# PATRIOT

# STORAGE IN APPROVED MAGAZINES OF COMPLETE ROUND IN MISSILE CANISTER (SHIPPING, STORAGE AND LAUNCH CONTAINER), W/O OVERPACK● AND W/OVERPACK

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● CANISTERS ARE SHOWN WITH THE ISOLATION FRAME ASSEMBLIES IN THE NORMAL POSITION, WHICH IS WITH THE WOODEN SKIDS PROTRUDING. THE PROCEDURES MAY ALSO BE USED FOR STORAGE OF CANISTERS WHICH HAVE THE ISOLATION FRAME ASSEMBLIES IN THE REVERSE POSITION. SEE GENERAL NOTE "N" ON PAGE 2.

THIS DRAWING, INCLUDING REVISION NO. 1, SUPERSEDES DRAWING 19-48-5242-GM1-3-4-14-22-PA1 DATED MAY 1983.

| REVISIONS | | | | DRAFTSMAN: RB / dh | PROJ ENG: RHA/WRF | AMSMI-LC-MM-DP: |
|---|---|---|---|---|---|---|
| | | | | DESIGNER: RB / | LAB ENGR SUPVR: W.F. Ernst | |
| 1 | OCT 85 | WRF WRF | Geo Sutton William F Ernst | APPROVED, U.S. ARMY MISSILE COMMAND: Geo Sutton | | |
| | | | | APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND (AMC): William F. Ernst, U.S. ARMY REPLACES ADMINISTRATIVE CENTER AND SCHOOL | | |
| | | | | U.S. ARMY AMC DRAWING | | |
| | | | | OCTOBER 1985 | | |
| | | | | CLASS: 19 | DIVISION: 48 | DRAWING: 5242 | FILE: GM1-3-4 14-22-PA |

DO NOT SCALE

PROJECT GM 705-77

## 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. FOR DETAILS OF THE CANISTER SEE DRAWING NUMBER 11450000, AND "CANISTER DETAIL" ON PAGE 3.

CANISTER DIMENSIONS — 234" LONG X 42-3/8" WIDE X 38-3/4" HIGH.
GROSS WEIGHT ---------- 3,750 LBS ( APPROX ).

FOR DETAILS OF THE OVERPACK ( FOR CANISTER ) SEE DRAWING NUMBER D-SARAC-4500, AND "OVERPACK DETAIL" ON PAGE 3.

OVERPACK DIMENSIONS --------248" LONG X 47-1/4" WIDE X 49-3/4" HIGH.
GROSS WEIGHT ( W/CANISTER ) -5,268 LBS ( APPROX ).

C. THIS ITEM IS A ( 08 ) 1.2 QD CLASS ITEM AND IS IN COMPATIBILITY GROUP E. CAUTION: THE ITEM IS IN A "PROPULSIVE STATE" AND CANISTERS MUST BE STORED WITH THE FORWARD END FACING TOWARD THE REAR WALL AND/OR ONE SIDEWALL OF THE MAGAZINE, NOT TOWARD THE DOOR/FRONT WALL.

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 THE ITEM 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. STORED CANISTERS MUST NOT CONTACT THE WALLS OF A MAGAZINE. TO PROVIDE FOR THIS MANDATORY CLEARANCE REQUIREMENT, THE SPACE AT THE SIDEWALLS OF THE MAGAZINE MAY BE ADJUSTED ACCORDINGLY OR A CANISTER MAY BE OMITTED FROM A DEPICTED STACKING PATTERN AS NECESSARY.

F. AISLE DIMENSIONS AS SHOWN HEREIN MAY BE ADJUSTED TO SUIT LOCAL CONDITIONS AND/OR AVAILABLE MATERIAL HANDLING EQUIPMENT ( MHE ). HOWEVER, AN ACCESS AISLE IS REQUIRED AT THE REAR OF THE CANISTER FOR INSPECTION PURPOSES.

G. ACCOMPLISHING STORAGE AS SHOWN THROUGHOUT THIS DRAWING IS DEPENDENT ON THE CAPABILITY OF THE INSTALLATION INVOLVED TO HANDLE THE ITEMS WITHIN THE MAGAZINES WITH APPROPRIATELY SIZED MHE.

H. ADDITIONAL ITEMS MAY BE STORED IN THE FRONTAL AREA OF THE MAGAZINE IF AVAILABLE MATERIALS HANDLING EQUIPMENT PERMITS.

J. PORTIONS OF THE MAGAZINES, SUCH AS SIDEWALLS, END WALLS, AND ROOFS, HAVE NOT BEEN SHOWN IN THE STORAGE VIEWS FOR CLARITY PURPOSES.

K. 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.

L. THE STORAGE PROCEDURES SHOWN ON PAGES 6, 7, 10, 11, 14, 18, 22, 28, 29, 34 THRU 37, AND 44 THRU 51 ARE BASED ON MAXIMUM SPACE UTILIZATION OF THE MAGAZINES. HOWEVER, END-HANDLING OF CANISTER STACKS WILL BE REQUIRED FOR FINAL POSITIONING IN EITHER ALL OF THE ROWS OR SOME OF THE ROWS AT ONE SIDE OF A MAGAZINE. THE HEIGHT OF THE CANISTER-STACKS TO BE END-HANDLED WILL BE DEPENDENT UPON THE MHE AND THE HANDLING CAPABILITIES OF THE INSTALLATION INVOLVED AND MAY THEREFORE, REDUCE THE QUANTITY OF CANISTERS THAT CAN BE STORED IN A MAGAZINE.

( CONTINUED AT RIGHT )

( GENERAL NOTES CONTINUED )

M. IF FRONT/SIDE FORKLIFT TRUCKS ARE AVAILABLE FOR USE, IT IS RECOMMENDED THAT PATRIOT MISSILE CANISTERS BE STORED IN MAGAZINES WITH DOOR OPENINGS GREATER THAN 6 FEET WIDE WHENEVER POSSIBLE, I E., 7'-6", 8'-0", 8'-1", 10'-0" AND 12'-0" WIDE. THESE DOOR WIDTHS WILL ENABLE A TRUCK, FORKLIFT, FRONT/SIDE LOADING TO PICK UP A PATRIOT MISSILE CANISTER BY IT'S FORK POCKETS AND SIDE CARRY IT THROUGH THE DOOR OPENING AND PLACE IT INTO STORAGE. THE FORKLIFT FRONT/SIDE LOADING 4000/2500-POUND CAPACITY OR 4000/3000-POUND CAPACITY CAN SAFELY LIFT AND CARRY 4000 POUNDS IN THE SIDE-CARRY POSITION UP TO A HEIGHT OF 6 FEET. ABOVE 6 FEET THE FORKLIFT IS RATED AT THE REDUCED CAPACITY OF 2500 AND 3000 POUNDS, RESPECTIVELY. BECAUSE OF THIS HEIGHT RESTRICTION, THE FORKLIFT TRUCKS IDENTIFIED ABOVE ARE LIMITED TO TWO-HIGH STACKING OF CANISTERS W/O OVERPACK WHEN NEARLY PARALLEL TO A STACK: I E., THE FIRST STACK NEXT TO AN AISLE. AFTER THE FIRST STACK IS REMOVED, THERE IS SPACE TO APPROACH THE SECOND STACK IN A STRAIGHT AHEAD POSITION FOR UP TO FULL LIFT HEIGHT HANDLING. CANISTERS WITH OVERPACK CAN ONLY BE HANDLED BY 6000/6000-POUND CAPACITY FRONT/SIDE LOADING FORKLIFTS. THIS FORKLIFT HAS 6000 POUND LIFT CAPACITY TO FULL LIFT HEIGHT IN THE SIDE CARRY POSITION TO ENABLE FULL STACKING OF CANISTERS W/O OVERPACK AND CANISTERS W/OVERPACK. STORAGE PROCEDURES ON PAGES 24, 25, 42, AND 43 ARE SPECIFICALLY DESIGNED FOR STORAGE BY FRONT/SIDE LOADING FORKLIFT TRUCKS. NOTE THAT FRONT/SIDE LOADING FORKLIFT TRUCKS CAN ALSO BE USED TO ACCOMPLISH STORAGE IN ACCORDANCE WITH ANY OF THE STORAGE METHODS DELINEATED HEREIN.

N. IF THE MISSILE CANISTER HAS THE SHOCK ISOLATION FRAME ASSEMBLIES REVERSED, ( THE WOODEN SKIDS EXTENDING UNDER THE BODY OF THE CANISTER RATHER THAN PROTRUDING ), THE OVERALL LENGTH OF THE CANISTER WILL BE REDUCED FROM 234" TO 219". THE PROCEDURES SHOWN IN THIS DRAWING WILL BE USED, HOWEVER, IT WILL BE POSSIBLE TO STORE MORE CANISTERS IN SOME MAGAZINES. AS AN EXAMPLE, IT WILL BE POSSIBLE TO STORE 87 CANISTERS RATHER THAN THE 83 AS SHOWN IN THE 89' OVAL ARCH MAGAZINE ON PAGES 26 AND 27. ALSO, THE NUMBER OF CANISTERS STORED IN THE TYPE IV BUNKER MAGAZINE AS SHOWN ON PAGES 48 AND 49 MAY BE INCREASED.

O. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY, THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4 MM, AND ONE POUND EQUALS 0.454 KG.

## MATERIAL SPECIFICATIONS

LUMBER ---------- : SEE TM 743-200-1, DUNNAGE LUMBER; FED SPEC MM-L-751.

NAILS ---------- : FED SPEC FF-N-105, COMMON.

STRAPPING, STEEL ----- : CLASS 1, TYPE I OR IV, HEAVY DUTY, FINISH A OR B ( GRADE 2 ), OR C; FED SPEC QQ-S-781.

SEAL, STRAP ---------- : TYPE D, STYLE I , II , OR IV , CLASS H; FED SPEC QQ-S-781.

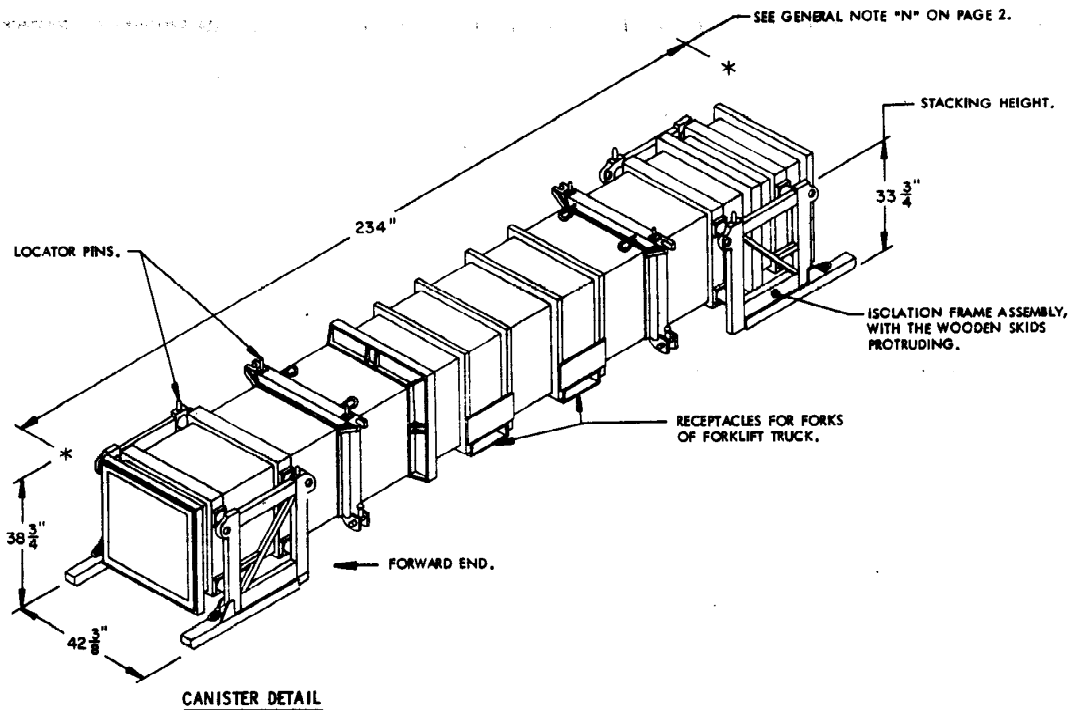
PALLET---------- : STYLE I, TYPE I, CLASS I, MIL SPEC MIL-P-15011. NSN 3990-00-935-7826.

## REVISIONS

REVISION NO. 1, DATED OCTOBER 1985, CONSISTS OF:

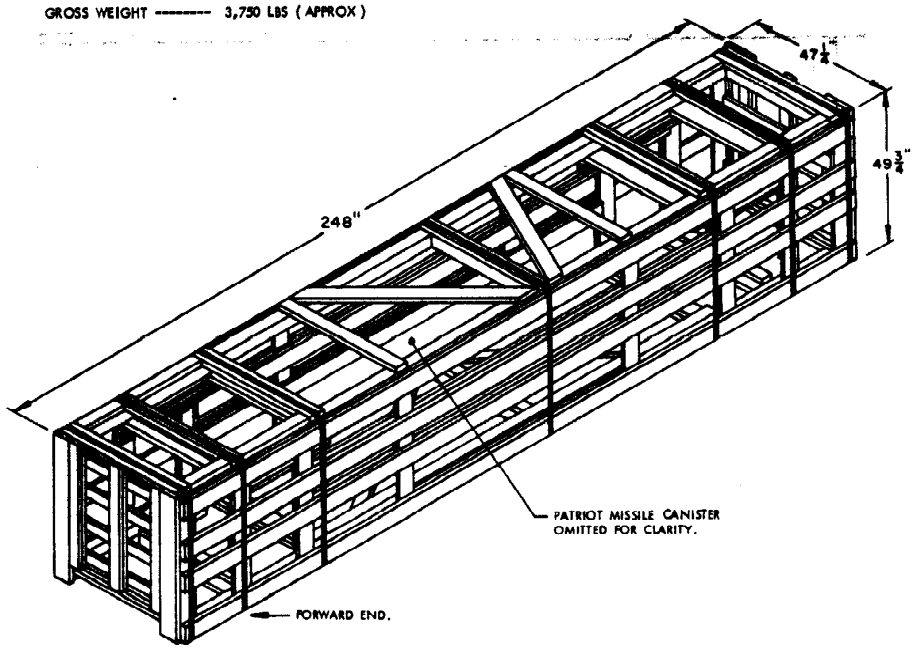
1. CHANGING THE STORAGE PATTERNS ON PAGES 5, 13, 17, 19, 21, AND 34 THRU 37 TO PROVIDE FOR SUFFICIENT SPACE TO CHECK THE HUMIDITY INDICATORS ON THE AFT END OF THE CONTAINERS.

2. CHANGING THE QD CLASS FROM A 1.1 TO A ( 08 ) 1.2.



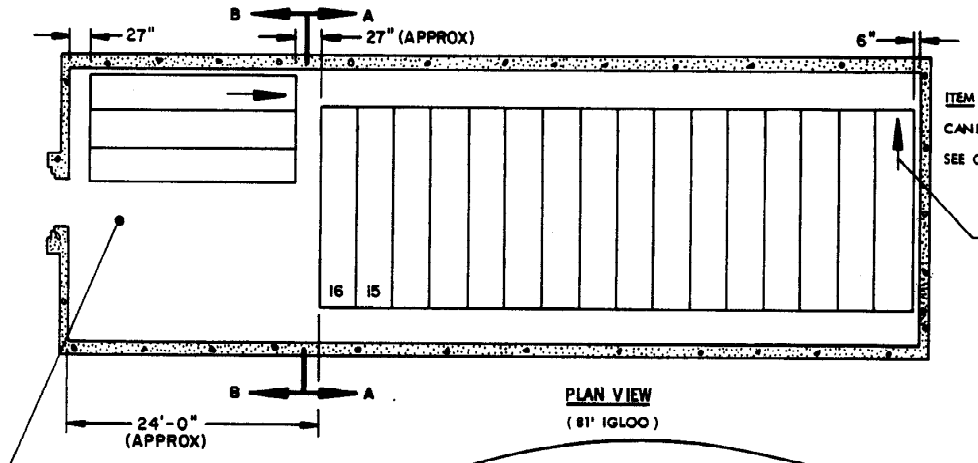

CANISTER DETAIL

GROSS WEIGHT -------- 3,750 LBS ( APPROX )




OVERPACK DETAIL

GROSS WEIGHT OF CANISTER WITH OVERPACK ---- 5,268 LBS ( APPROX )

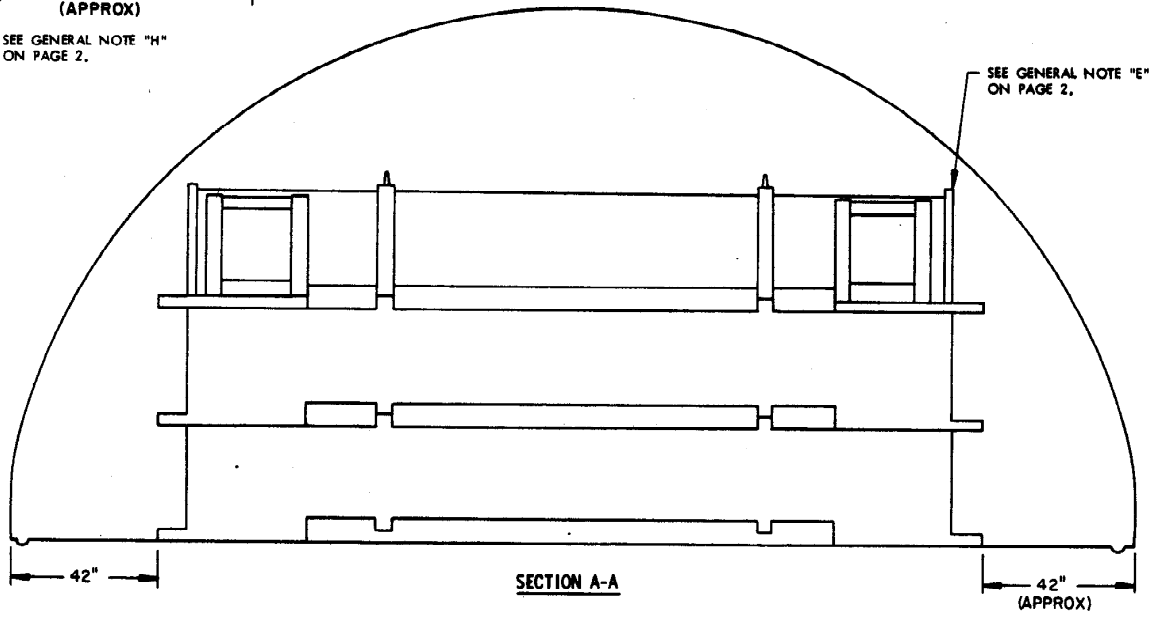



**STORAGE IN 81'-0" IGLOO**

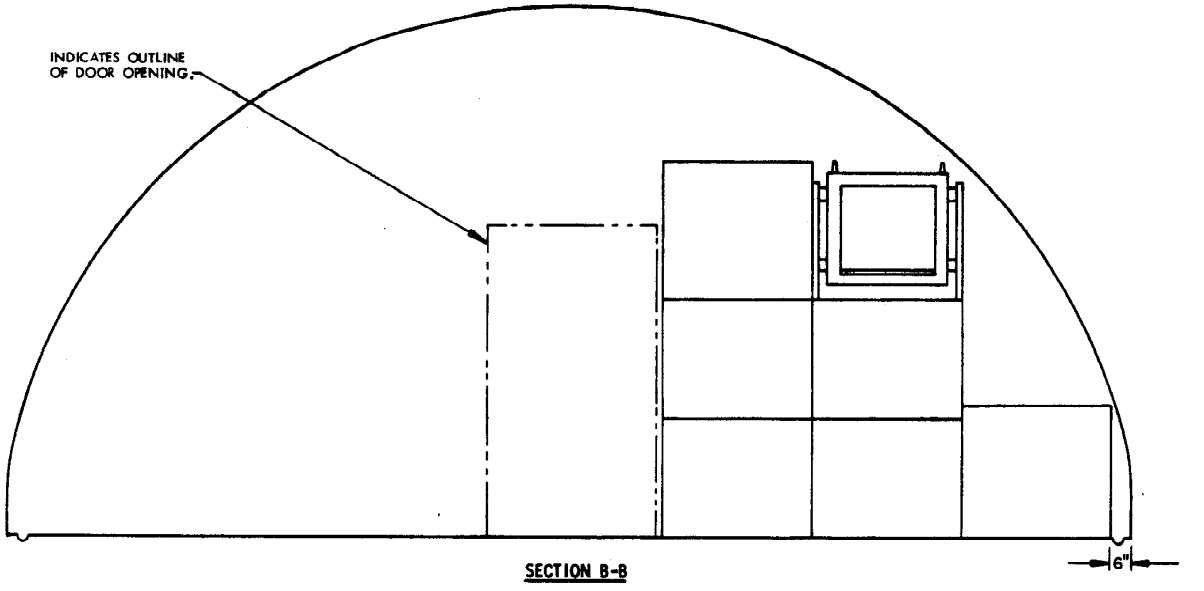
| ITEM | QUANTITY |
|---|---|
| CANISTER (W/O OVERPACK) | 55 |

SEE GENERAL NOTE "K" ON PAGE 2.

