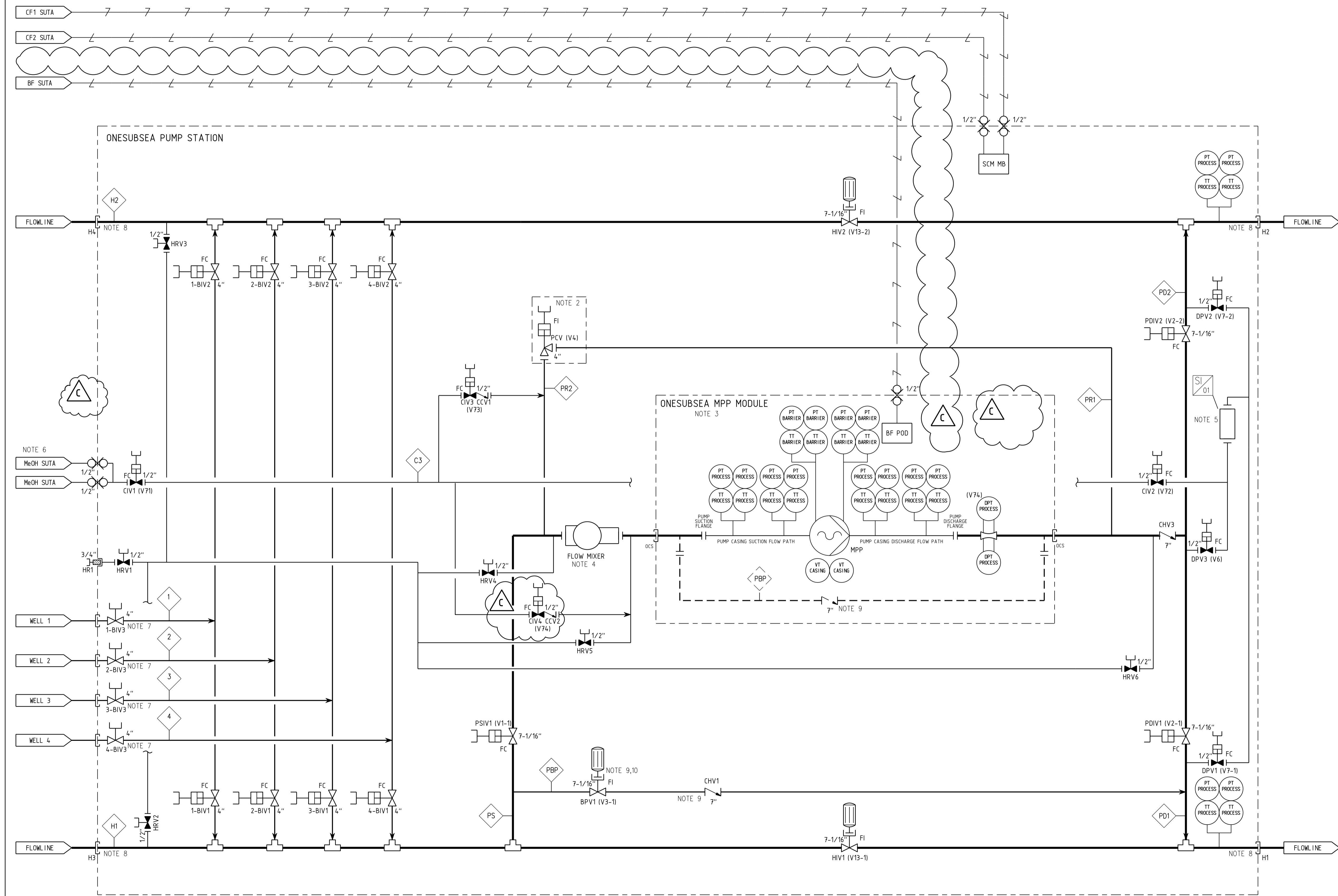


PUMP REQUIREMENTS		PS	PO1	PO2	PS	PO1	PO2	PS	PO1	PO2	PS	PO1	PO2	PS	PO1	PO2
CASE		ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR
LIQUID FLOW	STBPD	60.035	60.035	76.031	76.031	59.892	59.892	30.008	30.008	19.920	19.920					
WC	ft	0.1	0.1	1.5	1.5	11	11	18.9	18.9	18.7	18.7					
GVF (at flowing conditions)	ft	49	0	30	0	52	0	65	0	65	0					
PRESSURE	psia	613	2263	822	2562	474	2464	270	2310	265	2275					
TEMPERATURE	°F	216	248	181	202	159	191	119	159	99	138					
ESTIMATED TOTAL ACTUAL FLOW	Am ³ /h	874	492	807	600	889	466	591	227	388	149					
ESTIMATED MIX DENSITY	kg/Am ³	441	794	605	822	441	852	337	889	341	895					

