

TENDER DOCUMENTS FOR
HIRING THE SERVICES OF PCC CONTRACTOR FOR
SUPPLY / INSTALLATION / CIVIL FOUNDATIONS FOR MISCELLANEOUS
EQUIPMENTS & PLANT BUILDING WORKS FOR MELA DEVELOPMENT PROJECT
(PCC)

TENDER EQUITY NO. PROC-FC/CB/PROJ/MELA-3368/2018)

ADDENDUM NO.2

This Addendum No. 2 is hereby made a part of the subject Tender Document and is being issued to modify, explain and/or correct the Tender Document. This addendum, including all articles and attachments listed below, shall be taken into account in preparing the Bid for the subject Tender.

Document Reference	Description of Amendment/Addition
1) Annexure-XVI of 165-2-SPG-128	Bid price schedule Annexure-XVI of document no. 165-2-SPG-128 attached with the original tender (Vol-I) shall be superseded by Annexure-XVI, enclosed as Annexure-XVI to this Addendum No. 2.
2) Annexure-A of 165-2-SPG-129	Bid price schedule Annexure-A of document no. 165-2-SPG-129 attached with the original tender (Vol-I) shall be superseded by Annexure-A, enclosed as Annexure-A to this Addendum No. 2.
3) 165-2-GPP-001, Rev. 1	Rev.0 of 165-2-GPP-001 attached with the original tender (Vol-II) shall be superseded by Rev.1 of the same document, enclosed as Attachment-I to this Addendum No. 2.
4) 165-2-BQE-001, Rev. 1	Rev.0 of 165-2-BQE-001 attached with the original tender (Vol-II) shall be superseded by Rev.1 of the same document, enclosed as Attachment-II to this Addendum No. 2.
5) 165-2-BQE-004, Rev. 1	Rev.0 of 165-2-BQE-004 attached with the original tender (Vol-II) shall be superseded by Rev.1 of the same document, enclosed as Attachment-III to this Addendum No. 2.
6) 165-2-BQC-002, Rev. 1	Rev.0 of 165-2-BQC-002 attached with the original tender (Vol-II) shall be superseded by Rev.1 of the same document, enclosed as Attachment-IV to this Addendum No. 2.
7) 165-2-SPE-025, Rev. 1	Rev.0 of 165-2-SPE-025 attached with the original tender (Vol-II) shall be superseded by Rev.1 of the same document, enclosed as Attachment-V to this Addendum No. 2.

Document Reference	Description of Amendment/Addition
8) 165-2-ELS-002 Rev 1 (1 of 4) 165-2-ELS-002 Rev 1 (2 of 4) 165-2-ELS-002 Rev 1 (3 of 4) 165-2-ELS-002 Rev 1 (4 of 4)	Rev.0 of 165-2-ELS-002 attached with the original tender (Vol-II) shall be superseded by Rev.1 of the same document, enclosed as Attachment-VI to this Addendum No. 2.
9) 165-2-C-018-R0 165-2-C-019-R0 (1 OF 2) 165-2-C-019-R0 (2 OF 2)	Civil drawings for Switch Gear room (New documents) to be added in tender package, enclosed as Attachment-VII to this Addendum No. 2.
10) Annexure-XVI 165-2-BQE-001, Rev. 1 165-2-BQE-004, Rev. 1 165-2-BQC-002, Rev. 1	Bid Price Schedule / Bill of Quantities (Excel sheets) can be downloaded from the OGDCL website enclosed as Attachment-VIII to this Addendum No. 2. Bidder to note that Bid Price Schedule / Bill of Quantities are protected files bidder to fill price only in unprotected cells, unprotection of BOQ by bidder lead to disqualification.

ANNEXURE – XVI OF 165-2-SPG-128

BID PRICE SCHEDULE

OIL & GAS DEVELOPMENT COMPANY LTD.
BID PRICE SCHEDULE SUMMARY FOR PCC CONTRACTOR

S.NO.	DESCRIPTION	SUPPLY					SERVICES			Total Amount Supply + Services (In Pak. Rs.)
		Total Supply (Pak.Rs.)	GST on Supply Items (Pak.Rs.)	Total Supply Inclusive of GST (Pak.Rs.)	Third Party Pre Shipment Inspection (Pak.Rs.)	Total Supply Inclusive of GST & Pre Shipment Inspection (Pak.Rs.)	Total Price (Pak.Rs.)	GST & Provincial Tax on Services (Pak.Rs.)	Total Services Inclusive of GST & Provincial Tax on Services (Pak.Rs.)	
		A	B	C = A + B	D	E = C + D	F	G	H = F + G	
1.0	MECHANICAL / FIRE FIGHTING EQUIPMENT / COMPANY SUPPLIED EQUIPMENT AND PACKAGES WORKS									
	Refer to Attachment - 1									
2.0	PIPING WORKS									
	Refer to Attachment - 2									
3.0	ELECTRICAL WORKS									
	Refer to Attachment - 3									
4.0	INSTRUMENTATION WORKS									
	Refer to Attachment - 4									
5.0	CIVIL & STRUCTURAL WORKS									
	Refer to Attachment - 5									
GRAND TOTAL (Pak.Rs.)										

NOTES:

- (1) Copy of the SRO 678 (1)/2007 is given in
(2) The charges shall be supported by verified quotation of Inspection

ANNEXURE - A OF 165-2-SPG-129

BID PRICE SCHEDULE

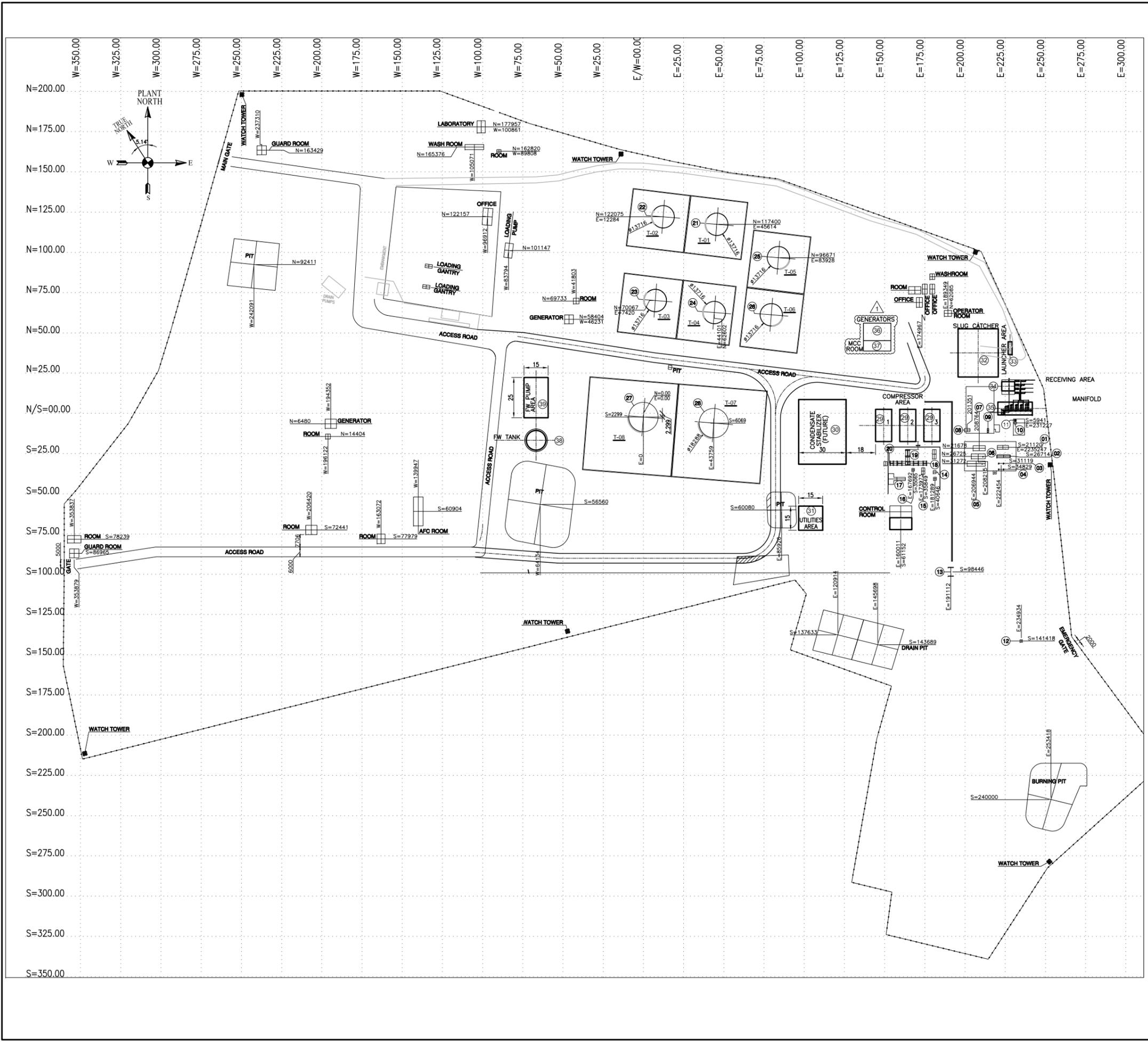
OIL & GAS DEVELOPMENT COMPANY LTD.
BID PRICE SCHEDULE SUMMARY FOR PCC CONTRACTOR

S.NO.	DESCRIPTION	SUPPLY					SERVICES			Total Amount Supply + Services (In Pak. Rs.)
		Total Supply (Pak.Rs.)	GST on Supply Items (Pak.Rs.)	Total Supply Inclusive of GST (Pak.Rs.)	Third Party Pre Shipment Inspection (Pak.Rs.)	Total Supply Inclusive of GST & Pre Shipment Inspection (Pak.Rs.)	Total Price (Pak.Rs.)	GST & Provincial Tax on Services (Pak.Rs.)	Total Services Inclusive of GST & Provincial Tax on Services (Pak.Rs.)	
		A	B	C = A + B	D	E = C + D	F	G	H = F + G	
1.0	MECHANICAL / FIRE FIGHTING EQUIPMENT / COMPANY SUPPLIED EQUIPMENT AND PACKAGES WORKS									
	Refer to Attachment - 1									
2.0	PIPING WORKS									
	Refer to Attachment - 2									
3.0	ELECTRICAL WORKS									
	Refer to Attachment - 3									
4.0	INSTRUMENTATION WORKS									
	Refer to Attachment - 4									
5.0	CIVIL & STRUCTURAL WORKS									
	Refer to Attachment - 5									
GRAND TOTAL (Pak.Rs.)										

NOTES:

- (1) Copy of the SRO 678 (1)/2007 is given in
(2) The charges shall be supported by verified quotation of Inspection

ATTACHMENT – I
GENERAL PLOT PLAN



TAG NO.	DESCRIPTION	EQUIPMENT NO.
1	AIR COOLER	E-107
2	PRE HEATER	H-0101
3	SHELL & TUB HEAT EXCHANGER	E-0109A
4	SHELL & TUB HEAT EXCHANGER	E-0109B
5	HP THREE PHASE SEPARATOR	V-0501
6	MP THREE PHASE SEPARATOR	V-0502
7	LP THREE PHASE SEPARATOR	V-0503
8	KNOCKOUT VESSEL	KOV-1
9	KNOCKOUT VESSEL	K-0506
10	CHEMICAL DRUM	-
11	CHEMICAL INJECTION SKID	-
12	FLARE STACK	ST-0910
13	FLARE KNOCKOUT VESSEL	V-0900
14	KNOCKOUT VESSEL	V-0504
15	KNOCKOUT VESSEL	V-0505
16	GLYCOL CONTACTOR COLUMN	C-200
17	AG COMPRESSOR	A-0501
18	SALE GAS METRING PACKAGE	V-220
19	GLYCOL REGENERATION PACKAGE	H-230
20	GLYCOL/H.C FLASH SEPERATOR & FILTER PACKAGE	V-260
21	CRUDE OIL STORAGE	T-01
22	CRUDE OIL STORAGE	T-02
23	CRUDE OIL STORAGE	T-03
24	CRUDE OIL STORAGE	T-04
25	CRUDE OIL STORAGE	T-05
26	CRUDE OIL STORAGE	T-06
27	CRUDE OIL STORAGE	T-07
28	CRUDE OIL STORAGE	T-08
29	FEED GAS COMPRESSOR	UNIT-2500
30	CONDENSATE STABILIZER (FUTURE)	-
31	UTILITIES AREA	UNIT-2600
32	SLUG CATCHER (FUTURE)	-
33	LAUNCHER AREA	UNIT-2700
34	RECEIVING AREA	UNIT-2800
35	MANIFOLD	-
36	GENERATORS	UNIT-3000
37	MCC ROOM	-
38	FW TANK	T-4001
39	FW PUMP AREA	UNIT-4000

- LEGENDS:**
- PROPOSED FACILITY
 - EXISTING FACILITIES
 - FACILITIES TO BE DISMANTLED

- NOTES:**
1. ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE STATED.
 2. ALL COORDINATES ARE IN METERS.

ISSUED FOR TENDER

1	11-07-2018	RE-ISSUED FOR TENDER	SK	IN	SH
0	01-06-2018	ISSUED FOR TENDER	SK	IN	SH
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	CHECKED	APPR.

CLIENT:
OIL & GAS DEVELOPMENT COMPANY LTD.
 OGDC HOUSE TOWER-6, FIRST FLOOR FRIGS, BLUE AREA, JINNAH AVENUE ISLAMABAD PAKISTAN
 FAX: +92 051 2623033, PHONE: +92-051-9209859

CONSULTANT:
Zishan Engineers (Pvt.) Ltd.
 An ISO 9001-2015 certified company
 47/F Block 6, PECHS, Karachi-Pakistan
 Tel: (92-21) 34393045-48, & 34310151-54, Fax: (92-21) 34533430 & 34510156
 E-Mail: contact@zishanengineers.com Website: www.zishanengineers.com

PROJECT :	MELA DEVELOPMENT PROJECT	DWG. NO.	165-2-GPP-001
TITLE :	GENERAL PLOT PLAN	REV. 1	
		JOB NO.	165-2
		SIZE	A1
		SCALE	1:1.30
		SHEET	1 OF 1

ATTACHMENT – II

BILL OF QUANTITIES FOR ELECTRICAL CABLES



Zishan Engineers (Pvt.) Ltd.

An ISO 9001-2015 certified company,
47/F, Block 6, PECHS, Karachi-Pakistan
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Document No. 165-2-BQE-001

Revision 1

Date 11-07-2018

Total Pages (inc front cover) 4



OIL & GAS DEVELOPMENT COMPANY LTD.

MELA DEVELOPMENT PROJECT

BILL OF QUANTITIES FOR ELECTRICAL CABLES



Rev.	Date	Description	Prepared By	Checked By	Approved By
1	11-07-2018	Re-Issued for Tender	MF	NAK	MAIH
0	04-06-2018	Issued for Tender	MF	NAK	MAIH

OIL & GAS DEVELOPMENT COMPANY LTD.

MELA DEVELOPMENT PROJECT

BILL OF QUANTITIES FOR ELECTRICAL CABLES OF GAS PROCESSING PLANT

S.NO.	DESCRIPTION	QTY.	UNIT	Supply					Services				Total Amount (Supply + Services) (Pak. Rs.)	REMARKS / REFERENCE	
				Unit Rate (Pak Rs.)	Total Supply (Pak Rs.)	GST on Supply items (Pak. Rs.)	Total Supply inclusive of GST	Third Party Pre Shipment Inspection (Pak. Rs.)	Total Supply inclusive of GST & Pre-Shipment Inspection	Unit Rate (Pak Rs.)	Total Services (Pak Rs.)	GST & Provincial tax on Services (Pak.Rs.)			Total Services inclusive of GST & Provincial Tax on Services (Pak.Rs.)
					A	B	C = A+B	D	E = C+D		F	G			H = F+G
1.0	SUPPLY & INSTALLATION OF ELECTRICAL CABLE SUPPLY, LAYING, DRESSING, TAGGING, TERMINATION, TESTING AND COMMISSIONING OF FOLLOWING ELECTRICAL POWER, CONTROL AND LIGHTING CABLE (AS PER REFERRED CABLE SCHEDULES, SPECIFICATIONS AND TYPICAL INSTALLATION DRAWINGS) ON CABLE LADDER / RACKS/ M.S CHANNEL, CONDUITS, TRENCHES COMPLETE IN ALL RESPECTS INCLUDING INSTALLATION OF CABLE LUGS, TERMINATION OF ARMOUR (IF AVAILABLE) THROUGH GLAND / PLATE UPTO THE EARTH TERMINAL OF EQUIPMENT, TAGGING WITH ALPHA NUMERIC PLASTIC FERRULES, ETC. COMPLETE IN ALL RESPECT														
1.1	SINGLE CORE ARMoured LOW VOLTAGE CABLES (FOR POWER APPLICATIONS). SINGLE CORE LOW VOLTAGE POWER CABLES, STRANDED COPPER CONDUCTOR AS PER IEC-60502, CROSS LINKED POLY ETHYLENE INSULATED 600/1000 VOLT GRADE, NON-HYGROSCOPIC FILLERS, EXTRUDED POLYVINYL CHLORIDE BEDDED AND SINGLE ALUMINIUM WIRE ARMoured POLYVINYL CHLORIDE SHEATHED OVERALL.														
1.1.1	1C - 240 SQMM (CU/XLPE/PVC/AWA/PVC)	3300	RMTRS.												
1.1.2	1C - 300 SQMM (CU/XLPE/PVC/AWA/PVC)	50	RMTRS.												
1.2	MULTI CORE ARMoured LOW VOLTAGE CABLES (FOR POWER APPLICATIONS). MULTI CORE LOW VOLTAGE POWER CABLES, STRANDED COPPER CONDUCTOR AS PER IEC-60502, CROSS LINKED POLY ETHYLENE INSULATED 600/1000 VOLT GRADE, NON-HYGROSCOPIC FILLERS, EXTRUDED POLYVINYL CHLORIDE BEDDED, SINGLE STEEL WIRE ARMoured AND POLYVINYL CHLORIDE SHEATHED OVERALL.														
1.2.1	2C - 2.5 SQMM (CU/XLPE/PVC/SWA/PVC)	2,170	RMTRS.												
1.2.2	2C - 4 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.3	2C - 6 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.4	2C - 10 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.5	2C+PE - 2.5 SQMM (CU/XLPE/PVC/SWA/PVC)	3,570	RMTRS.												
1.2.6	2C+PE - 4 SQMM (CU/XLPE/PVC/SWA/PVC)	860	RMTRS.												
1.2.7	2C+PE - 10 SQMM (CU/XLPE/PVC/SWA/PVC)	1,032	RMTRS.												
1.2.8	2C+PE - 25 SQMM (CU/XLPE/PVC/SWA/PVC)	195	RMTRS.												
1.2.9	2C+PE - 35 SQMM (CU/XLPE/PVC/SWA/PVC)	165	RMTRS.												
1.2.10	3C - 4.0 SQMM (CU/XLPE/PVC/SWA/PVC)	1,166	RMTRS.												
1.2.11	3C - 6.0 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.12	3C - 10 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.13	3C - 16 SQMM (CU/XLPE/PVC/SWA/PVC)	180	RMTRS.												
1.2.14	3C - 25 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.15	3C - 35 SQMM (CU/XLPE/PVC/SWA/PVC)	940	RMTRS.												
1.2.16	3C - 50 SQMM (CU/XLPE/PVC/SWA/PVC)	988	RMTRS.												
1.2.17	3C - 70 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												

165-2-SPE-021
165-2-SPE-023
165-2-SPE-025
& All Typical Installation drawings

OIL & GAS DEVELOPMENT COMPANY LTD.