PLAN VIEW
(81' IGLOO)




SECTION A-A




SECTION B-B



STORAGE PROCEDURES FOR CANISTER (W/O OVERPACK) IN 81'-0", 60'-8" AND 40'-4" L X 26'-6" W X 12'-9" HIGH IGLOO MAGAZINES

PROJECT GM 705-77

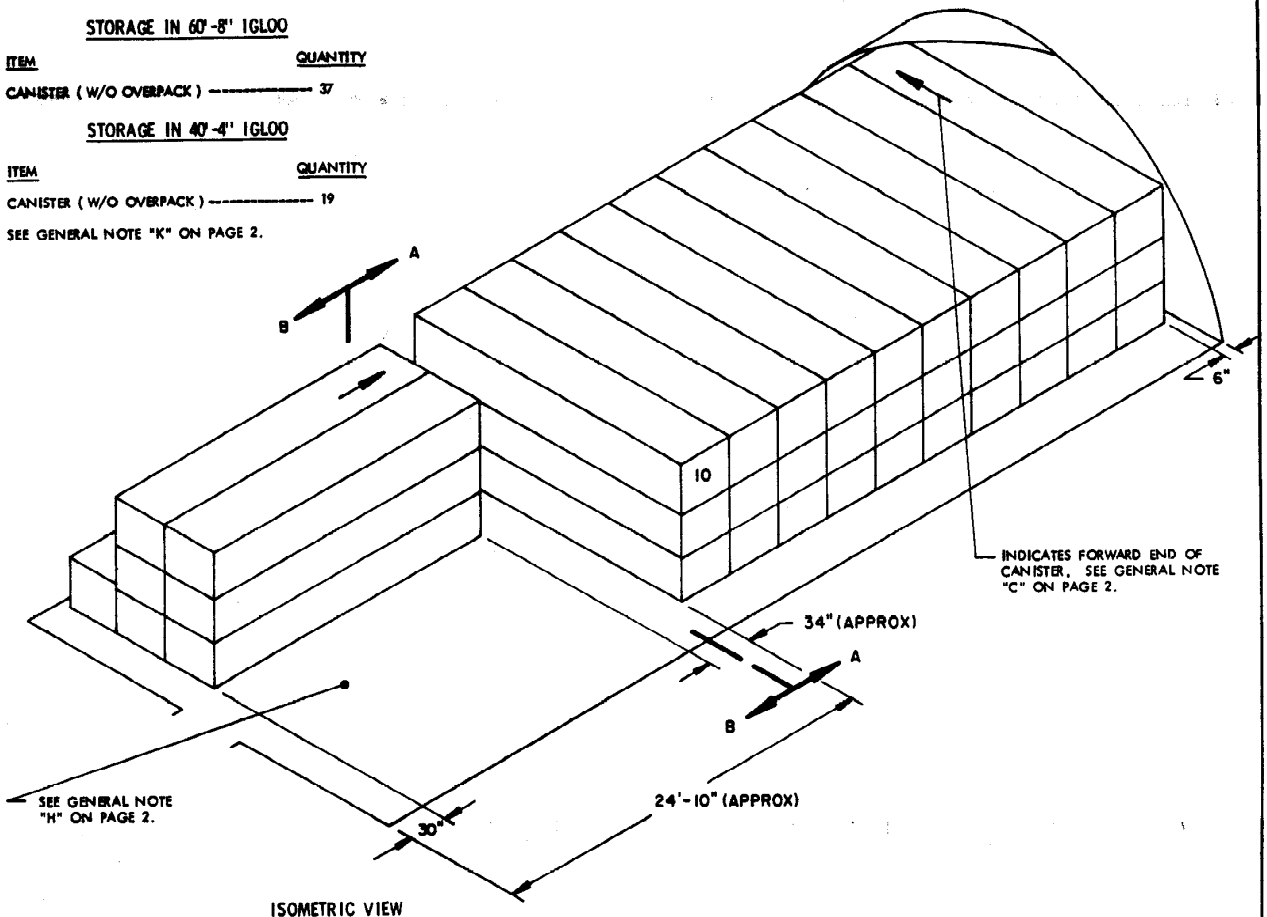
## STORAGE IN 60'-8" IGLOO

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 37 |

## STORAGE IN 40'-4" IGLOO

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 19 |

SEE GENERAL NOTE "K" ON PAGE 2.



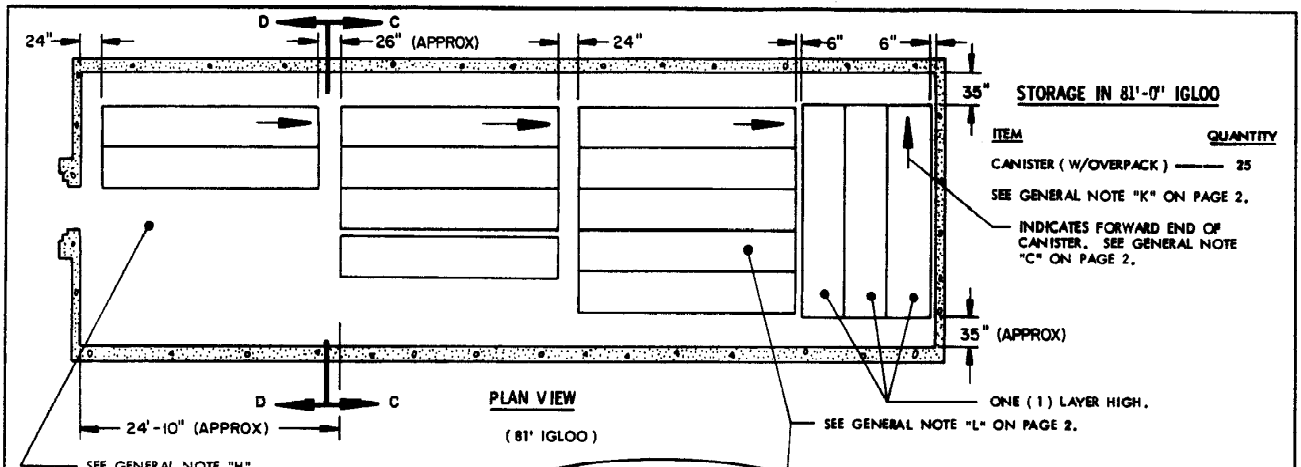

ISOMETRIC VIEW

( 60'-8" IGLOO )

FOR "GENERAL NOTES", SEE PAGE 2

SPECIAL NOTE:

1. STORAGE IN 40'-4" IGLOO MAGAZINE IS BASED ON 4 CROSSWISE STACKS OF CANISTERS IN LIEU OF THE 10 STACKS AS SHOWN ABOVE.




PLAN VIEW

(81' IGLOO)

## STORAGE IN 81'-0" IGLOO

| ITEM | QUANTITY |
|---|---|
| CANISTER (W/OVERPACK) | 25 |

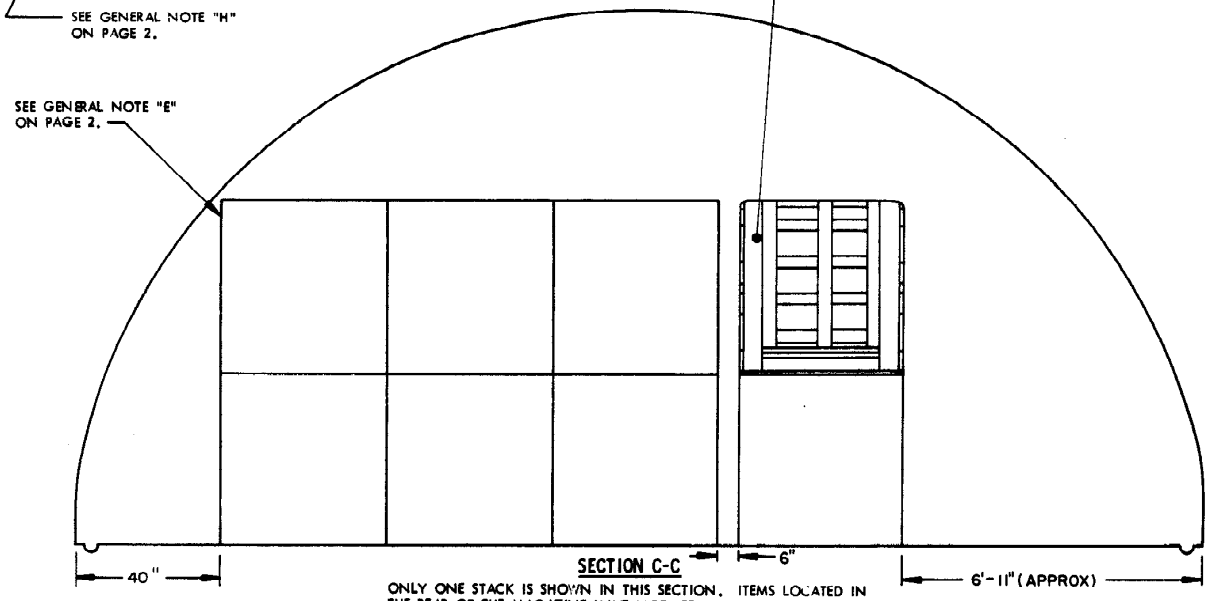
SEE GENERAL NOTE "K" ON PAGE 2.

INDICATES FORWARD END OF CANISTER. SEE GENERAL NOTE "C" ON PAGE 2.

ONE (1) LAYER HIGH.

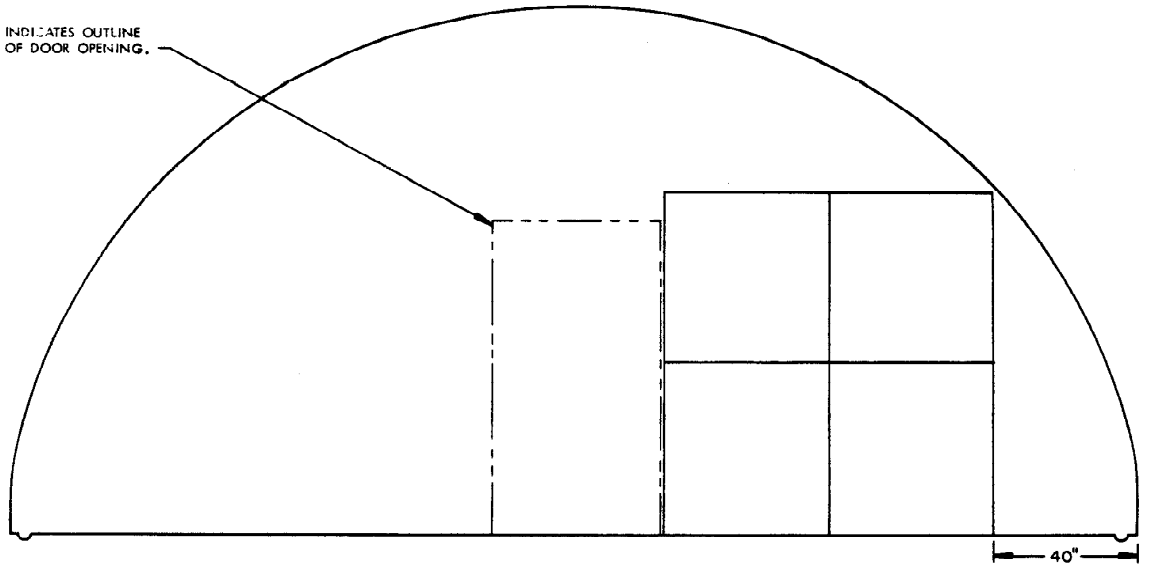
SEE GENERAL NOTE "L" ON PAGE 2.

SEE GENERAL NOTE "H" ON PAGE 2.




SECTION C-C

ONLY ONE STACK IS SHOWN IN THIS SECTION. ITEMS LOCATED IN THE REAR OF THE MAGAZINE HAVE NOT BEEN SHOWN FOR CLARITY PURPOSES.




SECTION D-D



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

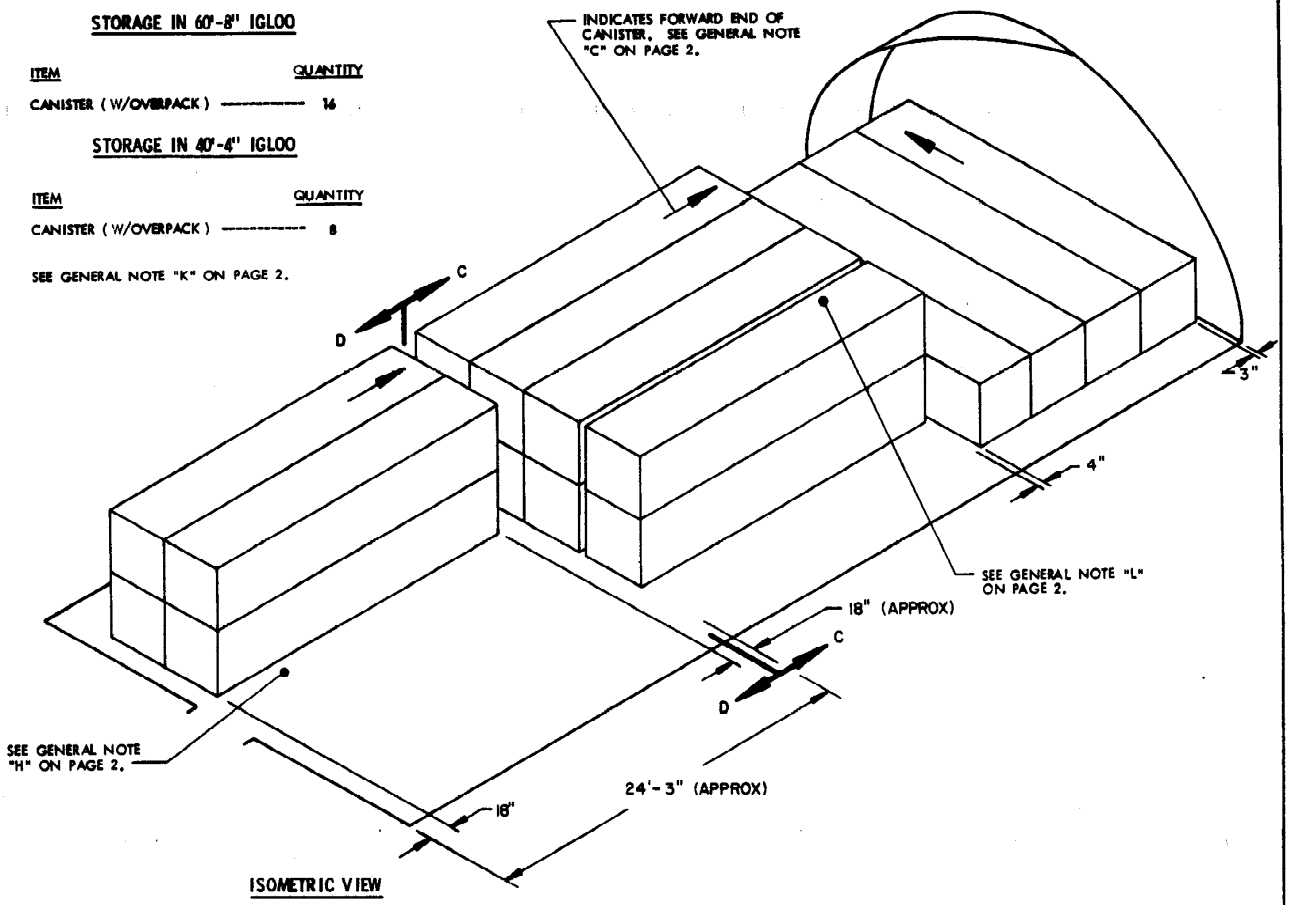
## STORAGE IN 60'-8" IGLOO

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/OVERPACK ) | 16 |

## STORAGE IN 40'-4" IGLOO

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/OVERPACK ) | 8 |

SEE GENERAL NOTE "K" ON PAGE 2.



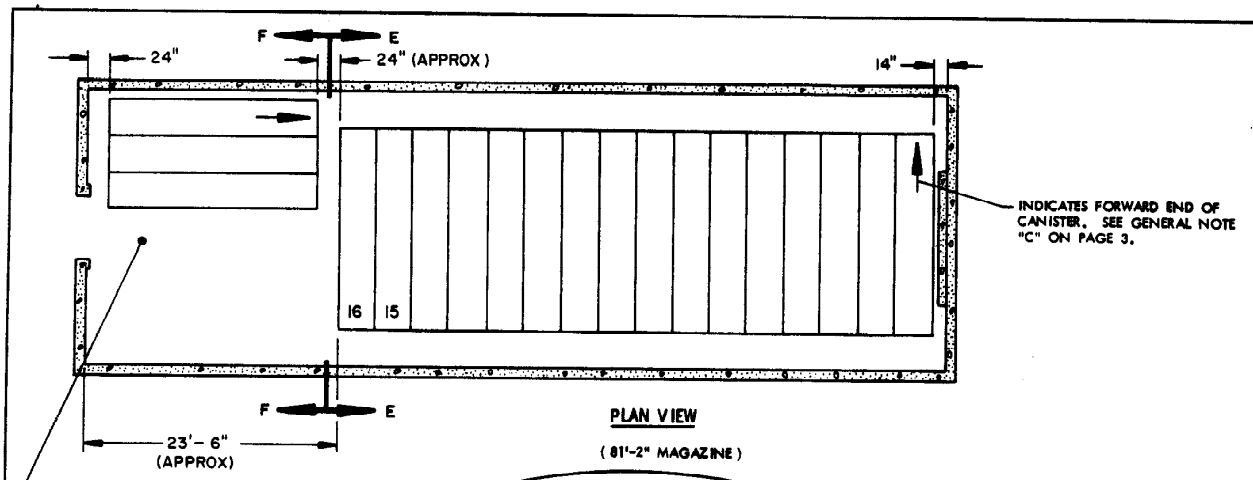

ISOMETRIC VIEW

( 60'-8" IGLOO )

FOR "GENERAL NOTES", SEE PAGE 2.

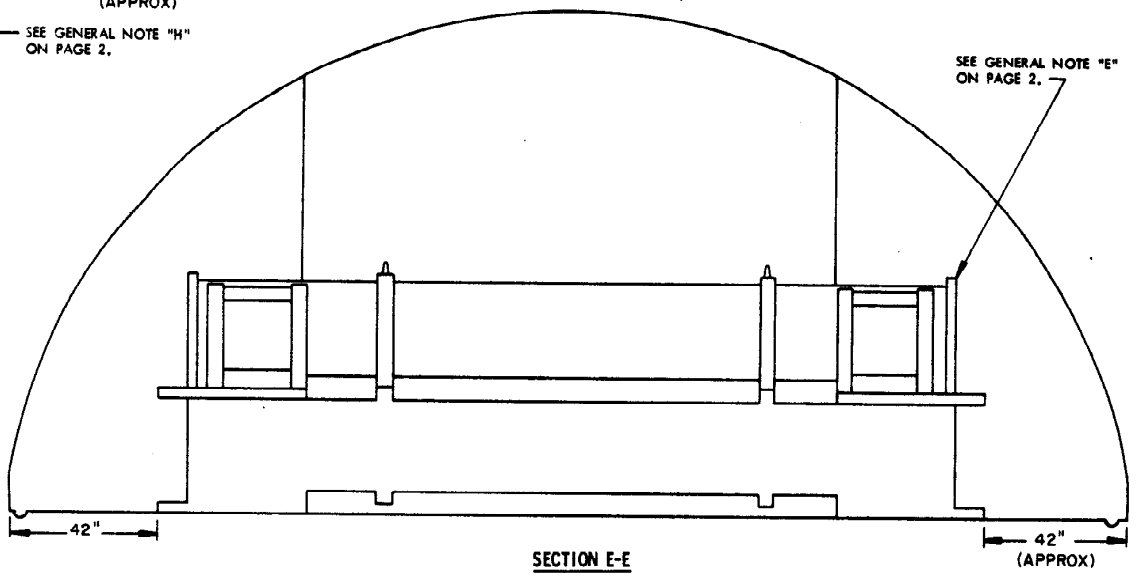
SPECIAL NOTE:

1. UNITS STORED LENGTHWISE IN THE MAGAZINE WILL REQUIRE THE USE OF ROLLER TYPE CONVEYERS TO AID IN PLACEMENT OF THE UNITS.

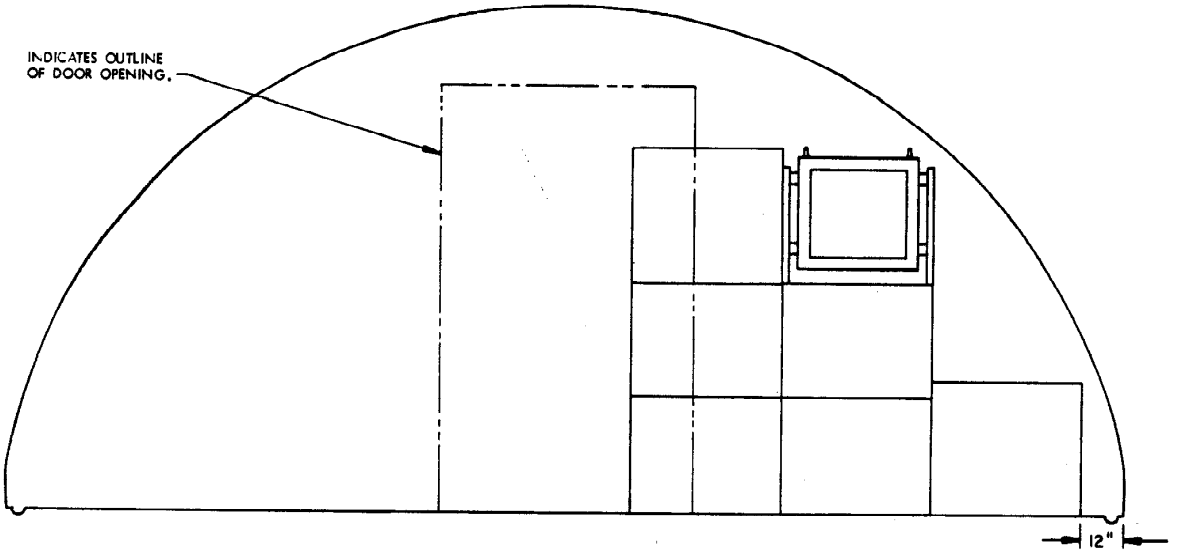



PLAN VIEW

( 81'-2" MAGAZINE )




SECTION E-E




SECTION F-F

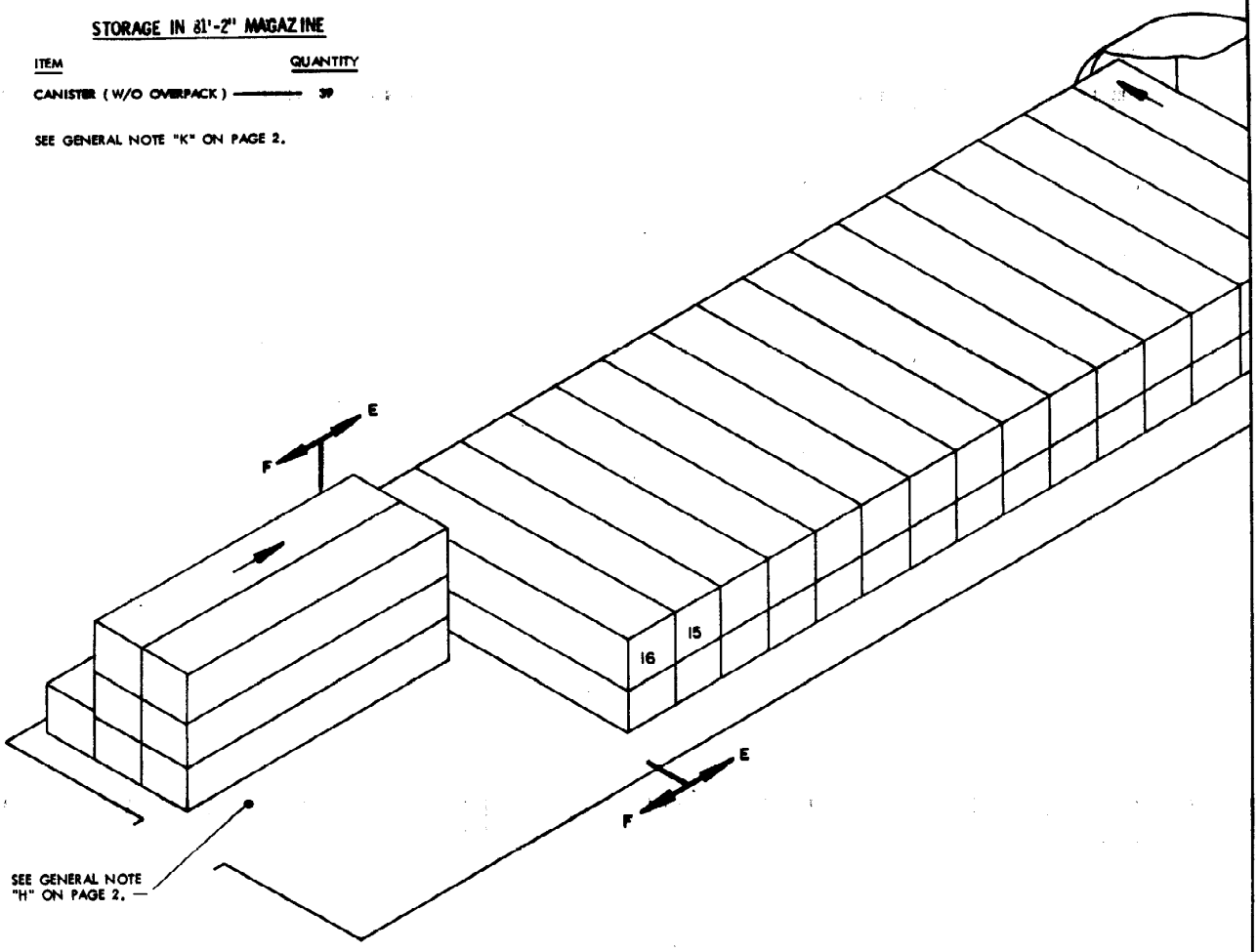


STORAGE PROCEDURES FOR CANISTER ( W/O OVERPACK ) IN 81'-2" L X 26'-6" W X 12'-1-3/4" H ARCH TYPE MAGAZINE ( IGLOO )

