

STORAGE IN APPROVED MAGAZINES OF AGM-45 ALL-UP-ROUND MISSILE PACKED IN CNU 449/E CONTAINERS

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U. S. ARMY MATERIEL COMMAND DRAWING			
APPROVED, U. S. ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND <i>Walter B. Holcomb</i>	DRAFTSMAN	TECHNICIAN	ENGINEER
	S. WILSON	D. HAYNES	
APPROVED BY ORDER OF COMMANDING GENERAL, U. S. ARMY MATERIEL COMMAND <i>John L. Byrd</i>	EVALUATION DIVISION	STORAGE & OUTLOADING DIVISION	LOGISTICS ENGINEERING OFFICE
	<i>TJM</i>	<i>W. Enrick</i>	<i>W. Ernst</i>
JUNE 1990			
U. S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL	CLASS	DIVISION	DRAWING
	19	48	7124
			FILE
			SP1-2-3-4- 14-22J20

DO NOT SCALE

GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1, AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE STORAGE PROCEDURES SPECIFIED HEREIN ARE APPLICABLE TO THE (AGM-45) ALL-UP-ROUND MISSILE (SHRIKE) PACKED IN THE CNU-449/E CONTAINER. SUBSEQUENT REFERENCE TO CONTAINER MEANS THE CNU-449/E CONTAINER WITH CONTENTS.
- C. FOR DETAILS OF THE CNU-449/E CONTAINER, SEE U.S. AIR FORCE DRAWING NO. X879570 AND THE DETAILS ON PAGE 3.
- CONTAINER DIMENSIONS - 145-1/2" L X 42-1/8" W X 18-3/8" H
GROSS WEIGHT - - - - - 3,200 LBS (APPROX)
CUBE - - - - - 65.2 CUBIC FEET (APPROX)
- D. THE STORAGE PROCEDURES DEPICTED WITHIN THIS DOCUMENT ARE APPLICABLE FOR STORAGE IN VARIOUS TYPES AND SIZES OF MAGAZINES. THE STORAGE PROCEDURES DEPICTED FOR THE SPECIFIC TYPES OF MAGAZINES MAY ALSO BE UTILIZED TO STORE CONTAINERS IN OTHER TYPES OF APPROVED MAGAZINES. MINOR ADJUSTMENTS MAY BE MADE TO FACILITATE STORAGE IN OTHER TYPES OF MAGAZINES, HOWEVER, THE BASIC PRINCIPLES AS DEPICTED HEREIN WILL BE FOLLOWED.
- E. AISLE DIMENSIONS SHOWN FOR STORAGE PROCEDURES IN MAGAZINES MAY BE ADJUSTED TO SUIT LOCAL CONDITIONS, AND/OR AVAILABLE MATERIALS HANDLING EQUIPMENT (MHE), HOWEVER, AN 18" MINIMUM INSPECTION AISLE MUST BE MAINTAINED AT THE END OF CONTAINERS WHERE HUMIDITY INDICATORS ARE LOCATED.
- F. CAUTION: THE ALLOWABLE "EXPLOSIVE LIMIT" ESTABLISHED FOR A MAGAZINE IS NOT TO BE EXCEEDED. THIS LIMITATION MAY REQUIRE A QUANTITY REDUCTION FROM THE STORAGE AS SHOWN.
- G. FLOOR DUNNAGE, 1" X 6" X 42" AND 2" X 6" X 42", AS DEPICTED IN THE STORAGE VIEWS, IS REQUIRED UNDER EACH END OF EACH FIRST LAYER CONTAINER TO HELP KEEP IT DRY THUS AIDING IN PREVENTING DETERIORATION DUE TO OXIDATION. IN IGLOO, ARCH TYPE AND STRADLEY MAGAZINES WHICH HAVE SLOPING FLOORS, THE DEPICTED STORAGE PATTERNS INCLUDE CONTAINER-STACKS WHICH STRADDLE THE RIDGE OF THE FLOOR AT THE CENTER OF THE MAGAZINE. IT WILL BE NECESSARY, THEREFORE, TO USE 2" THICK MATERIAL FOR FLOOR DUNNAGE UNDER THESE STACKS TO PREVENT THE BOTTOM OF THE FORK TINE POCKETS FROM CONTACTING THE CONCRETE FLOOR. STACK-STABILIZING DUNNAGE IN THE FORM OF SHIMS WILL BE USED IF REQUIRED TO ACHIEVE SOUND AND ACCEPTABLE STABLE STACKS. SHIM MATERIAL OF VARYING THICKNESS WILL BE USED AS REQUIRED UNDER THE LOAD BEARING LOCATIONS AT THE ENDS OF FIRST-LAYER CONTAINERS. SEE THE "FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3 FOR A TYPICAL INSTALLATION.
- H. IF AVAILABLE MHE PERMITS, ADDITIONAL CONTAINERS MAY BE STORED WITHIN THE FRONTAL AREA AND/OR OTHER AVAILABLE AREAS OF THE MAGAZINE.
- J. STORED CONTAINERS MUST NOT CONTACT THE WALLS OF A MAGAZINE. TO PROVIDE FOR THIS MANDATORY CLEARANCE REQUIREMENT, CONTAINERS MAY BE ELIMINATED FROM THE DEPICTED STORAGE PATTERN AS NECESSARY.
- K. OTHER COMPATIBLE ITEMS MAY BE STORED IN A MAGAZINE WHICH IS PARTIALLY FILLED WITH THE DESIGNATED ITEM.
- L. THE HEIGHT OF THE PACKAGE GUARD ON SOME FORKLIFT TRUCKS MAY NOT PERMIT PLACEMENT OF SOME TOP LAYER CONTAINERS IN THE STACKS SHOWN IN THE STORAGE VIEWS HEREIN, UNLESS TWO UPPER CONTAINERS ARE HANDLED AS ONE LIFT OR THE PACKAGE GUARD IS REMOVED (TINE CARRIAGE WILL IN MOST INSTANCES PROVIDE ADEQUATE PACKAGE GUARD PROTECTION). ONLY A FORKLIFT TRUCK OF ADEQUATE CAPACITY WILL BE USED WHEN LIFTING TWO CONTAINERS AS ONE LIFT.

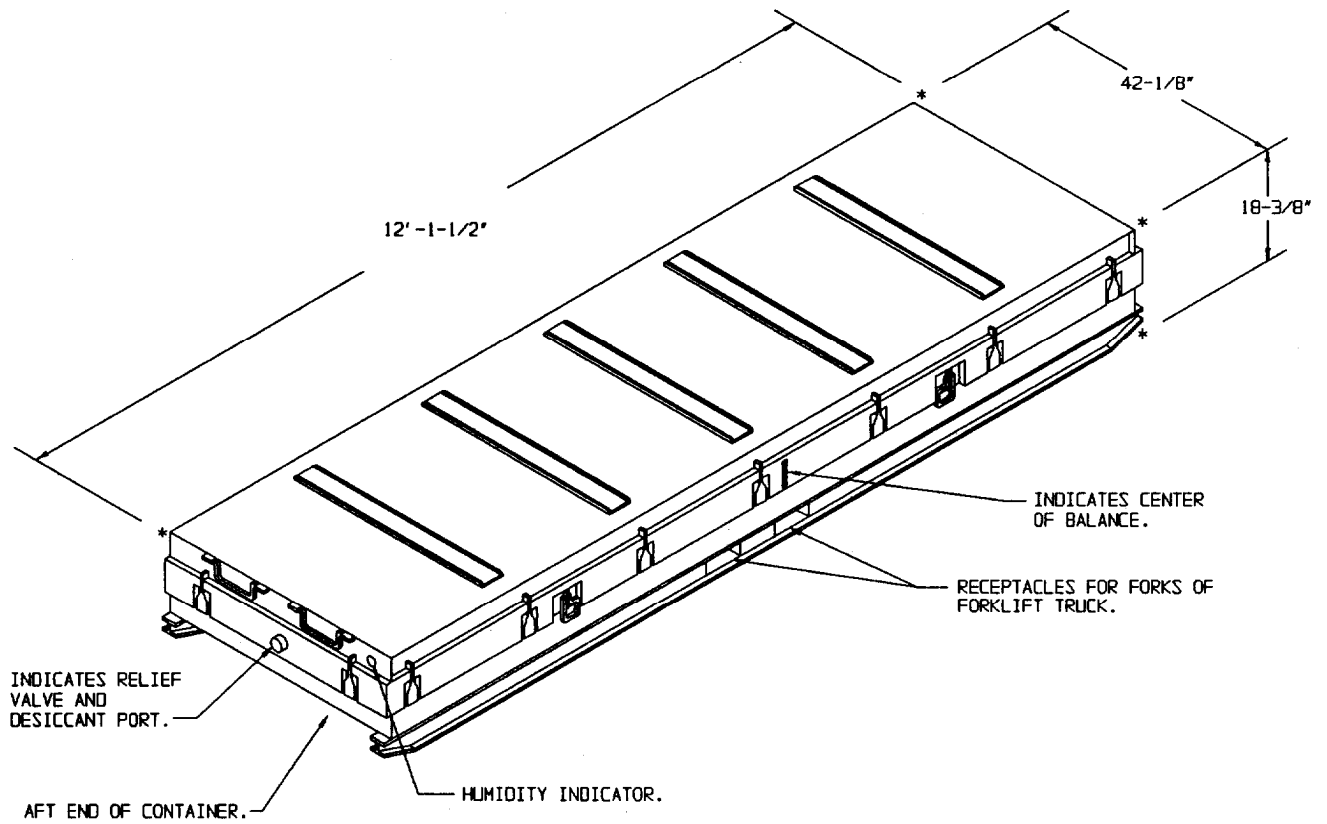
(CONTINUED AT RIGHT)

(GENERAL NOTES CONTINUED)

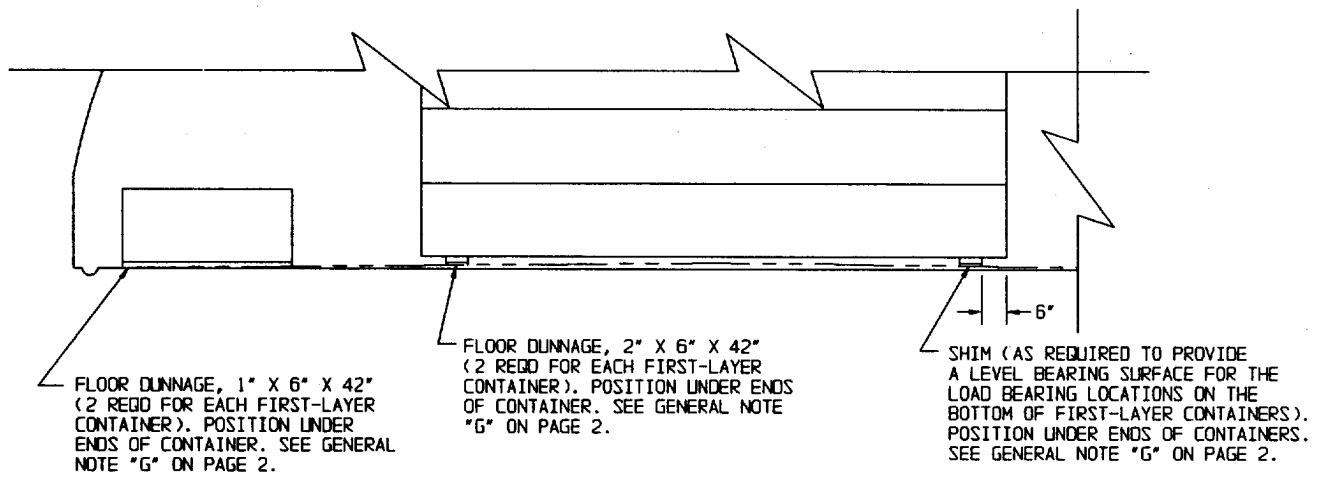
- M. IF THE QUANTITY OF CONTAINERS FOR A MAGAZINE IS TO BE REDUCED FROM WHAT IS SHOWN HEREIN DUE TO THE PERMITTED "EXPLOSIVE LIMIT" OR FOR ANY OTHER REASON, SUCH AS A LIMITED QUANTITY TO BE STORED, THE DELINEATED PROCEDURES ARE TO BE ADJUSTED BY OMITTING STACKS RATHER THAN BY OMITTING LAYERS.
- N. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 1" X 6" MATERIAL IS ACTUALLY 3/4" THICK BY 5-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.
- O. PORTIONS OF THE MAGAZINES, SUCH AS SIDEWALLS, END WALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE STORAGE VIEWS FOR CLARITY PURPOSES.
- P. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENT MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM, AND ONE POUND EQUALS 0.454KG.
- Q. CONTAINERS PRESENTLY STORED IN ACCORDANCE WITH A PRIOR APPROVED DRAWING NEED NOT BE RE-STORED SOLELY TO CONFORM TO THE PROCEDURES SPECIFIED IN THIS DOCUMENT.

MATERIAL SPECIFICATION

LUMBER - - - - -: SEE TM 743-200-1 (DUNNAGE LUMBER) AND
FED SPEC MM-L-751.



CNU 449/E CONTAINER



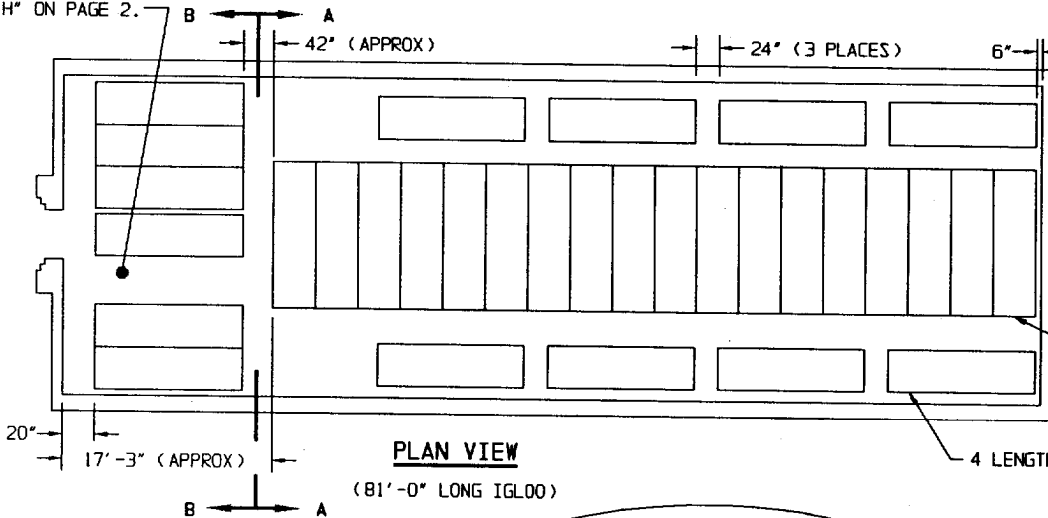
FLOOR DUNNAGE AND SHIM LOCATION DETAIL

SEE GENERAL NOTE "H" ON PAGE 2.