MELA DEVELOPMENT PROJECT

BILL OF QUANTITIES FOR ELECTRICAL CABLES OF GAS PROCESSING PLANT

S.NO.	DESCRIPTION	QTY.	UNIT	Supply						Services				REMARKS / REFERENCE	
				Unit Rate (Pak Rs.)	Total Supply (Pak Rs.)	GST on Supply items (Pak. Rs.)	Total Supply inclusive of GST	Third Party Pre Shipment Inspection (Pak. Rs.)	Total Supply inclusive of GST & Pre-Shipment Inspection	Unit Rate (Pak Rs.)	Total Services (Pak Rs.)	GST & Provincial tax on Services (Pak.Rs.)	Total Services inclusive of GST & Provincial Tax on Services (Pak.Rs.)		Total Amount (Supply + Services) (Pak. Rs.)
					A	B	C = A+B	D	E = C+D		F	G	H = F+G		I=E+H
1.2.18	4C - 2.5 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.19	4C - 4 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.20	4C - 6 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.21	4C - 10 SQMM (CU/XLPE/PVC/SWA/PVC)	1,747	RMTRS.												
1.2.22	4C - 16 SQMM (CU/XLPE/PVC/SWA/PVC)	190	RMTRS.												
1.2.23	4C - 25 SQMM (CU/XLPE/PVC/SWA/PVC)	35	RMTRS.												
1.2.24	4C - 35 SQMM (CU/XLPE/PVC/SWA/PVC)	1,030	RMTRS.												
1.2.25	4C - 50 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.26	4C - 70 SQMM (CU/XLPE/PVC/SWA/PVC)	30	RMTRS.												
1.2.27	4C - 95 SQMM (CU/XLPE/PVC/SWA/PVC)	495	RMTRS.												
1.2.28	4C - 120 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.29	4C - 240 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.2.30	4C - 300 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
	NOTE: THE COLOR CODING FOR THE ABOVE MULTI CORE CABLES SHALL BE AS FOLLOWS:														
	FOR 1C CABLES - RED OR YELLOW OR BLUE OR BLACK AS PER CABLE SCHEDULE														
	FOR 2C CABLES - RED AND BLACK														
	FOR 3C CABLES - RED , YELLOW & BLUE														
	FOR 4C CABLES - RED , YELLOW, BLUE & BLACK														
	FOR 2C+PE CABLES - IT SHOULD BE 3C CABLE WITH OVERALL ARMORING AND SHEATH, RED FOR PHASE, BLACK FOR NEUTRAL & GREEN FOR EARTH														
1.3	ARMoured LOW VOLTAGE CABLES (FOR CONTROL APPLICATIONS).														
	LOW VOLTAGE CONTROL CABLES, STRANDED COPPER CONDUCTOR, CROSS LINKED POLY ETHYLENE INSULATED, 600/1000 VOLT GRADE, POLYVINYL CHLORIDE BEDDED, SINGLE STEEL WIRE ARMoured AND POLYVINYL CHLORIDE SHEATHED OVERALL. (TO BS 6346 / IEC60502)														
1.3.1	7C - 1.5 SQMM (CU/XLPE/PVC/SWA/PVC)	840	RMTRS.												
1.3.2	10C - 1.5 SQMM (CU/XLPE/PVC/SWA/PVC)	840	RMTRS.												
1.3.3	12C - 1.5 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.3.4	14C - 1.5 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.3.5	7C - 2.5 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.3.6	10C - 2.5 SQMM (CU/XLPE/PVC/SWA/PVC)	50	RMTRS.												
1.3.7	12C - 2.5 SQMM (CU/XLPE/PVC/SWA/PVC)	900	RMTRS.												
1.3.8	14C - 2.5 SQMM (CU/XLPE/PVC/SWA/PVC)	1,270	RMTRS.												

OIL & GAS DEVELOPMENT COMPANY LTD.**MELA DEVELOPMENT PROJECT****BILL OF QUANTITIES FOR ELECTRICAL CABLES OF GAS PROCESSING PLANT**

S.NO.	DESCRIPTION	QTY.	UNIT	Supply						Services				REMARKS / REFERENCE	
				Unit Rate (Pak Rs.)	Total Supply (Pak Rs.)	GST on Supply items (Pak. Rs.)	Total Supply inclusive of GST	Third Party Pre Shipment Inspection (Pak. Rs.)	Total Supply inclusive of GST & Pre-Shipment Inspection	Unit Rate (Pak Rs.)	Total Services (Pak Rs.)	GST & Provincial tax on Services (Pak.Rs.)	Total Services inclusive of GST & Provincial Tax on Services (Pak.Rs.)		Total Amount (Supply + Services) (Pak. Rs.)
					A	B	C = A+B	D	E = C+D		F	G	H = F+G		I=E+H
1.4	CABLE GLANDS (FOR HAZARDOUS AREA) SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF BRASS CABLE GLANDS OF FOLLOWING SIZES CONFORMING TO BS 6121 AND SUITABLE FOR CU/XLPE/PVC/SWA/PVC LOW VOLTAGE CABLES. GLANDS TO BE SUPPLIED COMPLETE WITH PCP SHROUD AND SHALL BE, E1FW, DUAL CERTIFIED (EX'E' / EX'D') SUITABLE FOR CLASS I, ZONE 1 & 2, IP 66 APPLICATIONS. COMPLETE IN ALL RESPECT AND AS PER REFERRED CABLE SCHEDULE														
1.4.1	E1FW 20	52	NOS.												
1.4.2	E1FW 25	45	NOS.												
1.4.3	E1FW 32	6	NOS.												
1.4.4	E1FW 40	3	NOS.												
1.4.5	E1FW 50	3	NOS.												
1.4.6	E1FW 50S	3	NOS.												
1.4.7	E1FW 63	3	NOS.												
1.5	CABLE GLANDS (FOR NON HAZARDOUS AREA) SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF BRASS CABLE GLANDS OF FOLLOWING SIZES CONFORMING TO BS 6121 AND SUITABLE FOR LOW VOLTAGE CABLES. GLANDS TO BE SUPPLIED COMPLETE WITH PCP SHROUD AND SHALL BE E1W, WEATHERPROOF, SUITABLE FOR IP 66 APPLICATIONS. . COMPLETE IN ALL RESPECT AND AS PER REFERRED CABLE SCHEDULE														
1.5.1	E1W 20	99	NOS.												
1.5.2	E1W 20S	10	NOS.												
1.5.3	E1W 25	21	NOS.												
1.5.4	E1W 32	34	NOS.												
1.5.5	E1W 50	114	NOS.												
1.5.6	E1W 50S	3	NOS.												
1.5.7	E1W 63	3	NOS.												
1.5.8	E1W 63S	3	NOS.												
TOTAL PRICE (1.1 - 1.5)															

NOTES:

- ALL TAXES SHALL BE PAYABLE BY CONTRACTOR.
- THE QUANTITIES MENTIONED IN THE BOQS ARE INDICATIVE AND MAY CHANGE AS DETAIL DESIGN PROGRESSES. THE BID EVALUATION WILL BE CARRIED OUT CONSIDERING THE QUANTITIES GIVEN IN BOQS AND UNIT RATES QUOTED BY THE BIDDERS.
- TEST CERTIFICATES AND MTC'S OF ALL ITEMS (WHERE APPLICABLE) SHALL BE PROVIDED.
- THE CHARGES SHALL BE SUPPORTED BY VERIFIED QUOTATION OF INSPECTION AGENCY.
- COPY OF THE SRO 678 (1)/2007 IS GIVEN IN ANNEXURE-XVIII
- THE BRASS REDUCERS AND ADOPTERS HAZARDOUS AND NON HAZARDOUS TYPE SHALL BE CONSIDERD BUILT IN FOR SECTION 1.4 AND 1.5 AS PER SITE REQUIREMENT AND ARE INCLUDED IN THE SCOPE OF CONTRACTOR

ATTACHMENT – III

BILL OF QUANTITIES FOR BUILDINGS



Zishan Engineers (Pvt.) Ltd.

An ISO 9001-2015 certified company,
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Web : www.zishanengineers.com

Document No.	165-2-BQE-004
Revision	1
Date	11-07-2018
Total Pages (inc front cover)	5



OIL & GAS DEVELOPMENT COMPANY LTD.

MELA DEVELOPMENT PROJECT

BILL OF QUANTITIES FOR BUILDINGS



Rev.	Date	Description	Prepared By	Checked By	Approved By
1	11-07-2018	Re-Issued for Tender	MF	NAK	MAIH
0	04-06-2018	Issued for Tender	MF	NAK	MAIH

OIL & GAS DEVELOPMENT COMPANY LTD.
MELA DEVELOPMENT PROJECT
BILL OF QUANTITIES FOR BUILDINGS

ITEM #	DESCRIPTION	QTY	UNIT	Supply					Services				Total Amount (Supply + Services) (Pak. Rs.)	REMARKS / REFERENCE	
				Unit Rate (Pak Rs.)	Total Supply (Pak Rs.)	GST on Supply items (Pak. Rs.)	Total Supply inclusive of GST	Third Party Pre Shipment Inspection (Pak. Rs.)	Total Supply inclusive of GST & Pre-shipment Inspection	Unit Rate (Pak Rs.)	Total Services (Pak Rs.)	GST & Provincial tax on Services (Pak.Rs.)			Total Services inclusive of GST & Provincial Tax on Services (Pak.Rs.)
					A	B	C = A+B	D	E = C+D		F	G			H = F+G
1.0	WIRING / WIRING ACCESSORIES PROVIDING, INSTALLATION, TESTING & COMMISSIONING OF FOLLOWING ITEMS INCLUDING ALL MATERIAL, TOOLS, LABOR & ACCESSORIES REQUIRED FOR COMPLETION OF WORK AS PER SPECIFICATIONS, DETAILS & DRAWINGS. COMPLETE IN ALL RESPECTS.														
1.1	SMALL WIRING FOR LIGHTS														
1.1.1	CIRCUIT WIRING FROM DISTRIBUTION BOARD (DB) TO SWITCH BOARD USING 3NOS OF 1C X 2.5 SQ.MM CU/PVC CABLE INCLUDING ANY WIRING BETWEEN DB TO SWITCH BOARD IN 25 MM DIA PVC CONDUIT. COMPLETE WITH ALL ACCESSORIES AS SHOWN IN THE DRAWINGS.	12	NO.												
1.1.2	WIRING FOR LIGHT POINT FROM SWITCH BOARD TO OTHER SWITCH BOARD USING 3NOS OF 1C X 2.5 SQ.MM PVC CABLE INCLUDING ANY WIRING BETWEEN SWITCH BOARD TO SWITCH BOARD IN 25 MM DIA PVC CONDUIT. COMPLETE WITH ALL ACCESSORIES AS SHOWN IN THE DRAWINGS.	13	NO.												
1.1.3	WIRING FOR LIGHT POINT FROM SWITCH BOARD TO FIRST LIGHT POINT USING 3nos 1C X 2.5 SQ.MM PVC CABLE INCLUDING ANY WIRING BETWEEN SWITCH BOARD TO LIGHT POINT IN 25 MM DIA PVC CONDUIT. COMPLETE WITH ALL ACCESSORIES AS SHOWN IN THE DRAWINGS.	35	NO.												
1.1.4	WIRING FOR LIGHT POINT FROM POINT TO POINT USING 3 nos of 1C X 1.5 SQ.MM Cu PVC CABLE INCLUDING ANY WIRING BETWEEN LIGHT POINT TO LIGHT IN 25 MM DIA PVC CONDUIT. COMPLETE WITH ALL ACCESSORIES AS SHOWN IN THE DRAWINGS.	60	NO.												
1.1.5	CIRCUIT WIRING FROM DB TO EMERGENCY / EXIT LUMINARIES WITH 2 X 2.5 SQ.MM + ECC 1 X 2.5 SQMM, SOLID COPPER CONDUCTOR, COLOR CODED , SINGLE CORE PVC INSULATED WIRES IN 25 MM DIA PVC CONDUIT WITH ALL ACCESSORIES.	8	NO.												
1.1.6	WIRING FOR EMERGENCY / EXIT LIGHT POINT TO LIGHT POINT USING SINGLE CORE PVC INSULATED, STRANDED COPPER CONDUCTOR, COLOR CODED WIRES OF 2 X 2.5 SQ.MM + ECC 1 X 2.5 SQMM IN 25 MM DIA PVC CONDUIT WITH ALL ACCESSORIES.	12	NO.												
1.2	SMALL WIRING FOR UTILITY POWER SOCKETS														
1.2.1	CIRCUIT WIRING FROM RESPECTIVE DISTRIBUTION BOARD (DB) TO 5A SWITCH SOCKET UNITS (FIRST OUTLET) USING FOLLOWING SIZE OF MULTI CORE PVC INSULATED SOLID COPPER CONDUCTOR, COLOR CODED WIRES IN 25 MM DIA PVC CONDUIT. COMPLETE WITH ALL ACCESSORIES AS SHOWN IN THE DRAWINGS.														
1.2.1.1	3 NOS OF 1C - 2.5 SQMM AS PHASE, NEURAL & EARTH	6	NO.												
1.2.2	WIRING FOR 5A SWITCH SOCKET UNITS FROM OUTLET TO OUTLET USING FOLLOWING SIZE OF SINGLE CORE PVC INSULATED SOLID COPPER CONDUCTOR, COLOR CODED WIRES IN 25 MM DIA PVC CONDUIT. COMPLETE WITH ALL ACCESSORIES AS SHOWN IN THE DRAWINGS.														
1.2.2.1	3 NOS OF 1C - 2.5 SQMM AS PHASE, NEURAL & EARTH	12	NO.												
1.2.3	WIRING FOR 15A SWITCH SOCKET UNITS FROM DB TO OUTLET USING FOLLOWING SIZE OF SINGLE CORE PVC INSULATED SOLID COPPER CONDUCTOR, COLOR CODED WIRES IN 25 MM DIA PVC CONDUIT. COMPLETE WITH ALL ACCESSORIES AS SHOWN IN THE DRAWINGS.														
1.2.3.1	3 NOS OF 1C - 4 SQMM AS PHASE, NEURAL & EARTH	10	NO.												

