# STORAGE IN APPROVED MAGAZINES OF 155MM SEPARATE LOADING PROJECTILES, UNITIZED 8 ROUNDS PER 14-5/8" L X 29-1/8" W X 39-3/8" H PALLET UNIT

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THE PROCEDURES HEREIN APPLY TO STANDARD 37-7/8" H THRU 39-3/8" H PALLET UNITS.
HEIGHTS OF UNITS MAY VARY SLIGHTLY FROM THE DIMENSIONS SHOWN, HOWEVER, PROCEDURES
SPECIFIED HEREIN WILL APPLY.

U.S. ARMY MATERIEL COMMAND DRAWING				
APPROVED, U.S. ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND	DRAFTSMA	AN	I DEPPE	#** .
mot David a Pishoul	ENGINEER	7	M. DAEUMER	
SMCAR-ESK		ENGINEERING /ISION	Ida	- 1 Michel
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND	LOGISTICS ENGINEERING William FErnst			
William F Ernst	NOVEMBER 1991			
U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL	CLASS	DIVISION	DRAWING	FILE
REVISION NO. 3 DECEMBER 1993	19	48	4102/2	1-2-3-4-14
SEE THE REVISION LISTING ON PAGE 2	.5		7102/2	22PE1001

DO NOT SCALE

#### GENERAL NOTES

- THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE H. WITH AR 740-1, AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- 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 PALLET UNITS 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.
- CAUTION: THE ALLOWABLE "EXPLOSIVE LIMIT" ESTABLISHED FOR A MAGAZINE IS NOT TO BE EXCEEDED. STORAGE OF SOME SPECIFIC TYPES OF SEPARATE LOADING PROJECTILES MUST ALSO COMPLY WITH CURRENT DIRECTIVES AND OTHER REGULATORY REQUIREMENTS, IN ADDITION TO THOSE SPECIFIED IN THIS DRAWING.
- THREE (3) PALLET UNITS CAN BE HANDLED BY A FORKLIFT HHEE (3) PALLET UNITS LAN BE HANDLED BY A FORKLIFT TRUCK AS ONE LOAD, IF THE LENGTH OF THE FORK TINES IS ADEQUATE TO PROVIDE FULL-LENGTH OR NEARLY FULL-LENGTH BEARING UNDER THE LOAD BEING HANDLED. OTHER APPLICABLE SAFETY CONTROLS (DIRECTIVES, REGULATIONS, ECT.) MUST BE OBSERVED. SEE NOTE "G" BELOW FOR ADDITIONAL REQUIREMENTS.
- STACK-STABILIZING DUNNAGE PIECES CONSISTING OF 2" X 4"
  MATERIAL WILL BE USED BETWEEN LAYERS OF PALLET UNITS
  TO PROVIDE CLEARANCE FOR THE FORK TINES OF THE FORKLIFT
  TRUCK FOR SAFE PLACEMENT OR REMOVAL OF UPPER LAYER
  PALLET UNITS. USUALLY, MOST 2" X 4" DUNNAGE PIECES
  WILL BE 42" LONG, HOWEVER, SOME 27" LONG PIECES WILL
  BE REDUIRED TO ACHIEVE THE STORAGE ARRANGEMENTS
  DEPICTED IN THIS DRAWING.
- IN CONJUNCTION WITH THE SPECIFIED STACK-LEVELING WEDGES AND/OR STACK-STABILIZING DUNNAGE, ADDITIONAL STACK-STABILIZING DUNNAGE IN THE FORM OF "SHIMS" PROBABLY WILL BE REQUIRED TO ACHIEVE SOUND AND ACCEPTABLE STABLE STACKS. SHIM MATERIAL OF VARYING THICKNESSES WILL BE USED BETWEEN STACKED UNITS AS REQUIRED TO GAIN LEVEL OR NEARLY LEVEL STACKS AND SOLID BEARING WITHIN A STACK FROM THE FLOOR OF A MAGAZINE TO THE TOP OF THE STACK. ALSO, "SHIMS" WILL BE USED IN LIEU OF SPECIFIED WEDGES IN STEEL ARCH TYPE MAGAZINES BECAUSE THE FLOOR SLOPES FROM THE REAR WALL TOWARD THE FRONT WALL. ADDITIONALLY "SHIMS" CAN BE USED WITHIN A CONCRETE ARCH TYPE MAGAZINE INSTEAD OF THE SPECIFIED WEDGES, PROVIDING THE MAGAZINE FLOOR DOES NOT SLOPE MORE THAN 1-1/4" FROM THE CENTER TO A SIDEWALL. FROM THE CENTER TO A SIDEWALL.
- TO FACILITATE STABLE AND SAFE HANDLING, BY A FORKLIFT TRUCK, IN STACKING THESE NARROW PALLET UNITS,
  THREE (3) PALLET UNITS SHOULD BE BUNDLED TOGETHER
  WITH TWO (2) STRAPS AS SPECIFIED IN AMC DRAWING
  19-48-4076-20PE1001, REV. 1, TITLED "BUNDLING OF
  SEPARATE LOADING PROJECTILES FOR STORAGE AND TRANSPORT". OCCASIONALLY, PALLET UNITS WILL ARREADY BE
  BUNDLED WHEN THEY ARRIVE AT THE STORAGE LOCATION.
  THIS WILL NEGATE THE REOUIREMENT FOR BUNDLING UNITS
  PROVIDING THE UNITS ARE BUNDLED INTO THREE-PALLET
  BUNDLES WITH TWO (2) STRAPS AND ARE "ZINC COATED"
  STRAPS. LOOSE STRAPS SHOULD BE REPLACED. IN SOME
  INSTANCES, THE STORAGE PATTERN MAY REQUIRE SOME OF
  OF THE BUNDLED UNITS TO CONSIST OF ONLY TWO (2)
  PALLET UNITS AS IN "C" STACKS IN THE FRONTAL AREA
  OF A MAGAZINE AND FOR STORAGE IN CORBETTA MAGAZINES.
  BUNDLING STRAPS ARE NOT REQUIRED FOR PALLET UNITS
  STORED ONE—LAYER HIGH.

(GENERAL NOTES CONTINUED AT RIGHT)

#### MATERIAL SPECIFICATIONS

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

ASTM D3953; FLAT STRAPPING, TYPE 1, HEAVY DUTY, FINISH B (GRADE 2). STRAPPING, STEEL - -:

ASTM D3953; CLASS H, FINISH B (GRADE 2), DOUBLE NOTCH TYPE, STYLE I, II, OR IV. SEAL, STRAP ---:

#### (GENERAL NOTES CONTINUED)

- STORED PALLET UNITS MUST NOT CONTACT THE WALLS OF A MAGAZINE. TO PROVIDE FOR THIS MANDATORY CLEARANCE REQUIREMENT, UNITS MAY BE ELIMINATED FROM THE DEPICTED STORAGE PATTERN AS NECESSARY.
- AISLE DIMENSIONS SHOWN FOR STORAGE PROCEDURES IN MAGAZINES MAY BE ADJUSTED TO SUIT LOCAL CONDITIONS, VARIATIONS IN PALLET UNIT DIMENSIONS, AND/OR AVAILABLE MATERIALS HANDLING EQUIPMENT.
- THE MAXIMUM FLOOR LOAD FOR A MAGAZINE AS PRESCRIBED BY LOCAL STANDARDS WILL NOT BE EXCEEDED.
- PORTIONS OF THE MAGAZINES, SUCH AS SIDEWALLS, END WALLS, AND RODFS, HAVE NOT BEEN SHOWN IN THE STORAGE VIEWS FOR CLARITY PURPOSES.
- IF THE AVAILABLE MHE PERMITS, ADDITIONAL PALLETIZED UNITS MAY BE STORED WITHIN THE FRONTAL AREA AND/OR OTHER AVAILABLE AREA OF THE MAGAZINE.
- DUNNAGE LUMBER SPECIFIED THROUGHOUT THIS PROCEDURAL DRAWING IS OF NOMINAL SIZE. FOR EXAMPLE, 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE.
- STORAGE OF MULTIPLE LOTS IN A MAGAZINE WILL REQUIRE CAREFUL PREPLANNING SO AS TO ENSURE MHE ACCESSIBLITY TO ANY LOT IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE APPLICABLE "SPECIAL NOTES" SECTIONS OF THE MULTIPLE-LOT STORAGE PROCEDURES TYPICALLY SHOWN ON PAGE 22 THRU 28.
- SOME "LIGHT" PALLETIZED UNITS MAY BE OFFERED FOR STORAGE.
  A "LIGHT" PALLET UNIT WILL CONTAIN NOT LESS THAN FOUR
  (4) PROJECTILES; (ONE IN EACH CORNER). IF 9 ROUNDS OF PROJECTILES
  REMAIN IN A PRODUCTION RUN OR FROM A "LIGHT" SHIPMENT,
  TWO (2) "LIGHT PALLETS WILL BE OFFERED, ONE WITH FOUR
  (4) PROJECTILES AND ONE WITH FIVE (5) PROJECTILES, WHICH
  IS PERMISSIBLE FOR STORAGE AND SHIPMENT. PALLET UNITS
  SHOULD BE PROVIDED WITH PROPER AND SECURE BANDING FOR
  STABILITY AND WEIGHT DISTRIBUTION IN HANDLING FOR
  PLACEMENT IN STORAGE. "LIGHT" PALLET UNITS WILL NOT BE
  BURIED IN STORAGE. THEY MUST BE POSITIONED ADJACENT TO
  AN AISLE, PERFERABLY IN FRONT OF THE LOT.
- R. SEPARATE LOADING PROJECTILES PRESENTLY STORED IN ACCORDANCE WITH A PRIOR APPROVED 19-48 SERIES DRAWING NEED NOT BE RE-STORED SOLELY TO CONFORM TO THE PROCEDURES SPECIFIED IN THIS DOCUMENT.
- IF THE QUANTITY FOR A MAGAZINE IS TO BE REDUCED FROM WHAT IS SHOWN 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.