STORAGE IN 81'-0" IGL00

(12'-9" HIGH)

ITEM	QUANTITY
CNU 449/E CNTR	----- 145



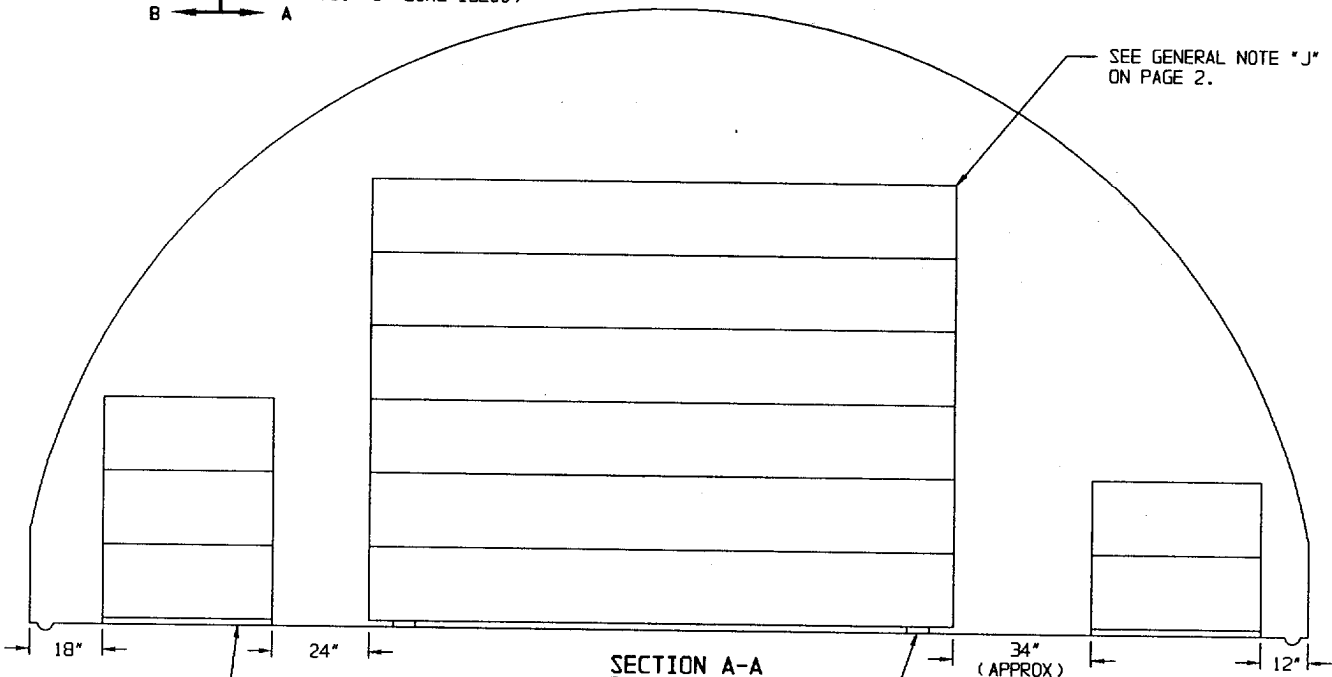
PLAN VIEW

(81'-0" LONG IGL00)

18 CROSSWISE STACKS

4 LENGTHWISE STACKS

SEE GENERAL NOTE "J" ON PAGE 2.

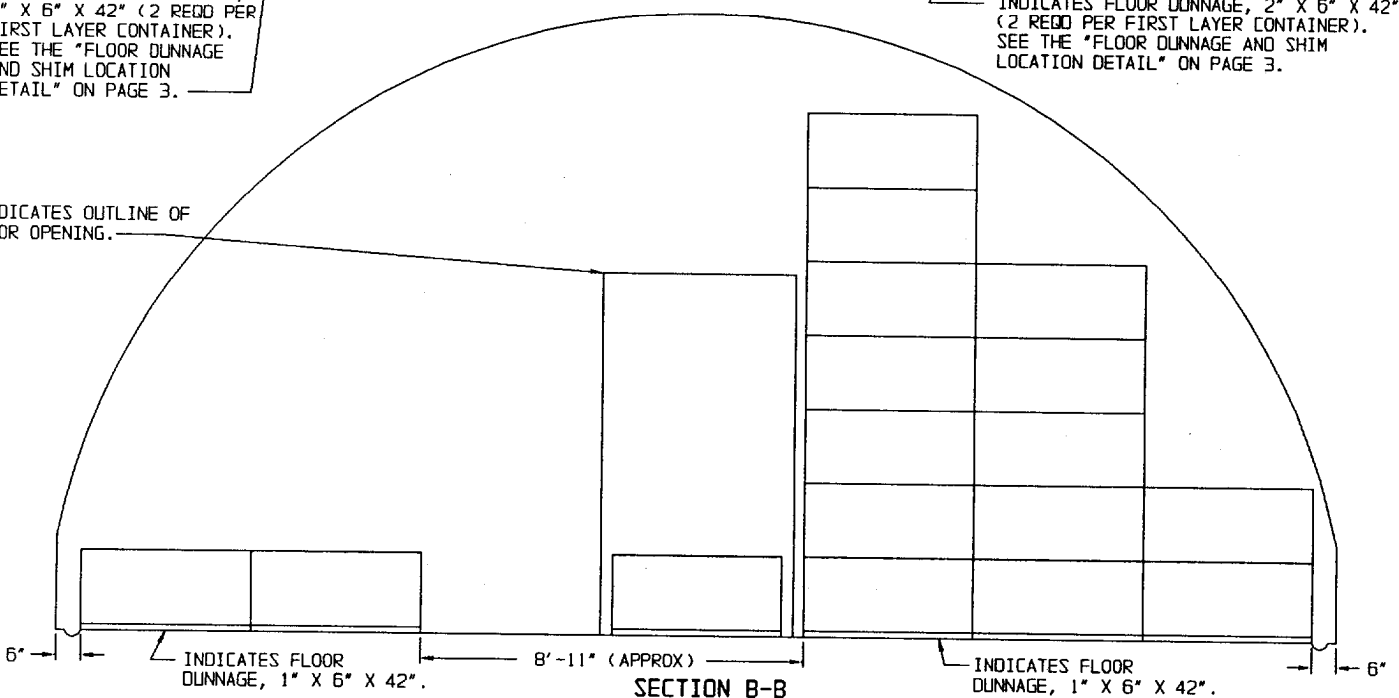


SECTION A-A

INDICATES FLOOR DUNNAGE, 1" X 6" X 42" (2 REQD PER FIRST LAYER CONTAINER). SEE THE "FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3.

INDICATES FLOOR DUNNAGE, 2" X 6" X 42" (2 REQD PER FIRST LAYER CONTAINER). SEE THE "FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3.

INDICATES OUTLINE OF DOOR OPENING.



SECTION B-B

INDICATES FLOOR DUNNAGE, 1" X 6" X 42".

INDICATES FLOOR DUNNAGE, 1" X 6" X 42".

STORAGE IN 60'-8" IGLOO

(12'-9" HIGH)

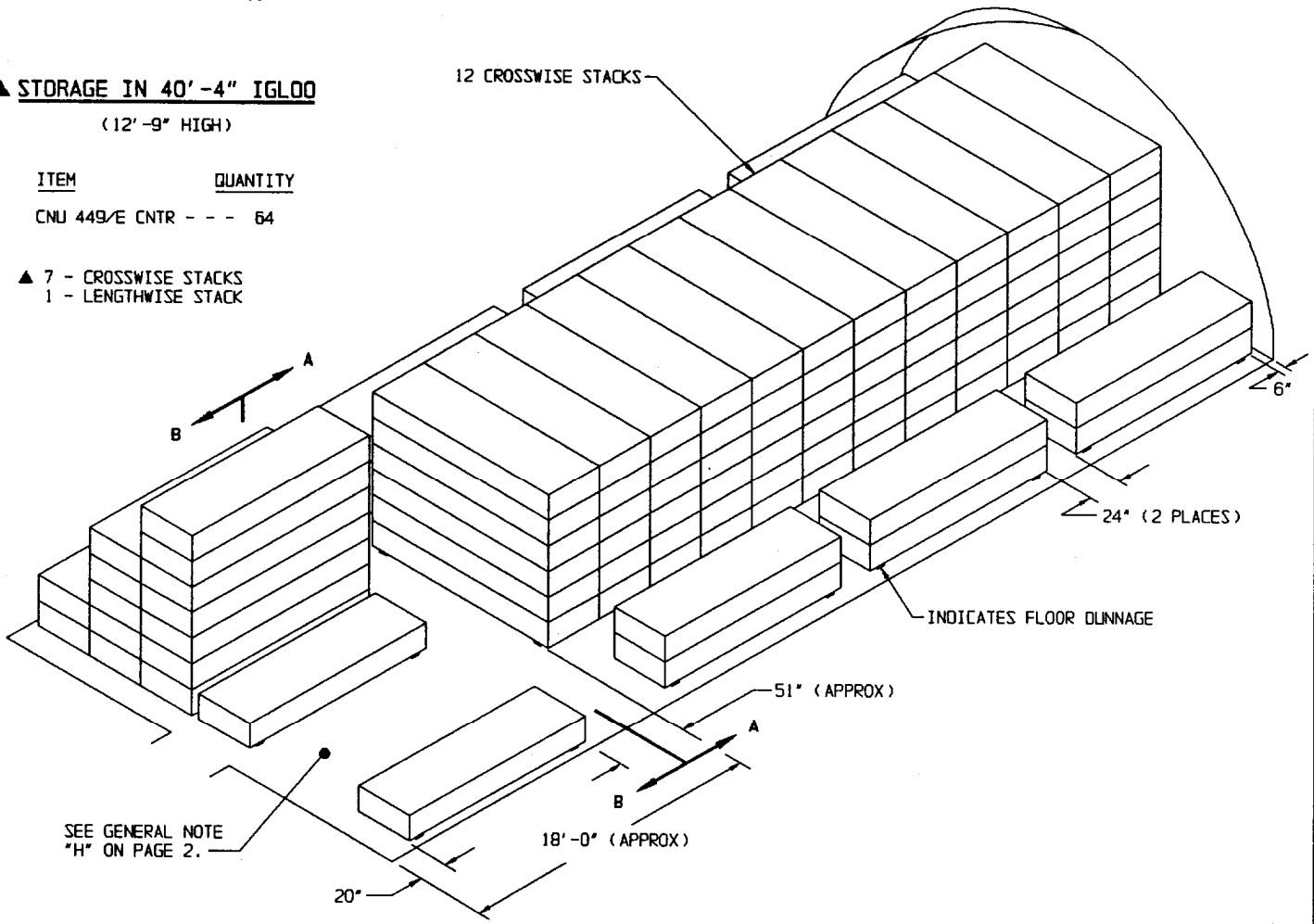
ITEM	QUANTITY
CNU 449/E CNTR - - -	104

▲ STORAGE IN 40'-4" IGLOO

(12'-9" HIGH)