OIL & GAS DEVELOPMENT COMPANY LTD.
MELA DEVELOPMENT PROJECT
BILL OF QUANTITIES FOR BUILDINGS

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				Unit Rate (Pak Rs.)	Total Supply (Pak Rs.)	GST on Supply items (Pak. Rs.)	Total Supply inclusive of GST	Third Party Pre Shipment Inspection (Pak. Rs.)	Total Supply inclusive of GST & Pre-Shipment Inspection	Unit Rate (Pak Rs.)	Total Services (Pak Rs.)	GST & Provincial tax on Services (Pak.Rs.)			Total Services inclusive of GST & Provincial Tax on Services (Pak.Rs.)
					A	B	C = A+B	D	E = C+D		F	G			H = F+G
2.0	WIRING DEVICES / RECEPTACLES														
	PROVIDING, INSTALLATION AND COMMISSIONING OF FOLLOWING WIRING DEVICES / LIGHT CONTROL SWITCHES / POWER RECEPTACLES AS PER BS STANDARDS INCLUDING 16 SWG MS POWDER COATED BACK BOXES, FLUSH WITH WALL AS SHOWN IN DRAWINGS AND DETAILS.														
2.1	LIGHT CONTROLLED SWITCHES														
	10A SWITCH, INDOOR (COMMERCIAL) TYPE, UV STABILIZED POLYCARBONATE FRONT PLATE COMPLETE WITH FLUSH MOUNTED GI BACK BOX AND INSTALLATION AND MOUNTING ACCESSORIES.														
2.1.1	2-GANG SWITCH	12	NO.												
2.1.2	3-GANG SWITCH	4	NO.												
2.1.3	4-GANG SWITCH	3	NO.												
2.1.4	5-GANG SWITCH	1	NO.												
2.2	UTILITY / CONDITIONED POWER RECEPTACLES														
2.2.1	5A, SIMPLEX ROUND 2-PIN SWITCH SOCKET UNIT	8	NO.												
2.2.2	15A, SIMPLEX ROUND 3-PIN SWITCH SOCKET UNIT	6	NO.												
2.2.3	13A, FLAT PIN SWITCH SOCKET UNIT	6	NO.												
2.2.4	20A , DP & N, WEATHER PROOF ISOLATOR FOR FAN COIL UNITS TO BE INSTALLED NEAR OUT DOOR CONDENSING UNIT	8	NO.												
2.3	SUPPLY AND INSTALLATION OF FOLLOWING PVC / STEEL SCH-40 CONDUIT / PIPES INCLUDING ALL INSTALLATION ACCESSORIES SUCH AS SADDLES,BEND,SOCKETS ETC.. COMPLETE IN ALL RESPECT. (PROVIDE PULL BOXES WHERE EVER REQUIRED)														
2.3.1	25mm dia PVC SCH-40 Rigid Conduit	110	Rm.												
2.3.2	50mm dia PVC SCH-40 Rigid Conduit	65	Rm.												
2.3.3	100mm dia PVC SCH-40 Rigid Conduit	25	Rm.												
2.3.4	25mm dia SCH-40 Galvanized Rigid Steel Conduit	85	Rm.												
3.0	LIGHTING FIXTURES & Acs														
3.1	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 2X36W, 230V, FLUORESCENT LIGHT FIXTURE, SURFACE MOUNTED, WITH POLYCARBONATE DIFFUSER, CABLE ENTRIES FOR THROUGH (FIXTURE TO FIXTURE) WIRING, COMPLETE WITH ELECTRONIC BALLAST, CONTROL GEAR, LAMPS COMPLETE WITH ALL MOUNTING AND INSTALLATION ACCESSORIES.	25	NO.												
3.2	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 4X18W, 230V, FLUORESCENT TROFFER LIGHT FIXTURE, RECESSED MOUNTED, WITH SPECULAR (M2 TYPE) LOUVERS, SHEET STEEL POWDER COATED WHITE BODY, PLASTIC END CAPS, CABLE ENTRIES FOR THROUGH (FIXTURE TO FIXTURE) WIRING, COMPLETE WITH ELECTRONIC BALLAST, CONTROL GEAR, LAMPS COMPLETE WITH ALL MOUNTING AND INSTALLATION ACCESSORIES.	8	NO.												
3.3	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 1X10W, 230V, FLUORESCENT, SURFACE MOUNTED EXIT LIGHT, NON-MAINTAINED (WITH SELF-TEST FEATURE), WITH NIMH BATTERY BACKUP FOR 2 HOURS BACKUP OPERATION INJECTION MOLDED PLASTIC BODY, ACRYLIC DIFFUSER, 'EXIT' OR 'EXIT+ARROW" SIGN, CABLE ENTRY, ELECTRONIC BALLAST, CONTROL GEAR, LAMP COMPLETE WITH ALL MOUNTING AND INSTALLATION ACCESSORIES.	6	NO.												
3.4	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF SURFACE MOUNTED DOWNLIGHT FIXTURE WITH 18W PLC LAMP ALL INSTALLATION AND MOUNTING ACCESSORIES.	8	NO.												

**OIL & GAS DEVELOPMENT COMPANY LTD.
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					A	B	C = A+B	D	E = C+D		F	G			H = F+G
3.5	SUPPLY,INSTALLATION, TESTING AND COMMISSIONING OF INVERTER BASED AIR CONDITIONING UNITS COMPLETE IN ALL RESPECTS, READY TO OPERATE INCLUDING SUPPLY,CONSTRUCTION, INSTALLATION OF C.C FOUNDATION, HANGER, SUPPORTS, BRACKETS, RUBBER ISOLATOR, FLEXIBLE RUBBERIZED CONNECTION, STOP VALVE, SIGHT GLASS, DRYER, FLASHING,FREON GAS CHARGING, CONTROL WIRING & POWER WIRING IN G.I FOR EXTERNAL / PVC FOR INTERNAL FROM OUTDOOR UNIT TO INDOOR, ALONG WITH REFRIGERANT PIPES WITH EXPANDED RUBBER FOAM COMPLETE IN ALL RESPECTS READY TO OPERATE.														
3.5.1	A/C (COOLING CAPACITY: 1.5 TONS ,DECORATIVE WALL MOUNTED)	4	NO.												
3.5.2	A/C (COOLING CAPACITY: 2 TONS ,DECORATIVE WALL MOUNTED)	4	NO.												
3.5.3	A/C (COOLING CAPACITY: 4 TONS ,DECORATIVE FLOOR STANDING)	3	NO.												
4.0	FANS														
4.1	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 230V, 8 INCH SWEEP, EXHAUST FAN WITH SQUARE FRAME INCLUDING ALL MOUNTING AND INSTALLATION ACCESSORIES.	5	NO.												
4.2	SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 230V, WALL BRACKET FAN INCLUDING ALL MOUNTING AND INSTALLATION ACCESSORIES.	8	NO.												
5.0	DISTRIBUTION PANELS / SWITCHBOARDS SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FOLLOWING DISTRIBUTION BOARDS IN ACCORDANCE WITH THE ATTACHED SINGLE LINE DIAGRAMS AND LAYOUT PLANS. THE PANELS SHALL BE MADE WITH 16 SWG SHEET STEEL HOUSING , POWDER COATED AFTER ANTIRUST PRIMERS. THE COPPER BUS BARS SHALL BE TIN ELECTROPLATED WITH PROTECTIVE COLOR CODED HEAT SHRINK SLEEVES. ALL DISTRIBUTION BOARDS SHALL FOR INDOOR INSTALLATIONS BUT PROVIDED WITH GAS KITS. ALL COMPONENTS AND ACCESSORIES SHALL BE AS PER THE SLD. CONTRACTOR HAS TO SUBMIT THE SHOP DRAWINGS PRIOR TO FABRICATION FOR CLIENT'S APPROVAL.														
5.1	LDB-CONTROL ROOM BUILDING (102-LDB-01)	1	NO.												165-2-ELS-005
5.2	LDB-MCCROOM & GEN SHED BUILDING (101-LDB-02)	1	NO.												165-2-ELS-006
6.0	CABLE RACEWAYS / CONTAINMENT PROVIDING AND LAYING OF FOLLOWING PVC CONDUITS FOR MAIN / SUB MAIN CABLES, POWER , SECURITY AND COMMUNICATION RISERS FROM RESPECTIVE FLOORS TO PULL BOXES / PANELS AS SHOWN IN THE PLANS. COMPLETE WITH ALL ACCESSORIES LIKE JUNCTION BOXES, BENDS, SOCKETS , ELBOWS ETC. ALL ITEMS SHALL BE OF SAME MANUFACTURER.														
6.1	25 MM DIA PVC CONDUIT.	80	RM.												
7.0	TELEPHONE & DATA CABLING PROVIDING , LAYING TESTING TAGGING COMMISSIONING OF CATEGORY 6 , UTP CABLES, FOR TELEPHONE SYSTEM & DATA FROM SERVICE PROVIDER TO MAIN TJB OR DATA RACK AT BUILDING IN APPROPRIATE SIZE OF UNDER FLOOR PVC. WORK INCLUDES ALL TERMINATIONS, MANAGEMENT AND TAGGING AT BOTH ENDS.	50	RM.												165-4-SPE-102
7.1	10 PAIR, 0.6 MM TELEPHONE CABLE FROM MAIN TJB TO OUTLET AT BUILDING IN APPROPRIATE SIZE OF PVC CONDUIT INCLUDING ALL ACCESSORIES. COMPLETE WITH TERMINATION AND TAGGING AT BOTH ENDS.	30	RM.												
7.2	PATCH PANEL PATCH PANEL FOR DATA MAKE IN BUILDING INCLUDING WITH MARKING ARRANGEMENTS FOR 10 PAIR CABLES.	2	NO.												

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					A	B	C = A+B	D	E = C+D		F	G			H = F+G
7.3	TELEPHONE JUNCTION BOX TELEPHONE JUNCTION BOX MAKE IN BUILDING INCLUDING WITH MARKING ARRANGEMENTS FOR 10 PAIR CABLES.	1	NO.												
7.4	INFORMATION OUTLETS														
7.4.1	WORKSTATION/WALL/FLOOR OUTLET BOX MOUNTED INFORMATION OUTLET HAVING SIMPLEX FACE PLATE WITH 1NO. CAT-6, RJ-45 SOCKET FOR TELEPHONE SYSTEM INCLUDING SHUTTERED CLICK-INS, LABELS, JACKS ETC. COMPLETE IN ALL RESPECTS WITH CABLE IDENTIFICATION TAGS.	6	NO.												
7.4.2	WORKSTATION/WALL/FLOOR OUTLET BOX MOUNTED INFORMATION OUTLET HAVING SIMPLEX FACE PLATE WITH 1NO. CAT-6, RJ-45 SOCKET FOR DATA COMMUNICATION SYSTEM INCLUDING SHUTTERED CLICK-INS, LABELS, JACKS ETC. COMPLETE IN ALL RESPECTS WITH CABLE IDENTIFICATION TAGS.	8	NO.												
8.0	FIRE ALARM SYSTEM DESIGN, SUPPLY INSTALLATION, TESTING AND COMMISSIONING OF CONVENTIONAL ADDRESSABLE FIRE ALARM SYSTEM IN CIVIL CONSTRUCTED BUILDING OF PC TENDER SCOPE INCLUDING EXTENDED CONTROL ROOM AND NEW MCC ROOM, COMPRISING OF FOLLOWING EQUIPMENTS INCLUDING ALL ACCESSORIES REQUIRED FOR THE COMPLETION OF THE SYSTEM COMPLETE IN ALL RESPECTS. FIRE / ALARM SYSTEM SHALL CONSIST OF BUT NOT LIMITED TO FOLLOWING MAJOR COMPONENTS SMOKE DETECTORS / HEAT DETECTORS / UV FLARE DETECTORS (SELECTION OF OPTIMUM TYPE OF DETECTOR SHALL BE CONTRACTOR RESPONSIBILITY). BREAK GLASS TYPE MANUAL CALL STATIONS BREAK GLASS SHALL ALSO INCORPORATES AN INDICATION LED FLESHED AFTER PRESSING THE BUTTON TO ACKNOWLEDGE THE ACTIVATION AND KEY OPERATION FACILITY FOR TESTING PURPOSES. INDOOR ELECTRONIC SOUNDERS WITH FLASHER, MINIMUM SOUND OUTPUT 100 DB AT 1METER WITH FREQUENCIES FOR VARIETY OF SOUNDS AS REQUIRED. ADDRESSABLE FIRE ALARM CONTROL PANEL(S) MINIMUM OF TWO LOOPS WITH ANY COMMUNICATION MODULES REQUIRED TO INTERFACE / INTEGRATE MULTIPLE FACPS. COMPLETE SYSTEM INTEGRATION, TESTING & COMMISSIONING OF THE SYSTEM INCLUDING ALL SOFTWARE / FIRMWARE / HARDWARE REQUIREMENTS, AS REQUIRED FOR SUCCESSFUL COMMISSIONING OF THE SYSTEM AS PER RELEVANT INTERNATIONAL STANDARDS AND INDUSTRY NARROWS. COMPLETE SYSTEM WIRING / CABLING INCLUDING POWER CABLING, SIGNAL WIRING, ETC. COMPLETE WITH ALL REQUIRED CABLE WAYS (CONDUITS / TRAY, ETC). WIRING FOR COMPLETE FIRE ALARM SYSTEM USING 2C, 1.5 SQ. MM. LSZH CABLE IN APPROPRIATE SIZE OF GI CONDUITS. COMPLETE IN ALL RESPECTS. POWER WIRING FOR FACP FROM EMERGENCY DB IN USING 3 X 1.5 SQMM SINGLE CORE PVC INSULATED WIRES IN APPROPRIATE SIZE OF PVC CONDUIT. COMPLETE IN ALL RESPECTS.	1	JOB.												165-2-SPE-022
Total Price (1 to 8)															

- NOTES:**
- All taxes shall be payable by contractor.
 - The quantities mentioned in the BOQs are indicative and may change as detail design progresses. The bid evaluation will be carried out considering the quantities given in BOQs and unit rates quoted by the Bidders.
 - Test certificates and MTC's of all items (where applicable) shall be provided.
 - The charges shall be supported by verified quotation of Inspection Agency.

ATTACHMENT – IV

BILL OF QUANTITIES FOR CIVIL WORKS



Zishan Engineers (Pvt.) Ltd.

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OIL & GAS DEVELOPMENT COMPANY LTD.

MELA DEVELOPMENT PROJECT

BILL OF QUANTITIES FOR CIVIL WORKS



Rev.	Date	Description	Prepared By	Checked By	Approved By
1	12-07-2018	Re-Issued for Tender	MSH	SS	SMM
0	05-06-2018	Issued for Tender	MSH	SS	SMM

OIL & GAS DEVELOPMENT COMPANY LTD.**MELA DEVELOPMENT PROJECT****BILL OF QUANTITIES OF CIVIL WORKS FOR INFRASTRUCTURE WORKS**

S.NO.	DESCRIPTION	QTY.	UNIT	UNIT RATE (PKR)	AMOUNT (PKR)	REMARKS
1.0	<u>GRADING WORKS</u>					
1.1	EXCAVATED SOIL FILL AS PER ITEM NO. 1.4.i)	7,000	CUM			
1.2	IMPORTED SOIL FILL AS PER ITEM NO. 1.4.ii)	7,000	CUM			
1.3	CUTTING AS PER ITEM NO. 1.3	10,000	CUM			
2.0	<u>ROADS</u>					
2.1	GRADED AGGREGATE BASE COURSE AS PER ITEM NO. 13.1	538	CU.M			
2.2	ASPHALT CONCRETE BASE COURSE LAYER AS PER ITEM NO. 13.2	2,150	SQ.M			
2.3	ASPHALT CONCRETE WEARING COURSE LAYER AS PER ITEM NO.13.3	2,150	SQ.M			
2.4	SUB BASE COURSE AS PER ITEM NO. 1.9	323	CUM			
2.5	PRECAST KERB STONES INCLUDING 1:3:6 AS PER ITEM NO 13.6	650	R.M			
2.6	COMPACTED EARTHFILL AS PER ITEM NO. 1.11	10	CUM			
2.7	STONE PITCHING AS PER ITEM NO. 1.6	5	CUM			
2.8	SURFACE DRESSING AS PER ITEM NO. 13.4	2,150	SQ.M			
3.0	<u>BRICK PAVING</u>		SQM			
3.1	BRICK PAVING AS PER ITEM NO. 1.10	290	SQM			
3.2	C. C. 1:4:8 AS PER ITEM NO. 2.1	22	CU.M			
4.0	<u>STORM WATER SYSTEM</u>					
4.1	EXCAVATION AS PER ITEM NO. 1.1	700	CU.M			
4.2	C. C. 1:4:8 AS PER ITEM NO. 2.1	35	CUM			
4.3	R.C.C. 3750 psi AS PER ITEM NO. 2.2	465	CUM			
4.4	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	28	TONS			
4.5	GRATING AS PER ITEM NO. 14.0	440	SQM			REFER DRAWING FOR DETAIL
4.6	POLYSULPHIDE JOINT SEALANT AS PER ITEM NO. 23	0.1	CUM			
4.7	C.S PIPES AS PER ITEM NO. 20.2					
a)	100 mm DIA PIPE	1	RM			
b)	150 mm DIA PIPE	1	RM			
c)	200 mm DIA PIPE	1	RM			
d)	250 mm DIA PIPE	1	RM			
e)	300 mm DIA PIPE	1	RM			
4.8	R.C.C PIPES AS PER ITEM NO. 20.3					
a)	100 mm DIA PIPE	1	RM			
b)	150 mm DIA PIPE	1	RM			
c)	200 mm DIA PIPE	1	RM			
d)	250 mm DIA PIPE	1	RM			
e)	300 mm DIA PIPE	1	RM			
4.9	STRUCTURAL STEEL AS PER ITEM NO. 10.0	7.20	TON			
4.10	MANHOLE COVER AS PER ITEM NO. 28.0	1	NOS.			
5.0	DEMOLITION WORKS					
a)	AS PER ITEM NO. 22.0 (i)	1	CUM			
b)	AS PER ITEM NO. 22.0 (ii)	1	CUM			
c)	AS PER ITEM NO. 22.0 (iii)	1	CUM			
TOTAL (PKR)						

OIL & GAS DEVELOPMENT COMPANY LTD.**MELA DEVELOPMENT PROJECT****BILL OF QUANTITIES OF CIVIL WORKS FOR BUILDING & SHED WORKS**

