

# STORAGE IN APPROVED MAGAZINES OF HARPOON GUIDED MISSILE, RGM-84A-3, PACKED 1 PER CANISTER IN MK631 MOD 0 SHIPPING AND STORAGE CONTAINER

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| STORAGE PROCEDURES (EARTH COVERED MAGAZINES):                           |         |
| 81'-0", 60'-8" AND 40'-4" L X 26'-6" W X 12'-9" H IGLOO MAGAZINES - - - | 4,5     |
| 81'-2" L X 26'-6" W X 12'-1-3/4" H ARCH TYPE MAGAZINE - - - - -         | 6,7     |
| 80'-0" AND 40'-0" L X 25'-0" W X 12'-1-3/4" H ARCH TYPE MAGAZINES - - - | 8,9     |
| 80'-0" AND 40'-0" L X 25'-0" W X 11'-0" H ARCH TYPE MAGAZINES - - -     | 10,11   |
| 80'-0" AND 40'-0" L X 25'-0" W X 10'-0" H ARCH TYPE MAGAZINES - - -     | 12,13   |
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| 89'-0" L X 24'-11" W X 13'-6" H STEEL ARCH MAGAZINE - - - - -           | 16,17   |
| 52'-0" DIA CORBETTA MAGAZINE - - - - -                                  | 18,19   |
| 100'-8" L X 50'-0" W RECTANGULAR MAGAZINE - - - - -                     | 20,21   |

## U. S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U. S. ARMY INDUSTRIAL OPERATIONS COMMAND

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AUGUST 1997

CLASS

DIVISION

DRAWING

FILE

19

48

8637

SP 1-3-4-14-  
22J37

DO NOT SCALE

GENERAL NOTES

(GENERAL NOTES CONTINUED)

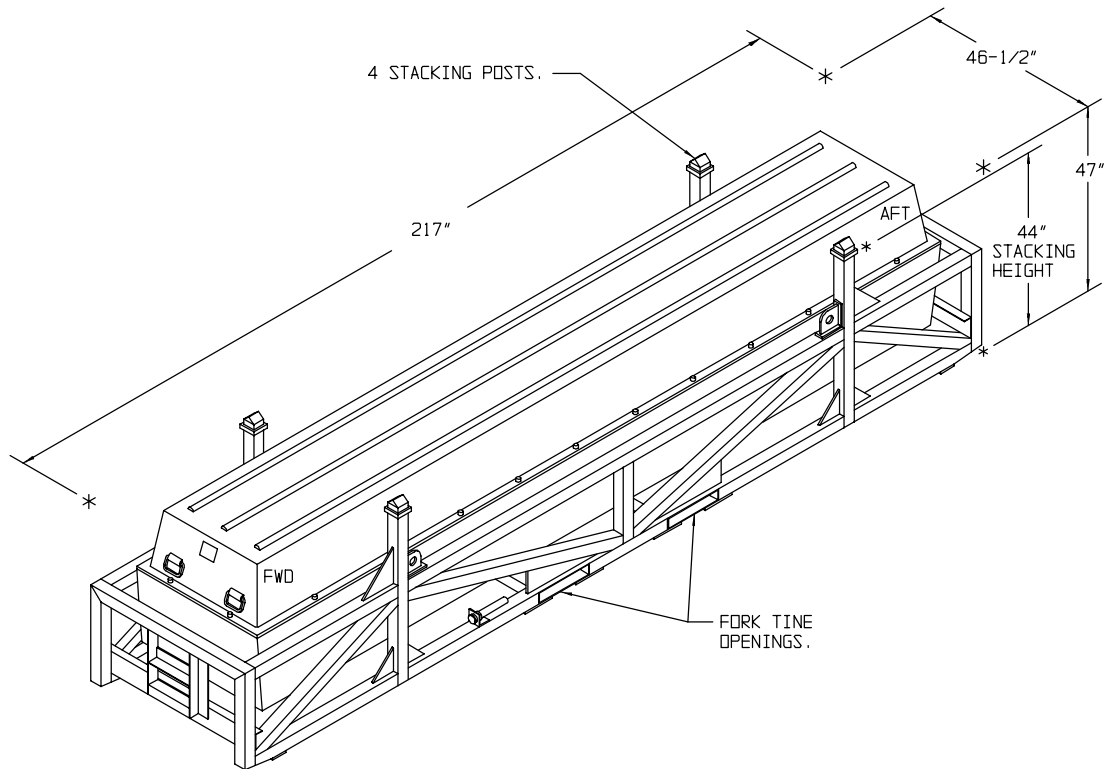
- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE STORAGE PROCEDURES SPECIFIED HEREIN ARE APPLICABLE TO THE HARPOON GUIDED MISSILE, RGM-84A-3, PACKED 1 PER CANISTER IN MK631 MOD 0 CONTAINER. SUBSEQUENT REFERENCE TO CONTAINER MEANS THE MK631 CONTAINER WITH CONTENTS. FOR DETAILS OF THE CONTAINER SEE NAVSEA SYSTEMS COMMAND DR-4/238 AND THE PICTORIAL VIEW ON PAGE 3.  
  
CONTAINER DIMENSIONS -- 217" L X 46-1/2" W X 47" H  
STACKING HEIGHT - - - - - 44"  
GROSS WEIGHT - - - - - 3,200 POUNDS (APPROX)  
CUBE - - - - - 275 CUBIC FEET (APPROX)
- B CAUTION: THIS ITEM IS IN A "PROPULSIVE STATE" AND MUST BE STORED WITH THE FORWARD END FACING TOWARD A SIDEWALL OR THE REAR WALL AS INDICATED BY THE DIRECTIONAL ARROWS ON THE STORAGE VIEWS. ADDITIONALLY CONTAINERS MUST NOT BE STACKED MORE THAN THREE (3) CONTAINERS HIGH.
- C. 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.
- D. 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.
- E. STORED CONTAINERS MUST NOT CONTACT THE WALLS OF A MAGAZINE. THEREFORE, CONTAINERS WILL BE STORED A MINIMUM OF SIX INCHES (6") FROM THE SIDEWALL OR CURVATURE OF THE MAGAZINE AS APPLICABLE. TO PROVIDE FOR THIS MANDATORY CLEARANCE REQUIREMENT, CONTAINERS MAY BE ELIMINATED FROM THE DEPICTED STORAGE PATTERN AS NECESSARY.
- F. AISLE DIMENSIONS SHOWN FOR STORAGE PROCEDURES IN MAGAZINES MAY BE ADJUSTED TO SUIT LOCAL CONDITIONS, AND/OR AVAILABLE MATERIALS HANDLING EQUIPMENT (MHE).
- G. THE MAXIMUM FLOOR LOAD FOR A MAGAZINE AS PRESCRIBED BY LOCAL STANDARDS WILL NOT BE EXCEEDED.
- H. IF AVAILABLE MHE PERMITS, ADDITIONAL CONTAINERS MAY BE STORED WITHIN THE MHE AREA AND/OR OTHER AVAILABLE AREA OF THE MAGAZINE.
- J. THE HEIGHT OF THE PACKAGE GUARD ON SOME FORKLIFT TRUCKS MAY NOT PERMIT PLACEMENT OF SOME TOP LAYER UNITS 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.

- K. 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.
- L. PORTIONS OF THE MAGAZINES, SUCH AS SIDEWALLS, END WALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE STORAGE VIEWS FOR CLARITY PURPOSES.
- M. THE USE OF NOMINAL SIZE 1" X 6" X 46" OR 2" X 6" X 46" FLOOR DUNNAGE UNDER EACH END OF EACH FIRST-LAYER CONTAINER IS OPTIONAL, ALTHOUGH THE USE OF THIS TYPE OF DUNNAGE IS DELINEATED WITHIN THIS STORAGE PROCEDURE DRAWING. THE PURPOSE OF FLOOR DUNNAGE IS TO HELP KEEP THE RUNNERS OF A CONTAINER DRY, THUS AIDING IN PREVENTING DETERIORATION DUE TO CORROSION. THEREFORE, FLOOR DUNNAGE SHOULD BE USED WHEN STORING IN A MAGAZINE THAT IS KNOWN TO HAVE A "DAMP" FLOOR. IN IGLOO, ARCH TYPE AND STRADLEY MAGAZINES WHICH HAVE FLOORS SLOPING TOWARD THE SIDEWALLS, 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 FROM THE FLOOR TO THE TOP OF THE STACK. SHIM MATERIAL OF VARYING THICKNESSES OR THICKER FLOOR DUNNAGE 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.
- N. OTHER COMPATIBLE ITEMS MAY BE STORED IN A MAGAZINE WHICH IS PARTIALLY FILLED WITH THE DESIGNATED ITEM.

(CONTINUED AT RIGHT)

