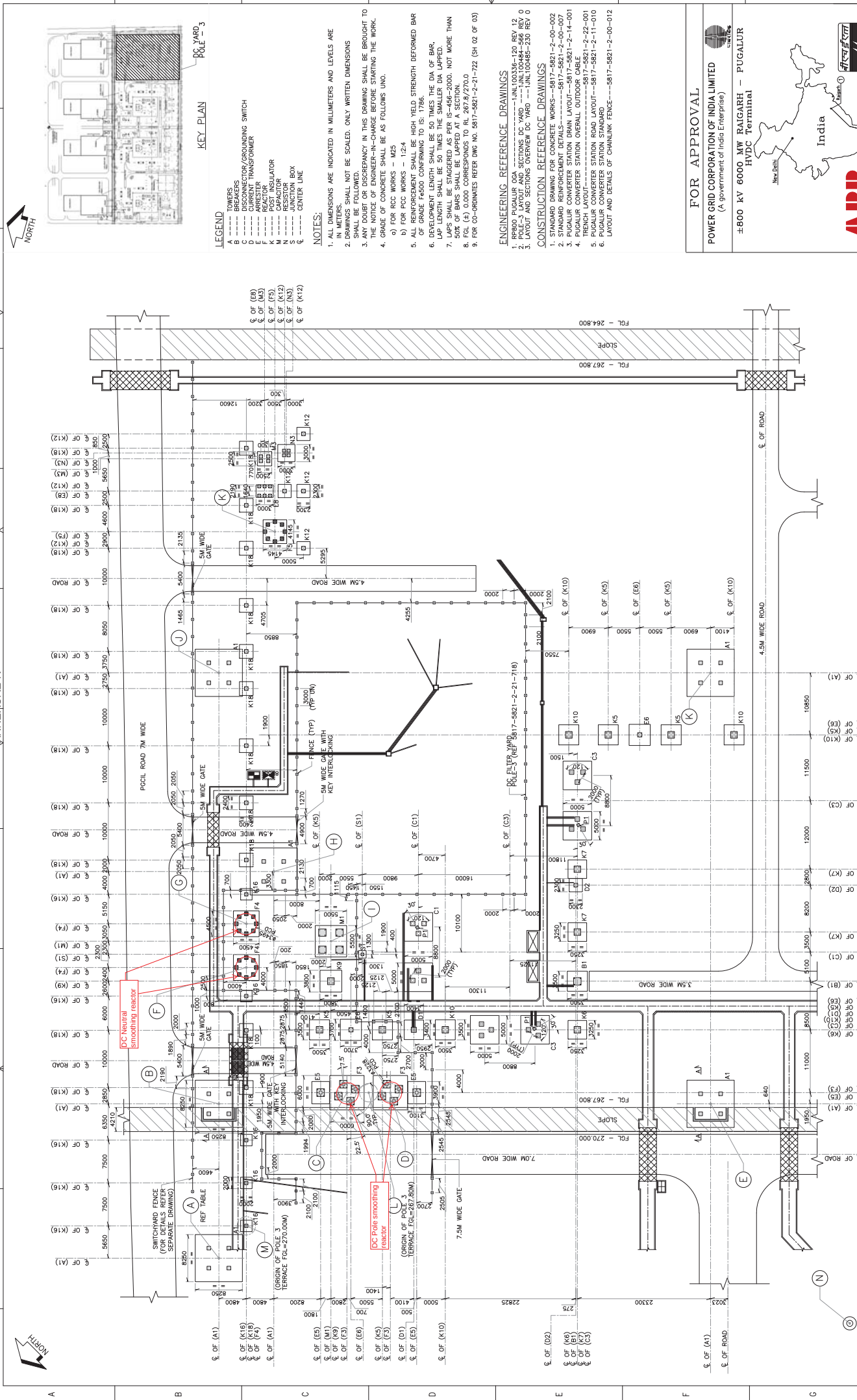
SUPERIMPOSED FOUNDATION LAYOUT OF DC YARD POLE-2
1:300

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0 50 100 mm

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(CONVERTOR STATION 0,0)

FOUNDATION LAYOUT OF DC YARD POLE-3
(FOR SECTION A-A REFER DWG NO. 5817-5821-2-21-722 (SH 02 OF 03)
1:300

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Rev #	Revision	Year/Month/Day Appd.	SP	ISSUED FOR APPROVAL	22-08-2018	SP	0