S.NO.	DESCRIPTION	QTY.	UNIT	UNIT RATE (PKR)	AMOUNT (PKR)	REMARKS
1.0	<u>FIREWATER PUMP SHED (INCLUDING INSIDE PUMPS & DIESEL TANK FOUNDATIONS)</u>					
1.1	EXCAVATION AS PER ITEM NO. 1.1	230	CU.M			
1.2	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	75	CU.M			
1.3	C. C. 1:4:8 AS PER ITEM NO. 2.1	12.0	CU.M			
1.4	C. C. 1:3:6 AS PER ITEM NO. 2.5	30	CU.M			
1.5	RCC 1:2:4 IN FLOOR AS PER ITEM NO. 2.9	60	CU.M			
1.6	R.C.C. 3750 psi AS PER ITEM NO. 2.2	130	CU.M			
1.7	GROUT AS PER ITEM NO. 12.0.i)	0.60	CU.M			
1.8	GROUT AS PER ITEM NO. 12.0.ii)	0.16	CU.M			
1.9	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	17.5	TON			
1.10	PLINTH PROTECTION AS PER ITEM NO. 9.12	66	SQ.M			
1.11	GRATING AS PER ITEM NO. 14	1	SQ.M			
1.12	ANCHOR BOLTS AS PER ITEM NO. 11	400	KG			
1.13	STONE SOLING AS PER ITEM NO. 1.5	61	CU.M			
1.14	ISOLATION JOINT AS PER ITEM NO. 9.9	40	RM			
1.15	STRUCTURAL STEEL AS PER ITEM NO. 10.0	45	TON			
1.16	ANCHOR POCKETS AS PER ITEM NO. 17	38	NOS.			SIZE AS PER DRAWING
1.17	GI SHEET AS PER ITEM NO. 29.0 (i)	500	SQM			
1.18	BRICK MASONRY AS PER ITEM NO. 4.2	11.0	CU.M			
2.0	<u>UTILITY SHED</u>					
2.1	EXCAVATION AS PER ITEM NO. 1.1	125	CU.M			
2.2	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	40	CU.M			
2.3	C. C. 1:4:8 AS PER ITEM NO. 2.1	7.5	CU.M			
2.4	C. C. 1:3:6 AS PER ITEM NO. 2.5	18.5	CU.M			
2.5	C. C. 1:2:4 AS PER ITEM NO. 2.4	1	CU.M			
2.6	R.C.C. 3750 psi AS PER ITEM NO. 2.2	35	CU.M			
2.7	RCC 1:2:4 IN FLOOR AS PER ITEM NO. 2.9	37	CU.M			
2.8	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	5.00	TON			
2.9	GROUT AS PER ITEM NO. 12.0.i)	0.10	CU.M			
2.10	PLINTH PROTECTION AS PER ITEM NO. 9.12	52	SQ.M			
2.11	GRATING AS PER ITEM NO. 14	1	SQ.M			
2.12	ANCHOR BOLTS AS PER ITEM NO. 11	200	KG			
2.13	EMBEDDED ITEMS AS PER ITEM NO. 9.7	10	KG			
2.14	STONE SOLING AS PER ITEM NO. 1.5	37	CU.M			
2.15	STRUCTURAL STEEL AS PER ITEM NO. 10.0	27	TON			
2.16	ISOLATION JOINT AS PER ITEM NO. 9.9	20	RM			
2.17	DPC AS PER ITEM NO. 5.3	12.00	SQM			
2.18	BRICK MASONRY AS PER ITEM NO. 4.2	9.0	CU.M			

OIL & GAS DEVELOPMENT COMPANY LTD.**MELA DEVELOPMENT PROJECT****BILL OF QUANTITIES OF CIVIL WORKS FOR BUILDING & SHED WORKS**

S.NO.	DESCRIPTION	QTY.	UNIT	UNIT RATE (PKR)	AMOUNT (PKR)	REMARKS
2.19	GI SHEET AS PER ITEM NO. 29.0 (i)	310	SQM			
3.0	<u>COMPRESSOR SHED</u>					
3.1	EXCAVATION AS PER ITEM NO. 1.1	300	CU.M			
3.2	C. C. 1:4:8 AS PER ITEM NO. 2.1	15	CU.M			
3.3	C. C. 1:3:6 AS PER ITEM NO. 2.5	40	CU.M			
3.4	RCC 1:2:4 IN FLOOR AS PER ITEM NO. 2.9	80	CU.M			
3.5	R.C.C. 3750 psi UPTO PLINTH LEVEL AS PER ITEM NO. 2.2	60.0	CU.M			
3.6	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	8.50	TON			
3.7	GROUT AS PER ITEM NO. 12.0.i)	0.21	CU.M			
3.8	PLINTH PROTECTION AS PER ITEM NO. 9.12	50	SQ.M			
3.9	GRATING AS PER ITEM NO. 14	1	SQ.M			
3.10	ANCHOR BOLTS AS PER ITEM NO. 11	325	KG			
3.11	STONE SOLING AS PER ITEM NO. 1.5	80	CU.M			
3.12	STRUCTURAL STEEL AS PER ITEM NO. 10.0	70	TON			
3.13	ISOLATION JOINT AS PER ITEM NO. 9.9	30	RM			
3.14	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	95	CU.M			
3.15	GI SHEET AS PER ITEM NO. 29.0 (i)	1180	SQM			
4.0	<u>CONTROL ROOM</u>					
4.1	EXCAVATION AS PER ITEM NO. 1.1	43	CU.M			
4.2	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	13.5	CU.M			
4.3	C. C. 1:4:8 AS PER ITEM NO. 2.1	3.0	CU.M			
4.4	C. C. 1:2:4 AS PER ITEM NO. 2.4	1.0	CU.M			
4.5	R.C.C. 3750 psi AS PER ITEM NO. 2.2	40	CU.M			
4.6	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	4.0	TON			
4.7	DPC AS PER ITEM NO. 5.3	8.20	SQM			
4.8	BRICK MASONRY AS PER ITEM NO. 4.2	28.0	CU.M			
4.9	<u>CEMENT PLASTER</u>					
a)	INTERNAL PLASTER AS PER ITEM NO. 5.1 (i)	205	SQ.M			
b)	EXTERNAL PLASTER AS PER ITEM NO. 5.1 (ii)	225	SQ.M			
4.10	ROOF SCREEDING AS PER ITEM NO. 5.2	94	SQ.M			
4.11	<u>COLOURING AS FOLLOWS:</u>					
a)	CEILING AS PER ITEM NO. 6.1	70	SQ.M			
b)	INTERNAL WALLS AS PER ITEM NO. 6.2	135	SQ.M			
c)	EXTERNAL AS PER ITEM NO. 6.3	225	SQ.M			
4.12	<u>TILE WORKS AS FOLLOWS:</u>					
a)	PROCELAIN TILES AS PER ITEM NO. 5.4 (i)	1	SQ.M			
b)	ANTI STATIC TILES AS PER ITEM NO. 5.4 (iv)	72	SQ.M			

OIL & GAS DEVELOPMENT COMPANY LTD.**MELA DEVELOPMENT PROJECT****BILL OF QUANTITIES OF CIVIL WORKS FOR BUILDING & SHED WORKS**

S.NO.	DESCRIPTION	QTY.	UNIT	UNIT RATE (PKR)	AMOUNT (PKR)	REMARKS
4.13	ALUMINIUM DOORS, WINDOWS & VENTILATORS					
a)	ALUMINIUM DOORS AS PER ITEM NO. 7.2	1.2	SQ.M			
b)	ALUMINIUM WINDOWS AS PER ITEM NO. 7.1 (i)	13	SQ.M			
4.14	STEEL DOOR AS PER ITEM NO. 7.3. (i)	3	SQ.M			
4.15	RAIN WATER DRAIN PIPE / SPOUT AS PER ITEM NO. 9.4	5	R.M			
4.16	PLINTH PROTECTION AS PER ITEM NO. 9.12	22	SQ.M			
4.17	C. C. 1:3:6 AS PER ITEM NO. 2.5	3.5	CU.M			
4.18	C. C 1:2:4 FLOORING AS PER ITEM NO. 2.8 (a)	5	CU.M			
4.19	DEMOLITION WORKS					
a)	AS PER ITEM NO. 22.0 (i)	1	CUM			
b)	AS PER ITEM NO. 22.0 (ii)	1	CUM			
c)	AS PER ITEM NO. 22.0 (iii)	1	CUM			
4.2	DRILLING OF HOLES AND FIXING OF REBARS WITH EPOXY					
a)	AS PER ITEM NO. 26.0 (i)	1	RM			
b)	AS PER ITEM NO. 26.0 (ii)	1	RM			
c)	AS PER ITEM NO. 26.0 (iii)	1	RM			
5.0	<u>SWITCHGEAR ROOM</u>					
5.1	EXCAVATION AS PER ITEM NO. 1.1	91	CU.M			
5.2	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	19.0	CU.M			
5.3	FILLING AS PER ITEM NO. 1.4 (ii)	50.0	CU.M			
5.4	C. C. 1:4:8 AS PER ITEM NO. 2.1	8.0	CU.M			
5.5	C. C 1:2:4 FLOORING AS PER ITEM NO. 2.8 (a)	8	CU.M			
5.6	R.C.C. 3750 psi AS PER ITEM NO. 2.2	75	CU.M			
5.7	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	8.0	TON			
5.8	DPC AS PER ITEM NO. 5.3	13.00	SQM			
5.9	BRICK MASONRY AS PER ITEM NO. 4.2	46.0	CU.M			
5.10	CEMENT PLASTER					
a)	INTERNAL PLASTER AS PER ITEM NO. 5.1 (i)	425	SQ.M			
b)	EXTERNAL PLASTER AS PER ITEM NO. 5.1 (ii)	350	SQ.M			
5.11	ROOF SCREEDING AS PER ITEM NO. 5.2	140	SQ.M			
5.12	COLOURING AS FOLLOWS:					
a)	CEILING AS PER ITEM NO. 6.1	125	SQ.M			
b)	INTERNAL WALLS AS PER ITEM NO. 6.2	300	SQ.M			
c)	EXTERNAL AS PER ITEM NO. 6.3	350	SQ.M			
5.13	TILE WORKS AS FOLLOWS:					
a)	PROCELAIN TILES AS PER ITEM NO. 5.4 (i)	75	SQ.M			
b)	GLAZED TILES AS PER ITEM NO. 5.4 (iii)	13	SQ.M			

OIL & GAS DEVELOPMENT COMPANY LTD.**MELA DEVELOPMENT PROJECT****BILL OF QUANTITIES OF CIVIL WORKS FOR BUILDING & SHED WORKS**

S.NO.	DESCRIPTION	QTY.	UNIT	UNIT RATE (PKR)	AMOUNT (PKR)	REMARKS
5.14	DOORS, WINDOWS & VENTILATORS					
a)	STEEL DOORS AS PER ITEM NO. 7.3 (i)	8	SQ.M			AS PER CLIENT REQUIREMENTS AND APPROVED VENDOR
b)	WOODEN DOORS AS PER ITEM NO. 7.5	6	SQ.M			
c)	SOUND PROOF ALUMINUM WINDOWS	23	SQ.M			
d)	ALUMINIUM VENTILATORS WITH EXHAUST FAN AS PER ITEM NO. 7.1 (ii)	0.2	SQ.M			
5.15	RAIN WATER DRAIN PIPE / SPOUT AS PER ITEM NO. 9.4	10	R.M			
5.16	PLINTH PROTECTION AS PER ITEM NO. 9.12	35	SQ.M			
5.17	C. C. 1:3:6 AS PER ITEM NO. 2.5	7.0	CU.M			
5.18	6mm THK. CHEQUERED PLATE	35	SQ.M			
5.19	STRUCTURAL STEEL AS PER ITEM NO. 10	297	KG			
5.20	WATER CLOSET AS PER ITEM NO. 8.1 (a)	1	NO.			
5.21	WASH BASIN AS PER ITEM NO. 8.2	1	NO.			
5.22	UPVC PIPES FOR PLUMBING WORKS AS PER ITEM NO 20.1 (i)	5	RM			
5.23	UPVC PIPES FOR PLUMBING WORKS AS PER ITEM NO 20.1 (ii)	5	RM			
5.24	UPVC PIPES FOR PLUMBING WORKS AS PER ITEM NO 20.1 (iii)	5	RM			
TOTAL (PKR)						

OIL & GAS DEVELOPMENT COMPANY LTD.**MELA DEVELOPMENT PROJECT****BILL OF QUANTITIES OF CIVIL WORKS FOR EQUIPMENT FOUNDATIONS & PIPE SUPPORTS**

S.NO.	DESCRIPTION	QTY.	UNIT	UNIT RATE (PKR)	AMOUNT (PKR)	REMARKS
1.0	<u>TANK FOUNDATIONS</u>					
1.1	<u>FIREWATER TANK FOUNDATION</u>					
a)	EXCAVATION AS PER ITEM NO. 1.1	350	CU.M			
b)	C. C. 1:3:6 AS PER ITEM NO. 2.5	8.5	CU.M			
c)	C. C. 1:2:4 AS PER ITEM NO. 2.4	1.0	CU.M			
d)	R.C.C. 3750 psi AS PER ITEM NO. 2.2	53	CU.M			
e)	BITUMEN COATING AS PER ITEM NO. 27.0	1	SQM			
f)	HDPE GEOMEMBRANE AS PER ITEM NO. 9.15	142	SQM			
g)	2" (SCH. 40) LEAK DETECTION PIPE AS PER ITEM NO. 20.1 (i)	9	RM			
h)	ASPHALT SAND LAYER AS PER ITEM NO. 1.8	135	SQM			
i)	JOINT SEALANT AS PER ITEM NO. 9.14	43	RM			
j)	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	5	TON			
k)	COARSE SAND FILLING AS PER ITEM NO. 1.2	248	CU.M			
l)	GROUT AS PER ITEM NO. 12.0.i)	0.45	CU.M			
m)	PLINTH PROTECTION AS PER ITEM NO. 9.12	40	SQM			
n)	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	88	CU.M			
o)	ANCHOR BOLTS AS PER ITEM NO. 11	364	KG			
p)	GRAVEL FILLING AS PER ITEM NO. 1.9	1	CU.M			
1.2	<u>DIESEL OIL STORAGE TANK</u>					
a)	EXCAVATION AS PER ITEM NO. 1.1	14	CU.M			
b)	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	5	CU.M			
c)	C. C. 1:4:8 AS PER ITEM NO. 2.1	0.8	CU.M			
d)	R.C.C. 3750 psi AS PER ITEM NO. 2.2	11.5	CU.M			
e)	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	0.6	TON			
f)	C. C. 1:3:6 AS PER ITEM NO. 2.5	0.1	CU.M			
g)	GROUT AS PER ITEM NO. 12.0.i)	0.20	CU.M			
1.3	<u>INSTRUMENT AIR COMPRESSOR PACKAGE FOUNDATION</u>					
a)	EXCAVATION AS PER ITEM NO. 1.1	50	CU.M			
b)	C. C. 1:4:8 AS PER ITEM NO. 2.1	2.5	CU.M			
c)	R.C.C. 3750 psi AS PER ITEM NO. 2.2	40	CU.M			
d)	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	2.5	TON			
e)	GROUT AS PER ITEM NO. 12.0.i)	0.60	CU.M			
f)	GROUT AS PER ITEM NO. 12.0.ii)	0.30	CU.M			
g)	ANCHOR BOLTS AS PER ITEM NO. 11	45	KG			
h)	ANCHOR POCKETS AS PER ITEM NO. 17	1	NOS.			SIZE AS PER DRAWING
i)	EMBEDDED PLATES AS PER ITEM NO. 9.7	10	KG			
j)	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	16	CU.M			

OIL & GAS DEVELOPMENT COMPANY LTD.**MELA DEVELOPMENT PROJECT****BILL OF QUANTITIES OF CIVIL WORKS FOR EQUIPMENT FOUNDATIONS & PIPE SUPPORTS**

S.NO.	DESCRIPTION	QTY.	UNIT	UNIT RATE (PKR)	AMOUNT (PKR)	REMARKS
1.4	<u>COMPRESSOR PACKAGE FOUNDATION(S)</u>					
a)	EXCAVATION AS PER ITEM NO. 1.1	300	CU.M			
b)	C. C. 1:4:8 AS PER ITEM NO. 2.1	14.5	CU.M			
c)	R.C.C. 3750 psi AS PER ITEM NO. 2.2	268	CU.M			
d)	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	11	TON			
e)	GROUT AS PER ITEM NO. 12.0.i)	2.25	CU.M			
f)	GROUT AS PER ITEM NO. 12.0.ii)	11	CU.M			
g)	ANCHOR BOLTS AS PER ITEM NO. 11	380	KG			
h)	ANCHOR POCKETS AS PER ITEM NO. 17	97	NOS.			SIZE AS PER DRAWING
i)	EMBEDDED PLATES AS PER ITEM NO. 9.7	10	KG			
j)	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	96	CU.M			
1.5	<u>INSTRUMENT AIR VESSEL FOUNDATION</u>					
a)	EXCAVATION AS PER ITEM NO. 1.1	55	CU.M			
b)	C. C. 1:4:8 AS PER ITEM NO. 2.1	2.60	CU.M			
c)	R.C.C. 3750 psi AS PER ITEM NO. 2.2	42	CU.M			
d)	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	3.8	TON			
e)	GROUT AS PER ITEM NO. 12.0.i)	0.55	CU.M			
f)	ANCHOR BOLTS AS PER ITEM NO. 11	42	KG			
g)	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	17.50	CU.M			
1.6	<u>PIPE SLEEPERS/SUPPORTS/RACKS</u>					
a)	EXCAVATION AS PER ITEM NO. 1.1	208	CU.M			
b)	C. C. 1:4:8 AS PER ITEM NO. 2.1	7	CU.M			
c)	R.C.C. 3750 psi AS PER ITEM NO. 2.2	69	CU.M			
d)	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	7	TON			
e)	GROUT AS PER ITEM NO. 12.0.i)	0.10	CU.M			
f)	ANCHOR BOLTS AS PER ITEM NO. 11	255	KG			
g)	EMBEDDED PLATES AS PER ITEM NO. 9.7	1,425	KG			
h)	STRUCTURAL STEEL WORKS AS PER ITEM NO. 10.0	2.50	TONS			
i)	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	73.00	CU.M			
j)	HILTI BOLTS AS FOLLOWS :					
-	M12 AS PER ITEM NO. 30 (i)	12	NOS.			
-	M16 AS PER ITEM NO. 30 (ii)	1	NOS.			
-	M20 AS PER ITEM NO. 30 (iii)	1	NOS.			
1.7	<u>PIG LAUNCHER FOUNDATION</u>					
a)	EXCAVATION AS PER ITEM NO. 1.1	4.5	CU.M			
b)	C. C. 1:4:8 AS PER ITEM NO. 2.1	0.2	CU.M			
c)	R.C.C. 3750 psi AS PER ITEM NO. 2.2	1.1	CU.M			
d)	STEEL REINFORCEMENT AS PER ITEM NO. 3.1	0.1	TON			

OIL & GAS DEVELOPMENT COMPANY LTD.**MELA DEVELOPMENT PROJECT****BILL OF QUANTITIES OF CIVIL WORKS FOR EQUIPMENT FOUNDATIONS & PIPE SUPPORTS**

S.NO.	DESCRIPTION	QTY.	UNIT	UNIT RATE (PKR)	AMOUNT (PKR)	REMARKS
e)	GROUT AS PER ITEM NO. 12.0.i)	0.005	CU.M			
f)	ANCHOR BOLTS AS PER ITEM NO. 11	14.0	KG			
g)	SELECT A3 FILL MATERIAL (BELOW FOUNDATION) AS PER ITEM NO. 1.11	1.5	CU.M			
h)	EMBEDDED PLATES AS PER ITEM NO. 9.7	15	KG			
TOTAL (PKR)						

ATTACHMENT – V

ELECTRICAL POWER AND
CONTROL CABLE SCHEDULE



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OIL & GAS DEVELOPMENT COMPANY LTD.