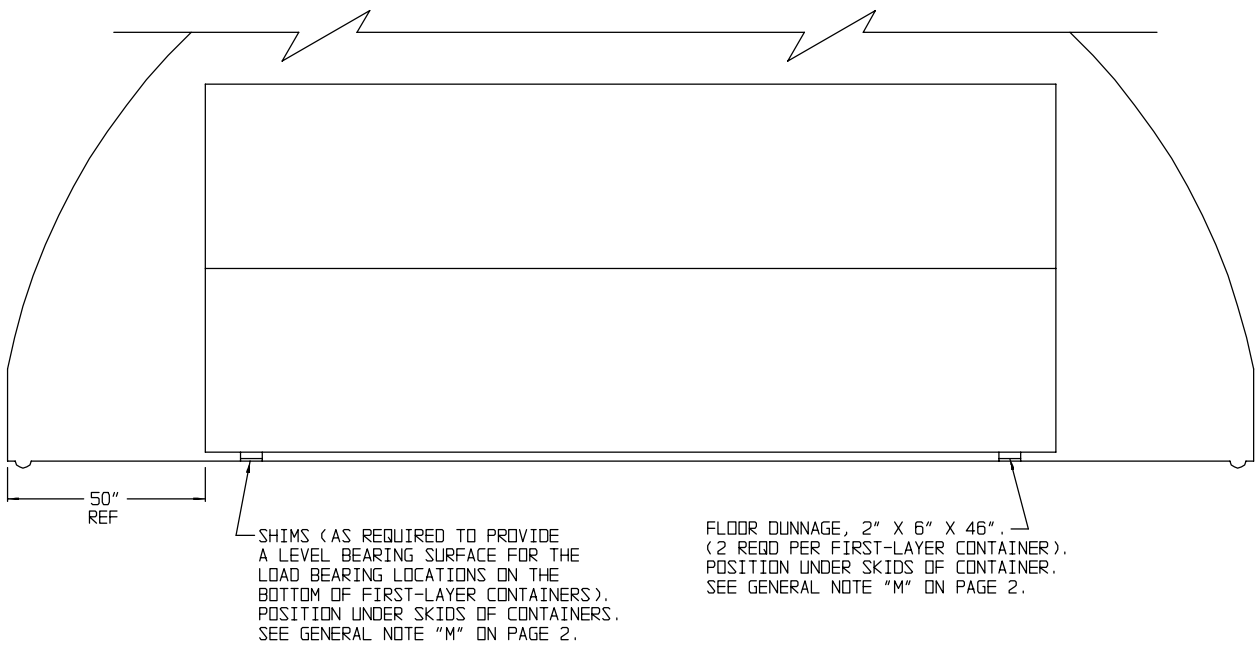
MATERIAL SPECIFICATIONS

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



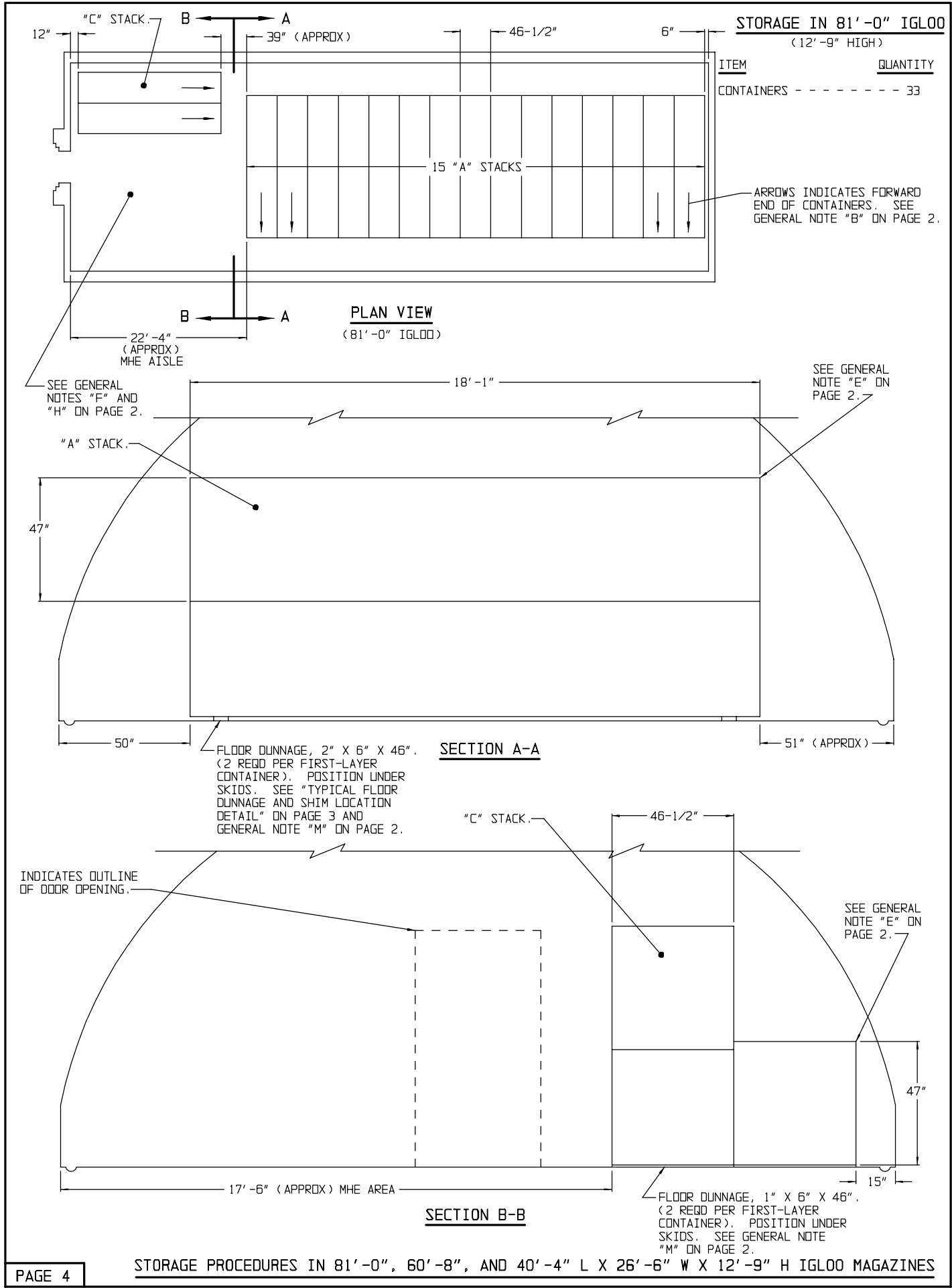
**MK631 MOD 0 CONTAINER**

GROSS WEIGHT - - - - 3,200 POUNDS (APPROX)  
 CUBE - - - - - 275 CUBIC FEET (APPROX)



**TYPICAL FLOOR DUNNAGE AND SHIM LOCATION DETAIL**

**DETAILS**



**STORAGE IN 60'-8" IGLOO**

(12'-9" HIGH)

| ITEM                 | QUANTITY |
|----------------------|----------|
| CONTAINERS - - - - - | 23       |

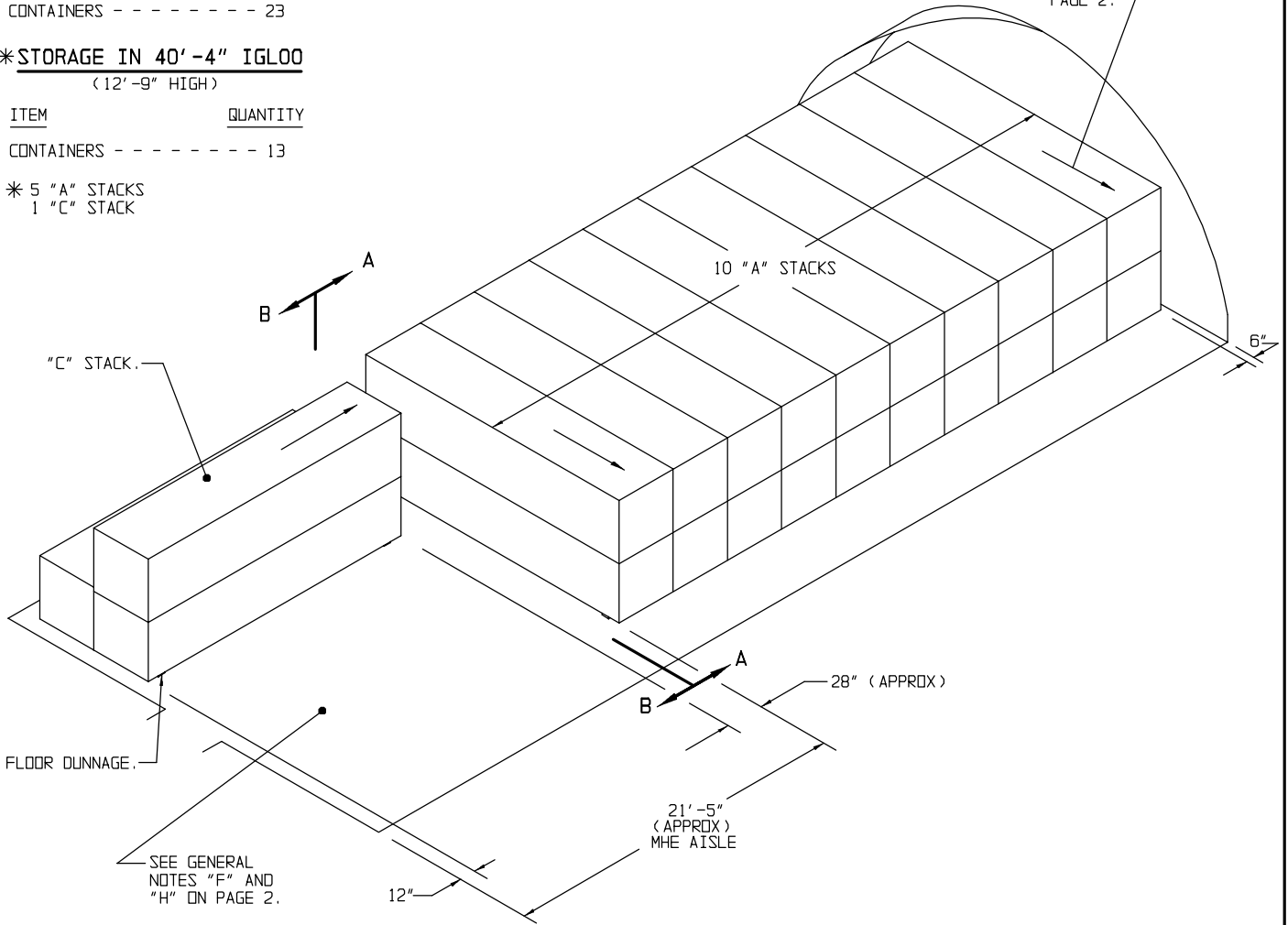
**\*STORAGE IN 40'-4" IGLOO**

(12'-9" HIGH)

| ITEM                 | QUANTITY |
|----------------------|----------|
| CONTAINERS - - - - - | 13       |

- \* 5 "A" STACKS
- 1 "C" STACK

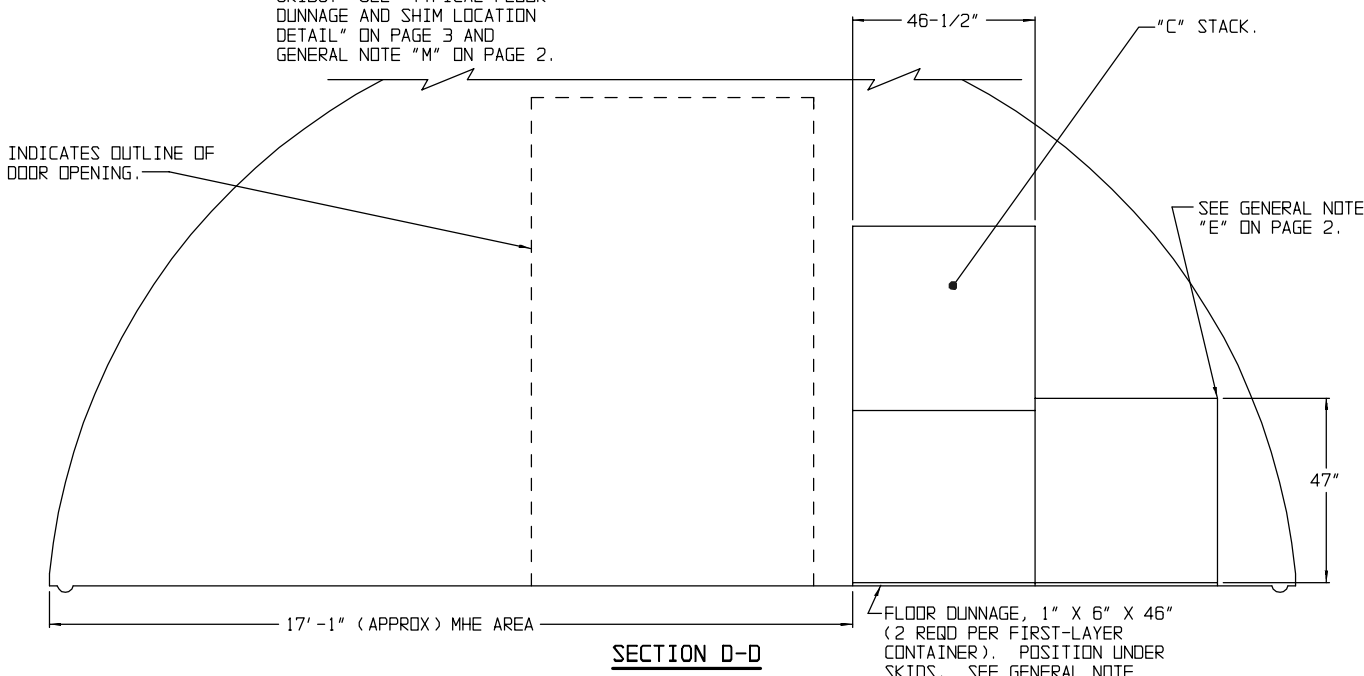
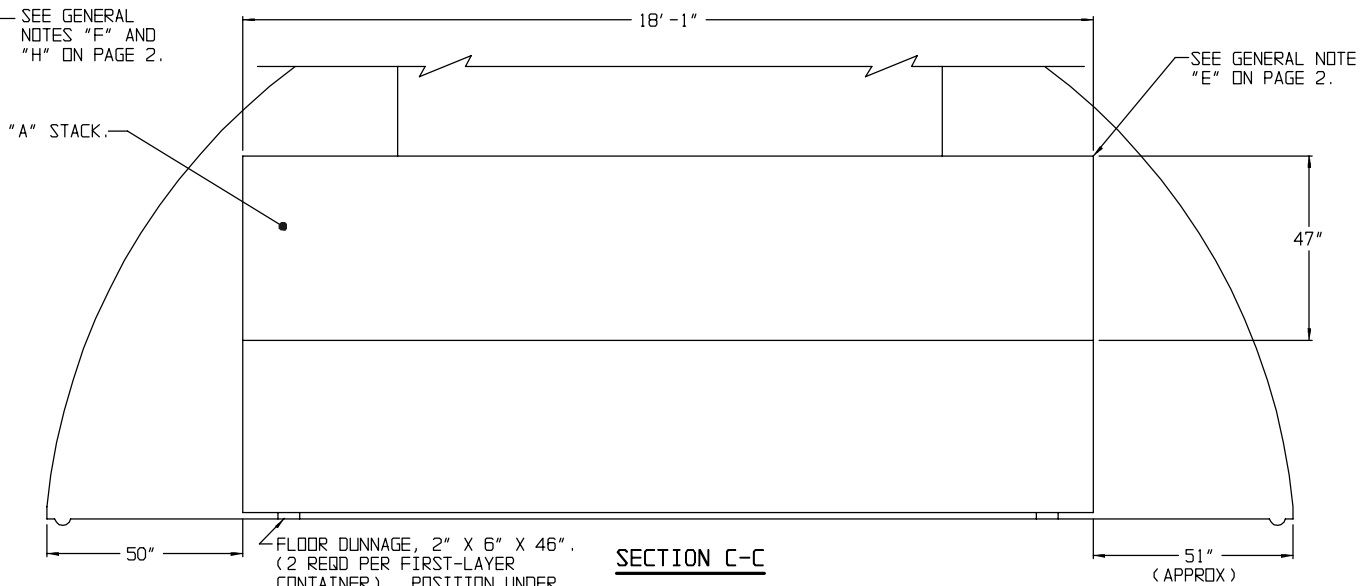
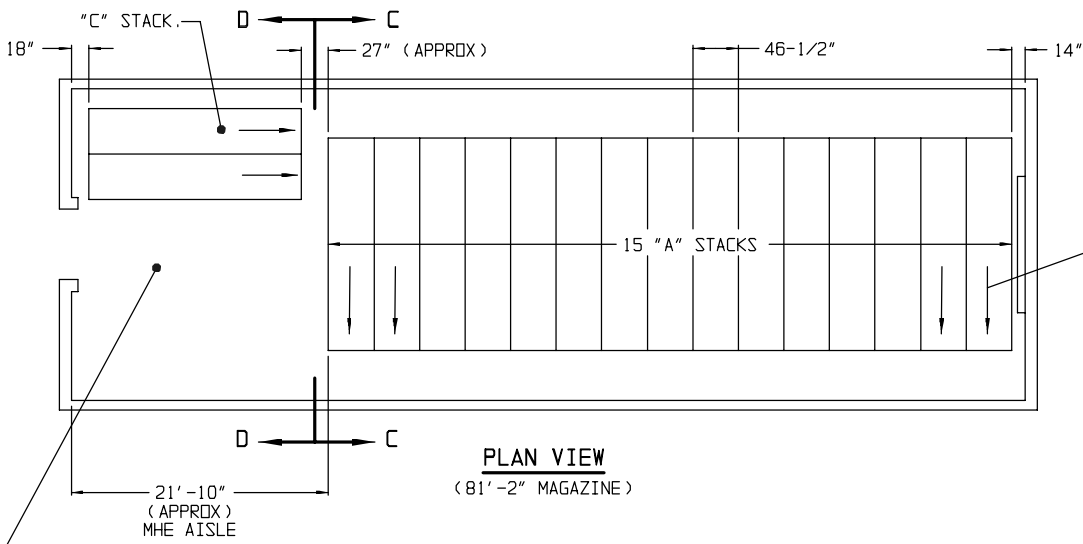
ARROWS INDICATE FORWARD END OF CONTAINERS. SEE GENERAL NOTE "B" ON PAGE 2.



