

## **Disclaimer**

This Report, including the data and information contained in this Report, is provided to you on an “as is” and “as available” basis at the sole discretion of the Government of Alberta and subject to the terms and conditions of use below (the “Terms and Conditions”). The Government of Alberta has not verified this Report for accuracy and does not warrant the accuracy of, or make any other warranties or representations regarding, this Report. Furthermore, updates to this Report may not be made available. Your use of any of this Report is at your sole and absolute risk.

This Report is provided to the Government of Alberta, and the Government of Alberta has obtained a license or other authorization for use of the Reports, from:

Shell Canada Energy, Chevron Canada Limited. and Marathon Oil Canada Corporation, for the Quest Project

(collectively the “Project”)

Each member of the Project expressly disclaims any representation or warranty, express or implied, as to the accuracy or completeness of the material and information contained herein, and none of them shall have any liability, regardless of any negligence or fault, for any statements contained in, or for any omissions from, this Report. Under no circumstances shall the Government of Alberta or the Project be liable for any damages, claims, causes of action, losses, legal fees or expenses, or any other cost whatsoever arising out of the use of this Report or any part thereof or the use of any other data or information on this website.

## **Terms and Conditions of Use**

Except as indicated in these Terms and Conditions, this Report and any part thereof shall not be copied, reproduced, distributed, republished, downloaded, displayed, posted or transmitted in any form or by any means, without the prior written consent of the Government of Alberta and the Project.

The Government of Alberta’s intent in posting this Report is to make them available to the public for personal and non-commercial (educational) use. You may not use this Report for any other purpose. You may reproduce data and information in this Report subject to the following conditions:

- any disclaimers that appear in this Report shall be retained in their original form and applied to the data and information reproduced from this Report
- the data and information shall not be modified from its original form
- the Project shall be identified as the original source of the data and information, while this website shall be identified as the reference source, and
- the reproduction shall not be represented as an official version of the materials reproduced, nor as having been made in affiliation with or with the endorsement of the Government of Alberta or the Project

By accessing and using this Report, you agree to indemnify and hold the Government of Alberta and the Project, and their respective employees and agents, harmless from and against any and all claims, demands, actions and costs (including legal costs on a solicitor-client basis) arising out of any breach by you of these Terms and Conditions or otherwise arising out of your use or reproduction of the data and information in this Report.

Your access to and use of this Report is subject exclusively to these Terms and Conditions and any terms and conditions contained within the Report itself, all of which you shall comply with. You will not use this Report for any purpose that is unlawful or prohibited by these Terms and Conditions. You agree that any other use of this Report means you agree to be bound by these Terms and Conditions. These Terms and Conditions are subject to modification, and you agree to review them periodically for changes. If you do not accept these Terms and Conditions you agree to immediately stop accessing this Report and destroy all copies in your possession or control.

These Terms and Conditions may change at any time, and your continued use and reproduction of this Report following any changes shall be deemed to be your acceptance of such change.

If any of these Terms and Conditions should be determined to be invalid, illegal or unenforceable for any reason by any court of competent jurisdiction then the applicable provision shall be severed and the remaining provisions of these Terms and Conditions shall survive and remain in full force and effect and continue to be binding and enforceable.

These Terms and Conditions shall: (i) be governed by and construed in accordance with the laws of the province of Alberta and you hereby submit to the exclusive jurisdiction of the Alberta courts, and (ii) ensure to the benefit of, and be binding upon, the Government of Alberta and your respective successors and assigns.

FOR MOC 11457 PROJECT USE ONLY		8 13 SEP 20 ISSUED FOR CONSTRUCTION (MOC 11457) GB KH SJ CJ -	
		7 12 MAY 21 ISSUED FOR CONSTRUCTION (MOC 11457) GB KB SJ SJ EM MD	
		7 11 SEP 15 ISSUED FOR DESIGN GB SJ EM SJ EM MD	
		7 11 JUL 11 ISSUED FOR PHA III	
		7 11 APR 20 ISSUED FOR ESTIMATE	
		7 11 MAR 07 ISSUED FOR PHA II	
		7 11 JAN 10 ISSUED FOR CLIENT REVIEW	
		7 10 DEC 12 ISSUED FOR INTERNAL REVIEW	
		7 10 NOV 04 ISSUED FOR INFORMATION	
REV	ISSUE DATE	DESCRIPTION	OWN CHKD ENG APP APP CLM
			REV 8

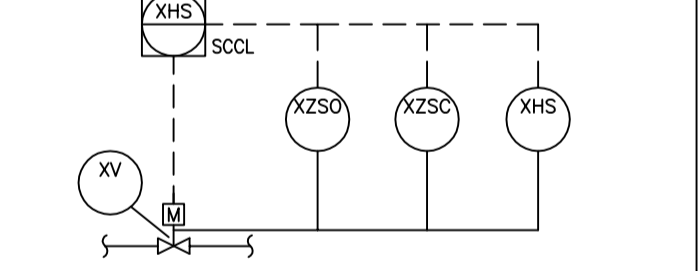
WORKING COPY OF  
MASTER DRAWING  
ASBUILT INFORMATION  
REQUIRED

- NOTES**
- FIRE WATER AND FIRE PROTECTION SYSTEM SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ESTG 21-1.03 FIRE WATER SYSTEMS AND ESTG 21-1.02 FIRE PROTECTION AND PERSONNEL SAFETY AND ALSO IN ACCORDANCE WITH ALL CODES & ORDINANCES & AUTHORITY HAVING JURISDICTION.
  - ALL LATERALS TO FIRE HYDRANTS AND FIRE MONITORS SHALL BE 6" 3-1/2" PIPE, VALVES, FITTINGS, FIRE HYDRANTS AND FIRE MONITORS SHALL COMPLY WITH ESTG 3-1.01 "PIPING DESIGN" AND ESTG 3-1.03 "PIPE, VALVE AND FITTING PIPING CLASS".
  - HYDRANTS SHALL BE DESIGNED FOR FREEZE PROTECTION DUE TO THE HIGH WATER TABLE.
  - FIRE HYDRANTS AND FIRE MONITORS SHALL BE LOCATED 1-3 METRES FROM THE CURB OR EDGE OF THE ROAD AND AT LEAST 10 METRES FROM INTERSECTIONS OR BUILDING.
  - ALL HYDRANTS ARE LOCATED OUTSIDE OF TANK DYKE.
  - FIRE MONITORS ARE TO BE LOCATED APPROXIMATELY 20 METRES FROM THE EQUIPMENT TO BE PROTECTED AND OUTSIDE EXPECTED DRAINAGE ROUTES.
  - MONITOR COVERAGE (30m) IS THROW LENGTH HYDRANT COVERAGE IS 100m TOTAL, INCLUDING HOSE LENGTH PLUS THROW LENGTH.
  - HYDRANT IS PROVIDED FOR WELDING OF DYKE DURING MAINTENANCE SHUTDOWN.
  - DELETED.
  - TEMPERATURE INDICATION HAS BEEN PROVIDED AT HIGH FROST GROUND PENETRATION AREAS TO HELP MITIGATE LINE FREEZING: (4 PROVIDED).
  - FOR LOCATIONS AND U/G BOTTOMS OF PIPE ELEVATIONS REFER TO U/G PIPING PLANS (CIVIL DRAWINGS).
  - THE IN VALVES TO THE EXISTING SCOTTFORD FIREWATER SYSTEM SHALL BE OPEN.
  - DELETED.
  - HYDROTEST PRESSURE FOR HOPE PIPE (DR11) IS 1670 kPa(g). TEST PRESSURE MUST BE AT THE LOWEST ELEVATION OF THE SYSTEM PER MANUFACTURER RECOMMENDATION.
  - PW DISTRIBUTION IS BASED ON SITE PLAN DWG: 200.000.000.041.001, REV. F.
  - THE FOLLOWING FIRE HYDRANTS WITH MONITORS SHALL HAVE 1000 gpm NOZZLES:  
FHM-261-14  
FHM-221-27  
FHM-261-35  
FHM-261-36  
FHM-261-41  
EM-261-46
  - DELETED.
  - IN THE EVENT OF A SUNKEN ROOF, HIGH VOLUME MANIFOLDS WILL BE BOLTED ONTO ABOVE GROUND FLANGE CONNECTION. THREE (3) MANIFOLDS WILL BE AVAILABLE TO BE LOCATED. (SEE ESTG 21-1.01).
  - DELETED.
  - FIRE HYDRANT FHM-240-004 TO BE DEMOLISHED (240.000.000.041.011). NEW FHM-240-3 TO BE INSTALLED EAST OF 'G' STREET TO RCDU.

- LEGENDS AND DETAILS:**
- ELEVATED MONITORS (EM)
  - FIXED MONITORS (FM)
  - FIRE HYDRANT (FH)
  - FIRE HYDRANT WITH MONITOR (FHM)
  - POST INDICATOR GATE VALVE (PIV)
  - FLUSH CONNECTION
  - DELUGE SYSTEM
  - HOSE CABINET
  - EXTINGUISHER - 70 kg
  - HOSE REEL
  - SNUFFLING STEAM
  - FOAM LATERALS
  - SUB-SURFACE INJECTION
- DETAIL 1:**
- HIGH VOLUME MANIFOLD  
SIX 6" SIZE STORE CONNECTION - FEMALE

**DETAIL "A"**

XV	XHS	XZ50	XZSC	XHS (LOCAL)
258003	258003	258003	258003	258003A
258004	258004	258004	258004	258004A



**ISSUED FOR CONSTRUCTION**  
21 Oct 2013

FOR MOC 11457  
PROJECT USE ONLY

WORKING COPY OF  
MASTER DRAWING  
ASBUILT INFORMATION  
REQUIRED

CONTROL SYSTEMS: C. POON 2001-09-14

4	2001-09-28	ISSUED FOR AS BUILT	DC	AC	IP	AC	WM
3	2001-06-12	RE-ISSUED FOR CONSTRUCTION	DC	IP	GC	AC	SK
2	2000-08-27	ISSUED FOR CONSTRUCTION	DC	DC	SK	SK	SK
1	2000-01-24	ISSUED FOR CONSTRUCTION	SK	SK	DO	DO	SK
7	2001-04-28	ADDED ROADS, ADDED TK-27121 AND 27122	RC	RC			
6	2001-01-21	FOAM LATERALS, SNUFFLING STEAM & SUB-SURFACE INJECTION ADDED	GS	IRA			
5	2001-10-25	RE-ISSUED FOR AS BUILT	RSM	BY			

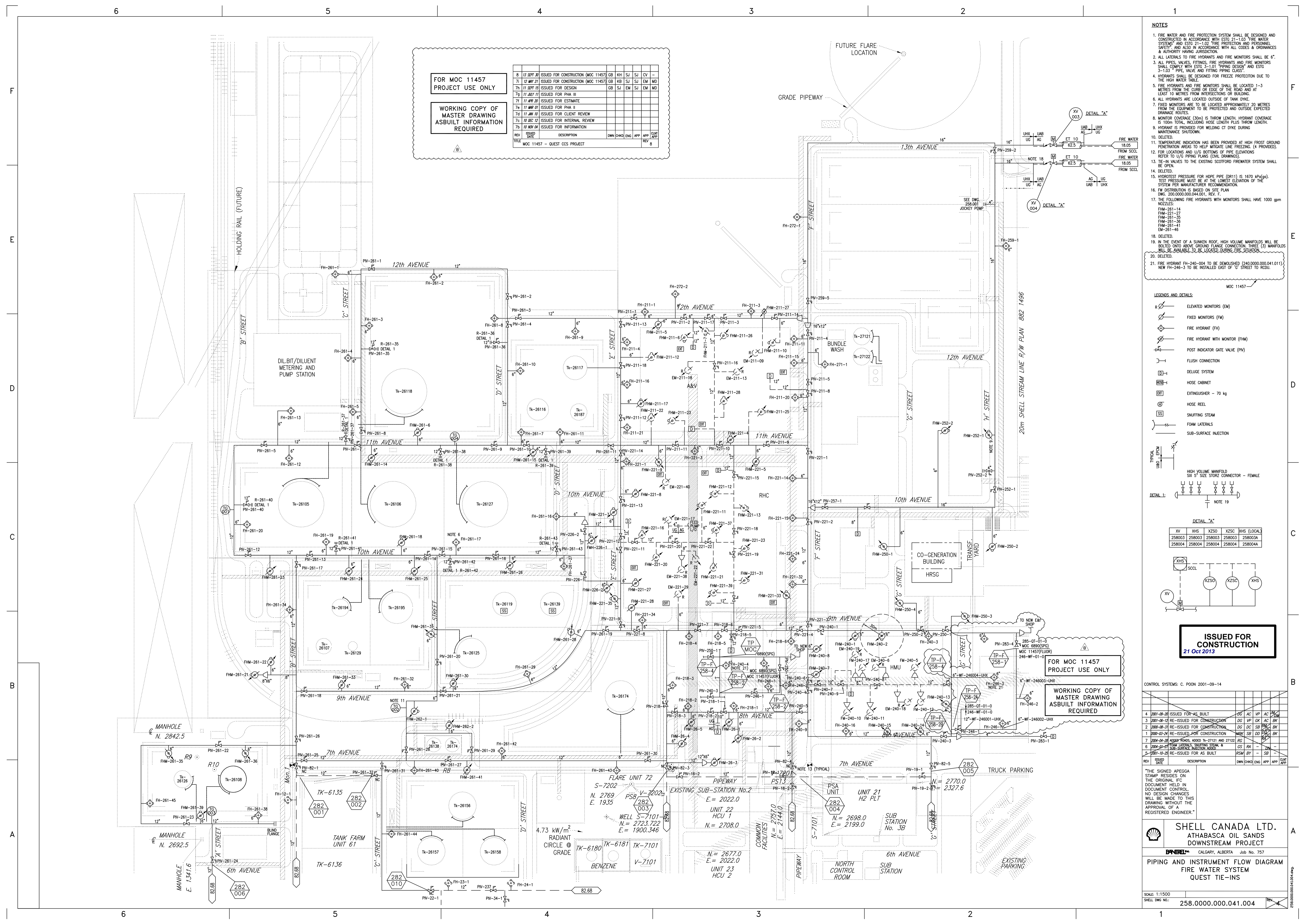
"THE SIGNED APPEGA STAMP RESIDES ON THE ORIGINAL IFC DOCUMENT HELD IN DOCUMENT CONTROL. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED ENGINEER."

