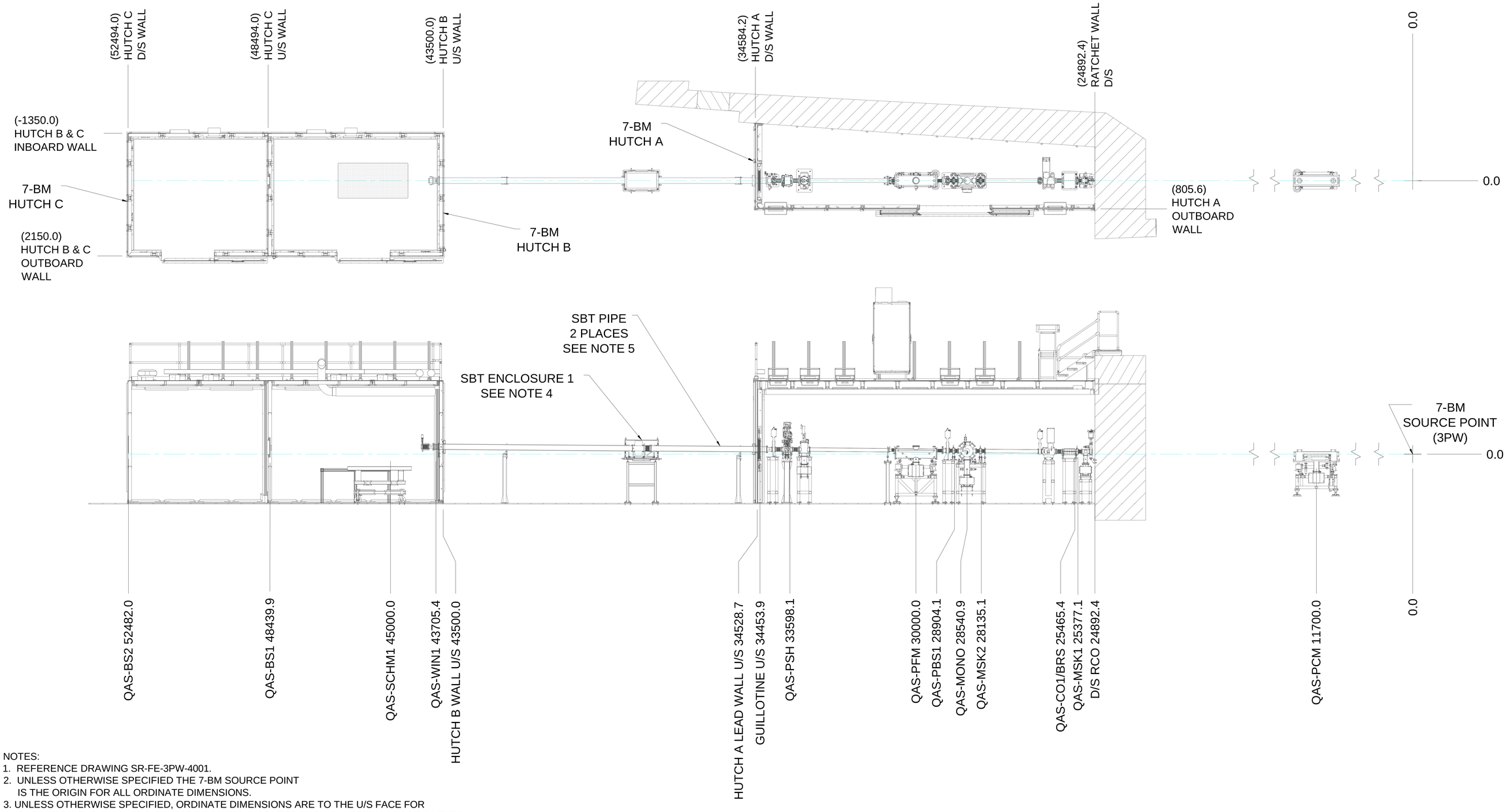
REVISION HISTORY					
REV	DESCRIPTION	DATE	DESIGNER	CHECKED BY	ENGINEER
A	RELEASE PER ECO-004624	8/2017	M. JOHANSON	C. STELMACH	L. LIENHARD