ITEM	QUANTITY
CNU 449/E CNTR - - -	64

- ▲ 7 - CROSSWISE STACKS
- 1 - LENGTHWISE STACK



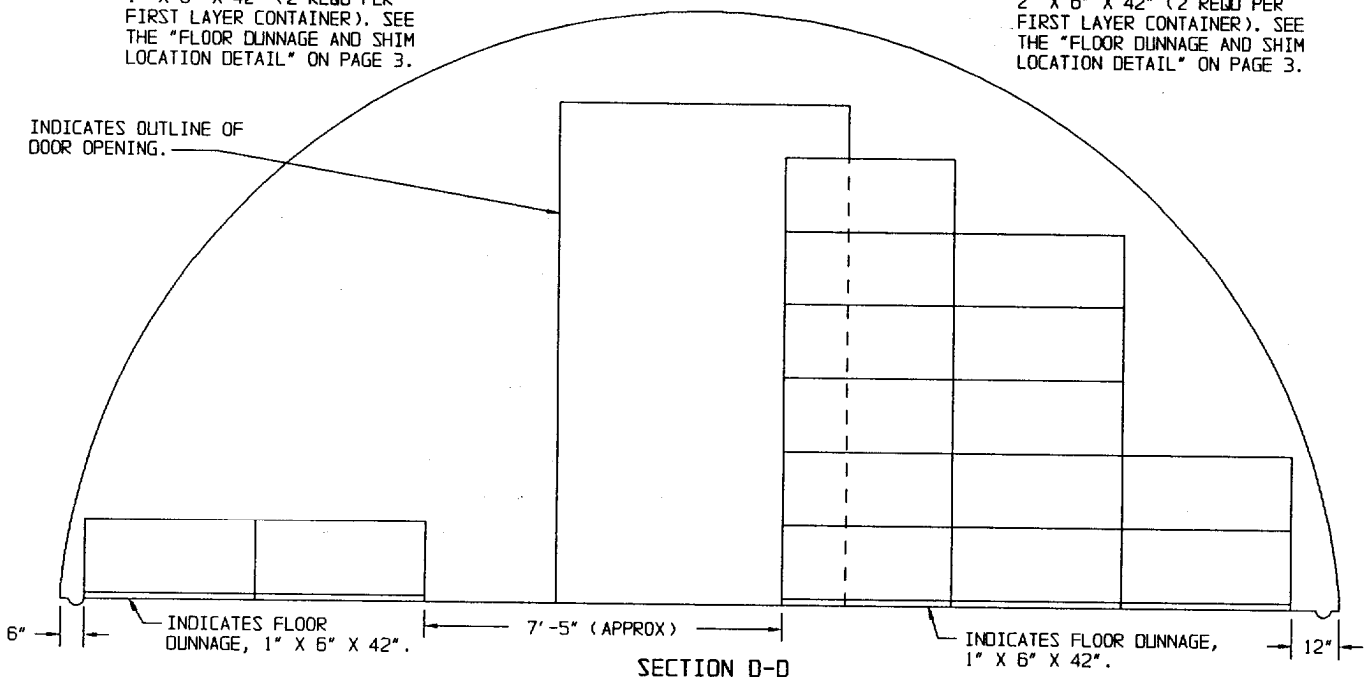
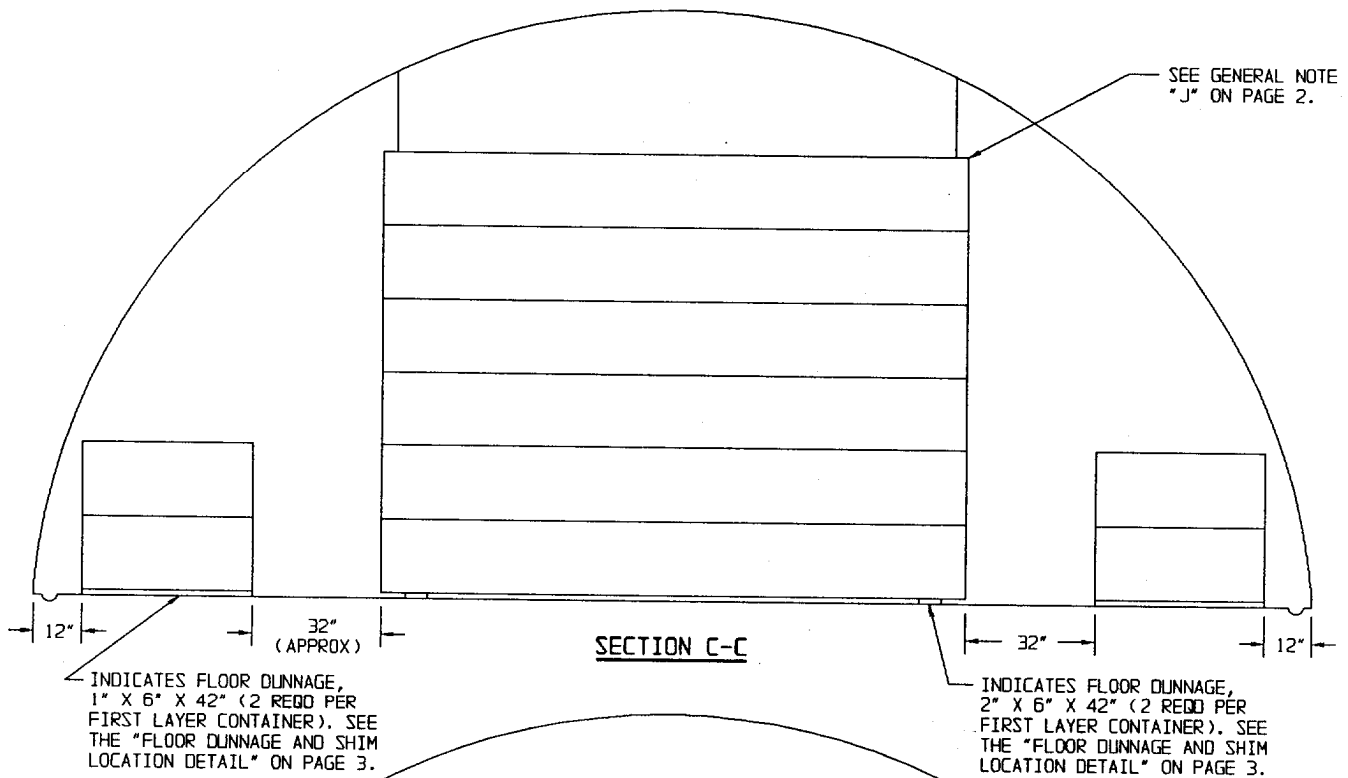
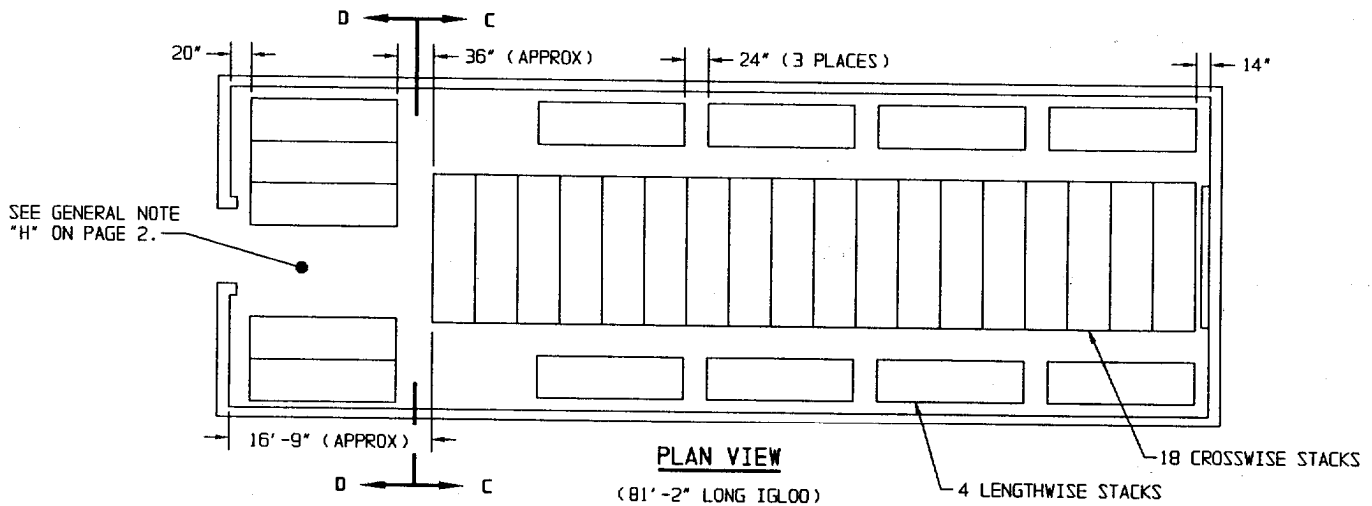
ISOMETRIC VIEW
(60'-8" LONG IGLOO)

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATION", SEE PAGE 2.

BILL OF MATERIAL (PER LENGTHWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	7	3.5
SHIMS - - - - -	- - - - -	AS RECD

BILL OF MATERIAL (PER CROSSWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
2" X 6"	7	7
SHIMS - - - - -	- - - - -	AS RECD

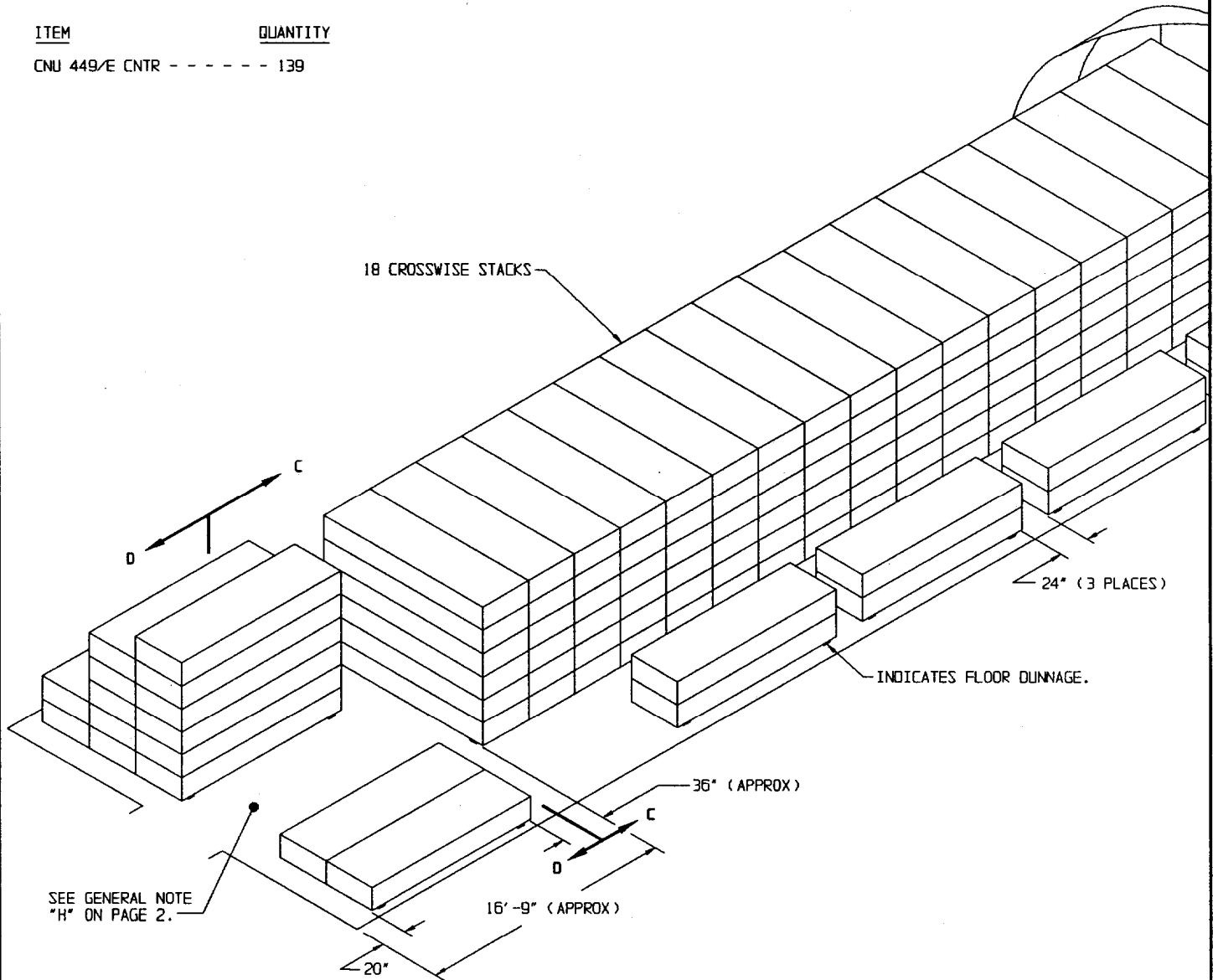
* RANDOM LENGTH PIECES MAY BE USED, IF RECD.



STORAGE IN 81'-2" MAGAZINE

(12'-1-3/4" HIGH)

ITEM QUANTITY
 CNU 449/E CNTR - - - - - 139



ISOMETRIC VIEW
 (81'-2" LONG IGL00)

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATION", SEE PAGE 2.

BILL OF MATERIAL (PER LENGTHWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	7	3.5
SHIMS - - - - -		AS REQD

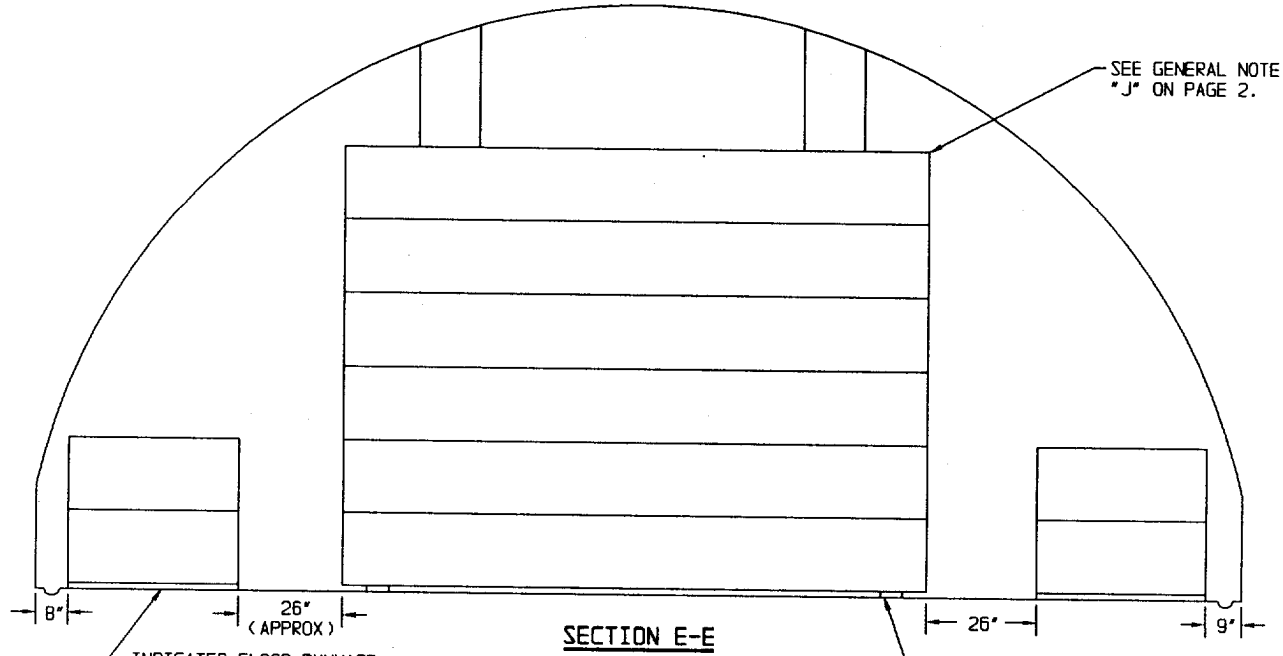
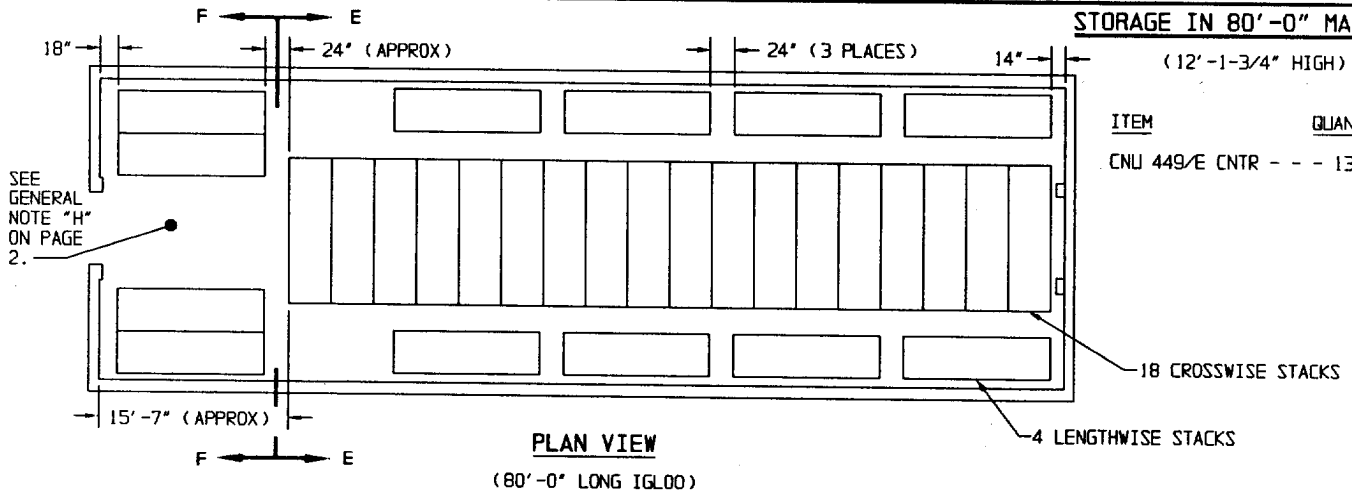
BILL OF MATERIAL (PER CROSSWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
2" X 6"	7	7
SHIMS - - - - -		AS REQD

* RANDOM LENGTH PIECES MAY BE USED, IF DESIRED.