**SHELL CANADA LTD.**  
ATHABASCA OIL SANDS  
DOWNSTREAM PROJECT

PNIREL - CALGARY, ALBERTA Job No. 757

PIPING AND INSTRUMENT FLOW DIAGRAM  
FIRE WATER SYSTEM  
QUEST TIE-INS

SCALE: 1:1500  
SHELL Dwg NO: 258.000.000.041.004



6

5

4

3

2

1

6

5

4

3

2

1

- NOTES**
- CONTINUATION FLAG NUMBERS ARE ABBREVIATED INTERCONNECTING P&ID NUMBERS.
  - FOR LEGENDS, SYMBOLS AND GENERAL NOTES, SEE DWG. 200.0000.000.041.001, 02, 05 & 06.
  - SPECIAL CLEANING REQUIRED DURING FABRICATION AND INSTALLATION, AS PER SPEC. 757-SP-282-L-0001.
  - DELETED.
  - ALL VALVES ABOVE GROUND, PROVIDED WITHIN UNITS, UNLESS INCLUDED ON THIS DRAWING.
  - THIS P&ID INDICATES PRESSURIZED U/G UTILITY SYSTEM PIPING. ALL LINES ARE UNDERGROUND, UNLESS INDICATED OTHERWISE.
  - HDPE SANITARY SEWER PIPES DO NOT HAVE A LINE CLASS.
  - CORROSION ALLOWANCE FOR RAW WATER CARBON STEEL LINE 6mm.
  - DETAILS OF SODIUM HYPOCHLORITE INJECTION QUILL ARE SHOWN ON DWG. 257.0000.000.041.026. INJECTION QUILL TO BE LOCATED IN MANHOLE.
  - FOR DETAILS OF TYPICAL HDPE/STEEL PIPE RISER SEE DWG. 282.2315.000.050.161.
  - DELETED.
  - DESIGN OF 6"-GO-282001 IS IN ACCORDANCE WITH CSA Z662.
  - ALL BENDS SHALL BE MIN. 5D RADIUS.

- NOTES CON'T**
- ESTG 3-1.03 LINE CLASS RLB IS TO BE USED ABOVE GROUND FOR PIPING MATERIAL AND VALVES. EXCEPTIONS ARE AS FOLLOWS:
    - BENDS ARE PER NOTE 13.
    - GASKETS SHALL BE DURABLE BLACK (SEE OBB LINE CLASS FOR COMMODITY CODE).
    - DRAINS SHALL BE MINIMIZED AND CONSIST OF A REDUCING TEE AND A BLIND FLANGE (NO DRAIN VALVE).
    - SOCKET WELDS NOT ALLOWED.
    - VALVES MUST BE SPECIFIED FOR OXYGEN SERVICE.
  - INSULATING FLANGE KIT AND KIRK CELL REQUIRED.
  - ESTG 3-1.03 LINE CLASS PAG IS TO BE USED FOR THE UNDERGROUND SECTION OF THE LINE. THE LINE MUST HAVE APPROPRIATE CORROSION RESISTANT COATING AND CATHODICALLY PROTECTED. THE TRANSITION BETWEEN PAG AND RLB WILL BE DONE WITH A TAPER BORE JUST UPSTREAM OF WHERE THE LINE BENDS UP TO GO ABOVE GROUND.
  - "SPECIAL CONSTRUCTION REQUIREMENTS FOR FIELD FABRICATION OF UNDERGROUND CARBON STEEL PIPE FOR GASEOUS OXYGEN SERVICE " 757-SP-282-W-0001 REV. 0 IS APPLICABLE TO THIS PIPING.

- NOTES CON'T**
- QUEST COOLING WATER LINES CROSS UNDER OXYGEN LINE NORTH OF QUEST UNIT 246.

**MASTER DRAWING  
AS BUILT  
INFORMATION REQUIRED**

**CONTROL SYSTEMS:**

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
5	2002-11-22	ISSUED FOR AS-BUILT	DH	BY	-	SB		
4	2001-08-27	RE-ISSUED FOR CONSTRUCTION	DG	AC	VP	AC	HP	DM
3	2001-02-22	RE-ISSUED FOR CONSTRUCTION	MAC	JL	AS	BP	DD	JK
2	2000-07-05	RE-ISSUED FOR CONSTRUCTION	MBK	DC	SB	DGD	DD	JK
1	2000-03-24	RE-ISSUED FOR CONSTRUCTION	AS	DD	SB	DD	DD	BK
0	2000-02-09	ISSUED FOR CONSTRUCTION	ABS	BWP	SR	DD	DD	BK
C	2000-01-20	ISSUED FOR DESIGN	JJS	BWP	SB	KV	BK	
7	2007-10-11	CHANGE LIST 282.0000.000.041.001	BB	MK				

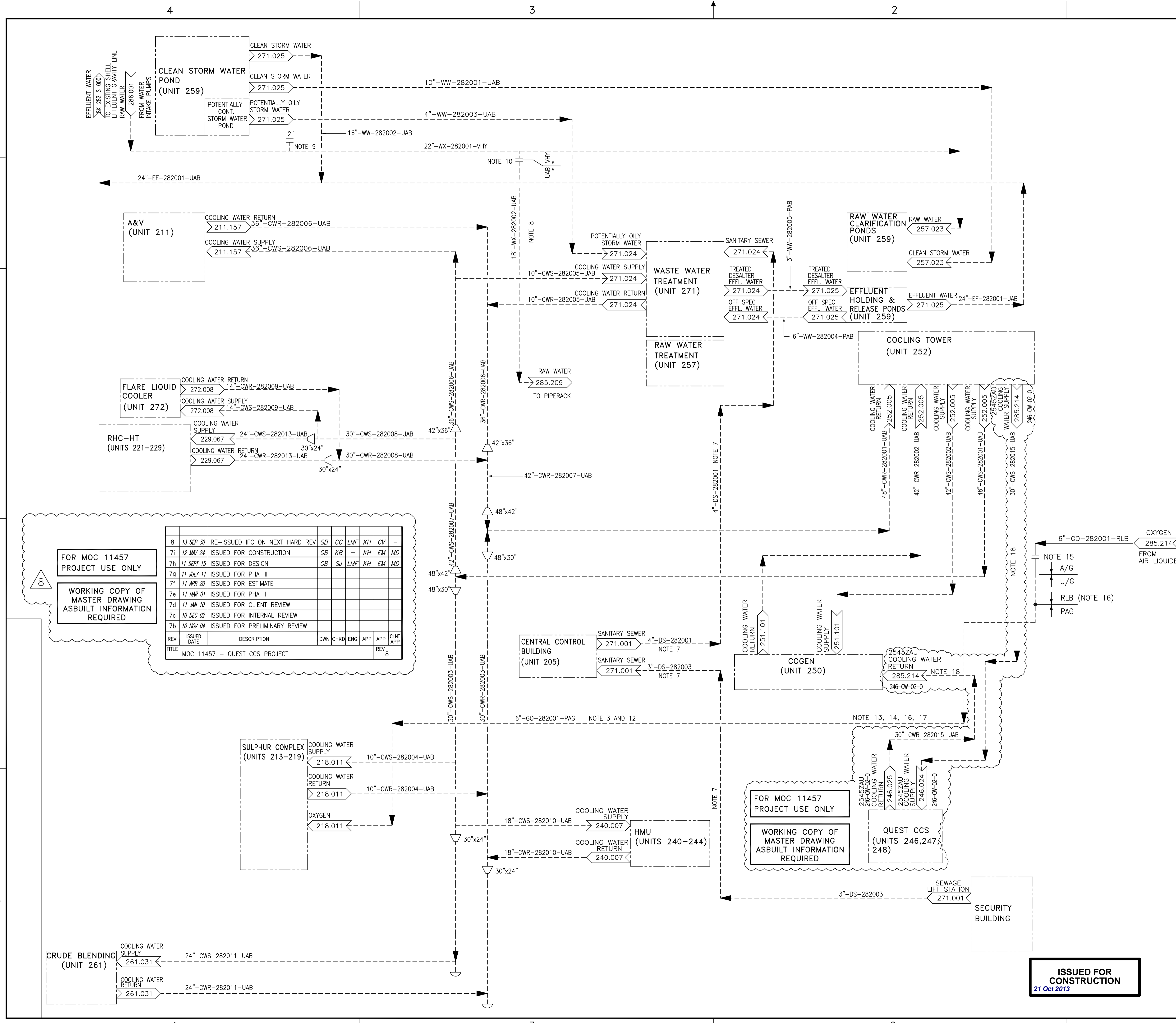
"THE SIGNED APEGGA STAMP RESIDES ON THE ORIGINAL IFC DRAWING HELD IN DOCUMENT CONTROL. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED ENGINEER."

**BANTREL Inc.**  
PERMIT NUMBER: P 3913  
The Association of Professional Engineers,  
Geologists and Geophysicists of Alberta

**SHELL CANADA LTD.**  
ATHABASCA OIL SANDS  
DOWNSTREAM PROJECT

**PIPING & INSTRUMENT FLOW DIAGRAM  
UNDERGROUND PRESSURE PIPING**

SCALE: NONE  
SHELL DWG NO.: 282.0000.000.041.001  
DOC NO.  
REV

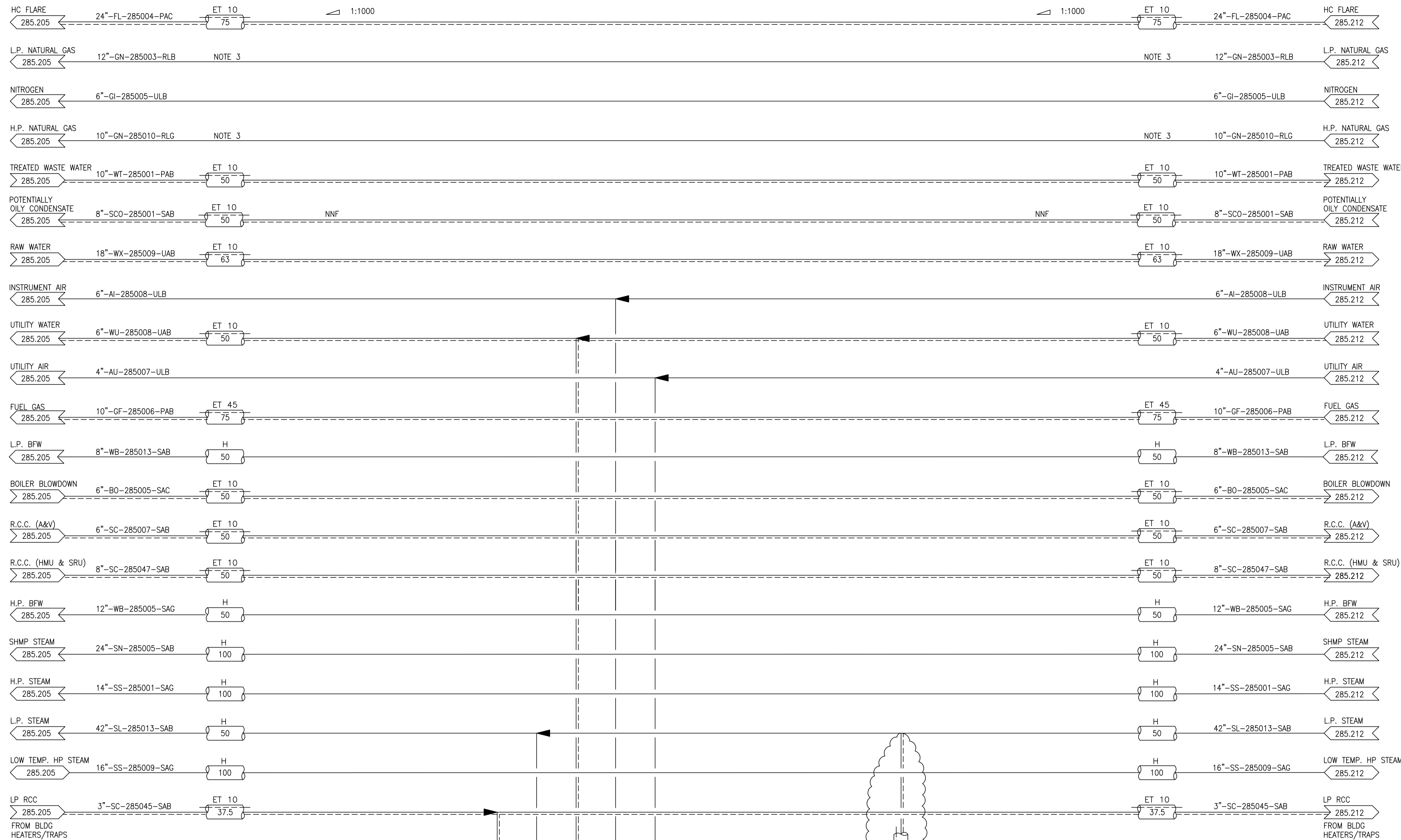


**FOR MOC 11457 PROJECT USE ONLY**

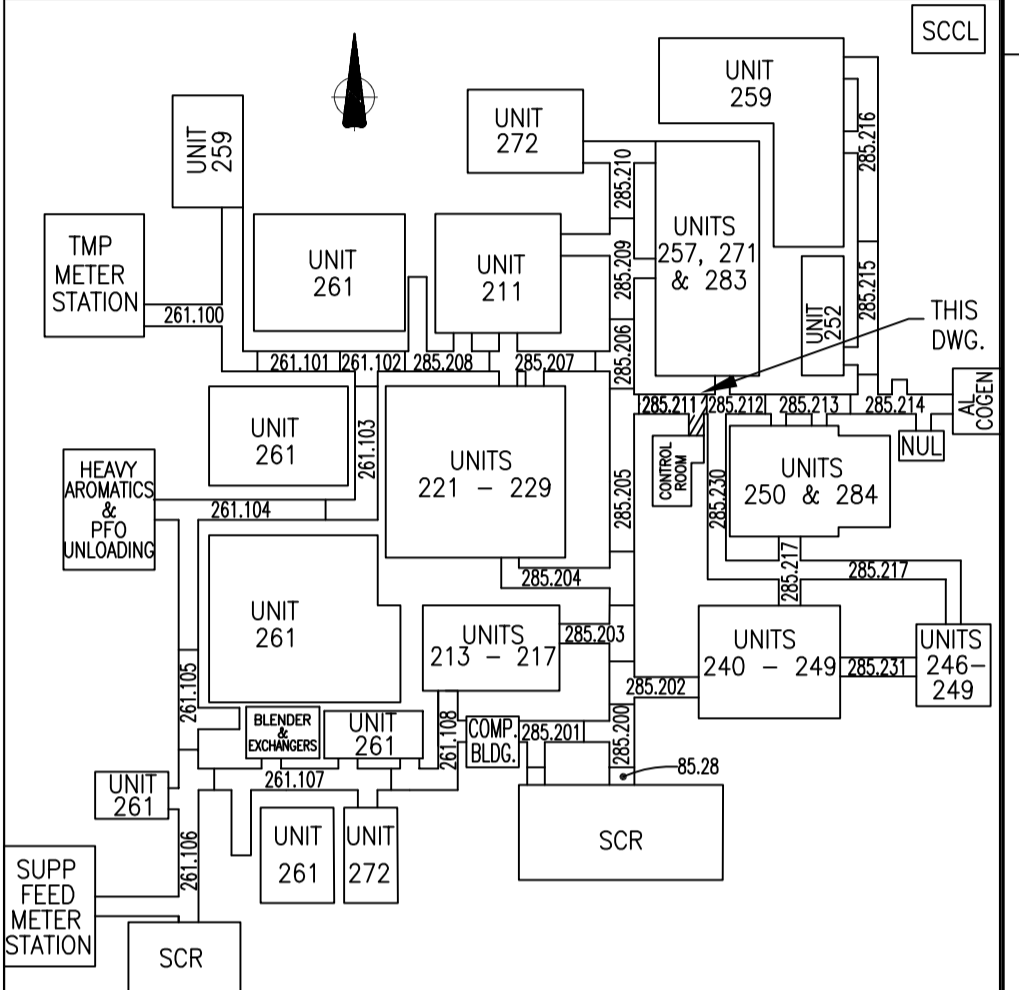
**WORKING COPY OF MASTER DRAWING ASBUILT INFORMATION REQUIRED**

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
8	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
7i	12 MAY 24	ISSUED FOR CONSTRUCTION	GB	KB	-	KH	EM	MD
7h	11 SEPT 15	ISSUED FOR DESIGN	GB	SJ	LMF	KH	EM	MD
7g	11 JULY 11	ISSUED FOR PHA III						
7f	11 APR 20	ISSUED FOR ESTIMATE						
7e	11 MAR 01	ISSUED FOR PHA II						
7d	11 JAN 10	ISSUED FOR CLIENT REVIEW						
7c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						
7b	10 NOV 04	ISSUED FOR PRELIMINARY REVIEW						
REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
		TITLE						
		MOC 11457 - QUEST CCS PROJECT						

**ISSUED FOR CONSTRUCTION**  
21 Oct 2013



- NOTES**
- INTERCONNECTING DRAWING NUMBERS ARE A SHORTENED CONTINUATION P&ID NUMBER.
  - FOR LEGENDS, SYMBOLS, AND GENERAL NOTES, SEE DWG. 200.0000.000.041.01, 02, 05, & 06.
  - ELECTRIC TRACE AND INSULATE BOOTS, POCKETS AND LOW POINT DRAINS. HOLDING TEMPERATURE 10°C.
  - ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBER (I.E. PG-285XXX).
  - VALVES FOR TP 285-7A/B LP STEAM TIE-IN WILL BE BATTERY LIMIT VALVES FOR UNIT 246.
  - REMOVABLE SPOOL TO ALLOW INSTALLATION OF SACRIFICIAL VALVE FOR STEAM BLOW.
  - SPG PIPING SCOPE ADJACENT TO MOC PACKAGE 11457 DOES NOT CURRENTLY EXIST. VERIFY TIE-INS PRIOR TO INSTALLATION.



