
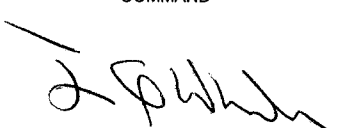
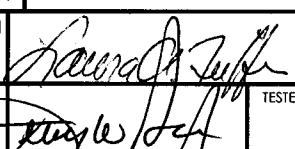
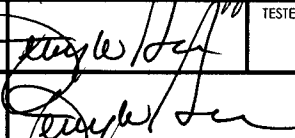


STORAGE IN APPROVED MAGAZINES OF M231 MODULAR ARTILLERY CHARGE SYSTEM (MACS) PACKED IN PA 161 CYLINDRICAL METAL CONTAINERS, ON WOODEN PALLETS

| <u>ITEM</u> | <u>INDEX</u> | <u>PAGE(S)</u> |
|---|--------------|----------------|
| GENERAL NOTES AND MATERIAL SPECIFICATIONS | ----- | 2 |
| PALLET UNIT DETAILS | ----- | 3 |
| TYPICAL STORAGE IN ARCHED OR ROUNDED ROOF MAGAZINES | ----- | 4-7 |
| CORBETTA MAGAZINE | ----- | 8,9 |
| 100'-8" L X 50'-0" W RECTANGULAR MAGAZINE | ----- | 10,11 |
| 60'-0" L X 40'-0" W X 15'-0" H TYPE II BUNKER MAGAZINE | ----- | 12,13 |
| 60'-0" L X 40'-0" W X 11'-0" H TYPE III BUNKER MAGAZINE | ----- | 14,15 |
| 40'-0" L X 20'-0" W X 11'-0" H TYPE IV BUNKER MAGAZINE | ----- | 16,17 |
| TYPICAL MULTIPLE-LOT STORAGE PROCEDURES | ----- | 18-23 |
| SHIM LOCATION DETAIL | ----- | 24 |

U.S. ARMY MATERIEL COMMAND DRAWING

| | | | | | | | |
|--|--|---|---------------|------------------|----------|------------|------------------------|
| APPROVED, U.S. ARMY FIELD SUPPORT COMMAND | | CAUTION: VERIFY PRIOR TO USE AT WWW.DAC.ARMY.MIL THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 24. | | | | | |
|  <small>TPR</small> <small>AMSRD-AAR-AIL-TP</small> | | | | | | | |
| APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND  <small>U.S. ARMY DEFENSE AMMUNITION CENTER</small> | | DO NOT SCALE | | JULY 2006 | | | |
| | | ENGINEER OR TECHNICIAN | BASIC REV. | | | MELVIN SIX | |
| TRANSPORTATION ENGINEERING DIVISION VALIDATION ENGINEERING DIVISION ENGINEERING DIRECTORATE | |  <small>TESTED</small> | | CLASS | DIVISION | DRAWING | FILE |
| | |  | | 19 | 48 | 4335/50 | 1-3-4-14- 22-PM1007 |

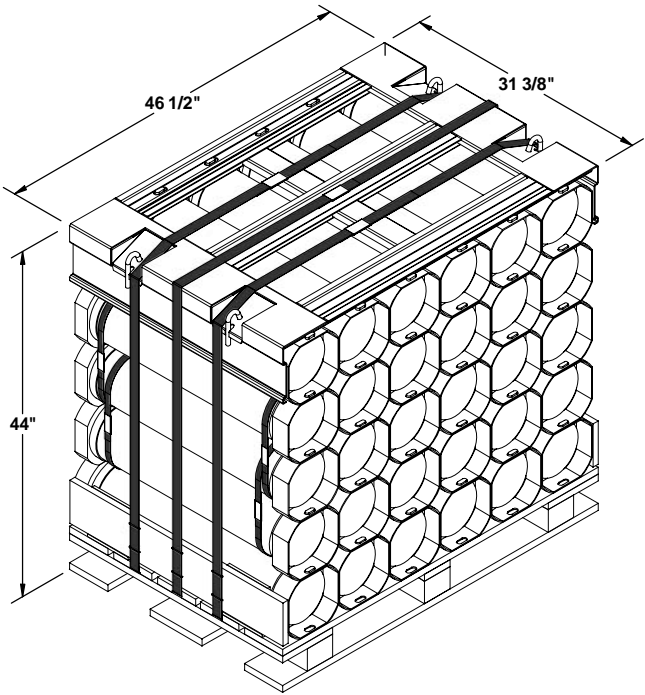
GENERAL NOTES

(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 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 PALLETIZED M231 MODULAR ARTILLERY CHARGE SYSTEM (MACS) PACKED IN PA161 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.
- C. THE STORAGE PROCEDURES SPECIFIED IN THIS DRAWING ARE APPLICABLE TO PALLETIZED M231 MODULAR ARTILLERY CHARGE SYSTEM (MACS) PACKED IN PA161 CONTAINERS. SUBSEQUENT REFERENCE TO PALLET UNIT HEREIN MEANS PALLET UNIT WITH MACS. SEE PAGE 3 AND U. S. ARMY MATERIEL COMMAND DRAWING 19-48-4326/50-20PM1012 FOR DETAILS OF THE PALLET UNITS.
- 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 PALLET UNITS MUST NOT CONTACT THE SIDES OF A MAGAZINE. THEREFORE, UNITS MUST BE STORED A MINIMUM OF 6" FROM THE SIDEWALL OR CURVATURE OF THE MAGAZINE AS APPLICABLE. TO PROVIDE FOR THIS MANDATORY CLEARANCE REQUIREMENT, UNITS MAY BE ELIMINATED FROM THE DEPICTED STORAGE PATTERN AS NECESSARY.
- F. AISLE DIMENSION SHOWN FOR STORAGE PROCEDURES IN MAGAZINES MAY BE ADJUSTED TO SUIT LOCAL CONDITIONS, VARIATIONS IN PALLET UNIT DIMENSIONS, AND/OR AVAILABLE MATERIALS HANDLING EQUIPMENT (MHE).
- G. THE MAXIMUM FLOOR LOAD FOR A MAGAZINE AS PRESCRIBED WILL NOT BE EXCEEDED.
- H. IF AVAILABLE MHE PERMITS, ADDITIONAL PALLET UNITS 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 PALLET UNITS IN THE STACKS SHOWN IN THE STORAGE VIEWS HEREIN, UNLESS TWO UPPER PALLET UNITS 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 PALLET UNITS AS ONE LIFT.
- K. THE USE OF "FLOOR DUNNAGE" IS OPTIONAL, ALTHOUGH THE USE OF THIS TYPE OF DUNNAGE IS DELINEATED WITHIN THIS STORAGE PROCEDURE DRAWING. THE PURPOSE OF FLOOR DUNNAGE IS TO KEEP THE BOTTOM DECKBOARDS OF THE PALLET DRY, THUS AIDING IN PREVENTING DETERIORATION. THEREFORE, FLOOR DUNNAGE SHOULD BE USED WHEN STORING IN A MAGAZINE THAT IS KNOWN TO HAVE A "DAMP" FLOOR. ALSO, IN LIEU OF USING ONE-INCH THICK FLOOR DUNNAGE AS SPECIFIED, THE USE OF THICKER FLOOR DUNNAGE MAY BE REQUIRED, AND SHOULD BE USED, TO ACHIEVE THE DESIRED OBJECTIVE. NOTE: SOME VIEWS WITHIN THIS DRAWING WILL NOT DEPICT ALL FLOOR DUNNAGE THAT IS REQUIRED WHEN DUNNAGE IS USED. FLOOR DUNNAGE IS SHOWN AT SOME LOCATIONS TO PROVIDE POSITIONING GUIDANCE. SEE GENERAL NOTE "S" AT RIGHT.
- (CONTINUED AT RIGHT)
- L. WHEN LOCAL STORAGE CONDITIONS ARE SUCH THAT AN AMMUNITION STORAGE MAGAZINE NET EXPLOSIVE WEIGHT LIMIT WILL BE REACHED BEFORE ALL AVAILABLE STORAGE SPACE WILL BE UTILIZED, A COMBINATION OF THE VARIOUS STORAGE PATTERNS DELINEATED HEREIN MAY BE USED IN LIEU OF BLOCK STORAGE PATTERNS TO FACILITATE INVENTORY, INSPECTION, THE USE OF MATERIAL HANDLING EQUIPMENT, SURVEILLANCE, ETC., OF THE AMMUNITION TO BE STORED WITHIN THE MAGAZINE.
- M. STORAGE OF MULTIPLE LOTS IN A MAGAZINE WILL REQUIRE CAREFUL PRE-PLANNING SO AS TO INSURE MHE ACCESSIBILITY TO ANY LOT IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE APPLICABLE "SPECIAL NOTES" SECTIONS OF THE MULTIPLE LOT STORAGE PROCEDURES SHOWN ON PAGES 18 THRU 23.
- N. ALTHOUGH SPECIFIC PROCEDURES ARE INCLUDED IN THIS DRAWING FOR STORING MULTIPLE LOTS WITHIN ONE STRUCTURE, THE BASIC STORAGE PATTERN AS SHOWN ON PAGES 4 THRU 17 CAN ALSO BE ADAPTED FOR STORAGE MORE THAN ONE LOT, LOTS WHEN STORED IN ACCORDANCE WITH THE BASIC STORAGE PATTERN MAY BE STORED WITH ONE OR MORE ROWS USED FOR EACH LOT. A SPACE OF APPROXIMATELY 1" WILL HAVE TO BE LEFT BETWEEN ADJACENT ROWS CONTAINING DIFFERENT LOTS. IN BASIC STORAGE PATTERNS WHERE THE WIDTH OF A ROW IS ESTABLISHED BY THE 46-1/2" PALLET UNIT DIMENSION, EACH ROW MAY BE A DIFFERENT LOT AND READILY REMOVABLE. IN BASIC STORAGE PATTERNS WHERE THE WIDTH OF THE ROW IS ESTABLISHED BY THE 31-3/8" PALLET DIMENSION, A LOT MUST CONSIST OF TWO OR MORE ROWS TO PROVIDE ADEQUATE SPACE TO ACCOMMODATE THE WIDTH OF A FORKLIFT TRUCK FOR STORING OR REMOVING THE LOT. THE 1" SPACE BETWEEN LOTS, AS STATED ABOVE WILL NOT BE EXCEEDED SOLELY TO ACCOMMODATE THE WIDTH OF A FORKLIFT TRUCK. FOR ADDITIONAL REQUIREMENTS AND GUIDANCE, SEE SPECIAL NOTES FOR MULTIPLE-LOT STORAGE ON PAGES 18 THRU 23.
- O. ANY "LIGHT" PALLET UNIT THAT DOES NOT CONTAIN A FULL QUANTITY OF MACS WILL NOT BE BURIED IN STORAGE, IT MUST BE POSITIONED ADJACENT TO AN AISLE, PREFERABLY IN FRONT OF THE LOT.
- P. A PRODUCTION OR STORAGE FACILITY IS AUTHORIZED TO HAVE ONE INCOMPLETE, UN-BANDED PARTIAL UNIT LOAD PER LOT IN A STORAGE STRUCTURE. THE PALLET UNIT MUST BE RE-BANDED WITH THE SAME SIZE AND QUANTITY OF STRAPS AS THE ORIGINAL UNIT.
- Q. PALLET UNITS PRESENTLY STORED IN ACCORDANCE WITH A PRIOR APPROVED DRAWING NEED NOT BE RE-STORED SOLELY TO CONFORM TO THE PROCEDURES SPECIFIED IN THIS DOCUMENT.
- R. OTHER COMPATIBLE ITEMS MAY BE STORED IN A MAGAZINE, WHICH IS PARTIALLY FILLED WITH THE DESIGNATED ITEM.
- S. IN IGLOO, ARCH TYPE AND STRADLEY MAGAZINES WHICH HAVE SLOPING FLOORS, THE DEPICTED STORAGE PATTERNS, IN SOME CASES, INCLUDE PALLET UNIT STACKS WHICH STRADDLE THE RIDGE OF THE FLOOR AT THE CENTER OF THE MAGAZINE. FLOOR DUNNAGE IN THE FORM OF SHIMS WILL BE USED AS REQUIRED TO ACHIEVE SOUND AND ACCEPTABLE STABLE STACKS. SEE DETAIL ON PAGE 24.
- T. PORTIONS OF THE MAGAZINES, SUCH AS SIDEWALLS, END WALLS, AND ROOFS HAVE NOT BEEN SHOWN IN THE STORAGE VIEWS FOR CLARITY PURPOSES.
- U. DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 1" X 4" MATERIAL IS ACTUALLY 3/4" THICK BY 3-1/2" WIDE AND 2" X 6" MATERIAL IS ACTUALLY 1-1/2" THICK BY 5-1/2" WIDE.
- V. 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 0.454 KG.

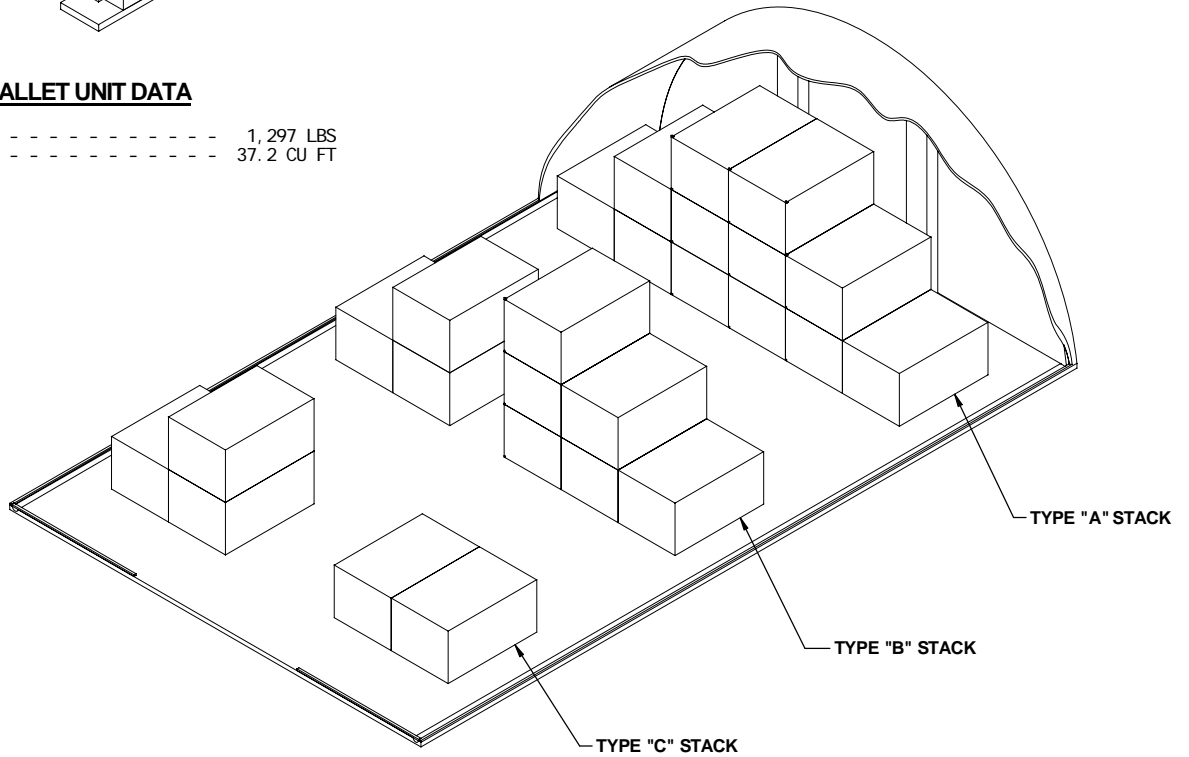
MATERIAL SPECIFICATIONS

LUMBER - - - - - : SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.



