



1465 EAST PARKDALE AVENUE • MANISTEE, MICHIGAN 49660 • (616)723-3501

May 3, 1985

USNRC Material Licensing Division
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Re: Amendment to license #21-16277-01

Gentlemen:

Please amend the radioactive materials license at West Shore Hospital to reflect the following changes:

- 1) Diagram D gives results of a close-out survey for the room our nuclear medicine department was located in.
- 2) Diagram A describes the floor plan of the room proposed for use as the nuclear medicine department. Diagram B gives the proposed room layout for equipment and also the (numbered) areas for daily and weekly surveys and wipes. Diagram C shows the location of radioactive waste storage in a locked storage cabinet in the basement. Access to this area is controlled and the cabinet is properly labeled.

Please contact either myself at (616) 723-3501 or Mr. Tony Mason (Medical Physics Consultants) at (313) 662-3197 with questions we can help clarify.

Sincerely,

Burton O. Parks
Administrator

BOP:kmt

Applicant	May 84 III
Check No.	12491 \$100
Amount For Collection	7C
Ex. 1-100	and
Date Check Paid	5/20/85
Received By	[Signature]

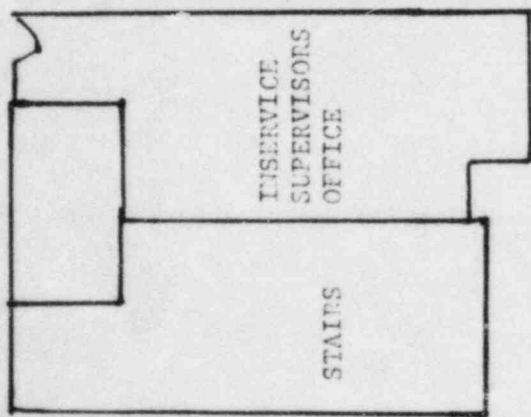
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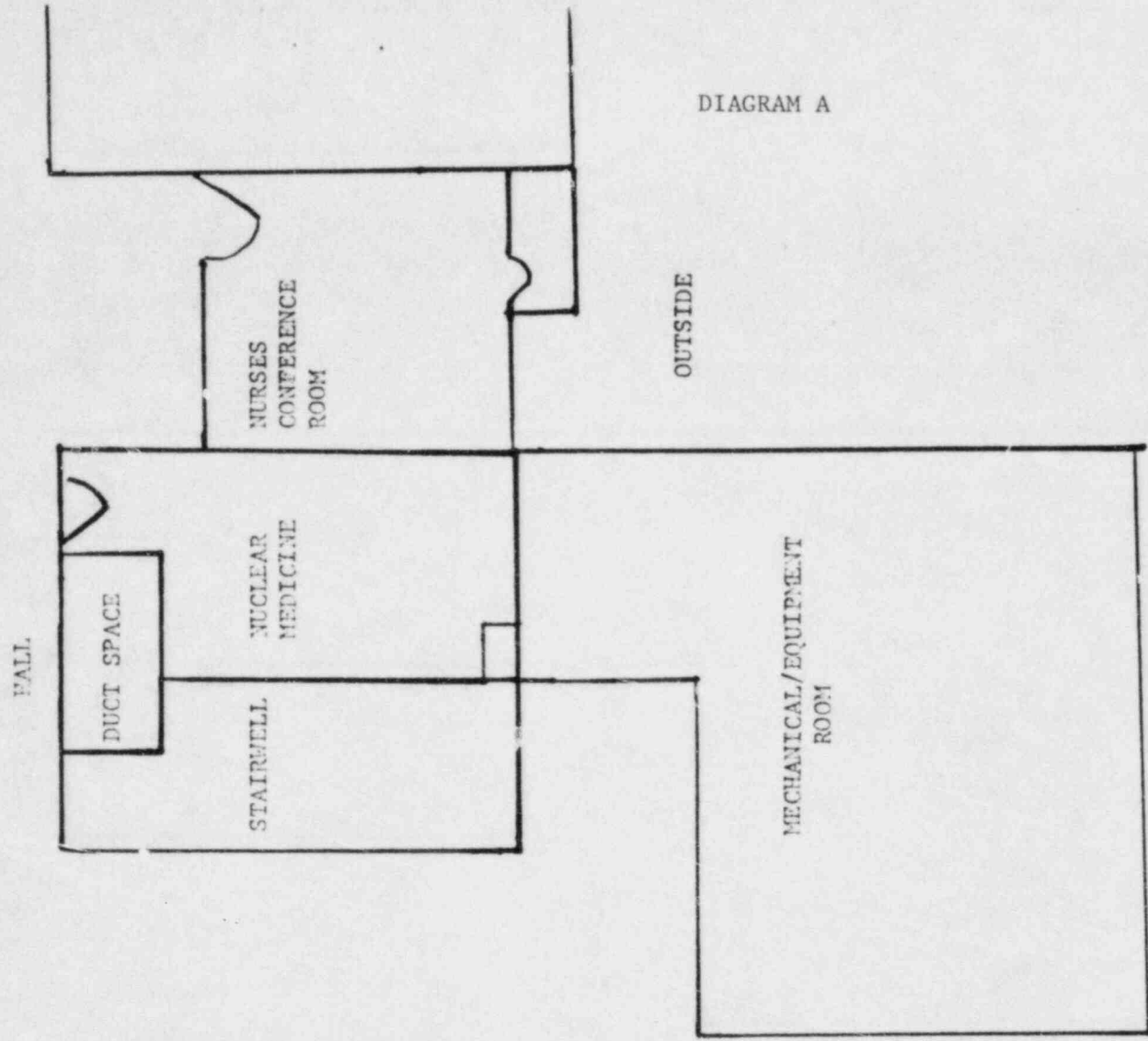
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3rd FLOOR

