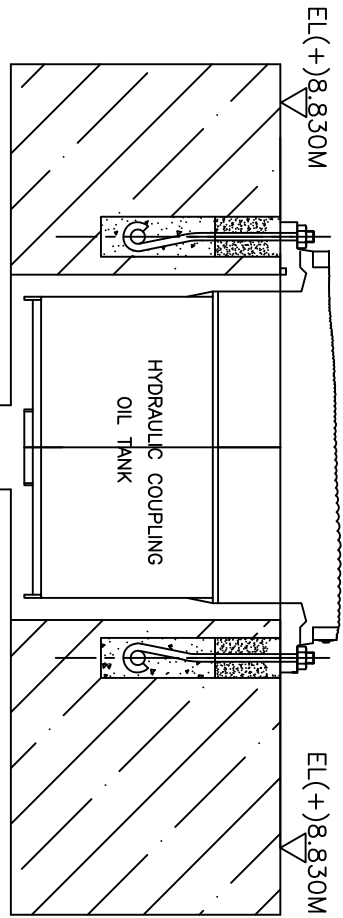
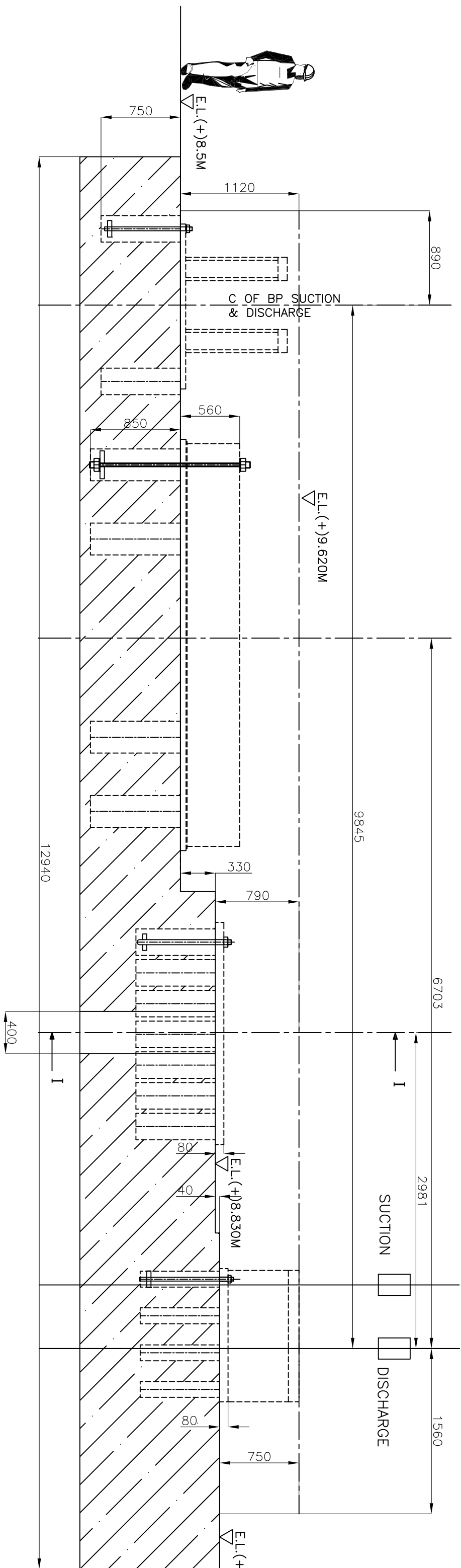


NOTE:  
PRELIMINARY DRAWINGS SUBJECTED TO  
APPROVAL FOR FINAL PARAMETERS



SECTION I-I

TECHNICAL DATA OF BOILER FEED PUMP & BOOSTER PUMP			
PUMP TYPE	BOILER FEED PUMP	BOOSTER PUMP	
MODEL	MDC 346 (MH)	FA1B75 (WPI)	
TYPE	MULTI STAGE, AXIALLY SPLIT INNER CASING & BARREL TYPE OUTER CASING	SINGLE STAGE SPLIT TYPE	
DIRECTION OF ROTATION (VIEWED FROM PUMP DRIVE END)	CLOCKWISE	COUNTER CLOCKWISE	
DESIGN CAPACITY/PUMP(M <sup>3</sup> /Hr)	807	807	
DESIGN HEAD (MLC)	3099.5	210.5	
TEMPERATURE (deg c)			
NPSH REQUIRED (MLC)			
GRADE OF BALANCING			
MOTOR RATING OF BFP SET(kw)		10.700	