STORAGE IN 80'-0" MAGAZINE

(12'-1-3/4" HIGH)

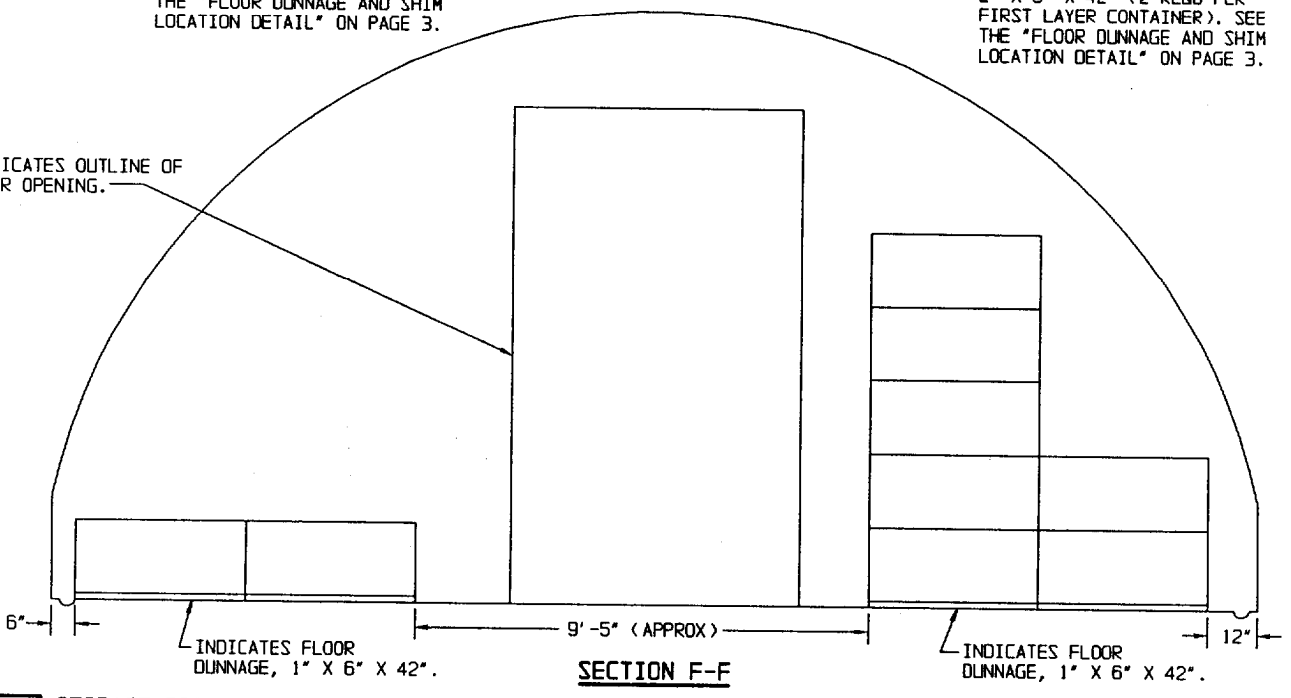
ITEM	QUANTITY
CNU 449/E CNTR - - -	133



INDICATES FLOOR DUNNAGE, 1" X 6" X 42" (2 REGD PER FIRST LAYER CONTAINER). SEE THE "FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3.

INDICATES FLOOR DUNNAGE, 2" X 6" X 42" (2 REGD PER FIRST LAYER CONTAINER). SEE THE "FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3.

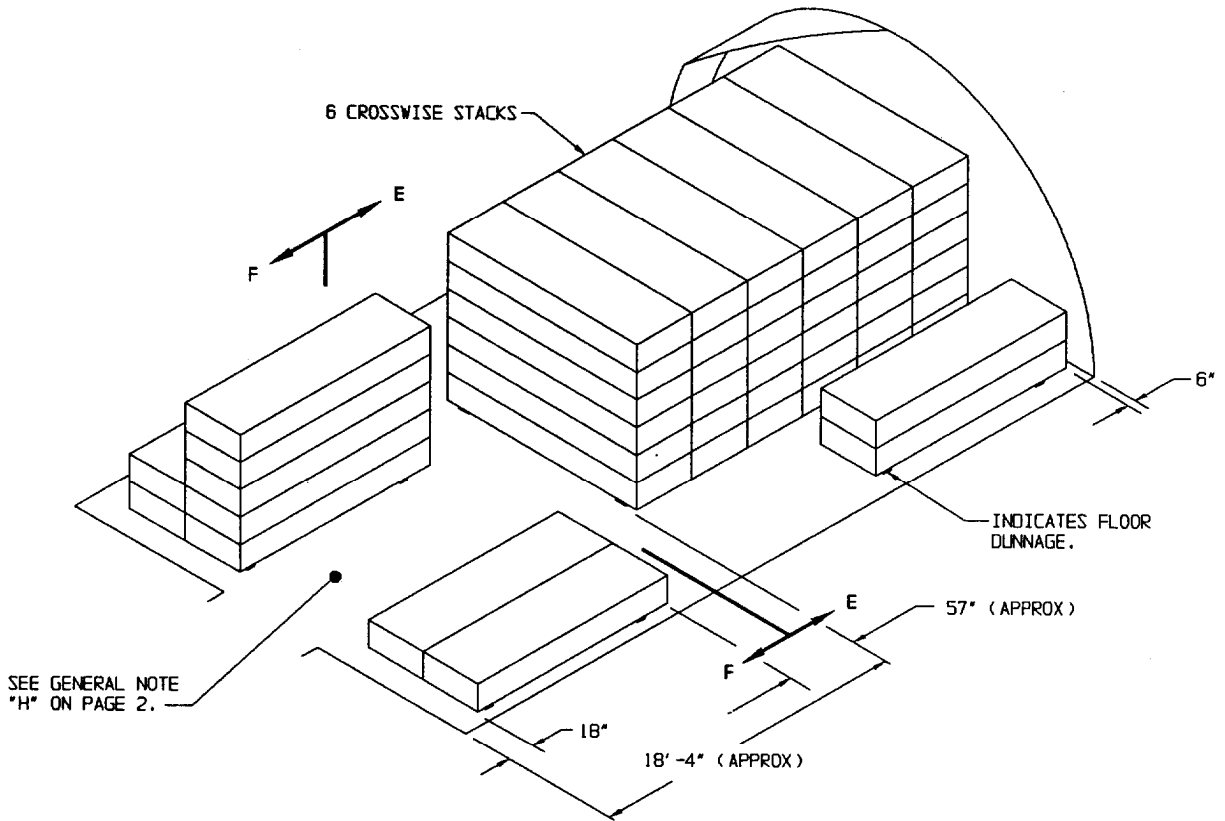
INDICATES OUTLINE OF DOOR OPENING.



STORAGE IN 40'-0" MAGAZINE

(12'-1-3/4" HIGH)

ITEM QUANTITY
 CNU 449/E CNTR - - - - - 49



ISOMETRIC VIEW
 (40'-0" LONG IGLOO)

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATION", SEE PAGE 2.

BILL OF MATERIAL (PER LENGTHWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	7	3.5
SHIMS - - - - -	- - - - -	AS REQD

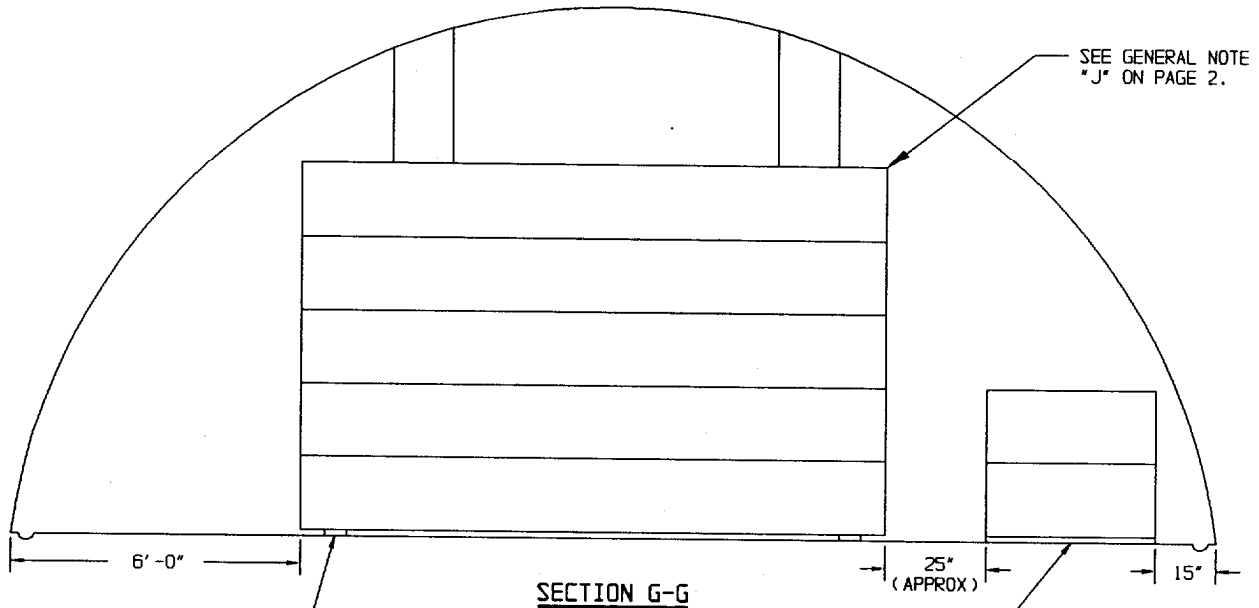
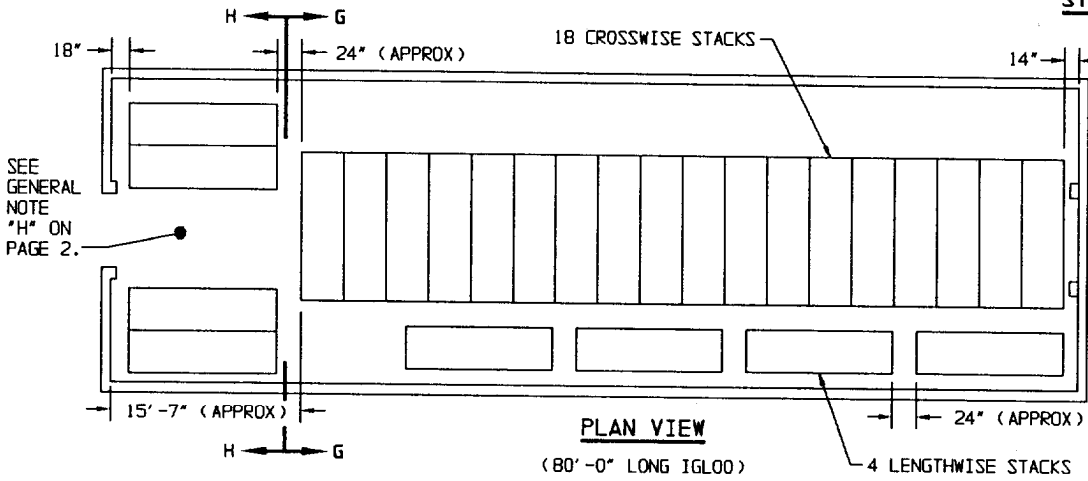
BILL OF MATERIAL (PER CROSSWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
2" X 6"	7	7
SHIMS - - - - -	- - - - -	AS REQD

* RANDOM LENGTH PIECES MAY BE USED, IF DESIRED.

STORAGE IN 80'-0" MAGAZINE

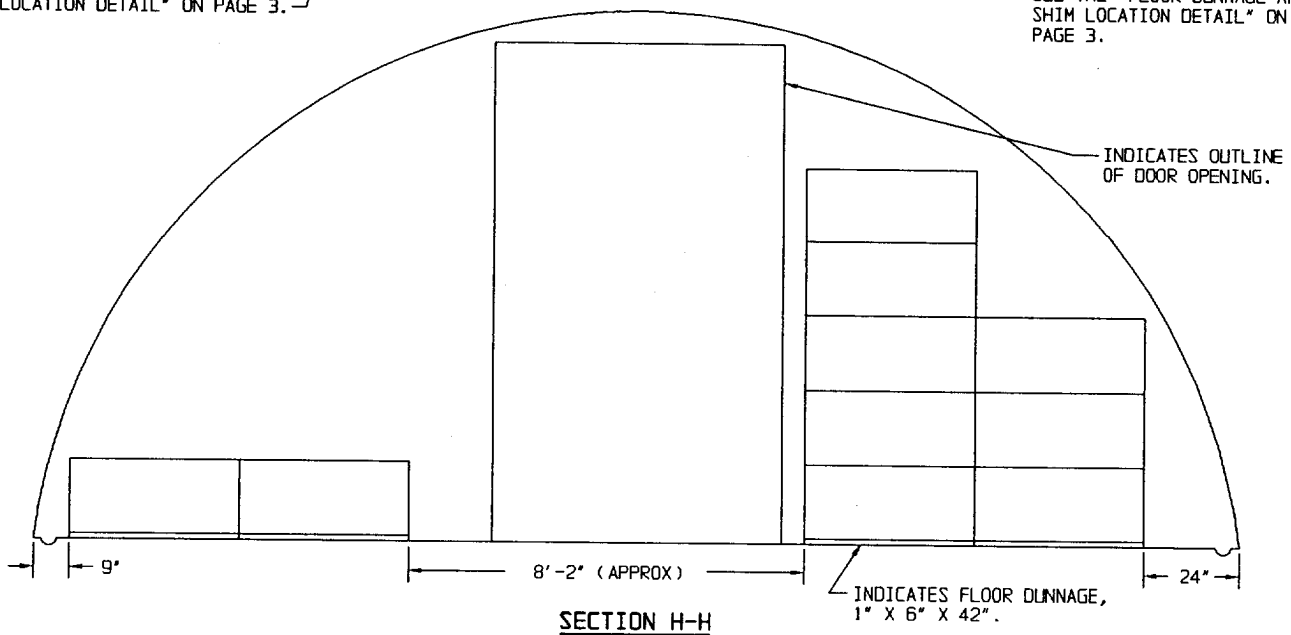
(11'-0" HIGH)

ITEM	QUANTITY
CNU 449/E CNTR - - -	108



INDICATES FLOOR DUNNAGE, 2" X 6" X 42" (2 REQD PER FIRST LAYER CONTAINER). SEE THE "FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3.