## STORAGE IN 81'-2" MAGAZINE

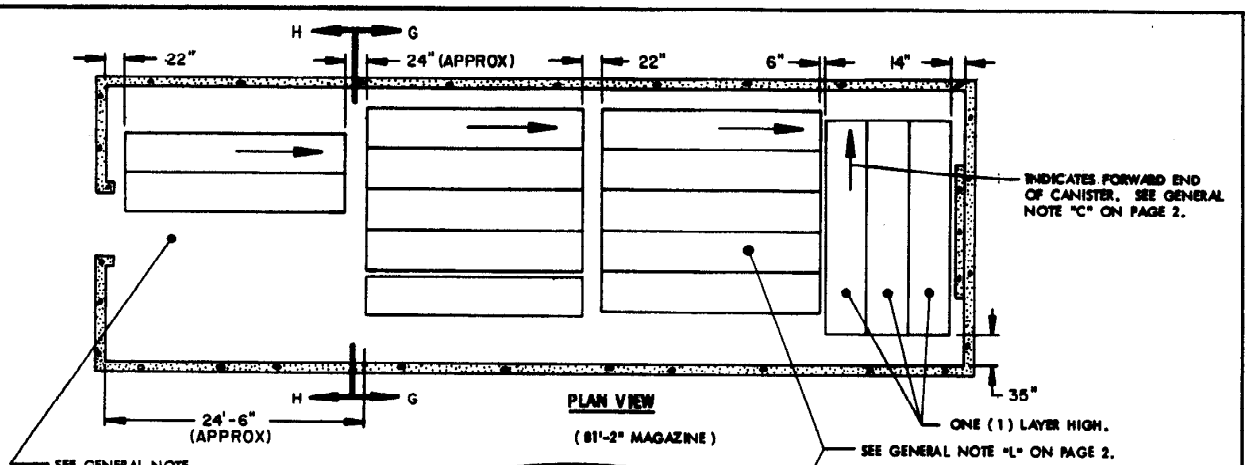
| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 39 |

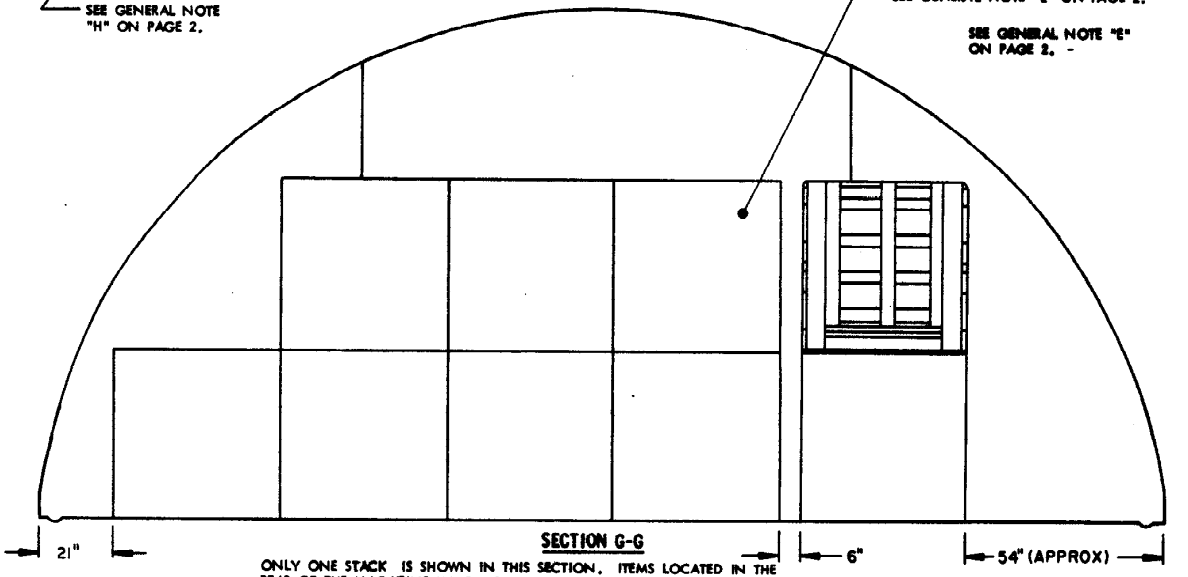
SEE GENERAL NOTE "K" ON PAGE 2.




ISOMETRIC VIEW

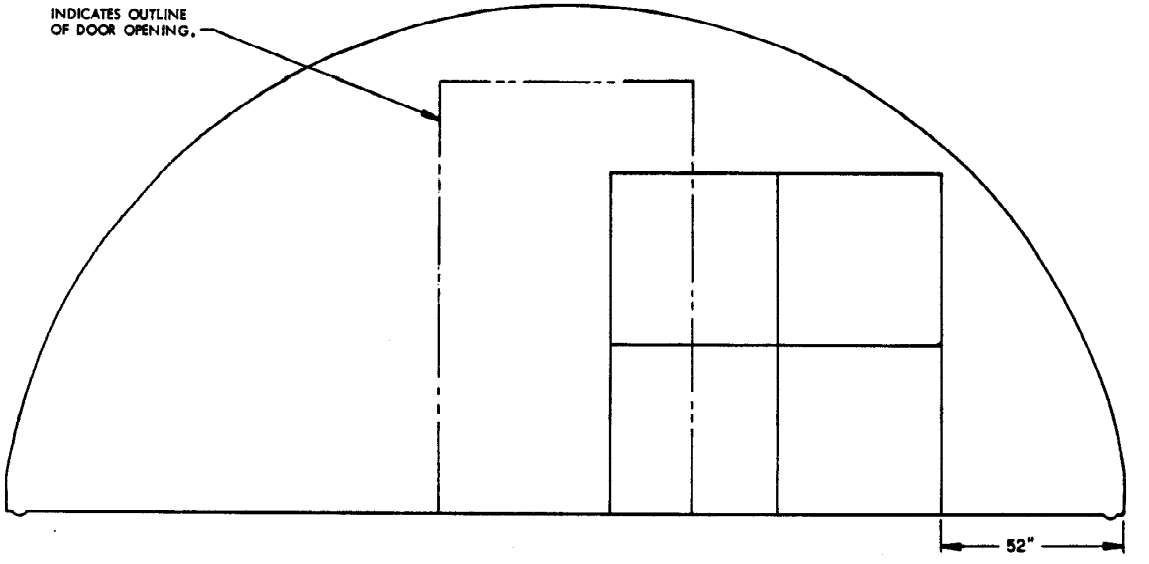
FOR "GENERAL NOTES", SEE PAGE 2.




SECTION G-G

ONLY ONE STACK IS SHOWN IN THIS SECTION. ITEMS LOCATED IN THE REAR OF THE MAGAZINE HAVE NOT BEEN SHOWN FOR CLARITY PURPOSES.




SECTION H-H

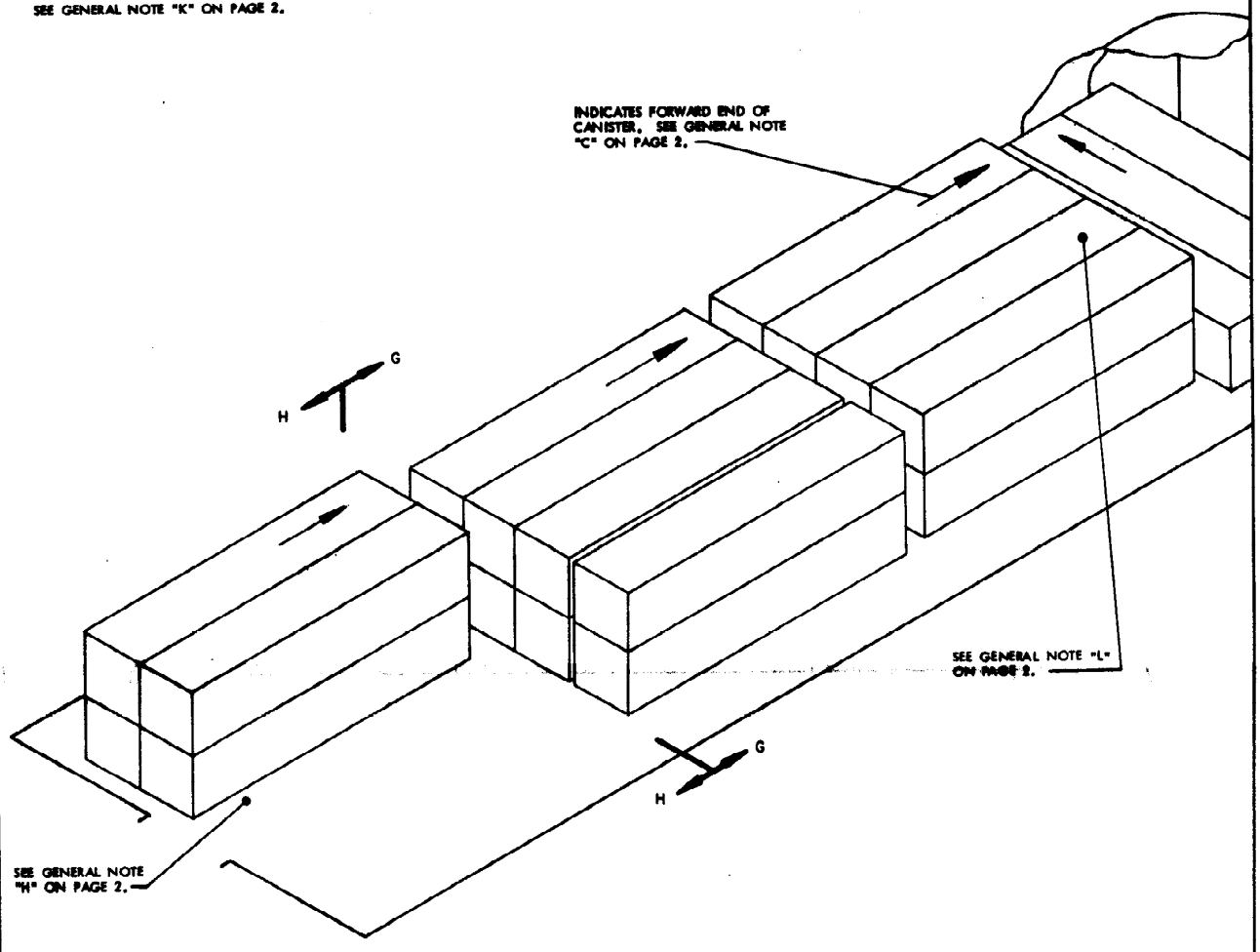


STORAGE PROCEDURES FOR CANISTER (W/OVERPACK) IN 81'-2" L X 26'-6" W X 12'-1-3/4" H ARCH TYPE MAGAZINE (IGLOO)

## STORAGE IN 81'-2" MAGAZINE

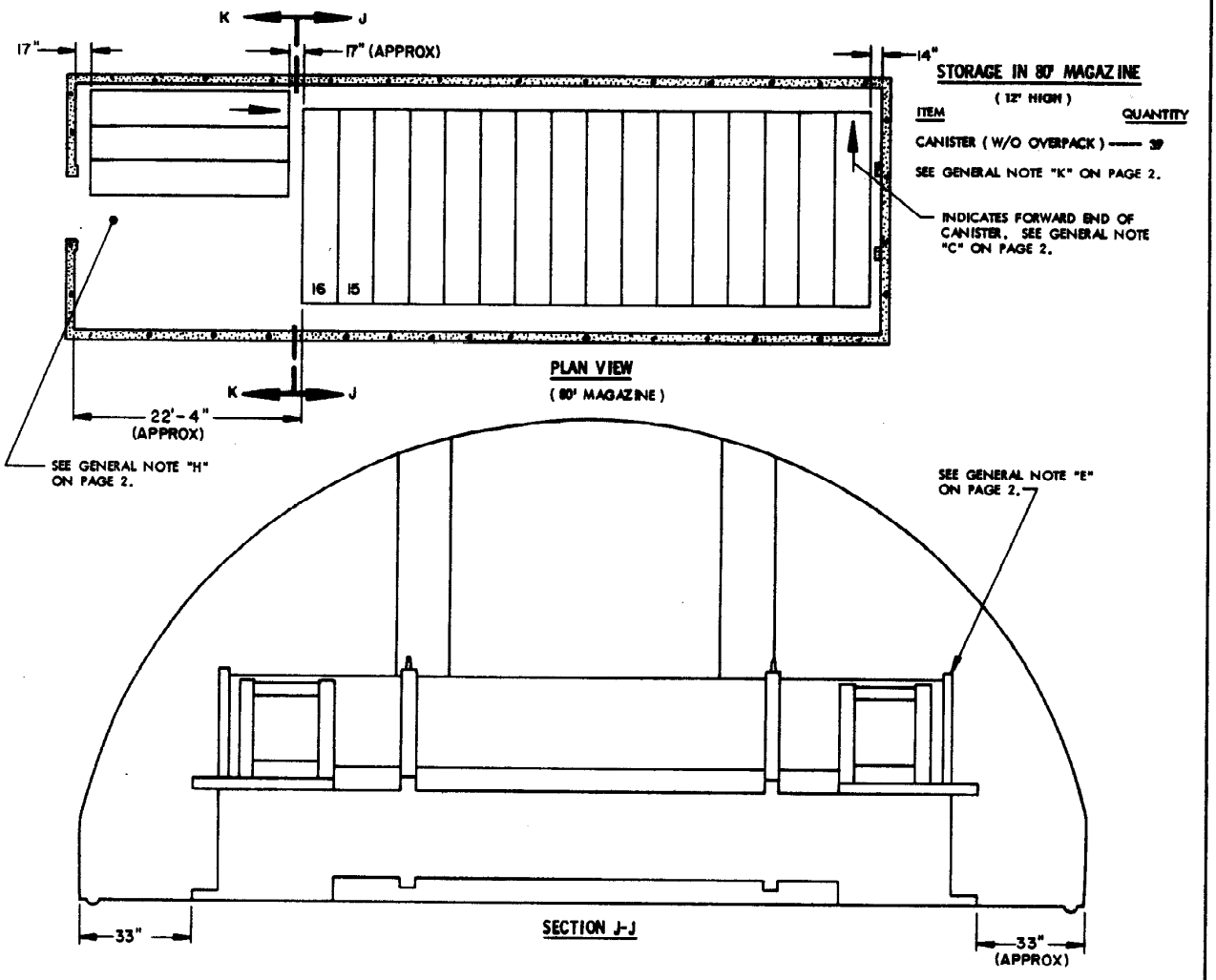
| ITEM | QUANTITY |
|---|---|
| CANISTER (W/OVERPACK) | 28 |

SEE GENERAL NOTE "K" ON PAGE 2.




ISOMETRIC VIEW

FOR "GENERAL NOTES", SEE PAGE 2.




**STORAGE IN 80' MAGAZINE**

( 12' HIGH )

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 39 |

SEE GENERAL NOTE "K" ON PAGE 2.

INDICATES FORWARD END OF CANISTER. SEE GENERAL NOTE "C" ON PAGE 2.

PLAN VIEW

( 80' MAGAZINE )

SECTION J-J

SECTION K-K



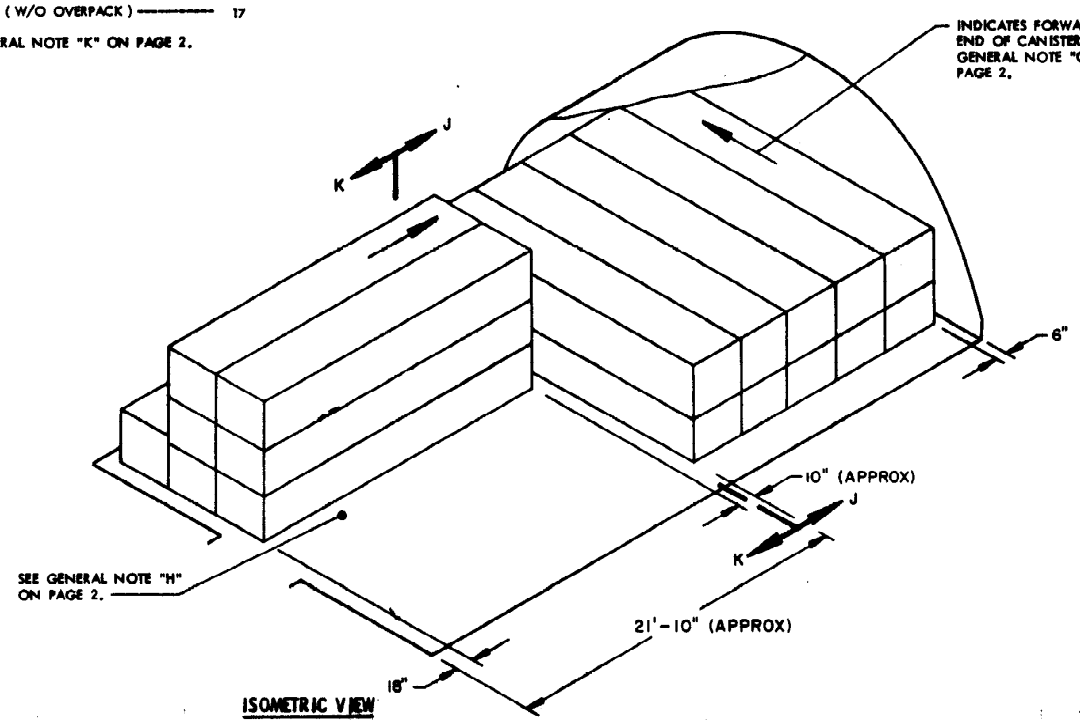
STORAGE PROCEDURES FOR CANISTER (W/O OVERPACK) IN 80' AND 40' L X 25' W X 12'-1-3/4" H ARCH TYPE MAGAZINES ( IGLOO )

## STORAGE IN 40' MAGAZINE

( 12' HIGH )

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 17 |

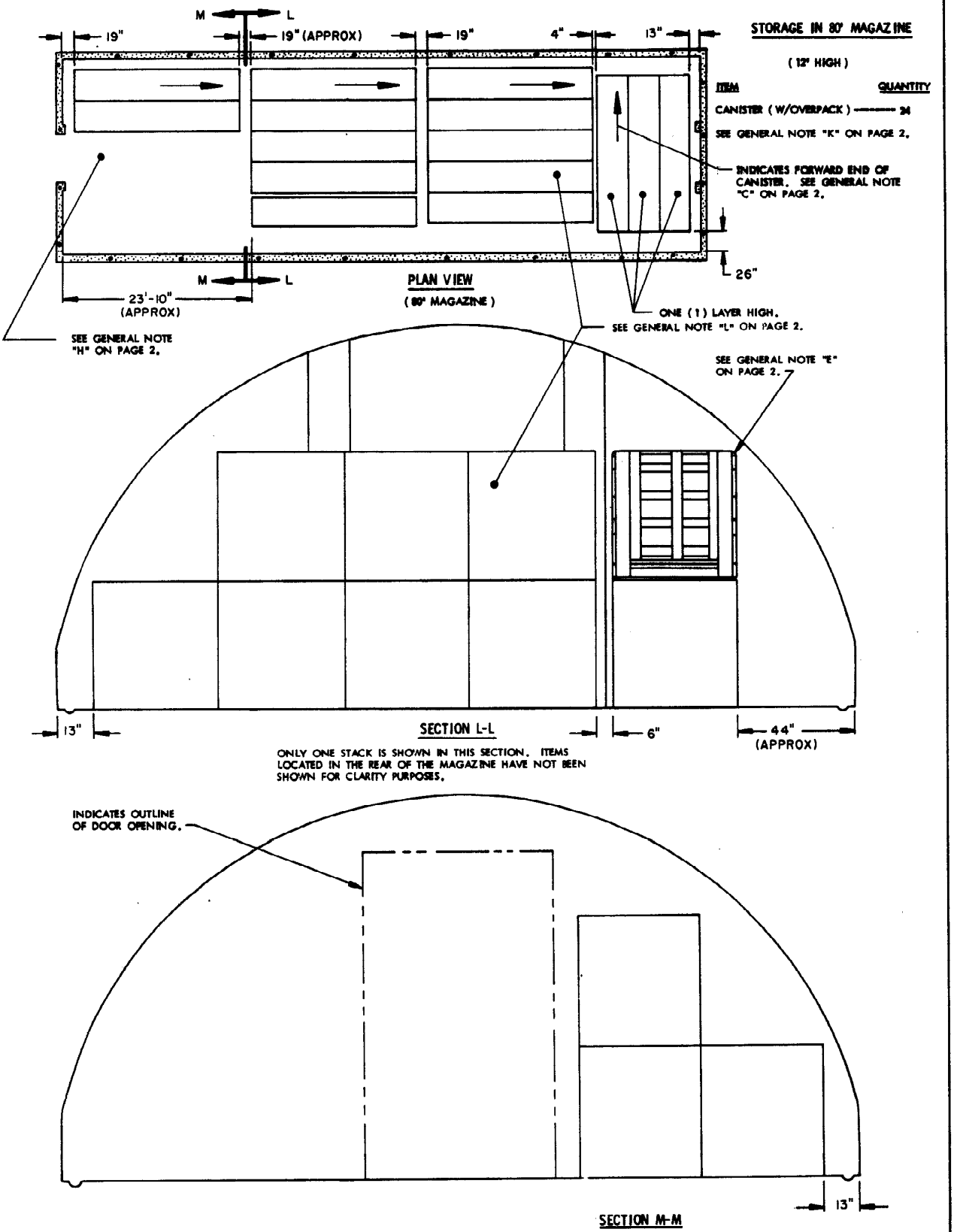
SEE GENERAL NOTE "K" ON PAGE 2.




