



PHENIX MuTr STATION 3 NORTH INSTALLATION PROCEDURE

procedure name

PHENIX Procedure No. PP-2.5.5.4-21

Revision: A

Date: 4-23-02

Hand Processed Changes

HPC No.

Date

Page Nos.

Initials

Approvals

Victor Kim 4/30/02
PHENIX S E & I Date

David M Lee 14 May 02
Cognizant Scientist/Engineer Date
/Activity Manager

Walter Ray 4/30/02
PHENIX Safety Date

Charles Dean 5/14/2002
CA-D LIAISON Date

REVISION CONTROL SHEET

LETTER	DESCRIPTION	DATE	WRITTEN BY	APPROVED BY	CURRENT OVERSIGHT
A	First Issue	04/23/2002	n/a	P. Kroon, D. Lee, W. Lenz, C. Pearson	n/a
RETIRED	Installation Complete	3/21/2007	n/a	D. Lynch, P. Giannotti, R. Pisani for PHENIX	D. Lynch

Station 3 North Installation Procedure

1.0 Purpose and Scope

- 1.1 The purpose of this procedure is to provide direction for the rigging of the station 3 North octants. This procedure provides detailed instructions for the safe installation of the octants onto their mounting locations on the back plate of the north muon magnet. Note that the weight for each octant is 600 lbs.

2.0 Responsibilities

- 2.1 All operations shall be performed under the direction of the PHENIX experimental hall "person-in-charge", or their designee.
- 2.2 Due to the delicacy of this structure, and the critical alignment of its assembly in the magnet, this procedure and all relevant BNL safety guidelines must be strictly adhered to. In accordance with BNL policy, any individual may cease operations if they in any way feel unsafe or if they believe unsafe procedures are being followed, such a complaint shall be reviewed by the cognizant engineer, and if necessary, BNL ES&H service.

3.0 Prerequisites

- 3.1 Training: All personnel involved in this procedure shall have reviewed this procedure, and be fully knowledgeable about the way in which the octant is mounted in the North magnet. A meeting will take place with all participants involved with this installation to review all aspects and answer any questions that any of the personnel may have.
- 3.2 All personnel involved with in this procedure shall have current BNL safety training requirements met to work in the PHENIX experimental hall, Bldg. 1008. The crane operator must have a current BNL crane operation safety training.
- 3.3 All personnel involved in this procedure shall wear hardhats and safety shoes.

4.0 Precautions

- 4.1 The area where rigging operations will be performed shall be cordoned-off to all personnel except the "person in charge" and the technicians assigned to perform this procedure.
- 4.2 Some operations will require personnel to work in close proximity to suspended loads. Do not permit anyone to be positioned under the load.
- 4.3 Lift the octants with the commercial lifting fixture only.

5.0 Equipment List

- 5.1 Appropriate ANVER lifting fixture.
- 5.2 "C" fixture, 1200 Lb. Capacity.
- 5.3 Guide ropes.
- 5.4 Shackles

6.0 Preparation

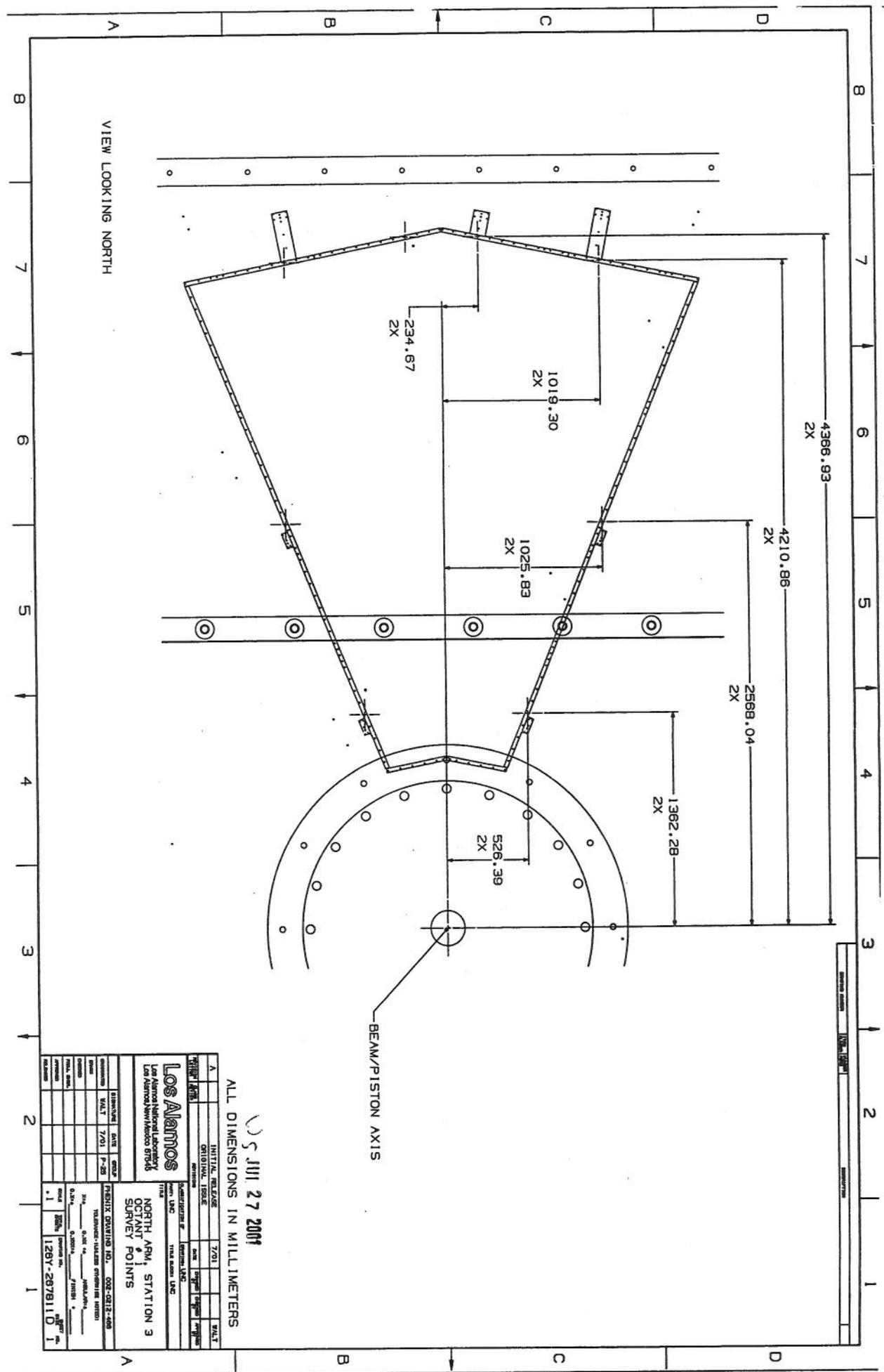
- 6.1 Kinematic mounts pre-set. See drawing 002-0212-524 B1A, B2A for kinematic mount preset adjustments.
- 6.2 Magnet hoses tested and leak tight.
- 6.3 All kinematic mounts attached to magnet back plate as shown in drawing 002-0212-610 D11a,D12 and 002-0212-524 B1,B2,B3

