






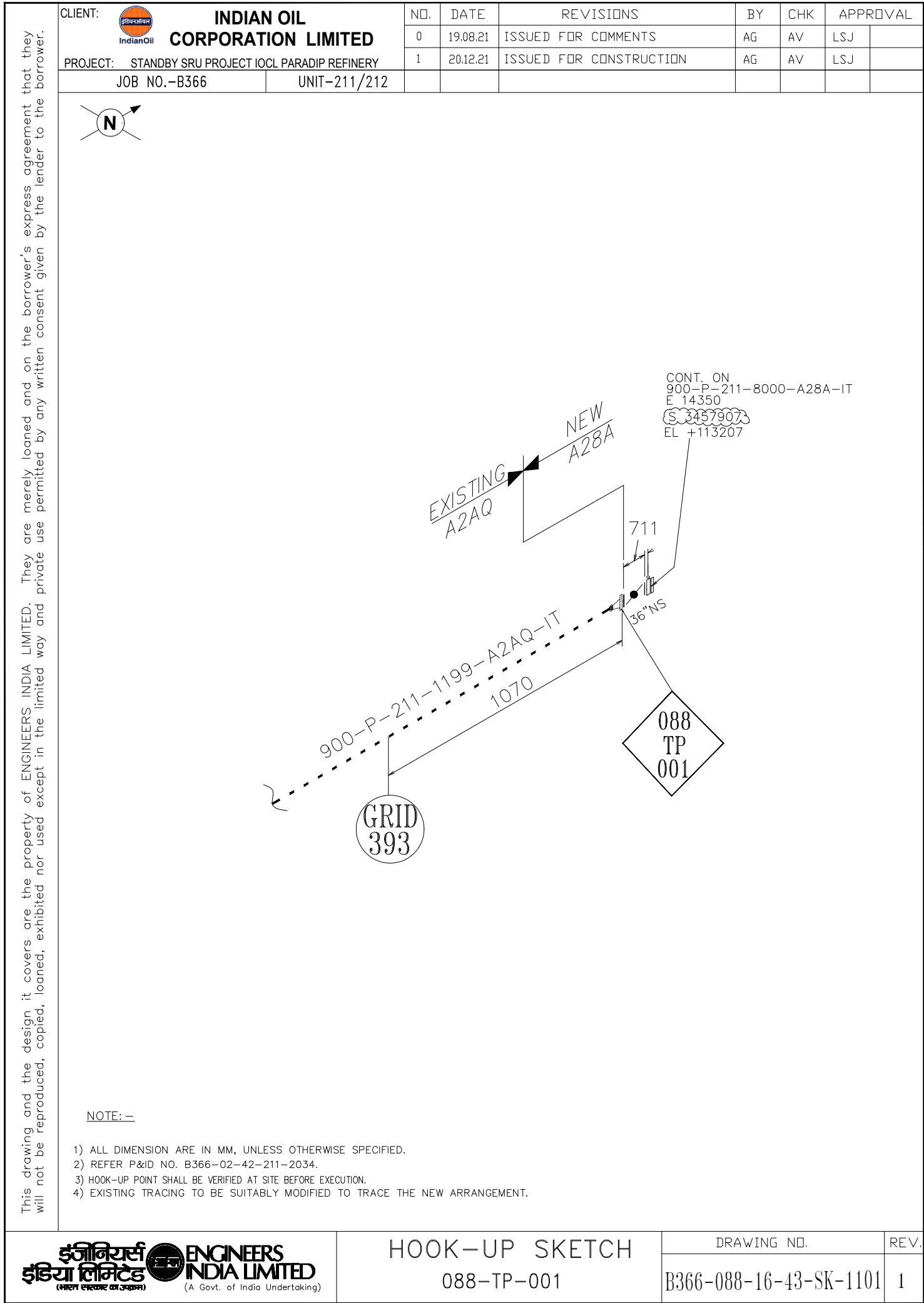


DOCUMENT CATEGORY		DOCUMENT REVIEW STATUS (BY CLIENT)				
<p style="text-align: center;">(USE "X" MARK)\</p> <div style="display: flex; flex-direction: column; gap: 10px;"> <div><input checked="" type="checkbox"/> APPROVAL</div> <div><input type="checkbox"/> REVIEW</div> <div><input type="checkbox"/> INFORMATION</div> </div>						
						
1	10.12.2021	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
0	20.08.2021	ISSUED FOR COMMENTS	AG	AV	LSJ	
REV	DATE	DETAILS OF REVISION	PREPARED	CHECKED	APPROVED	
CLIENT	 <b>IndianOil</b>		<b>INDIAN OIL CORPORATION LIMITED</b> <b>PARADIP REFINERY PROJECT</b> <b>PARADIP ODISHA</b>			
CONSULTANT	 <b>TECHNIP ENERGIES</b>		<b>TECHNIP ENERGIES</b>			
PROJECT	<b>525 TPD STANDBY SRU PROJECT</b> <b>IOCL PARADIP REFINERY, ODISHA, INDIA</b>					
ESC	 <b>ENGINEERS INDIA LIMITED</b>					
 <b>DEPT. PE&amp;SD.</b>	<b>BHEL</b> <b>Hyderabad</b>	NAME	SIGN	DATE		
		DRN				
		CHD				
	CODE 450					
<p>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</p>		<b>TITLE- TIE-IN DRAWINGS</b>				
		<b>BHEL/EIL DRG NO.- B366-088-16-43-SK-1001</b>				<b>REV</b>
		<b>CUST. DRG NO.- 080557C-26899053-PIP-A2301-001</b>				<b>1</b>
		<b>SHT NO.- 1 of 63</b>	<b>NO. OF SHT.- 63</b>			

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3	B366-088-16-43-SK-1103	088-TP-010	
4	B366-088-16-43-SK-1104	088-TP-004	
5	B366-088-16-43-SK-1105	090-TP-027	
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23	B366-088-16-43-SK-1305	088-TP-018	
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29	B366-088-16-43-SK-1311	088-TP-026	
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34	B366-088-16-43-SK-1316	090-TP-034	
35	B366-088-16-43-SK-1317	090-TP-037	
36	B366-088-16-43-SK-1319	088-TP-XX1	HOLD-DM Water
37	B366-088-16-43-SK-1320	090-TP-XX2	HOLD-DM Water
38	B366-088-16-43-SK-1330	212-TP-101	
39	B366-088-16-43-SK-1331	212-TP-102	
40	B366-088-16-43-SK-1332	089-TP-103	
41	B366-088-16-43-SK-1333	089-TP-104	
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43	B366-088-16-43-SK-1335	212-TP-106	
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45	B366-088-16-43-SK-1402	088-TP-016	
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50	B366-088-16-43-SK-1407	090-TP-036	
51	B366-088-16-43-SK-1408	090-TP-038	
MTO			
1	TIE-IN MTO		
NOTES			
1	Insulation & Painting to be considered as per the P&ID/Specifications/Standards.		
2	For supports, refer support standard.		



**इंजीनियर्स  
इंडिया लिमिटेड**  
(भारत सरकार का उपक्रम)

 **ENGINEERS  
INDIA LIMITED**  
(A Govt. of India Undertaking)



**INDIAN OIL  
CORPORATION LIMITED**

JOB NO.-B366

UNIT-211/212

NO.

DATE \_\_\_\_\_

REVISIONS

BY

CHK

APPROVAL

0

19.08.21

ISSUED FOR COMMENTS

AG

AV
----

LSJ

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1

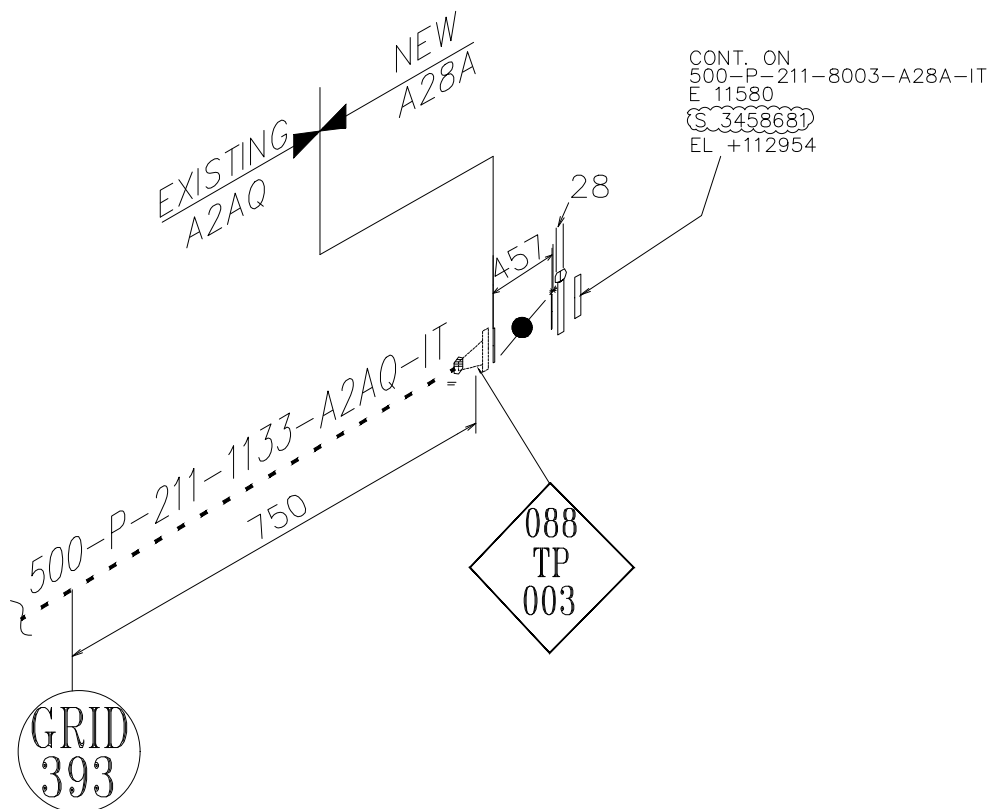
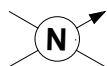
10.12.21

ISSUED FOR CONSTRUCTION

AG

AV
----

LSJ



NOTE: —

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-211-2034.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) EXISTING TRACING TO BE SUITABLY MODIFIED TO TRACE THE NEW ARRANGEMENT.

HOOK-UP SKETCH  
088-TP-003

DRAWING NO.

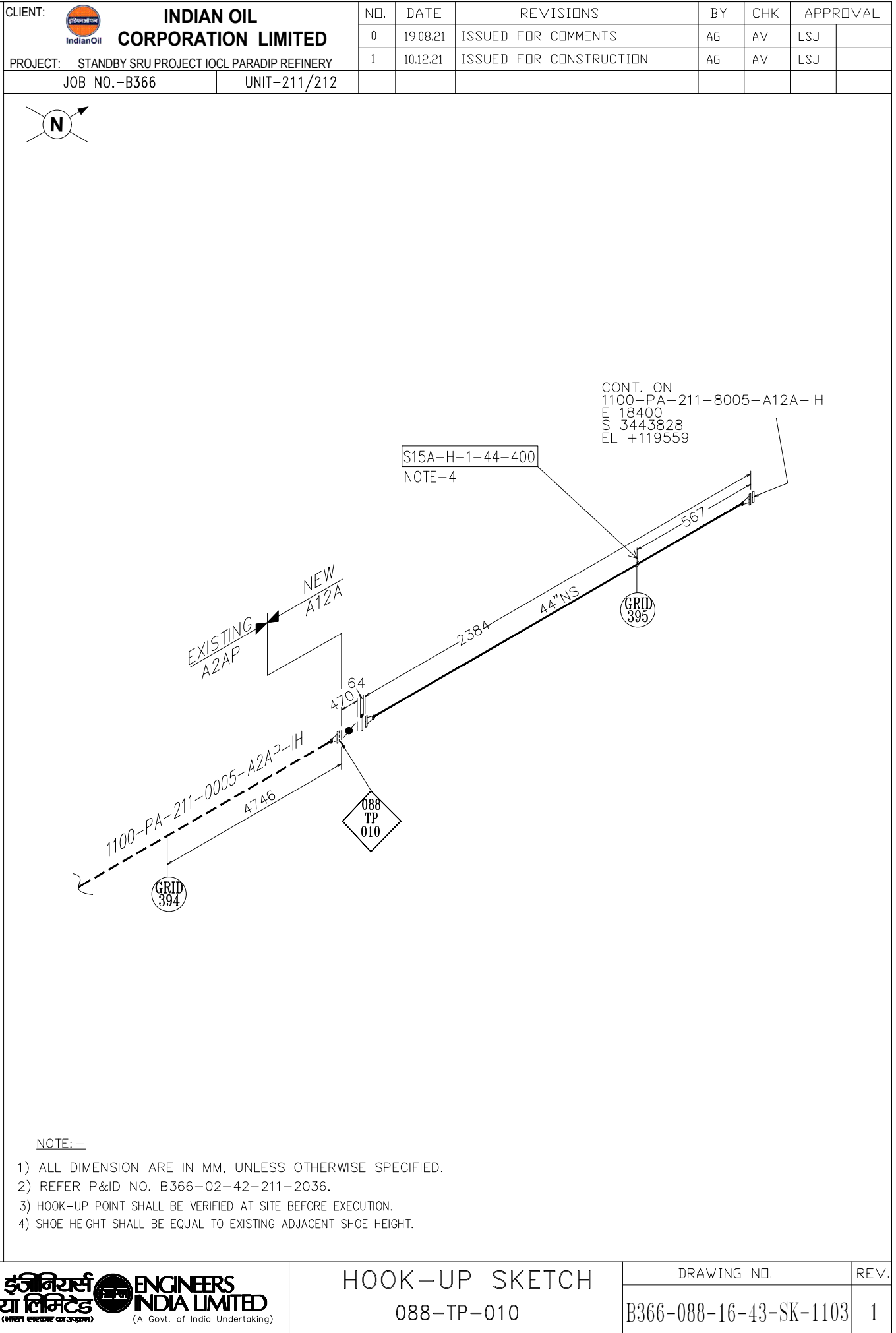
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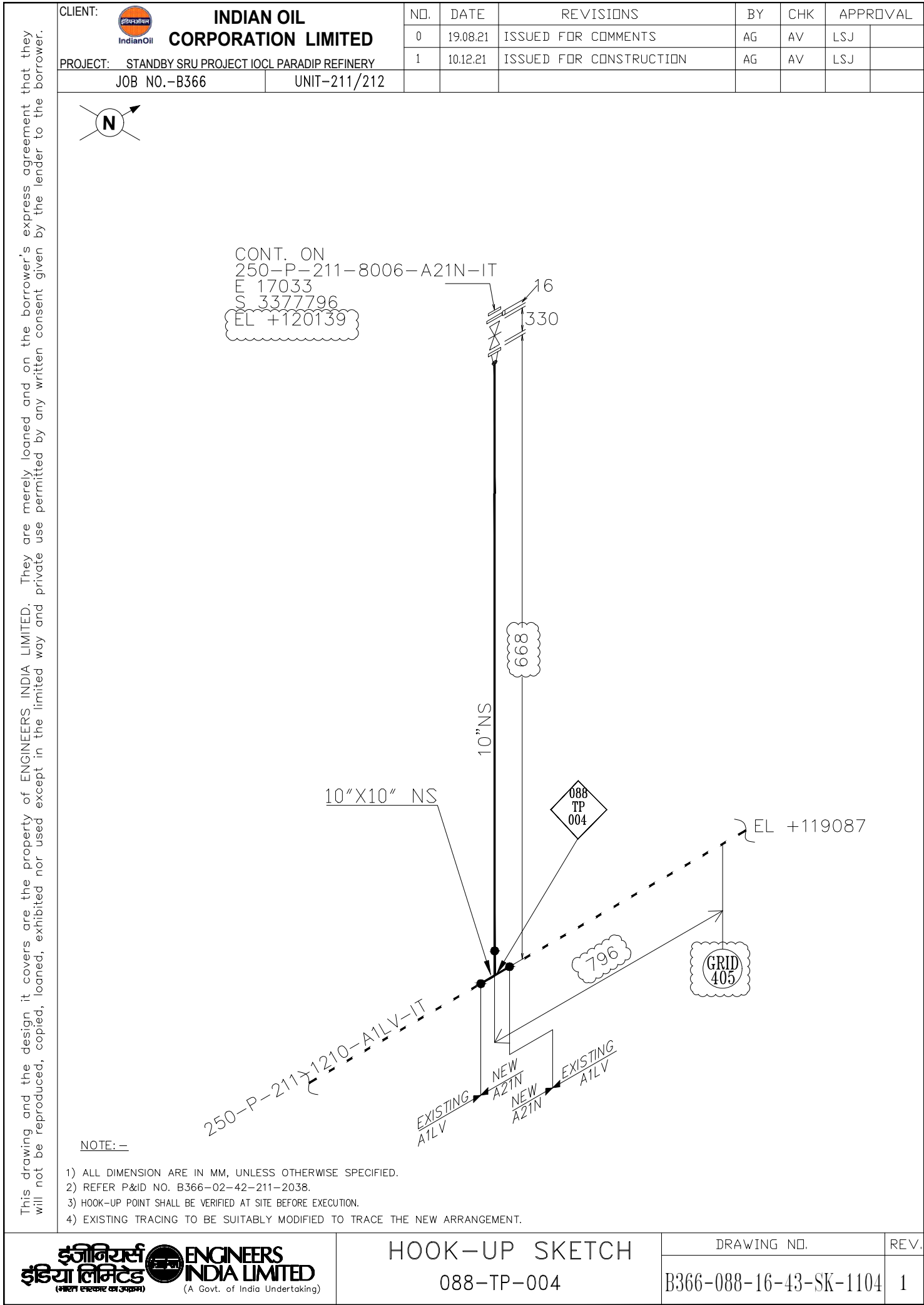
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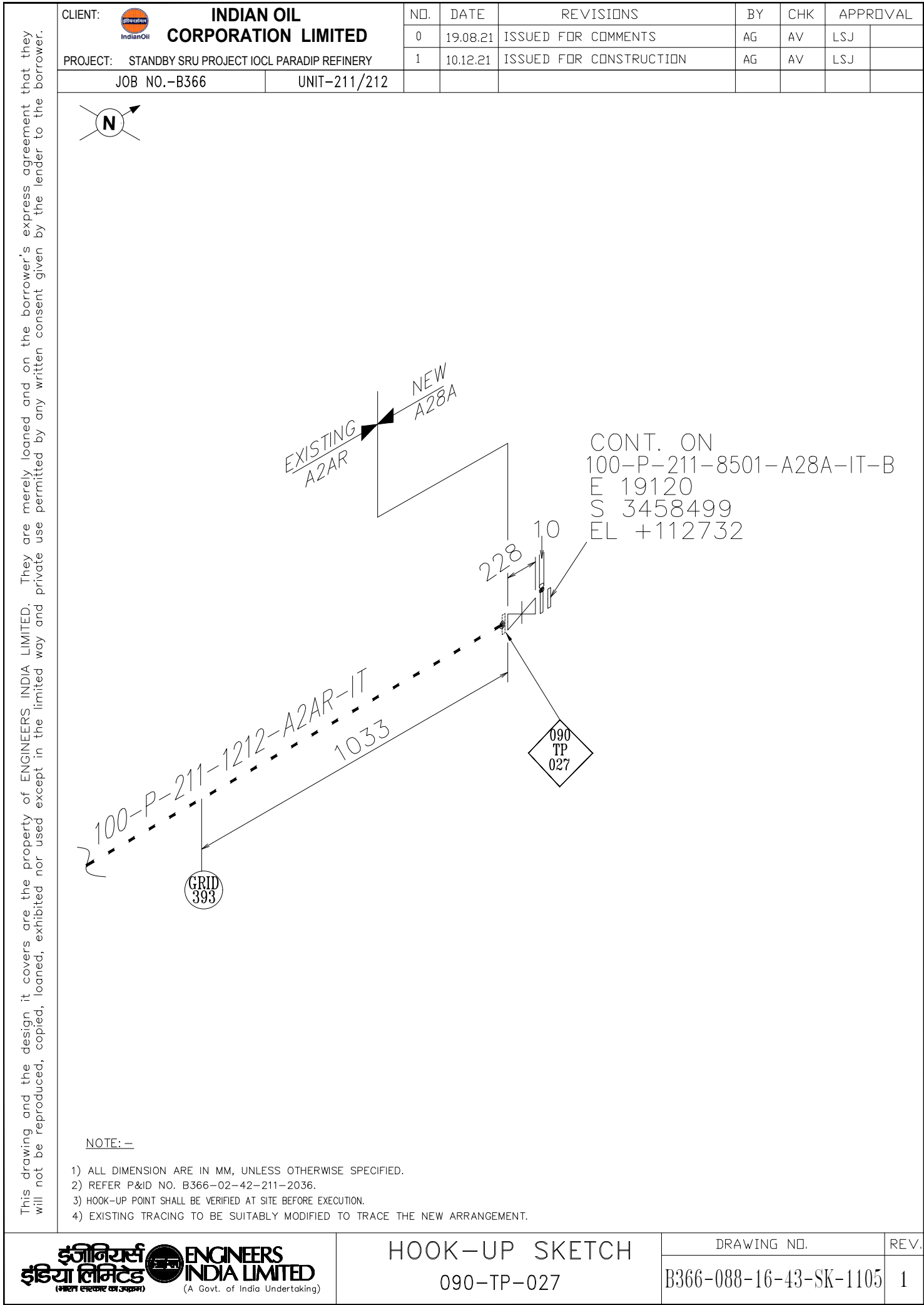
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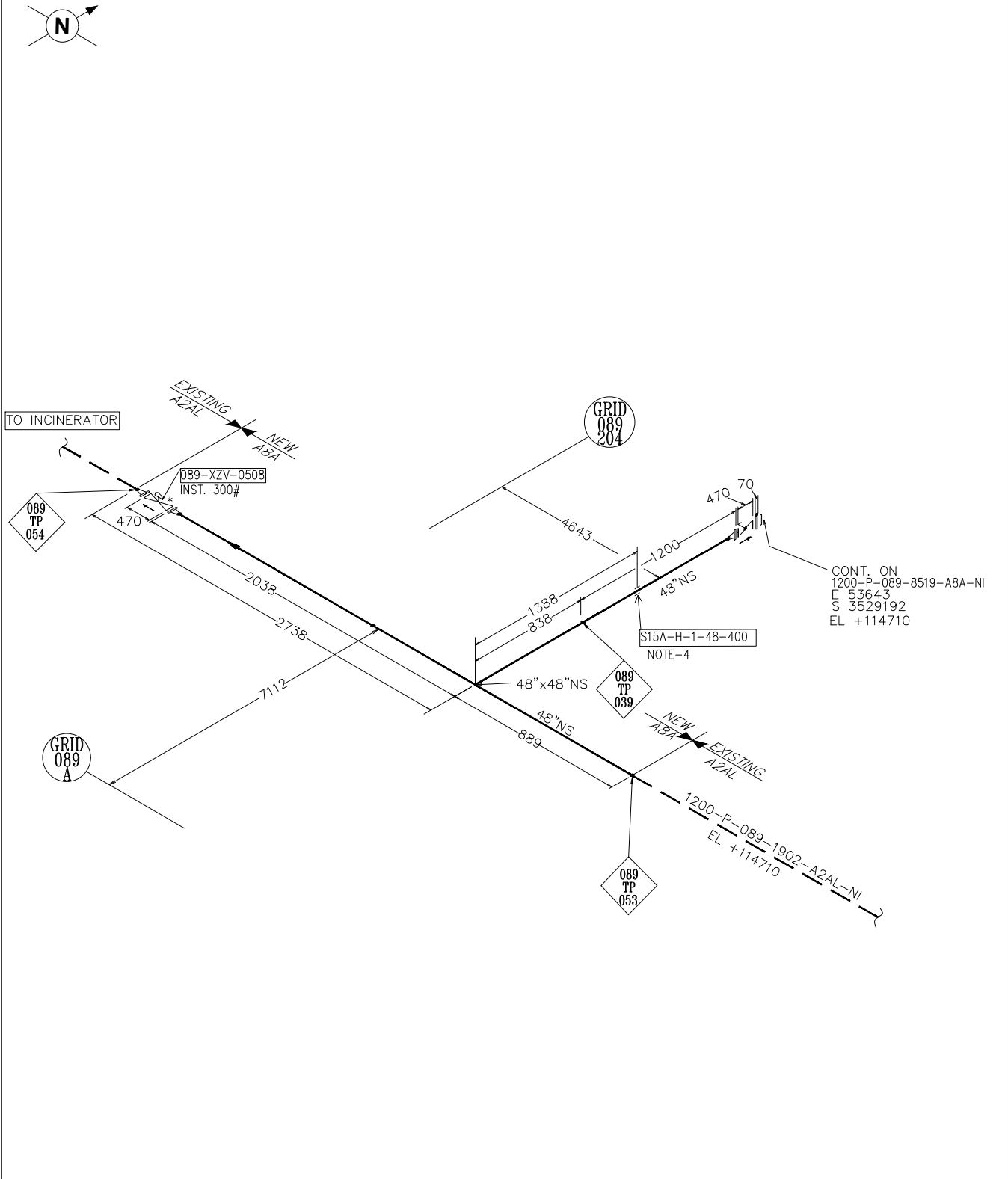






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CLIENT:	 <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL
PROJECT:	STANDBY SRU PROJECT IOCL PARADIP REFINERY	0	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ
JOB NO.-B366	UNIT-089						




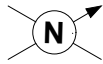
\* CONTROL VALVE ALONG WITH MATING FLANGES SHALL BE 300#

NOTE: —

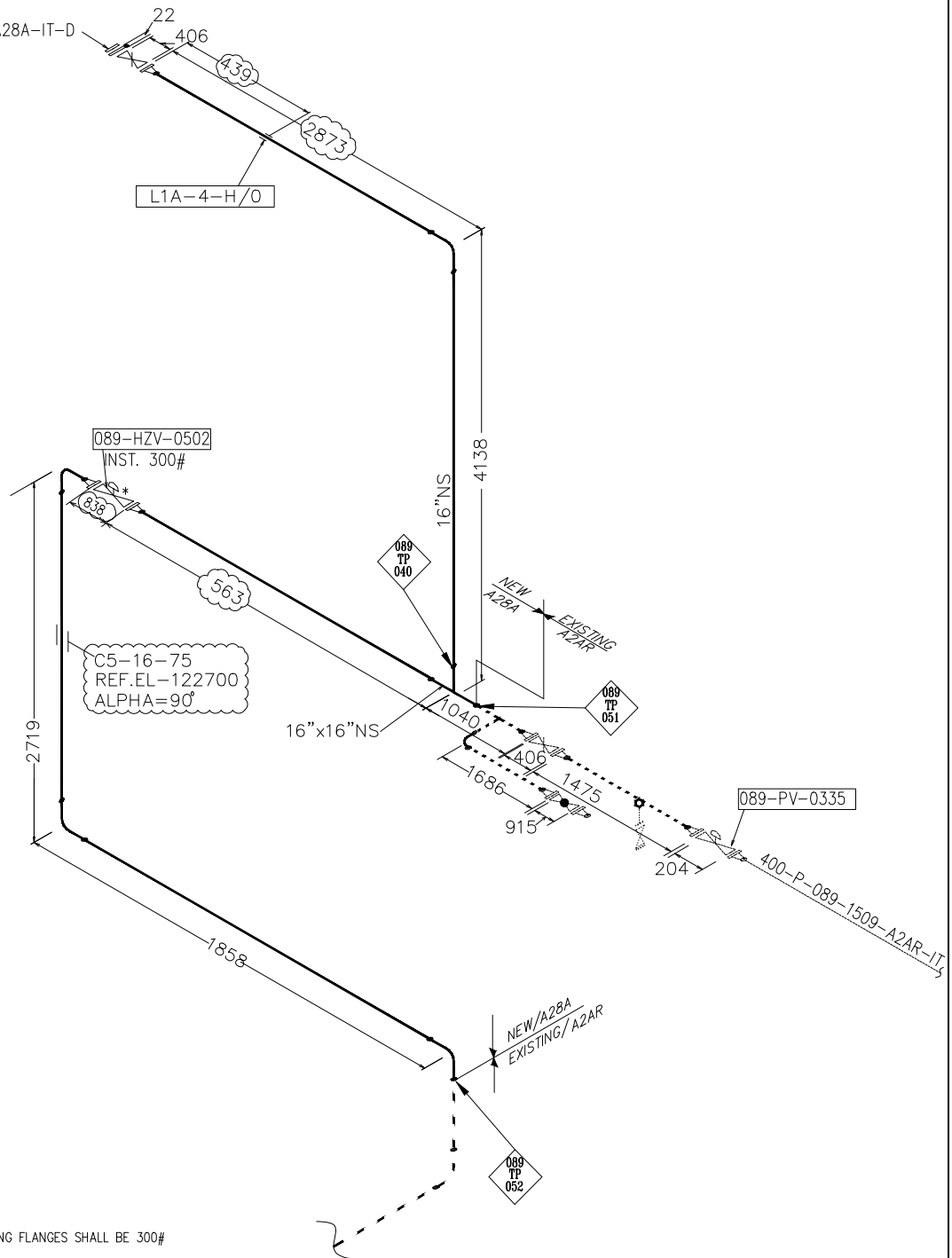
- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-089-0010.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) SHOE HEIGHT SHALL BE SUIT TO SITE.