PALLET UNIT DATA

GROSS WEIGHT - - - - - 1,297 LBS
 CUBE - - - - - 37.2 CU FT

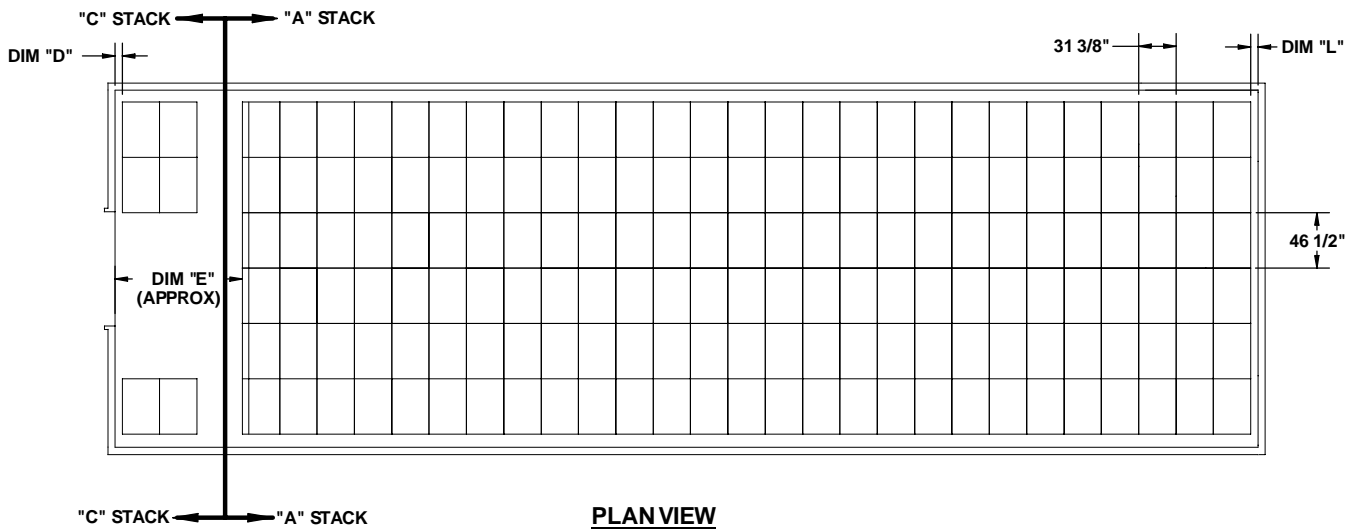


STACK IDENTIFICATION

A TYPE "A" STACK IS IDENTIFIED AS A GROUP OF ITEMS /UNITS WHICH EXTENDS FULL WIDTH AND HEIGHT OF THE MAGAZINE, AND IS ONE ITEM/UNIT LONG IN THE LENGTH OF THE MAGAZINE.

A TYPE "B" STACK IS IDENTIFIED AS A GROUP OF ITEMS/UNITS WHICH EXTEND FULL WIDTH AND HEIGHT OF THE MAGAZINE, AND IS ONE UNIT/ITEM LONG, BUT HAS AN AISLE AT OR NEAR THE CENTER OF THE WIDTH OF THE STACK.

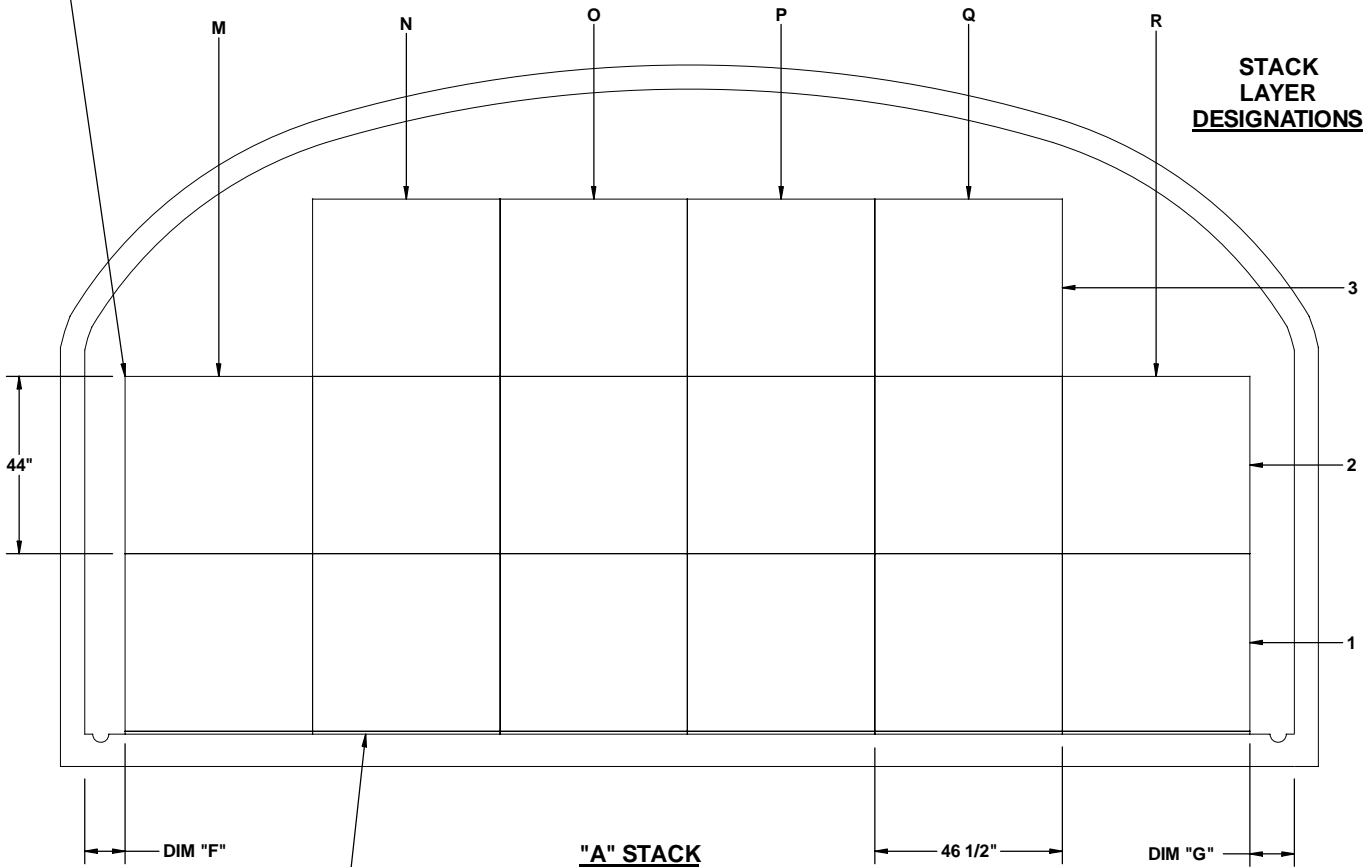
A TYPE "C" STACK IS IDENTIFIED AS A GROUP OF ITEMS/UNITS WHICH IS ONE UNIT/ITEM LONG AND CONSISTS OF PARTIAL STACKS ON EACH SIDE OF THE MAGAZINE, USUALLY ONE ITEM/UNIT HIGH ON ONE SIDE OF THE MAGAZINE.



NOTE: FOR IDENTIFICATION OF LETTERED DIMENSIONS REFER TO CHART 1 ON PAGE 6.

SEE GENERAL NOTE "E" ON PAGE 2.

STACK COLUMN DESIGNATIONS

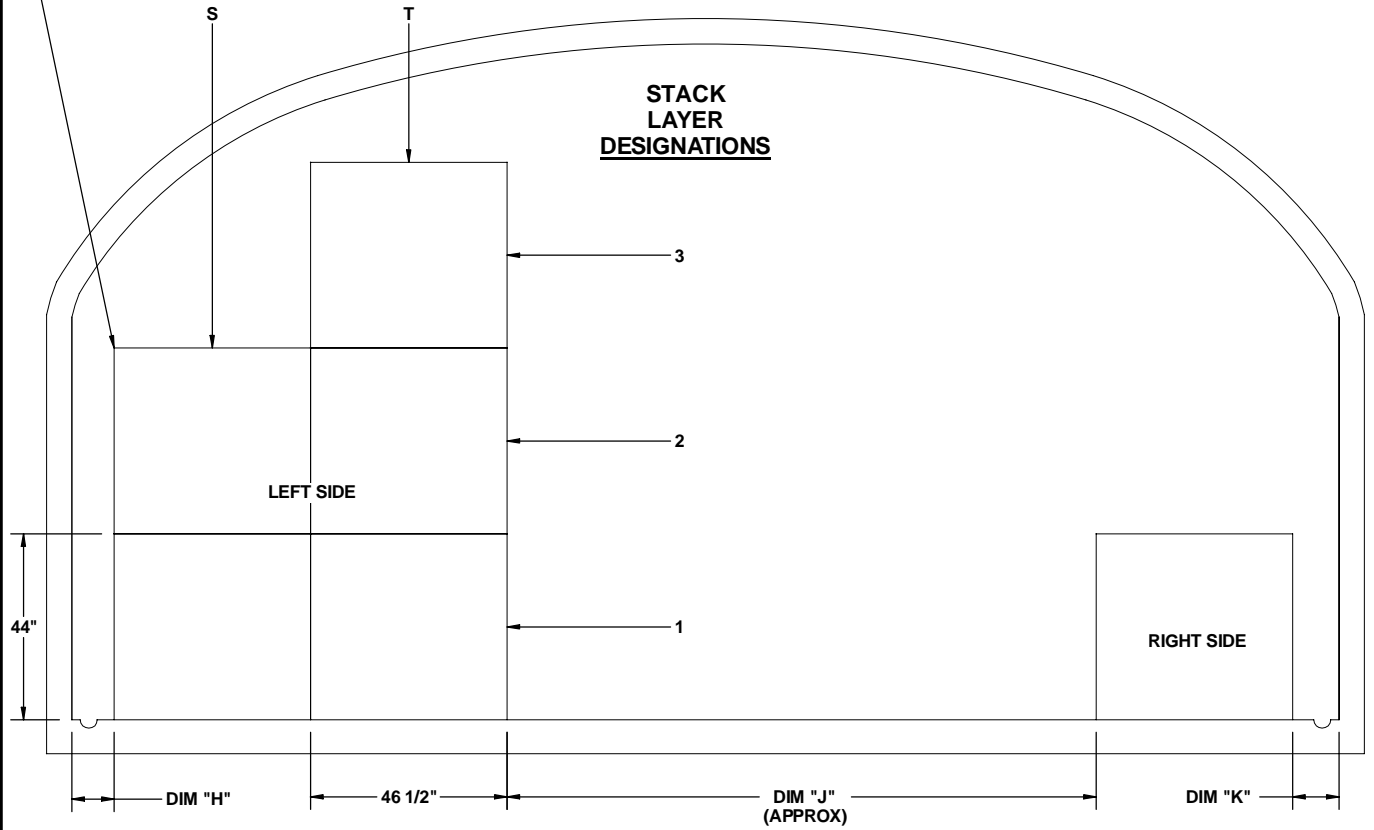


(SEE "STACK IDENTIFICATION" ON PAGE 3 AND "CHART 2 - STACK CONFIGURATION" ON PAGE 7. FLOOR DUNNAGE IS SHOWN AS AN EXAMPLE)

FLOOR DUNNAGE, 1" X 6" X 46-1/2" (2 REQD PER FIRST LAYER UNIT). SEE GENERAL NOTE "K" ON PAGE 2.

SEE GENERAL
NOTE "E" ON
PAGE 2.

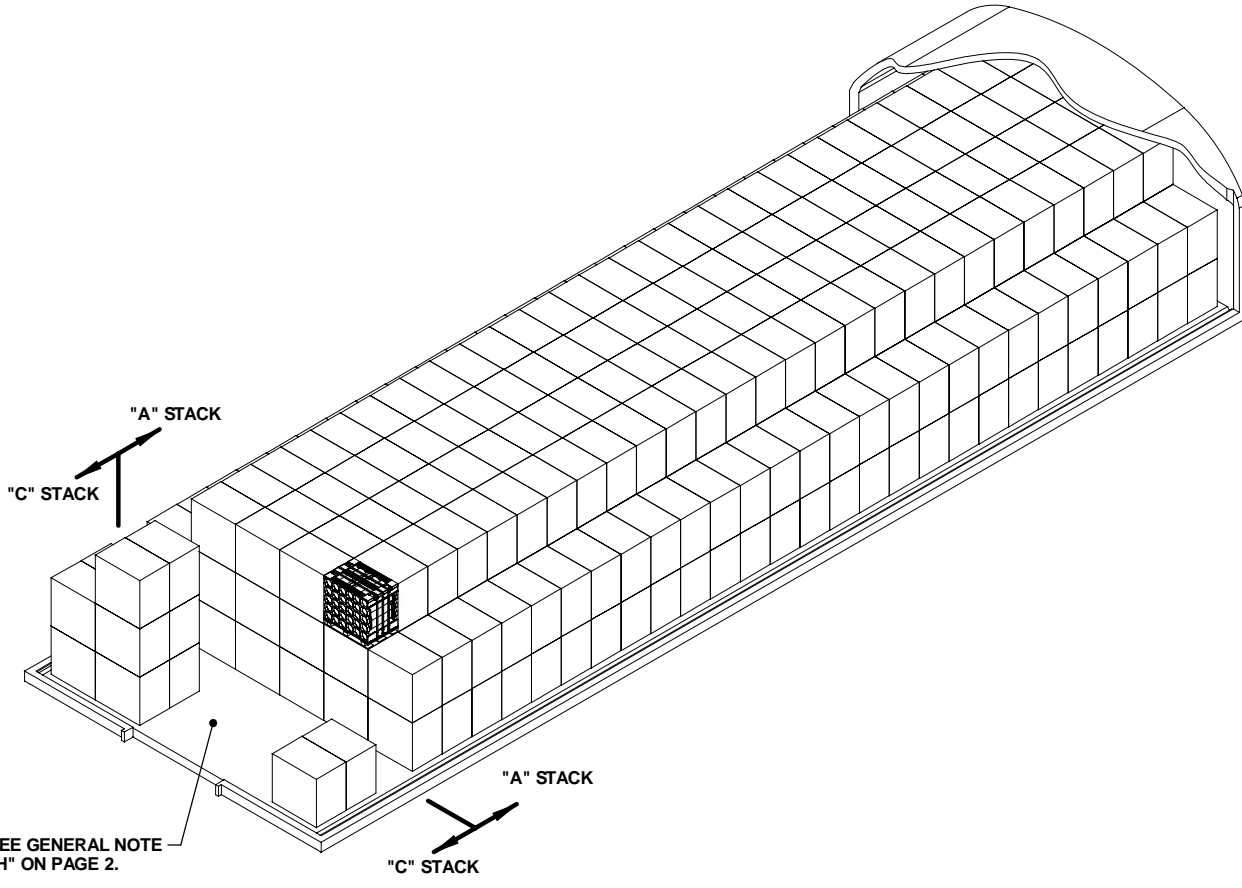
**STACK
COLUMN
DESIGNATIONS**



**NOTE: FOR IDENTIFICATION OF
LETTERED DIMENSIONS REFER
TO CHART 1 ON PAGE 6.**

"C" STACK

TYPICAL "C" STACK FOR STRADLEY MAGAZINE.
(SEE "STACK IDENTIFICATION " ON PAGE 3 AND
"CHART 2 - STACK CONFIGURATION" ON PAGE 7)



ISOMETRIC VIEW
 STRADLEY MAGAZINE
 SHOWN AS TYPICAL.