MELA DEVELOPMENT PROJECT

ELECTRICAL POWER AND CONTROL CABLE SCHEDULE



Rev.	Date	Description	Prepared By	Checked By	Approved By
1	10-07-2018	Re-Issued for Tender	MF	NAK	MIAH
0	02-06-2018	Issued for Tender	MF	NAK	MIAH

MELA DEVELOPMENT PROJECT**POWER AND CONTROL CABLE SCHEDULE**

S.No.	Cable Tag	Description	Tag (From)	Tag (To)	Cable Gland (From)	Cable Gland (To)	Voltage Grade	Type	No of Runs	No of Cores	Size (mm ²)	Length (m)	Remarks
Feeders from MCCs to DBS and Downstream													
1	PC-103-EPL-01	Existing Plant Load	101-MCC-01-A	103-EPL-01	E1W 50	E1W 50	600/1000	CU/XLPE/PVC/SWA/PVC	11	1	240	3300	3 core per Phase + 2 Core for neutral = 300M of each run
2	PC-102-MCC-2501A	Power Cable for Gas Compressors Package A	101-MCC-01-B	102-MCC-2501A	E1W 50	E1W 50	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	95	165	
3	PC-102-MCC-2501B	Power Cable for Gas Compressors Package B	101-MCC-01-B	102-MCC-2501B	E1W 50	E1W 50	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	95	165	
4	PC-102-MCC-2501C	Power Cable for Gas Compressors Package C	101-MCC-01-B	102-MCC-2501C	E1W 50	E1W 50	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	95	165	
5	PC-PM-2501A	Compressor Lube Oil Pump - C-2501A	102-MCC-2501A	PM-2501A	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	4	98	
6	PC-HTR-2501A	Compressor Lube Oil Heater - C-2501A	102-MCC-2501A	HTR-2501A	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	4	98	
7	PC-HTR-2502A	Enginer Oil & Water Heater - C-2502A	102-MCC-2501A	HTR-2502A	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	50	98	
8	PC-PM-2501B	Compressor Lube Oil Pump - C-2501B	102-MCC-2501B	PM-2501B	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	4	125	
9	PC-HTR-2501B	Compressor Lube Oil Heater - C-2501B	102-MCC-2501B	HTR-2501B	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	4	125	
10	PC-HTR-2502B	Enginer Oil & Water Heater - C-2502B	102-MCC-2501B	HTR-2502B	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	50	125	
11	PC-PM-2501C	Compressor Lube Oil Pump - C-2501C	102-MCC-2501C	PM-2501C	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	4	145	
12	PC-HTR-2501C	Compressor Lube Oil Heater - C-2501C	102-MCC-2501C	HTR-2501C	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	4	145	
13	PC-HTR-2502C	Enginer Oil & Water Heater - C-2502C	102-MCC-2501C	HTR-2502C	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	50	145	
14	PC-101-LDP-01	Power Cable for Lightng Distribution Panel	101-MCC-01-B	101-LDP-01	E1W 50	E1W 50	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	70	30	
15	PC-101-DB-01	Power Cable for MCC Room & Gen Shed DB	101-MCC-01-B	101-DB-01	E1W 25	E1W 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	16	20	
16	PC-102-DB-02	Power Cable for Control Room DB	101-MCC-01-B	102-DB-02	E1W 25	E1W 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	16	170	
17	PC-101-UPS-01A	Power Cable for AC UPS Feeder - A	101-MCC-01-A	101-UPS-01	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	35	30	
18	PC-101-UPS-01B	Power Cable for AC UPS Feeder - B	101-MCC-01-B	101-UPS-01	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	35	30	
19	PC-101-UPS-01C	Power Cable for AC UPS By-Pass Feeder	101-MCC-01-A	101-UPS-01	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	35	30	
20	PC-101-RCT-01	Power Cable for Rectifier	101-MCC-01-A	101-RCT-01	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	25	35	
21	PC-102-UDP-01	Power Cable for UPS Distribution Panel in CR	101-UPS-01	102-UDP-01	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	35	165	
22	PC-101-UDP-02	Power Cable for UPS Distribution Panel in MCC	101-UPS-01	101-UDP-02	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	25	25	
23	PC-102-RDP-01	Power Cable for Rectifier Distribution Panel	101-RCT-01	102-RDP-01	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	25	170	

MELA DEVELOPMENT PROJECT**POWER AND CONTROL CABLE SCHEDULE**

S.No.	Cable Tag	Description	Tag (From)	Tag (To)	Cable Gland (From)	Cable Gland (To)	Voltage Grade	Type	No of Runs	No of Cores	Size (mm ²)	Length (m)	Remarks
Outgoings from Motor Starters													
26	PC-P-4001A	Diesel Transfer Pump A	101-MCC-01-A	P-4001A	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	4	60	
27	PC-SH-P-4001A	Power Cable for Motor Space Heater	101-MCC-01-A	SH-P-4001A	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	60	
28	CC-LCS-P-4001A	Control cable for Local Control Station	101-MCC-01-A	LCS-P-4001A	E1W 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	12	2.5	60	
29	CC-P-4001A-PLC-DO	Control Cable for PLC command	101-MCC-01-A	PLC-DO	E1W 20S	E1W 20S	600/1000	CU/XLPE/PVC/SWA/PVC	1	7	1.5	170	
30	CC-P-4001A-PLC-DI	Control Cable for PLC Status	101-MCC-01-A	PLC-DI	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	10	1.5	170	
31	P-4002A	Diesel Transfer Pump B	101-MCC-01-A	P-4002A	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	4	60	
32	PC-SH-P-4002A	Power Cable for Motor Space Heater	101-MCC-01-A	SH-P-4002A	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	60	
33	CC-LCS-P-4002A	Control cable for Local Control Station	101-MCC-01-A	LCS-P-4002A	E1W 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	12	2.5	60	
34	CC-P-4002A-PLC-DO	Control Cable for PLC command	101-MCC-01-A	PLC-DO	E1W 20S	E1W 20S	600/1000	CU/XLPE/PVC/SWA/PVC	1	7	1.5	170	
35	CC-P-4002A-PLC-DI	Control Cable for PLC Status	101-MCC-01-A	PLC-DI	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	10	1.5	170	
36	P-3505A	Raw Water Pump A	101-MCC-01-B	P-3505 A	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	35	300	
37	PC-SH-P-3505A	Power Cable for Motor Space Heater	101-MCC-01-B	SH-P-3505A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	300	
38	CC-LCS-P-3505A	Control cable for Local Control Station	101-MCC-01-B	LCS-P-3505A	E1W 25	E1W 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	12	2.5	300	
39	CC-P-3505A-PLC-DO	Control Cable for PLC command	101-MCC-01-B	PLC-DO	E1W 20S	E1W 20S	600/1000	CU/XLPE/PVC/SWA/PVC	1	7	1.5	170	
40	CC-P-3505A-PLC-DI	Control Cable for PLC Status	101-MCC-01-B	PLC-DI	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	10	1.5	170	
41	P-3505B	Raw Water Pump B	101-MCC-01-B	P-3505 B	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	35	300	
42	PC-SH-P-3505B	Power Cable for Motor Space Heater	101-MCC-01-B	SH-P-3505B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	300	
43	CC-LCS-P-3505B	Control cable for Local Control Station	101-MCC-01-B	LCS-P-3505B	E1W 25	E1W 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	12	2.5	300	
44	CC-P-3505B-PLC-DO	Control Cable for PLC command	101-MCC-01-B	PLC-DO	E1W 20S	E1W 20S	600/1000	CU/XLPE/PVC/SWA/PVC	1	7	1.5	170	
45	CC-P-3505B-PLC-DI	Control Cable for PLC Status	101-MCC-01-B	PLC-DI	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	10	1.5	170	
46	P-3503A	Fire Water Jockey Pump A	101-MCC-01-A	P-3503A	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	50	330	
47	PC-SH-P-3503A	Power Cable for Motor Space Heater	101-MCC-01-A	SH-P-3503A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	330	
48	CC-LCS-P-3503A	Control cable for Local Control Station	101-MCC-01-A	LCS-P-3503A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	14	2.5	330	
49	P-3503B	Fire Water Jockey Pump B	101-MCC-01-A	P-3503B	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	50	290	
50	PC-SH-P-3503B	Power Cable for Motor Space Heater	101-MCC-01-A	SH-P-3503B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	290	
51	CC-LCS-P-3503B	Control cable for Local Control Station	101-MCC-01-A	LCS-P-3503B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	14	2.5	290	
52	P-3504A	Foam Doasing Pump A	101-MCC-01-B	P-3504A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	4	150	
53	PC-SH-P-3504A	Power Cable for Motor Space Heater	101-MCC-01-B	SH-P-3504A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	150	
54	CC-LCS-P-3504A	Control cable for Local Control Station	101-MCC-01-B	LCS-P-3504A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	14	2.5	150	
55	P-3504B	Foam Doasing Pump B	101-MCC-01-B	P-3504B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	4	160	
56	PC-SH-P-3504B	Power Cable for Motor Space Heater	101-MCC-01-B	SH-P-3504B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	160	

MELA DEVELOPMENT PROJECT**POWER AND CONTROL CABLE SCHEDULE**

S.No.	Cable Tag	Description	Tag (From)	Tag (To)	Cable Gland (From)	Cable Gland (To)	Voltage Grade	Type	No of Runs	No of Cores	Size (mm ²)	Length (m)	Remarks
57	CC-LCS-P-3504B	Control cable for Local Control Station	101-MCC-01-B	LCS-P-3504B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	14	2.5	160	
58	3000-K305A	Instrument Air Compressor A	101-MCC-01-A	3000-K305A	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	35	170	
59	PC-SH-3000-K305A	Power Cable for Motor Space Heater	101-MCC-01-A	SH-3000-K305A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	170	
60	CC-LCS-3000-K305A	Control cable for Local Control Station	101-MCC-01-A	LCS-3000-K305A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	14	2.5	170	
61	3000-K305B	Instrument Air Compressor B	101-MCC-01-A	3000-K305B	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	35	170	
62	PC-SH-3000-K305B	Power Cable for Motor Space Heater	101-MCC-01-A	SH-3000-K305B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	170	
63	CC-LCS-3000-K305B	Control cable for Local Control Station	101-MCC-01-A	LCS-3000-K305B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	14	2.5	170	
64	FG-HTR	Fuel Gas Heater	101-MCC-01-A	FG-HTR	E1W 25	E1W 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	3	16	180	
65	PC-SH-FG-HTR	Power Cable for Motor Space Heater	101-MCC-01-A	SH-FG-HTR	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2	2.5	180	
66	CC-LCS-FG-HTR	Control cable for Local Control Station	101-MCC-01-A	LCS-FG-HTR	E1W 25	E1W 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	12	2.5	180	
67	CC-FG-HTR-PLC-DO	Control Cable for PLC command	101-MCC-01-A	PLC-DO	E1W 20S	E1W 20S	600/1000	CU/XLPE/PVC/SWA/PVC	1	7	1.5	160	
68	CC-FG-HTR-PLC-DI	Control Cable for PLC Status	101-MCC-01-A	PLC-DI	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	10	1.5	160	
UPS TO DOWNSTREAM													
69	EC-PLC-A	Main PLC	102-UDP-01	PLC-A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	30	
70	EC-PLC-B	Main PLC	102-UDP-01	PLC-B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	30	
71	EC-P-3501A	Diesel Engine Driven Fire Water Controller 3501A	102-UDP-01	P-3501A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	375	
72	EC-P-3501B	Diesel Engine Driven Fire Water Controller 3501B	102-UDP-01	P-3501B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	375	
73	EC-P-3502	Diesel Engine Driven Fire Water Controller 3502	102-UDP-01	P-3502	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	375	
74	EC-P-3503A	Fire Water Jokey Pump Controller 3503A	102-UDP-01	P-3503A	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	375	
75	EC-P-3503B	Fire Water Jokey Pump Controller 3503B	102-UDP-01	P-3503B	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	375	
76	EC-PU-3501	Foam Dosing Controller	102-UDP-01	PU-3501	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	75	
77	EC-WS-01	Workstations - 01	102-UDP-01	WS-01	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	30	
78	EC-WS-02	Workstations - 02	102-UDP-01	WS-02	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	30	
79	EC-PR-01	Printer - 01	102-UDP-01	PR-01	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	30	
80	EC-DG-CNT	Diesel Generator Controller	101-UDP-02	DG-CNT	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	40	
81	EC-GG-A-CNT	Gas Generator - A Controller	101-UDP-02	GG-A-CNT	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	40	
82	EC-GG-B-CNT	Gas Generator - B Controller	101-UDP-02	GG-B-CNT	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	40	
83	EC-AP-CNT	Annuciation Panel	101-UDP-02	AP-CNT	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	30	
84	EC-WS-03	Workstations - 03	101-UDP-02	WS-03	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	20	
85	EC-WS-04	Workstations - 04	101-UDP-02	WS-04	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	20	
86	EC-PR-02	Printer - 02	101-UDP-02	PR-02	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	20	

MELA DEVELOPMENT PROJECT**POWER AND CONTROL CABLE SCHEDULE**

S.No.	Cable Tag	Description	Tag (From)	Tag (To)	Cable Gland (From)	Cable Gland (To)	Voltage Grade	Type	No of Runs	No of Cores	Size (mm ²)	Length (m)	Remarks
Outgoing from lighting Distribution Panels to Sockets and Lights													
87	PC-PO-X-01	Power Cable for Welding Outlet-1	101-LDP-01	PO-X-01	E1W 32	E1FW 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	35	75	
88	PC-PO-X-02	Power Cable for Welding Outlet-2	101-LDP-01	PO-X-02	E1W 32	E1FW 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	35	50	
89	PC-PO-X-03	Power Cable for Welding Outlet-3	101-LDP-01	PO-X-03	E1W 32	E1FW 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	35	80	
90	PC-PO-X-04	Power Cable for Welding Outlet-4	101-LDP-01	PO-X-04	E1W 32	E1FW 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	35	125	
91	PC-PO-W-01	Power Cable for Welding Outlet-5	101-LDP-01	PO-W-01	E1W 32	E1W 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	35	330	
92		SPARE			E1W 32	E1FW 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	35	120	
93		SPARE			E1W 32	E1FW 32	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	35	160	
94	PC-PJB-01	Cabel for Utility socket Outlet JB's	101-LDP-01	XPJB-01&02	E1W 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	10	125	
95	PC-PJB-02	Cabel for Utility socket Outlet JB's	101-LDP-01	XPJB-03&04	E1W 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	10	112	
96	PC-PJB-03	Cabel for Utility socket Outlet JB's	101-LDP-01	XPJB-05	E1W 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	10	85	
97	PC-PJB-04	Cabel for Utility socket Outlet JB's	101-LDP-01	WPJB-06&07	E1W 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	10	360	
98		SPARE			E1W 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	10	120	
99		SPARE			E1W 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	10	180	
100		Drop Cabel for Utility socket Outlet	JB	Sockets	E1FW 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	10	50	5 meter Runs for 10 no of Junction Boxes
101	PC-ALP-01	Lighting Cable for Area Lighting poles	101-LDP-01	LP-09,06,05	E1FW 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	10	135	
102	PC-ALP-02	Lighting Cable for Area Lighting poles	101-LDP-01	LP-15,16,17,18	E1FW 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	10	200	
103	PC-ALP-03	Lighting Cable for Area Lighting poles	101-LDP-01	LP-19,20,21,22	E1FW 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	10	360	
104	PC-ALP-04	Lighting Cable for Area Lighting poles	101-LDP-01	LP-01,02,03,04	E1FW 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	10	270	
105	PC-ALP-05	Lighting Cable for Area Lighting poles	101-LDP-01	LP-07,06	E1FW 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	10	180	
106	PC-ALP-06	Lighting Cable for Area Lighting poles	101-LDP-01	LP-10,11	E1FW 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	10	130	
107	PC-ALP-07	Lighting Cable for Area Lighting poles	101-LDP-01	LP-12,13,14	E1FW 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	10	172	
108	--	Flood Lighting Cable in Pole	Ploe JB	Flood lights	E1FW 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	230	10 meter Runs for Flood Lights from 23 nos of Junction Boxes
109		Spare			E1W 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	10	150	
110		Spare			E1FW 25	E1FW 25	600/1000	CU/XLPE/PVC/SWA/PVC	1	4	10	150	
111	PC-FL-01	Lighting Cable for Flourescent Lighting	101-LDP-01	XLJB-12	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	90	
112	PC-FL-02	Lighting Cable for Flourescent Lighting	101-LDP-01	XLJB-13	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	180	
113	PC-FL-03	Lighting Cable for Flourescent Lighting	101-LDP-01	WLJB-12	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	330	
114		Spare			E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	200	
115	PC-FL-04	Lighting Cable for Flourescent Lighting	XLJB-12	FL-X-01,02,03	E1FW 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	40	
116	PC-FL-05	Lighting Cable for Flourescent Lighting	XLJB-13	FL-X-04,05,06	E1FW 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	35	
117	PC-FL-06	Lighting Cable for Flourescent Lighting	WLJB-12	FL-W-01,02,03	E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	55	

