

DCS 04/18/80

FORM NRC-313 I (1-79) 10 CFR 30		U.S. NUCLEAR REGULATORY COMMISSION		1. APPLICATION FOR: (Check and/or complete as appropriate) <div style="text-align: right; font-size: 1.2em;">21-18924-01</div>	
APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL				X a. NEW LICENSE	
See attached instructions for details. Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.				b. AMENDMENT TO: LICENSE NUMBER <div style="text-align: right; font-size: 1.2em;">030-17361</div>	
				c. RENEWAL OF: LICENSE NUMBER	
2. APPLICANT'S NAME (Institution, firm, person, etc.) <div style="text-align: center;">Monroe County Road Commission</div> TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION <div style="text-align: center;">(313) 241-9424</div>			3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION <div style="text-align: center;">Barry A. Buschmann</div> TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION <div style="text-align: center;">(313) 241-9424</div>		
4. APPLICANT'S MAILING ADDRESS (Include Zip Code) P.O. Box 726 Monroe, Michigan 48161			5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code) At address listed in item #4 and at temporary jobsites of the applicant in Monroe County, Michigan.		
(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)					
6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL (See Items 16 and 17 for required training and experience of each individual named below)					
FULL NAME			TITLE		
a. All individuals who will use or directly supervise the use of the licensed material					
b. will have taken the required training course in radiation safety and will be					
c. familiar with the proper use of the Moisture-Density gauge.					
7. RADIATION PROTECTION OFFICER Barry A. Buschmann			Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15. See attached resume.		
8. LICENSED MATERIAL					
LINE	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME	
NO.	A	B	C	D	
(1)	Cs 137	Sealed Source	Troxler Drawing #102112	No Source to exceed 9 mCi	
(2)	Am 241:Be	Sealed Source	Troxler Drawing #102451	No Source to exceed 40 mCi	
(3)					
(4)					
DESCRIBE USE OF LICENSED MATERIAL					
(1)	For use in Troxler 3400 series Moisture-Density gauge to measure properties of				
(2)	construction materials.				
(3)					
(4)	<div style="border: 2px solid black; border-radius: 50%; padding: 10px; display: inline-block;"> 8006043104 </div>				

FILE EXEMPT
 Control No. 03114
 170.11(a)(9)

9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	Moisture Density Gauge	Troxler Electronics	3400 series
(2)			
(3)			
(4)			

10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT A	MANUFACTURER'S NAME B	MODEL NUMBER C	NUMBER AVAILABLE D	RADIATION DETECTED (alpha, beta, gamma, neutron) E	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F
(1)	NONE					
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

<input type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY N/A	<input type="checkbox"/> b. CALIBRATED BY APPLICANT Attach a separate sheet describing method, frequency and standards used for calibrating instruments. N/A
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12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
<input checked="" type="checkbox"/> (1) FILM BADGE <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) <input type="checkbox"/> (3) OTHER (Specify): _____ _____ _____	ICN Dosimetry Service 26201 Miles Road Cleveland, Ohio 44128 (216) 831-3000	<input checked="" type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> OTHER (Specify): _____ _____ _____

13. FACILITIES AND EQUIPMENT (Check where appropriate and attach annotated sketch(es) and description(s).)

- ☐ a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC.
☒ b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC.
☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.
☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

14. WASTE DISPOSAL

- a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED
Sources will be returned to the manufacturer.
- b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE.

N/A

INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

15. **RADIATION PROTECTION PROGRAM.** Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures (if needed), day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.
16. **FORMAL TRAINING IN RADIATION SAFETY.** Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.
 - a. Principles and practices of radiation protection.
 - b. Radioactivity measurement standardization and monitoring techniques and instruments.
 - c. Mathematics and calculations basic to the use and measurement of radioactivity.
 - d. Biological effects of radiation.
17. **EXPERIENCE.** Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

18. CERTIFICATE

(This item must be completed by applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