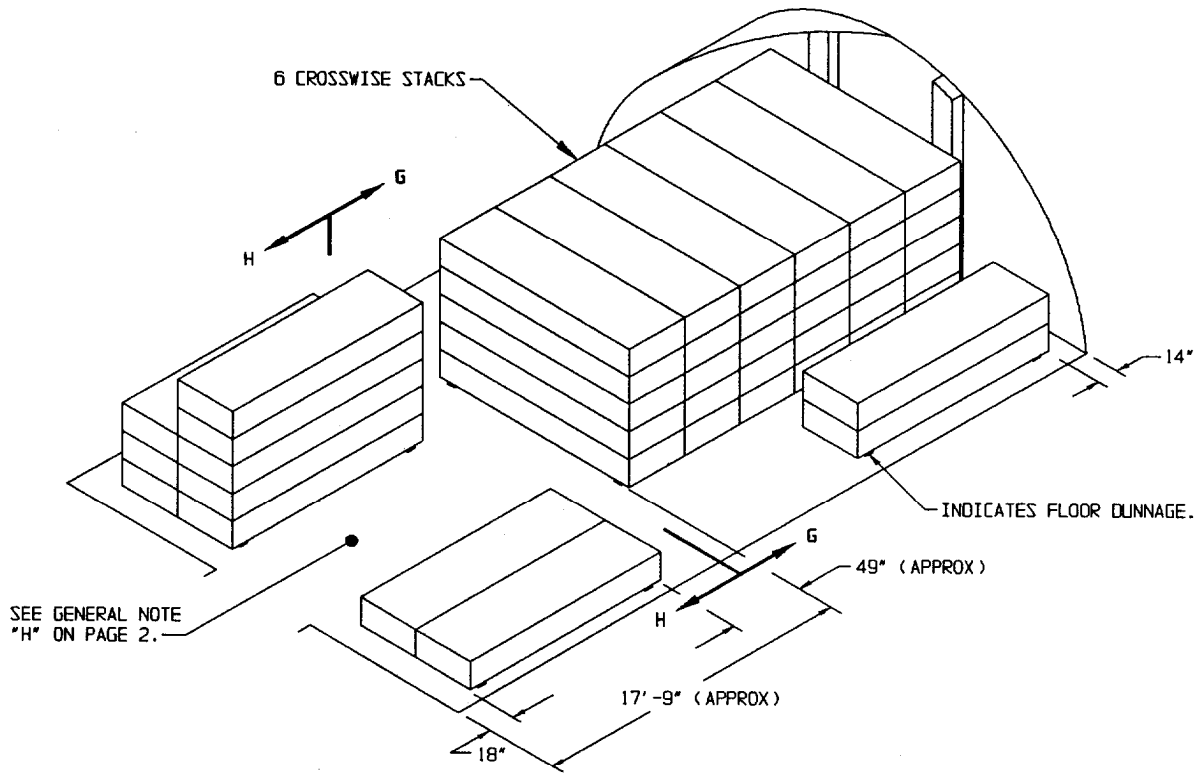
INDICATES FLOOR DUNNAGE, 1" X 6" X 42" (2 REQD PER FIRST LAYER CONTAINER). SEE THE "FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3.



STORAGE IN 40'-0" MAGAZINE

(11'-0")

ITEM QUANTITY
 CNJ 449/E - - - - - 42



ISOMETRIC VIEW
 (40'-0" LONG IGLOO)

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATION", SEE PAGE 2.

BILL OF MATERIAL (PER LENGTHWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	7	3.5
SHIMS - - - - - AS REQD		

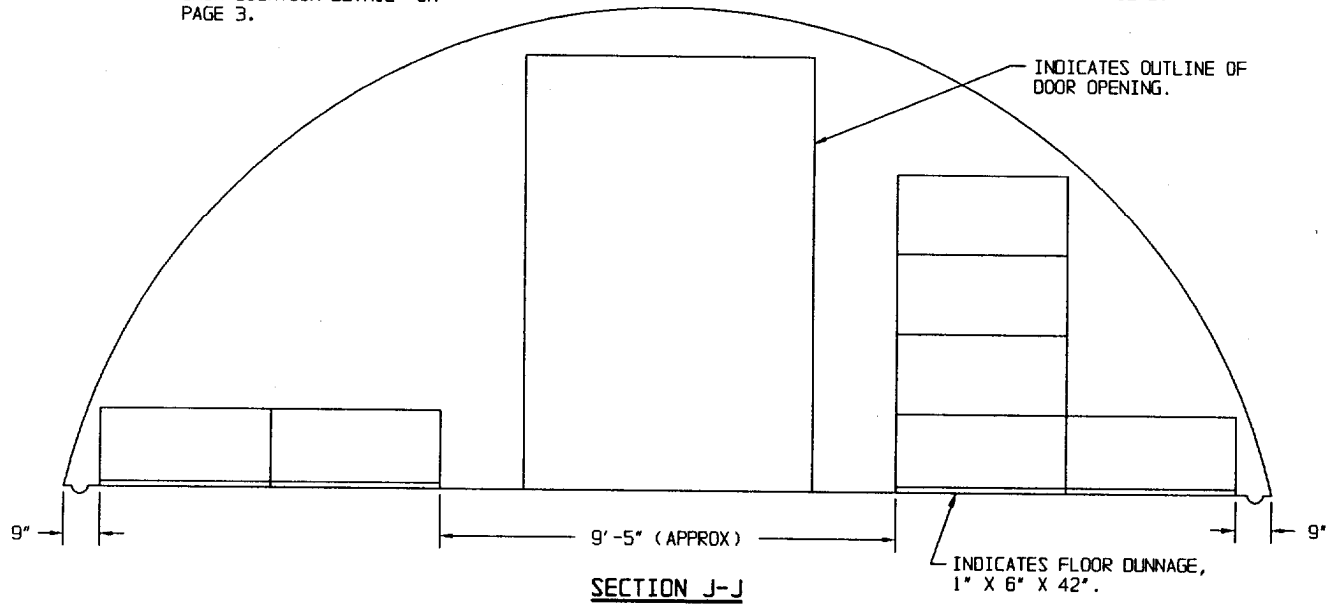
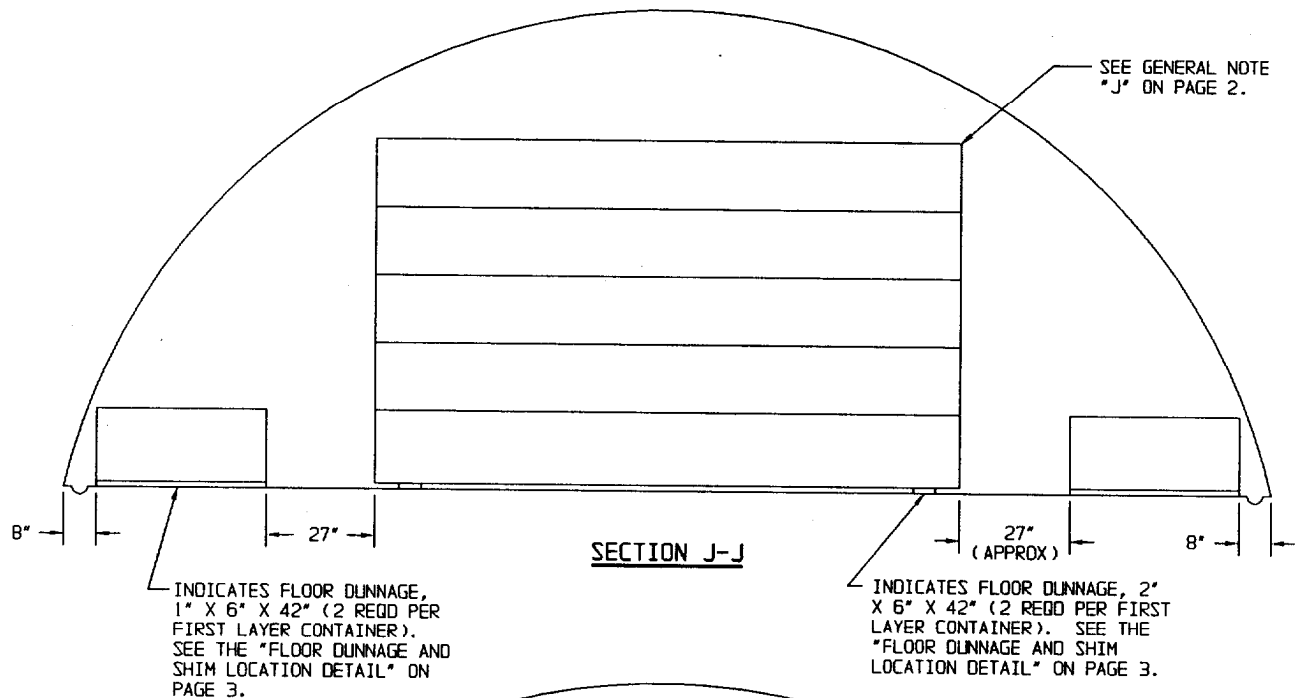
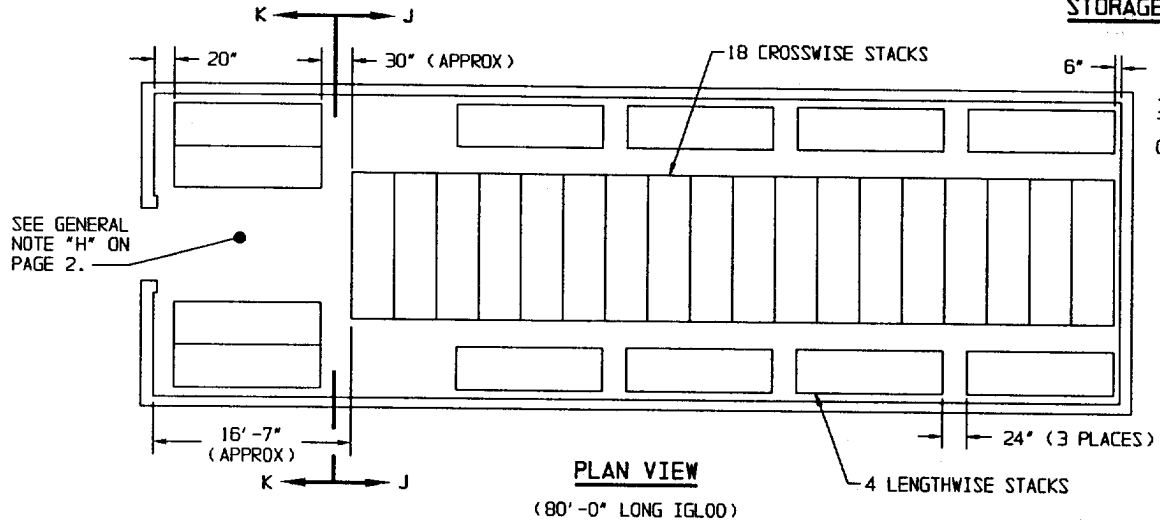
BILL OF MATERIAL (PER CROSSWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
2" X 6"	7	7
SHIMS - - - - - AS REQD		

* RANDOM LENGTH PIECES MAY BE USED, IF DESIRED.

STORAGE IN 80'-0" MAGAZINE

(10'-0" HIGH)

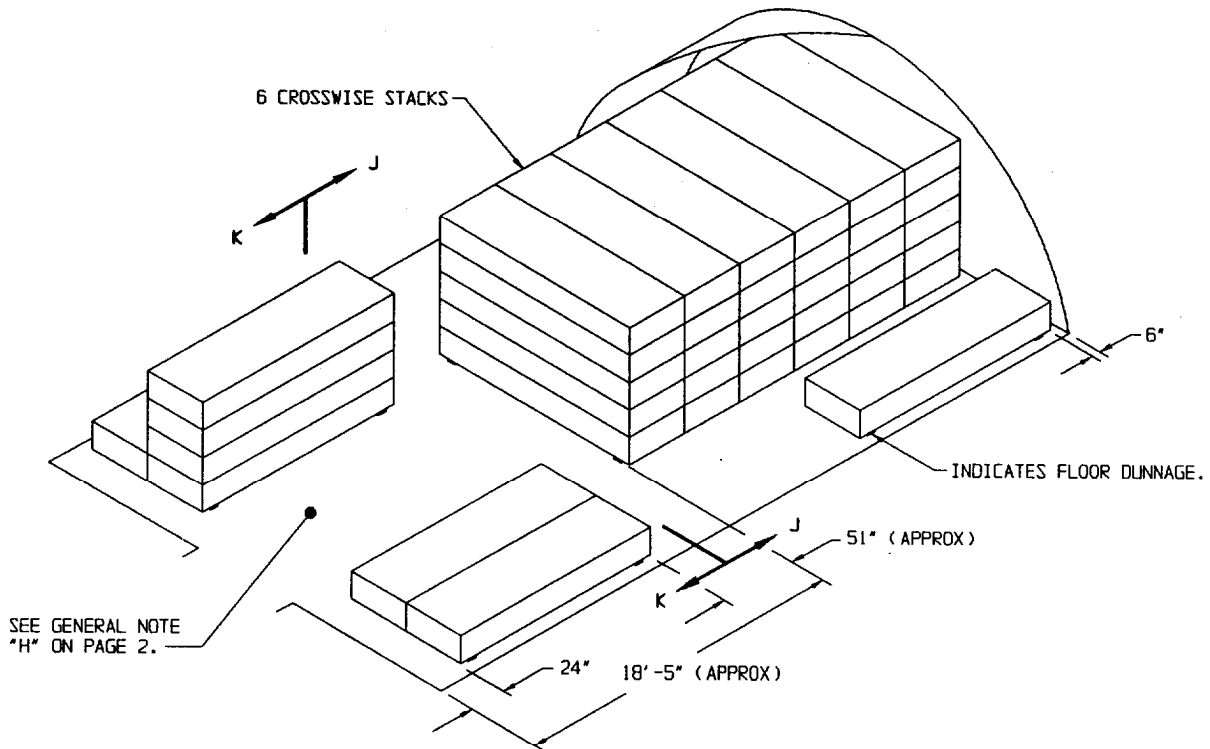
ITEM	QUANTITY
CNU 449/E CNTR	--- 105



STORAGE IN 40'-0" MAGAZINE

(10'-0" HIGH)