FOR APPROVAL

POWER GRID CORPORATION OF INDIA LIMITED
(A government of India Enterprise)

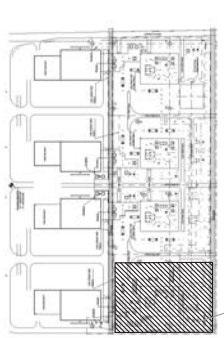
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TATA Consulting Engineers Limited	CONVERTER STATION
	DC YARD POLE - 3

Scale	Drawn by	Checked by	Scale (A1-Print)	Drawing No.	Rev
Bangalore. OVERALL FOUNDATION LAYOUT (SHEET 01 OF 03)					



KEY PLAN

LEGEND

- A --- TOWER
- B --- BREAKER
- C --- DISCONNECTOR/GROUNDING SWITCH
- D --- CURRENT TRANSFORMER
- E --- REACTOR
- F --- BUS
- G --- POST INSULATOR
- H --- COST INSULATOR
- I --- RESISTOR
- J --- JUNCTION BOX
- K --- CENTER LINE

NOTES:

1. ALL DIMENSIONS ARE INDICATED IN MILLIMETERS AND LEVELS ARE IN METERS.
2. DRAWINGS SHALL NOT BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ANY DOUBT OR DISCREPANCY IN THIS DRAWING SHALL BE BROUGHT TO THE NOTICE OF ENGINEER-IN-CHARGE BEFORE STARTING THE WORK.
4. GRADE OF CONCRETE SHALL BE AS FOLLOWS UNL.
5. FOR RC WORKS --- M25
6. FOR RCC WORKS --- M40
7. ALL REINFORCEMENT SHALL BE HIGH YIELD STRENGTH DEFORMED BAR OF GRADE Fe400 CONFORMING TO IS: 1786.
8. DEVELOPMENT LENGTH SHALL BE 50 TIMES THE DIA OF BAR.
9. LAP LENGTH SHALL BE 50 TIMES THE SMALLER DIA LAPPED.
10. LAPS SHALL BE STAGGERED AS PER IS-456-2000. NOT MORE THAN 50% OF BARS SHALL BE LAPPED AT A SECTION.
11. FOR CO-GRUNTS REFER DMC NO. 5817-5821-2-21-723 (SH 02 OF 03)

ENGINEERING REFERENCE DRAWINGS

1. STANDARD DRAWING FOR CONCRETE WORKS---5817-5821-2-00-002
2. STANDARD REINFORCEMENT DETAILS---5817-5821-2-00-007
3. PUGLUR CONVERTER STATION DRAIN LAYOUT---5817-5821-2-14-001
4. PUGLUR CONVERTER STATION OVERALL OUTDOOR CABLE LAYOUT---5817-5821-2-22-001
5. PUGLUR CONVERTER STATION ROAD LAYOUT---5817-5821-2-11-010
6. PUGLUR CONVERTER STATION STANDARD LAYOUT AND DETAILS OF CHAINLINK FENCE---5817-5821-2-00-012

FOR APPROVAL

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(A government of India Enterprise)