#### REVISIONS

REVISION NO. 1, DATED NOVEMBER 1991 CONSISTS OF:

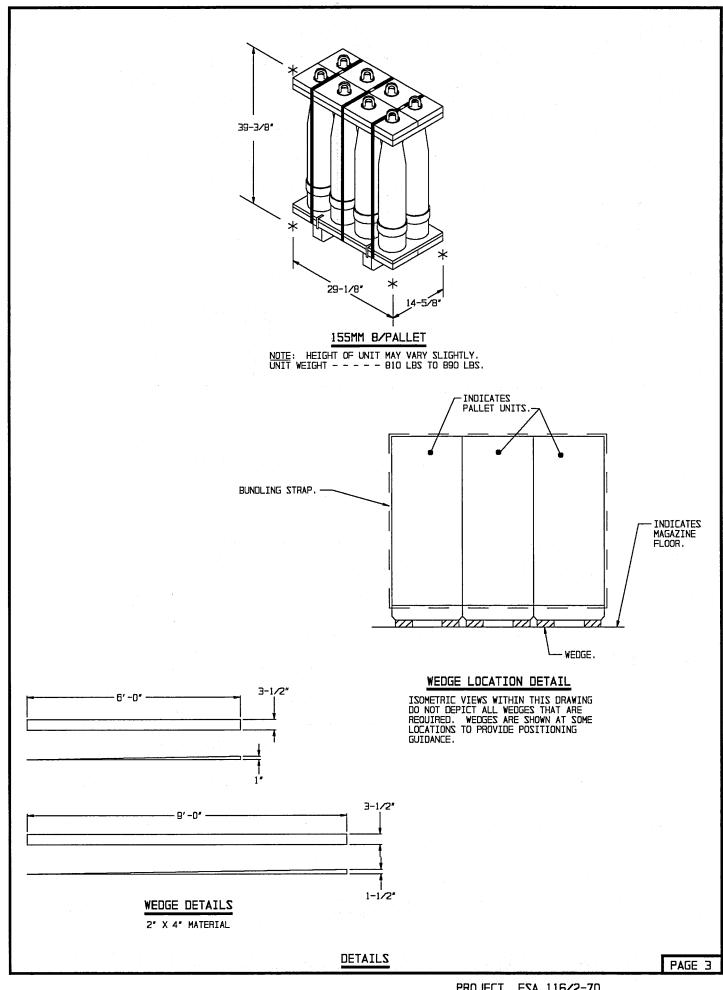
- REVISING GENERAL NOTES "D", "E", AND "G".
- ADDING MANDATORY REQUIREMENTS FOR BUNDLING UNITS WITH TWO (2) STRAPS.
- CHANGING STACK-STABLIZING DUNNAGE BETWEEN LAYERS FROM 1" X 4" MATERIAL TO 2" X 4" MATERIAL.
- UPDATING MATERIAL SPECIFICATIONS FOR STEEL STRAPPING AND SEALS.
- UPDATING DRAWING FORMAT.

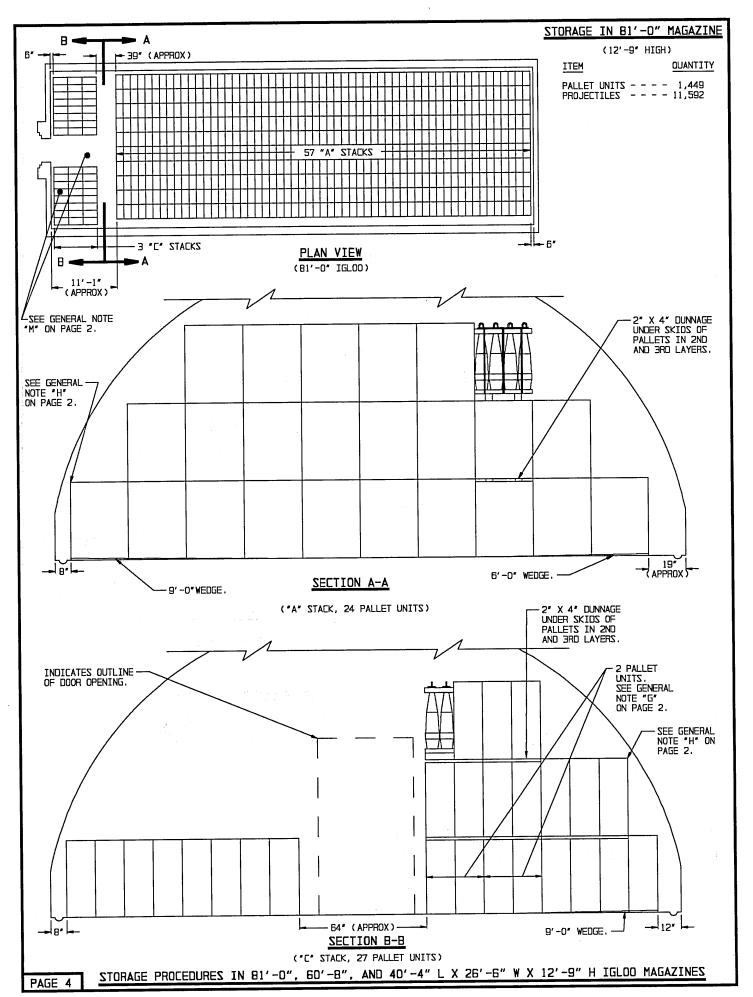
REVISION NO. 2, DATED JUNE 1993 CONSISTS OF:

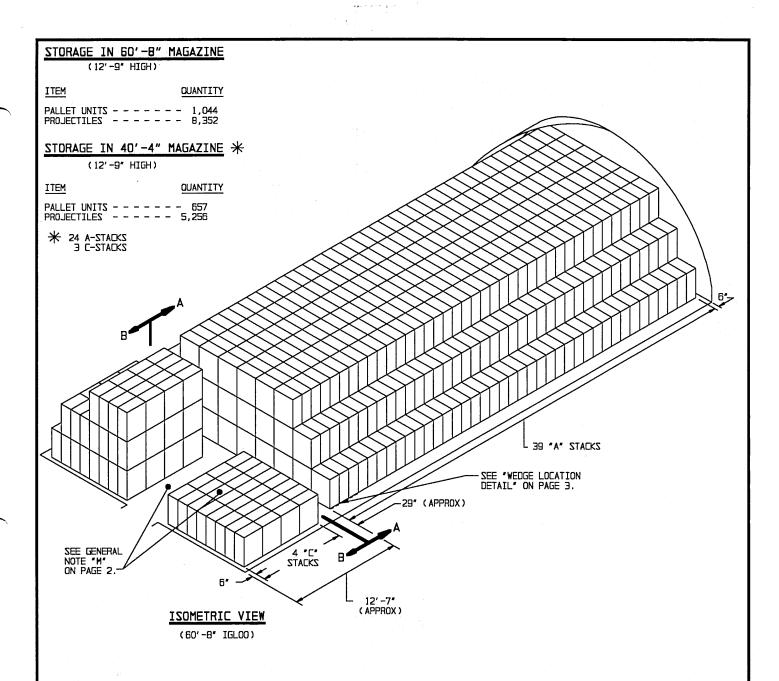
- 1. REVISING GENERAL NOTES "D", "F", AND "G".
- DELETING PROCEDURES FOR STORAGE IN OVAL ARCH AND STANDARD ABOVE GROUND MAGAZINES.
- ADDING PROCEDURES FOR STORAGE IN STEEL ARCH MAGAZINES ON PAGES 16 AND 17.
- DELETING "BUNDLING DETAIL" AND "SPECIAL NOTES" FROM PAGE 3.
- ADDING REFERANCE TO AMC DRAWING 19-48-4076-20PE1001, REV. 1, TO GENERAL NOTE "G" FOR BUNDLING PROCEDURES.
- CHANGING PAGE NUMBERS AS NECESSARY.

REVISION NO. 3, DATED DECEMBER 1993 CONSISTS OF:

- CHANGING GENERAL NOTE "Q" REGARDING "LIGHT" PALLETS.
- UPDATING MATERIAL SPECIFICATIONS FOR STEEL STRAPPING AND SEALS.







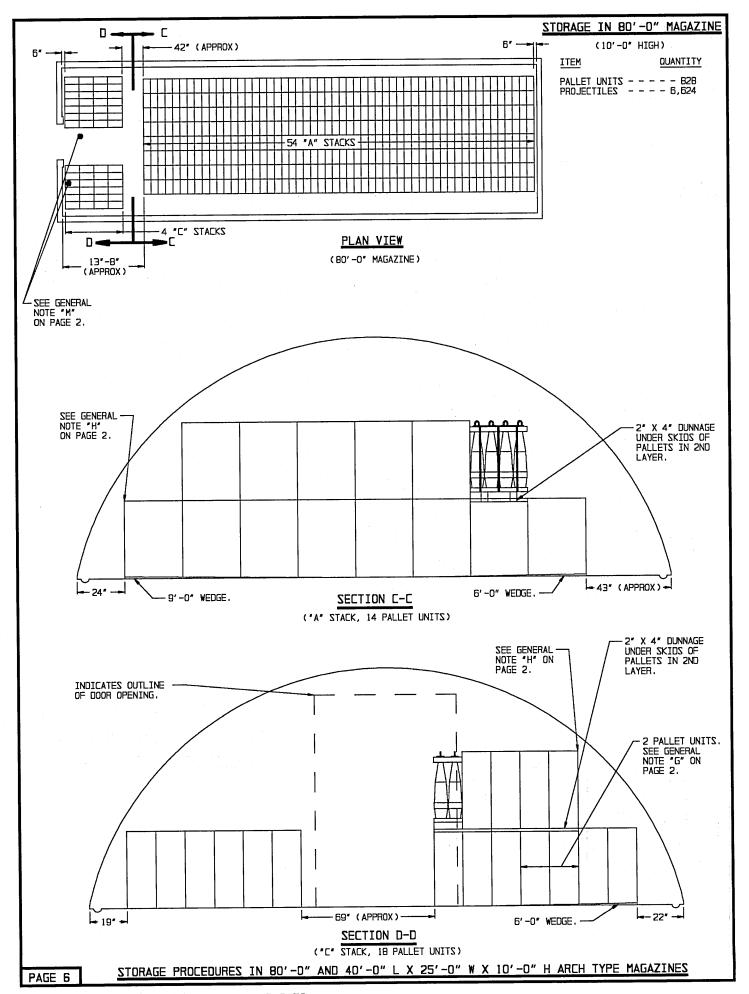
FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2. FOR "WEDGE DETAILS" SEE PAGE 3.