ITEM	QUANTITY
CNU 449/E CNTR - - - - -	38



ISOMETRIC VIEW

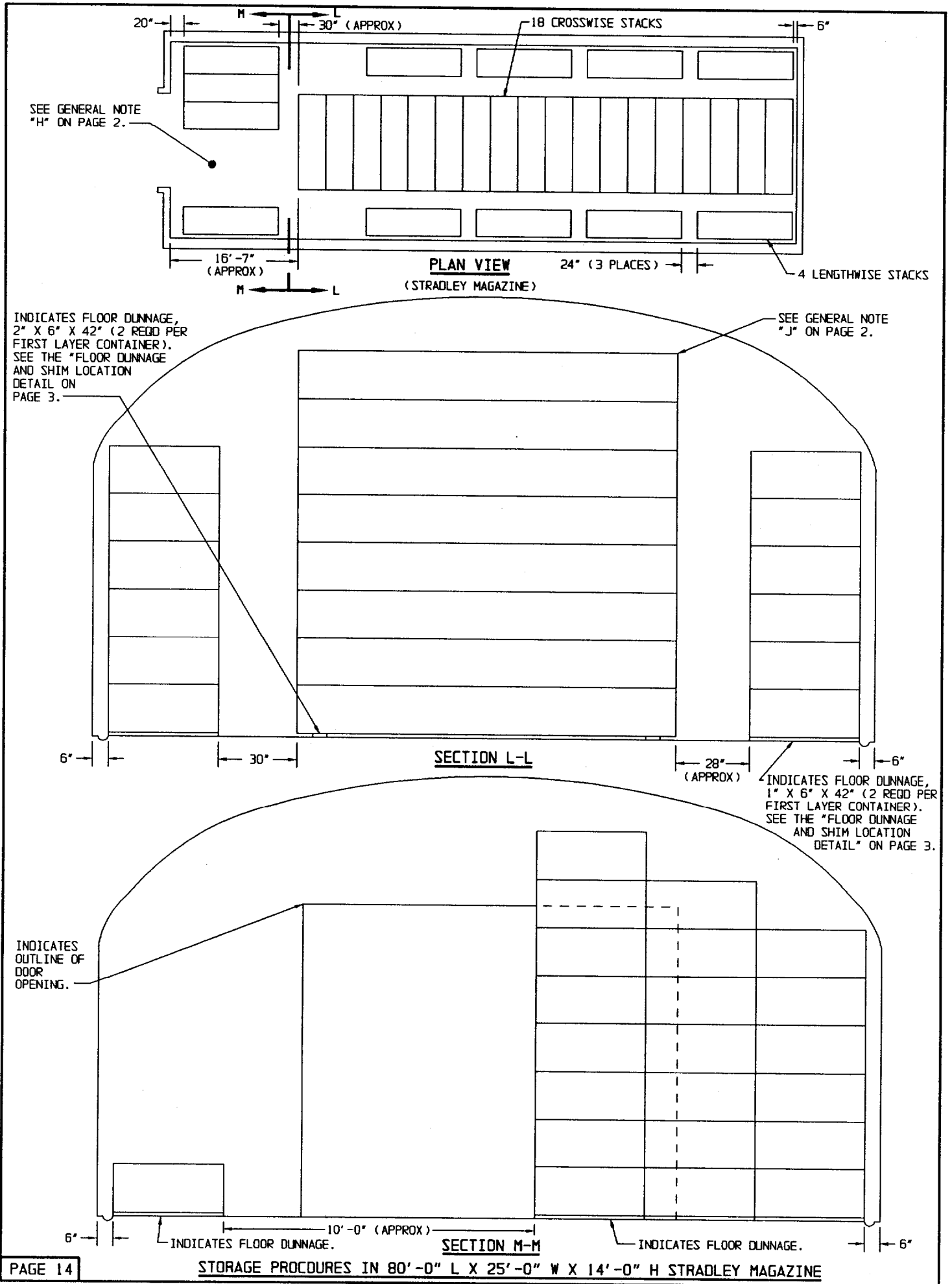
(40'-0" LONG IGL00)

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATION", SEE PAGE 2.

BILL OF MATERIAL (PER LENGTHWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	7	3.5
SHIMS - - - - - AS REQD		

BILL OF MATERIAL (PER CROSSWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
2" X 6"	7	7
SHIMS - - - - - AS REQD		

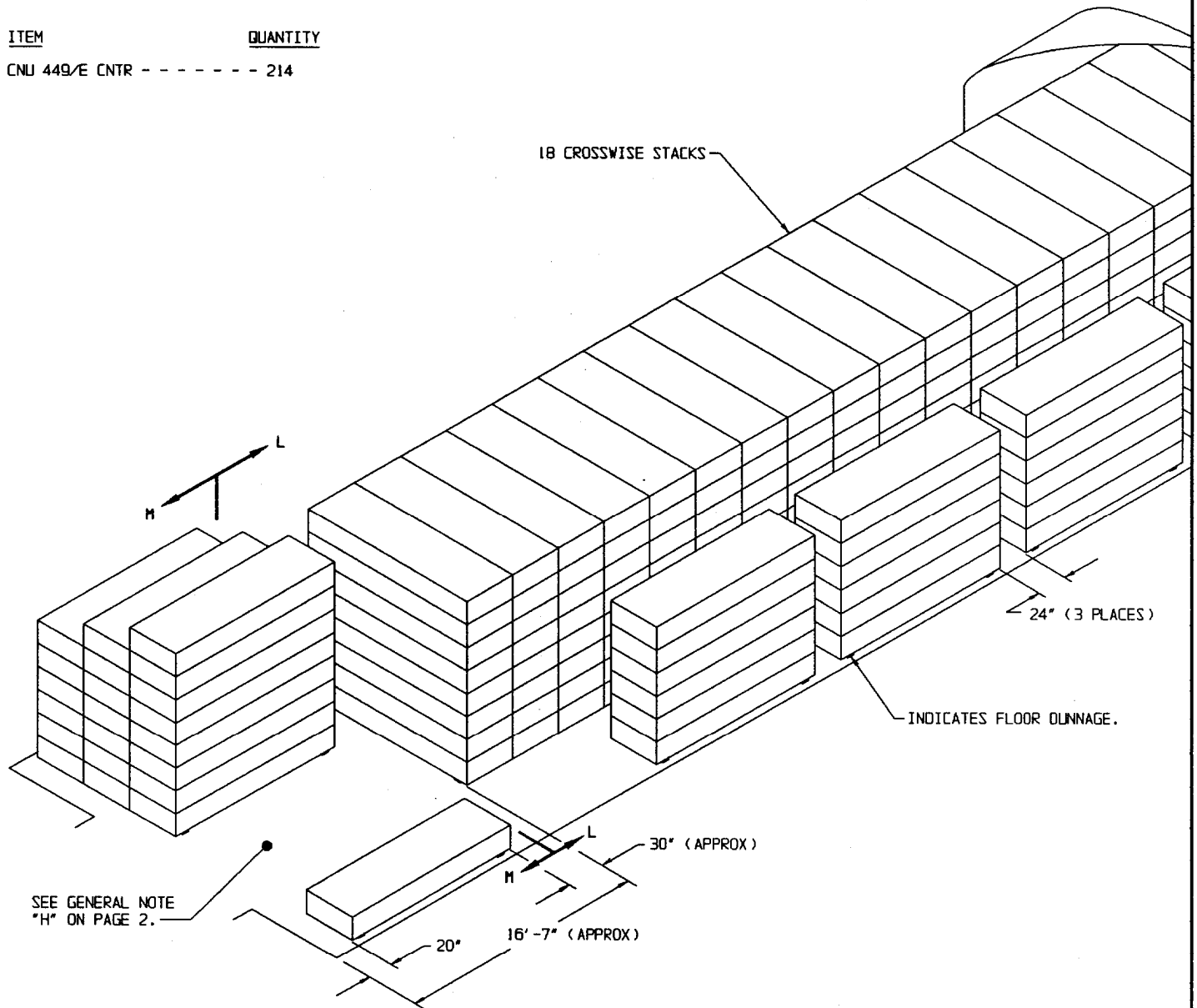
* RANDOM LENGTH PIECES MAY BE USED, IF DESIRED.



STORAGE IN STRADLEY MAGAZINE

(14'-0" HIGH)

ITEM QUANTITY
 CNJ 449/E CNTR - - - - - 214



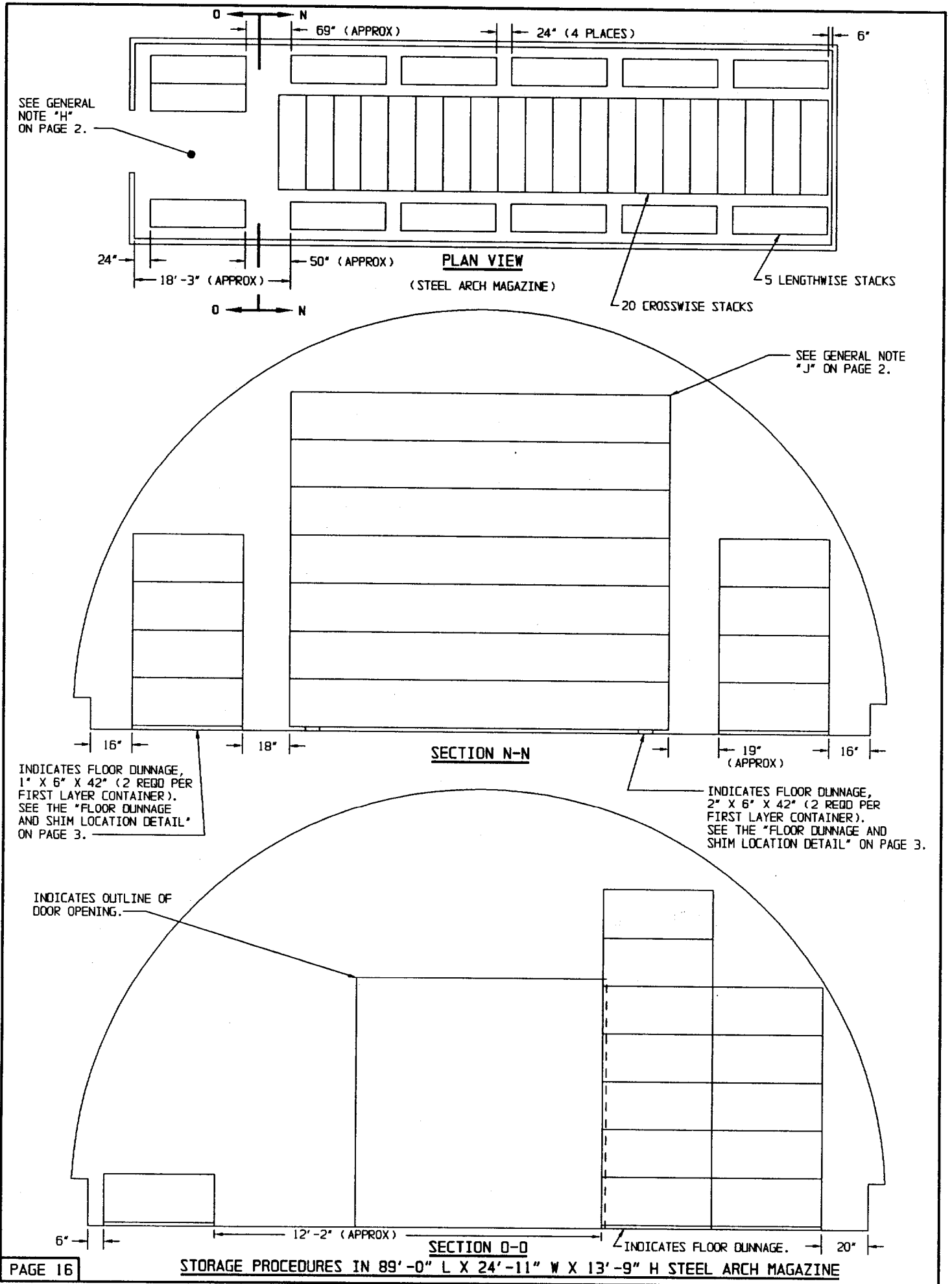
ISOMETRIC VIEW
 (STRADLEY MAGAZINE)

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATION", SEE PAGE 2.