**ISOMETRIC VIEW**

(60'-8" IGLOO)

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

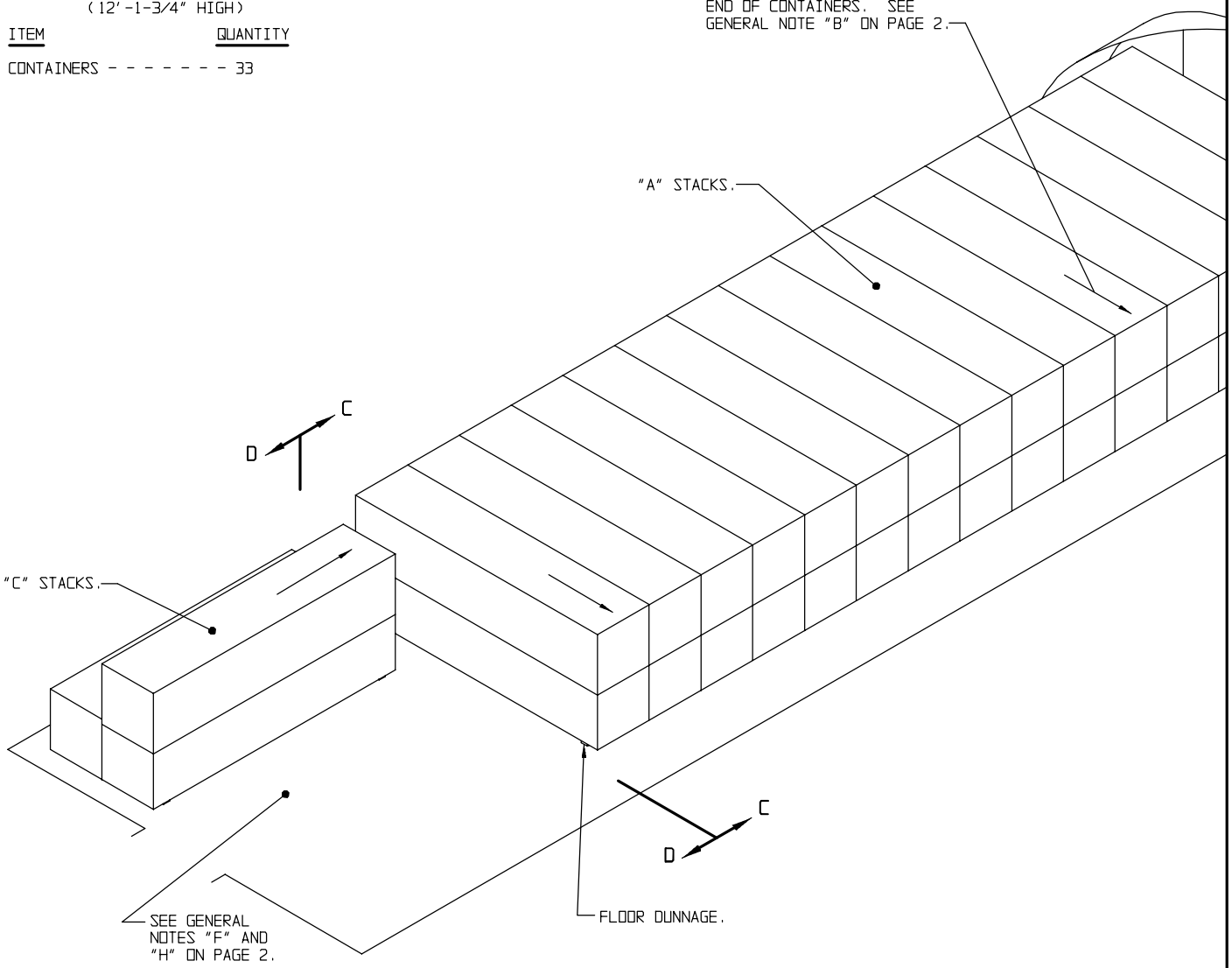


**STORAGE IN 81'-2" MAGAZINE**

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

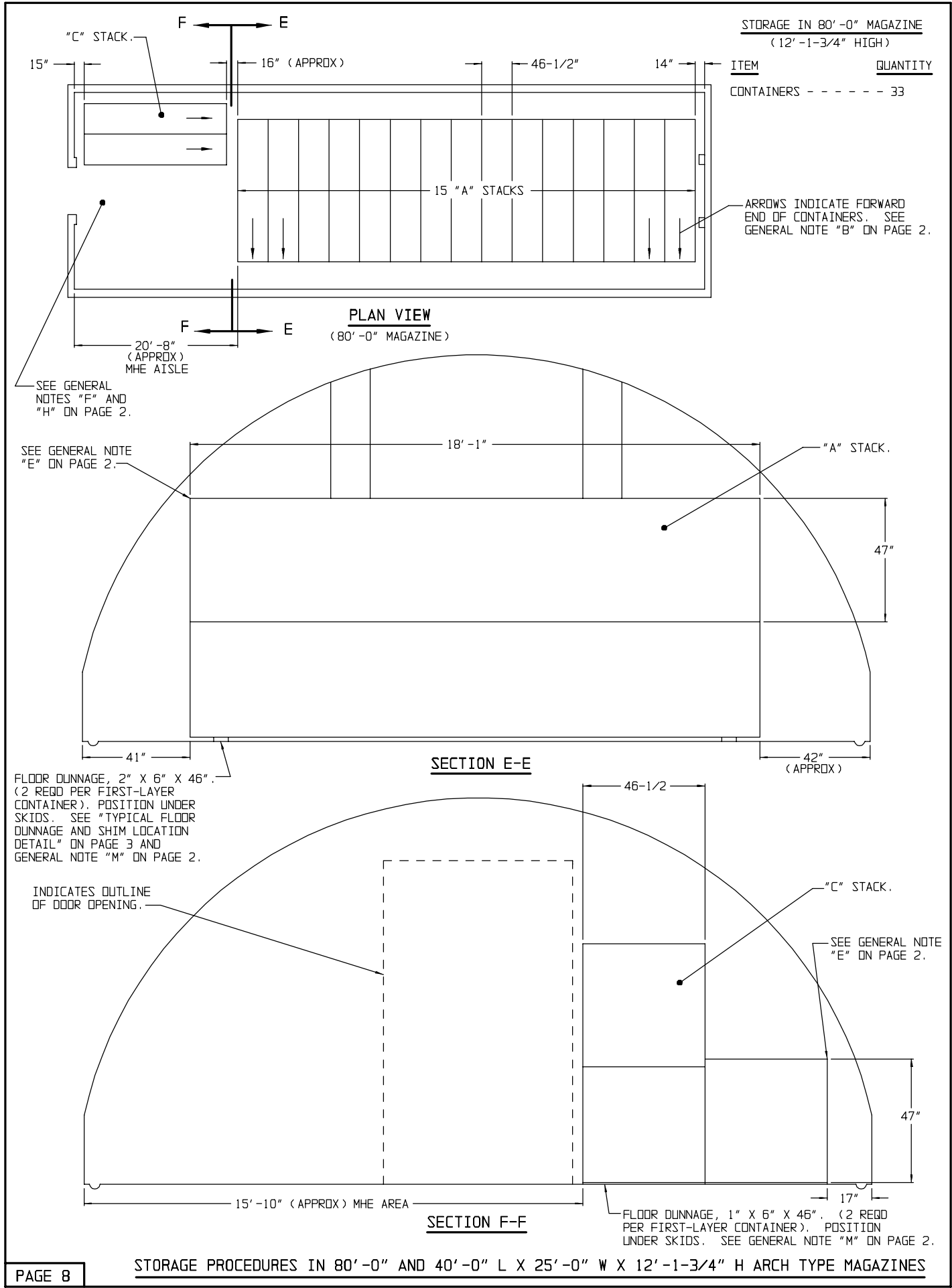
| <u>ITEM</u>          | <u>QUANTITY</u> |
|----------------------|-----------------|
| CONTAINERS - - - - - | 33              |

ARROWS INDICATE FORWARD END OF CONTAINERS. SEE GENERAL NOTE "B" ON PAGE 2.



ISOMETRIC VIEW  
(81'-2" MAGAZINE)