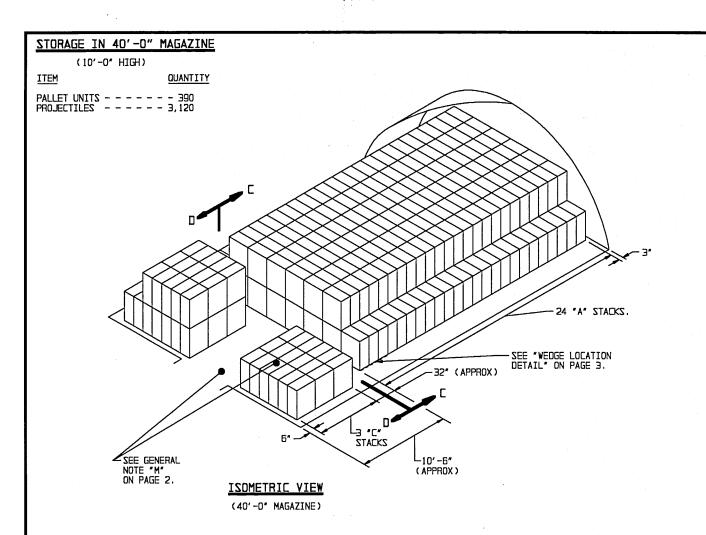
PAGE 5

BILL OF MATERIAL (PER STACK)				
TYPE	WEDGES		2" X 4" DUNNAGE LUMBER来:	
STACK	6' -0"	9' -0 <b>"</b>	LINEAR FEET	BOARD FEET
Α	2 REOD	2 REOD	32.67	21.78
С		2 REOD	25.00	16.67

 $\ensuremath{\mbox{\#}}\ensuremath{\mbox{\#}}\ensuremath{\mbox{SEE}}$  GENERAL NOTES "E" AND "F" ON PAGE 2.

STORAGE PROCEDURES IN 81'-0", 60'-8" AND 40'-4" L X 26'-6" W X 12'-9" H IGLOO MAGAZINES

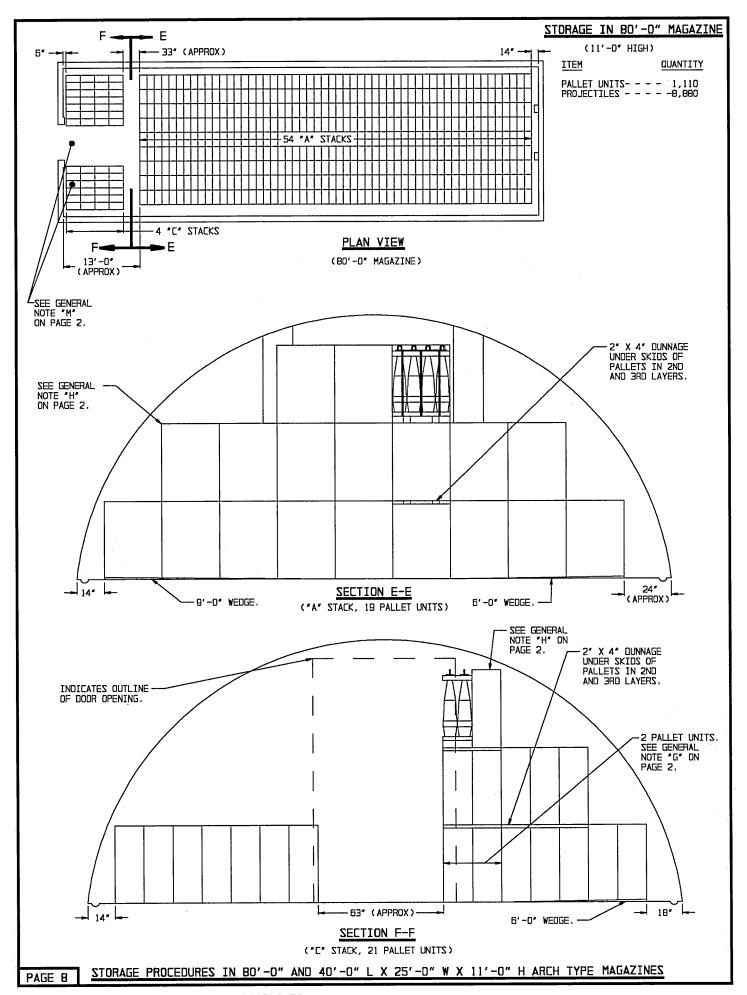


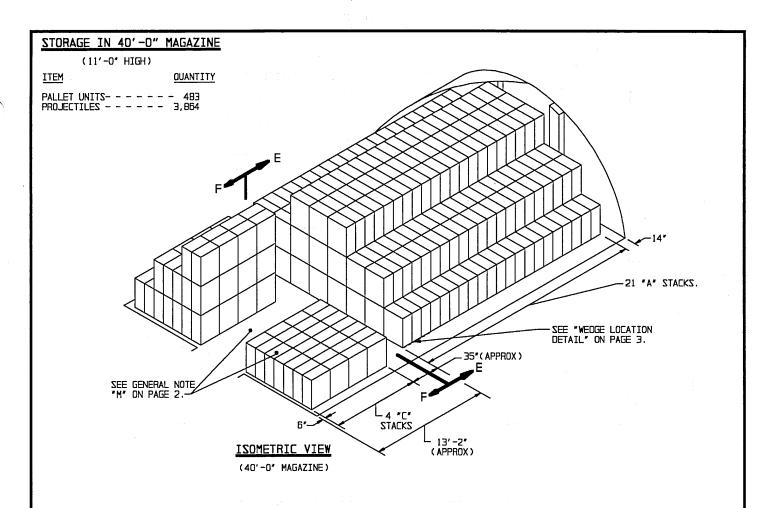


FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2. FOR "WEDGE DETAILS" SEE PAGE 3.

BILL OF MATERIAL (PER STACK)				
TYPE STACK			2" X 4" DUNN/	AGE LUMBER *
STACK	6' -0 <b>"</b>	9'-0 <b>"</b>	LINEAR FEET	BOARD FEET
Α	2 REQD	2 REQD	14.00	9.33
С	2 REQD		11.50	7.67

\* SEE GENERAL NOTES "E" AND "F" ON PAGE 2.

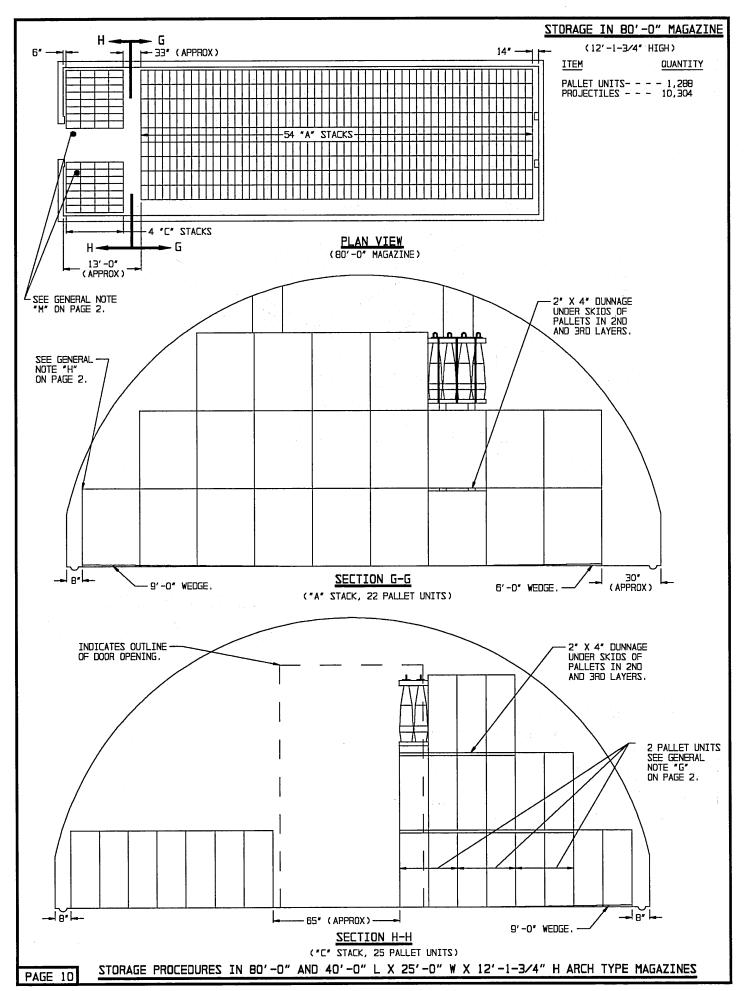


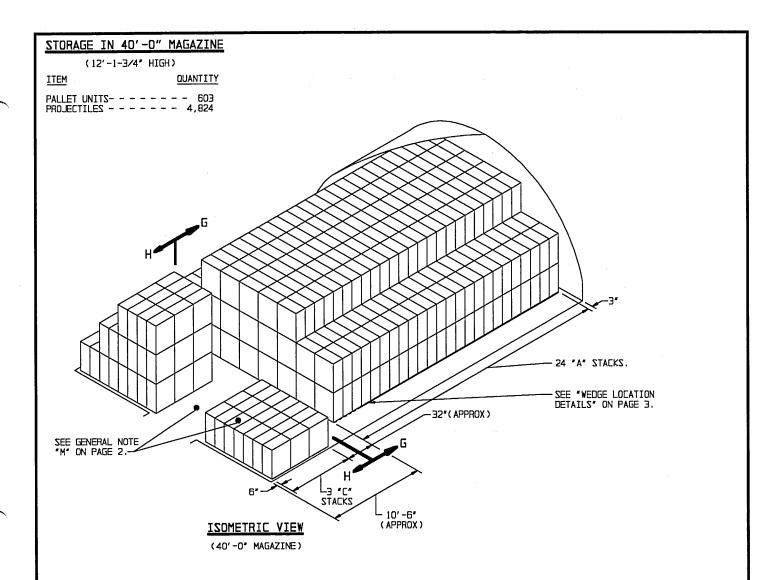


FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2. FOR "WEDGE DETAILS", SEE PAGE 3.

	BILL OF MATERIAL (PER STACK)			
TYPE	WEDGES		2" X 4" DUNN	AGE LUMBER *
STACK	6′ -0 <b>*</b>	9'-0"	LINEAR FEET	BOARD FEET
Α	2 REQD	2 REQD	23.33	15.55
С	2 REQD		16.00	10.67

<sup>\*</sup> SEE GENERAL NOTES "E" AND "F" ON PAGE 2.