±800 kV 6000 MW RAIGARH - PUGLUR
HVDC Terminal

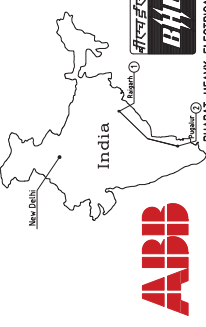
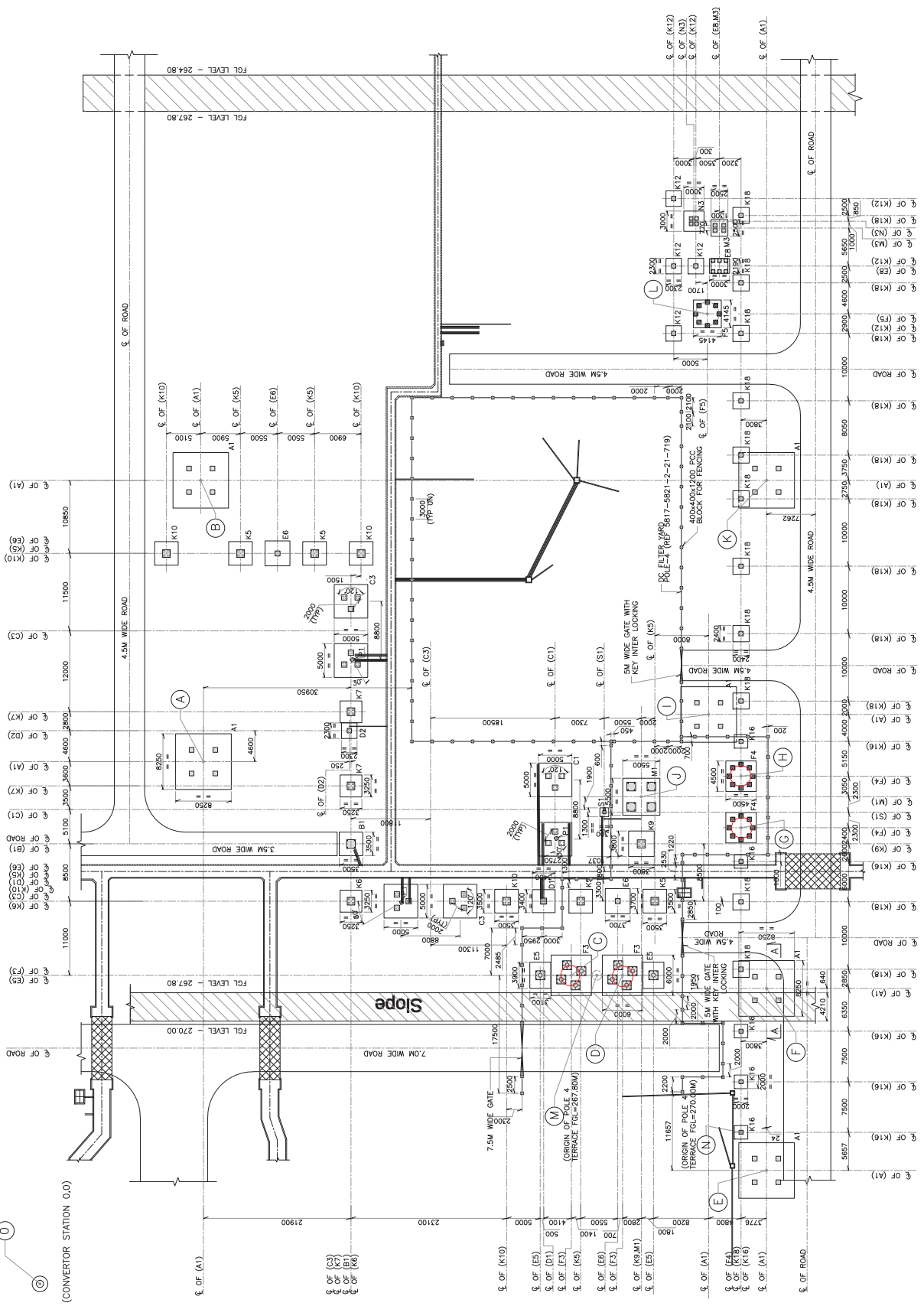


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Bangalore.
Date: 22-08-2018
Scale: (As Per) 1:5
Drawn by: HSDH
Checked by: IS
Rev: 1

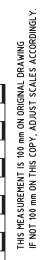


FOUNDATION LAYOUT OF DC YARD POLE-4
(FOR SECTION A-A REFER DWG NO. 5817-5821-2-21-723 (SH 02 OF 03))

1:300

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LEGEND
REFER DWG NO. 5817-5821-2-21-723 SHEET 1 OF 3