LINE DESIGN		1	2	3	4	H1	H2	C3	PS	PBP	PO1	PO2	PR1	PR2
CASE		ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR	ANCHOR
LINE INTERNAL DIAMETER	inch	4.0	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	
LINE OUTER DIAMETER	inch	6.81	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	
INSULATION THICKNESS	inch	1.6	1.6	-	-	-	-	-	1.6	1.6	1.6	1.6	1.6	
TOTAL FLUID (LIQUID) PRODUCTION	BPD	20,000	60,000/75,000	7.1	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	
GAS PRODUCTION	MMSCFD	12/15	44/40	-	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40	



- NOTES:**
- Anchor flow data is based on second revision of pump performance requirement's specification. However, numbers will have to be revised when updated production profiles have been received.
 - Retrievable choke insert.
 - Retrievable pump module.
 - Size of flow mixer is 240 gallons (900 ltr).
 - Special orifice designed for controlled pressure equalization.
 - Methanol to allow bi-directional flow.
 - ROV valve is optional.
 - Minimum header bend radius is 3D.
 - In case of future fail on bypass check, fail open, BPV1 will be closed and integrated bypass line (IBPL) on pump modules installed. Pump module design to allocate space for future IBPL.
 - BPV1 to be closed during pigging operation to prevent that CHV1 relief the pig driving pressure.

- LEGEND:**
- HYDRAULICALLY ACTUATED GATE VALVE, WITH ROV OVERRIDE, FAIL CLOSE
 - FLOW MIXER
 - BARRED TEE
 - HOT STAB
 - HYDRAULIC COUPLER
 - MULTIPHASE PUMP
 - ROV OPERATED GATE VALVE, WITH DROP IN PLACE ELECTRICAL ACTUATOR, FAIL AS IS
 - ROV OPERATED GATE VALVE, WITH INTEGRATED CHECK VALVE, FLANGED INTERFACE
 - NON-SLAM AXIAL CHECK VALVE
 - PIPING SPECIAL ITEM

- LINE DESCRIPTIONS:**
- Main process lines
 - Secondary process lines
 - Hydraulic lines
 - Package lines
 - Injection and bleed-off lines
 - Future equipment

DESIGN DATA

DESIGN PRESSURE	FV / 16,500 PSI
DESIGN TEMP, STATION	0 / 275 F
DESIGN TEMP, PUMP	35 / 275 F
THERMAL INSULATION	OPTIONAL, U=4.5 W/m ² K
START-UP DEAD FIELD	NO

- ABBREVIATIONS:**
- BF - BARRIER FLUID
 - FC - FAIL CLOSE
 - FI - FAIL INTERMEDIATE (AS IS)
 - FT - FLOW TRANSMITTER
 - FO - FAIL OPEN
 - HR - HYDRATE REMEDIATION
 - IBPL - INTEGRATED BYPASS LINE
 - MPP - MULTIPHASE PUMP
 - PM - PUMP MODULE
 - PT - PRESSURE TRANSMITTER
 - SI - PIPING SPECIAL ITEM
 - TT - TEMPERATURE TRANSMITTER
 - DPT - DIFFERENTIAL PRESSURE TRANSMITTER
 - VT - VIBRATION TRANSMITTER

- REFERENCES:**
- /1/ DOC-017287, PROCESS DESIGN AND OPERATING PHILOSOPHY
 - /2/ DRW-0007254, SCHEMATIC - BF SYSTEM
 - /3/ DRW-0007251, PFD - BASE CASE
 - /4/ DRW-0007252, PFD - SUPPLIER LED SOLUTION
 - /5/ DRW-0007253, PFD - OPTIONAL CASE
 - /6/ DRW-0007526, PFD - ADDENDUM TO RFP

Rev	Date	Description	Made	Chk	Appr
C	17.10.2018	RE - ISSUED FOR BID	DHA	JAL	CAL
B	04.10.2018	ISSUED FOR BID	JAL	SKK	CAL
A	09.09.2018	ISSUED FOR IDC	JAL	SKK	HD

