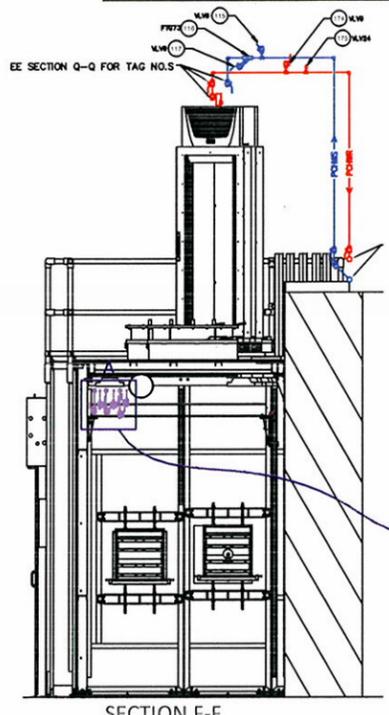
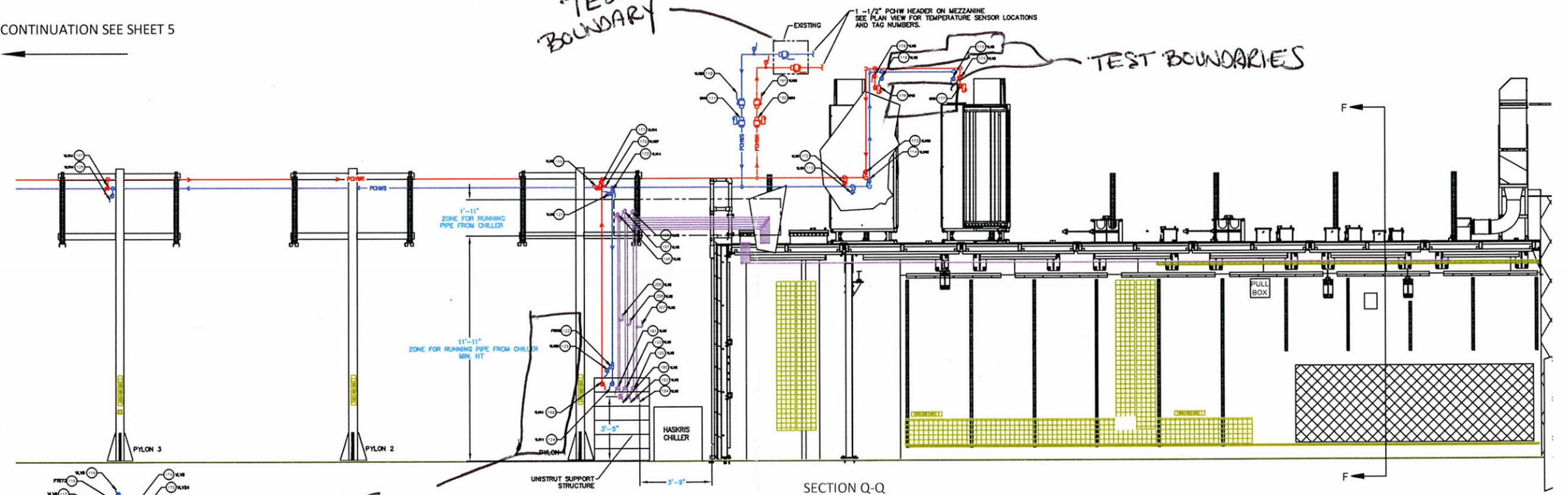
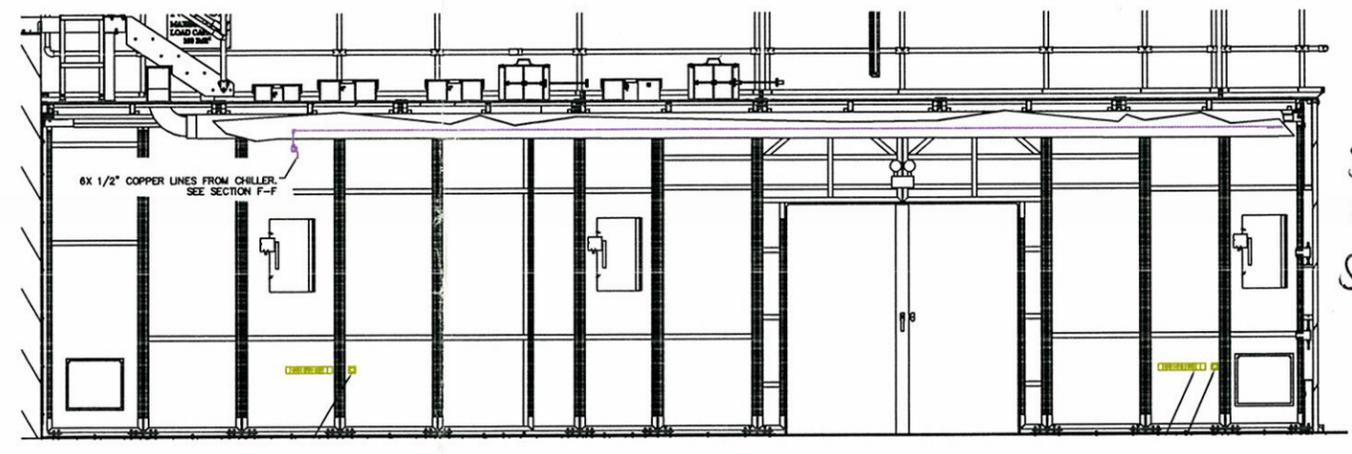


FOR CONTINUATION SEE SHEET 5



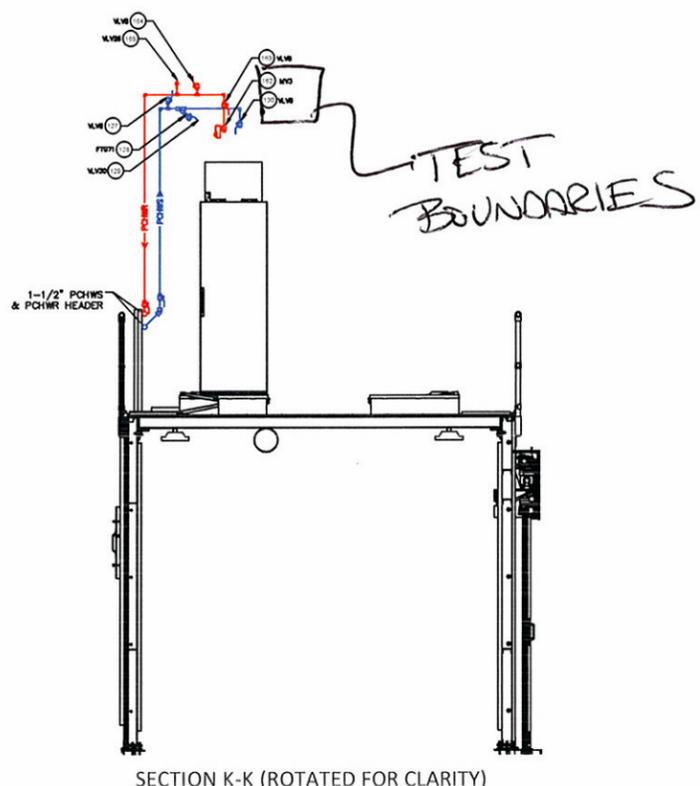
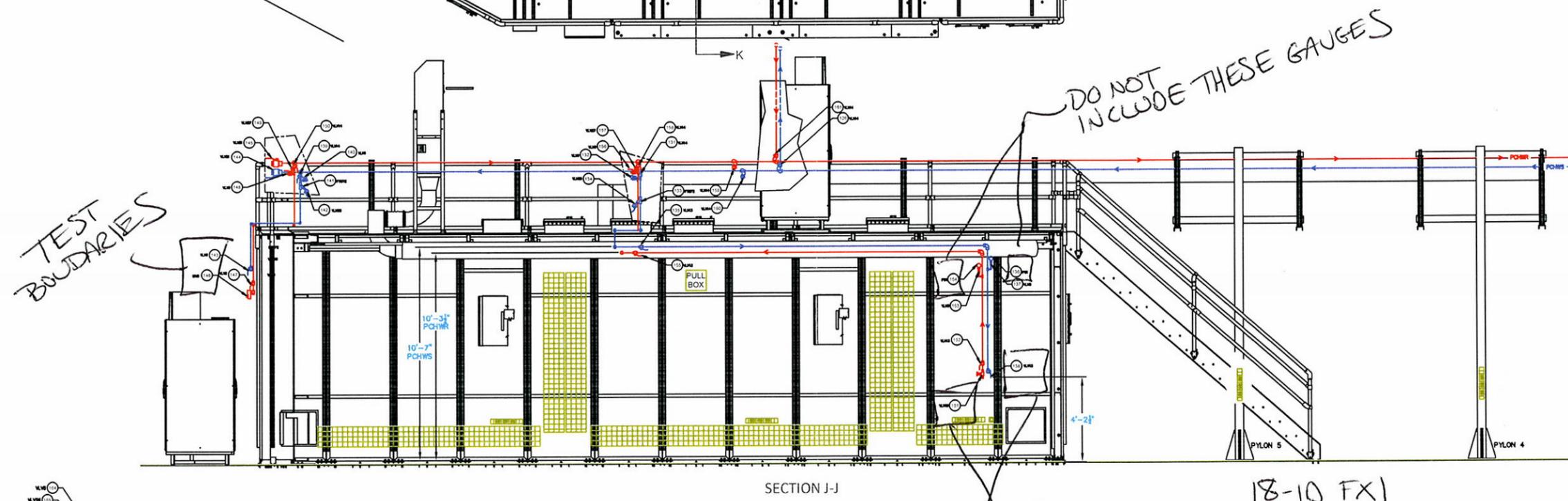
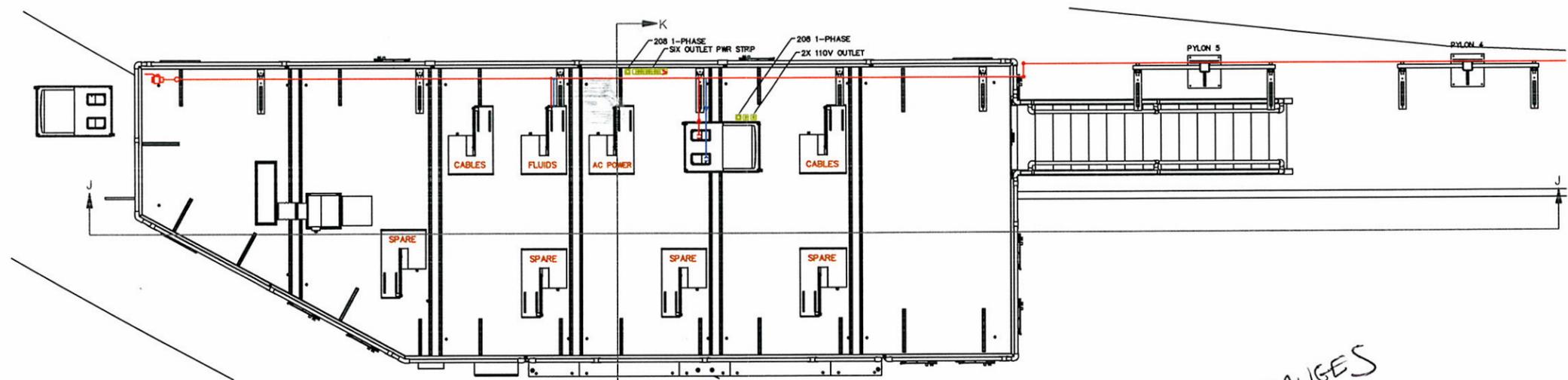
NOT INSTALLED  
THIS SECTION  
IS JUMPED  
FOR TEST