CHART 1 - DIMENSIONS

| MAGAZINE DIMENSIONS | MAGAZINE TYPE | | | | | | | | | | | | | |
|-----------------------------|--------------------------------|---------|---------|----------|------------|----------|----------|-----------|----------|------------|--------|--------|--------|---------|
| | IGLOO | | | ARCH 12' | | ARCH 11' | ARCH 10' | OVAL ARCH | STRADLEY | STEEL ARCH | | | | |
| | 26'-6" | 25'-0" | 81'-0" | 26'-6" | 25'-0" | | | | | | | | | |
| LENGTH | 40'-4" | 60'-8" | 81'-0" | 81'-2" | 40'-0" | 80'-0" | 40'-0" | 80'-0" | 40'-0" | 80'-0" | 89'-0" | 80'-0" | 59'-0" | 89'-0" |
| WIDTH | | 26'-6" | | 26'-6" | 25'-0" | 25'-0" | 25'-0" | 25'-0" | 25'-0" | 24'-10" | 25'-0" | 25'-0" | 25'-0" | 24'-11" |
| HEIGHT | | 12'-9" | | | 12'-1-3/4" | | 11'-0" | 10'-0" | 10'-0" | 14'-5" | 14'-0" | 14'-0" | 14'-0" | 13'-6" |
| DIMENSIONS | PALLET UNIT SPACING DIMENSIONS | | | | | | | | | | | | | |
| DIM "D" ("C" STACK FRONT) | 6" | 6" | 6" | 6" | 6" | 6" | 6" | 6" | 6" | 6" | 6" | 6" | 6" | 6" |
| DIM "E" (M HE AISLE APPROX) | 8'-5" | 7'-10" | 10'-2" | 8'-8" | 7'-7" | 8'-4" | 7'-7" | 8'-4" | 8'-3" | 9'-0" | 11'-1" | 8'-10" | 8'-11" | 8'-2" |
| DIM "F" ("A" STACK LEFT) | 16-1/2" | 16-1/2" | 16-1/2" | 19" | 15" | 15" | 21-1/2" | 21-1/2" | 29" | 29" | 6" | 10" | 11" | 14" |
| DIM "G" ("A" STACK RIGHT) | 20-1/2" | 20-1/2" | 20-1/2" | 20" | 52-1/2" | 52-1/2" | 46" | 46" | 38-1/2" | 38-1/2" | 16" | 11" | 10" | 6" |
| DIM "H" ("C" STACK LEFT) | 16-1/2" | 16-1/2" | 16-1/2" | 19" | 15" | 15" | 21-1/2" | 21-1/2" | 29" | 29" | 6" | 10" | 10" | 14" |
| DIM "J" (M HE AREA APPROX) | 8'-1" | 8'-1" | 8'-1" | 7'-9" | 10'-10" | 10'-10" | 10'-10" | 10'-10" | 10'-10" | 10'-10" | 8'-7" | 11'-7" | 7'-10" | 8'-10" |
| DIM "K" ("C" STACK RIGHT) | 16-1/2" | 16-1/2" | 16-1/2" | 20" | 15" | 15" | 21-1/2" | 21-1/2" | 29" | 29" | 16" | 10" | 10" | 6" |
| DIM "L" ("A" STACK BACK) | 6" | 6" | 6" | 14" | 14" | 14" | 14" | 14" | 6" | 6" | 6" | 6" | 6" | 6" |

CHART 2 - STACK CONFIGURATION

| MAGAZINE TYPE | | | | | | | | | | | | | | |
|--------------------------------------|------------------------|----------|----------|----------|------------------|----------|----------|----------|----------|----------|-----------|----------|------------|----------|
| QUANTITY PER MAGAZINE | IGLOO | | | ARCH 12' | ARCH 12' X 25' W | | ARCH 11' | | ARCH 10' | | OVAL ARCH | STRADLEY | STEEL ARCH | |
| | 40'-4" L | 60'-8" L | 81'-0" L | 26'-6" W | 40'-0" L | 80'-0" L | 40'-0" L | 80'-0" L | 40'-0" L | 80'-0" L | | | 59'-0" L | 89'-0" L |
| | 154 | 250 | 339 | 280 | 130 | 280 | 104 | 224 | 104 | 224 | 501 | 444 | 265 | 408 |
| "A" STACK CONFIGURATION | | | | | | | | | | | | | | |
| LAYER | PALLET UNITS PER LAYER | | | | | | | | | | | | | |
| 1 | 6(M-R) | | | 6(M-R) | 5(M-Q) | | 5(M-Q) | | 5(M-Q) | | 6(M-R) | 6(M-R) | 6(M-R) | |
| 2 | 4(N-Q) | | | 4(N-Q) | 4(N-Q) | | 3(N-P) | | 3(N-P) | | 6(M-R) | 6(M-R) | 4(N-Q) | |
| 3 | 2(O-P) | | | -- | 1(O) | | -- | | -- | | 4(N-Q) | 4(N-Q) | 3(N-P) | |
| SINGLE STACK TOTAL | 12 | | | 10 | 10 | | 8 | | 8 | | 16 | 16 | 13 | |
| NUMBER OF STACKS | 12 | 20 | 27 | 27 | 12 | 27 | 12 | 27 | 12 | 27 | 30 | 27 | 19 | 30 |
| "A" STACK TOTAL | 144 | 240 | 324 | 270 | 120 | 270 | 96 | 216 | 96 | 216 | 480 | 432 | 247 | 390 |
| "C" STACK CONFIGURATION - LEFT SIDE | | | | | | | | | | | | | | |
| LAYER | PALLET UNITS PER LAYER | | | | | | | | | | | | | |
| 1 | 2(S-T) | | 2(S-T) | 2(S-T) | | | 2(S-T) | | 2(S-T) | | 2(S-T) | 2(S-T) | 2(S-T) | |
| 2 | 1(T) | | 1(T) | 1(T) | | | 1(T) | | 1(T) | | 2(S-T) | 2(S-T) | 1(T) | |
| 3 | -- | | -- | -- | | | -- | | -- | | 1(T) | 1(T) | 1(T) | |
| SINGLE STACK TOTAL | 3 | | 3 | 3 | | | 3 | | 3 | | 5 | 5 | 4 | |
| NUMBER OF STACKS | 2 | | 3 | 2 | | | 2 | | 2 | | 3 | 2 | 3 | |
| "C" STACK LF TOTAL | 6 | | 9 | 6 | | | 6 | | 6 | | 15 | 10 | 12 | |
| "C" STACK CONFIGURATION - RIGHT SIDE | | | | | | | | | | | | | | |
| "C" STACK RT TOTAL | 4 | | 6 | 4 | | | 2 | | 2 | | 2 | 2 | 6 | |

SPECIAL NOTES:

- THE FOLLOWING NOTES, CHART 1 ON PAGE 6 AND CHART 2 ON THIS PAGE ARE PRESENTED AS GUIDANCE IN THE SELECTION OF A STORAGE PATTERN, AND IN DETERMINING THE QUANTITY OF PALLET UNITS WHICH CAN BE STORED IN THE STORAGE MAGAZINES LISTED IN THESE CHARTS.
- CHART 1 ON PAGE 6 DESCRIBES THE STORAGE MAGAZINE GENERAL DIMENSIONS AND THE DIMENSIONS OF THE PALLET UNIT SPACING WITHIN THE STORAGE MAGAZINES.
- DIMENSIONS "A", "B" AND "C" HAVE BEEN OMITTED TO AVOID CONFUSION WITH STACKS "A", "B" AND "C".
- CHART 2 ON THIS PAGE DETAILS THE QUANTITY OF PALLET UNITS IN EACH TYPE OF MAGAZINE AND THE LAYOUT OF THE STACKS FOR EACH TYPE OF MAGAZINE. THE CHART SHOWS THE NUMBER OF UNITS IN EACH STACK LAYER AND THE LOCATION OF THE PALLET UNIT ON EACH LAYER.

(CONTINUED AT RIGHT)

EXAMPLE:

CHART 2 – "A" STACK CONFIGURATION
MAGAZINE: STRADLEY

LAYER NUMBER 1: 6 (M-R)
LAYER NUMBER 2: 6 (M-R)
LAYER NUMBER 3: 4 (N-Q)

EXPLANATION:

LAYER 1 (BOTTOM LAYER) HAS SIX PALLET UNITS FROM THE "M" COLUMN (NEAREST THE LEFT SIDE OF THE MAGAZINE) TO THE "R" COLUMN.

LAYER 2 (ON TOP OF LAYER 1) HAS SIX PALLET UNITS FROM THE "M" COLUMN (NEAREST THE LEFT SIDE OF THE MAGAZINE) TO THE "R" COLUMN.

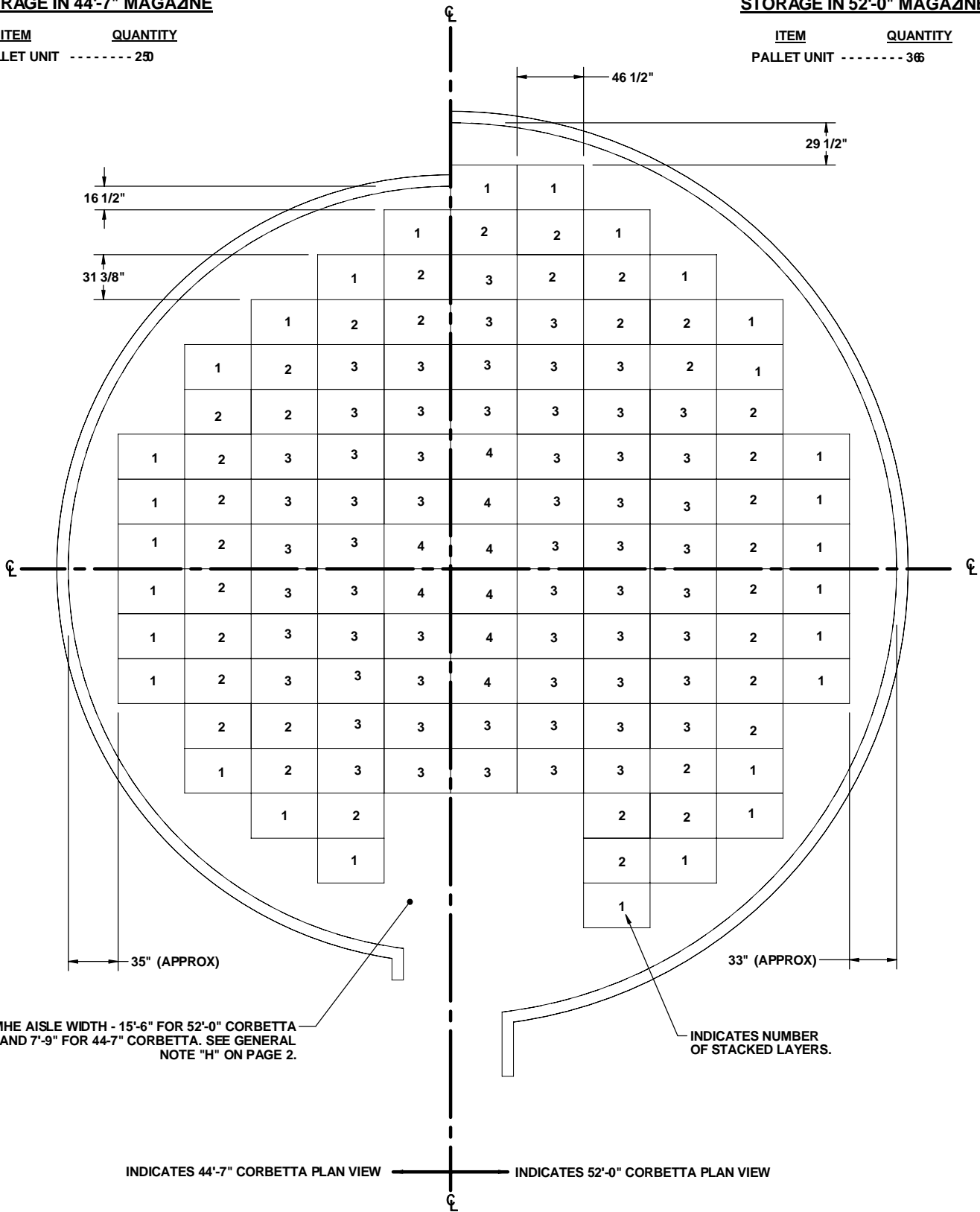
LAYER 3 (ON TOP OF LAYER 2) HAS FOUR PALLET UNITS FROM THE "N" COLUMN TO THE "Q" COLUMN.

STORAGE IN 44'-7" MAGAZINE

STORAGE IN 52'-0" MAGAZINE

ITEM QUANTITY
 PALLET UNIT ----- 230

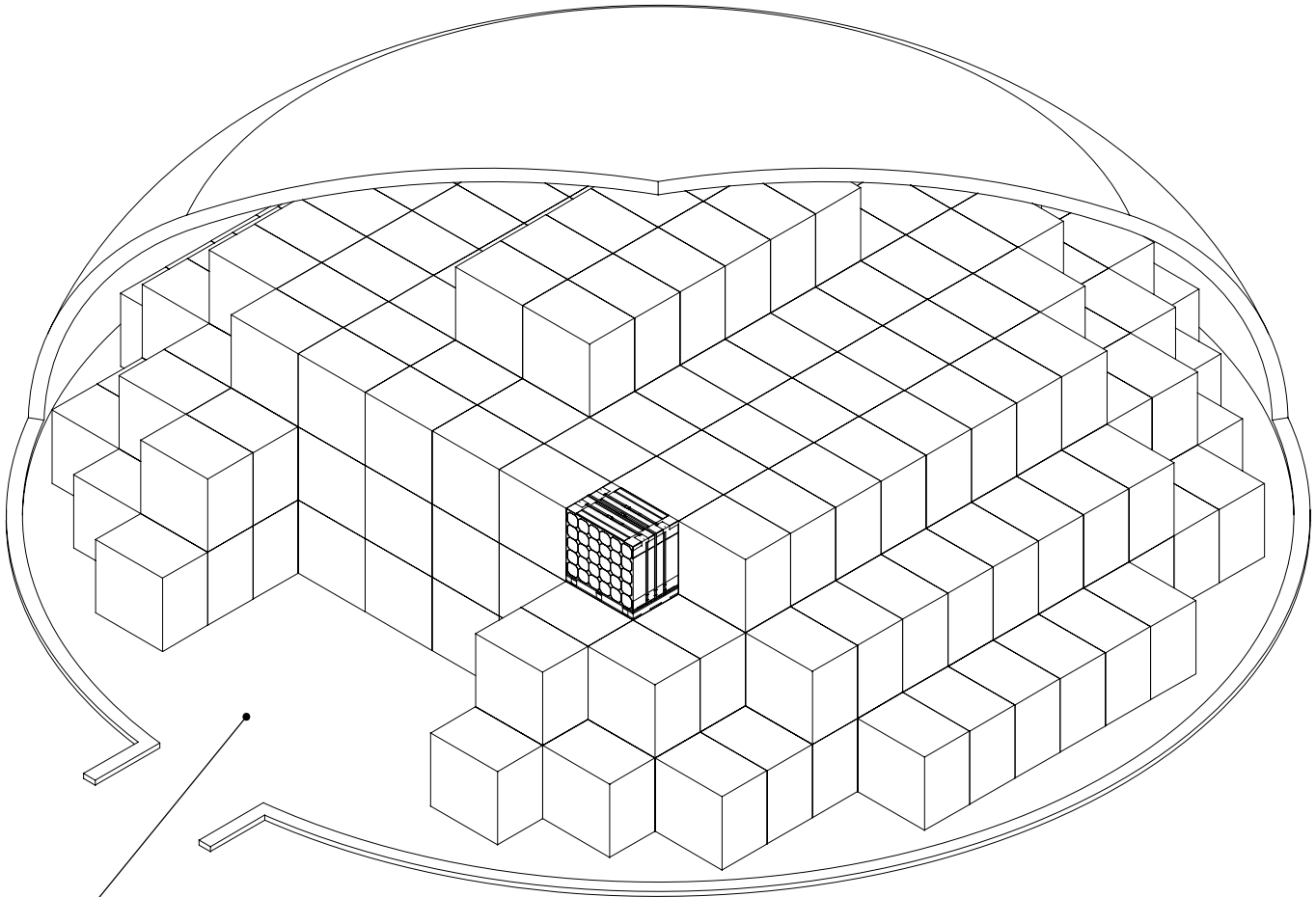
ITEM QUANTITY
 PALLET UNIT ----- 366



PLANVIEW

THE RIGHT HAND PLAN VIEW INDICATES A 52'-0" CORBETTA MAGAZINE, AND THE LEFT HAND PLAN VIEW INDICATES A 44'-7" CORBETTA MAGAZINE. BOTH SIZE MAGAZINE LAYOUTS ARE SYMMETRICAL AROUND THE VERTICAL CENTER LINE.