NOTES:
1. REFERENCE DRAWING SR-FE-3PW-4001.
2. UNLESS OTHERWISE SPECIFIED THE 7-BM SOURCE POINT IS THE ORIGIN FOR ALL ORDINATE DIMENSIONS.
3. UNLESS OTHERWISE SPECIFIED, ORDINATE DIMENSIONS ARE TO THE U/S FACE FOR Pb SHIELDS AND Cu MASKS, TO THE GEOMETRIC CENTER FOR NON-OPTICAL COMPONENTS (E.G. Be WINDOW), AND TO THE OPTICAL CENTER FOR OPTICAL COMPONENTS.
4. SBT ENCLOSURE 1 MIN. LEAD THICKNESS: 5mm ALL AROUND.
5. SBT SHIELDED PIPE MIN. LEAD THICKNESS: 5mm WRAP ALL AROUND.
6. FOR COMPONENTS REFERENCED BY THIS NOTE SYNCHROTRON BEAM IMPINGES ON MASK AT NORMAL INCIDENCE OUTSIDE OF TAPERED APERTURE, PER HEAT LOAD CALCULATION "PD-QAS-MSK-CALC-1101" THIS IS ACCEPTABLE.

SPECIFICATIONS		REFERENCE
Project	BDN PROJECT	LT-EDP-015-042
Source	Three Pole Wiggler (3PW)	LT-C-SPC-SR-ID-BL-3PW-001 VERSION 1
Beam Line Name	QUICK X-RAY ABSORPTION SPECTROSCOPY BEAMLINE	LT-EDP-015-042
Abbreviation	QAS	LT-EDP-015-042
Period of insertion device	N/A	N/A
Cell	7-BM	LT-EDP-015-042
Length of Source	250 mm	LT-C-ASD-RSI-002
Location of Source (from Start of Bending Magnet)	366 mm	LT-C-ASD-RSI-002
Ray Tracing Procedure		PS-C-XFD-PRC-008 VERSION 2
Front End Ray Tracing Drawing		SR-FE-3PW-4001 REV B

ABBREVIATIONS:
BRS - BREMSSTRAHLUNG STOP
BS - BEAM STOP
CO - BREMSSTRAHLUNG COLLIMATOR
D/S - DOWNSTREAM
MONO - MONOCHROMATER
MSK - FIXED MASK
PBS - PINK BEAM STOP (FIXED MASK)
PCM - PHOTON COLLIMATING MIRROR
PFM - PHOTON FOCUSING MIRROR
PSH - PHOTON SHUTTER
RCO - RATCHET WALL COLLIMATOR
SBT - SHIELDED BEAM TRANSPORT
SCHM - SAMPLE CHAMBER
SLT - SLIT
U/S - UPSTREAM
WIN - WINDOW

QAS (7-BM)
BEAMLINE LAYOUT
SCALE: 1:40

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN MILLIMETERS
DIMENSIONS IN BRACKETS [xx.xx] (WHERE PRESENT) ARE INCHES AND ARE FOR REFERENCE ONLY
INTERPRET DRAWING AS PER ANSI Y14.5-1994 OR Y32.2-1975

DIMENSIONAL TOLERANCES: X.- ± 1.500, .X ± 0.750, .XX ± 0.400, .XXX ± 0.120
ANGULAR TOLERANCE: ± .5°
FINISH: 3.2
BREAK EDGES & SHARP CORNERS 0.120 MIN. TO 0.799 MAX.

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UPTON, NEW YORK 11973
Exploring Life's Mysteries, Protecting its Future

NSLS II NATIONAL SYNCHROTRON LIGHT SOURCE II

DRAWN BY	M. JOHANSON	8/2017
CHECKED BY	C. STELMACH	8/2017
VACUUM APPROVAL	-	-
ENGINEER APPROVAL	L. LIENHARD	8/2017
SUPERVISOR APPROVAL	S. EHRLICH	8/2017
ESH APPROVAL	L. STIEGLER	8/2017
QA APPROVAL	J. ZIPPER	8/2017

PHOTON DIVISION
QAS (7-BM)
BEAMLINE RAY TRACE

NEXT ASSY: N/A
PROJECT: BDN
THIRD ANGLE PROJECTION
SCALE: SEE VIEW
WBS# 6.08.03
SHEET SIZE: E
DRAWING/RAYT NUMBER: PD-QAS-RAYT-0001
REVISION: A
ESH&Q RISK LEVEL: A1
SHEET 1 OF 8