BILL OF MATERIAL (PER LENGTHWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	7	3.5
SHIMS - - - - -	AS REQD	

BILL OF MATERIAL (PER CROSSWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
2" X 6"	7	7
SHIMS - - - - -	AS REQD	

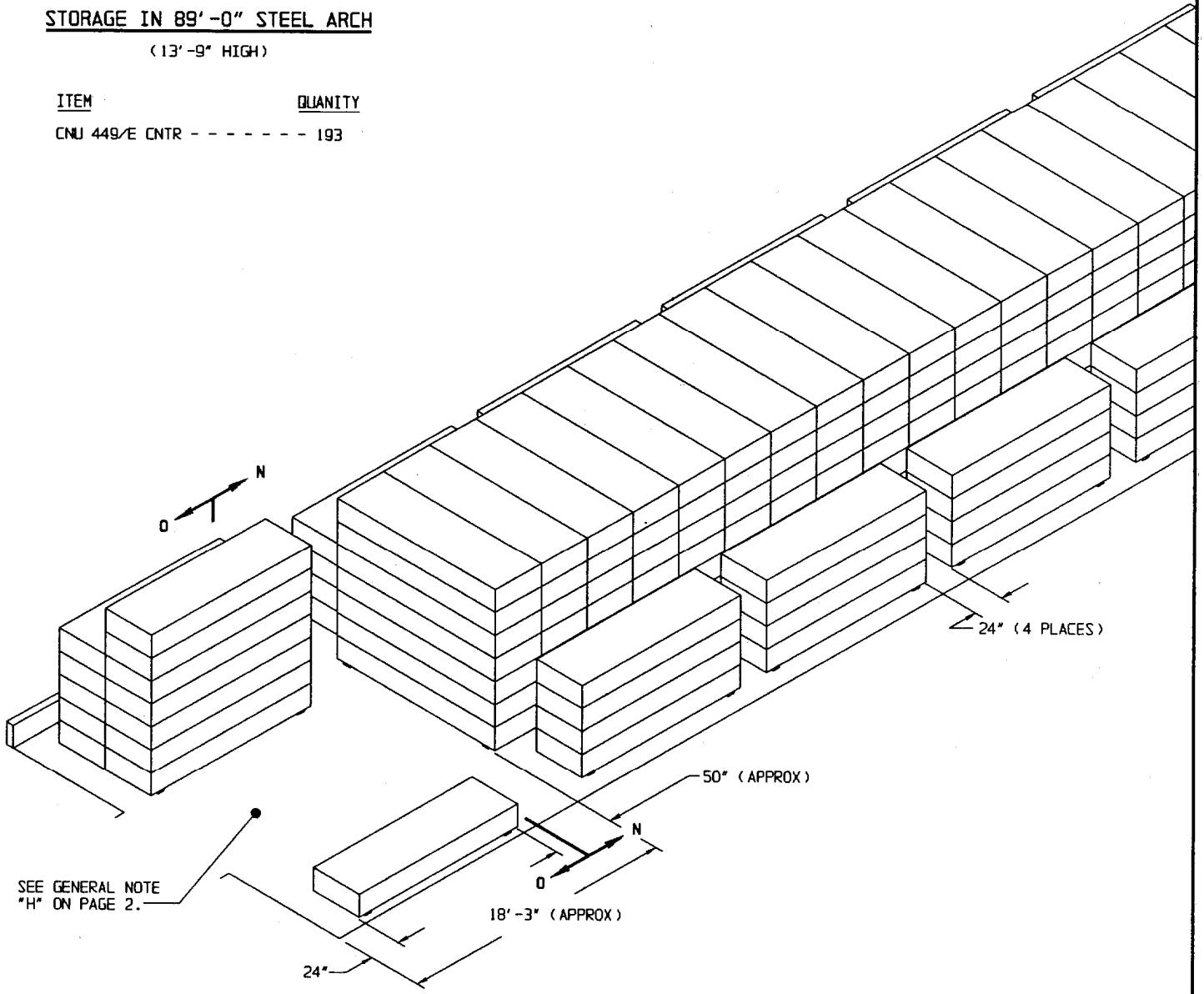
* RANDOM LENGTH PIECES MAY BE USED, IF DESIRED.



STORAGE IN 89'-0" STEEL ARCH

(13'-9" HIGH)

ITEM	QUANTITY
CNJ 449/E CNTR - - - - -	193



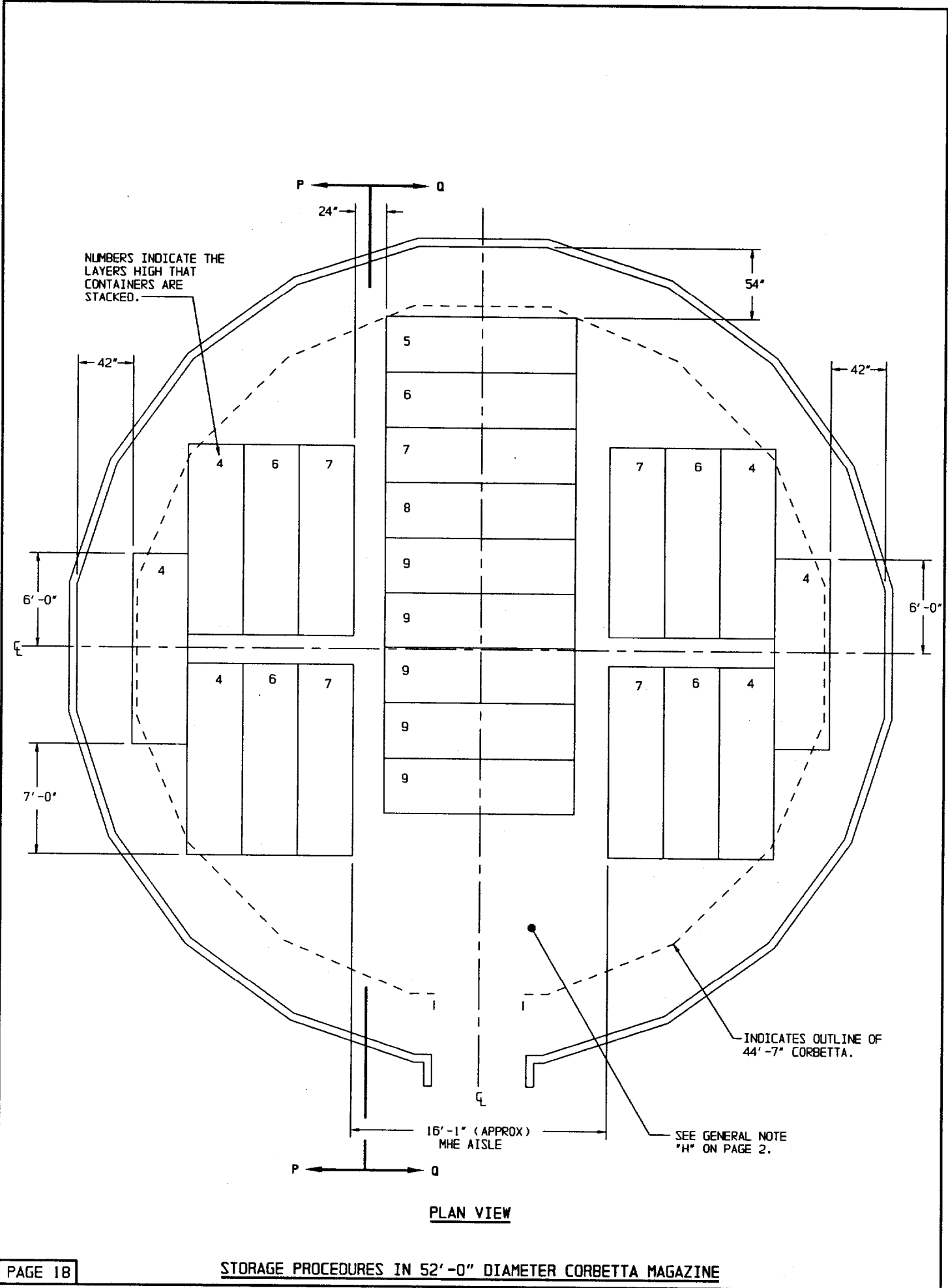
ISOMETRIC VIEW
(STEEL ARCH MAGAZINE)

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATION", SEE PAGE 2.

BILL OF MATERIAL (PER LENGTHWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	7	3.5
SHIMS - - - - -	- - - - -	AS REQD

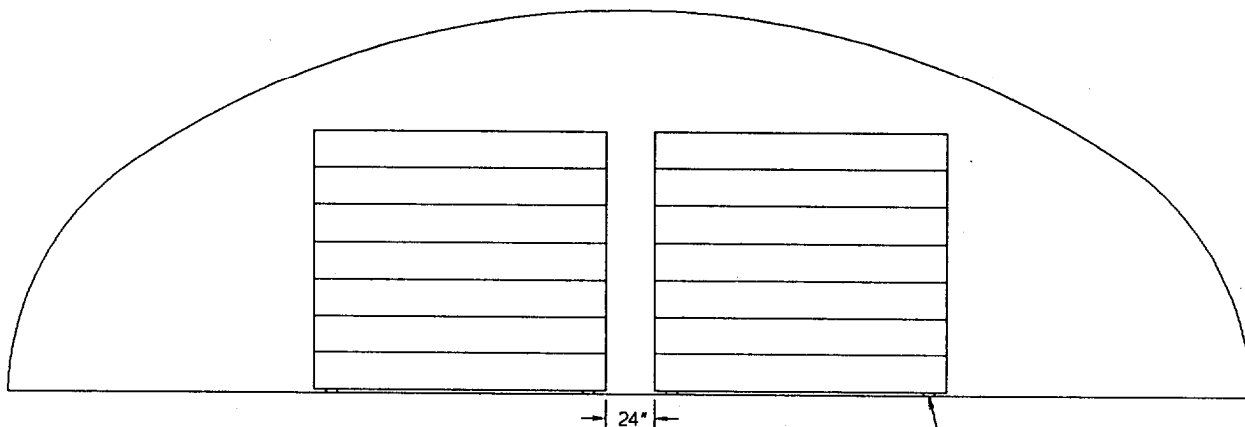
BILL OF MATERIAL (PER CROSSWISE STACK) *		
LUMBER	LINEAR FEET	BOARD FEET
2" X 6"	7	7
SHIMS - - - - -	- - - - -	AS REQD

* RANDOM LENGTH PIECES MAY BE USED, IF DESIRED.



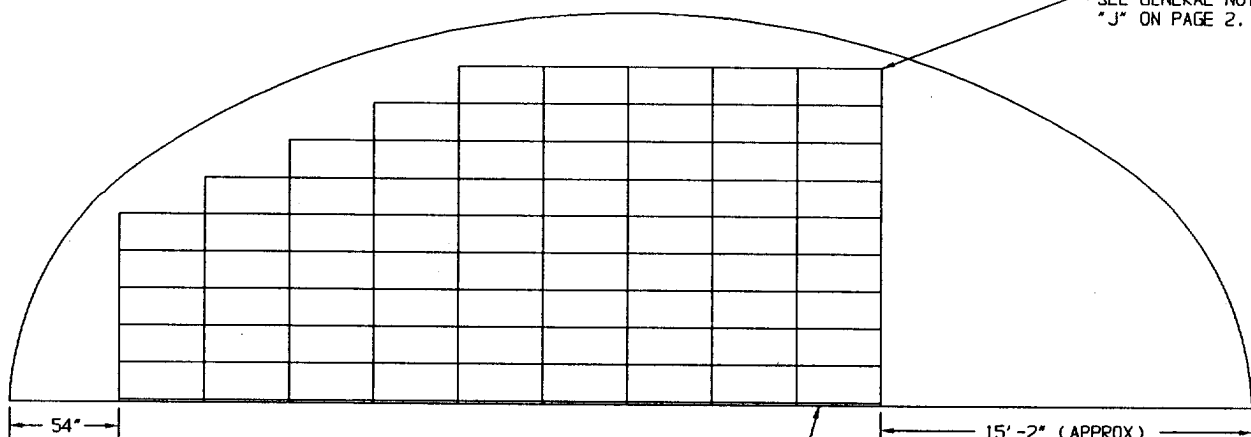
STORAGE IN 52'-0" DIA CORBETTA

ITEM	QUANTITY
CNU 449/E CNTR - - - - -	147



SECTION P-P

INDICATES FLOOR DUNNAGE, 1" X 6" X 42" (2 REQD PER FIRST LAYER CONTAINER). SEE THE "FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3.



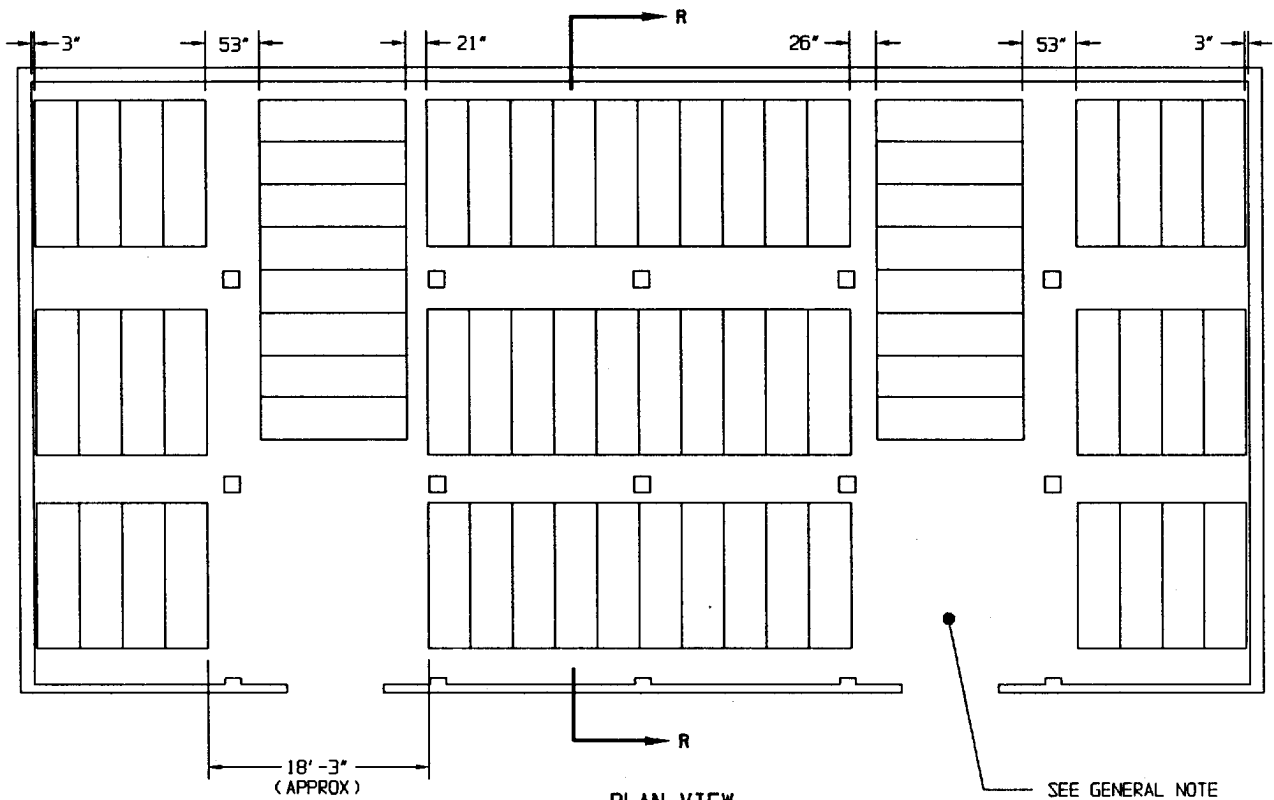
SECTION Q-Q

SEE GENERAL NOTE "J" ON PAGE 2.