Client dwg No. NA Client Rev No. NA

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A Schlumberger Company

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Title: PFD 4-SLOT SINGLE PUMP STATION - ANCHOR
ADDENDUM TO RFP

Weight: NA

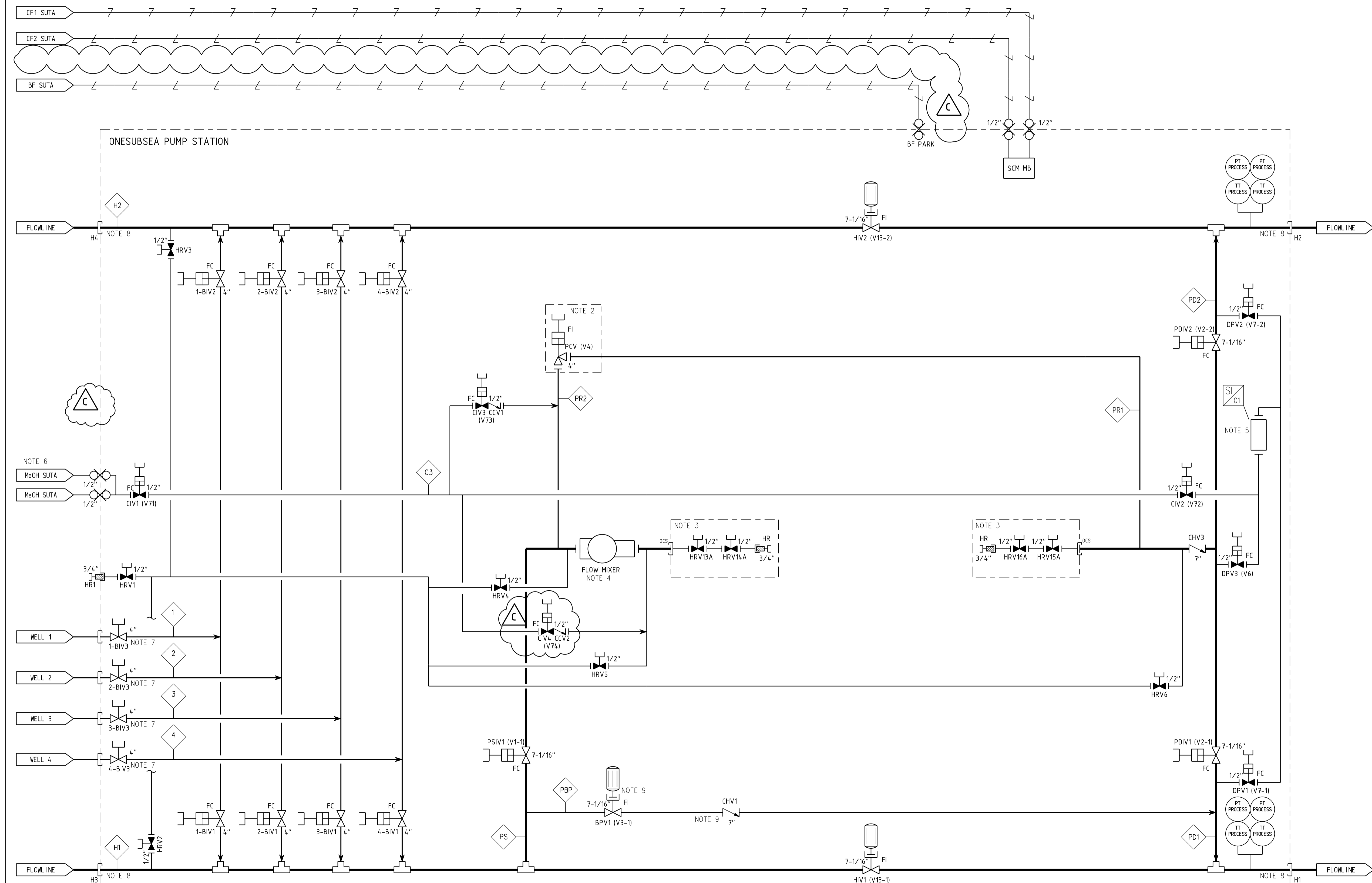
ID: DRW-0007526

Scale: NTS

Format: A1 Sheet 1 of 2

PUMP REQUIREMENTS		PS	PO1	PO2	PS	PO1	PO2	PS	PO1	PO2	PS	PO1	PO2	PS	PO1	PO2
CASE		ANCHOR 1	ANCHOR 1	ANCHOR 2	ANCHOR 2	ANCHOR 3	ANCHOR 3	ANCHOR 4	ANCHOR 4	ANCHOR 5	ANCHOR 5	ANCHOR 5	ANCHOR 5	ANCHOR 5	ANCHOR 5	ANCHOR 5
LIQUID FLOW	STBPD	60,035	60,035	76,031	76,031	59,892	59,892	30,008	30,008	19,920	19,920					
WC	%	0.1	0.1	1.5	1.5	11	11	18.9	18.9	18.7	18.7					
GVF (at flowing conditions)	%	49	0	30	0	52	0	65	0	65	0					
PRESSURE	psia	613	2263	822	2562	474	2464	270	2310	265	2275					
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LINE DESIGN		1	2	3	4	H1	H2	C3	PS	PBP	PO1	PO2	PS	PO1	PO2	PS	PO1	PO2
CASE		ANCHOR 1	ANCHOR 1	ANCHOR 2	ANCHOR 2	ANCHOR 3	ANCHOR 3	ANCHOR 4	ANCHOR 4	ANCHOR 5	ANCHOR 5	ANCHOR 5	ANCHOR 5	ANCHOR 5	ANCHOR 5	ANCHOR 5	ANCHOR 5	ANCHOR 5
LINE INTERNAL DIAMETER	inch	4.0	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07	7.07
LINE OUTER DIAMETER	inch	6.81	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08
INSULATION THICKNESS	inch	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
TOTAL FLUID (LIQUID) PRODUCTION	BPD	20,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000	60,000/75,000
GAS PRODUCTION	MMSCFD	12/15	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40	44/40



- NOTES:**
- Anchor flow data is based on second revision of pump performance requirements specification. However, numbers will have to be revised when updated production profiles have been received.
 - Retrievable choke insert.
 - Cap retrievable with ROV (TBD).