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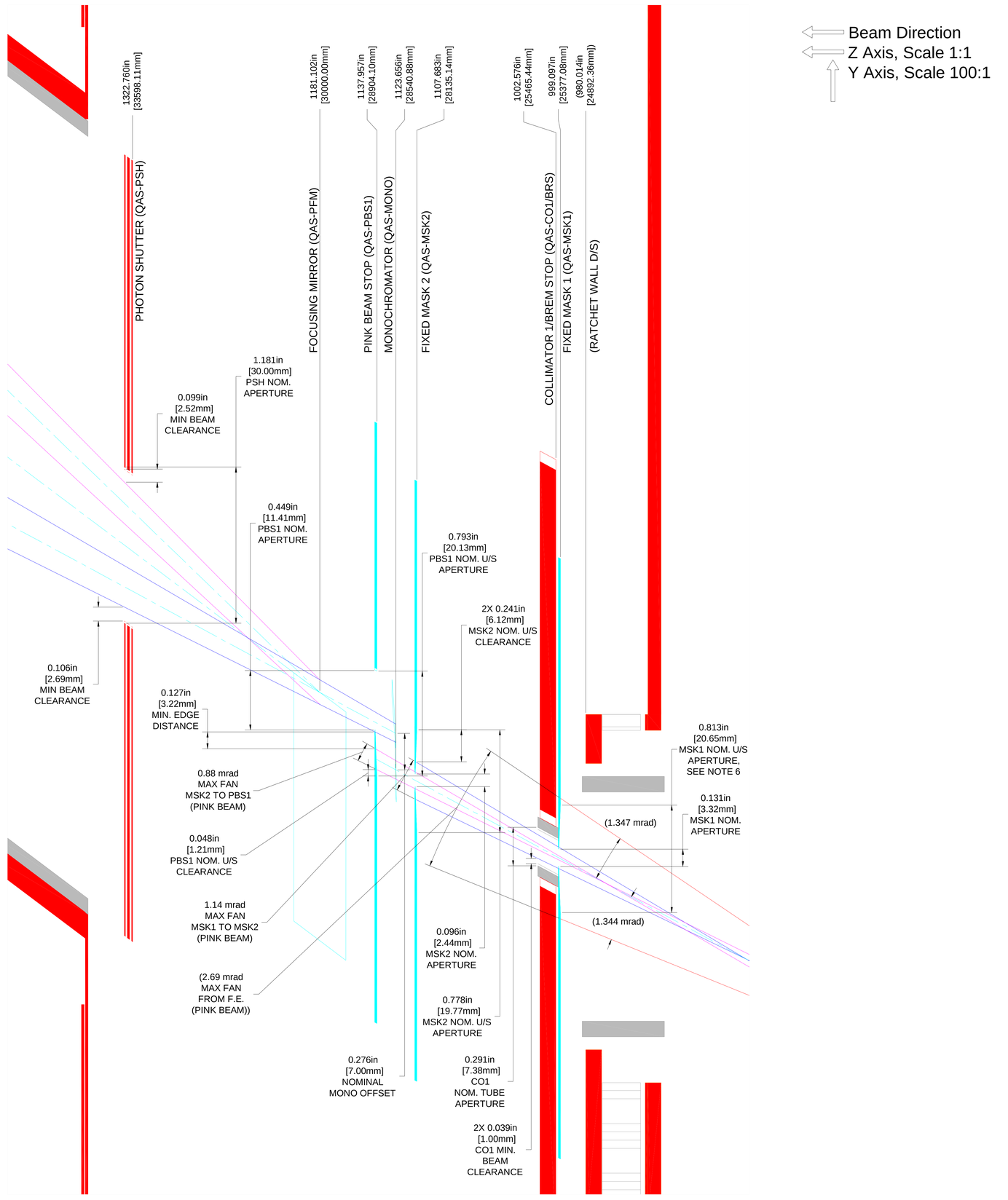