WARNING.—18 U.S.C., Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

<p>a. LICENSE FEE REQUIRED (See Section 170.31, 10 CFR 170)</p> <p>No application fee: Governmental Agency</p>	<p>b. CERTIFYING OFFICIAL (Signature) <i>Barry A. Buschmann</i></p> <p>c. NAME (Type or print) Barry A. Buschmann</p>
<p>(1) LICENSE FEE CATEGORY: Category 3.I.</p>	<p>d. TITLE Engineer</p>
<p>(2) LICENSE FEE ENCLOSED: \$ N/A</p>	<p>e. DATE March 28, 1980</p>

FRED ELWOOD - MANAGING DIRECTOR
FRED ABRAHAM - COUNTY HIGHWAY ENGINEER
ALTON DUSHANE - ROAD SUPT.
MORRIS TUBBS - SAFETY DIRECTOR
EUGENE BLACKMAN - CLERK - SECRETARY

LEROY TYLER - CHAIRMAN
DOYLE WILLIAMS - MEMBER
MICHAEL WINTERS - MEMBER

BOARD OF
COUNTY ROAD COMMISSIONERS
PHONE (313) 241-9424 840 S. TELEGRAPH RD. P.O. BOX 726
MONROE, MICHIGAN
48161

15. RADIATION PROTECTION PROGRAM

The following Radiation Protection Program will be adhered to at the Monroe County Road Commission.

A. Handling Procedures

The Troxler instruments were designed with operators safety as a prime consideration; however, as with any piece of potentially hazardous equipment, some general precautions shall be observed by all personnel. These are:

1. Do not operate or attempt to operate the instrument unless you have been authorized to do so.
2. Keep the source position in the "SAFE" or stored position when not in use
3. Wear a film badge when using or transporting the instrument.
4. While exposure dose levels are well within limits for radiation workers, never expose yourself to the bare source without sufficient reason for justification of the additional dose.
5. Keep all unauthorized persons out of the operating area. A suggested distance is 5 meters or 15 feet. The general public must not be unnecessarily exposed to radiation.
6. Maintain security of the instrument at all times. The source lock shall be in place when not in use and the instrument shall be kept in a locked vehicle when transported. When stored, the area must be locked. Not only is it an expensive piece of equipment but, if stolen, could be abandoned under conditions which could be hazardous.
7. Monroe County Road Commission has standard operating procedures; the operator shall follow these procedures and report any that he feels are unsafe.
8. Insure that the gauge has had leak tests performed at the intervals required by the Radioactive Materials License.
9. If you have any doubts about use of the instrument, ASK. Your Radiological Safety Officer either has the answer or can obtain one.

B. SECURITY

Regulations require that locks be maintained on radiographic equipment to prevent accidental exposure of a sealed source when not under the direct supervision of approved personnel. In addition, storage containers shall be physically secured to prevent tampering or removal by unauthorized personnel.

C. PERSONNEL MONITORING

Monroe County Road Commission will not permit any person to use this equipment unless at all times the user is in the possession of a film badge.

D. RECORDS AND REPORTS

1. Monroe County Road Commission will conduct a quarterly physical inventory to account for all sealed sources received and possessed under the license. The inventory record will be maintained for inspection.
2. Monroe County Road Commission shall have all sealed sources leak tested at the interval required by the license. When transferred, in the absence of a leak test certificate, the source shall not be put into use until tested. Leak tests will be performed by the Radiation Protection Officer at the Monroe County Road Commission. The leak test kit, Model 3880, will be purchased through Troxler Electronic Laboratories.
3. Reports from film badge service shall be maintained for inspection.
4. When an individual terminates employment with the Monroe County Road Commission a record of his total received dose will be made available to the employee.

E. INCIDENTS

1. The Monroe County Road Commission shall report any theft or loss of licensed material by telephone or telegram to the appropriate agency, including the appropriate state agency. Within 30 days after the loss, a written report must be filed giving detailed description of the source, circumstances of the loss, statement of disposition, possible radiation exposures or hazard, actions taken to recover the source, and procedures which will be implemented to prevent a recurrence of the loss or theft.
2. The Monroe County Road Commission will report any overexposure of operators which exceeds the limits given in 10 CFR part 20, detailing circumstances of the exposure and possible injury.

