

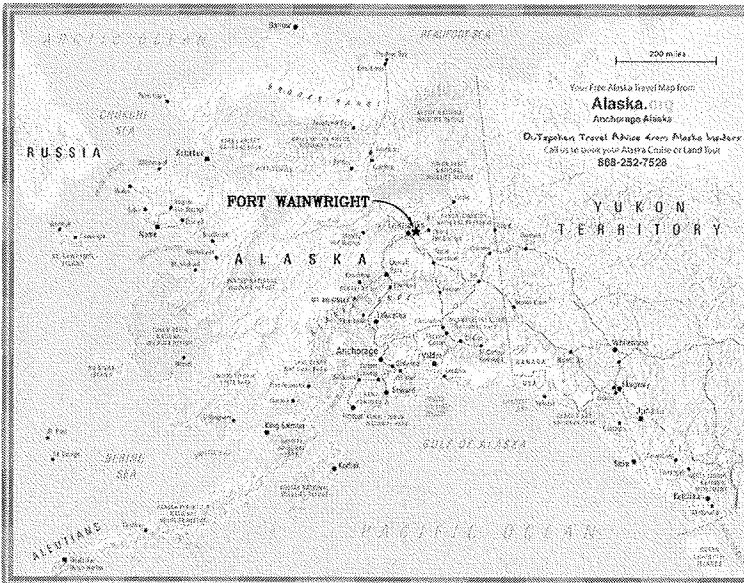
# PROJECT NO. J101395, J101396, J101397

# UTILITY SERVICE EXTENSION TO

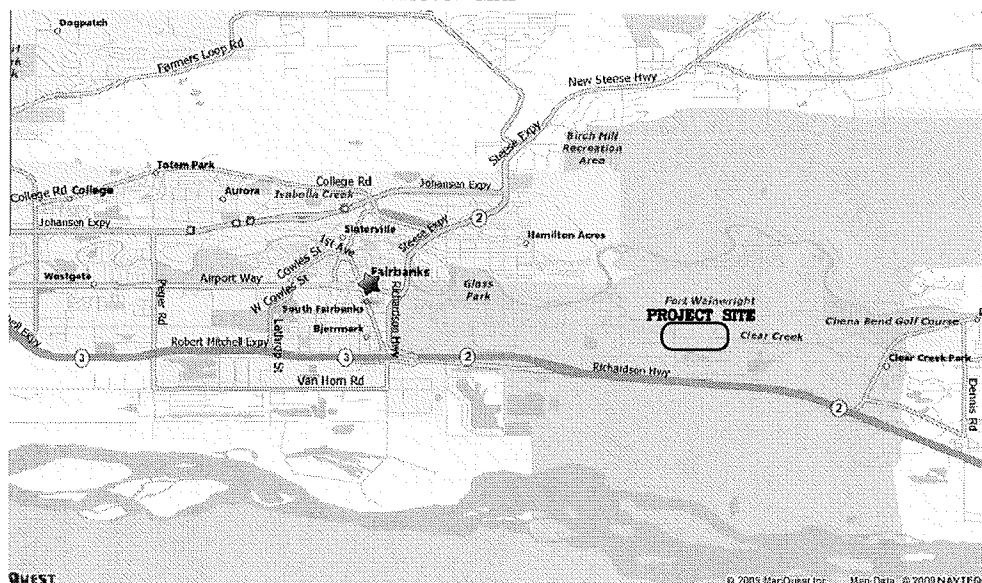
# AIRCRAFT PARTS STORAGE - FTW336A

## FORT WAINWRIGHT, ALASKA

AREA MAP



LOCATION MAP



SHT. NO.	SHEET NAME	SHT. NO.	SHEET NAME
COVER	COVER SHEET	E-07	UTILIDOR SERVICE CONNECTION DETAILS
G-01	SITE PLAN	E-08	DUCT BANK DETAIL
X-01	SYMBOLS, ABBREVIATIONS & GENERAL NOTES	PC-01	EXISTING VAULT H6-3-3 & NEW VAULT G6-9-3
X-02	SYMBOLS, ABBREVIATIONS & GENERAL NOTES	PC-02	EXISTING VAULT H6-3-3 & NEW VAULT G6-9-3
X-03	SYMBOLS, ABBREVIATIONS & GENERAL NOTES	PC-03	EXISTING VAULT H6-3-3 & NEW VAULT G6-9-3
M-01	EXISTING VAULT H6-3-3 LOWER LEVEL PLAN	PC-04	NEW VAULT G6-9-3
M-02	EXISTING VAULT H6-3-3 UPPER LEVEL PLAN	PC-05	DIRECT BURIED DUCT PLAN
M-03	EXISTING VAULT H6-3-3 ADJACENT TO BLDG 2080	PC-06	BUILDING METER INTERFACE DETAIL
M-04	NEW VAULT G6-9-3	PC-07	MISCELLANEOUS UTILITY MONITORING DETAILS
M-05	DIRECT BURIED PIPING PLAN	PC-08	UTILITY MONITORING
M-06	SCHEMATICS & DETAILS	PC-09	UTILITY MONITORING
M-07	ISOMETRIC STEAM AND CONDENSATE SCHEMATICS	PC-10	UTILITY MONITORING
E-01	EXISTING VAULT H6-3-3 & UTILIDOR	S-1	GENERAL NOTES
E-02	EXISTING VAULT H6-3-3 & UTILIDOR	S-2	ACCESS VAULT G6-9-3 PLANS AND SECTIONS
E-03	EXISTING VAULT H6-3-3 & UTILIDOR	S-3	ENTRY HATCH & LADDER DETAILS
E-04	NEW VAULT G6-9-3	S-4	VENTILATION & PROTECTION DETAILS
E-05	DIRECT BURIED CONDUIT PLAN	S-5	ACCESS VAULT G6-9-3 TEMPORARY/PERMANENT PIPE ANCHORS
E-06	PP-G693 (PANELBOARD SCHEDULE)		

### RECORD DRAWING AS-BUILT

Tunista Arctic Rim/  
TBI Construction, LLC

Prepared For

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Fairbanks, Alaska 99701



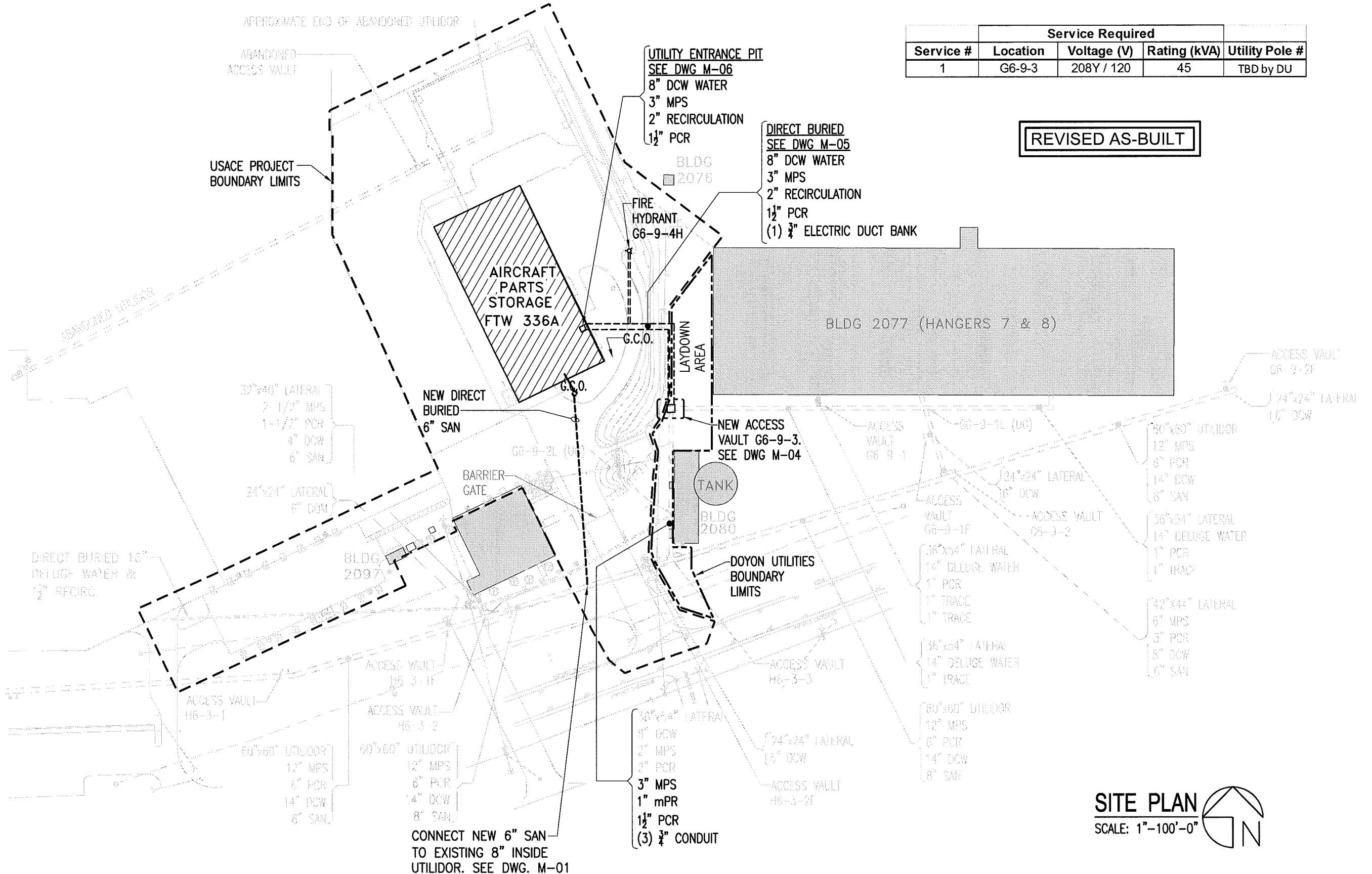
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Drawn By: NEM  
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### UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE SITE PLAN

FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, J101396, J101397

Drawing No.  
G-01

**ABBREVIATIONS:**

A	ANCHOR
ACM	ASBESTOS CONTAINING MATERIAL
C	RIGID STEEL CONDUIT
CMP	CORRUGATED METAL PIPE
CP	CONTROL PANEL
CV	CONTROL VALVE
DCW	DOMESTIC COLD WATER
DIP	DUCTILE IRON PIPE
DIP@50%	DUCTILE IRON PIPE WITH SLOPE
DLG	DELUGE
DU	DOYON UTILITIES
(E)GRD	EXISTING GRADE
EJ	EXPANSION JOINT
FH	FIRE HYDRANT
FM	FORCED MAIN
G	GROUND
GCO	GRADE CLEAN OUT
GFI	GROUND FAULT INTERRUPTER
H5-1-1S	SANITARY MANHOLE NO.
H5-1-1F	EXISTING FIRE HYDRANT NO.
H5-1-1H	NEW FIRE HYDRANT NO.
H5-1-1	VAULT NO.
HPR	HIGH PRESSURE CONDENSATE RETURN
HPS	HIGH PRESSURE STEAM
INV	INVERT
LPR	LOW PRESSURE CONDENSATE RETURN
LPS	LOW PRESSURE STEAM
MH	ACCESS VAULT
MPR	MEDIUM PRESSURE CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM
(N)GRD	NEW GRADE
NRS	NON-RISING STEM VALVE
PCR	PUMPED CONDENSATE RETURN
PP	POWER PANEL
RECIR	RECIRCULATION OF DCW MAINS
SAN	GRAVITY SEWER
SFM	SANITARY FORCE MAIN
TOL	TOP OF LID

**UDMS UTILITY DISTRIBUTION MONITORING SYSTEM**

UDMS

NO DIRECT VAULT ACCESS

UG

VALVE

V

VOLTS - ALTERNATING CURRENT

VAC

VOLTS - DIRECT CURRENT

VDC

VAULT

VLT

**SYMBOLS:**

POINT OF REMOVAL (DEMOLITION)



POINT OF CONNECTION (NEW WORK)



NEW WORK (PER DISCIPLINE)



NEW WORK (OF OTHER DISCIPLINES)



EXISTING TO REMAIN (BY OTHERS)



UNDERGROUND UTILITIES (AS NOTED ON DRAWINGS)



EXISTING TO BE REMOVED



ACCESS HATCH



VENTILATION STACK



BOLLARD



POINT OF DEMARCACTION



THRUST BLOCK



HYDRANT



STEAM TRAP ASSEMBLY



GATE VALVE



BALL VALVE



BUTTERFLY VALVE



GLOBE VALVE



REDUCTION



METER (FLOW)



ANCHOR



EXPANSION JOINT



ELECTRIC CONTROL VALVE



PUMP



PIPE GUIDE



HOMERUN CONDUIT WITH PANELBOARD AND CIRCUIT SHOWN



120 VAC DUPLEX RECEPTACLE



120 VAC DUPLEX GROUND FAULT INTERRUPTION RECEPTACLE



LIGHT SWITCH



LED LIGHT WITH JUNCTION BOX



PULL BOX

**SYMBOLS:**

JUNCTION BOX



DISCRETE DEVICE WITH (2) #14 UNLESS OTHERWISE NOTED. DISCRETE DEVICE (THHN)



DISCRETE DEVICE WITH (1) BELDEN 8461 UNLESS OTHERWISE NOTED. DISCRETE DEVICE (CABLE)



ANALOG DEVICE WITH (1) BELDEN 8760 UNLESS OTHERWISE NOTED. 2-WIRE ANALOG DEVICE



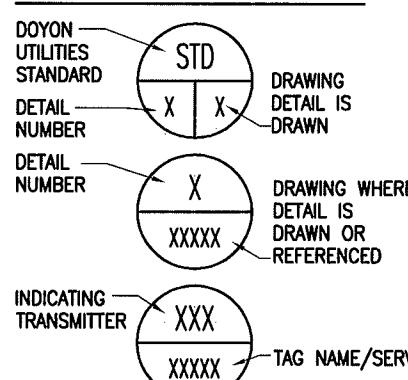
ANALOG DEVICE WITH (1) VENDOR CABLE UNLESS OTHERWISE NOTED. VENDOR SENSOR



DISCRETE DEVICE WITH (1) BELDEN 8791 UNLESS OTHERWISE NOTED. LIMIT SWITCHES (2)



DISCRETE DEVICE WITH (4) #12 AND (1)-#12 GND. UNLESS OTHERWISE NOTED. ELECTRIC 2-POSITION

**STANDARD SYMBOLS:****AS-BUILT**

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**UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE**  
SYMBOLS, ABBREVIATIONS & GENERAL NOTES  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, 101396, 101397

Drawing No.  
**X-01**

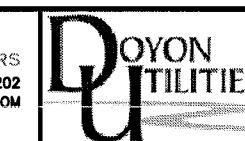
## VALVES

INSTRUMENT TAGNAME MATRIX					
	FIRST-LETTER		SUCCEEDING-LETTERS		
	BASE	MODIFIER	PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS	---	ALARM	---	---
C	---	---	---	CONTROL	CLOSED
D	---	DIFFERENTIAL	---	---	---
E	VOLTAGE	---	ELEMENT	---	---
F	FLOW	RATIO	---	---	---
G	---	---	GLASS	---	---
H	HAND	---	---	---	HIGH
I	CURRENT	---	INDICATE	---	---
J	POWER	---	---	---	---
K	TIME	RATE OF CHANGE	---	---	---
L	LEVEL	---	LIGHT	---	LOW
M	HUMIDITY	MOMENTARY	---	---	MIDDLE
O	---	---	ORIFICE	---	OPEN
P	PRESSURE	---	---	---	---
Q	QUANTITY	TOTALIZE	---	---	---
S	SPEED , FREQUENCY	---	---	SWITCH	---
T	TEMPERATURE	---	---	TRANSMITTER	---
V	VIBRATION	---	---	VALVE	---
Y	EVENT, STATE	---	---	---	---

AS-BUILT

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 Drawn By: JRS  
 Checked By: EAE

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
 SYMBOLS, ABBREVIATIONS & GENERAL NOTES  
 FORT WAINWRIGHT, AK.  
 DU PROJECT NO. J101395, J101396, J101397

Drawing No.  
 X-02

### GENERAL INSTALLATION NOTES (M SERIES DRAWINGS):

- B. PROVIDE ALL EARTHWORK, EXCAVATION, BACKFILL, AND RESTORATION OF SURFACE CONDITIONS AS REQUIRED TO ACCOMPLISH THE WORK SHOWN IN THE CONTRACT DOCUMENTS.
- C. CONTRACTOR SHALL ASSUME THAT ALL EXISTING UTILIDOR LIDS ARE REMOVABLE UNLESS OTHERWISE NOTED ON DRAWINGS.
- D. PROVIDE UTILIDOR INSULATION AS DESCRIBED IN SPECIFICATIONS FOR UTILIDORS EXPOSED AS PART OF THIS CONTRACT.
- E. AN ATTEMPT HAS BEEN MADE FOR DU TO FURNISH ALL MAJOR PIPING AND EQUIPMENT ASSOCIATED WITH NEW WORK. IN THE EVENT THAT ALL REQUIRED MATERIALS HAVE NOT BEEN FURNISHED, CONTRACTOR SHALL PROVIDE ALL REMAINING MATERIALS. SEE LIST OF DU FURNISHED MATERIALS IN THE CONTRACT DOCUMENTS.
- F. PROVIDE STRUCTURAL DESIGN FOR ALL NEW VAULTS SHOWN ON DRAWINGS. DESIGN SHALL BE OF SIZE SHOWN, CONFORM TO ALL STATE AND LOCAL CODES, AND BEAR A PROFESSIONAL ENGINEERING STAMP FOR THE STATE OF ALASKA.
- G. INSTALL ALL DU FURNISHED MATERIALS AS DESCRIBED IN CONTRACT DOCUMENTS. REFER TO PC-SERIES DRAWINGS FOR FIELD DEVICE INSTALLATION LOCATIONS.
- H. PROVIDE ALL SUPPORTS, ANCHORS, GUIDES, AND INSULATION ASSOCIATED WITH ALL NON-DIRECT BURIED PIPING INSTALLED ON THIS PROJECT.
- I. ALL NEW AND EXISTING VAULT ACCESS HATCHES SHALL BE INSTALLED WITH DU FURNISHED ACCESS HATCH WITH FINAL ELEVATION AT A MINIMUM OF 18 INCHES ABOVE GRADE.
- J. REPLACE ALL EXISTING VAULT LADDERS THAT DO NOT MEET CURRENT OSHA STANDARDS. MODIFY EXISTING LADDERS AS NECESSARY TO COORDINATE WITH ACCESS HATCHES AND ALL PIPING.
- K. REPLACE ALL EXISTING VAULT VENTS AND BOLLARDS.

### GENERAL INSTALLATION NOTES (E SERIES DRAWINGS):

- A. PROVIDE ALL EARTHWORK, EXCAVATION, BACKFILL, AND RESTORATION OF SURFACE CONDITIONS AS REQUIRED TO ACCOMPLISH THE WORK SHOWN IN THE CONTRACT DOCUMENTS.
- B. PROVIDE CONNECTIONS FROM POLE MOUNTED METERS TO POWER PANELBOARDS AS SHOWN ON DRAWINGS. DU WILL PROVIDE PRIMARY POLE-MOUNTED TRANSFORMERS, SECONDARY SERVICE FEEDS, AND METERING.
- C. PROVIDE POWER PANELBOARDS, LOAD PANELBOARDS AND SERVICE DISCONNECTS AS SHOWN ON DRAWINGS.
- D. INSTALL DU FURNISHED PANELS AS SHOWN ON DRAWINGS.
- E. PROVIDE EACH ACCESS VAULT WITH SWITCHED LED LIGHTING AND CONVENIENCE RECEPTACLES. RECEPTACLES SHALL BE MOUNTED A MINIMUM OF 48" FROM VAULT FLOORS UNLESS INDICATED OTHERWISE.
- F. PROVIDE 120 VAC POWER TO EACH ACCESS VAULT FROM PANELBOARDS TO LIGHTING, RECEPTACLES, CONTROL PANELS, AND SUMP PUMPS AS SHOWN ON DRAWINGS. ALL CONDUIT AND WIRING SHALL BE INSTALLED AT AN ELEVATION NO LESS THAN 18" FROM TOP OF WALL OF VAULT.
- G. INSTALL FIBER CABLE IN 2" CONDUIT BETWEEN PATCH PANELS. FIBER CABLES SHALL BE TERMINATED IN PATCH PANELS BY A TECHNICIAN QUALIFIED IN FIBER OPTIC

OR FIBERGLASS REINFORCED POLYESTER VAPOR TIGHT FIXTURE WITH CLEAR GLASS OR POLYCARBONATE GLOBE AND ALUMINUM OR FIBERGLASS GUARD. FIXTURE MUST BE UL LISTED FOR DAMP LOCATIONS. LAMP SHALL BE EARTHLED EVOLUX S-E27/26 (COOL WHITE). FIXTURE SHALL BE CANLET MODEL NO. 6802IWF01-0G-09 OR EQUIVALENT.

### GENERAL INSTALLATION NOTES (PC SERIES DRAWINGS):

- A. PROCESS CONTROLS DRAWINGS REFERENCE WORK TO BE DONE BY BOTH THE CONTRACTORS.
- B. ALL INSTRUMENTS, FIELD DEVICES AND CONTROL PANELS WILL BE FURNISHED BY THE OWNER, UNLESS OTHERWISE SPECIFIED.
- C. PROVIDE CABLING AND CONDUIT FOR PROCESS CONTROLS INSTRUMENTATION IN UTILIDORS PER SYMBOL LEGEND. MINIMUM CONDUIT SIZE: 3/4". CONDUIT FILL SHALL NOT EXCEED 50%. LOW VOLTAGE CONTROLS CABLING SHALL BE RUN IN SEPARATE CONDUIT FROM 120VAC.
- D. SEE CONTROL PANEL REFERENCE DRAWINGS FOR WIRING TERMINATIONS.