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





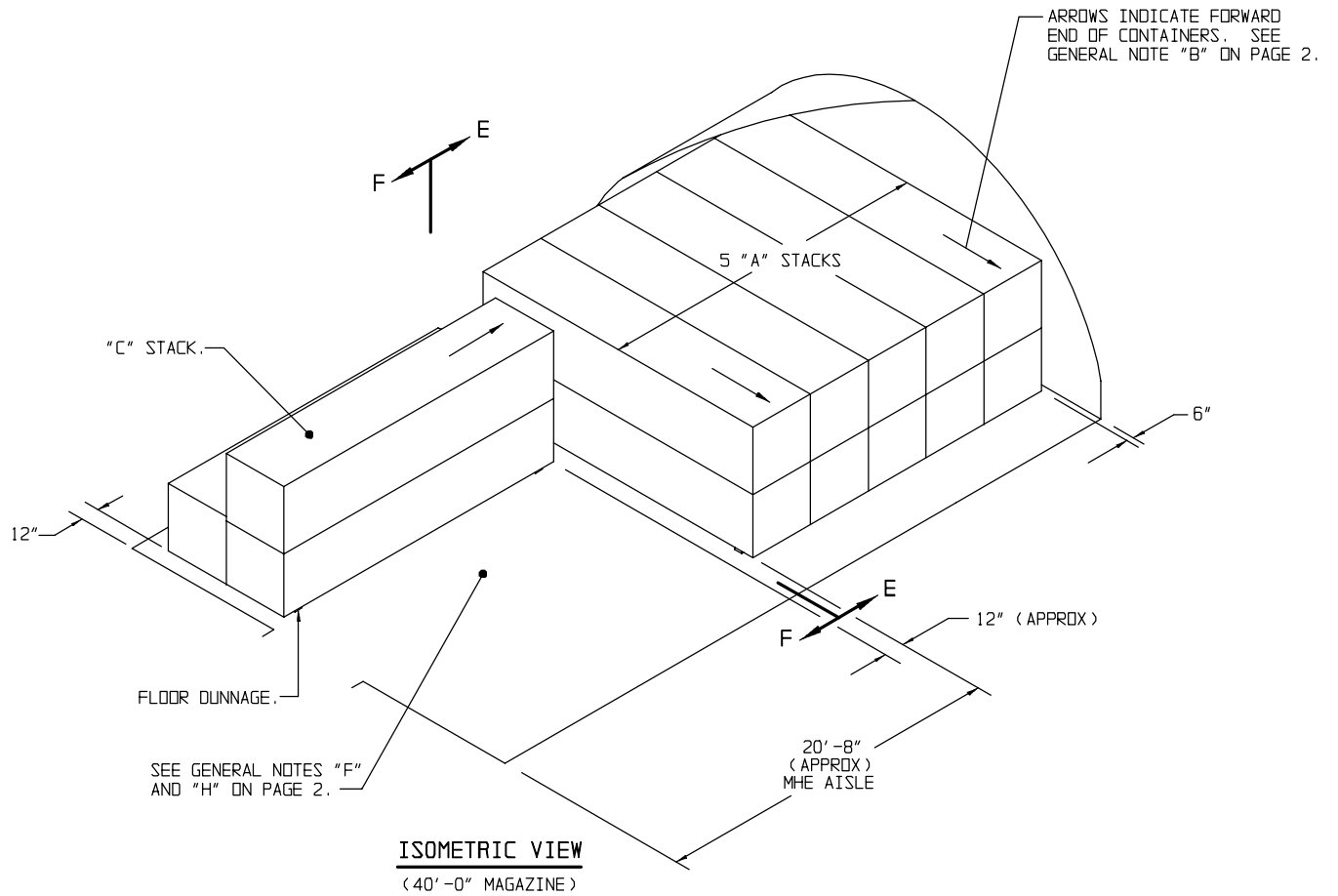
STORAGE IN 40'-0" MAGAZINE

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

ITEM

QUANTITY

CONTAINERS - - - - - 13

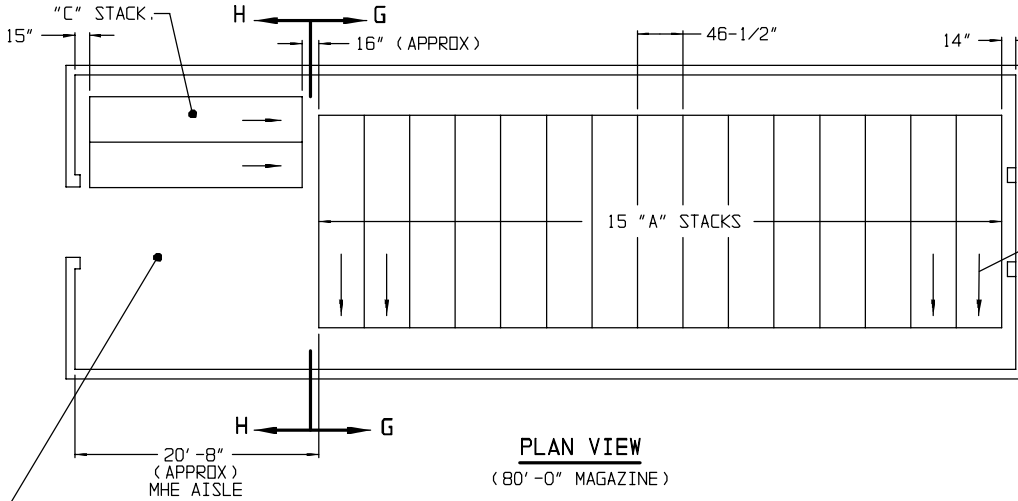


FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2.

**STORAGE IN 80'-0" MAGAZINE**

(11'-0" HIGH)

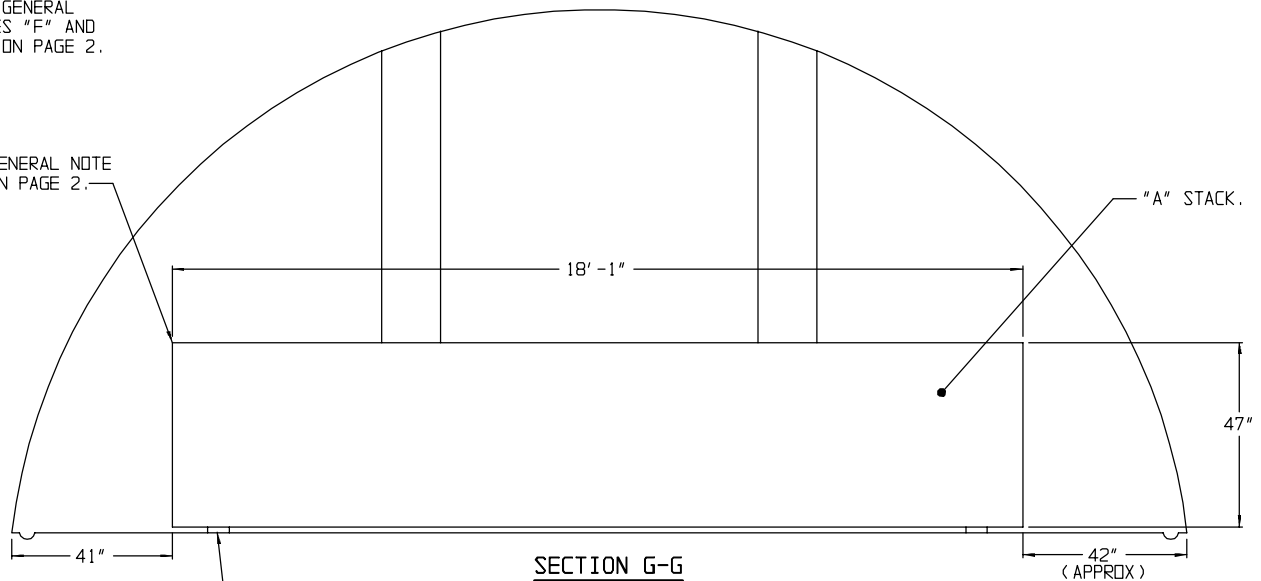
| ITEM                 | QUANTITY |
|----------------------|----------|
| CONTAINERS - - - - - | 18       |



ARROWS INDICATE FORWARD END OF CONTAINERS. SEE GENERAL NOTE "B" ON PAGE 2.

SEE GENERAL NOTES "F" AND "H" ON PAGE 2.

SEE GENERAL NOTE "E" ON PAGE 2.

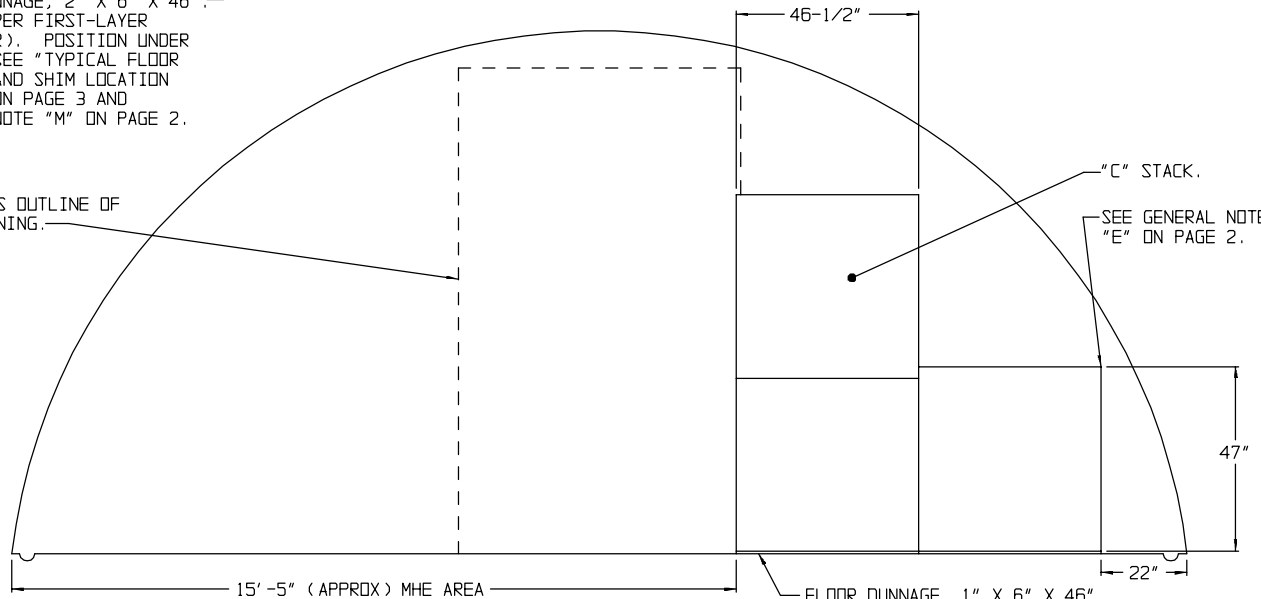


**SECTION G-G**

FLOOR DUNNAGE, 2" X 6" X 46". (2 REQD PER FIRST-LAYER CONTAINER). POSITION UNDER SKIDS. SEE "TYPICAL FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3 AND GENERAL NOTE "M" ON PAGE 2.

INDICATES OUTLINE OF DOOR OPENING.

"C" STACK.  
SEE GENERAL NOTE "E" ON PAGE 2.



**SECTION H-H**

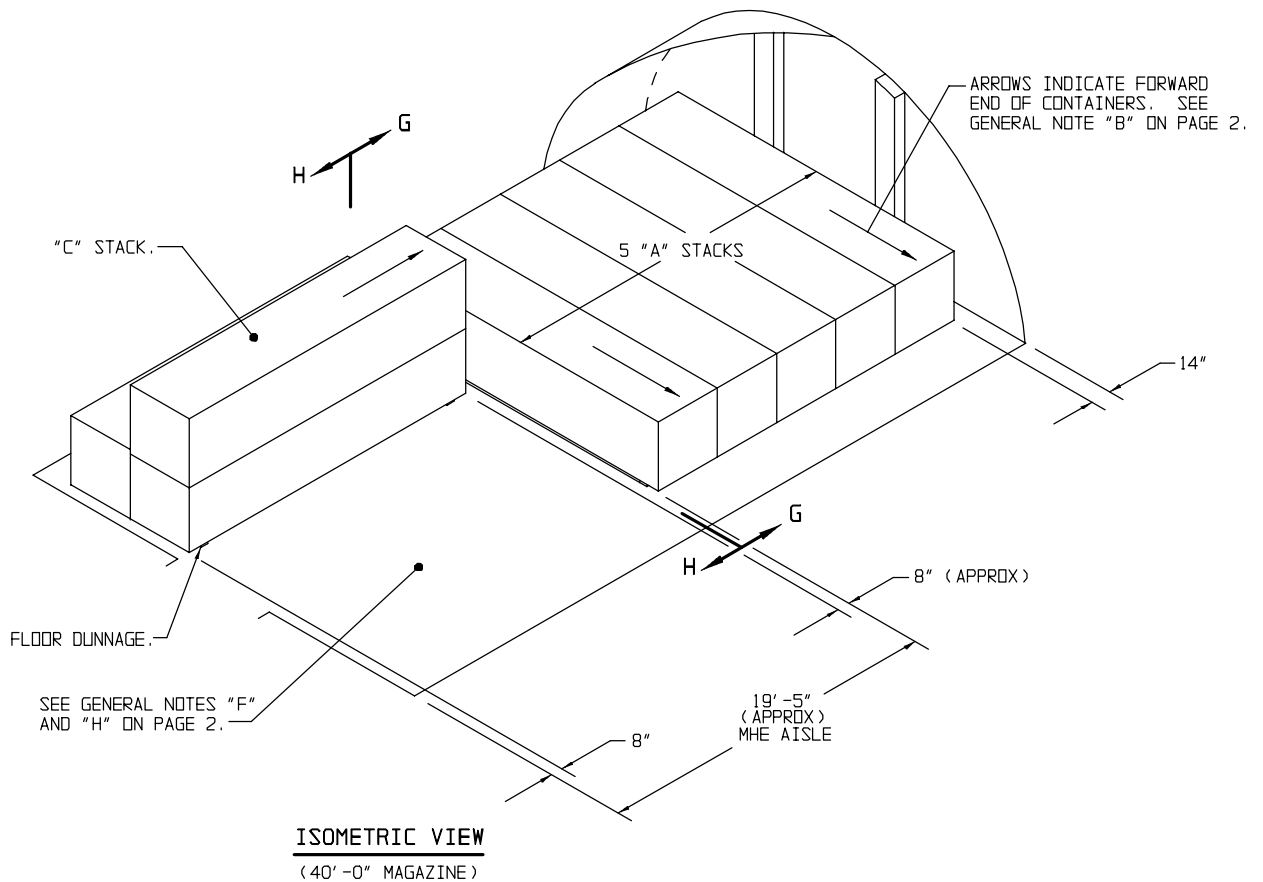
FLOOR DUNNAGE, 1" X 6" X 46". (2 REQD PER FIRST-LAYER CONTAINER). POSITION UNDER SKIDS. SEE GENERAL NOTE "M" ON PAGE 2.