DETAIL A  
PIPING FROM CHILLER TO BE INSTALLED  
BASED ON FIELD CONDITIONS AND MAY  
VARY FROM WHAT IS SHOWN.



PCHW AT FOE AND ALONG THE 3 UPSTREAM PYLONS

18-10 FX1  
PCHW PRESSURE TEST SHEET  
ATTACHMENT  
SHEET 1 OF 2  
R. O'BRIEN 10/20/16  
SEE PRESSURE TEST SHEET  
FOR PARAMETERS



TEST BOUNDARIES

TEST BOUNDARIES

DO NOT INCLUDE THESE GAUGES

SECTION J-J

BEAM DIRECTION

18-10 FX1  
 PCHW PRESSURE TEST SHEET  
 ATTACHMENT  
 SHEET 2 OF 2  
 R. O'BRIEN 10/26/16  
 SEE PRESSURE TEST SHEET  
 FOR PARAMETERS  
 FOR CONTINUATION SEE SHEET 2

PCHW AT END STATION B AND ALONG THE 2 DOWNSTREAM PYLONS

### MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: R. O'BRIEN LIFE #: 24021 DATE: 10/26/16

TEST LOCATION: 18-10 FX 1 APPLICABLE DRAWING(S): ATTACHMENT

ATTACHMENT  Y  N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:  
PROCESS CHILLED WATER PIPING

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:  
75 PSIG

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):

- PRIMARY DI WATER  SECONDARY DI WATER  ALUMINUM DI WATER   
PROCESS CHILLED WATER  COMPRESSED AIR  GASEOUS NITROGEN  OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:  
\_\_\_\_\_  
\_\_\_\_\_

TEST GAUGE INFORMATION:

RANGE: 0-400 UNIT OF MEASUREMENT: PSIG  
SERIAL NUMBER: M014749 CALIBRATION DUE DATE: 5/23/17

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):

- LEAK TEST  FLUSH  HYDROSTATIC PRESSURE TEST  PNEUMATIC PRESSURE TEST   
OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION: \_\_\_\_\_  
\_\_\_\_\_

### MECHANICAL UTILITIES TEST REPORT - PAGE 2

#### LEAK TEST:

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

TEST FLUID: AIR FLUID TEMPERATURE AMBIENT °F FLUID PRESSURE: <50 PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): VISUAL/SOAP/ETC.

\*\*\*TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS\*\*\*

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: Briguccia DATE: 11-21-16

RECORD ACTUAL LEAK TEST DURATION HERE: \_\_\_\_\_

NO LEAKAGE PRESENT  SIGNATURE: V. Briguccia

#### FLUSH:

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

FLUSH FLUID: WATER FLUID TEMPERATURE AMBIENT °F FLUID PRESSURE: HOUSE PSIG

FLUSH DURATION: 20 (MINUTES)/HOURS (CIRCLE ONE)

FLUSH PARAMETERS: N/A

(WRITE "N/A" IF NONE APPLY)

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: Briguccia DATE: 11-21-16

COMMENTS:

ACCEPTABLE  SIGNATURE: V. Briguccia

#### PRESSURE TEST:

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

TYPE: HYDROSTATIC  PNEUMATIC  TEST FLUID: WATER FLUID TEMPERATURE AMBIENT °F

SPECIFIED STARTING PRESSURE: 75 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 150 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 10/10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 10 MINUTES (10 MINUTES MINIMUM)

**MECHANICAL UTILITIES TEST REPORT - PAGE 3**

**PRESSURE TEST (CONTINUED):**

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: Brigucera DATE: 11-21-16

ENVIRONMENTAL FACTORS: TEMPERATURE N/A °F RELATIVE HUMIDITY N/A %

PRESSURE TEST DATA TO BE COMPLETED DURING TEST

SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
<u>75</u>	<u>75</u>		
<u>85</u>	<u>85</u>		
<u>95</u>	<u>95</u>		
<u>105</u>	<u>105</u>		
<u>115</u>	<u>115</u>		
<u>125</u>	<u>125</u>		
<u>135</u>	<u>135</u>		
<u>145</u>	<u>145</u>		
<u>150</u>	<u>150</u>		

PRESSURE TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: [Signature] 25646

WITNESS SIGNATURE/LIFE NUMBER: [Signature] 22429

**OTHER:**

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

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TEST FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F FLUID PRESSURE: \_\_\_\_\_ PSIG

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

ENVIRONMENTAL FACTORS: TEMPERATURE \_\_\_\_\_ °F RELATIVE HUMIDITY \_\_\_\_\_ %

SPECIFIED		ACTUAL		%
SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	VARIANCE