CORBETTA MAGAZINE

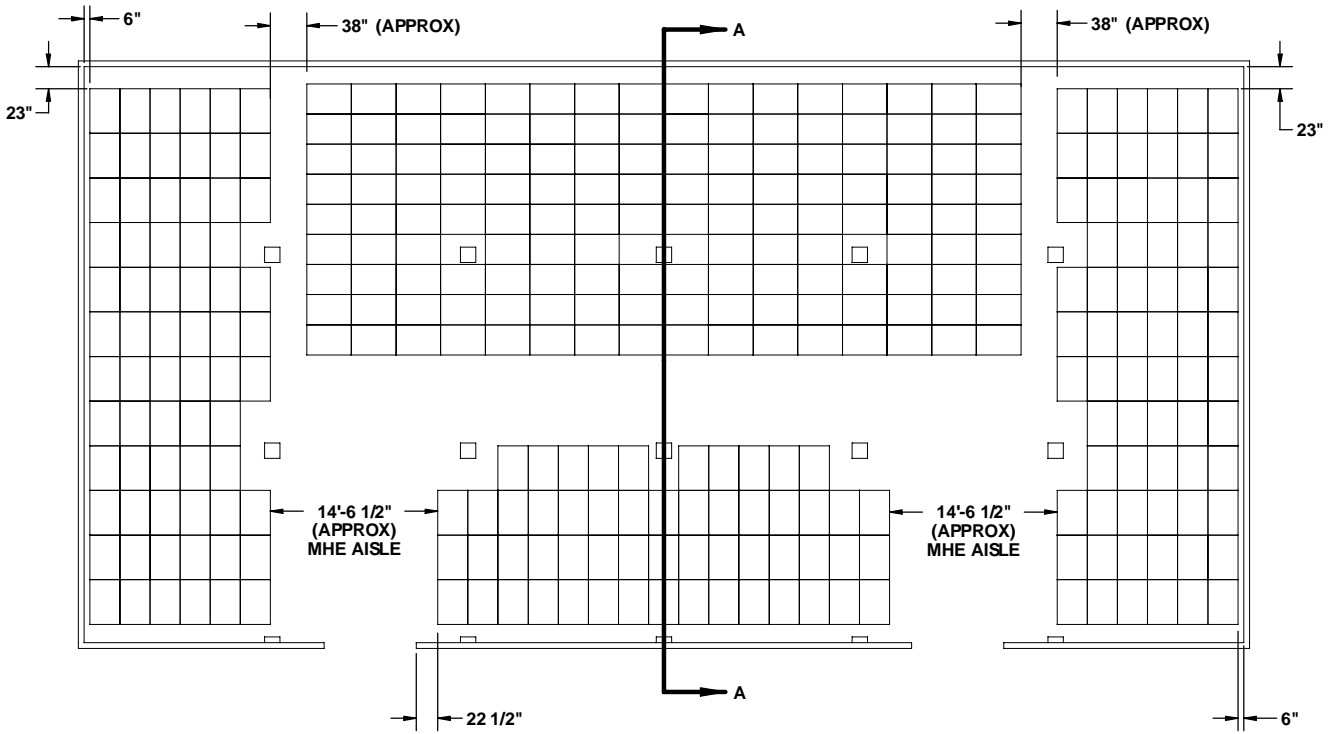


SEE GENERAL
NOTE "H" ON
PAGE 2.

ISOMETRIC VIEW
(52' - 0" DIA MAGAZINE)

**STORAGE IN RECTANGULAR
MAGAZINE**

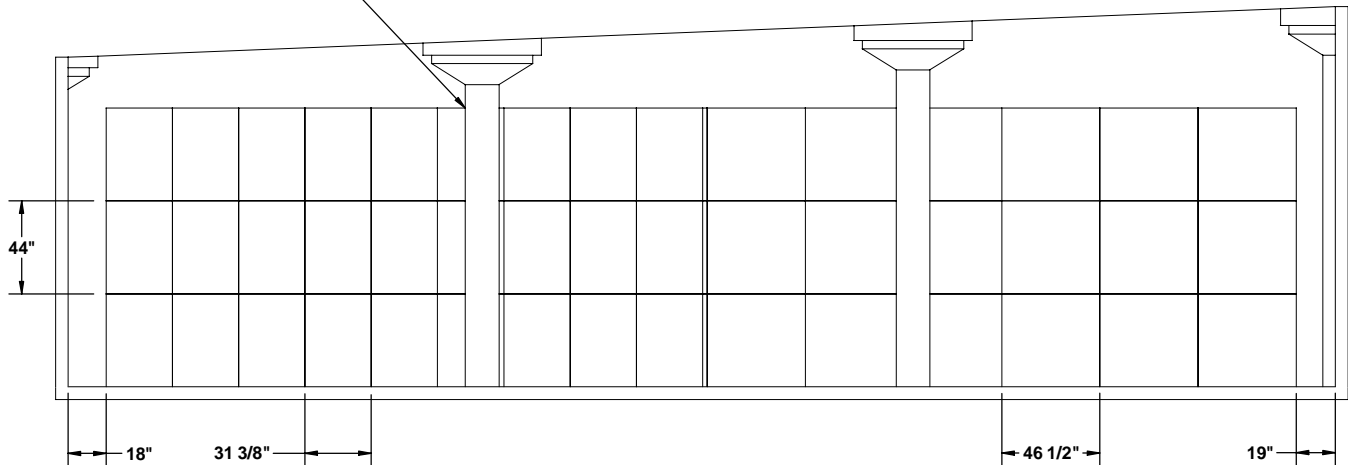
ITEM QUANTITY
PALLET UNIT ----- 99



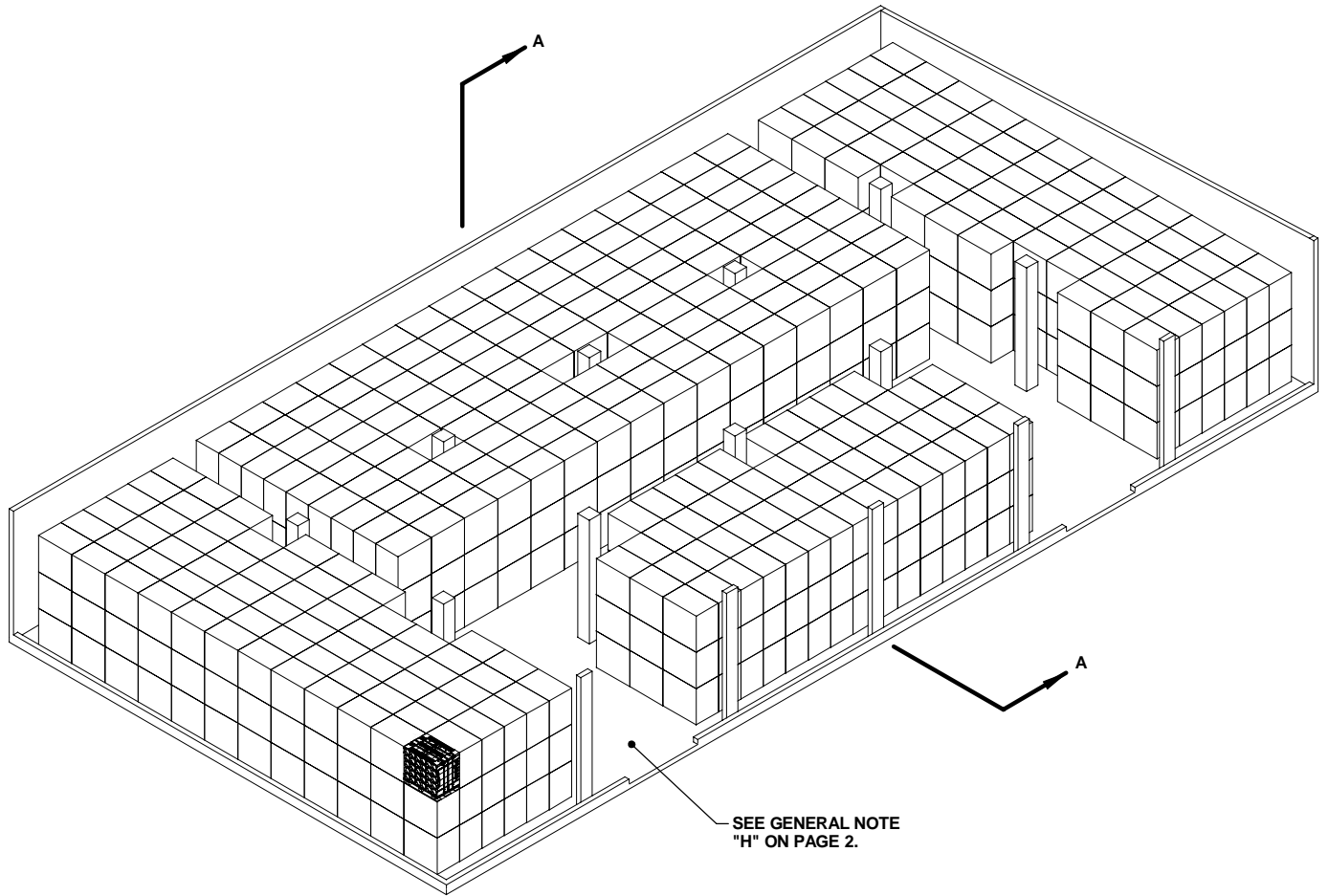
PLAN VIEW

ALL PALLET UNITS STACKED
THREE LAYERS HIGH.

SEE GENERAL NOTE
"E" ON PAGE 2.



SECTION A-A

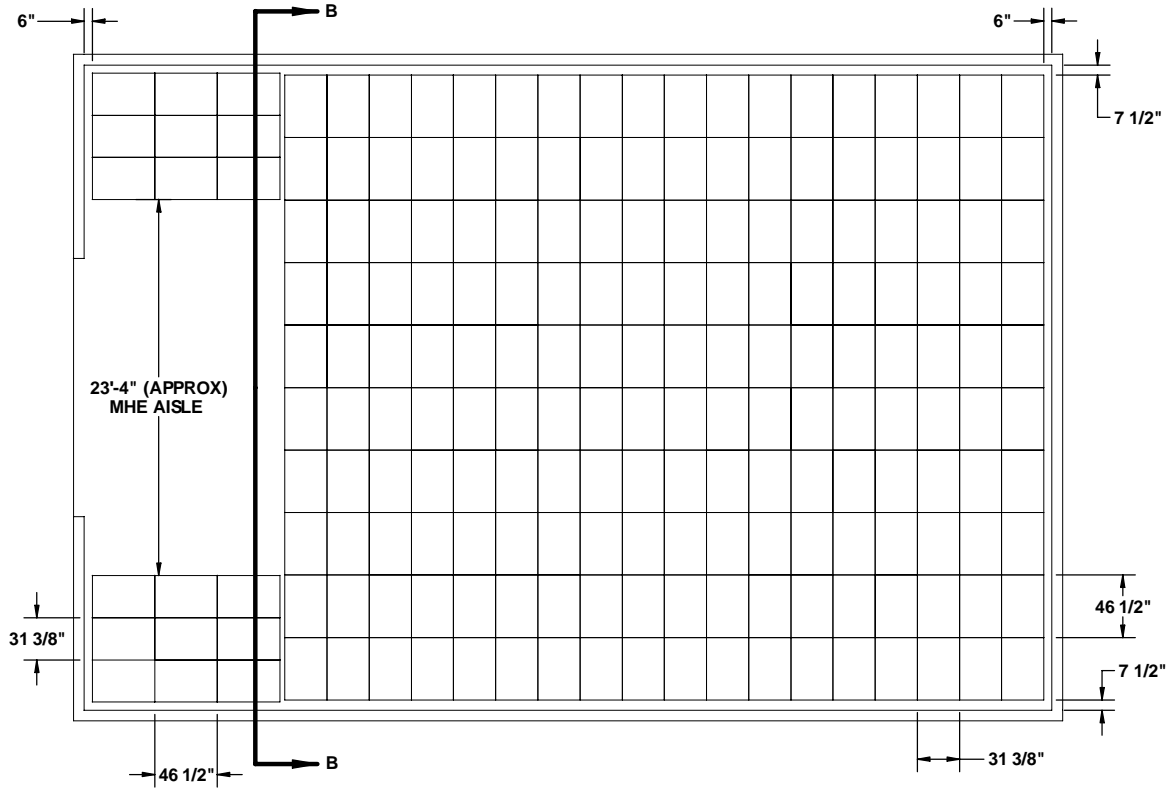


ISOMETRIC VIEW

(50'-0" MAGAZINE)

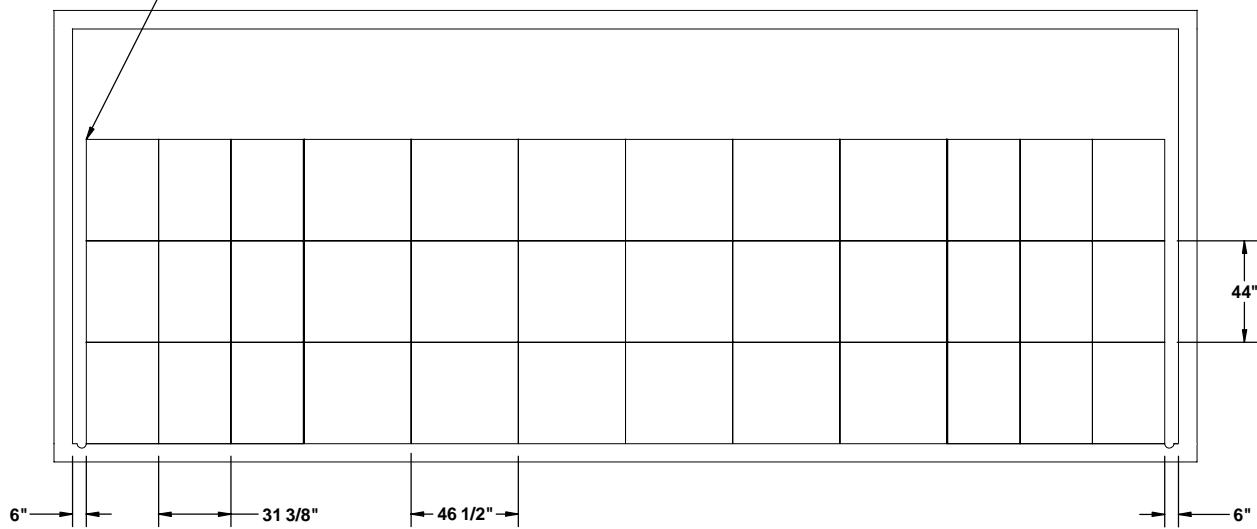
**STORAGE IN TYPE II BUNKER
MAGAZINE**

ITEM QUANTITY
PALLET UNIT ----- 594

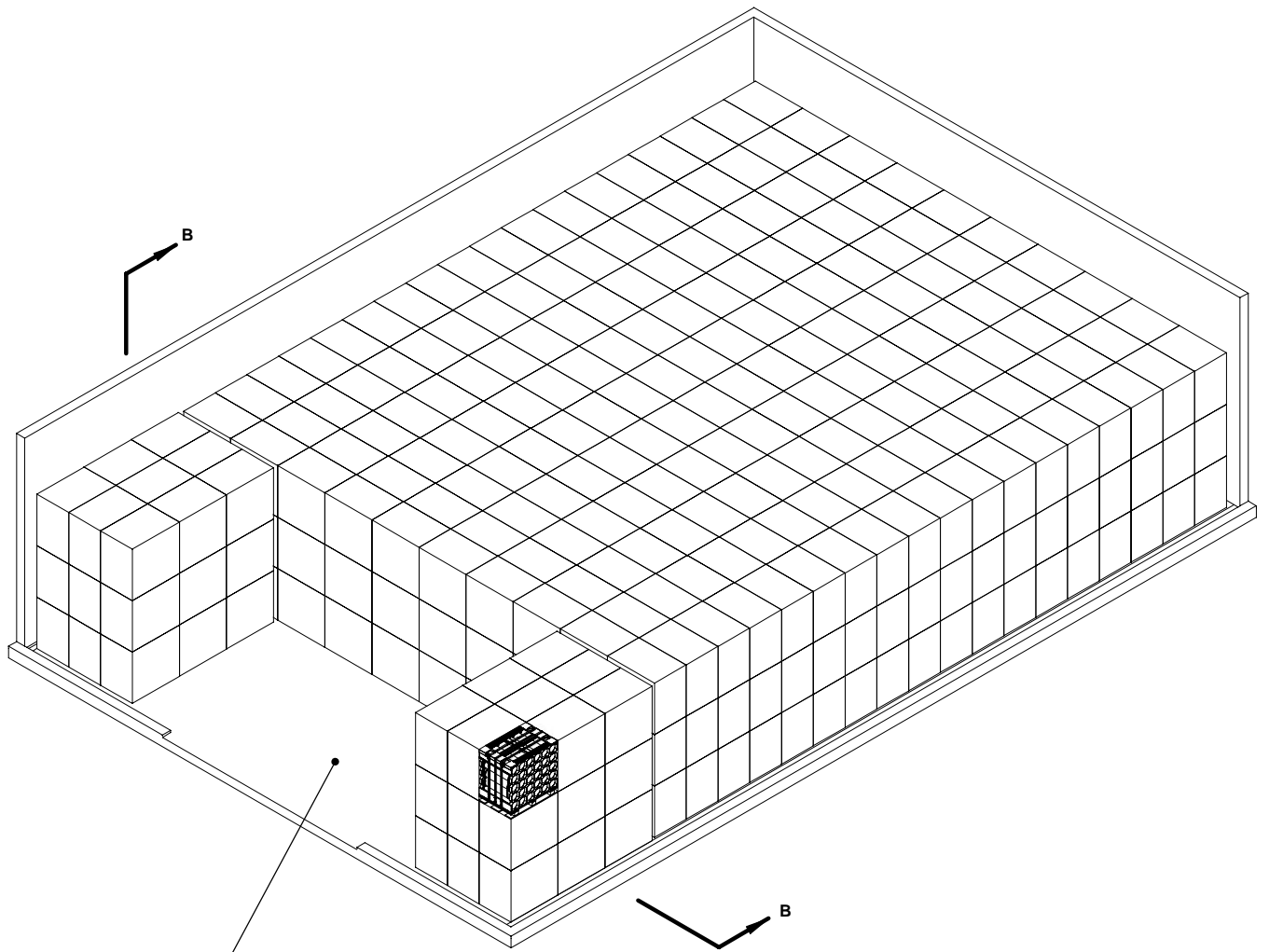


PLAN VIEW
ALL PALLET UNITS STACKED
THREE LAYERS HIGH.