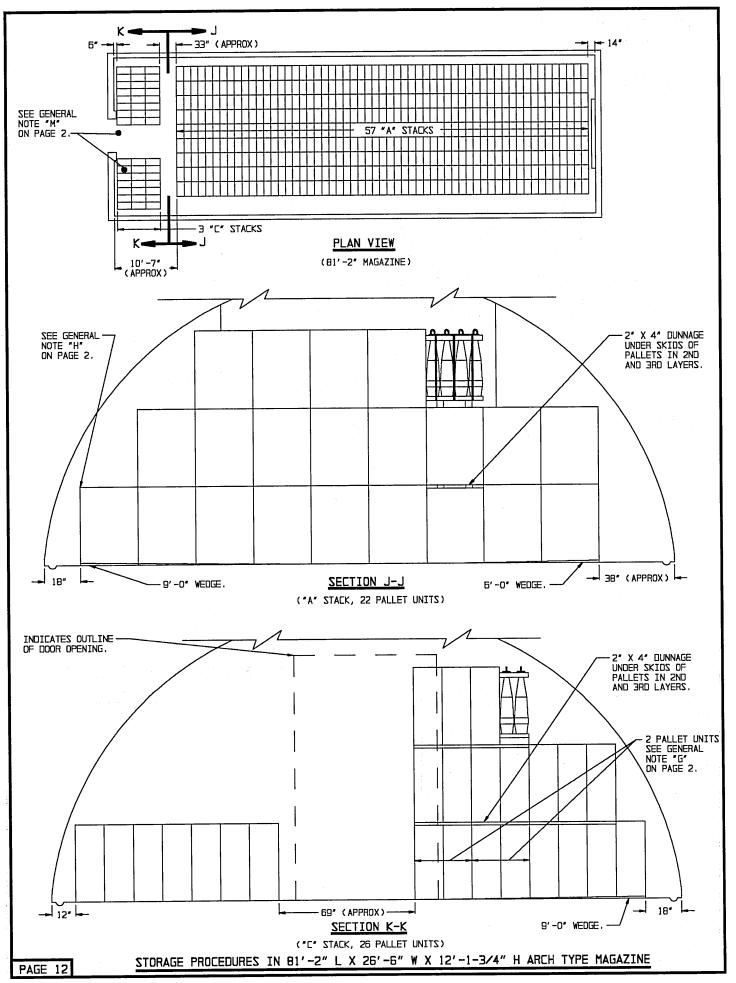


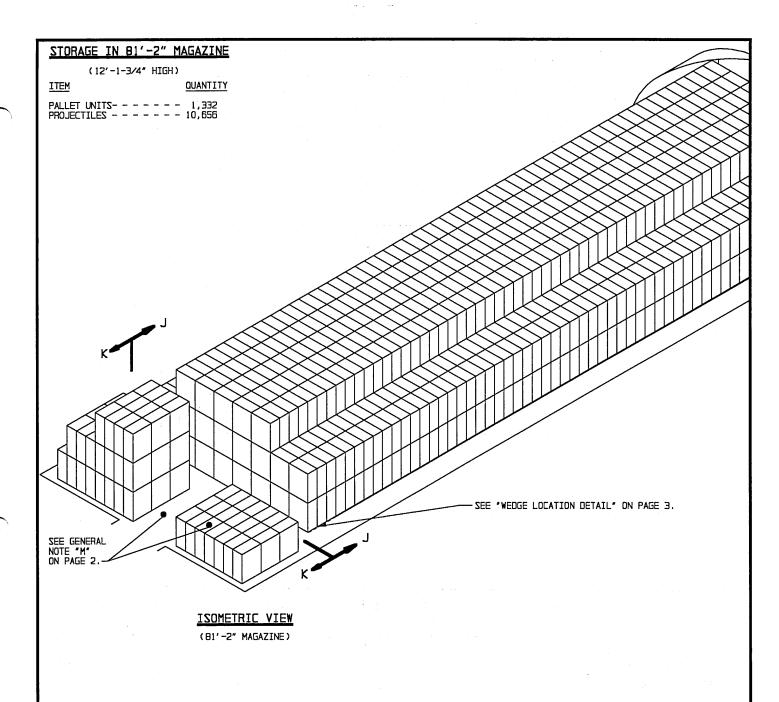
BILL OF MATERIAL (PER STACK)				
TYPE	WEDGES		2" X 4" DUN	IAGE LUMBER *
STACK	6' <b>-</b> 0"	9' -0"	LINEAR FEET	BOARD FEET
Α	2 REOD	2 REOD	30.33	20.22
С		2 REQD	22.50	15.00

\* SEE GENERAL NOTES "E" AND "F" ON PAGE 2.

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2. FOR "WEDGE DETAILS", SEE PAGE 3.

STORAGE PROCEDURES IN BO'-O" AND 40'-O" L X 25'-O" W X 12'-1-3/4" H ARCH TYPE MAGAZINES



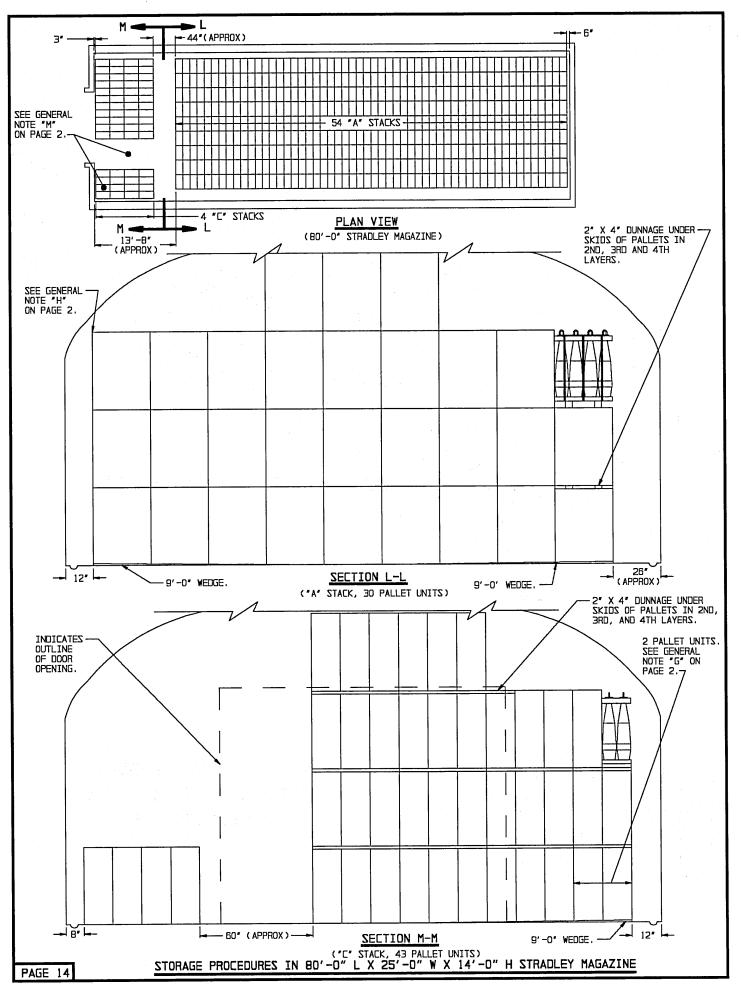


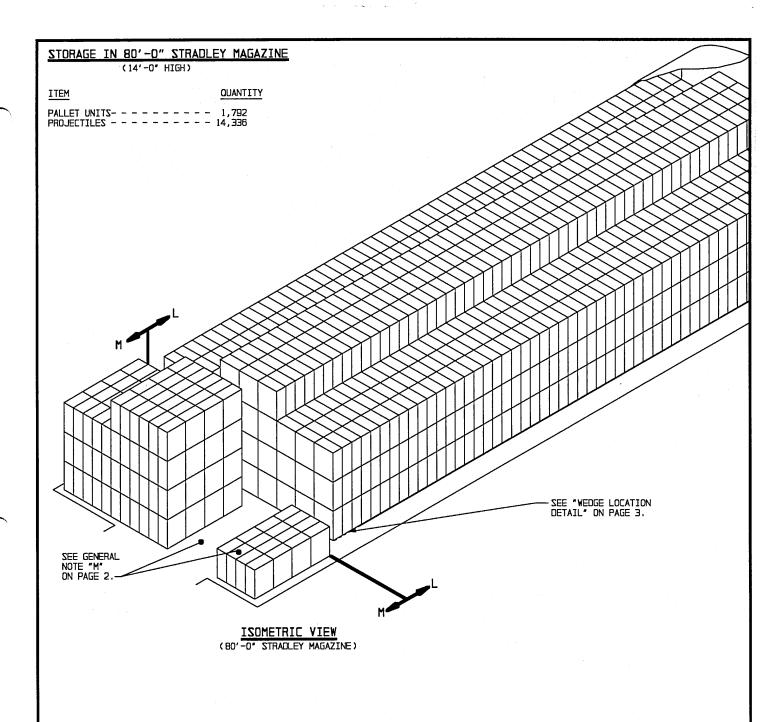
BILL OF MATERIAL (PER STACK)				
TYPE			2" X 4" DUNN	AGE LUMBER *
STACK	6' -0"	9' -0"	LINEAR FEET	BOARD FEET
Α	2 REOD	2 REOD	30.33	20.22
С		2 REOD	25.00	16.67

\* SEE GENERAL NOTES "E" AND "F" ON PAGE 2.

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2. FOR "WEDGE DETAILS" SEE PAGE 3.