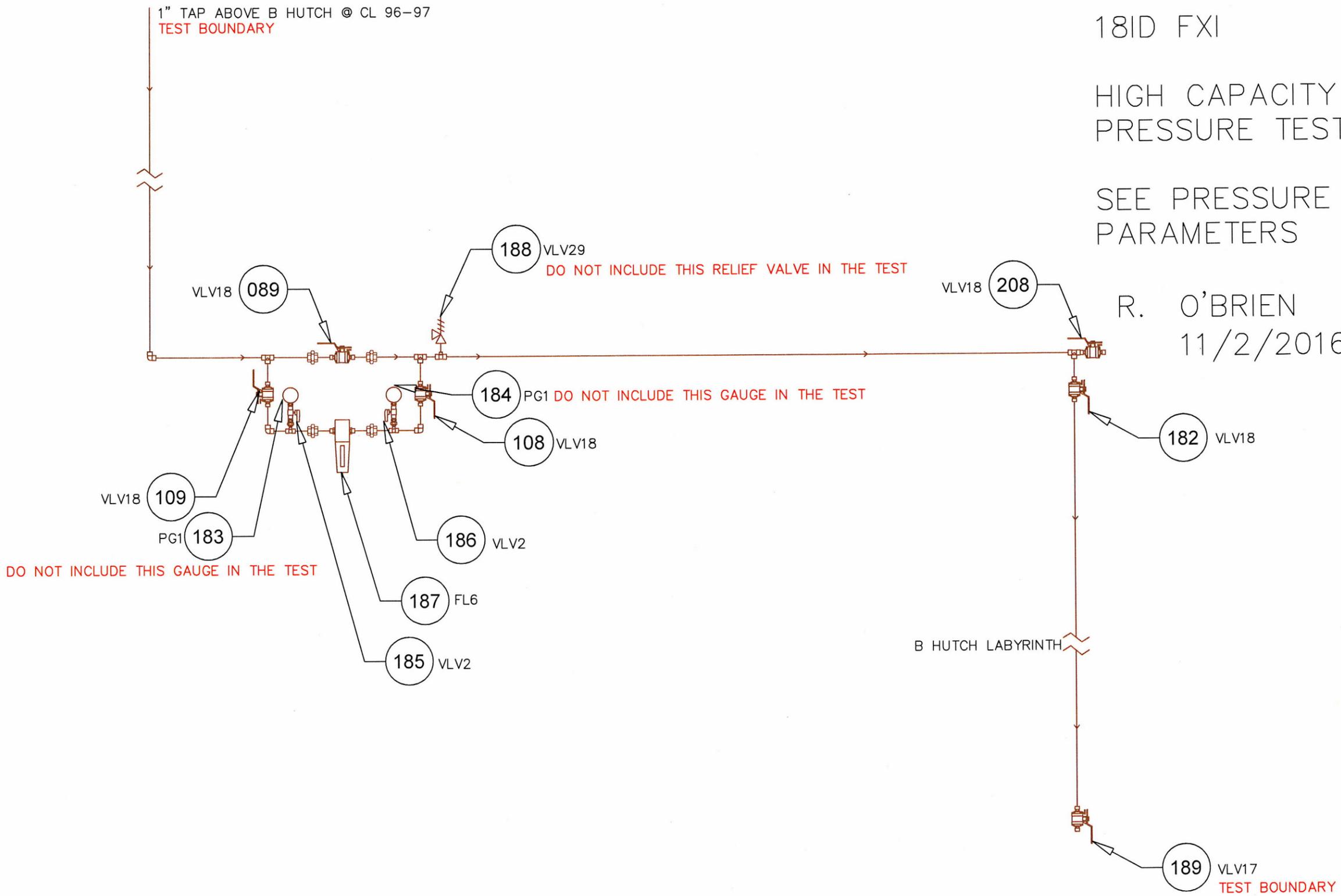


18ID FXI

HIGH CAPACITY COMPRESSED AIR PIPING  
PRESSURE TEST SHEET ATTACHMENT

SEE PRESSURE TEST REPORT FOR  
PARAMETERS

R. O'BRIEN  
11/2/2016



### MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: R. O'BRIEN LIFE #: 24021 DATE: 5/9/17

TEST LOCATION: 18-10 FX1 APPLICABLE DRAWING(S): ATTACHED

ATTACHMENT  Y  N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:  
HASKINS CHILLER CIRCUIT TUBING/VALVES

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:  
100 PSIG

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):

- PRIMARY DI WATER  SECONDARY DI WATER  ALUMINUM DI WATER
- PROCESS CHILLED WATER  COMPRESSED AIR  GASEOUS NITROGEN  OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:  
CLOSED LOOP CHILLER CIRCUITS

TEST GAUGE INFORMATION:

RANGE: 0-3000 (OVERRANGE) UNIT OF MEASUREMENT: PSIG  
SERIAL NUMBER: 9181 8089 CALIBRATION DUE DATE: 3/31/18 <sup>JWA</sup> 5-11-18 2/28/18

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):

- LEAK TEST  FLUSH  HYDROSTATIC PRESSURE TEST  PNEUMATIC PRESSURE TEST

OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION: \_\_\_\_\_

### MECHANICAL UTILITIES TEST REPORT - PAGE 2

#### LEAK TEST:

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

TEST FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F FLUID PRESSURE: \_\_\_\_\_ PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): \_\_\_\_\_

\*\*\*TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS\*\*\*

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

RECORD ACTUAL LEAK TEST DURATION HERE: \_\_\_\_\_

NO LEAKAGE PRESENT  SIGNATURE: \_\_\_\_\_

#### FLUSH:

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

FLUSH FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F FLUID PRESSURE: \_\_\_\_\_ PSIG

FLUSH DURATION: \_\_\_\_\_ MINUTES/HOURS (CIRCLE ONE)

FLUSH PARAMETERS: \_\_\_\_\_  
\_\_\_\_\_ (WRITE "N/A" IF NONE APPLY)

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

COMMENTS:  
\_\_\_\_\_  
\_\_\_\_\_

ACCEPTABLE  SIGNATURE: \_\_\_\_\_

#### PRESSURE TEST:

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

TYPE: HYDROSTATIC  PNEUMATIC  TEST FLUID: WATER FLUID TEMPERATURE AMBIENT °F

SPECIFIED STARTING PRESSURE: 75 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 150 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 25/10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 10 MINUTES (10 MINUTES MINIMUM)

## MECHANICAL UTILITIES TEST REPORT - PAGE 3

### PRESSURE TEST (CONTINUED):

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: J. Almond      DATE: \_\_\_\_\_

ENVIRONMENTAL FACTORS: TEMPERATURE 72 °F      RELATIVE HUMIDITY 35 %

PRESSURE TEST DATA TO BE COMPLETED DURING TEST			
SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
75	76		
100	103		
125	125		
150	150		

PRESSURE TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: [Signature] / 24892

WITNESS SIGNATURE/LIFE NUMBER: [Signature] / 22429

### OTHER:

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

TEST FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F      FLUID PRESSURE: \_\_\_\_\_ PSIG

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: \_\_\_\_\_      DATE: \_\_\_\_\_

ENVIRONMENTAL FACTORS: TEMPERATURE \_\_\_\_\_ °F      RELATIVE HUMIDITY \_\_\_\_\_ %

SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	%
				VARIANCE



### MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: O'BRIEN LIFE #: 24021 DATE: 11/2/16

TEST LOCATION: 18-10 EXT APPLICABLE DRAWING(S): ATTACHMENT  
ATTACHMENT  Y /  N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:  
HIGH CAPACITY COMPRESSED AIR PIPING/MANIFOLD

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:  
125 PSIG

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):

- PRIMARY DI WATER  SECONDARY DI WATER  ALUMINUM DI WATER
- PROCESS CHILLED WATER  COMPRESSED AIR  GASEOUS NITROGEN  OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:  
HIGH CAP AIR

TEST GAUGE INFORMATION:

RANGE: 0-300 UNIT OF MEASUREMENT: PSIG  
SERIAL NUMBER: M014904 CALIBRATION DUE DATE: 9/1/17

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):

- LEAK TEST  FLUSH  HYDROSTATIC PRESSURE TEST  PNEUMATIC PRESSURE TEST
- OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION: \_\_\_\_\_

MECHANICAL UTILITIES TEST REPORT - PAGE 2

**LEAK TEST:**

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TEST FLUID: AIR FLUID TEMPERATURE: AMBIENT °F FLUID PRESSURE: 450 PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): VISUAL, SOAP, ETC.

\*\*\*TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS\*\*\*

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: MD/AR DATE: 11/9/16  
RECORD ACTUAL LEAK TEST DURATION HERE: 3 Hours

NO LEAKAGE PRESENT  SIGNATURE: [Signature]

**FLUSH:**

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

FLUSH FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F FLUID PRESSURE: \_\_\_\_\_ PSIG

FLUSH DURATION: \_\_\_\_\_ MINUTES/HOURS (CIRCLE ONE)

FLUSH PARAMETERS: \_\_\_\_\_ (WRITE "N/A" IF NONE APPLY)

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

ACCEPTABLE  SIGNATURE: \_\_\_\_\_

**PRESSURE TEST:**

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TYPE: HYDROSTATIC  PNEUMATIC  TEST FLUID: AIR FLUID TEMPERATURE: AMBIENT

SPECIFIED STARTING PRESSURE: 75 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 150 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 10/10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 10 MINUTES (10 MINUTES MINIMUM)

**MECHANICAL UTILITIES TEST REPORT - PAGE 3**

**PRESSURE TEST (CONTINUED):**

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: MD/AR DATE: 11/9/16

ENVIRONMENTAL FACTORS: TEMPERATURE \_\_\_\_\_ °F RELATIVE HUMIDITY \_\_\_\_\_ %

PRESSURE TEST DATA TO BE COMPLETED DURING TEST			
SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
75	75	140	141
80	81	150	146
90	90		
100	101		
110	110		
120	120		
130	130		

PRESSURE TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: 25531 M. [Signature]

WITNESS SIGNATURE/LIFE NUMBER: 22895 [Signature]

**OTHER:**

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

TEST FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F FLUID PRESSURE: \_\_\_\_\_ PSIG

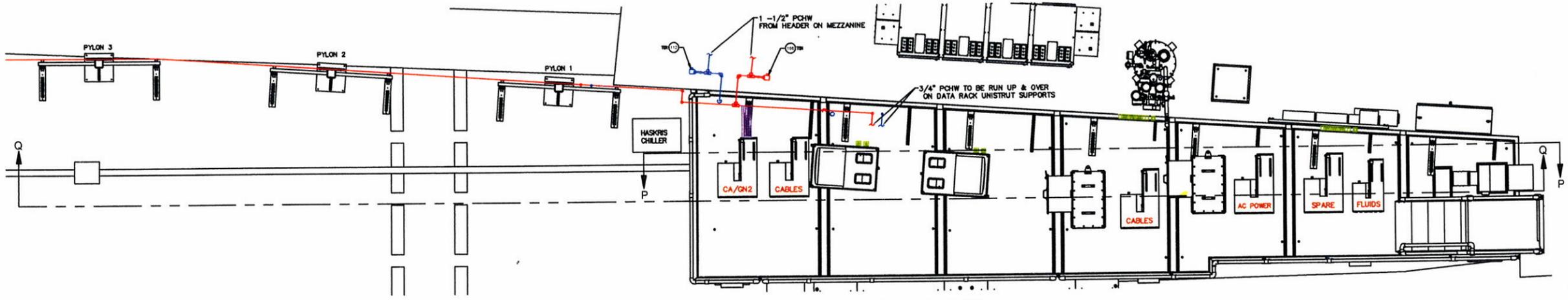
*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