INDICATES FLOOR DUNNAGE, 1" X 6" X 42" (2 REQD PER FIRST LAYER CONTAINER). SEE THE "FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3.

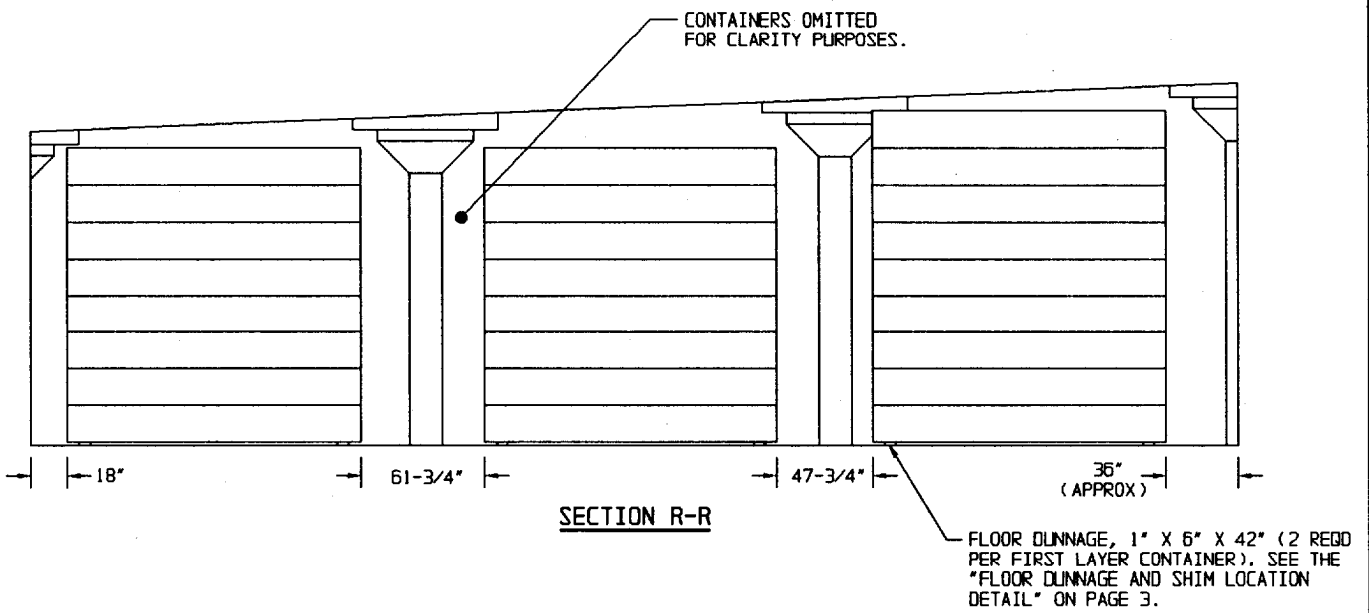
BILL OF MATERIAL (PER FIRST LAYER CONTAINER)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	7	3.5
SHIMS - - - - -	AS REQD	

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATION", SEE PAGE 2.



PLAN VIEW

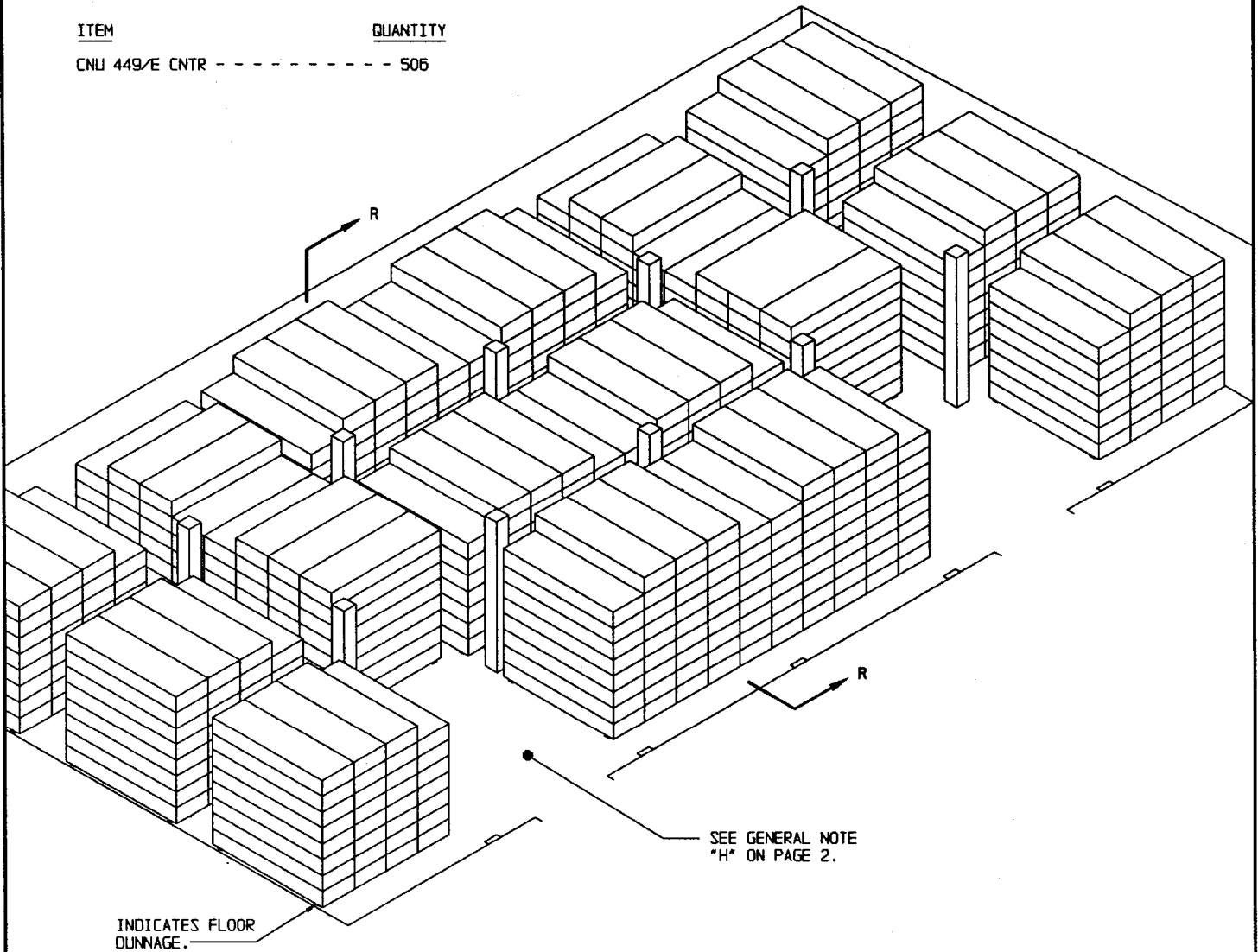
(100'-8" L X 50'-0" W MAGAZINE)



SECTION R-R

STORAGE IN 100'-8" LONG BY 50'-0" WIDE
RECTANGULAR MAGAZINE

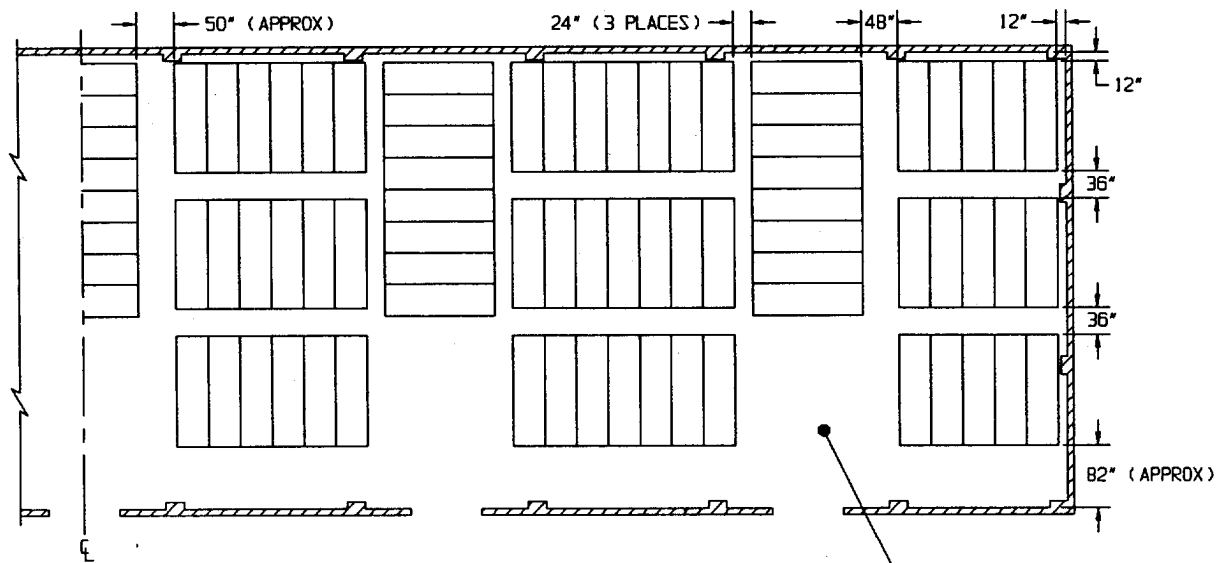
ITEM QUANTITY
 CNJ 449/E CNTR - - - - - 506



ISOMETRIC VIEW
 (100'-8" LONG BY 50'-0" WIDE MAGAZINE)

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATION", SEE PAGE 2.

BILL OF MATERIAL (PER FIRST LAYER CONTAINER)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	7	3.5
SHIMS - - - - -	- - - - -	AS REQD



CENTER OF
MAGAZINE.

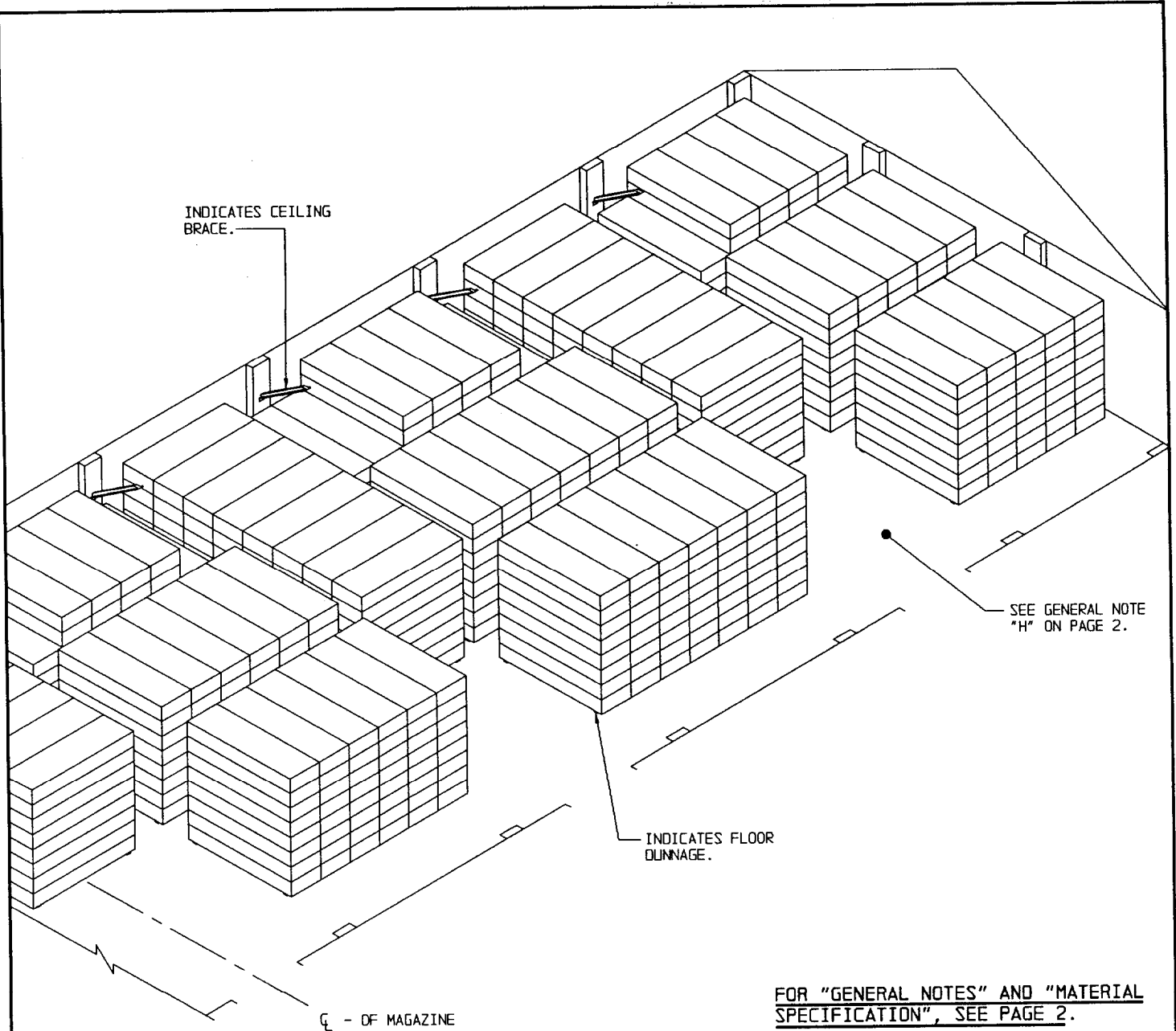
PLAN VIEW

(ONE-HALF OF A STANDARD
MAGAZINE IS SHOWN).

SEE GENERAL NOTE
"H" ON PAGE 2.

STORAGE IN ONE-HALF OF A STANDARD MAGAZINE

<u>ITEM</u>	<u>QUANTITY</u>
CNU 449/E CNTR - - - - -	580



INDICATES CEILING BRACE.

SEE GENERAL NOTE "H" ON PAGE 2.

INDICATES FLOOR DUNNAGE.

CL - OF MAGAZINE

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATION", SEE PAGE 2.

ISOMETRIC VIEW
(ONE-HALF OF A STANDARD MAGAZINE IS SHOWN).

BILL OF MATERIAL (PER FIRST LAYER CONTAINER)		
LUMBER	LINEAR FEET	BOARD FEET
1" X 6"	7	3.5
SHIMS - - - - -		AS REQD