LEGEND

BLIND POCKET WITH SLOPE FOR POURING SECONDARY GROUTING

BLIND POCKET

OPENING

ELEVATION

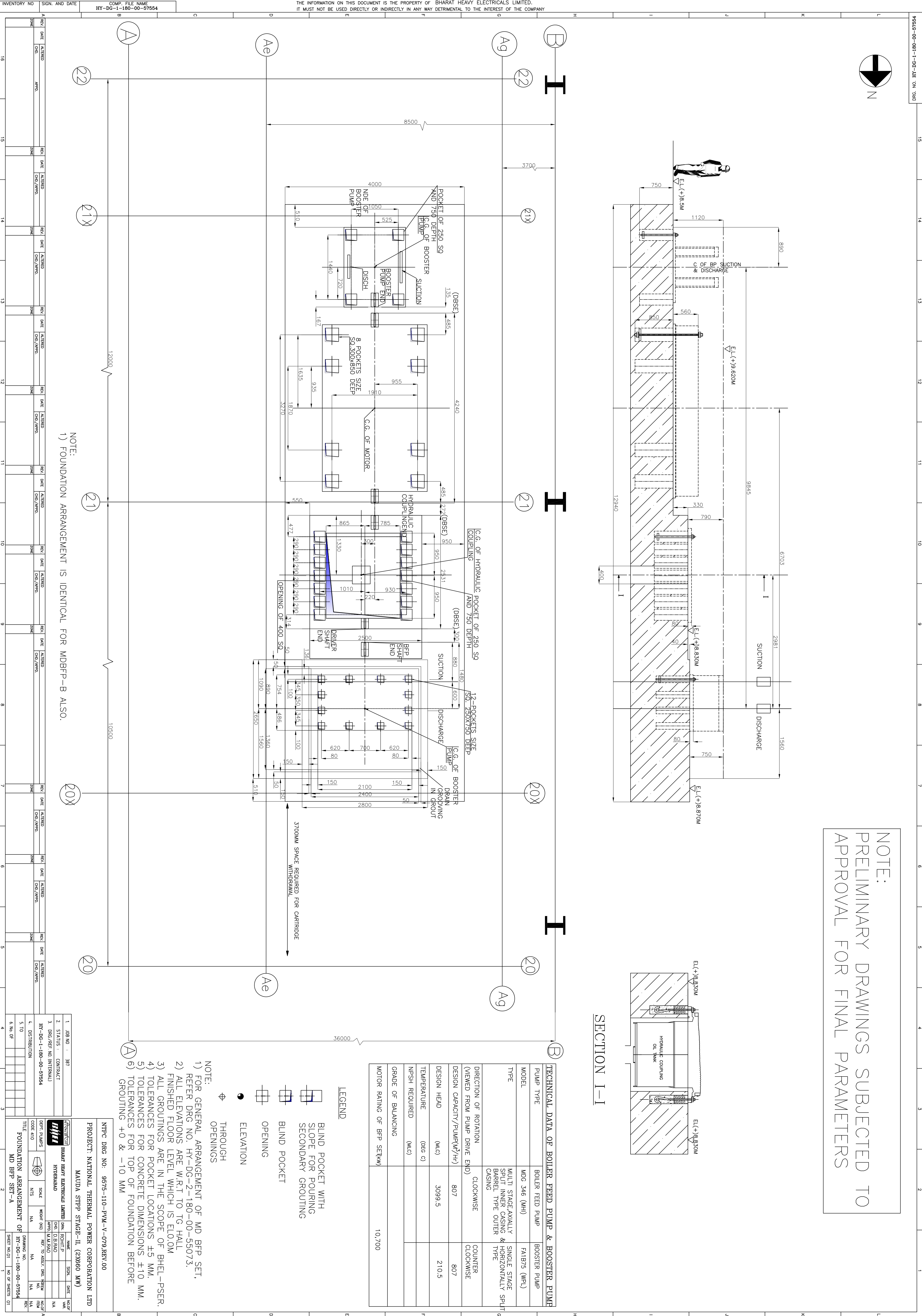
THROUGH OPENINGS

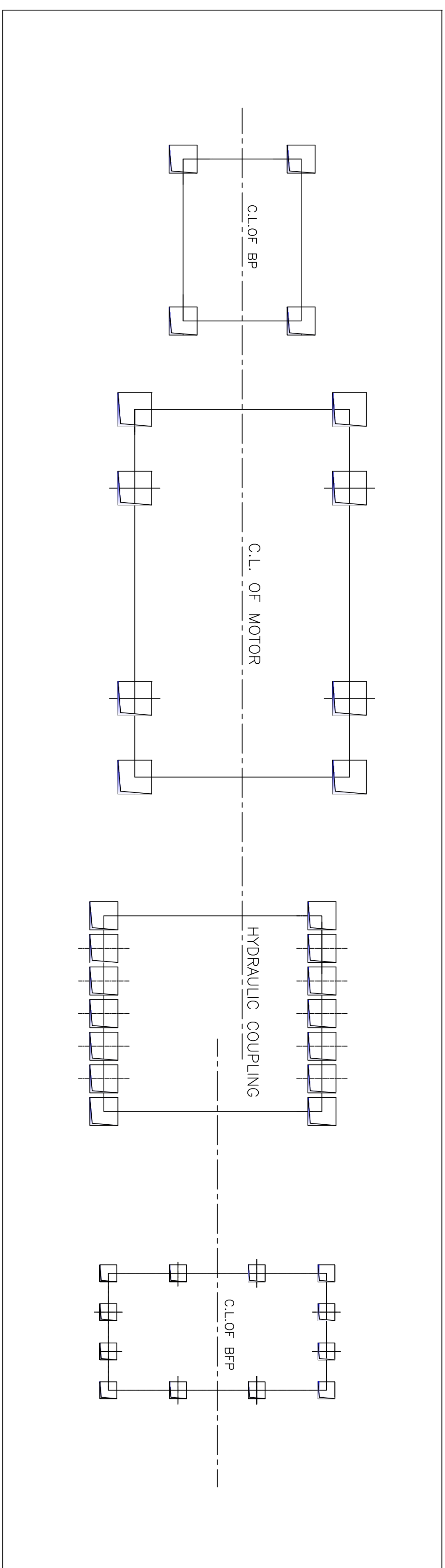
- NOTE:
- FOR GENERAL ARRANGEMENT OF MD BFP SET, REFER DRG NO. HY-DG-2-180-00-55073.
  - ALL ELEVATIONS ARE W.R.T TO TG HALL FINISHED FLOOR LEVEL WHICH IS EL0.0M
  - ALL GROUTINGS ARE IN THE SCOPE OF BHEL-PSEER.
  - TOLERANCES FOR POCKET LOCATIONS ±5 MM.
  - TOLERANCES FOR CONCRETE DIMENSIONS ±10 MM.
  - TOLERANCES FOR TOP OF FOUNDATION BEFORE GROUTING +0 & -10 MM