ISOMETRIC VIEW

( 40' MAGAZINE )

FOR "GENERAL NOTES", SEE PAGE 2.





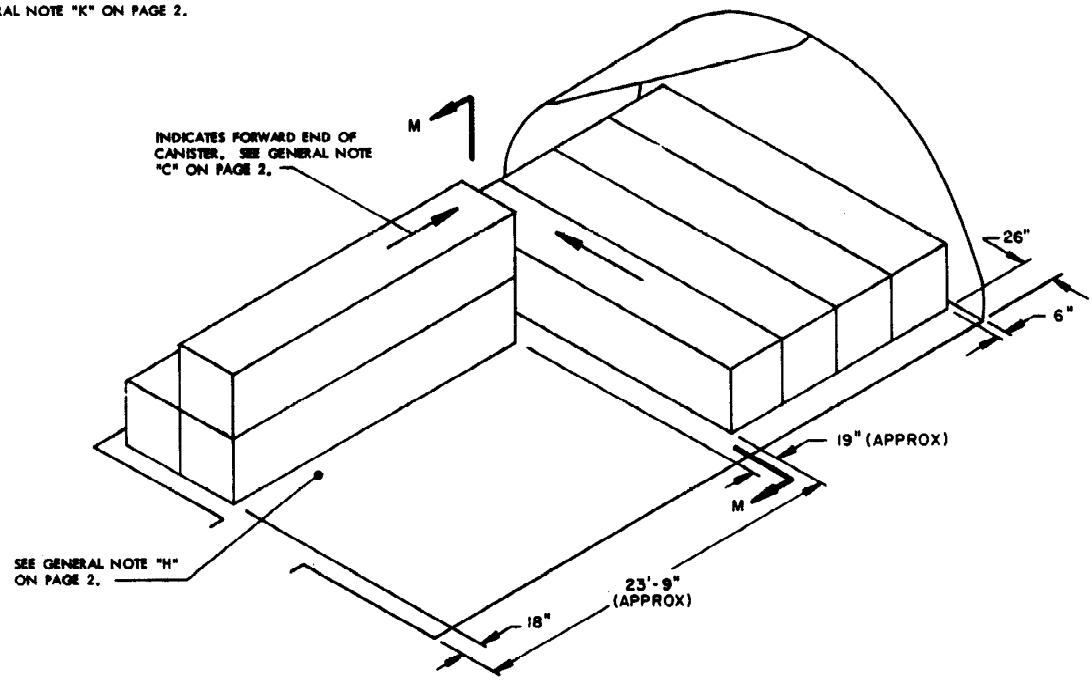

STORAGE PROCEDURES FOR CANISTER ( W/OVERPACK ) IN 80' AND 40' L X 25' W X 12'-1-3/4" H ARCH TYPE MAGAZINES ( IGLOO )

## STORAGE IN 40' MAGAZINE

( 12' HIGH )

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/OVERPACK ) | 7 |

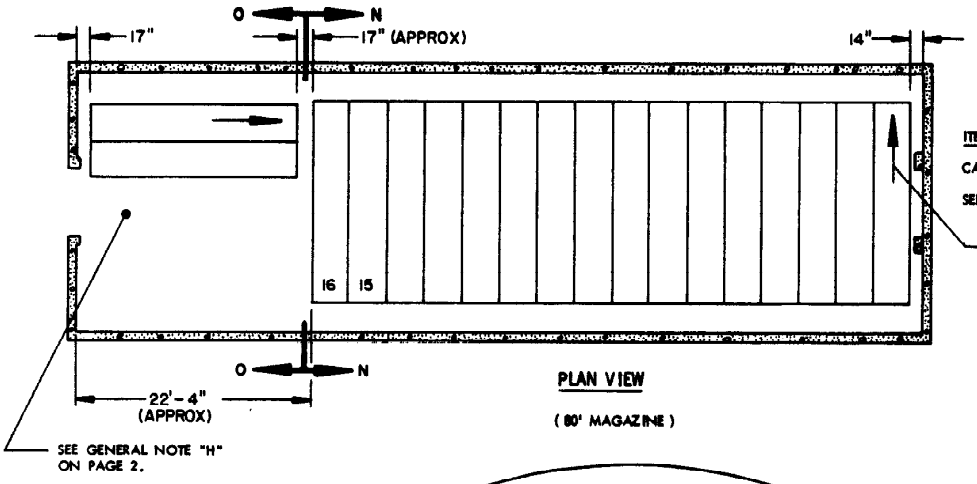
SEE GENERAL NOTE "K" ON PAGE 2.




**ISOMETRIC VIEW**

( 40' MAGAZINE )

FOR "GENERAL NOTES", SEE PAGE 2.




PLAN VIEW

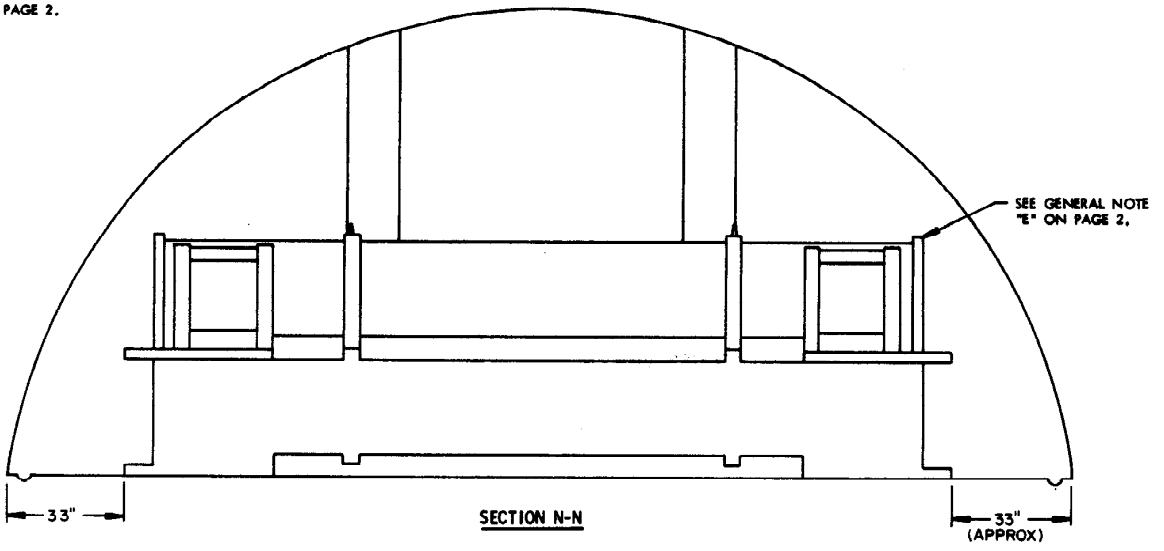
( 80' MAGAZINE )

## STORAGE IN 80' MAGAZINE

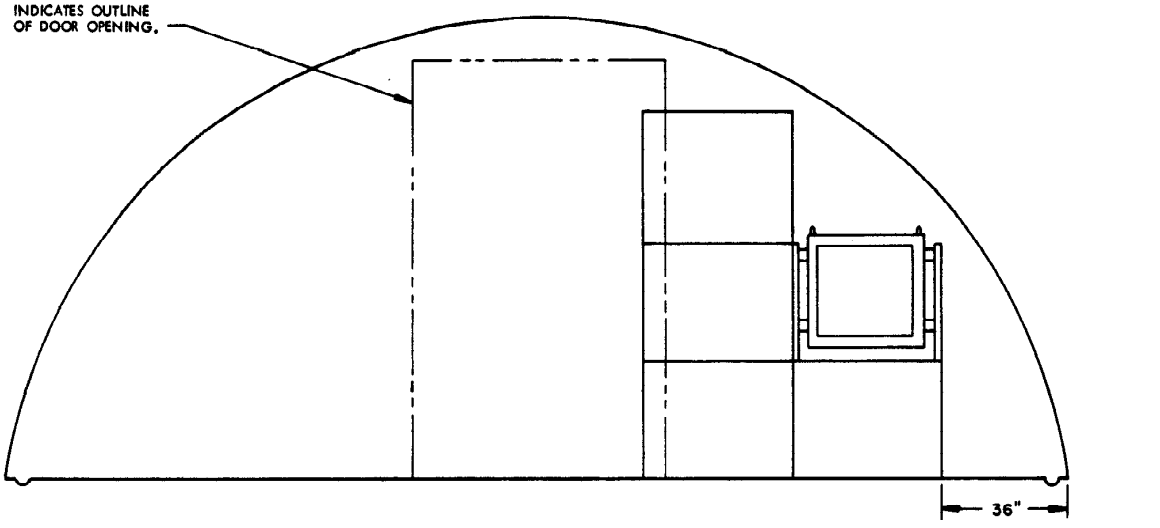
| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 37 |

SEE GENERAL NOTE "K" ON PAGE 2.

INDICATES FORWARD END OF CANISTER. SEE GENERAL NOTE "C" ON PAGE 2.




SECTION N-N




SECTION O-O



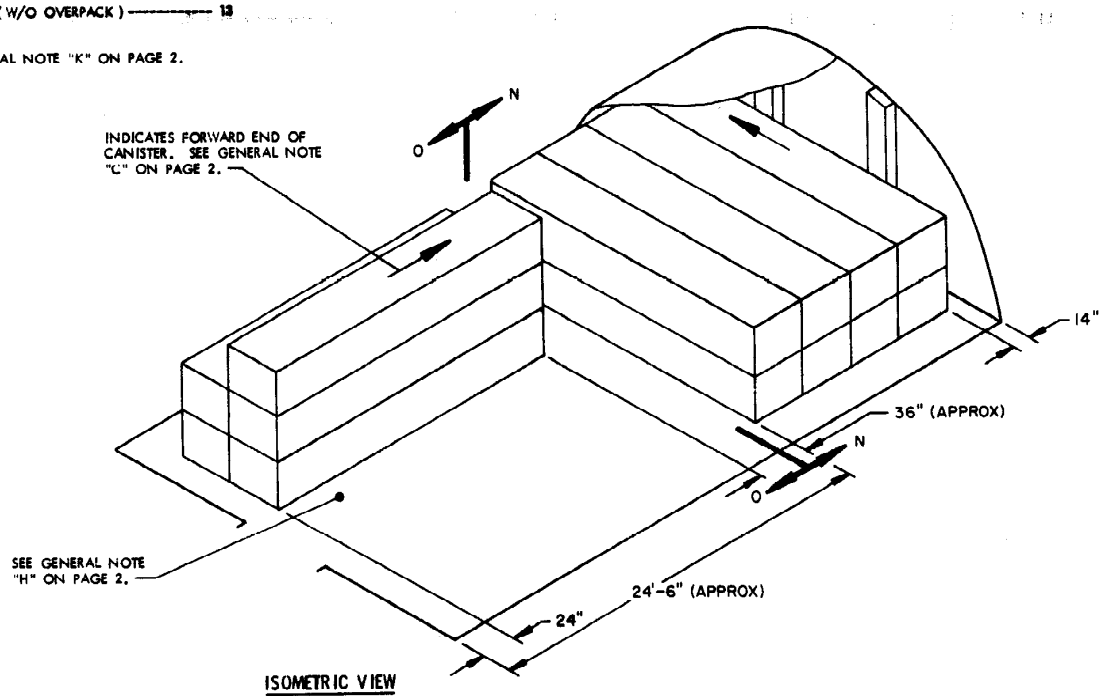
STORAGE PROCEDURES FOR CANISTER ( W/O OVERPACK ) IN 80' AND 40' L X 25' W X 11' H ARCH TYPE MAGAZINES ( IGLOO )

## STORAGE IN 40' MAGAZINE

( 11' HIGH )

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 13 |

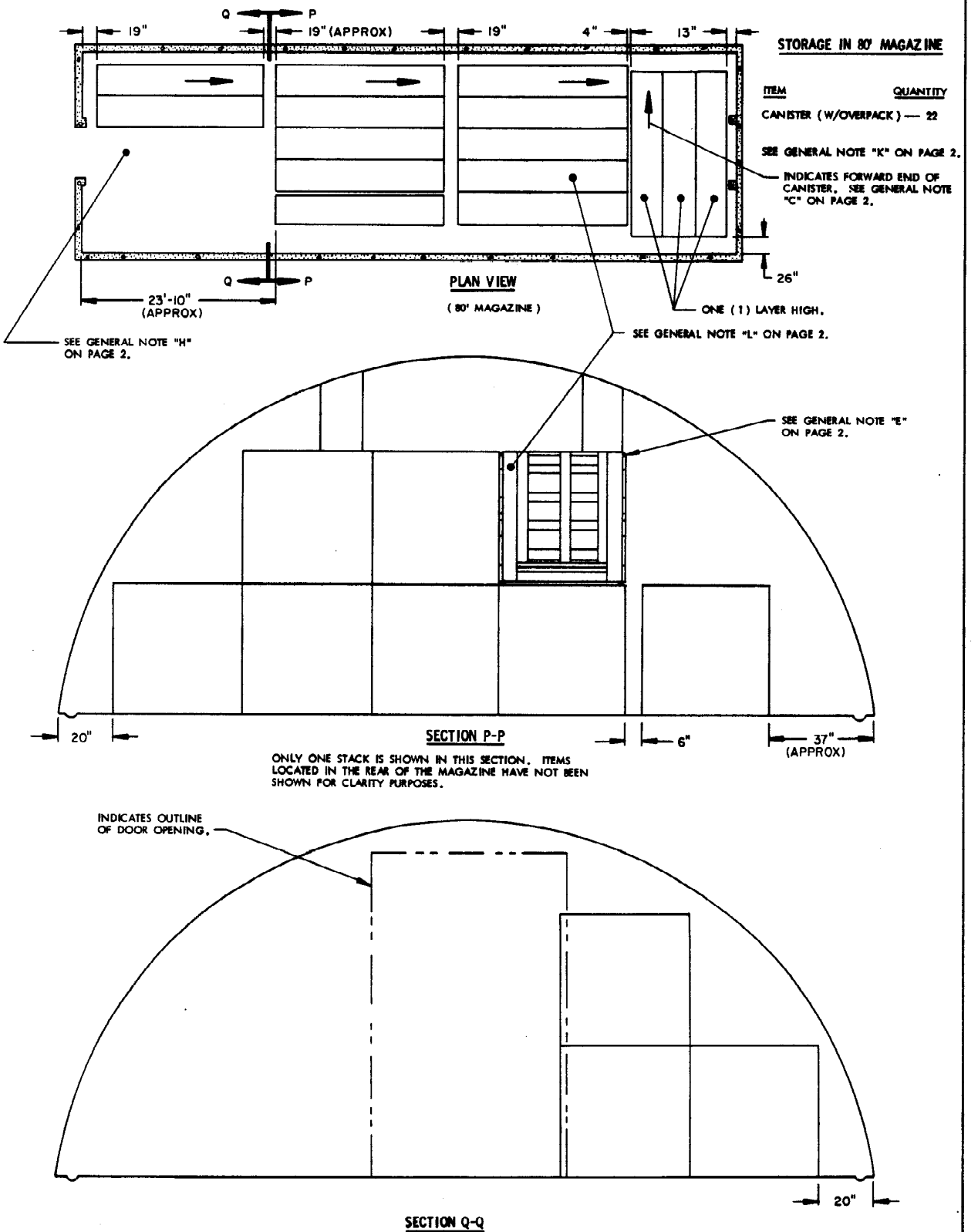
SEE GENERAL NOTE "K" ON PAGE 2.




ISOMETRIC VIEW

( 40' MAGAZINE )

FOR "GENERAL NOTES", SEE PAGE 2.





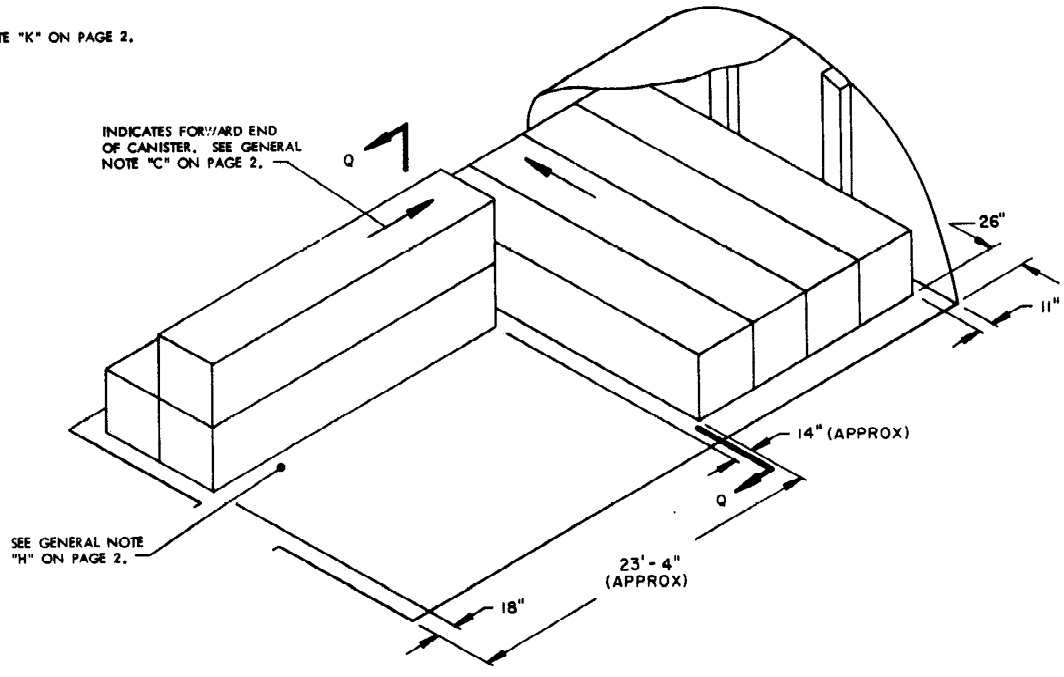

STORAGE PROCEDURES FOR CANISTER (W/OVERPACK) IN 80' AND 40' L X 25' W X 11' H ARCH TYPE MAGAZINES (IGLOO)

## STORAGE IN 40' MAGAZINE

( 11' HIGH )

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/OVERPACK ) | 7 |

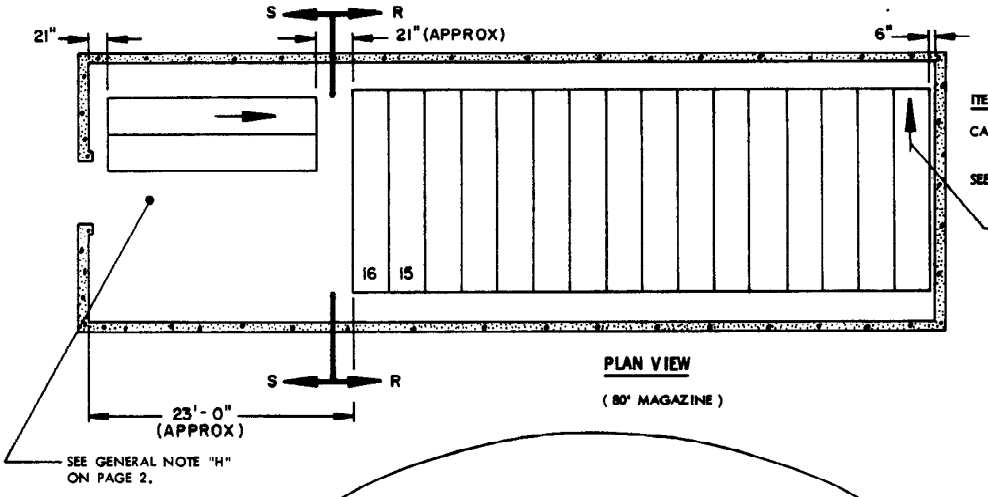
SEE GENERAL NOTE "K" ON PAGE 2.




ISOMETRIC VIEW

( 40' MAGAZINE )

FOR "GENERAL NOTES", SEE PAGE 2.




PLAN VIEW

( 80' MAGAZINE )

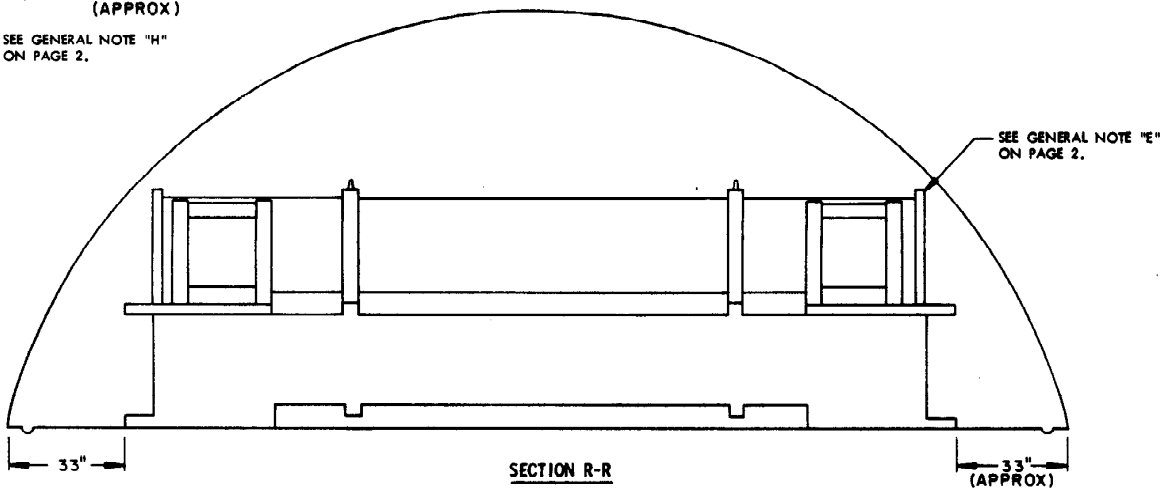
## STORAGE IN 80' MAGAZINE

( 10' HIGH )

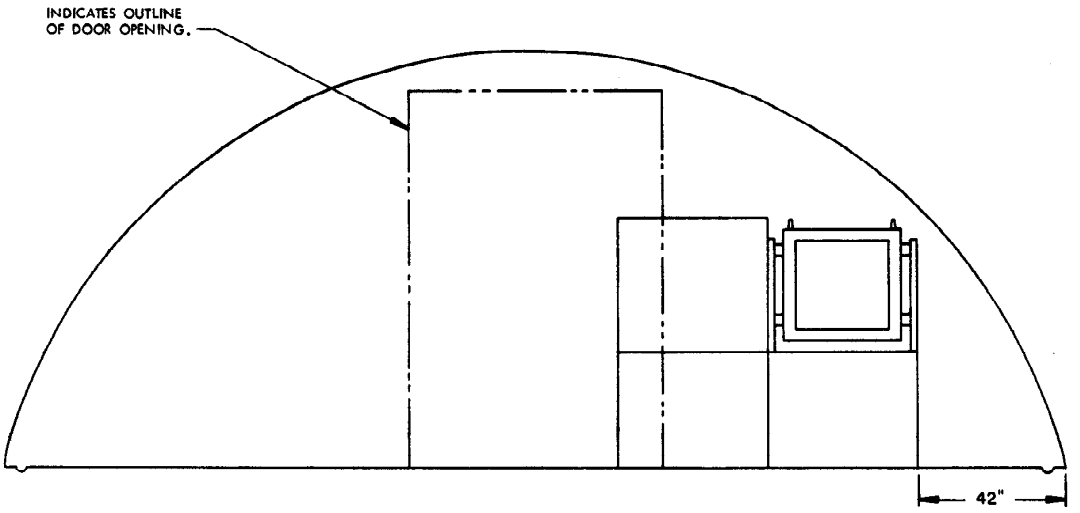
| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 96 |

SEE GENERAL NOTE "K" ON PAGE 2.