MELA DEVELOPMENT PROJECT**POWER AND CONTROL CABLE SCHEDULE**

S.No.	Cable Tag	Description	Tag (From)	Tag (To)	Cable Gland (From)	Cable Gland (To)	Voltage Grade	Type	No of Runs	No of Cores	Size (mm ²)	Length (m)	Remarks
118		Spare			E1W 20	E1W 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	2.5	100	
119	PC-FL-JB-2501A-01	Lighting Cable for Compressor Package Lighting	101-LDP-01	FL-JB-2501A-01	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	4	75	
120	PC-FL-JB-2501A-02	Lighting Cable for Compressor Package Lighting	101-LDP-01	FL-JB-2501A-02	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	4	85	
121	PC-FL-JB-2501B-01	Lighting Cable for Compressor Package Lighting	101-LDP-01	FL-JB-2501B-01	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	4	110	
122	PC-FL-JB-2501B-02	Lighting Cable for Compressor Package Lighting	101-LDP-01	FL-JB-2501B-02	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	4	115	
123	PC-FL-JB-2501C-01	Lighting Cable for Compressor Package Lighting	101-LDP-01	FL-JB-2501C-01	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	4	135	
124	PC-FL-JB-2501C-02	Lighting Cable for Compressor Package Lighting	101-LDP-01	FL-JB-2501C-02	E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	4	140	
125		Spare			E1W 20	E1FW 20	600/1000	CU/XLPE/PVC/SWA/PVC	1	2C+PE	4	200	

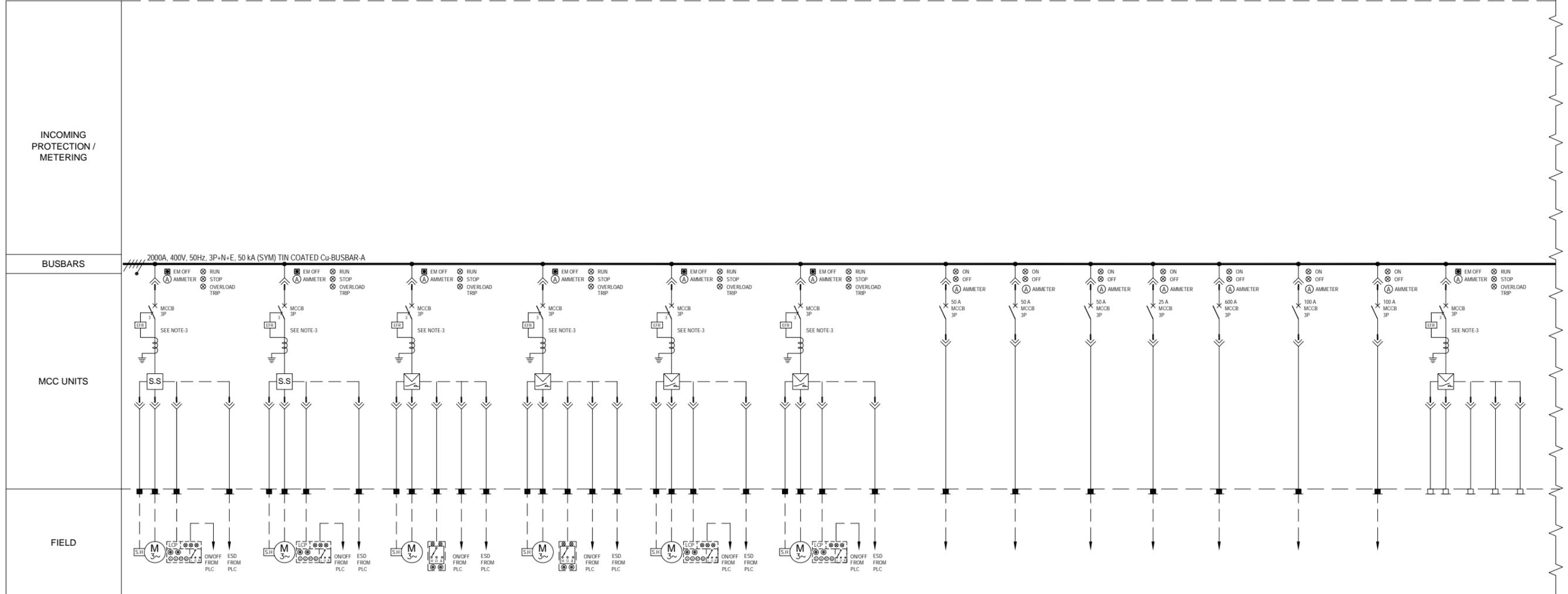
NOTES:

- 1 The cables listed in this Cable Schedule shall be considered preliminary by PC Contractor. PC Contractor shall be responsible to verify the same and shall furnish any other cabling as required to complete the installation complete in all respects.
- 2 Cable lengths are tentative and based on layouts attached with tender. All cabling shall be furnished by PC Contractor, as per actual lengths (to be extracted by PC Contractor as per final approved layouts and site conditions).
- 3 PC Contractor shall verify cable gland / entry sizes, to ensure compatibility with cable sizes.
- 4 All cable terminated inside switchgear rooms, shall also be terminated through cable glands, as per cable schedule. Same shall remain included in PC contractor's scope.
- 5 For CP system, main cable from distribution system to CP rectifier is mentioned in cable schedule. All other power cabling (field cabling) pertaining to CP system shall be designed and furnished by PC Contractor as part of CP Package scope.
- 6 Wiring / Cabling for building electrification (lighting / small power etc.) shall be included in PC-Contractor's scope as part of the building electrification (duly depicted on relevant drawings).
- 7 Color coding for cables shall be as per following scheme.
For 1C Cables - Red , Yellow, blue shall be followed for each phase and Black for Neutral
For 2C Cables - Red for phase and Black for Neutral
For 3C Cables - Red , Yellow, blue shall be followed for each phase
For 4C Cables - Red , Yellow, blue for phases and Black for Neutral
For 2C+PE Cables - It should be 3C cable with Overall Armoring and Sheat, Red for phase, Black for Neutral & Green for Earth
- 8 The Brass Reducers and Adopters, of both Hazardous and Non Hazardous type, shall be considered built in for section 1.4 and 1.5 of BOQ # 165-2-BQE-001 , required as per site requirement and are included in the scope of Contractor.

ATTACHMENT – VI

ELECTRICAL DRAWINGS

101-MCC-01



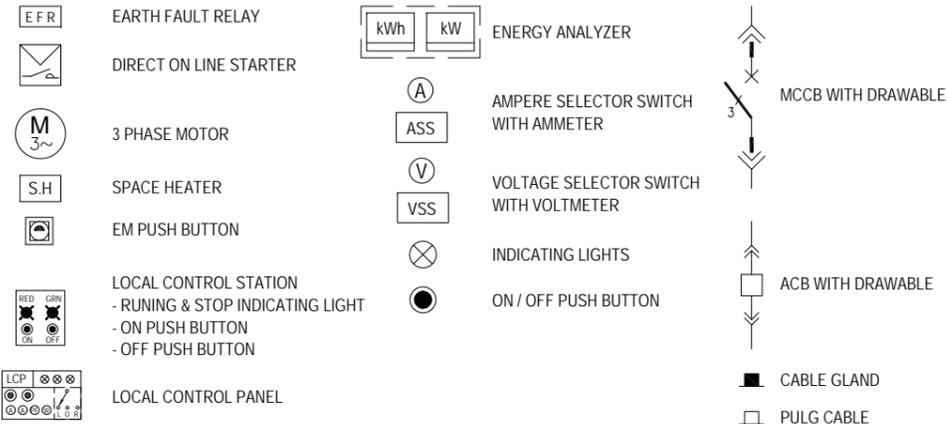
LOAD TAG NO.	3000-K305A	3000-K305B	P-4001A	P-4001B	P-3503A	P-3503B	HTR	101-UPS-01	101-UPS-01	101-RCT-01	103-EPL-001	AUX-GG-01	AUX-GG-02	SPARE
DESCRIPTION	INST. AIR COMPRESSOR	INST. AIR COMPRESSOR	DIESEL TRANSFER PUMP-A	DIESEL TRANSFER PUMP-B	FIRE WATER JOCKEY PUMP-A	FIRE WATER JOCKEY PUMP-B	FUEL GAS HEATER	AC UPS FEEDER-A	AC UPS FEEDER-BYPASS	RECTIFIER	EXISTING PLANT LOAD	AUXILIARIES	AUXILIARIES	-
POWER	22 kW	22 kW	0.37 kW	0.37 kW	22 kW	22 kW	18.5 kW	20 kW	20 kW	10 kW	250 kW	30 kW	30 kW	0.37 kW
STARTING METHOD	SOFT STARTER	SOFT STARTER	DOL	DOL	DOL	DOL	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER	DOL
FULL LOAD CURRENT	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTES:

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DATA SHEET AND SPECIFICATION.
- THE ELECTRICAL EQUIPMENT SHOWN ARE THE MINIMUM DESIGN REQUIREMENT. THE SUPPLIER SHALL FURNISH ADDITIONAL REQUIREMENTS AS PER IEC AND OTHER RELEVANT STANDARDS CONSIDERING SYSTEM REQUIREMENT.
- SUPPLIER SHALL CONSIDER MOTOR RATING FOR FINALIZING STARTER SIZE, BREAKER RATING AND OTHER ELECTRICAL COMPONENTS, AS PER RELEVANT IEC COORDINATION TABLES. (TYPE 2).
- THE MCC ENCLOSURE RATING SHALL BE IP31, FLOOR MOUNTED FREE STANDING, POWDER COATED SHEET STEEL.
- THE MOTOR CONTROL CIRCUIT SHALL BE 230 VAC, DERIVED THROUGH A DEDICATED CONTROL TRANSFORMER ON EACH BUS.
- THE POWER & CONTROL CABLES SHALL ENTER FROM BOTTOM OF MCC.
- THE DOOR LOCKING SYSTEM SHALL BE STAINLESS STEEL.
- MCCs ON MOTORS SHALL BE MAGNETIC TRIP ONLY.
- MCCs ON NON-MOTOR LOADS SHALL HAVE THERMAL AND MAGNETIC TRIP.
- ALL THE INTERNAL WIRING, INDICATION LAMPS, METERING DEVICES ARE IN A SCOPE OF SUPPLIER.
- CONTRACTOR MAY APPLY CASCADING SCHEME TO CALCULATE KA RATING OF OUTGOING BREAKERS.
- THE PROTECTIONS MENTIONED IN THE SLDs SHALL BE PROVIDED BY THE SUPPLIER IN THE FORM OF ELECTRONIC PROTECTION RELAY MODULE (EPR), OR SOLID STATE TRIP MODULE.

- EPR SHALL ALSO INCORPORATE ALL METERING FUNCTIONS, AS REQUIRED IN RELEVANT SPECIFICATIONS AND DATASHEETS
- MOTOR SPACE HEATER SHOULD BE FED VIA CONTROLLED TRANSFORMER OF 230V AC OUTPUT AND SHOULD BE INTERLOCKED WITH MOTOR THAT IT SHOULD START WORKING WHEN MOTOR IS OFF.
- FOR STARTER INCLUDING VFD'S AND SOFT STARTERS UPSTREAM AND DOWN STREAM FILTERS SHALL BE PROVIDED.
- EQUIPMENT RATINGS ARE INDICATIVE ONLY, SUPPLIER SHALL CONFIRM THE DEVICE DUTY RATINGS AND OTHER DETAILS DURING DETAIL DESIGN.
- THE NUMBERING SYSTEM TO IDENTIFY PROTECTION & METERING DEVICES IN THIS DWG. COMPLIES TO IEEE C37.2

LEGEND:-



ISSUED FOR TENDER

REV.	DATE	DESCRIPTION OF REVISION	DRAWN	CHECKED	APPR.
1	10-07-2018	RE-ISSUED FOR TENDER	MSR	MF	NAK
0	01-06-2018	ISSUED FOR TENDER	AHS	MF	NAK
B	26-04-2018	ISSUED FOR APPROVAL	AHS	MF	NAK
A	26-03-2018	ISSUED FOR REVIEW	AHS	MF	NAK

CLIENT: **OIL & GAS DEVELOPMENT COMPANY LTD.**
 QSDCL HOUSE TOWER-B, FIRST FLOOR FB/06, BLUE AREA, JINNAH AVENUE ISLAMABAD PAKISTAN
 FAX: +92-051-2623033, PHONE: +92-051-9209859

CONSULTANT: **Zishan Engineers (Pvt.) Ltd.**
 An ISO 9001-2015 certified company
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 Tel: (02-21) 3430045-46, & 34310151-54, Fax: (02-21) 34533430 & 34510156
 E-Mail: contact@zishanengineers.com Website: www.zishanengineers.com

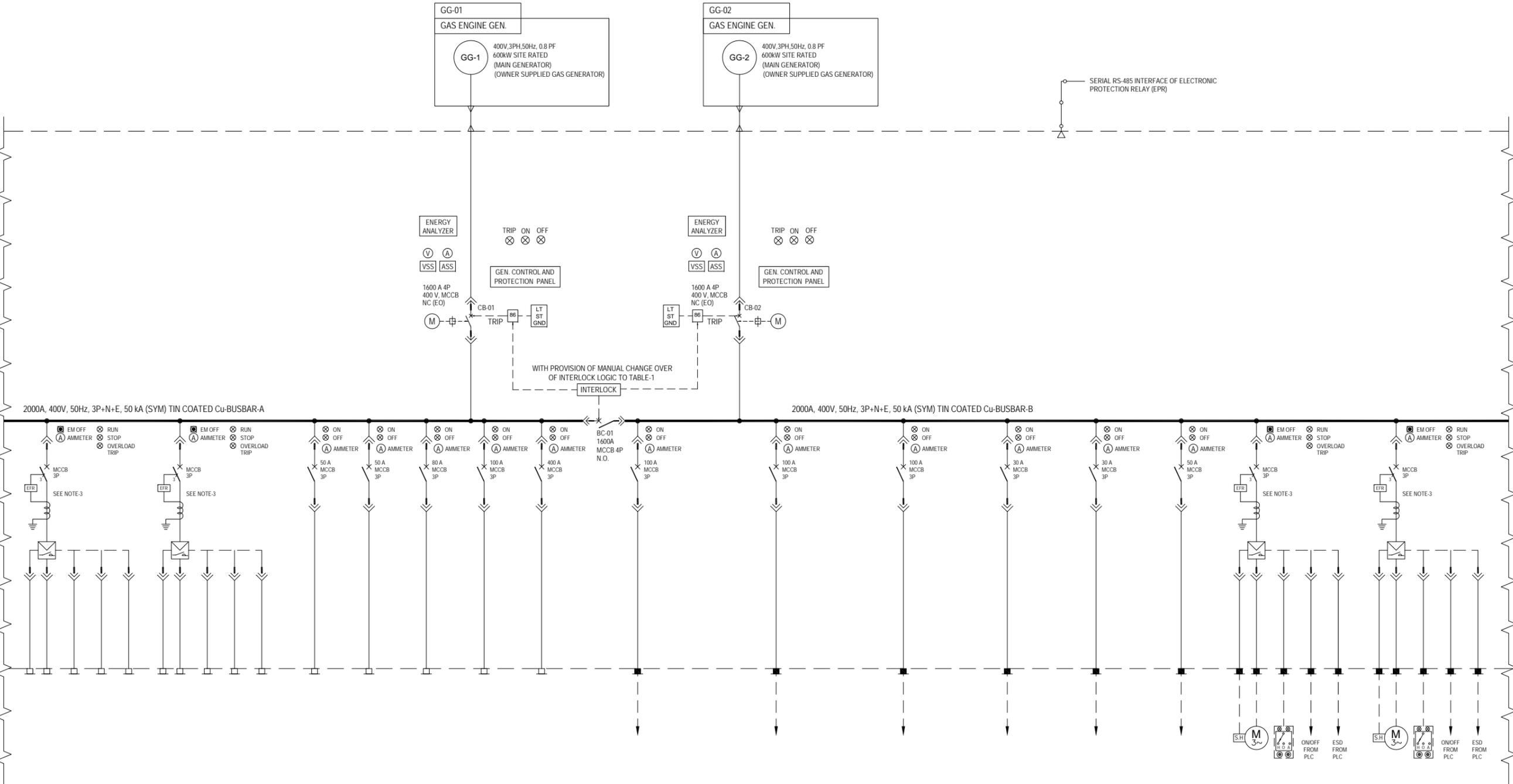
DWG. NO. 165-2-ELS-002
 REV. 1

PROJECT: MELA DEVELOPMENT PROJECT
 TITLE: SINGLE LINE DIAGRAM FOR MOTOR CONTROL CENTER (101-MCC-01)

JOB NO. 165-2
 SIZE: A3 SCALE: N.T.S SHEET: 1 OF 4

CONT. FROM DWG NO. 165-2-ELS-002 (SHEET 1 OF 4)

CONT. TO DWG NO. 165-2-FI-S-002 (SHEET 3 OF 4)



SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	C-2501A	C-2501B	C-2501C	101-LDP-01	101-DB-01	101-UPS-01	P-2201A	P-2201B
-	-	-	-	-	-	-	FEED GAS COMPRESSOR-A	FEED GAS COMPRESSOR-B	FEED GAS COMPRESSOR-C	-	-	AC UPS FEEDER-B	CONDENSATE PUMP-A	CONDENSATE PUMP-B
5.5 kW	22 kW	-	-	-	-	-	40 kW	40 kW	40 kW	-	-	20 kW	7.5 kW	7.5 kW
DOL	DOL	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER	DOL	DOL
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CIRCUIT BREAKER / BUS COUPLER OPERATING SCHEME

POSITION OF CB	CB-01	CB-02	BC-01
WHEN GENERATOR-1 IS OPERATIONAL	CLOSE	OPEN	CLOSE
WHEN GENERATOR-2 IS OPERATIONAL	OPEN	CLOSE	CLOSE
WHEN BOTH GENERATOR ARE OPERATIONAL	CLOSE	CLOSE	OPEN

ISSUED FOR TENDER

1	10-07-2018	RE-ISSUED FOR TENDER	MSR	MF	NAK
0	01-06-2018	ISSUED FOR TENDER	AHS	MF	NAK
B	26-04-2018	ISSUED FOR APPROVAL	AHS	MF	NAK
A	26-03-2018	ISSUED FOR REVIEW	AHS	MF	NAK
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	CHECKED	APPR.

