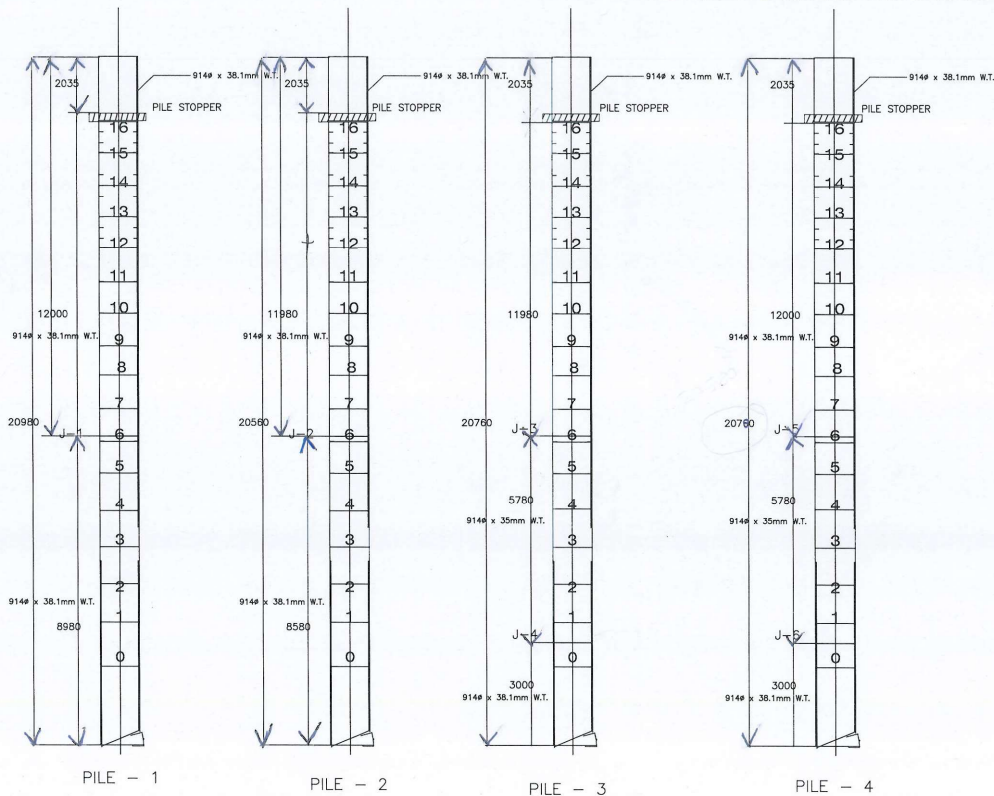


AS BUILT PILE WEIGHT CALCULATION						
SR NO	PILE NO	JOINT NOS	OD (MM)	THICKNESS (MM)	LENGTH (MTS)	WEIGHT- TONS
1	P1	P1-J1	914	38	20.98	17.973
2	P2	P2-J2	914	38	20.56	17.613
3	P3	P3-J3	914	35	5.78	4.561
4	P3	P3-J4	914	38	14.98	12.833
5	P4	P4-J5	914	35	5.78	4.561
6	P4	P4-J6	914	38	15	12.850
TOTAL TONNAGE OF PILES IN TONS						70.380



AS - BUILT PILE MAKE UP




#### NOTES

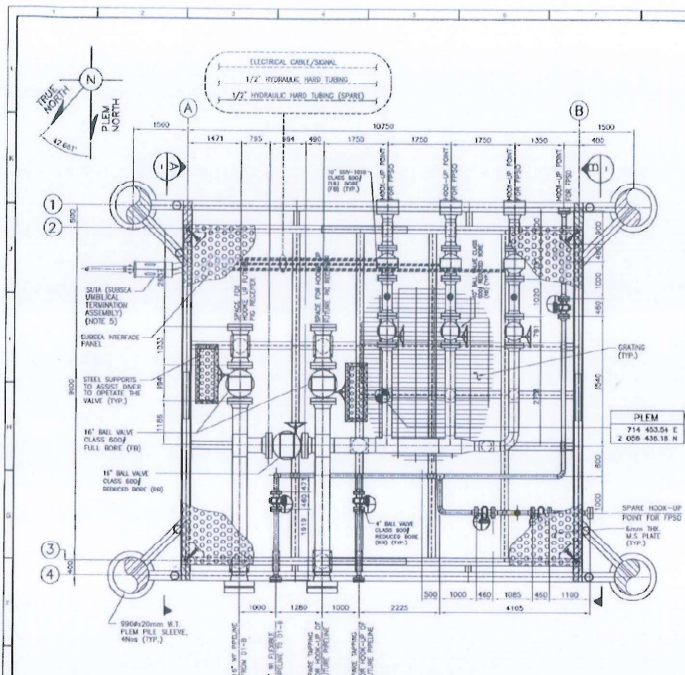
1. PILE MATERIAL SHALL BE API 2H GRADE 50 KSI OR EQUIVALENT.
2. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS ON PILE SHALL BE IN RED COLOR.
4. DESIGNED TARGET PILE MINIMUM PENETRATION IS 15m BELOW SEABED.
5. ESTIMATED WEIGHT OF EACH PILE IS 17.9 TONS.



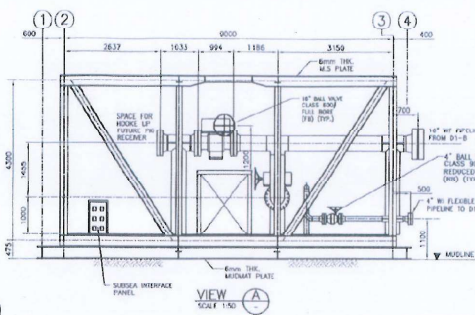
RINA  
OWP  
Pyada  
10/07/12

AS BUILT

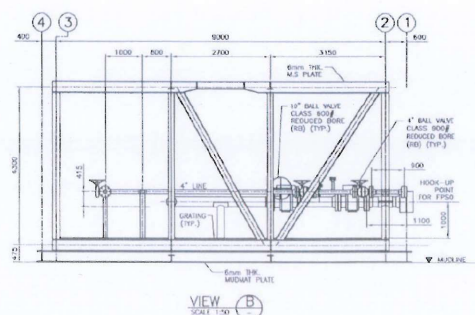
REFERENCE DRAWINGS/DOCUMENTS							
S.NO	DWG./DOC. NO.	REV.	TITLE				
1	72007-I-0104-00001	-	DRAWING INDEX				
2	72007-I-0104-00002	-	PILE GENERAL ARRANGEMENT				
3	72007-I-0104-00003	-	PILE BASE STRUCTURE DETAILS				
4	72007-I-0104-00004	-	PILE MAIN STRUCTURE DETAILS				
2	20.9.10	PLW	AS BUILT DRAWING	BY	YMF	MM	-
1	20.11.10	ISSUED FOR CONSTRUCTION		BY	YMF	MM	-
0	20.11.10	ISSUED FOR APPROVAL		BY	YMF	MM	-
B	20.9.10	FE- ISSUED FOR REVIEW		BY	YMF	MM	-
A	20.8.10	ISSUED FOR REVIEW		BY	SMT	MM	-
REV	DATE	DESCRIPTION		BY	CHKD	APPR	CONTR. APPR.
OWNER:							
							
OIL AND NATURAL GAS CORPORATION LTD.							
CONTRACTOR:							
							
ESSAR OFFSHORE SUBSEA LTD.							
ENGINEERING CONSULTANT:							
							
PROJECT:							
D-1 DEVELOPMENT PROJECT							
DWG. TITLE:							
PILE DETAILS- AS BUILT							
SCALE	DRAWING NUMBER			DWG. NO.	REV.		
AS SHOWN	72007-I-01104-ST011-00003			1	OF 1	2	



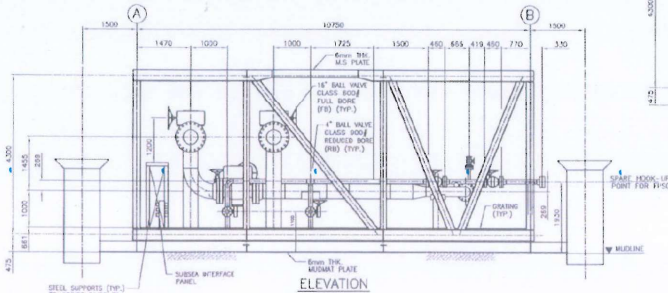
PLEM GENERAL ARRANGEMENT PLAN  
SCALE 1:50



VIEW A  
SCALE 1:50



VIEW B  
SCALE 1:50



ELEVATION  
SCALE 1:50

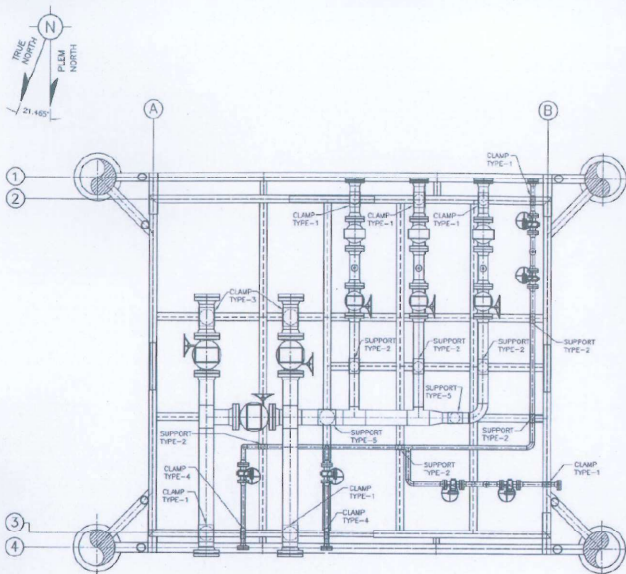
- NOTES
1. ALL 1" BALL VALVES SHALL BE CLASS 9000 (N.D.).
  2. ALL 1/2" BALL VALVES SHALL BE CLASS 9000 (N.D.).
  3. ALL 4" AND 6" BALL VALVES TO 1500 SHALL BE API 17D SWIRE FLANGES. ALL OTHERS SHALL BE TO API 605 B16.5 B1.6.
  4. SPOOL, PIPES SHALL BE ANCHORED TO THE PLATE STRUCTURE.
  5. THE DETAILS OF SUBSEA LUBRICANT TERMINATION ASSEMBLY IS BASED ON INTERFACE REQUIREMENT/RECOMMENDATIONS WITH DRUG/FITTED CANDIDATE. THE ROUTING OF THE HYDRAULIC HARD PIPING AND ELECTRICAL FLYING LEADS ARE INDICATIVE.

AS BUILT

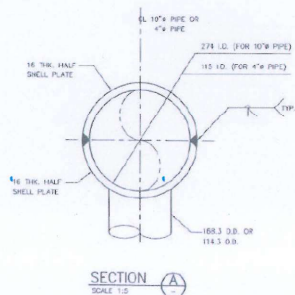


REV.	NO.	DESCRIPTION	BY	CHKD	APPD	DATE
1	1	ISSUED FOR CONSTRUCTION	WIR	WIR	WIR	-
2	2	ISSUED FOR APPROVAL	WIR	WIR	WIR	-
3	3	ISSUED FOR REVIEW	WIR	WIR	WIR	-
4	4	ISSUED FOR REVIEW	WIR	WIR	WIR	-

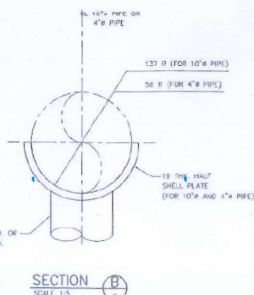
OWNER:	ESGAR
CONTRACTOR:	ESGAR OFFSHORE SUBSEA LTD.
ENGINEERING CONSULTANT:	INTECSEA
PROJECT:	D-1 DEVELOPMENT PROJECT
DRG TITLE:	PLEM GENERAL ARRANGEMENT AS BUILT
DATE:	72007-I-01104-S1012-00076
REVISION:	1 OF 1



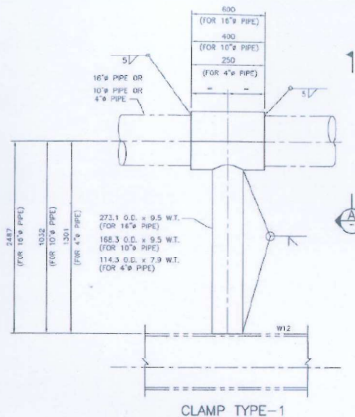
PIPE SUPPORT ARRANGEMENT PLAN  
SCALE 1:50



SECTION A  
SCALE 1:2



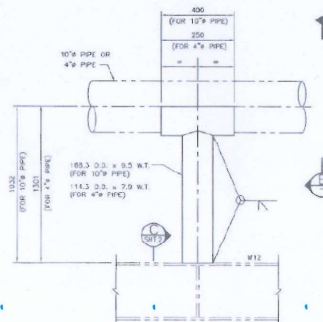
SECTION B  
SCALE 1:3



CLAMP TYPE-1

FOR 16-inch PIPE (QTY. = 2 NOS.)  
FOR 10-inch PIPE (QTY. = 3 NOS.)  
FOR 4-inch PIPE (QTY. = 2 NOS.)

SCALE 1:10



SUPPORT TYPE-2

FOR 10-inch PIPE (QTY. = 3 NOS.)  
FOR 4-inch PIPE (QTY. = 4 NOS.)