AS-BUILT

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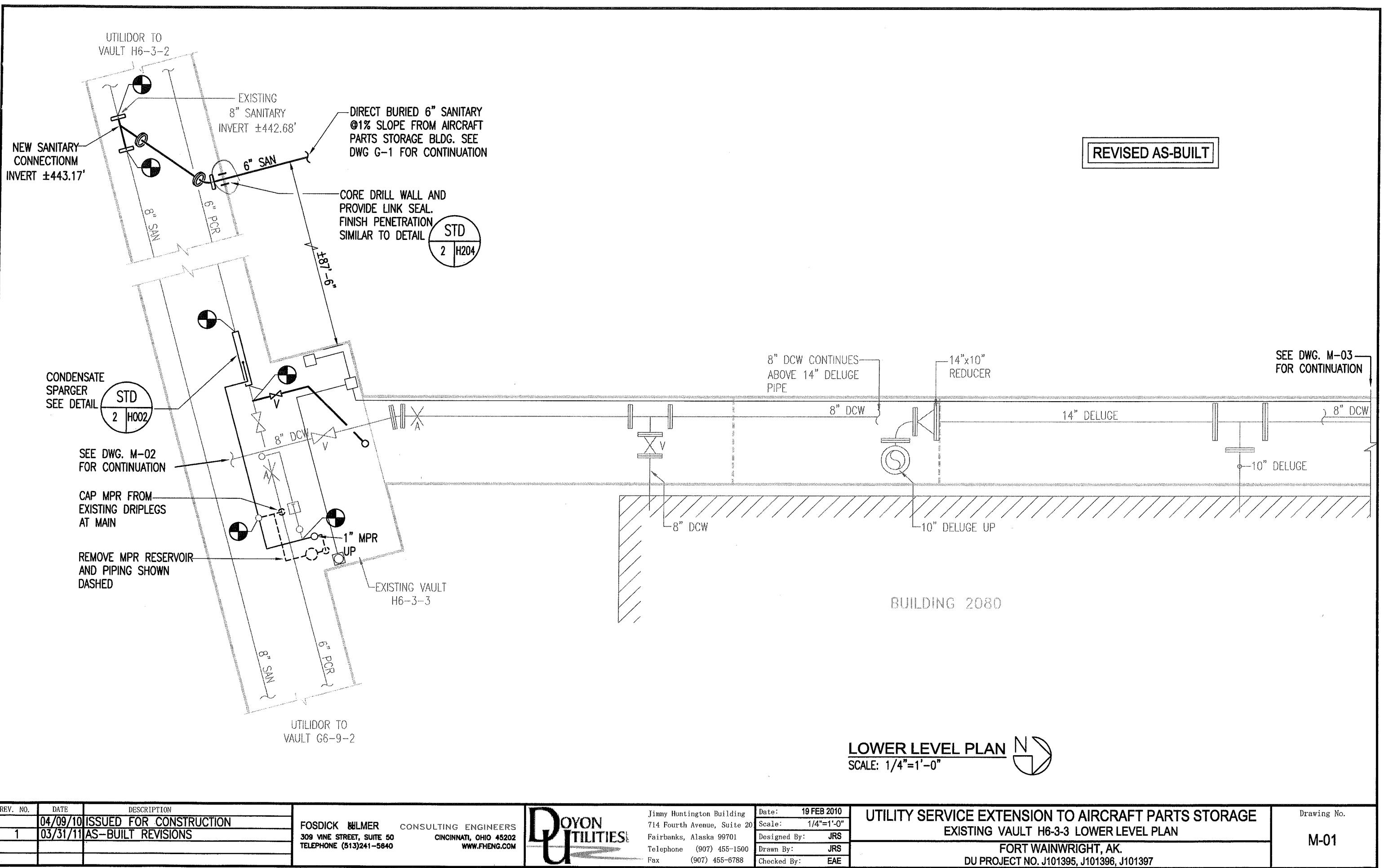


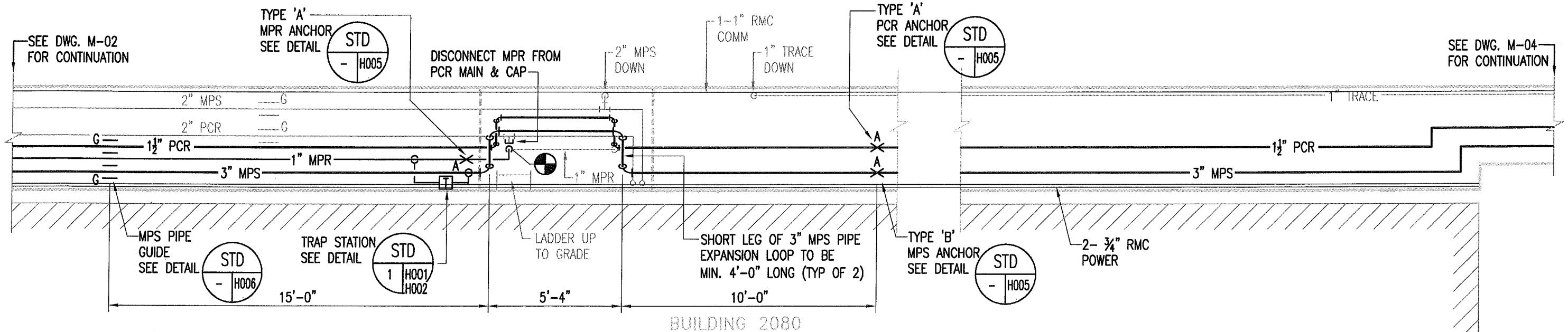
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Checked By: EAE

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
SYMBOLS, ABBREVIATIONS & GENERAL NOTES  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, J101396, J101397

Drawing No.  
X-03

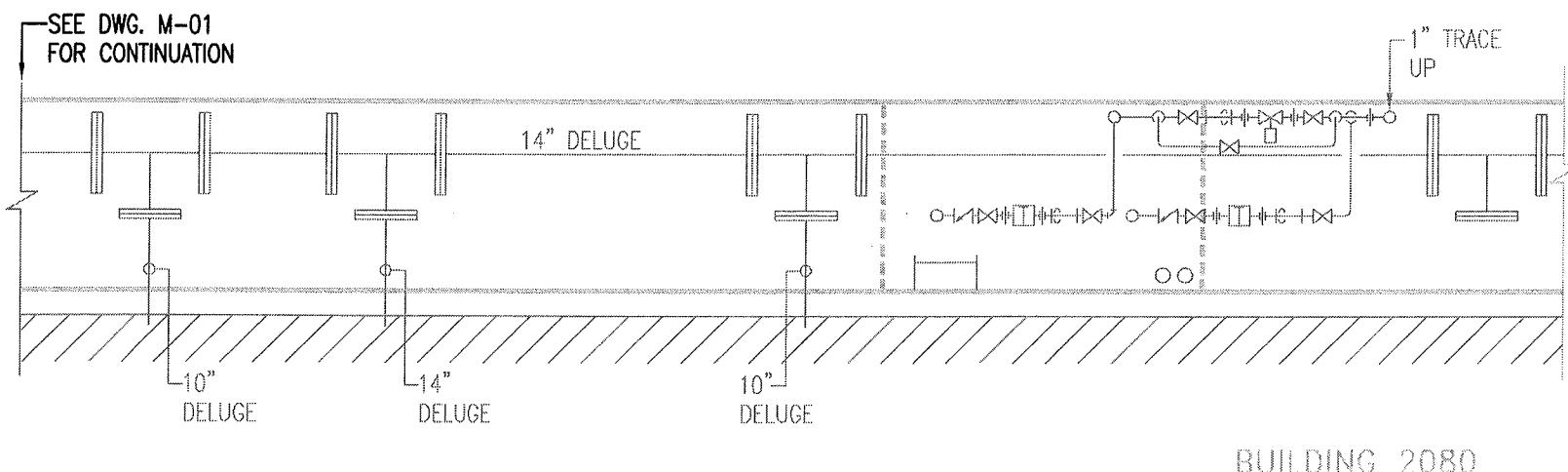




**UPPER LEVEL PLAN**

SCALE: 1/4"=1'-0"

**REVISED AS-BUILT**



**LOWER LEVEL PLAN**

SCALE: 1/4"=1'-0"

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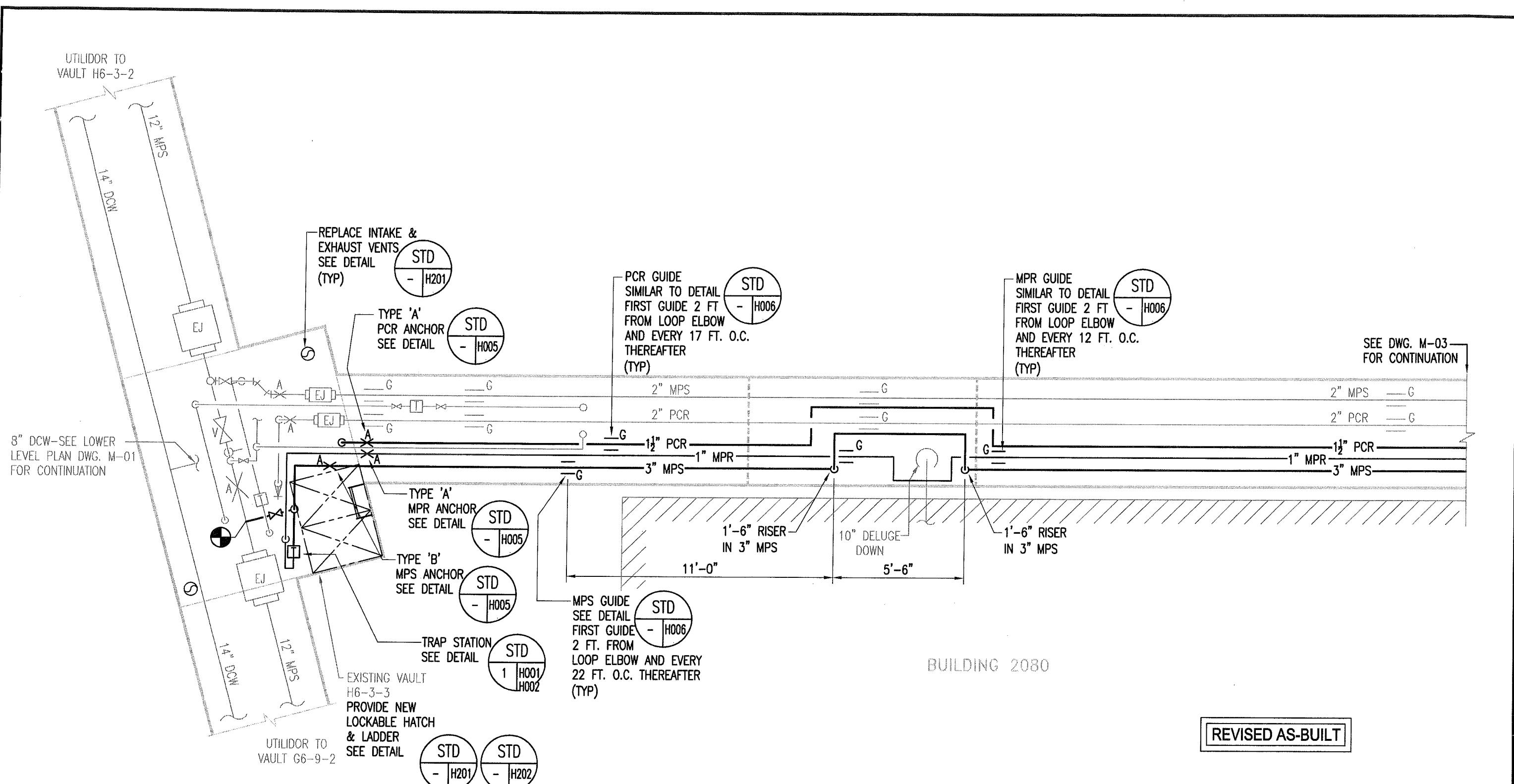
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Date: 19 FEB 2010  
Scale: 1/4"=1'-0"  
Designed By: JRS  
Drawn By: JRS  
Checked By: EAE  
**UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE**  
**EXISTING VAULT H6-3-3 ADJACENT TO BLDG 2080**  
**FORT WAINWRIGHT, AK.**  
**DU PROJECT NO. J101395, J101396, J101397**

Drawing No.  
**M-03**



**UPPER LEVEL PLAN**

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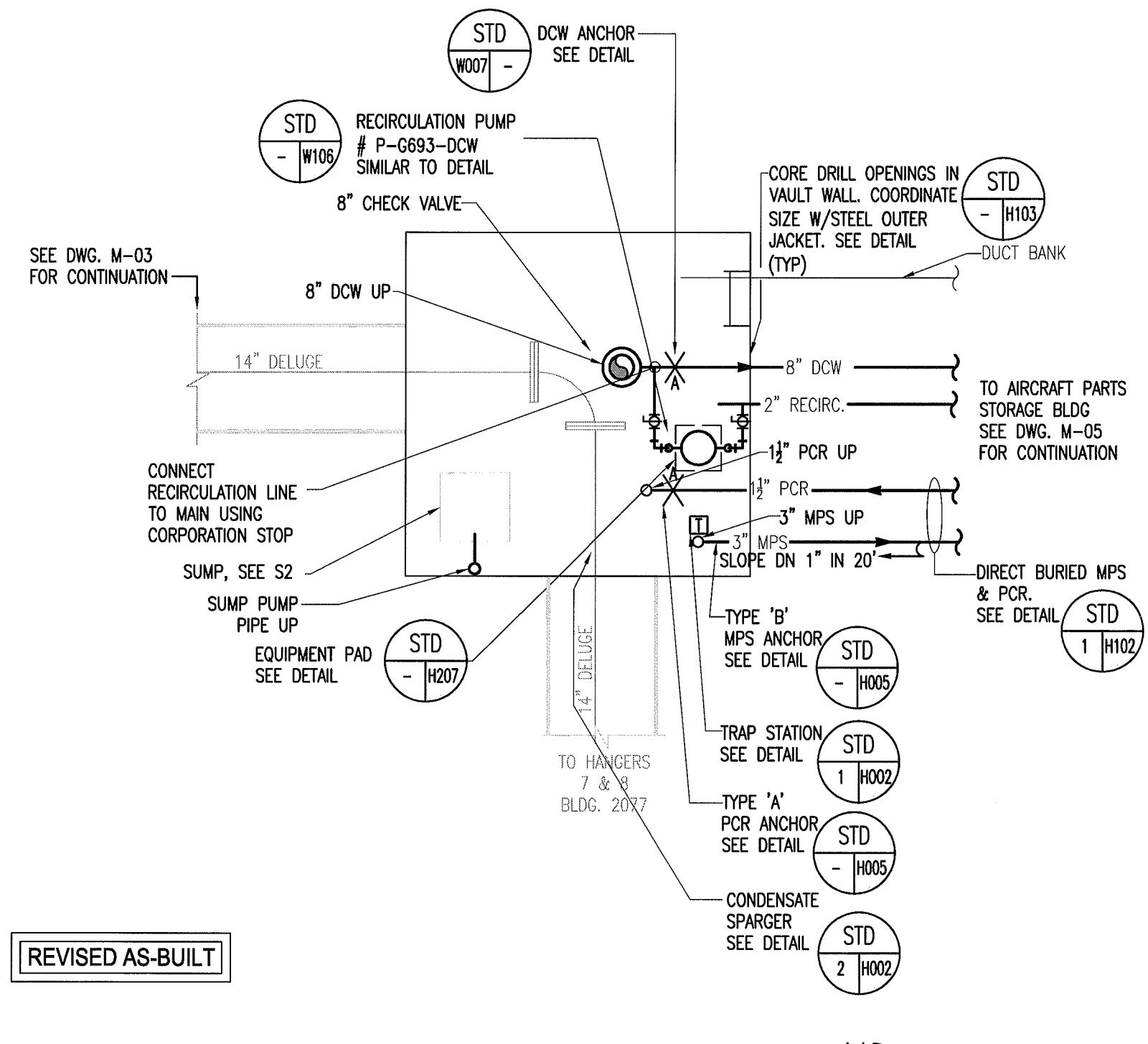
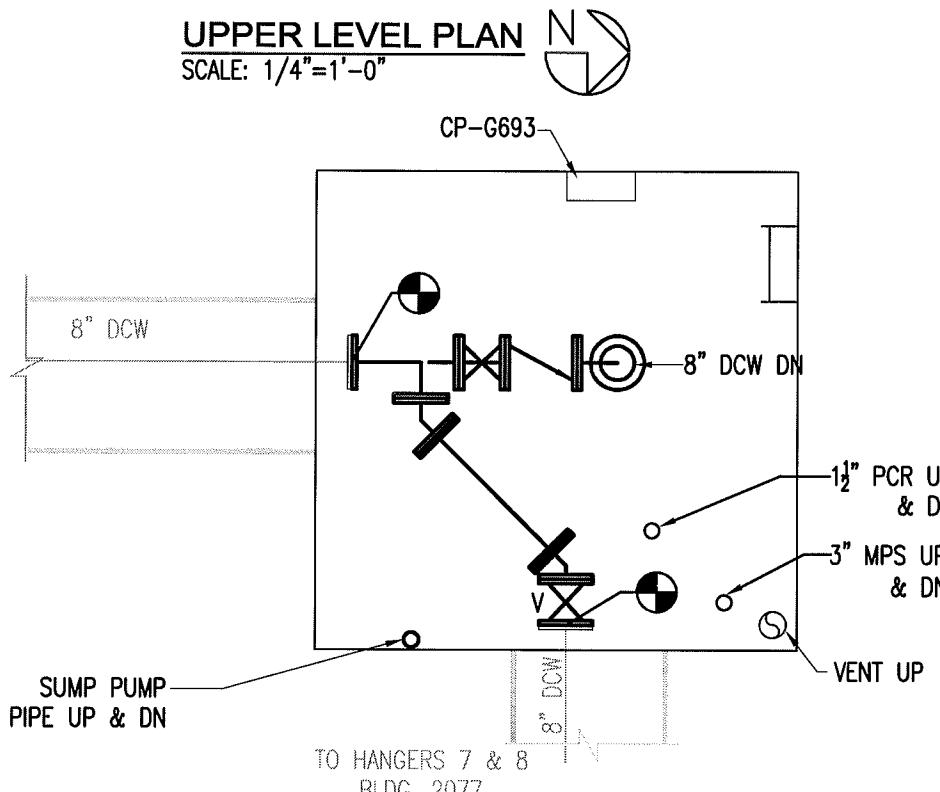
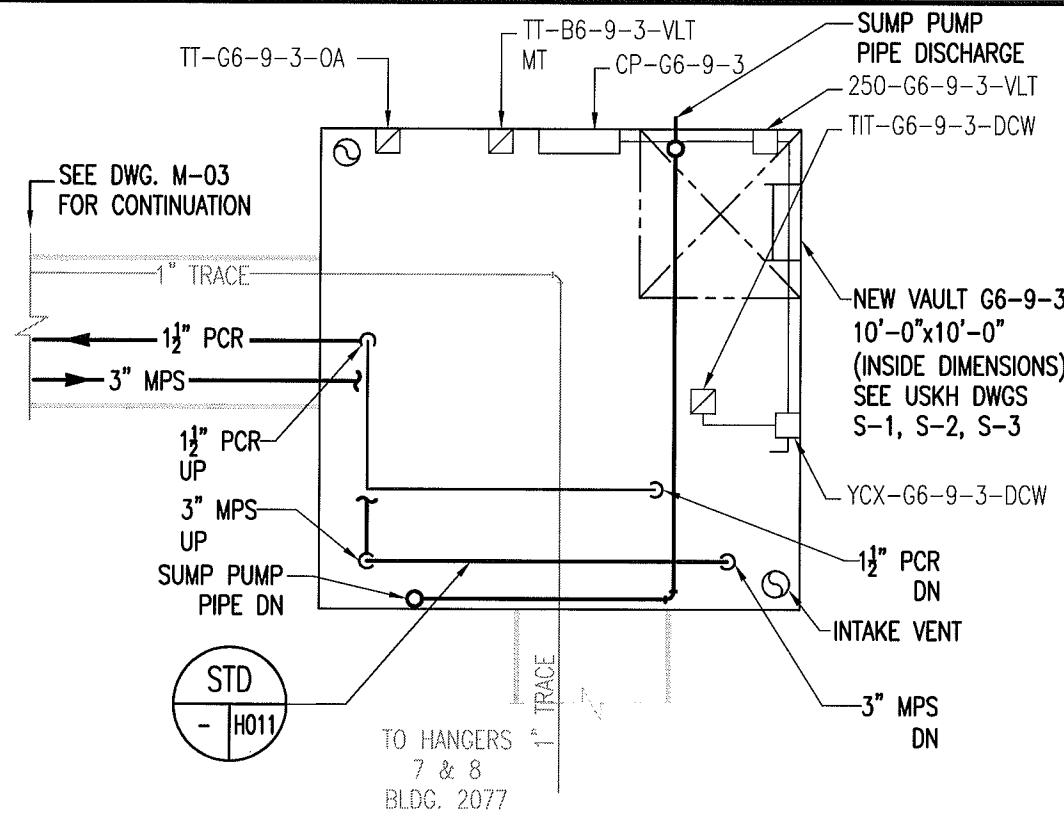


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S  
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E** UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
EXISTING VAULT H6-3-3 UPPER LEVEL PLAN  
**FORT WAINWRIGHT, AK.**  
BU PROJ ID# NO. M01007 10/10/02 10/10/07

Drawing No.  
**M-02**



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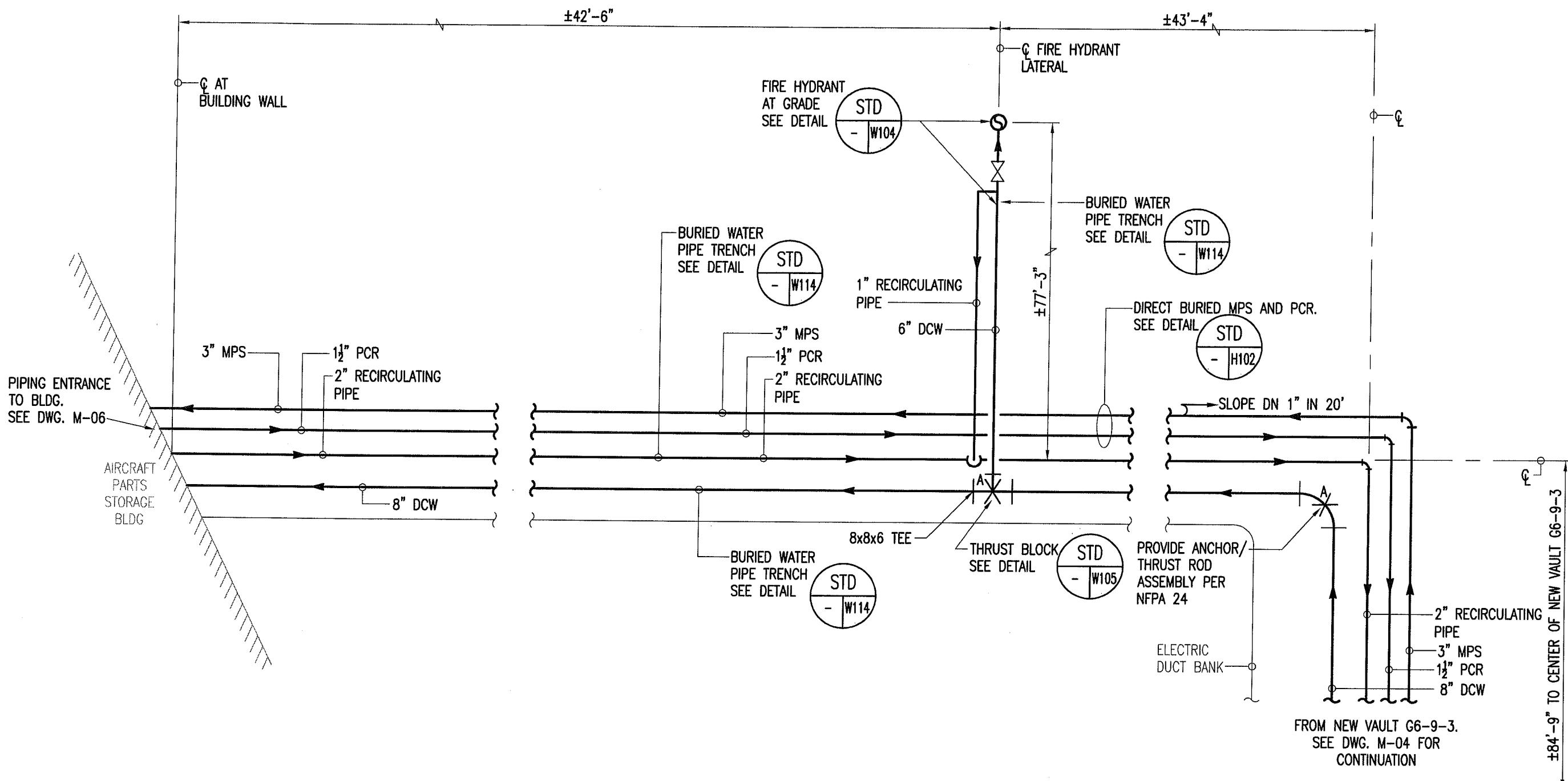