F. HANDLING AND EMERGENCY PROCEDURES

1. No personnel shall transport or use the nuclear gauges unless the individual has been approved by the Radiological Safety Officer and the requirements of these procedures are met.
2. Each user must demonstrate their ability to correctly and safely use the nuclear gauge.
3. At the termination of each field use, the nuclear gauge will be transferred to its regular storage area.
4. In the event of physical damage to a gauge, a six (6) feet radius exclusion area should be maintained until the extent of source damage (if any) is determined. If a vehicle is involved, it must be stopped and remain stopped until the extent of contamination hazard (if any) is determined. If visual examination of the instrument and source indicates damage to the source, including fracture of the weld, the appropriate authorities and Troxler Electronic Laboratories, Inc. shall be notified. The instrument may be removed from the site by using a shovel or other long handled instrument and placed in a suitable container such as a metal drum. Provisions should be made to have the site surveyed for possible contamination after the instrument is removed. Disposition by the factory, as covered later, could be arranged after a leak test had been performed to determine the integrity of the source before shipment back to the factory.
5. Immediate telephone notification must be made to the following people and agencies in the event of an accident (see #4 above) or the loss of a sealed source, whether accidental or due to theft.
 - a. Monroe County Road Commission Radiological Safety Officer:
Barry A. Buschmann (313) 241-9424
 - b. USNRC Region III Office (312) 932-2500
 - c. State of Michigan Health Department
Division of Radiological Health (517) 373-1578
 - d. Local Authorities
 1. Monroe County Sheriff (313) 241-2727
 2. Michigan State Highway Patrol
Erie Post (313) 242-3500
Flat Rock Post (313) 782-2434
 3. Fire Department (when necessary)

G. TRANSPORT BY PRIVATE MOTOR VEHICLE

The equipment, in its container, may be transported by motor vehicle under the "YELLOW II" label without placarding the vehicle as required by 49 CFR 177.823.

The lock shall be in place and the container placed in a portion of the vehicle which can be locked. When not in transit the equipment shall be stored in a secured area.

Since the container has a Transport Index of 0.1 or greater it shall not be stored less than 30 centimeters from passengers per 49 CFR 174.586. It also shall not be stored for more than 8 hours at less than 1 meter from undeveloped film.

H. RESPONSIBILITIES OF THE RADIATION PROTECTION OFFICER

The Radiation Protection Officer, Mr. Barry Buschmann, reporting to management on radiation safety matters, shall coordinate:

- 1) The safe use of the nuclear moisture-density gauge.
- 2) Assure compliance with the requirements of Title 10 CFR Parts 19, 20, 30, and all applicable US DOT regulations.
- 3) Assure byproduct materials possessed under the license are in conformity to materials listed on the license.
- 4) Assure that use of the gauge (particularly in the field) is only by the Radiation Protection Officer or persons who have completed acceptable training.
- 5) Assure all users wear personnel monitoring when using gauges.
- 6) Assure gauge(s) are properly secured against unauthorized removal at all times.
- 7) To serve as point of contact and give assistance in case of emergency - to insure all proper authorities are notified promptly in case of accidents.
- 8) Assure that the terms or conditions of the license are met such as:
 - a) Periodic leak test are performed.
 - b) All required records are kept and reviewed periodically for compliance with regulations - these include source certificate, leak test records, personnel exposure records, and transfer of radioactive materials.

16. FORMAL TRAINING IN RADIATION SAFETY

Mr. Barry A. Buschmann completed Seaman Nuclear Corporation's factory prescribed radiological safety training course which was administered by Mr. Gerald R. Sell, Seaman's Chief Radiologist. Training was received on December 14, 1979.

All individuals who will use or directly supervise the use of the licensed material will have taken the required training course in radiation safety by Troxler Electronic Labs., Inc.