7.0 Procedure

- 7.1 The side with the kinematic mounts face magnet back plate. Installation proceeds from the bottom of the magnet to the top beginning at 6:00 o'clock and proceeding in order 6:00,4:30,7:30,3:00,9:00,1:30,10:30,12:00.
- 7.2 FIRST OCTANT ONLY _ 6:00 position
 - 7.2.1 Attach "C" fixture to the crane hook and attach the ANVER vacuum lifting fixture to the "C" fixture using a shackle.
- 7.3 Attach the ANVER lifting fixture to the octant in the horizontal position following the manufacturer's instructions. Lift the octant only after the vacuum pump has turned off. Rotate the octant to a vertical position.
 - 7.3.1 For the First octant at 6:00 o'clock the octant may need to be in an intermediate position between horizontal and vertical.
- 7.4 Rotate the octant to the proper orientation.
 - 7.4.1 For the First octant at 6:00 o'clock rotate the octant to an intermediate position as it is lowered and then rotate the to the 6:00 o'clock position.
- 7.5 Attach guide ropes to the octant.
- 7.6 Lift and lower the octant into place on the kinematic mounts. Use guide ropes to stabilize the octant during installation.
- 7.7 After all octants are installed on the magnet backplate, install alignment system cameras and mounts.

8.0 Alignment

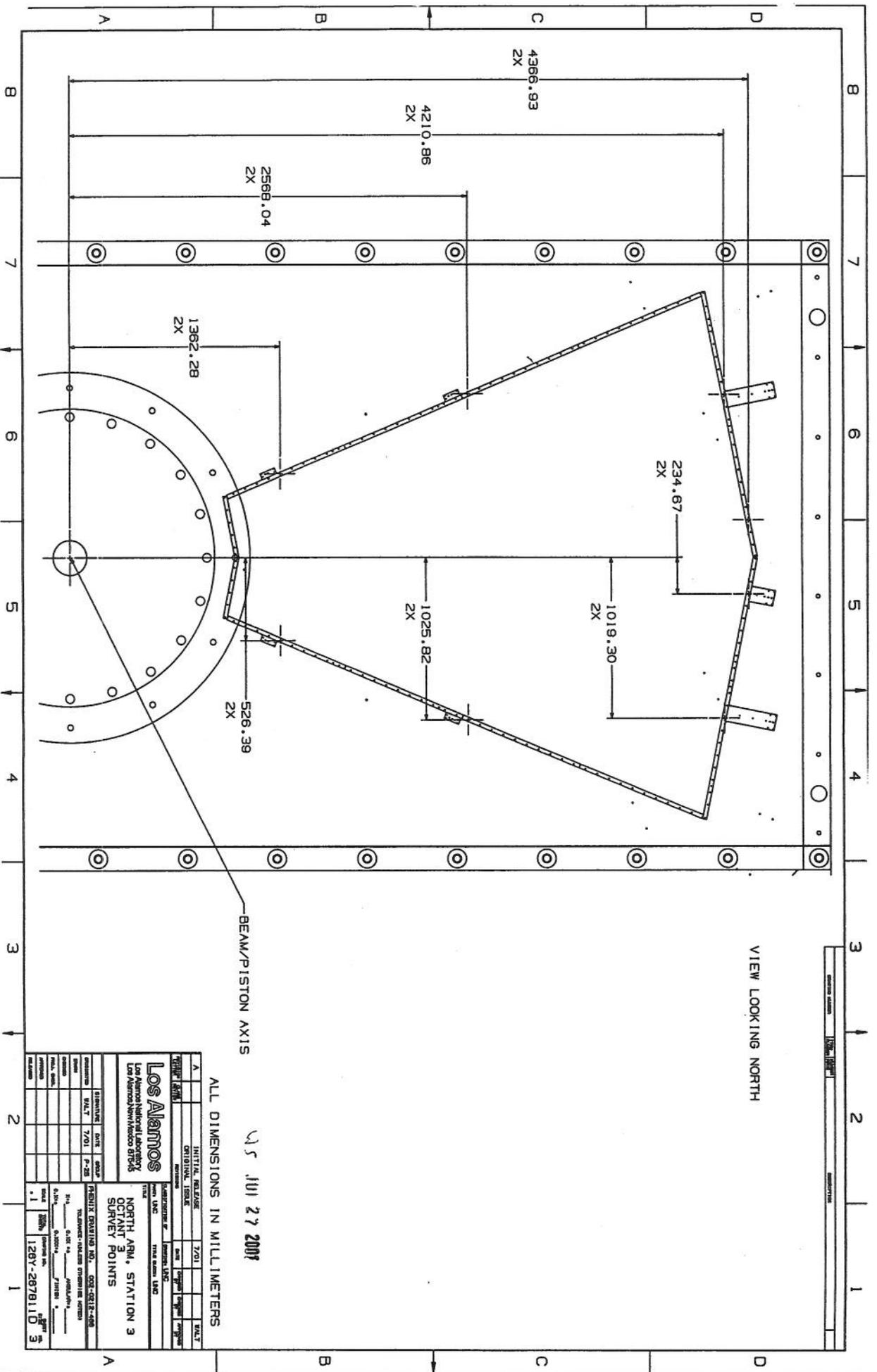
- 8.1 Survey the octants.
- 8.2 See projected survey points on drawings 002-0212-466 D1-D8