INDICATES FORWARD END OF CANISTER. SEE GENERAL NOTE "C" ON PAGE 2.




SECTION R-R




SECTION S-S



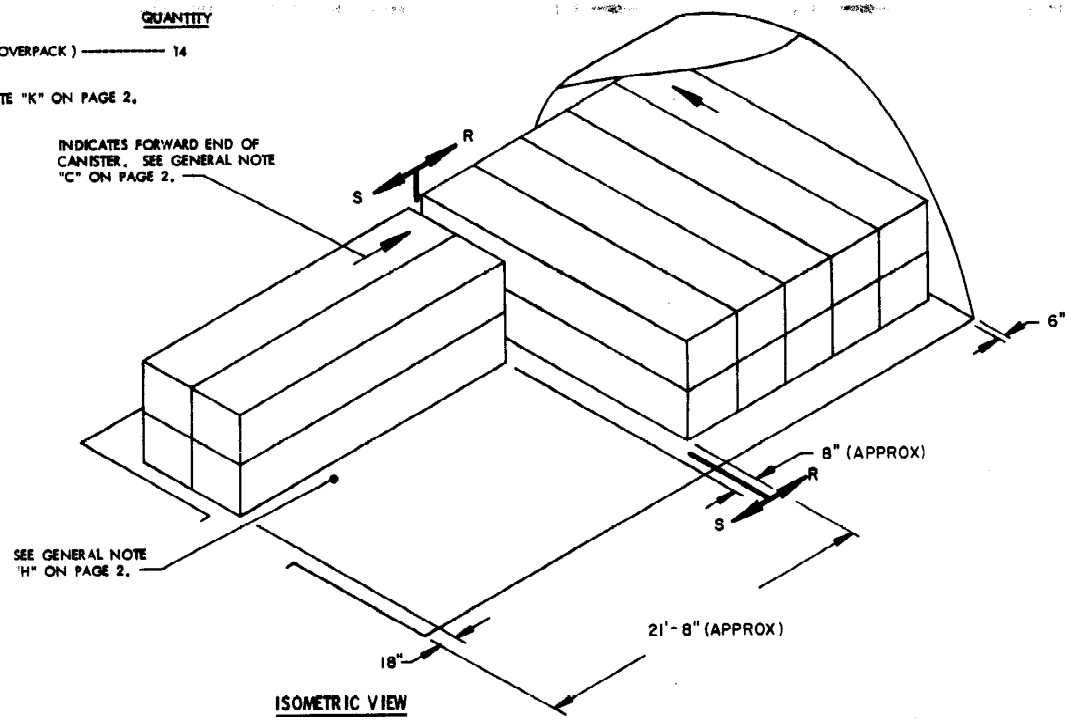
STORAGE PROCEDURES FOR CANISTER ( W/O OVERPACK ) IN 80' AND 40' L X 25' W X 10' H ARCH TYPE MAGAZINES ( IGLOO )

## STORAGE IN 40' MAGAZINE

( 10' HIGH )

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 14 |

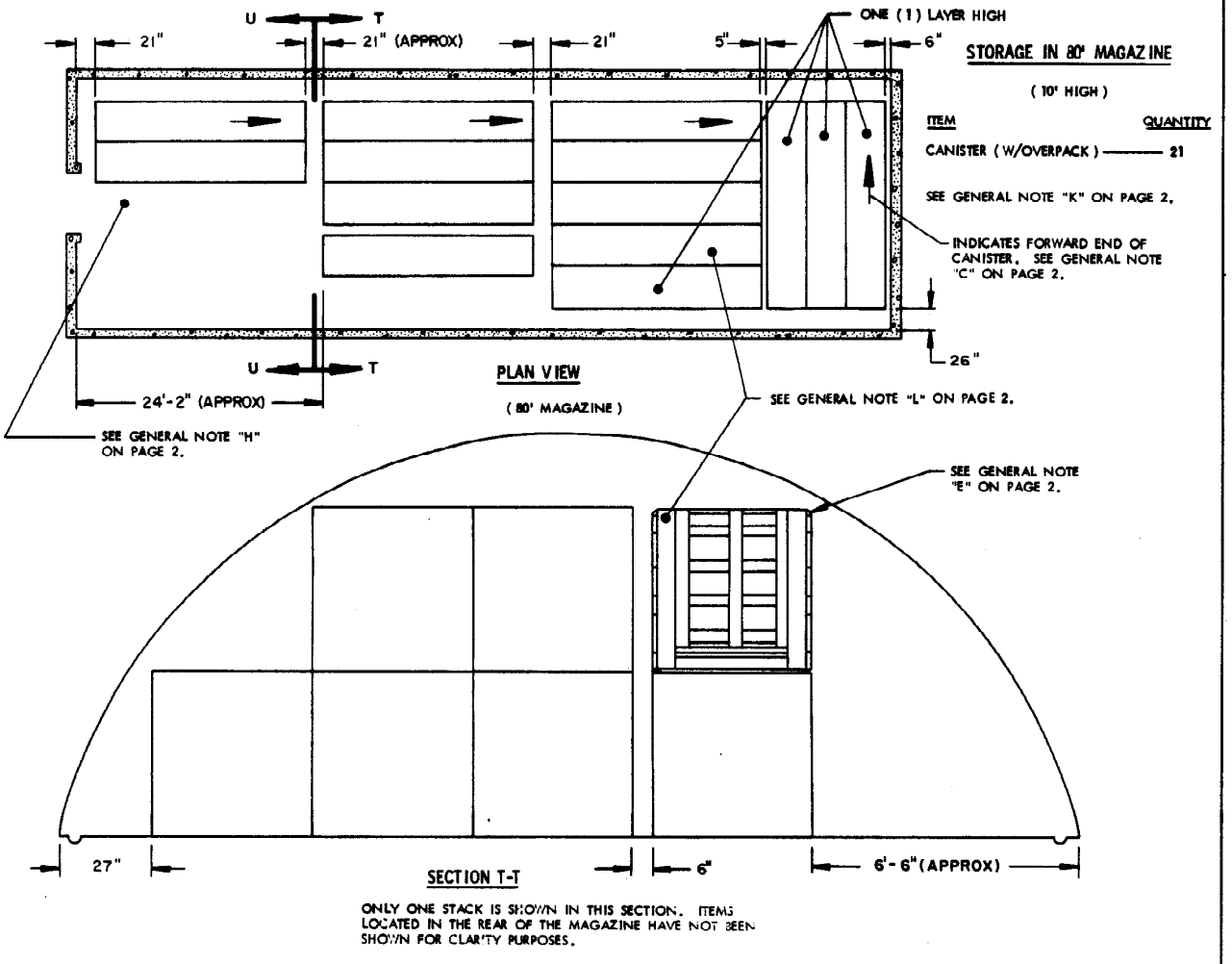
SEE GENERAL NOTE "K" ON PAGE 2.




ISOMETRIC VIEW

( 40' MAGAZINE )

FOR "GENERAL NOTES", SEE PAGE 2.





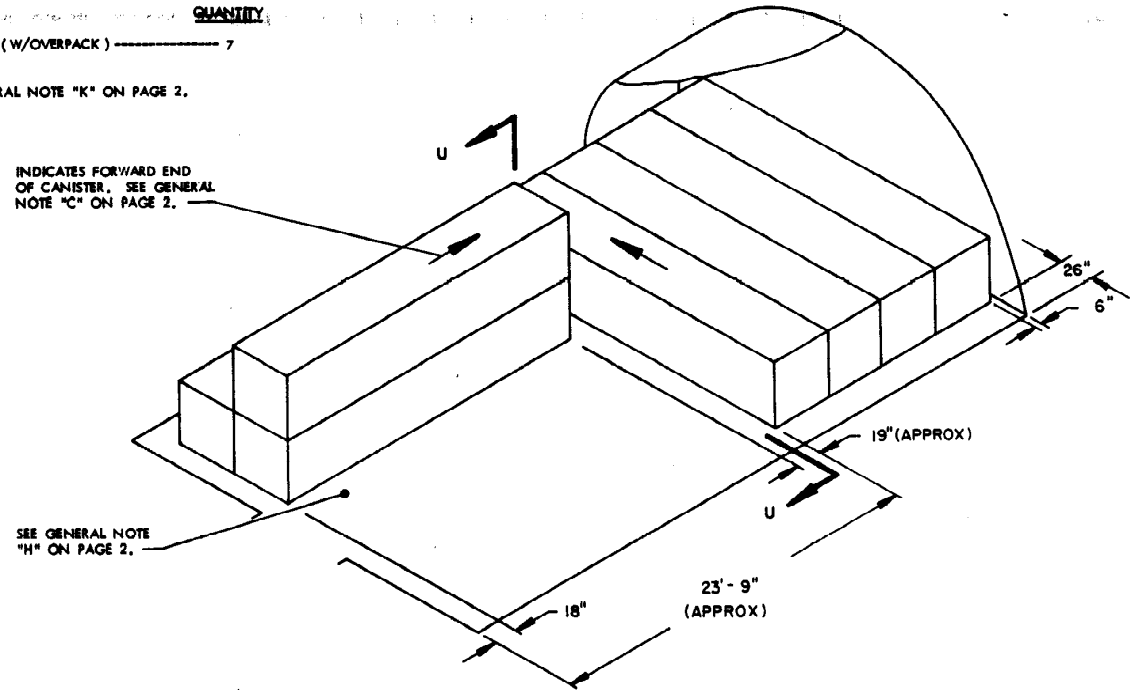

STORAGE PROCEDURES FOR CANISTER ( W/OVERPACK ) IN 80' AND 40' L X 20' W X 10' H ARCH TYPE MAGAZINES ( IGLOO )

## STORAGE IN 40' MAGAZINE

( 10' HIGH )

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/OVERPACK ) | 7 |

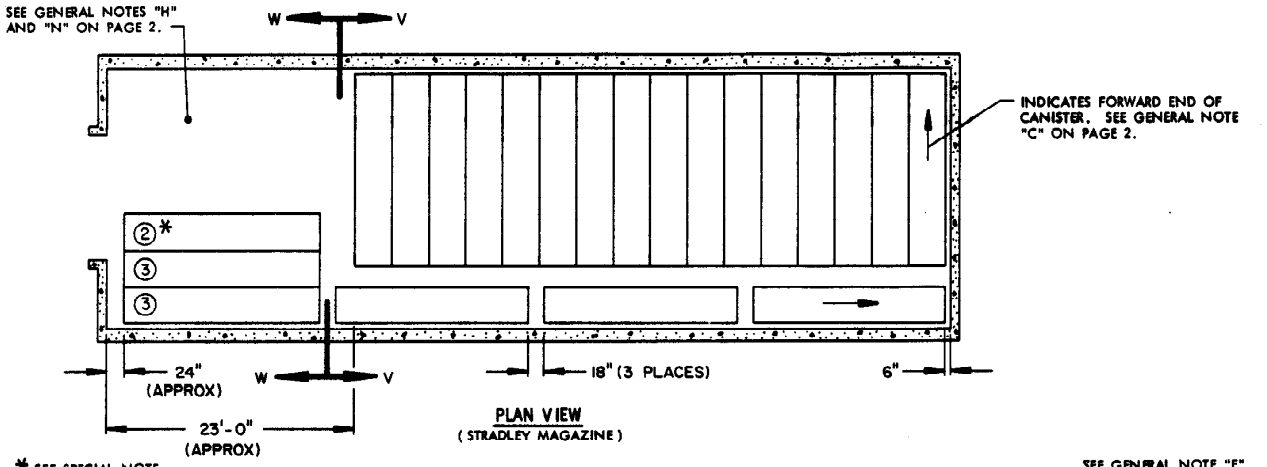
SEE GENERAL NOTE "K" ON PAGE 2.



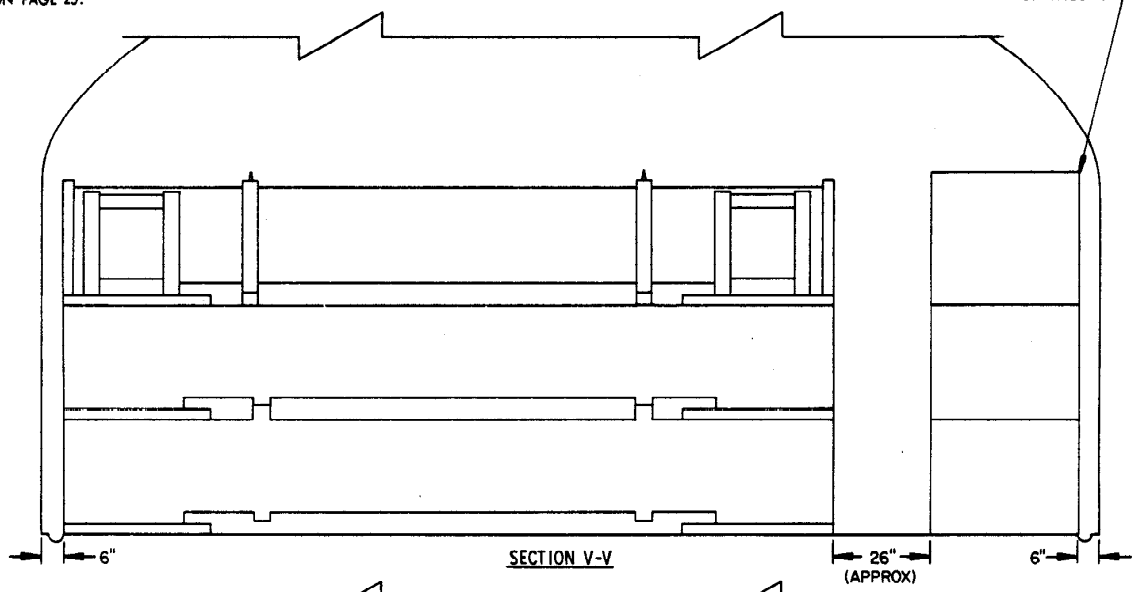

ISOMETRIC VIEW

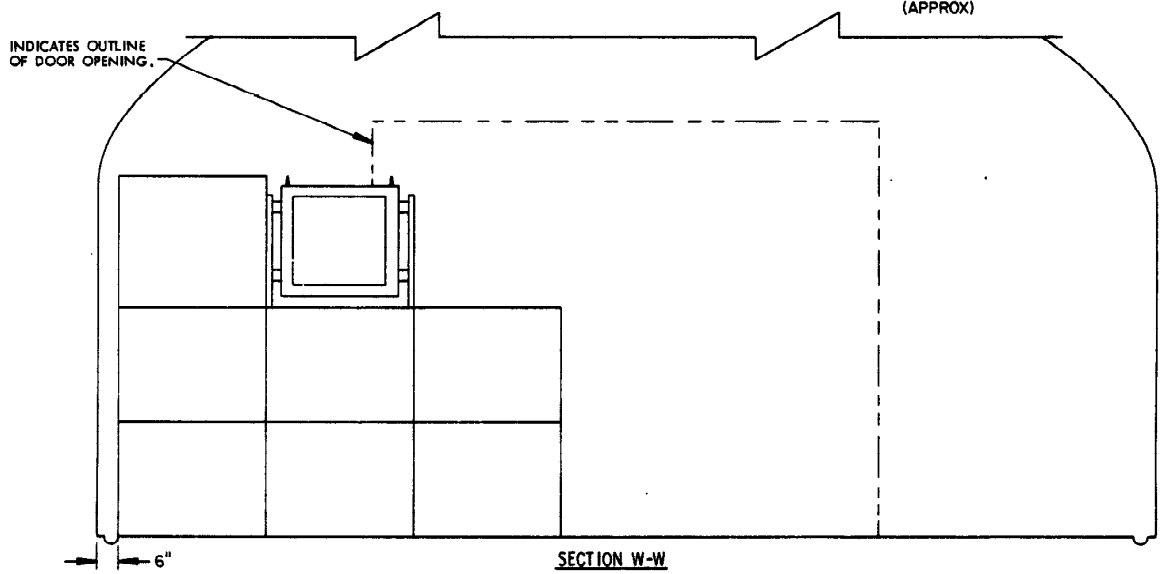
( 40' MAGAZINE )

FOR "GENERAL NOTES", SEE PAGE 2.




* SEE SPECIAL NOTE 2 ON PAGE 25.




STORAGE PROCEDURES FOR CANISTER ( W/O OVERPACK ) IN 80' L X 25' W X 14' H STRADLEY AND 89' L X 24'-10" W X 14'-4" H OVAL ARCH MAGAZINES ( METHOD I )



PROJECT GM 705-77

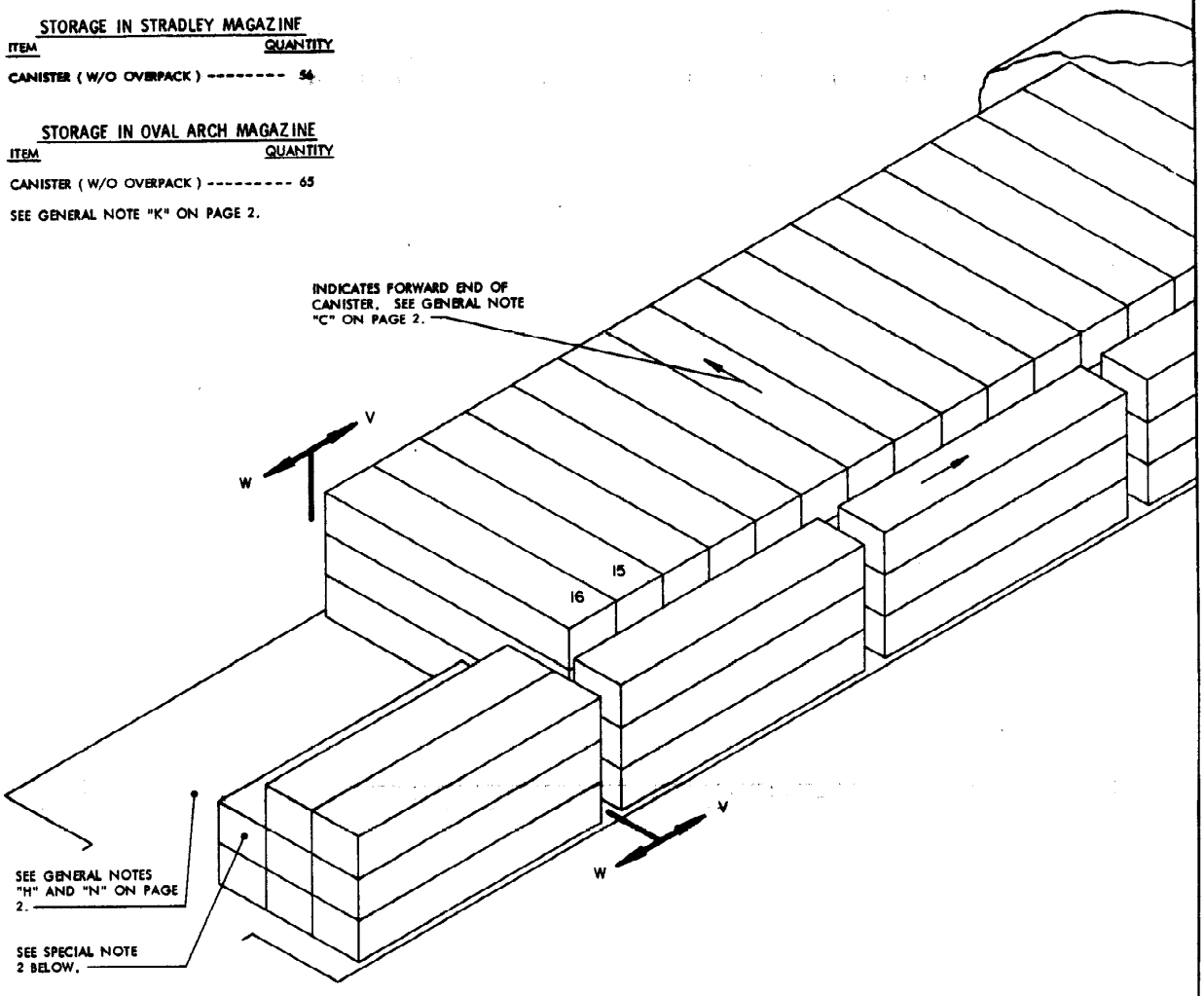
## STORAGE IN STRADLEY MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 54 |

## STORAGE IN OVAL ARCH MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 65 |

SEE GENERAL NOTE "K" ON PAGE 2.