**STORAGE IN 40'-0" MAGAZINE**

(11'-0" HIGH)

ITEM                      QUANTITY

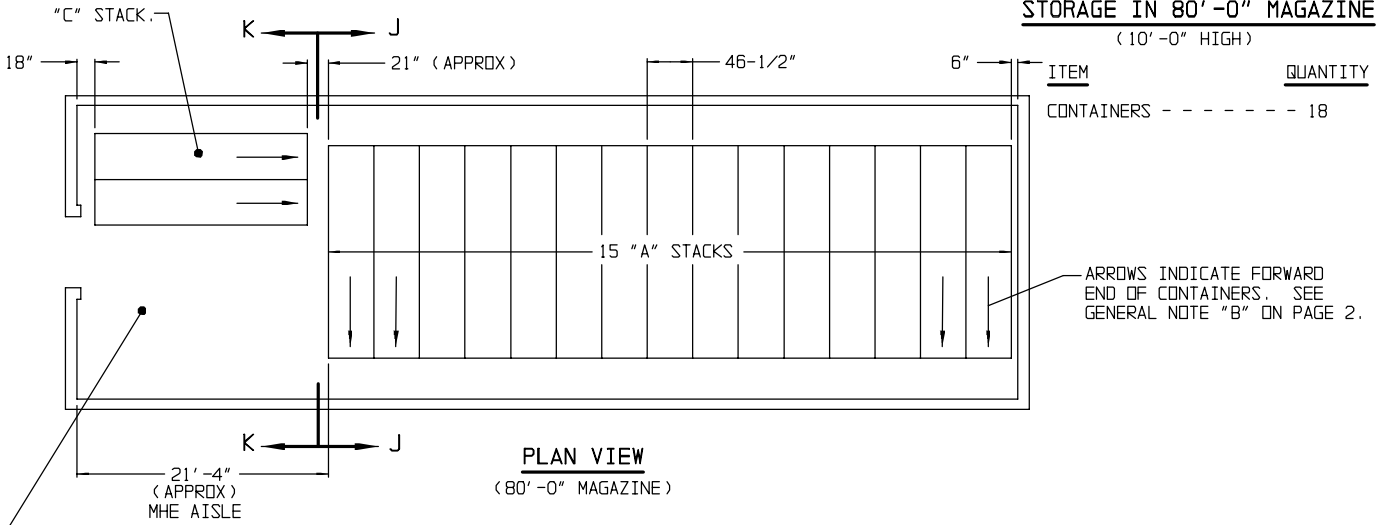
CONTAINERS - - - - - 8



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

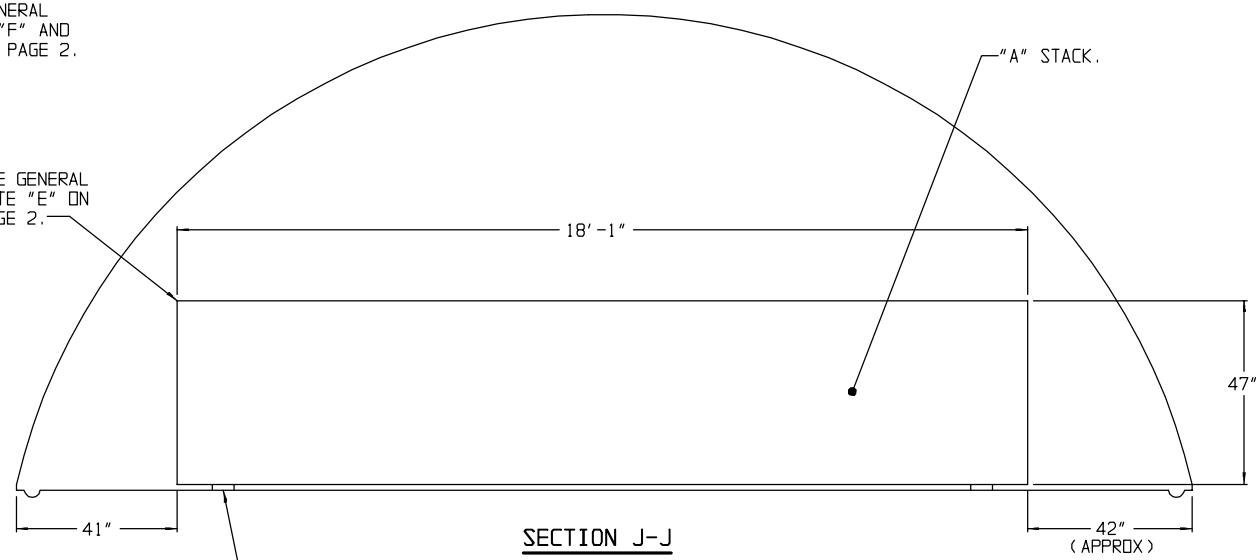
**STORAGE IN 80'-0" MAGAZINE**

(10'-0" HIGH)



SEE GENERAL NOTES "F" AND "H" ON PAGE 2.

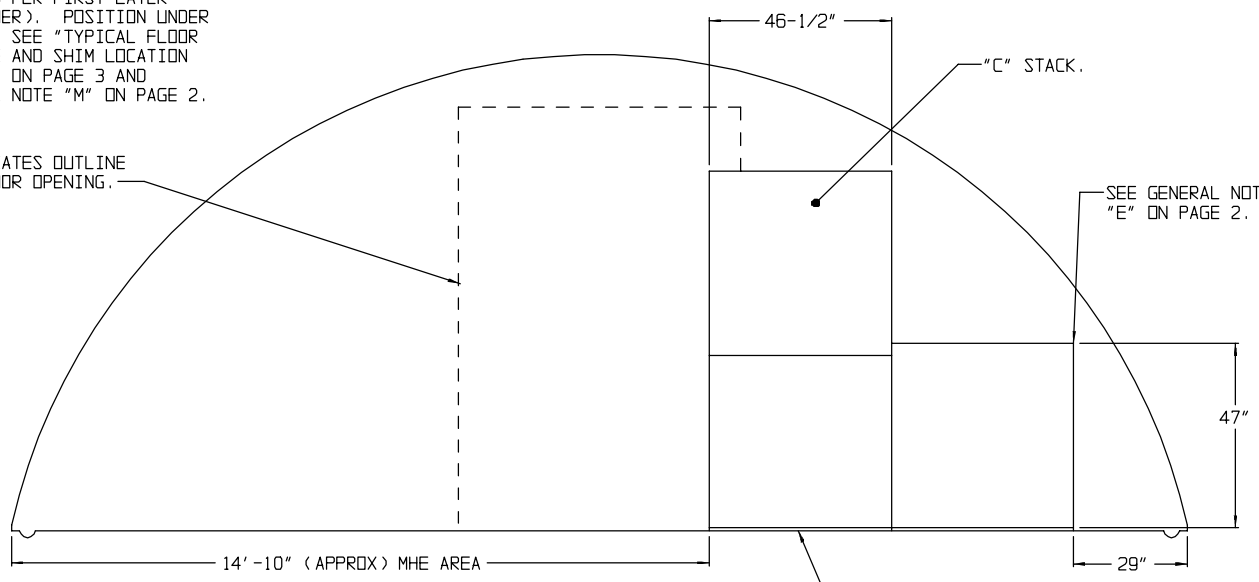
SEE GENERAL NOTE "E" ON PAGE 2.



FLOOR DUNNAGE, 2" X 6" X 46". (2 REQD PER FIRST-LAYER CONTAINER). POSITION UNDER SKIDS. SEE "TYPICAL FLOOR DUNNAGE AND SHIM LOCATION DETAIL" ON PAGE 3 AND GENERAL NOTE "M" ON PAGE 2.

INDICATES OUTLINE OF DOOR OPENING.

SEE GENERAL NOTE "E" ON PAGE 2.

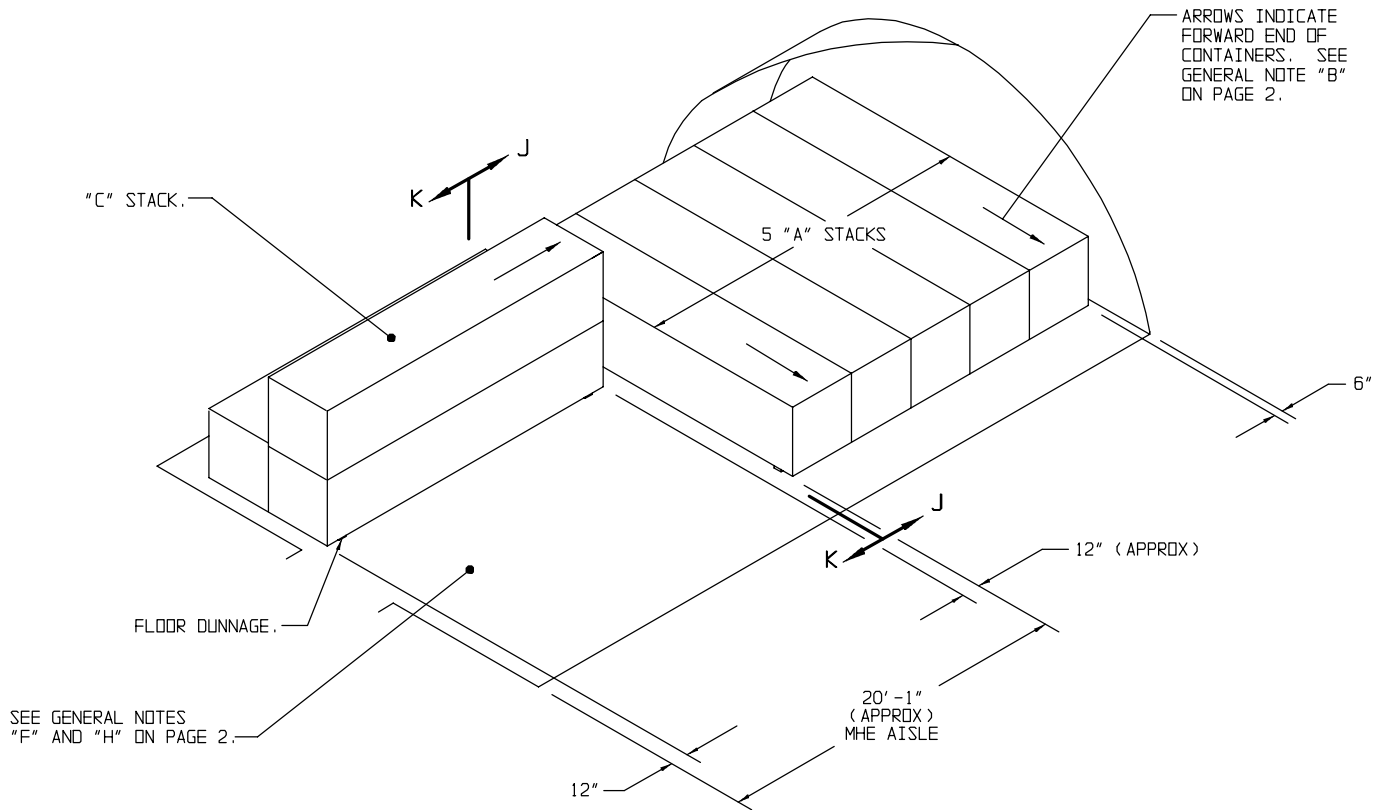


FLOOR DUNNAGE, 1" X 6" X 46". (2 REQD PER FIRST-LAYER CONTAINER). POSITION UNDER SKIDS. SEE GENERAL NOTE "M" ON PAGE 2.