DETAIL A

Scale 1:30

E	PD-QAS-RAYT-0001	A
SHEET SIZE	DRAWING/PART NUMBER	REVISION
ESH&Q RISK LEVEL A1	SHEET 4 OF 8	

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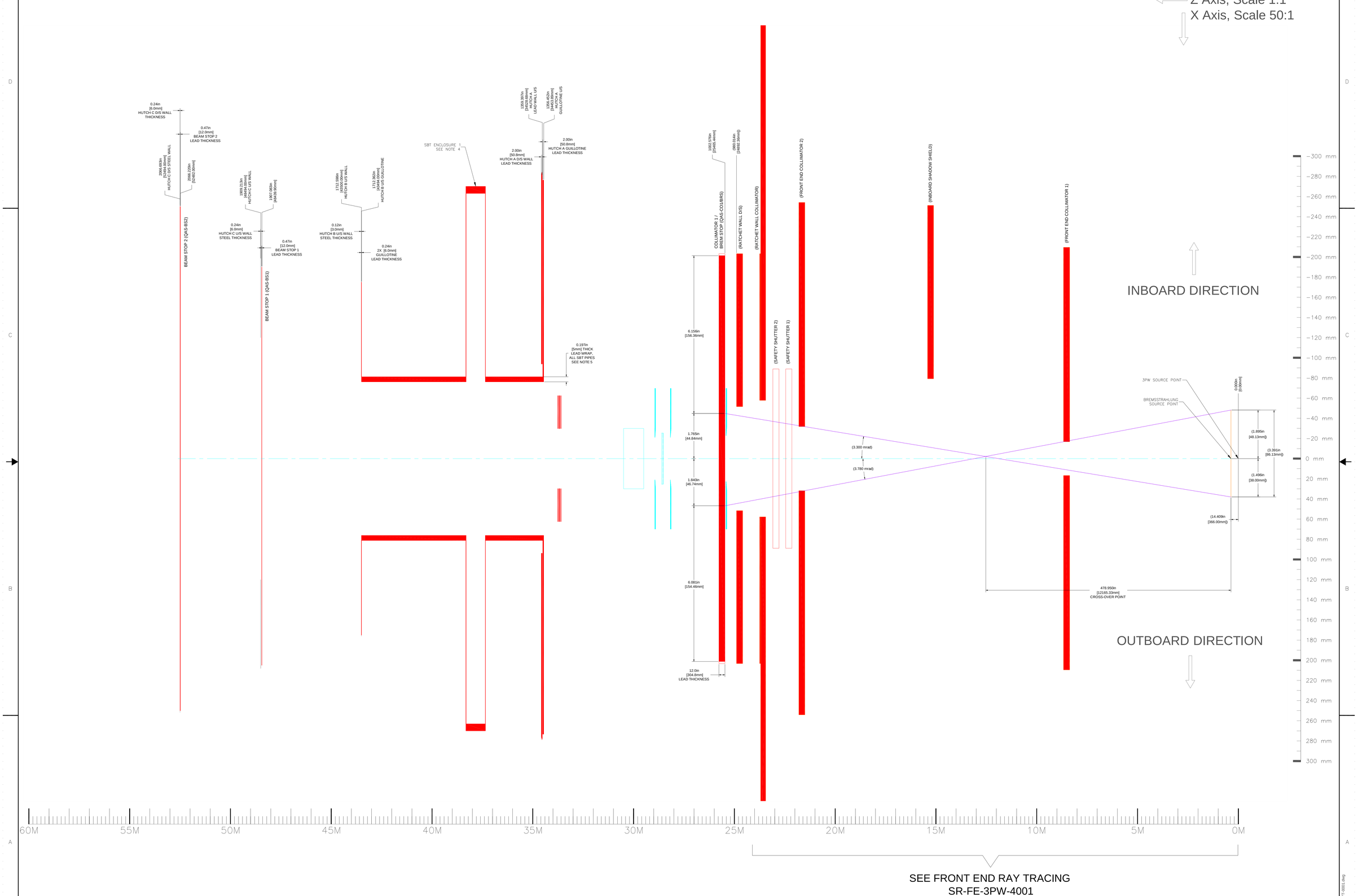
RELEASED – EFFECTIVE

TABLE OF TOLERANCED DIMENSIONS (mm)

LINE	DESCRIPTION	NOMINAL	±	FABRICATION	±	POSITION	=	TOTAL
1	BREMSSTRAHLUNG STOP LEAD APERTURE (CO1/BRS)	54.46	+	2 x 1.5	+	2 x 0.18	=	57.82 MAX