SCALE 1:10

# NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES (MM) UNLESS OTHERWISE SPECIFIED.
2. ALL STRUCTURAL STEEL MATERIALS SHALL BE ASTM A572 GR 50 OR EQUIVALENT UNLESS OTHERWISE SPECIFIED.

AS BUILT



## REFERENCE DRAWINGS/DOCUMENTS

S.NO.	DWG./DOC. NO.	REV. NO.	TITLE
1	72007-I-01104-P102-0000	1	WORKING INDEX
2	72007-I-01104-P102-0000	1	PIUM PIPING ARRANGEMENT
3	72007-I-01104-P102-0000	1	PIUM GENERAL ARRANGEMENT
4	72007-I-01104-P102-0000	1	PIUM BRIDGE STRUCTURE DETAILS
5	72007-I-01104-P102-0000	1	PIUM ANODE DETAILS
6	72007-I-01104-P102-0000	1	PIUM PIPING SUPPORT DETAILS
7	72007-I-01104-P102-0000	1	PIUM PIPING SCHEDULE
8	72007-I-01104-P102-0000	1	PIUM DETAILS

BY: 10/06/2012

DATE: 10/06/2012

DESCRIPTION: 10/06/2012

BY: 10/06/2012

DATE: 10/06/2012

DESCRIPTION: 10/06/2012

BY: 10/06/2012

DATE: 10/06/2012

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DATE: 10/06/2012

DESCRIPTION: 10/06/2012

BY: 10/06/2012

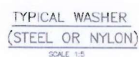
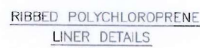
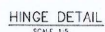
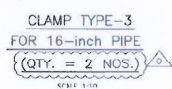
DATE: 10/06/2012

DESCRIPTION: 10/06/2012

BY: 10/06/2012

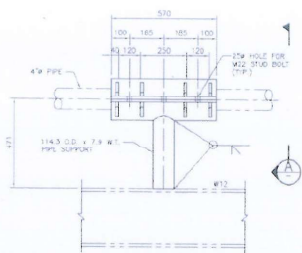
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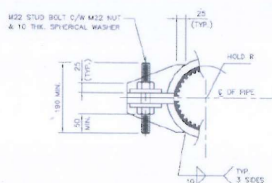


SCALE	DRAWING NUMBER	Sheet No.	TC
AS SHOWN	72007-1-D1104-ST012-00072	2 OF 3	02

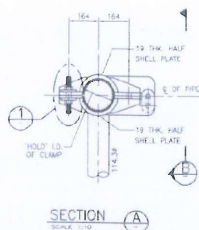




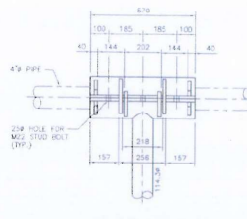
CLAMP TYPE-4  
FOR 4-inch PIPE  
(QTY. = 2 NOS.)  
SCALE 1:10



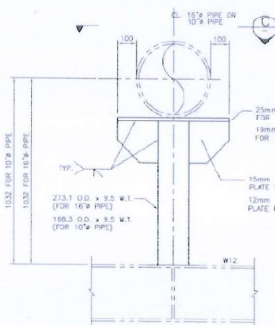
DETAIL  
SCALE 1:5



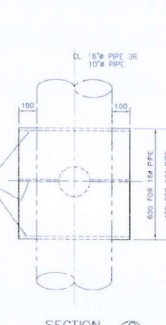
SECTION A-A  
SCALE 1:10



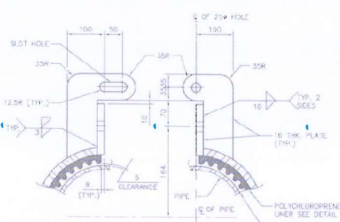
SECTION B-B  
SCALE 1:10



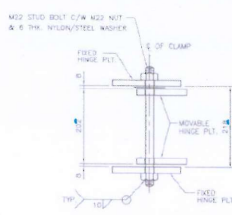
CLAMP TYPE-5  
FOR 10-inch PIPE (QTY. = 1 NO)  
FOR 16-inch PIPE (QTY. = 1 NO)  
SCALE 1:10



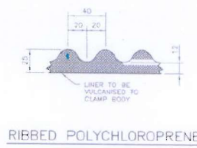
SECTION C-C  
SCALE 1:10



HINGE DETAIL  
SCALE 1:5



HINGE CONNECTION DETAIL  
SCALE 1:5



RIBBED POLYCHLOROPRENE  
LINER DETAILS  
SCALE 1:2



TYPICAL WASHER  
(STEEL OR NYLON)  
SCALE 1:5

- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES (MM) U.N.C.
  2. ALL STRUCTURAL STEEL MATERIALS SHALL BE A579 A577 OR 50 OR EQUIVALENT U.N.C.

AS BUILT



REFERENCE DRAWINGS/DOCUMENTS

S.NO	DOC./DOC. NO.	REV. NO.	TITLE
1	72007-I-01104-ST012-00001	1	DRAWING INDEX
2	72007-I-01104-ST012-00002	1	PLUM PIPING ARRANGEMENT
3	72007-I-01104-ST012-00003	1	PLUM GENERAL ARRANGEMENT
4	72007-I-01104-ST012-00004	1	PLUM SKID STRUCTURE DETAILS
5	72007-I-01104-ST012-00005	1	PLUM ANODE DETAILS
6	72007-I-01104-ST012-00006	1	PLUM PIPING SUPPORT DETAILS
7	72007-I-01104-ST012-00007	1	PLUM PIPING, SINKING
8	72007-I-01104-ST012-00008	1	PLUM DETAILS

OIL AND NATURAL GAS CORPORATION LTD.  
CONTRACTOR

ESSAR  
ESSAR OFFSHORE SUBSEA LTD.

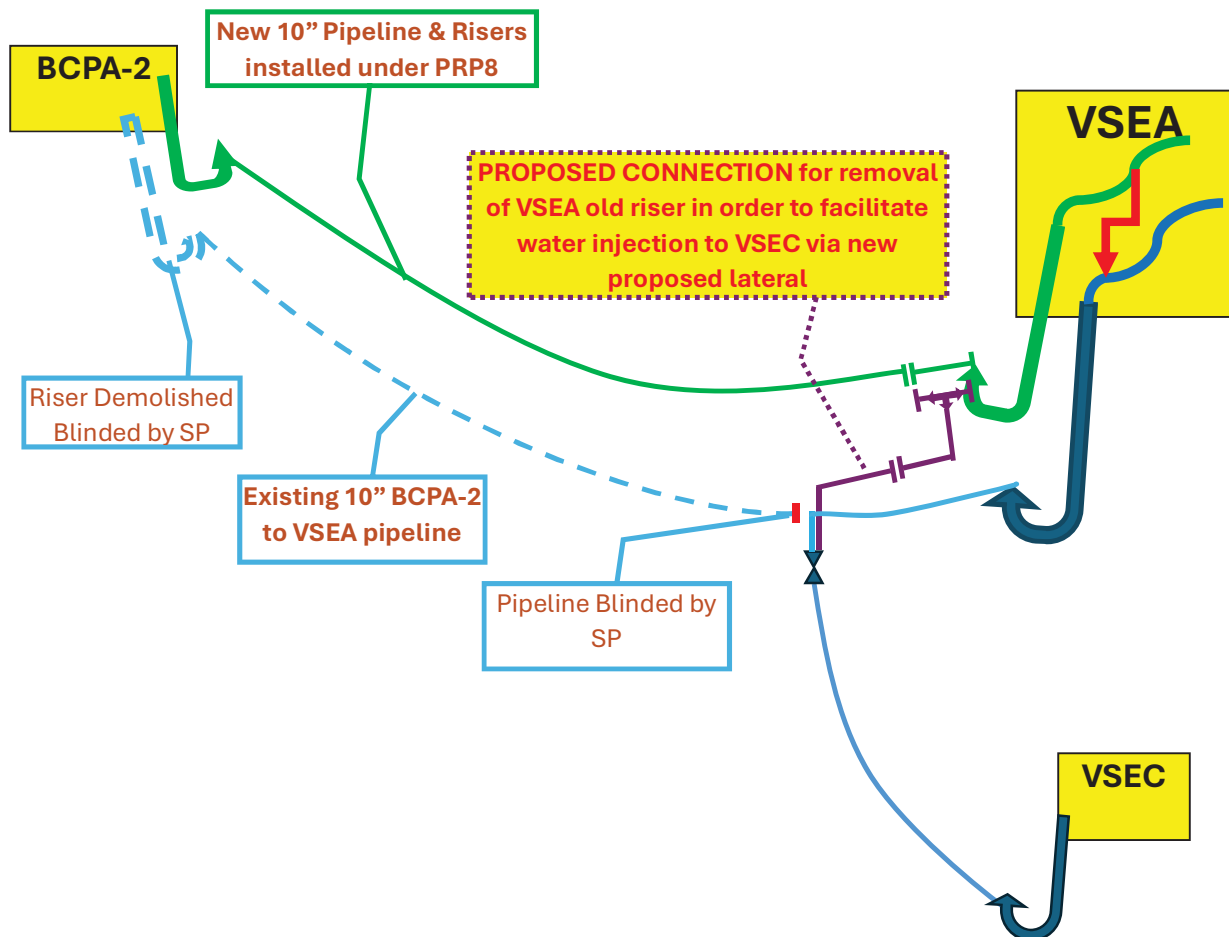
ENGINEERING CONSULTANT  
INTECSEA  
Working Partners Group

D-1 DEVELOPMENT PROJECT

PLUM PIPING SUPPORT DETAILS  
AS BUILT

REVISIONS  
REV. NO. DESCRIPTION BY CHKD APPR. DATE

72007-I-01104-ST012-00072 5 OF 5 02



# Summary of Comments on Microsoft Word - new proposal - 24-04-26

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Page: 1

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Number: 1      Author: 122423      Subject: Text Box      Date: 29/04/2026 14:28:48  
**Schematic Drawing of Proposed Tie in for tie in 10" WL-BCPA-2 to VSEA line to VSEC**  
**No. 71XX-EPEC-PL-3035    Rev.0**

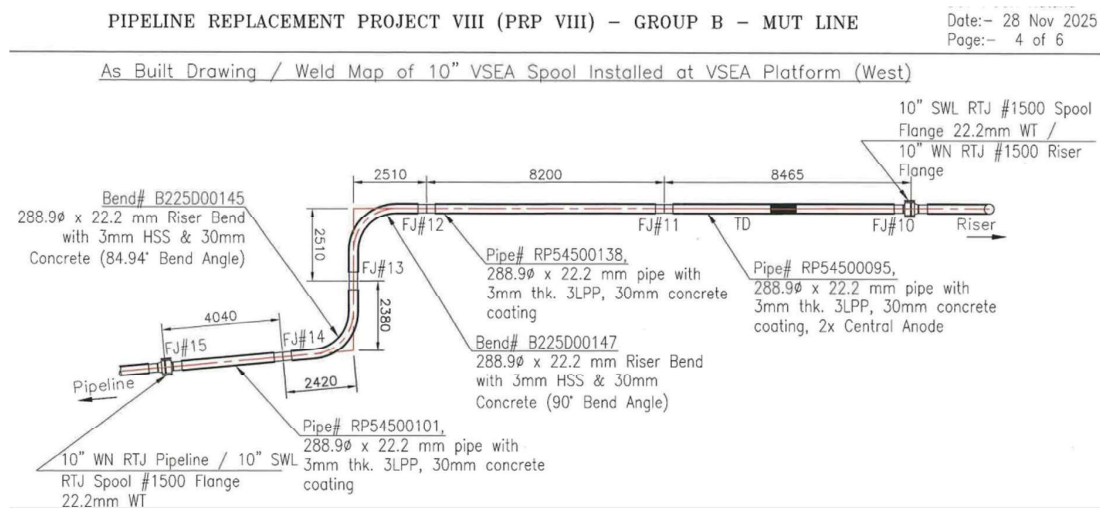
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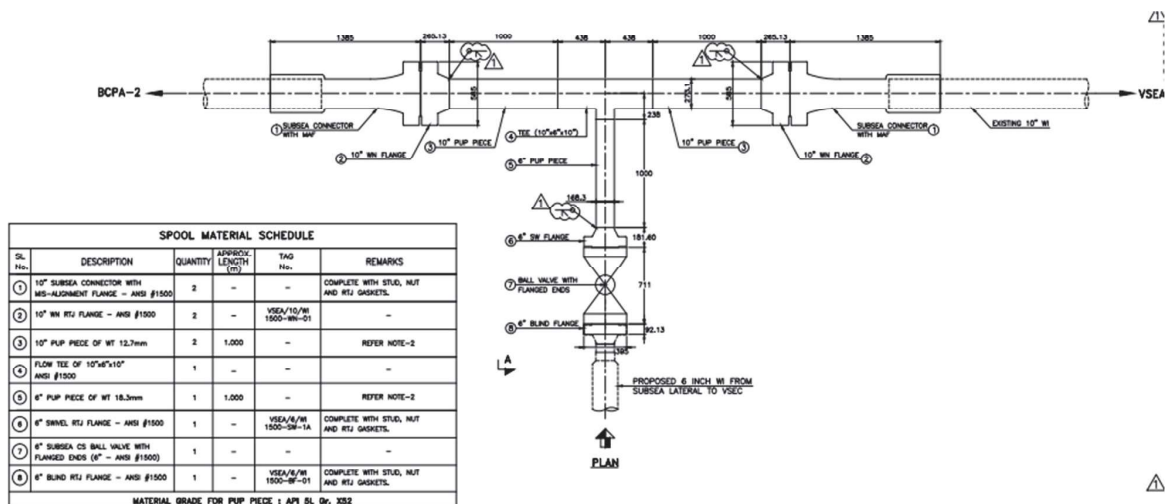
**MATERIALS:**