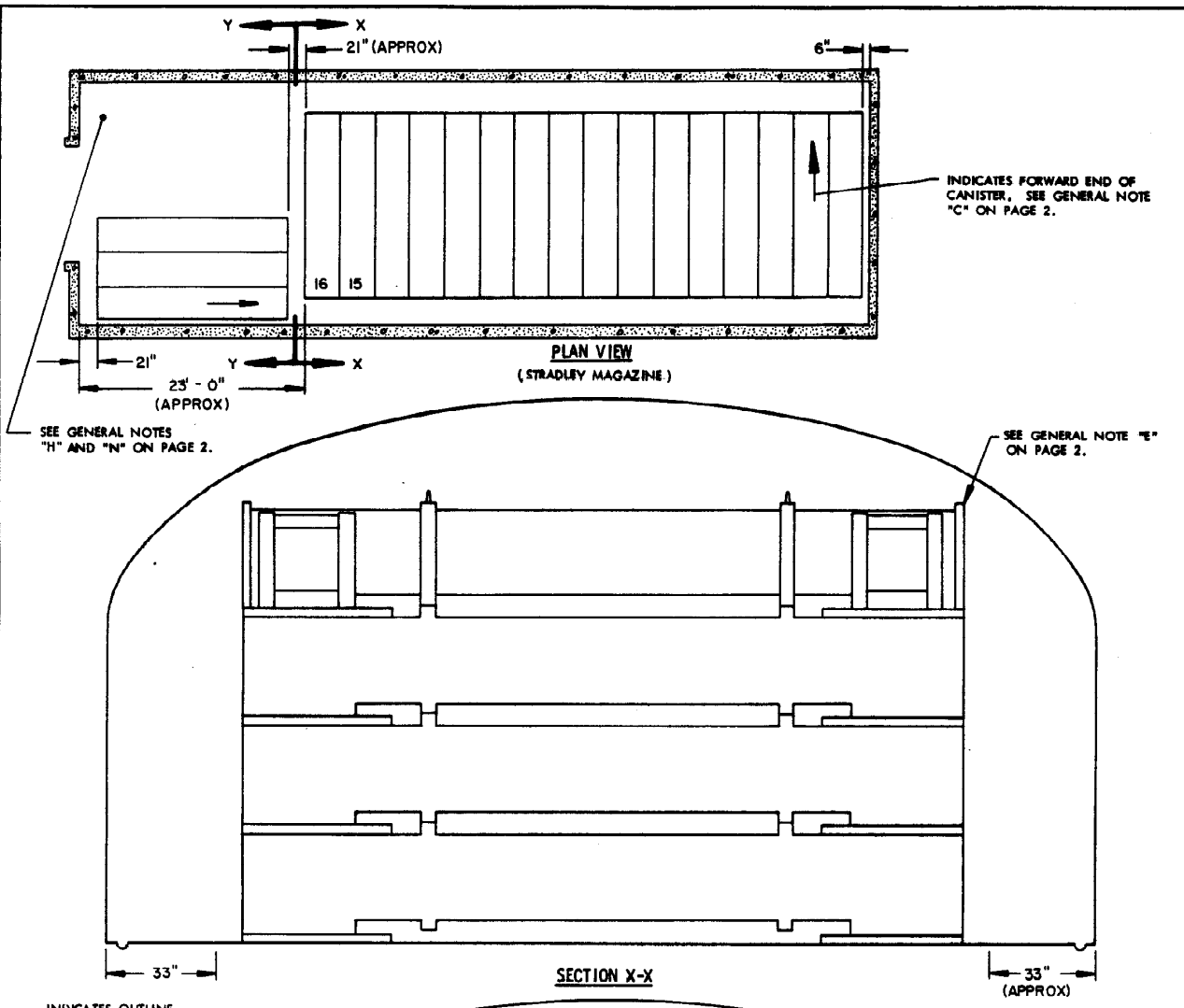

ISOMETRIC VIEW
( STRADLEY MAGAZINE )

SPECIAL NOTES:

1. STORAGE PROCEDURES SHOWN AS METHOD I COVER THE PREFERRED METHOD OF STORAGE IN STRADLEY AND OVAL ARCH MAGAZINES. HOWEVER, THEY ARE DESIGNED FOR USE WITH A FORKLIFT TRUCK WITH FRONT/SIDE LOADING CAPABILITIES AND THE CANISTER SKIDS MUST BE IN THE REVERSE POSITION. WHEN HANDLING THE CANISTERS WITH THE SKIDS IN THE REVERSED POSITION, FORWARD AND AFT END PROTECTORS, AS DETAILED ON PAGE 52, SHOULD BE USED. PROTECTORS ARE TO BE REMOVED AFTER A CANISTER IS STORED.
2. STACKING OF CANISTERS STORED DIRECTLY IN THE DOORWAY AREA WILL BE LIMITED TO TWO HIGH UNLESS A FORKLIFT TRUCK WITH 6000/6000 POUND CAPACITIES IS USED. IF SO, THEN THAT STACK MAY BE THREE CANISTERS HIGH.
3. STORAGE IN AN OVAL ARCH MAGAZINE IS BASED ON NINETEEN ( 19 ) CROSS-WISE STACKS, THREE CANISTERS HIGH.

FOR GENERAL NOTES, SEE PAGE 2.

STORAGE PROCEDURES FOR CANISTER ( W/O OVERPACK ) IN 80'L X 25'W X 14' H STRADLEY AND 89'L X 24'-10" W X 14'-4" H OVAL ARCH MAGAZINES ( METHOD I )




STORAGE PROCEDURES FOR CANISTER (W/O OVERPACK) IN 80'L X 25'W X 14'H STRADLEY AND 89'L X 24'-10"W X 14'-4"H OVAL ARCH MAGAZINES (METHOD II)



PROJECT GM 705-77

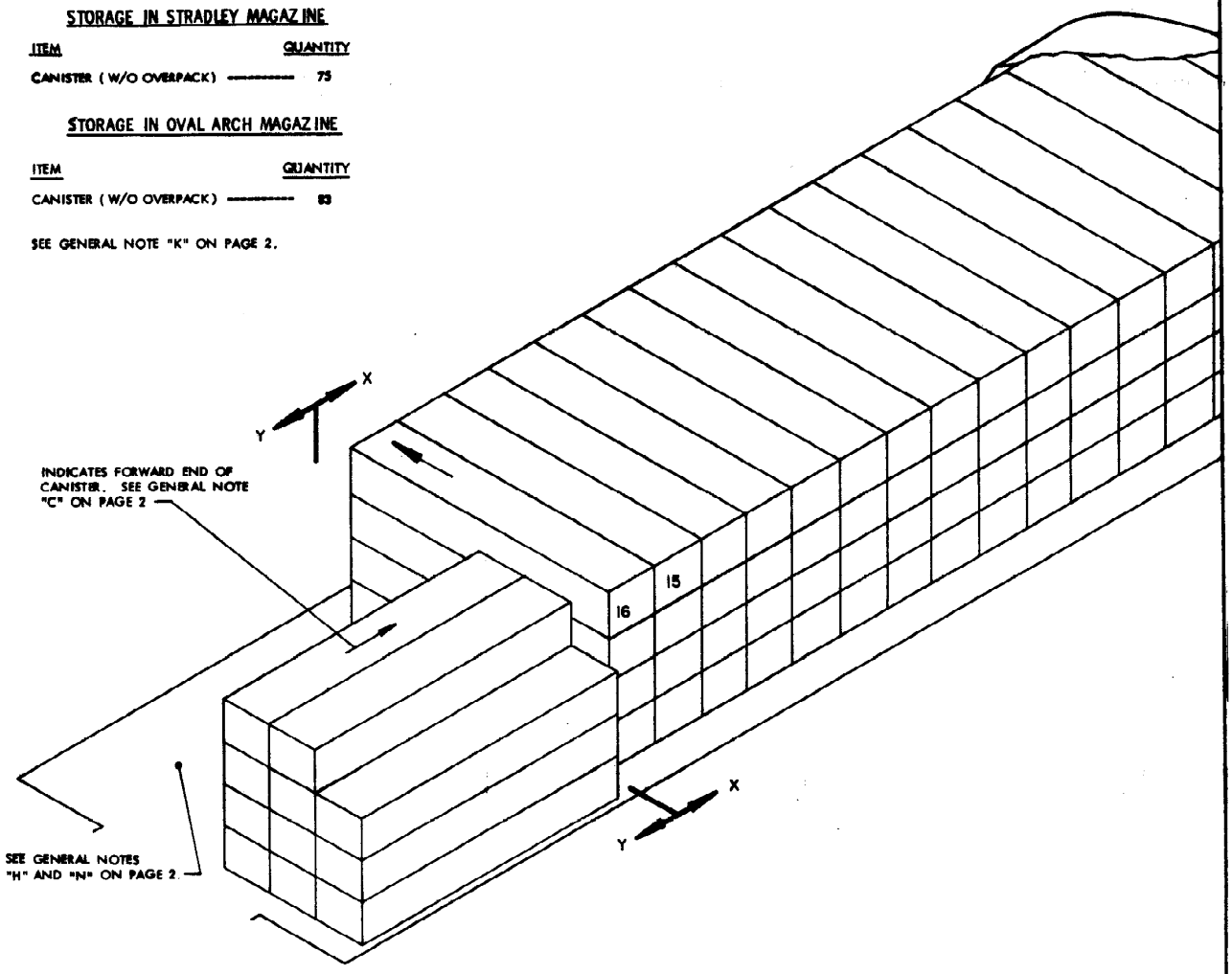
## STORAGE IN STRADLEY MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK) | 75 |

## STORAGE IN OVAL ARCH MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK) | 83 |

SEE GENERAL NOTE "K" ON PAGE 2.




ISOMETRIC VIEW

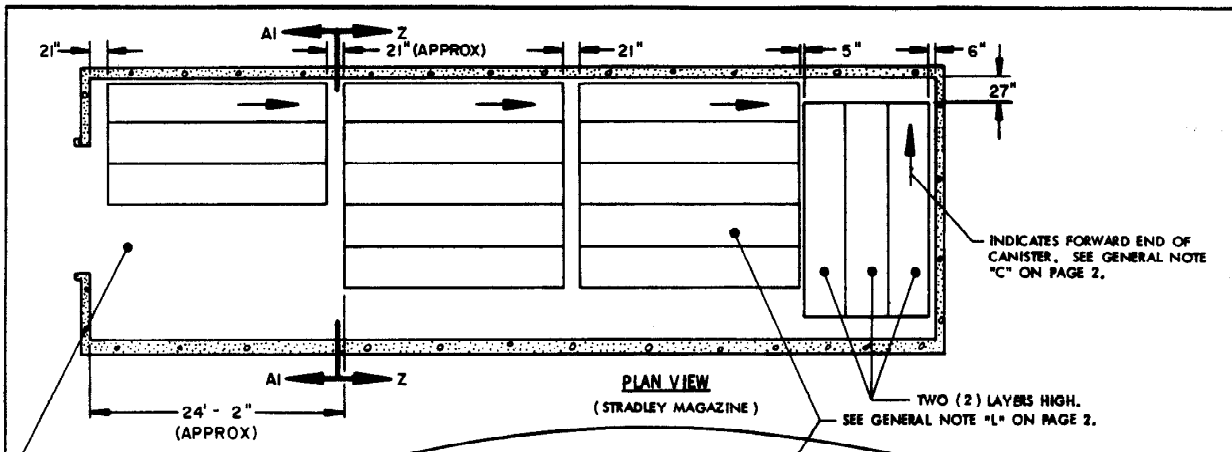
( STRADLEY MAGAZINE )

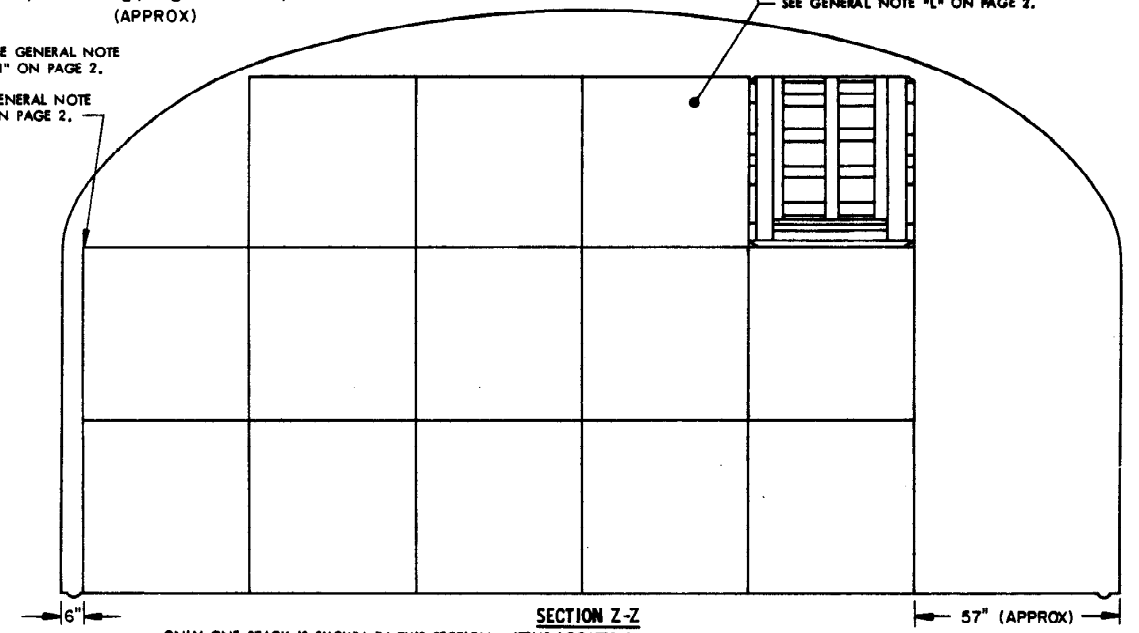
FOR "GENERAL NOTES, SEE PAGE 2

SPECIAL NOTES:

1. STORAGE IN AN OVAL ARCH MAGAZINE IS BASED ON EIGHTEEN ( 18 ) CROSSWISE STACKS, FOUR CANISTERS HIGH.
2. IF THE CANISTERS BEING STORED HAVE THE ISOLATION FRAME ASSEMBLIES REVERSED ( WITH THE WOODEN SKIDS EXTENDING UNDER THE BODY OF THE CANISTER RATHER THAN PROTRUDING ) IT WILL BE POSSIBLE TO STORE ONE ( 1 ) ADDITIONAL CROSSWISE STACK FOR A TOTAL STORAGE QUANTITY OF EIGHTY-SEVEN ( 87) CANISTERS IN AN OVAL ARCH MAGAZINE.
3. STORAGE PROCEDURES CAN BE ACCOMPLISHED BY CONVENTIONAL FRONT LOADING FORKLIFT BUT FRONT/SIDE LOADING FORKLIFTS ARE PREFERRED.
4. IF THE ISOLATION FRAMES ON THE CANISTERS ARE REVERSED AND IF DESIRED, STORAGE CAN BE ACCOMPLISHED IN ACCORDANCE WITH THE STORAGE METHOD DELINEATED ON PAGES 24 AND 25 WITH A CONVENTIONAL TYPE FRONT LOADING FORKLIFT TRUCK. NOTE THAT IF THIS IS ACCOMPLISHED, FEWER CANISTERS PER MAGAZINE CAN BE STORED.

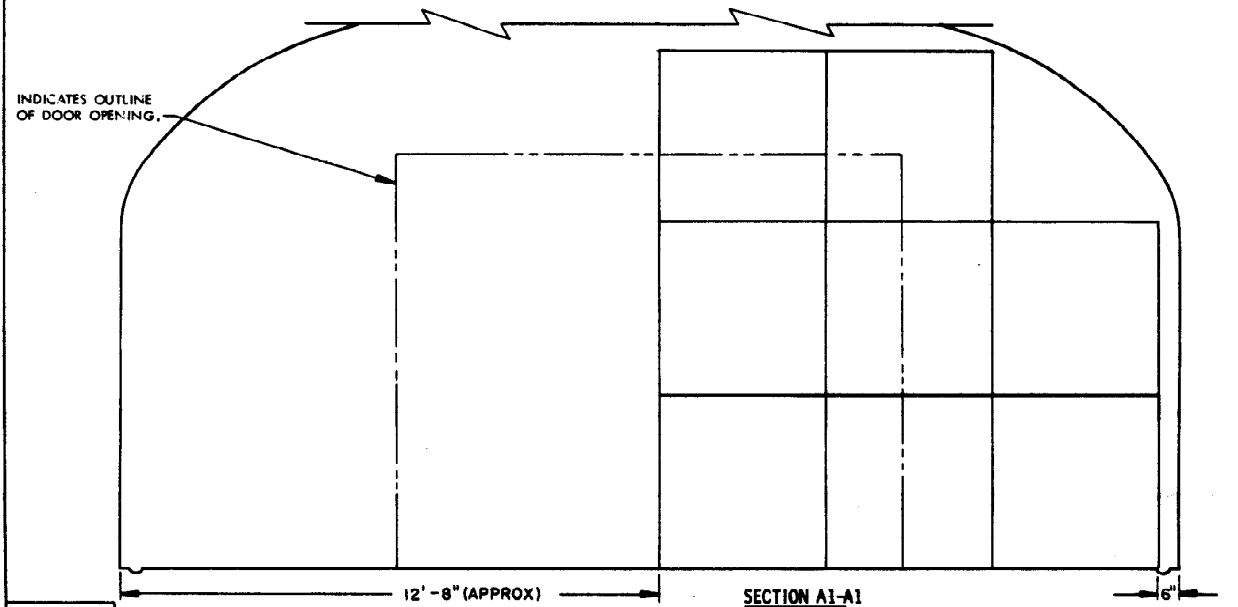
STORAGE PROCEDURES FOR CANISTER ( W/O OVERPACK ) IN 80'L X 25'W X 14'H STRADLEY AND 89'L X 24'-10"W X 14'-4" H OVAL ARCH MAGAZINES ( METHOD II )




SECTION Z-Z

ONLY ONE STACK IS SHOWN IN THIS SECTION. ITEMS LOCATED IN THE REAR OF THE MAGAZINE HAVE NOT BEEN SHOWN FOR CLARITY PURPOSES.




SECTION A1-A1



STORAGE PROCEDURES FOR CANISTER (W/OVERPACK) IN 80' L X 25' W X 14' H STRADLEY AND 89' L X 24'-10" W X 14'-1" H OVAL ARCH MAGAZINES

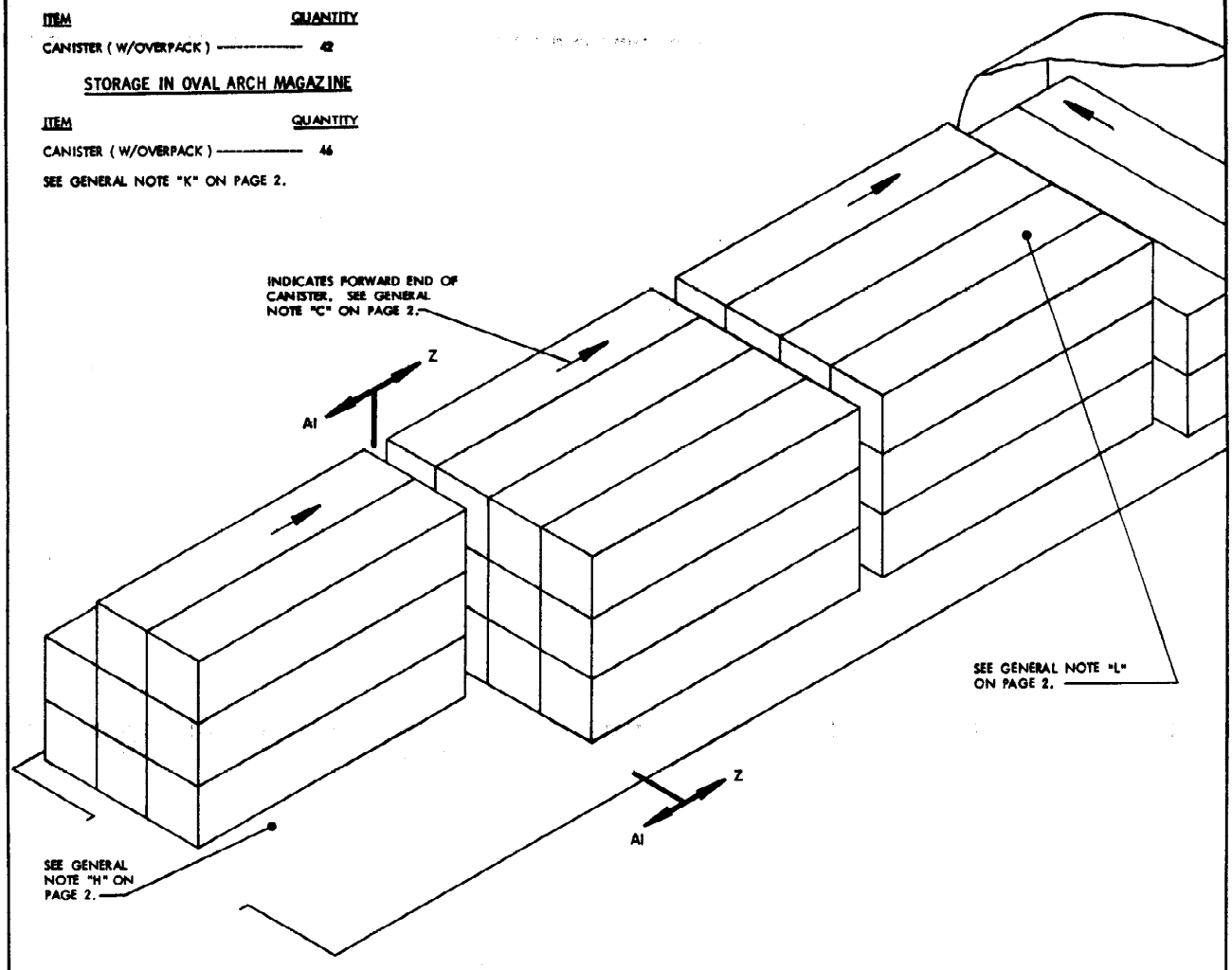
## STORAGE IN STRADLEY MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/OVERPACK ) | 42 |

## STORAGE IN OVAL ARCH MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/OVERPACK ) | 46 |

SEE GENERAL NOTE "K" ON PAGE 2.




ISOMETRIC VIEW

( STRADLEY MAGAZINE )

FOR "GENERAL NOTES", SEE PAGE 2.

SPECIAL NOTE:

1. STORAGE IN AN OVAL ARCH MAGAZINE IS BASED ON FIVE CROSSWISE STACKS, TWO UNITS HIGH INSTEAD OF THE THREE STACKS AS SHOWN.