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CLIENT:	 <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL
PROJECT:	STANDBY SRU PROJECT IOCL PARADIP REFINERY	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ
JOB NO.-B366	UNIT-089	1	29.09.21	ISSUED FOR COMMENTS	AG	AV	LSJ
		2	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ



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S 3518066  
EL +127728




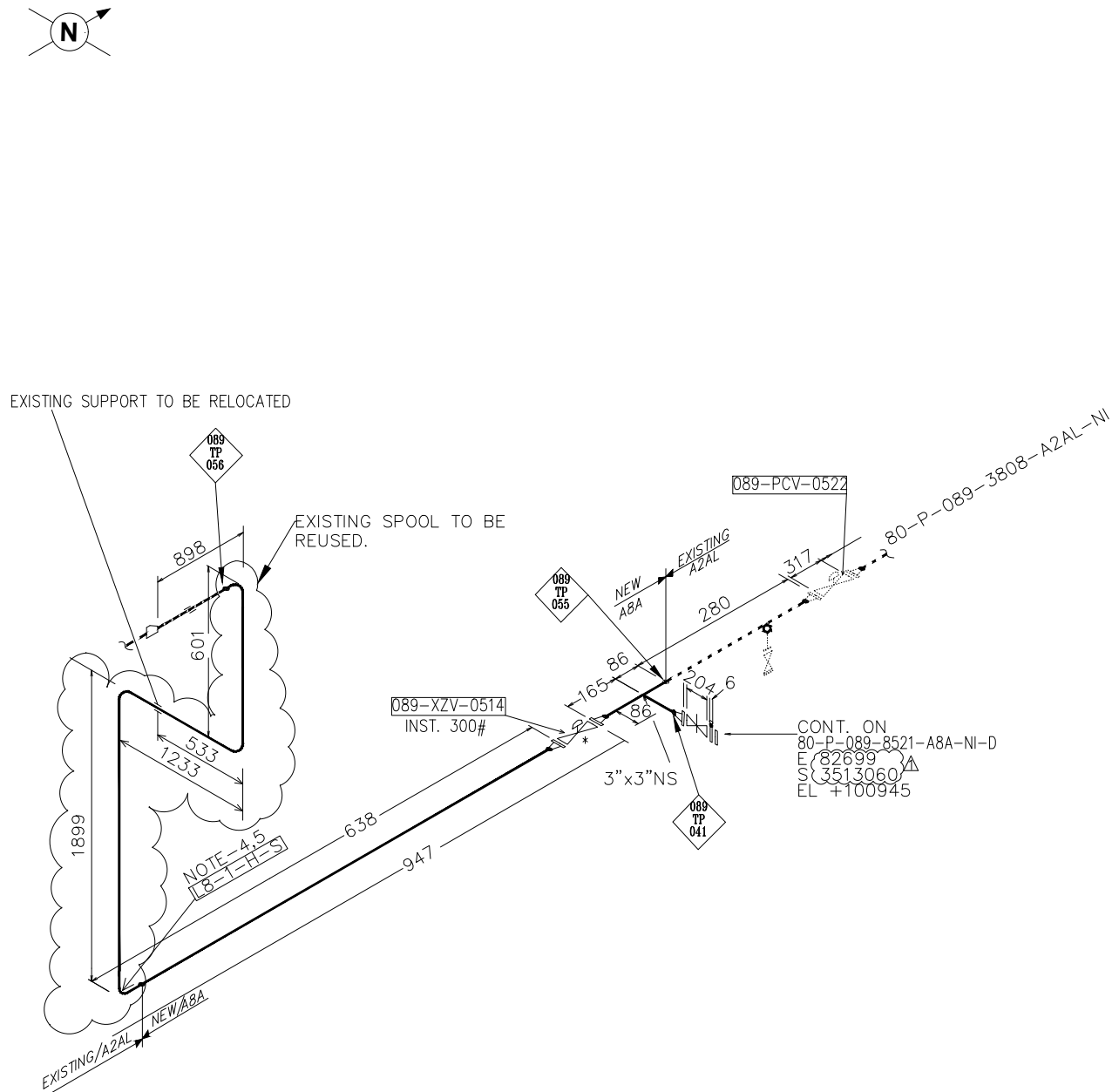
\* CONTROL VALVE ALONG WITH MATING FLANGES SHALL BE 300#

**NOTE:-**

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-089-0006.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) EXISTING TRACING TO BE SUITABLY MODIFIED TO TRACE NEW ARRANGEMENT.

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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL	
	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-089					



\* CONTROL VALVE ALONG WITH MATING FLANGES SHALL BE 300#


HOLD: -

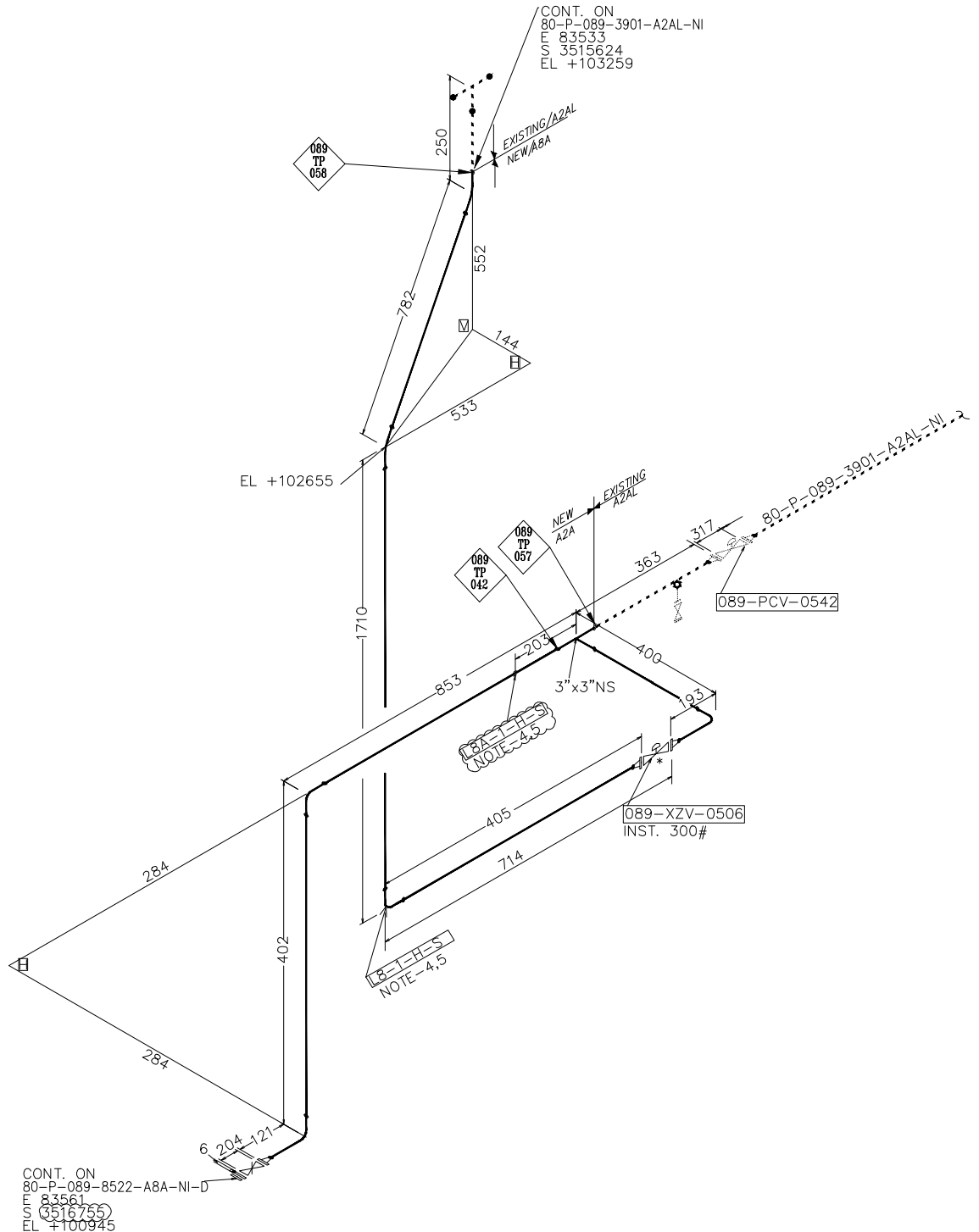
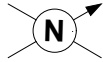
1) 089-XZV-0514 FACE TO FACE DIMENSION.

NOTE: -

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-089-0025.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) PROVIDE PEDESTAL AT SUPPORT LOCATION.
- 5) HEIGHT OF DUMMY SHALL BE SUIT TO SITE.


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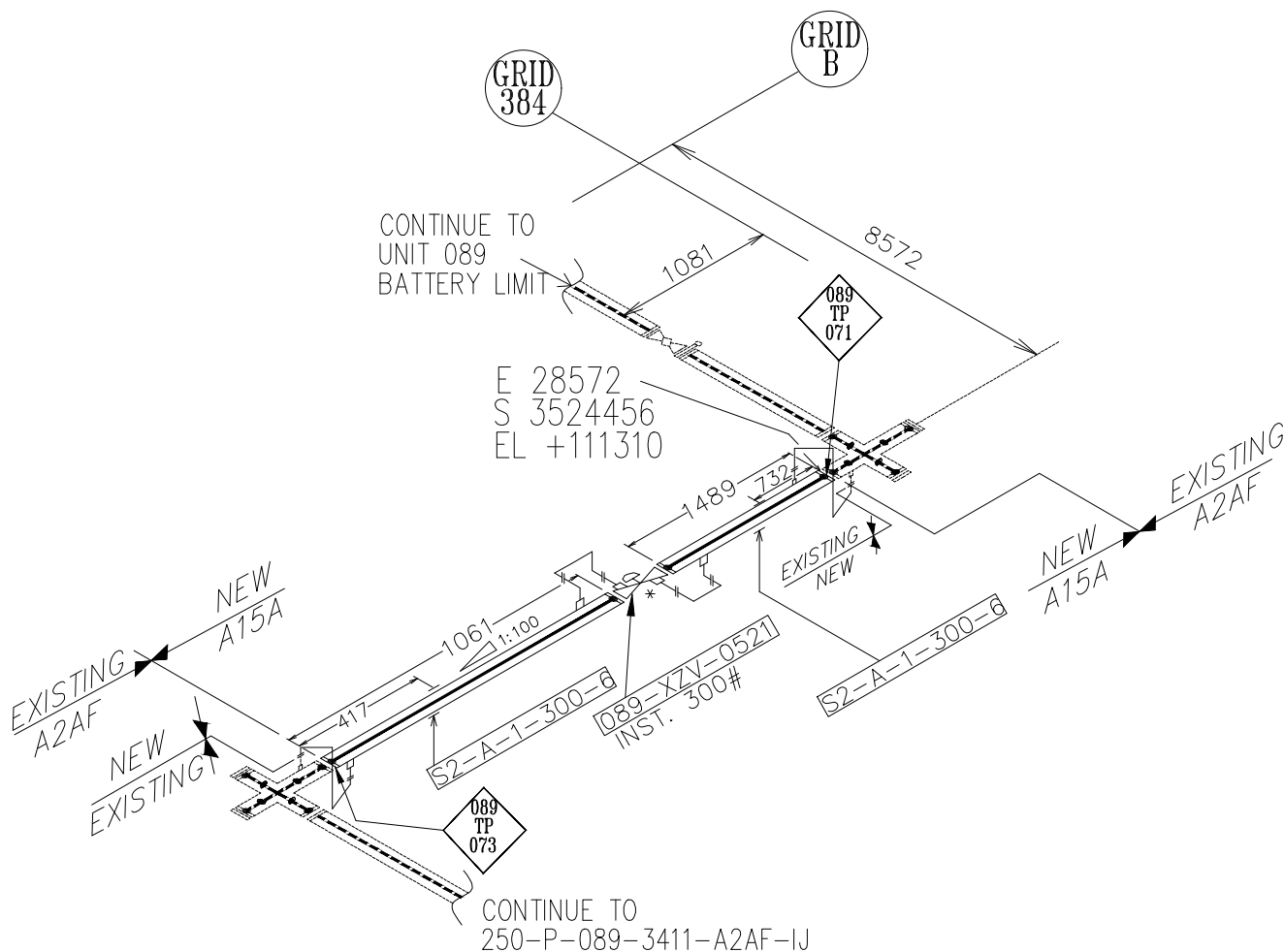
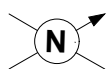
CLIENT:	 <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL
PROJECT:	STANDBY SRU PROJECT IOCL PARADIP REFINERY	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ
JOB NO.-B366	UNIT-089	1	10.12.2021	ISSUED FOR CONSTRUCTION	AG	AV	LSJ



- \* CONTROL VALVE ALONG WITH MATING FLANGES SHALL BE 300#  
HOLD:-
- 1) 089-XZV-0506 FACE TO FACE DIMENSION.  
NOTE:-
- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.  
2) REFER P&ID NO. B366-02-42-089-0026.  
3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.  
4) PROVIDE PEDESTAL AT SUPPORT LOCATION.  
5) HEIGHT OF DUMMY SHALL BE SUIT TO SITE.

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	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	28.09.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
PROJECT: <b>STANDBY SRU PROJECT IOCL PARADIP REFINERY</b>	2	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
JOB NO.-B366	UNIT-089						



\* CONTROL VALVE ALONG WITH FLANGES SHALL BE 300#

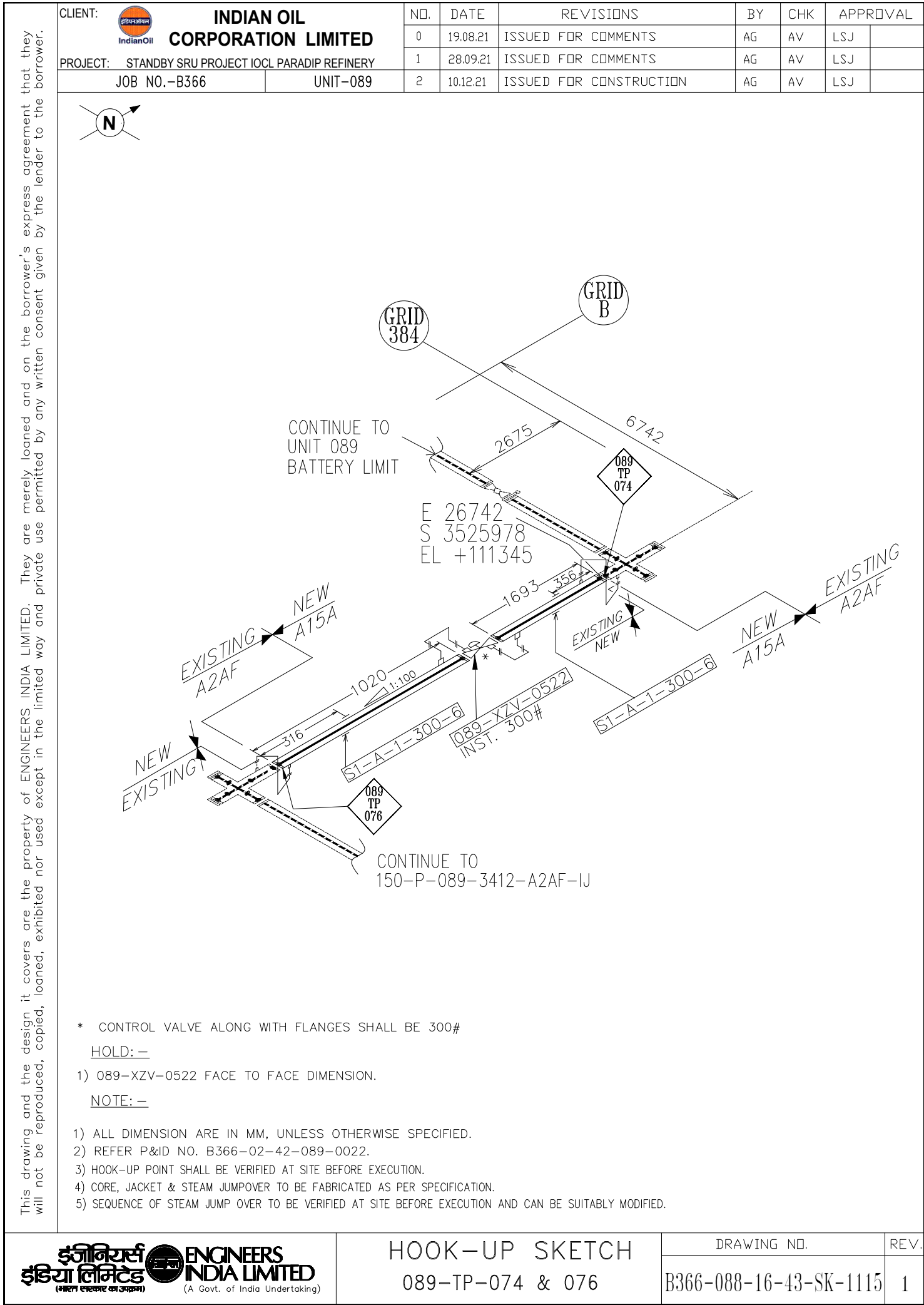
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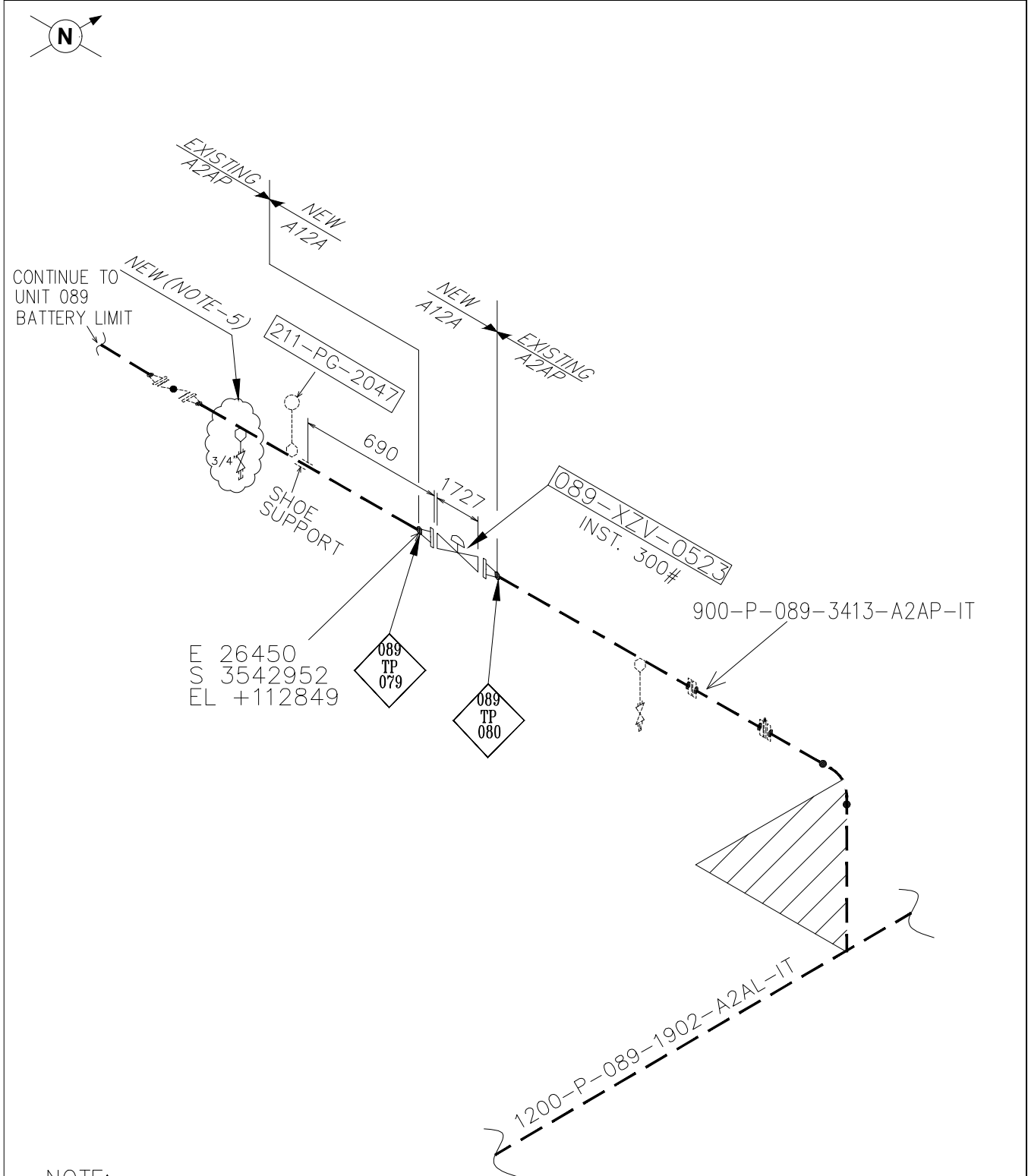
- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-089-0022.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) CORE, JACKET & STEAM JUMPOVER TO BE FABRICATED AS PER SPECIFICATION.
- 5) SEQUENCE OF STEAM JUMP OVER TO BE VERIFIED AT SITE BEFORE EXECUTION AND CAN BE SUITABLY MODIFIED.