Sl No	Material	Size	MOC	Qty Required	Available Qty	Remarks
1	Pipe	6"	179.5 mm OD X 18.3 mm WT, 30 mm CWC coated	15 No.s	19 No.s	Bare pipe available at Jindal Coating to be done - 6 weeks
2	LR Bends	6"	90 degree - 2 45 degree - 1	2 No.s		To be fabricated & Coated - 6 weeks Lead time
3	Anode Pipe	6"	30mm thk, 18kg half shell bracelet Anodes	10 No.s		To be procured - 16 weeks Lead time
4	Swivel Flanges	6"	#1500, 6" OD ASTM A694 GR52 THK 18.3 MM WT	5 No.s	2 No.s	Balance material to be procured - 24 weeks Lead time
5	WN Flanges	6"	#1500, 6" OD ASTM A694 GR52 THK 18.3 MM WT	4 No.s	2 No.s	Balance material to be procured - 24 weeks Lead time
6	Gaskets	6"	R 46 OCTAGONAL RING KAMOS GASKETS	5 No.s	7 No.s	KAMOS not available - to be procured - 4 weeks Lead time
7	Fasteners	6"	1 3/8" 900mm long studs with 2 Nuts with Tommy Bar hole	60 No.s	96 No.s	
8	FLOW TEE	10"	#1500 class 10" x 10" x 6" Reducing Flow tee	1 No.s		To be procured - 16 weeks Lead time
9	Pipe	10"	288.9 mm OD X 22.2 mm WT API 5L X52	3 No.s	7 No.s	Bare pipe available at Jindal Coating to be done - 6 weeks
10	LR Bends	10"	90 degree - 1 85 degree - 1	2 No.s		To be fabricated & Coated - 6 weeks Lead time
11	Anodes	10"	30mm thk, 29kg half shell bracelet Anodes	2 No.s		To be procured - 16 weeks Lead time
12	Swivel Flanges	10"	#1500, ASTM A694 GR F52 288.9mm OD 22.2mm Thickness	2 No.s	2 No.s	
13	Gaskets	10"	R 54 OCTAGONAL RING KAMOS GASKETS	2 No.s	9 No.s	KAMOS not available - to be procured - 4 weeks Lead time
14	Fasteners	10"	1.875" 900mm long studs with 2 Nuts with Tommy Bar hole	24 No.s	30 No.s	

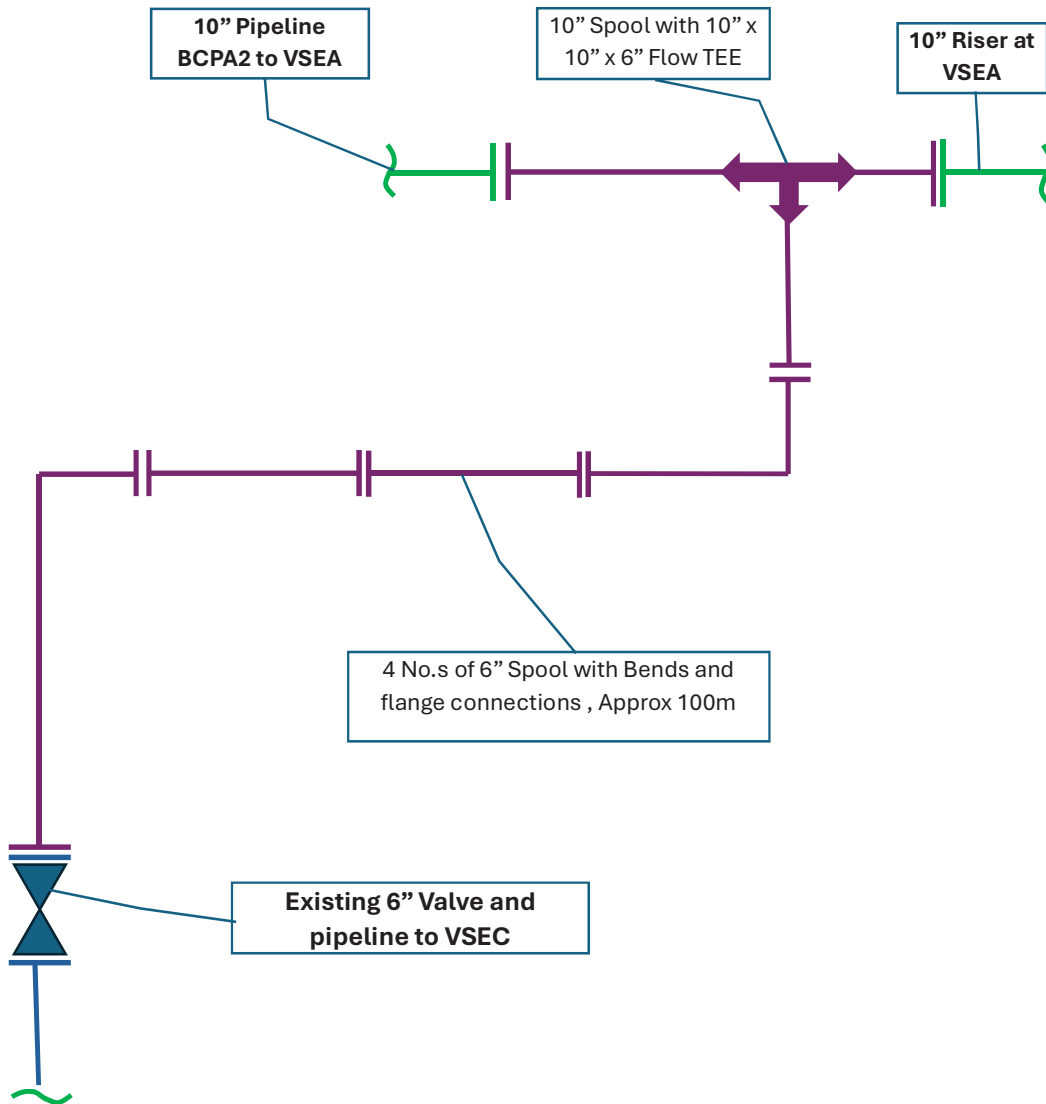
## AS BUILT – RISER SPOOL AT VSEA CONNECTION



## AFC – STAGE existing tie in spool drawing of VSEA – VSEC connection



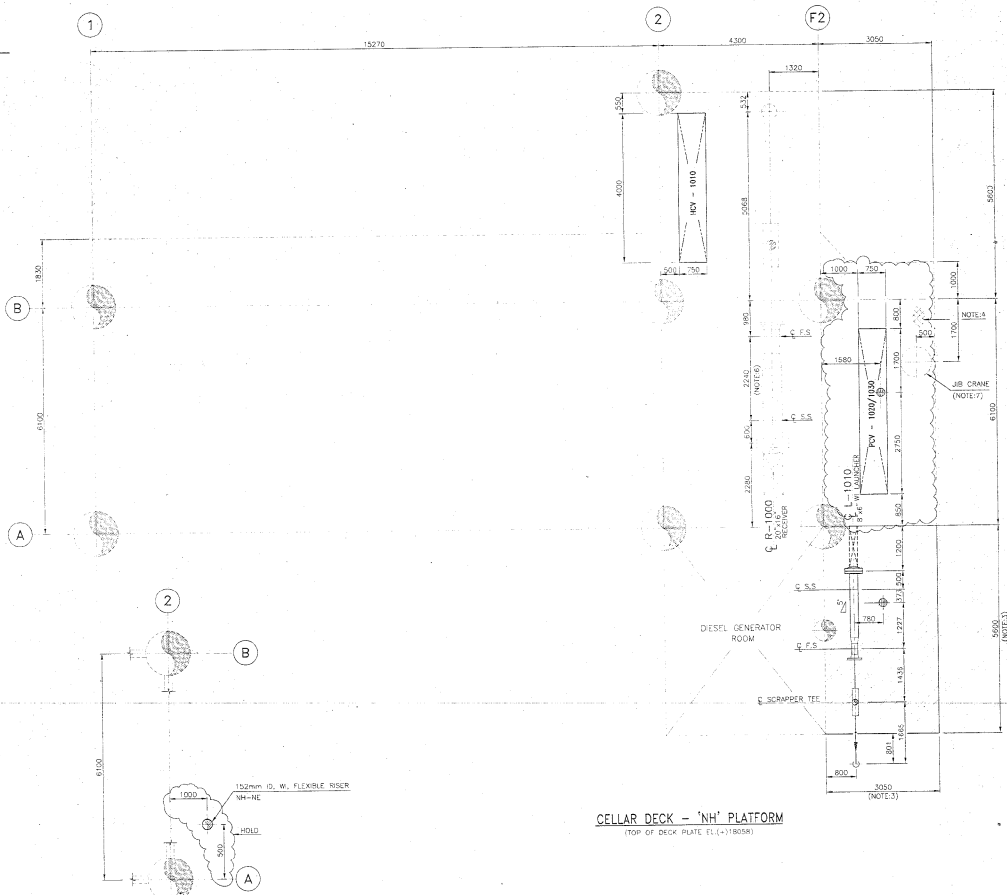
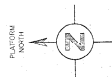
**PROPOSED CONNECTION for removal of VSEA old riser in order to facilitate water injection to VSEC via new proposed lateral – CASE 1 – existing Valve can be used**





9321-74-1-1002

DRIVING NUMBER



PARTIAL PLAN  
(TOP OF JACKET EL. (+1882))

CELLAR DECK - 'NH' PLATFORM  
(TOP OF DECK PLATE EL. (+1808))

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNTIL SPECIFICALLY CERTIFIED FOR THAT PURPOSE UNDER AN ISSUE

# NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING SHALL BE REFERRED TO AS THE 'NH' PLATFORM MODIFICATIONS.
3. THE DECK EXTENSION SHALL BE CONFINED WITH CHECKERED PLATE AND SHALL BE SUPPORTED WITH STRUCTURE TO ACCOMMODATE THE NEW FACILITY.
4. EXISTING CHECKERED PLATE SHALL BE REPLACED WITH NEW CHECKERED PLATE AS INDICATED IN THE CLOUSED AREA.
5. THE DIMENSIONS CONSIDERED FOR ALL EQUIPMENT ARE TENTATIVE & SHALL BE CONFIRMED AFTER RECEIPT OF FINAL VENDOR DATA.
6. EXISTING H-1000 ACCESSOR SHALL BE SHIFTED TOWARDS EAST BY A DISTANCE OF 300MM WITH REMOVAL OF 1ST SHOCK-TOOTH VALVE & WELLS AS PER BO DOCUMENT (REF. NO. BASC BO WORK VOL. No. 1, SPT. 9 OF 22).
7. JO CRANE SHALL BE REMOVED.

## LEGEND

---	EXISTING
---	PRESENT / NEW
T.O.P. EL.	TOP OF PLATING ELEVATION
T.O.G. EL.	TOP OF GRATING ELEVATION
S.S.	SLIDING SUPPORT
F.S.	FIXED SUPPORT
WI	WATER INJECTION
WF	WELL FLUID
[Pattern]	PLATING
[Pattern]	DECK EXTENSION
[Symbol]	OHD (OPEN HYDROCARBON DRAIN)
[Symbol]	ODD (OPEN DRAIN DECK)

## REFERENCE DRAWINGS/DOCUMENTS

S.No	DRG/DOC No.	Rev	Rev No	TITLE
1	2009-000-2002	1	1	EQUIPMENT LAYOUT - COLLAR DECK, 'NH' PLATFORM
2	7029-005-2008	0	0	150mm ID FLEXIBLE RISER LOCATION AS NH
3	9321-74-150	1	1	SPRING PRE-ENGINEERING SURVEY REPORT

APPROVED FOR CONSTRUCTION	DATE	15.06.04
ISSUED FOR CLIENT COMMENTS	SPE	15.06.04
REV.	DESCRIPTION	DRN CHNG APPD DATE

ONGC(OH) ONCC(OH) VMCL VALDEL

OIL & NATURAL GAS CORPORATION LTD.