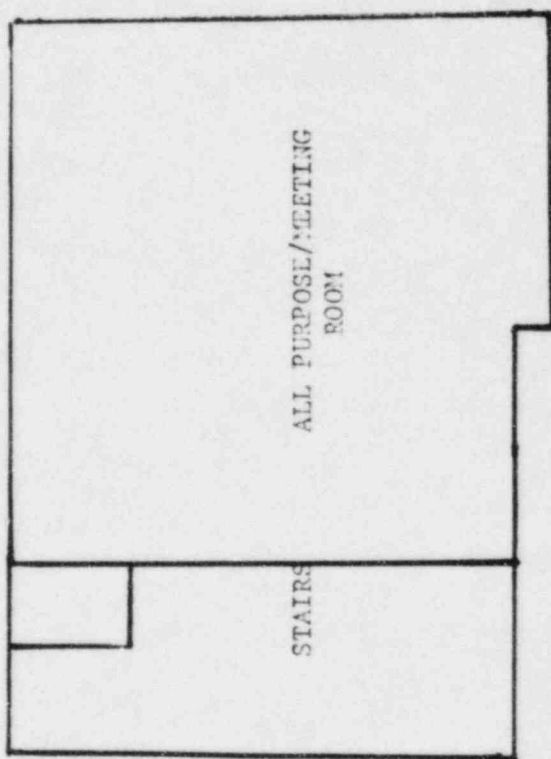


2nd FLOOR

ROOMS ADJACENT TO NUCLEAR MEDICINE WEST SHORE HOSPITAL

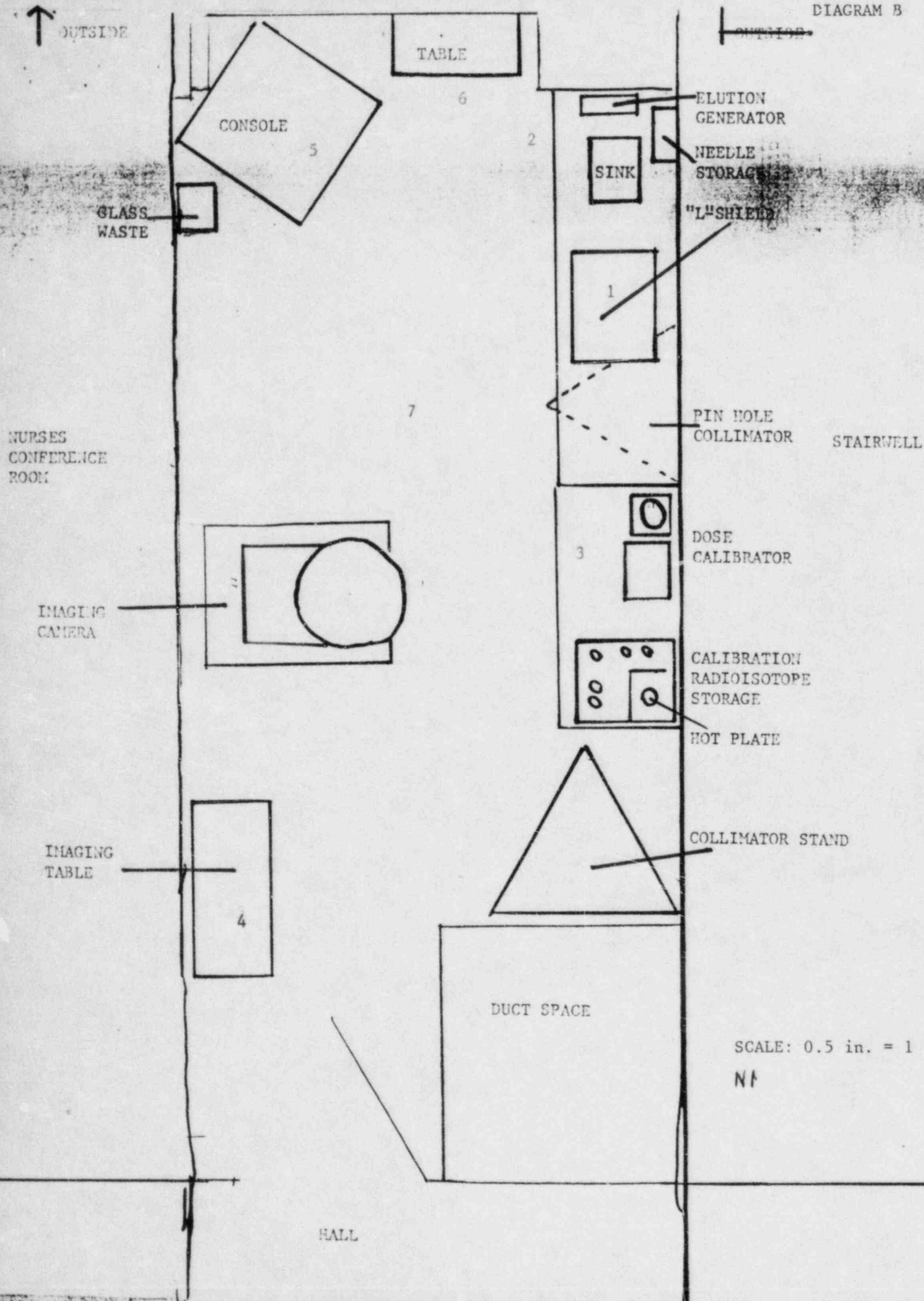


1st FLOOR

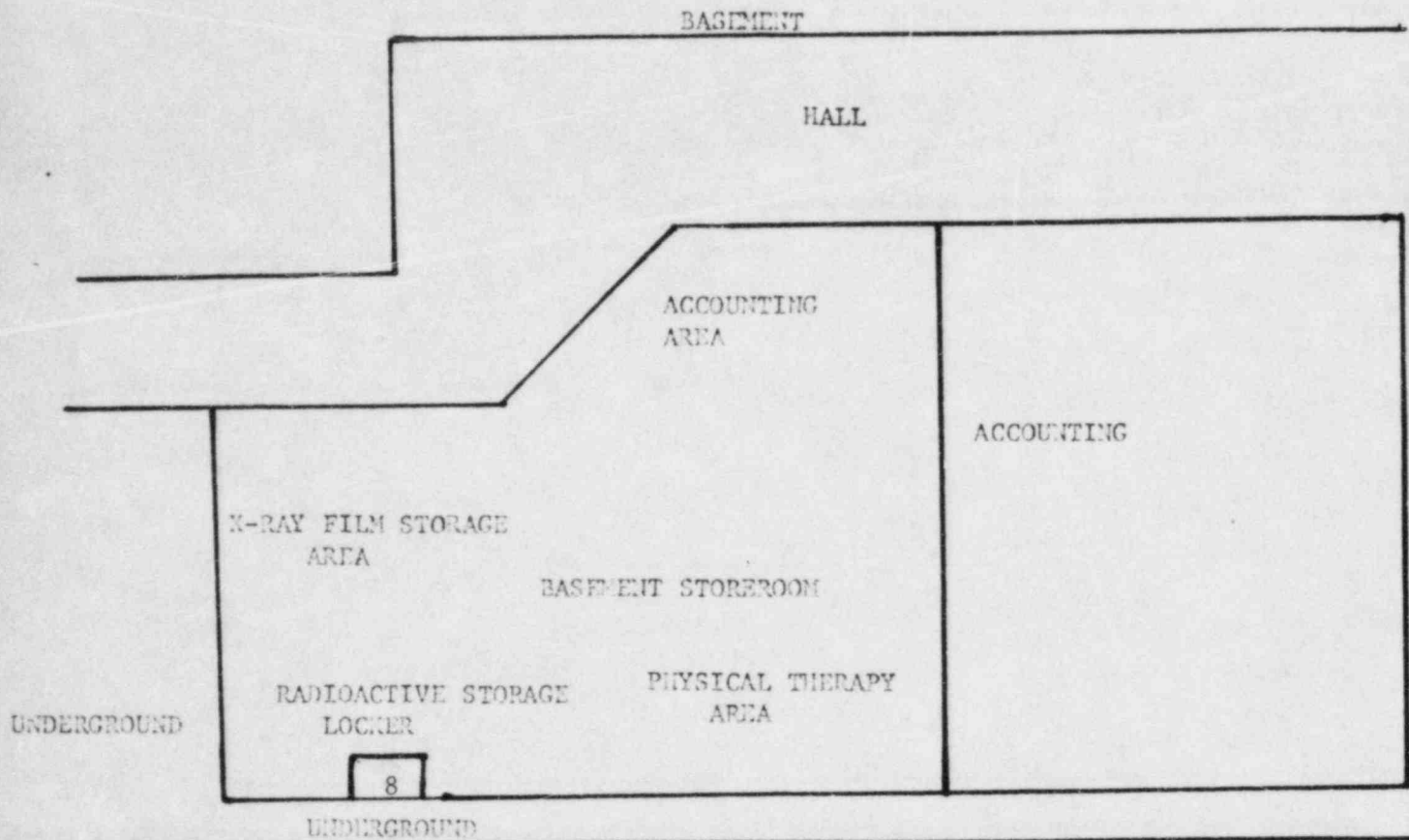


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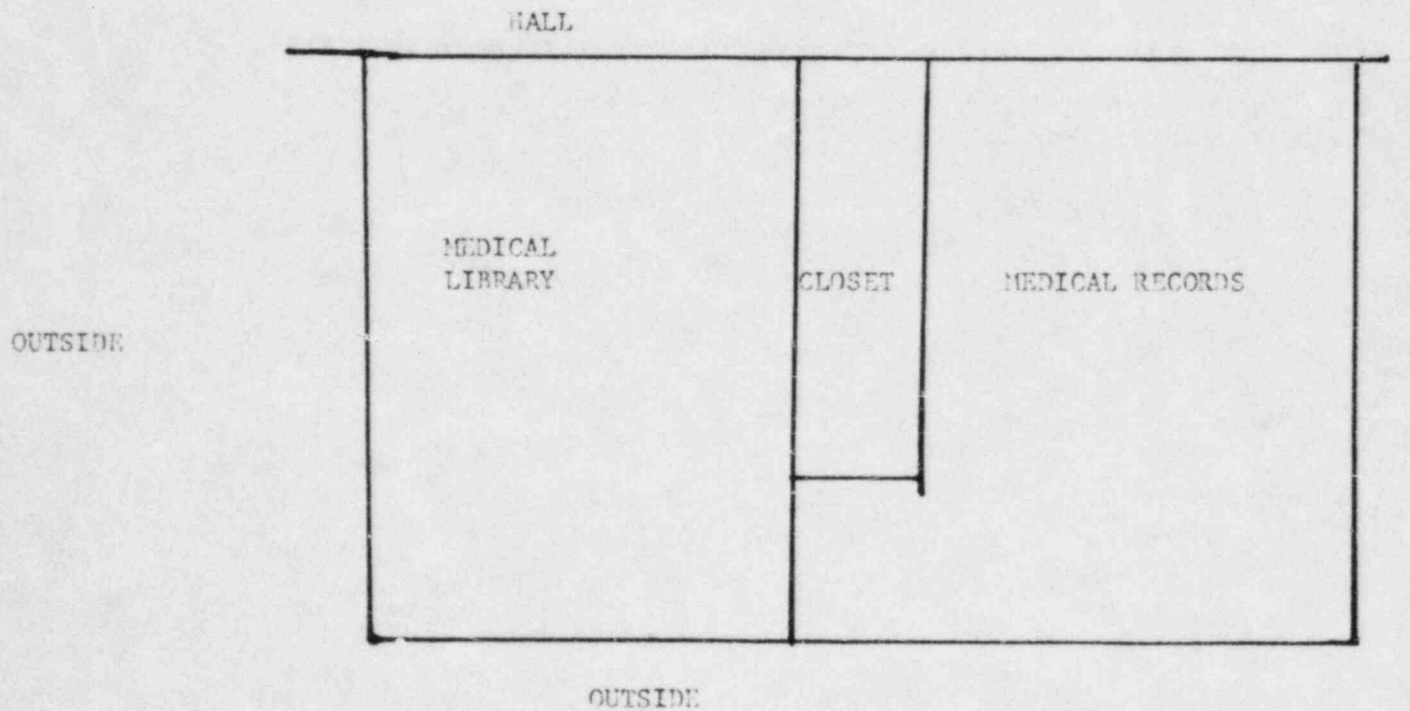




WEST SHORE HOSPITAL-RADIOACTIVE STORAGE AREA



1st FLOOR



SCALE: 0.15 in. = 1 ft.

N

West Shore Hospital