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Designed By: JRS  
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**UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE**  
**NEW VAULT G6-9-3**  
**FORT WAINWRIGHT, AK.**  
DU PROJECT NO. J101395, J101396, J101397

Drawing No.  
M-04



**PLAN**

AS-BUILT

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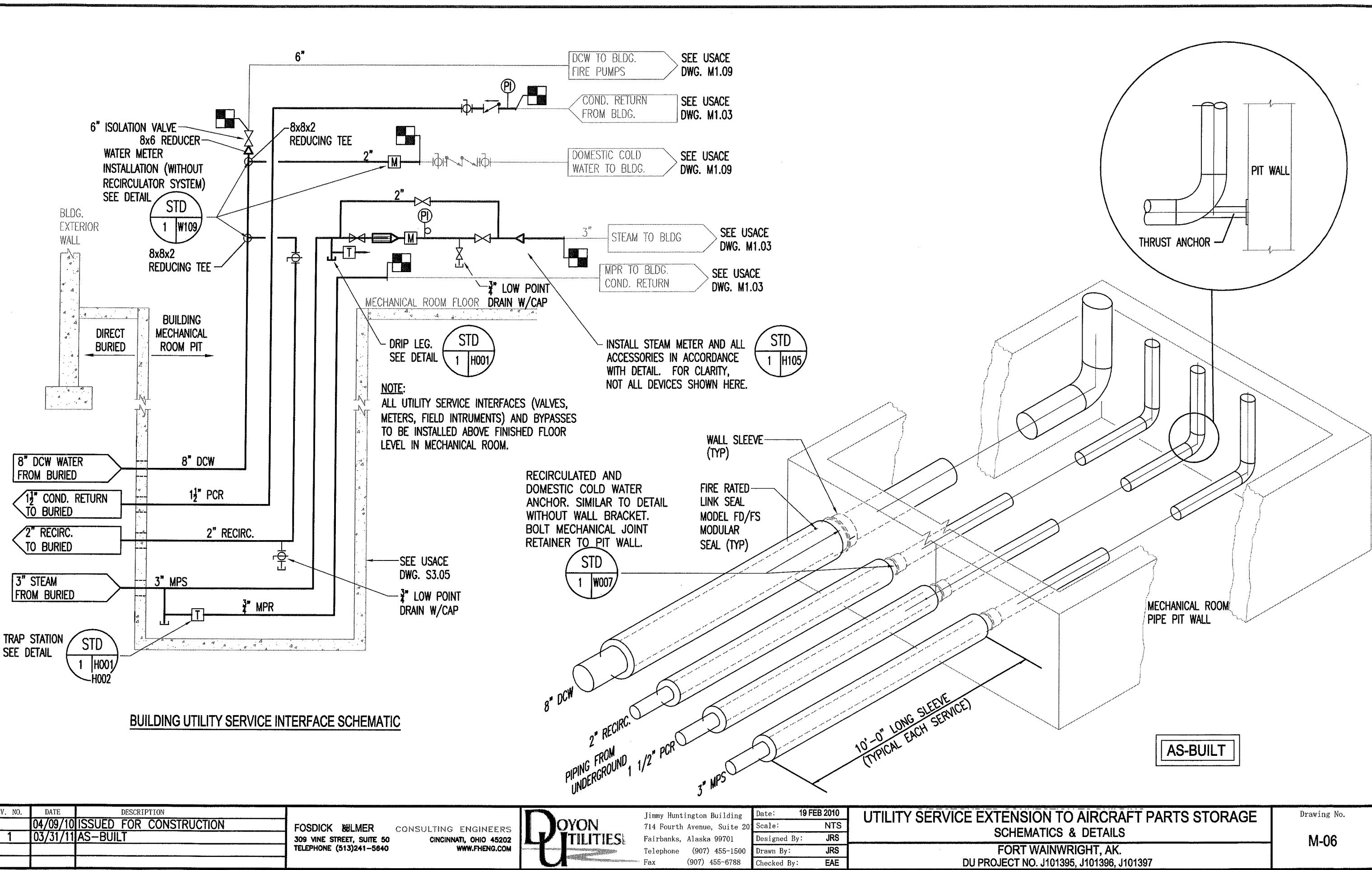
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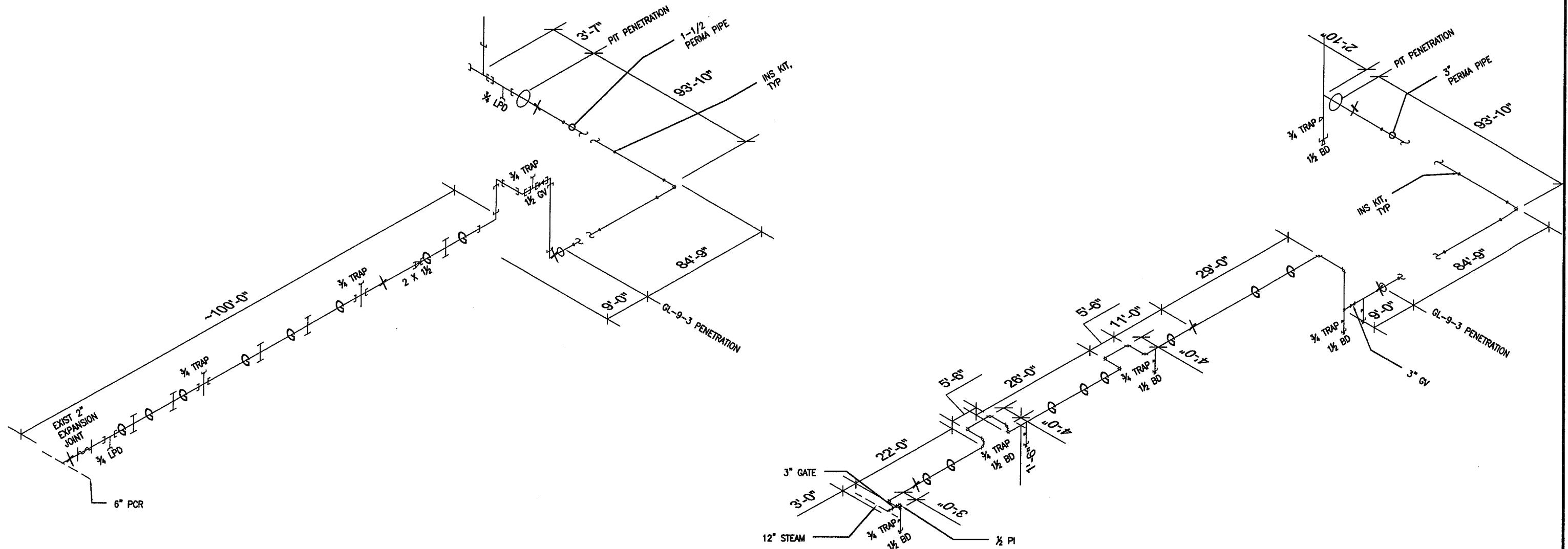
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Drawn By:	
Checked By:	

**0**  
**"**  
**"**  
**UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
DIRECT BURIED PIPING PLAN**

**FORT WAINWRIGHT, AK.**

Drawing No.  
**M-05**





CONDENSATE ISOMETRIC LEGEND:

[        SOCKET WELD  
G        GUIDE  
X        ANCHOR  
LPD      LOW POINT DRAIN  
INSKIT   PERMA-PIPE INSTALLATION KIT

### STEAM ISOMETRIC LEGEND:

G GUIDE  
X ANCHOR  
BD BLOWDOWN  
PI PRESSURE GAUGE  
INSKIT PERMA-PIPE INSTALLATION KIT

REVISED AS-BUILT

REV. NO.	DATE	DESCRIPTION
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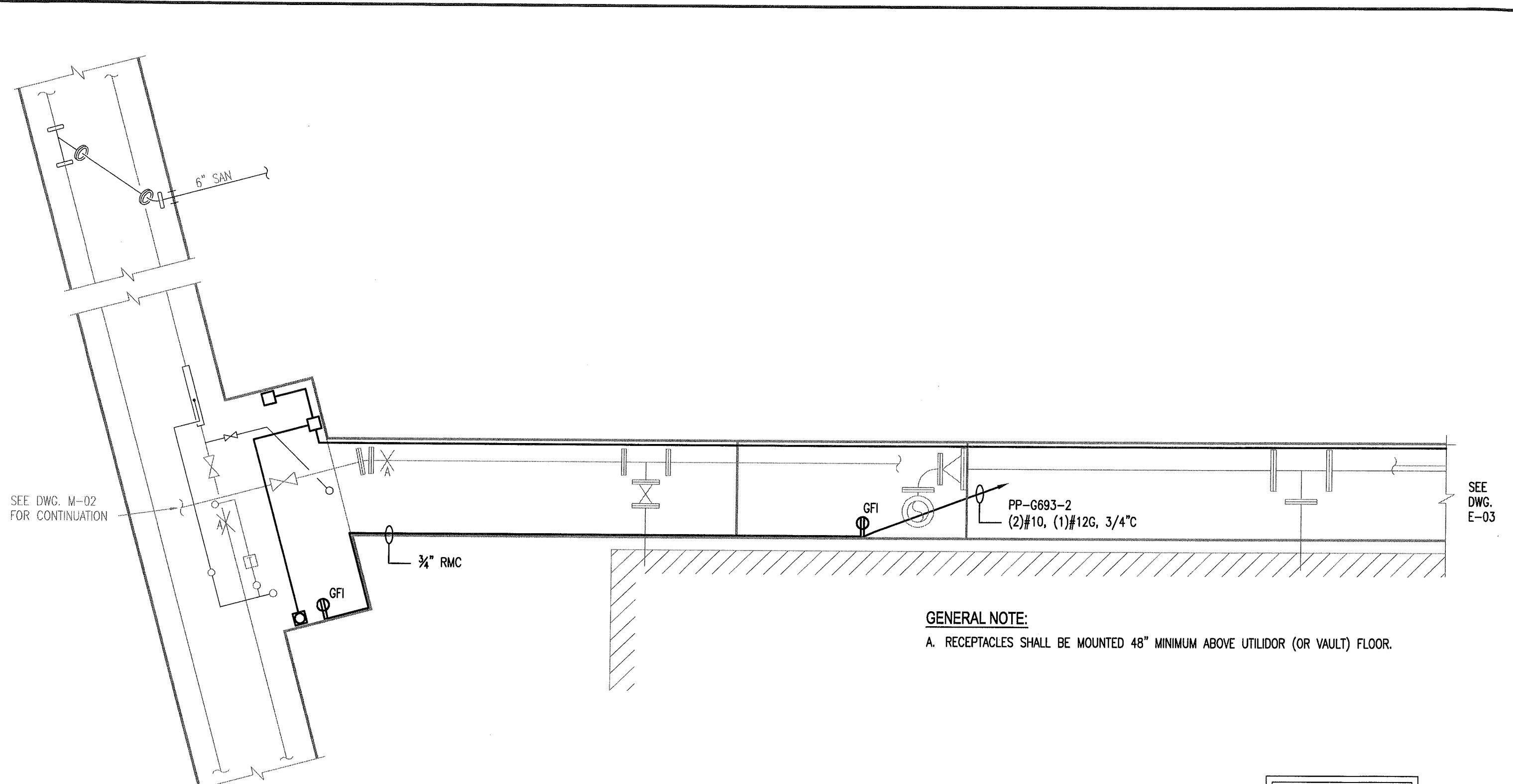
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Checked By:	

**UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
ISOMETRIC STEAM & CONDENSATE**

**FORT WAINWRIGHT, AK.**

**DU PROJECT NO. J101395, J101396, J101397**

Drawing No.  
**M-07**

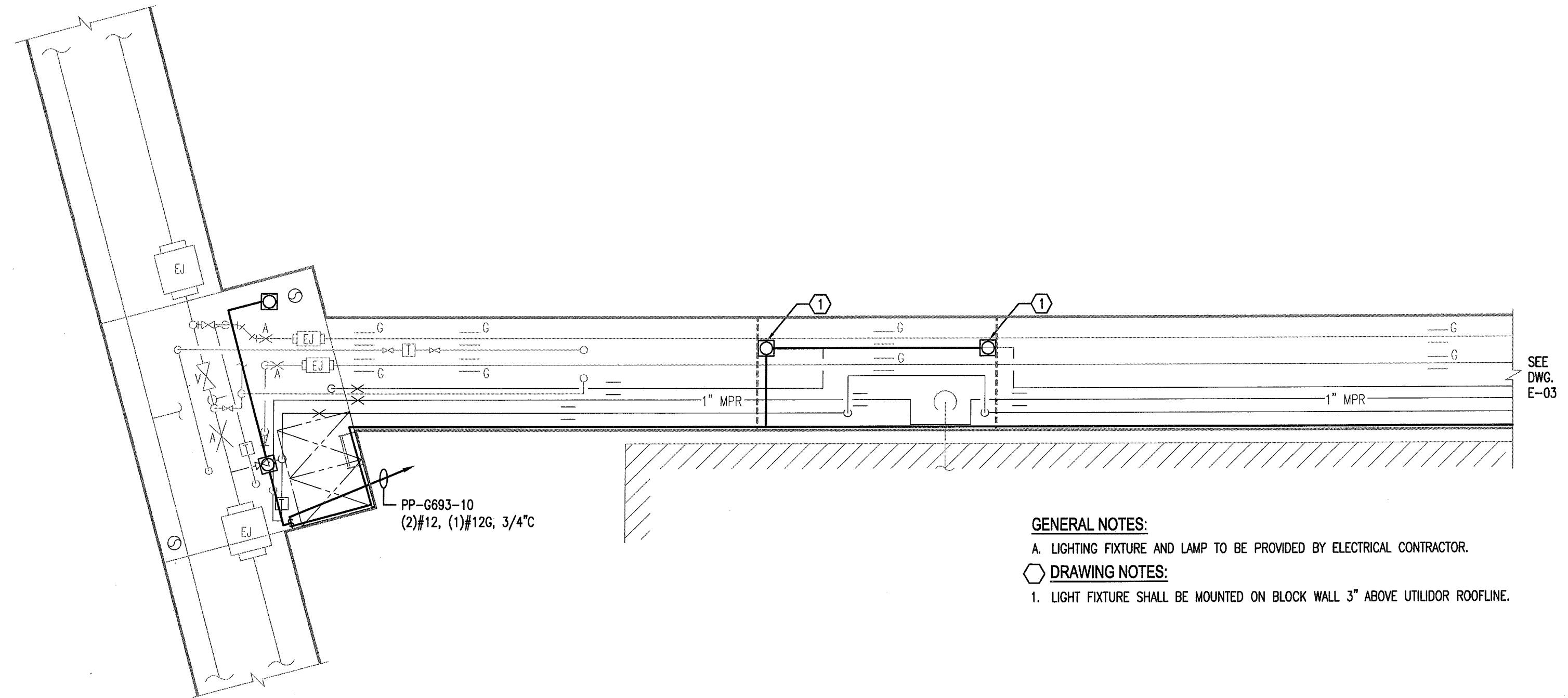


## **GENERAL NOTE**

- A. RECEPTACLES SHALL BE MOUNTED 48" MINIMUM ABOVE UTILIDOR (OR VAULT) FLOOR.

REVISED AS-BUILT

**LOWER LEVEL PLAN**



GENERAL NOTES:

A. LIGHTING FIXTURE AND LAMP TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

DRAWING NOTES:

1. LIGHT FIXTURE SHALL BE MOUNTED ON BLOCK WALL 3" ABOVE UTILIDOR ROOFLINE.

UPPER LEVEL PLAN  
SCALE: 1/4"=1'-0"



REVISED AS-BUILT

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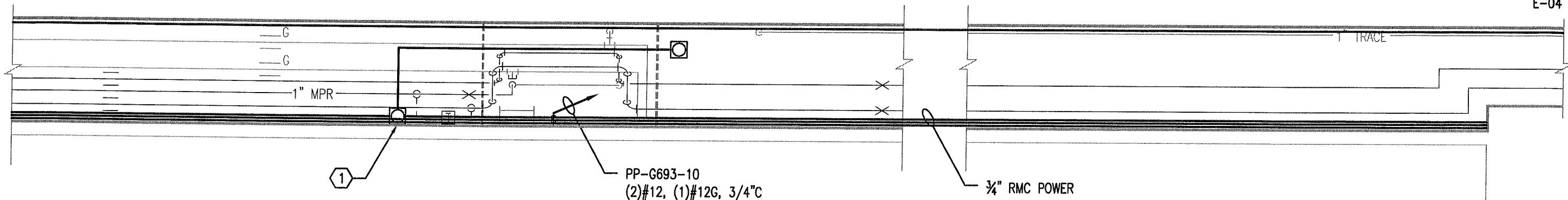
Date: 19 FEB 2010  
Scale: 1/4"=1'-0"  
Designed By: JRS  
Drawn By: RHW  
Checked By: EAE

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
EXISTING VAULT H6-3-3 & UTILIDOR  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, J101396, J101397

Drawing No.  
E-02

SEE  
DWG.  
E-02

SEE  
DWG.  
E-04



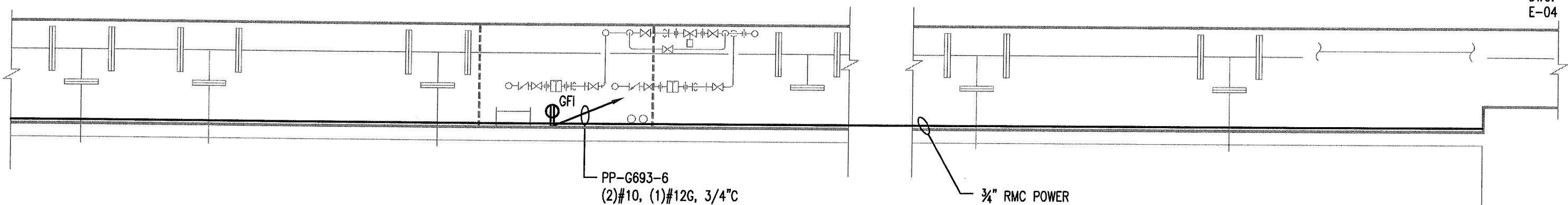
UPPER LEVEL PLAN  
SCALE: 1/4"=1'-0"



REVISED AS-BUILT

SEE  
DWG.  
E-01

SEE  
DWG.  
E-04



LOWER LEVEL PLAN  
SCALE: 1/4"=1'-0"



GENERAL NOTES:

A. RECEPTACLES SHALL BE MOUNTED 48" MINIMUM ABOVE UTILIDOR (OR VAULT) FLOOR.

DRAWING NOTES:

1. LIGHT FIXTURE SHALL BE MOUNTED ON UTILIDOR WALL 6" BELOW MPS PIPING.

REV. NO.	DATE	DESCRIPTION
	04/09/10	ISSUED FOR CONSTRUCTION
2	03/31/11	AS-BUILT REVISIONS

FOSDICK & LIMER  
309 VINE STREET, SUITE 50  
TELEPHONE (513)241-5640

CONSULTING ENGINEERS  
CINCINNATI, OHIO 45202  
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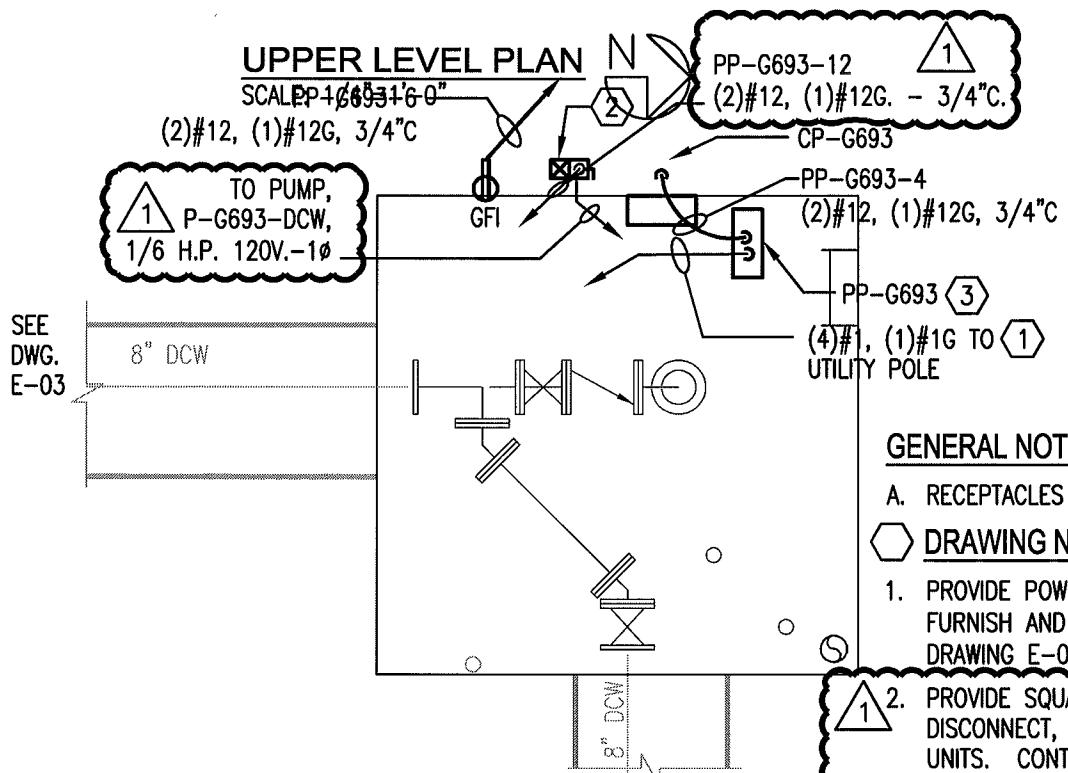
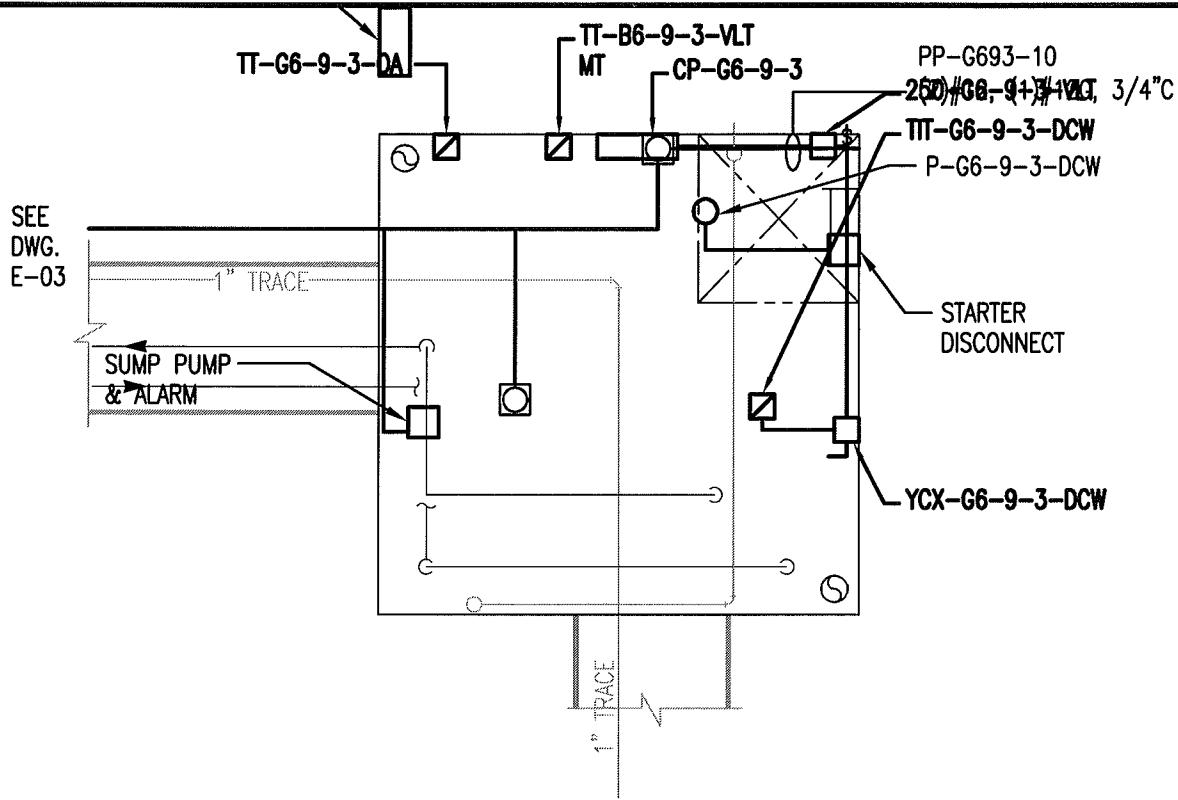
Jimmy Huntington Building  
714 Fourth Avenue, Suite 200  
Fairbanks, Alaska 99701  
Telephone (907) 455-1500  
Fax (907) 455-6788