VALENTINE MARITIME (GULF) LLC

VALENTINE MARITIME LIMITED (VMGL-VMGL CONSORTIUM)

ENGINEERS & CONSTRUCTORS

10, P. P. Road, Bangalore-560 025

10, P. P. Road, Bangalore-560 025

10, P. P. Road, Bangalore-560 025

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10, P. P. Road, Bangalore-560 025

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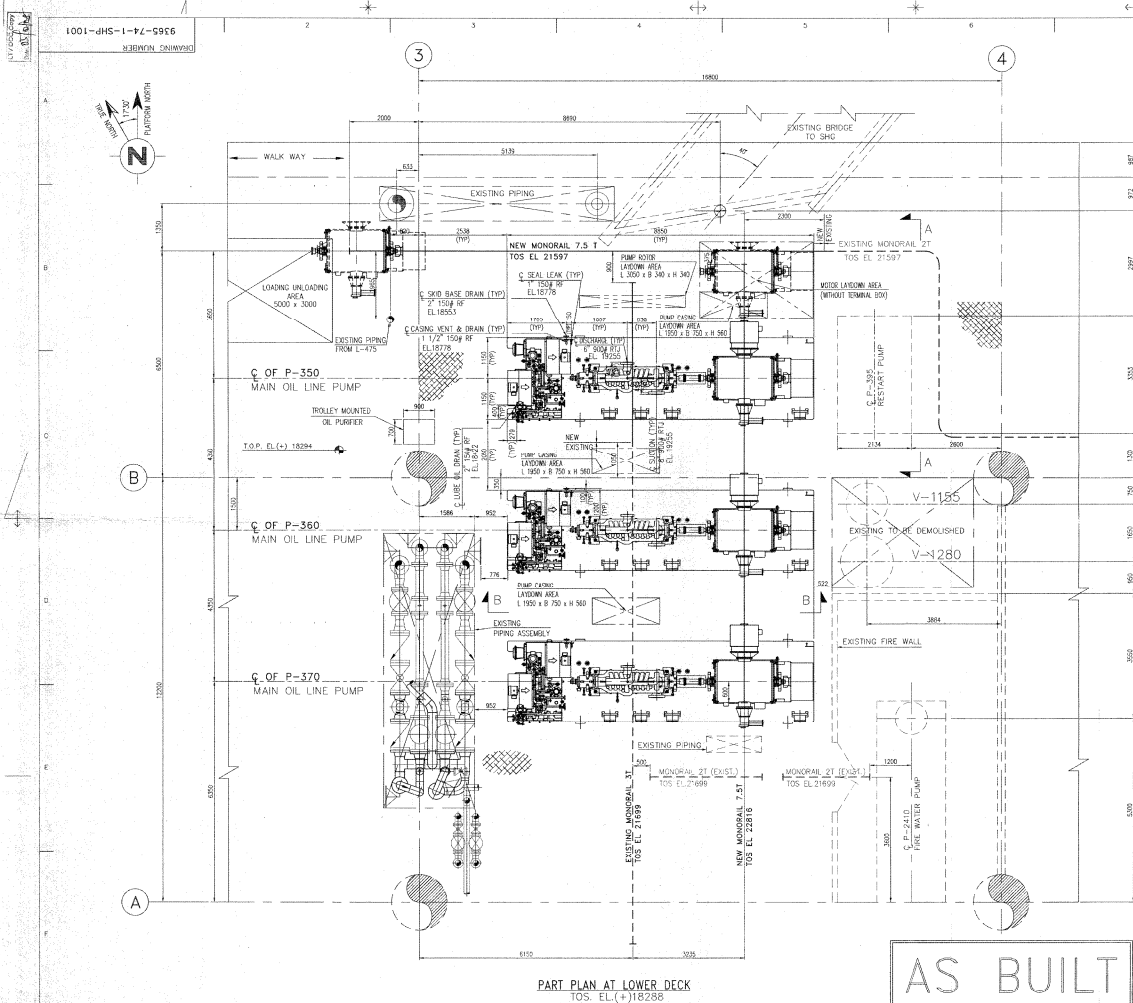
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10, P. P. Road, Bangalore-560 025

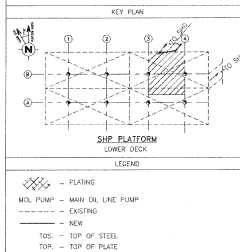
10, P. P. Road, Bangalore-560 025

10, P. P. Road, Bangalore-560 025



THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SPECIFICALLY CERTIFIED FOR THAT PURPOSE UNDER AN ISSUE.

- NOTES**
1. ALL DIMENSIONS & ELEVATIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
  2. THIS DRAWING SHALL BE REFERENCED FOR THE SHP PLATFORM MODIFICATION COVERED UNDER THE "SH-RC" PROJECT.



**REFERENCE DRAWINGS/DOCUMENTS**

S.No	DRG/DOC. No.	Rev	TITLE
1	SHF-020-152		SHP PLATFORM EQUIPMENT LOCATION
2	SHF-030-013		PIPELINE PLAN, EAST QUARTER, LOWER DECK
3	SHF-030-014		PIPELINE PLAN, EAST QUARTER, BELOW MIDDLE DECK, SHP PLATFORM
4	SHF-030-017		PIPELINE PLAN, EAST QUARTER, LOWER DECK, SHP PLATFORM
5	SHF-030-018		PIPELINE PLAN, EAST QUARTER, LOWER DECK, SHP PLATFORM
6	SHF-51-2-SHP-201103		PIPELINE PLAN, EAST QUARTER, LOWER DECK, SHP PLATFORM
7	PUF12200243		PIPELINE PLAN, EAST QUARTER, LOWER DECK, SHP PLATFORM
8	8271-00-16-43-1031		EQUIPMENT LOCATION MOL PUMPS (BIO PACKAGE)

REV	DESCRIPTION	DRN	CHKD	APPD.	DATE
1	AS BUILT	PM	KDS	DK	29.01.08
2	REISSUED AS MARKED	PM	KDS	DK	31.03.08
3	APPROVED FOR CONSTRUCTION	SPS	BR	DK	31.08.05
4	ISSUED FOR APPROVAL	KRS	VGR	DK	18.08.05

LTV L&T EIL ONGC

**OIL AND NATURAL GAS CORPORATION LIMITED**  
INDIA

**ENGINEERS' INDIA LIMITED, NEW DELHI.**

**LARSEN & TOUBRO LIMITED (MFF)**  
HAZIRA

**WALDE**  
L&T Walde Engineering Private Limited  
19, Phoenix Road, Bangalore-560 025

**TITLE : SH COMPLEX-RECONSTRUCTION (SHRC) PROJECT**  
EQUIPMENT LAYOUT (MOL PUMPS)  
SHP PLATFORM-LOWER DECK

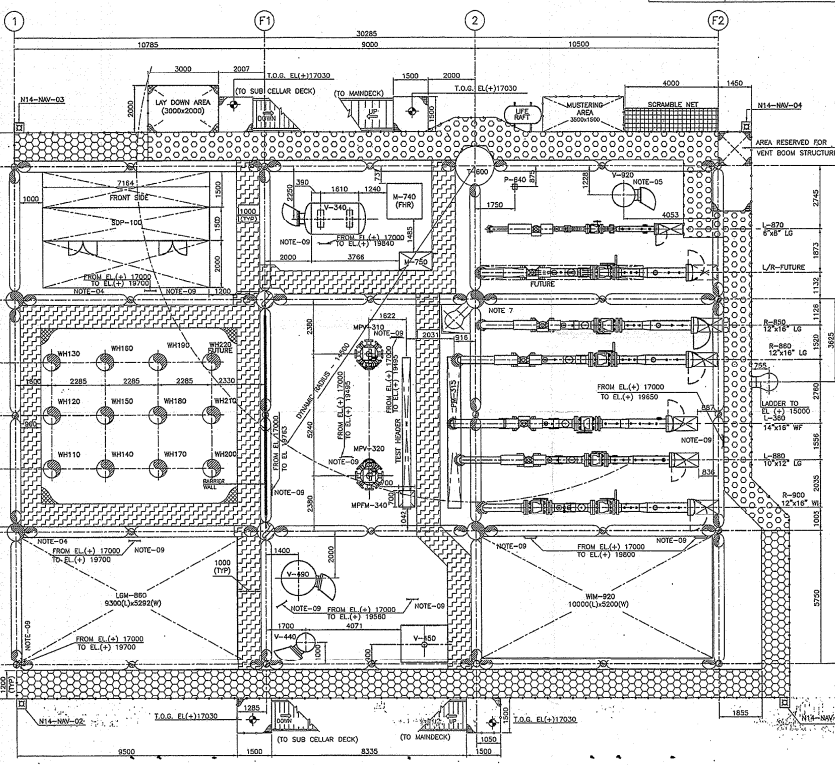
SCALE	DRAWING NUMBER	REV
1:50	9365-74-1-SHP-1001 SH, 1 OF 2	2





EQUIPMENT LIST		
EQ. TAG	DESCRIPTION	DIMENSIONS (LxWxH)
LGM-560	LIFT GAS MANIFOLD	5300 x 5292
MM-220	WATER INJECTION MANIFOLD	10500 x 1550
PSIP-115	PROBATION HEATER	2400 x 2400
SPC-160	SHUTDOWN PANEL	7164 x 1500 x 2000
V-240	BLOWDOWN/HELL ACTIVATION VESSEL	14000(0) x 2000(7) / 7164 x 2400
V-240	QUEST TRANSFER FLUMP	2400 x 2400 x 254
N14-NM1-01	NAVIGATION AIR LATTEN	4200(L) x 4200(W) x 800(H)
N14-NM1-02	NAVIGATION AIR LATTEN	4200(L) x 4200(W) x 800(H)
N14-NM1-03	NAVIGATION AIR LATTEN	4200(L) x 4200(W) x 800(H)
N14-NM1-04	NAVIGATION AIR LATTEN	4200(L) x 4200(W) x 800(H)

EQ. TAG	DESCRIPTION	DIMENSIONS (Lx)
MPV-516 MPV-520	MULTIPOINT WELT	
MPV-340	MAK PASSAGE FLOW METER	
MPV-340	FORM ROSE REEL	1500 x 1500
W-750	DOF SKID	1800 x 800 x 1800
R-500	CHARGE WATER TANK	1875 x 2100
R-500	WATER INJECTION REVERSER 12"x18"	3350 x 1200
R-500	LIFT GAS REVERSER 12"x18" (FROM M15)	3350 x 1200
R-500	LIFT GAS REVERSER 12"x18" (TO M15)	3350 x 1200
R-580	LIFT GAS LAUNCHER 10"x18" (TO M17)	3350 x 1200
R-580	LIFT GAS LAUNCHER 10"x18" (TO M17)	3350 x 1200
Y-7-FUTURE	LAUNCHER FUSEUR TOW	
Y-7-FUTURE	LIFT GAS LAUNCHER 5"x18" (TO R18)	2490 x 1200
Y-7-FUTURE	HEAVY FLUID LAUNCHER 14"x18" (TO NO2)	3200 x 1200
V-600	NO2 SUPPLY PUMP	2000 x 1500 (LxW)
V-600	INSTRUMENT GAS RECEIVER	2000 x 1500 (LxW)
V-600	WATER FILTER ASSEMBLY (SKID)	2000 x 1500 (LxW)
V-600	NO2 SUPPLY PUMP	2000 x 1500 (LxW)











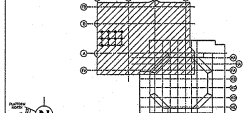
CELLAR DECK  
T.O.S. FL. (1) 17000

[illegible]



- FILE #191-11541-1154-2-1-COMPLETE-2
- NOTES:
01. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
  02. ALL ELEVATIONS ARE WITH RESPECT TO CHART DATUM.
  03. ALL REFERENCE DOCUMENTS/DRAWINGS SHALL BE OF LATEST REVISION.
  04. CURRENT WELL DRILLING OPERATION PROVIDE TYPICAL PROTECTION BETWEEN GRID B-148-F1 AND A-144-F1 ELEVATION TO 1000MM ABOVE THE PROPOSED WELLSHED DRILLING MUD CORRODING THE EQUIPMENT & PIPING.
  05. GROUND SEAL PUT IS HUNG FROM MAIN DECK AND THEIR ELEVATION SHALL BE 1000MM ABOVE THE PROPOSED WELLSHED.
  06. WIDTH OF PRIMARY ESCAPE ROUTE SHALL BE 1200 MM (MINIMUM) AND WIDTH OF SECONDARY ESCAPE ROUTE SHALL BE 1000MM.
  07. REMOVABLE HATCH TO ACCESS THE EMERGENCY ESCAPE LADDER.
  08. ALL EQUIPMENT LOCATIONS SHALL BE FINALIZED AFTER SAFETY STUDY.
  09. LADDER TO ACCESS PLATFORM.
  10. ESCAPE ROUTES SHALL BE CLEARLY INDICATED & PAINTED WITH LIGHT GREEN COLOR AND MARKED WITH YELLOW LUMINOUSCH ARROWS.
  11. ALL ESCAPE ROUTES SHALL BE CLEAR HEIGHT UP TO 2.2 M (MINIMUM).