ALL DIMENSIONS IN MILLIMETERS

5 JUL 27 2001

PROJECT NO.	DATE	SCALE	BY	CHECKED
128Y-287811D	7/01	P-25		
Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545				
NORTH ARM, STATION 3 OCTANT 1 SURVEY POINTS				
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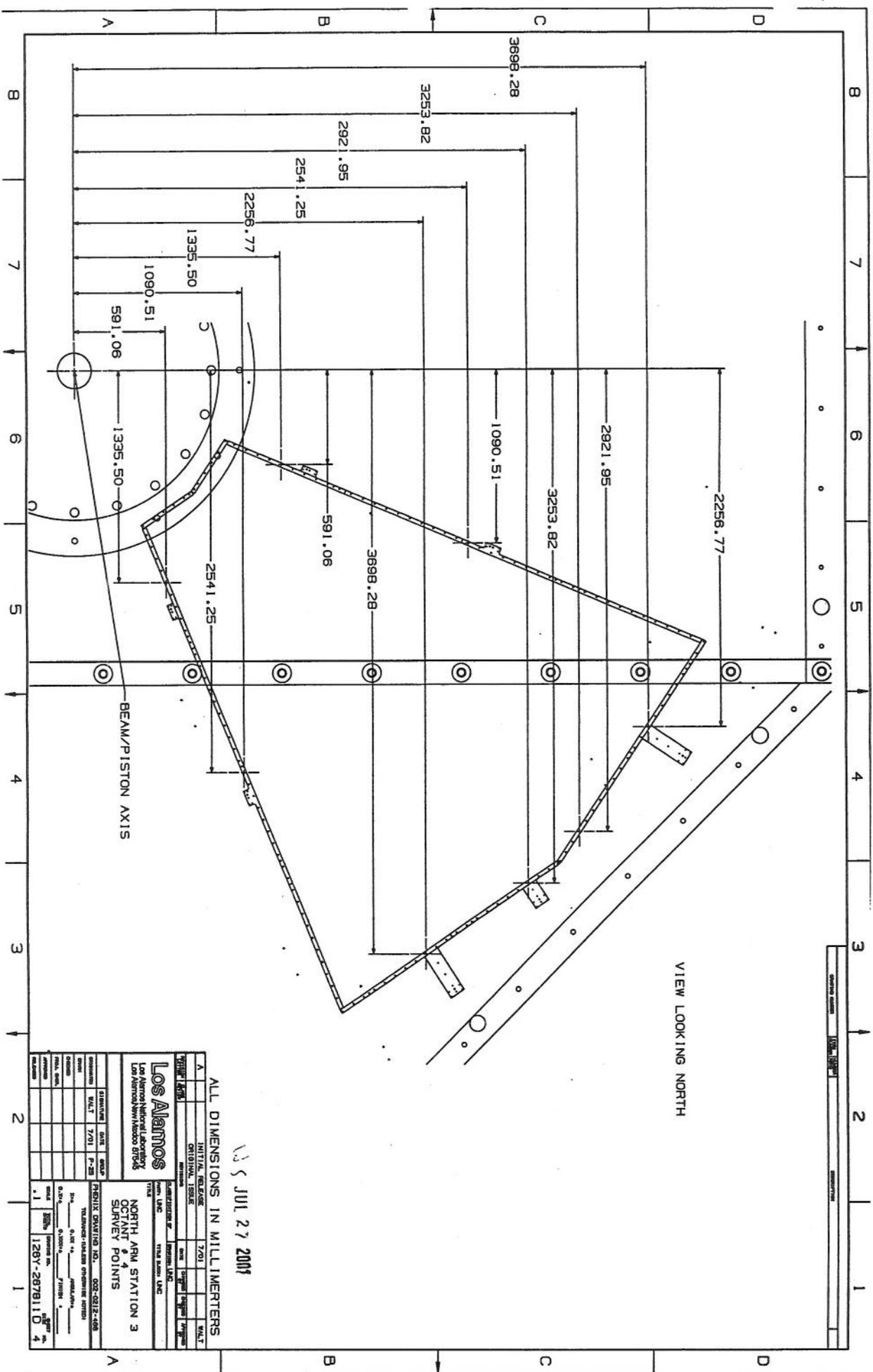