**ISSUED FOR CONSTRUCTION**  
21 Oct 2013

CONTROL SYSTEMS: B. MANNANI 2001-03-15

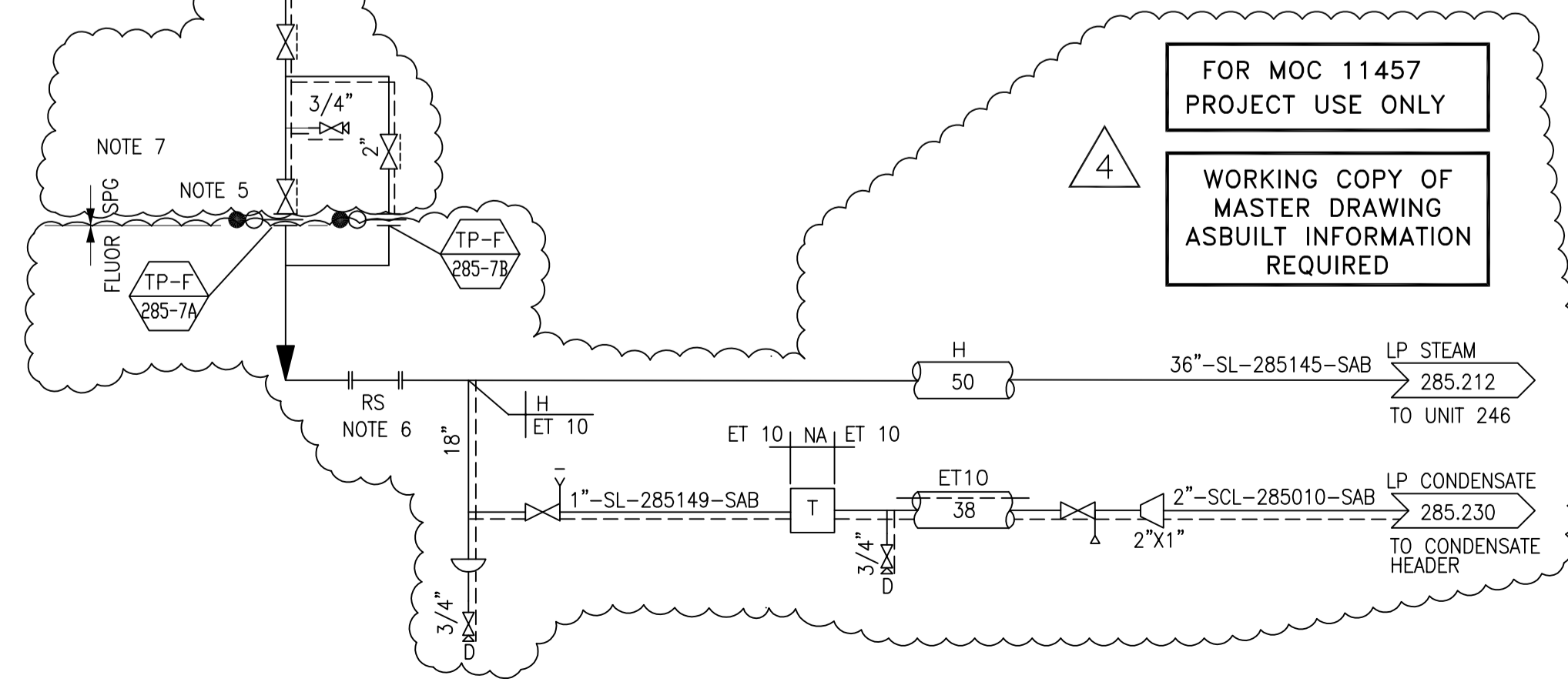
REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
5	2002-12-29	285.0000.000.041.211 CHANGE LIST						
2	2002-09-27	ISSUED FOR AS-BUILT	MK	BY			SB	
1	2001-03-16	ISSUED FOR CONSTRUCTION	MAC	BWP	AS	AC		
0	2000-09-19	ISSUED FOR CONSTRUCTION	DC	BWP	AS	AC		JK
C	2000-07-13	ISSUED FOR DESIGN	RRM	BWP	PG	DD	BJK	
B	2000-04-24	ISSUED FOR APPROVAL	DG	BWP	PG	DD	BJK	
A	2000-02-28	ISSUED FOR REVIEW	MBK	SB	PG	DD	BJK	

**FOR MOC 11457 PROJECT USE ONLY**

**WORKING COPY OF MASTER DRAWING ASBUILT INFORMATION REQUIRED**

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
4	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
3k	13 JUL 08	ISSUED FOR CONSTRUCTION	GB	KB	SL	KH	BB	
3j	12 DEC 04	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	
3i	12 AUG 17	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	
3h	11 SEPT 15	ISSUED FOR DESIGN	GB	SJ	LMF	KH	EM	MD
3g	11 JULY 11	ISSUED FOR PHA III						
3f	11 APR 20	ISSUED FOR ESTIMATE						
3e	11 MAR 01	ISSUED FOR PHA II						
3d	11 OCT 10	ISSUED FOR CLIENT REVIEW						
3c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						

TITLE: MOC 11457 - QUEST CCS PROJECT



"THE SIGNED APEGGA STAMP RESIDES ON THE ORIGINAL IFC DOCUMENT HELD IN DOCUMENT CONTROL. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED ENGINEER."

**BANTREL Inc.**  
PERMIT NUMBER: P 3913  
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

**SHELL CANADA LTD.**  
ATHABASCA OIL SANDS  
DOWNSTREAM PROJECT

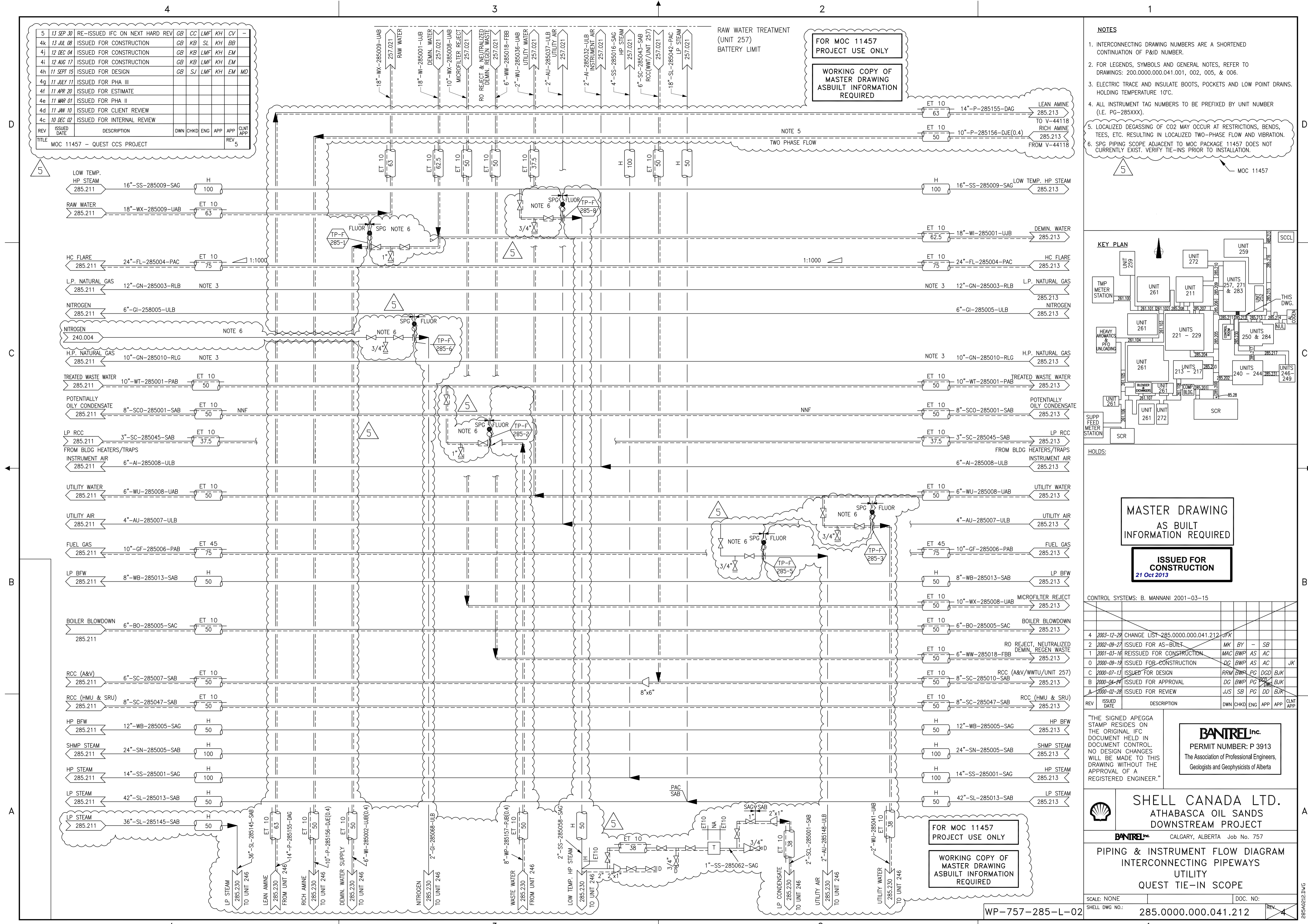
**BANTREL** CALGARY, ALBERTA Job No. 757

PIPING AND INSTRUMENT FLOW DIAGRAM  
INTERCONNECTING PIPEWAYS  
UTILITY

SCALE: NONE DOC. NO:  
SHELL DWG NO.: 285.0000.000.041.211 REV: 5

WP-757-285-L-02

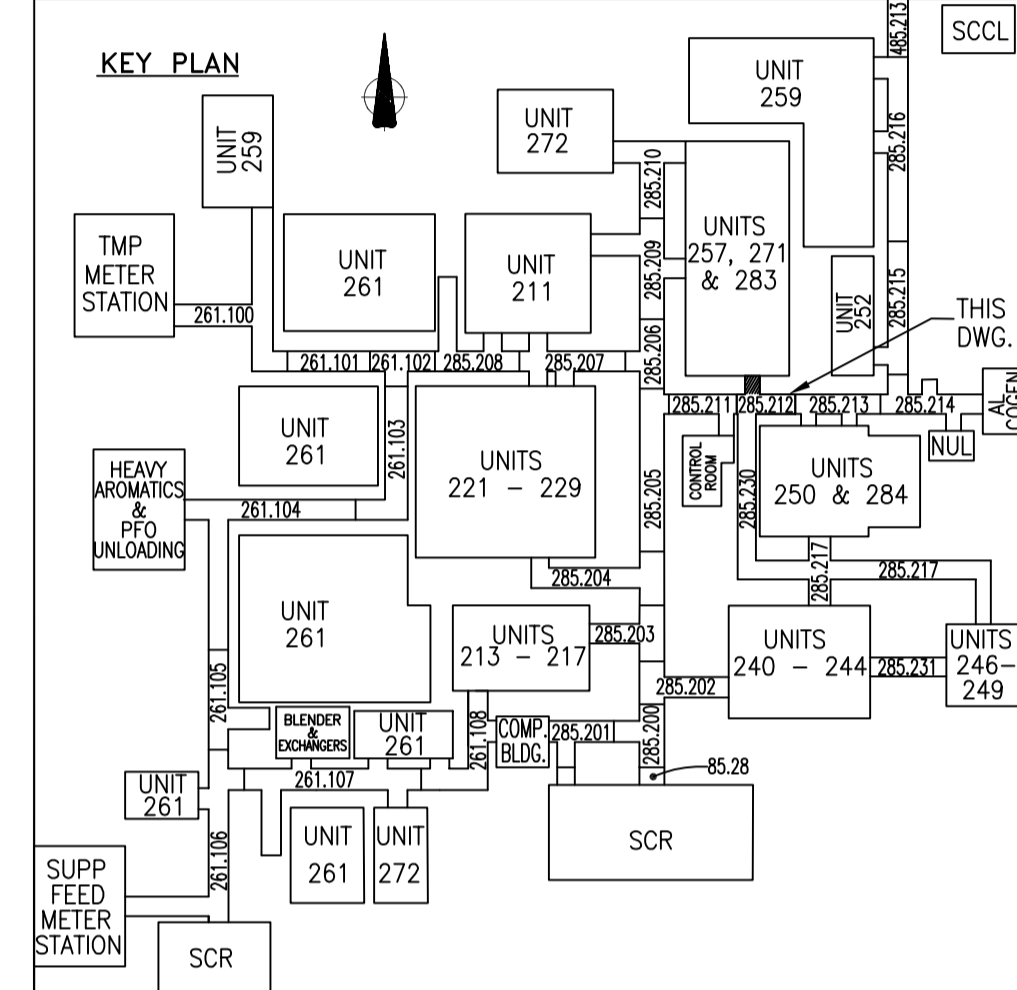
5	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
4k	13 JUL 08	ISSUED FOR CONSTRUCTION	GB	KB	SL	KH	BB	-
4j	12 DEC 04	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
4i	12 AUG 17	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
4h	11 SEPT 15	ISSUED FOR DESIGN	GB	SJ	LMF	KH	EM	MD
4g	11 JULY 11	ISSUED FOR PHA III						
4f	11 APR 20	ISSUED FOR ESTIMATE						
4e	11 MAR 01	ISSUED FOR PHA II						
4d	11 JAN 10	ISSUED FOR CLIENT REVIEW						
4c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						
REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
TITLE	MOC 11457 - QUEST CCS PROJECT							



FOR MOC 11457  
PROJECT USE ONLY

WORKING COPY OF  
MASTER DRAWING  
ASBUILT INFORMATION  
REQUIRED

- NOTES**
1. INTERCONNECTING DRAWING NUMBERS ARE A SHORTENED CONTINUATION OF P&ID NUMBER.
  2. FOR LEGENDS, SYMBOLS AND GENERAL NOTES, REFER TO DRAWINGS: 200.0000.000.041.001, 002, 005, & 006.
  3. ELECTRIC TRACE AND INSULATE BOOTS, POCKETS AND LOW POINT DRAINS. HOLDING TEMPERATURE 10°C.
  4. ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBER (I.E. PG-285XXX).
  5. LOCALIZED DEGASSING OF CO2 MAY OCCUR AT RESTRICTIONS, BENDS, TEES, ETC. RESULTING IN LOCALIZED TWO-PHASE FLOW AND VIBRATION.
  6. SPG PIPING SCOPE ADJACENT TO MOC PACKAGE 11457 DOES NOT CURRENTLY EXIST. VERIFY TIE-INS PRIOR TO INSTALLATION.