SEE GENERAL NOTE
"E" ON PAGE 2.



SECTION B-B



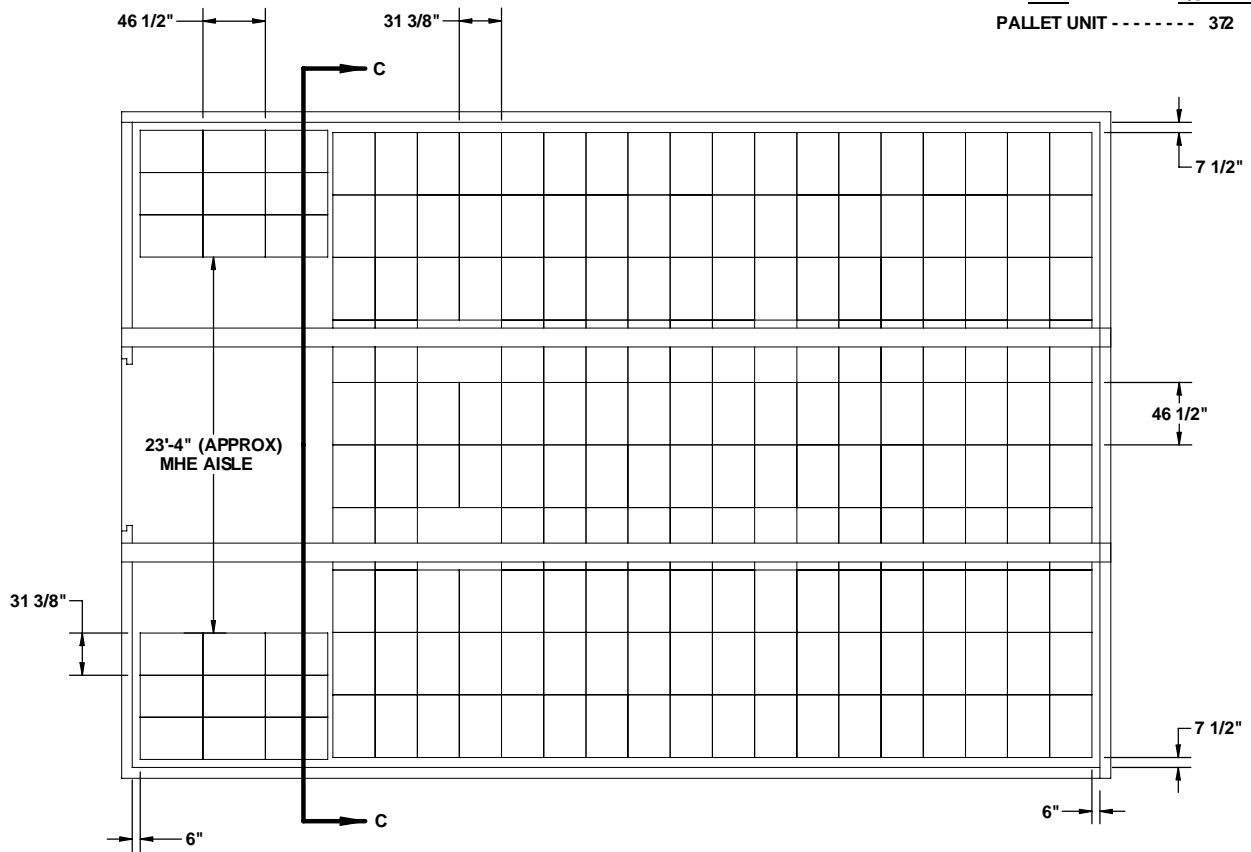
SEE GENERAL NOTE
"H" ON PAGE 2.

ISOMETRIC VIEW
(TYPE II BUNKER MAGAZINE)

60'-0" L X 40'-0" W X 15'-0" H TYPE II BUNKER MAGAZINE

**STORAGE IN TYPE III BUNKER
MAGAZINE**

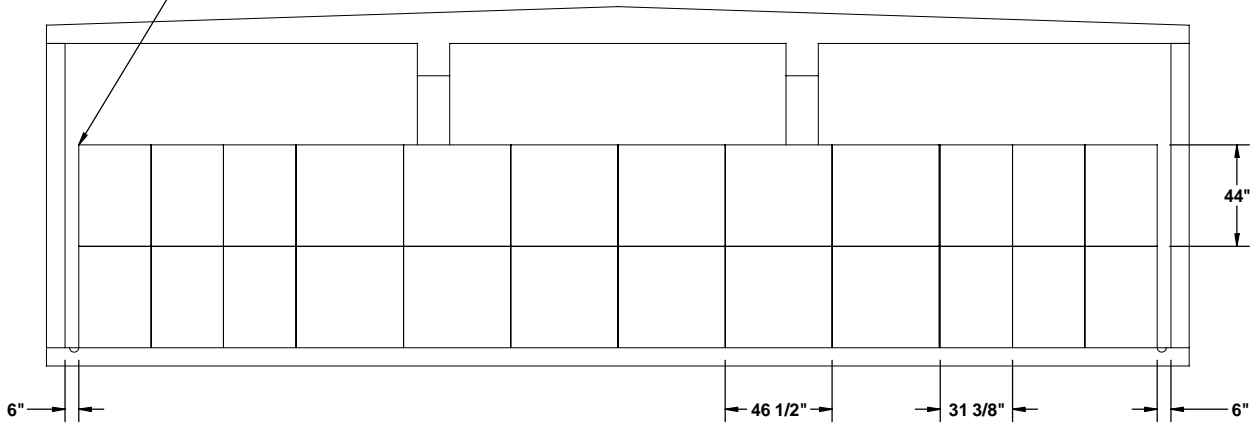
| ITEM | QUANTITY |
|-------------|----------|
| PALLET UNIT | 32 |



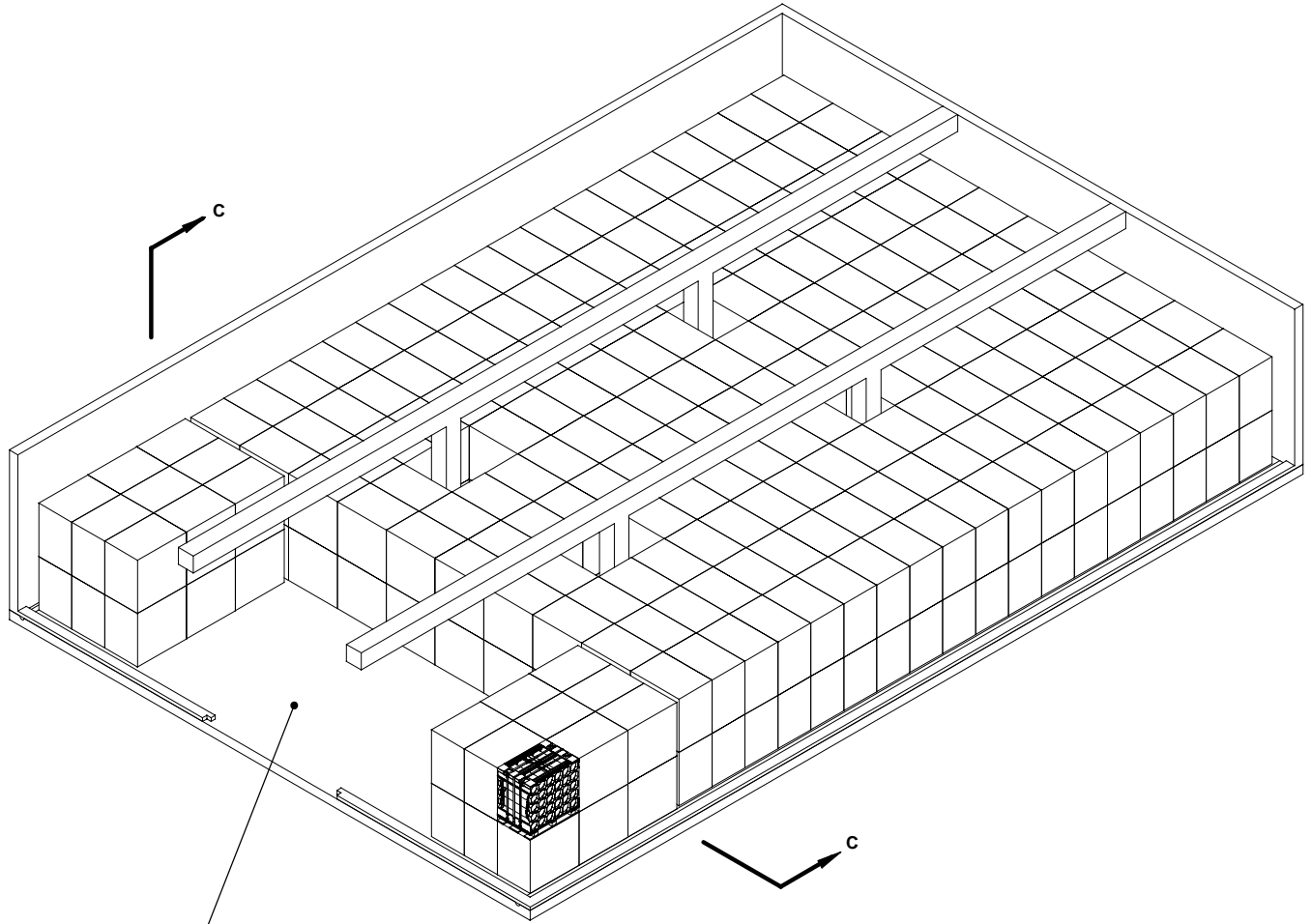
PLANVIEW

ALL PALLET UNITS STACKED
TWO LAYERS HIGH.

SEE GENERAL NOTE
"E" ON PAGE 2.



SECTION C-C



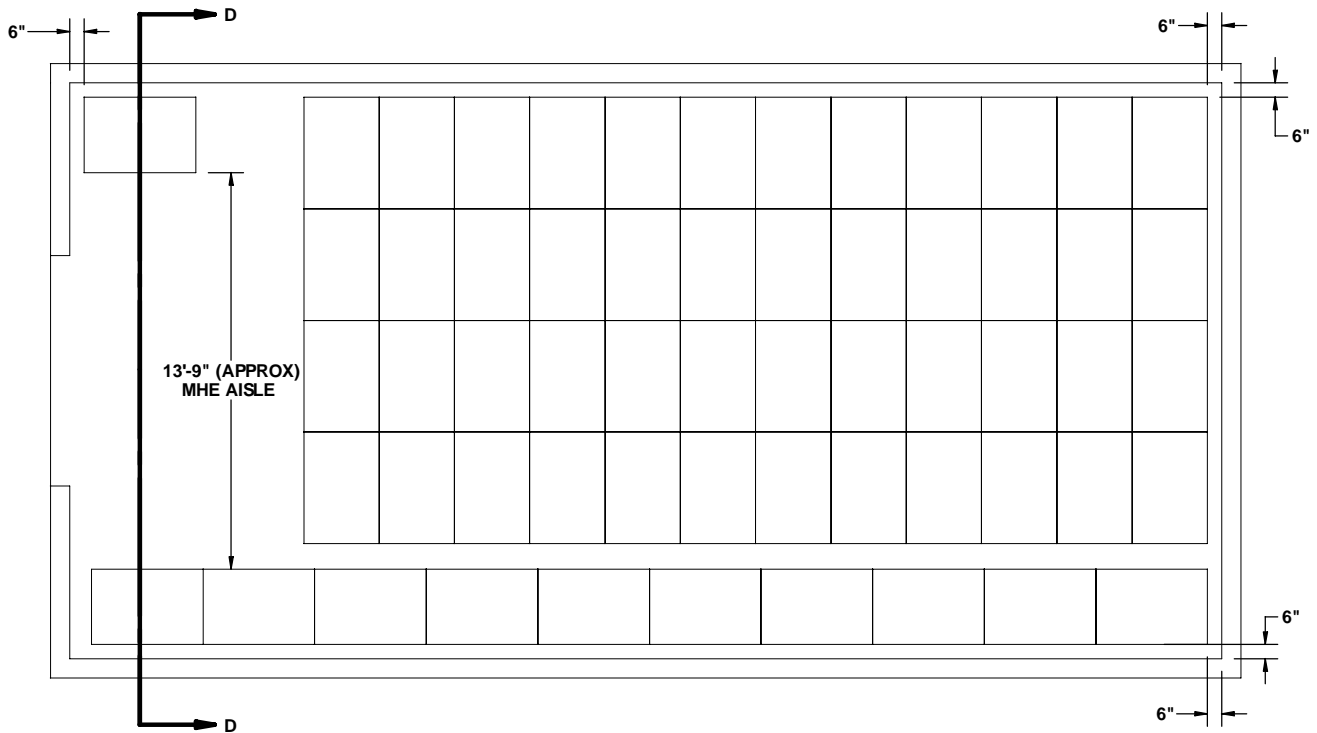
SEE GENERAL NOTE
"H" ON PAGE 2.