NTPC DRG NO: 9575-110-PVM-V-079,REV.00

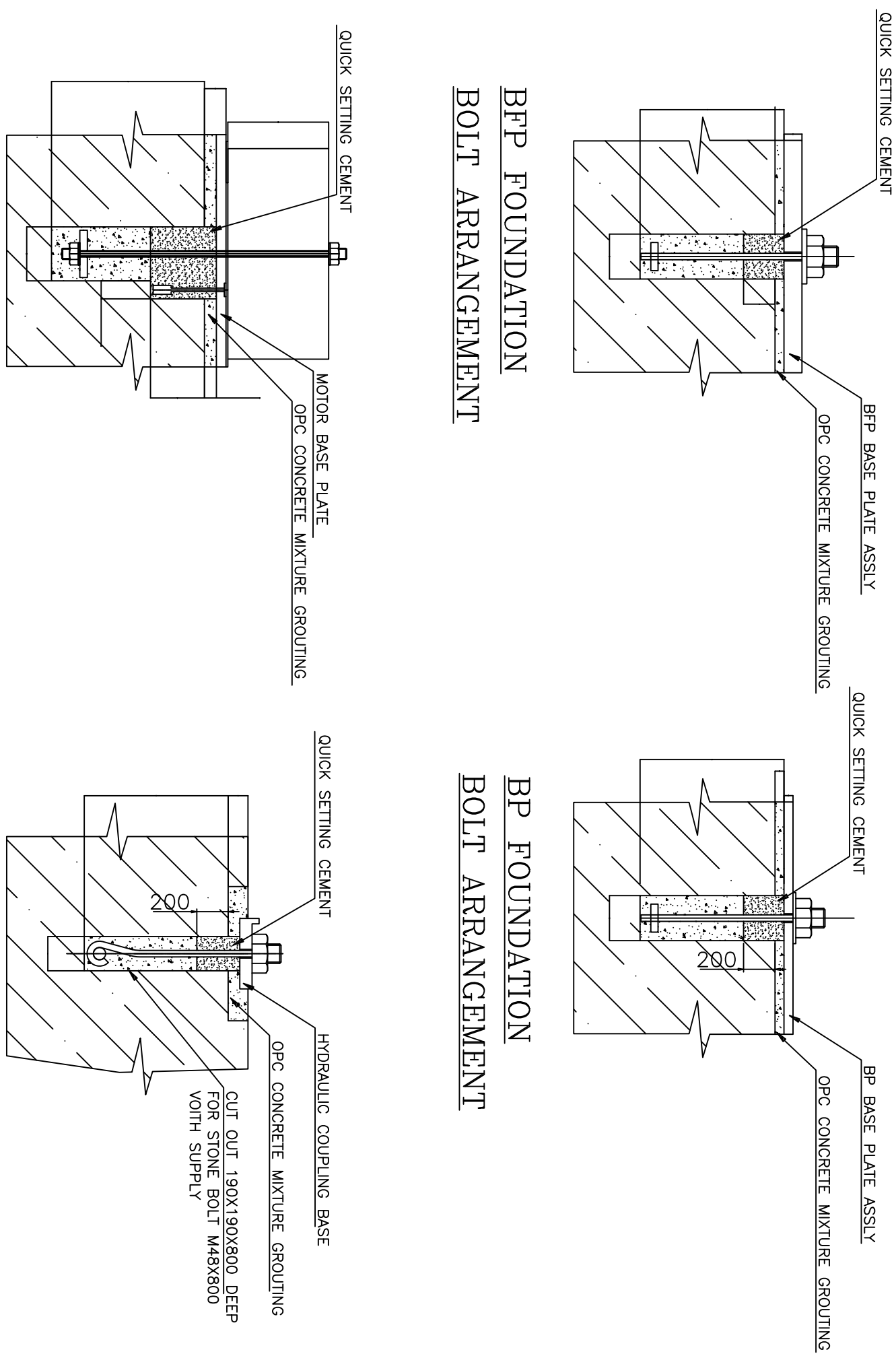
PROJECT: NATIONAL THERMAL POWER CORPORATION LTD  
MAUDA STPP STAGE-II. (2X860 MW)

1. JOB NO :	387	NAME	DATE	NO. OF
2. STATUS :	CONTRACT	DESIGNED		NA
3. DRG/REF. NO. (INTERNAL)		CHECKED		NA
HY-DG-1-180-00-57554		APPROVED		NA
4. DISTRIBUTION		SCALE	WORTH (60)	REF. TO ASSX. DRG. NO.
5. TO		CODE 410	NA	NA
6. NO. OF		TITLE	DRAWING NO.	NO. OF SHEETS
		FOUNDATION ARRANGEMENT OF MD BFP SET-A	HY-DG-1-180-00-57554	1