Close Out Survey/Wipe Test
outside

Meter: Victoreen
CDU 700

BKG = .04 mR/hr

Area Survey

- 1 = BKG
- 2 = BKG
- 3 = BKG
- 4 = BKG
- 5 = BKG
- 6 = BKG
- 7 = BKG

Radioactive Storage

1

Sink
2

4

5

Cupboard
3

6

7

NOTE:

All areas surveyed with the G-M meter were also wiped. The wipes were counted on a Picker uptake probe (see enclosed information). No detectable contamination greater than 0.005 was found.

Scale:

0.05 in. = 1 ft. N↑

MINIMUM DETECTABLE ACTIVITY

Instrument: Picker Uptake Probe
Range: 1 MeV
HV: 404
Window: 100 - 700 keV (Tc-99m, I-131, Co-57, Ba-133
Cs-137, Ga-67, Tl-201)
Background: 1121 cts/10 min.

MDA: $3\sqrt{R_b/t} = 31.76 \text{ cpm}$

MDA with Cs-137

Cs-137 was used as a worst case efficiency. Other radionuclides used in the laboratory would most likely have better efficiencies with the uptake probe. The above method should insure detection capability of 0.005 uCi of radioactive material on the test sample. Ten 1 minute counts of a 15.5 uCi Cs-137 source were taken.

1) 99534 cpm	6) 99497
2) 98770	7) 98949
3) 99299	8) 99591
4) 99168	9) 98920
5) 98501	10) 99157
	$\Sigma = 991386$
	$\bar{x} = 99138.6$

MDA = $31.76 \text{ cpm} / 6396 \text{ (cpm/uCi)} = 0.00497 \text{ uCi}$