LEGEN

- | LEGEND   |  |
|--|--|
| T.O.P EL. TOP OF PLATING ELEVATION   |  GRATING                        |
| T.O.G EL. TOP OF GRATING ELEVATION   |  PLATING                        |
| T.O.S EL. TOP OF STEEL ELEVATION   |  HOLD                           |
| C. EL. CENTER LINE ELEVATION   |  PRIMARY ESCAPE ROUTE (GRATING) |
|  SAFETY NET                       |  SCRAMBLE NET                   |
|  PRIMARY ESCAPE ROUTE (PLATING)   |  |
|  SECONDARY ESCAPE ROUTE (PLATING) |  |



REFERENCE DRAWINGS/DOCUMENT	

S.No	ONG-OGC No.	TITLE
01	COIWD992-74-11 N14-1003	EQUIPMENT LAYOUT FOR - N14 PLATFORM MARIN DECK (a) 2322000
02	COIWD992-74-11 N14-1001	EQUIPMENT LAYOUT FOR - N14 PLATFORM SUB CELL RECK (a) 14000, ABOVE CELL (a) 7600
03	COIWD992-74-11 N14-1004	EQUIPMENT LAYOUT FOR - N14 PLATFORM ABOVE MARIN DECK (a) 28000
04	COIWD992-51-11 N14-2000 TO 2003	DRIVING & INSTRUMENTATION DIAGRAM N14-PLATFORM.
05	COIWD992-74-11 N14-1502	AREA CLASSIFICATION DRAWING OF CELLAR DECK N14-PLATFORM.
07	COIWD992-74-11 1001-1002, 1003, 1004, 1005-1006, 1007, 1008	EQUIPMENT LAYOUT FOR - N14 PLATFORM OPENING / ACCESS AREA (a) 19000-20000
APPROVED		
		
L&T	ONGC-OD	ONGC-OW

[illegible]

0	ISSUED FOR CLIENT APPROVAL	SS	YP	UK	JR	18/05/11
02	REISSUED FOR CLIENT COMMENT	SS	N3K	UK	JR	13/05/11

C1	ISSUED FOR CLIENT COMMENTS	CSL	ARV	UK	JR	05/04/11
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REV	DESCRIPTION	ORN	CHKO	APPO	PM	DATE
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 OIL & NATURAL GAS CORPORATION LTD.
**ONGC**
**INDIA**

EPC CONTRACTOR  
LARSEN & TOULDO LIMITED



LARSEN & TOUBRO LIMITED  
E&C UPSTREAM, MUMBAI

ENGINEERING CONSULTANT


**VALDEL**  
 Valdel Engineering Limited

19, Princess Road, Bangsore-600 025

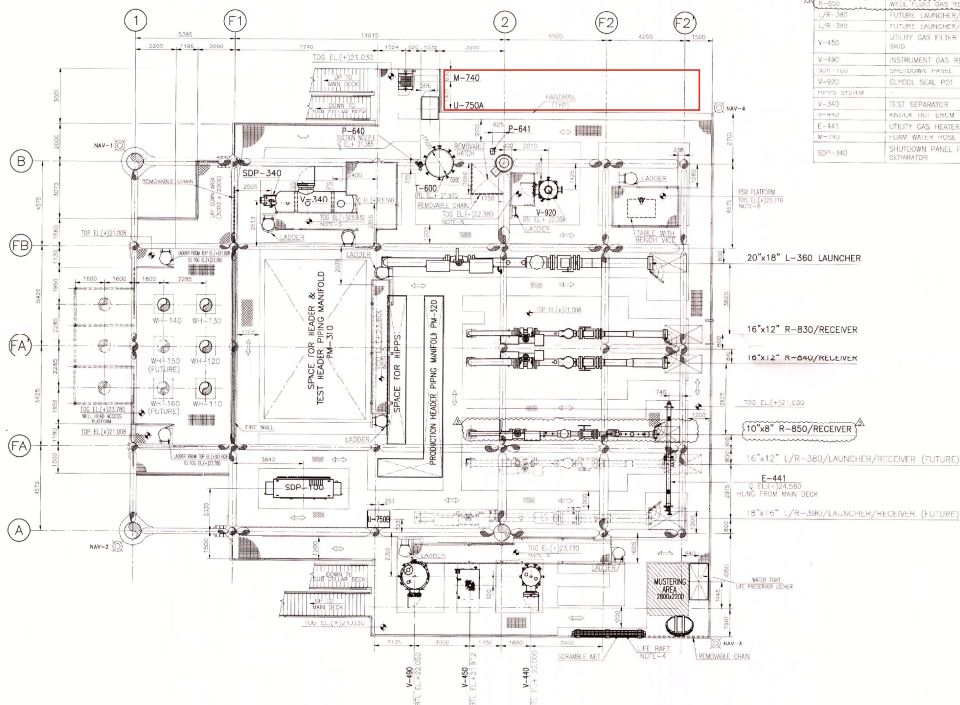
PROJECT: 04 WELL PLATFORMS FOR WINN-RE-DEVELOPMENT PROJECT

EQUIPMENT LAYOUT FOR-N14 PLATFORM  
CELLAR DECK - EL (+) 17000

CELLAR DECK - EL(7) 17000	
COALS	1.75
TOTAL NO. OF SMYS 1 OF 2	

SCALE: 1:5	TOTAL NO. OF SHEETS: 1 OF 2
DRAWING NUMBER COWORD222-74-1-N14-1002	REV 0

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	52
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THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SPECIFICALLY CERTIFIED FOR THAT PURPOSE UNDER AN ISSUE

[illegible]

LEGEND			
	PRESTRESS EQUIPMENT		TOP OF STEEL ELEVATION
	PAVING		TOP OF DRATED ELEVATION
	FINISH		TOP OF FINISH ELEVATION
	REMOVABLE CHAN.		BTL. BOTTOM TAN LINE
	SHADING		C. CL. CENTER LINE ELEVATION
	CHEQUERED PLATE		
	ACCESS WAY		
	SOLAR PANEL		
	NET		
	OUTCUT		

HOLD

Q2	DGP-APS-812-11-PP-DRW-1103	2	EQUIPMENT LAYOUT FOR MAIN DECK
Q1	DGP-APS-812-11-PP-DRW-1101	3	EQUIPMENT LAYOUT FOR SUB-DECK DECK

S/N	DRG/DOC. No.	REV	TITLE
REFERENCE DRAWINGS/DOCUMENTS			
3	ISSUED FOR CONSTRUCTION	S4	MEN MNG PWP 19/04/14
2	ISSUED FOR CONSTRUCTION	S4	MEN MNG PWP 01/04/14
1	ISSUED FOR CONSTRUCTION	S4	MEN MNG PWP 08/04/14
0	ISSUED FOR CONSTRUCTION	S4	MEN MNG PWP 03/11/13
A	ISSUED FOR APPROVAL	S2	ASD MNG PWP 25/08/13

REV.	DESCRIPTION	REV STATUS	DRWN	CHKD	APPR	DATE
	<i>Hoodman</i> 13/01/13 NVS	<i>Pell</i> 20/01/13 S.T	<i>Meisinger</i> 21/01/13 APR		<i>Pell</i> 22/01/13 R-SP4	
AKER SOLUTIONS	PISC	CMSC-OP			CMSC-OP	

PTSC	ONGC-GB	ONGC-OW
OIL AND NATURAL GAS CORPORATION LIMITED INDIA		
PTSC MECHANICAL & CONSTRUCTION (PTSC M&C)		



**Aker Solutions™**  
 Aker Solutions P.O. Ltd.


PROJECT: DAMAN DEVELOPMENT PROJECT-FABRICATION

TITLE : EQUIPMENT LAYOUT FOR  
CELLAR DECK

812-11

SCALE	DRAWING NUMBER	REV
1-100	EDS 120 010 11 010 000 1-100	1

1:100	DDP-APG-B12-11-PIP-DRW-1102	3
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**INDIA LIMITED**  
INCORPORATED IN INDIA

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APPROVED	
O.N.G.C. (OFFSHORE DESIGN)	O.N.G.C. (OFFSHORE WORKS)
DATE:-	DATE:-

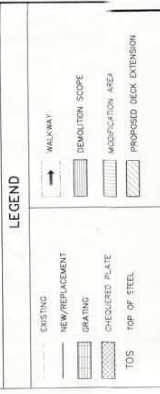
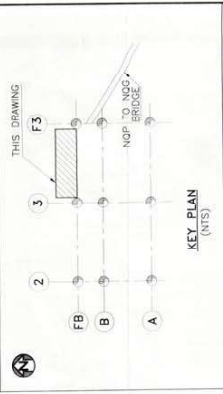


CELLAR DECK  
TOP OF DECK EL. 18000





- NOTES
- 1) ALL DIMENSIONS & ELEVATION ARE IN MM UNLESS OTHERWISE SPECIFIED.
  - 2) LAUNCHER SHALL HAVE 5° SLOPE IN THE DIRECTION OF FLOW.
  - 3) RISER LOCATION IS SHOWN AT JACKET LEVEL ELEVATION.
  - 4) EXISTING MATERIAL HANDLING PHILOSOPHY TO BE FOLLOWED.
  - 5) PORTABLE DRUG PARTS TO BE USED FOR SPLURGE CONTAINMENT.
  - 6) ANY CHANGES DURING PRE-ENGINEERING SURVEY REPORT APPROVAL SHALL BE INCORPORATED.
  - 7) LOCAL STRUCTURAL ANALYSIS SHALL BE DONE FOR ALL DECK EXTENSIONS.



HOLD

SNo	DRG/DOC. No.	Rev.	TITLE
33	CON-0903-SK-1-307	02	NGP PLATFORM - LOCATION OF 12" GL RISER & RISER CLAMPS
32	C1100-MOD-NDP-RP-1009	0	PRE-ENGINEERING SITE SURVEY REPORT FOR NGP PLATFORM
31	C1100-MOD-NDP-RP-2063	0	PRE-ENGINEERING SITE SURVEY REPORT FOR NGP PLATFORM

REFERENCE DRAWINGS/DOCUMENTS

REV	DESCRIPTION	REV	DRN	CHKD	APPD.	DATE
X	AS BUILT COMMISSIONING	56	1/2/2015	1/2/2015	20.04.12	
1	REVISED AS CLOUD MARKED	54	1/2/2015	1/2/2015	20.02.11	
0	ISSUED FOR CONSTRUCTION	54	1/2/2015	1/2/2015	23.12.10	
A	ISSUED FOR CLIENT'S APPROVAL	52	1/2/2015	1/2/2015	26.11.10	

APG	SWIBER	ONGC-OD	ONGC-OW
OWNER : OIL AND NATURAL GAS CORPORATION LIMITED INDIA			
CONTRACTOR : Swiber Offshore Construction Pte Ltd			
CONSULTANT : Aker Powergas Pvt. Ltd.			

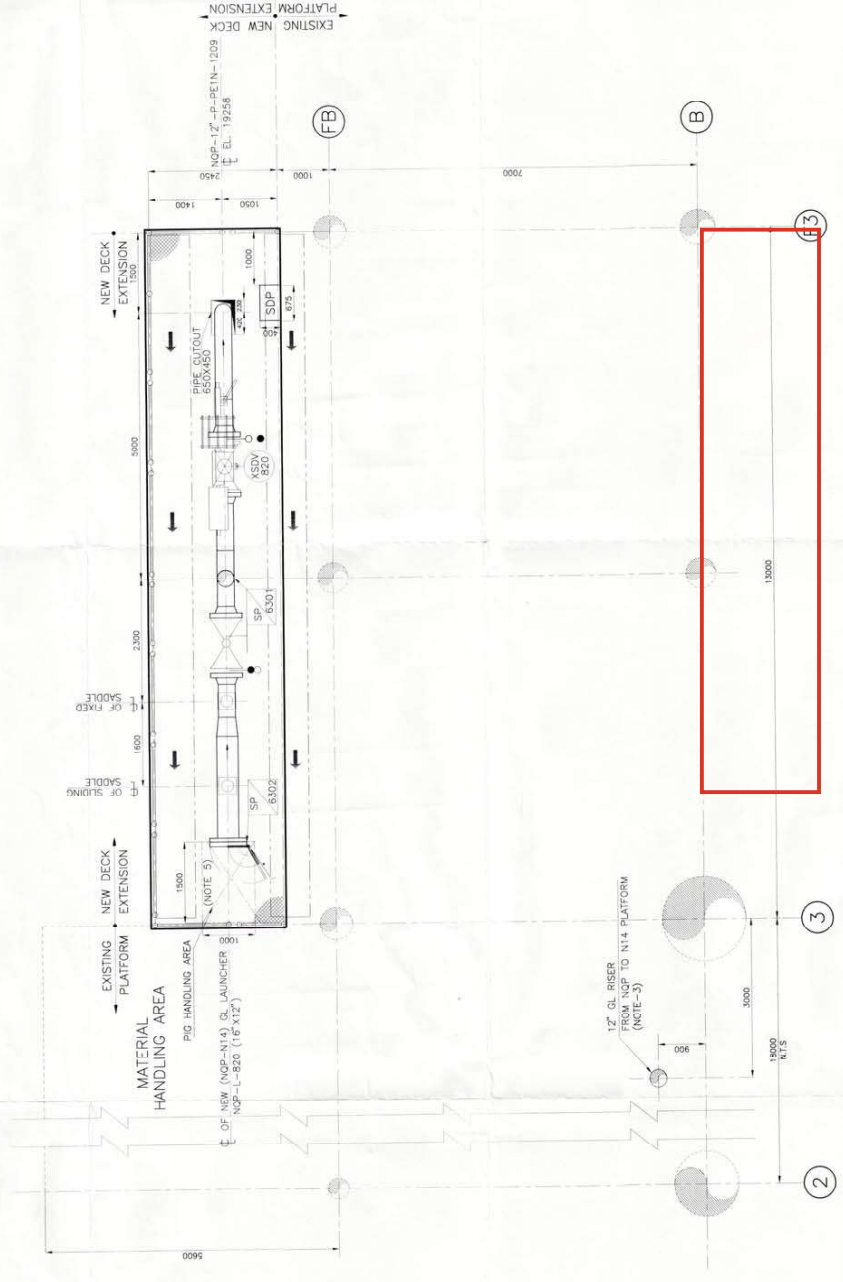
PROJECT : Laying of Sub-Sea Pipeline and Platform Modifications for MHN Re-Development Plan Phase II Project

TITLE : EQUIPMENT LAYOUT FOR NGP PLATFORM CELLAR DECK PLAN AT TOS EL.(+) 18350

SCALE	DRAWING NUMBER	REV
1:50	C11000-MOD-NDP-PIP-3089	X

AS-BUILT  
AKER POWERGAS PVT. LTD.