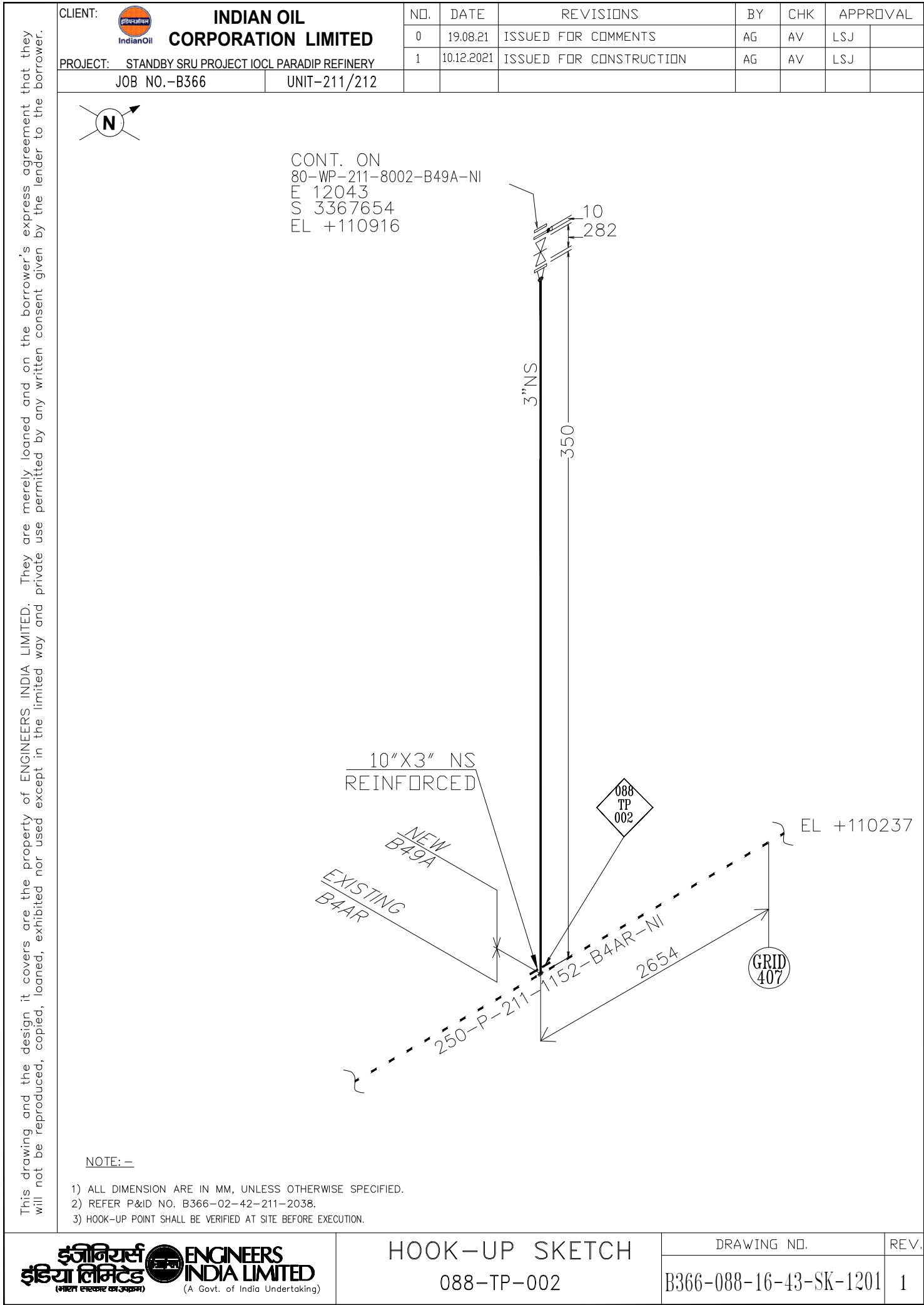
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PROJECT:	STANDBY SRU PROJECT IOCL PARADIP REFINERY	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ
JOB NO.-B366	UNIT-089	1	28.09.21	ISSUED FOR COMMENTS	AG	AV	LSJ
		2	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ




NOTE: —

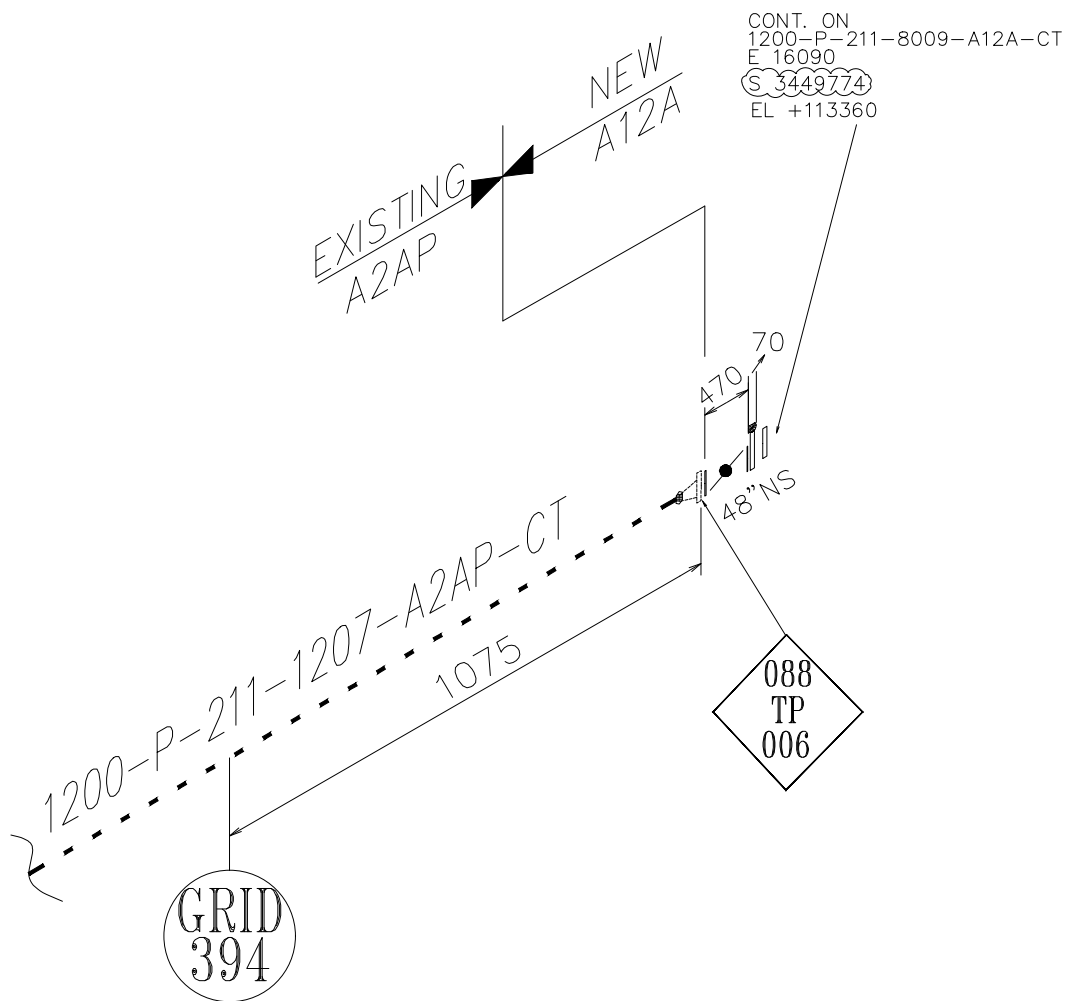
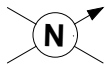
- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-089-0022.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) EXISTING STEAM TRACING TO BE MODIFIED, TO TRACE THE NEW ARRANGEMENT.
- 5) DRAIN TO BE PROVIDED SUIT TO SITE, AS PER THE TESTING PHILOSOPHY.





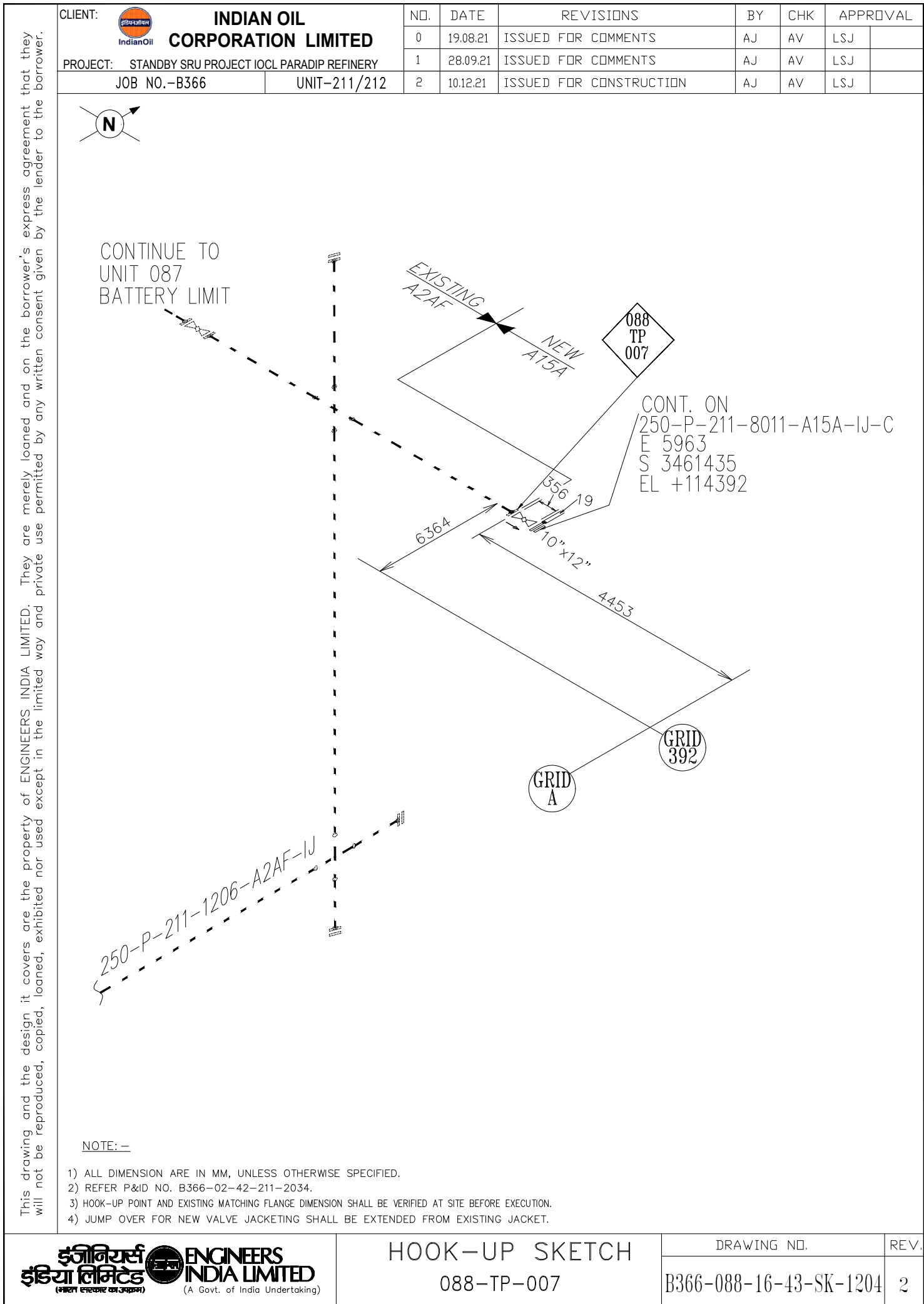
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PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-211/212					




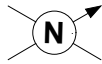
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- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-211-2034.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) EXISTING TRACING TO BE SUITABLY MODIFIED TO TRACE THE NEW ARRANGEMENT.

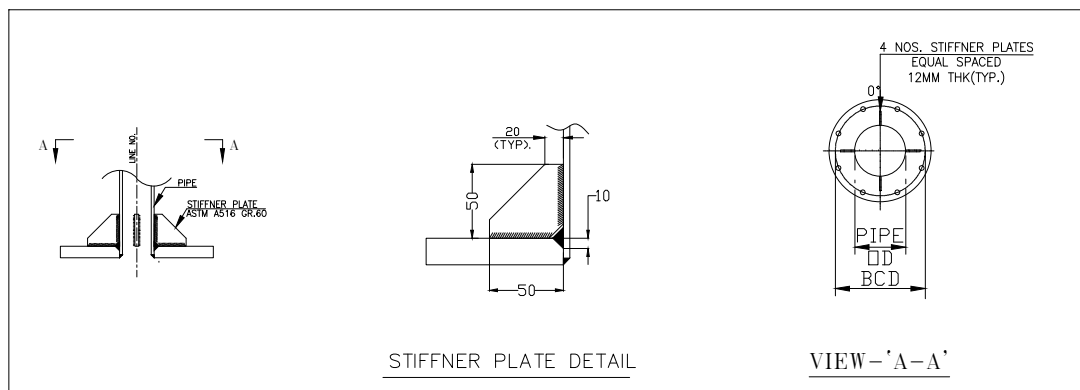
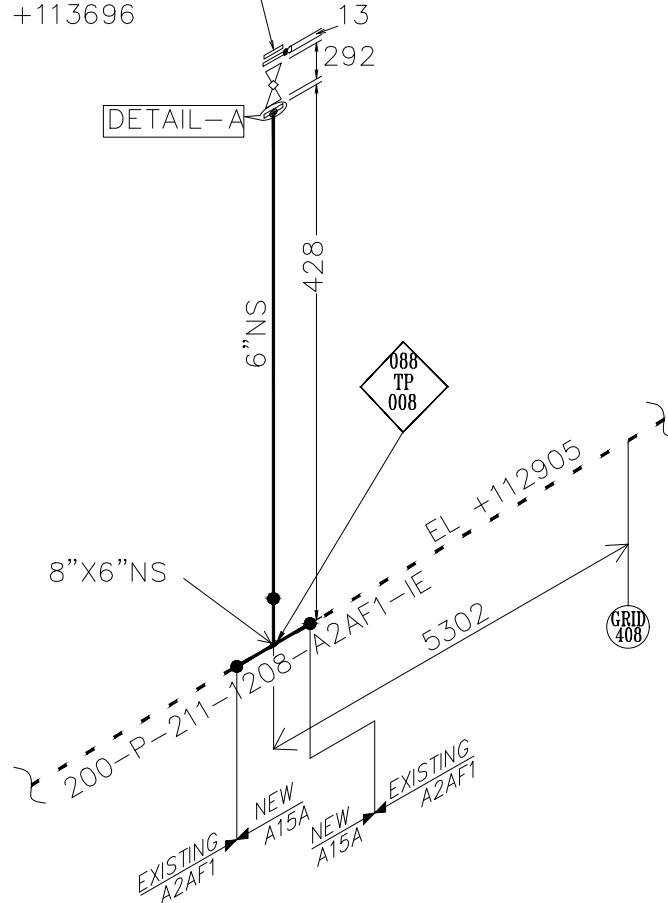


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PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-211/212					



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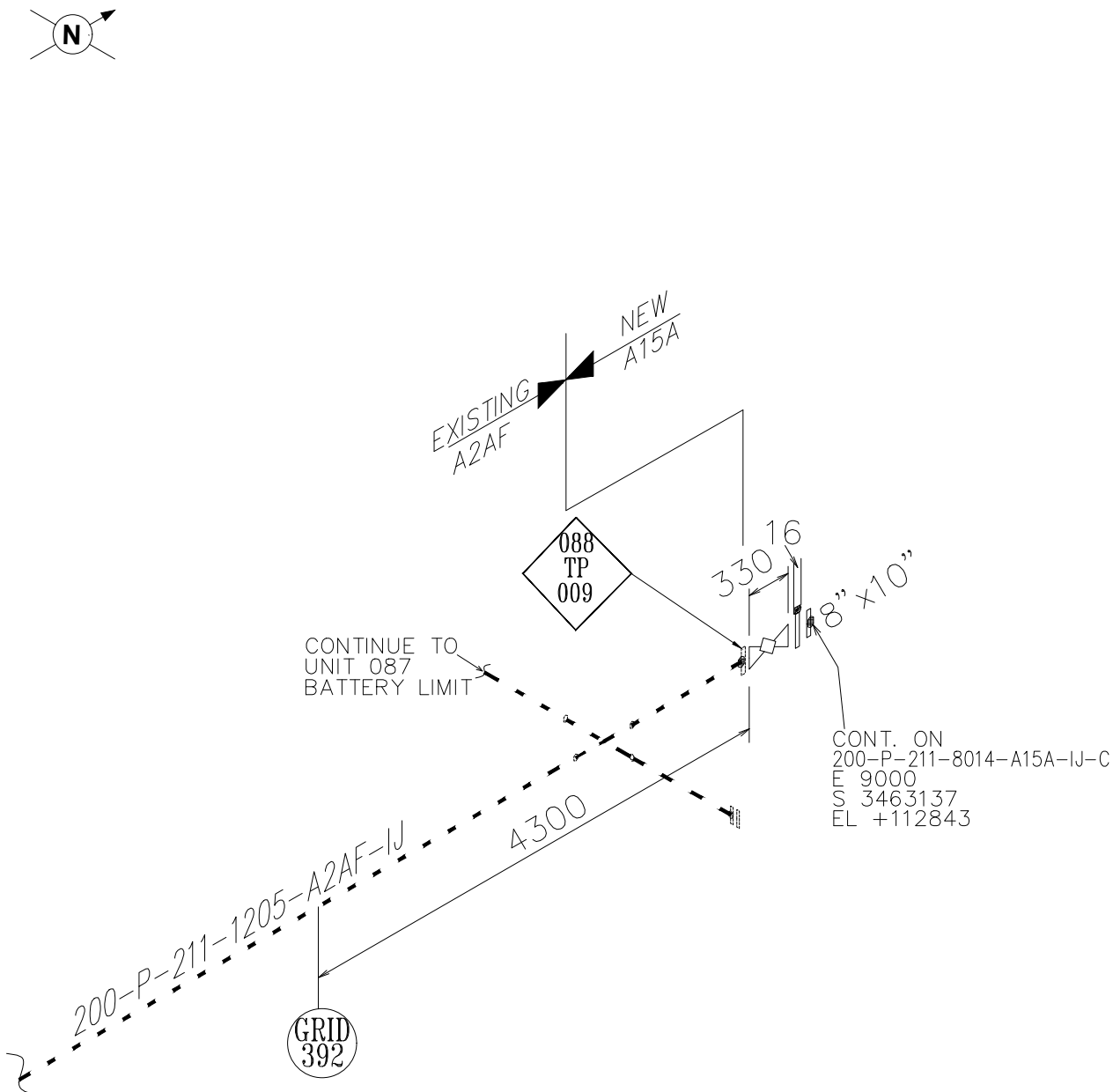
DETAIL-A

NOTE: -

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-211-2038..
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) EXISTING ELECTRICAL TRACING TO BE SUITABLY MODIFIED TO TRACE NEW ARRANGEMENT.

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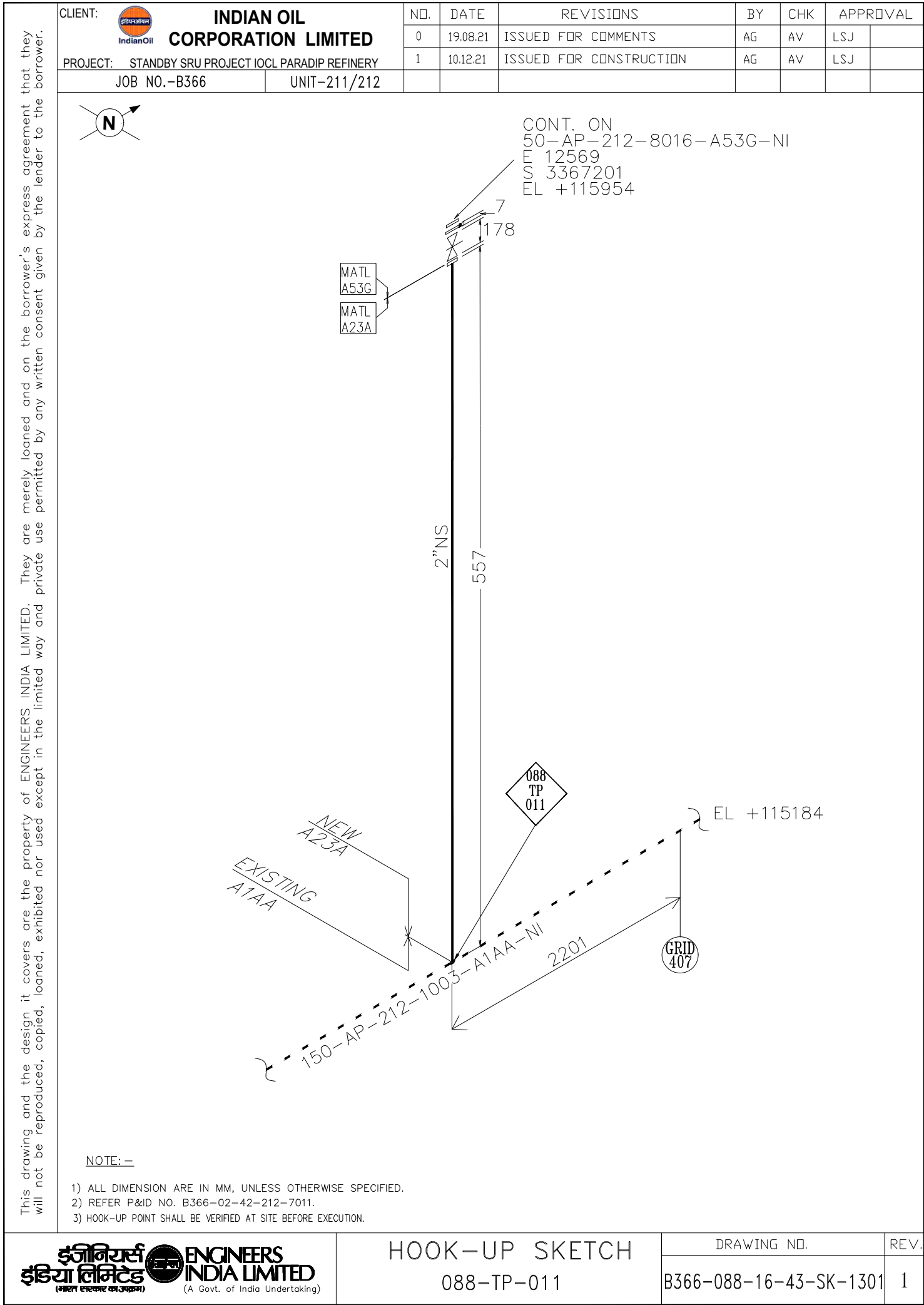
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	1	28.09.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
PROJECT: <b>STANDBY SRU PROJECT IOCL PARADIP REFINERY</b>	2	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
JOB NO.-B366	UNIT-211/212						