ISOMETRIC VIEW
(TYPE III BUNKER MAGAZINE)

60'-0" L X 40'-0" W X 11'-0" H TYPE III BUNKER MAGAZINE

**STORAGE IN TYPE IV BUNKER
MAGAZINE**

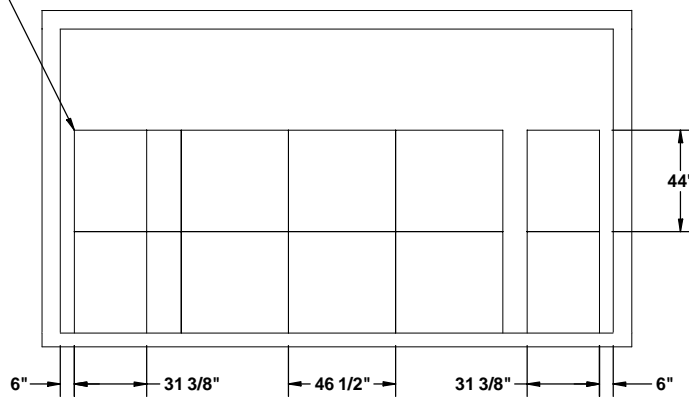
| ITEM | QUANTITY |
|-------------------|----------|
| PALLET UNIT ----- | 118 |



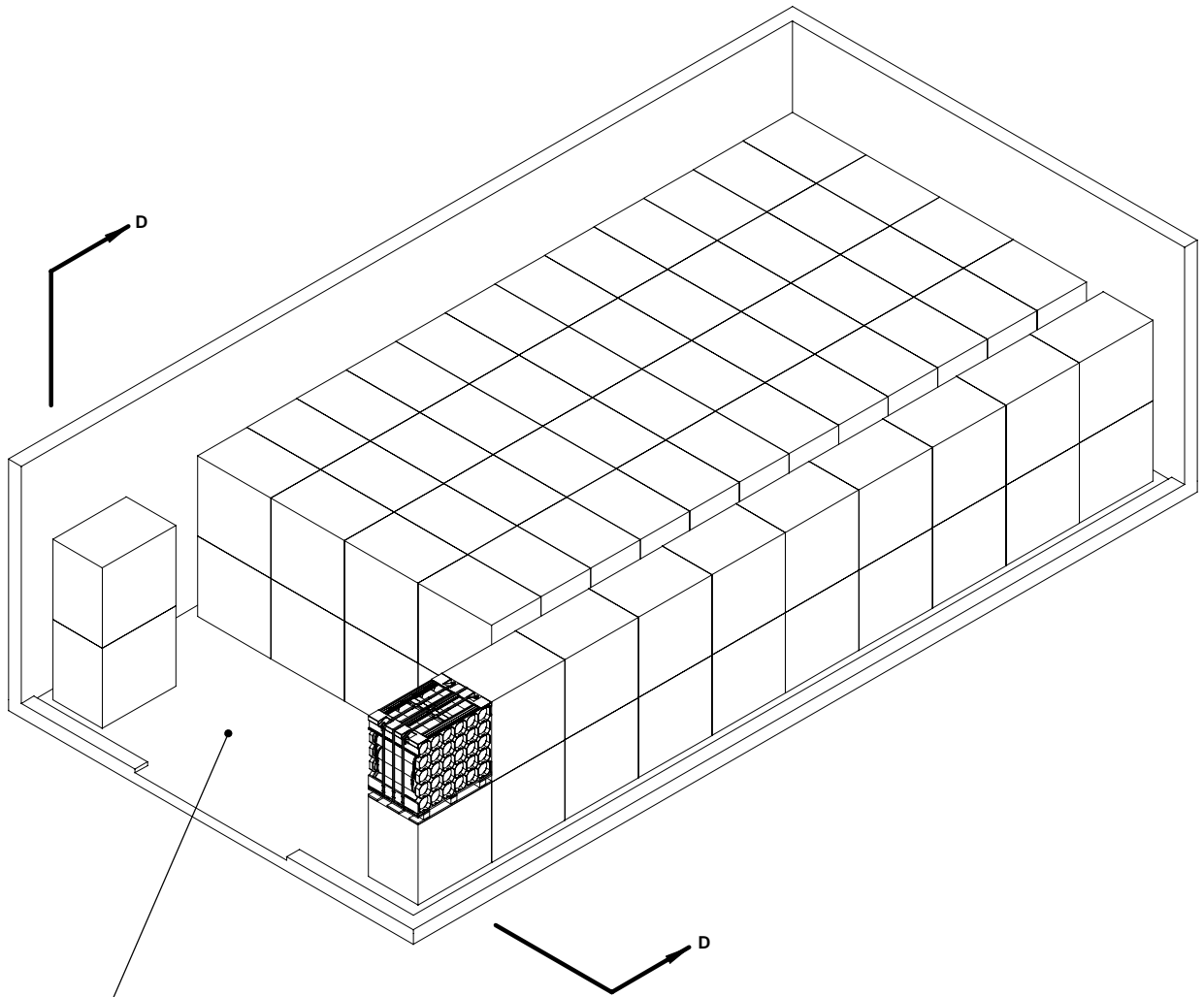
PLAN VIEW

ALL PALLET UNITS STACKED
TWO LAYERS HIGH.

SEE GENERAL NOTE
"E" ON PAGE 2.

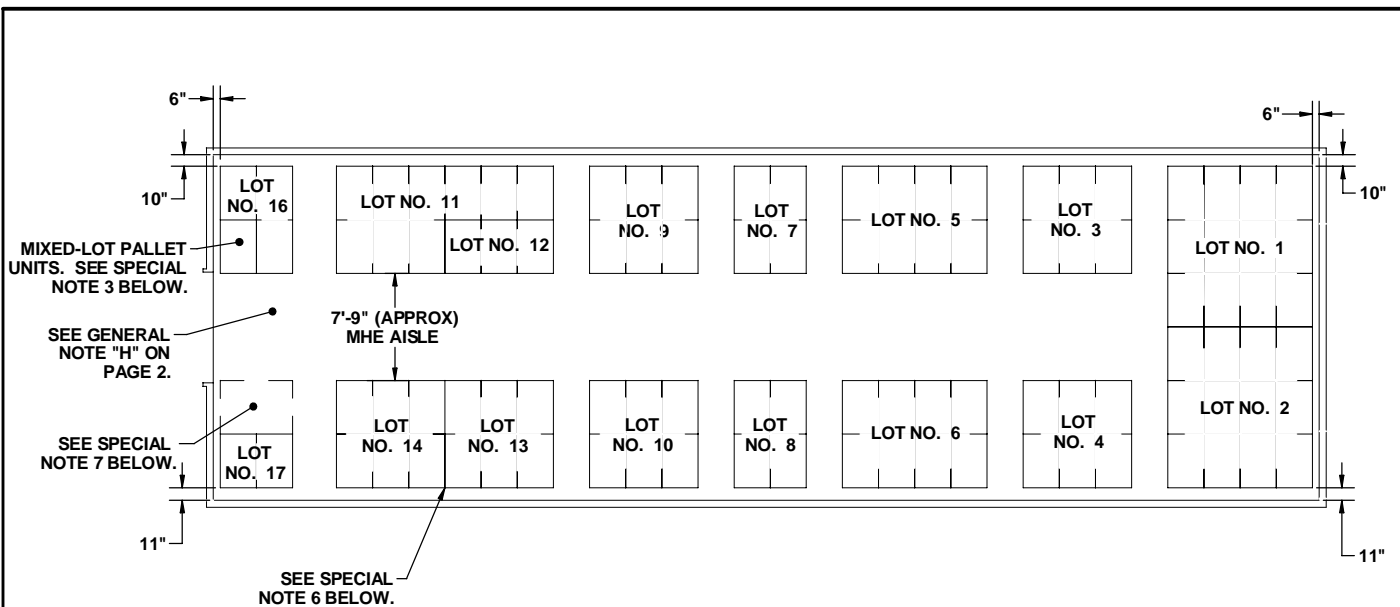


SECTION D-D



SEE GENERAL NOTE
"H" ON PAGE 2.

ISOMETRIC VIEW
(TYPE IV BUNKER MAGAZINE)



PLAN VIEW

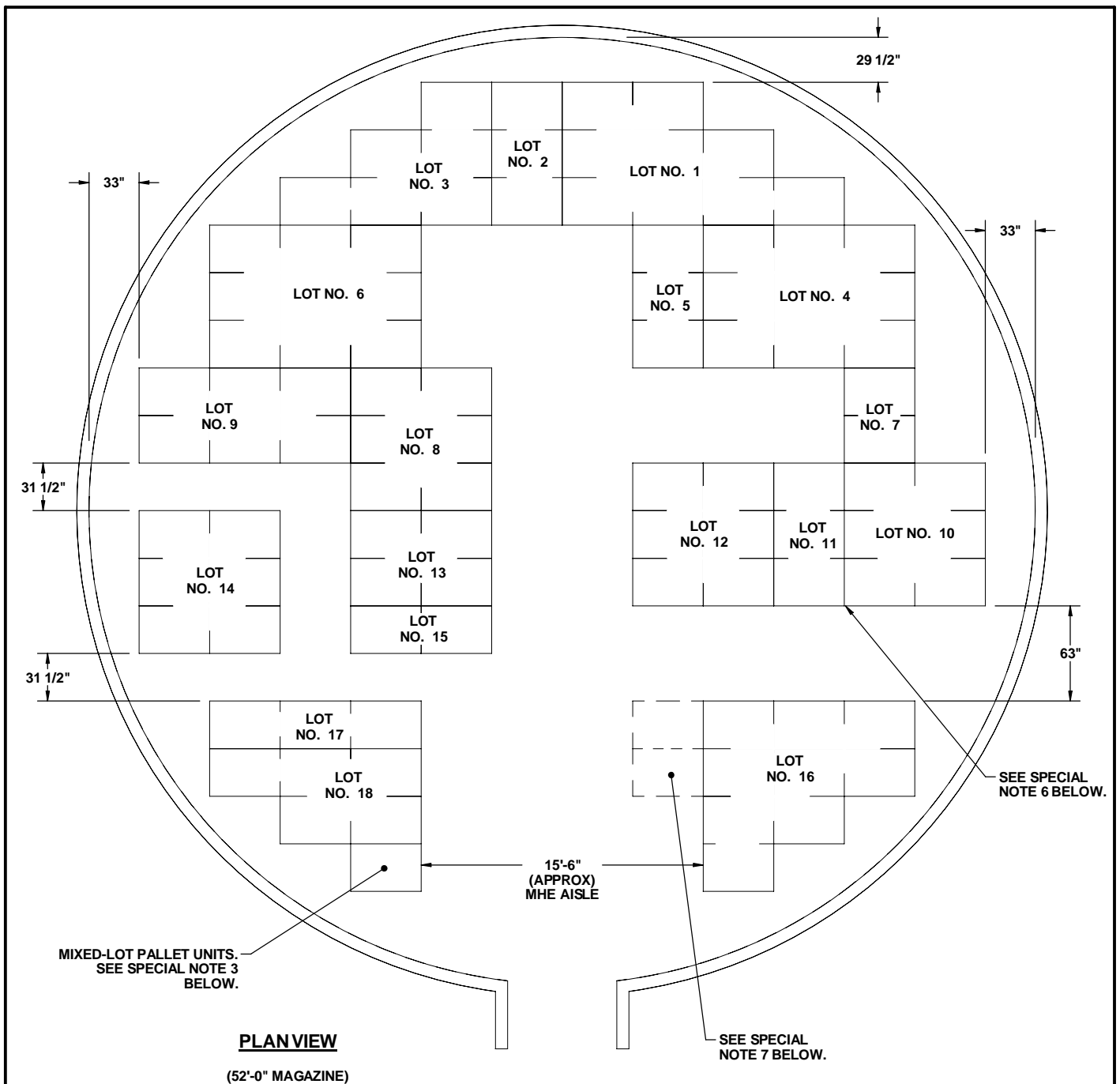
SPECIAL NOTES:

1. THE STORAGE PLAN SHOWN IN THIS PAGE IS TYPICAL ONLY, AND APPLIES TO NUMEROUS LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
2. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OR ON ONE SIDE OF THE MAGAZINE. HOWEVER, THESE AREAS MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING STACKS SIMILAR TO THOSE SHOWN IN THE FRONTAL AREA. AN MHE AISLE WILL BE REQUIRED ON ONE SIDE OF THE MAGAZINE, AND EACH LOT MUST BE ACCESSIBLE FOR REMOVAL AND INSPECTION/INVENTORY IN ACCORDANCE WITH OTHER CRITERIA SPECIFIED IN THESE SPECIAL NOTES AND IN THE GENERAL NOTES ON PAGE 2.
3. A MIXED-LOT PALLET UNIT MAY HAVE FROM TWO LOTS PER PALLET UNIT UPWARD TO AS MANY DIFFERENT LOTS AS CONTAINERS WITHIN THAT UNIT. HOWEVER, BOTH LOTS WITHIN THE PALLET UNIT MUST HAVE THE SAME NATIONAL STOCK NUMBER AND CONDITION CODE.
4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. PALLET UNITS OF A SINGLE-LOT OR MIXED-LOT PALLET UNITS ARE CONSIDERED "ACCESSIBLE" IF NO MORE THAN 12 "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THE SINGLE-LOT OR MIXED-LOT PALLET. A "LIFT" MAY CONSIST OF ONE OR MORE PALLET UNITS, PROVIDING THE CAPACITY OF THE MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
6. WHEN TWO LOTS ARE STORED ADJACENT TO EACH OTHER, THEY SHOULD BE SEPARATED BY AT LEAST 1" TO PROVIDE CLEARANCE FOR REMOVAL OF EITHER LOT.
7. THE MHE AISLE MAY BE USED TO STORE ONE OR MORE STACKS OF ADDITIONAL LOTS OR ADDITIONAL UNITS THAT ARE FROM A LOT ADJACENT TO THE MHE AISLE. ADEQUATE SPACE FROM MHE OPERATION MUST BE MADE AVAILABLE FOR THE ADDITIONAL STORAGE. ALSO, COMPLIANCE WITH ALL MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED.



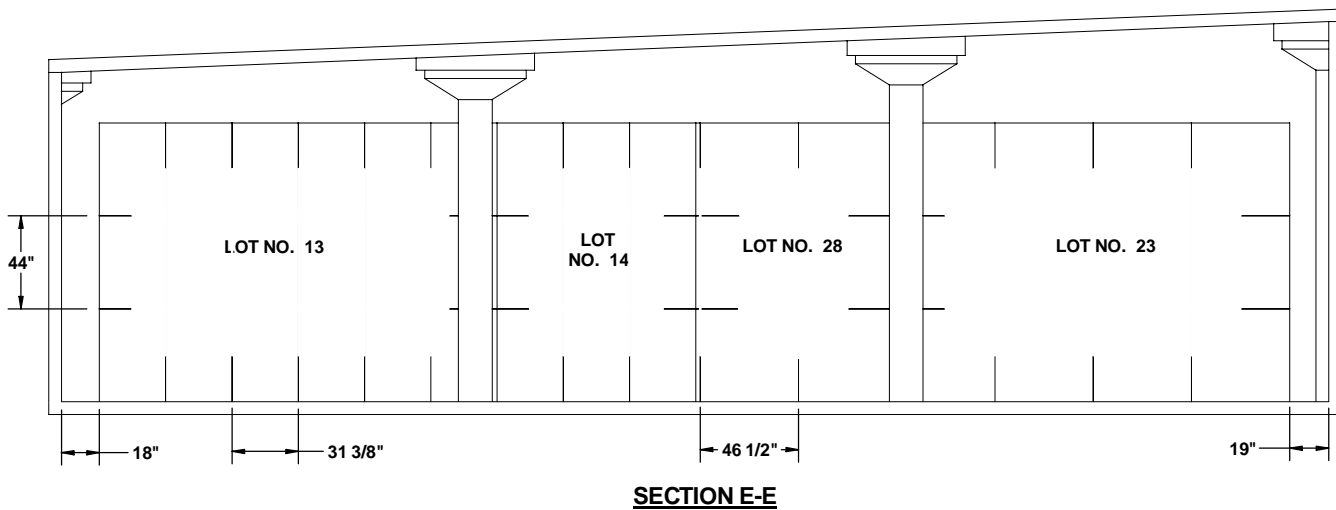
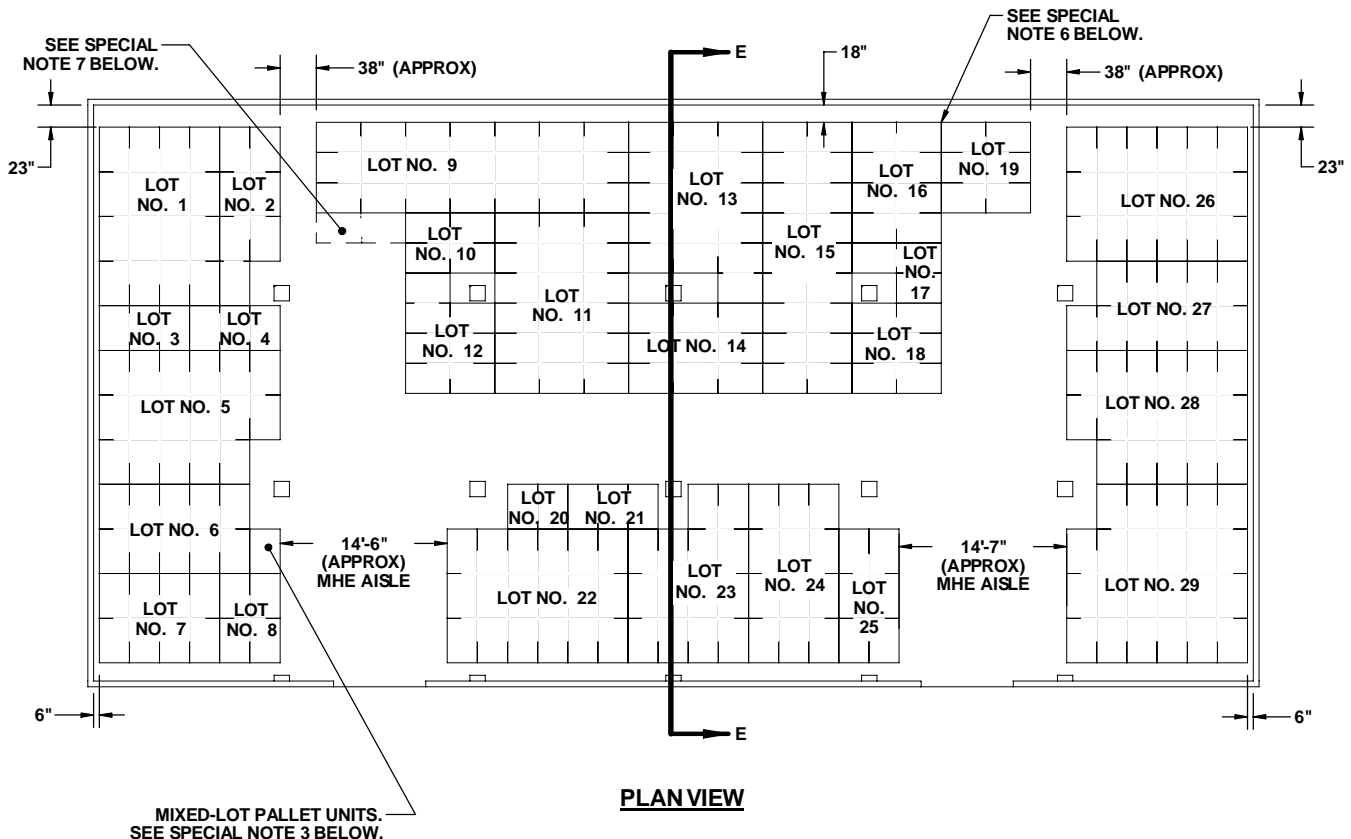
SPECIAL NOTES:

1. THE STORAGE PLAN SHOWN IN THIS PAGE IS TYPICAL ONLY, AND APPLIES TO NUMEROUS LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
2. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OR ON ONE SIDE OF THE MAGAZINE. HOWEVER, THESE AREAS MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING STACKS SIMILAR TO THOSE SHOWN IN THE FRONTAL AREA. AN MHE AISLE WILL BE REQUIRED ON ONE SIDE OF THE MAGAZINE, AND EACH LOT MUST BE ACCESSIBLE FOR REMOVAL AND INSPECTION/INVENTORY IN ACCORDANCE WITH OTHER CRITERIA SPECIFIED IN THESE SPECIAL NOTES AND IN THE GENERAL NOTES ON PAGE 2.
3. A MIXED-LOT PALLET UNIT MAY HAVE FROM TWO LOTS PER PALLET UNIT UPWARD TO AS MANY DIFFERENT LOTS AS CONTAINERS WITHIN THAT UNIT. HOWEVER, BOTH LOTS WITHIN THE PALLET UNIT MUST HAVE THE SAME NATIONAL STOCK NUMBER AND CONDITION CODE.

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. PALLET UNITS OF A SINGLE-LOT OR MIXED-LOT PALLET UNITS ARE CONSIDERED "ACCESSIBLE" IF NO MORE THAN 12 "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THE SINGLE-LOT OR MIXED-LOT PALLET UNIT. A "LIFT" MAY CONSIST OF ONE OR MORE CONTAINERS, PROVIDING THE CAPACITY OF THE MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.
5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
6. WHEN TWO LOTS ARE STORED ADJACENT TO EACH OTHER, THEY SHOULD BE SEPARATED BY AT LEAST 1" TO PROVIDE CLEARANCE FOR REMOVAL OF EITHER LOT.
7. THE MHE AISLE MAY BE USED TO STORE ONE OR MORE STACKS OF ADDITIONAL ITEMS THAT ARE FROM A LOT ADJACENT TO THE MHE AISLE. ADEQUATE SPACE FROM MHE OPERATION MUST BE MADE AVAILABLE FOR THE ADDITIONAL STORAGE. ALSO, COMPLIANCE WITH ALL OF THE MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED.



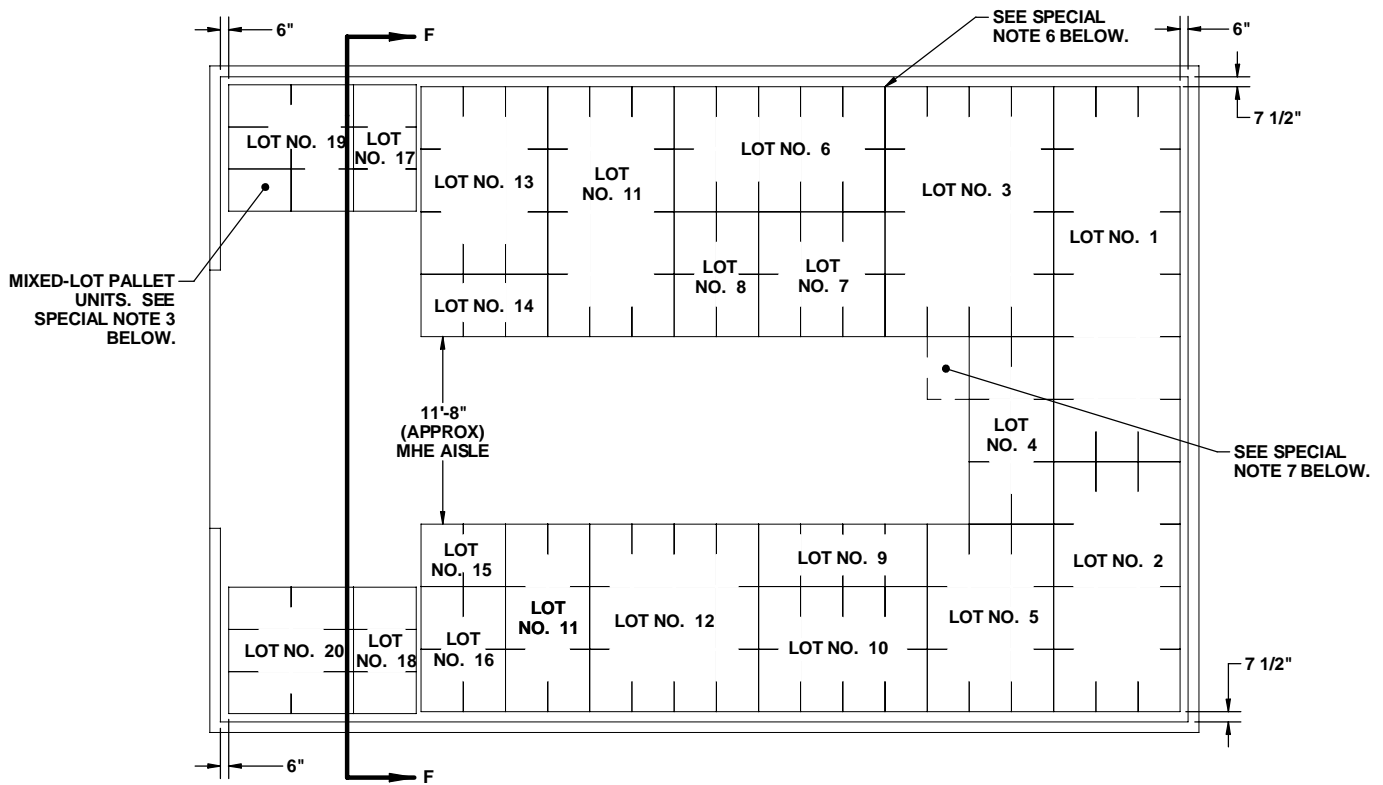
SPECIAL NOTES:

1. THE STORAGE PLAN SHOWN IN THIS PAGE IS TYPICAL ONLY, AND APPLIES TO NUMEROUS LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
2. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OR ON ONE SIDE OF THE MAGAZINE. HOWEVER, THESE AREAS MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING STACKS SIMILAR TO THOSE SHOWN IN THE FRONTAL AREA. AN MHE AISLE WILL BE REQUIRED ON ONE SIDE OF THE MAGAZINE, AND EACH LOT MUST BE ACCESSIBLE FOR REMOVAL AND INSPECTION/INVENTORY IN ACCORDANCE WITH OTHER CRITERIA SPECIFIED IN THESE SPECIAL NOTES AND IN THE GENERAL NOTES ON PAGE 2.
3. A MIXED-LOT PALLET UNIT MAY HAVE FROM TWO LOTS PER PALLET UNIT UPWARD TO AS MANY DIFFERENT LOTS AS CONTAINERS WITHIN THAT UNIT. HOWEVER, BOTH LOTS WITHIN THE PALLET UNIT MUST HAVE THE SAME NATIONAL STOCK NUMBER AND CONDITION CODE.

(CONTINUED AT RIGHT)

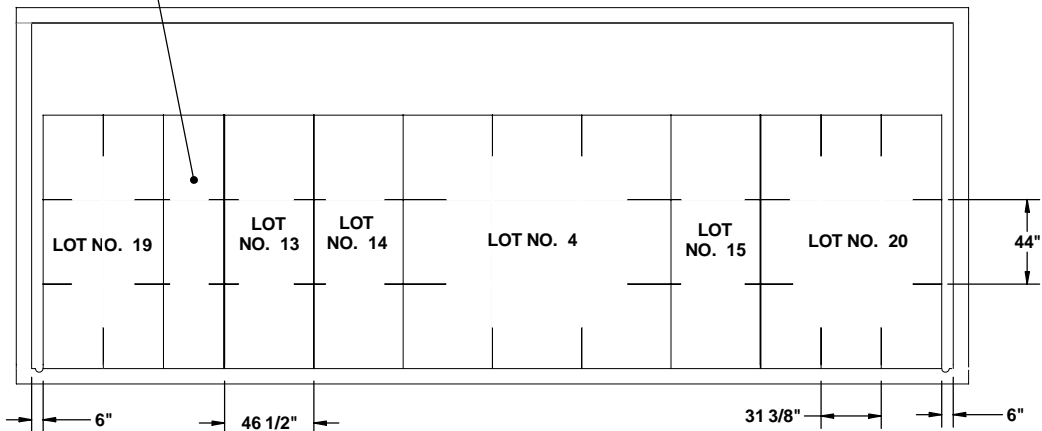
(SPECIAL NOTES CONTINUED)

4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. PALLET UNITS OF A SINGLE-LOT OR MIXED-LOT PALLET UNIT ARE CONSIDERED "ACCESSIBLE" IF NO MORE THAN 24 "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THE SINGLE-LOT OR MIXED-LOT PALLET UNIT. A "LIFT" MAY CONSIST OF ONE OR MORE CONTAINERS, PROVIDING THE CAPACITY OF THE MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.
5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
6. WHEN TWO LOTS ARE STORED ADJACENT TO EACH OTHER, THEY SHOULD BE SEPARATED BY AT LEAST 1" TO PROVIDE CLEARANCE FOR REMOVAL OF EITHER LOT.
7. THE MHE AISLE MAY BE USED TO STORE ONE OR MORE STACKS OF ADDITIONAL LOTS OR ADDITIONAL UNITS THAT ARE FROM A LOT ADJACENT TO THE MHE AISLE. ADEQUATE SPACE FROM MHE OPERATION MUST BE MADE AVAILABLE FOR THE ADDITIONAL STORAGE. ALSO, COMPLIANCE WITH ALL MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED.



PLAN VIEW

MIXED-LOT PALLET UNITS. SEE SPECIAL NOTE 3 BELOW.



SECTION F-F

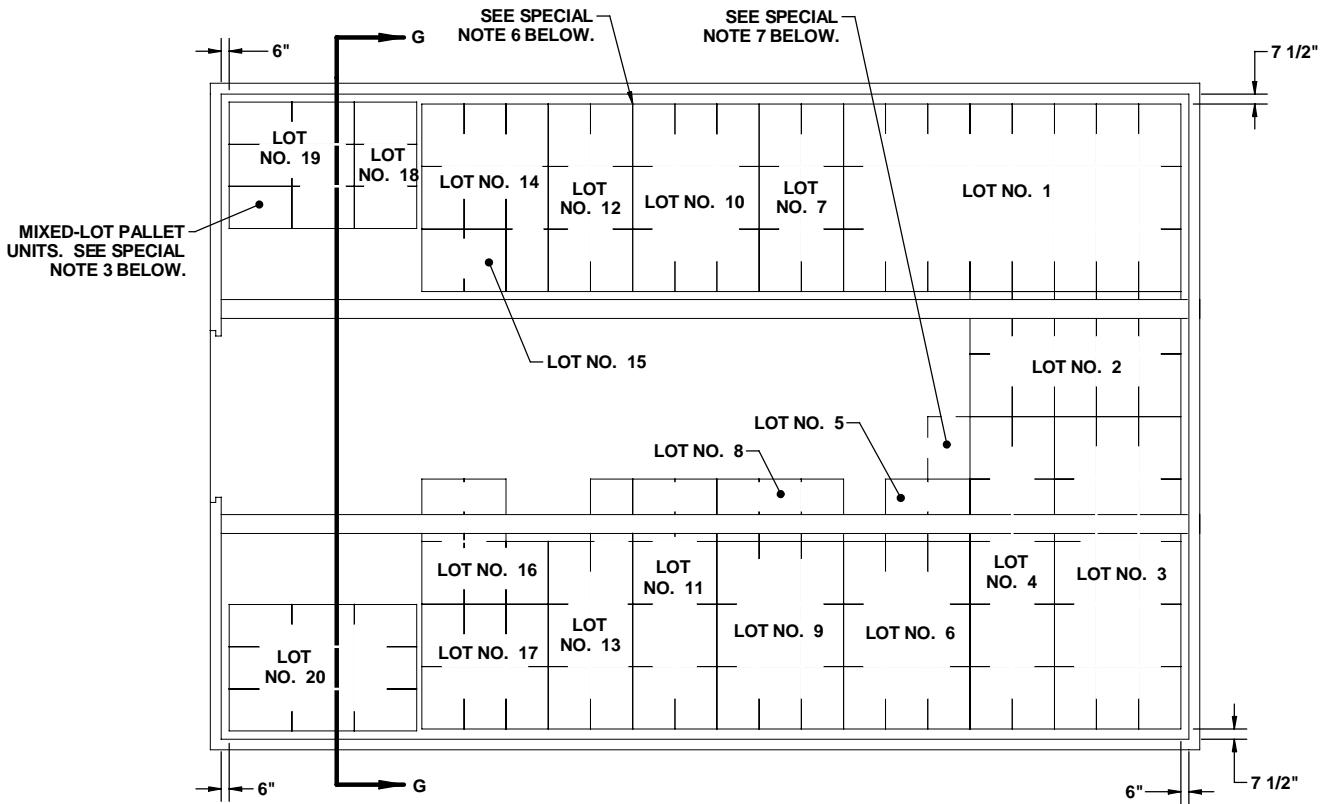
SPECIAL NOTES:

1. THE STORAGE PLAN SHOWN IN THIS PAGE IS TYPICAL ONLY, AND APPLIES TO NUMEROUS LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
2. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OR ON ONE SIDE OF THE MAGAZINE. HOWEVER, THESE AREAS MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING STACKS SIMILAR TO THOSE SHOWN IN THE FRONTAL AREA. AN MHE AISLE WILL BE REQUIRED ON ONE SIDE OF THE MAGAZINE, AND EACH LOT MUST BE ACCESSIBLE FOR REMOVAL AND INSPECTION/INVENTORY IN ACCORDANCE WITH OTHER CRITERIA SPECIFIED IN THESE SPECIAL NOTES AND IN THE GENERAL NOTES ON PAGE 2.
3. A MIXED-LOT PALLET UNIT MAY HAVE FROM TWO LOTS PER PALLET UNIT UPWARD TO AS MANY DIFFERENT LOTS AS CONTAINERS WITHIN THAT UNIT. HOWEVER, BOTH LOTS WITHIN THE PALLET UNIT MUST HAVE THE SAME NATIONAL STOCK NUMBER AND CONDITION CODE.