NOTES:
REFER DWG NO. 5817-5821-2-21-723 SHEET 1 OF 3

ENGINEERING REFERENCE DRAWINGS
REFER DWG NO. 5817-5821-2-21-723 SHEET 1 OF 3

CONSTRUCTION REFERENCE DRAWINGS
REFER DWG NO. 5817-5821-2-21-723 SHEET 1 OF 3

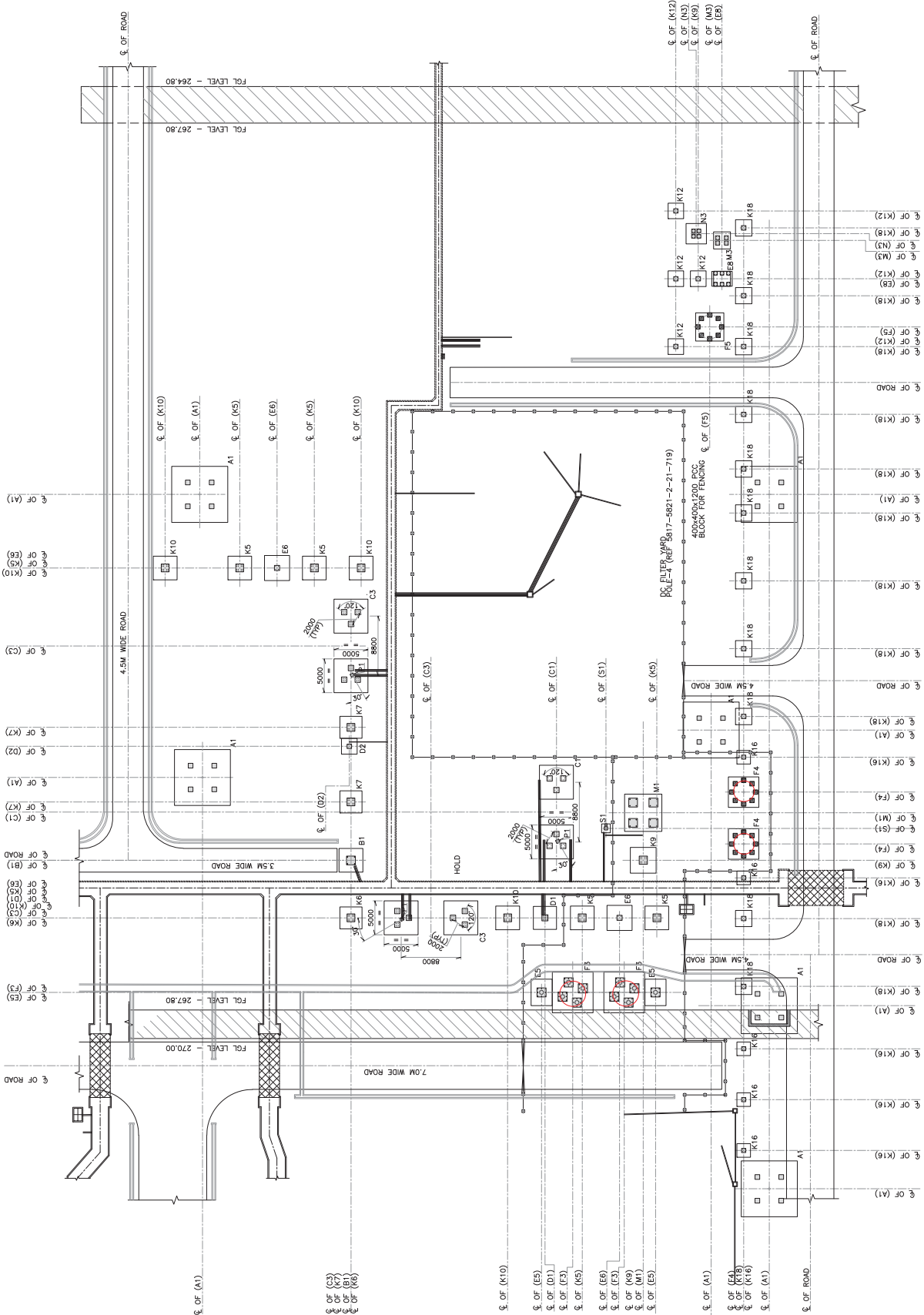
FOR APPROVAL
POWER GRID CORPORATION OF INDIA LIMITED
(A government of India Enterprise)
±800 kV 6000 MW RAIGARH – PUGALUR
HVDC Terminal



POWER GRID CORPORATION OF INDIA LIMITED
RAIGARH – PUGALUR
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PUGALUR
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Engineers Limited
BANGALORE.

Scale (A1-Print)
AS NOTED
Drawing No.
5817-5821-2-21-723
Rev.



SUPERIMPOSED FOUNDATION LAYOUT OF DC YARD POLE-4

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