MASTER DRAWING  
AS BUILT  
INFORMATION REQUIRED

ISSUED FOR  
CONSTRUCTION  
21 Oct 2013

CONTROL SYSTEMS: B. MANNANI 2001-03-15

4	2003-12-29	CHANGE LIST-285.0000.000.041.212	JFK					
2	2002-09-27	ISSUED FOR AS-BUILT	MK	BY	-	SB		
1	2001-03-16	ISSUED FOR CONSTRUCTION	MAC	BWP	AS	AC		
0	2000-09-19	ISSUED FOR CONSTRUCTION	QC	BWP	AS	AC		
C	2000-07-13	ISSUED FOR DESIGN	RRM	BWP	PG	DD	BJK	
B	2000-04-24	ISSUED FOR APPROVAL	DG	BWP	PG	DD	BJK	
A	2000-02-28	ISSUED FOR REVIEW	JUS	SB	PG	DD	BJK	

"THE SIGNED APEGGA STAMP RESIDES ON THE ORIGINAL IFC DOCUMENT HELD IN DOCUMENT CONTROL. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED ENGINEER."

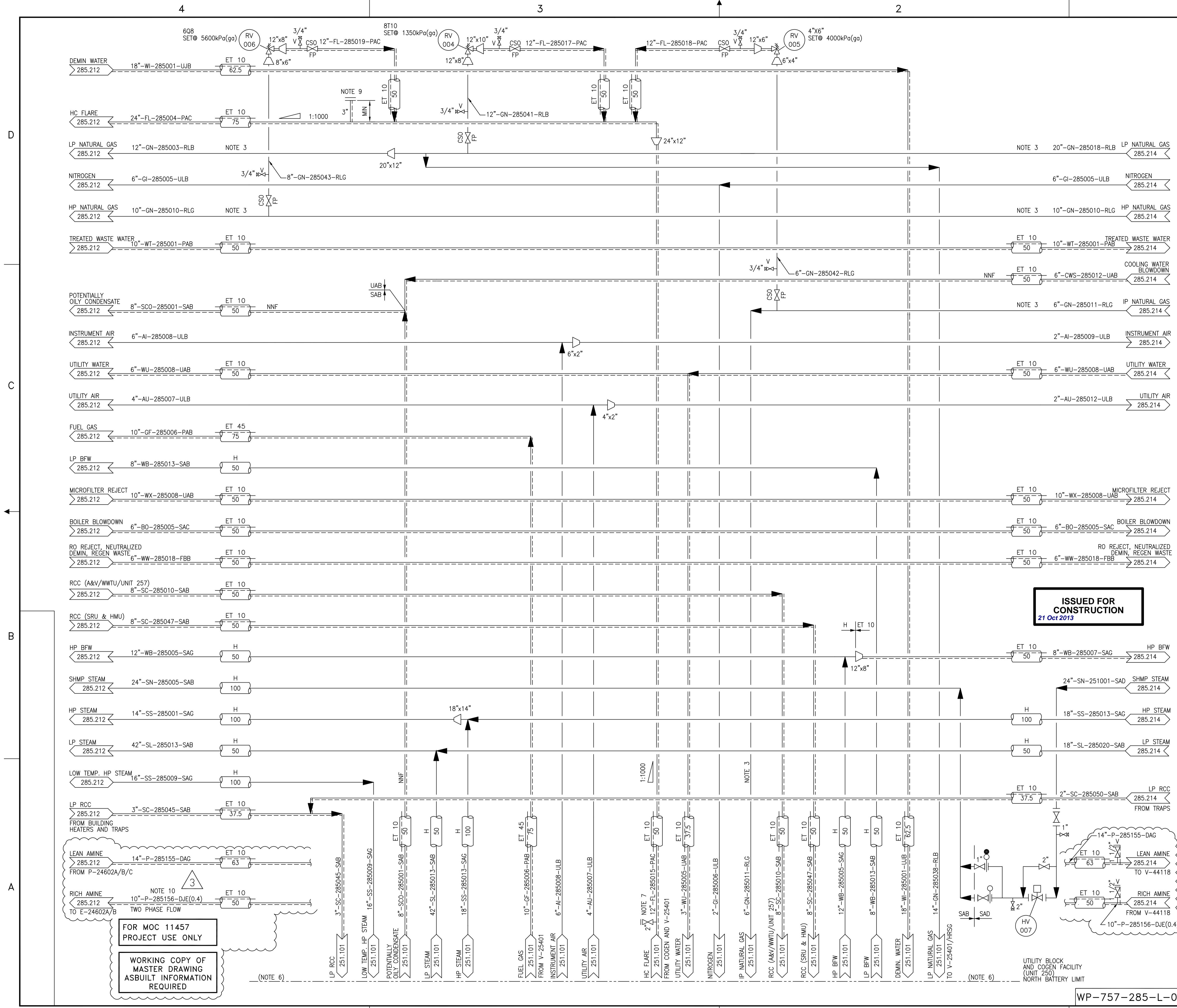
**BANTREL Inc.**  
PERMIT NUMBER: P 3913  
The Association of Professional Engineers,  
Geologists and Geophysicists of Alberta

**SHELL CANADA LTD.**  
ATHABASCA OIL SANDS  
DOWNSTREAM PROJECT

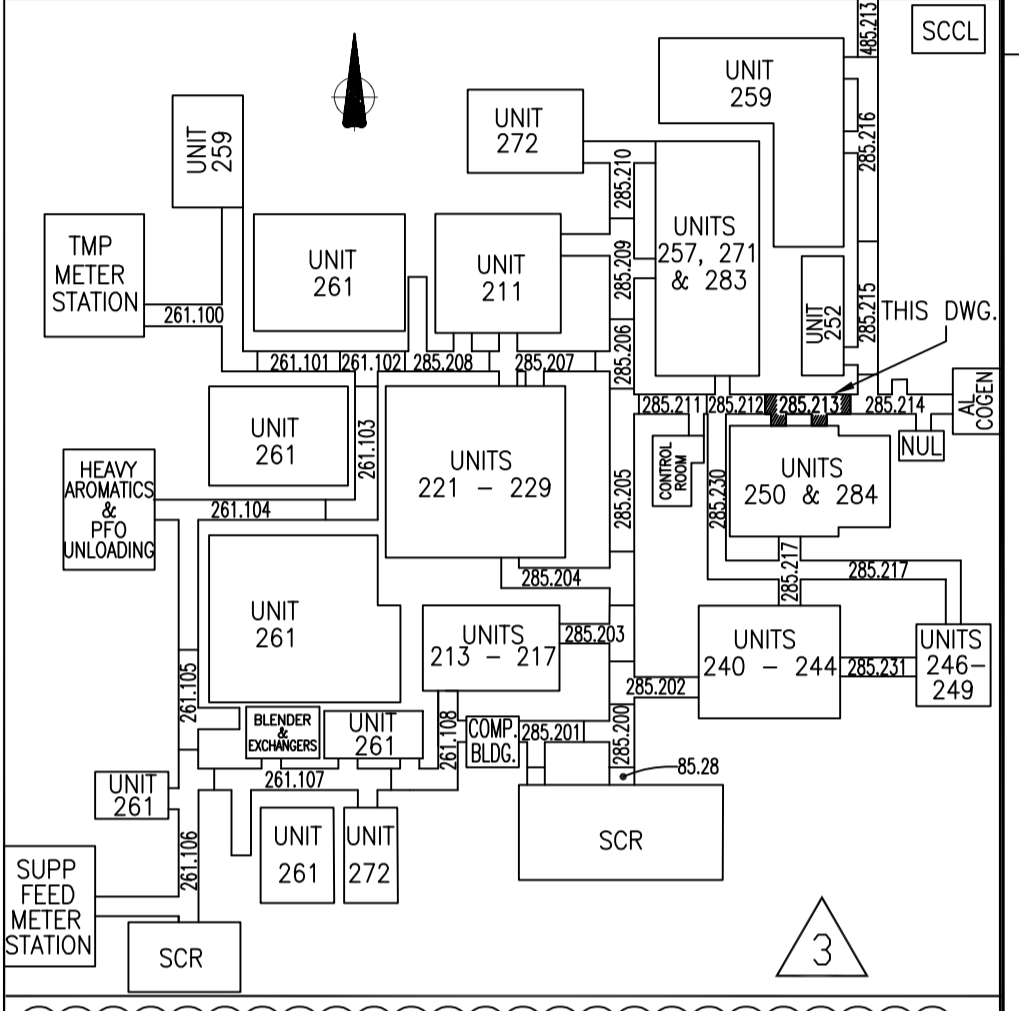
BANTREL CALGARY, ALBERTA Job No. 757

PIPING & INSTRUMENT FLOW DIAGRAM  
INTERCONNECTING PIPEWAYS  
UTILITY  
QUEST TIE-IN SCOPE

SCALE: NONE  
SHELL DWG NO.: 285.0000.000.041.212  
DOC. NO.:  
REV:



- NOTES**
- INTERCONNECTING DRAWING NUMBERS ARE A SHORTENED CONTINUATION P&ID NUMBER.
  - FOR LEGENDS, SYMBOLS AND GENERAL NOTES, SEE DWG. 200.0000.000.041.001, 002, 005 & 006.
  - ELECTRIC TRACE AND INSULATE BOOTS, POCKETS AND LOW POINT DRAINS. HOLDING TEMPERATURE 10°C.
  - ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBER (I.E. PG-285XXX).
  - DELETED.
  - ALL LINES INTERFACING WITH COGENERATION UNIT 250 ARE SHOWN TOGETHER. ACTUAL INTERFACE (WEST OR EAST PIPERACK) WILL BE CONFIRMED LATER.
  - LOCATE AS CLOSE AS POSSIBLE TO B/L ISOLATION VALVE.
  - DELETED
  - PORTION OF LINE FROM 285.214 IS REMOVED AND CAPPED.
  - LOCALIZED DEGASSING OF CO2 MAY OCCUR AT RESTRICTIONS, BENDS, TEES, ETC. RESULTING IN LOCALIZED TWO-PHASE FLOW AND VIBRATION.



REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	CLNT APP	REV
3	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
2k	13 JUL 08	ISSUED FOR CONSTRUCTION	GB	KB	SL	KH	BB	-
2j	12 DEC 04	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
2i	12 AUG 17	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
2h	11 SEPT 15	ISSUED FOR DESIGN	GB	SJ	LMF	KH	EM	MD
2g	11 JULY 11	ISSUED FOR PHA III						
2f	11 APR 20	ISSUED FOR ESTIMATE						
2e	11 MAR 01	ISSUED FOR PHA II						
2d	11 OCT 10	ISSUED FOR CLIENT REVIEW						
2c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						

TITLE: MOC 11457 - QUEST CCS PROJECT

CONTROL SYSTEMS: B. MANNANI 2001-03-15

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	CLNT APP
2	2002-09-27	ISSUED FOR AS-BUILT					
1	2001-03-16	REISSUED FOR CONSTRUCTION	MAC	BWP	AS	AC	
0	2000-09-19	ISSUED FOR CONSTRUCTION	DC	BWP	AS	AC	
C	2000-07-13	ISSUED FOR DESIGN	RRM	BWP	PG	DD	BJK
B	2000-04-24	ISSUED FOR APPROVAL	DG	BWP	PG	DD	BJK
A	2000-02-28	ISSUED FOR REVIEW	JUS	SB	PG	DD	BJK

"THE SIGNED APEGGA STAMP RESIDES ON THE ORIGINAL IFC DOCUMENT HELD IN DOCUMENT CONTROL. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED ENGINEER."