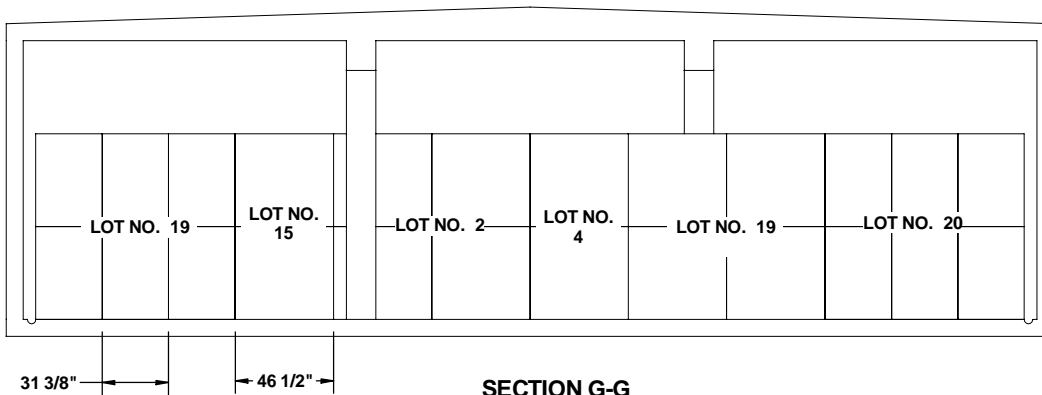
(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. PALLET UNITS OF A SINGLE-LOT OR MIXED-LOT PALLET UNITS ARE CONSIDERED "ACCESSIBLE" IF NO MORE THAN 12 "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THE SINGLE-LOT OR MIXED-LOT PALLET UNIT. A "LIFT" MAY CONSIST OF ONE OR MORE CONTAINERS, PROVIDING THE CAPACITY OF THE MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.
5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
6. WHEN TWO LOTS ARE STORED ADJACENT TO EACH OTHER, THEY SHOULD BE SEPARATED BY AT LEAST 1" TO PROVIDE CLEARANCE FOR REMOVAL OF EITHER LOT.
7. THE MHE AISLE MAY BE USED TO STORE ONE OR MORE STACKS OF ADDITIONAL ITEMS THAT ARE FROM A LOT ADJACENT TO THE MHE AISLE. ADEQUATE SPACE FROM MHE OPERATION MUST BE MADE AVAILABLE FOR THE ADDITIONAL STORAGE. ALSO, COMPLIANCE WITH ALL OF THE MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED.



PLAN VIEW



SECTION G-G

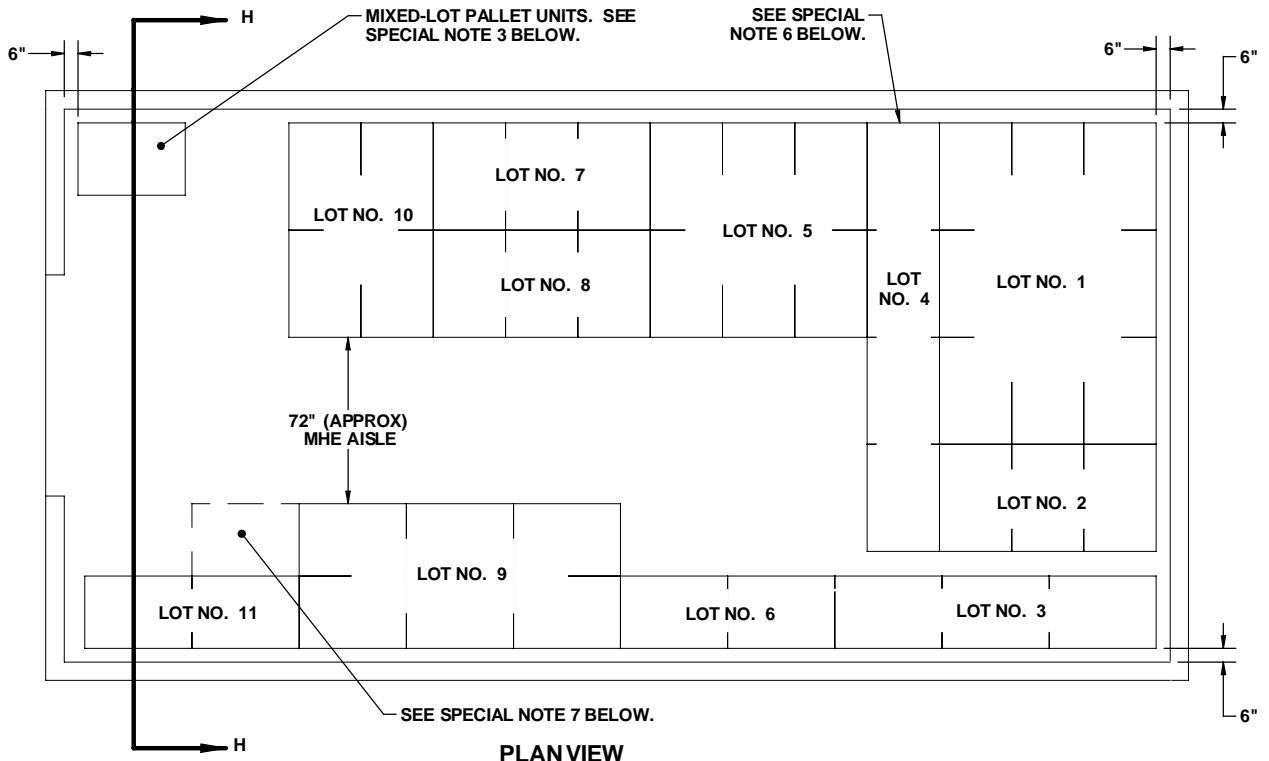
SPECIAL NOTES:

1. THE STORAGE PLAN SHOWN IN THIS PAGE IS TYPICAL ONLY, AND APPLIES TO NUMEROUS LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
2. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OR ON ONE SIDE OF THE MAGAZINE. HOWEVER, THESE AREAS MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING STACKS SIMILAR TO THOSE SHOWN IN THE FRONTAL AREA. AN MHE AISLE WILL BE REQUIRED ON ONE SIDE OF THE MAGAZINE, AND EACH LOT MUST BE ACCESSIBLE FOR REMOVAL AND INSPECTION/INVENTORY IN ACCORDANCE WITH OTHER CRITERIA SPECIFIED IN THESE SPECIAL NOTES AND IN THE GENERAL NOTES ON PAGE 2.
3. A MIXED-LOT PALLET UNIT MAY HAVE FROM TWO LOTS PER PALLET UNIT UPWARD TO AS MANY DIFFERENT LOTS AS CONTAINERS WITHIN THAT UNIT. HOWEVER, BOTH LOTS WITHIN THE PALLET UNIT MUST HAVE THE SAME NATIONAL STOCK NUMBER AND CONDITION CODE.

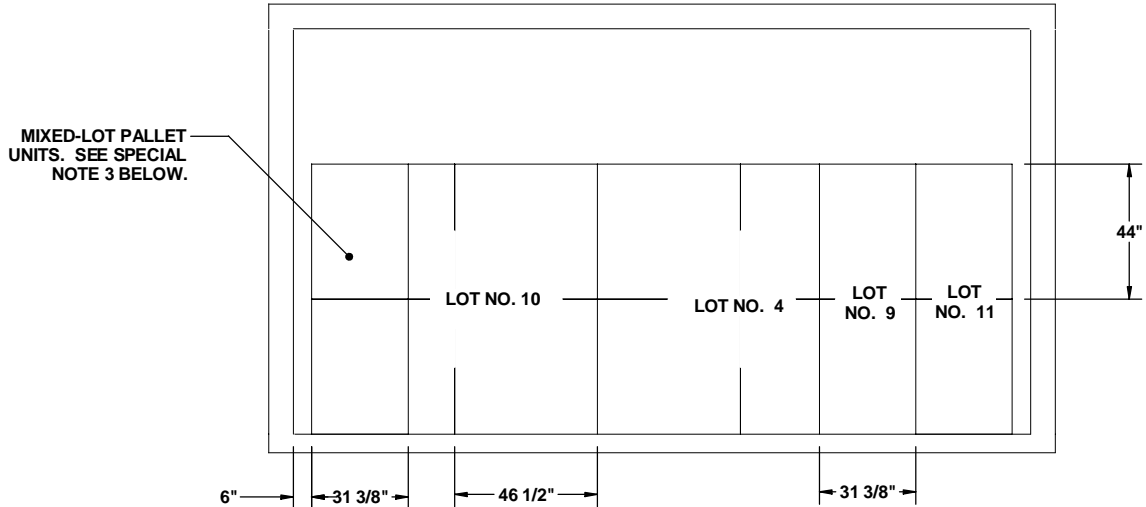
(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. PALLET UNITS OF A SINGLE-LOT OR MIXED-LOT PALLET UNIT ARE CONSIDERED "ACCESSIBLE" IF NO MORE THAN 12 "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THE SINGLE-LOT OR MIXED-LOT PALLET UNIT. A "LIFT" MAY CONSIST OF ONE OR MORE CONTAINERS, PROVIDING THE CAPACITY OF THE MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.
5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
6. WHEN TWO LOTS ARE STORED ADJACENT TO EACH OTHER, THEY SHOULD BE SEPARATED BY AT LEAST 1" TO PROVIDE CLEARANCE FOR REMOVAL OF EITHER LOT.
7. THE MHE AISLE MAY BE USED TO STORE ONE OR MORE STACKS OF ADDITIONAL LOTS OR ADDITIONAL UNITS THAT ARE FROM A LOT ADJACENT TO THE MHE AISLE. ADEQUATE SPACE FROM MHE OPERATION MUST BE MADE AVAILABLE FOR THE ADDITIONAL STORAGE. ALSO, COMPLIANCE WITH ALL MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED.



PLAN VIEW



SECTION H-H

SPECIAL NOTES:

1. THE STORAGE PLAN SHOWN IN THIS PAGE IS TYPICAL ONLY, AND APPLIES TO NUMEROUS LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
2. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OR ON ONE SIDE OF THE MAGAZINE. HOWEVER, THESE AREAS MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING STACKS SIMILAR TO THOSE SHOWN IN THE FRONTAL AREA. AN MHE AISLE WILL BE REQUIRED ON ONE SIDE OF THE MAGAZINE, AND EACH LOT MUST BE ACCESSIBLE FOR REMOVAL AND INSPECTION/INVENTORY IN ACCORDANCE WITH OTHER CRITERIA SPECIFIED IN THESE SPECIAL NOTES AND IN THE GENERAL NOTES ON PAGE 2.
3. A MIXED-LOT PALLET UNIT MAY HAVE FROM TWO LOTS PER PALLET UNIT UPWARD TO AS MANY DIFFERENT LOTS AS CONTAINERS WITHIN THAT UNIT. HOWEVER, BOTH LOTS WITHIN THE PALLET UNIT MUST HAVE THE SAME NATIONAL STOCK NUMBER AND CONDITION CODE.

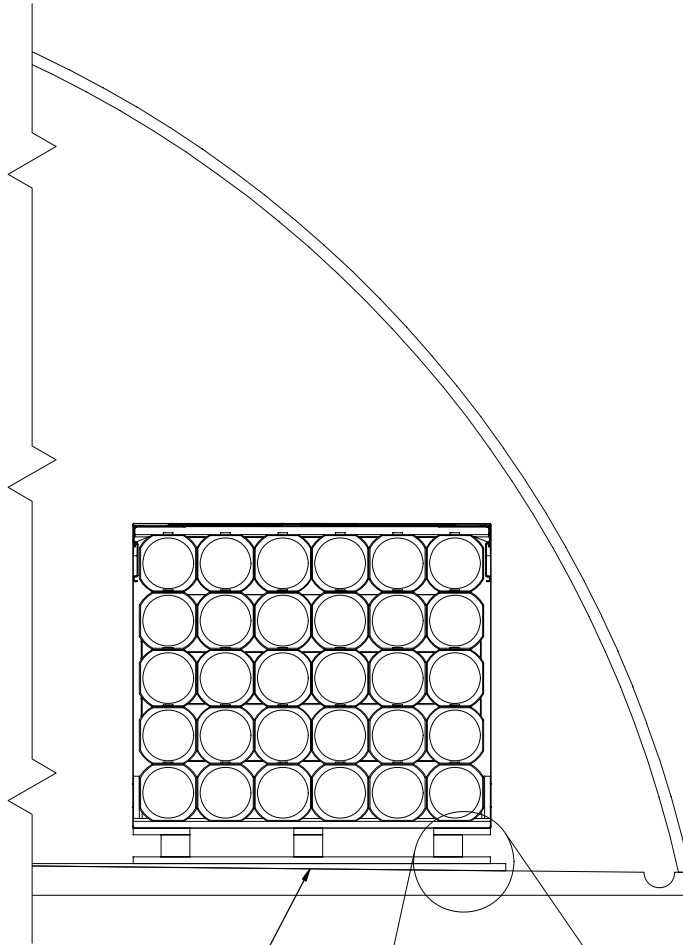
(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

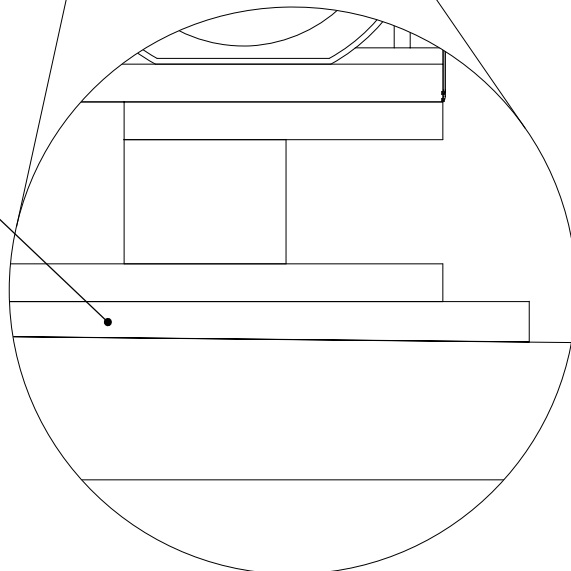
4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. PALLET UNITS OF A SINGLE-LOT OR MIXED-LOT PALLET UNITS ARE CONSIDERED "ACCESSIBLE" IF NO MORE THAN 12 "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THE SINGLE-LOT OR MIXED-LOT PALLET UNIT. A "LIFT" MAY CONSIST OF ONE OR MORE CONTAINERS, PROVIDING THE CAPACITY OF THE MHE PERMITS, AND SAFE HANDLING IS NOT JEOPARDIZED.
5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
6. WHEN TWO LOTS ARE STORED ADJACENT TO EACH OTHER, THEY SHOULD BE SEPARATED BY AT LEAST 1" TO PROVIDE CLEARANCE FOR REMOVAL OF EITHER LOT.
7. THE MHE AISLE MAY BE USED TO STORE ONE OR MORE STACKS OF ADDITIONAL ITEMS THAT ARE FROM A LOT ADJACENT TO THE MHE AISLE. ADEQUATE SPACE FROM MHE OPERATION MUST BE MADE AVAILABLE FOR THE ADDITIONAL STORAGE. ALSO, COMPLIANCE WITH ALL OF THE MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED.

SHIM DETAIL

SEE GENERAL NOTE "S" ON PAGE 2.



SHIM (AS REQD TO PROVIDE A LEVEL BEARING SURFACE FOR THE PALLET SKIDS). POSITION UNDER PALLET SKIDS. SEE GENERAL NOTE "S" ON PAGE 2.



SHIM LOCATION DETAIL