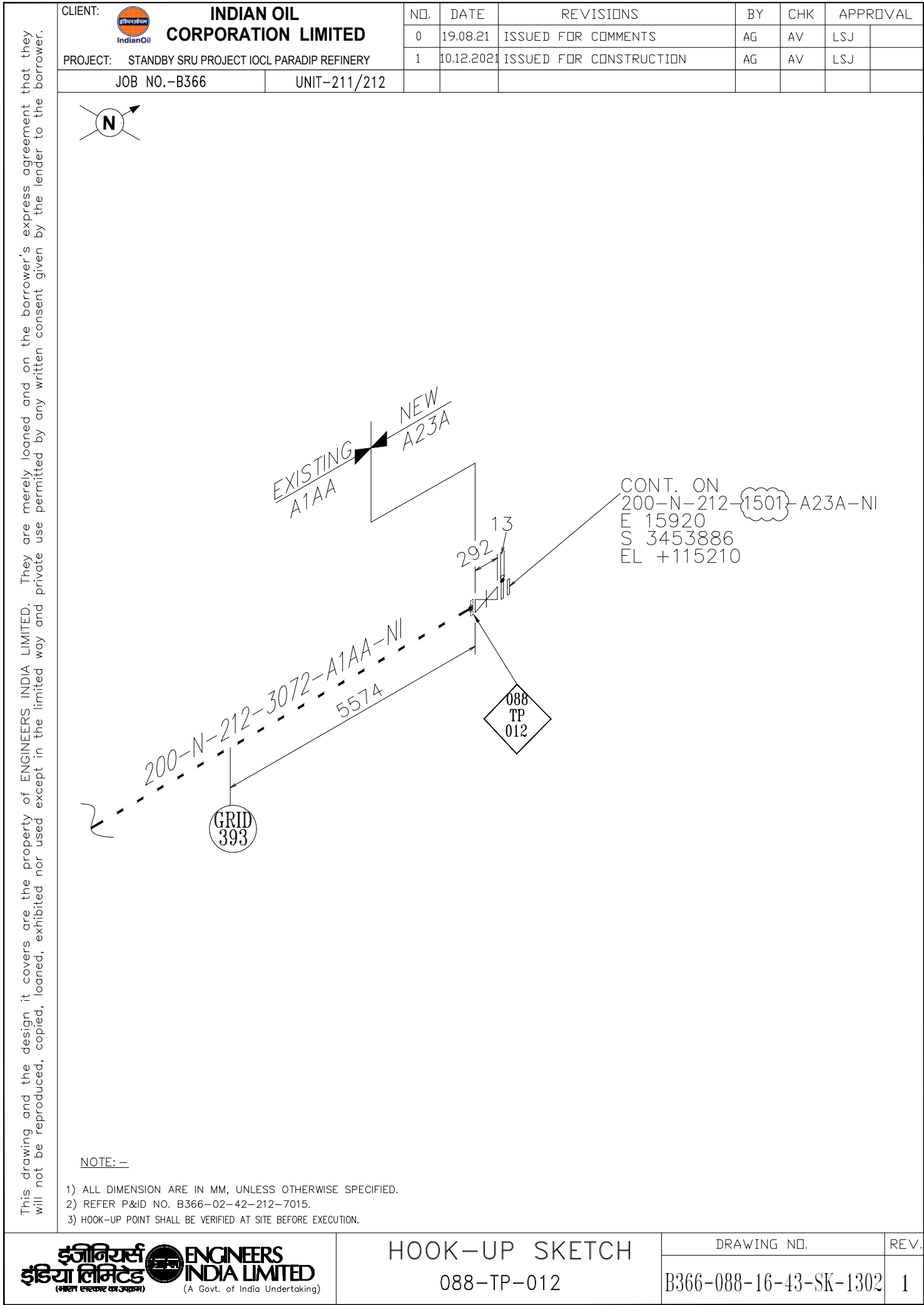


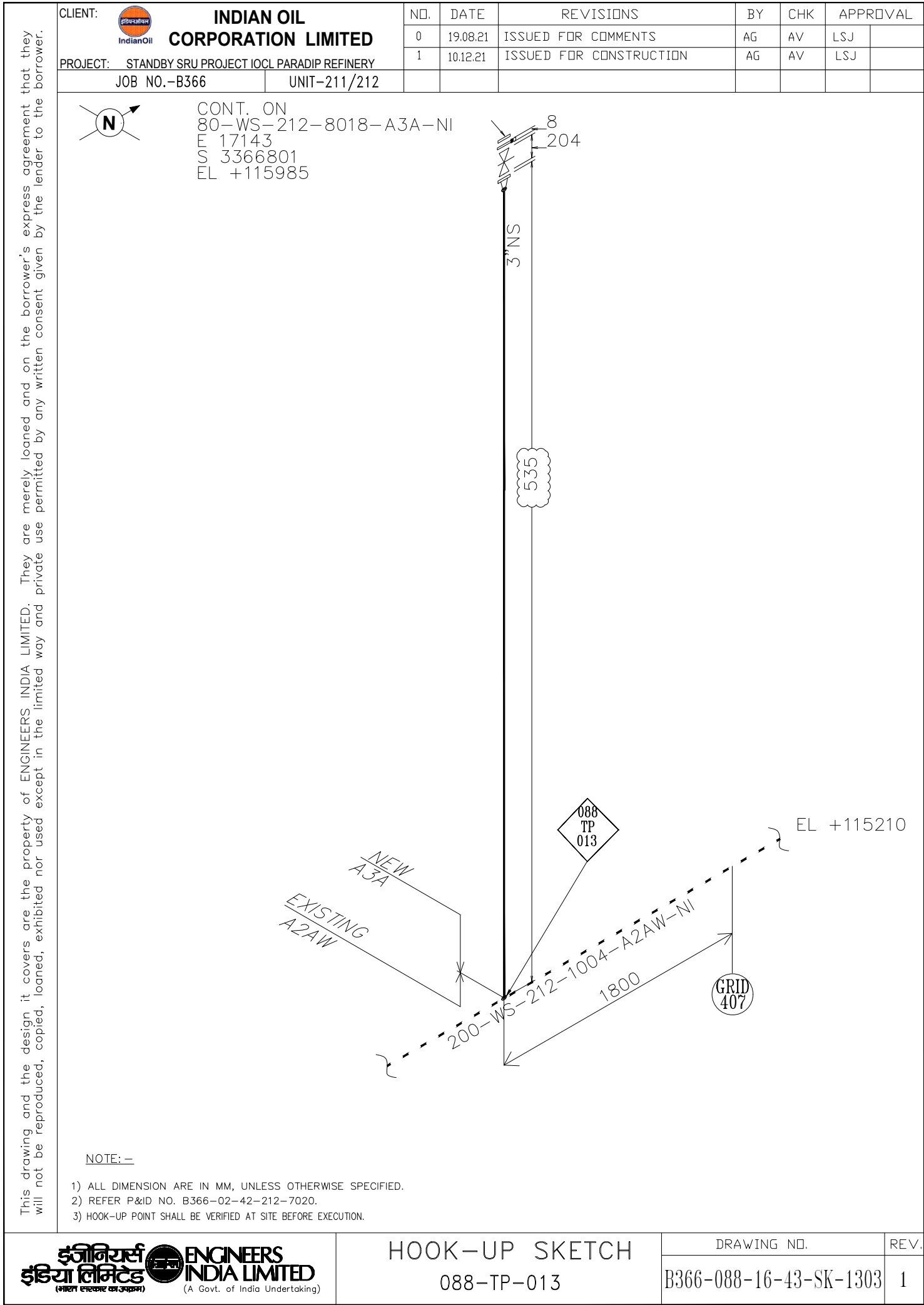
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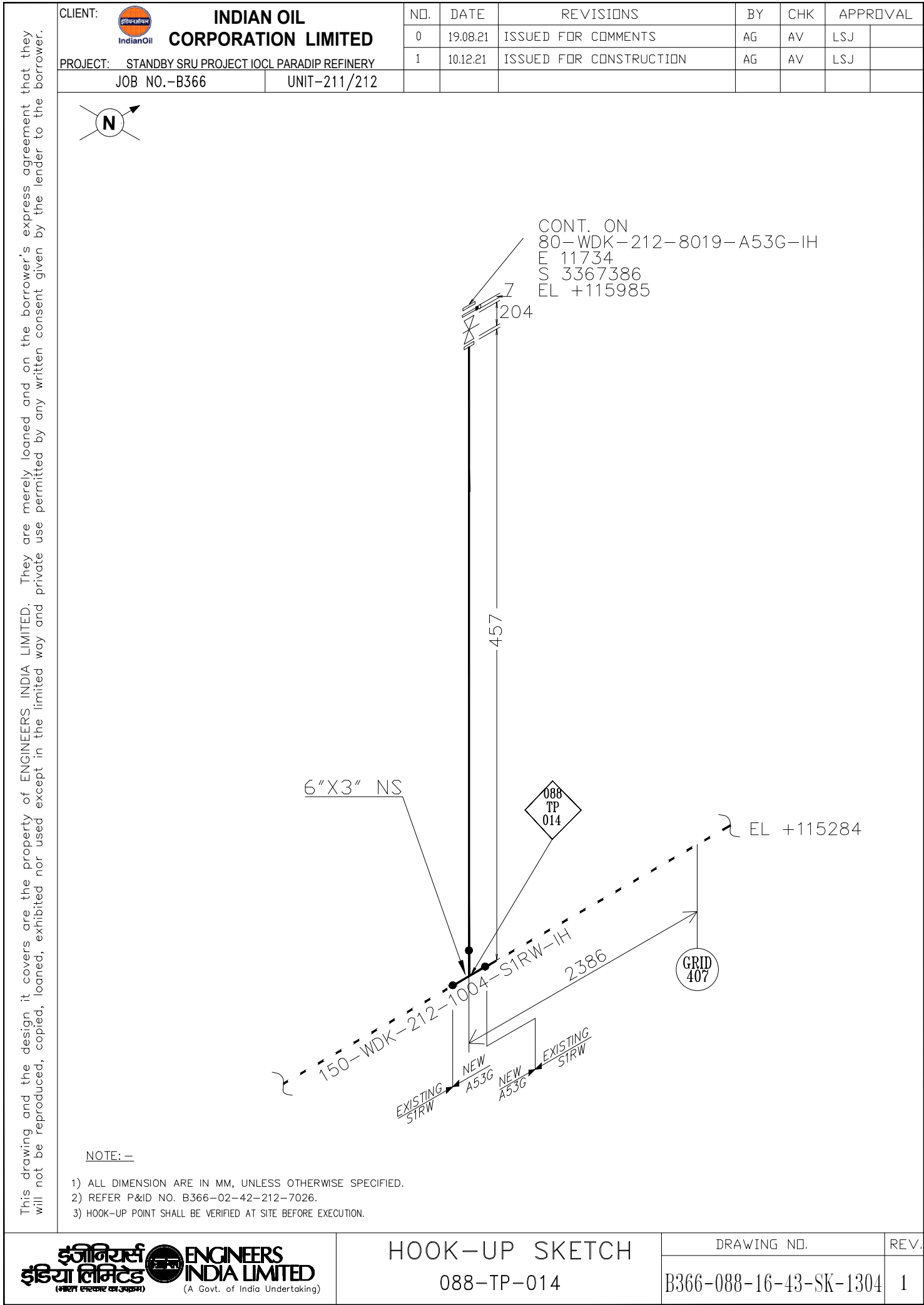
- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-211-2034.
- 3) HOOK-UP POINT AND EXISTING MATCHING FLANGE DIMENSION SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) JUMP OVER FOR NEW VALVE JACKETING SHALL BE EXTENDED FROM EXISTING JACKET.

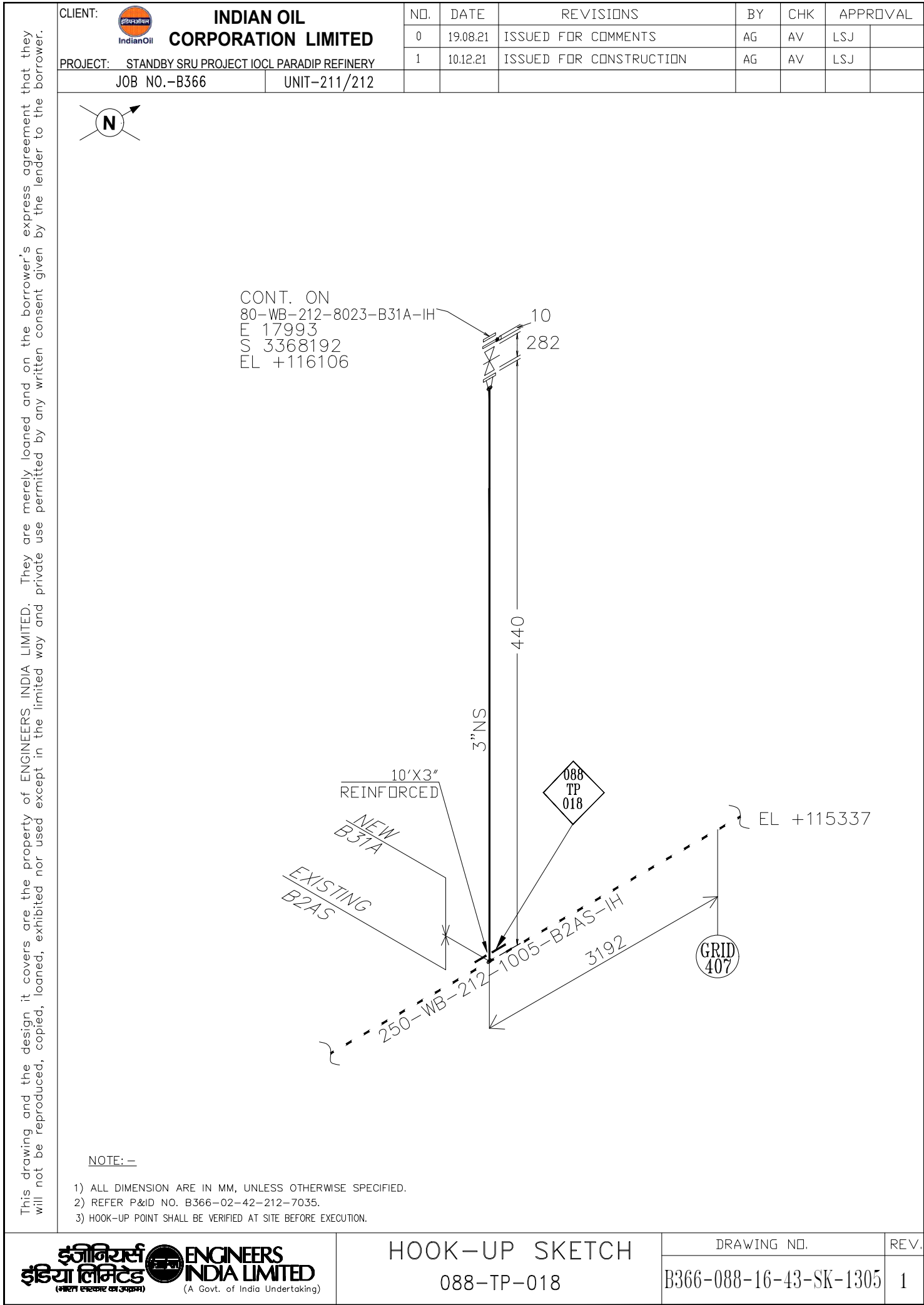


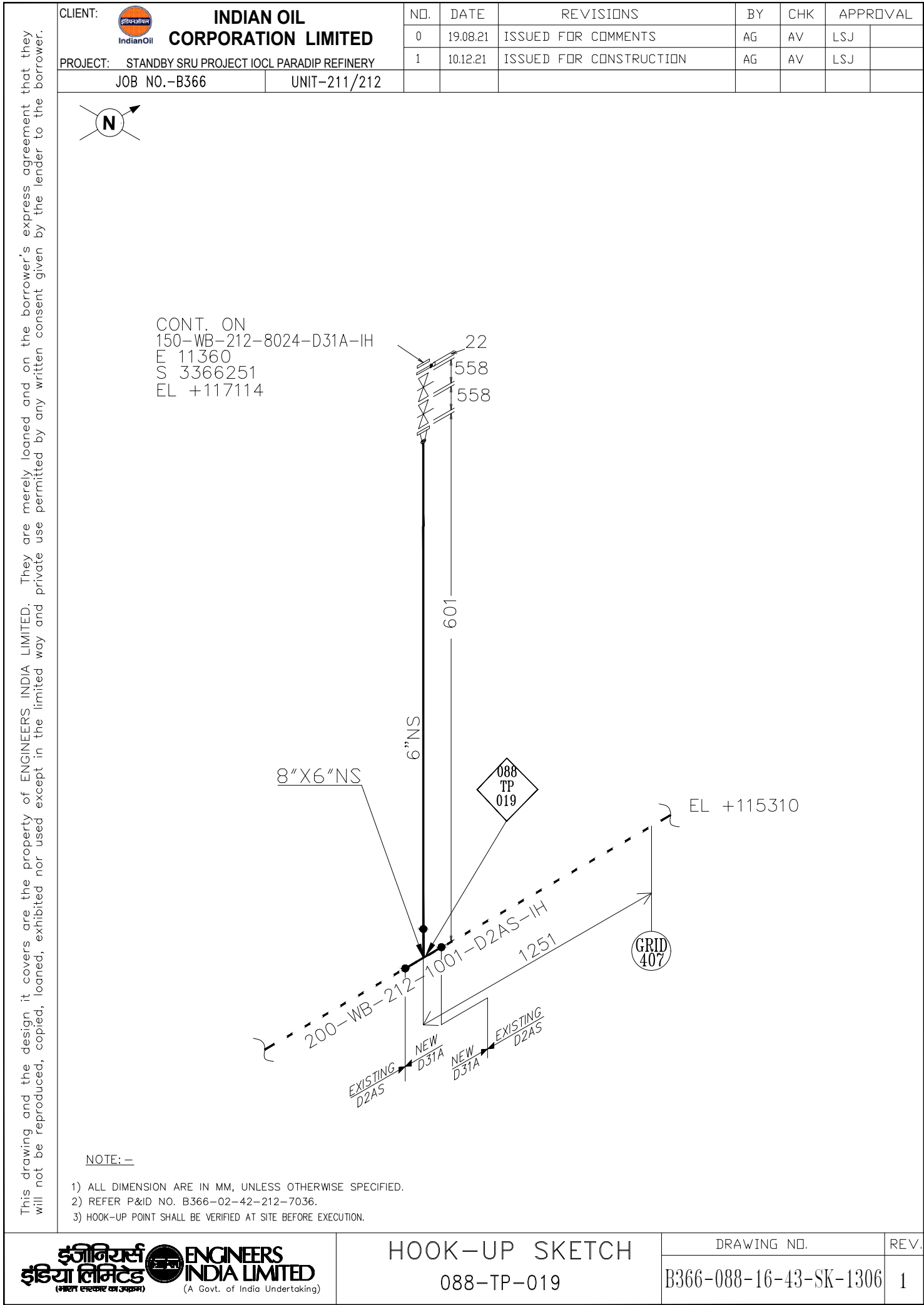







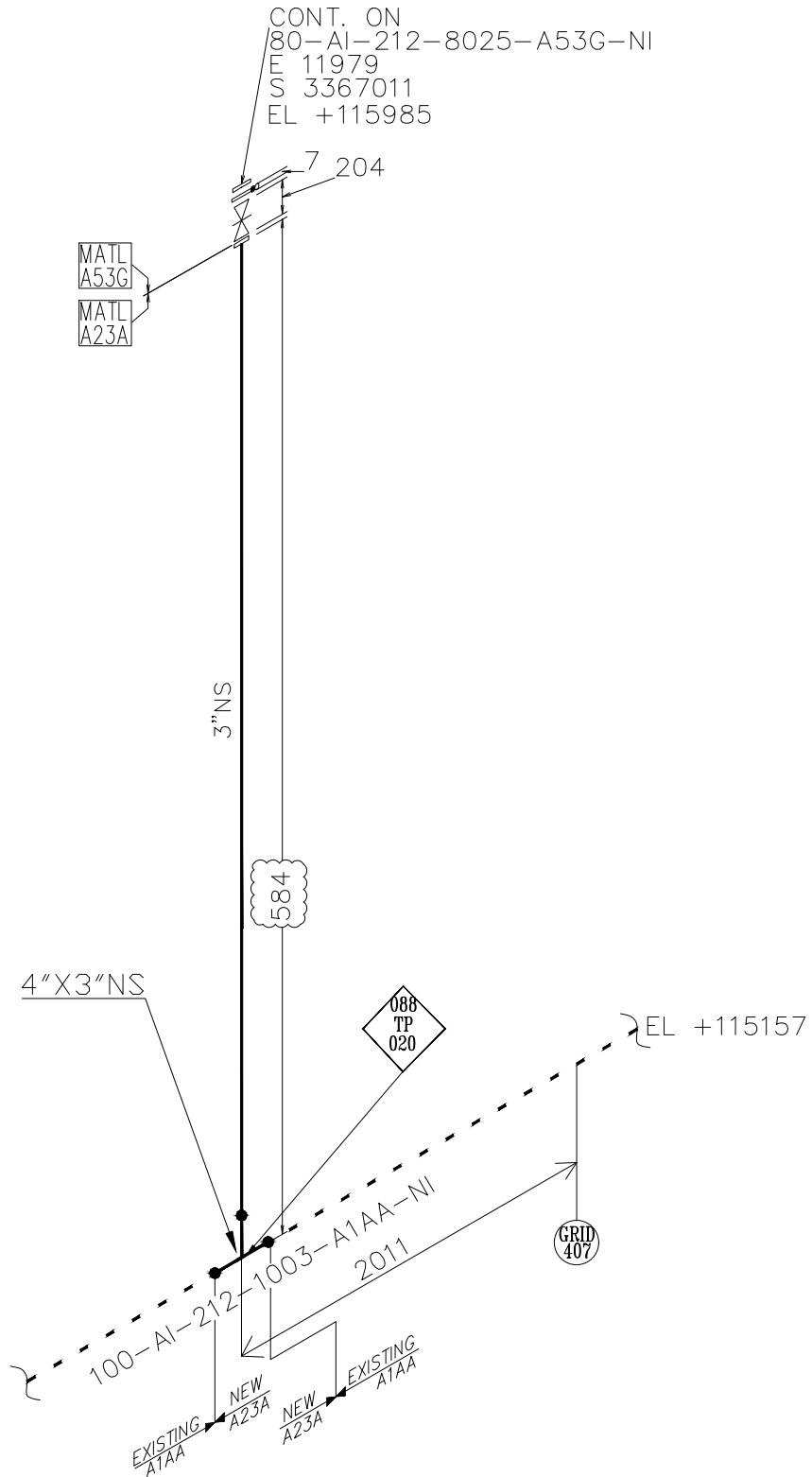
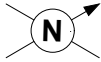






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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL	
	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-211/212					



NOTE: -

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7050.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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CLIENT:INDIAN OIL CORPORATION LIMITED

PROJECT:STANDBY SRU PROJECT IOCL PARADIP REFINERY

JOB NO.-B366UNIT-211/212

NO.	DATE	REVISIONS	BY	CHK	APPROVAL
0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ
1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ

N

EXISTING  
A2AS

NEW  
A31A

50-BD-212-1010-A2AS-PP

4798

GRID  
392

178

6

088  
TP  
023

CONT. ON  
2"-BD-212-6301-A31A-PP-B  
E 12360  
S 3462793  
EL +115230

NOTE: -

1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.

2) REFER P&ID NO. B366-02-42-212-7063.

3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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ENGINEERS  
INDIA LIMITED

(A Govt. of India Undertaking)

HOOK-UP SKETCH

088-TP-023

DRAWING NO.


B366-088-16-43-SK-1308

REV.

1



CLIENT:



INDIAN OIL  
CORPORATION LIMITED

PROJECT:

STANDBY SRU PROJECT IOCL PARADIP REFINERY

JOB NO.-B366

UNIT-211/212

NO.

DATE

REVISIONS

BY

CHK

APPROVAL

0

19.08.21

ISSUED FOR COMMENTS

AG

AV

LSJ

1

10.12.21

ISSUED FOR CONSTRUCTION

AG

AV

LSJ

N

EXISTING  
D2AS

NEW  
D31A

16

432

100-BD-212-1009-D2AS-PP

725

GRID  
393

088  
TP  
024

CONT. ON  
100-BD-212-6302-D31A-PP  
E 16200  
S 3458577  
EL +115257


NOTE:-

1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.

2) REFER P&ID NO. B366-02-42-212-7063.

3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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HOOK-UP SKETCH

088-TP-024

DRAWING NO.


B366-088-16-43-SK-1309

REV.

1

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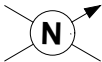
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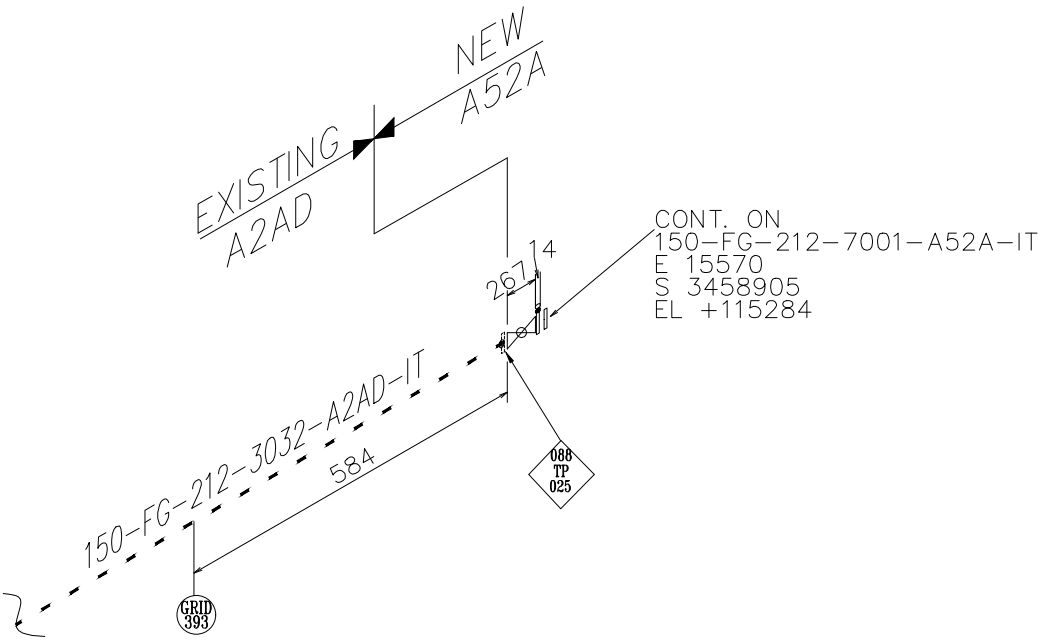
CLIENT:  **INDIAN OIL CORPORATION LIMITED**

PROJECT: **STANDBY SRU PROJECT IOCL PARADIP REFINERY**

JOB NO.-B366      UNIT-211/212


NO.	DATE	REVISIONS	BY	CHK	APPROVAL
0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ
1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ





NOTE: —

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7070.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) EXISTING TRACING TO BE SUITABLY MODIFIED TO TRACE NEW ARRANGEMENT.

**ENGINEERS INDIA LIMITED**  
(A Govt. of India Undertaking)

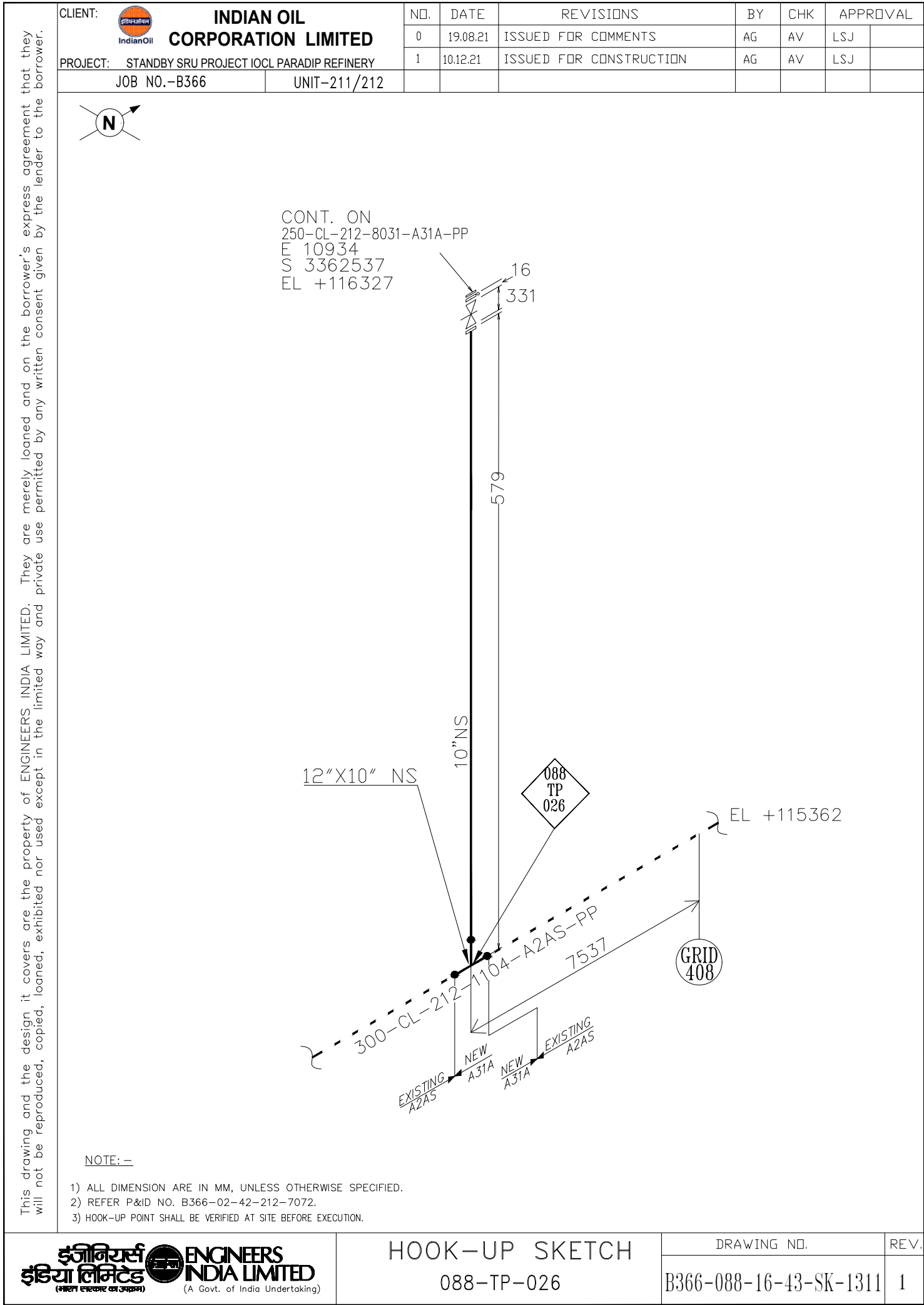
**HOOK-UP SKETCH**  
088-TP-025

DRAWING NO.