VIEW LOOKING NORTH

15 JUN 27 2001

ALL DIMENSIONS IN MILLIMETERS

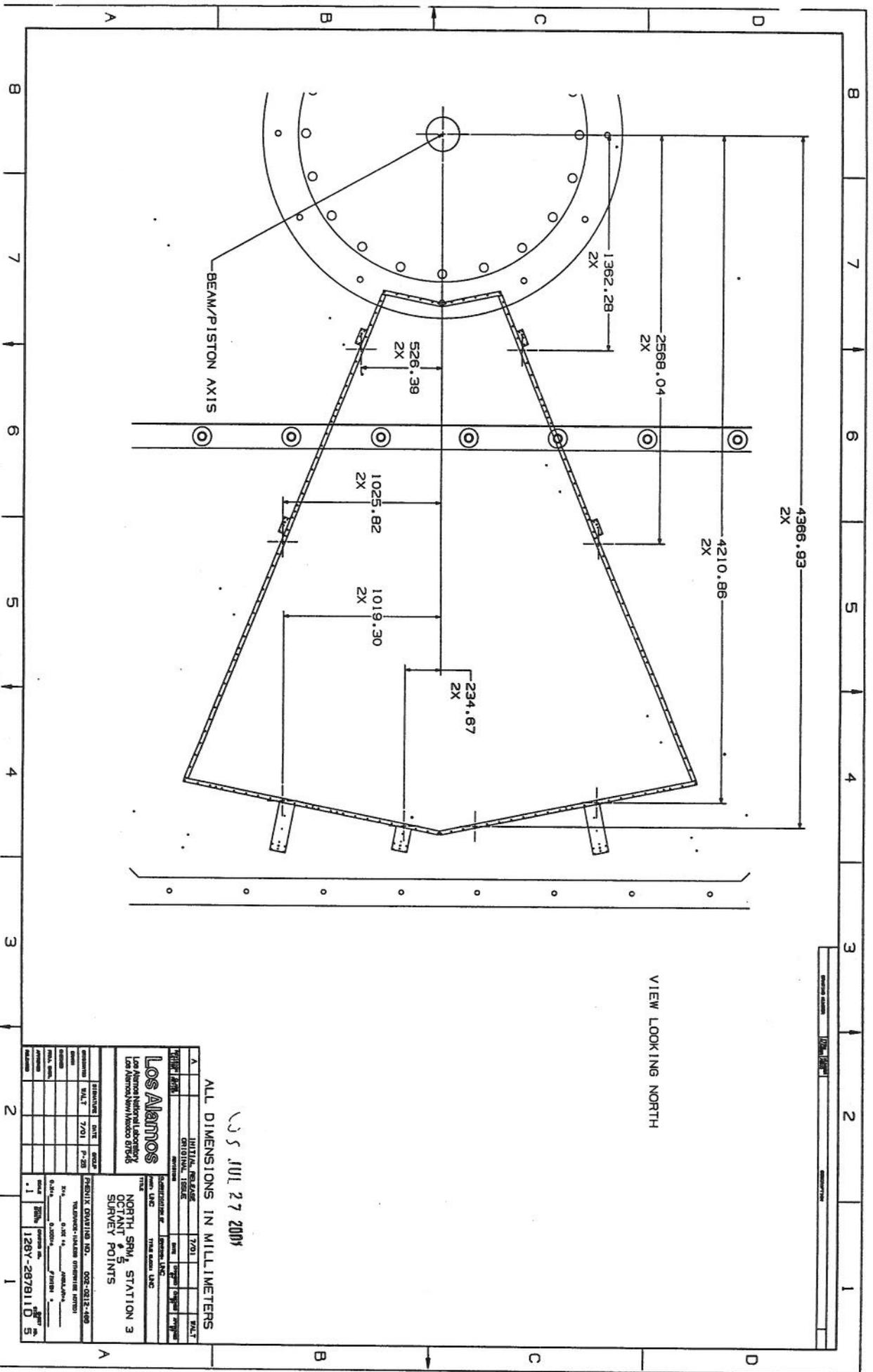
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INITIAL		INITIAL		INITIAL	
RELEASE		RELEASE		RELEASE	
ORIGINAL		ORIGINAL		ORIGINAL	
ISSUE		ISSUE		ISSUE	
Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545					
PROJECT: NORTH ARMA, STATION 3 SURVEY POINTS					
DRAWING NO. 587-2818-008 TITLE: NORTH ARMA, STATION 3 SURVEY POINTS					
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BY		BY		BY	
CHECKED		CHECKED		CHECKED	
APPROVED		APPROVED		APPROVED	
SCALE	1:1	SCALE	1:1	SCALE	1:1
DRAWING NO. 587-2818-008 PROJECT NO. 128Y-287811D SHEET NO. 3					