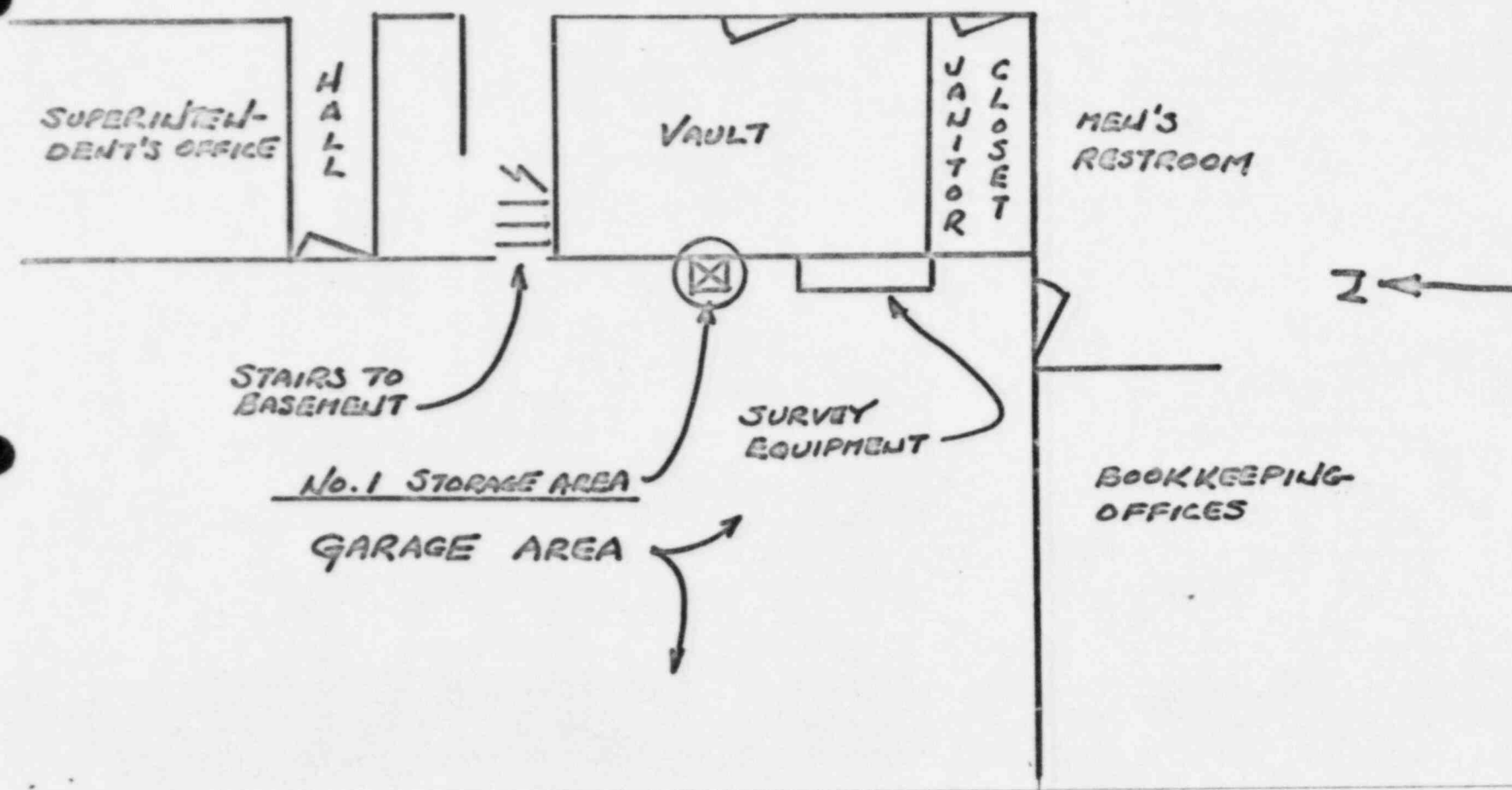
17. EXPERIENCE

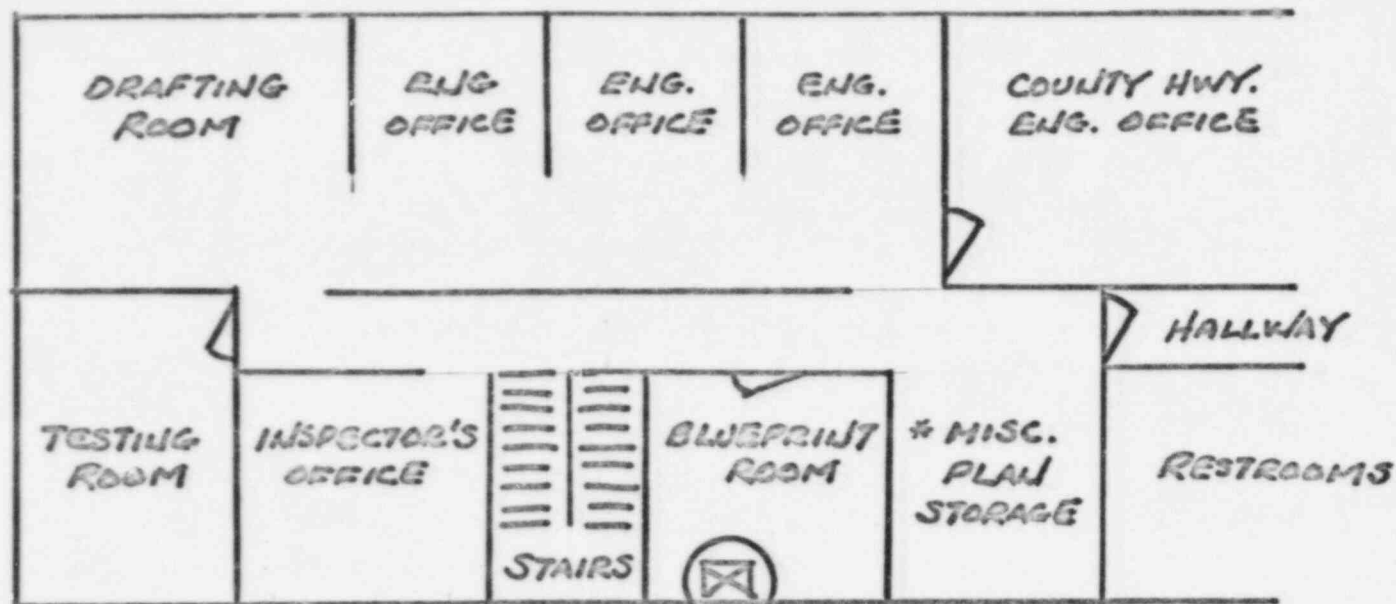
The Radiation Protection Officer, Mr. Barry A. Buschmann, completed a Radiological Safety Training course through Seaman Nuclear Corporation in December of 1979. This course also included theory, maintenance, and operation of nuclear meters. Mr. Buschmann will also attend the course being given by Troxler Electronic Laboratories, Inc.


Mr. Buschmann has become familiar with nuclear moisture-density meters over the past two years where he has supervised construction in Monroe County^{and} has enlisted the services of two privately owned testing laboratories using nuclear moisture-density meters.