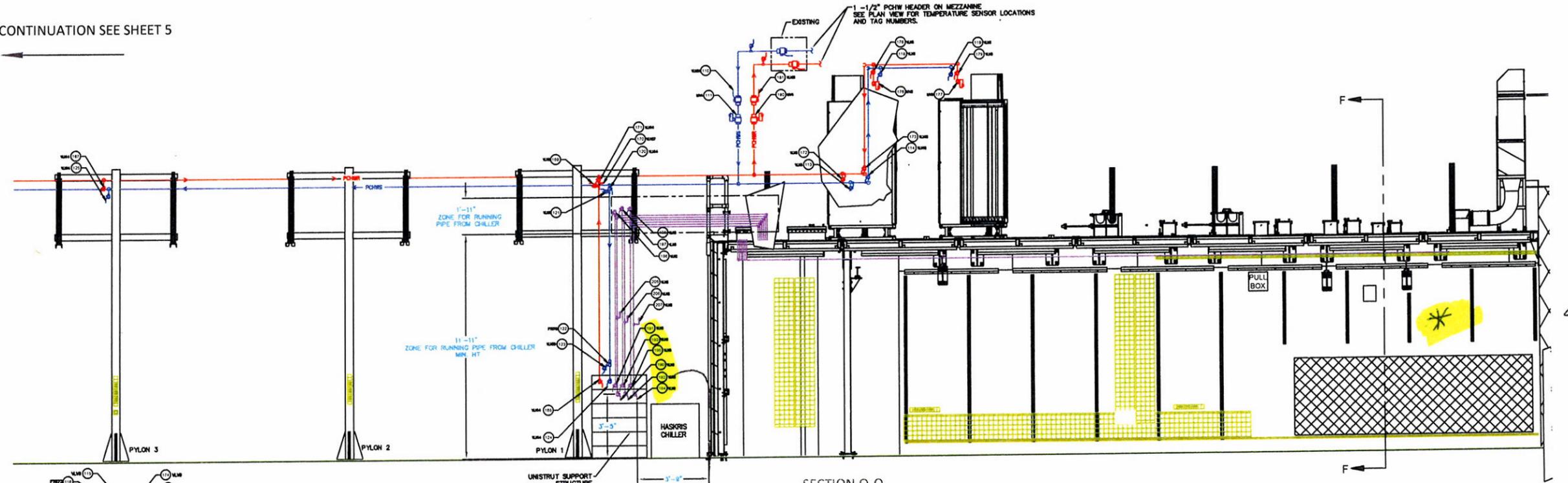
ENVIRONMENTAL FACTORS: TEMPERATURE \_\_\_\_\_ °F RELATIVE HUMIDITY \_\_\_\_\_ %

SPECIFIED		ACTUAL		%
SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	VARIANCE

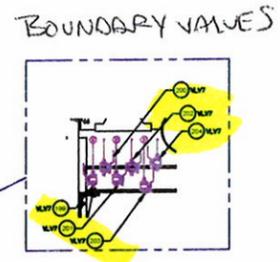
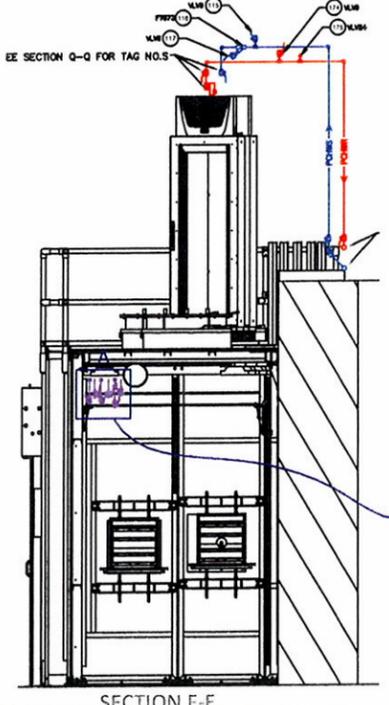




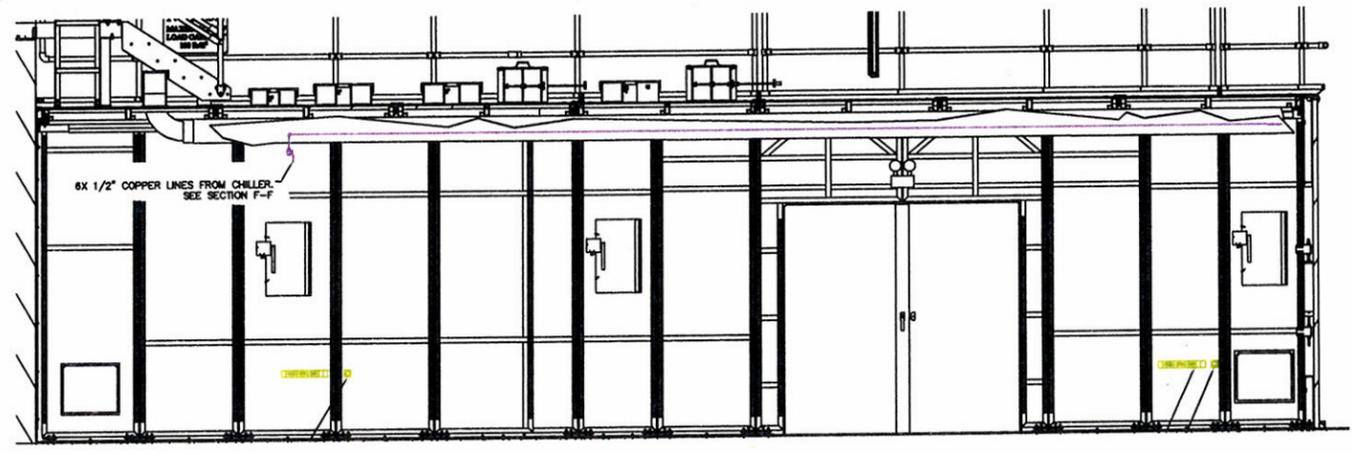
FOR CONTINUATION SEE SHEET 5



BOUNDARY VALVES LOCATED IN THIS GENERAL AREA



PIPING FROM CHILLER TO BE INSTALLED BASED ON FIELD CONDITIONS AND MAY VARY FROM WHAT IS SHOWN.



PCHW AT FOE AND ALONG THE 3 UPSTREAM PYLONS

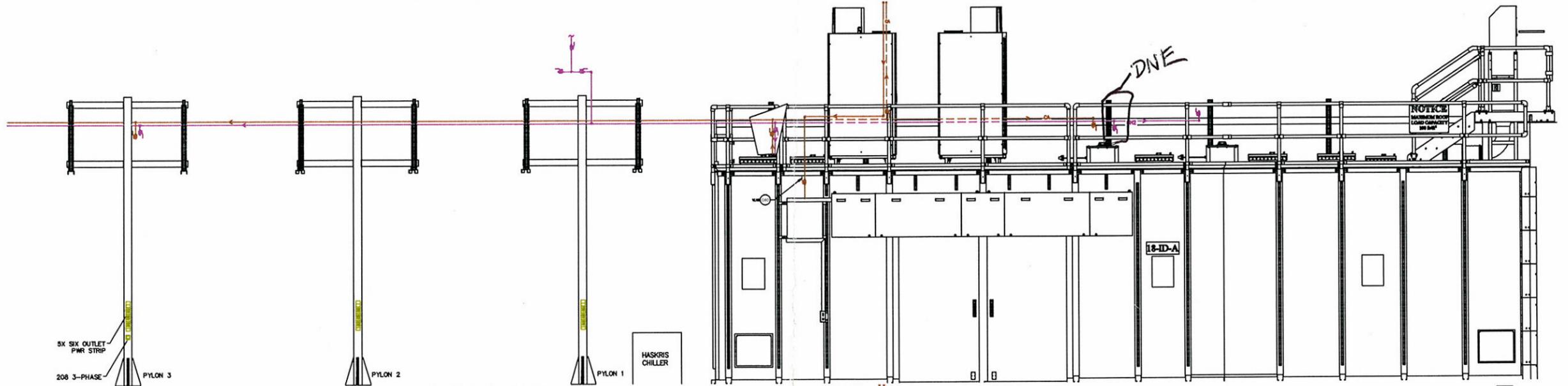
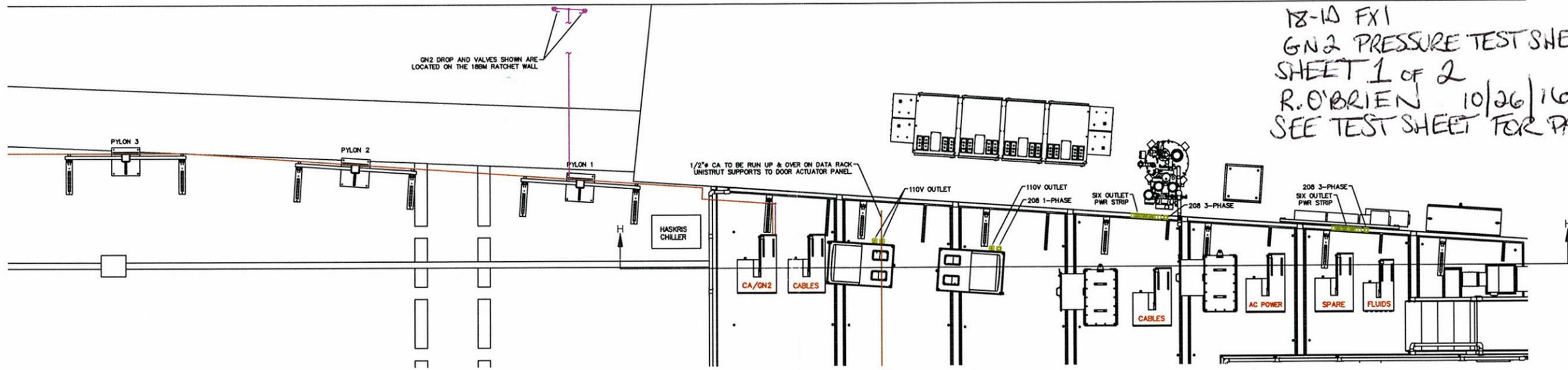
2 ACTUAL VALVE LOCATIONS MARKED WITH "\*"