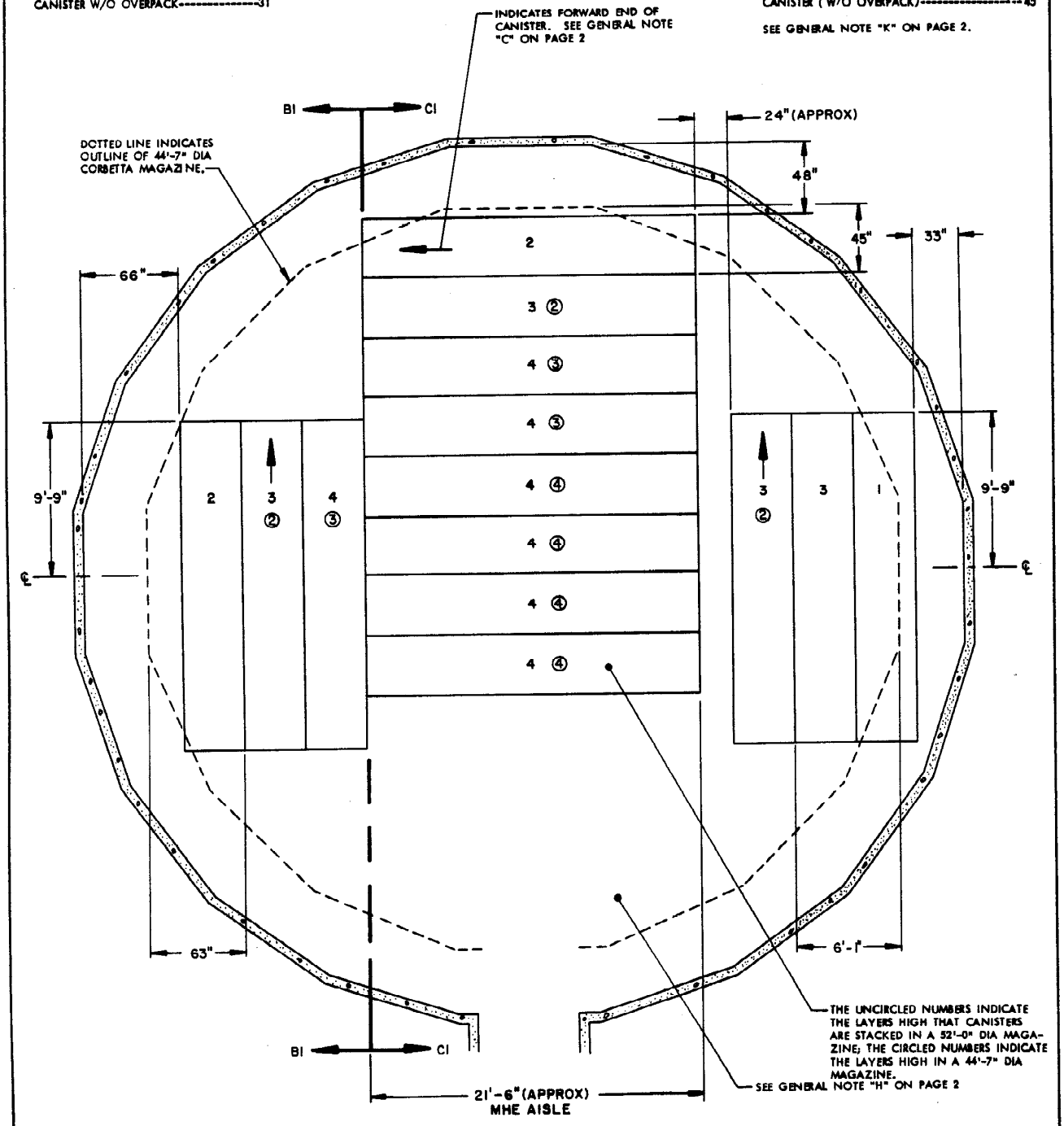
STORAGE IN 44'-7" DIA MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER W/O OVERPACK | 31 |

STORAGE IN 52' DIA MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK) | 45 |

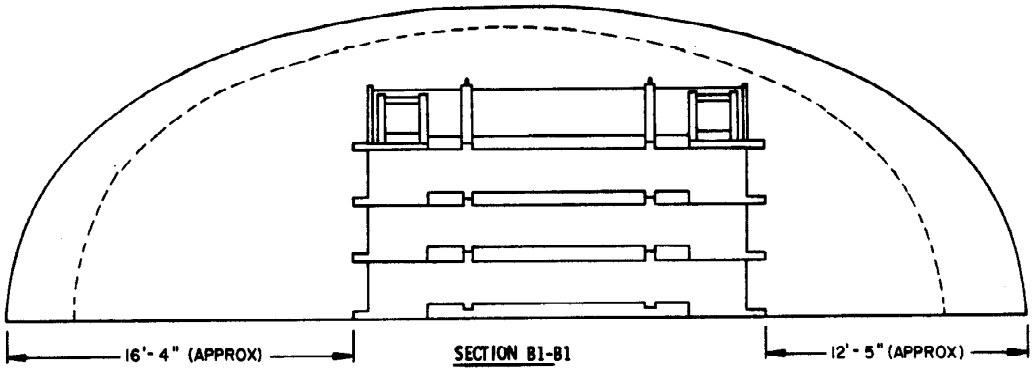
SEE GENERAL NOTE "K" ON PAGE 2.




PLAN VIEW

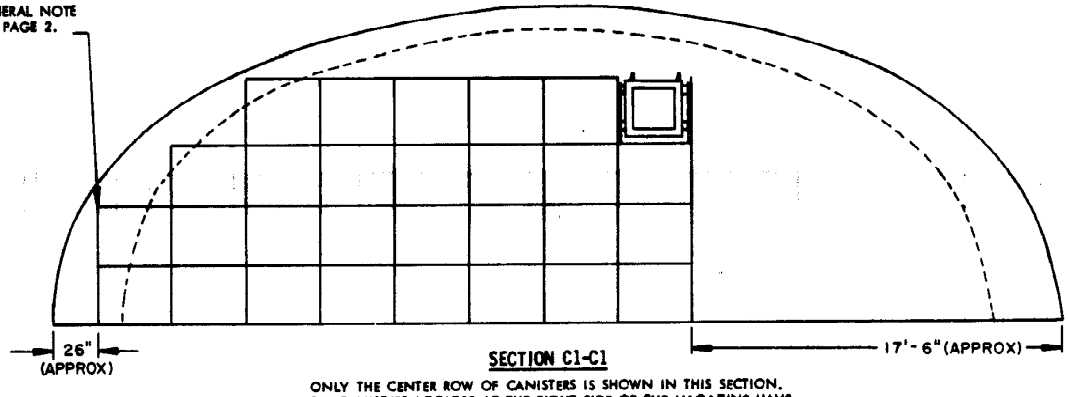


STORAGE PROCEDURES FOR CANISTER ( W/O OVERPACK ) IN 52' AND 44'-7" DIA CORBETTA MAGAZINES




SECTION B1-B1

SEE GENERAL NOTE "E" ON PAGE 2.




SECTION C1-C1

ONLY THE CENTER ROW OF CANISTERS IS SHOWN IN THIS SECTION. THE CANISTERS LOCATED AT THE RIGHT SIDE OF THE MAGAZINE HAVE NOT BEEN SHOWN FOR CLARITY PURPOSES.

FOR "GENERAL NOTES", SEE PAGE 2.

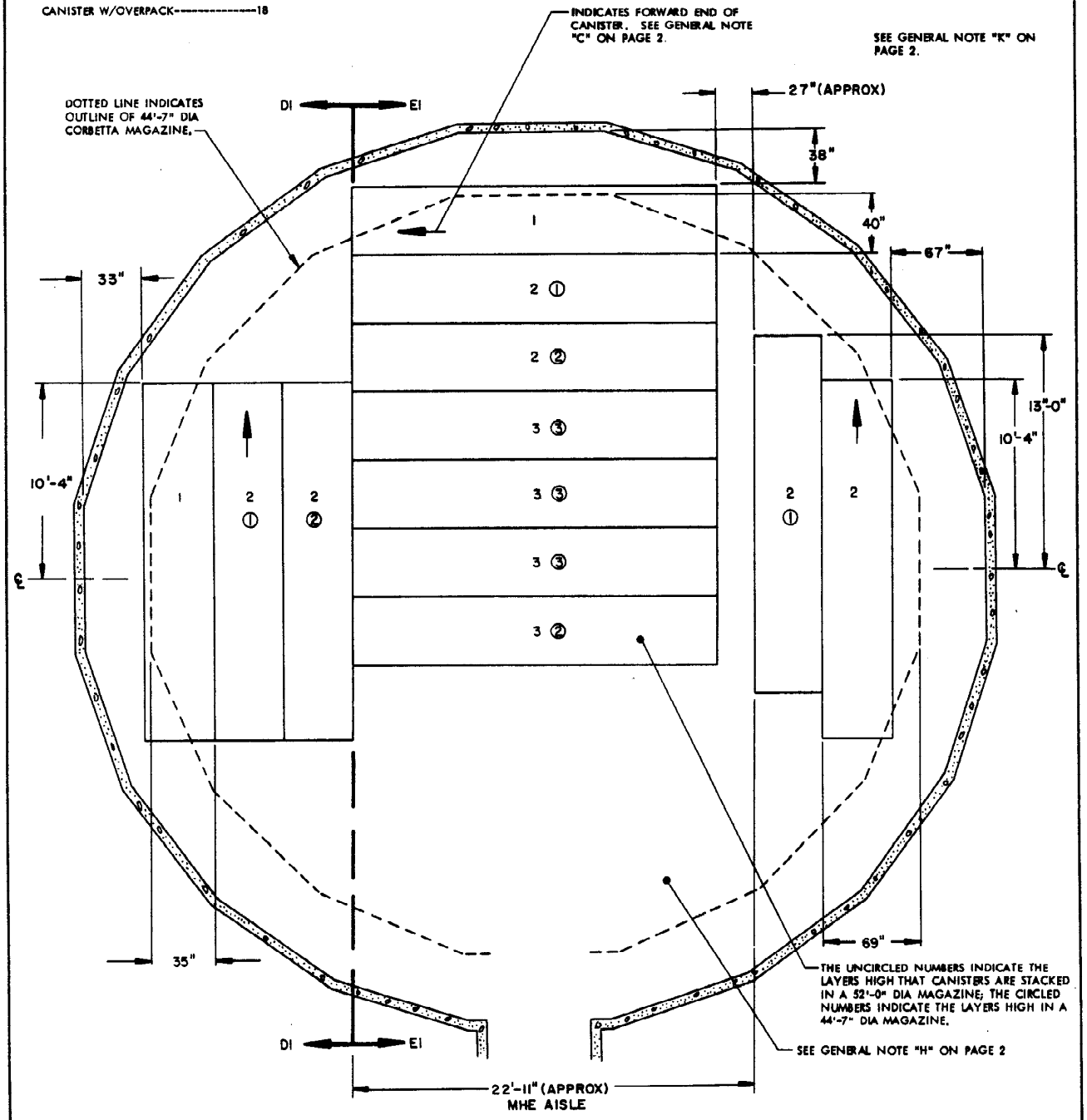
**STORAGE IN A 44'-7" DIA MAGAZINE**

| ITEM | QUANTITY |
|---|---|
| CANISTER W/OVERPACK | 18 |

**STORAGE IN 52' DIA MAGAZINE**

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/OVERPACK) | 26 |

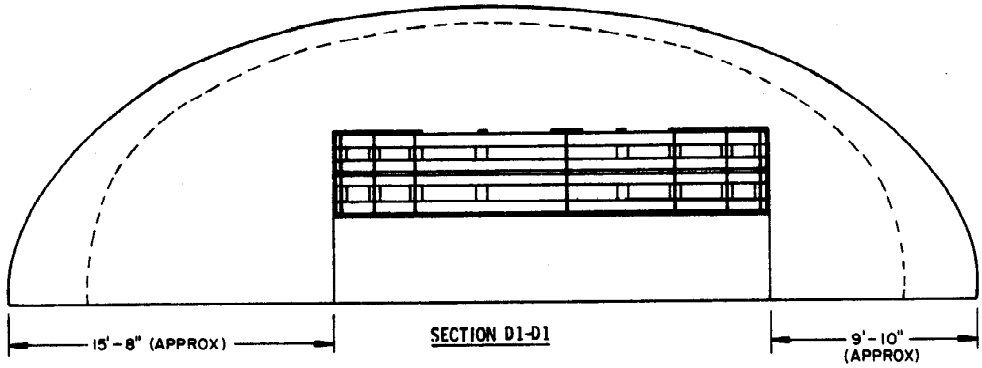
SEE GENERAL NOTE "K" ON PAGE 2.



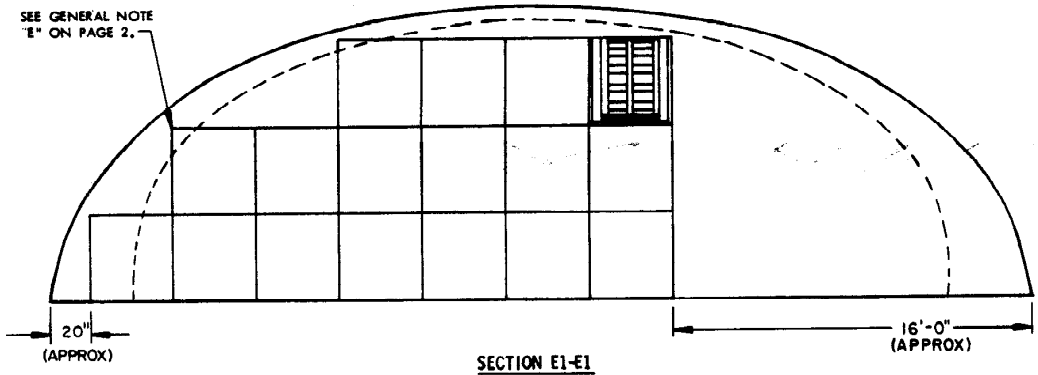

PLAN VIEW



STORAGE PROCEDURES FOR CANISTER (W/OVERPACK) IN 52' AND 44'-7" DIA CORBETTA MAGAZINES



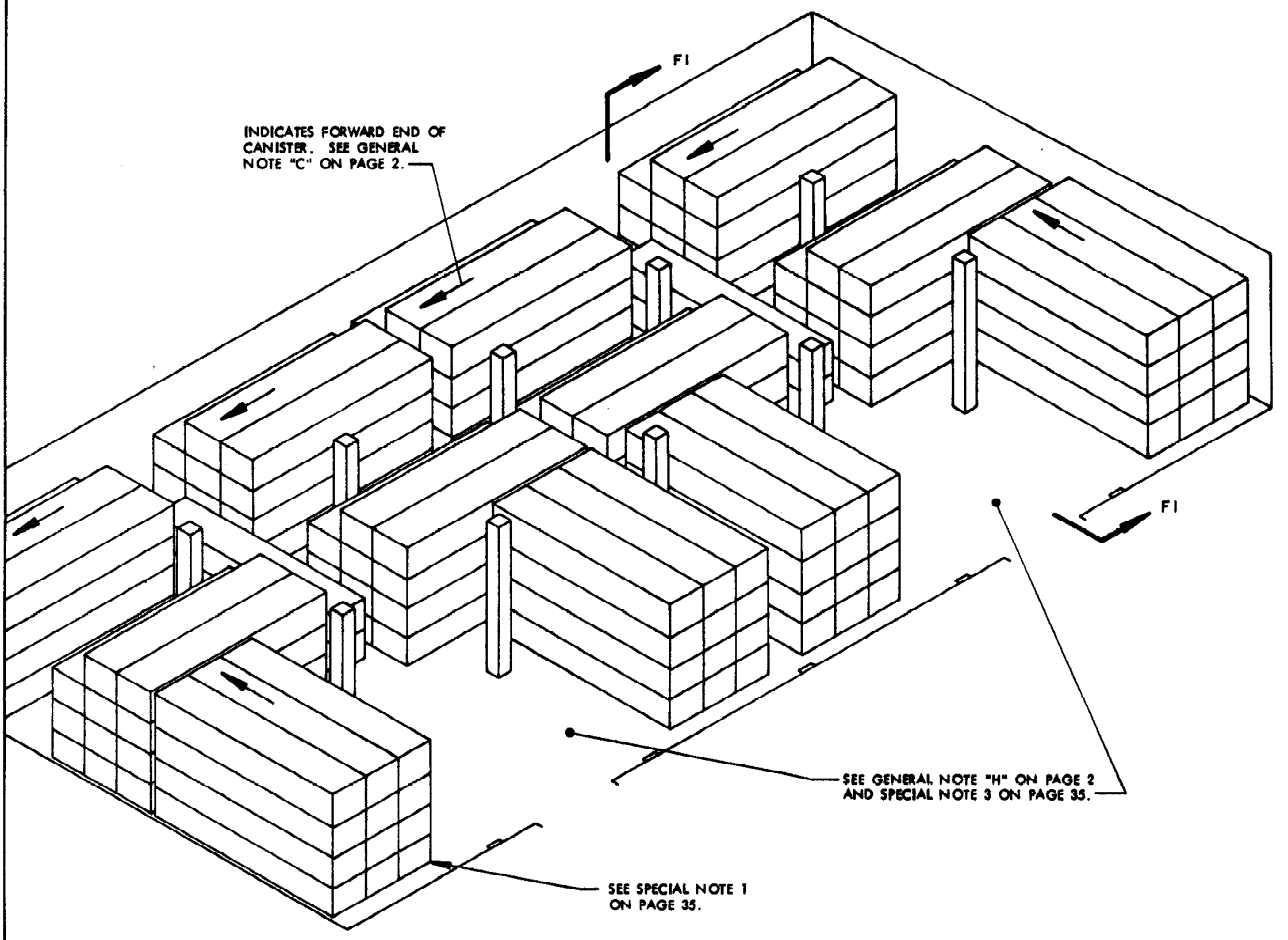

SECTION D1-D1




SECTION E1-E1

ONLY THE CENTER ROW OF CANISTERS IS SHOWN IN THIS SECTION. THE CANISTERS LOCATED AT THE RIGHT SIDE OF THE MAGAZINE HAVE NOT BEEN SHOWN FOR CLARITY PURPOSES.

FOR "GENERAL NOTES", SEE PAGE 2.




ISOMETRIC VIEW

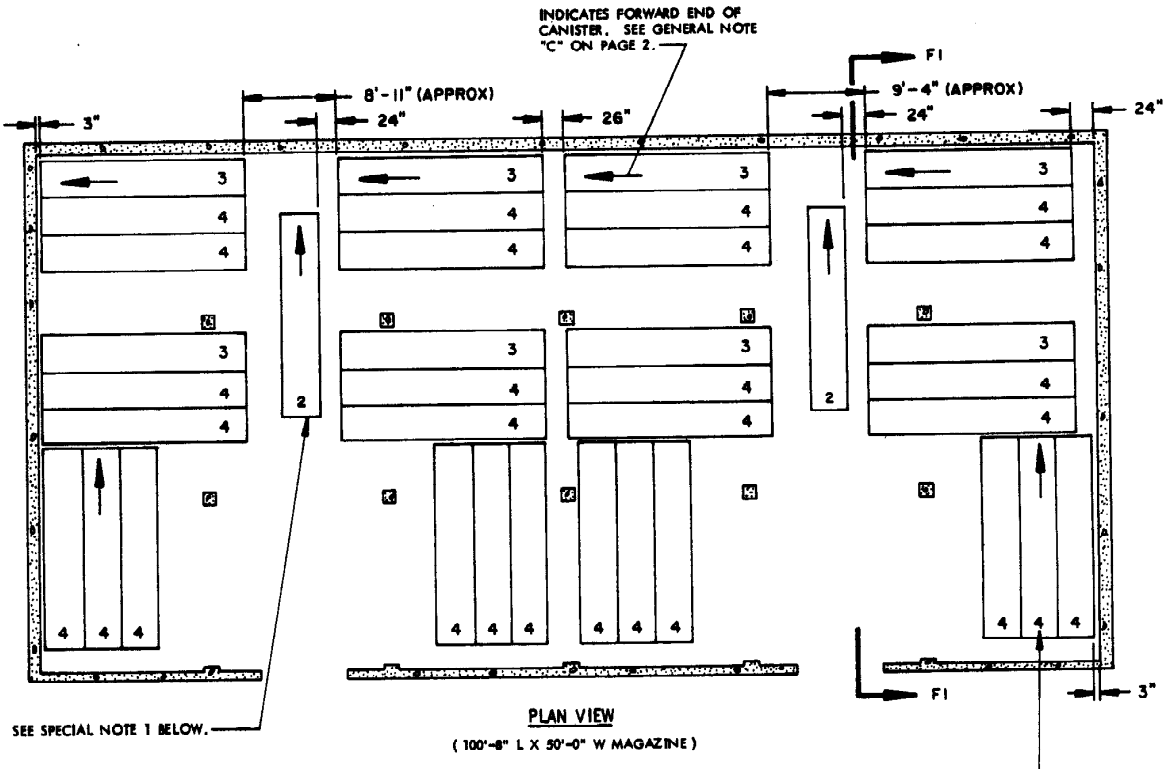
( 100'-8" L X 50'-0" W MAGAZINE )

FOR "GENERAL NOTES", SEE PAGE 2.

STORAGE IN 100' X 50' MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 140 |

SEE GENERAL NOTE "K" ON PAGE 2.




PLAN VIEW

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

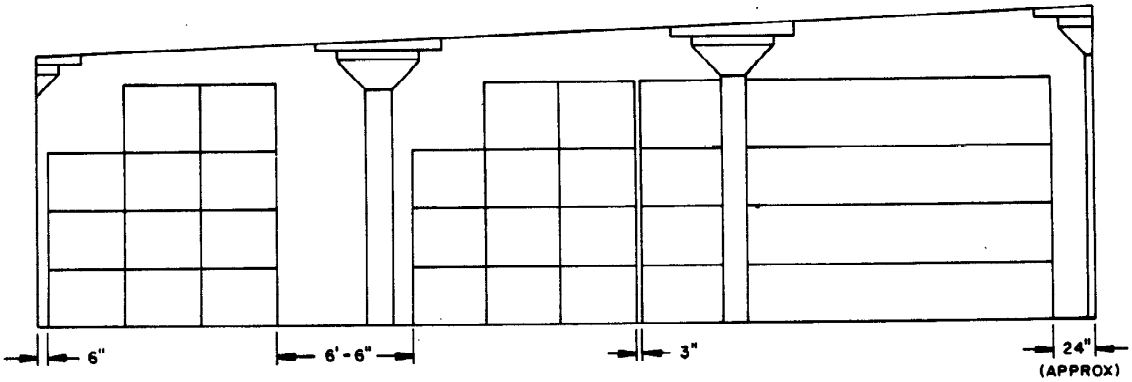
NUMBERS INDICATE THE LAYERS HIGH THAT CANISTERS MAY BE STACKED.

SPECIAL NOTES:

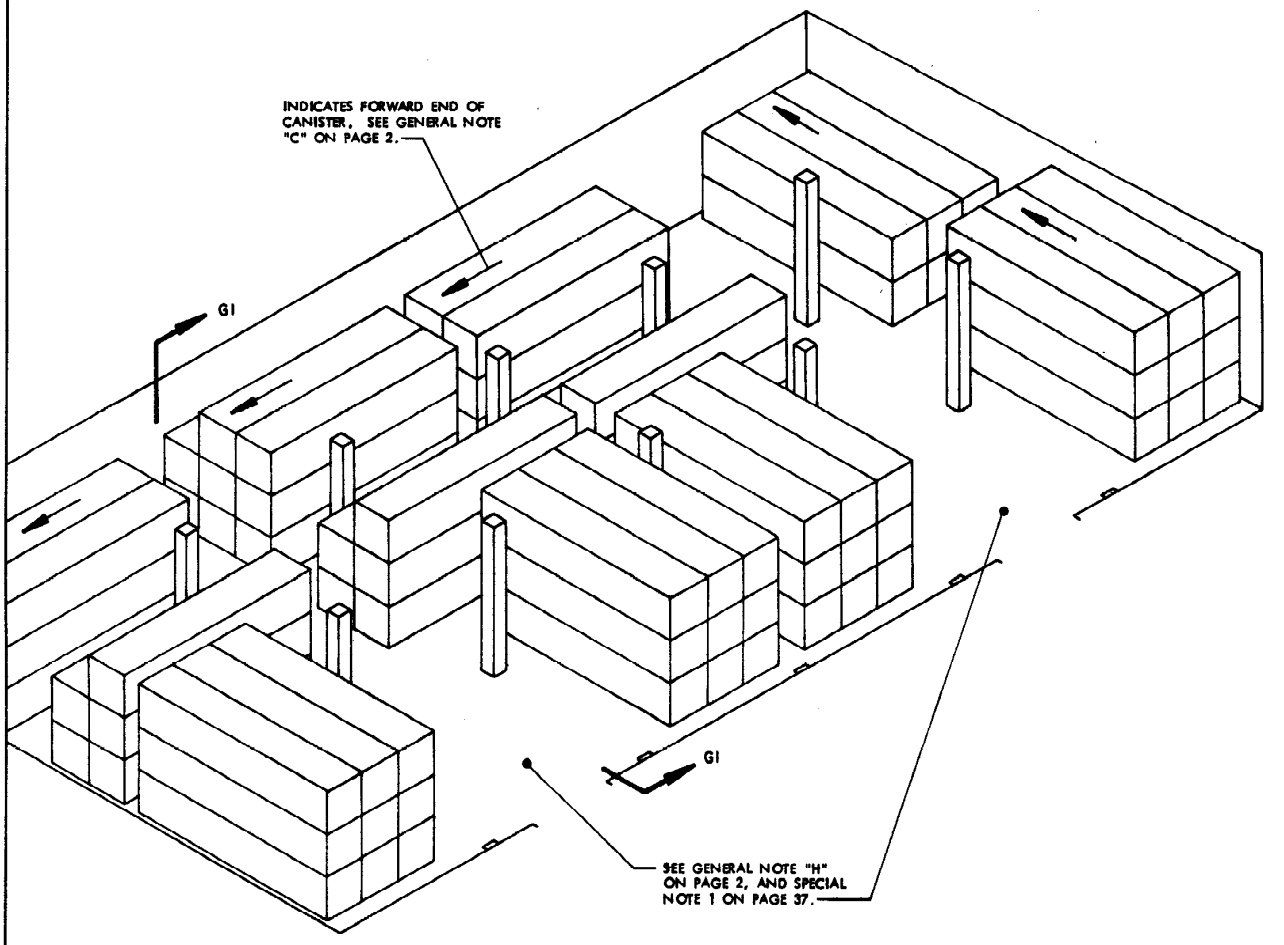
1. THE STORAGE PATTERN DEPICTED REQUIRES THAT TWO ( 2 ) 40" X 48" HARDWOOD PALLETS BE USED UNDER EACH STACK OF CANISTERS DIRECTLY IN LINE WITH THE DOOR OF THE MAGAZINE. THE CANISTERS WILL BE STACKED NEAR OR IN THE DOORWAY AREA AND THEN MOVED TO THE STORED POSITION WITH THE AID OF A PALLET JACK AT THE FORWARD END OF A STACK AND A FORKLIFT AT THE AFT ( REAR OF THE STACK ). SEE "DETAIL A" ON PAGE 53.