## LOAD POINTS FOR MDBFP SET



MOTOR FOUNDATION  
BOLT ARRANGEMENT

## HYDRAULIC COUPLING FOUNDATION

### BOLT ARRANGEMENT

	EQUIPMENT APPLICATION POINT	WEIGHT (Kgs)	STATIC LOADING ON EACH POINT (Kgs.)	ROTOR WEIGHT (Kgs)	DYNAMIC LOADING ON EACH POINT (Kgs)
1	BOILER FEED PUMP, P/TE BASE PLATE	17300	17300/6 = 2890	LATER	22950/6 = 3825
2	HYDRAULIC COUPLING	9300 (WITHOUT OIL) 11800 (WITH OIL)	3933	INPUT ROTOR =1970 PRIMARY ROTOR =505 SECONDARY ROTOR =460 OUTPUT ROTOR =305	Pt 2 1030 Pt 2a 920
5	MOTOR	23000	3850	6100	REFER NOTE-A
6	BOOSTER PUMP incl. BASE PLATE	4600	4600/4 =1150	280	1575/4 = 394

## FOUNDATION LOADING

MOTOR FOUNDATION LOADING DETAILS	
Reaction Due to Wt on Each Side (G)	= 209 KN
MAX Short circuit force (MS)	= 572 KN
Reaction Downward MS+G	= 781 KN
Reaction upward MS-G	= 363 KN

NOTE:
1-THE FORCES OCCUR ALTERNATELY INDEPENDENT OF THE DIRECTION OF ROTATION. (REFER LOADING ON FOUNDATION TABLE).
2-THE TRANSFER OF VIBRATIONS FROM SURROUNDING EQUIPMENT HAS TO BE AVOIDED BY SUITABLE LAYOUT OF FOUNDATION.
3-THE FIRST NATURAL FREQUENCY OF THE FOUNDATION AFTER ERECTION OF THE MACHINE MUST DIFFER ATLEAST +25% & -20%, FROM ONE & TWO TIMES RUNNING SPEED FREQUENCIES & TWO TIMES THE ELECTRICAL FREQUENCY

## SPEEDS AT OPERATING POINTS (RPM)

SPEEDS AT OPERATING POINTS (RPM)							
EQUIPMENT	DESIGN POINT 1	DESIGN POINT 2	RUN OUT POINT	BEP	EMERGENCY POINT	UNDER FREQ-1	UNDER FREQ-2
BFP	6105	6145	5135	5769	6145	6316	6265
BOOSTER PUMP	1495	1495	1495	1495	1495	1495	1495
MOTOR	1495	1495	1495	1495	1495	1495	1495
HYDRAULIC COUP. (INPUT SHAFT)	1495	1495	1495	1495	1495	1495	1495
HYDRAULIC COUP (OUTPUT SHAFT)	6105	6145	5135	5769	6145	6316	6265

GD <sup>2</sup> VALUES (KG-M <sup>2</sup> )	
BFP	21.9
BOOSTER PUMP	47.5
MOTOR	4800
HYDRAULIC COUP. INPUT SHAFT & PRIMARY PARTS	187.2
HYDRAULIC COUP. OUTPUT SHAFT & SECONDARY PARTS	532
REFERRED TO MOTOR SPEED.	

## LEGEND

BLIND POCKET WITH  
SLOPE FOR POURING  
SECONDARY GROUTING

BLIND POCKET

NOTE:  
PRELIMINARY DRAWINGS SUBJECTED TO  
APPROVAL FOR FINAL PARAMETERS

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED.  
IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

Plan view diagram of the motor foundation showing the layout of the motor, BFP, and hydraulic coupling. The diagram includes center lines (C.L.) for the motor, BFP, and hydraulic coupling, and shows the arrangement of bolts and grouting.

LOAD POINTS FOR MDBFP SET

FOUNDATION LOADING

EQUIPMENT APPLICATION POINT	WEIGHT (Kgs)	STATIC LOADING ON EACH POINT (Kgs.)	ROTOR WEIGHT (Kgs)	DYNAMIC LOADING ON EACH POINT (Kgs)
1 BOILER FEED PUMP incl. BASE PLATE	17300	17300/6 = 2890	LATER	22950/6 = 3825
2 HYDRAULIC COUPLING	9300 (WITHOUT OIL) 11800 (WITH OIL)	3933	INPUT ROTOR=19750 PRIMARY ROTOR=2505 SECONDARY ROTOR=460 OUTPUT ROTOR=305	Pt 2 1030 Pt 2a 920
5 MOTOR	23000	3850	6100	REFER NOTE-A
6 BOOSTER PUMP incl. BASE PLATE	4600	4600/4 =1150	280	1575/4 = 394