STORAGE IN 40'-0" MAGAZINE

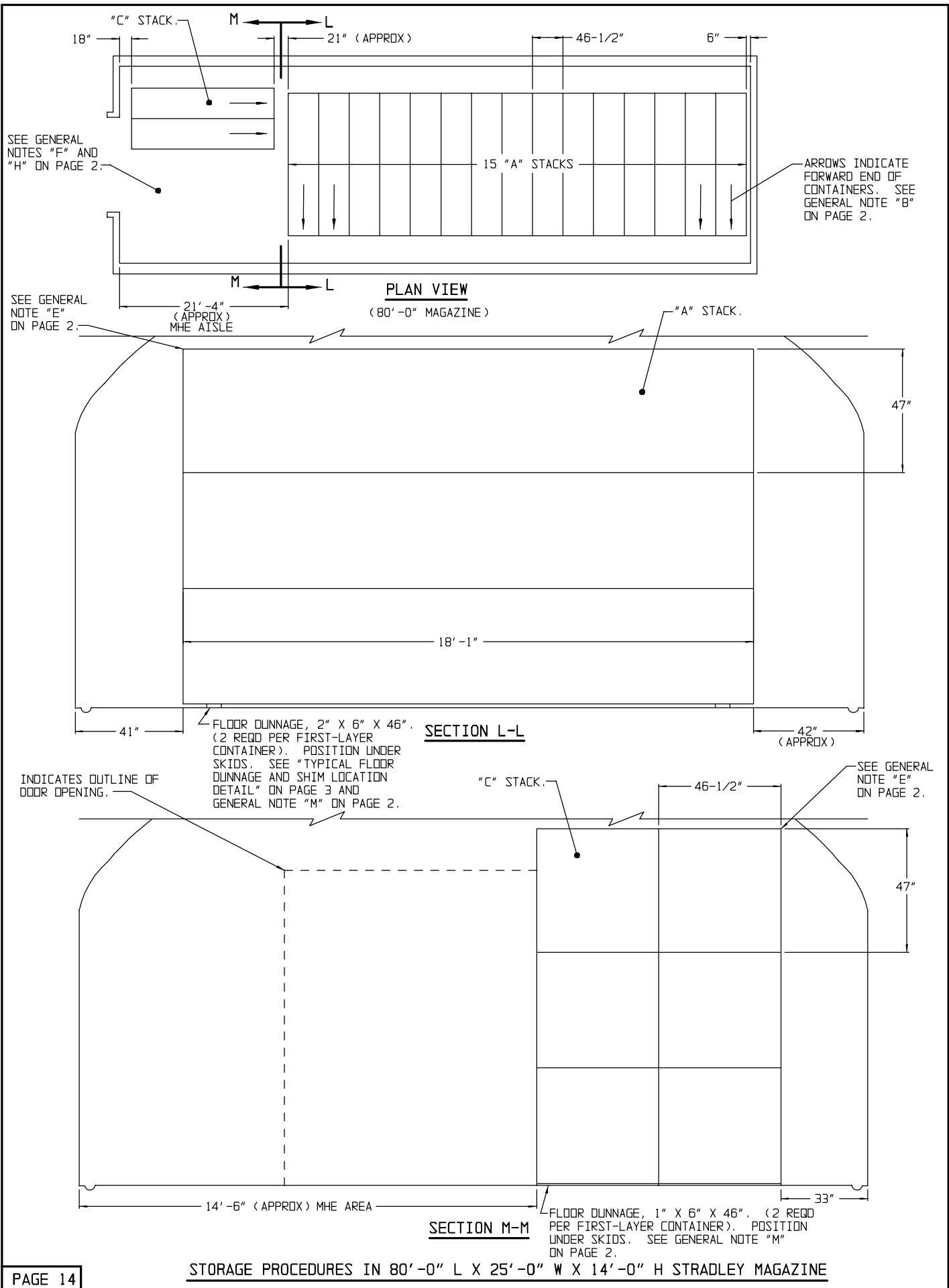
(10'-0" HIGH)

| <u>ITEM</u>          | <u>QUANTITY</u> |
|----------------------|-----------------|
| CONTAINERS - - - - - | 8               |



ISOMETRIC VIEW  
(40'-0" MAGAZINE)

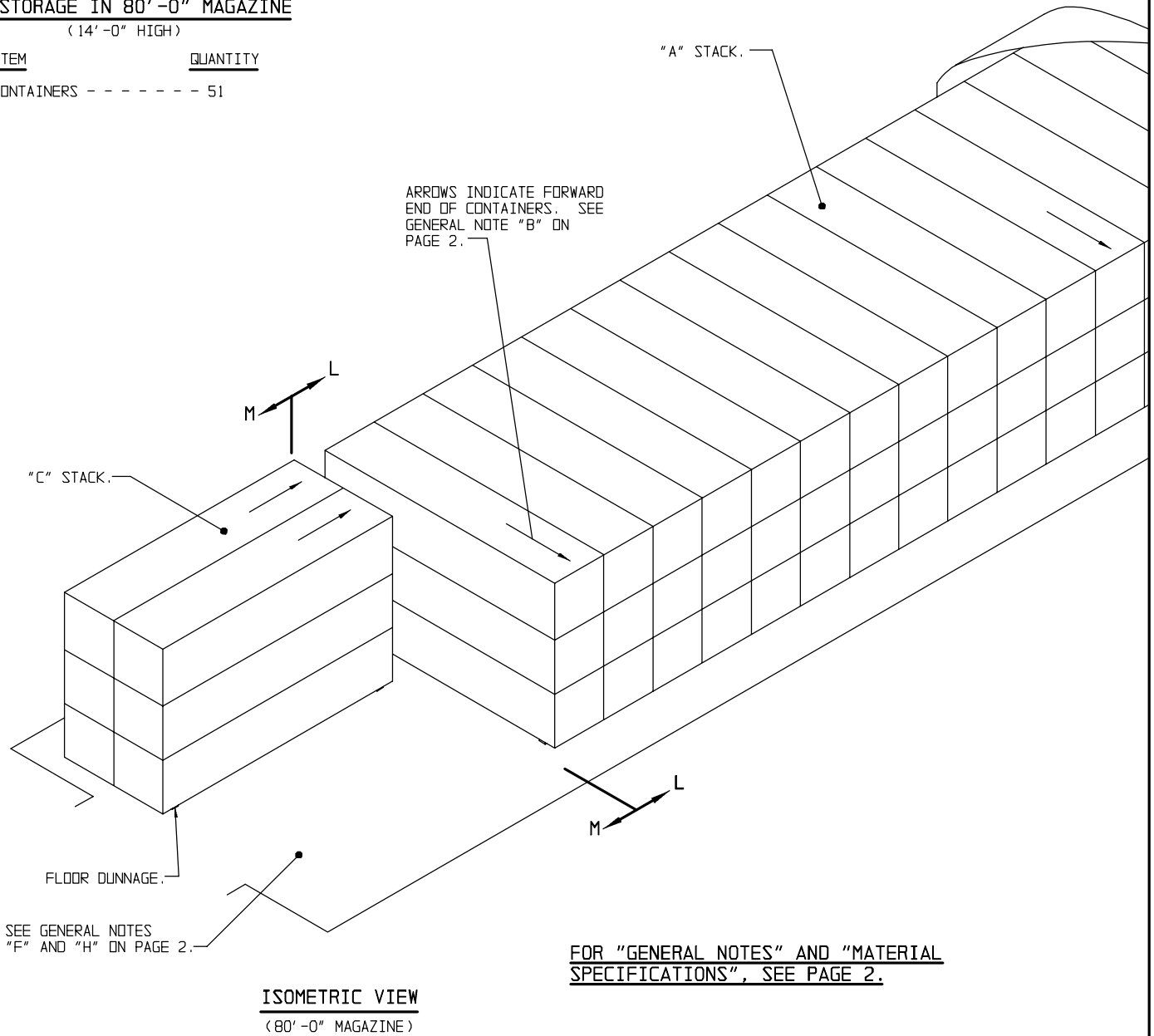
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2.



**STORAGE IN 80'-0" MAGAZINE**

(14'-0" HIGH)

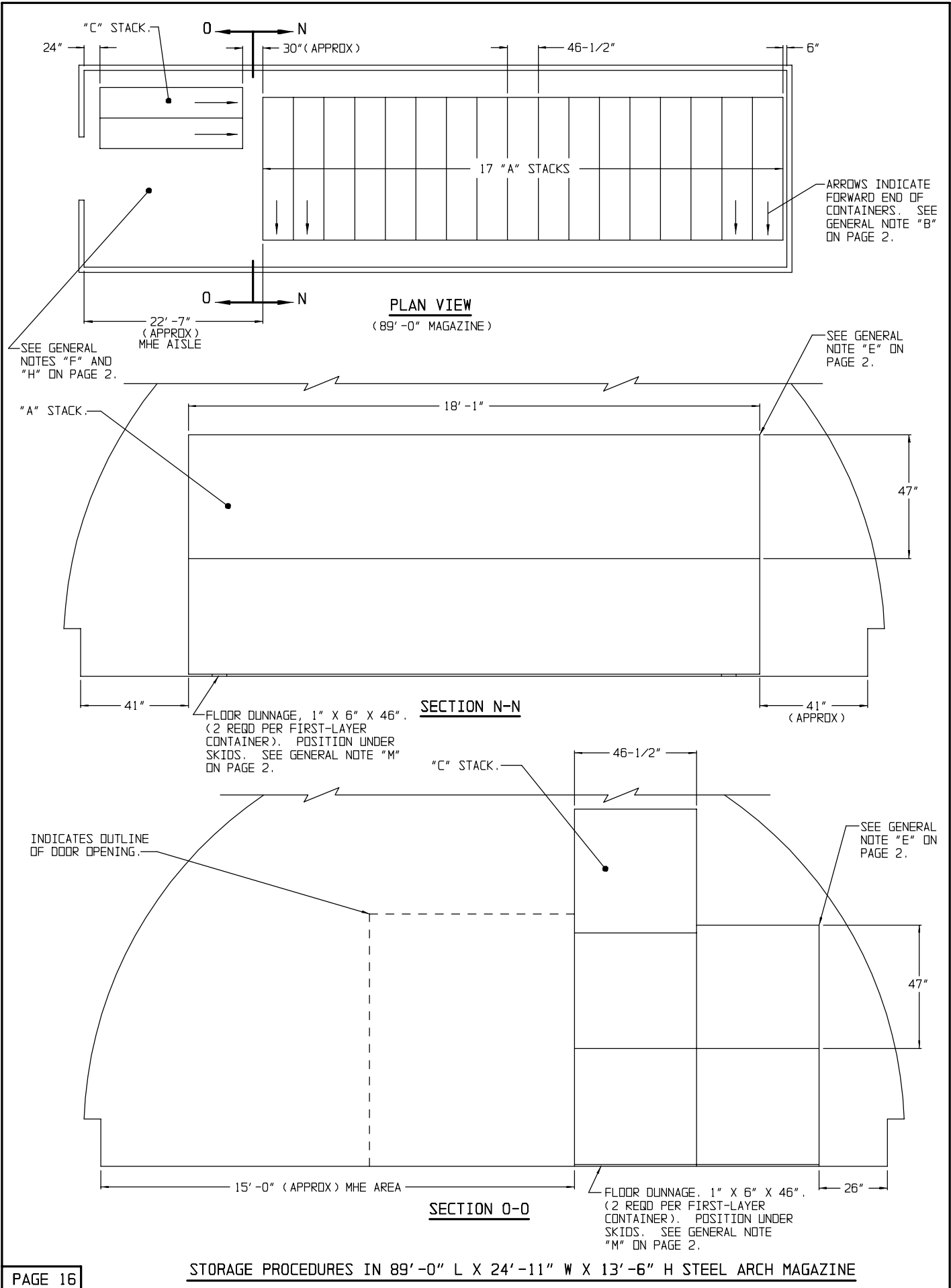
| <u>ITEM</u>          | <u>QUANTITY</u> |
|----------------------|-----------------|
| CONTAINERS - - - - - | 51              |



SEE GENERAL NOTES  
"F" AND "H" ON PAGE 2.