**BANTREL Inc.**  
PERMIT NUMBER: P 3913  
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

**SHELL CANADA LTD.**  
ATHABASCA OIL SANDS  
DOWNSTREAM PROJECT

**BANTREL** CALGARY, ALBERTA Job No. 757

PIPING & INSTRUMENT FLOW DIAGRAM  
INTERCONNECTING PIPEWAYS  
UTILITY

SCALE: NONE DOC. NO: WP-757-285-L-02  
SHELL DWG NO.: 285.0000.000.041.213

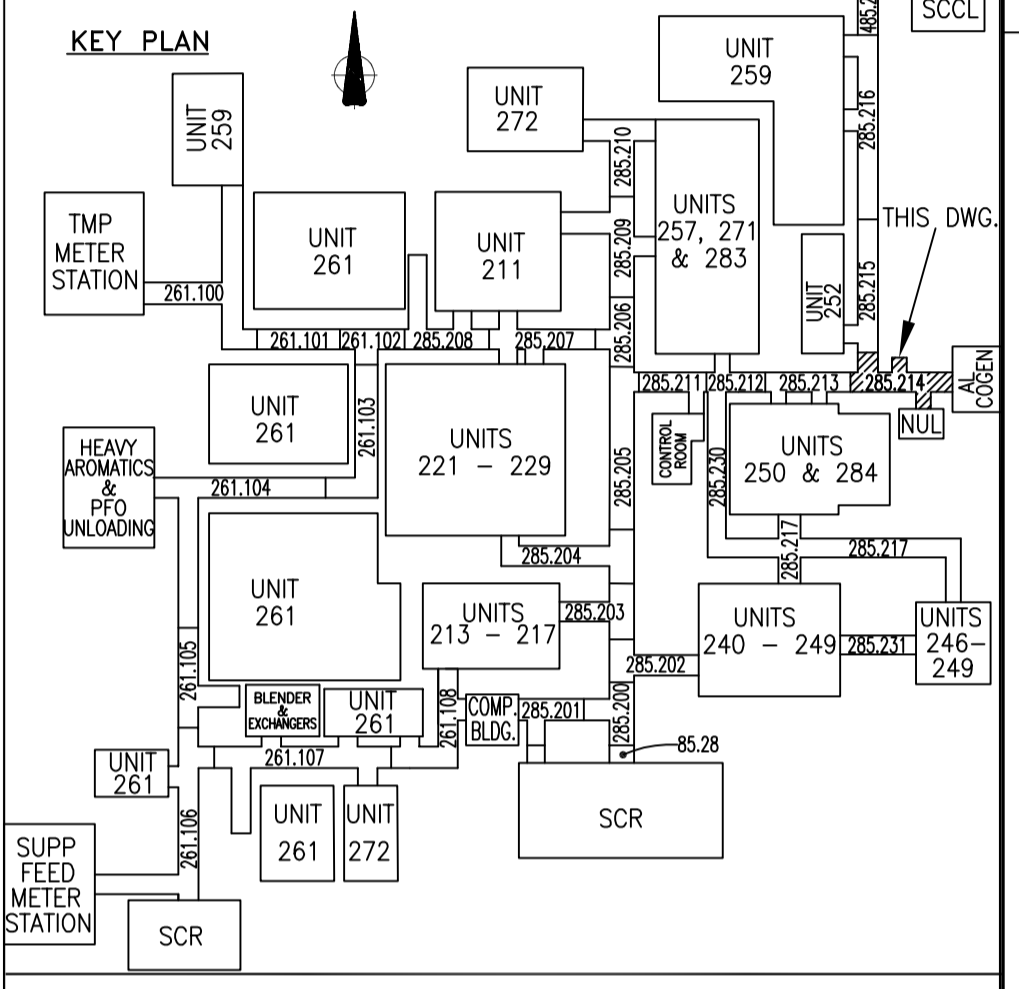
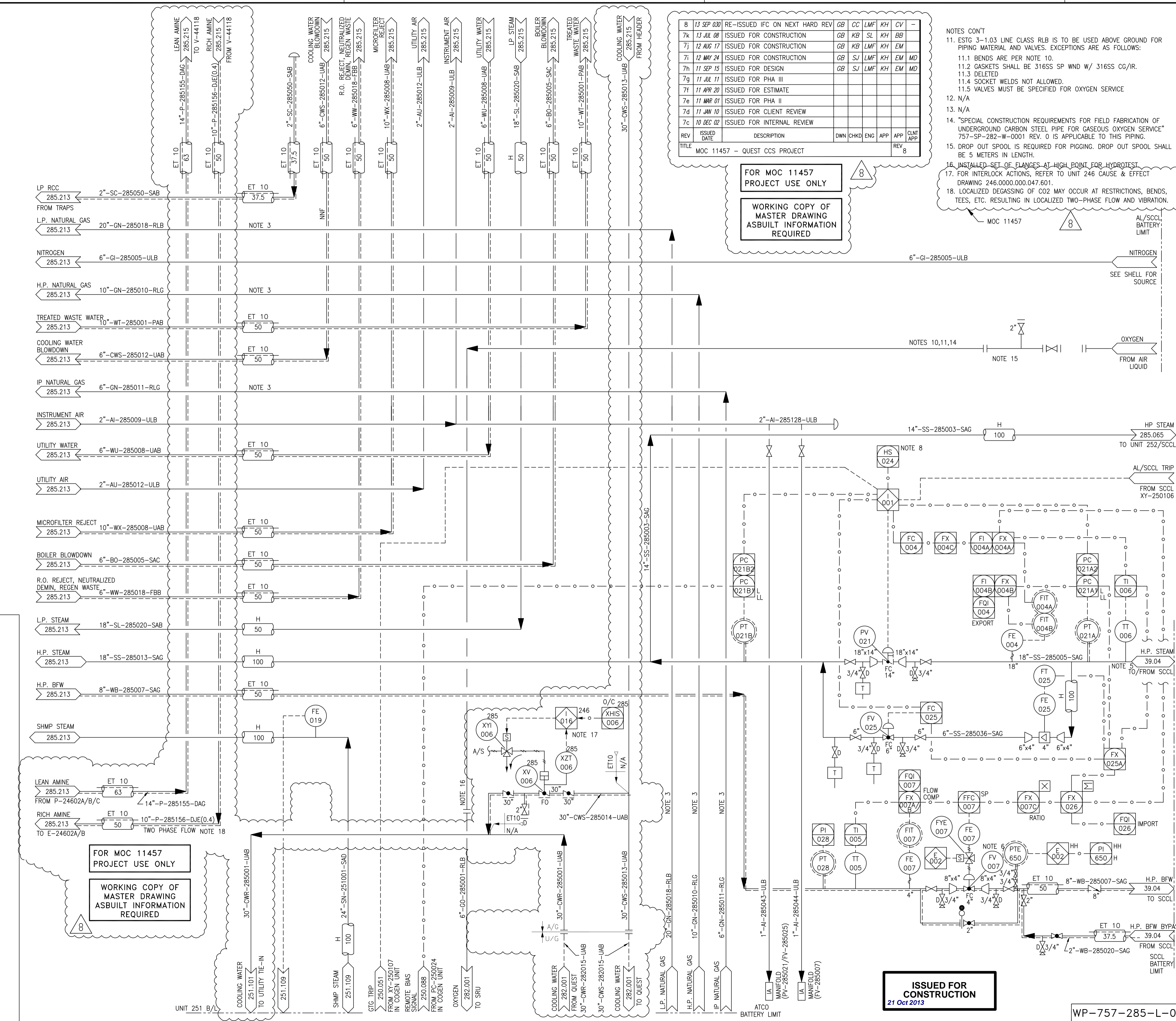
REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
8	13 SEP 03	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
7k	13 JUL 08	ISSUED FOR CONSTRUCTION	GB	KB	SL	KH	BB	-
7j	12 AUG 17	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
7i	12 MAY 24	ISSUED FOR CONSTRUCTION	GB	SJ	LMF	KH	EM	MD
7h	11 SEP 15	ISSUED FOR DESIGN	GB	SJ	LMF	KH	EM	MD
7g	11 JUL 11	ISSUED FOR PHA III						
7f	11 APR 20	ISSUED FOR ESTIMATE						
7e	11 MAR 01	ISSUED FOR PHA II						
7d	11 JAN 10	ISSUED FOR CLIENT REVIEW						
7c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						

FOR MOC 11457 PROJECT USE ONLY

WORKING COPY OF MASTER DRAWING ASBUILT INFORMATION REQUIRED

- NOTES CONT
- ESTG 3-1.03 LINE CLASS RLB IS TO BE USED ABOVE GROUND FOR PIPING MATERIAL AND VALVES. EXCEPTIONS ARE AS FOLLOWS:
    - BENDS ARE PER NOTE 10.
    - GASKETS SHALL BE 316SS SP WND W/ 316SS CG/R.
    - DELETED
    - SOCKET WELDS NOT ALLOWED.
    - VALVES MUST BE SPECIFIED FOR OXYGEN SERVICE
  - N/A
  - N/A
  - "SPECIAL CONSTRUCTION REQUIREMENTS FOR FIELD FABRICATION OF UNDERGROUND CARBON STEEL PIPE FOR GASEOUS OXYGEN SERVICE" 757-SP-282-W-0001 REV. D IS APPLICABLE TO THIS PIPING.
  - DROP OUT SPOOL IS REQUIRED FOR PIGGING. DROP OUT SPOOL SHALL BE 5 METERS IN LENGTH.
  - INSTALLED SET OF FLANGES AT HIGH POINT FOR HYDROTEST
  - FOR INTERLOCK ACTIONS, REFER TO UNIT 246 CAUSE & EFFECT DRAWING 246.0000.000.047.601.
  - LOCALIZED DEGASSING OF CO2 MAY OCCUR AT RESTRICTIONS, BENDS, TEES, ETC. RESULTING IN LOCALIZED TWO-PHASE FLOW AND VIBRATION.

- NOTES
- INTERCONNECTING DRAWING NUMBERS ARE A SHORTENED CONTINUATION OF P&ID NUMBER.
  - FOR LEGENDS, SYMBOLS AND GENERAL NOTES, REFER TO DRAWINGS: 200.0000.000.041.001, 002, 005, & 006.
  - ELECTRIC TRACE AND INSULATE BOOTS, POCKETS AND LOW POINT DRAINS. HOLDING TEMPERATURE 10°C.
  - DELETED.
  - UPGRADER UNIT MAY EXPORT HP STEAM TO SCCL OR AL COGEN.
  - LOCATE AT GRADE BESIDE PIPERACK.
  - ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBER (I.E. PG-285XXX).
  - HS-285024 WILL BE USED TO CLOSE, IMPORT USING PRESSURE, EXPORT USING PRESSURE, IMPORT USING FLOW, RESET TRIP AND PROVIDE STATUS.
  - DELETED
  - ALL BENDS SHALL BE MIN. 5D RADIUS.



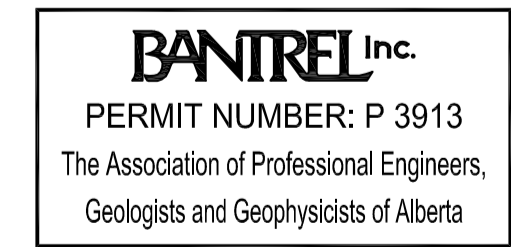
HOLDS:

CONTROL SYSTEMS: B. MANNANI 2001-08-14

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
3	2002-09-27	ISSUED FOR AS-BUILT	MK	BY	-	SB		
2	2001-08-16	RE-ISSUED FOR CONSTRUCTION	MAC	VP	GR	AC		
1	2001-03-16	RE-ISSUED FOR CONSTRUCTION	MAC	BWP	AS	BR		
0	2000-09-28	ISSUED FOR CONSTRUCTION	MVZ	BWP	AS	BRM		
C	2000-07-13	ISSUED FOR DESIGN	AD	BWP	PG	DGD	BJK	
B	2000-04-24	ISSUED FOR APPROVAL	DG	BWP	PG		BJK	
7	2001-11-19	CHANGE LIST 285.0000.000.041.214	JAM	MK				

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
3	2002-09-27	ISSUED FOR AS-BUILT	MK	BY	-	SB		
2	2001-08-16	RE-ISSUED FOR CONSTRUCTION	MAC	VP	GR	AC		
1	2001-03-16	RE-ISSUED FOR CONSTRUCTION	MAC	BWP	AS	BR		
0	2000-09-28	ISSUED FOR CONSTRUCTION	MVZ	BWP	AS	BRM		
C	2000-07-13	ISSUED FOR DESIGN	AD	BWP	PG	DGD	BJK	
B	2000-04-24	ISSUED FOR APPROVAL	DG	BWP	PG		BJK	
7	2001-11-19	CHANGE LIST 285.0000.000.041.214	JAM	MK				

"THE SIGNED APEGGA STAMP RESIDES ON THE ORIGINAL IFC DOCUMENT HELD IN DOCUMENT CONTROL. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED ENGINEER."



**SHELL CANADA LTD.**  
 ATHABASCA OIL SANDS  
 DOWNSTREAM PROJECT

**BANTREL** CALGARY, ALBERTA Job No. 757

PIPING & INSTRUMENT FLOW DIAGRAM  
 INTERCONNECTING PIPEWAYS  
 UTILITY

SCALE: NONE DOC. NO: 285.0000.000.041.214  
 SHELL DWG NO.: 285.0000.000.041.214

**ISSUED FOR CONSTRUCTION**  
 21 Oct 2013

WP-757-285-L-02



3	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
2k	13 JUL 08	ISSUED FOR CONSTRUCTION	GB	KB	SL	KH	BB	-
2j	12 DEC 04	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
2i	12 AUG 17	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
2h	11 SEPT 15	ISSUED FOR DESIGN	GB	SJ	LMF	KH	EM	MD
2g	11 JULY 11	ISSUED FOR PHA III						
2f	11 APR 20	ISSUED FOR ESTIMATE						
2e	11 MAR 01	ISSUED FOR PHA II						
2d	11 JAN 10	ISSUED FOR CLIENT REVIEW						
2c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						
REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
TITLE	MOC 11457 - QUEST CCS PROJECT							

FOR MOC 11457  
PROJECT USE ONLY

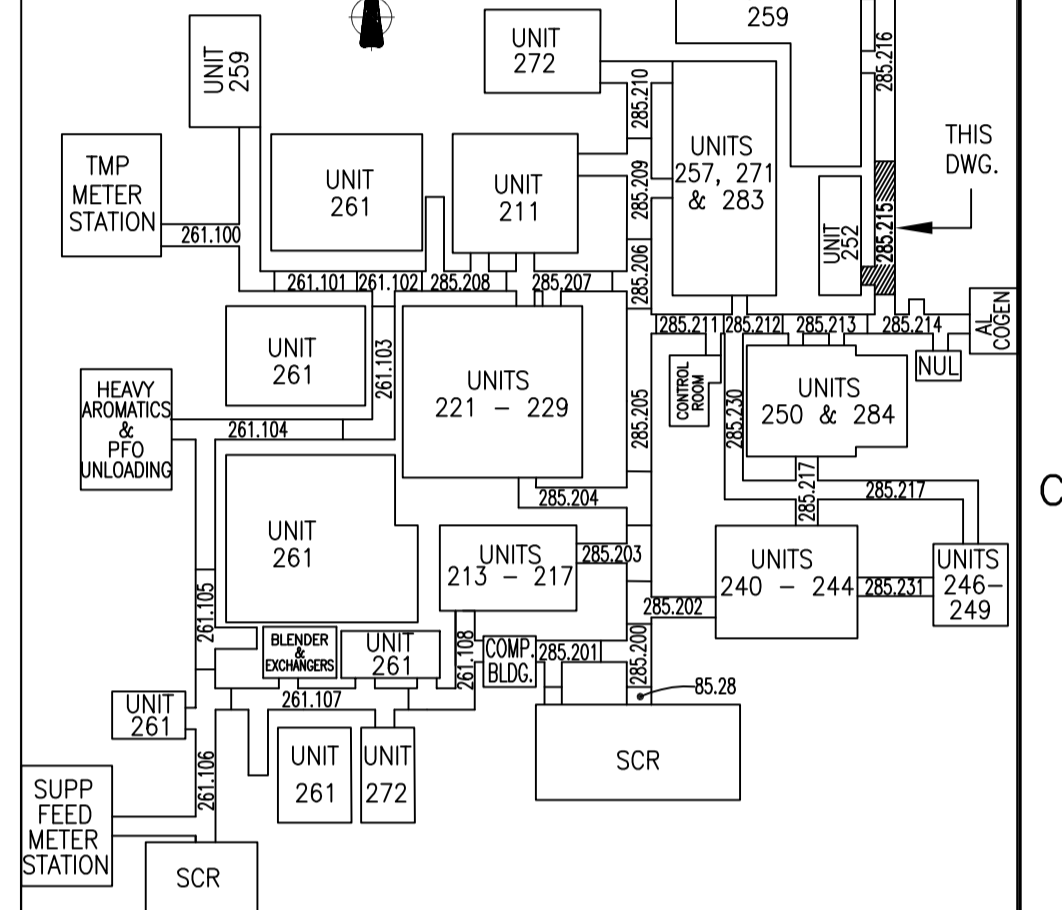
WORKING COPY OF  
MASTER DRAWING  
ASBUILT INFORMATION  
REQUIRED

**NOTES**

- INTERCONNECTING DRAWING NUMBERS ARE A SHORTENED CONTINUATION OF P&ID NUMBER.
- FOR LEGENDS, SYMBOLS AND GENERAL NOTES, REFER TO DRAWINGS: 200.0000.000.041.001, 002, 005, & 006.
- ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBER (I.E. PG-285XXX).
- LOCALIZED DEGASSING OF CO2 MAY OCCUR AT RESTRICTIONS, BENDS, TEES, ETC. RESULTING IN LOCALIZED TWO-PHASE FLOW AND VIBRATION.