18-10 FX1  
PRESSURE TEST  
ATTACHMENT  
HASKRIS CHILLER  
COPPER TUBING & VALVES

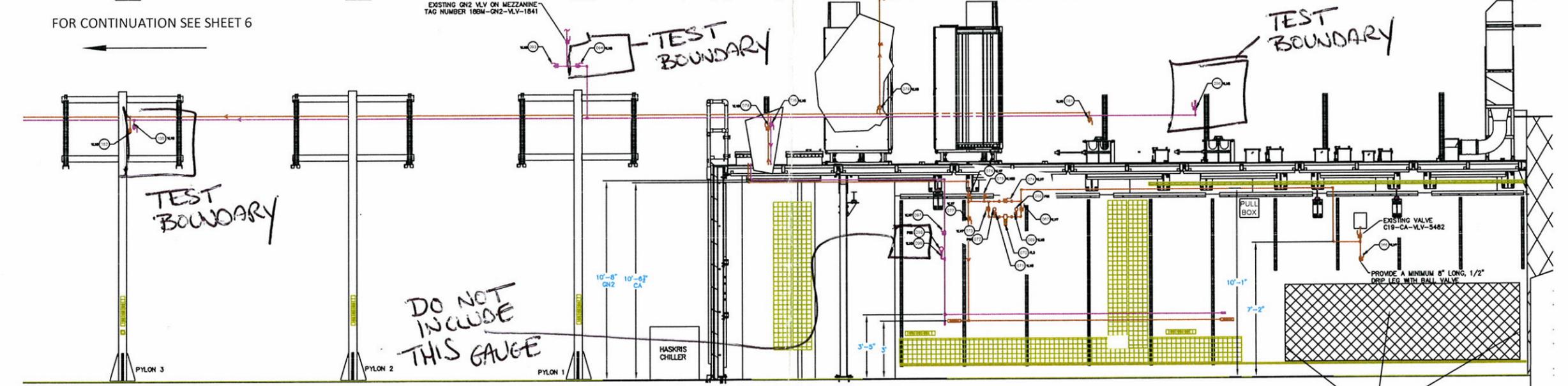
5/9/17  
Wan

E	PD-FXI-UT-1500	A
ES&G RISK LEVEL	A-2	SHEET 3 OF 11

18-10 FX1  
 GN2 PRESSURE TEST SHEET ATTACHMENT  
 SHEET 1 OF 2  
 R. O'BRIEN 10/26/16  
 SEE TEST SHEET FOR PARAMETERS



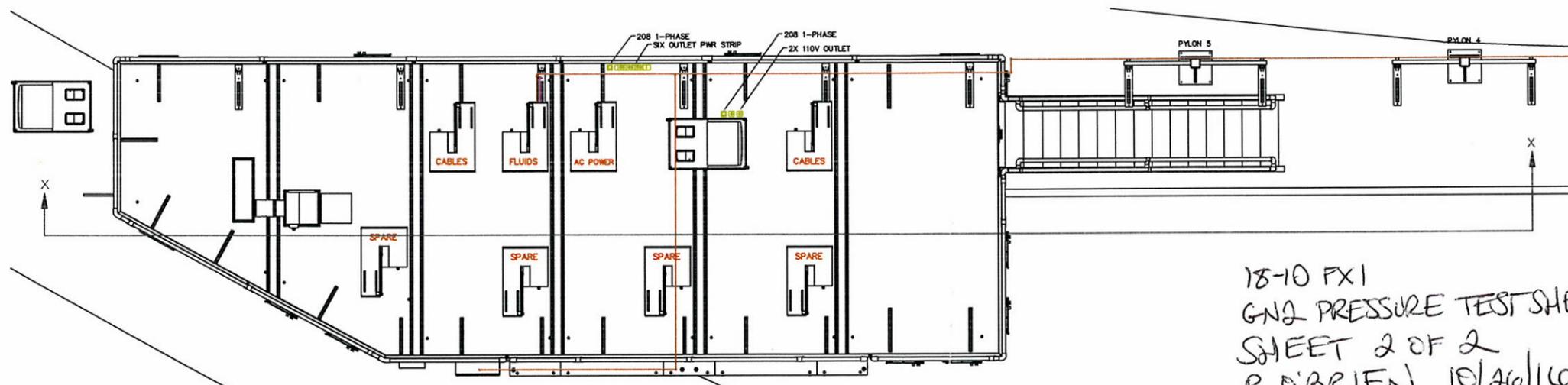
FOR CONTINUATION SEE SHEET 6



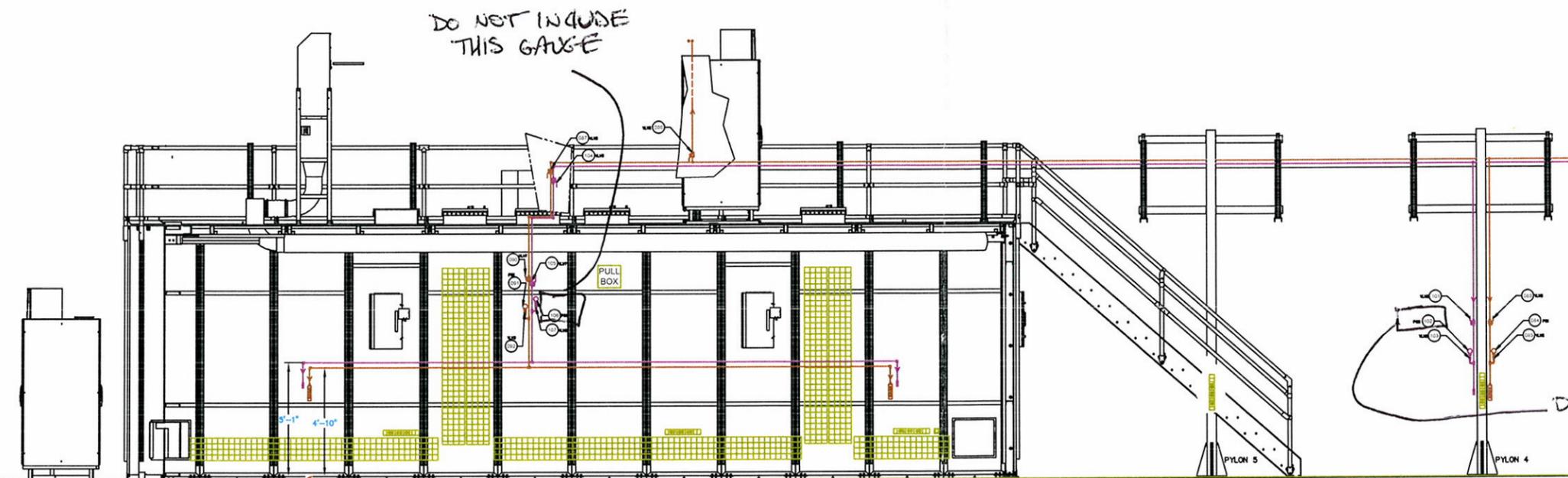
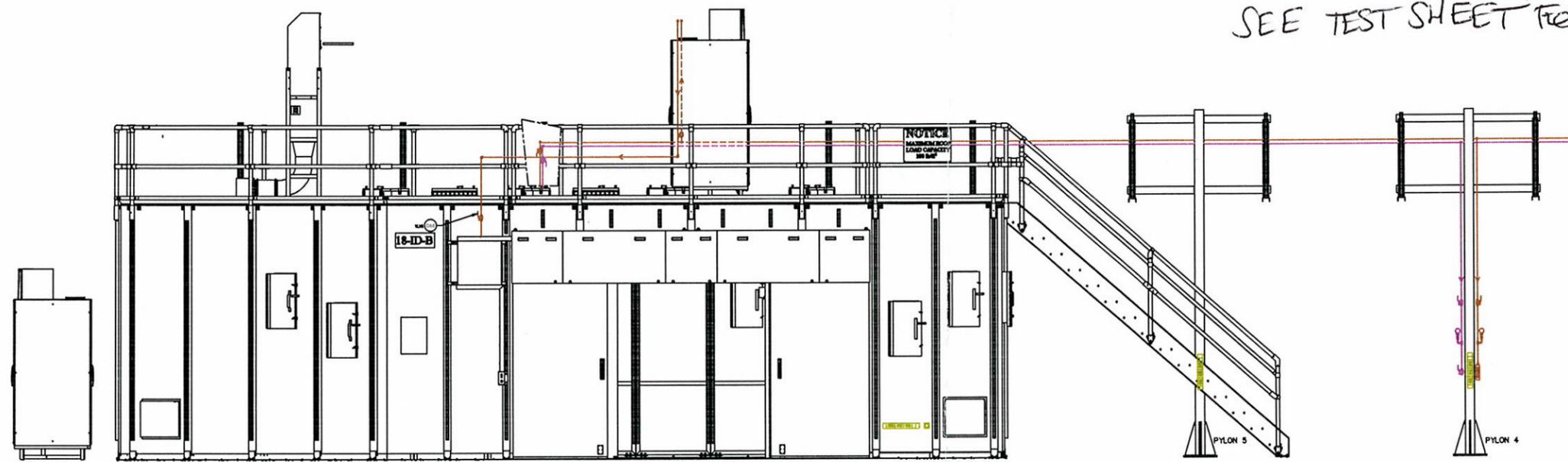
CA & GN2 AT FOE AND ALONG THE 3 UPSTREAM PYLONS

ALL PIPING INSIDE FOE TO BE INSTALLED ON INBOARD WALL SUPPORTED ONE UNISTRUT DEPTH OFF WALL.