STORAGE PROCEDURES IN 81'-2" L X 26'-6" W X 12'-1-3/4" H ARCH TYPE MAGAZINE



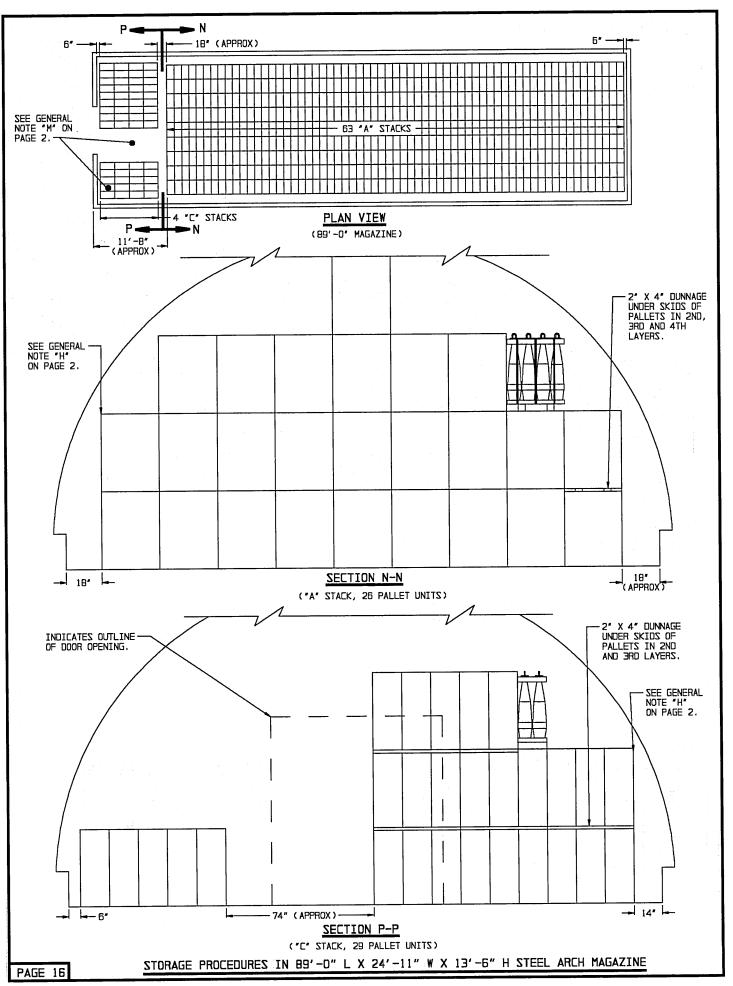


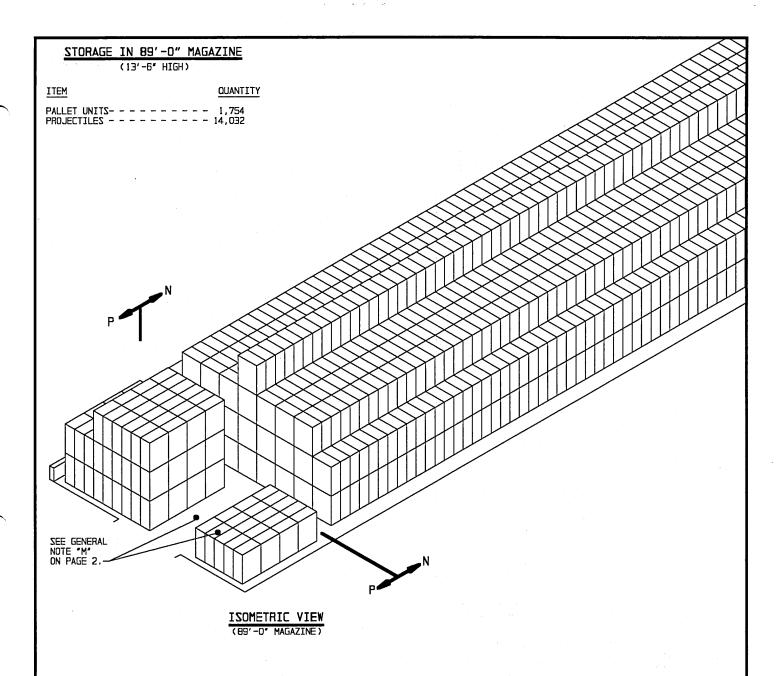
BILL OF MATERIAL (PER STACK)			
WEDGES 2" X 4" DU		NAGE LUMBER *	
9' -0 <b>"</b>	LINEAR FEET	BOARD FEET	
4 REOD	49.00	32.67	
2 REOD	65.00	43.33	
	WEDGES 9'-0" 4 REOD	WEDGES 2" X 4" DUN 9'-0" LINEAR FEET 4 REOD 49.00	

# SEE GENERAL NOTES "E" AND "F" ON PAGE 2.

FOR "GENERAL NOTES" AND "MATERIAL SPECIFICATIONS", SEE PAGE 2. FOR "WEDGE DETAILS" SEE PAGE 3.

STORAGE PROCEDURES IN 80'-0" L X 25'-0" W X 14'-0" H STRADLEY MAGAZINE



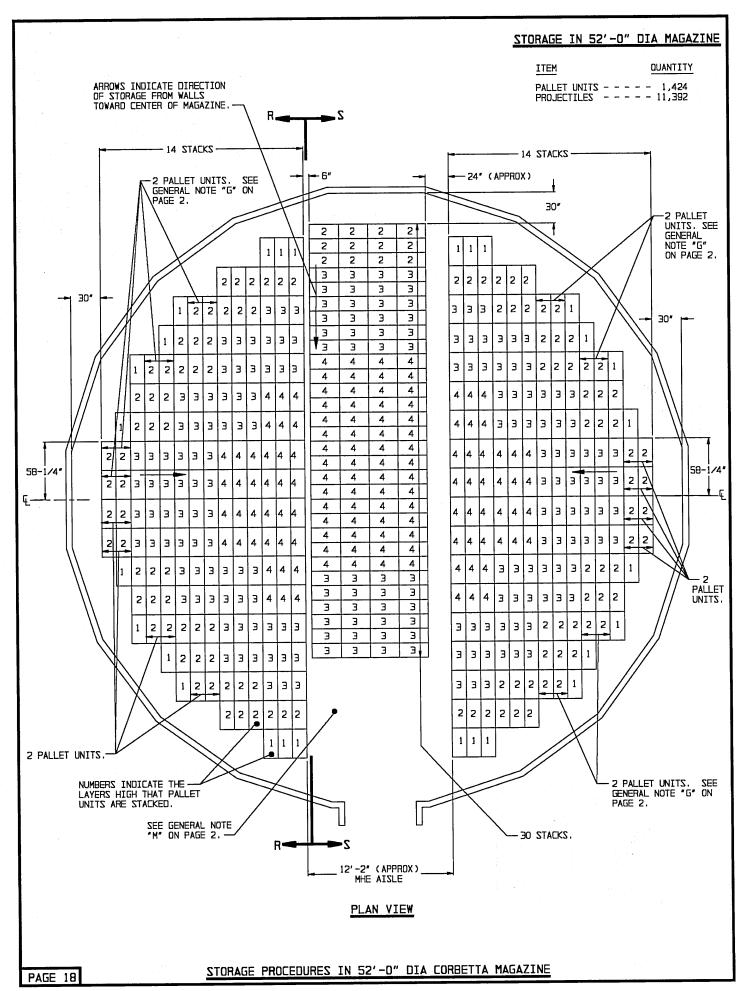


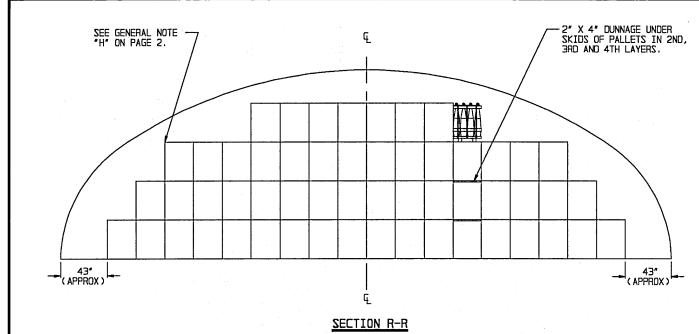
FOR "GENERAL NOTES", AND "MATERIAL SPECIFICATIONS", SEE PAGE 2.

BILL OF MATERIAL (PER STACK)				
ZTALK TYPE	2" X 4" DUNNAGE LUMBER *			
J	LINEAR FEET BOARD F			
A	39.67	26.58		
С	35.00	23.45		

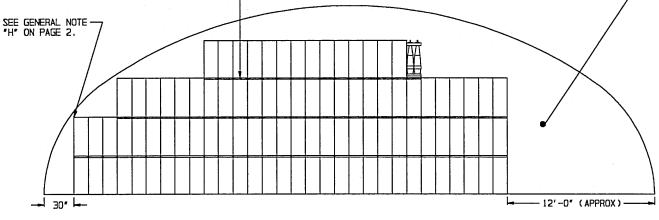
# SEE GENERAL NOTES "E" AND "F" ON PAGE 2.

STORAGE PROCEDURES IN 89'-0" L X 24'-11" W X 13'-6" H STEEL ARCH MAGAZINE





## 2" X 4" DUNNAGE UNDER SKIDS OF PALLETS IN 2ND, 3RD AND 4TH LAYERS. ONLY ONE OF THE ROWS OF PALLET UNITS IS SHOWN IN THIS SECTION. UNITS LOCATED IN AD JACENT ROWS OR STACKS HAVE NOT BEEN SHOWN FOR CLARITY PURPOSES.— SENERAL NOTE IN PAGE 2.