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13 JUL 27 2007

Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545		TITLE NORTH ARW STATION 3 OCTANT 4 SURVEY POINTS	
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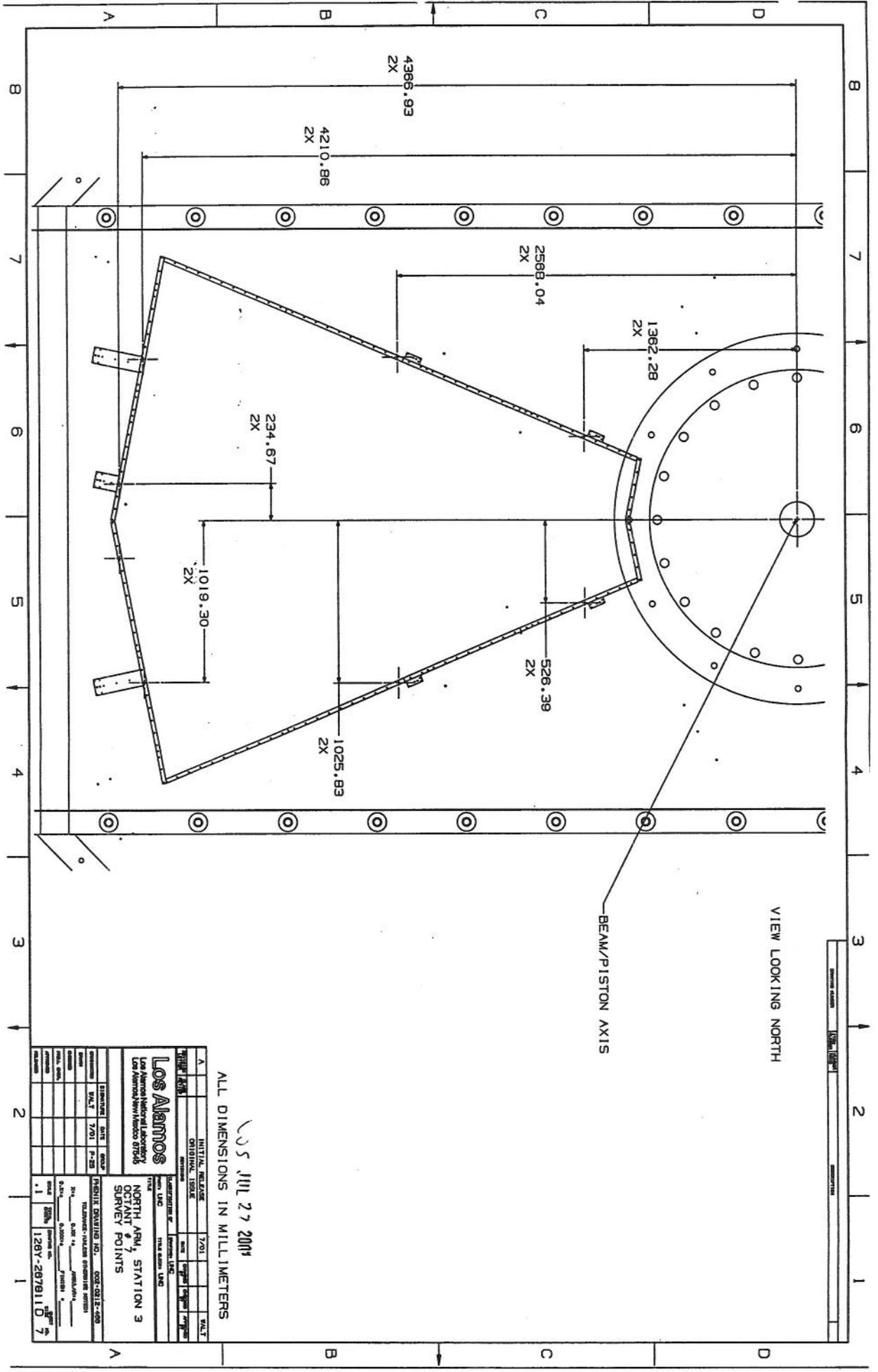


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05 JUL 27 2009

DATE	7/27/09	BY	WLT
DESCRIPTION	INITIAL RELEASE		
PROJECT	CRISTINA LIBRE		
CLIENT	LOS ALAMOS NATIONAL LABORATORY		
PROJECT NO.	NORTH SRM, STATION 3		
PROJECT NAME	OCCUPANT # 5		
PROJECT ADDRESS	SURVEY POINTS		
PROJECT CITY	LOS ALAMOS, NM		
PROJECT STATE	NM		
PROJECT ZIP	87545		
PROJECT PHONE	505-287-2811		
PROJECT FAX	505-287-2811		
PROJECT EMAIL	wlt@lanl.gov		
PROJECT URL	http://www.lanl.gov		