CLIENT: **OIL & GAS DEVELOPMENT COMPANY LTD.**
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PROJECT : **MELA DEVELOPMENT PROJECT**

TITLE : **SINGLE LINE DIAGRAM FOR MOTOR CONTROL CENTER (101-MCC-01)**

DWG. NO. **165-2-ELS-002**

REV. **1**

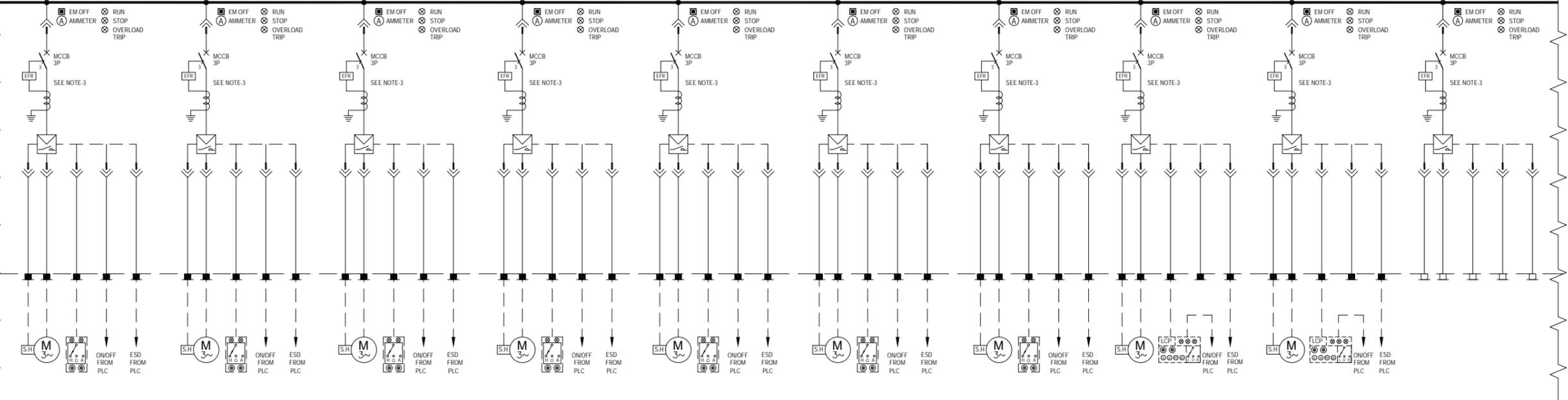
JOB NO. **165-2**

SIZE	SCALE	SHEET
A3	N.T.S	2 OF 4

CONT. FROM DWG NO. 165-2-ELS-002 (SHEET 2 OF 4)

CONT. TO DWG NO. 165-2-ELS-002 (SHEET 4 OF 4)

2000A, 400V, 50Hz, 3P+N+E, 50 kA (SYM) TIN COATED Cu-BUSBAR-B



P-2201C	P-2202A	P-2202B	P-2202C	EA-2203	P-3505A	P-3505B	P-3504A	P-3504B	SPARE
CONDENSATE PUMP-C	STABILIZER PUMP AROUND-A	STABILIZER PUMP AROUND-B	STABILIZER PUMP AROUND-C	CONDENSATE AIR COOLER	RAW WATER PUMP-A	RAW WATER PUMP-B	FOAM DOASING PUMP-A	FOAM DOASING PUMP-B	-
7.5 kW	5.5 kW	5.5 kW	5.5 kW	45 kW	15 kW	15 kW	11 kW	11 kW	5.5 kW
DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL	DOL
-	-	-	-	-	-	-	-	-	-

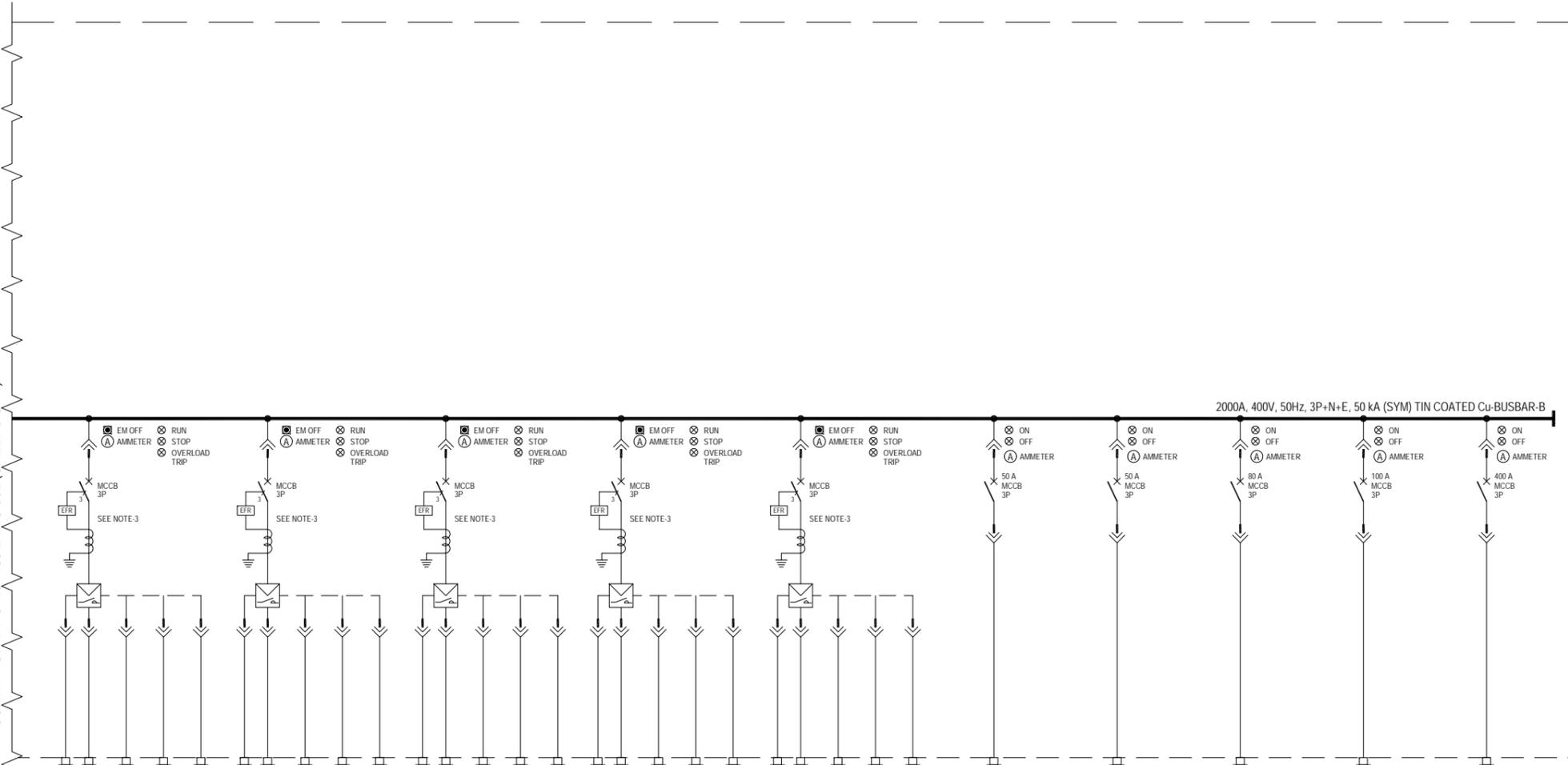
ISSUED FOR TENDER

1	10-07-2018	RE-ISSUED FOR TENDER	MSR	MF	NAK
0	01-06-2018	ISSUED FOR TENDER	AHS	MF	NAK
B	26-04-2018	ISSUED FOR APPROVAL	AHS	MF	NAK
A	26-03-2018	ISSUED FOR REVIEW	AHS	MF	NAK
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	CHECKED	APPR.

CLIENT: **OIL & GAS DEVELOPMENT COMPANY LTD.**
 OSDOL HOUSE TOWER-8, FIRST FLOOR F/806, BLUE AREA, JINNAH AVENUE ISLAMABAD PAKISTAN
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CONSULTANT: Zishan Engineers (Pvt.) Ltd. An ISO 9001-2015 certified company 47/F, Block 6, PECHS, Karachi-Pakistan Tel: (92-21) 3430045-46, & 34310151-54, Fax: (92-21) 34533430 & 34510156 E-Mail: contact@zishanengineers.com Website: www.zishanengineers.com	DWG. NO. 165-2-ELS-002 REV. 1
PROJECT : MELA DEVELOPMENT PROJECT	JOB NO. 165-2
TITLE : SINGLE LINE DIAGRAM FOR MOTOR CONTROL CENTER (101-MCC-01)	SIZE SCALE SHEET A3 N.T.S 3 OF 4

CONT. FROM DWG NO. 165-2-ELS-002 (SHEET 3 OF 4)



SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE
-	-	-	-	-	-	-	-	-	-
5.5 kW	7.5 kW	7.5 kW	11 kW	15 kW	-	-	-	-	-
DOL	DOL	DOL	DOL	DOL	FEEDER	FEEDER	FEEDER	FEEDER	FEEDER
-	-	-	-	-	-	-	-	-	-

ISSUED FOR TENDER

1	10-07-2018	RE-ISSUED FOR TENDER	MSR	MF	NAK
0	01-06-2018	ISSUED FOR TENDER	AHS	MF	NAK
B	26-04-2018	ISSUED FOR APPROVAL	AHS	MF	NAK
A	26-03-2018	ISSUED FOR REVIEW	AHS	MF	NAK
REV.	DATE	DESCRIPTION OF REVISION	DRAWN	CHECKED	APPR.

CLIENT:

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CONSULTANT:

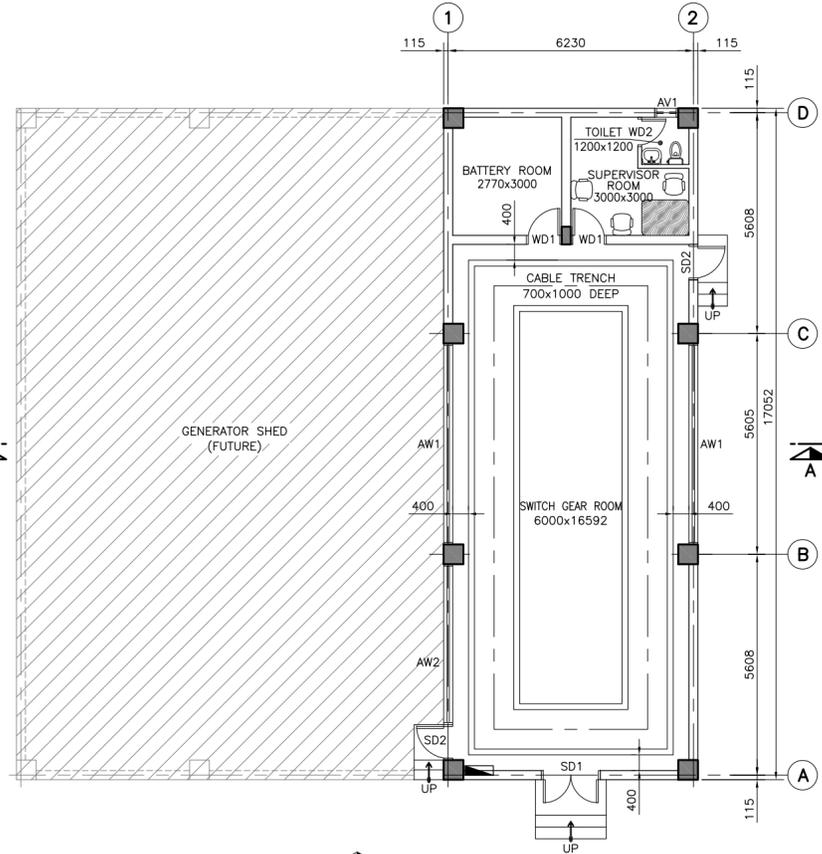
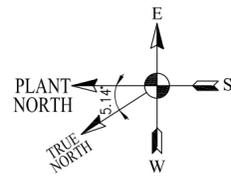
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PROJECT :	MELA DEVELOPMENT PROJECT	JOB NO.	165-2		
TITLE :	SINGLE LINE DIAGRAM FOR MOTOR CONTROL CENTER (101-MCC-01)	SIZE	SCALE	SHEET	
		A3	N.T.S	4 OF 4	

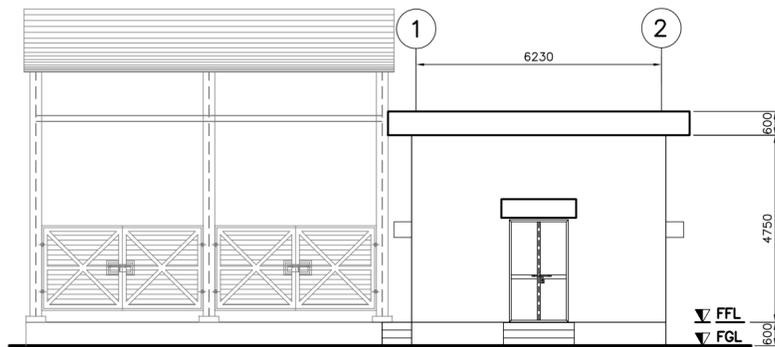
DWG. NO.
165-2-ELS-002
REV. 1

ATTACHMENT – VII

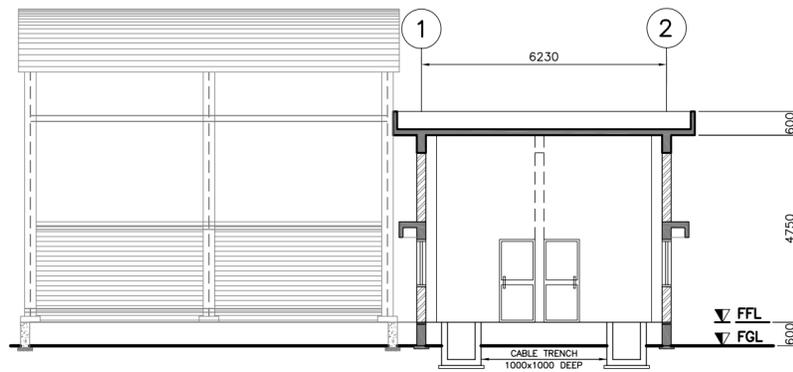
CIVIL DRAWINGS



ELEVATION-1
GROUND FLOOR PLAN
(SCALE = 1 : 125)



ELEVATION-1
(SCALE = 1 : 125)



SECTION A-A
(SCALE = 1 : 125)

REFERENCE DRAWINGS	
DESCRIPTION	DWG. NO.
GENERAL PLOT PLAN	165-2-GPP-001
COLUMN / FOUNDATION LAYOUT PLAN & DETAILS FOR SWITCH GEAR ROOM	165-2-C-019 (1 OF 2)
ROOF FRAMING PLAN & DETAILS FOR SWITCH GEAR ROOM	165-2-C-019 (2 OF 2)

FINISHING SCHEDULE

COLOURING	INTERNAL	WALLS	PLASTIC EMULSION PAINT (PRIMER + 2 COATS) OF APPROVED BRAND/SHADE (ICI/BERGER/NIPPON).
		CEILING	DISTEMPER ON CEILINGS (PRIMER + 2 COATS) OF APPROVED BRAND/SHADE (ICI/BERGER/NIPPON).
DOORS & WINDOWS	EXTERNAL	ALUMINUM	POWDER COATED ALUMINUM DOORS AND WINDOWS MADE UP OF DELUXE QUALITY PAKISTAN CABLE OR EQUIVALENT WITH 5mm THK. SAFETY GLASS AND AUTO DOOR CLOSURE.
		STEEL	STEEL DOORS / VENTILATOR TO BE PAINTED WITH 3 COATS OF SYNTHETIC ENAMEL PAINT OVER A COAT OF RED OXIDE PRIMER OF APPROVED BRAND/SHADE. (ICI/BERGER/NIPPON).
TILE			NON-SKID PORCELAIN TILES FLOORING OF APPROVED BRAND (MASTER/EQUIVALENT) WITH 2100 HIGH GLAZED DADO INSIDE THE TOILET.
FLOOR FINISHES	GROUND FLOOR BASE		75 THK. CC 1:2:4 TO BE LAID OVER VAPOR BARRIER (POLYTHENE SHEET) OVER 50 THK. CC 1:3:6 BED OVER WELL COMPACTED EARTH FILLING.
	FINISH ROOF FLOOR		WATER PROOFING TREATMENT OVER R.C.C SLAB WITH 1 LAYER OF ROOFING FELT (ECOGUM OR EQUIVALENT), 1 COAT OF BITUMEN PB-4, MESH OF NOMINAL STEEL OF #3@300c/c, 75mm THICK (AVG.) SCREEDING WITH A LAYER OF BITUMEN SAND MIX.
PLASTER	INTERNAL	PROVIDE 12mm THICK 1:4 CEMENT SAND PLASTER USING O.P CEMENT ON ALL INSIDE SURFACES.	
	EXTERNAL	PROVIDE 20mm THICK 1:4 CEMENT SAND PLASTER USING O.P CEMENT ON ALL OUTSIDE SURFACES.	
BRICK MASONRY			230x115x65mm THK. BRICK MASONRY SET IN 1:4 CEMENT SAND MORTAR.