MOC 11457

**KEY PLAN**



**HOLDS:**

**ISSUED FOR CONSTRUCTION**  
21 Oct 2013

CONTROL SYSTEMS: B. MANNANI 2001-03-15

2	2002-09-27	ISSUED FOR AS-BUILT	MK	BY	-	SB		
1	2001-03-16	REISSUED FOR CONSTRUCTION	MAC	BWP	AS	AC		
0	2000-09-19	ISSUED FOR CONSTRUCTION	DG	BWP	AS	AC		
C	2000-07-13	ISSUED FOR DESIGN	RRM	BWP	PG	DDC BJK		
B	2000-04-24	ISSUED FOR APPROVAL	DG	BWP	PG	DDC BJK		
A	2000-02-28	ISSUED FOR REVIEW	DG	SB	PG	DDC BJK		
REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP

"THE SIGNED APEGGA STAMP RESIDES ON THE ORIGINAL IFC DOCUMENT HELD IN DOCUMENT CONTROL. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED ENGINEER."

**BANTREL Inc.**

PERMIT NUMBER: P 3913  
The Association of Professional Engineers,  
Geologists and Geophysicists of Alberta



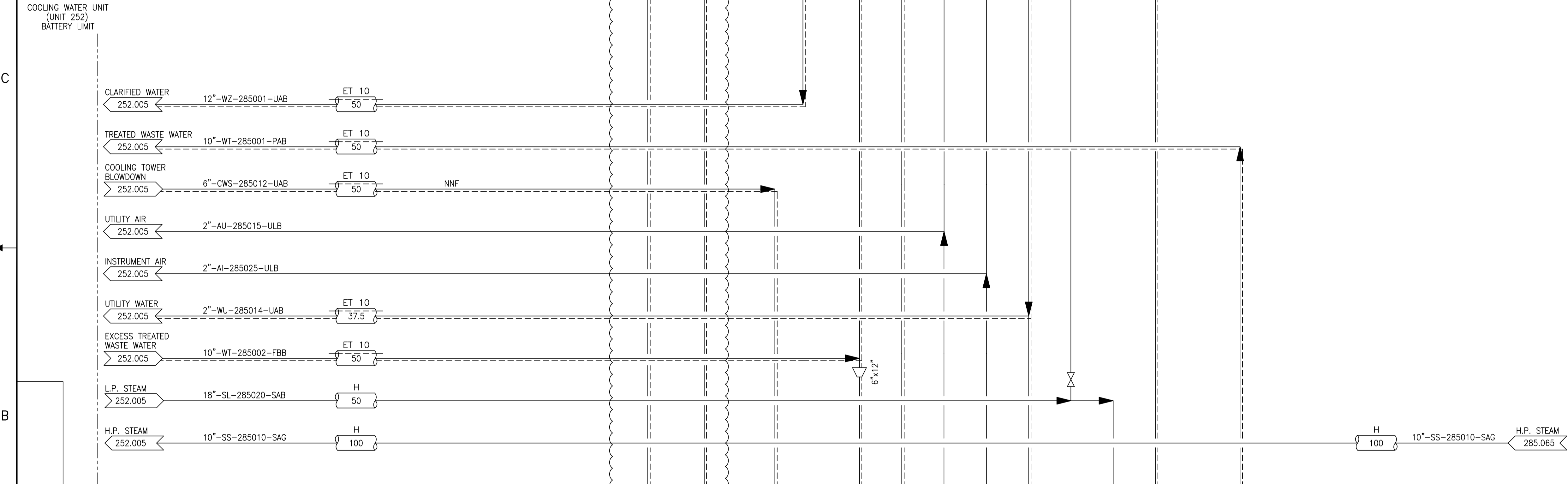
**SHELL CANADA LTD.**  
ATHABASCA OIL SANDS  
DOWNSTREAM PROJECT

BANTREL CALGARY, ALBERTA Job No. 757

PIPING & INSTRUMENT FLOW DIAGRAM  
INTERCONNECTING PIPEWAYS  
UTILITY

SCALE: NONE	DOC. NO:
SHELL DWG NO.: 285.000.000.041.215	REV: 2

COOLING WATER UNIT  
(UNIT 252)  
BATTERY LIMIT



FOR MOC 11457  
PROJECT USE ONLY

WORKING COPY OF  
MASTER DRAWING  
ASBUILT INFORMATION  
REQUIRED

WP-757-285-L-02

D

C

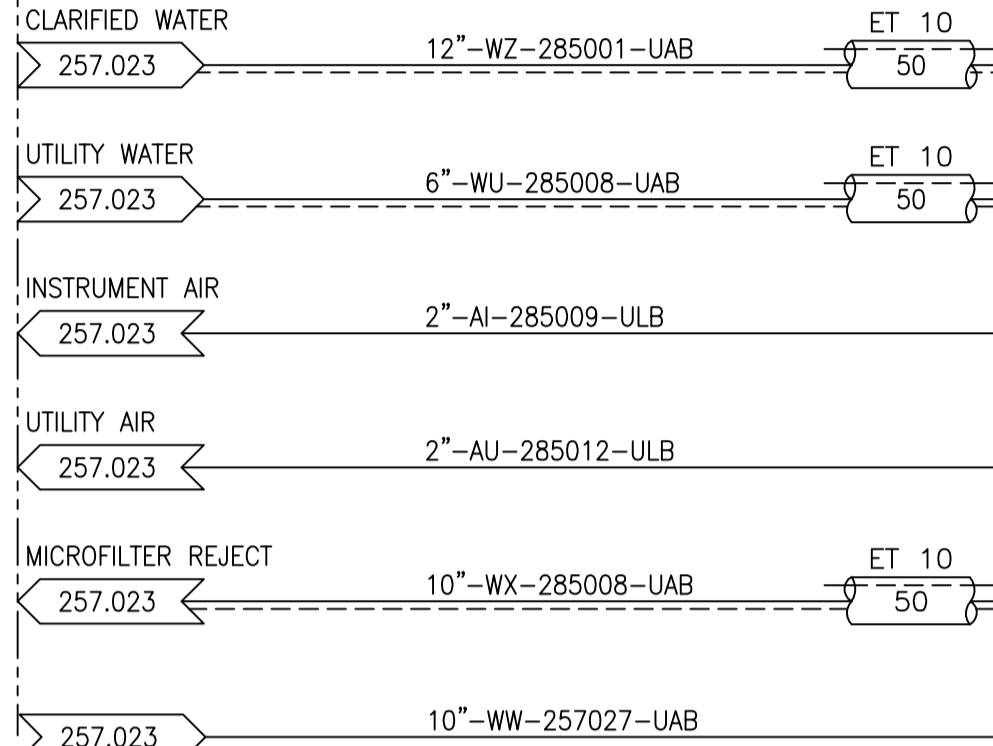
B

A

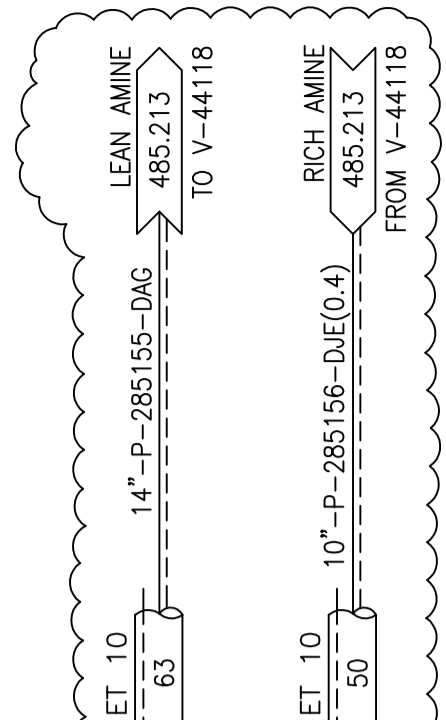
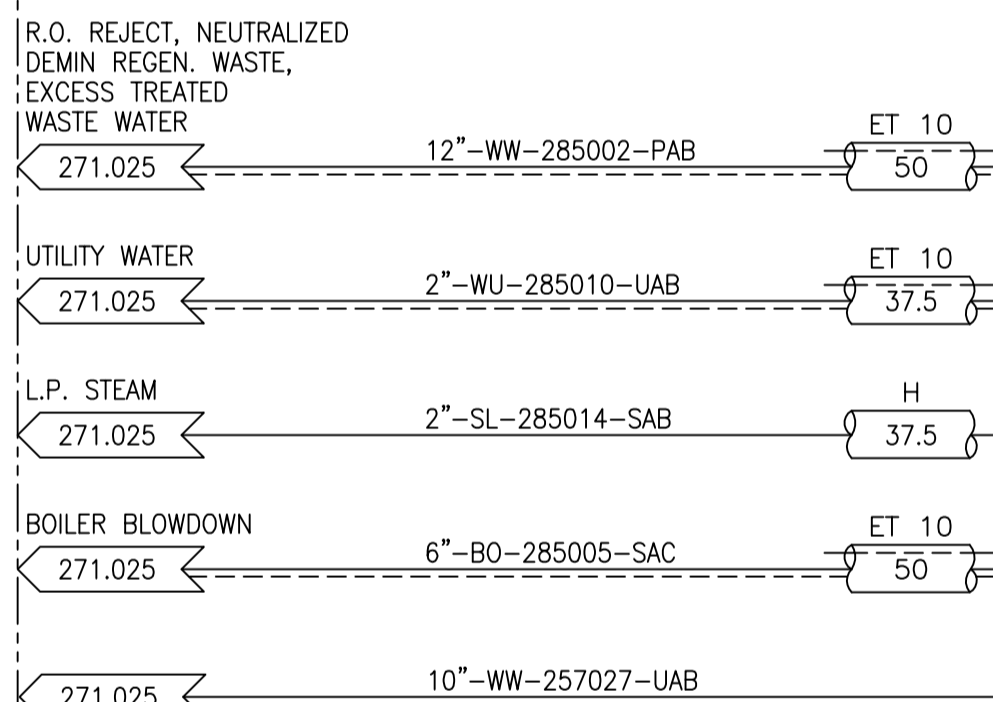
- NOTES**
- INTERCONNECTING DRAWING NUMBERS ARE A SHORTENED CONTINUATION P&ID NUMBER.
  - FOR LEGENDS, SYMBOLS AND GENERAL NOTES, SEE DWG. 200.0000.000.041.001, 002, 005, & 006.
  - ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBER (I.E. PG-285XXX).
  - LOCALIZED DEGASSING OF CO2 MAY OCCUR AT RESTRICTIONS, BENDS, TEES, ETC. RESULTING IN LOCALIZED TWO-PHASE FLOW AND VIBRATION.

MOC 11457

**RAW WATER CLARIFICATION PONDS  
(UNIT 259)  
NORTH BATTERY LIMIT**

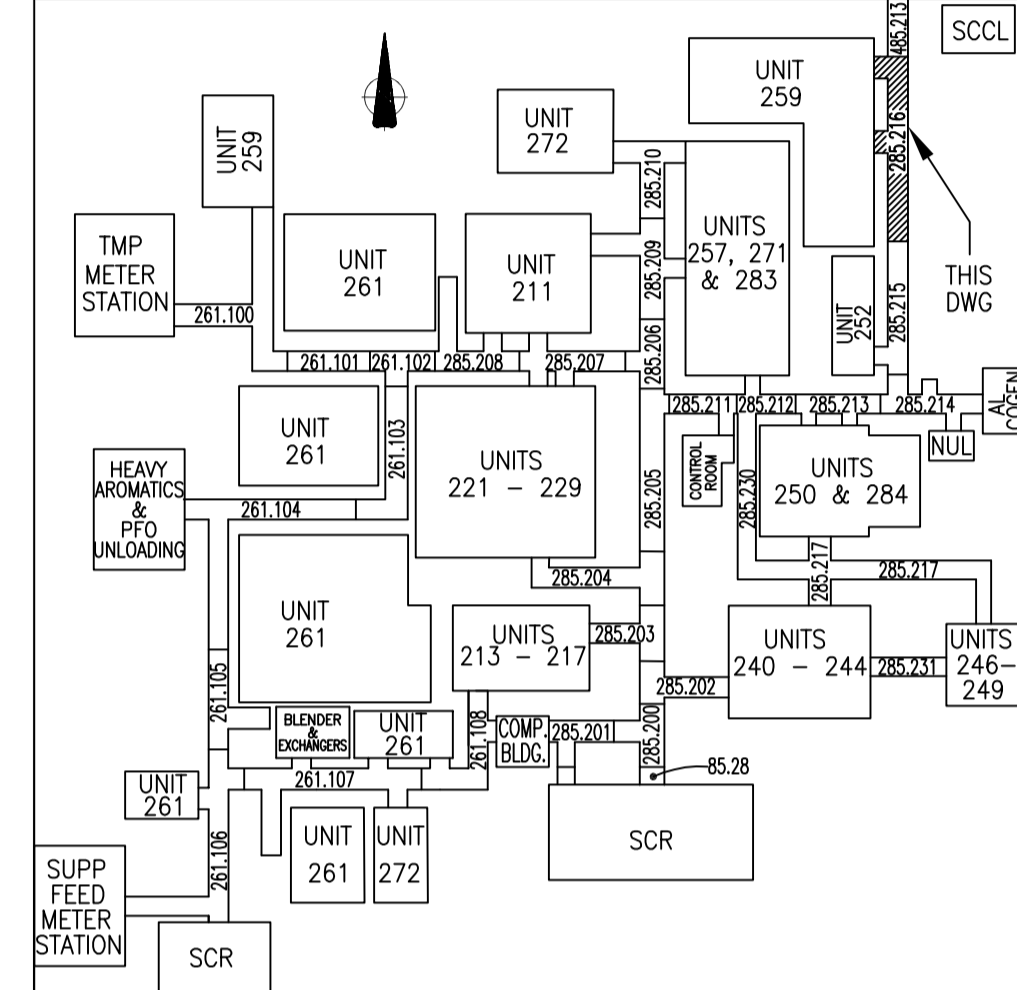


**EFFLUENT HOLDING & RELEASE PONDS  
(UNIT 259)  
SOUTH BATTERY LIMIT**



4

TWO PHASE FLOW NOTE 4



HOLDS:

**ISSUED FOR CONSTRUCTION**  
21 Oct 2013

CONTROL SYSTEMS: B. MANNANI 2001-03-15

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
3	2003-02-21	CHANGE LIST-285.0000.000.041.216	MKS	PPL				GS
2	2002-09-27	ISSUED FOR AS-BUILT	MAC	BY	-	SB		
1	2001-03-16	REISSUED FOR CONSTRUCTION	MAC	BWP	AS	AC		
0	2000-09-19	ISSUED FOR CONSTRUCTION	QC	BWP	AS	AC		JK
C	2000-07-13	ISSUED FOR DESIGN	RRM	BWP	PG	DGD	BJK	
B	2000-04-24	ISSUED FOR APPROVAL	DC	BWP	PG	DD	BJK	
A	2000-02-28	ISSUED FOR REVIEW	DC	SB	PG	DD	BJK	

"THE SIGNED APEGGA STAMP RESIDES ON THE ORIGINAL IFC DOCUMENT HELD IN DOCUMENT CONTROL. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED ENGINEER."