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

ISOMETRIC VIEW  
(80'-0" MAGAZINE)



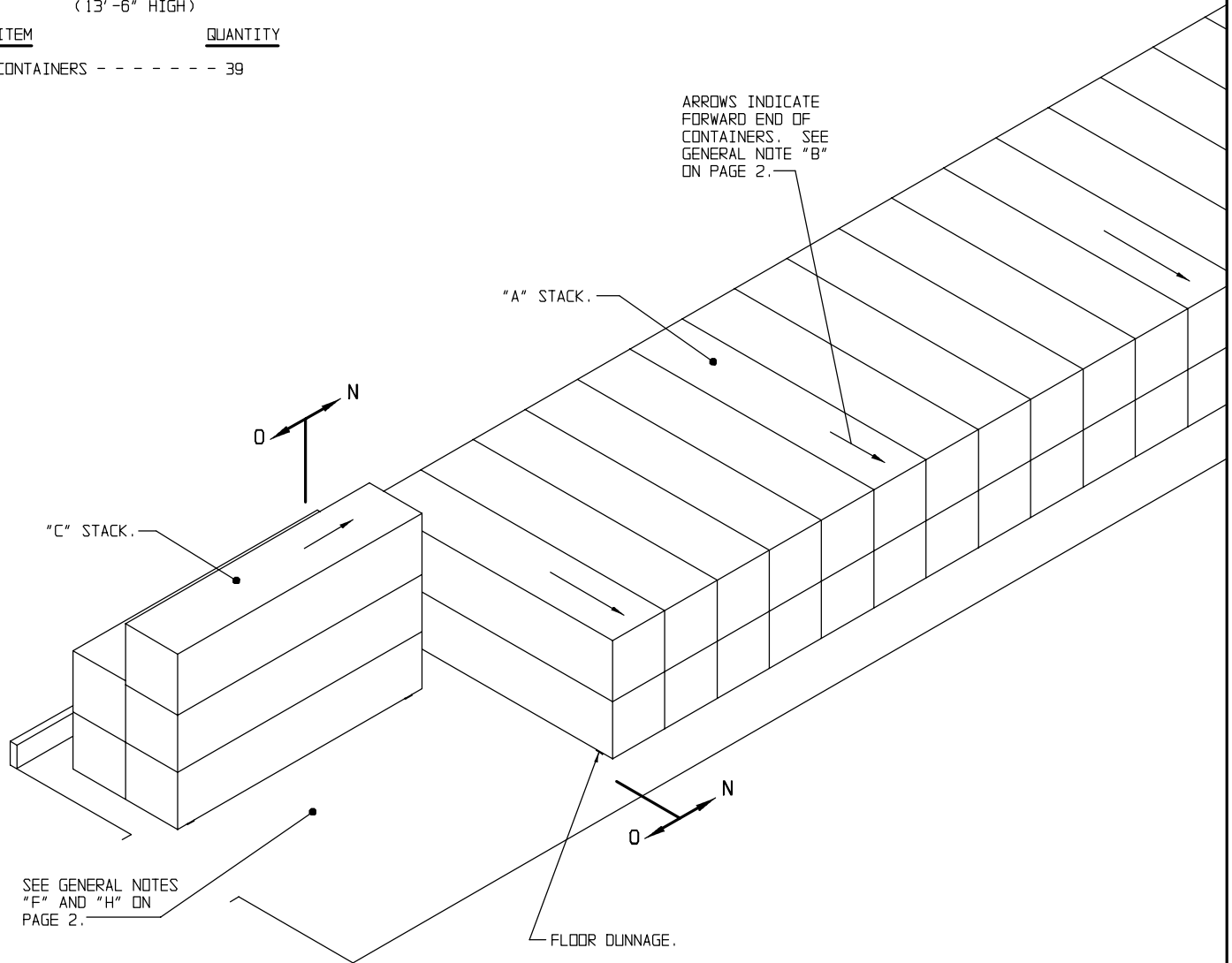


STORAGE IN 89'-0" MAGAZINE

(13'-6" HIGH)

| <u>ITEM</u>          | <u>QUANTITY</u> |
|----------------------|-----------------|
| CONTAINERS - - - - - | 39              |

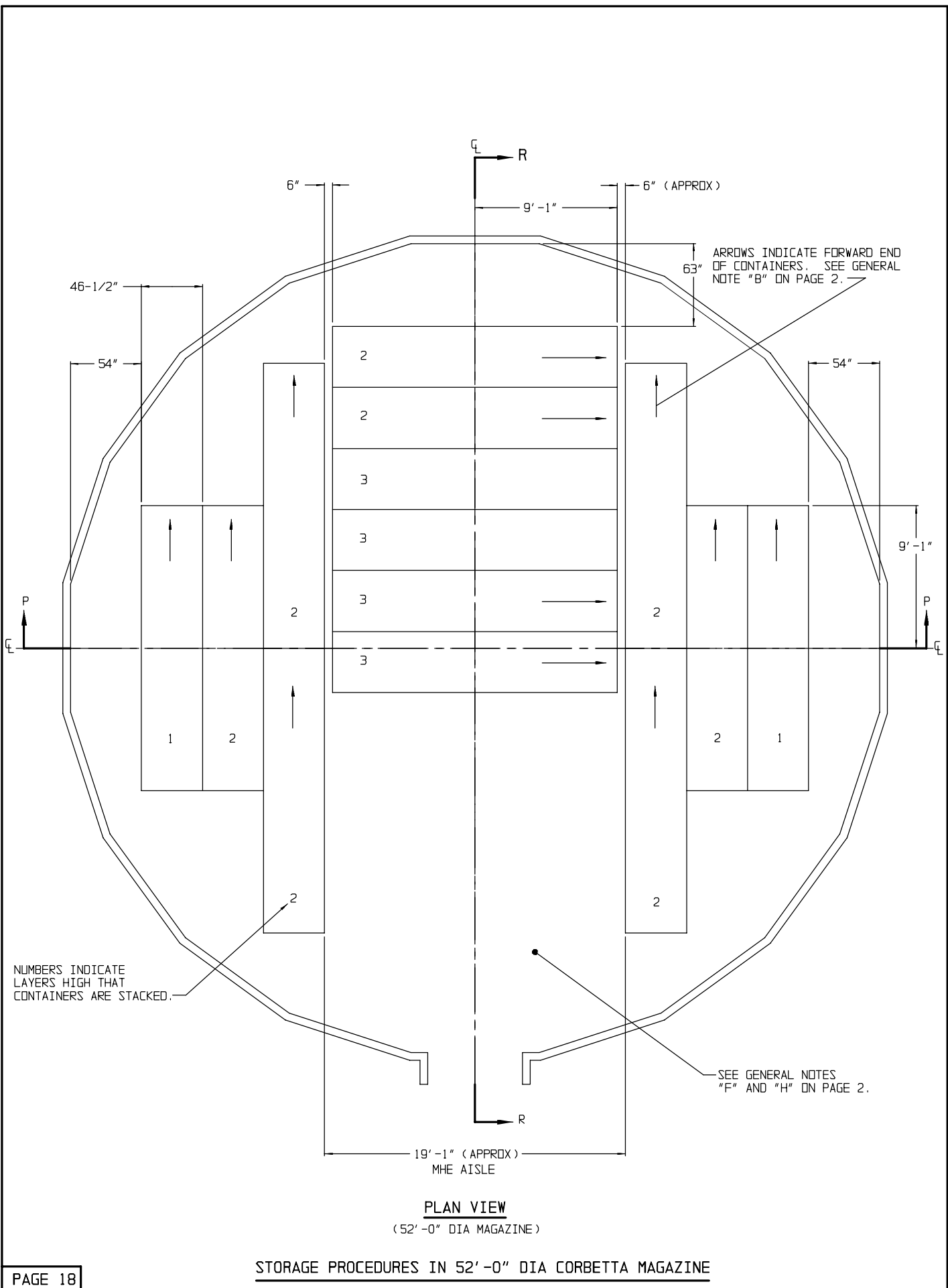
ARROWS INDICATE FORWARD END OF CONTAINERS. SEE GENERAL NOTE "B" ON PAGE 2.



ISOMETRIC VIEW

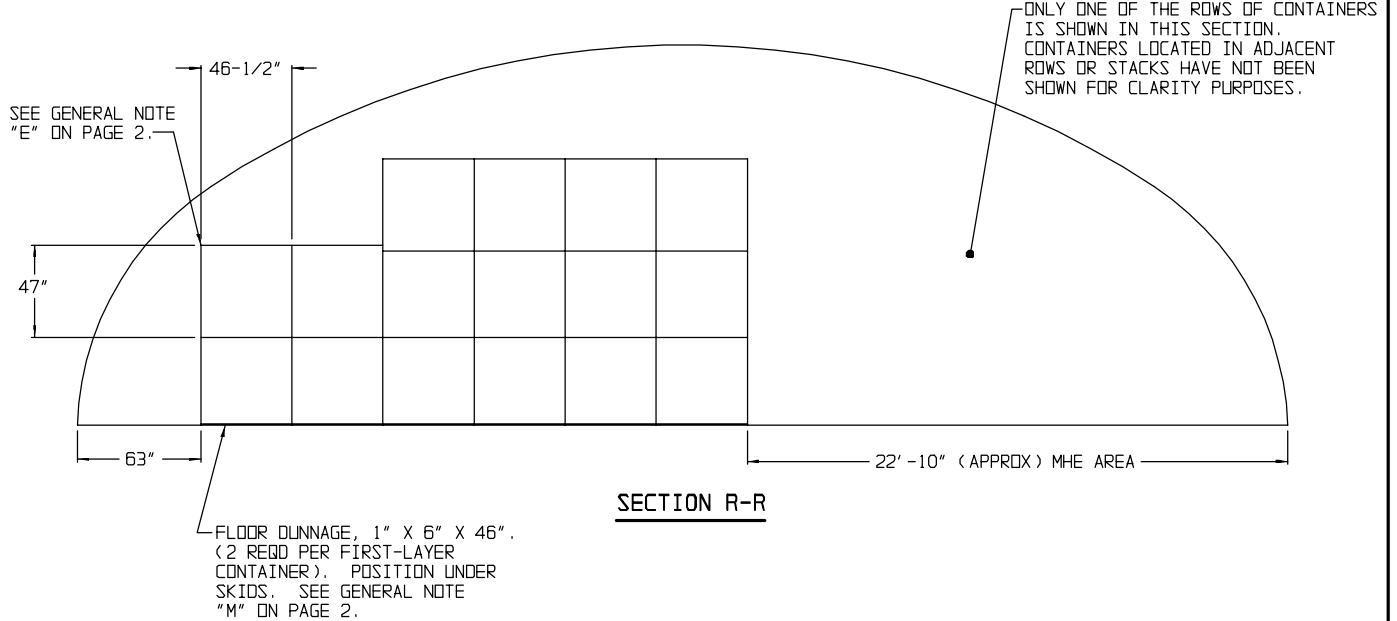
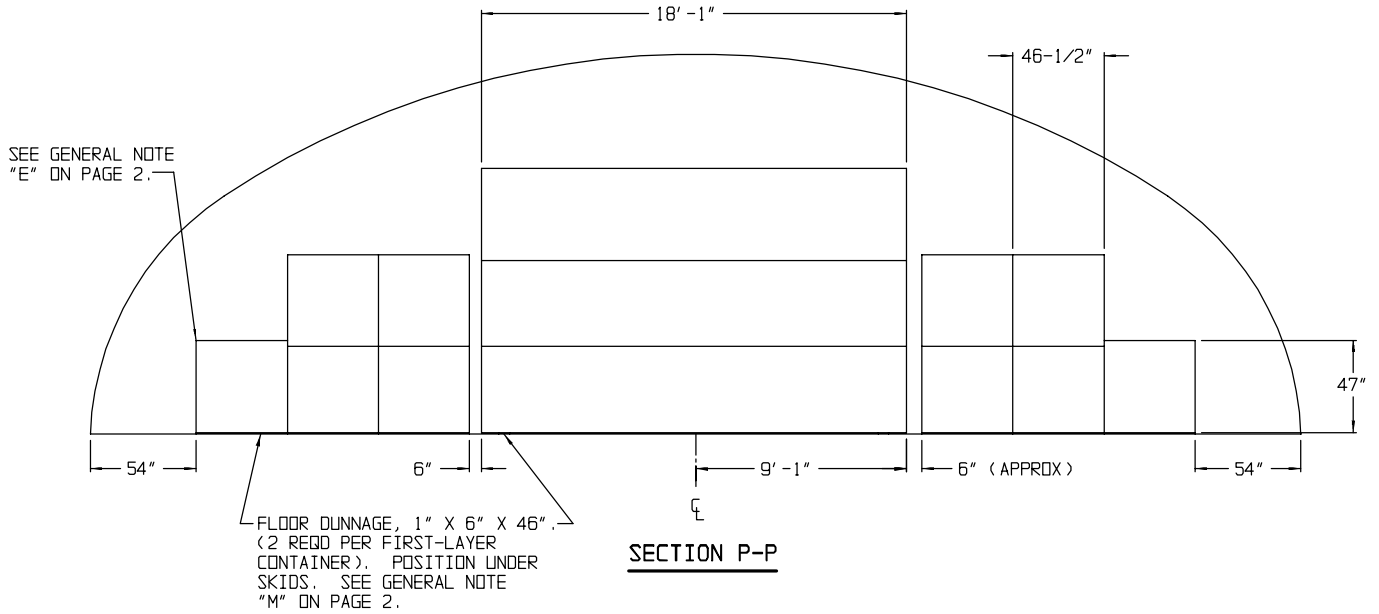
(89'-0" MAGAZINE)

