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#### REVISION HISTORY

1 REV D - NONE

GENERAL NOTES

- 1 ALL COMPONENT & EQUIPMENT NUMBERS ARE PRECEDED BY "A" TO REPRESENT THE FINAL DRUG PRODUCT (FDP) BUILDING.
- 2 ALL AUTOMATIC VALVES FAIL CLOSED (F.C.) UNLESS NOTED FAIL OPEN (F.O.).
- 3 ALL PLC/COMPUTER CONNECTIONS ARE WITHIN THE PROCESS UNLESS OTHERWISE NOTED.
- 4 LAST LINE NUMBER:  
260009, 860008
- 5 LINE NUMBER NOT USED:  
NONE
- 6 LAST AUTO VALVE NUMBER:  
NONE
- 7 AUTO VALVE NUMBERS NOT USED:  
NONE
- 8 LAST MANUAL VALVE NUMBER:  
260006, 860009
- 9 MANUAL VALVE NUMBERS NOT USED:  
260005

## SHEET NOTES

- 1 VENDOR SHALL PROVIDE A LEASED STORAGE TANK WITH ALL OF THE COMPONENTS AND DISTRIBUTION SYSTEMS REQUIRED TO RECEIVE, STORE, AND DISTRIBUTE LIQUID NITROGEN. THE TANK AND PIPING SHALL BE PROVIDED BY THE VENDOR. THE TANK SHALL BE SUPPLIED WITH A MEANS TO MONITOR TEMPERATURE, PRESSURE, AND ELECTRICAL UNIT (TYPE TBD). STORAGE SYSTEM SHALL BE PROVIDED BY THE VENDOR. THE DISTRIBUTION INSTRUMENTATION TO MEET LOCAL CODES. AS A MINIMUM, VENDOR SHALL PROVIDE AN AUTOMATIC SHUT-OFF VALVE AND A LOW-LEVEL ALARM. A LEAK IN THE PIPING DISTRIBUTION SYSTEM, OR TANK VALVE LEAK, SHALL BE REPORTED TO THE VENDOR. THE VENDOR SHALL BE RESPONSIBLE FOR THE VENDOR BOX OR FOR INFORMATION ONLY AND FOR THE TANK WHICH WILL BE PROVIDED BY THE VENDOR ACTUALLY SUPPLIES.
- 2 VENDOR SHALL PROVIDE 304L STAINLESS STEEL AS16 TO 304L. FINAL DESIGN BY CRYOGENIC CONSULTANT.
- 3 TANK INSULATED WITH PERLITE POWDER AND SUPER VACUUM MULTILAYER.
- 4 TANK INSULATED BY BONNET EXTENSION FOR CRYOGENIC SERVICE.
- 5 DRAINAGE CONNECTION - CRYOGENIC SERVICE.
- 6 TRAILER LOADING CONNECTION - CRYOGENIC SERVICE.
- 7 SAFETY VALVE - CRYOGENIC SERVICE.
- 8 TANK SHALL BE ASSEMBLED AND DELIVERED TO THE VENDOR TO A SAFE LOCATION. VENTS TO THE EXTERIOR OF THE BUILDING SHALL BE INSTALLED WITH A SCREEN.

INTERLOCK

-  LOW OXYGEN LEVEL IN UTILITIES ROOM TURNS ON ALARM AND LIGHT AND ENGAGES EMERGENCY EXHAUST FAN.



TQ-2600  
LN2 TANK

MFR: TBD  
CAPACITY: 36,000 L  
SIZE: TBD  
MOC: INTERNAL TA

X-2600  
LN2 VAPORIZER

MFR: TBD  
CAPACITY: 80 KG/H  
SIZE: TBD  
MOC: 304SS

FGA-8600-1  
MAIN NITROGEN GAS FILTER

TYPE, HOUS/ELEM: TEE STYLE, GAS / 0.2  $\mu$ m  
CAPACITY: 510 NLPM (30.6 NM<sup>3</sup>/HR)  
SIZE: 1 RD X 10"H  
MOC: 316L HOUSING/PTFE ELEMENT  
DP/DT:  $\leq$  0.14 BAR / 21°C

FGA-8600-2  
MAIN NITROGEN GAS FILTER

TYPE, HOUS/ELEM: TEE STYLE, GAS / 0.2  $\mu$ m  
CAPACITY: 510 NLPM (30.6 NM3/HR)  
SIZE: 1 RD X 10"H  
MOC: 316L HOUSING/PTFE ELEMENT  
DP/DT:  $\leq$  0.14 BAR / 21°C

Robert L. De Sonci Jr.

ISSUED FOR  
CONSTRUCTION

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THIS IS NOT A  
SEALED DOCUMENT

DATE \_\_\_\_\_

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CLIENT



**BURITI EPCMV**

DRAINAGE TITLE

DRAWING TITLE

**P&I DIAGRAM  
DRUG PRODUCT  
LIQ. NITROGEN RECEIVING,  
STORAGE, & DISTRIBUTION**

ENGINEER

ENGINEER JJR	ARCHITECT BJE	DESIGNER RBN	IPS PROJECT # ITD19439.01
DRAWN BY RBN	REVIEWED BY GJC	SCALE NONE	CADD FILE NAME 7A-Z-0-2-34

XREF FILE(S)

DRAWING NUMBER
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