BREMSSTRAHLUNG RAY TRACING - HORIZONTAL

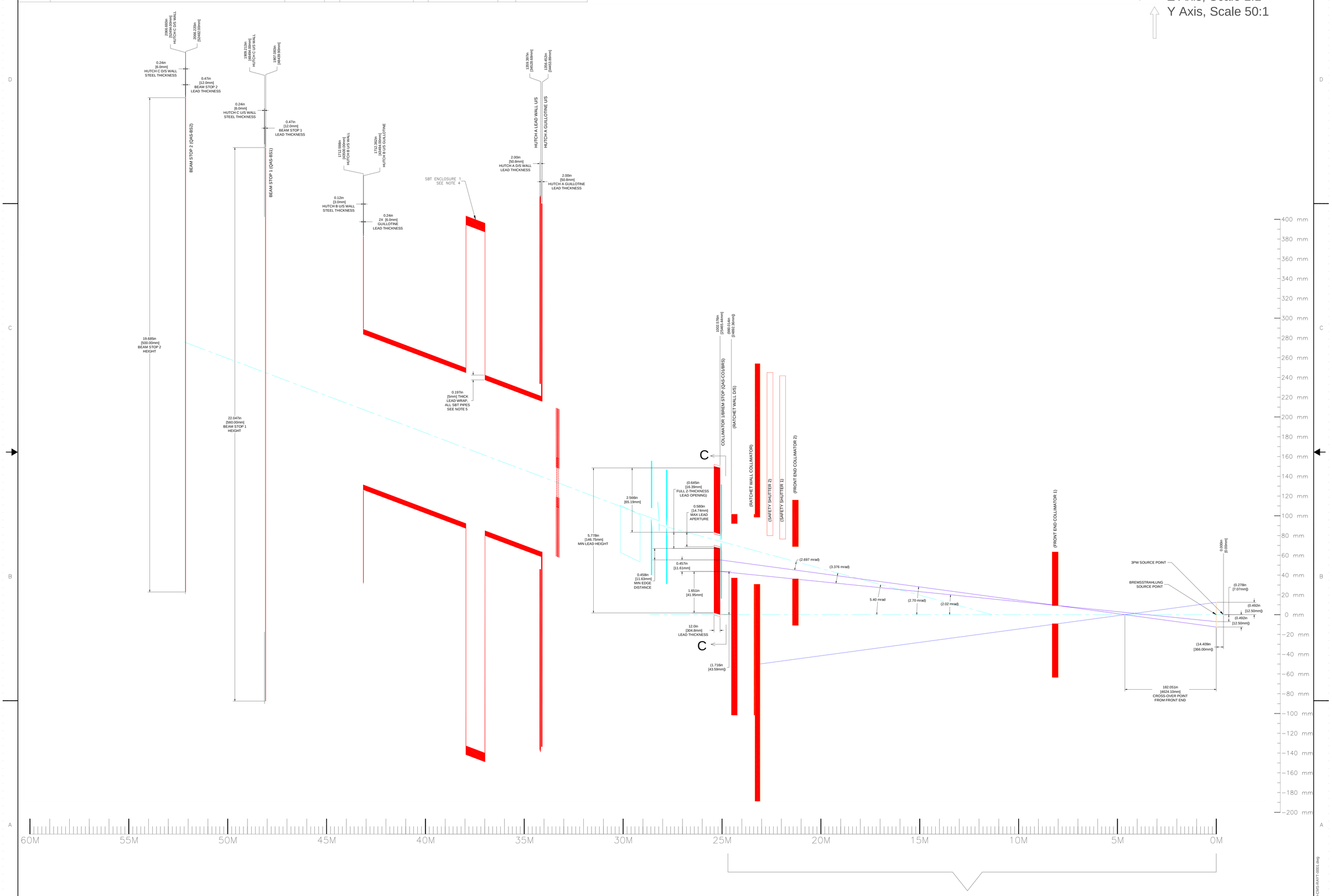
Scale 1:60

E	PD-QAS-RAYT-0001	A
SHEET SIZE	DRAWING/PART NUMBER	REVISION
ESH&Q RISK LEVEL A1	SHEET 5 OF 8	

RELEASED – EFFECTIVE

TABLE OF TOLERANCED DIMENSIONS (mm)

LINE	DESCRIPTION	NOMINAL	±	FABRICATION	±	POSITION	=	TOTAL
1	BREMSSTRAHLUNG STOP LEAD APERTURE (CO1/BRS)	11.38	+	2 x 1.5	+	2 x 0.18	=	14.74 MAX