CELLAR DECK PLAN AT TOS EL.(+) 18350





12) A CLEAR ACCESS OF MINIMUM 750MM SHALL BE KEPT ALL AROUND THE EQUIPMENT FOR OPERATION & MAINTENANCE WHILE REPAIRING/REPAIRING THE FINAL VENDOR DATA. 13) ANY INCREASE IN SIZE OF EQUIPMENT/FAIR SHALL BE INDICATED AS FOR FINAL VENDOR DATA. 14) THE EQUIPMENT SHALL BE REPAIRABLE WITHOUT ANY TIME & COST IMPLICATION. 15) EXISTING LIFE SAFT TEMPORARILY INDICATED AND TO BE REMOVED AT THE PROPOSED OFFICIAL LOCATION AFTER REMOVAL OF TEMPORARY EXTENSION.

- NOTES**
- 1) ALL DIMENSIONS & ELEVATIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
  - 2) ELEVATIONS GIVEN ARE FROM CHART DATA LEVEL.
  - 3) DELETED
  - 4) TEMPORARY DECK EXTENSION IS FOR THE PURPOSE OF INSTALLATION/REPAIR ACTIVITIES RELATED TO SEA WATER LIFT PUMPS.
  - 5) DELETED
  - 6) DECK ROSE DETAILS AND SAFETY EQUIPMENT ARE COVERED IN DETAIL UNDER SAFETY AND RESCUE MEASURES.
  - 7) DECK ROSE DETAIL IS INDICATED EXCEPT UNDER T-17000A & P-1800A/1800B/1800C.
  - 8) DELETED
  - 9) PORTABLE PUMPS P-1310 THRU P-1360 ARE LOCATED TEMPORARILY TO BE SHOWN IN EQUIPMENT LAYOUT.
  - 10) EXISTING ROSE DETAIL BETWEEN W & X IS TO BE REPLACED WITH NEW ROSE DETAIL.
  - 11) DIMENSIONS SPECIFIED AT EDGES OF PLATFORM ARE THE C.T.C OF BEAMS.

**LEGEND**

TOS	TOP OF STEEL
TOP	TOP OF PLATE
TOS	TOP OF CRATING
NEW/EXISTING	NEW/EXISTING
EXISTING	EXISTING
PROPOSED DECK EXTENSION	PROPOSED DECK EXTENSION
DELETED	DELETED
DISCONTINUED PLATE	DISCONTINUED PLATE
SCHEDULE NET	SCHEDULE NET

**EQUIPMENT LIST**

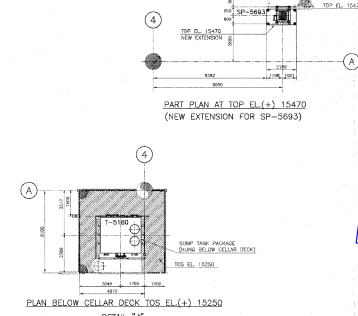
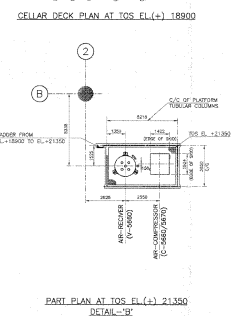
SP/NO	NAME	REMARKS
1	SP-1257/1258	NEW
2	SP-1259/1260	NEW
3	SP-1261/1262	EXISTING
4	SP-1263/1264	EXISTING
5	SP-1265/1266	NEW
6	SP-1267/1268	NEW
7	SP-1269/1270	NEW
8	SP-1271/1272	NEW
9	SP-1273/1274	NEW
10	SP-1275/1276	NEW
11	SP-1277/1278	NEW
12	SP-1279/1280	NEW
13	SP-1281/1282	NEW
14	SP-1283/1284	NEW
15	SP-1285/1286	NEW
16	SP-1287/1288	NEW
17	SP-1289/1290	NEW
18	SP-1291/1292	NEW
19	SP-1293/1294	NEW
20	SP-1295/1296	NEW
21	SP-1297/1298	NEW
22	SP-1299/1300	NEW
23	SP-1301/1302	NEW
24	SP-1303/1304	NEW
25	SP-1305/1306	NEW
26	SP-1307/1308	NEW
27	SP-1309/1310	NEW
28	SP-1311/1312	NEW
29	SP-1313/1314	NEW
30	SP-1315/1316	NEW
31	SP-1317/1318	NEW
32	SP-1319/1320	NEW
33	SP-1321/1322	NEW
34	SP-1323/1324	NEW
35	SP-1325/1326	NEW
36	SP-1327/1328	NEW
37	SP-1329/1330	NEW
38	SP-1331/1332	NEW
39	SP-1333/1334	NEW
40	SP-1335/1336	NEW
41	SP-1337/1338	NEW
42	SP-1339/1340	NEW
43	SP-1341/1342	NEW
44	SP-1343/1344	NEW
45	SP-1345/1346	NEW
46	SP-1347/1348	NEW
47	SP-1349/1350	NEW
48	SP-1351/1352	NEW
49	SP-1353/1354	NEW
50	SP-1355/1356	NEW
51	SP-1357/1358	NEW
52	SP-1359/1360	NEW
53	SP-1361/1362	NEW
54	SP-1363/1364	NEW
55	SP-1365/1366	NEW
56	SP-1367/1368	NEW
57	SP-1369/1370	NEW
58	SP-1371/1372	NEW
59	SP-1373/1374	NEW
60	SP-1375/1376	NEW
61	SP-1377/1378	NEW
62	SP-1379/1380	NEW
63	SP-1381/1382	NEW
64	SP-1383/1384	NEW
65	SP-1385/1386	NEW
66	SP-1387/1388	NEW
67	SP-1389/1390	NEW
68	SP-1391/1392	NEW
69	SP-1393/1394	NEW
70	SP-1395/1396	NEW
71	SP-1397/1398	NEW
72	SP-1399/1400	NEW
73	SP-1401/1402	NEW
74	SP-1403/1404	NEW
75	SP-1405/1406	NEW
76	SP-1407/1408	NEW
77	SP-1409/1410	NEW
78	SP-1411/1412	NEW
79	SP-1413/1414	NEW
80	SP-1415/1416	NEW
81	SP-1417/1418	NEW
82	SP-1419/1420	NEW
83	SP-1421/1422	NEW
84	SP-1423/1424	NEW
85	SP-1425/1426	NEW
86	SP-1427/1428	NEW
87	SP-1429/1430	NEW
88	SP-1431/1432	NEW
89	SP-1433/1434	NEW
90	SP-1435/1436	NEW
91	SP-1437/1438	NEW
92	SP-1439/1440	NEW
93	SP-1441/1442	NEW
94	SP-1443/1444	NEW
95	SP-1445/1446	NEW
96	SP-1447/1448	NEW
97	SP-1449/1450	NEW
98	SP-1451/1452	NEW
99	SP-1453/1454	NEW
100	SP-1455/1456	NEW

**MATERIAL HANDLING FACILITIES / MONORAILS**

NO	DESCRIPTION	REMARKS
M1	MONORAIL	EXISTING
M2	MONORAIL	EXISTING
M3	MONORAIL	EXISTING
M4	MONORAIL	EXISTING
M5	MONORAIL	EXISTING
M6	MONORAIL	EXISTING
M7	MONORAIL	EXISTING
M8	MONORAIL	EXISTING
M9	MONORAIL	EXISTING
M10	MONORAIL	EXISTING
M11	MONORAIL	EXISTING
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M14	MONORAIL	EXISTING
M15	MONORAIL	EXISTING
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M20	MONORAIL	EXISTING
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M22	MONORAIL	EXISTING
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M29	MONORAIL	EXISTING
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M94	MONORAIL	EXISTING
M95	MONORAIL	EXISTING
M96	MONORAIL	EXISTING
M97	MONORAIL	EXISTING
M98	MONORAIL	EXISTING
M99	MONORAIL	EXISTING
M100	MONORAIL	EXISTING

**FIRE WATER & FOAM HOSE REEL INDEX**

NO	NAME	LOCATING ELEVATION	REMARKS
1	SP-5692	AT/NE COLAR DECK W TOS EL 18900	-
2	SP-5693	-	-
3	SP-5694	-	-
4	SP-5695	-	-
5	SP-5696	-	-
6	SP-5697	-	-
7	SP-5698	-	-
8	SP-5699	-	-
9	SP-5700	-	-
10	SP-5701	-	-
11	SP-5702	-	-
12	SP-5703	-	-
13	SP-5704	-	-
14	SP-5705	-	-
15	SP-5706	-	-
16	SP-5707	-	-
17	SP-5708	-	-
18	SP-5709	-	-
19	SP-5710	-	-
20	SP-5711	-	-
21	SP-5712	-	-
22	SP-5713	-	-
23	SP-5714	-	-
24	SP-5715	-	-
25	SP-5716	-	-
26	SP-5717	-	-
27	SP-5718	-	-
28	SP-5719	-	-
29	SP-5720	-	-
30	SP-5721	-	-
31	SP-5722	-	-
32	SP-5723	-	-
33	SP-5724	-	-
34	SP-5725	-	-
35	SP-5726	-	-
36	SP-5727	-	-
37	SP-5728	-	-
38	SP-5729	-	-
39	SP-5730	-	-
40	SP-5731	-	-
41	SP-5732	-	-
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43	SP-5734	-	-
44	SP-5735	-	-
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80	SP-5771	-	-
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83	SP-5774	-	-
84	SP-5775	-	-
85	SP-5776	-	-
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93	SP-5784	-	-
94	SP-5785	-	-
95	SP-5786	-	-
96	SP-5787	-	-
97	SP-5788	-	-
98	SP-5789	-	-
99	SP-5790	-	-
100	SP-5791	-	-



AS-BUILT

**APPROVALS**

APG	LCI	EIL	ONGC
-----	-----	-----	------

**CLIENT'S COMMENTS**

**CONTRACTOR'S COMMENTS**

**CONTRACTOR** Leighton Welpun Contractors Pvt Ltd

**CONSULTANT** Aker Solutions Aker Powergas Pvt Ltd

**PROJECT** WIN RECAP PROJECT

**TITLE** EQUIPMENT LAYOUT FOR WIN PLATFORM CELLAR DECK PLAN AT TOS EL (+) 18900

**SCALE** DRAWING NUMBER

**DATE** 11028-APS-PPF-096-0548

**REV** 2



**Table for Launcher & Receiver for PRP-X**

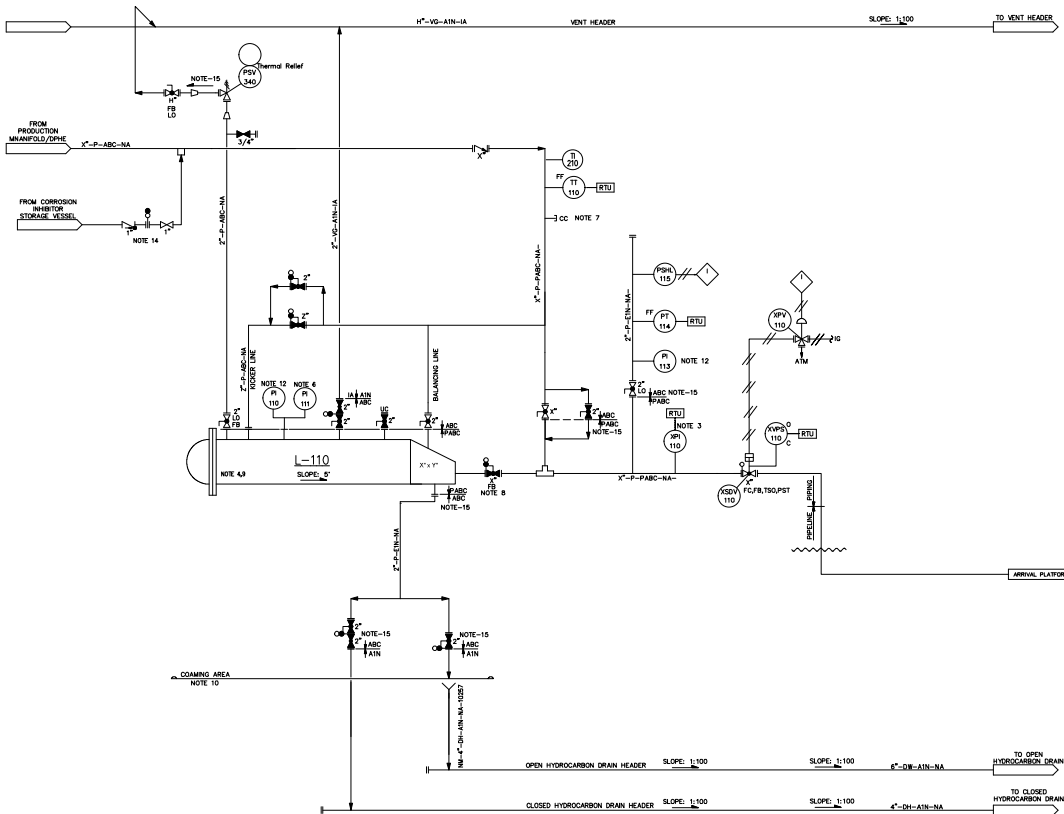
		Season-1						
S.No	Launcher Platform	Receiver Platform	Pipeline Size (Inch)	Kicker Lin Size (Inch)	Piping Class as per design Pr. (ABC)	Launcher & Receiver size (Inch X Inch)	Service	Type
1.	MNP	WIN	6	4	E1N	6X8	Gas	Launcher & Receiver
2.	B12-17	B12-11	16	6	E1N	16X20	Well Fluid	Launcher & Receiver
3.	SB	SA	10	4	D1N	10X12	Well Fluid	Launcher & Receiver
4.	SP	BHS	10	4	D1N	10X12	Well Fluid	Launcher & Receiver
5.	IG	BHS	12	6	D1N	12X16	Well Fluid	Launcher & Receiver
6.	N12	NQP	12	6	E1N	12X16	Well Fluid	Launcher & Receiver
7.	SJ	SA	12	6	D1N	12X16	Well Fluid	Launcher & Receiver
8.	EE	SHP	10	4	E1N	10X12	Well Fluid	Launcher & Receiver
9.	HE	HRG	14	6	E1N	14X16	Well Fluid	Launcher & Receiver
		Water Injection						
10.	WIN	ND	6	4	E1	6X8	Water Injection	Launcher & Receiver
11.	WIN	N3	6	4	E1	6X8	Water Injection	Launcher & Receiver
12.	NI	N10	6	4	E1	6X8	Water Injection	Launcher & Receiver
13.	MNW	N9	6	4	E1	6X8	Water Injection	Launcher & Receiver
14.	IM	S1-6	6	4	E1	6X8	Water Injection	Launcher & Receiver
15.	WIS	MNW	Yet to be received		E1		Water Injection	Launcher & Receiver
		Gas Lift Line						
16.	N14	NH	6	4	E1	6X8	Gas Lift	Launcher & Receiver
17.	NQP	LB	6	4	E1	6X8	Gas Lift	Launcher & Receiver
18.	SHG	RS7	6	4	E1	6X8	Gas Lift	Launcher & Receiver
19.	IL	SHP	14	6	E1	14X16	Gas Lift	Launcher & Receiver