B366-088-16-43-SK-1310

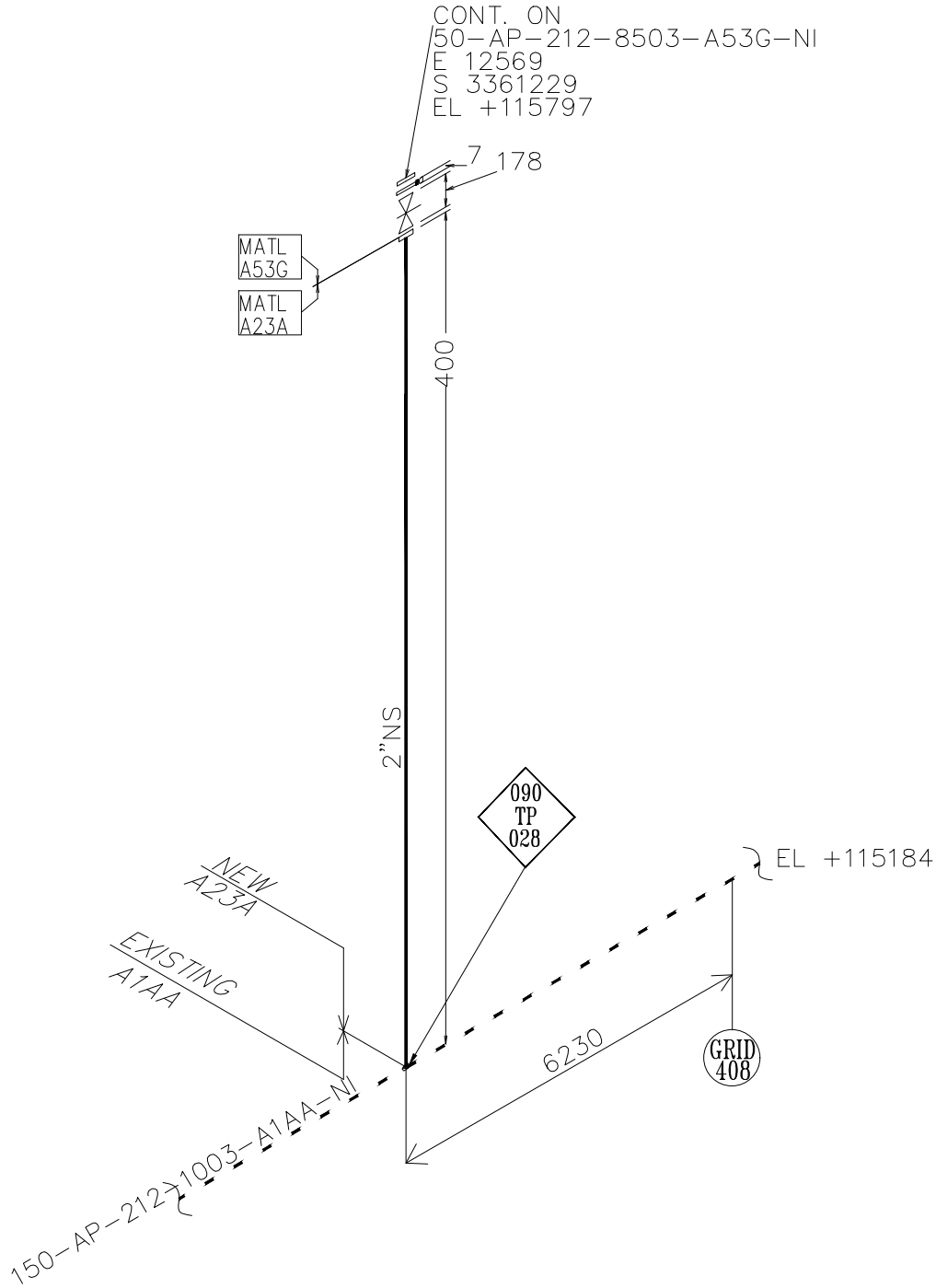
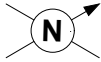
REV.

1



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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL	
	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-211/212					

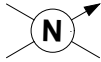


NOTE: -

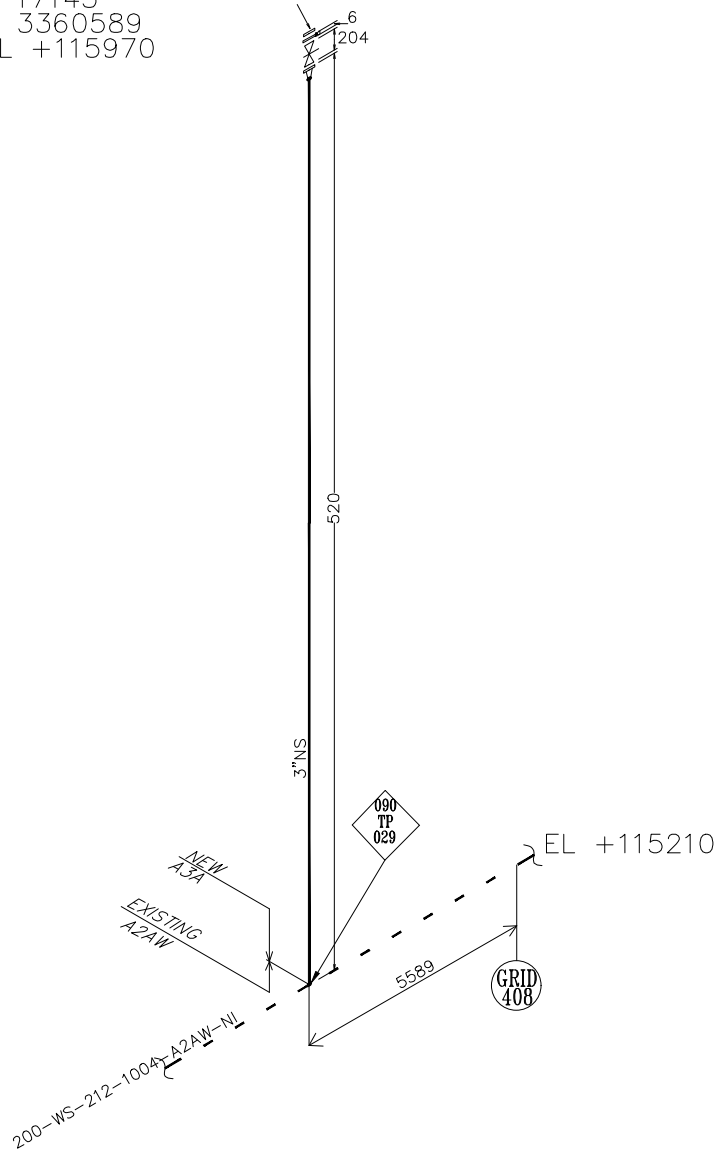
- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7011.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL	
	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-211/212					




CONT. ON  
80-WS-212-8505-A3A-NI  
E 17143  
S 3360589  
EL +115970

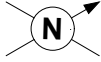


NOTE: -

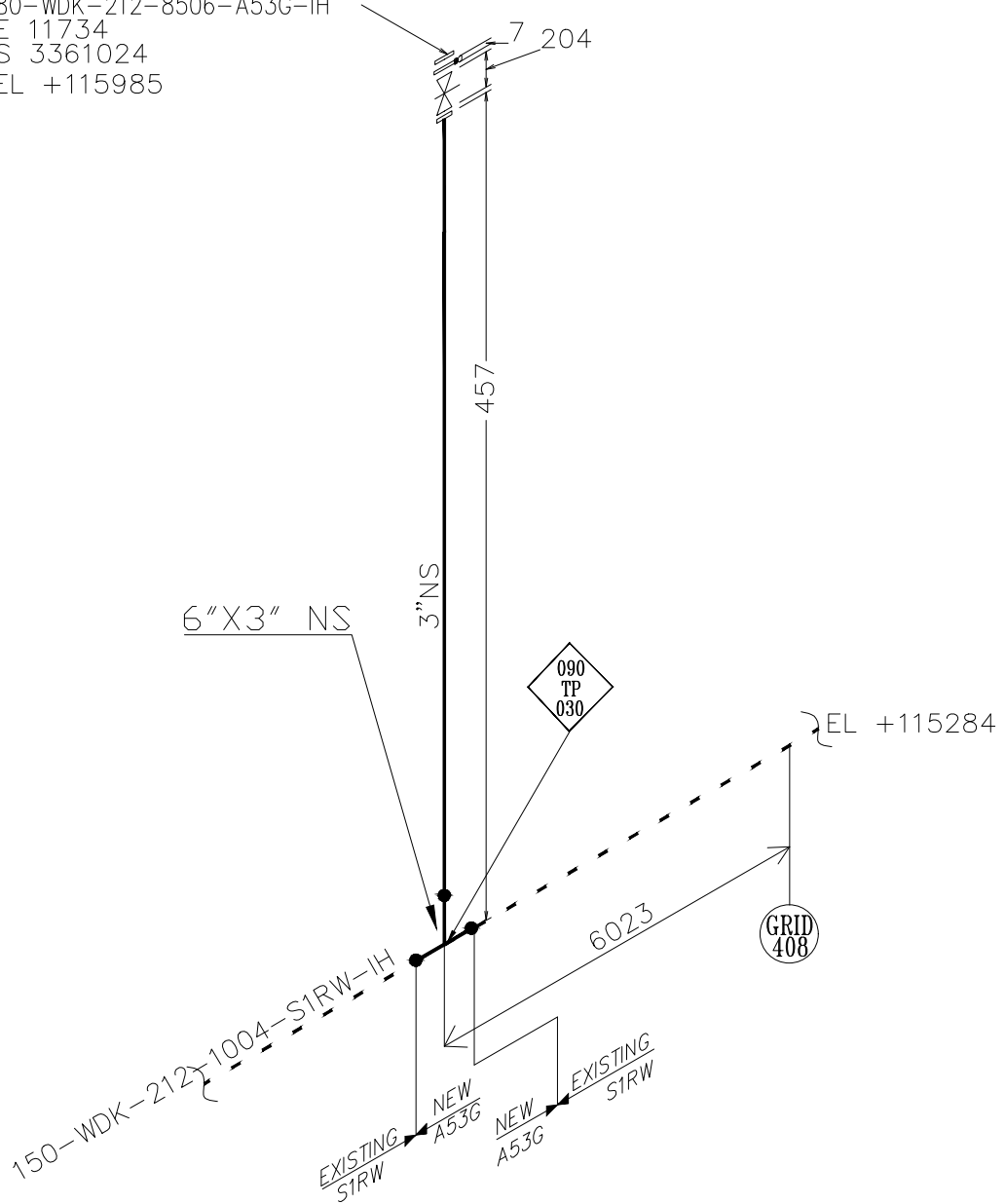
- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7020.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL	
	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-211/212					




CONT. ON  
80-WDK-212-8506-A53G-IH  
E 11734  
S 3361024  
EL +115985

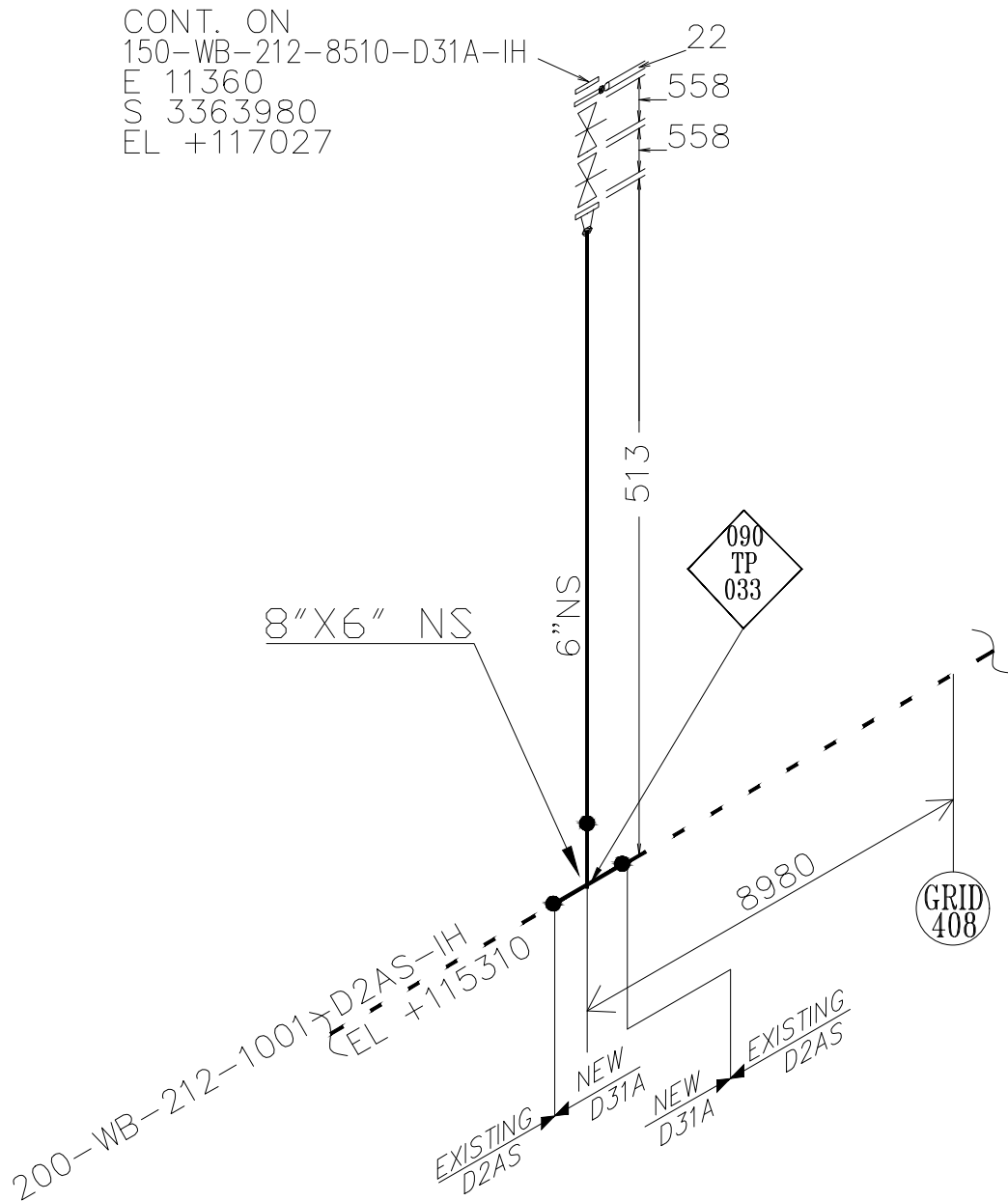
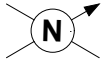


NOTE: -

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7026.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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CLIENT:	 <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL
PROJECT:	STANDBY SRU PROJECT IOCL PARADIP REFINERY	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ
		1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ
JOB NO.-B366	UNIT-211/212						

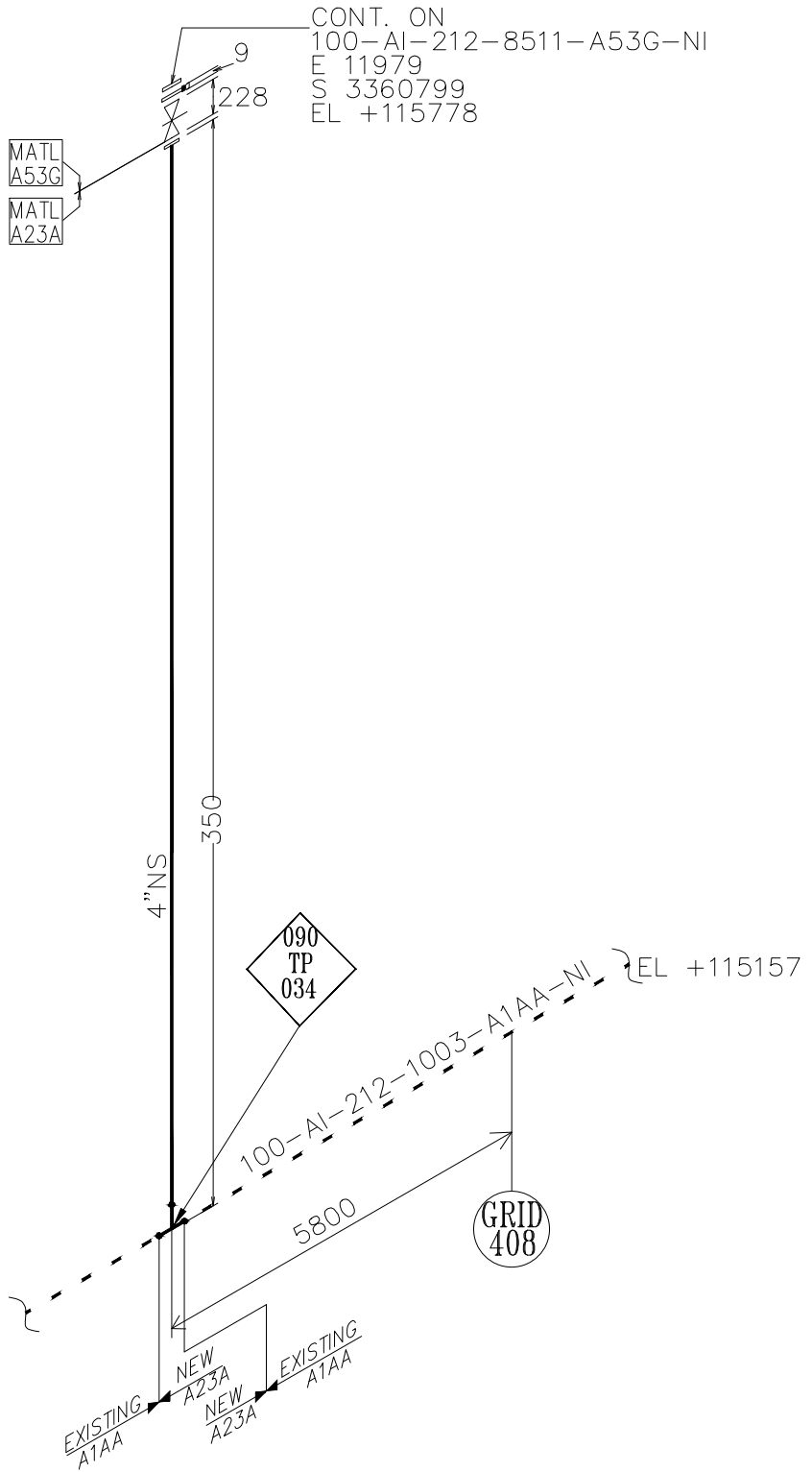
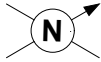


NOTE: —

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7036.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL	
	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-211/212					




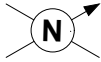
NOTE: —

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7050.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.



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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL	
	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-211/212					

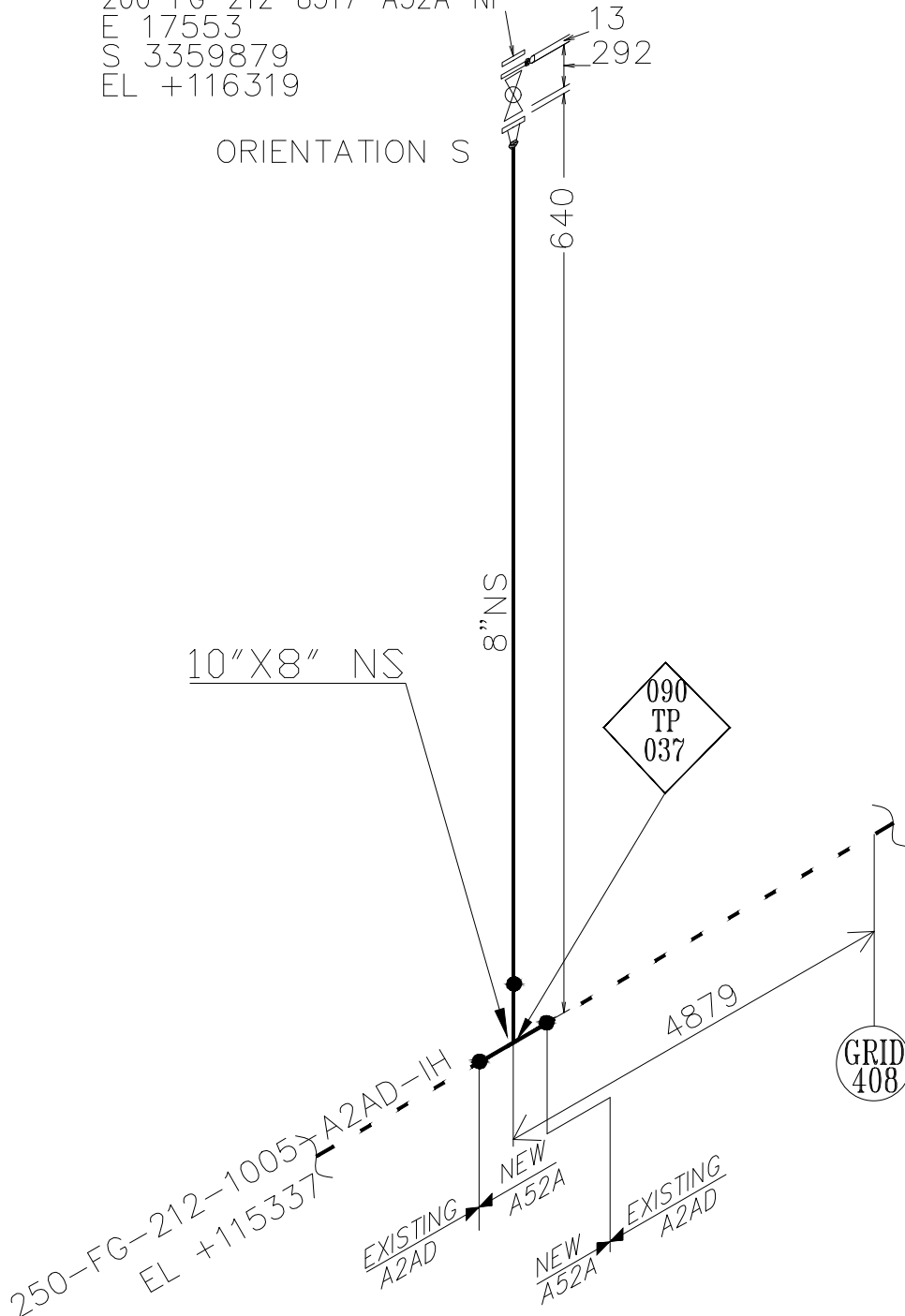


CONT. ON  
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E 17553  
S 3359879  
EL +116319


ORIENTATION S


NOTE:-

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7070.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

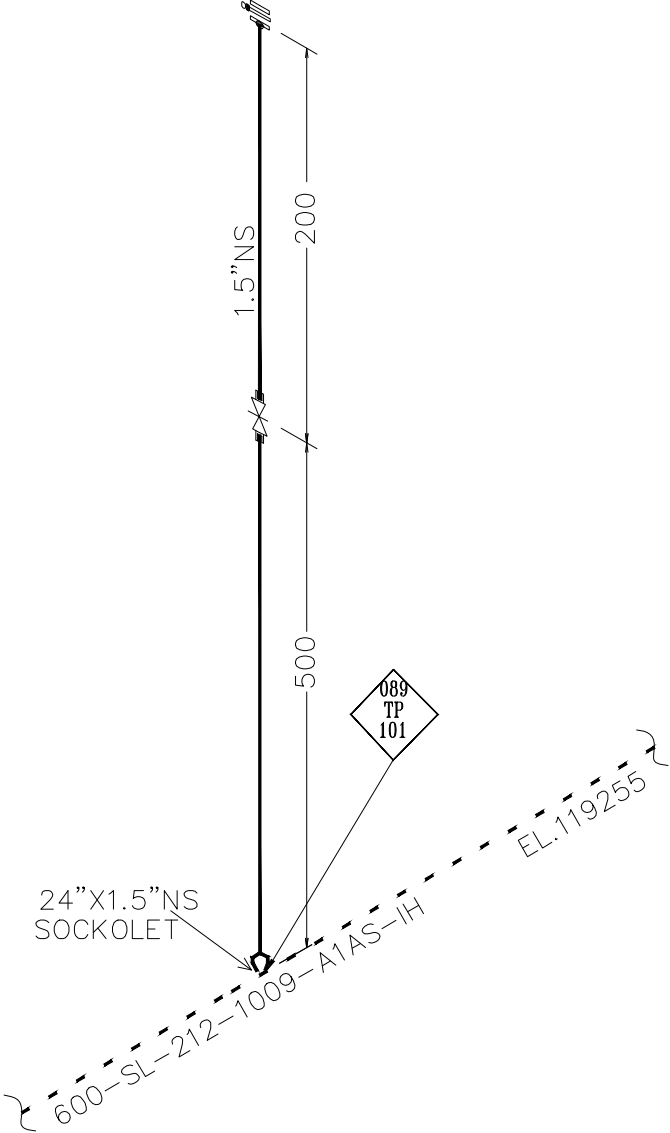


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CLIENT:	 <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL
PROJECT:	STANDBY SRU PROJECT IOCL PARADIP REFINERY	0	14.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ
JOB NO.-B366	UNIT-211/212						




S.NO	TIE IN NO	SPEC	SIZE	HEADER	E	S	EL(CENTER LINE OF HEADER)
1	212-TP-101	A2A	1.5	600-SL-212-1009-A1AS-IH	15500	3523800	119255




NOTE: -


1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.

2) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

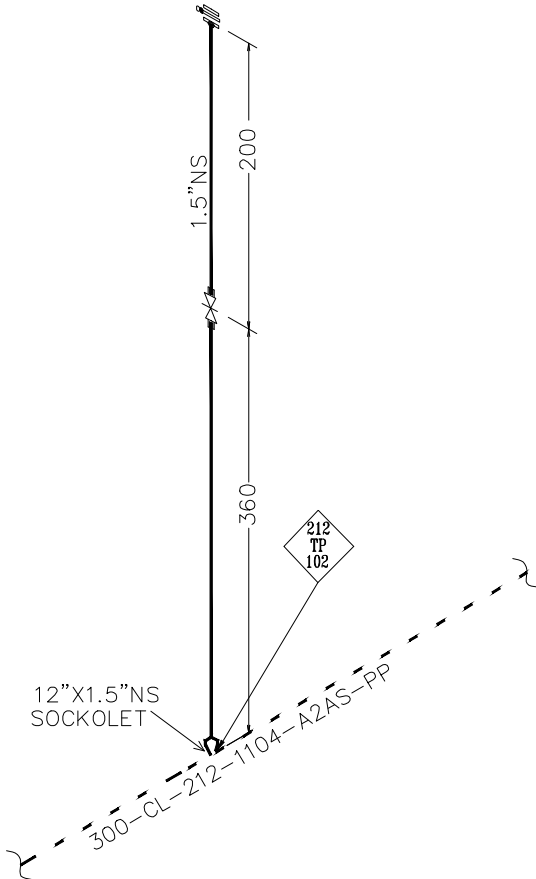
 <b>ENGINEERS INDIA LIMITED</b> (A Govt. of India Undertaking)	HOOK-UP SKETCH 212-TP-101	DRAWING NO.	REV.
		B366-088-16-43-SK-1330	0

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CLIENT:	 <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL
PROJECT:	STANDBY SRU PROJECT IOCL PARADIP REFINERY	0	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ
JOB NO.-B366	UNIT-211/212						




S.NO	TIE IN NO	SPEC	SIZE	HEADER	E	S	EL(CENTER LINE OF HEADER)
1	212-TP-102A	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3496650	115362
2	212-TP-102B	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3445127	115362
3	212-TP-102C	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3432447	115362
4	212-TP-102D	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3432198	115362
5	212-TP-102E	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3430333	115362
6	212-TP-102F	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3430083	115362
7	212-TP-102G	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3407600	115362
8	212-TP-102H	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3395900	115362
9	212-TP-102I	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3395650	115362
10	212-TP-102J	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3394320	115362
11	212-TP-102K	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3394070	115362
12	212-TP-102L	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3389650	115362
13	212-TP-102M	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3373802	115362
14	212-TP-102N	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3363991	115362
15	212-TP-102O	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3354047	115362
16	212-TP-102P	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3353797	115362
17	212-TP-102Q	A31A	1.5	300-CL-212-1104-A2AS-PP	10934	3353547	115362




NOTE: -

1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.

2) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

 <b>ENGINEERS INDIA LIMITED</b> (A Govt. of India Undertaking)	HOOK-UP SKETCH 212-TP-102	DRAWING NO.	REV.
		B366-088-16-43-SK-1331	0

CLIENT:



INDIAN OIL  
CORPORATION LIMITED

NO.

0

DATE

10.12.21

REVISIONS

ISSUED FOR CONSTRUCTION

BY

AG

CHK

AV

APPROVAL

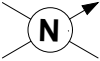
LSJ

PROJECT:

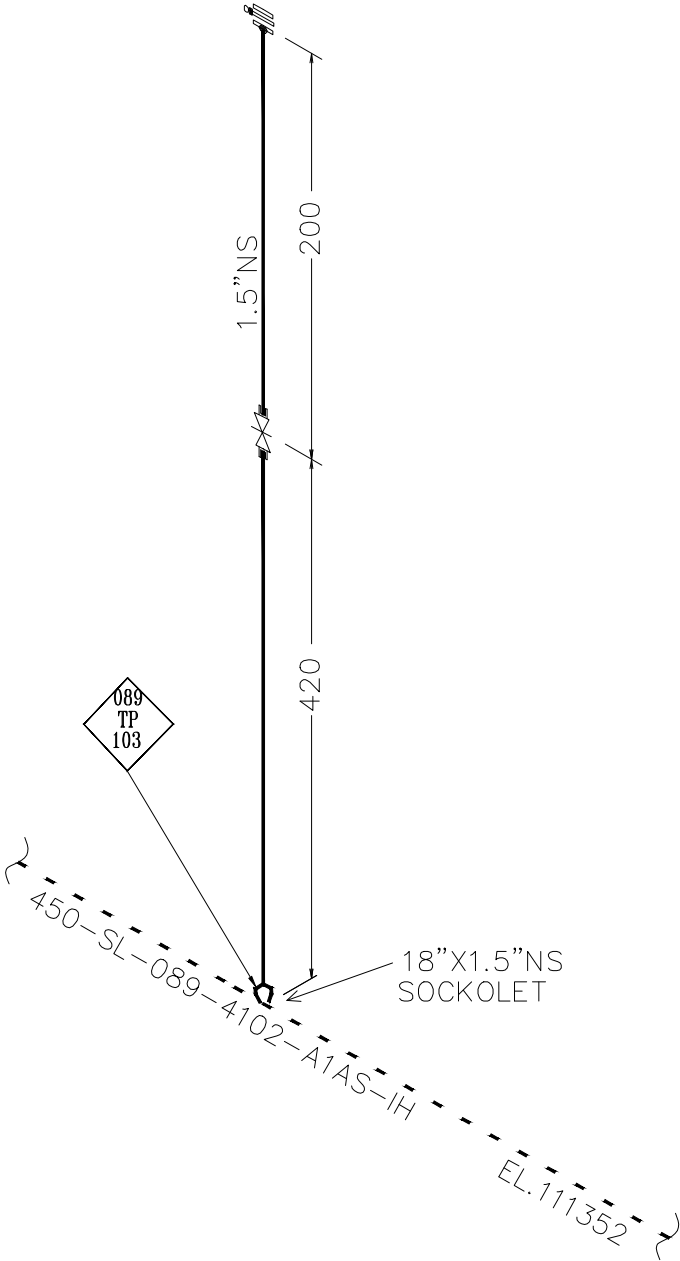
STANDBY SRU PROJECT IOCL PARADIP REFINERY

JOB NO.-B366

UNIT-089



S.NO	TIE IN NO	SPEC	SIZE	HEADER	E	S	EL(CENTER LINE OF HEADER)
1	89-TP-103A	A2A	1.5	450-SL-089-4102-A1AS-IH	49014	3537910	111352
2	89-TP-103B	A2A	1.5	450-SL-089-4102-A1AS-IH	48714	3537910	111352
3	89-TP-103C	A2A	1.5	450-SL-089-4102-A1AS-IH	25363	3537910	111352




NOTE: -

1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.

2) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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इंडिया लिमिटेड



ENGINEERS  
INDIA LIMITED

(भारत सरकार का उद्योग)

(A Govt. of India Undertaking)

HOOK-UP SKETCH

089-TP-103

DRAWING NO.


B366-088-16-43-SK-1332

REV.

0

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CLIENT:



INDIAN OIL  
CORPORATION LIMITED

NO.

0

DATE

10.12.21

REVISIONS

ISSUED FOR CONSTRUCTION

BY

AG

CHK

AV

APPROVAL

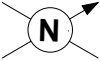
LSJ

PROJECT:

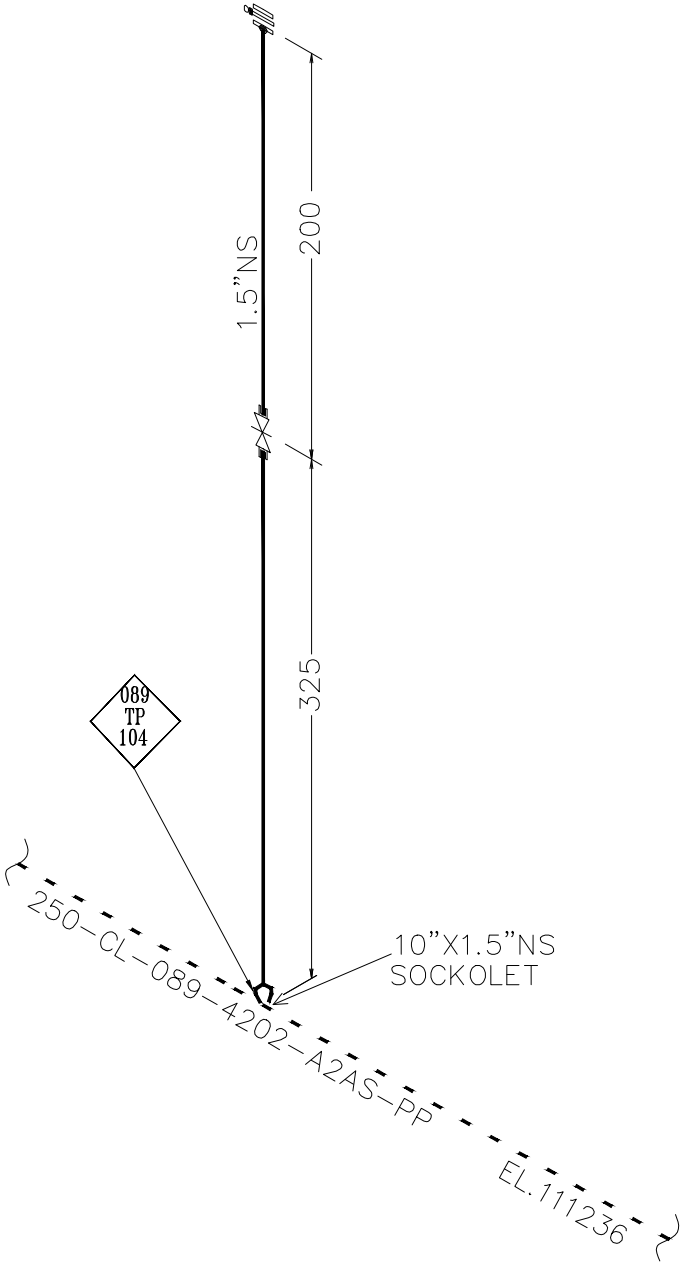
STANDBY SRU PROJECT IOCL PARADIP REFINERY

JOB NO.-B366

UNIT-089



S.NO	TIE IN NO	SPEC	SIZE	HEADER	E	S	EL(CENTER LINE OF HEADER)
1	089-TP-104A	A31A	1.5	250-CL-089-4202-A2AS-PP	43250	3537311	111236
2	089-TP-104B	A31A	1.5	250-CL-089-4202-A2AS-PP	36053	3537311	111236




NOTE: -

1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.

2) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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INDIA LIMITED

(भारत सरकार का उद्योग)

(A Govt. of India Undertaking)

HOOK-UP SKETCH

089-TP-104

DRAWING NO.


B366-088-16-43-SK-1333


REV.

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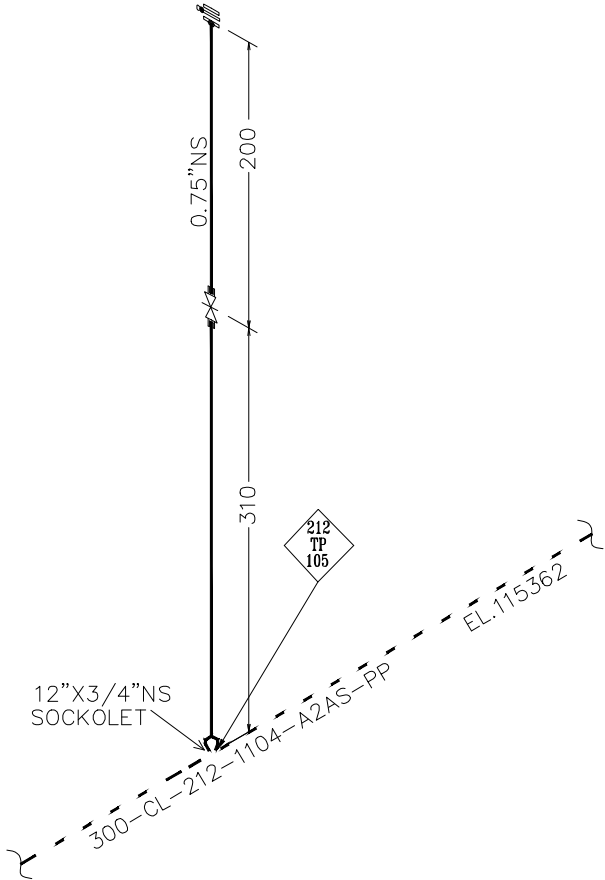
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CLIENT:	 <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL
		0	10.2.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ
PROJECT:	STANDBY SRU PROJECT IOCL PARADIP REFINERY						
JOB NO.-B366	UNIT-211/212						




S.NO	TIE IN NO	SPEC	SIZE	HEADER	E	S	EL(CENTER LINE OF HEADER)
1	212-TP-105A	A31A	.75	300-CL-212-1104-A2AS-PP	10934	3423247	115362
2	212-TP-105B	A31A	.75	300-CL-212-1104-A2AS-PP	10934	3407850	115362
3	212-TP-105C	A31A	.75	300-CL-212-1104-A2AS-PP	10934	3384047	115362
4	212-TP-105D	A31A	.75	300-CL-212-1104-A2AS-PP	10934	3356547	115362




NOTE: -


1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.

2) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

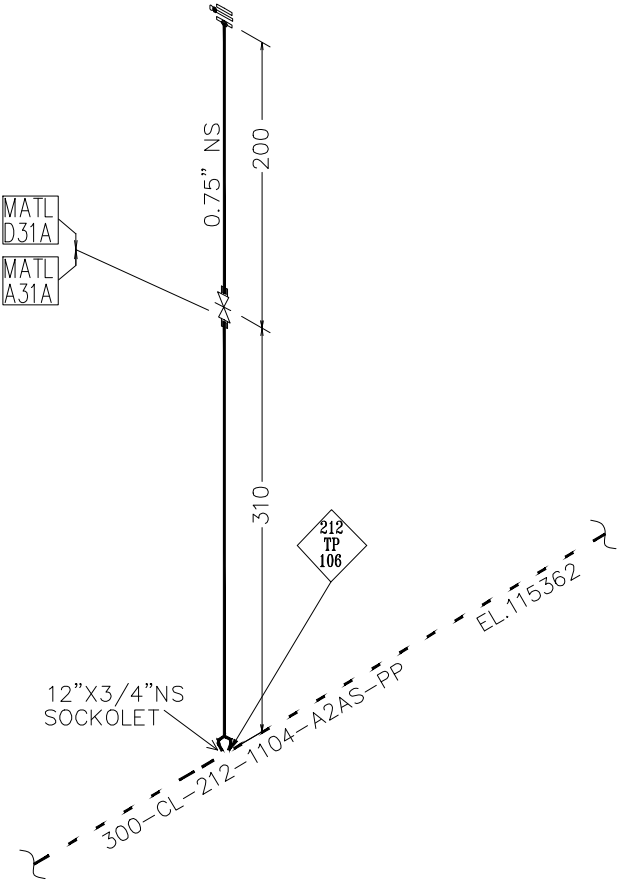
 <b>ENGINEERS INDIA LIMITED</b> (A Govt. of India Undertaking)	HOOK-UP SKETCH 212-TP-105	DRAWING NO.	REV.
		B366-088-16-43-SK-1334	0

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CLIENT:	 <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL
		0	10.2.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ
PROJECT:	STANDBY SRU PROJECT IOCL PARADIP REFINERY						
JOB NO.-B366	UNIT-211/212						




S.NO	TIE IN NO	SPEC	SIZE	HEADER	E	S	EL(CENTER LINE OF HEADER)
1	212-TP-106A	A31A/D31A	.75	300-CL-212-1104-A2AS-PP	10934	3422447	115362
2	212-TP-106B	A31A/D31A	.75	300-CL-212-1104-A2AS-PP	10934	3400548	115362
3	212-TP-106C	A31A/D31A	.75	300-CL-212-1104-A2AS-PP	10934	3357047	115362




NOTE: -

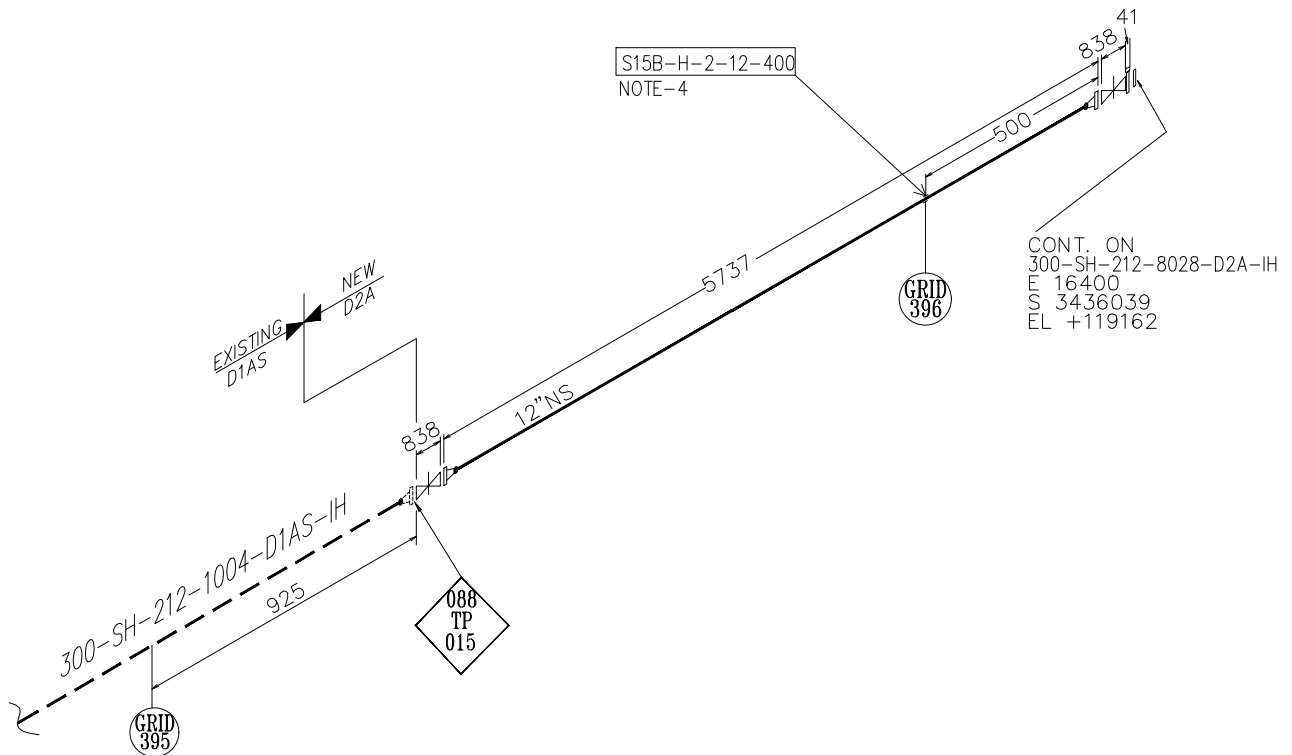
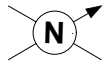
1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.

2) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

 <b>ENGINEERS INDIA LIMITED</b> (A Govt. of India Undertaking)	HOOK-UP SKETCH 212-TP-106	DRAWING NO.	REV.
		B366-088-16-43-SK-1335	0

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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL	
	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-211/212					



**NOTE: -**

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7029.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) SHOE HEIGHT SHALL BE EQUAL TO THE EXISTING ADJACENT SHOE HEIGHT.





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CLIENT:INDIAN OIL CORPORATION LIMITED

PROJECT:STANDBY SRU PROJECT IOCL PARADIP REFINERY

JOB NO.-B366UNIT-211/212

NO.	DATE	REVISIONS	BY	CHK	APPROVAL
0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ
1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ

N

EXISTING A1AS

NEW A2A

600-SL-212-1009-A1AS-IH

680

GRID 394

508

32

088 TP 017

CONT. ON

600-SL-212-8029-A2A-IH

E 15500

S 3450226

EL +119255

NOTE: -

1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.

2) REFER P&ID NO. B366-02-42-212-7032.

3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

ENGINEERS INDIA LIMITED

088-TP-017


DRAWING NO.

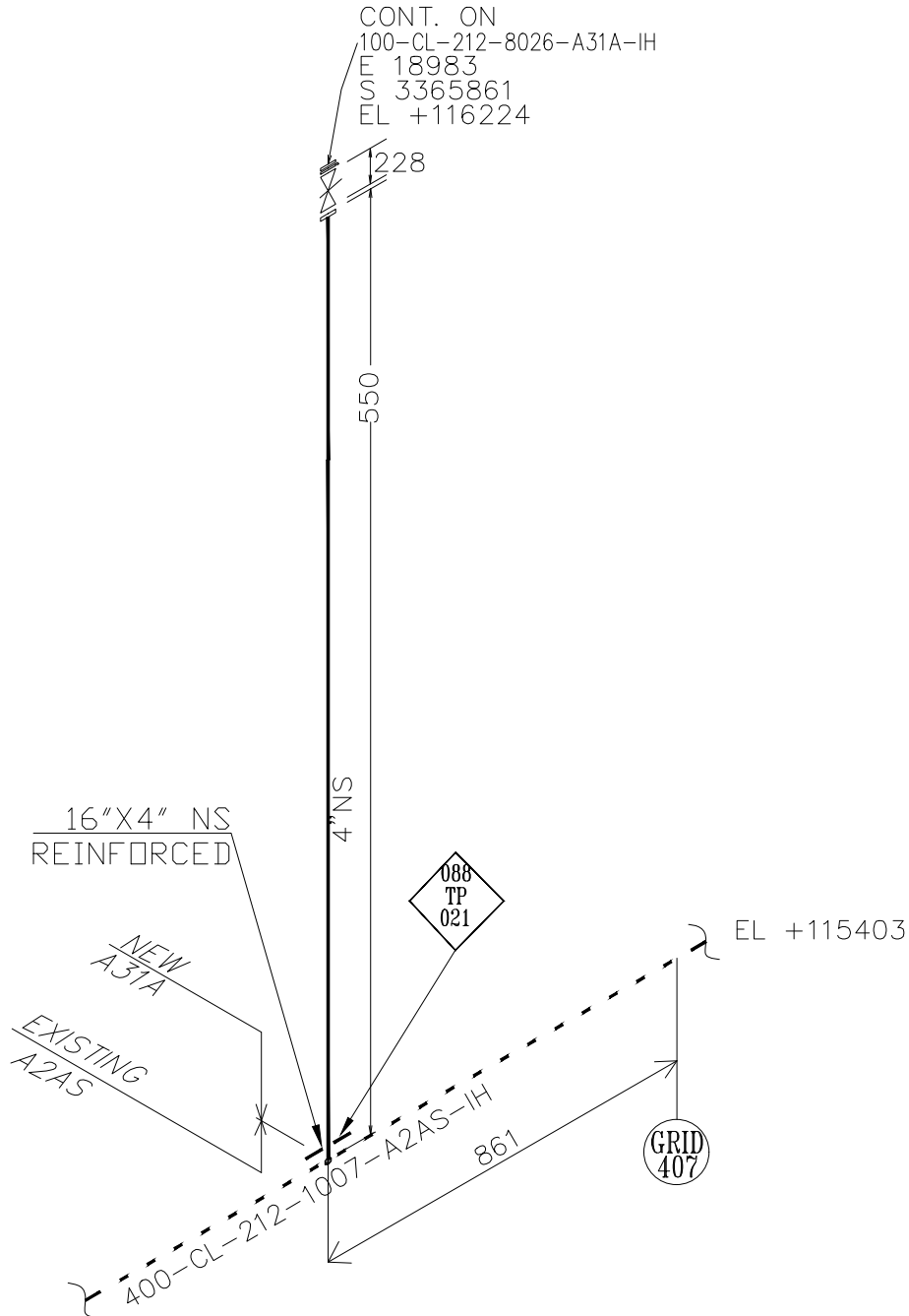
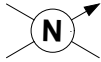
B366-088-16-43-SK-1403

REV.