Date: 19 FEB 2010  
Scale: 1/4"=1'-0"  
Designed By: JRS  
Drawn By: RHW  
Checked By: EAE

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
EXISTING VAULT H6-3-3 & UTILIDOR

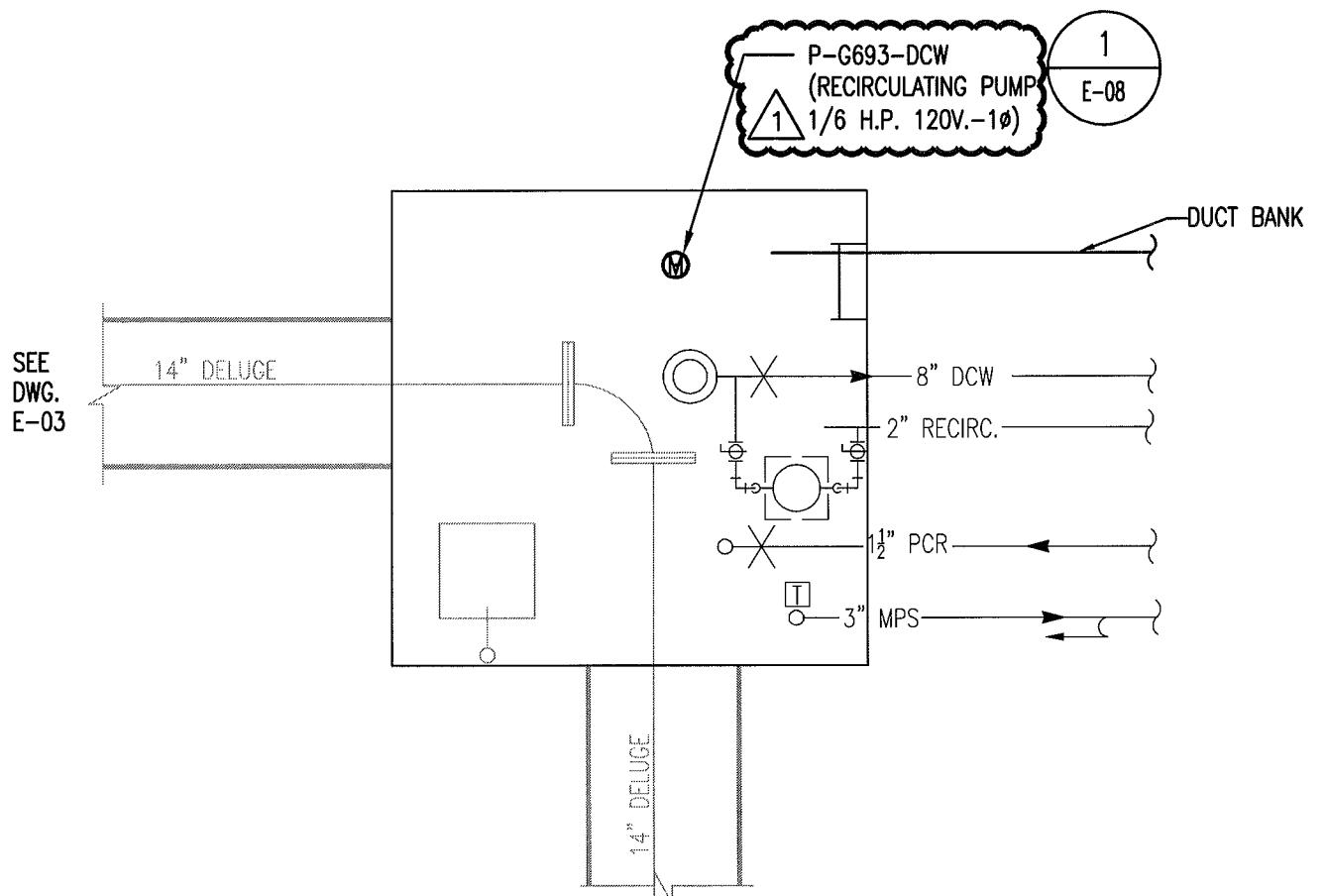
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, J101396, J101397

Drawing No.  
E-03



**MID LEVEL PLAN**

SCALE: 1/4"=1'-0"



**REVISED AS-BUILT**

**LOWER LEVEL PLAN**

SCALE: 1/4"=1'-0"



REV. NO.	DATE	DESCRIPTION
04/09/10		ISSUED FOR CONSTRUCTION
1	09/10/10	BULLETIN
2	03/31/11	AS-BUILT REVISIONS

FOSICK BILMER CONSULTING ENGINEERS  
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TELEPHONE (513)241-5640

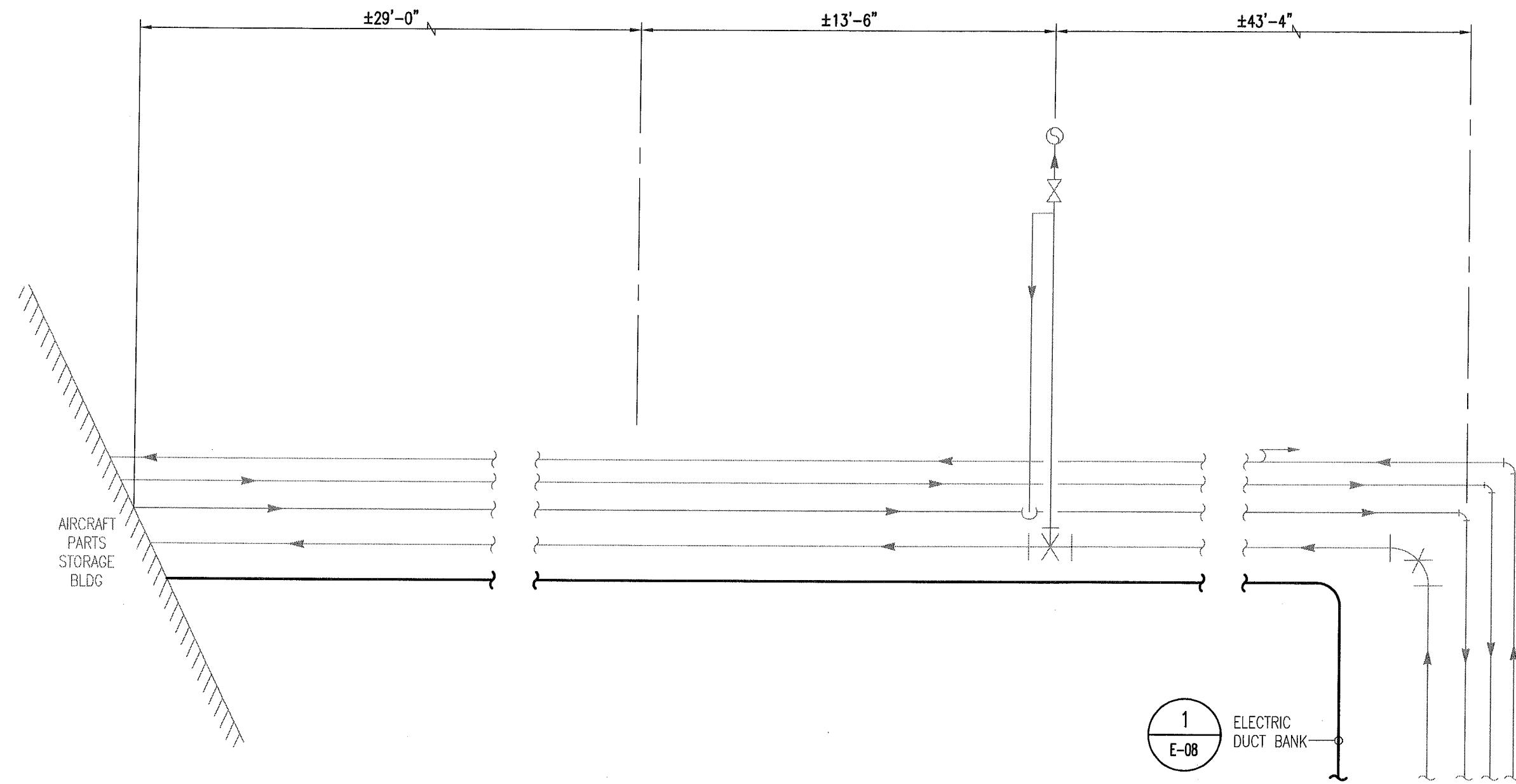


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Telephone (907) 455-1500  
Fax (907) 455-6788

Date: 19 FEB 2010  
Scale: 1/4"=1'-0"  
Designed By: JRS  
Drawn By: RHW  
Checked By: EAE

**UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE**  
NEW VAULT G6-9-3  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, J101396, J101397

Drawing No.  
**E-04**



FROM NEW VAULT G6-9-3  
SEE DWG. E-04 FOR  
CONTINUATION

PLAN  
SCALE: 1/4"=1'-0" ND

AS-BUILT

REV. NO.	DATE	DESCRIPTION
	04/09/10	ISSUED FOR CONSTRUCTION
1	03/31/11	AS-BUILT

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714 Fourth Avenue, Suite 20  
Fairbanks, Alaska 99701  
Telephone (907) 455-1500  
Fax (907) 455-6788

Date: 19 FEB 2010  
Scale: 1/4"=1'-0"  
Designed By: JRS  
Drawn By: RHW  
Checked By: EAE

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
DIRECT BURIED CONDUIT PLAN

FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, J101396, J101397

Drawing No.  
E-05

PANELBOARD SCHEDULE							PP-G693					
* LOAD SUMMARY	CL	DF	DEMAND LOAD				PANELBOARD DESIGNATION					
			A	B	C	TOTAL	VOLTAGE	208Y/120V	PHASING	3PH., 4W.		
L Lighting	1.5	1		1.5		1.5	SYSTEM	NORMAL				
R Convenience Recept	1.8	1	0.9		0.9	1.8	BUS SIZE	125A				
H Heating							MAINS	125A ML: 100A backfed				
C Cooling							FEEDER NO					
A HVAC							FEEDER SIZE	(4) #1, (1) #1G				
P Process	0.6	1		0.6		0.6	FEEDER PROT					
O Other Continuous	1.6	1	0.8		0.8	1.6	FEEDER LENGTH					
N Other Noncontinuous							FEEDER V. DROP					
Total	5.5		1.7	2.1	1.7	5.5	FAULT CURRENT					
Min. Feeder Ampacity	21.9		Square D QO320L125G Load Center in Hoffman A24H200SS6LP3PT enclosure				ENCLOSURE	NEMA 4X				
							MOUNTING/FEED	SURFACE/CETOP				
DESCRIPTION			*	CB	KVA	A	B	C	KVA	CB	DESCRIPTION	*
1	Main Breaker	100A-3P				0.9			0.9	20A-1P	Convenience Receptacles (North)	R 2
3						0.6			0.6	20A-1P	CP-G693 (Control Panel)	P 4
5						0.9	0.9	0.9	20A-1P	Convenience Receptacles (South)	R 6	
7	(space)				0.8				0.8	20A-1P	P-G693-VLT (Sump Pump - 1/2 HP)	O 8
9	(space)					1.5			1.5	20A-1P	Utilidor Lighting	L 10
11	(space)					0.8	0.8	0.8	20A-1P	P-G693-DCW (Recirculation Pump - 1/6 HP)	O 12	
13	(space)										(space)	14
15	(space)										(space)	16
17	(space)										(space)	18
19	(space)										(space)	20
SUB-FEED PANEL(S) KVA												
Total Connected Load						1.7	2.1	1.7				

1

1

AS-BUILT

REV. NO.	DATE	DESCRIPTION
	04/09/10	ISSUED FOR CONSTRUCTION
1	09/10/10	BULLETIN
2	03/31/11	AS-BUILT

FOSDICK & WILMER CONSULTING ENGINEERS  
309 VINE STREET, SUITE 50  
CINCINNATI, OHIO 45202  
TELEPHONE (513)241-5640  
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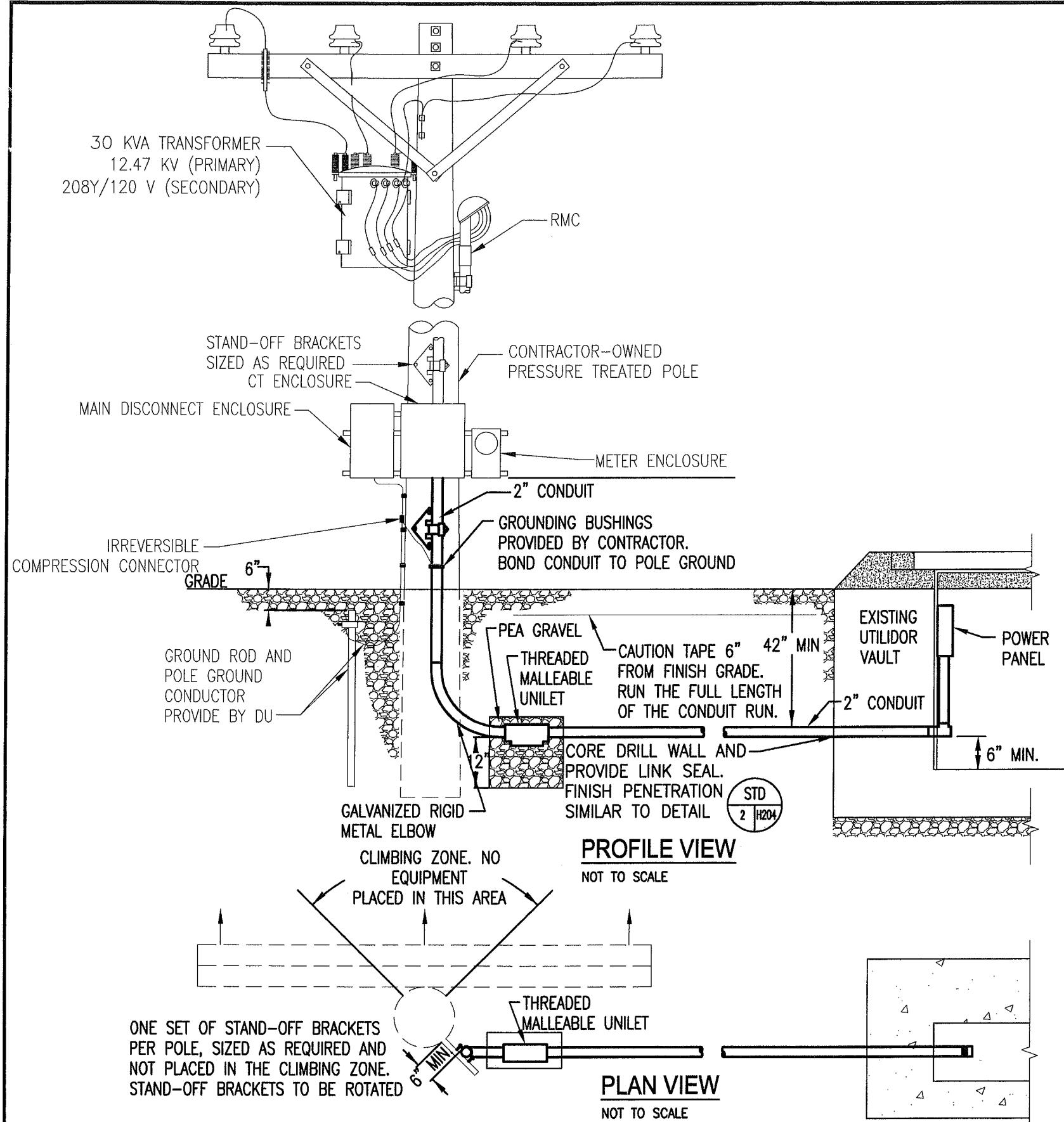


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714 Fourth Avenue, Suite 20  
Fairbanks, Alaska 99701  
Telephone (907) 455-1500  
Fax (907) 455-6788

Date: 19 FEB 2010  
Scale: 1/4"=1'-0"  
Designed By: LBG  
Drawn By: LBG  
Checked By: LBG

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
PP-G693 (PANELBOARD SCHEDULE)  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, 101396, 101397

Drawing No.  
E-06



## **GENERAL DETAIL NOTES:**

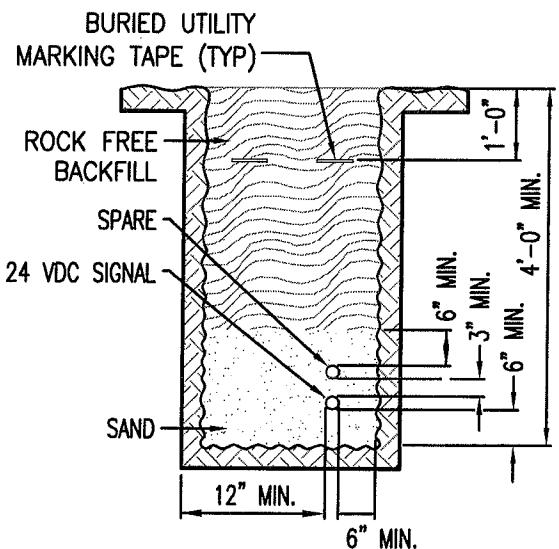
- A. RISER CONDUIT DETAIL APPLICABLE TO SINGLE-PHASE POWER INSTALLATIONS.
  - B. ITEMS IN BOLD ARE TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
  - C. USE ADDITIONAL COUPLINGS AND NIPPLES AS REQUIRED FOR 42" CONDUIT DEPTH AND POSITIONING.
  - D. CREATE A 12" DEEP GRAVEL SUMP AT UNILET CONNECTION. (USE PEA GRAVEL AFTER WRAPPING CONNECTION WITH TYPAR) PLACE UNILET AT LOWEST POINT IN CONDUIT RUN. AT DU'S DISCRETION, UNILET MAY BE OMITTED IF HDPE CONDUIT IS USED AND CONDUIT RUN DRAINS TOWARDS UTILIDOR VAULT. IF ANY CONDUIT ENTERS VAULT FROM THE SIDE, THEN THE BOTTOM OUTSIDE EDGE OF THE CONDUIT SHALL BE A MINIMUM OF 6" ABOVE THE VAULT FLOOR. THIS INSTALLATION SHALL BE INSPECTED BY DU BEFORE BACKFILLING.
  - E. LEAVE COVER OFF UNILET TO ALLOW MOISTURE TO DRAIN FROM CONDUIT INTO SURROUNDING PEA GRAVEL.
  - F. SLOPE ALL UNDERGROUND CONDUITS 1/4" PER FOOT MINIMUM TOWARDS UNILET.
  - G. ALL SWEEPS, ELBOWS ABOVE OR BELOW GRADE, AND CONDUIT ABOVE GRADE SHALL BE GALVANIZED RIGID METAL CONDUIT. PVC CONDUIT SHALL NOT BE ACCEPTED IN PRIMARY RUNS.
  - H. INSTALL FIRST SECTION OF CONDUIT ON POLE FOR INSPECTION. CONDUITS WHICH ARE NOT PLUMB SHALL NOT BE ACCEPTED.
  - I. CONTRACTOR SHALL PROVIDE A TENTED AND HEATED AREA FOR PULLING AND TERMINATING CABLES FOR UNDERGROUND INSTALLATIONS AFTER SEPTEMBER 15TH.
  - J. FOR CONNECTIONS TO EXISTING SERVICE LINES, CONTRACTOR SHALL DRESS CABLES, GROUP, JOIN WITH COMPRESSION FITTINGS, AND INSULATE.
  - K. USE OF SPLIT BOLTS IS NOT ALLOWED.
  - L. CONTRACTOR SHALL PROVIDE AND MAINTAIN A MINIMUM 4' WIDE CLEARANCE BETWEEN THE SERVICE ENTRANCE AND THE DU POLE.
  - M. CONDUCTOR INSULATION SHALL BE TYPE XHHW OR RHW.
  - N. SERVICE EQUIPMENT WITH MAIN DISCONNECT, CT AND METER ENCLOSURE ON UNISTRUT SHALL MEET ALL REQUIREMENTS PER: "TYPICAL METERED SERVICE" & "GROUNDING DETAIL" ELECTRICAL SERVICE LINE STANDARDS, PP. 19-21, DOYON UTILITIES, INC., MARCH 2008.