SCHEDULE OF DOORS, WINDOWS & VENTILATORS

DOORS		
MARK	SIZE	DESCRIPTION
SD1	1500 x 2600	DOUBLE LEAF SINGLE SWING STEEL DOOR
SD2	900 x 2100	SINGLE LEAF SINGLE SWING STEEL DOOR
WD1	900 x 2100	SINGLE LEAF SINGLE SWING WOODEN DOOR
WD2	750 x 2100	SINGLE LEAF SINGLE SWING WOODEN DOOR
WINDOWS		
AW1	5105 x 1200	SINGLE LEAF FIXED ALUMINUM WINDOW (SOUND PROOF)
AW2	4073 x 1200	SINGLE LEAF FIXED ALUMINUM WINDOW (SOUND PROOF)
VENTILATORS		
AV1	600 x 300	SINGLE LEAF FIXED ALUMINUM VENTILATOR (WITH EXHAUST FAN)

LEGENDS:-

FFL. = FINISH FLOOR LEVEL
FGL. = FINISH GROUND LEVEL

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETER (mm), LEVELS AND COORDINATES ARE IN METER (m) UNLESS OTHERWISE STATED.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. 165-2-CGN-001.



REV.	DATE	DESCRIPTION OF REVISION	HN / HMS DRAWN	MSH CHECKED	SMM APPR.
0	12-07-2018	ISSUED FOR TENDER			

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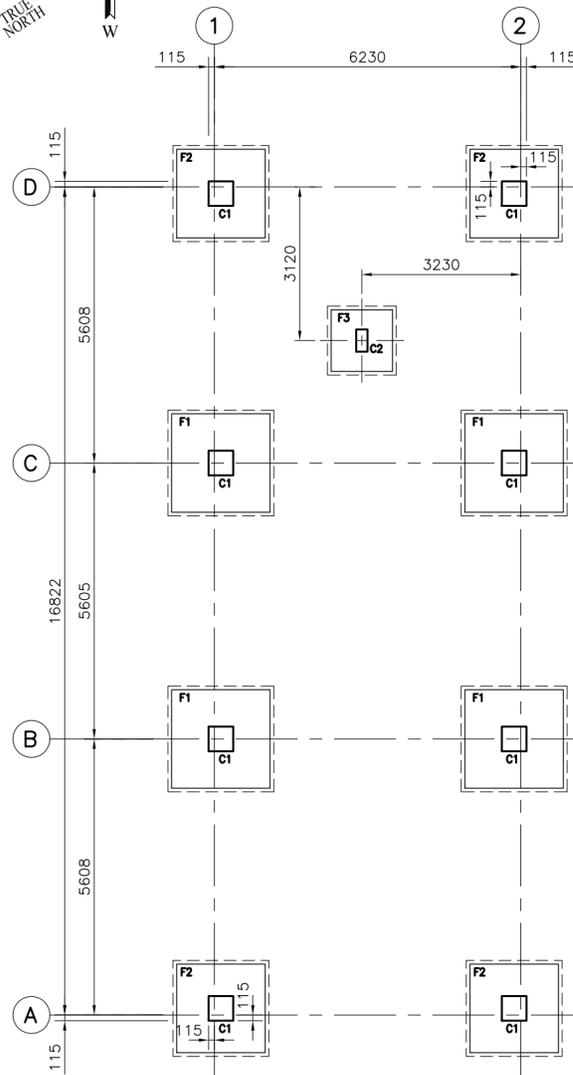
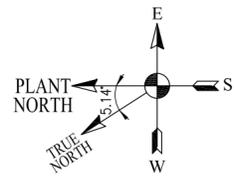
DWG. NO. 165-2-C-018
REV. 0

PROJECT : **MELA DEVELOPMENT PROJECT**

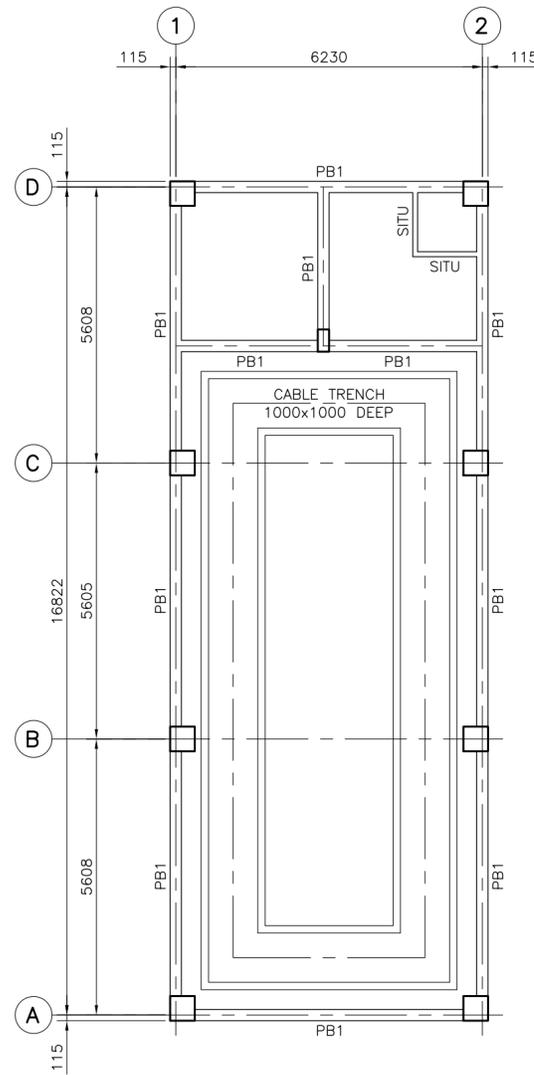
TITLE : **ARCHITECTURE DRAWING FOR SWITCH GEAR ROOM**

JOB NO. 165-2

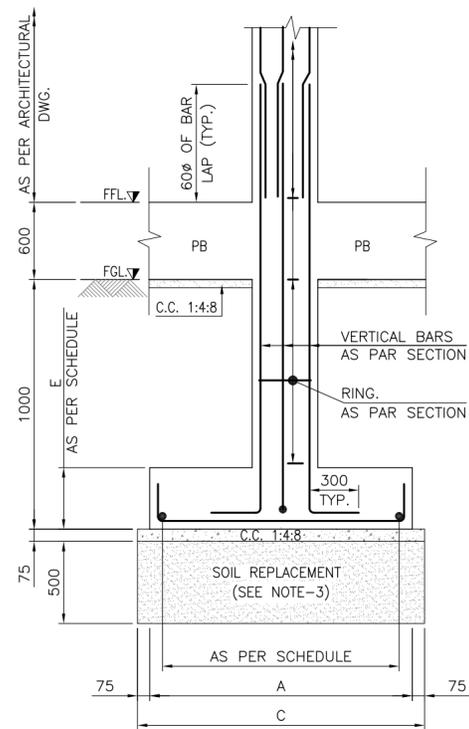
SIZE	SCALE	SHEET
A2	AS SHOWN	1 OF 1



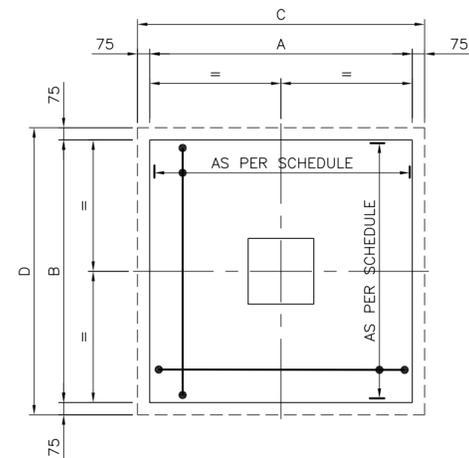
COLUMN / FOUNDATION LAYOUT PLAN
(SCALE = 1 : 125)



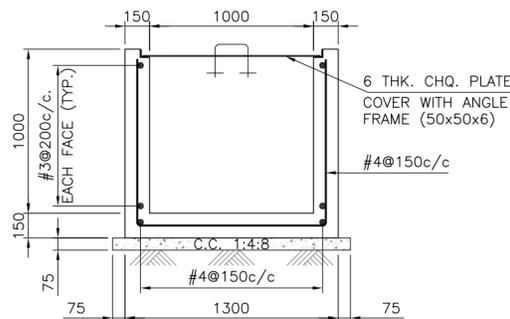
PLINTH BEAM LAYOUT PLAN
(SCALE = 1 : 125)



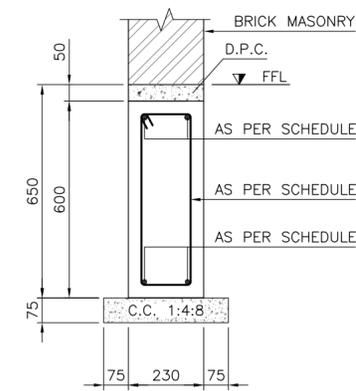
TYP. SEC. OF FOOTING & COLUMN
(SCALE = 1 : 30)



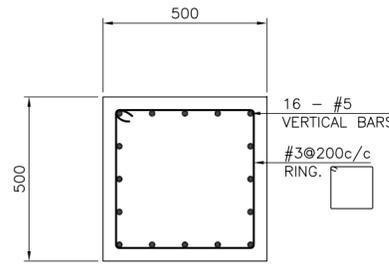
TYP. PLAN OF FOOTING
(SCALE = 1 : 30)



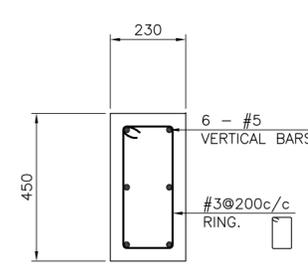
TYP. CROSS SEC. OF CABLE TRENCH
(SCALE = 1 : 30)



TYP. CROSS SEC. OF PLINTH BEAM (PB)
(SCALE = 1 : 15)



TYP. CROSS SECTION OF COLUMN (C1)
(SCALE = 1 : 15)



TYP. CROSS SECTION OF COLUMN (C2)
(SCALE = 1 : 15)

REFERENCE DRAWINGS	
DESCRIPTION	DWG. NO.
GENERAL PLOT PLAN	165-2-GPP-001
ARCHITECTURE DRAWING FOR SWITCH GEAR ROOM	165-2-C-018
ROOF FRAMING PLAN & DETAILS FOR SWITCH GEAR ROOM	165-2-C-019 (2 OF 2)

SCHEDULE OF R.C.C. FOOTINGS								
MARKS	FOOTING SIZE		DEPTH (E)	FOOTING REINFORCEMENT				REMARKS
	1:4:8 C.C. C x D	A x B		BOTTOM REINFORCEMENT	TOP REINFORCEMENT	SHORT WAY	LONG WAY	
F1	2150x2150	2000x2000	300	#5@150c/c	#5@150c/c	-	-	
F2	1950x1950	1800x1800	300	#5@150c/c	#5@150c/c	-	-	
F3	1400x1400	1250x1250	300	#5@150c/c	#5@150c/c	-	-	

SCHEDULE OF RCC. PLINTH BEAMS								
MARK	SIZE	BOTTOM BAR	TOP BAR	EXTRA TOP @ CONTINUOUS END	EXTRA TOP @ DISCONTINUOUS END	RINGS		REMARKS
						NEAR SUPPORT (UP TO L/4)	MID SPAN	
PB-1	230x600	2-#5	2-#5	1-#4	1-#4	#3@200c/c	#3@250c/c	

LEGENDS:-
FFL = FINISH FLOOR LEVEL
FGL = FINISH GROUND LEVEL

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETER (mm), LEVELS AND COORDINATES ARE IN METER (m) UNLESS OTHERWISE STATED.
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. 165-2-CGN-001.
- GROUND IMPROVEMENT TO BE DONE BY REPLACEMENT OF 0.5m DEPTH OF EXISTING SOIL (WITH APPROVED SELECT FILL) BENEATH THE PROPOSED FOUNDATION DEPTH.

ISSUED FOR TENDER

REV.	DATE	DESCRIPTION OF REVISION	HMS DRAWN	MSH CHECKED	SMM APPR.
0	12-07-2018	ISSUED FOR TENDER			

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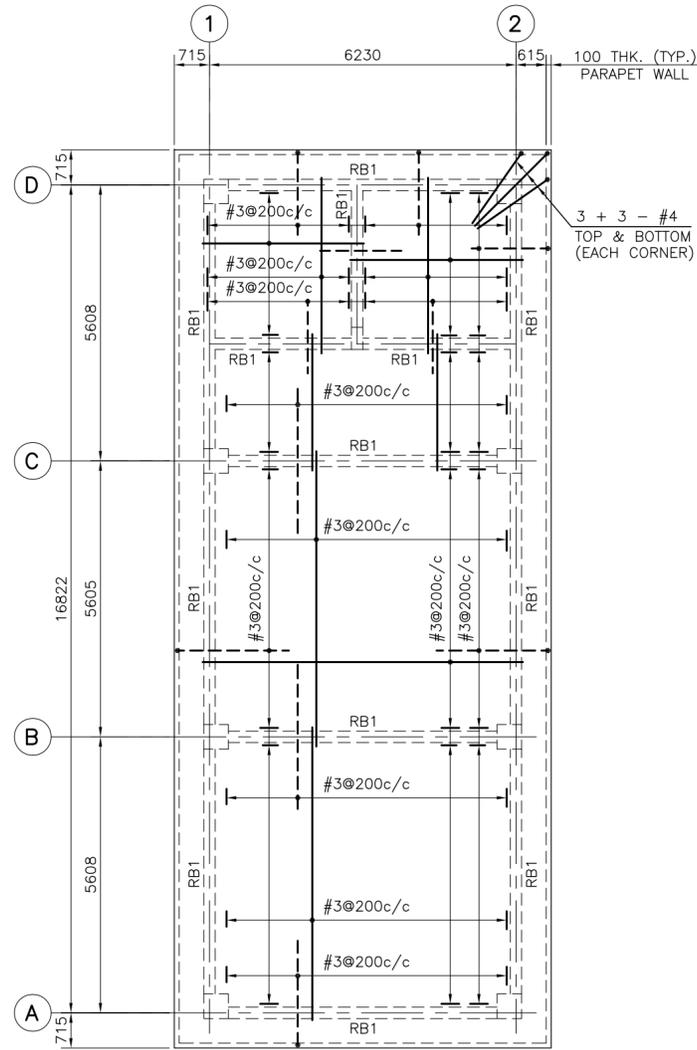
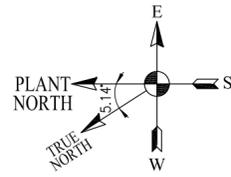
DWG. NO. 165-2-C-019
REV. 0

PROJECT : MELA DEVELOPMENT PROJECT

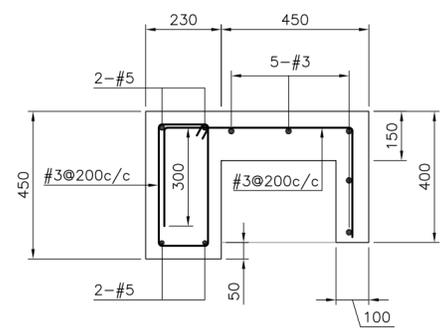
JOB NO. 165-2

TITLE : COLUMN / FOUNDATION LAYOUT PLAN & DETAILS FOR SWITCH GEAR ROOM

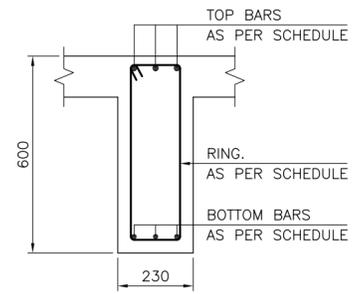
SIZE	SCALE	SHEET
A2	AS SHOWN	1 OF 2



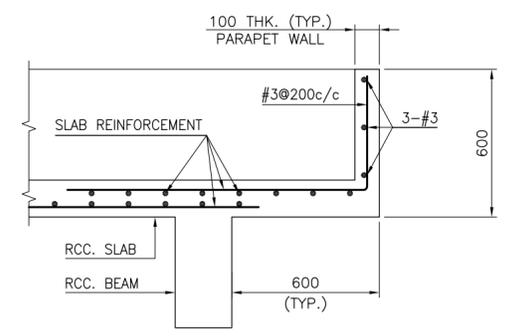
ROOF FRAMING PLAN
(SCALE = 1 : 125)



TYP. SECTION OF LINTEL BEAM/SUN SHED
(SCALE = 1 : 15)



TYP. SECTION OF ROOF BEAM (RB)
(SCALE = 1 : 15)



TYP. DETAIL OF ROOF PROJECTION
(SCALE = 1 : 20)

REFERENCE DRAWINGS	
DESCRIPTION	DWG. NO.
GENERAL PLOT PLAN	165-2-GPP-001
ARCHITECTURE DRAWING FOR SWITCH GEAR ROOM	165-2-C-018
COLUMN / FOUNDATION LAYOUT PLAN & DETAILS FOR SWITCH GEAR ROOM	165-2-C-019 (1 OF 2)

SCHEDULE OF RCC ROOF BEAMS								
MARK	SIZE	BOTTOM BAR	TOP BAR	EXTRA TOP @ CONTINUOUS END	EXTRA TOP @ DISCONTINUOUS END	RINGS		REMARKS
						NEAR SUPPORT (UP TO L/4)	MID SPAN	
RB1	230x600	3-#5	3-#5	-	-	#3@200c/c	#3@250c/c	

LEGENDS:—
 FFL. = FINISH FLOOR LEVEL
 FGL. = FINISH GROUND LEVEL

NOTES:
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 2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. 165-2-CGN-001.



REV.	DATE	DESCRIPTION OF REVISION	HMS DRAWN	MSH CHECKED	SMM APPR.
0	12-07-2018	ISSUED FOR TENDER			

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PROJECT : **MELA DEVELOPMENT PROJECT**

TITLE : **ROOF FRAMING PLAN AND DETAILS FOR SWITCH GEAR ROOM**

DWG. NO.	165-2-C-019
REV. 0	
JOB NO.	165-2
SIZE	A2
SCALE	AS SHOWN
SHEET	2 OF 2

ATTACHMENT – VIII

BID PRICE SCHEDULE / BILL OF QUANTITIES

AVAILABLE IN SOFT COPIES