Note:

- 1) Bidder should prepared P&ID for each Launcher Receiver as mentioned above as per P&ID 7152-PR-2001 & 7152-PR-2002.
- 2) Bidder should prepared P&ID for Water Injection Line as mentioned above as per P&ID 7152-PR-2003 & 2004
- 3) Bidder should prepared P&ID for Gas Lift Line as mentioned above as per P&ID 7152-PR-2007 & 2008
- 4) Bidder should prepared P&ID for Demolition of Existing Launcher Receiver as per available as build P& Ids (if not available collected during Pre-Engineering Survey).
- 5) Bidder should prepared P&ID for showing Hook up point in as build P& Ids (if not available collected & marked during Pre-Engineering Survey).
- 6) Magnetic Flow meter is required in the segment of Only water Injection Departing platform.



ITEM No.	L-340
ITEM NAME	WELL FLUID LAUNCHER
DESIGN PRESSURE	AS PER THE PLATFORM
DESIGN TEMPERATURE	AS PER THE PLATFORM

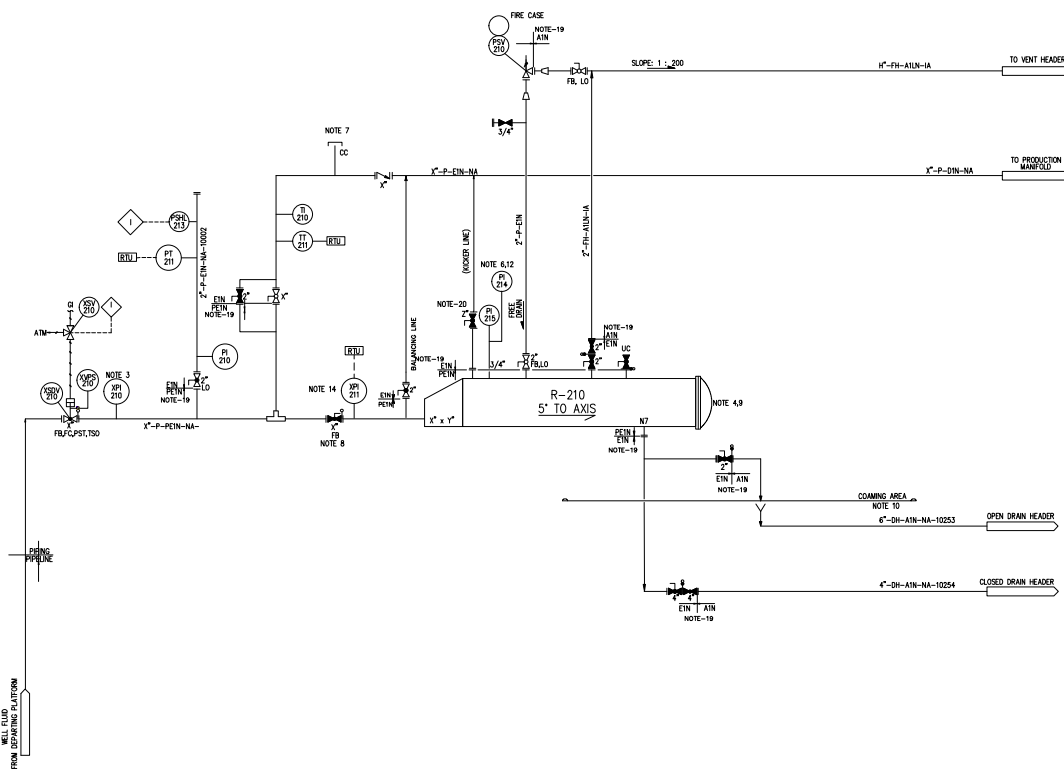


- NOTES
- 1) FOR LEGENDS, SYMBOLS & GENERAL NOTES REFER DRAWING LEGENDS
  - 2) ALL EQUIPMENT, INSTRUMENT AND SPECIALITY ITEM (SP) TAGS SHALL BE PREFIXED WITH PLATFORM NAME
  - 3) VPI-110 SHALL BE LOCATED AS FAR AS POSSIBLE FROM PIG LAUNCHER. IT SHALL BE INTRUSIVE TYPE
  - 4) SUITABLE PIG HANDLING FACILITY SHOULD BE PROVIDED
  - 5) FIELD MOUNTED RESET AND MANUAL CLOSING SHALL BE PROVIDED FOR XSIV.
  - 6) PI-111 RANGE SHALL BE 0-1 KG/CM<sup>2</sup>G AND SHALL BE PROVIDED WITH GAUGE SAVER.
  - 7) CORROSION COUPON INSTALLATION POINTS SHALL BE LOCATED AT ACCESSIBLE LOCATION FOR EASY INSERTION & RETRIEVAL OF CORROSION COUPON. IT SHALL BE MOUNTED AT 6 O'CLOCK POSITION
  - 8) VALVE TO BE LOCATED AS CLOSE AS POSSIBLE TO PIG LAUNCHER
  - 9) PIG TRAP DOOR OPENING MECHANISM TO BE CONSTRUCTED THAT THE DOOR CAN NOT BE OPENED UNLESS IT IS FULLY DEPRESSURISED
  - 10) COUPLING AREA SHALL BE PROVIDED BELOW LAUNCHER TO COLLECT ANY SPILLAGE AND SHALL BE ROUTED TO OPEN HYDROCARBON DRAIN HEADER
  - 11) PST SHALL BE LOCAL MECHANICAL TYPE
  - 12) PI 110 SHALL BE OF FULL RANGE
  - 13) EXISTING VENT & DRAIN (OPEN/CLOSE) HEADER TO BE EXTENDED & HOOK UP WITH NEW LINE
  - 14) THESE VALVES SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE INJECTION POINT FOR EASE OF OPERATIONS
  - 15) THIS SPEC-BREAK IS TO INDICATE CHANGE IN PIPING CLASS AND IT SHALL BE AS PER DESIGN CONDITIONS OF PLATFORM AND PIPING MATERIAL SPECIFICATIONS (GWS).
  - 16) 'ABC' INDICATES PIPING CLASS BASED ON THE DESIGN PRESSURE
  - 17) FOR PIPELINE SIZE OF ABOVE 14", DRAIN SIZE CONSIDER AS 4"

REV	DATE	ISSUED FOR BID	BY	CHKD.	APPR.
0	26.04.26	ISSUED FOR BID	SB	AJ	MP
OIL AND NATURAL GAS CORPORATION LTD. EPEC MUMBAI					
PROJECT: PIPELINE REPLACEMENT PROJECT - X					
TITLE: PIPING & INSTRUMENTATION DIAGRAM WELL FLUID LAUNCHER XYZ PLATFORM					
DRIND: 7152-PR-XX-PID-2001 REV 0					


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ITEM No.:	R-210
ITEM NAME:	WELL FLUID RECEIVER
DESIGN PRESSURE	AS PER THE PLATFORM
DESIGN TEMPERATURE	AS PER THE PLATFORM

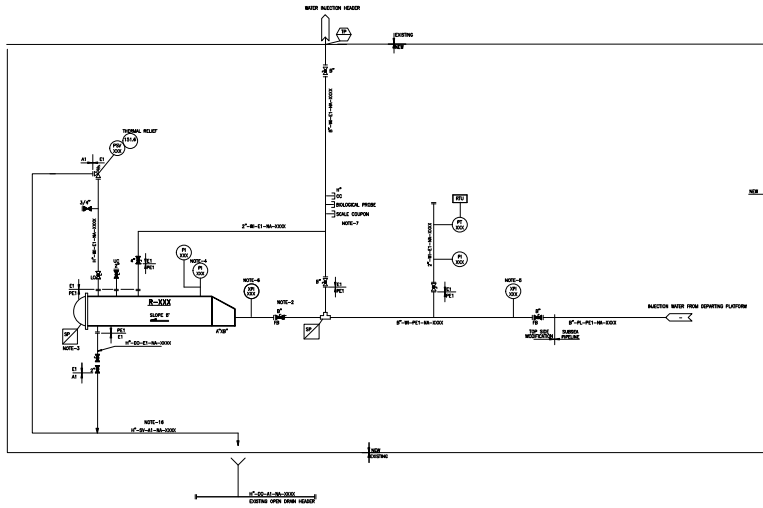
- | NOTES |  |
|-------|--|
| 1     | FOR LEGENDS, SYMBOLS & GENERAL NOTES REFER DRAWING LEGENDS   |
| 2     | ALL EQUIPMENT, INSTRUMENT AND SPECIALITY ITEM IDENTIFICATION SHALL BE PREFIXED WITH PLATFORM NAME  |
| 3     | THIS POINT SHALL BE LOCATED AS FAR AS POSSIBLE FROM PIG LAUNCHER IT SHALL BE INTRUSIVE TYPE  |
| 4     | SUITABLE PIG HANDLING FACILITY SHOULD BE PROVIDED  |
| 5     | ELECTRIC MOUNTED RESET AND MANUAL CLOSING SHALL BE PROVIDED FOR XSV.   |
| 6     | PI-25 RANGE SHALL BE $0.1 \text{ m}^3/\text{cm}^2/\text{kg}$ AND SHALL BE LOCATED WITHIN 50% OF CORROSION COUPON   |
| 7     | CORROSION COUPON INSTALLATION POINTS SHALL BE LOCATED AT ACCESSIBLE LOCATION FOR EASY INSPECTION. RETRIEVED FROM CORROSION COUPON IT SHALL BE MOUNTED AT 6 O'CLOCK POSITION. |
| 8     | VALVE TO BE LOCATED AS CLOSE AS POSSIBLE TO PIG LAUNCHER.  |
| 9     | TRAP CATCH DRUMING MECHANISM TO BE CONSTRUCTED THAT THE DRUM CAN NOT BE OPENED UNLESS IT IS FULLY DEPRESSURISED  |
| 10    | WORKING AT SHUT DOWN POSITION, PIG LAUNCHER TO COLLECT ANY SPILLAGE AND LAUNCHER TO BE LOCATED WITHIN 50% OF DRAIN HEADER.   |
| 11    | PIST SHALL BE DOW MECHANICAL TYPE.   |
| 12    | PT 24 SHALL BE OF FULL RANGE   |
| 13    | HOOK UP POINTS ARE INDICATIVE. HOOK UPS ARE TO BE FIRMED UP DURING PRE-ENGINEERING   |
| 14    | PIPI-21 SHALL BE LOCATED AS CLOSE AS POSSIBLE TO VALVE   |
| 15    | ALL BENDS ON PIGGABLE LINE SHALL BE 5D   |
| 16    | PSV SIZING INLET/OUTLET/NOZZLE SIZES SHALL BE FINALIZED DURING DETAILED ENGINEERING  |
| 17    | FOR JOBS TO BE COMPLETED IN CASE OF EXISTING GASINES WHEREVER APPLICABLE FOR CONNECTION OF RESPECTIVE HEADER   |
| 18    | CONNECTION OF UP WITH FLARE DRAIN PIT TAPPING IS TO BE CONSIDERED.   |
| 19    | THIS SPEC-BREAK IS TO INDICATE CHANGE IN DESIGN CONDITIONS OF PLATFORM AND PIPING MATERIAL SPECIFICATIONS (PMS).   |
| 20    | QUOTATION VOLUME OF 2" SIZE TO BE PROVIDED IN CASE THE KICKER LINE SIZE IS 6" AND ABOVE  |
| 21    | FOR PIPELINE SIZE OF ABOVE 14", DRAIN SIZE   |

0	26.04.26	ISSUED FOR BID	SB	AJ	MP
REV	DATE	ISSUE	BY	CHKD.	APPR.
	DIL AND NATURAL GAS CORPORATON LTD. EPEC MUMBAI				
PROJECT	PIPELINE REPLACEMENT PROJECT - X				
TITLE	PIPING & INSTRUMENTATION DIAGRAM WELL FLUID RECEIVER XYZ PLATFORM				
DR.NO.	7152-PR-XX-PI2-2006			REV 0	