AS-BUILT

REV. NO.	DATE	DESCRIPTION	FOSDICK & LIMER CONSULTING ENGINEERS 309 VINE STREET, SUITE 500 TELEPHONE (513)241-5640	 CINCINNATI, OHIO 45202 WWW.FHENG.COM	Jimmy Huntington Building 714 Fourth Avenue, Suite 201 Fairbanks, Alaska 99701 Telephone (907) 455-1500 Fax (907) 455-6788	Date: 23 FEB 2010 Scale: NTS Designed By: LBG Drawn By: EMS Checked By: NEM	UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE UTILIDOR SERVICE CONNECTION DETAILS  FORT WAINWRIGHT, AK. DU PROJECT NO. J101395, J101396, J101397	Drawing No. E-07
04/09/10	03/31/11	ISSUED FOR CONSTRUCTION AS-BUILT	1					

## GENERAL DETAIL NOTES:

- A. BACKFILL MATERIAL ABOVE THE CONDUIT BEDDING MATERIAL SHALL BE NATIVE MATERIAL IF IT COMPLIES WITH ALASKA DOT SECTION 204 - 2.01, TYPE C.
- B. BACKFILL COMPACTION SHALL COMPLY WITH ALASKA DOT SECTION 301 - 3.03. MOISTURE/DENSITY RELATIONS OF SOILS SHALL BE CALCULATED IN ACCORDANCE WITH AASHTO T 99 OR T 180.
- C. PROVIDE (2) 2" SCHEDULE 40 HDPE CONDUITS.
- D. PROVIDE SPACERS AT A MINIMUM OF EVERY 8'-0".



**DETAIL 1 DUCT BANK**  
N.T.S.  
E-04  
E-05

AS-BUILT

REV. NO.	DATE	DESCRIPTION
	04/09/10	ISSUED FOR CONSTRUCTION
1	03/31/11	AS-BUILT

FOSDICK & LIMER CONSULTING ENGINEERS  
309 VINE STREET, SUITE 50 CINCINNATI, OHIO 45202  
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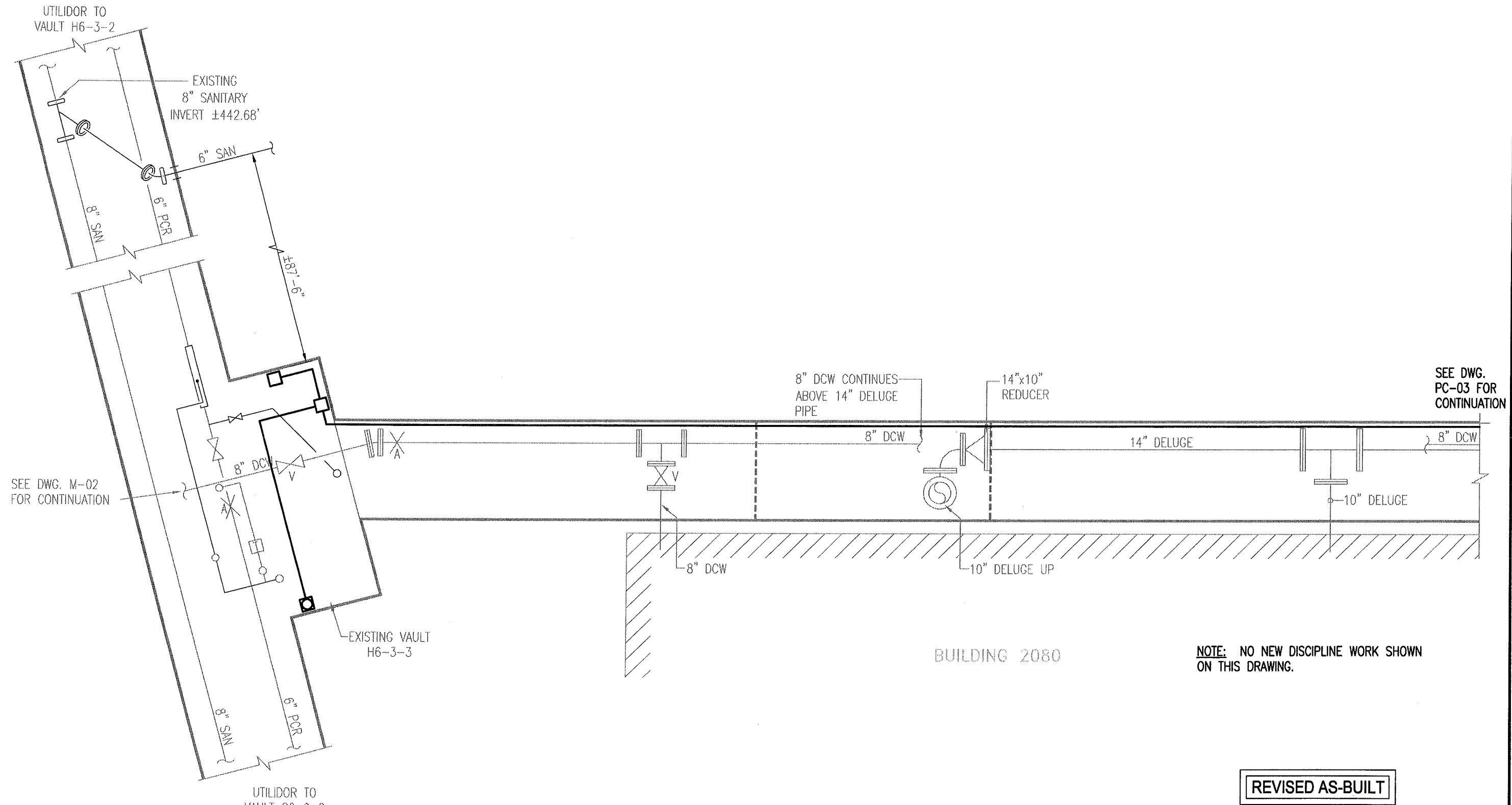


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714 Fourth Avenue, Suite 200  
Fairbanks, Alaska 99701  
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Fax (907) 455-6788

Date: 23 FEB 2010  
Scale: NTS  
Designed By: LBG  
Drawn By: EMS  
Checked By: NEM

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
DUCT BANK DETAIL  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, J101396, J101397

Drawing No.  
E-08

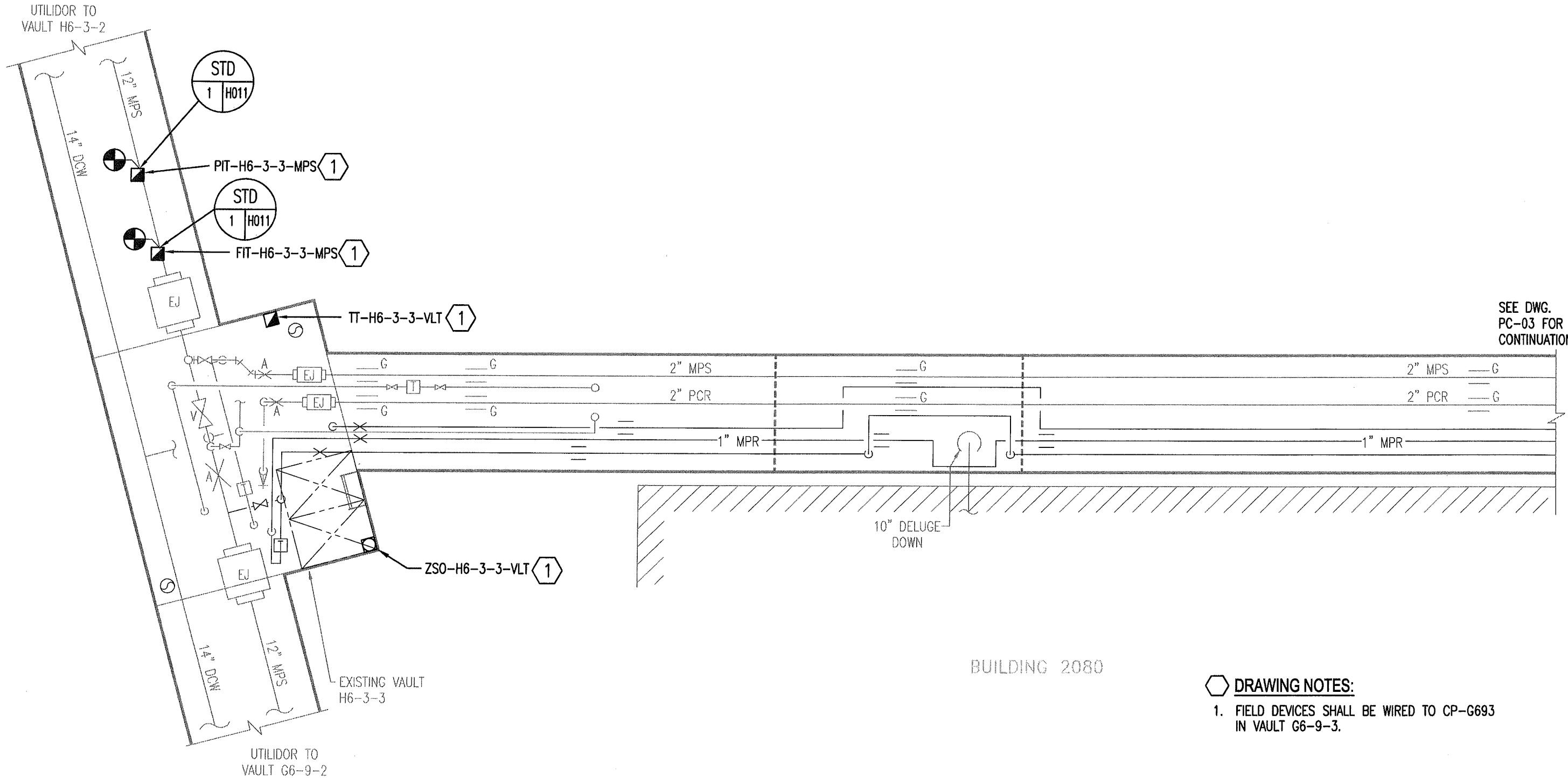


BUILDING 2080

NOTE: NO NEW DISCIPLINE WORK SHOWN  
ON THIS DRAWING.

REVISED AS-BUILT

**LOWER LEVEL PLAN**

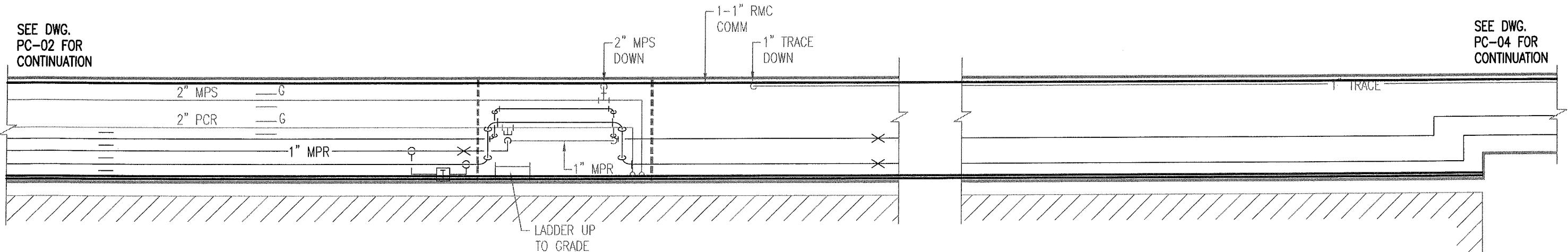


**UPPER LEVEL PLAN**

REVISED AS-BUILT

SEE DWG.  
PC-02 FOR  
CONTINUATION

SEE DWG.  
PC-04 FOR  
CONTINUATION

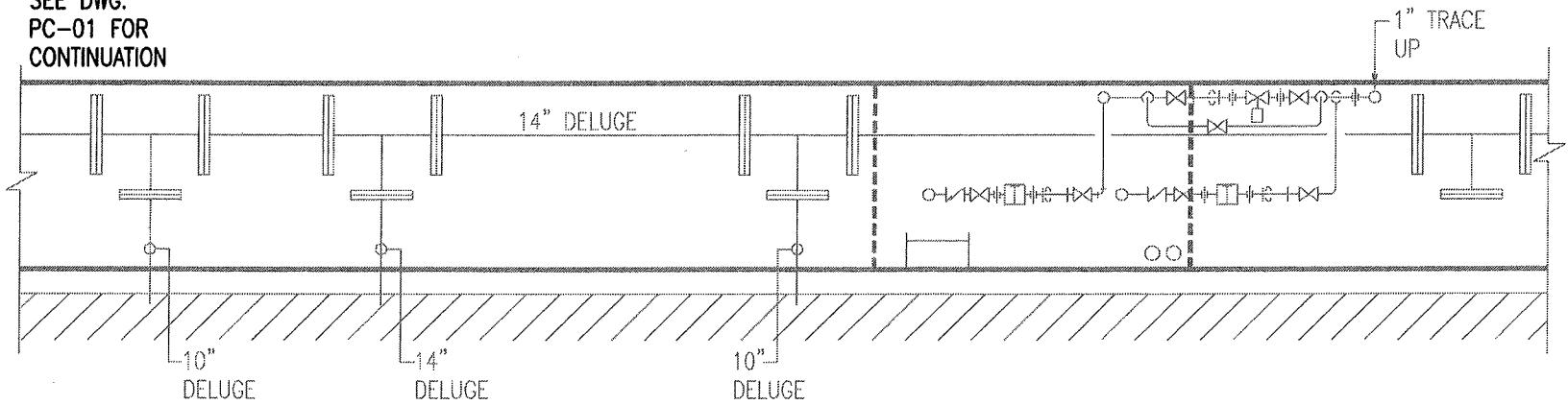


BUILDING 2080

UPPER LEVEL PLAN   
SCALE: 1/4"=1'-0"

SEE DWG.  
PC-01 FOR  
CONTINUATION

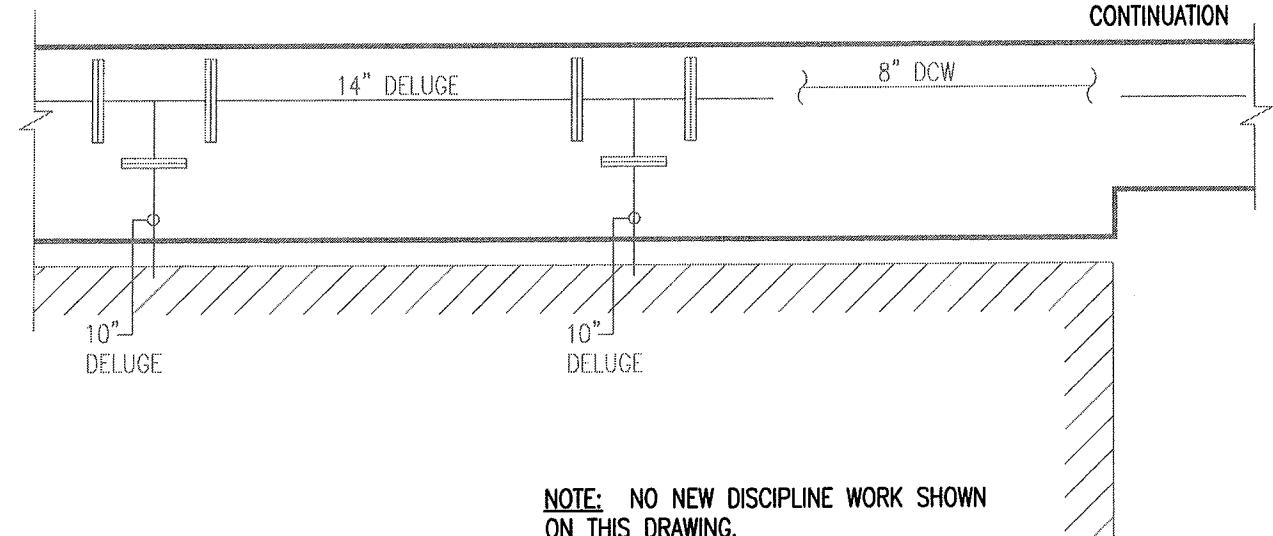
SEE DWG.  
PC-04 FOR  
CONTINUATION



BUILDING 2080

LOWER LEVEL PLAN   
SCALE: 1/4"=1'-0"

NOTE: NO NEW DISCIPLINE WORK SHOWN  
ON THIS DRAWING.



AS-BUILT

REV. NO.	DATE	DESCRIPTION
	04/09/10	ISSUED FOR CONSTRUCTION
1	03/31/11	AS-BUILT

FOSDICK & WILMER CONSULTING ENGINEERS  
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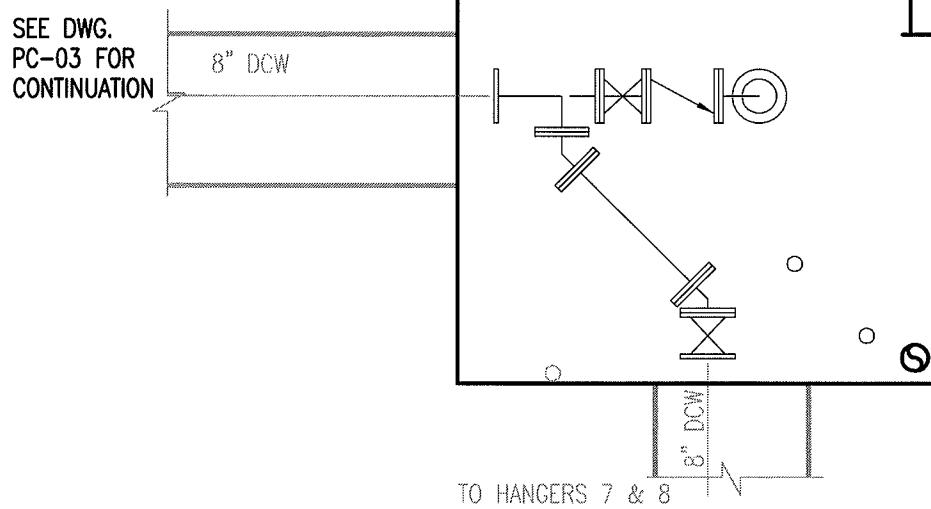
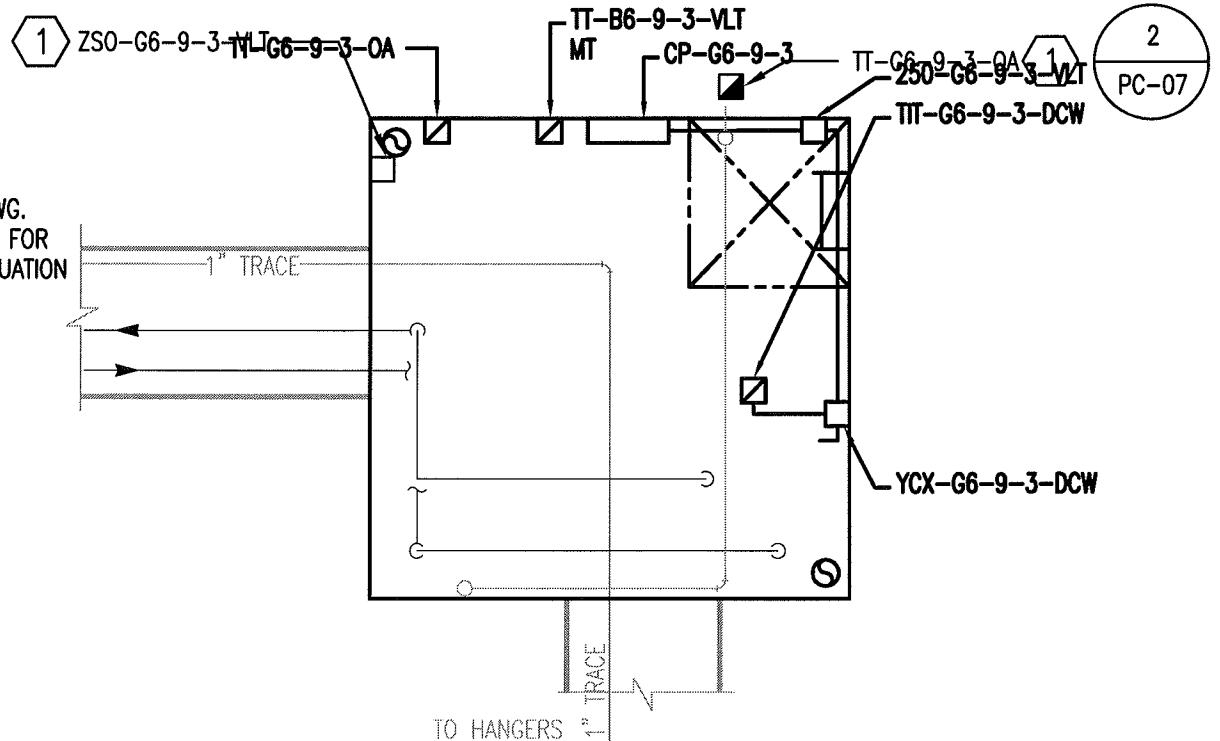
Jimmy Huntington Building  
714 Fourth Avenue, Suite 20  
Fairbanks, Alaska 99701  
Telephone (907) 455-1500  
Fax (907) 455-6788

Date: 19 FEB 2010  
Scale: 1/4"=1'-0"  
Designed By: JRS  
Drawn By: RHW  
Checked By: EAE

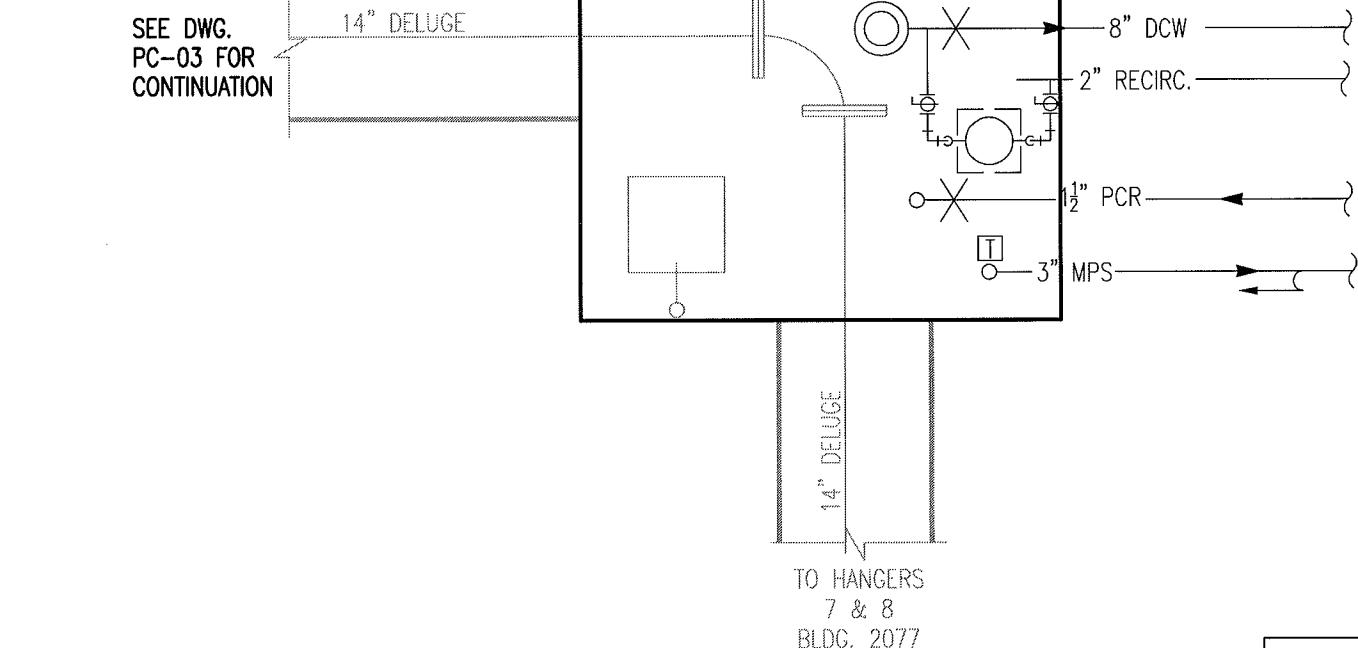
UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
EXISTING VAULT H6-3-3 & NEW VAULT G6-9-3

FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, 101396, 101397

Drawing No.  
PC-03



**MID LEVEL PLAN**  
SCALE: 1/4"=1'-0"



**REVISED AS-BUILT**

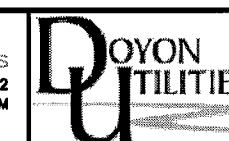
**DRAWING NOTES:**

1. FIELD DEVICES SHALL BE WIRED TO CP-G693 IN VAULT G6-9-3.
2. CONTROL PANEL SHALL BE WALL-MOUNTED BY ELECTRICAL CONTRACTOR, 36" A.F.F.
3. THIS FIELD DEVICES REQUIRES (3) BELDEN 8760 CABLES.