E	PD-FXI-UT-1500	A
DATE		
DESIGN		
RISK LEVEL	A-2	SHEET 4 OF 10

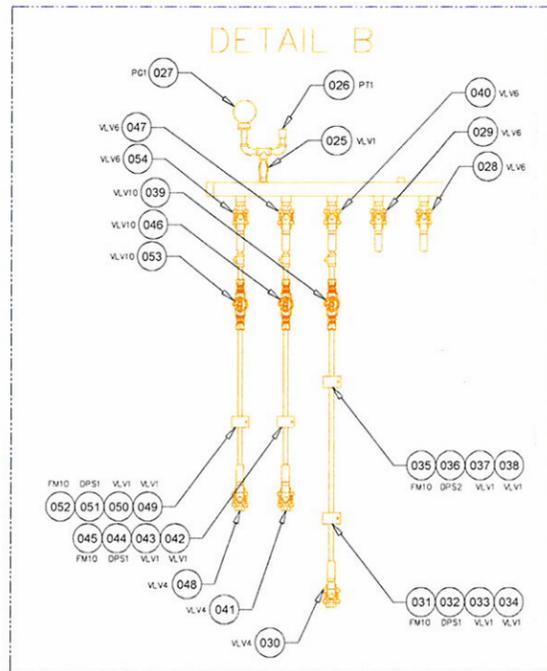
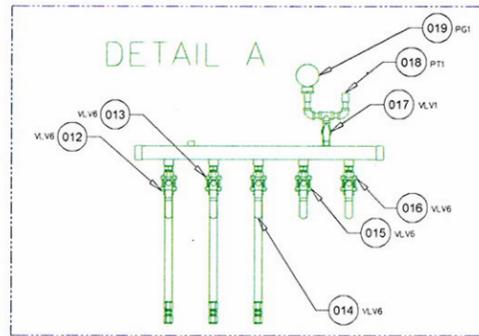
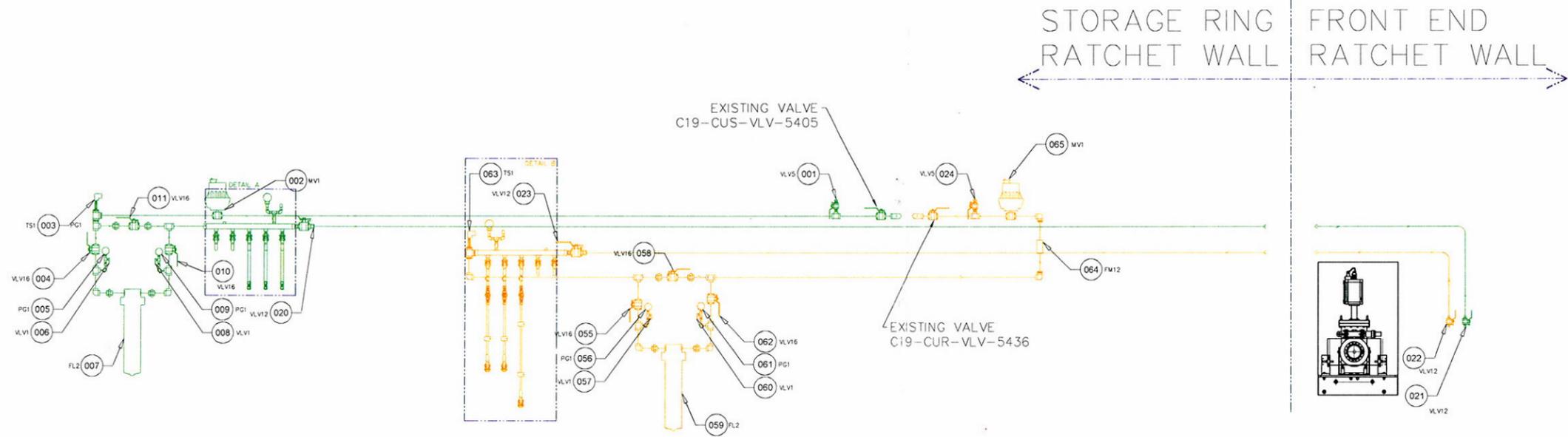


18-10 FX1  
GN2 PRESSURE TEST SHEET ATTACHMENT  
SHEET 2 OF 2  
R. O'BRIEN 10/26/10  
SEE TEST SHEET FOR PARAMETERS



SECTION X-X

CA & GN2 AT END STATION B AND ALONG THE 2 DOWNSTREAM PYLONS



18ID FXI  
 DI WATER PRESSURE TEST REPORT ATTACHMENT  
 09/29/2016  
 R. O'BRIEN

USE EXISTING VALVES 5405 & 5436 AS TEST BOUNDARIES

DO NOT INCLUDE PRESSURE GAUGES OR PRESSURE TRANSMITTERS IN PRESSURE TEST

TEST BOTH SIDES OF ALL VALVES

SEE PRESSURE TEST REPORT FOR LEAK CHECKING, FLUSHING, AND PRESSURE TESTING PARAMETERS

### MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: R. O'BRIEN LIFE #: 24021 DATE: 10/26/16

TEST LOCATION: 18-10 FX 1 APPLICABLE DRAWING(S): ATTACHMENT (2 SHEETS)  
ATTACHMENT  Y  N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:  
GASEOUS NITROGEN PIPING

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:  
100 PSIG

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):

- PRIMARY DI WATER  SECONDARY DI WATER  ALUMINUM DI WATER
- PROCESS CHILLED WATER  COMPRESSED AIR  GASEOUS NITROGEN  OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:  
\_\_\_\_\_  
\_\_\_\_\_

TEST GAUGE INFORMATION:

RANGE: 0-400 UNIT OF MEASUREMENT: PSIG  
SERIAL NUMBER: M014749 CALIBRATION DUE DATE: 5/23/17

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):

- LEAK TEST  FLUSH  HYDROSTATIC PRESSURE TEST  PNEUMATIC PRESSURE TEST
- OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION: \_\_\_\_\_  
\_\_\_\_\_

### MECHANICAL UTILITIES TEST REPORT - PAGE 2

**LEAK TEST:**

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

TEST FLUID: AIR FLUID TEMPERATURE AMBIENT °F FLUID PRESSURE: < 50 PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): VISUAL/SOAP/ETC.

\*\*\*TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS\*\*\*

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: Briguaccia DATE: 11-3-16

RECORD ACTUAL LEAK TEST DURATION HERE: \_\_\_\_\_

NO LEAKAGE PRESENT  SIGNATURE: V. Briguaccia

**FLUSH:** N/A

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

FLUSH FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F FLUID PRESSURE: \_\_\_\_\_ PSIG

FLUSH DURATION: \_\_\_\_\_ MINUTES/HOURS (CIRCLE ONE)

FLUSH PARAMETERS: \_\_\_\_\_  
\_\_\_\_\_  
(WRITE "N/A" IF NONE APPLY)

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

COMMENTS:  
\_\_\_\_\_  
\_\_\_\_\_

ACCEPTABLE  SIGNATURE: V. Briguaccia

**PRESSURE TEST:**

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

TYPE: HYDROSTATIC  PNEUMATIC  TEST FLUID: AIR FLUID TEMPERATURE AMBIENT °F

SPECIFIED STARTING PRESSURE: 75 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 150 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 10/10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 10 MINUTES (10 MINUTES MINIMUM)

**MECHANICAL UTILITIES TEST REPORT - PAGE 3**

**PRESSURE TEST (CONTINUED):**

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: Briguccio DATE: 11-8-16

ENVIRONMENTAL FACTORS: TEMPERATURE \_\_\_\_\_ °F RELATIVE HUMIDITY \_\_\_\_\_ %

**PRESSURE TEST DATA TO BE COMPLETED DURING TEST**

SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
75	75		
85	85		
95	95		
105	105		
115	115		
125	125		
135	135		
145	145		
150	150		

PRESSURE TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: [Signature] 25646

WITNESS SIGNATURE/LIFE NUMBER: [Signature] 22479

**OTHER:**

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

TEST FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F FLUID PRESSURE: \_\_\_\_\_ PSIG

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

ENVIRONMENTAL FACTORS: TEMPERATURE \_\_\_\_\_ °F RELATIVE HUMIDITY \_\_\_\_\_ %

SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	% VARIANCE



### MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: R. O'BRIEN LIFE #: 24021 DATE: 9/29/16

TEST LOCATION: 18-1D FX1 APPLICABLE DRAWING(S): 1840 FX1 PRESSURE TEST REPORT ATTACHMENT  
ATTACHMENT  Y  N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:  
DI WATER SYSTEM

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:  
150 PSIG

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):  
PRIMARY DI WATER  SECONDARY DI WATER  ALUMINUM DI WATER   
PROCESS CHILLED WATER  COMPRESSED AIR  GASEOUS NITROGEN  OTHER   
IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TEST GAUGE INFORMATION:  
RANGE: 0-300 AIRBORNING UNIT OF MEASUREMENT: PSIG  
SERIAL NUMBER: 8089 CALIBRATION DUE DATE: 2/14/17

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):  
LEAK TEST  FLUSH  HYDROSTATIC PRESSURE TEST  PNEUMATIC PRESSURE TEST   
OTHER   
IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION: \_\_\_\_\_  
\_\_\_\_\_

### MECHANICAL UTILITIES TEST REPORT - PAGE 2

#### LEAK TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TEST FLUID: AIR FLUID TEMPERATURE: AMBIENT °F FLUID PRESSURE: < 50 PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): VISUAL, SOAP, ETC.