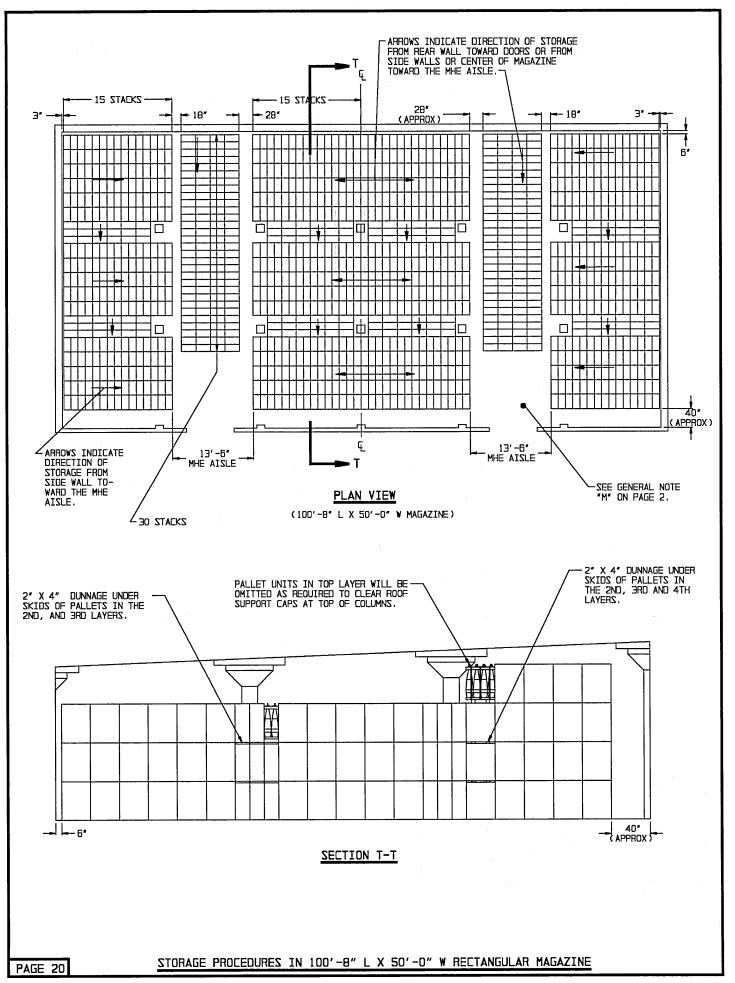
SECTION S-S

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

BILL O	MATERIAL (PER	PALLET STACK)
STACK HETGHT	2" X 4" DUNNAI	GE LUMBER *
	LINEAR FEET	BOARD FEET
2 3 4	2.33 4.66 7.00	1.55 3.11 4.67

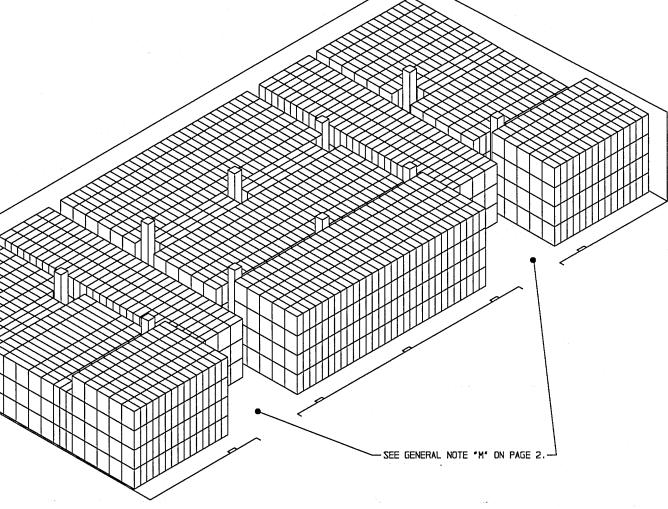
\* SEE GENERAL NOTES "E" AND "F" ON PAGE 2.

STORAGE PROCEDURES IN 52'-0" DIA CORBETTA MAGAZINE



#### STORAGE IN 100'-B" X 50'-0" MAGAZINE





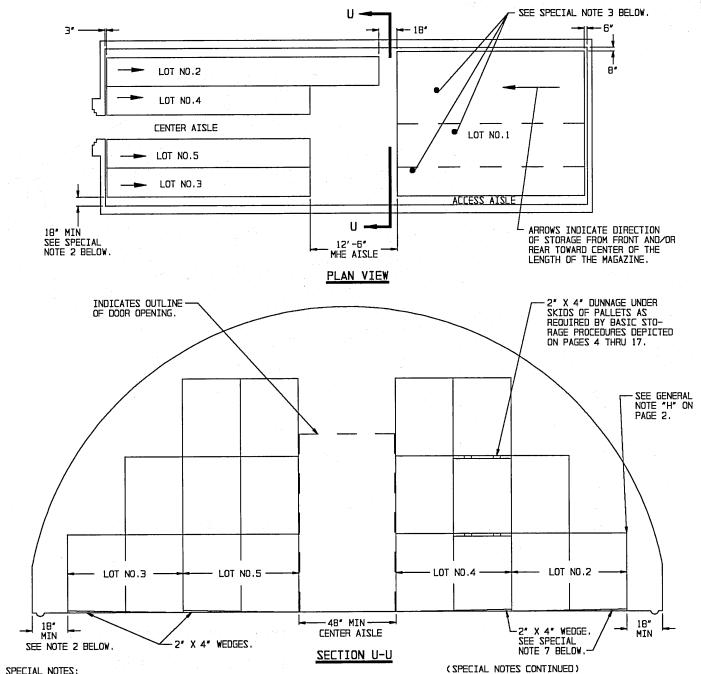
### ISOMETRIC VIEW (100'-8" L X 50'-0" W MAGAZINE)

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

BILL OF MATERIAL (PER PALLET STACK)		
STACK	2" X 4" DUNNAGE LUMBER *	
11.220111	LINEAR FEET	BOARD FEET
3 4	4.66 7.00	3.11 4.67

# SEE GENERAL NOTES "E" AND "F" ON PAGE 2.

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



#### SPECIAL NOTES:

- 1. THE STORAGE PLANS AND CONFIGURATIONS SHOWN ON THIS PAGE ARE TYPICAL ONLY AND APPLY TO RELATIVELY LARGE LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGA-ZINE REQUIRE.
- 2. AN INSPECTION/INVENTORY AISLE MUST BE PROVIDED AT ONE SIDE OR END OF EACH LOT.
- 3. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OF GENERALLY, THE LANGEST LOT SHOULD BE STONED IN THE MEAN OF THE MAGAZINE. HOWEVER, THE REAR AREA MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING ROWS SIMILAR TO THOSE SHOWN IN THE FRONTAL AREA. A CENTER AISLE WILL NOT BE REQUIRED IN THE REAR AREA AS LONG AS EACH LOT IS ACCESSIBLE FOR REMOVAL AND INSPECTION/INVENTORY IN ACCORDANCE WITH OTHER CRITERIA SPECIFIED IN THESE SPECIAL NOTES AND IN THE GENERAL NOTES ON PAGE 2.
- 4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. A SINGLE-LOT OF PALLET UNITS IS CONSIDERED "ACCESSIBLE" IF NO MORE THAN TWELVE (12) "LIFTS" OF ANOTHER LOT OR LOTS

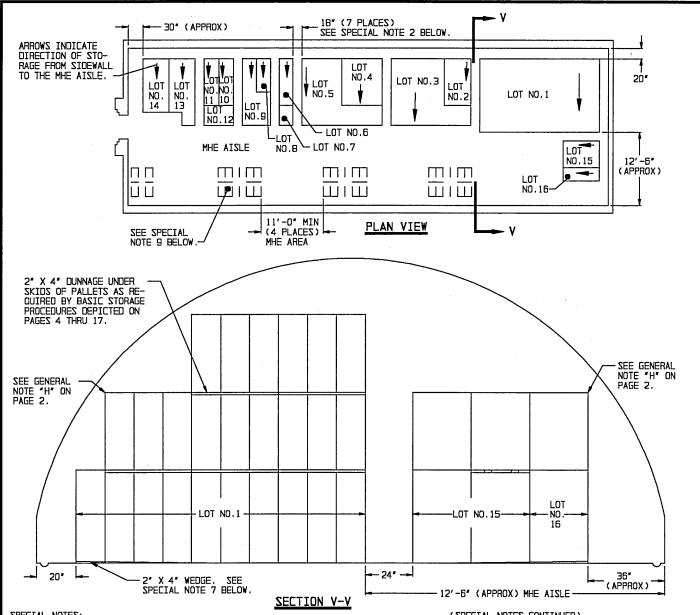
HAVE TO BE MADE TO GAIN ACCESS TO THAT LOT. THE TERM "LIFT" MEANS HANDLING AND MOVING NOT MORE THAN THREE (3) PALLET UNITS OF PROJECTILES AT ONE TIME.

- 5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDE-MALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR
- 6. EACH LOT MUST BE STORED TWO (2) UNITS (MINIMUM) WIDE TO ACCOMMODATE WIDTH OF MHE DURING OPERATIONS, EXCEPT FOR FOR A ROW ADJACENT TO A CENTER AISLE.
- 7. LENGTH OF 2" X 4" WEDGES WILL BE DETERMINED BY THE WIDTH OF THE LOT IN ROWS. WEDGES WILL NOT EXTEND INTO THE AISLES OR UNDER ADJACENT LOTS.
- 8. 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.

(SPECIAL NOTES CONTINUED AT RIGHT).

PAGE 22

TYPICAL MULTIPLE-LOT STORAGE IN IGLOO AND ARCH TYPE MAGAZINES



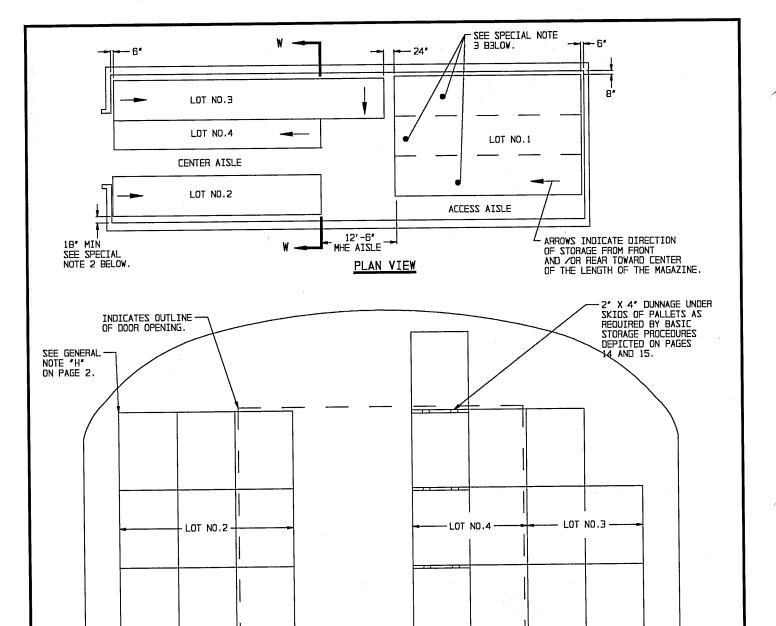
#### SPECIAL NOTES:

- THE STORAGE PLANS AND CONFIGURATIONS SHOWN ON THIS PAGE ARE TYPICAL ONLY AND APPLY TO STORAGE OF NUMEROUS SMALL LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
- 2. AN INSPECTION/INVENTORY AISLE NOT LESS THAN 18" WIDE MUST BE PROVIDED AT ONE SIDE OF EACH "BURIED" LOT.
- 3. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OF THE MAGAZINE. HOWEVER, THE REAR AREA 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.
- 4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. A SINGLE-LOT OF PALLET UNITS IS CONSIDERED "ACCESSIBLE" IF NO MORE THAN TWELVE (12) "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THAT LOT. THE TERM "LIFT" MEANS HANDLING AND MOVING NOT MORE THAN THREE (3) PALLET UNITS OF PROJECTILES AT ONE TIME.
- 5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
- 6. EACH LOT MUST BE STORED TWO (2) UNITS (MINIMUM) WIDE TO ACCOMMODATE WIDTH OF MHE DURING OPERATIONS, EXCEPT FOR A ROW ADJACENT TO AN INSPECTION/INVENTORY AISLE.