**BANTREL Inc.**  
PERMIT NUMBER: P 3913  
The Association of Professional Engineers,  
Geologists and Geophysicists of Alberta

**SHELL CANADA LTD.**  
ATHABASCA OIL SANDS  
DOWNSTREAM PROJECT

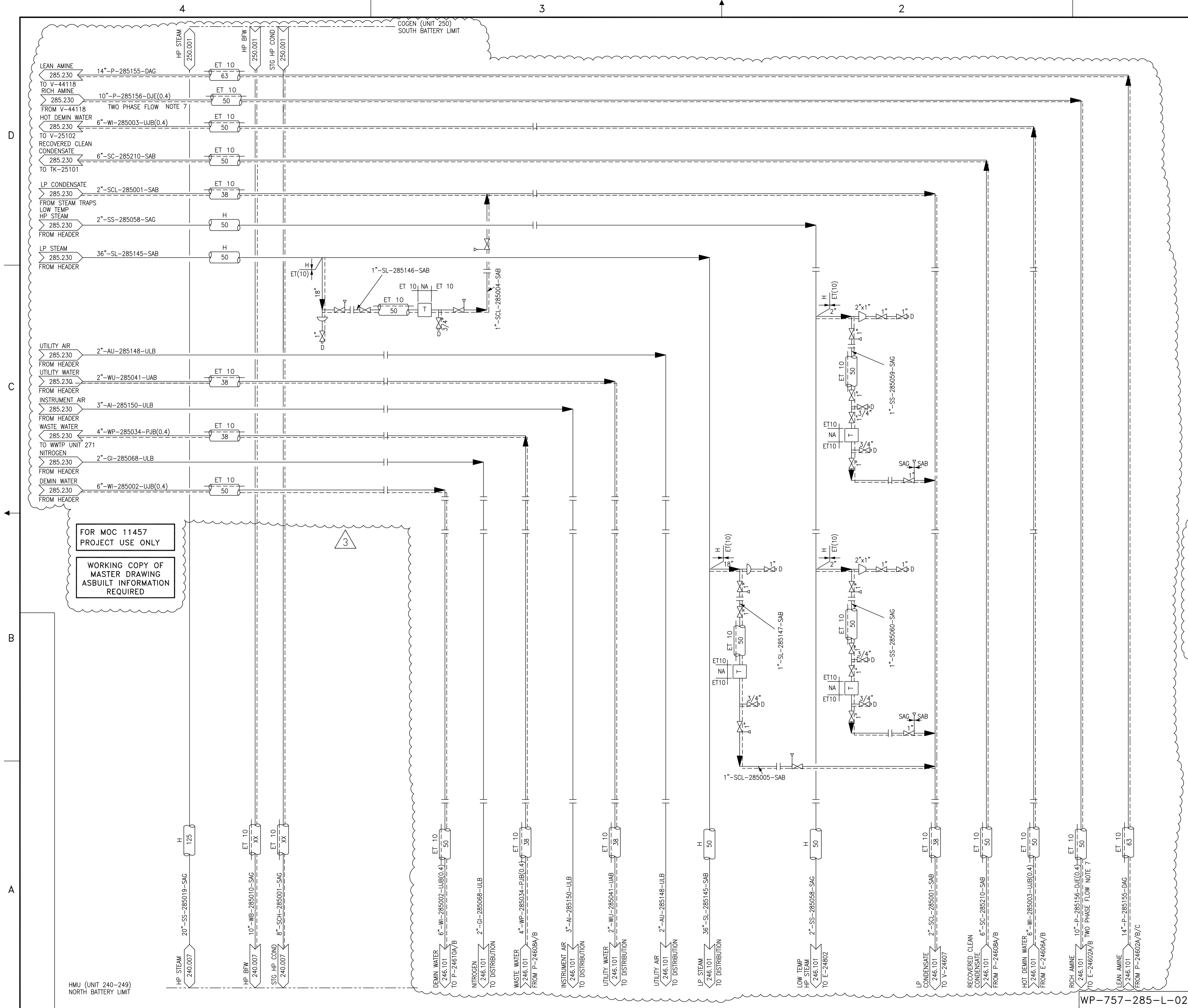
**BANTREL** CALGARY, ALBERTA Job No. 757  
PIPING & INSTRUMENT FLOW DIAGRAM  
INTERCONNECTING PIPEWAYS  
UTILITY

SCALE: NONE DOC. NO:  
SHELL DWG NO.: 285.0000.000.041.216

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
4	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
3j	13 JUL 08	ISSUED FOR CONSTRUCTION	GB	KB	SL	KH	BB	
3i	12 AUG 17	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	
3h	11 SEPT 15	ISSUED FOR DESIGN	GB	SJ	LMF	KH	EM	MD
3g	11 JULY 11	ISSUED FOR PHA III						
3f	11 APR 20	ISSUED FOR ESTIMATE						
3e	11 MAR 01	ISSUED FOR PHA II						
3d	11 OCT 10	ISSUED FOR CLIENT REVIEW						
3c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						
3b	10 NOV 04	ISSUED FOR PRELIMINARY REVIEW						
TITLE		MOC 11457 - QUEST CCS PROJECT						REV 4

**FOR MOC 11457  
PROJECT USE ONLY**

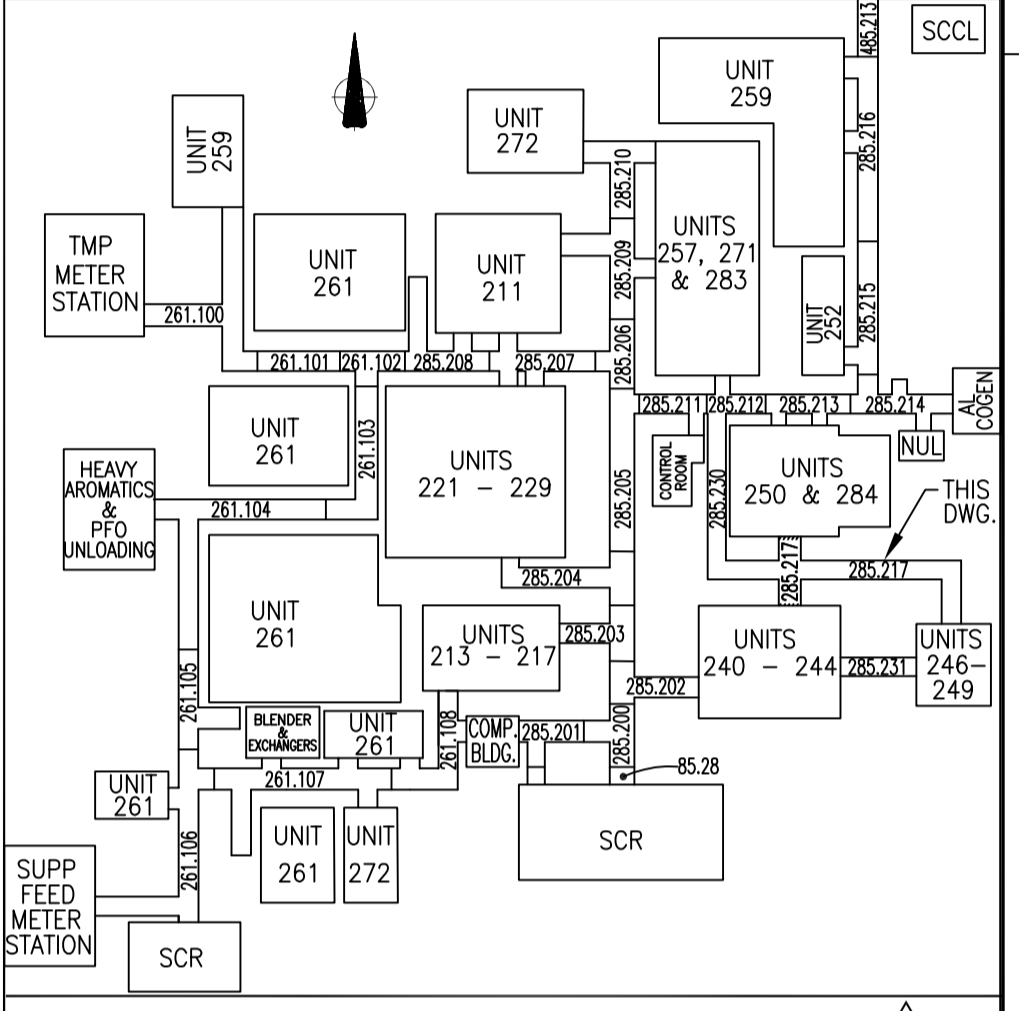
**WORKING COPY OF  
MASTER DRAWING  
ASBUILT INFORMATION  
REQUIRED**



- NOTES**
- INTERCONNECTING DRAWING NUMBERS ARE A SHORTENED CONTINUATION P&ID NUMBER.
  - FOR LEGENDS, SYMBOLS, AND GENERAL NOTES, SEE DWG 200.0000.000.041.001, 002, 005, & 006.
  - UNIT 246 BATTERY LIMIT STATION IS LOCATED ON NORTH SIDE OF 9th AVE. ALL LINES ARE DEDICATED TO SERVICE UNIT 246.
  - LP STEAM BATTERY LIMIT SHOWN ON 285.0000.000.041.211.
  - AMINE PIPING ISOLATION VALVES AT V-44118 AND P-24602A/B/C.
  - DELETED.
  - LOCALIZED DEGASSING OF CO2 MAY OCCUR AT RESTRICTIONS, BENDS, TEES, ETC. RESULTING IN LOCALIZED TWO-PHASE FLOW AND VIBRATION.

MOC 11457

**ISSUED FOR CONSTRUCTION**  
21 Oct 2013



HOLDS:

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
3	13 SEP 30	RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-
2j	12 DEC 10	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
2i	12 AUG 17	ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-
2h	11 SEP 15	ISSUED FOR DESIGN	GB	SJ	LMF	KH	EM	MD
2g	11 JUL 11	ISSUED FOR PHA III						
2f	11 APR 20	ISSUED FOR ESTIMATE						
2e	11 MAR 01	ISSUED FOR PHA II						
2d	11 JUN 10	ISSUED FOR CLIENT REVIEW						
2c	10 DEC 02	ISSUED FOR INTERNAL REVIEW						

TITLE: MOC 11457 - QUEST CCS PROJECT  
REV: 3

TITLE: CONTROL SYSTEMS: B. MANNANI 2001-03-15

REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	ENG	APP	APP	CLNT APP
2	2002-02-27	ISSUED FOR AS-BUILT						
1	2001-03-16	REISSUED FOR CONSTRUCTION	MAC	BWP	AS	AC		
0	2000-09-19	ISSUED FOR CONSTRUCTION	DC	BWP	AS	AC		
C	2000-07-13	ISSUED FOR DESIGN	AD	BWP	PG	DD	BJK	
B	2000-04-24	ISSUED FOR APPROVAL	DG	BWP	PG	DD	BJK	
A	2000-02-28	ISSUED FOR REVIEW	MBK	SB	PG	DD	BJK	

"THE SIGNED APEGGA STAMP RESIDES ON THE ORIGINAL IFC DOCUMENT HELD IN DOCUMENT CONTROL. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED ENGINEER."

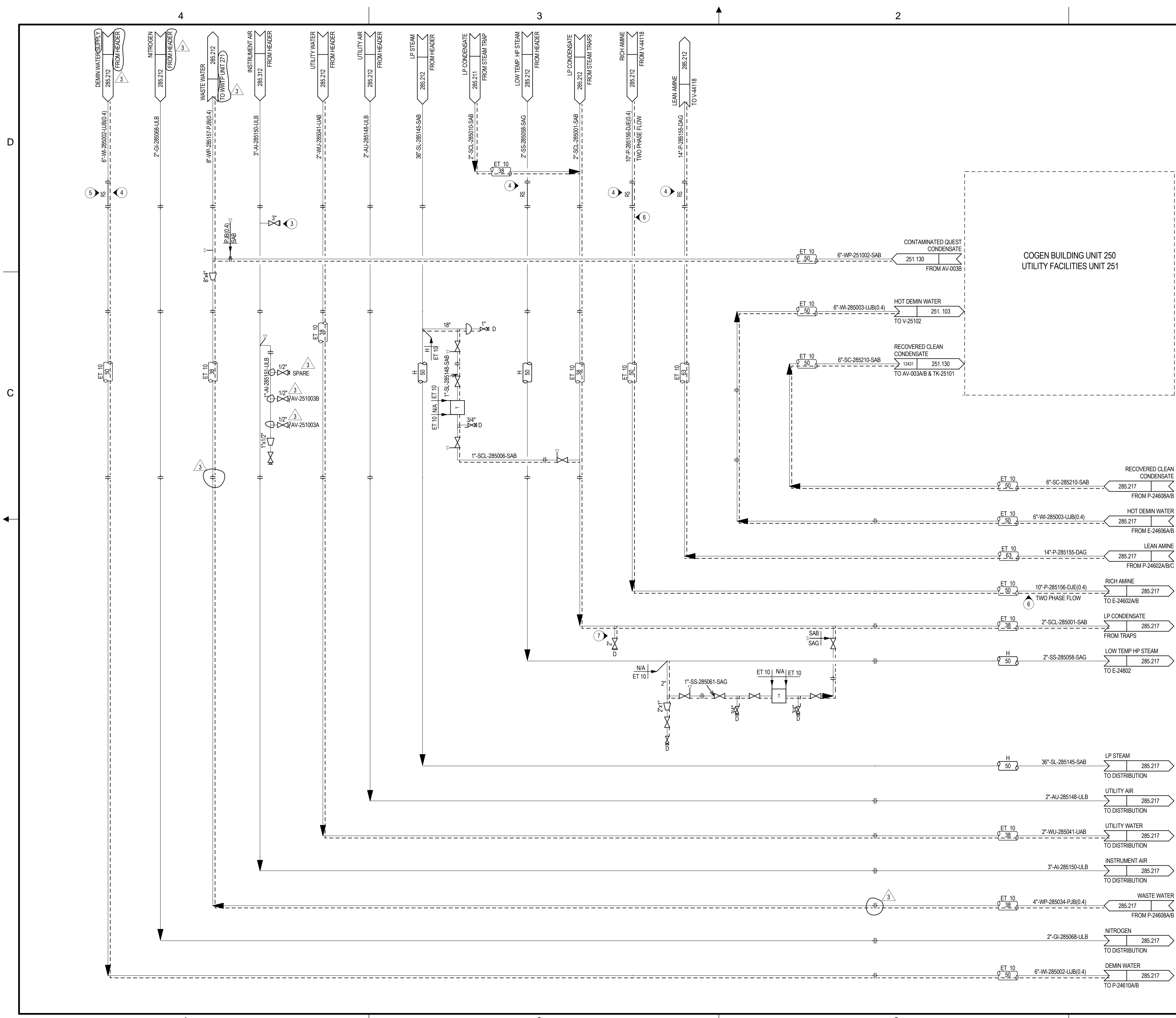
**BANTREL Inc.**  
PERMIT NUMBER: P 3913  
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