\*\*\*TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS\*\*\*

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: P.K. DATE: 10/3/16

RECORD ACTUAL LEAK TEST DURATION HERE: 10 min.

NO LEAKAGE PRESENT  SIGNATURE: Pete Rider

#### FLUSH:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

FLUSH FLUID: WATER FLUID TEMPERATURE: AMBIENT °F FLUID PRESSURE: HOUSE PSIG

FLUSH DURATION: 20 MINUTES / HOURS (CIRCLE ONE)

FLUSH PARAMETERS: N/A (WRITE "N/A" IF NONE APPLY)

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: P.K. DATE: 9/30

COMMENTS:

ACCEPTABLE  SIGNATURE: Pete Rider

#### PRESSURE TEST:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

TYPE: HYDROSTATIC  PNEUMATIC  TEST FLUID: WATER FLUID TEMPERATURE: AMBIENT

SPECIFIED STARTING PRESSURE: 75 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 225 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 10/10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 10 MINUTES (10 MINUTES MINIMUM)

### MECHANICAL UTILITIES TEST REPORT - PAGE 3

#### PRESSURE TEST (CONTINUED):

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: P.R.                      DATE: 10/3

ENVIRONMENTAL FACTORS: TEMPERATURE \_\_\_\_\_ °F    RELATIVE HUMIDITY \_\_\_\_\_ %

#### PRESSURE TEST DATA TO BE COMPLETED DURING TEST

SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
75	75	140	140
85	85	150	150
95	95	160	160
100	100	170	170
110	110	180	180
120	120	190	190
130	130	225	225

PRESSURE TEST ACCEPTABLE       TECHNICIAN SIGNATURE/LIFE NUMBER: [Signature] / 25649  
WITNESS SIGNATURE/LIFE NUMBER: [Signature] / 22429

#### OTHER:

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

TEST FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F    FLUID PRESSURE: \_\_\_\_\_ PSIG

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: \_\_\_\_\_                      DATE: \_\_\_\_\_

ENVIRONMENTAL FACTORS: TEMPERATURE \_\_\_\_\_ °F    RELATIVE HUMIDITY \_\_\_\_\_ %

SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	% VARIANCE



### MECHANICAL UTILITIES TEST REPORT

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

PREPARED BY: R. O'BRIEN LIFE #: 24021 DATE: 10/20/16

TEST LOCATION: B-10 FX1 APPLICABLE DRAWING(S): TEST SHEET ATTACHMENT  
2 SHEETS  
ATTACHMENT  Y  N (CIRCLE ONE)

DESCRIPTION OF COMPONENT/SYSTEM:  
1/2" COMPRESSED AIR SYSTEM

MAXIMUM ALLOWABLE WORKING PRESSURE (PSIG) OF COMPONENT/SYSTEM:  
90 PSIG

MECHANICAL UTILITY SYSTEM (MARK AN "X" ON ALL THAT APPLY):

- PRIMARY DI WATER  SECONDARY DI WATER  ALUMINUM DI WATER
- PROCESS CHILLED WATER  COMPRESSED AIR  GASEOUS NITROGEN  OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE SYSTEM:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TEST GAUGE INFORMATION:

RANGE: 0-300 PSIG UNIT OF MEASUREMENT: PSIG  
SERIAL NUMBER: M014904 CALIBRATION DUE DATE: 9/1/17

OPERATIONS CONDUCTED (SELECT ALL THAT APPLY):

- LEAK TEST  FLUSH  HYDROSTATIC PRESSURE TEST  PNEUMATIC PRESSURE TEST
- OTHER

IF 'OTHER' IS SELECTED, DESCRIBE THE OPERATION: \_\_\_\_\_  
\_\_\_\_\_

### MECHANICAL UTILITIES TEST REPORT - PAGE 2

#### LEAK TEST:

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

TEST FLUID: AIR FLUID TEMPERATURE: AMBIENT °F FLUID PRESSURE: < 50 PSIG

METHOD USED (VISUAL, SOAP BUBBLES, VACUUM, ETC.): VISUAL, ETC.

\*\*\*TEST DURATION SHALL BE AS LONG AS REQUIRED TO EVALUATE POTENTIAL LEAK POINTS\*\*\*

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: MD/AR DATE: 10-24-16

RECORD ACTUAL LEAK TEST DURATION HERE: 3 HOURS

NO LEAKAGE PRESENT  SIGNATURE: [Signature]

#### FLUSH:

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

FLUSH FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F FLUID PRESSURE: \_\_\_\_\_ PSIG

FLUSH DURATION: \_\_\_\_\_ MINUTES/HOURS (CIRCLE ONE)

FLUSH PARAMETERS: \_\_\_\_\_ (WRITE "N/A" IF NONE APPLY)

*THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN*

CONDUCTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

COMMENTS:  
\_\_\_\_\_  
\_\_\_\_\_

ACCEPTABLE  SIGNATURE: \_\_\_\_\_

#### PRESSURE TEST:

*THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER*

TYPE: HYDROSTATIC  PNEUMATIC  TEST FLUID: AIR FLUID TEMPERATURE: AMBIENT

SPECIFIED STARTING PRESSURE: 75 PSIG SPECIFIED MAXIMUM TEST PRESSURE: 150 PSIG

SPECIFIED PRESSURE AND TIME INCREMENTS: 15/10 PSIG/MINUTES

SPECIFIED MAXIMUM TEST PRESSURE DURATION: 10 MINUTES (10 MINUTES MINIMUM)

**MECHANICAL UTILITIES TEST REPORT - PAGE 3**

**PRESSURE TEST (CONTINUED):**

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

CONDUCTED BY: MO/AR      DATE: 10-24-16

ENVIRONMENTAL FACTORS: TEMPERATURE \_\_\_\_\_ °F      RELATIVE HUMIDITY \_\_\_\_\_ %

**PRESSURE TEST DATA TO BE COMPLETED DURING TEST**

SPECIFIED PRESSURE	ACTUAL PRESSURE	SPECIFIED PRESSURE	ACTUAL PRESSURE
<u>75</u>	<u>75</u>	<u>140</u>	<u>140</u>
<u>80</u>	<u>80</u>	<u>150</u>	<u>145</u>
<u>90</u>	<u>90</u>		
<u>100</u>	<u>100</u>		
<u>110</u>	<u>109</u>		
<u>120</u>	<u>118</u>		
<u>130</u>	<u>129</u>		

PRESSURE TEST ACCEPTABLE

TECHNICIAN SIGNATURE/LIFE NUMBER: 25531 [Signature]

WITNESS SIGNATURE/LIFE NUMBER: 22895 [Signature]

**OTHER:**

THIS SECTION TO BE COMPLETED BY COGNIZANT ENGINEER

DETAILED DESCRIPTION OF OPERATION (ATTACHMENT Y / N):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

TEST FLUID: \_\_\_\_\_ FLUID TEMPERATURE \_\_\_\_\_ °F      FLUID PRESSURE: \_\_\_\_\_ PSIG

THIS SECTION TO BE COMPLETED BY QUALIFIED TECHNICIAN

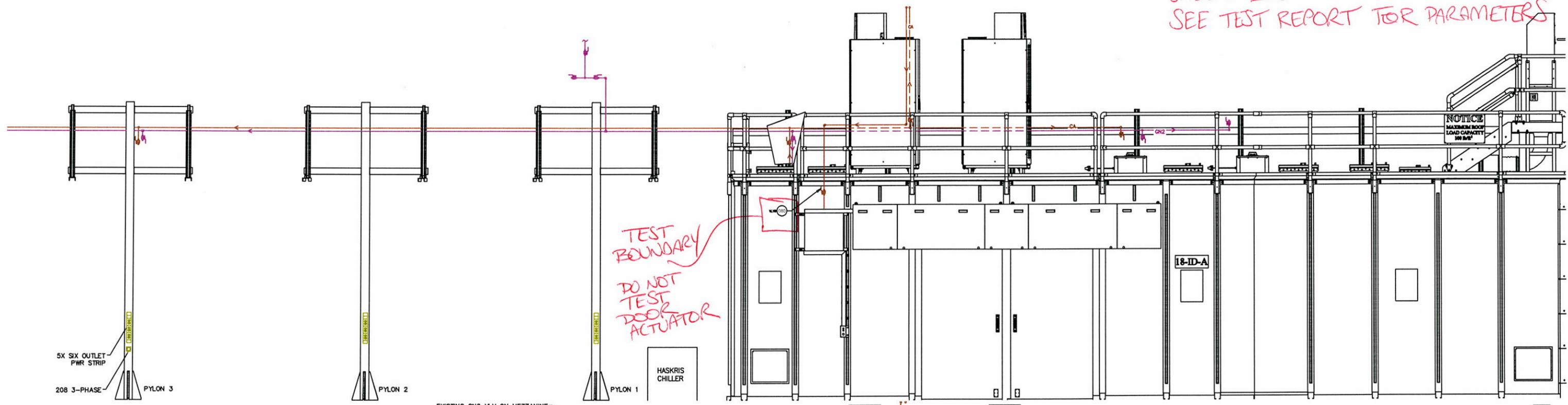
CONDUCTED BY: \_\_\_\_\_      DATE: \_\_\_\_\_