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



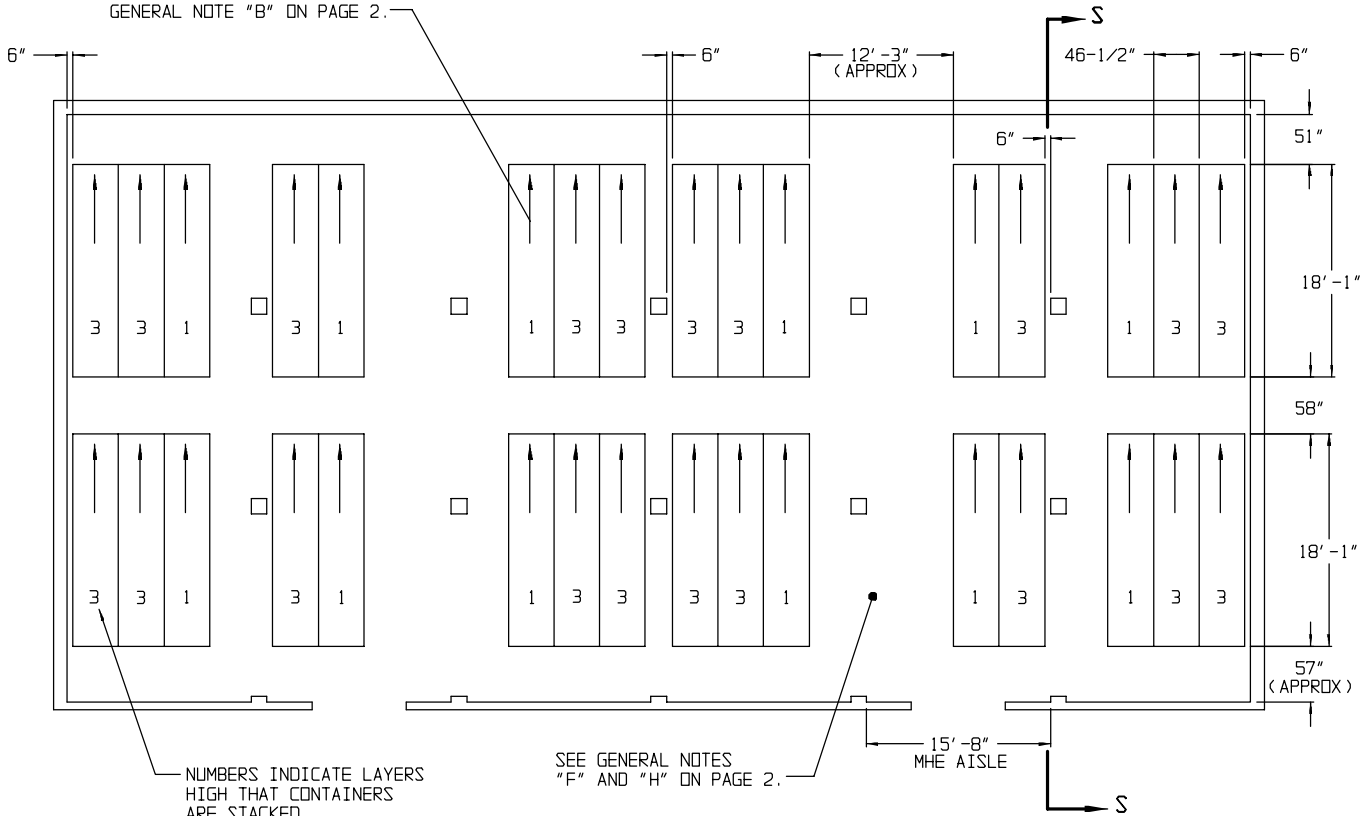
**STORAGE IN 52'-0" DIA MAGAZINE**

| ITEM                 | QUANTITY |
|----------------------|----------|
| CONTAINERS - - - - - | 30       |



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

ARROWS INDICATE FORWARD END OF CONTAINERS. SEE GENERAL NOTE "B" ON PAGE 2.

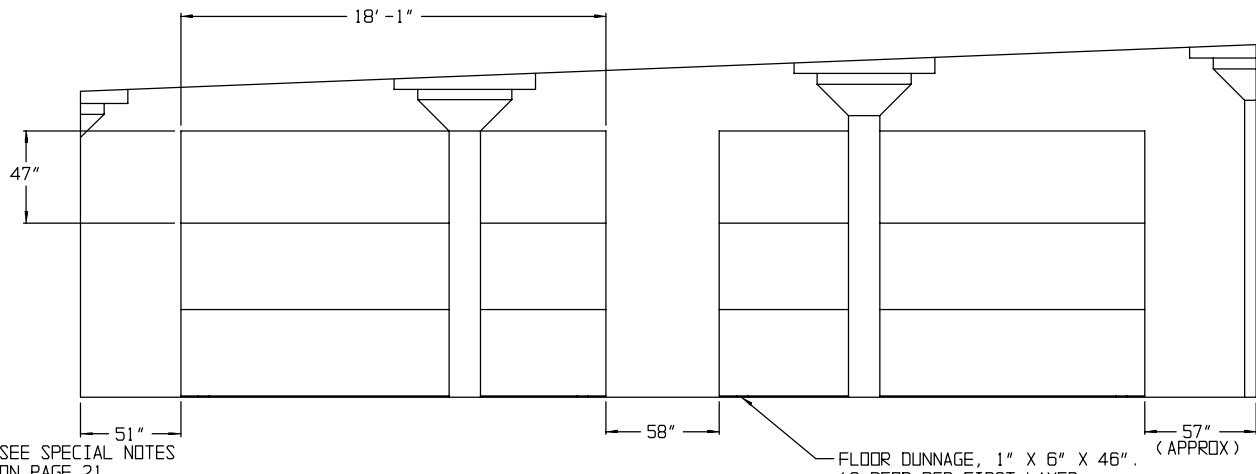


NUMBERS INDICATE LAYERS HIGH THAT CONTAINERS ARE STACKED.

SEE GENERAL NOTES "F" AND "H" ON PAGE 2.

**PLAN VIEW**

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



**SECTION S-S**

FLOOR DUNNAGE, 1" X 6" X 46" (APPROX)  
(2 REQD PER FIRST-LAYER CONTAINER). POSITION UNDER SKIDS. SEE GENERAL NOTE "M" ON PAGE 2.

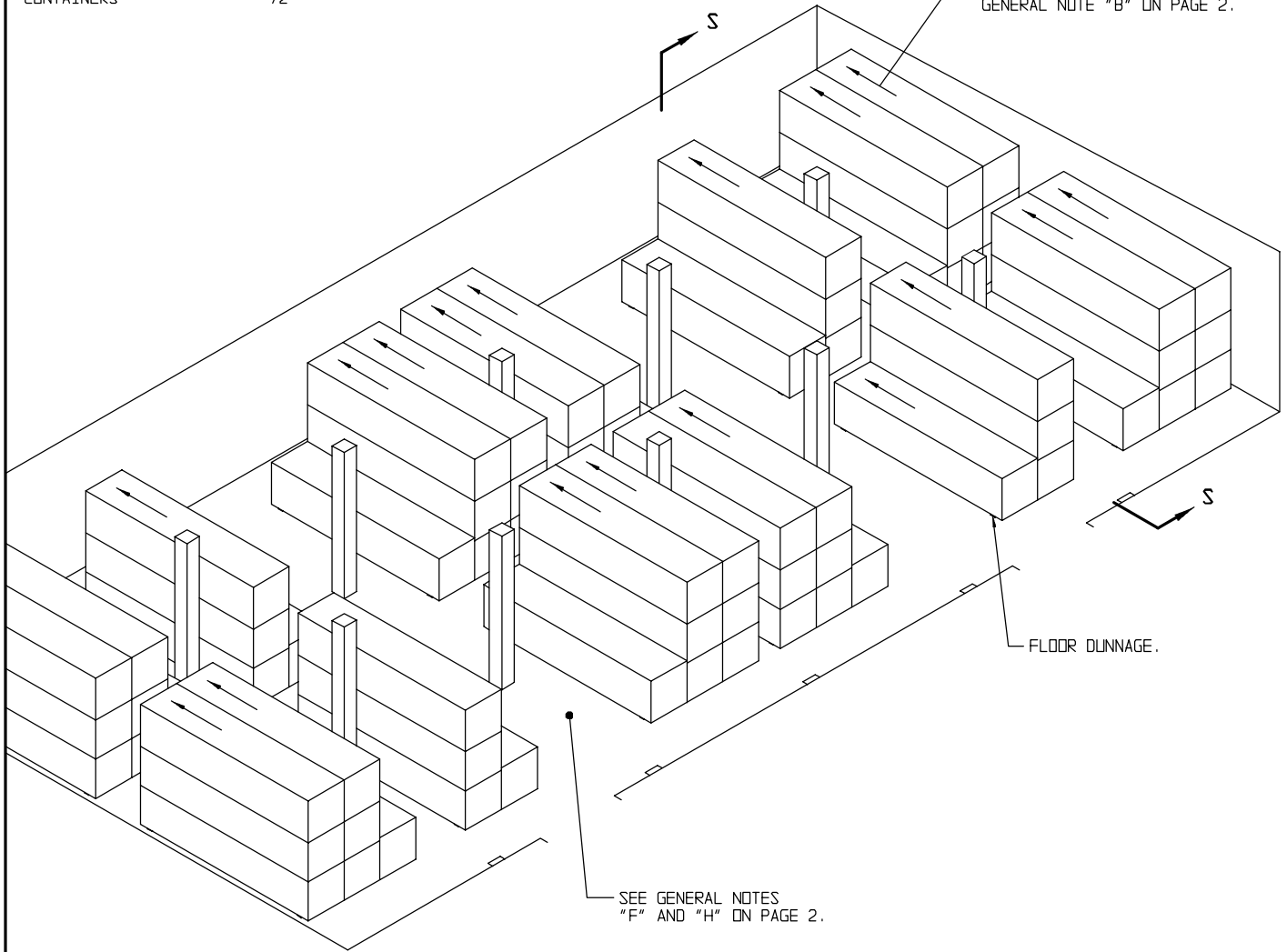
SEE SPECIAL NOTES ON PAGE 21.

**STORAGE PROCEDURES IN 100'-8" L X 50'-0" W RECTANGULAR MAGAZINE**

**STORAGE IN 100'-8" X 50'-0" MAGAZINE**

| ITEM                 | QUANTITY |
|----------------------|----------|
| CONTAINERS - - - - - | -72      |

ARROWS INDICATE FORWARD END OF CONTAINERS. SEE GENERAL NOTE "B" ON PAGE 2.



**ISOMETRIC VIEW**  
(100'-8" X 50'-0" MAGAZINE)

**SPECIAL NOTES:**

1. DUE TO THE LENGTH OF THE CONTAINER AND THE LOCATION OF THE COLUMNS IN THE MAGAZINE, THE PLAN VIEW DEPICTS 3 CONTAINER HIGH AND 1 CONTAINER HIGH STACKS WHICH CAN BE ACCOMPLISHED BY END-HANDLING A CONTAINER WITH 2 PALLET JACKS AND PLACING IT IN A STORAGE LOCATION. STACKING CONTAINERS UP TO 3 LAYERS HIGH CAN THEN BE ACCOMPLISHED BY USE OF A CONVENTIONAL FRONT LOADER FORKLIFT TRUCK. STACKS HAVE BEEN POSITIONED TO PROVIDE ADEQUATE SPACE FOR REMOVAL OF THE PALLET JACKS AND ALSO PROVIDE ACCESS FOR STACKING BY FORKLIFT TRUCK.
2. ALL REQUIREMENTS OF GENERAL NOTES "B" , "D" , "E" , AND "F" ON PAGE 2 MUST BE COMPLIED WITH.

**FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2.**