Los Alamos National Laboratory
 Los Alamos, New Mexico 87545



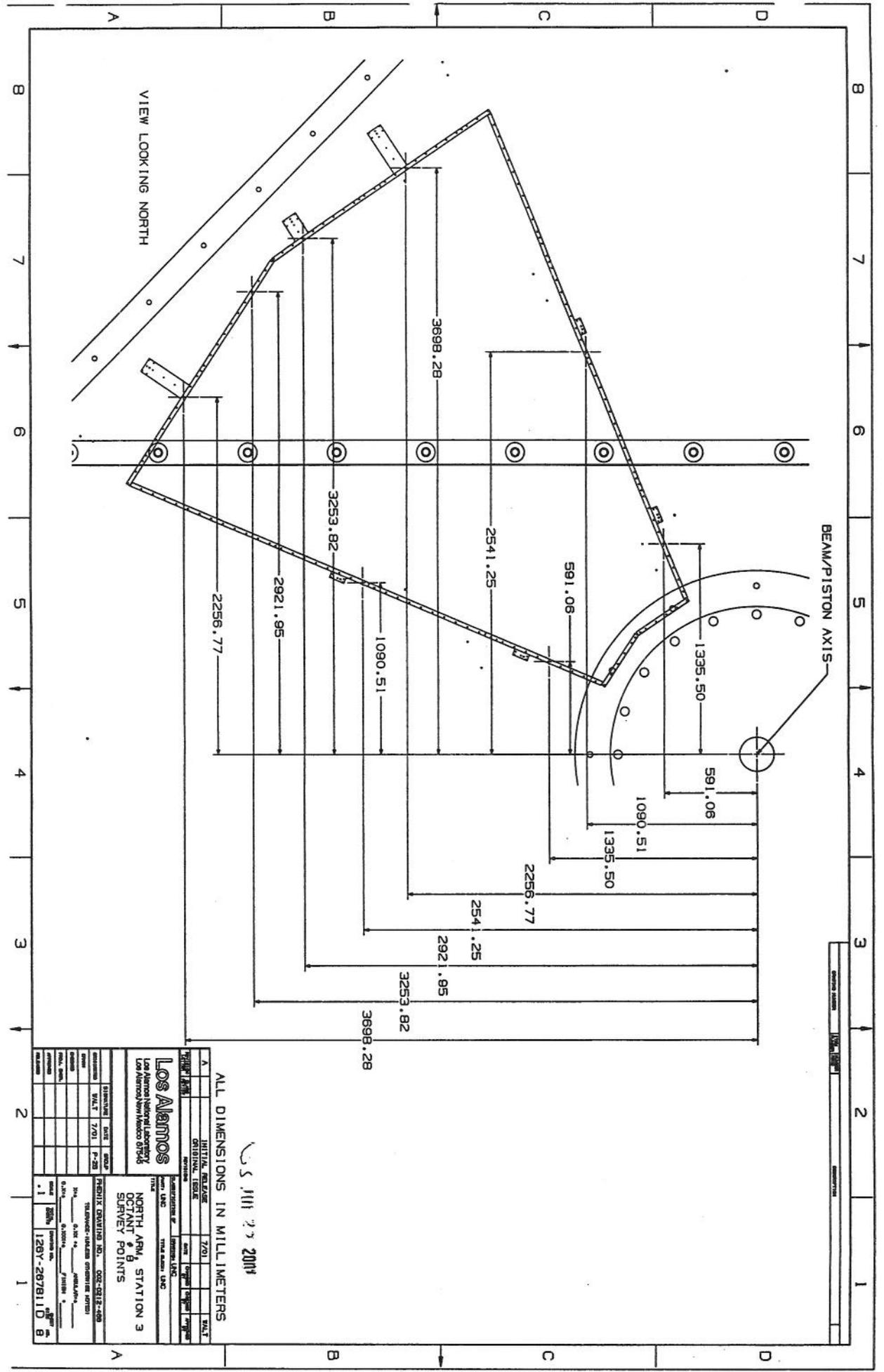
VIEW LOOKING NORTH

BEAM/PISTON AXIS

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JUL 27 2001

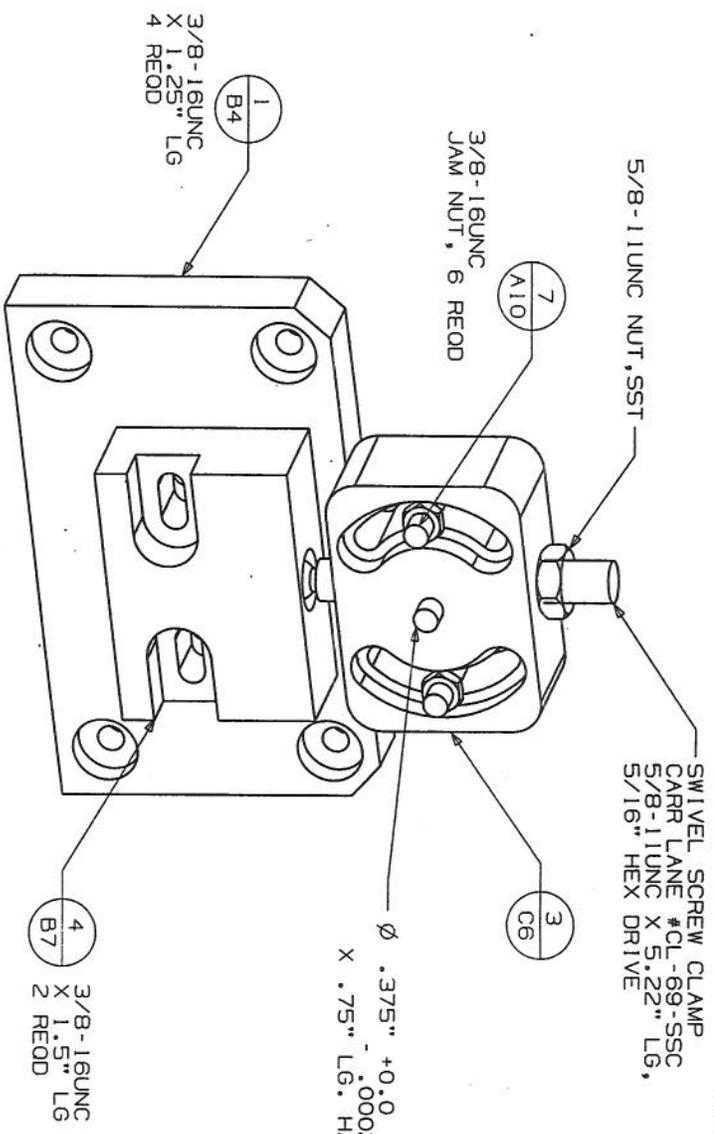
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DATE	7/01	ORIGINAL ISSUE		
Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545				
PROJECT TITLE NORTH ARM, STATION 3 OBTAIN SURVEY POINTS				
DRAWING NO. 128Y-287811D				
SCALE 1:1				



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5 JUN 27 2009

Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545		PROJECT NORTH ARMA STATION 3 SURVEY POINTS	
DATE 7/01	SCALE P-28	PROJECT NO. 000-0012-000	DATE 7/01
DESIGNED BY [Name]	CHECKED BY [Name]	DATE 7/01	DATE 7/01
PROJECT MANAGER [Name]	PROJECT ENGINEER [Name]	DATE 7/01	DATE 7/01



5/8-11UNC NUT, SST

3/8-16UNC JAM NUT, 6 REOD

SWIVEL SCREW CLAMP
CARR LANE #CL-69-SSC
5/8-11UNC X 5.22" LG,
5/16" HEX DRIVE

ϕ .375" \pm 0.0002
X .75" LG. HARDENED DOWEL

3/8-16UNC X 1.5" LG
2 REOD

SUPPORT CONE ASSY
8 REOD
X & Y ADJUSTMENT

AUG 20 1999

NOTE
1. ORIENTATION OF 3/8 THR. ROD
MAY VARY.