1

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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL	
	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY							
JOB NO.-B366		UNIT-211/212					

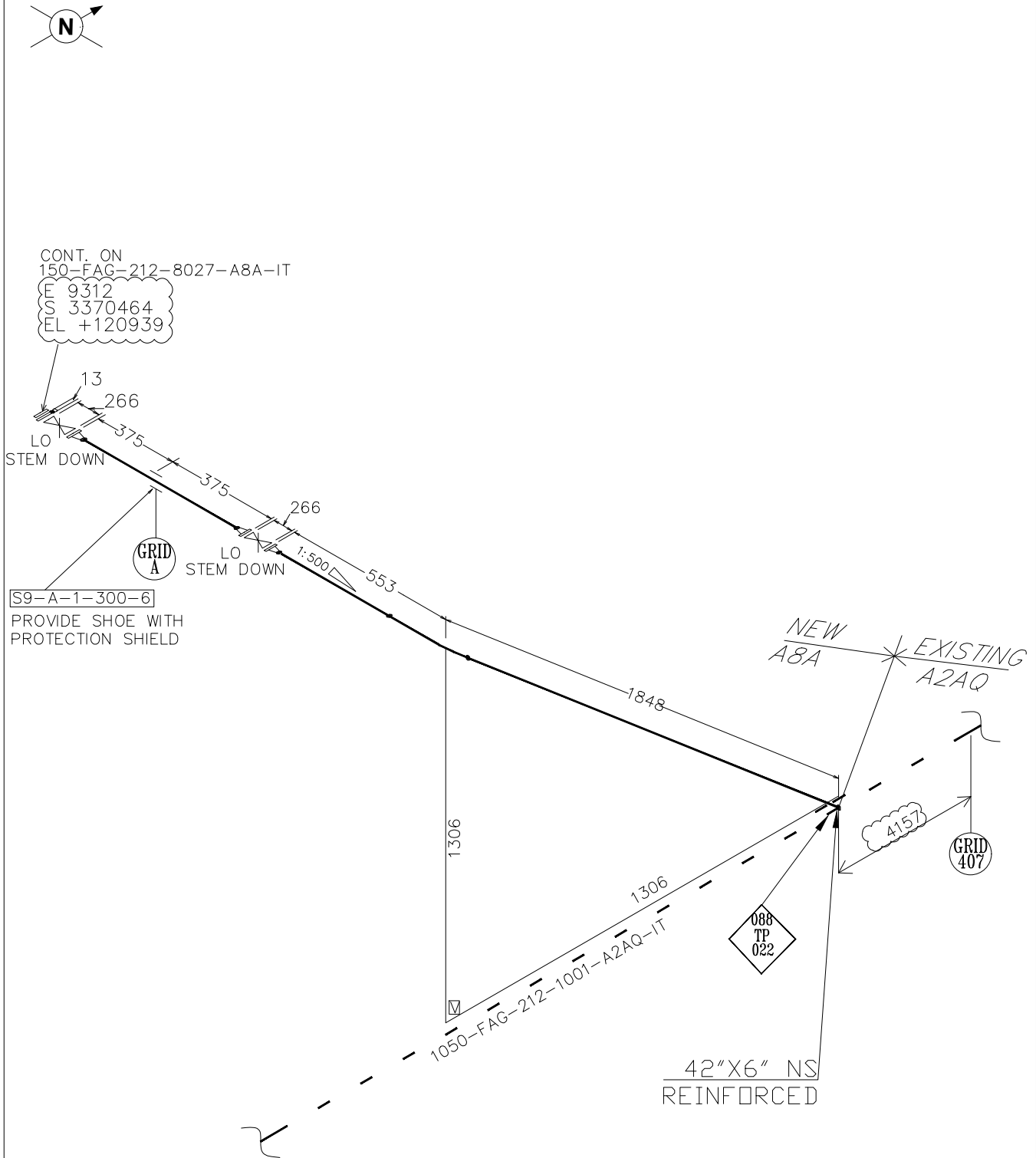


NOTE: -

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7054.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL	
	0	19.08.21	ISSUED FOR COMMENTS	AG	AV	LSJ	
	1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV	LSJ	
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY		JOB NO.-B366	UNIT-211/212				

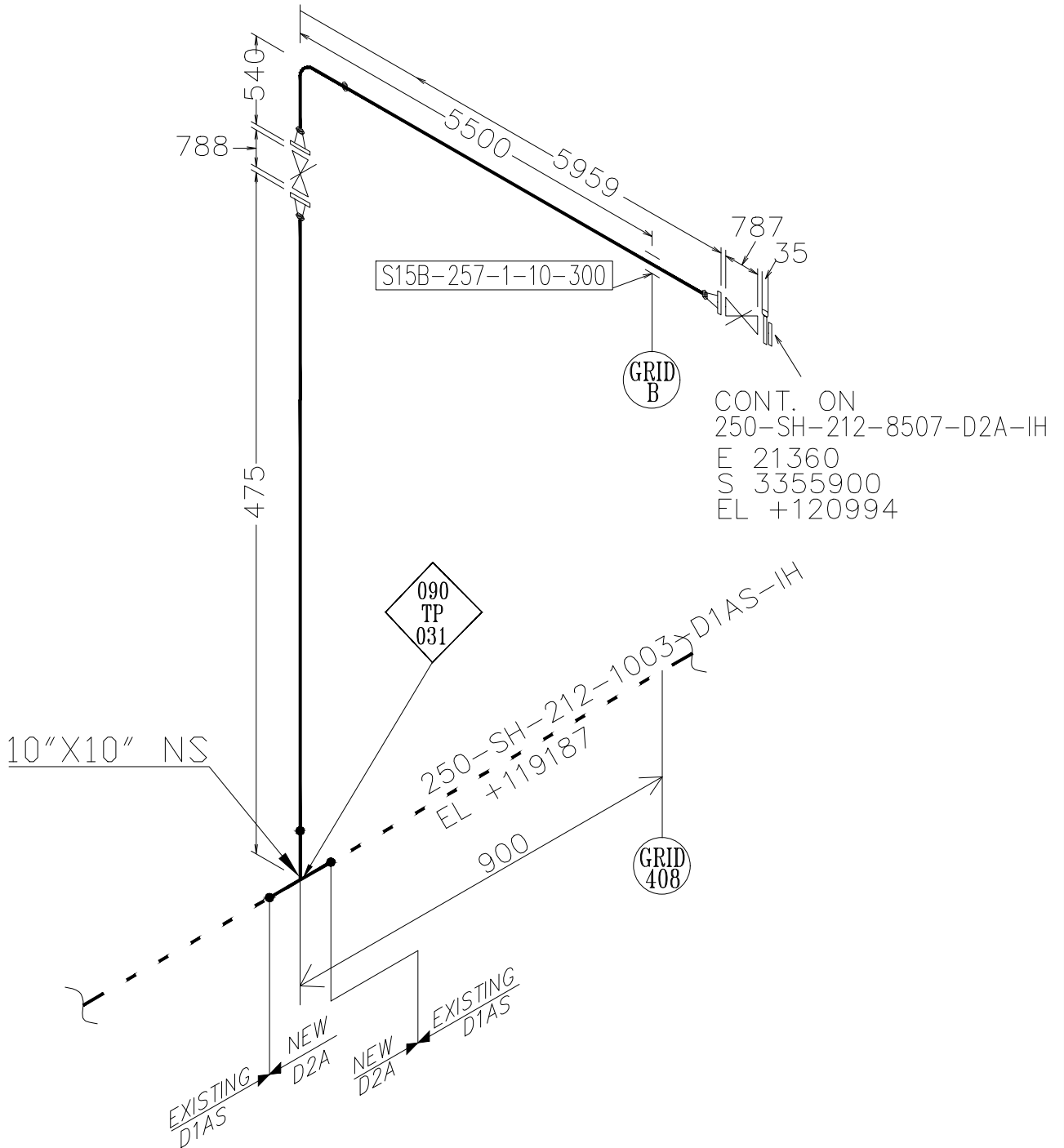
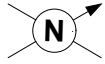


NOTE: -

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7057.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) EXISTING TRACING TO BE SUITABLY MODIFIED TO TRACE THE NEW ARRANGEMENT.

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CLIENT: 	<b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY	JOB NO.-B366	UNIT-211/212	0	19.08.21	ISSUED FOR COMMENTS	AG	AV
			1	10.12.21	ISSUED FOR CONSTRUCTION	AG	AV



NOTE:—

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7029.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

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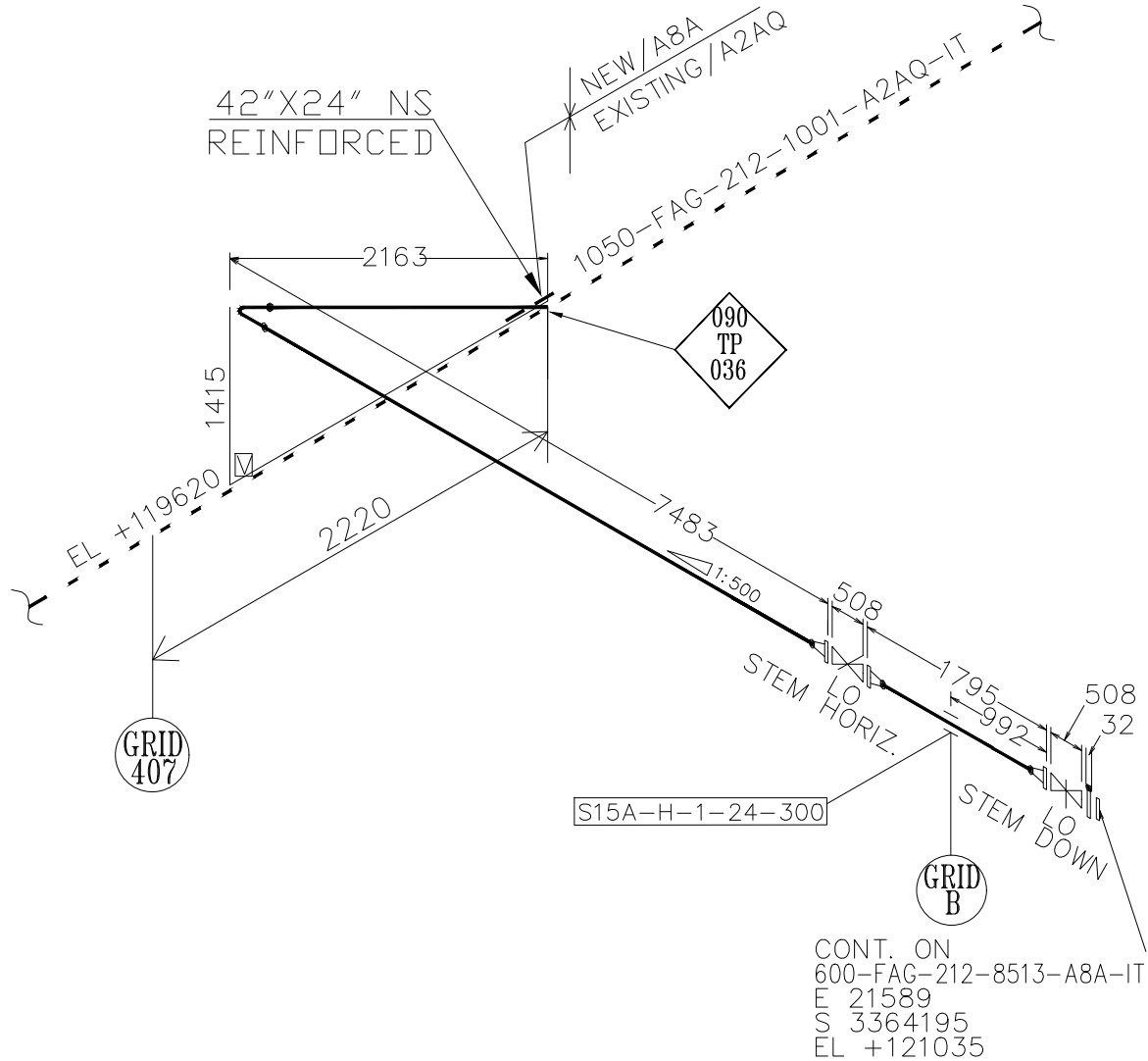
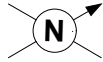


STANDBY SRU PROJECT  
IOCL PARADIP REFINERY

NO.	DATE	REVISIONS	BY	CHK	APPROVAL
0	19.08.21	ISSUED FOR COMMENTS	AV	LSJ	LSJ
1	19.08.21	ISSUED FOR CONSTRUCTION	AV	LSJ	LSJ

JOB NO.-B366


UNIT-211/212

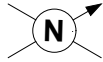


NOTE: -

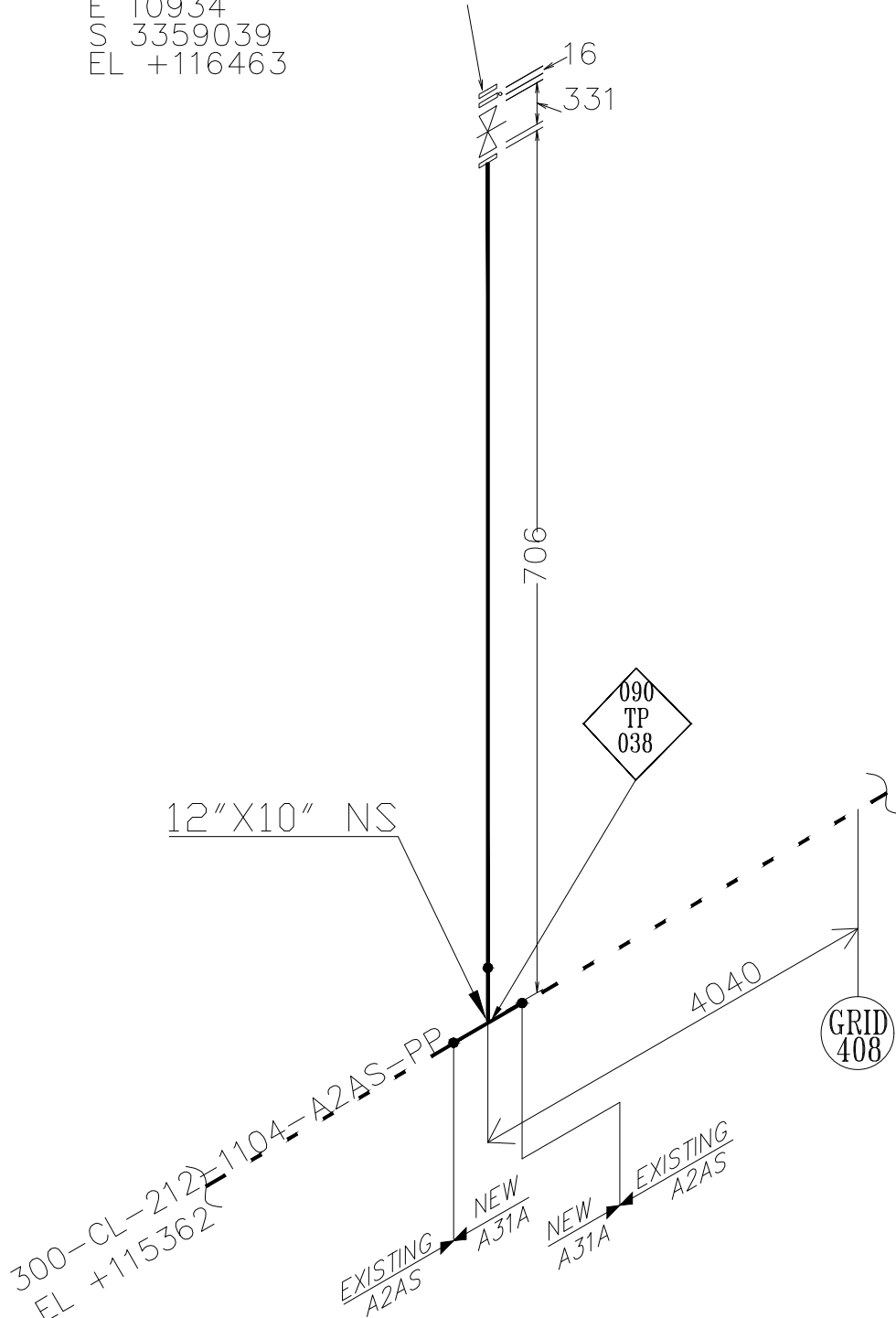
- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7057.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.
- 4) EXISTING TRACING TO BE SUITABLY MODIFIED TO TRACE NEW ARRANGEMENT.

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CLIENT:  <b>INDIAN OIL CORPORATION LIMITED</b>	NO.	DATE	REVISIONS	BY	CHK	APPROVAL
PROJECT: STANDBY SRU PROJECT IOCL PARADIP REFINERY	0	19.08.21	ISSUED FOR COMMENTS	AV	LSJ	LSJ
JOB NO.-B366 UNIT-211/212	1	10.12.21	ISSUED FOR CONSTRUCTION	AV	LSJ	LSJ



CONT. ON  
250-CL-212-8518-A31A-PP  
E 10934  
S 3359039  
EL +116463



NOTE: -

- 1) ALL DIMENSION ARE IN MM, UNLESS OTHERWISE SPECIFIED.
- 2) REFER P&ID NO. B366-02-42-212-7072.
- 3) HOOK-UP POINT SHALL BE VERIFIED AT SITE BEFORE EXECUTION.

## TIE IN MTO

### **B366-088-16-43-SK-1101(TP-001)**

S.NO	DESCRIPTION	QTY
1	FLNG.BLIND, B-16.47-B, ASTM A 105 (NORMALISED), 150, RF/125AARH, NAC6, 36.0 INCH	1
2	SPCR&BLND, ASME B16.47B/JOB'STD, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, NAC6, 36.0 INCH	1
3	VLV.BTRFLY, SHEET 563TC, NAC6, 36.0 INCH	1
4	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 0.875 INCH X 8.75 INCH	44
5	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 0.875 INCH X 6.75 INCH	44
6	GASKET, B-16.20-ANSI B16.47B, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, NAC6, 36.0 INCH	3

### **B366-088-16-43-SK-1102(TP-003)**

S.NO	DESCRIPTION	QTY
1	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NAC6, 20.0 INCH	1
2	SPCR&BLND, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, NAC6, 20.0 INCH	1
3	VLV.BTRFLY, SHEET 563UC, NAC6, 20.0 INCH	1
4	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 1.125 INCH X 8.75 INCH	20
5	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 1.125 INCH X 7.5 INCH	20
6	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, NAC6, 20.0 INCH	3

### **B366-088-16-43-SK-1103(TP-010)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 672 GR.B60 CL.32, BE, E.FS.W, 44.0 INCH, XS	2.5
2	FLNG.WN, B-16.47-B, ASTM A 105 (NORMALISED), 150, RF/125AARH, 44.0 INCH, XS	2
3	FLNG.BLIND, B-16.47-B, ASTM A 105 (NORMALISED), 150, RF/125AARH, 44.0 INCH	1
4	SPCR&BLND, ASME B16.47B/JOB'STD, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 44.0 INCH	1
5	VLV.BTRFLY, SHEET 563BA, 44.0 INCH	1
6	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.0 INCH X 11.25 INCH	52
7	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.0 INCH X 8.75 INCH	104
8	GASKET, B-16.20-ANSI B16.47B, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 44.0 INCH	4

### **B366-088-16-43-SK-1104(TP-004)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.19, ASTM A 358 TP316L CL.1, BE, E.FS.W, 10.0 INCH, 6.35 MM THK	0.4
2	FLNG.WN, B-16.5, ASTM A 182 GR.F316L, 150, RF/125AARH, 10.0 INCH, 6.35 MM THK	1
3	FLNG.BLIND, B-16.5, ASTM A 182 GR.F316L, 150, RF/125AARH, 10.0 INCH	1
4	SPCR&BLND, ASME-B16.48, ASTM A 240 GR.316L, 150, FF/125AARH, 10.0 INCH	1
5	T.EQUAL, B-16.9, ASTM A 403 GR.WP316L-WX, BW, 10.0 INCH, 6.35 MM THK	1
6	VLV.GATE, SHEET 513AM, 10.0 INCH	1
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 5.5 INCH	12
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 4.75 INCH	12
9	GASKET, B-16.20-ANSI B16.5, LS SPWND SS316L+FLEX GRAFIL+IR, SPIRAL, 150, 10.0 INCH	3

### **B366-088-16-43-SK-1105(TP-027)**

S.NO	DESCRIPTION	QTY
1	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NAC6, 4.0 INCH	1
2	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, NAC6, 4.0 INCH	1
3	VLV.GATE, SHEET 513TC, NAC6, 4.0 INCH	1
4	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 0.625 INCH X 3.75 INCH	8
5	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 0.625 INCH X 4.25 INCH	8
6	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, NAC6, 4.0 INCH	3

### **B366-088-16-43-SK-1106(TP-039,053,054)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 671 GR.CC60 CL.32, BE, E.FS.W, NACE, 48.0 INCH, XS	2.5
2	FLNG.WN, B-16.47-B, ASTM A 105 (NORMALISED), 150, RF/125AARH, NACE, 48.0 INCH, XS	1
3	FLNG.BLIND, B-16.47-B, ASTM A 105 (NORMALISED), 150, RF/125AARH, NACE, 48.0 INCH	1
4	SPCR&BLND, ASME B16.47B/EIL'STD, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, NACE, 48.0 INCH	1
5	T.EQUAL, B-16.9, ASTM A 234 GR.WPB-W, BW, NACE, 48.0 INCH, XS	1
6	VLV.BTRFLY, SHEET 563JC, NACE, 48.0 INCH	1
7	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 1.125 INCH X 9.5 INCH	44
8	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 1.125 INCH X 12.25 INCH	44
9	GASKET, B-16.20-ANSI B16.47B, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, NACE, 48.0 INCH	3



## TIE IN MTO

10	PIPE, B-36.10, ASTM A 671 GR.CC60 CL.32, BE, E.FS.W, NACE, 48.0 INCH, XS	1.5
11	FLNG.WN, B-16.47-B, ASTM A 105 (NORMALISED), 300, RF/125AARH, NACE, 48.0 INCH, XS	2
12	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 1.875 INCH X 17.75 INCH	40
13	GASKET, B-16.20-ANSI B16.47B, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, NACE, 48.0 INCH	2
14	FLNG.WN, B-16.47-B, ASTM A 105 (NORMALISED), 300, RF/125AARH, NACE, 48.0 INCH, XS	2
15	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 1.875 INCH X 17.75 INCH	40
16	GASKET, B-16.20-ANSI B16.47B, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, NACE, 48.0 INCH	2

### **B366-088-16-43-SK-1107(TP-040,051,052)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, NAC6, 12.0 INCH, STD	1
2	PIPE, B-36.10, ASTM A671GR.CC60 CL.32 (S2,S3), BE, E.FS.W, NAC6, 16.0 INCH, STD	6.2
3	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NAC6, 16.0 INCH, STD	1
4	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NAC6, 16.0 INCH	1
5	SPCR&BLND, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, NAC6, 16.0 INCH	1
6	ELBOW.90, B-16.9, ASTM A 234 GR.WPB-W, BW, 1.5D, NAC6, 16.0 INCH, STD	4
7	T.EQUAL, B-16.9, ASTM A 234 GR.WPB-W, BW, NAC6, 16.0 INCH, STD	1
8	VLV.GATE, SHEET 513TC, NAC6, 16.0 INCH	1
9	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 1.0 INCH X 7.25 INCH	16
10	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 1.0 INCH X 6.25 INCH	16
11	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, NAC6, 16.0 INCH	3
12	PIPE, B-36.10, ASTM A671GR.CC60 CL.32 (S2,S3), BE, E.FS.W, NAC6, 16.0 INCH, STD	3
13	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, NAC6, 16.0 INCH, STD	2
14	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 1.25 INCH X 8.75 INCH	20
15	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, NAC6, 16.0 INCH	2
16	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, NAC6, 16.0 INCH, STD	2
17	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 1.25 INCH X 8.75 INCH	20
18	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, NAC6, 16.0 INCH	2

### **B366-088-16-43-SK-1108(TP-041,055,056)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, NACE, 2.0 INCH, XS	0.7
2	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, NACE, 3.0 INCH, STD	1.2
3	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NACE, 3.0 INCH, STD	1
4	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NACE, 3.0 INCH	1
5	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, NACE, 3.0 INCH	1
6	T.EQUAL, B-16.9, ASTM A 234 GR.WPB, BW, NACE, 3.0 INCH, STD	1
7	VLV.GATE, SHEET 513HC, NACE, 3.0 INCH	1
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 0.625 INCH X 3.75 INCH	4
9	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 0.625 INCH X 4.0 INCH	4
10	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, NACE, 3.0 INCH	3
11	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, NACE, 3.0 INCH, STD	2
12	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 0.75 INCH X 4.25 INCH	8
13	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, NACE, 3.0 INCH	2
14	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, NACE, 3.0 INCH, STD	2
15	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 0.75 INCH X 4.25 INCH	8
16	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, NACE, 3.0 INCH	2

### **B366-088-16-43-SK-1109(TP-042,057,058)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, NACE, 2.0 INCH, XS	1.5
2	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, NACE, 3.0 INCH, STD	4.8
3	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NACE, 3.0 INCH, STD	1
4	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NACE, 3.0 INCH	1
5	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, NACE, 3.0 INCH	1
6	ELBOW.90, B-16.9, ASTM A 234 GR.WPB, BW, 1.5D, NACE, 3.0 INCH, STD	2
7	ELBOW.45, B-16.9, ASTM A 234 GR.WPB, BW, 1.5D, NACE, 3.0 INCH, STD	4
8	T.EQUAL, B-16.9, ASTM A 234 GR.WPB, BW, NACE, 3.0 INCH, STD	1
9	VLV.GATE, SHEET 513HC, NACE, 3.0 INCH	1
10	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 0.625 INCH X 3.75 INCH	4

## TIE IN MTO

11	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 0.625 INCH X 4.0 INCH	4
12	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, NACE, 3.0 INCH	3
13	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, NACE, 3.0 INCH, STD	2
14	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 0.75 INCH X 4.25 INCH	8
15	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, NACE, 3.0 INCH	2
16	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, NACE, 3.0 INCH, STD	2
17	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 0.75 INCH X 4.25 INCH	8
18	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, NACE, 3.0 INCH	2

### **B366-088-16-43-SK-1114(TP-071,073)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, 0.75 INCH, XS	12
2	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 10.0 INCH, STD	3
3	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 12.0 INCH, STD	3
4	FLNG.SW, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, 0.75 INCH, XS	3
5	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 0.75 INCH, XS	7
6	FLNG.SO, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, 12.0 INCH, 10.0 INCH	2
7	FLNG.SO, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 12.0 INCH, 10.0 INCH	1
8	ELBOW.90, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.75 INCH	13
9	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 3000, 12.0 INCH, 0.75 INCH	4
10	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 2.5 INCH	16
11	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3 INCH	12
12	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 4.75 INCH	12
13	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.125 INCH X 8 INCH	16
14	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 0.75 INCH	3
15	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 12.0 INCH	2
16	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 0.75 INCH	4
17	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 12.0 INCH	1
18	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, 0.75 INCH, XS	12
19	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 10.0 INCH, STD	1.6
20	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 12.0 INCH, STD	1.6
21	FLNG.SW, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, 0.75 INCH, XS	1
22	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 0.75 INCH, XS	7
23	FLNG.SO, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 12.0 INCH, 10.0 INCH	1
24	FLNG.SO, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, 12.0 INCH, 10.0 INCH	2
25	ELBOW.90, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.75 INCH	10
26	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 3000, 12.0 INCH, 0.75 INCH	2
27	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 2.5 INCH	16
28	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3 INCH	4
29	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 4.75 INCH	12
30	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.125 INCH X 8 INCH	16
31	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 0.75 INCH	1
32	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 12.0 INCH	2
33	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 0.75 INCH	4
34	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 12.0 INCH	1

### **B366-088-16-43-SK-1115(TP-074,076)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, 0.75 INCH, XS	12
2	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 6.0 INCH, STD	3
3	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 8.0 INCH, STD	3
4	FLNG.SW, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, 0.75 INCH, XS	3
5	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 0.75 INCH, XS	7
6	FLNG.SO, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 8.0 INCH, 6.0 INCH	1
7	FLNG.SO, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, 8.0 INCH, 6.0 INCH	2
8	ELBOW.90, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.75 INCH	13
9	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 3000, 8.0 INCH, 0.75 INCH	4
10	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 2.5 INCH	16
11	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3 INCH	12

## TIE IN MTO

12	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 4.25 INCH	8
13	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 5.5 INCH	12
14	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 0.75 INCH	3
15	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 8.0 INCH	2
16	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 0.75 INCH	4
17	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 8.0 INCH	1
18	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, 0.75 INCH, XS	12
19	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 6.0 INCH, STD	2
20	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 8.0 INCH, STD	2
21	FLNG.SW, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, 0.75 INCH, XS	1
22	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 0.75 INCH, XS	6
23	FLNG.SO, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 0.75 INCH	1
24	FLNG.SO, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, 8.0 INCH, 6.0 INCH	2
25	FLNG.SO, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 8.0 INCH, 6.0 INCH	1
26	ELBOW.90, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.75 INCH	13
27	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 3000, 8.0 INCH, 0.75 INCH	4
28	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 2.5 INCH	16
29	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3 INCH	4
30	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 4.25 INCH	8
31	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 5.5 INCH	12
32	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 0.75 INCH	1
33	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 8.0 INCH	2
34	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 0.75 INCH	4
35	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 8.0 INCH	1

### **B366-088-16-43-SK-1116(TP-079,080)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, 0.75 INCH, S160	0.5
2	FLNG.WN, B-16.47-B, ASTM A 105 (NORMALISED), 300, RF/125AARH, 36.0 INCH, XS	2
3	CAP, B-16.11, ASTM A 105 (NORMALISED), SCRF, 3000, 0.75 INCH	1
4	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 6000, 36.0 INCH, 0.75 INCH	1
5	VLV.GATE, SHEET 510AA, 0.75 INCH	1
6	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.625 INCH X 14 INCH	32
7	GASKET, B-16.20-ANSI B16.47B, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 36.0 INCH	2
8	PIPE, B-36.10, ASTM A 672 GR.B60 CL.32, BE, E.FS.W, 36.0 INCH, XS	1.8
9	FLNG.WN, B-16.47-B, ASTM A 105 (NORMALISED), 300, RF/125AARH, 36.0 INCH, XS	2
10	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.625 INCH X 14 INCH	32
11	GASKET, B-16.20-ANSI B16.47B, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 36.0 INCH	2