**LOWER LEVEL PLAN**  
SCALE: 1/4"=1'-0"

REV. NO.	DATE	DESCRIPTION
	04/09/10	ISSUED FOR CONSTRUCTION
1	03/31/11	AS-BUILT REVISIONS

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Telephone (907) 455-1500  
Fax (907) 455-6788

Date: 17 FEB 2010  
Scale: 1/4"=1'-0"  
Designed By: JRS  
Drawn By: RHW  
Checked By: EAE

**UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE**  
NEW VAULT G6-9-3  
FORT GREELY, AK.  
DU PROJECT NO. J101395, 101396, 101397

Drawing No.  
**PC-04**

1  
PC-06

SEE DETAIL FOR  
WATER AND STEAM  
METER ELECTRICAL  
CONNECTIONS.

AIRCRAFT  
PARTS  
STORAGE  
BLDG

3" MPS  
1½" PCR  
2" RECIRCULATING  
PIPE

8" DCW

1" RECIRCULATING  
PIPE

6" DCW

3" MPS  
1½" PCR  
2" RECIRCULATING  
PIPE

BURIED WATER  
PIPE TRENCH  
SEE DETAIL

STD  
W114

ELECTRIC  
DUCT BANK

2" RECIRCULATING  
PIPE  
3" MPS  
1½" PCR  
8" DCW

FROM NEW VAULT G6-9-3  
SEE DWG. PC-04 FOR  
CONTINUATION.

PLAN

SCALE: 1/4"=1'-0"



AS-BUILT

REV. NO.	DATE	DESCRIPTION
	04/09/10	ISSUED FOR CONSTRUCTION
1	03/31/11	AS-BUILT

FOSDICK & WILMER  
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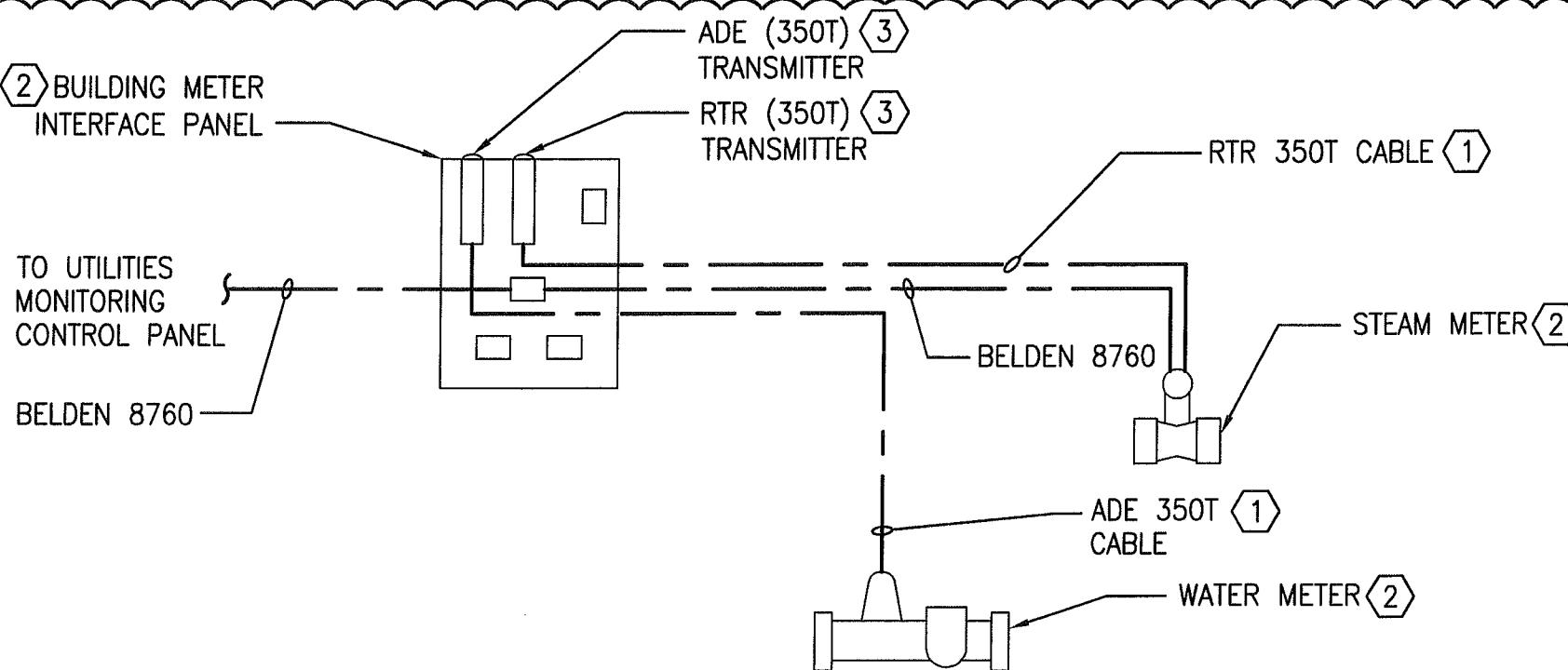
Jimmy Huntington Building  
714 Fourth Avenue, Suite 200  
Fairbanks, Alaska 99701  
Telephone (907) 455-1500  
Fax (907) 455-6788

Date: 19 FEB 2010  
Scale: 1/4"=1'-0"  
Designed By: JRS  
Drawn By: RHW  
Checked By: EAE

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
DIRECT BURIED DUCT PLAN

FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, 101396, 101397

Drawing No.  
PC-05



**DETAIL NOTES:**

1. FURNISHED BY DOYON UTILITIES, INSTALLED BY ELECTRICAL CONTRACTOR. LEAVE REMAINING LENGTH COILED AT ONE END. DO NOT CUT TO FIT.
2. FURNISHED BY DOYON UTILITIES, INSTALLED BY ELECTRICAL CONTRACTOR. PANEL TO BE MOUNTED A MINIMUM OF 36" A.F.F.
3. FURNISHED BY DOYON UTILITIES, INSTALLED BY ELECTRICAL CONTRACTOR.
4. EXACT LOCATION OF THE BUILDING INTERFACE CONTROL PANEL SHALL BE ITERATIVELY DETERMINED (IE., TEST, RELOCATE IF NECESSARY, RETEST), AS THE POINT AT WHICH RECEPTION BY THE TANTALUS ELECTRIC METER IS OPTIMALLY ACHIEVED. IF FINAL LOCATION IS NOT ACCEPTABLE TO THE ENGINEER, TRANSMITTERS CAN BE REMOTE MOUNTED FROM THE PANEL.

**DEVICE TAGS**

BUILDING CODE	BUILDING NAME	BUILDING METER INTERFACE PANEL	STEAM METER	WATER METER	PUMP	UTILITIES MONITORING CONTROL PANEL
336A	AIRCRAFT PARTS STORAGE	CP-336AM	FIT-336A-MPS	FT-336A-DCW	NONE	CP-G693

AS-BUILT

**1** **DETAIL** **1** **BUILDING METER INTERFACE**  
N.T.S. PC-05

REV. NO.	DATE	DESCRIPTION
	4/09/10	ISSUED FOR CONSTRUCTION
1	7/21/10	AMENDMENT NO. 1
2	03/31/11	AS-BUILT

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CONSULTING ENGINEERS  
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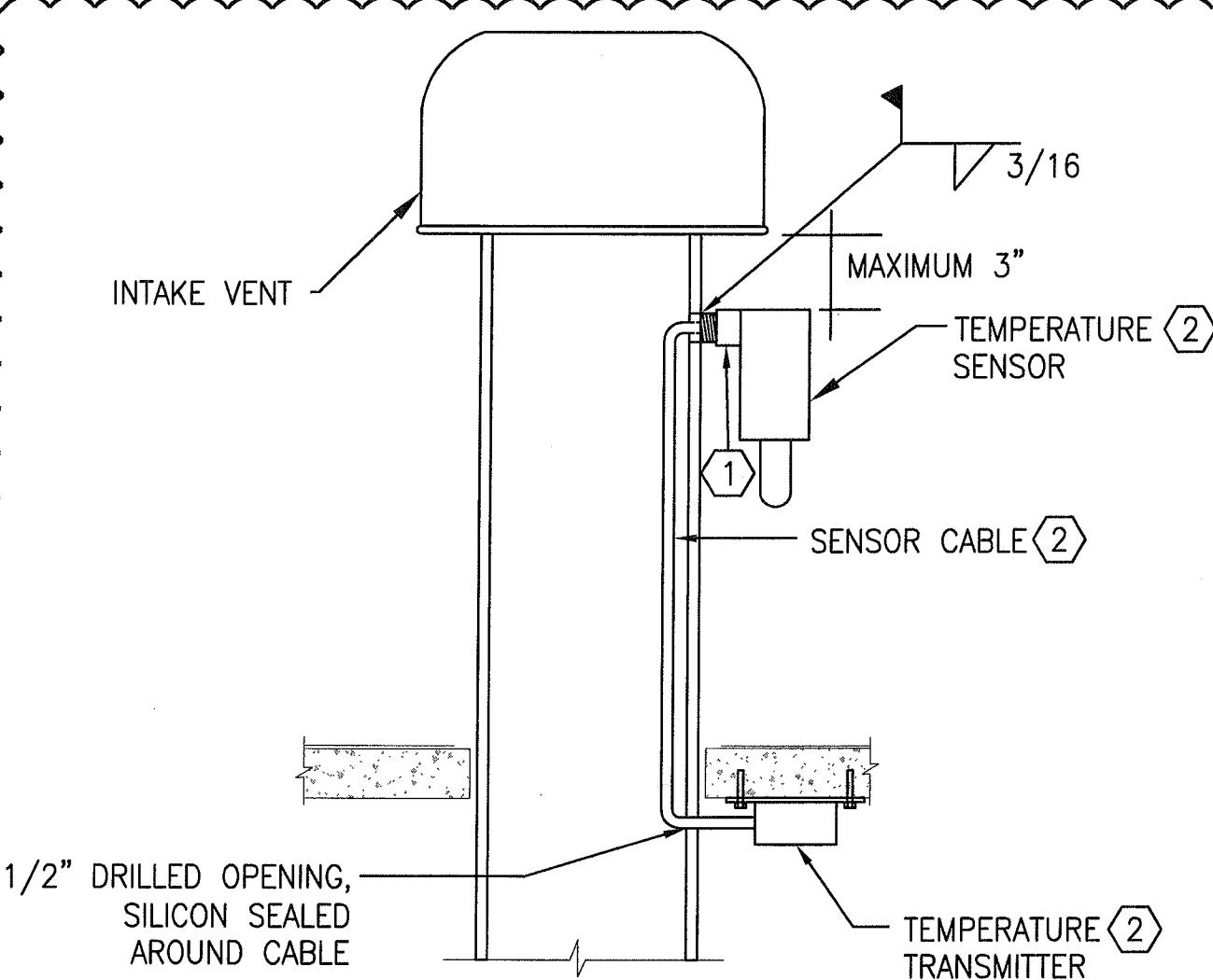


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Fax (907) 455-6788

Date: 04/09/10  
Scale: NTS  
Designed By: J.T.  
Drawn By: G.N.  
Checked By: J.T.

**UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
BUILDING METER INTERFACE DETAIL**  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, 101396, 101397

Drawing No.  
PC-06



#### DETAIL GENERAL NOTES:

- A. SEE DOYON UTILITIES STANDARD DRAWING UES-DD-H206 FOR VENT INSTALLATION DETAILS.

#### DETAIL NOTES:

1. WELD 1/2" HALF NIPPLE TO VENT PIPE FOR SENSOR INSTALLATION.
2. FURNISHED BY DOYON UTILITIES, INSTALLED BY ELECTRICAL CONTRACTOR.

#### **DETAIL 2 OUTDOOR AIR TEMPERATURE TRANSMITTER**

N.T.S.

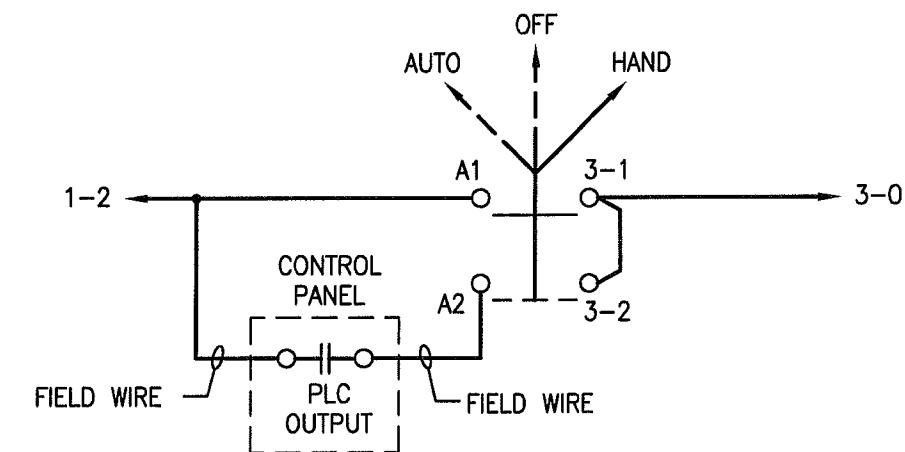
PC-04

#### DETAIL GENERAL NOTE:

- A. SEE DOYON UTILITIES STANDARD DRAWING UES-DD-H206 FOR VENT INSTALLATION DETAILS.

#### DETAIL NOTES:

1. DRILL AND TAP INTAKE VENT PIPE FOR CONNECTION OF DEVICE.



DETAIL

3  
PC-04

#### HYDRANT WATER RECIRCULATING PUMP H-O-A CONTROL

AS-BUILT

REV. NO.	DATE	DESCRIPTION
1	4/09/10	ISSUED FOR CONSTRUCTION
1	7/21/10	AMENDMENT NO. 1
2	03/31/11	AS-BUILT

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CONSULTING ENGINEERS  
309 VINE STREET, SUITE 50  
TELEPHONE (513)241-5640  
CINCINNATI, OHIO 45202  
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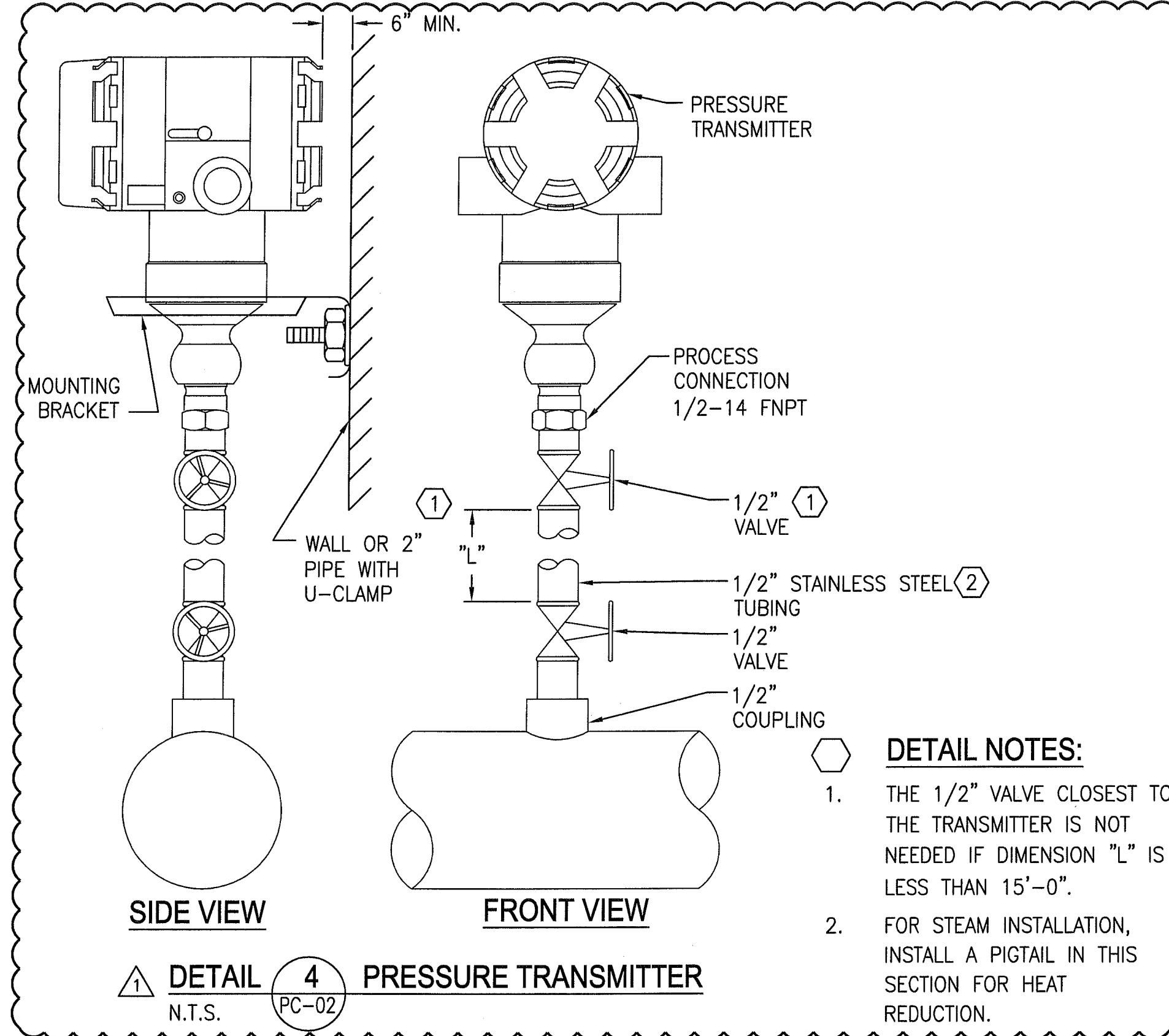
Jimmy Huntington Building  
714 Fourth Avenue, Suite 20  
Fairbanks, Alaska 99701  
Telephone (907) 455-1500  
Fax (907) 455-6788

Date: 04/09/10  
Scale: NTS  
Designed By: J.T.  
Drawn By: G.N.  
Checked By: J.T.

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
MISCELLANEOUS UTILITY MONITORING DETAILS

FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, 101396, 101397

Drawing No.  
PC-07



1

4

**PRESSURE TRANSMITTER**

N.T.S.

PC-02

REV. NO.	DATE	DESCRIPTION
1	7/21/10	AMENDMENT NO. 1
1	03/31/11	AS-BUILT

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309 VINE STREET, SUITE 50  
TELEPHONE (513)241-5640

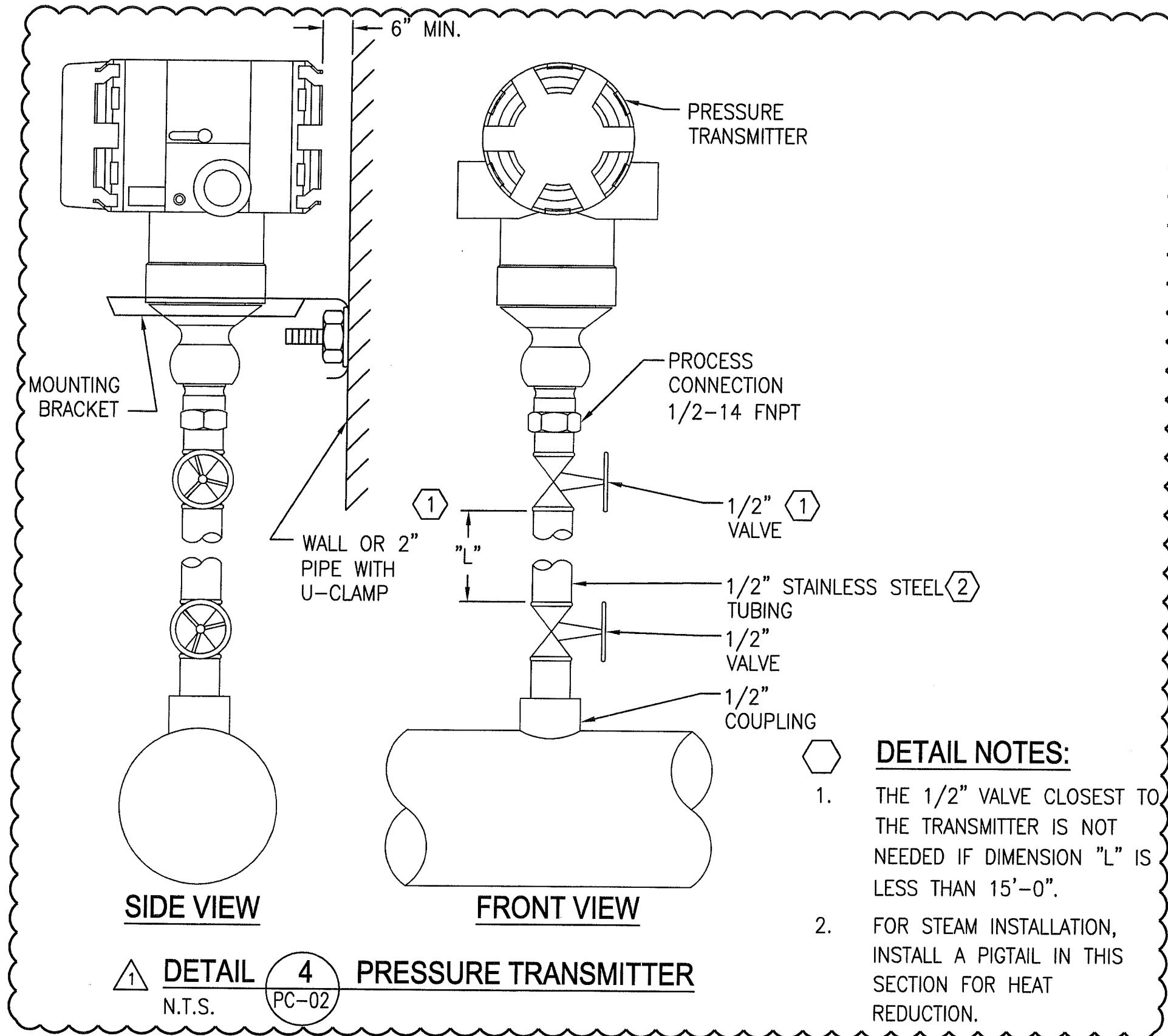


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Date: 7/21/10  
Scale: NTS  
Designed By: J.T.  
Drawn By: G.N.  
Checked By: J.T.

**UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE**  
**UTILITY MONITORING**  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, 101396, 101397

Drawing No.  
PC-08



REV. NO.	DATE	DESCRIPTION
1	7/21/10	AMENDMENT NO. 1
1	03/31/11	AS-BUILT

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CINCINNATI, OHIO 45202  
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Designed By:	J.T.
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Checked By:	J.T.

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
UTILITY MONITORING  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, 101396, 101397

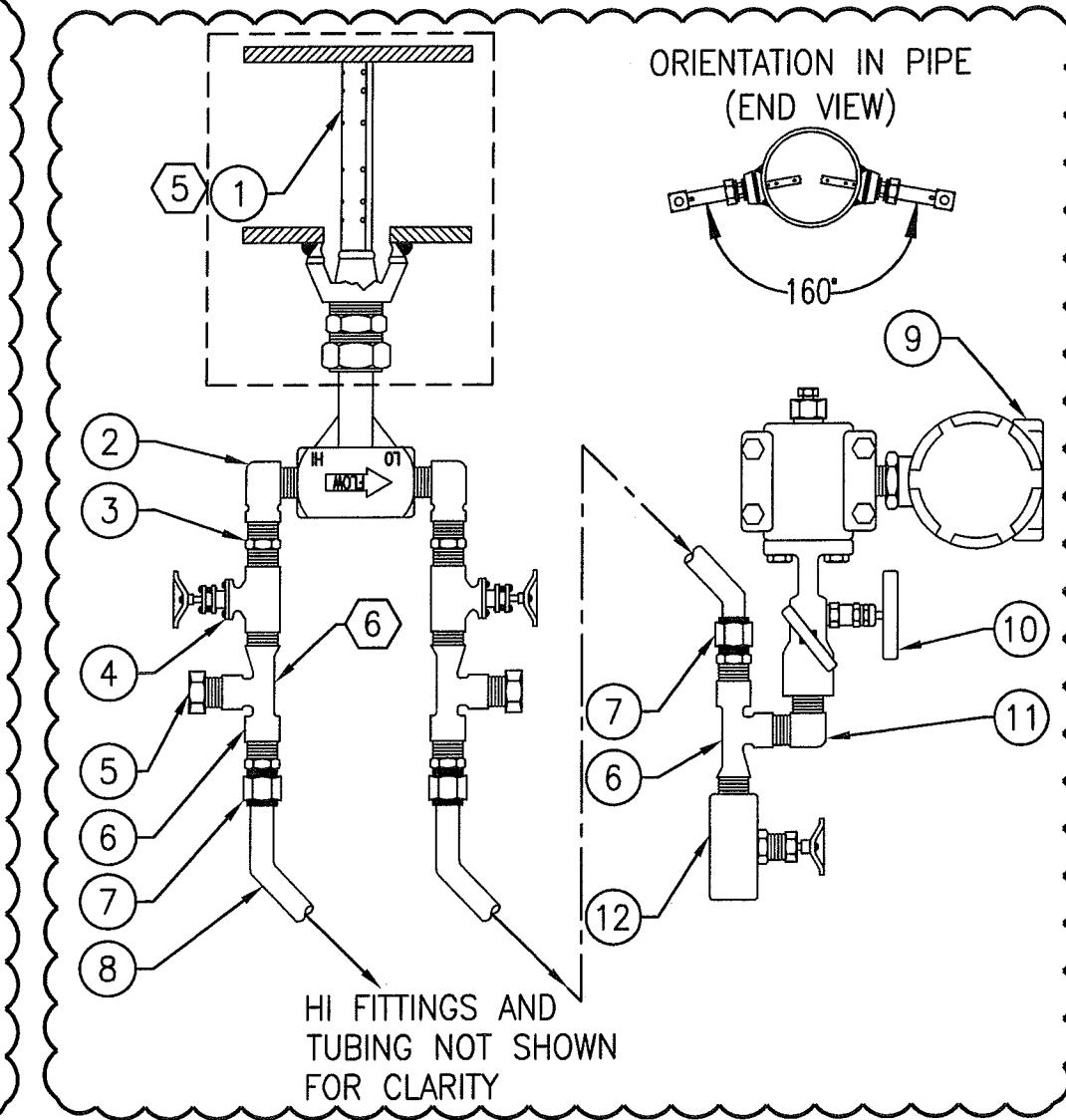
Drawing No.  
PC-08

### ITEM DESCRIPTION:

1. QTY: 1 FLOW SENSOR WITH PIPE MOUNTING HARDWARE
2. QTY: 2 1/2" STREET ELBOW
3. QTY: 2 1/2" NPT HEX NIPPLE
4. QTY: 2 1/2" FNPT GATE VALVE (FULL PORT)
5. QTY: 2 1/2" MNPT PLUG
6. QTY: 4 1/2" STREET TEE
7. QTY: 4 1/2" MNPT X 1/2" OD TUBE FILLING
8. QTY: AS REQ. 1/2" OD TUBING
9. QTY: 1 DIFFERENTIAL PRESSURE TRANSMITTER, TRADITIONAL STYLE.
10. QTY: 1 3 OR 5 VALVE MANIFOLD (1/2" FNPT X FLANGED)
11. QTY: 2 1/2" MALE ELBOW
12. QTY: 2 1/2" FNPT NEEDLE VALVE

### DRAWING NOTES:

1. MOUNTING ON THE BOTTOM OF THE PIPE AS SHOWN IS RECOMMENDED. CONTACT VERIS IF AN ALTERNATE INSTALLATION IS REQUIRED.
2. DP TRANSMITTER TO BE LOCATED AT SUFFICIENT DISTANCE TO ALLOW FOR COOLING TO MEET TRANSMITTER SPECIFICATION. TYPICAL COOLING RATE IS 100°F PER FOOT (55°C PER 300MM). DP TRANSMITTER TO BE LOCATED AT LEAST 18IN. (450MM) BELOW THE FILL TEES. THE VENT VALVES ARE TO POINT UP IF TRADITIONAL STYLE TRANSMITTER.
3. TUBING TO SLOPE CONTINUOUSLY DOWNWARD TO THE DP TRANSMITTER AT LEAST 4IN. (100MM) PER FOOT (300MM) AND SHALL BE FREE OF PEAKS, DIPS, OR SHARP BENDS THAT WOULD ALLOW ENTRAPPED AIR TO ACCUMULATE.
4. TUBING BENDS TO BE MADE WITH A TUBE BENDER AND SHALL HAVE A MINIMUM RADIUS OF THREE TIMES THE TUBING OD.
5. VERABAR MODEL V100 SHOWN, OTHER MODELS AVAILABLE.
6. FILL TEES TO BE AT THE SAME HEIGHT.



1 DETAIL 5 FLOW TRANSMITTER  
N.T.S. PC-02

AS-BUILT

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1	7/21/10	AMENDMENT NO. 1
1	03/31/11	AS-BUILT

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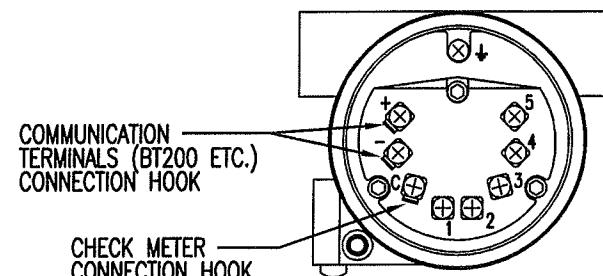
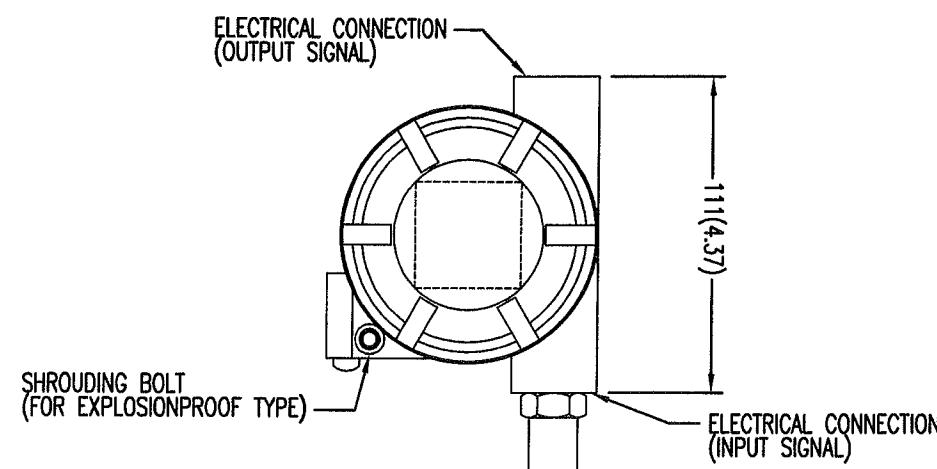


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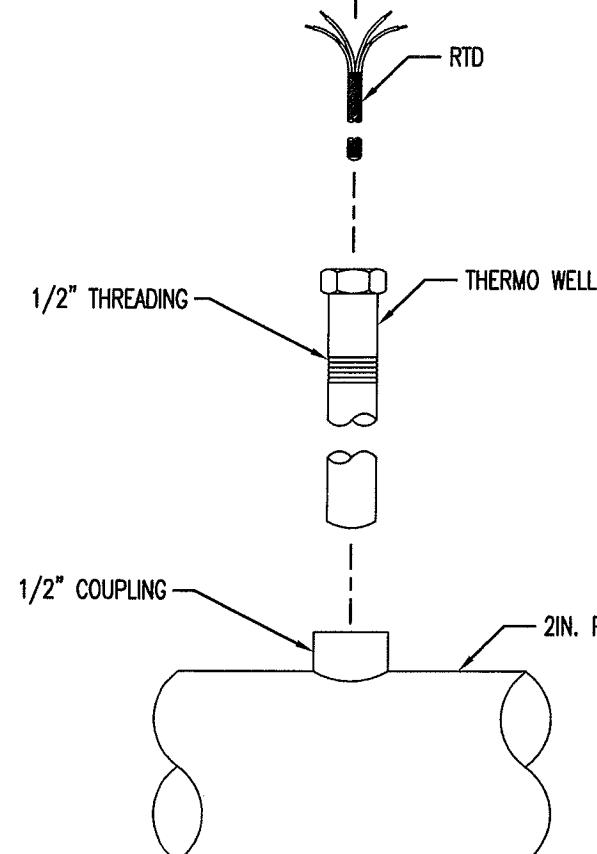
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Checked By: J.T.

UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE  
UTILITY MONITORING  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, 101396, 101397

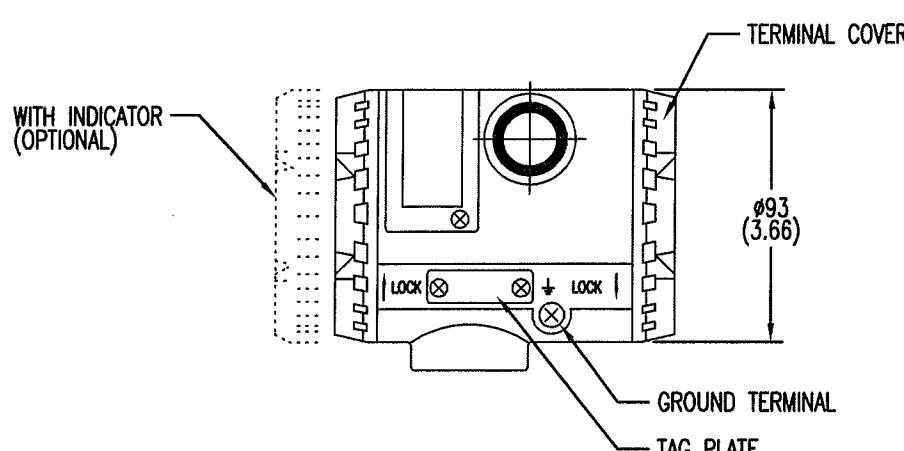
Drawing No.  
PC-09



### TERMINAL WIRING



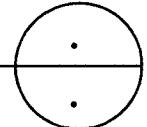
BACK VIEW



SIDE VIEW

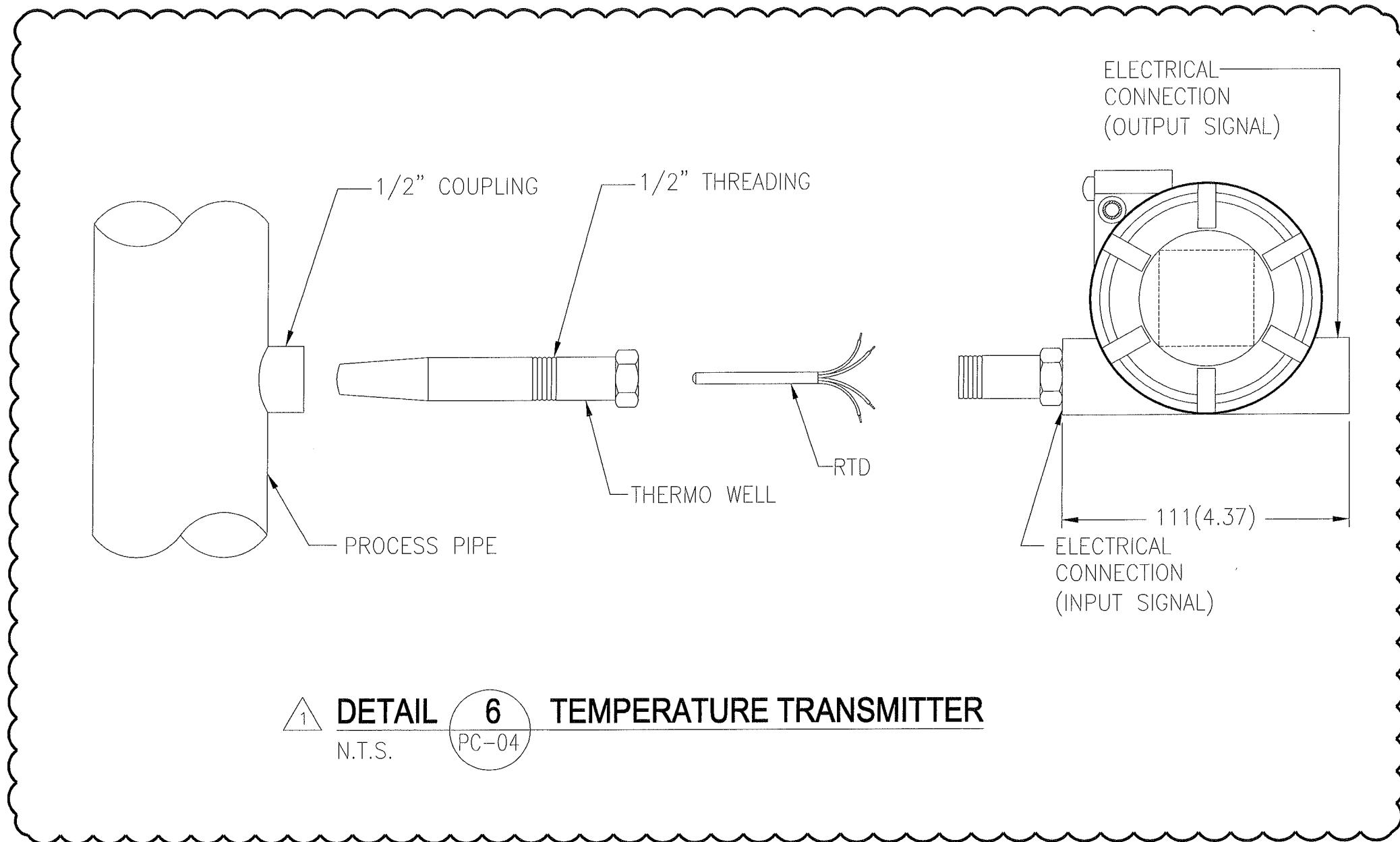
AS-BUILT

TEMPERATURE TRANSMITTER



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DWG. NAME:	YTA110
NEW SPEC:	
DATE:	7/23/10
SCALE:	NTS
REV:	REV BY:



1

**DETAIL**

**6**

**TEMPERATURE TRANSMITTER**

N.T.S.

PC-04

**AS-BUILT**

REV. NO.	DATE	DESCRIPTION
1	7/21/10	AMENDMENT NO. 1
2	03/31/11	AS-BUILT

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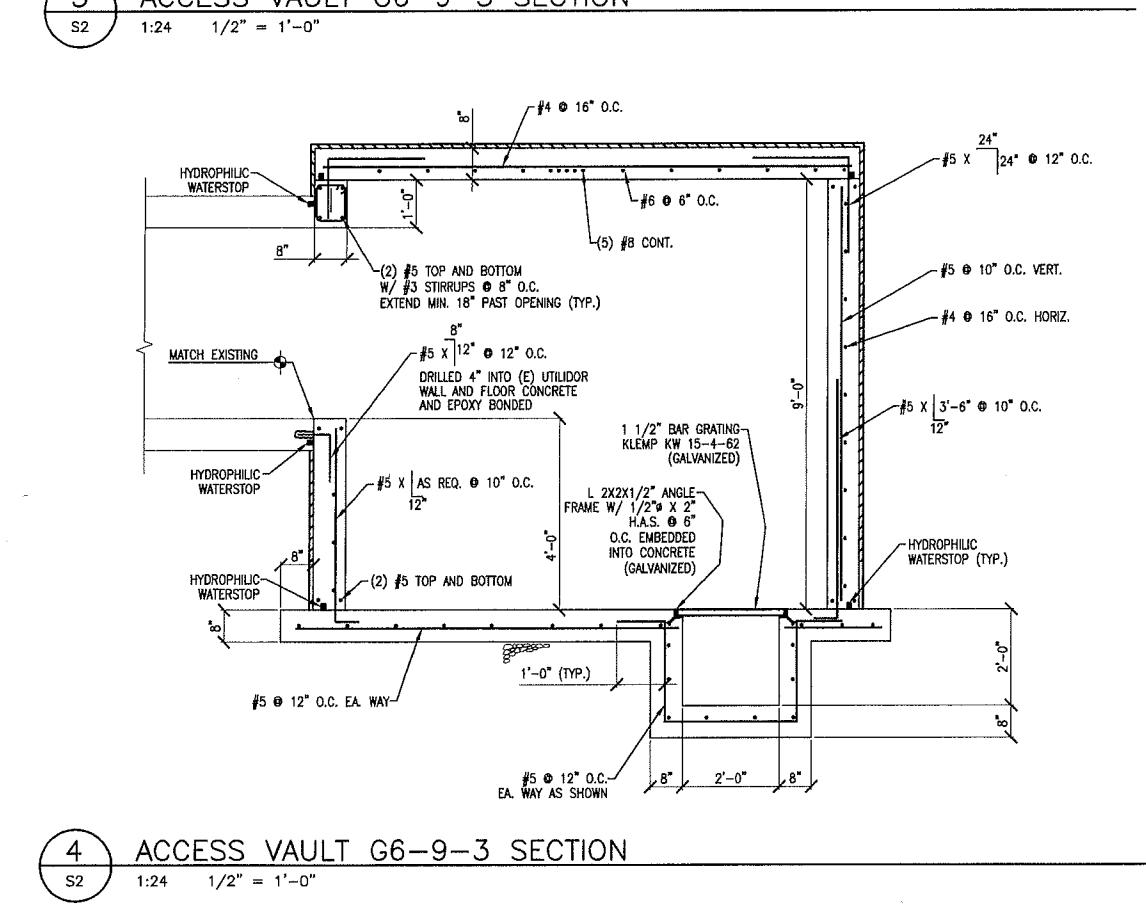
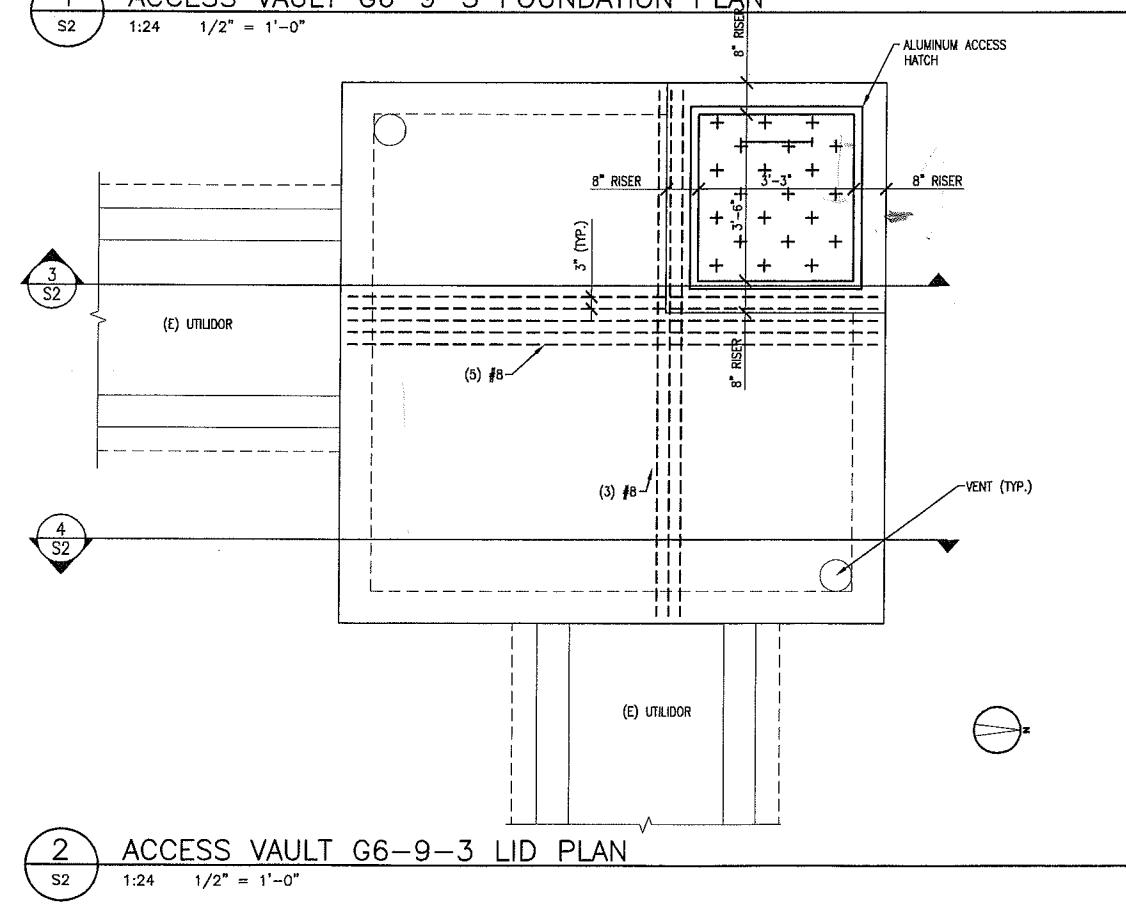
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Date: 7/21/10  
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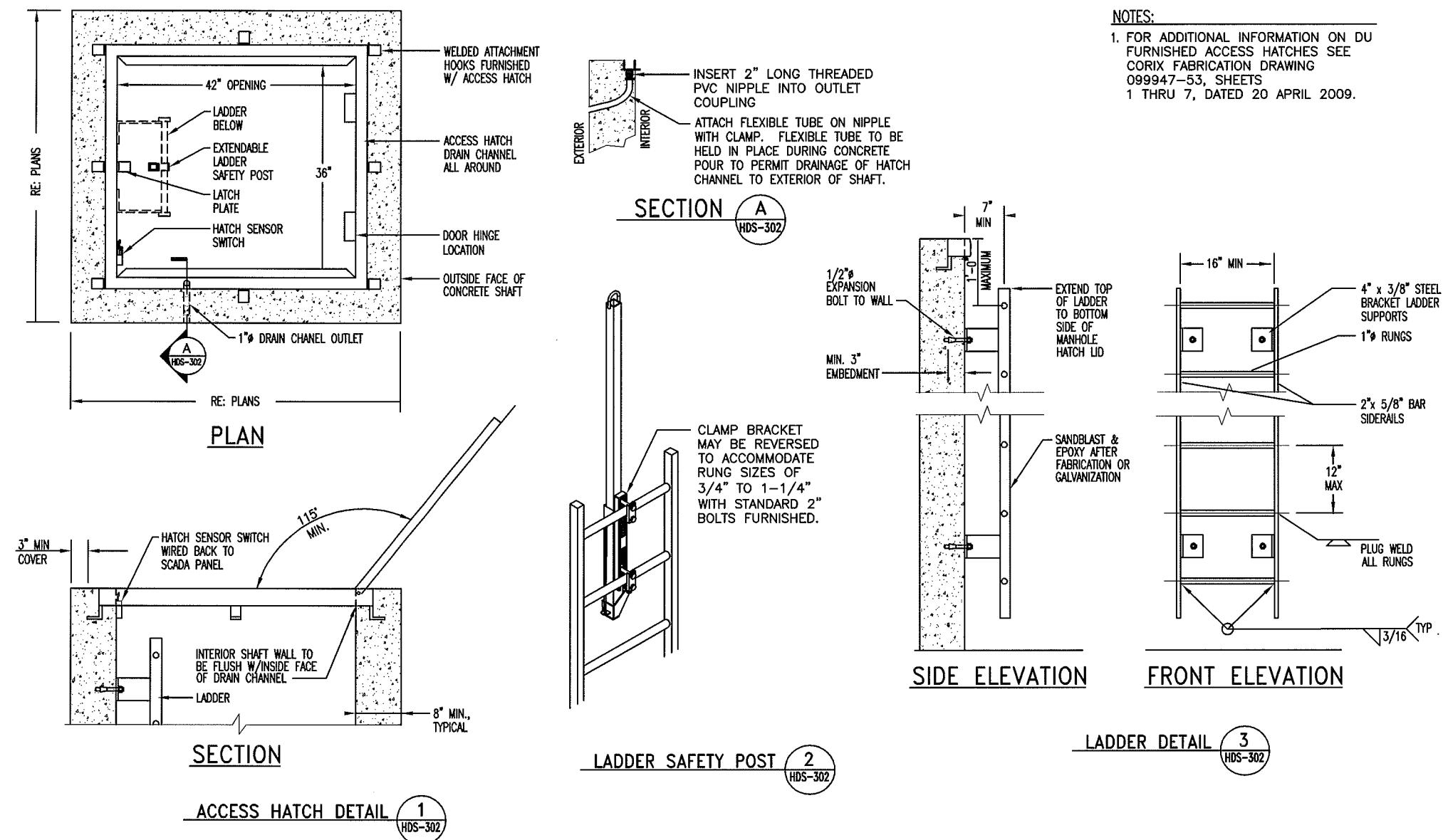
**UTILITY SERVICE EXTENSION TO AIRCRAFT PARTS STORAGE**  
**UTILITY MONITORING**  
FORT WAINWRIGHT, AK.  
DU PROJECT NO. J101395, 101396, 101397