All individuals who will use or directly supervise the use of the licensed material will have taken the required training course in radiation safety and will be familiar with the proper use of the nuclear moisture-density gauge.

STORAGE AREA No. 1 : TO BE LOCATED IN MAIN GARAGE AREA ON 1ST FLOOR. CABINET WILL BE LOCKABLE AND BACKED UP AGAINST THE VAULT ROOM. THIS STORAGE LOCATION WILL BE USED PRIMARILY DURING WEEKNIGHTS DURING THE CONSTRUCTION SEASON.





STORAGE AREA No. 2:  LOCATION IS ON THE SECOND FLOOR DIRECTLY OVER THE VAULT. THIS ROOM IS LOCKABLE AND GENERALLY NOT FREQUENTED BY EMPLOYEES. THIS STORAGE LOCATION WILL BE USED PRIMARILY ON WEEKENDS AND ANYTIME THE GAUGE IS NOT GOING TO BE USED FOR A LENGTHY PERIOD OF TIME.

* THIS ROOM IS DESIGNATED AS THE FUTURE LOCATION FOR AN ENGINEERING SECRETARY. IF AND WHEN A SECRETARY IS HIRED, THE GAUGE WILL BE STORED AT THE EXTREME NORTHWEST CORNER OF THE BLUEPRINT ROOM.