

Radiation Consulting Associates, Inc.

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Radiation Shielding Calculations

PET/CT-Room D-313

MIAMI VA HEALTHCARE SYSTEM

1201 NW 16th Street

Miami, FL 33125

**May 27, 2015
(Revised 09/18/15)**

STATEMENT OF SHIELDING CALCULATIONS

FACILITY: MIAMI VA HEALTHCARE SYSTEM

LOCATION: PET/CT

ROOM DESIGNATION: D-313

DATE PERFORMED: 27 MAY 2015

DATE SUBMITTED: 04 JUNE 2015

WALL SECTION	LEAD SHIELDING REQUIRED (mm / inch)	MINIMUM HEIGHT (ft.)
WALL <u>A-B</u>	1.59 / 1/16	7.0
WALL <u>B-C</u>	1.59/ 1/16	7.0
WALL <u>C-D</u>	1.59 / 1/16	7.0
WALL <u>D-E</u>	1.59/ 1/16	7.0
WALL <u>E-F</u>	1.59/ 1/16	7.0
WALL <u>F-G</u>	1.59/ 1/16	7.0
WALL <u>G-H</u>	1.59/ 1/16	7.0
WALL <u>H-A</u>	1.59/ 1/16	7.0
WALL <u>A-I</u>	1.59/1/16	7.0
WALL <u>I-J</u>	1.59/1/16	7.0
WALL <u>J-K</u>	1.59/1/16	7.0
WALL <u>K-N</u>	1.59/1/16	7.0
WALL <u>K-L</u>	1.59/1/16	7.0
WALL <u>L-M</u>	1.59/1/16	7.0
WALL <u>M-N</u>	1.59/1/16	7.0
WALL <u>O-P</u>	1.59/1/16	7.0
WALL <u>O-R</u>	1.59/1/16	7.0
WALL <u>R-Q</u>	1.59/1/16	7.0

WALL Q-P

1.59/1/16

7.0

Doors must be at least 1.59mm/ 1/16 inch lead.

Control booth window must be at least 1.59mm/ 1/16 inch lead glass equivalent.

No shielding is required for the ceiling and floor.

COMMENTS: All vents, junction boxes, switches and utility boxes must be properly back with lead.



PERFORMED BY:

A handwritten signature in black ink, appearing to read "M.A. Thompson III", written over a horizontal line.

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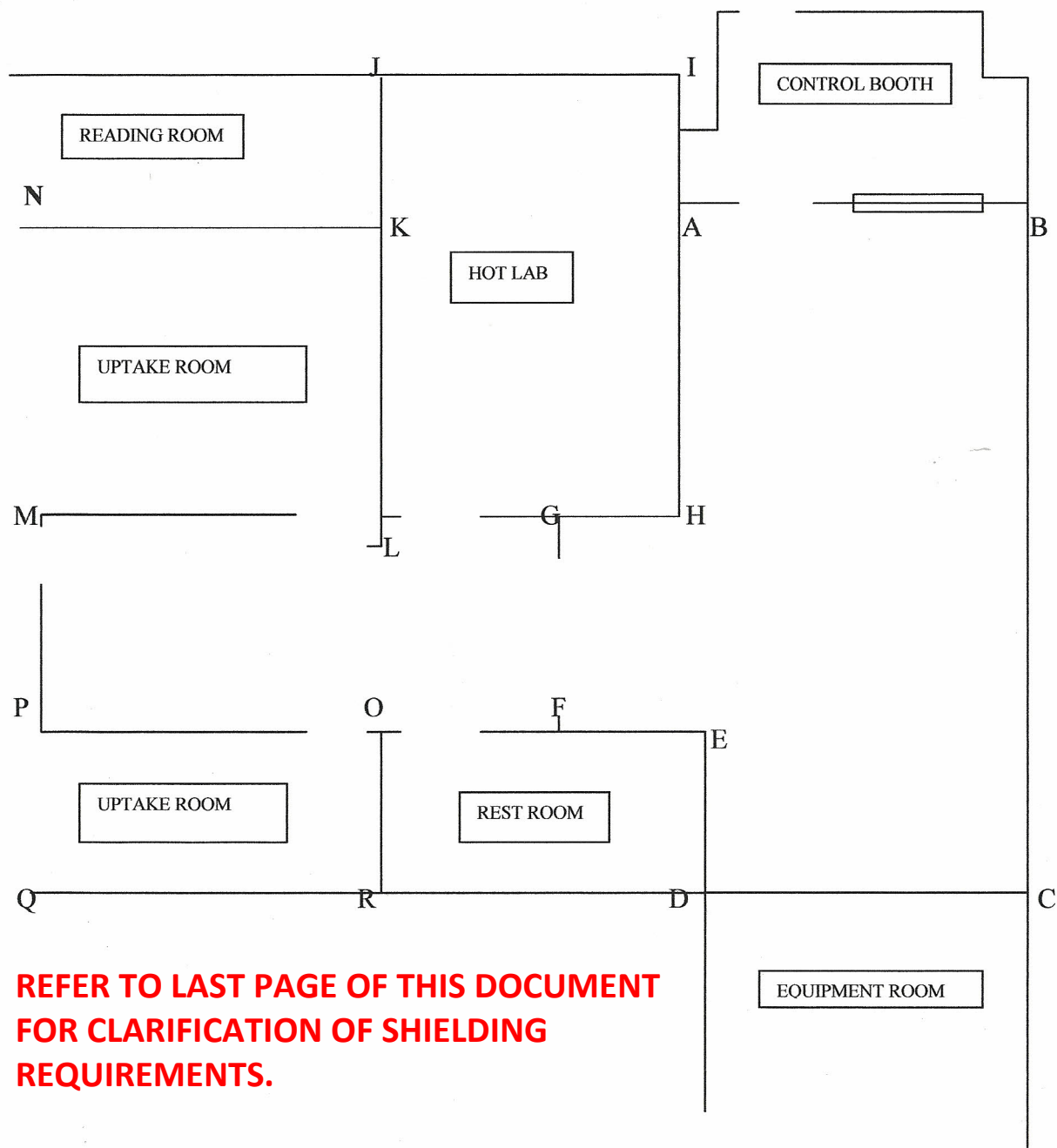


Figure 1. PET/CT DIAGRAM

Diagram not to scale.