 - Size of flow mixer is 240 gallons (900 ltr).
 - Special orifice designed for controlled pressure equalization.
 - Methanol to allow bi-directional flow.
 - ROV valve is optional.
 - Minimum header bend radius is 3D.
 - In case of future fail on bypass check, fail open, BPV1 will be closed and integrated bypass line (IBPL) on pump modules installed. Pump module design to allocate space for future IBPL.

LEGEND:

	HYDRAULICALLY ACTUATED GATE VALVE, WITH ROV OVERRIDE, FAIL CLOSE		ROV OPERATED GATE VALVE, WITH DROP IN PLACE ELECTRICAL ACTUATOR, FAIL AS IS
	FLOW MIXER		ROV OPERATED GATE VALVE, WITH INTEGRATED CHECK VALVE, FLANGED INTERFACE
	BARRED TEE		NON-SLAM AXIAL CHECK VALVE
	HOT STAB		PIPING SPECIAL ITEM
	HYDRAULIC COUPLER		
	MULTIPHASE PUMP		

LINE DESCRIPTIONS:

	Main process lines		Injection and bleed-off lines
	Secondary process lines		Future equipment
	Hydraulic lines		
	Package lines		

DESIGN DATA

DESIGN PRESSURE	FV / 16,500 PSI
DESIGN TEMP, STATION	0 / 275 F
DESIGN TEMP, PUMP	35 / 275 F
THERMAL INSULATION	OPTIONAL, U=4.5 W/m ² K
START-UP DEAD FIELD	NO

ABBREVIATIONS:

BF	- BARRIER FLUID
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FT	- FLOW TRANSMITTER
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HR	- HYDRATE REMEDIATION
IBPL	- INTEGRATED BYPASS LINE
MPP	- MULTIPHASE PUMP
PM	- PUMP MODULE
PT	- PRESSURE TRANSMITTER
SI	- PIPING SPECIAL ITEM
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/4/	DRW-0007252, PFD - SUPPLIER LED SOLUTION
/5/	DRW-0007253, PFD - OPTIONAL CASE
/6/	DRW-0007526, PFD - ADDENDUM TO RFP

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A	09.09.2018	ISSUED FOR IDC	JAL	SKK	HD

	Client dwg No.	Client Rev No.
	NA	NA
Title PFD 4-SLOT SINGLE PUMP STATION - ANCHOR ADDENDUM TO RFP		Weight NA
ID DRW-0007526		Scale NTS
Format	A1	Sheet 2 of 2