Drawing No.  
**PC-10**





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Sheet Contents:	ACCESS VAULT G6-9-3 PLANS AND SECTIONS
Sheet No.:	S2
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 Sheet Contents:  
**ENTRY HATCH &  
LADDER DETAILS**

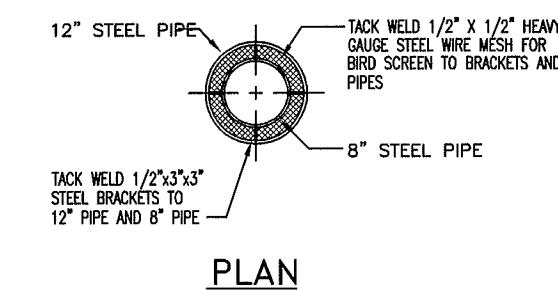
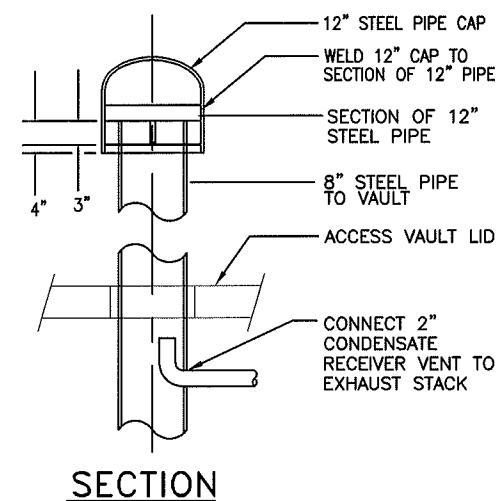
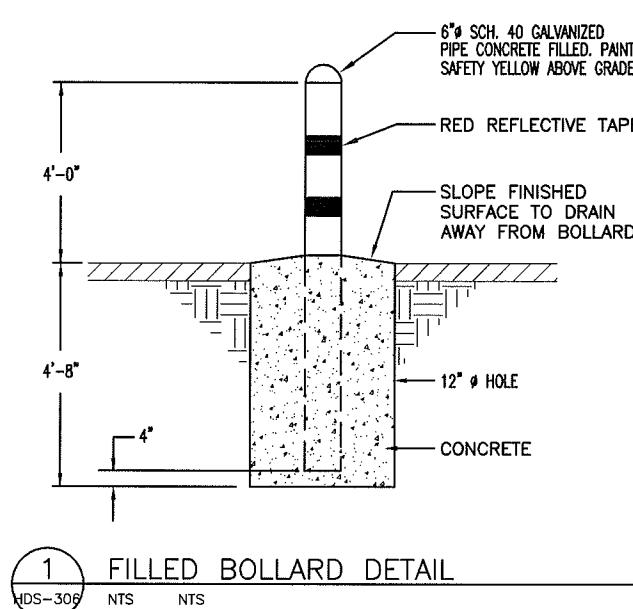
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Drawn By: MMC/GSF  
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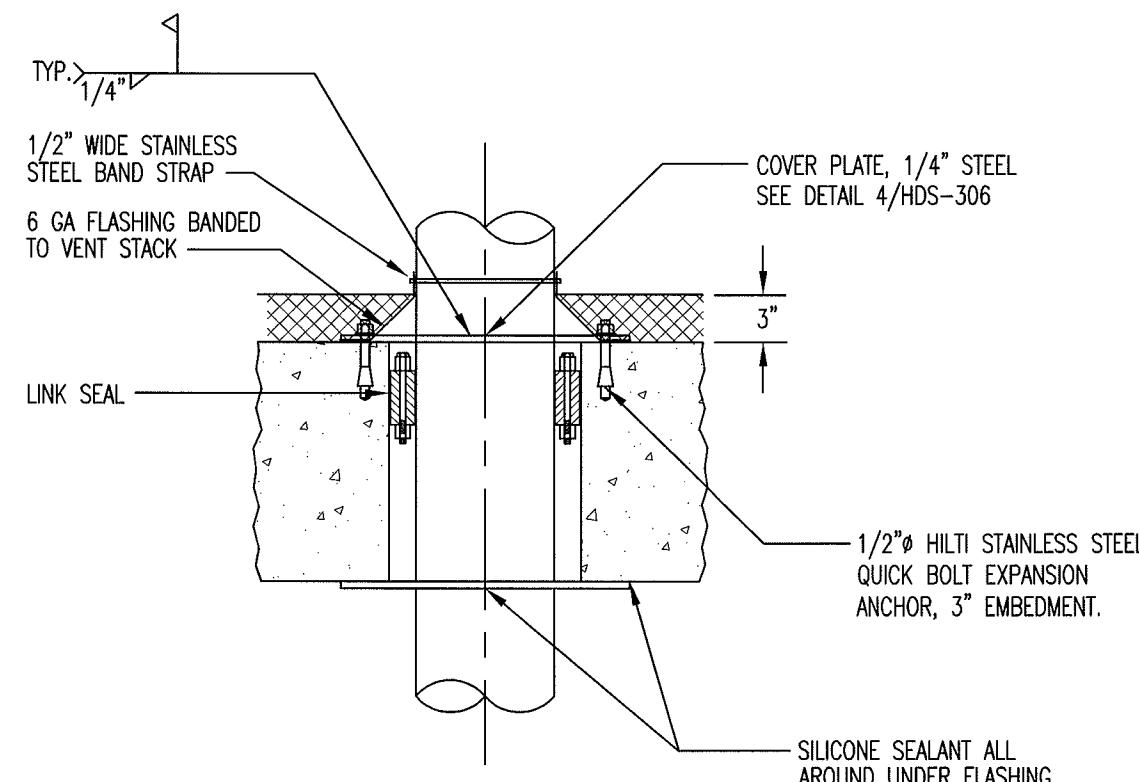
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**UTILIDORS AND VAULTS**

 Drawing No.  
**HDS-302**  
Previous: UES-DD-H202  
14 FEB 2010  
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2 ACCESS HATCH VENTILATION PIPE DETAIL

HDS-306 NTS NTS



3 ROOF SLAB PENETRATION DETAIL

HDS-306 NTS NTS

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Sheet Contents:

**VENTILATION &  
PROTECTION  
DETAILS**

Sheet No.:

**S4**



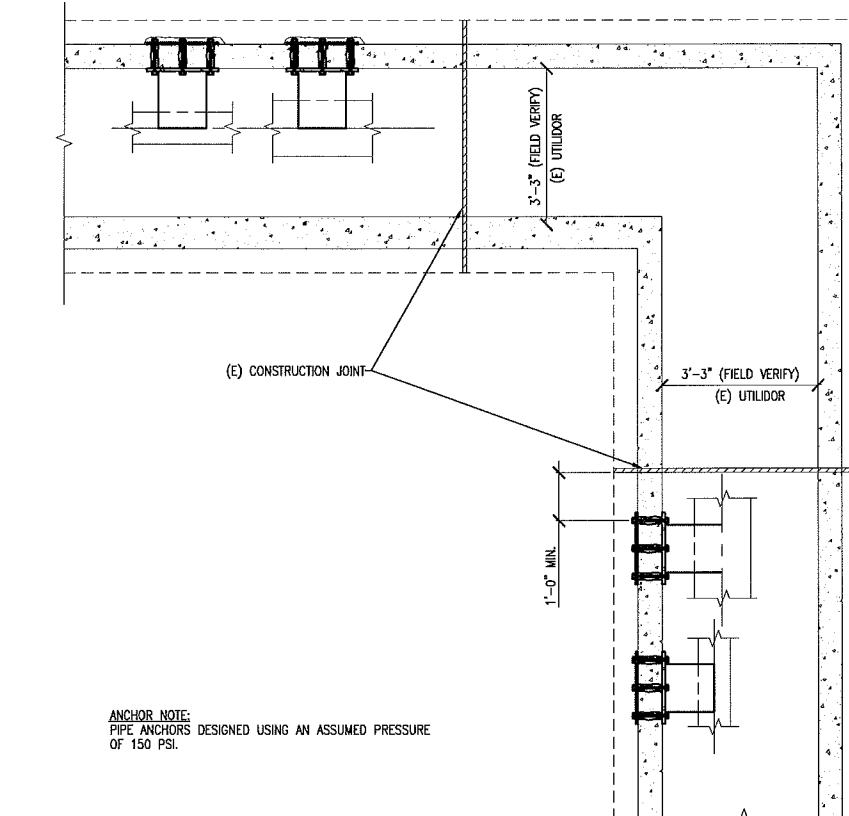
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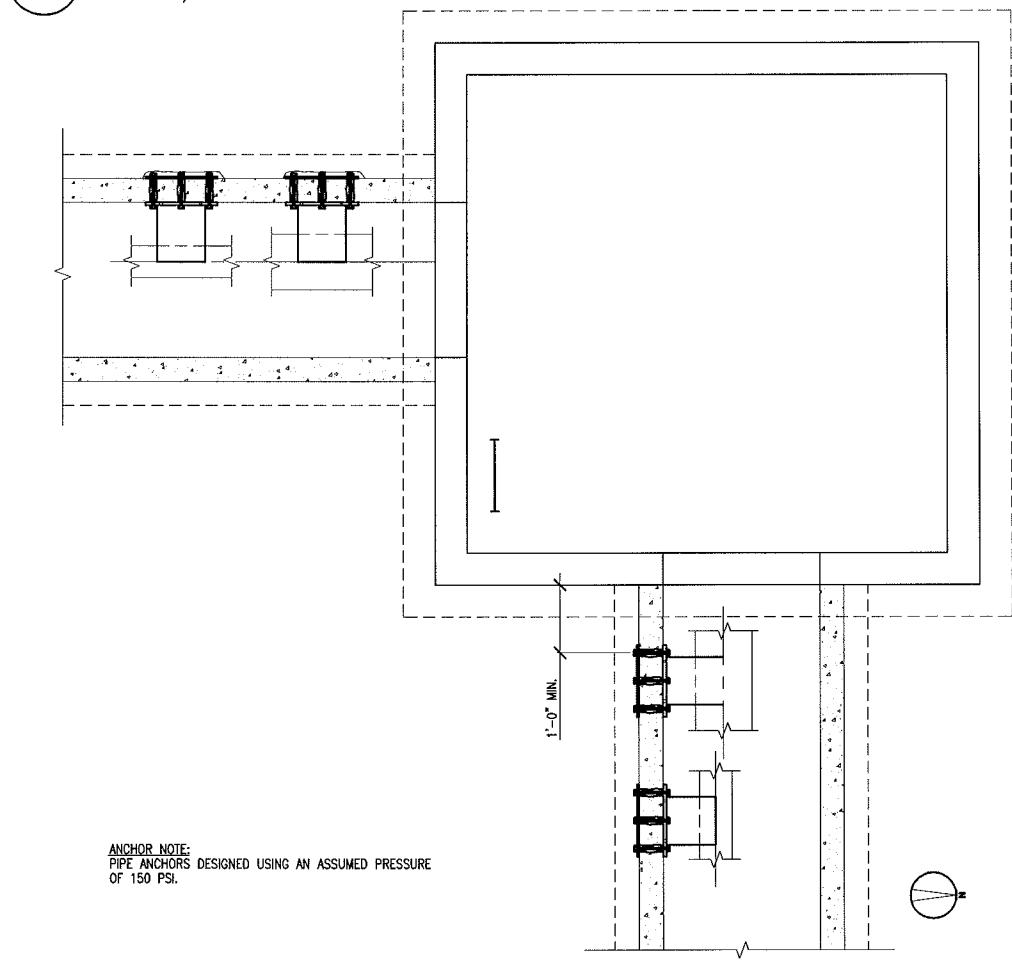
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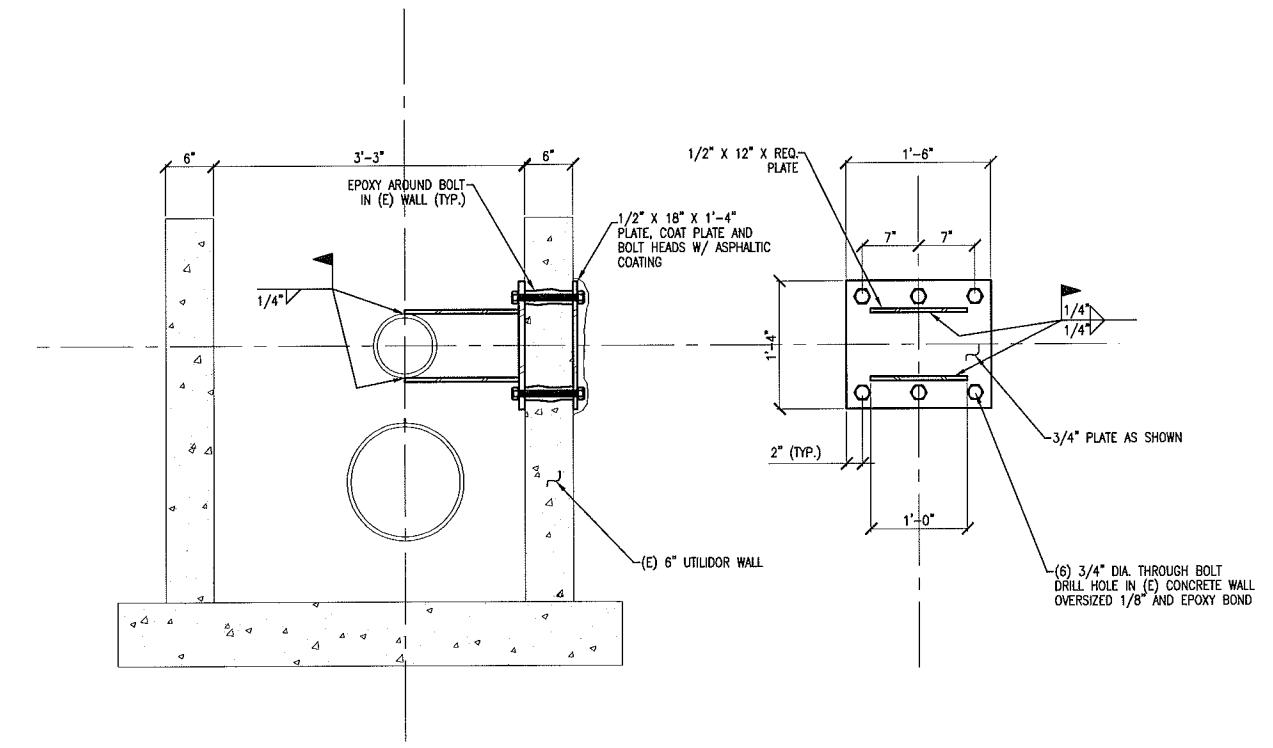
**1** TEMPORARY ANCHOR PLAN



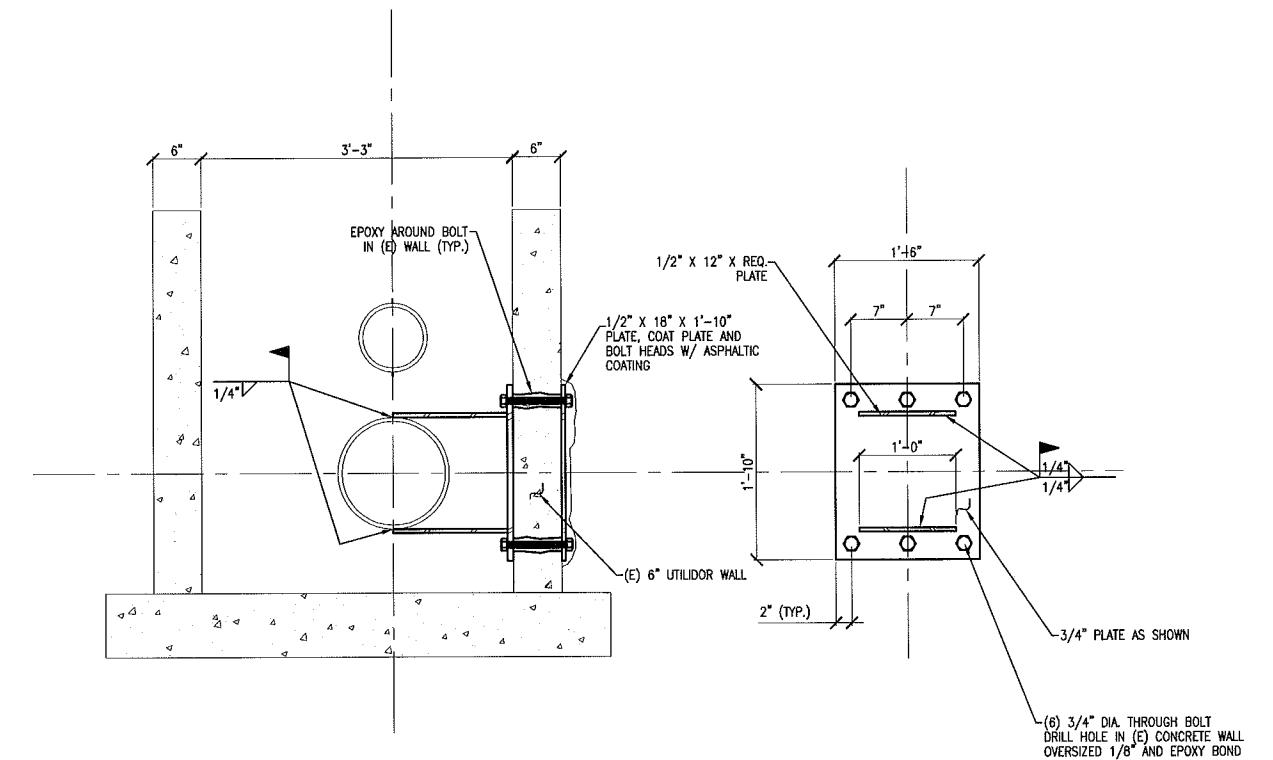
**2** PERMANENT ANCHOR PLAN



**4** 14" DIAMETER DELUGE ANCHOR SECTIONS



**3** 8" DIAMETER WATER ANCHOR SECTIONS



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Sheet Contents:

**ACCESS VAULT**

G6-9-3

**TEMPORARY/  
PERMANENT  
PIPE ANCHORS**

Sheet No.:

**S5**

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