ITEM NUMBER	REOD	DESCRIPTION

CLASSIFICATION:		PART:		TITLE BLOCK:		REV		CLASS		ORIGINAL ISSUE		TITLE		SCALE		TOTAL SHEETS		DRAWING NO.		SIZE		NO.	
ORIG		SIGNATURE		DATE		GROUP																	
DRAWN	CLARK			8/99		P-25																	
CHECKED																							
PROJ ENGR																							
APPROVED																							
RELEASED																							

LOS ALAMOS

LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO, 87545

TOLERANCE - (UNLESS OTHERWISE NOTED)
X.4 0.1X X.8 .0001
X.8 0.0001 X.8 .0001

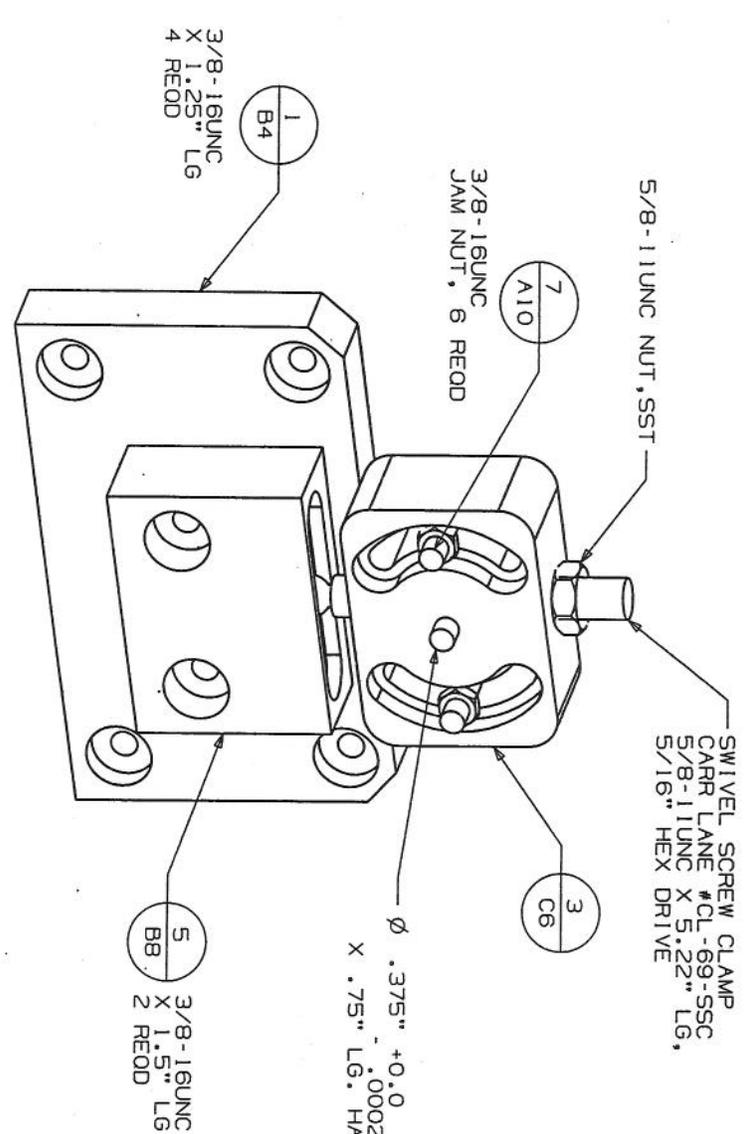
PHENIX MUON
KINEMATIC MOUNT
SUPPORT CONE ASSY

PHENIX DRAWING NO. 002-0212-524

SCALE 1:1
TOTAL SHEETS 126Y-267771 B 1

ITEM	MANAGER	DESCRIPTION
MANAGER	REOD	

NOTE
1. ORIENTATION OF 3/8 THR. ROD
MAY VARY.



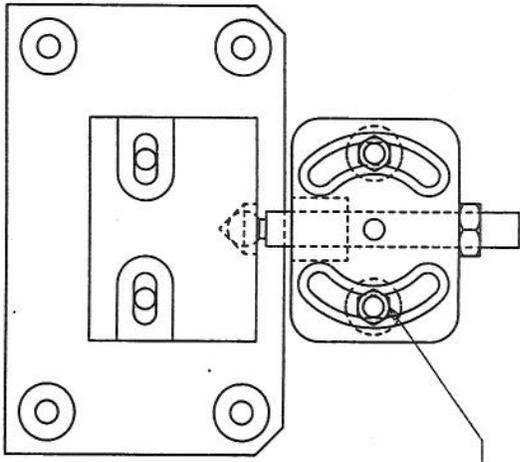
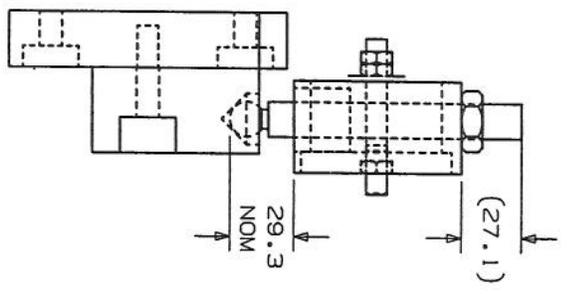
SUPPORT SLIDE ASSY
B REOD
Y ADJUSTMENT
X FREEDOM

U.S. AUG 20 1999

CLASSIFICATION	PART	TITLE BLOCK	REV	DATE	GROUP	ORIGINAL	ISSUE	DATE	CHANGED BY	CHECKED BY	APPROVED BY
DRAWING											
ORIG	SIGNATURE	DATE									
DRAWN	CLARK	7-99									
CHECKED											
PROJ ENGR											
APPROVED											
RELEASED											

LOS ALAMOS		ORIGINAL		ISSUE	
LOS ALAMOS NATIONAL LABORATORY		REVISIONS			
LOS ALAMOS, NEW MEXICO, 87545					
TOLERANCE-UNLESS OTHERWISE NOTED!		TITLE		PHENIX MOUNT	
X+.0005		SCALE		TOTAL	
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X+.0005		PHENIX DRAWING NO.		DRAWING NO.	
X+.0005		002-0212-524		126Y-267771	
X+.0005		SIZE		NO.	
X+.0005		B		2	