ENVIRONMENTAL FACTORS: TEMPERATURE \_\_\_\_\_ °F      RELATIVE HUMIDITY \_\_\_\_\_ %

				%
SPECIFIED	ACTUAL	SPECIFIED	ACTUAL	VARIANCE

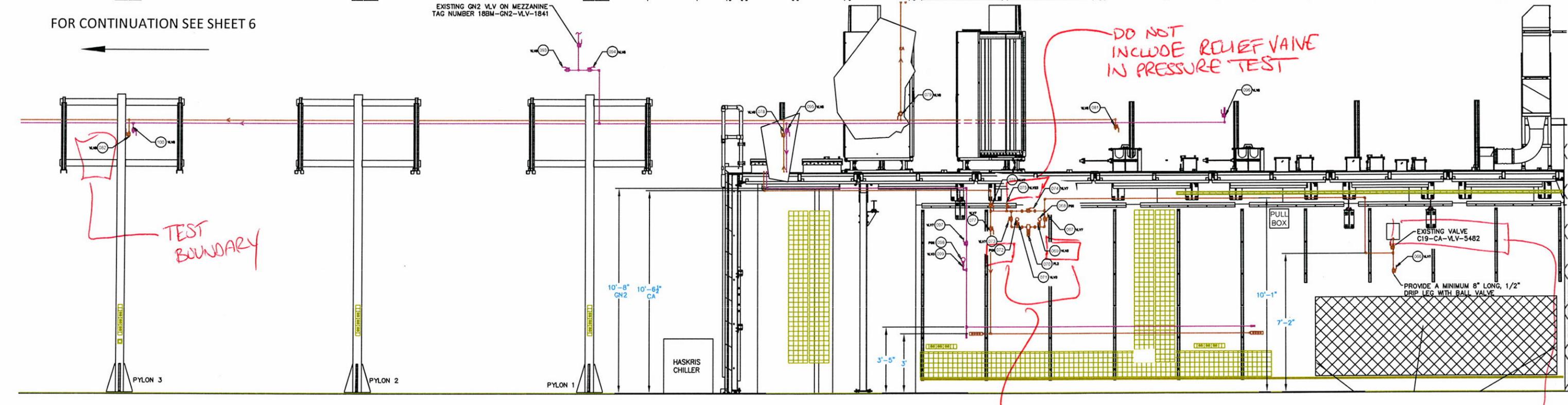


18-10 FX1 COMPRESSED AIR  
PRESSURE TEST REPORT ATTACHMENT  
R. O'BRIEN  
10/20/16  
SHEET 1 OF 2  
SEE TEST REPORT FOR PARAMETERS



TEST  
BOUNDARY  
DO NOT  
TEST  
DOOR  
ACTUATOR

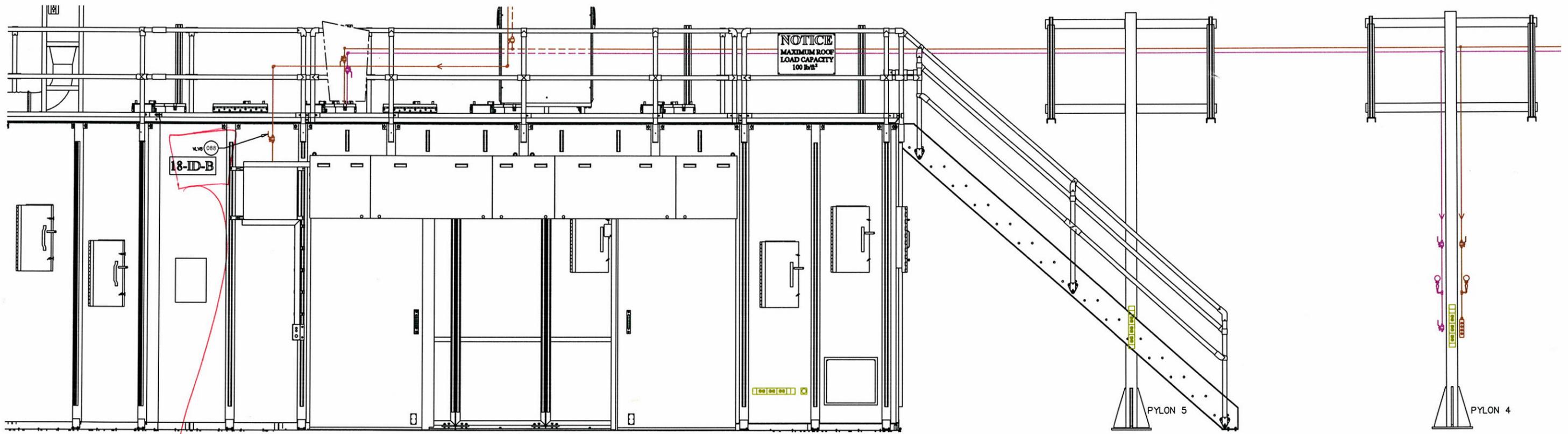
FOR CONTINUATION SEE SHEET 6



TEST  
BOUNDARY

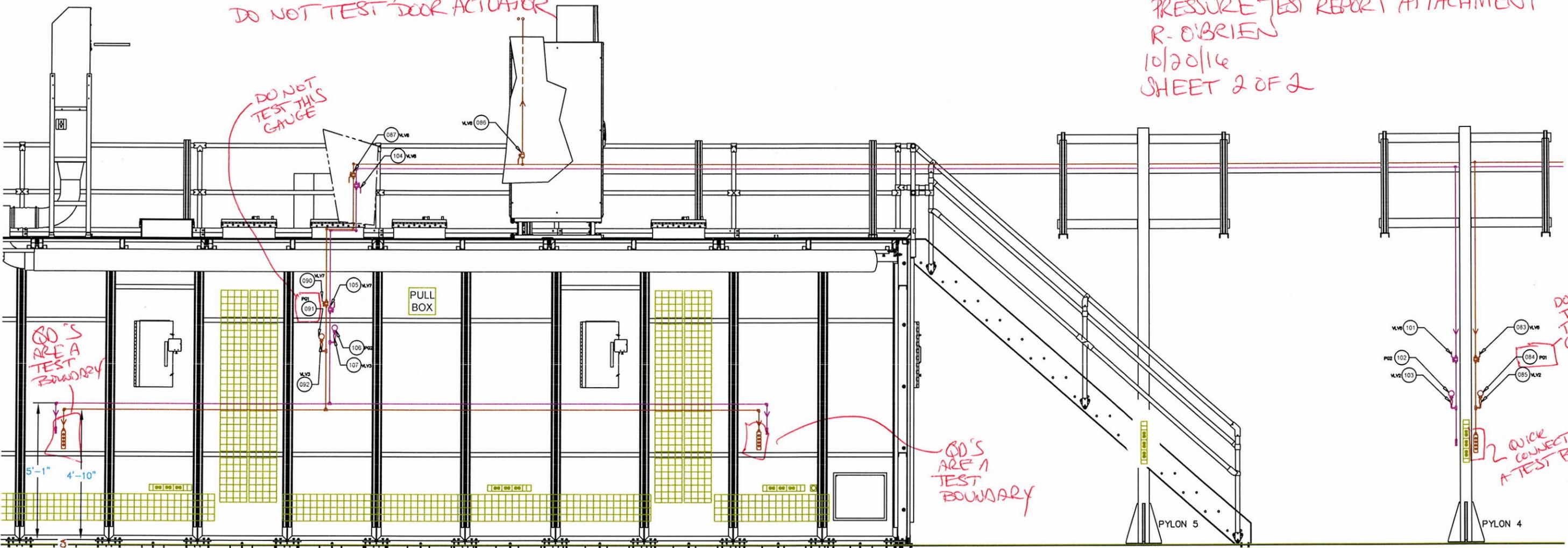
DO NOT  
INCLUDE  
PRESSURE GAUGES  
IN TEST

TEST  
BOUNDARY



TEST BOUNDARY  
DO NOT TEST DOOR ACTUATOR

18-10 FXS COMPRESSED AIR  
PRESSURE TEST REPORT ATTACHMENT  
R. O'BRIEN  
10/20/16  
SHEET 2 OF 2



DO NOT TEST THIS GAUGE

DO'S ARE A TEST BOUNDARY

DO'S ARE A TEST BOUNDARY

DO NOT TEST THIS GAUGE

2 QUICK CONNECTS ARE A TEST BOUNDARY