**SHELL CANADA LTD.**  
ATHABASCA OIL SANDS  
DOWNSTREAM PROJECT

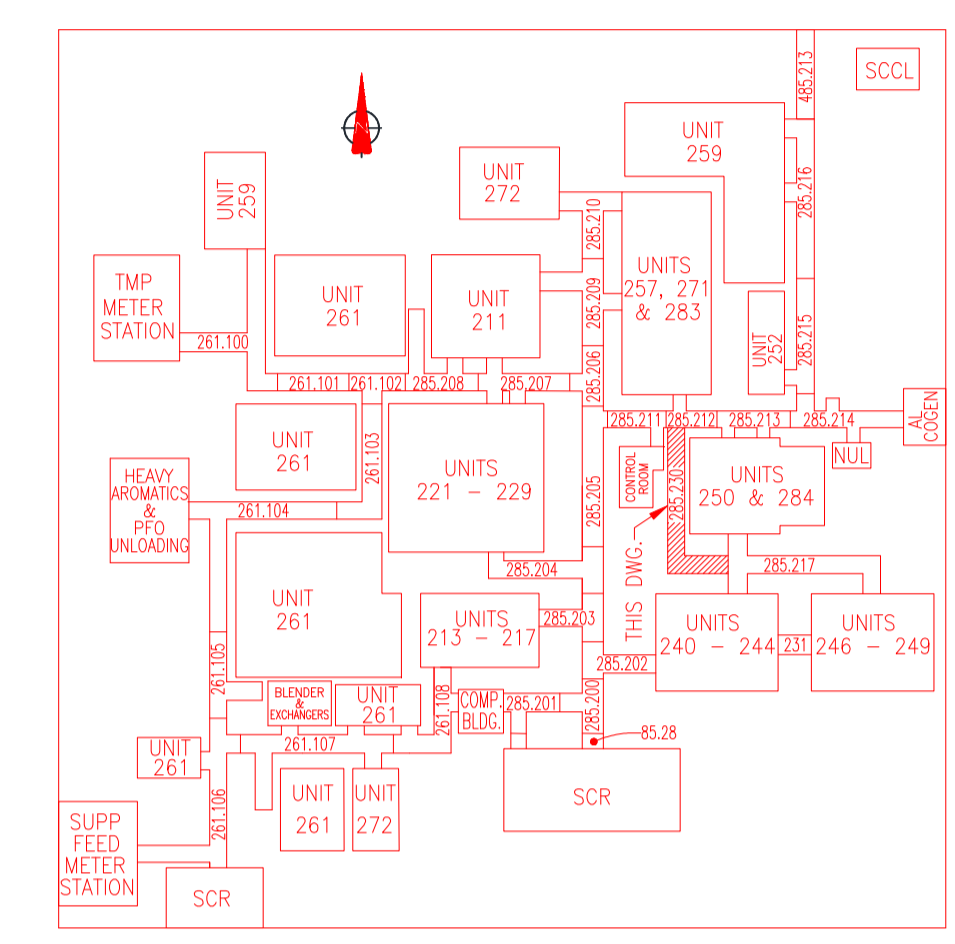
**BANTREL** CALGARY, ALBERTA Job No. 757

PIPING AND INSTRUMENT FLOW DIAGRAM  
INTERCONNECTING PIPEWAYS  
UTILITY


SCALE: NONE  
SHELL DWG NO.: 285.0000.000.041.217  
DOC. NO.:  
REV: 2




- NOTES:**
1. SEE DRAWINGS 200.0000.000.041.007 THRU 016 FOR SYMBOL IDENTIFICATION GENERAL NOTES & CONNECTION DETAILS.
  2. ALL INSTRUMENT TAG NUMBERS ARE PREFIXED BY "285" UNLESS OTHERWISE STATED.
  3. CONNECTION NEAR AIR RECEIVER V-25301, FOR TEMPORARY AIR SUPPLY.
  4. REMOVABLE SPOOL FOR COMMISSIONING.
  5. FLANGES FOR CONSTRUCTION INTERFACE (TYP. OF 11).
  6. LOCALIZED DEGASSING OF CO2 MAY OCCUR AT RESTRICTIONS, BENDS, TEES, ETC. RESULTING IN LOCALIZED TWO-PHASE FLOW AND VIBRATION.
  7. CONNECTION FOR TEMPORARY DRAINING DURING START-UP PERIOD.



REV	ISSUED DATE	DESCRIPTION	BY	CKD	PRS	CS	PDP	MC	APL	PEM	CLIENT APP
3	07/08/13	ISSUED FOR CONSTRUCTION	GB	RB	KH	SL	-	-	-	BB	-
2	12/05/12	ISSUED FOR CONSTRUCTION	GB	KB	KH	LMF	-	-	-	EM	-
1	08/17/12	ISSUED FOR CONSTRUCTION	GB	RB	KH	LMF	-	-	-	EM	-
0	09/15/11	ISSUED FOR DESIGN	GB	SJ	KH	LMF	-	-	-	EM	MD
G	07/11/11	ISSUED FOR PHA II									
F	04/20/11	ISSUED FOR ESTIMATE									
E	03/01/11	ISSUED FOR PHA I									



**SHELL CANADA**  
QUEST CCS PROJECT

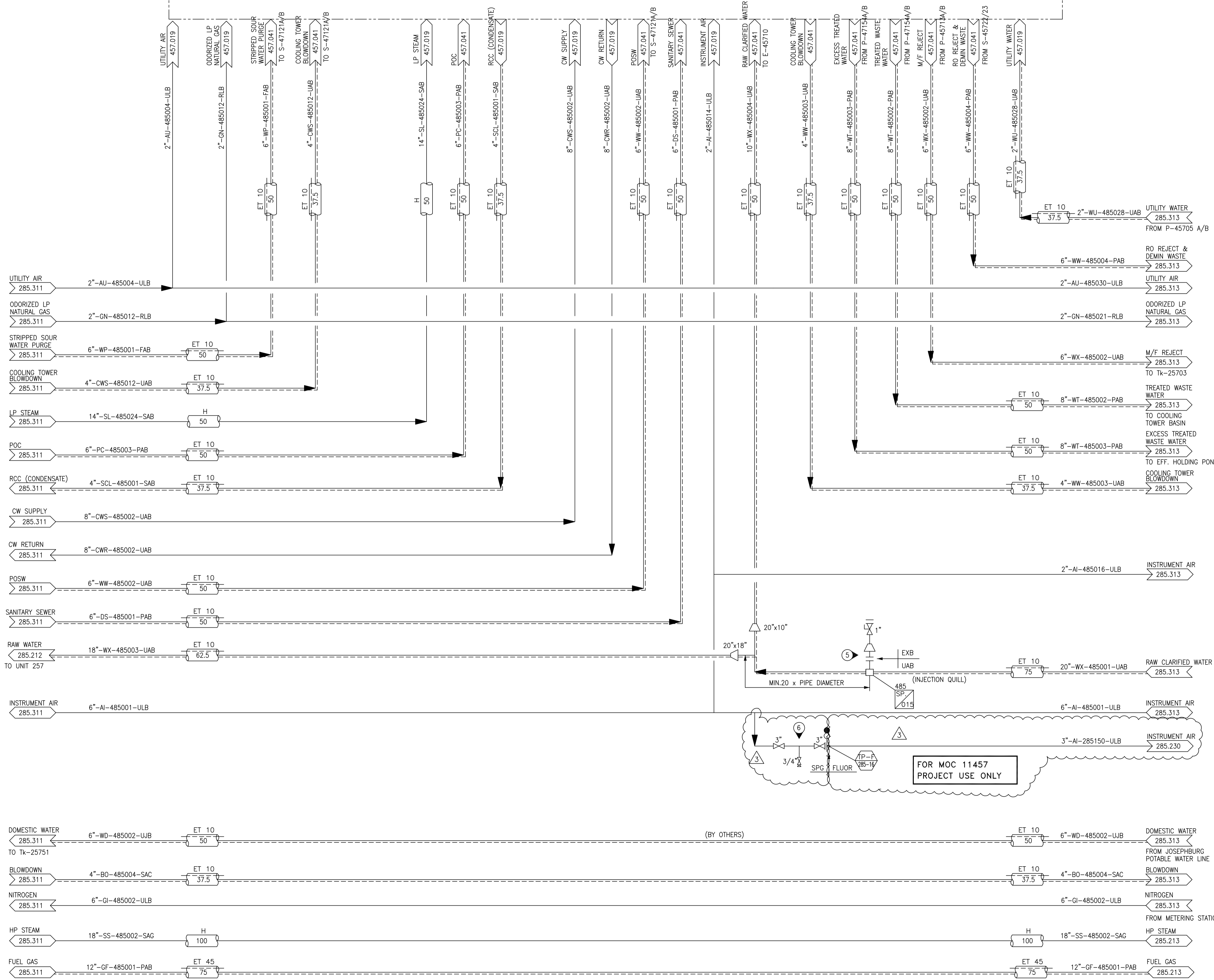


PIPING AND INSTRUMENT DIAGRAM  
QUEST CCS PROJECT  
UNIT 285 - INTERCONNECTING PIPERACK

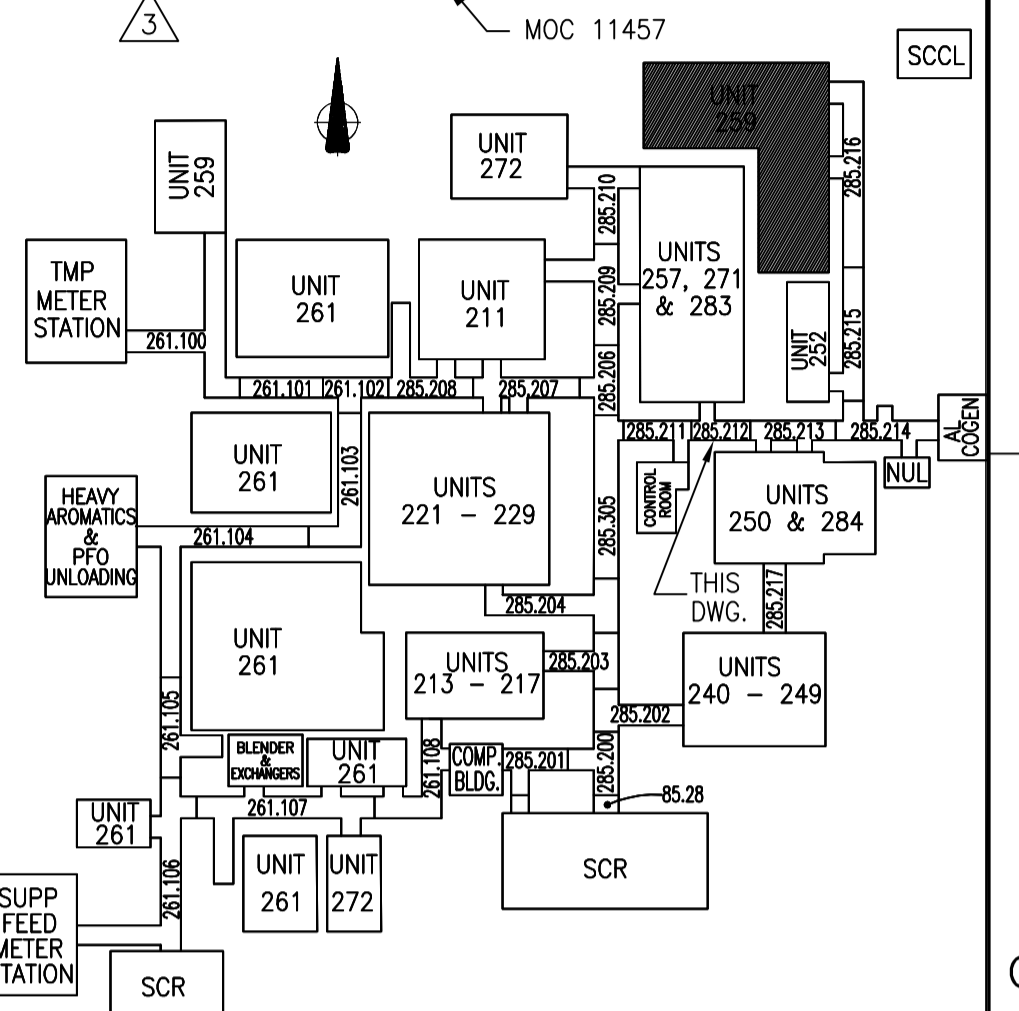
SCALE: NONE  
SHELL DWG NO.: 285.0000.000.041.230

285.230  
FILE: \\F:\025\DRAWINGS\OFFSHORE\SITES\285\230.dwg MODEL DATE: 7/19/2013 10:18:54 AM BY: bps29451

UNIT 457- RAW WATER TREATMENT & UNIT 471- WASTE WATER TREATMENT



- NOTES**
- ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBER (I.E. PG-285XXX).
  - FOR LEGENDS, SYMBOLS, AND GENERAL NOTES, SEE DWG. 400.0000.000.041.001, 002, 003, 005 & 006.
  - INTERCONNECTING DRAWING NUMBERS ARE A SHORTENED CONTINUATION P&ID NUMBER. (EX. 285.XXX REPRESENTS 285.0000.000.041.XXX).
  - REFER TO P&ID 285.0000.000.041.212.3545 FOR ADDITIONAL LINES ON THIS SECTION OF PIPERACK.
  - TIE-IN FOR FUTURE SODIUM HYPOCHLORITE INJECTION.
  - SPG PIPING SCOPE ADJACENT TO MOC PACKAGE 11457 DOES NOT CURRENTLY EXIST. VERIFY TIE-INS PRIOR TO INSTALLATION.



HOLDS:

<b>ISSUED FOR CONSTRUCTION</b> 21 Oct 2013								
3	13 SEP 30 RE-ISSUED IFC ON NEXT HARD REV	GB	CC	LMF	KH	CV	-	
2j	13 JUN 24 ISSUED FOR CONSTRUCTION	GB	KB	SL	KH	BB	-	
2i	12 AUG 17 ISSUED FOR CONSTRUCTION	GB	KB	LMF	KH	EM	-	
2h	11 SEPT 15 ISSUED FOR DESIGN	GB	SJ	LMF	KH	EM	MD	
2g	11 JUL 11 ISSUED FOR PHA III							
2f	11 APR 20 ISSUED FOR ESTIMATE							
REV	ISSUED DATE	DESCRIPTION	DWN	CHKD	APP	ENG	APP	CLNT APP

TITLE: MOC 11457 - QUEST CCS PROJECT REV: 3

FOR MOC 11457 PROJECT USE ONLY

WORKING COPY OF MASTER DRAWING ASBUILT INFORMATION REQUIRED

**MASTER DRAWING**  
AS BUILT  
INFORMATION REQUIRED

2	2010-10-20	CHANGE UST 285.0000.000.041.312	AS	EMD					
1	2009-11-20	ISSUED FOR CONSTRUCTION	XC	PADL	DM		RS	TC	
0	2007-10-15	ISSUED FOR CONSTRUCTION (SUPERCEDES 285.0000.000.041.312 GIO-REV)	XC	NC	RR		AJ	TC	
REV	ISSUED DATE	DESCRIPTION	BY	CHD	PRS	CS	PDF	MC	APP

THE SIGNED APEGGA STAMP RESIDES ON THE ORIGINAL IFC DRAWING HELD IN DOCUMENT MANAGEMENT. NO DESIGN CHANGES WILL BE MADE TO THIS DRAWING WITHOUT THE APPROVAL OF A REGISTERED PROFESSIONAL ENGINEER.

**SHELL CANADA ENERGY**  
SCOTFORD UPGRADER EXPANSION 1

**BANTREL**  
APEGGA PERMIT: P 3913

Job No. 1010

PIPING AND INSTRUMENT FLOW DIAGRAM  
INTERCONNECTING PIPEWAYS  
UTILITIES

SCALE: NONE  
SHELL DWG NO.: 285.0000.000.041.312