SEE FRONT END RAY TRACING
SR-FE-3PW-4001

BREMSSTRAHLUNG RAY TRACING - VERTICAL

Scale 1:60

E	PD-QAS-RAYT-0001	A
SHEET SIZE	DRAWING/PART NUMBER	REVISION
ESH&Q RISK LEVEL A1	SHEET 6 OF 8	

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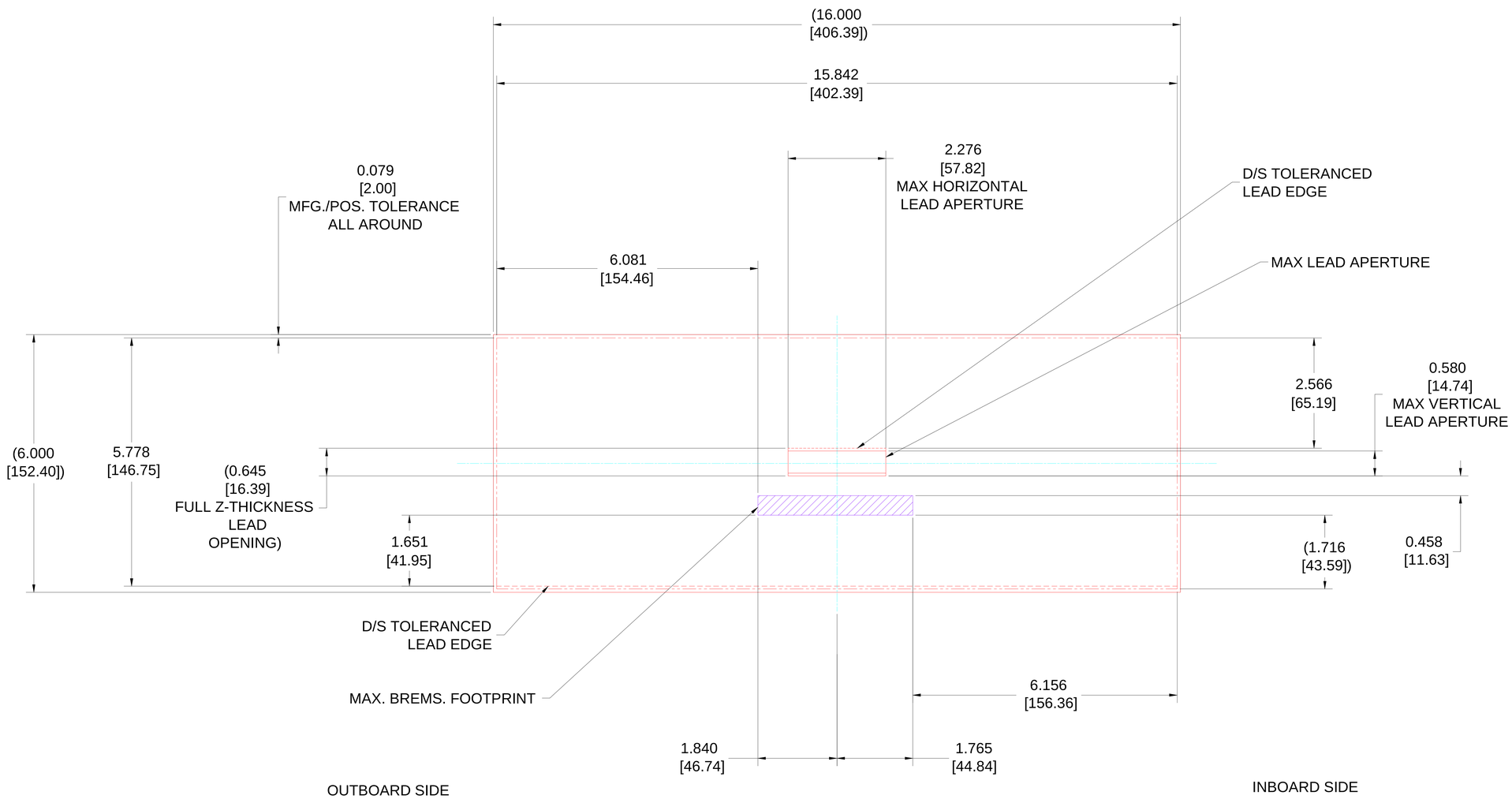

SECTION C-C (AT U/S FACE OF LEAD)
LEAD BREMSSTRAHLUNG COLLIMATOR/STOP 1 (QAS-CO1/BRS)

BREMSSTRAHLUNG STOP DETAILS

Scale 1:1

E	PD-QAS-RAYT-0001	A
SHEET SIZE	DRAWING/PART NUMBER	REVISION
ESH&Q RISK LEVEL A1	SHEET 7 OF 8	

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