ITEM NUMBER	DESCRIPTION



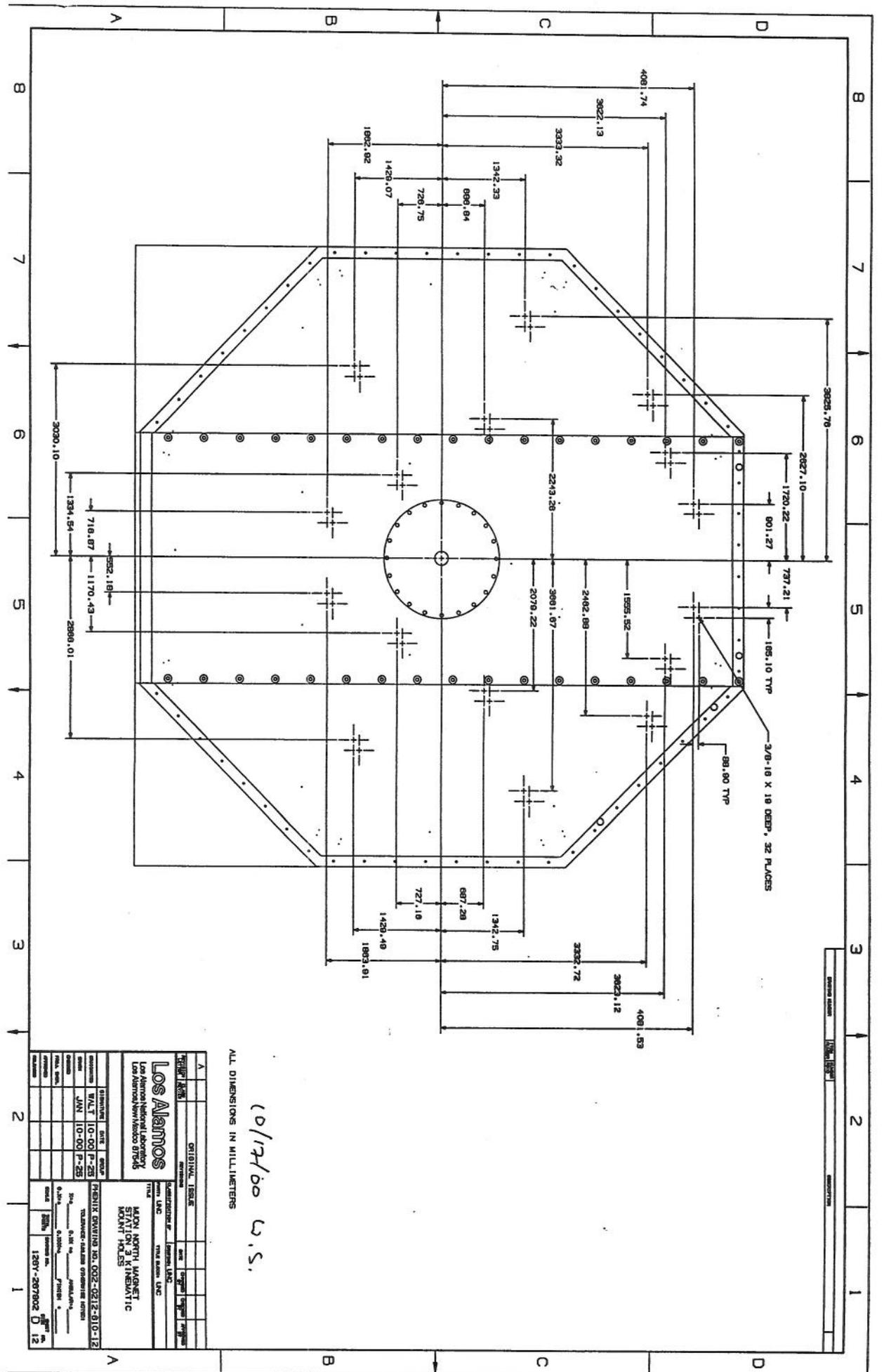
ANGULAR POS'N OF THESE BOLTS WILL VARY BY PANEL LOCATION

NOMINAL SETTING FOR KINEMATIC MOUNT
SUPPORT CONE ASSY

CLASSIFICATION:	PART:	TITLE BLOCK:	REV:	CLASS:	REVISIONS:	ORIGINAL ISSUE:	DATE:	CHANGED BY:	CHECKED BY:	APPROVED BY:
DRAWING:	SIGNATURE:	DATE:	GROUP:							
ORIG:										
DRAWN:	CLARK	4/00	P-25							
CHECKED:										
PROJ ENGR:										
APPROVED:										
RELEASED:										

5 APR 17 2000

LOS ALAMOS	TITLE	SCALE	TOTAL SHEETS	DRAWING NO.	SIZE	NO.
LOS ALAMOS NATIONAL LABORATORY LOS ALAMOS, NEW MEXICO, 87545	PHENIX MUON KINEMATIC MOUNT SUPPORT CONE ASSY	.5		002-0212-524	8	1A
TOLERANCE - (UNLESS OTHERWISE NOTED): X1/8 0.001 X4 0.0004 FIN						



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10/17/00 U.S.

Los Alamos Los Alamos National Laboratory Los Alamos, New Mexico 87545		PROJECT MAJON NORTH MARKET STATION 3 KINEMATIC MAJON 1925S	
DATE 10-00 P-25 10-00 P-25	GROUP P-25	PROJECT NO. 002-0212-910-12	SCALE 1/8" = 1'-0"
DESIGNED BY [Signature]	CHECKED BY [Signature]	DATE 12/91	PROJECT NO. 1291-287802
PROJECT TITLE MAJON NORTH MARKET STATION 3 KINEMATIC MAJON 1925S	PROJECT NO. 002-0212-910-12	SCALE 1/8" = 1'-0"	PROJECT NO. 1291-287802