### **B366-088-16-43-SK-1201(TP-002)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, NAC6, 3.0 INCH, S160	0.3
2	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, NAC6, 10.0 INCH, XS	0.152
3	REINF.PAD, ASTM A 106 GR.B, NAC6, 10.0 INCH, XS, 3.0 INCH	1
4	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, NAC6, 3.0 INCH, S160	1
5	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, NAC6, 3.0 INCH	1
6	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 300, FF/125AARH, NAC6, 3.0 INCH	1
7	VLV.GATE, SHEET 514VC, NAC6, 3.0 INCH	1
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 0.75 INCH X 4.25 INCH	8
9	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NAC6, 0.75 INCH X 4.75 INCH	8
10	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, NAC6, 3.0 INCH	3

### **B366-088-16-43-SK-1202(TP-005)**

S.NO	DESCRIPTION	QTY
1	FLNG.BLIND, B-16.47-B, ASTM A 105 (NORMALISED), 150, RF/125AARH, 48.0 INCH	1
2	SPCR&BLND, ASME B16.47B/JOB'STD, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 48.0 INCH	1
3	VLV.BTRFLY, SHEET 563BA, 48.0 INCH	1
4	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.125 INCH X 9.5 INCH	44
5	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.125 INCH X 12.25 INCH	44
6	GASKET, B-16.20-ANSI B16.47B, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 48.0 INCH	3

## TIE IN MTO

### **B366-088-16-43-SK-1203(TP-006)**

S.NO	DESCRIPTION	QTY
1	FLNG.BLIND, B-16.47-B, ASTM A 105 (NORMALISED), 150, RF/125AARH, 48.0 INCH	1
2	SPCR&BLND, ASME B16.47B/JOB'STD, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 48.0 INCH	1
3	VLV.BTRFLY, SHEET 563BA, 48.0 INCH	1
4	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.125 INCH X 9.5 INCH	44
5	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.125 INCH X 12.25 INCH	44
6	GASKET, B-16.20-ANSI B16.47B, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 48.0 INCH	3

### **B366-088-16-43-SK-1204(TP-007)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, 0.75 INCH, XS	9
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 0.75 INCH, XS	7
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 12.0 INCH	1
4	SPCR&BLND, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 12.0 INCH	1
5	ELBOW.90, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.75 INCH	8
6	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 3000, 12.0 INCH, 0.75 INCH	2
7	VLV.PLUG, SHEET 553BD, 10.0 INCH	1
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 2.5 INCH	16
9	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 5.75 INCH	12
10	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 4.75 INCH	12
11	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 0.75 INCH	4
12	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 12.0 INCH	3

### **B366-088-16-43-SK-1205(TP-008)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, 0.75 INCH, XS	56
2	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 6.0 INCH, STD	1
3	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 0.75 INCH, XS	10
4	FLNG.SO, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 8.0 INCH, 6.0 INCH	1
5	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 8.0 INCH	1
6	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 8.0 INCH	1
7	ELBOW.90, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.75 INCH	20
8	T.RED, B-16.9, ASTM A 234 GR.WPB, BW, 8.0 INCH, STD, 6.0 INCH, STD	1
9	CPLNG.FULL, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.75 INCH	8
10	VLV.PLUG, SHEET 553BD, 6.0 INCH	1
11	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 2.5 INCH	24
12	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 4.25 INCH	8
13	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 5 INCH	8
14	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 0.75 INCH	6
15	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 8.0 INCH	3

### **B366-088-16-43-SK-1206(TP-009)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, 0.75 INCH, XS	9
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 0.75 INCH, XS	8
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 10.0 INCH	1
4	SPCR&BLND, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 10.0 INCH	1
5	ELBOW.90, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.75 INCH	10
6	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 3000, 10.0 INCH, 0.75 INCH	2
7	VLV.PLUG, SHEET 553BD, 8.0 INCH	1
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 2.5 INCH	24
9	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 4.75 INCH	12
10	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 5.5 INCH	12
11	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 0.75 INCH	6
12	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 10.0 INCH	3

### **B366-088-16-43-SK-1301(TP-011)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 2.0 INCH, XS	0.5

## TIE IN MTO

2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 2.0 INCH, XS	1
3	FLNG.BLIND, B-16.5, ASTM A 105 N (GALV.), 150, FF/125AARH, 2.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516N Gr.70 (GALV.), 150, FF/125AARH, 2.0 INCH	1
5	VLV.GATE, SHEET 513FE, 2.0 INCH	1
6	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 3.75 INCH	4
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 3.25 INCH	4
8	GASKET, B-16.21-ANSI B16.5, NONASB. SYN FIBRE+ RUBR BINDER, FULLFACE, 150, 2.0 INCH, 2 MM	3
9	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 2.0 INCH	1

### **B366-088-16-43-SK-1302(TP-012)**

S.NO	DESCRIPTION	QTY
1	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 8.0 INCH	1
2	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 8.0 INCH	1
3	VLV.GATE, SHEET 513FA, 8.0 INCH	1
4	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 5 INCH	8
5	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 4.25 INCH	8
6	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 8.0 INCH	3

### **B366-088-16-43-SK-1303(TP-013)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 3.0 INCH, STD	0.5
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 3.0 INCH, STD	1
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 3.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 3.0 INCH	1
5	VLV.GATE, SHEET 513DA, 3.0 INCH	1
6	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 4 INCH	4
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3.75 INCH	4
8	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 3.0 INCH	3

### **B366-088-16-43-SK-1304(TP-014)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B(GALV), BE, SEAMLESS, 3.0 INCH, STD	0.4
2	FLNG.SO, B-16.5, ASTM A 105 N (GALV.), 150, FF/125AARH, 3.0 INCH	1
3	FLNG.BLIND, B-16.5, ASTM A 105 N (GALV.), 150, FF/125AARH, 3.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516N Gr.70 (GALV.), 150, FF/125AARH, 3.0 INCH	1
5	T.RED, B-16.9, ASTM A 234 GR.WPB(GALV), BW, 6.0 INCH, STD, 3.0 INCH, STD	1
6	VLV.GATE, SHEET 513FE, 3.0 INCH	1
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 4.0 INCH	4
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 3.75 INCH	4
9	GASKET, B-16.21-ANSI B16.5, NONASB. SYN FIBRE+ RUBR BINDER, FULLFACE, 150, 3.0 INCH, 2 MM	3

### **B366-088-16-43-SK-1305(TP-018)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, IBR, 3.0 INCH, XS	0.4
2	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, IBR, 10.0 INCH, STD	0.152
3	REINF.PAD, ASTM A 106 GR.B, IBR, 10.0 INCH, STD, 3.0 INCH	1
4	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, IBR, 3.0 INCH, XS	1
5	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 300, RF/125AARH, IBR, 3.0 INCH	1
6	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 300, FF/125AARH, IBR, 3.0 INCH	1
7	VLV.GATE, SHEET 514AB, IBR, 3.0 INCH	1
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 4.75 INCH	8
9	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 4.25 INCH	8
10	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 300, 3.0 INCH	3

### **B366-088-16-43-SK-1306(TP-019)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, IBR, 6.0 INCH, S120	0.4
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 6.0 INCH, S120	1
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 6.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 600, FF/125AARH, IBR, 6.0 INCH	1
5	T.RED, B-16.9, ASTM A 234 GR.WPB, BW, IBR, 8.0 INCH, S100, 6.0 INCH, S120	1

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6	VLV.GATE, SHEET 515DB, IBR, 6.0 INCH	2
7	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.0 INCH X 7.75 INCH	24
8	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.0 INCH X 8.75 INCH	12
9	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 600, 6.0 INCH	4

### **B366-088-16-43-SK-1307(TP-020)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 3.0 INCH, STD	0.5
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 3.0 INCH, STD	1
3	FLNG.BLIND, B-16.5, ASTM A 105 N (GALV.), 150, FF/125AARH, 3.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516N Gr.70 (GALV.), 150, FF/125AARH, 3.0 INCH	1
5	T.RED, B-16.9, ASTM A 234 GR.WPB, BW, 4.0 INCH, STD, 3.0 INCH, STD	1
6	VLV.GATE, SHEET 513FE, 3.0 INCH	1
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 4.0 INCH	4
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 3.75 INCH	4
9	GASKET, B-16.21-ANSI B16.5, NONASB. SYN FIBRE+ RUBR BINDER, FULLFACE, 150, 3.0 INCH, 2 MM	3
10	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 3.0 INCH	1

### **B366-088-16-43-SK-1308(TP-023)**

S.NO	DESCRIPTION	QTY
1	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 2.0 INCH	1
2	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, IBR, 2.0 INCH	1
3	VLV.GATE, SHEET 513AB, IBR, 2.0 INCH	1
4	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3.75 INCH	4
5	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3.25 INCH	4
6	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 2.0 INCH	3

### **B366-088-16-43-SK-1309(TP-024)**

S.NO	DESCRIPTION	QTY
1	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 4.0 INCH	1
2	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 600, FF/125AARH, IBR, 4.0 INCH	1
3	VLV.GATE, SHEET 515DB, IBR, 4.0 INCH	1
4	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 5.75 INCH	8
5	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 6.5 INCH	8
6	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 600, 4.0 INCH	3

### **B366-088-16-43-SK-1310(TP-025)**

S.NO	DESCRIPTION	QTY
1	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 6.0 INCH	1
2	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 6.0 INCH	1
3	VLV.BALL, SHEET 543LA, 6.0 INCH	1
4	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 4.75 INCH	8
5	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 4 INCH	8
6	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 6.0 INCH	3

### **B366-088-16-43-SK-1311(TP-026)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, IBR, 10.0 INCH, STD	0.4
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 10.0 INCH, STD	1
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 10.0 INCH	1
4	SPCR&BLND, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, IBR, 10.0 INCH	1
5	T.RED, B-16.9, ASTM A 234 GR.WPB, BW, IBR, 12.0 INCH, STD, 10.0 INCH, STD	1
6	VLV.GATE, SHEET 513AB, IBR, 10.0 INCH	1
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 4.75 INCH	12
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 5.5 INCH	12
9	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 10.0 INCH	3

### **B366-088-16-43-SK-1312(TP-028)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 2.0 INCH, XS	0.4
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 2.0 INCH, XS	1
3	FLNG.BLIND, B-16.5, ASTM A 105 N (GALV.), 150, FF/125AARH, 2.0 INCH	1



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4	FLNG.FIG.8, ASME-B16.48, ASTM A 516N Gr.70 (GALV.), 150, FF/125AARH, 2.0 INCH	1
5	VLV.GATE, SHEET 513FE, 2.0 INCH	1
6	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 3.75 INCH	4
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 3.25 INCH	4
8	GASKET, B-16.21-ANSI B16.5, NONASB. SYN FIBRE+ RUBR BINDER, FULLFACE, 150, 2.0 INCH, 2 MM	3
9	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 2.0 INCH	1

### **B366-088-16-43-SK-1313(TP-029)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 3.0 INCH, STD	0.5
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 3.0 INCH, STD	1
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 3.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 3.0 INCH	1
5	VLV.GATE, SHEET 513DA, 3.0 INCH	1
6	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3.75 INCH	4
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 4 INCH	4
8	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 3.0 INCH	3

### **B366-088-16-43-SK-1314(TP-030)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B(GALV), BE, SEAMLESS, 3.0 INCH, STD	0.4
2	FLNG.SO, B-16.5, ASTM A 105 N (GALV.), 150, FF/125AARH, 3.0 INCH	1
3	FLNG.BLIND, B-16.5, ASTM A 105 N (GALV.), 150, FF/125AARH, 3.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516N Gr.70 (GALV.), 150, FF/125AARH, 3.0 INCH	1
5	T.RED, B-16.9, ASTM A 234 GR.WPB(GALV), BW, 6.0 INCH, STD, 3.0 INCH, STD	1
6	VLV.GATE, SHEET 513FE, 3.0 INCH	1
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 3.75 INCH	4
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 4.0 INCH	4
9	GASKET, B-16.21-ANSI B16.5, NONASB. SYN FIBRE+ RUBR BINDER, FULLFACE, 150, 3.0 INCH, 2 MM	3

### **B366-088-16-43-SK-1315(TP-033)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, IBR, 6.0 INCH, S120	0.3
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 6.0 INCH, S120	1
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 6.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 600, FF/125AARH, IBR, 6.0 INCH	1
5	T.RED, B-16.9, ASTM A 234 GR.WPB, BW, IBR, 8.0 INCH, S100, 6.0 INCH, S120	1
6	VLV.GATE, SHEET 515DB, IBR, 6.0 INCH	2
7	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.0 INCH X 8.75 INCH	12
8	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.0 INCH X 7.75 INCH	24
9	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 600, 6.0 INCH	4

### **B366-088-16-43-SK-1316(TP-034)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 4.0 INCH, STD	0.3
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 4.0 INCH, STD	1
3	FLNG.BLIND, B-16.5, ASTM A 105 N (GALV.), 150, FF/125AARH, 4.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516N Gr.70 (GALV.), 150, FF/125AARH, 4.0 INCH	1
5	T.EQUAL, B-16.9, ASTM A 234 GR.WPB, BW, 4.0 INCH, STD	1
6	VLV.GATE, SHEET 513FE, 4.0 INCH	1
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 3.75 INCH	8
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7(GALV), A194 2H(GALV), 0.625 INCH X 4.25 INCH	8
9	GASKET, B-16.21-ANSI B16.5, NONASB. SYN FIBRE+ RUBR BINDER, FULLFACE, 150, 4.0 INCH, 2 MM	3
10	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 4.0 INCH	1

### **B366-088-16-43-SK-1317(TP-037)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, 8.0 INCH, STD	0.6
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 8.0 INCH, STD	1
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 8.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, 8.0 INCH	1

## TIE IN MTO

5	T.RED, B-16.9, ASTM A 234 GR.WPB, BW, 10.0 INCH, STD, 8.0 INCH, STD	1
6	VLV.BALL, SHEET 543LA, 8.0 INCH	1
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 4.25 INCH	8
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.75 INCH X 5 INCH	8
9	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 8.0 INCH	3

### **B366-088-16-43-SK-1319(TP-XX1)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.19, ASTM A 312 TP304L, BE, SEAMLESS, 2.0 INCH, 40S	0.5
2	PIPE, B-36.19, ASTM A 358 TP304L CL.1, BE, E.FS.W, 14.0 INCH, 10S	0.102
3	REINF.PAD, ASTM A 358 TP304L CL.1, 14.0 INCH, 10S, 2.0 INCH	1
4	FLNG.WN, B-16.5, ASTM A 182 GR.F304L, 150, RF/125AARH, 2.0 INCH, 40S	1
5	FLNG.BLIND, B-16.5, ASTM A 182 GR.F304L, 150, RF/125AARH, 2.0 INCH	1
6	FLNG.FIG.8, ASME-B16.48, ASTM A 240 GR.304L, 150, FF/125AARH, 2.0 INCH	1
7	VLV.GATE, SHEET 513AL, 2.0 INCH	1
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3.75 INCH	4
9	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3.25 INCH	4
10	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 2.0 INCH	3

### **B366-088-16-43-SK-1320(TP-XX2)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.19, ASTM A 312 TP304L, BE, SEAMLESS, 2.0 INCH, 40S	0.5
2	PIPE, B-36.19, ASTM A 358 TP304L CL.1, BE, E.FS.W, 14.0 INCH, 10S	0.102
3	REINF.PAD, ASTM A 358 TP304L CL.1, 14.0 INCH, 10S, 2.0 INCH	1
4	FLNG.WN, B-16.5, ASTM A 182 GR.F304L, 150, RF/125AARH, 2.0 INCH, 40S	1
5	FLNG.BLIND, B-16.5, ASTM A 182 GR.F304L, 150, RF/125AARH, 2.0 INCH	1
6	FLNG.FIG.8, ASME-B16.48, ASTM A 240 GR.304L, 150, FF/125AARH, 2.0 INCH	1
7	VLV.GATE, SHEET 513AL, 2.0 INCH	1
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3.25 INCH	4
9	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3.75 INCH	4
10	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 2.0 INCH	3

### **B366-088-16-43-SK-1330(TP-101)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, IBR, 1.5 INCH, XS	0.3
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 1.5 INCH, XS	1
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 1.5 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, IBR, 1.5 INCH	1
5	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 3000, IBR, 24.0 INCH, 1.5 INCH	1
6	VLV.GATE, SHEET 510AB, IBR, 1.5 INCH	1
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 3.25 INCH	4
8	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 1.5 INCH	2

### **B366-088-16-43-SK-1331(TP-102)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, IBR, 1.5 INCH, XS	5.1
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 1.5 INCH, XS	17
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 1.5 INCH	17
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, IBR, 1.5 INCH	17
5	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 3000, IBR, 12.0 INCH, 1.5 INCH	17
6	VLV.GATE, SHEET 510AB, IBR, 1.5 INCH	17
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 3.25 INCH	68
8	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 1.5 INCH	34

### **B366-088-16-43-SK-1332(TP-103)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, IBR, 1.5 INCH, XS	0.9
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 1.5 INCH, XS	3
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 1.5 INCH	3
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, IBR, 1.5 INCH	3
5	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 3000, IBR, 18.0 INCH, 1.5 INCH	3



## TIE IN MTO

6	VLV.GATE, SHEET 510AB, IBR, 1.5 INCH	3
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 3.25 INCH	12
8	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 1.5 INCH	6

### **B366-088-16-43-SK-1333(TP-104)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, IBR, 1.5 INCH, XS	0.6
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 1.5 INCH, XS	2
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 1.5 INCH	2
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, IBR, 1.5 INCH	2
5	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 3000, IBR, 10.0 INCH, 1.5 INCH	2
6	VLV.GATE, SHEET 510AB, IBR, 1.5 INCH	2
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 3.25 INCH	8
8	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 1.5 INCH	4

### **B366-088-16-43-SK-1334(TP-105)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, IBR, 0.75 INCH, S160	1.2
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 0.75 INCH, S160	4
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 0.75 INCH	4
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, IBR, 0.75 INCH	4
5	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 6000, IBR, 12.0 INCH, 0.75 INCH	4
6	VLV.GATE, SHEET 510AB, IBR, 0.75 INCH	4
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 2.75 INCH	16
8	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 0.75 INCH	8

### **B366-088-16-43-SK-1335(TP-106)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, IBR, 0.75 INCH, S160	1
2	FLNG.SW, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 0.75 INCH, S160	3
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 0.75 INCH	3
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 600, FF/125AARH, IBR, 0.75 INCH	3
5	SOCKOLET, MSS-SP97, ASTM A 105 (NORMALISED), SW, 6000, IBR, 12.0 INCH, 0.75 INCH	3
6	VLV.GATE, SHEET 510DB, IBR, 0.75 INCH	3
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 4 INCH	12
8	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 600, 0.75 INCH	6

### **B366-088-16-43-SK-1401(TP-015)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, IBR, 12.0 INCH, XS	5.8
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 12.0 INCH, XS	2
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 12.0 INCH	1
4	SPCR&BLND, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 600, FF/125AARH, IBR, 12.0 INCH	1
5	VLV.GATE, SHEET 515AB, IBR, 12.0 INCH	2
6	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.25 INCH X 10 INCH	60
7	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.25 INCH X 11.75 INCH	20
8	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 600, 12.0 INCH	5

### **B366-088-16-43-SK-1402(TP-016)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, IBR, 6.0 INCH, XS	0.3
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 6.0 INCH, XS	1
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 6.0 INCH	1
4	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 600, FF/125AARH, IBR, 6.0 INCH	1
5	T.RED, B-16.9, ASTM A 234 GR.WPB, BW, IBR, 10.0 INCH, XS, 6.0 INCH, XS	1
6	VLV.GATE, SHEET 515AB, IBR, 6.0 INCH	2
7	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.0 INCH X 7.75 INCH	24
8	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.0 INCH X 8.75 INCH	12
9	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 600, 6.0 INCH	4

### **B366-088-16-43-SK-1403(TP-017)**

S.NO	DESCRIPTION	QTY
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1	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 24.0 INCH	1
2	SPCR&BLND, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, IBR, 24.0 INCH	1
3	VLV.GATE, SHEET 513AB, IBR, 24.0 INCH	1
4	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.25 INCH X 8 INCH	20
5	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.25 INCH X 9.5 INCH	20
6	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 24.0 INCH	3

### **B366-088-16-43-SK-1404(TP-021)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, IBR, 4.0 INCH, STD	0.5
2	PIPE, B-36.10, ASTM A 672 GR.B60 CL.32, BE, E.FS.W, IBR, 16.0 INCH, STD	0.203
3	REINF.PAD, ASTM A 672 GR.B60 CL.32, IBR, 16.0 INCH, STD, 4.0 INCH	1
4	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 4.0 INCH, STD	1
5	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 4.0 INCH	1
6	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, IBR, 4.0 INCH	1
7	VLV.GATE, SHEET 513AB, IBR, 4.0 INCH	1
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 4.25 INCH	8
9	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.625 INCH X 3.75 INCH	8
10	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 4.0 INCH	3

### **B366-088-16-43-SK-1405(TP-022)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, NACE, 6.0 INCH, STD	3.2
2	PIPE, B-36.10, ASTM A 671 GR.CC60 CL.32, BE, E.FS.W, NACE, 42.0 INCH, XS	0.305
3	REINF.PAD, ASTM A 671 GR.CC60 CL.32, NACE, 42.0 INCH, XS, 6.0 INCH	1
4	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NACE, 6.0 INCH, STD	3
5	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NACE, 6.0 INCH	1
6	FLNG.FIG.8, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, NACE, 6.0 INCH	1
7	ELBOW.90, B-16.9, ASTM A 234 GR.WPB, BW, 1.5D, NACE, 6.0 INCH, STD	1
8	VLV.GATE, SHEET 513HC, NACE, 6.0 INCH, LOCK OPEN, FULL BORE	2
9	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 0.75 INCH X 4.0 INCH	24
10	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 0.75 INCH X 4.75 INCH	8
11	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, NACE, 6.0 INCH	5

### **B366-088-16-43-SK-1406(TP-031)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, IBR, 10.0 INCH, XS	5.9
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 10.0 INCH, XS	3
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 600, RF/125AARH, IBR, 10.0 INCH	1
4	SPCR&BLND, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 600, FF/125AARH, IBR, 10.0 INCH	1
5	ELBOW.90, B-16.9, ASTM A 234 GR.WPB, BW, 1.5D, IBR, 10.0 INCH, XS	1
6	T.EQUAL, B-16.9, ASTM A 234 GR.WPB, BW, IBR, 10.0 INCH, XS	1
7	VLV.GATE, SHEET 515AB, IBR, 10.0 INCH	2
8	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.25 INCH X 11.25 INCH	16
9	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 1.25 INCH X 9.75 INCH	48
10	GASKET, B-16.20-ANSI B16.5, SP.WND SS316+GRAFIL+ I RING, SPIRAL, 600, 10.0 INCH	5

### **B366-088-16-43-SK-1407(TP-036)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 671 GR.CC60 CL.32, BE, E.FS.W, NACE, 24.0 INCH, STD	9.6
2	PIPE, B-36.10, ASTM A 671 GR.CC60 CL.32, BE, E.FS.W, NACE, 42.0 INCH, XS	1.219
3	REINF.PAD, ASTM A 671 GR.CC60 CL.32, NACE, 42.0 INCH, XS, 24.0 INCH	1
4	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NACE, 24.0 INCH, STD	3
5	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, NACE, 24.0 INCH	1
6	SPCR&BLND, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, NACE, 24.0 INCH	1
7	ELBOW.90, B-16.9, ASTM A 234 GR.WPB-W, BW, 1.5D, NACE, 24.0 INCH, STD	1
8	VLV.GATE, SHEET 513HC, NACE, 24.0 INCH, LOCK OPEN, FULL BORE	2
9	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 1.25 INCH X 8.0 INCH	60
10	BOLT.STUD WITH 3 NUTS, B-18.2, A193 GR.B7M, A194 GR.2HM, NACE, 1.25 INCH X 9.5 INCH	20
11	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, NACE, 24.0 INCH	5

## TIE IN MTO

### **B366-088-16-43-SK-1408(TP-038)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, BE, SEAMLESS, IBR, 10.0 INCH, STD	0.4
2	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 10.0 INCH, STD	1
3	FLNG.BLIND, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, IBR, 10.0 INCH	1
4	SPCR&BLND, ASME-B16.48, ASTM A 516 GR.70(NORMALISED), 150, FF/125AARH, IBR, 10.0 INCH	1
5	T.RED, B-16.9, ASTM A 234 GR.WPB, BW, IBR, 12.0 INCH, STD, 10.0 INCH, STD	1
6	VLV.GATE, SHEET 513AB, IBR, 10.0 INCH	1
7	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 5.5 INCH	12
8	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.875 INCH X 4.75 INCH	12
9	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 10.0 INCH	3

### **TPTRAC(TPTRAC)**

S.NO	DESCRIPTION	QTY
1	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, 0.5 INCH, XS	70
2	PIPE, B-36.10, ASTM A 106 GR.B, PE, SEAMLESS, 0.75 INCH, XS	20
3	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 0.5 INCH, XS	60
4	FLNG.WN, B-16.5, ASTM A 105 (NORMALISED), 150, RF/125AARH, 0.75 INCH, XS	32
5	ELBOW.90, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.5 INCH	30
6	ELBOW.90, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.75 INCH	10
7	SWAGE.CONC, BS-3799, ASTM A 105 (NORMALISED), PBE, 0.75 INCH, XS, 0.5 INCH, XS	10
8	CPLNG.FULL, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.5 INCH	30
9	CPLNG.FULL, B-16.11, ASTM A 105 (NORMALISED), SW, 3000, 0.75 INCH	10
10	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 2.5 INCH	64
11	BOLT.STUD WITH 2 NUTS, B-18.2, A193 GR.B7, A194 GR.2H, 0.5 INCH X 2.25 INCH	120
12	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 0.5 INCH	30
13	GASKET, B-16.20-ANSI B16.5, LS SP.WND SS316+FLEX GRAFIL+IR, SPIRAL, 150, 0.75 INCH	16