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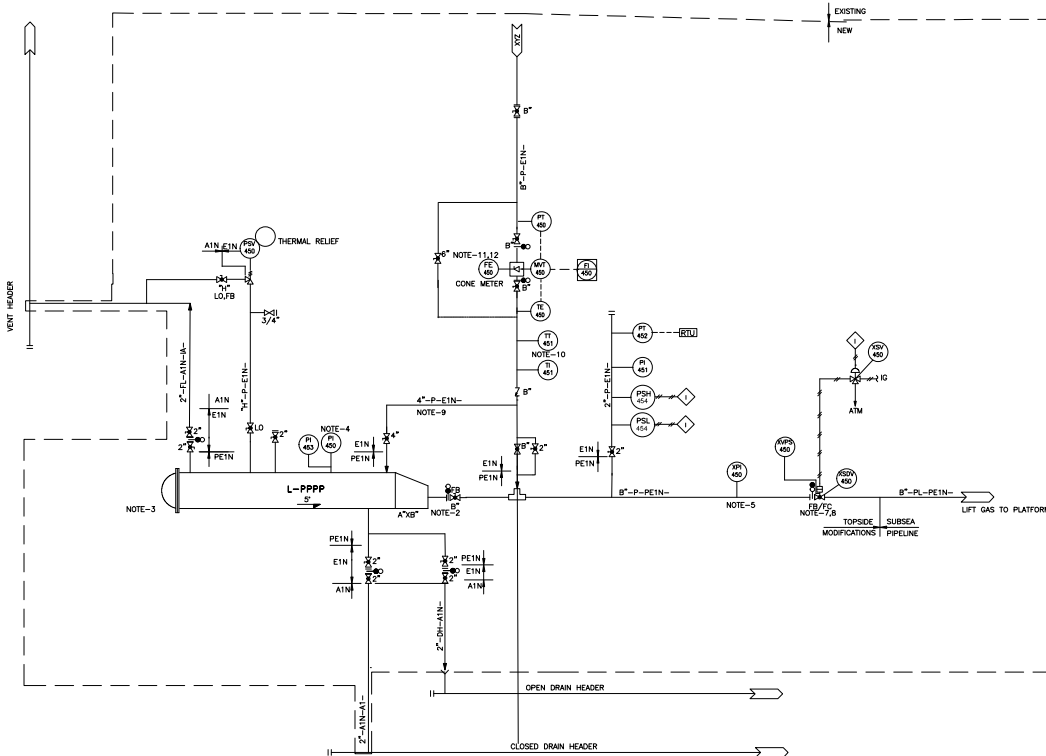
ITEM No.	R-XXX
ITEM NAME	WATER INJECTION RECEIVER
DESIGN PRESSURE	151 kg/ cm <sup>2</sup> g
DESIGN TEMPERATURE	55 deg C



- NOTES
- 1) FOR LEGENDS, SYMBOLS & GENERAL NOTES REFER DRAWING LEGENDS
  - 2) LOCATE THIS VALVE CLOSE TO THE PIG BARREL
  - 3) PIG TRAP DOOR OPENING MECHANISM TO BE SO CONSTRUCTED THAT THE DOOR CAN NOT BE OPENED UNLESS IT IS FULLY DEPRESSURED
  - 4) P1-900 RANGE SHALL BE 0-1 Kg/cm<sup>2</sup> g AND SHALL BE PROVIDED WITH A GAUGE SAVER
  - 5) P2-900 PIG DETECTOR SHALL BE LOCATED AS FAR AS POSSIBLE FROM R-900
  - 6) CORROSION COUPON INSTALLATION POINTS SHALL BE LOCATED AT ACCESSIBLE LOCATION FOR EASY INSERTION & RETRIEVAL OF ALL COUPON. IT SHALL BE MOUNTED AT 6 O'CLOCK POSITION
  - 7) ADEQUATE SPACE FOR ACCESS SHALL BE PROVIDED FOR INSTALLATION AND REMOVAL OF SCALE COUPON, BIOLOGICAL PROBE AND CORROSION COUPON

REV	0	26.04.26	ISSUED FOR BID	SB	AJ	MP
DATE	ISSUE	BY	CHKD.	APPR.		
 OIL AND NATURAL GAS CORPORATION LTD. OFFSHORE DESIGN, ENGG SERVICES MUMBAI						
PROJECT	PIPELINE REPLACEMENT PROJECT - X					
TITLE	PIPING & INSTRUMENTATION DIAGRAM WATER INJECTION LAUNCHER XYZ PLATFORM					
DR.ND	7152-PR-XX-PID-2004					REV 0

ITEM No.:	L-PPPP
ITEM NAME:	LIFT GAS LAUNCHER
DESIGN PRESSURE (kg/cm <sup>2</sup> g):	105
DESIGN TEMPERATURE (°C):	75



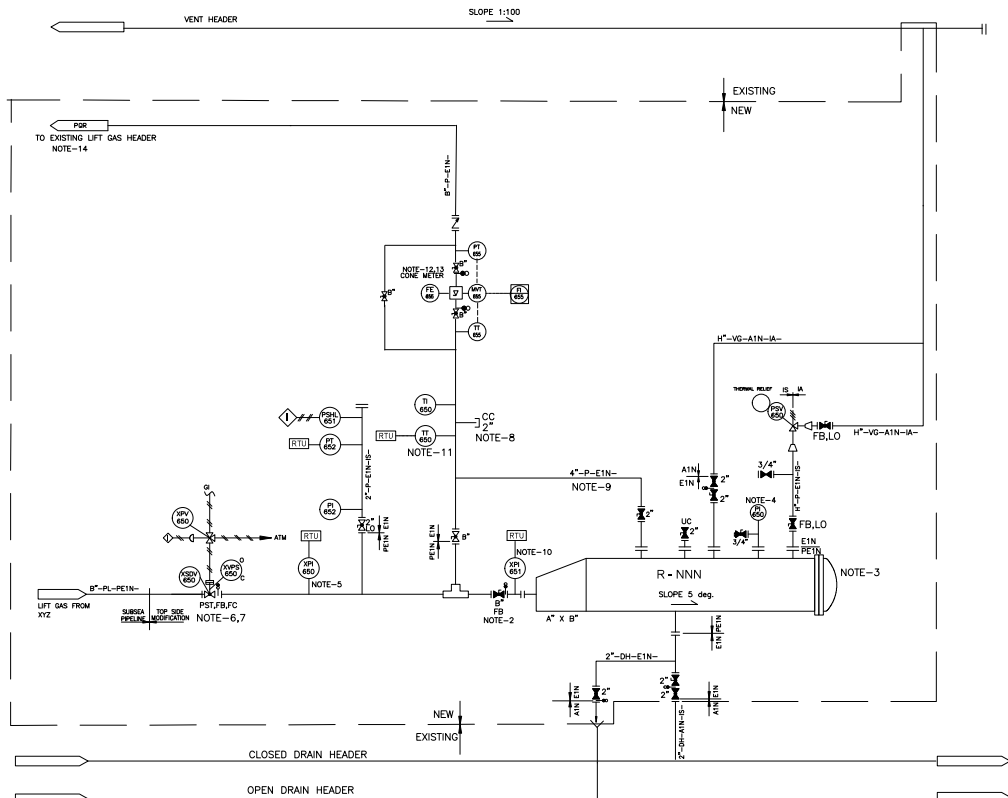
- NOTES
- 1) FOR SYMBOL, LEGEND AND GENERAL NOTES, REFER DRAWING NUMBER 7152-PR-GEN-1001 TO 1004.
  - 2) THE VALVE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE PG BARRE.
  - 3) PG TRAP DOOR OPENING MECHANISM TO BE SO CONSTRUCTED THAT THE DOOR CANT BE OPENED UNLESS IT IS FULLY DEPRESSURIZED.
  - 4) PL450 RANGE SHALL BE 0-1 kg/cm<sup>2</sup>g) AND SHALL BE PROVIDED WITH GAUGE SAVER. PROVISION FOR ADDITIONAL PI SHALL BE KEPT FOR MEASURING OPERATING PRESSURE.
  - 5) XPL450 SHALL BE LOCATED AS FAR AS POSSIBLE FROM L450
  - 6) DELETED
  - 7) PST SHALL BE LOCAL MECHANICAL TYPE.
  - 8) FIELD RESET AND REMOTE CLOSING OF XSOV SHALL BE PROVIDED.
  - 9) CONNECTION FOR KICKER LINE SHALL BE CLOSE TO WINGED CLOSURE.
  - 10) THERMOWELL FLANGE SHALL BE RATED ONE CLASS HIGHER THAN PIPE CLASS WHICH IT IS CONNECTED TO.
  - 11) PROVIDE UPSTREAM AND DOWNSTREAM STRAIGHT LENGTH REQUIREMENTS AS PER THE INSTRUMENT REQUIREMENT.
  - 12) WYT SHALL HAVE IN-BUILT FLOW COMPUTATION FACILITY FOR CORRECTED FLOW RATE AND FLOW TOTALIZATION. FLOW RATES SHALL BE MADE AVAILABLE TO PROCESS PLATFORM THROUGH RTU.
  - 13) EXISTING FUSIBLE LOOP WILL BE EXTENDED ON PROPOSED LAUNCHER AREA.

LINE	XYZ	Size(A/B/C)	A	B
N24 - NH	N24	6" x 8"	9	6
N2P - LB	N2P	6" x 8"	8	5
SHG - R27	SHG	6" x 8"	8	6
IL - SHP	IL	14" x 16"	16	14

0	26.04.26	ISSUED FOR BRU	SB	AJ	M/P
REV	DATE	ISSUE	BY	CHKD.	APPR.
OIL AND NATURAL GAS CORPORATION LTD. OFFSHORE DESIGN, ENVOO SERVICES MUMBAI					
PROJECT PIPELINE REPLACEMENT PROJECT - X					
TITLE PIPING & INSTRUMENTATION DIAGRAM GAS LIFT LAUNCHER XYZ PLATFORM					
DR.NO.	7152-PR-X-PID-2007				REV 0



ITEM No.	R-NNN
ITEM NAME	LIFT GAS RECEIVER
DESIGN PRESSURE (kgf/cm <sup>2</sup> g)	106
DESIGN TEMPERATURE (°C)	15



- NOTES
- 1) FOR SYMBOL, LEGEND AND GENERAL NOTES, REFER DRAWING NUMBER 7122-PR-GEN-1001 TO 1004.
  - 2) THIS VALVE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE PIG BARREL.
  - 3) PIG TRAP DOOR OPENING MECHANISM TO BE SO CONSTRUCTED THAT THE DOOR CANT BE OPENED UNLESS IT IS FULLY DEPRESSURIZED.
  - 4) P#450 RANGE SHALL BE 0-1 kg/cm<sup>2</sup>g AND SHALL BE PROVIDED WITH GAUGE SAVER. PROVISION FOR ADDITIONAL PI SHALL BE KEPT FOR MEASURING OPERATING PRESSURE.
  - 5) XPA-650 SHALL BE LOCATED AS FAR AS POSSIBLE FROM R-520.
  - 6) FIELD MOUNTED RESET, MANUAL OVERRIDE AND REMOTE CLOSING SHALL BE PROVIDED.
  - 7) PRT SHALL BE LOCAL MECHANICAL TYPE.
  - 8) CORROSION COUPON SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION FOR EASE OF INSERTION AND RETRIEVAL. IT SHALL BE INSTALLED AT 6 O' CLOCK POSITION.
  - 9) CONNECTION FOR KICKER LINE SHALL BE CLOSE TO HINGED CLOSURE.
  - 10) XPA-651 SHALL BE AS CLOSE AS POSSIBLE TO PIG BARREL.
  - 11) THERMOWELL FLANGE SHALL BE RATED ONE CLASS HIGHER THAN PIPE CLASS WHICH IT IS CONNECTED TO.
  - 12) PROVIDE UPSTREAM AND DOWNSTREAM STRAIGHT LENGTH REQUIREMENTS AS PER THE INSTRUMENT REQUIREMENT.
  - 13) MVT SHALL HAVE IN-BUILT FLOW COMPUTATION FACILITY FOR CORRECTED FLOW RATE AND FLOW TOTALIZATION. FLOW RATES SHALL BE MADE AVAILABLE TO PROCESS PLATFORM THROUGH RTU.
  - 14) HOOKUP POINT FOR THE SAME SHALL BE IDENTIFIED DURING PRE-ENGINEERING SURVEY. ANY REQUIREMENTS FOR HOOKUP SHALL BE UNDER THE SCOPE OF THE CONTRACTOR.

LINE	XYZ	POR	Size (A/B)	A	B
NE4 - NH	NE4	NH	6" x 8"	8	6
NGP - LB	NGP	LB	6" x 8"	8	6
SHS - RS7	SHS	RS7	6" x 8"	8	6
IL - SHP	IL	SHP	14" x 16"	16	14

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REV	DATE	ISSUE	BY	CHKD.	APPR.
OIL AND NATURAL GAS CORPORATION LTD. OFFSHORE DESIGN, ENGG SERVICES MUMBAI					
PROJECT: MHRC-V & BS-17 WELLHEAD AND PIPELINE PROJECT					
TITLE: PIPING & INSTRUMENTATION DIAGRAM GAS LIFT RECEIVER XYZ PLATFORM					
DR.NO.	7152-PR-XX-PID-2008				REV 0

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