(SPECIAL NOTES CONTINUED AT RIGHT).

- (SPECIAL NOTES CONTINUED)
- 7. LENGTH OF 2" X 4" WEDGES WILL BE DETERMINED BY THE WIDTH
  OF THE LOT IN ROWS. WEDGES WILL NOT EXTEND INTO THE
  AISLES OR UNDER ADJACENT LOTS.
- 8. 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.
- 9. AREAS INCLOSED BY DOTTED LINES INDICATE LOCATIONS WHERE ADDITIONAL LOTS OR ITEMS MAY BE STORED, THAT ARE FROM THE LOT OR LOTS WHICH ARE DIRECTLY OR ALMOST DIRECTLY ACROSS THE CENTER AISLE ON THE OTHER SIDE OF THE MAGAZINE. COMPLIANCE WITH ALL OF THE MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED. THE SIZE OF THE LOTS BEING STORED AND THE CRITERIA OF SPECIAL NOTE 4, RELATIVE TO "12 LIFTS", WILL BE BE MAJOR FACTORS IMPACTING ON THE NUMBER OF UNIT LOADS THAT CAN BE STORED IN AN "ADDITIONAL STORAGE LOCATION". MORE OR FEWER STACKS THAN SHOWN MAY BE STORED AT ANY ONE OF THE ADDITIONAL STORAGE LOCATIONS. AN 11-FOOT MHE OPERATING AREA HAS BEEN SPECIFIED FOR ACCESS TO EACH "ADDITIONAL LOCATION" BY FORKLIFT TRUCK. THIS OPERATING AREA IS BASED ON REQUIREMENTS OF FORKLIFT TRUCKS COMMONLY USED IN STORAGE MAGAZINES. THE MHE OPERATING AREA CAN BE ENLARGED AS REQUIRED TO SUIT AVAILABLE FORKLIFT TRUCKS AND SHOULD BE MADE SMALLER IF AVAILABLE FOREITH TRUCKS AND SHOULD BE MADE SMALLER IF STORAGE ON ONE SIDE OF A MAGAZINE AND AN "ADDITIONAL STORAGE LOCATION" IS TO BE AT LEAST 48 INCHES WIDE. AN AISLE SLIGHTLY WIDER THAN 48 INCHES WILL ENHANCE FORKLIFT TRUCK MOVEMENT WITHIN A MAGAZINE; HOWEVER, THIS AISLE SHOULD NOT BE MADE WIDER IF A LOSS IN STORAGE RESULTS.

TYPICAL MULTIPLE-LOT STORAGE IN IGLOO AND ARCH TYPE MAGAZINES



CENTER AISLE

SECTION W-W

#### SPECIAL NOTES:

18"

MIN

SEE SPECIAL NOTE 2 BELOW.

 THE STORAGE PLANS AND CONFIGURATIONS SHOWN ON THIS PAGE ARE TYPICAL ONLY AND APPLY TO RELATIVELY LARGE LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGA-ZINE REQUIRE.

-2" X 4" WEDGE.

- 2. AN INSPECTION/INVENTORY AISLE MUST BE PROVIDED AT ONE SIDE OR END OF EACH LOT.
- 3. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OF THE MAGAZINE. HOWEVER, THE REAR AREA MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING ROWS SIMILAR TO THOSE SHOWN IN THE FRONTAL AREA. A CENTER AISLE WILL NOT BE RECUIRED IN THE REAR AREA AS LONG AS EACH LOT IS ACCESSIBLE FOR REMOVAL AND INSPECTION/INVENTORY IN ACCORDANCE WITH OTHER CRITERIA SPECIFIED IN THESE SPECIAL NOTES AND IN THE GENERAL NOTES ON PAGE 2.
- 4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. A SINGLE-LOT OF PALLET UNITS IS CONSIDERED "ACCESSIBLE" IF NO MORE THAN TWELVE (12) "LIFTS" OF ANOTHER LOT OR

#### (SPECIAL NOTES CONTINUED)

2" X 4" WEDGES SEE SPECIAL NOTE 7 BELOW.

LOTS HAVE TO BE MADE TO GAIN ACCESS TO THAT LOT. THE TERM "LIFT" MEANS HANDLING AND MOVING NOT MORE THAN THREE (3) PALLET UNITS OF PROJECTILES AT ONE TIME.

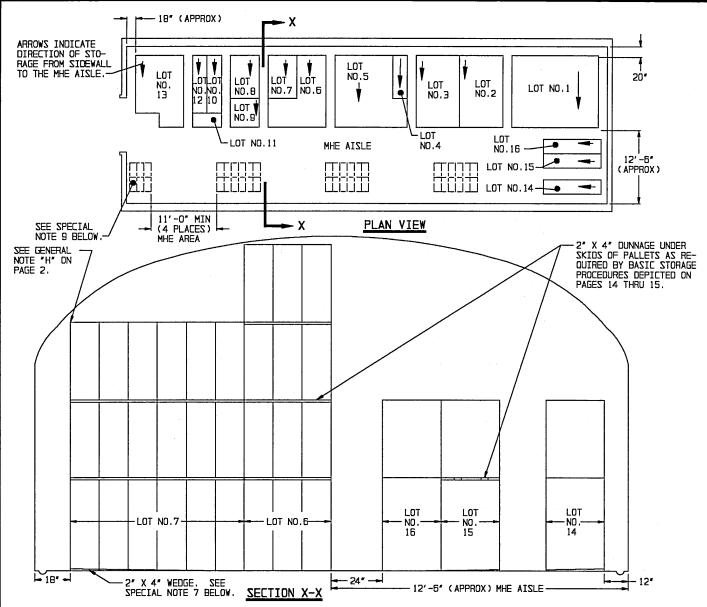
-18" MIN

- 5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDE-WALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHF.
- 6. EACH LOT MUST BE STORED TWO (2) UNITS (MINIMUM) WIDE TO ACCOMMODATE WIDTH OF MHE DURING OPERATIONS, EXCEPT FOR FOR A ROW ADJACENT TO A CENTER AISLE.
- 7. LENGTH OF 2" X 4" WEDGES WILL BE DETERMINED BY THE WIDTH OF THE LOT IN ROWS. WEDGES WILL NOT EXTEND INTO THE AISLES OR UNDER ADJACENT LOTS.
- B. 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.

(SPECIAL NOTES CONTINUED AT RIGHT).

PAGE 24

TYPICAL MULTIPLE-LOT STORAGE IN STRADLEY MAGAZINE



#### SPECIAL NOTES:

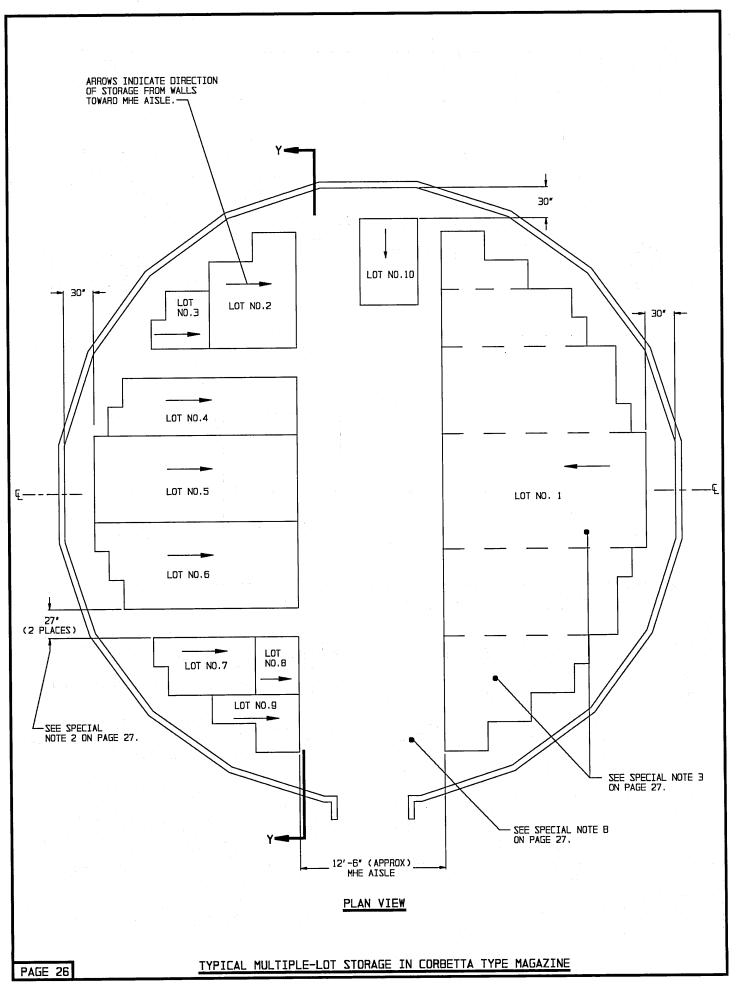
- 1. THE STORAGE PLANS AND CONFIGURATIONS SHOWN ON THIS PAGE ARE TYPICAL ONLY AND APPLY TO STORAGE OF NUMEROUS SMALL LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
- 2. AN INSPECTION/INVENTORY AISLE NOT LESS THAN 18" WIDE MUST BE PROVIDED AT ONE SIDE OF EACH "BURIED" LOT.
- 3. GENERALLY, THE LARGEST LOT SHOULD BE STORED IN THE REAR OF THE MAGAZINE. HOWEVER, THE REAR AREA 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.
- 4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. A SINGLE-LOT OF PALLET UNITS IS CONSIDERED "ACCESSIBLE" IF NO MORE THAN TWELVE (12) "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THAT LOT. THE TERM "LIFT" MEANS HANDLING AND MOVING NOT MORE THAN THREE (3) PALLET UNITS OF PROJECTILES AT ONE TIME.
- 5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE SIDEWALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
- 6. EACH LOT MUST BE STORED TWO (2) UNITS (MINIMUM) WIDE TO ACCOMMODATE WIDTH OF MHE DURING OPERATIONS, EXCEPT FOR A ROW ADJACENT TO AN INSPECTION/INVENTORY AISLE.