MOTOR FOUNDATION LOADING DETAILS

Reaction Due to Wt on Each Side (G) = 209 KN
MAX Short circuit force (MS) = 572 KN
Reaction Downward MS+G = 781 KN
Reaction upward MS-G = 363 KN

NOTE:

1-THE FORCES OCCUR ALTERNATELY INDEPENDENT OF THE DIRECTION OF ROTATION. (REFER LOADING ON FOUNDATION TABLE).  
2-THE TRANSFER OF VIBRATIONS FROM SURROUNDING EQUIPMENT HAS TO BE AVOIDED BY SUITABLE LAYOUT OF FOUNDATION.  
3-THE FIRST NATURAL FREQUENCY OF THE FOUNDATION AFTER ERECTION OF THE MACHINE MUST DIFFER ATLEAST +25% & -20%, FROM ONE & TWO TIMES RUNNING SPEED FREQUENCIES & TWO TIMES THE ELECTRICAL FREQUENCY

SPEEDS AT OPERATING POINTS (RPM)

EQUIPMENT	DESIGN POINT 1	DESIGN POINT 2	RUN	OUT POINT	BEP	EMERGENCY POINT	UNDER FREQ-1	UNDER FREQ-2
BFP	6105	6145	5135		5769	6145	6316	6265
BOOSTER PUMP	1495	1495	1495		1495	1495	1495	1495
MOTOR	1495	1495	1495		1495	1495	1495	1495
HYDRAULIC COUP. (INPUT SHAFT)	1495	1495	1495		1495	1495	1495	1495
HYDRAULIC COUP. (OUTPUT SHAFT)	6105	6145	5135		5769	6145	6316	6265

GD <sup>2</sup> VALUES (KG-M <sup>2</sup> )	
BFP	21.9
BOOSTER PUMP	47.5
MOTOR	4800
HYDRAULIC COUP. INPUT SHAFT & PRIMARY PARTS	1872
HYDRAULIC COUP. OUTPUT SHAFT & SECONDARY PARTS	532

LEGEND  
BLIND POCKET WITH SLOPE FOR POURING  
SECONDARY GROUTING  
BLIND POCKET

NOTE:  
PRELIMINARY DRAWINGS SUBJECTED TO APPROVAL FOR FINAL PARAMETERS

MOTOR FOUNDATION BOLT ARRANGEMENT

HYDRAULIC COUPLING FOUNDATION BOLT ARRANGEMENT

BFP FOUNDATION BOLT ARRANGEMENT

BP FOUNDATION BOLT ARRANGEMENT

KEY PLAN & CARTRIDGE REMOVAL SPACE OF MDBFP SET

NOTE:  
1. SPACE REQ FOR BP ROTOR WITHDRAWAL AND BFP CARTRIDGE WITHDRAWAL TO BE CLEAR OF ANY OBSTRUCTION (NO PIPING SHALL BE ROUTED IN THIS AREA) WHICH WILL RESTRICT ACCESS TO CRANE HOOK

NTPC DRG NO.:

NATIONAL THERMAL POWER CORPORATION LTD  
PROJECT MAUDA STPP STAG-B-II. (23860 MW)

1. JOB NO. : 387
2. STATUS : CONTRACT
3. DRG/REF. NO. INTERNAL
4. DISTRIBUTION
5. TO
6. No. OF

NAME : BHARAT HEAVY ELECTRICALS LIMITED	SCALE : NTS	WEIGHT (KG) : NA	DRAWING NO. : MD BFP SET-A	SHEET NO.02
DESIGNER : D.B.RAO	CHECKER : D.B.RAO	REF. TO DESIG. : DRG. NO. NA	NO. OF SHEETS : 02	
DATE : 16/07/2010	DATE : 16/07/2010	DATE : 16/07/2010	DATE : 16/07/2010	DATE : 16/07/2010