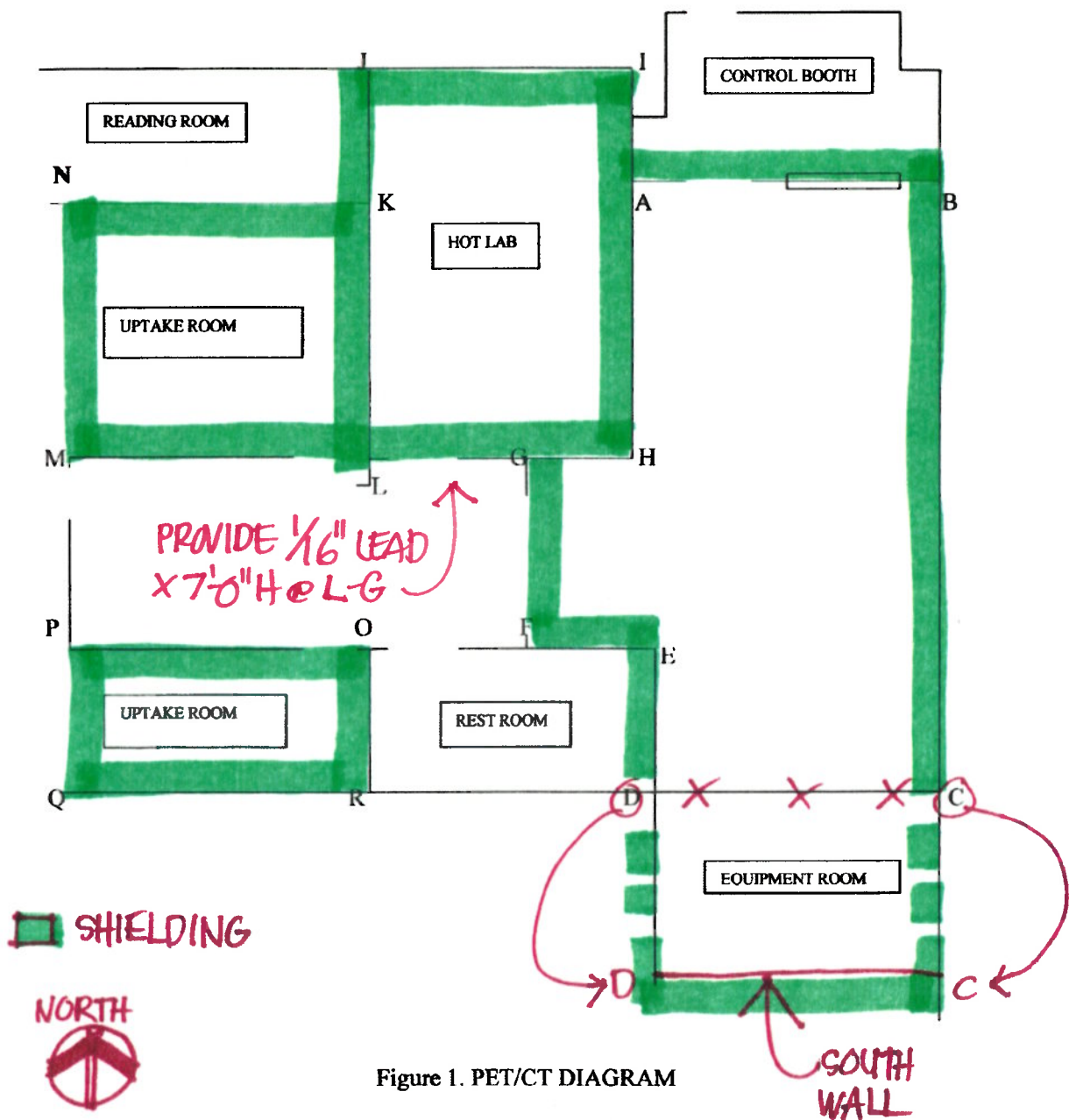
AE COMMENTS

1. Shielding for Wall BC and Wall ED should extend to South Wall of Equipment Room as marked.
2. Shielding for Wall CD should be installed in South Wall of Equipment Room as marked. The hinged pair of glass doors in the North Wall of the Equipment Room cannot be shielded in a cost effective manner.
3. Please confirm that Radiation Consulting Associates, Inc. concurs with these comments.

SHIELDING CALCULATIONS*

*All shielding calculations follow the NCRP Report No. 147 Guidelines.
See the following diagram for all wall designations.

$$B_{\text{sec}}(x_{\text{barrier}}) = (P/T) (d_{\text{sec}}^2 / (K_{\text{sec}}^1)(N))$$



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3. Please confirm that Radiation Consulting Associates, Inc. concurs with these comments. **RCA Concurs.**