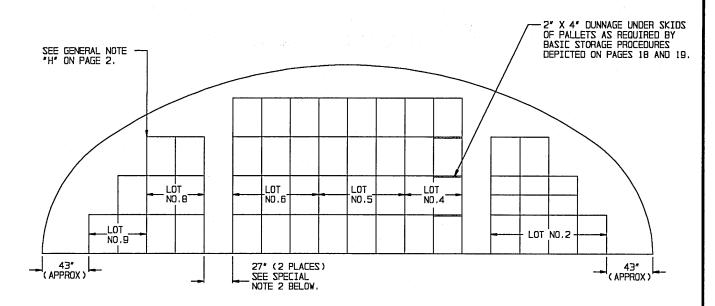
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#### (SPECIAL NOTES CONTINUED)

- LENGTH OF 2" X 4" WEDGES WILL BE DETERMINED BY THE WIDTH OF THE LOT IN ROWS. WEDGES WILL NOT EXTEND INTO THE AISLES OR UNDER ADJACENT LOTS.
- B. 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.
- AREAS INCLOSED BY DOTTED LINES INDICATE LOCATIONS WHERE ADDITIONAL LOTS OR ITEMS MAY BE STORED, THAT ARE FROM THE LOT OR LOTS WHICH ARE DIRECTLY OR ALMOST DIRECTLY ACROSS THE CENTER AISLE ON THE OTHER SIDE OF THE MAGAZINE. COMPLIANCE WITH ALL OF THE MULTIPLE-LOT CRITERIA AS SET FORTH ON THIS PAGE MUST BE OBSERVED. THE SIZE OF THE LOTS BEING STORED AND THE CRITERIA OF SPECIAL NOTE 4, RELATIVE TO "12 LIFTS", WILL BE MAJOR FACTORS IMPACTING ON THE NUMBER OF UNIT LOADS THAT CAN BE STORED IN AN "ADDITIONAL STORAGE LOCATION". MORE OR FEWER STACKS THAN SHOWN MAY BE STORED AT ANY ONE OF THE ADDITIONAL STORAGE LOCATIONS. AN 11-FOOT MHE OPERATING AREA HAS BEEN SPECIFIED FOR ACCESS TO EACH "ADDITIONAL LOCATION" BY FORKLIFT TRUCK. THIS OPERATING AREA IS BASED ON REQUIREMENTS OF FORKLIFT TRUCKS COMMONLY USED IN STORAGE MAGAZINES. THE MHE OPERATING AREA CAN BE ENLARGED AS REQUIRED TO SUIT AVAILABLE FORKLIFT TRUCKS AND SHOULD BE MADE SMALLER IF AVAILABLE FORKLIFT TRUCKS AND SHOULD BE MADE SMALLER IF AVAILABLE OR FERMITS. A "CENTER AISLE" (SPACE BETWEEN STORAGE LOCATION" IS TO BE AT LEAST 48 INCHES WIDE. AN AISLE SLIGHTLY WIDER THAN 48 INCHES WILL ENHANCE FORKLIFT TRUCK MOVEMENT WITHIN A MAGAZINE; HOWEVER, THIS AISLE SHOULD BE MADE SWALLER.

TYPICAL MULTIPLE-LOT STORAGE IN STRADLEY MAGAZINE



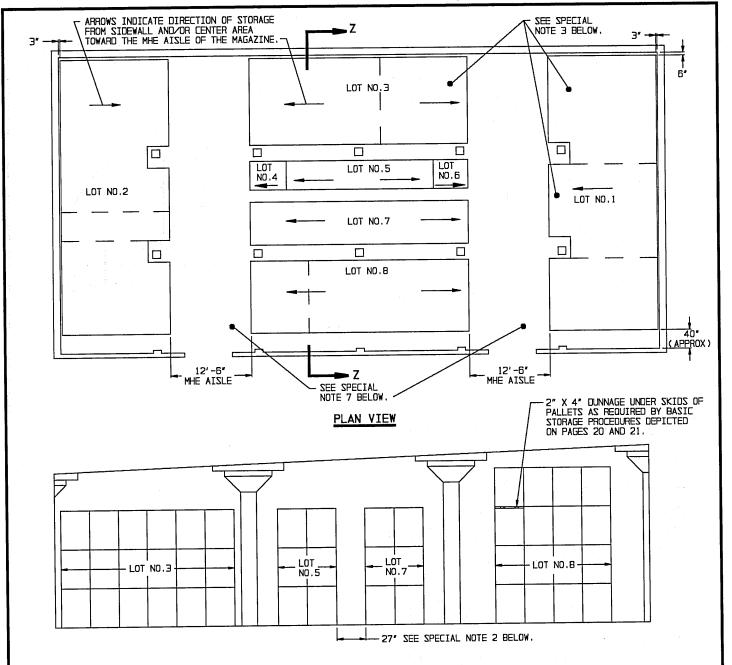


#### SECTION Y-Y

#### SPECIAL NOTES:

- 1. THE STORAGE PLANS AND CONFIGURATIONS SHOWN ARE TYPICAL ONLY AND APPLY TO RELATIVELY LARGE LOTS. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED TO MAGAZINE REDUITE.
- 2. AN INSPECTION/INVENTORY AISLE NOT LESS THAN 18" WIDE MUST BE PROVIDED AT ONE SIDE OF EACH "BURIED" LOT.
- 3. GENERALLY, THE LARGEST LOT SHOULD BE STORED ON ONE SIDE OF THE MAGAZINE. HOWEVER, BOTH SIDES MAY BE USED TO STORE MORE THAN ONE LOT BY ERECTING ROWS SIMILAR TO THOSE SHOWN ON THE LEFT SIDE. EACH ADDITIONAL 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.
- 4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. A SINGLE-LOT OF PALLET UNITS IS CONSIDERED "ACCESSIBLE" IF NO MORE THAN TWELVE (12) "LIFTS" OF ANOTHER LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THAT LOT. THE TERM "LIFT" MEANS HANDLING AND MOVING NOT MORE THAN THREE (3) PALLET UNITS OF PROJECTILES AT ONE TIME.
- 5. FOR STORAGE OF MULTIPLE LOTS, THE DISTANCE FROM THE WALL WILL BE BASED ON THE OVERHEAD CLEARANCE REQUIRED FOR MHE.
- 6. EACH LOT MUST BE STORED TWO (2) UNITS (MINIMUM) WIDE TO ACCOM-MODATE WIDTH OF THE MHE DURING OPERATIONS, EXCEPT FOR A ROW ADJACENT TO AN INSPECTION/INVENTORY AISLE.
- 7. 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.
- B. THE MHE AISLE MAY BE USED TO STORE ONE OR MORE STACKS OF ADDITIONAL LOTS OR ADDITIONAL ITEMS THAT ARE FROM A LOT ADJACENT TO THE MHE AISLE. THIS ADDITIONAL STORAGE IS TO BE ARRANGED IN A MANNER SIMILAR TO ARRANGEMENTS DEPICTED ON PAGES 23 AND 25 FOR THE "ADDITIONAL STORAGE LOCATIONS" (SHOWN BY DOTTED LINES). ADEQUATE SPACE FOR MHE OPERATION, AS DESCRIBED ON PAGES 23 AND 25, 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.

TYPICAL MULTIPLE-LOT STORAGE IN CORBETTA TYPE MAGAZINE



#### SECTION Z-Z

#### SPECIAL NOTES:

- 1. THE STORAGE PLANS SHOWN ARE TYPICAL ONLY. ADAPTATIONS MAY BE MADE AS NUMBER AND SIZES OF LOTS TO BE STORED IN MAGAZINE REQUIRE.
- 2. AN INSPECTION/INVENTORY AISLE NOT LESS THAN 18" WIDE MUST BE PROVIDED AT ONE SIDE OF EACH "BURIED" LOT.
- 3. 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 ROWS SIMILAR TO THOSE SHOWN IN THE CENTER AREA OR AS TYPICALLY INDICATED BY DOTTED LINES. EACH ADDITIONAL 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.
- 4. EACH LOT WITHIN THE MAGAZINE MUST BE ACCESSIBLE FOR MOVEMENT BY MHE. A SINGLE-LOT OF PALLET UNITS IS CONSIDERED "ACCES-SIBLE" IF NO MORE THAN TWENTY-FOUR (24) "LIFTS" OF ANOTHER

(SPECIAL NOTES CONTINUED AT RIGHT).

#### (SPECIAL NOTES CONTINUED).

LOT OR LOTS HAVE TO BE MADE TO GAIN ACCESS TO THAT LOT, THE TERM "LIFT" MEANS HANDLING AND MOVING NOT MORE THAN THREE (3) PALLET UNITS OF PROJECTILES AT ONE TIME.

- 5. 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.
- 6. EACH LOT MUST BE STORED TWO (2) UNITS (MINIMUM) WIDE TO ACCOMMODATE WIDTH OF MHE DURING OPERATIONS, EXCEPT FOR A ROW ADJACENT TO AN INSPECTION/INVENTORY AISLE.
- 7. THE MHE AISLE MAY BE USED TO STORE ONE OR MORE STACKS OF ADDITIONAL LOTS OR ADDITIONAL ITEMS THAT ARE FROM A LOT ADJACENT TO THE MHE AISLE. THIS ADDITIONAL STORAGE IS TO BE ARRANGED IN A MANNER SIMILAR TO ARRANGEMENTS DEPICTED ON PAGES 23 AND 25 FOR THE "ADDITIONAL STORAGE LOCATIONS" (SHOWN BY DOTTED LINES). ADEQUATE SPACE FOR MHE OPERATION, AS DESCRIBED ON PAGES 23 AND 25, 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.

TYPICAL MULTIPLE-LOT STORAGE IN RECTANGULAR MAGAZINE