2. IF THE CANISTERS TO BE STORED HAVE THE SKIDS IN THE REVERSE POSITION, THE END PROTECTORS AS SHOWN ON PAGE 52 MAY BE USED TO PROTECT THE CANISTERS DURING HANDLING OPERATIONS. THE PROTECTIVE COVERS WILL BE REMOVED AFTER A CANISTER IS IN THE STORED POSITION.

3. IF THE AVAILABLE MHE PERMITS, ADDITIONAL STACKS OF CANISTERS MAY BE STORED WITHIN THE AISLE/DOORWAY AREA OF A MAGAZINE.




SECTION F1-F1




ISOMETRIC VIEW

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

FOR "GENERAL NOTES", SEE PAGE 2.

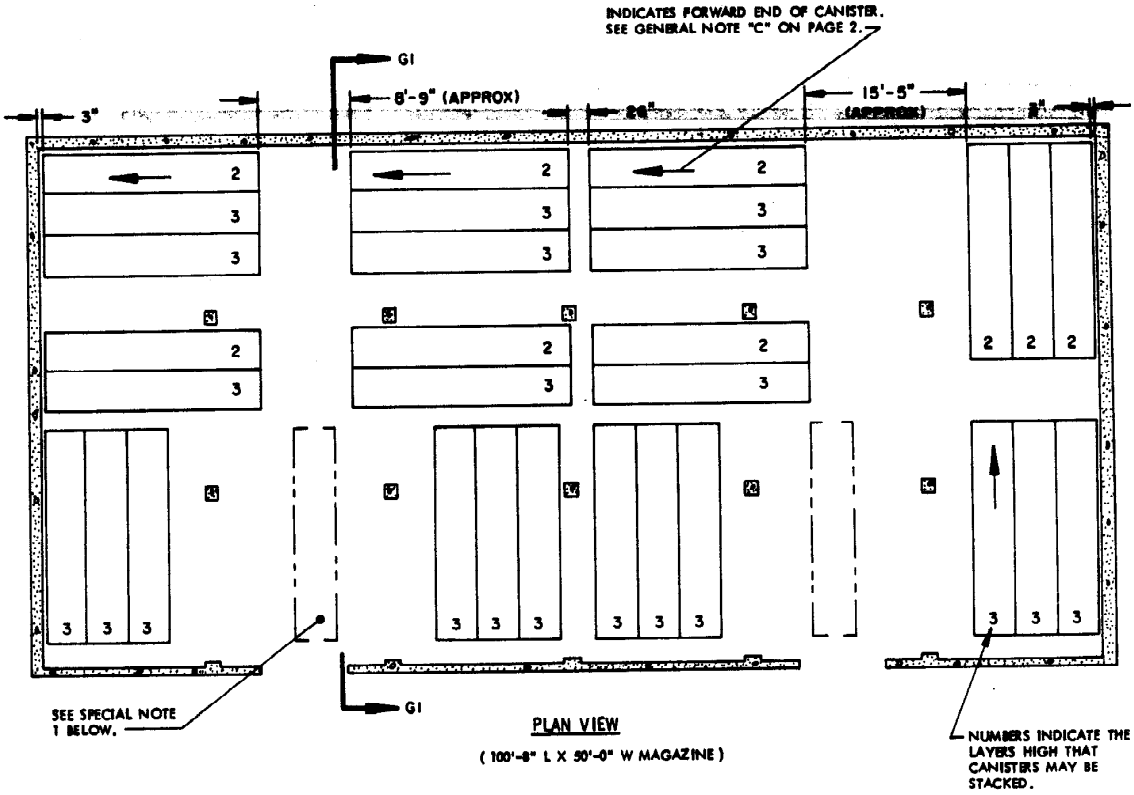
STORAGE IN 100' X 50' MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/OVERPACK ) | 81 |

SEE GENERAL NOTE "K" ON PAGE 2.



STORAGE PROCEDURES FOR CANISTER ( W/OVERPACK ) IN 100'-8" L X 50'-0" W RECTANGULAR MAGAZINE

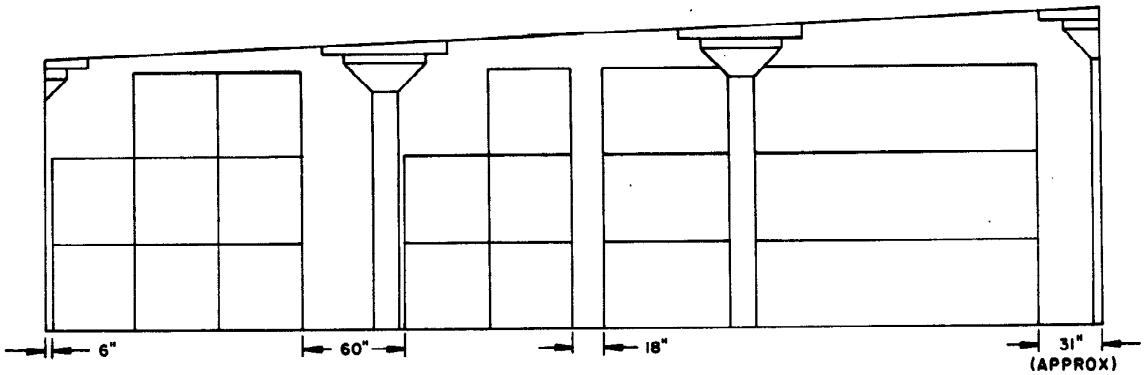



PLAN VIEW

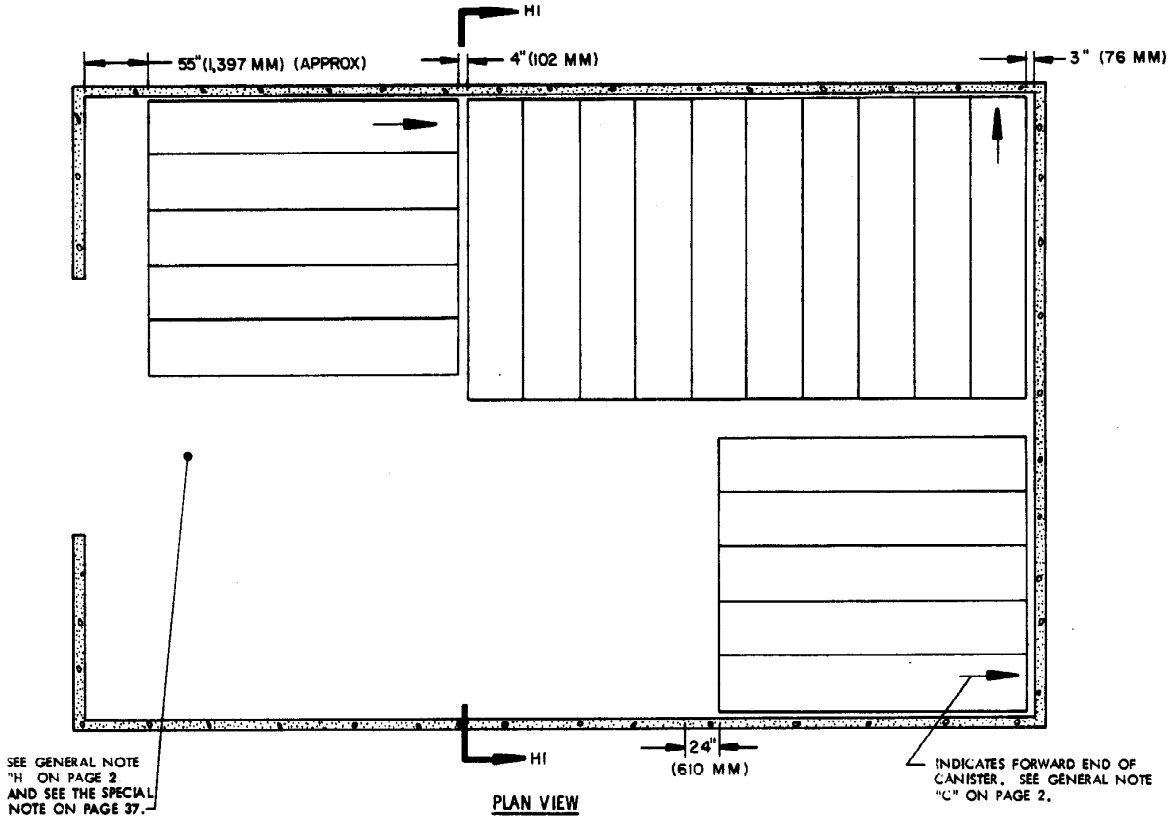
( 100'-8" L X 50'-0" W MAGAZINE )

SPECIAL NOTE:

1. IF THE AVAILABLE MHE PERMITS, ADDITIONAL STACKS OF CANISTERS MAY BE STORED WITHIN THE AISLE/DOORWAY AREA OF A MAGAZINE.

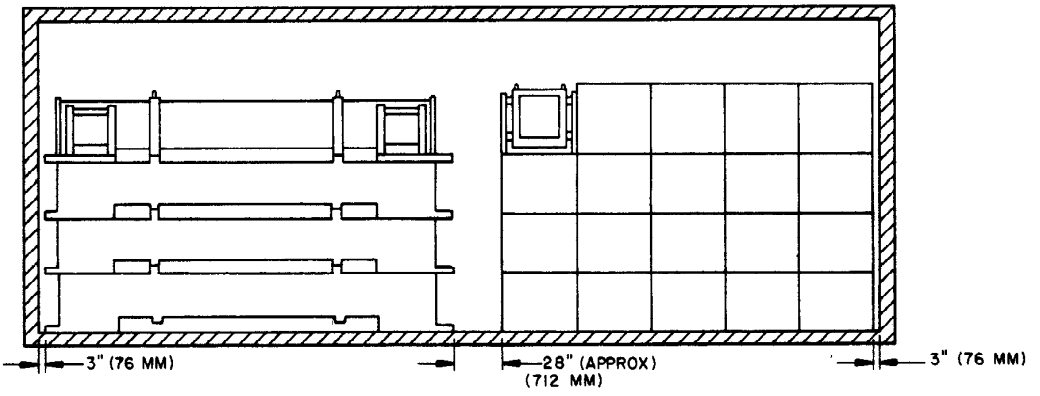



SECTION G1-G1




PLAN VIEW

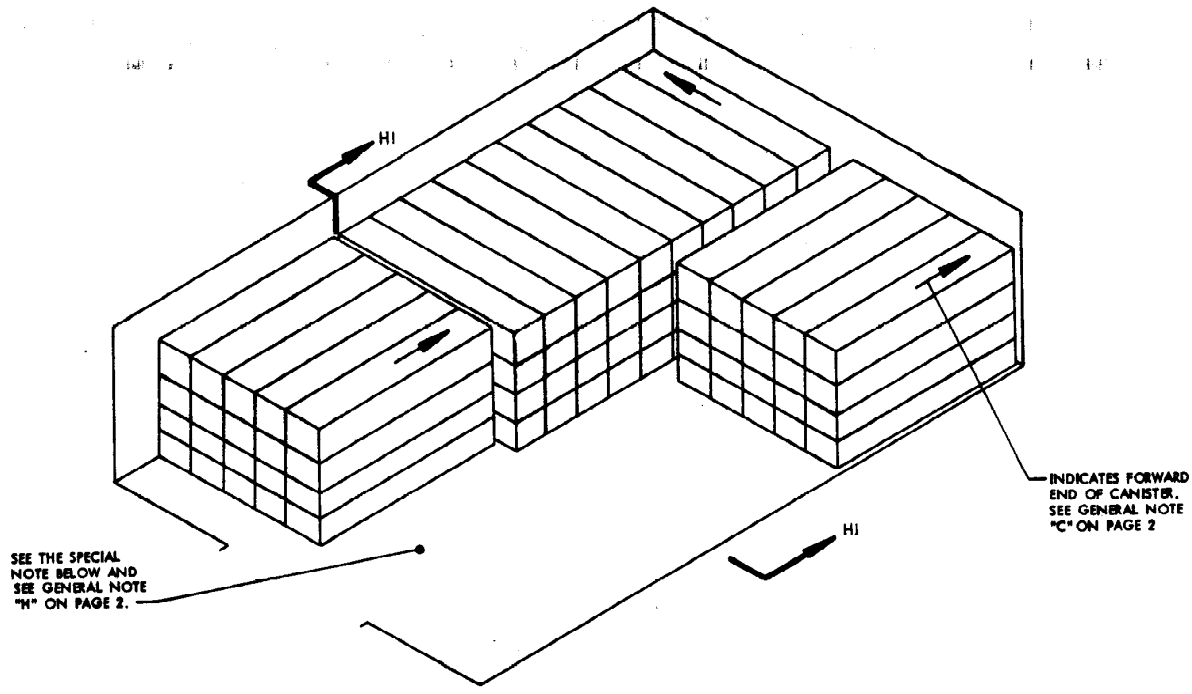
(TYPE II BUNKER MAGAZINE)




SECTION H1-H1



STORAGE PROCEDURES FOR CANISTER (W/O OVERPACK) IN 60' L X 40' W X 15' H TYPE II BUNKER MAGAZINE




ISOMETRIC VIEW

( TYPE II BUNKER MAGAZINE )

SPECIAL NOTE:

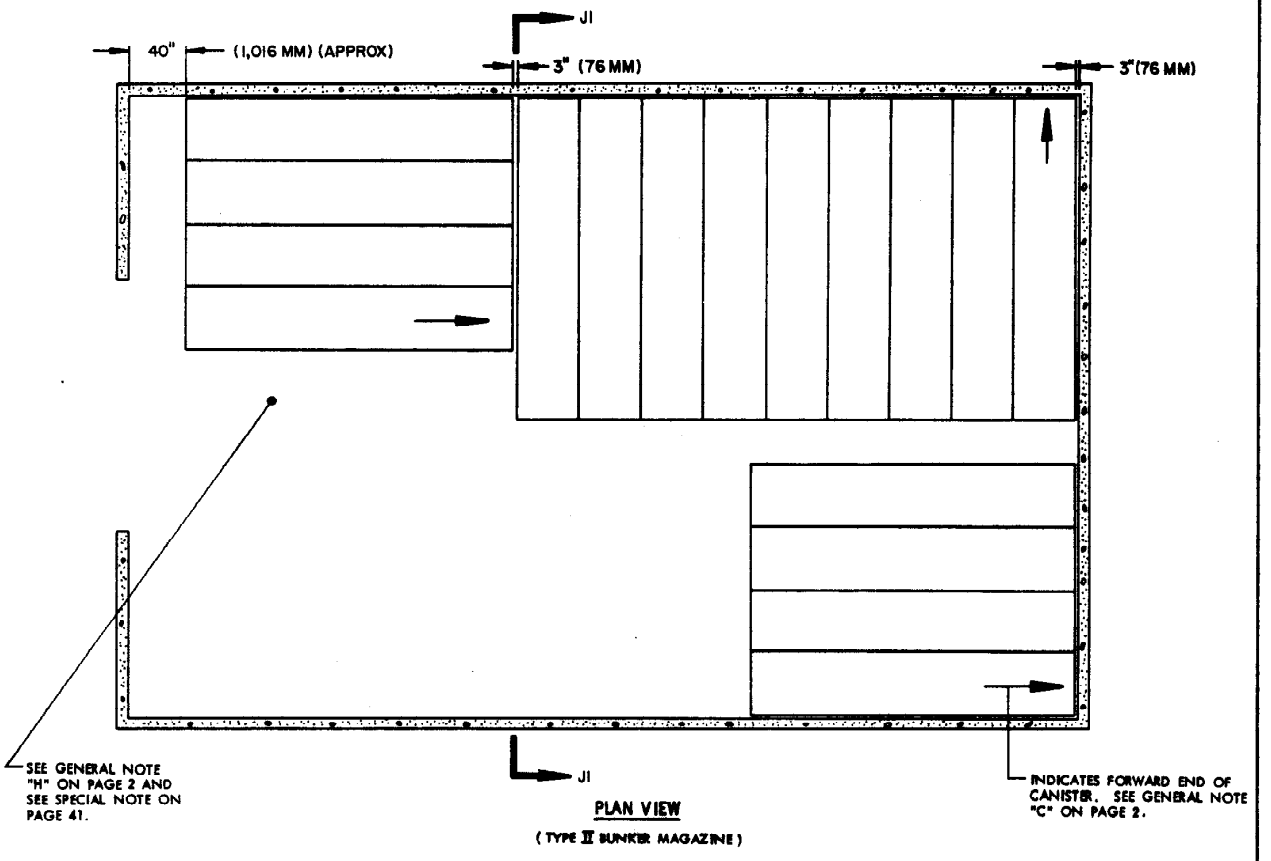
1. IF A FRONT/SIDE LOADING FORKLIFT TRUCK IS AVAILABLE, ADDITIONAL CANISTER STACKS MAY BE STORED WITHIN THE AREA SHOWN AS A MHE OPERATING AREA.

FOR "GENERAL NOTES", SEE PAGE 2.

STORAGE IN TYPE II BUNKER MAGAZINE

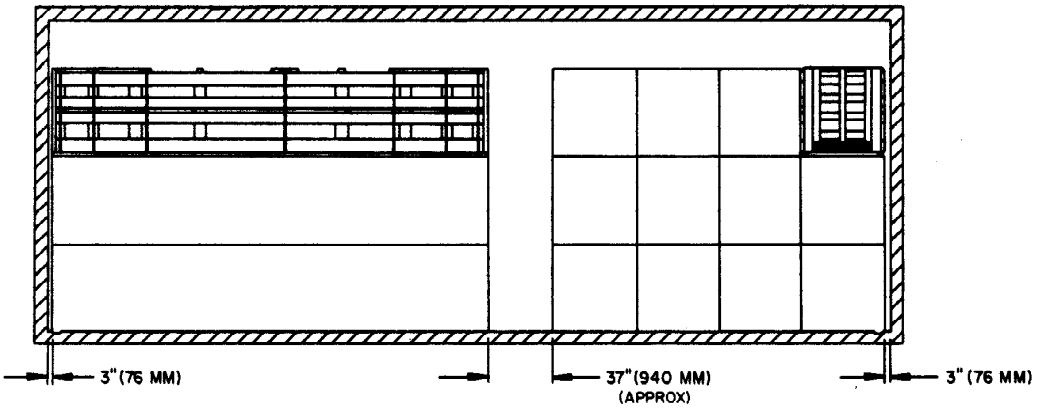
| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 80 |

SEE GENERAL NOTE "K" ON PAGE 2




PLAN VIEW

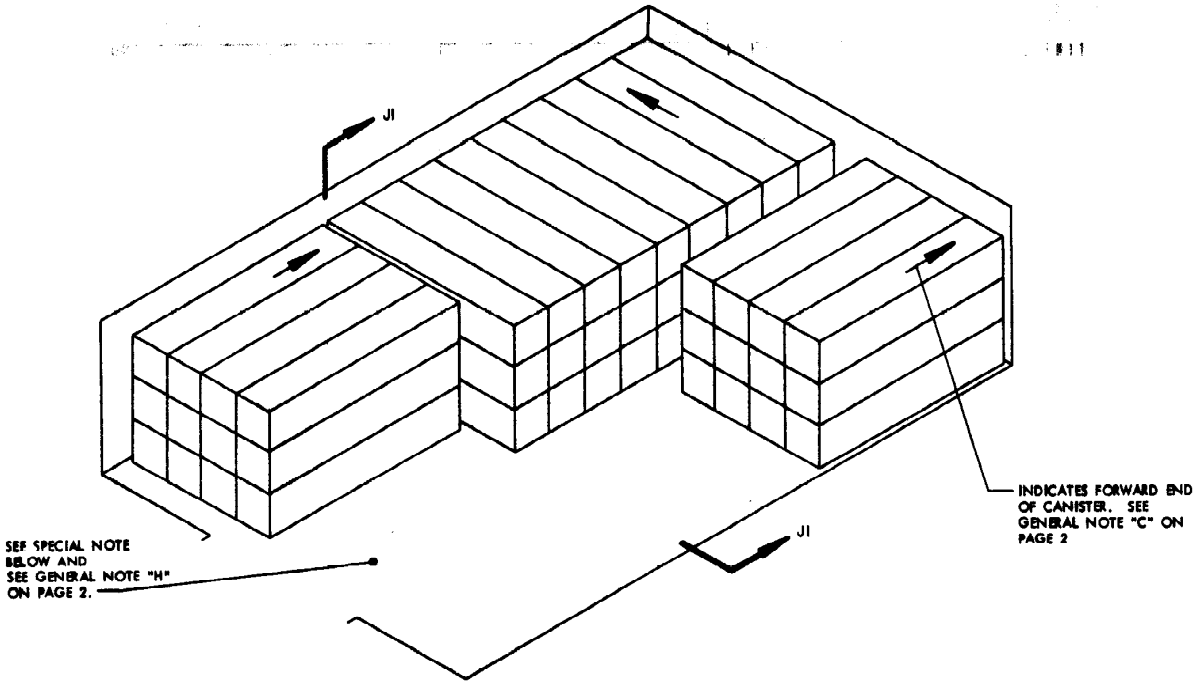
( TYPE II BUNKER MAGAZINE )




SECTION J1-J1



STORAGE PROCEDURES FOR CANISTER ( W/OVERPACK ) IN 60' L X 40' W X 15' H TYPE II BUNKER MAGAZINE




ISOMETRIC VIEW

(TYPE II BUNKER MAGAZINE)

SPECIAL NOTE:

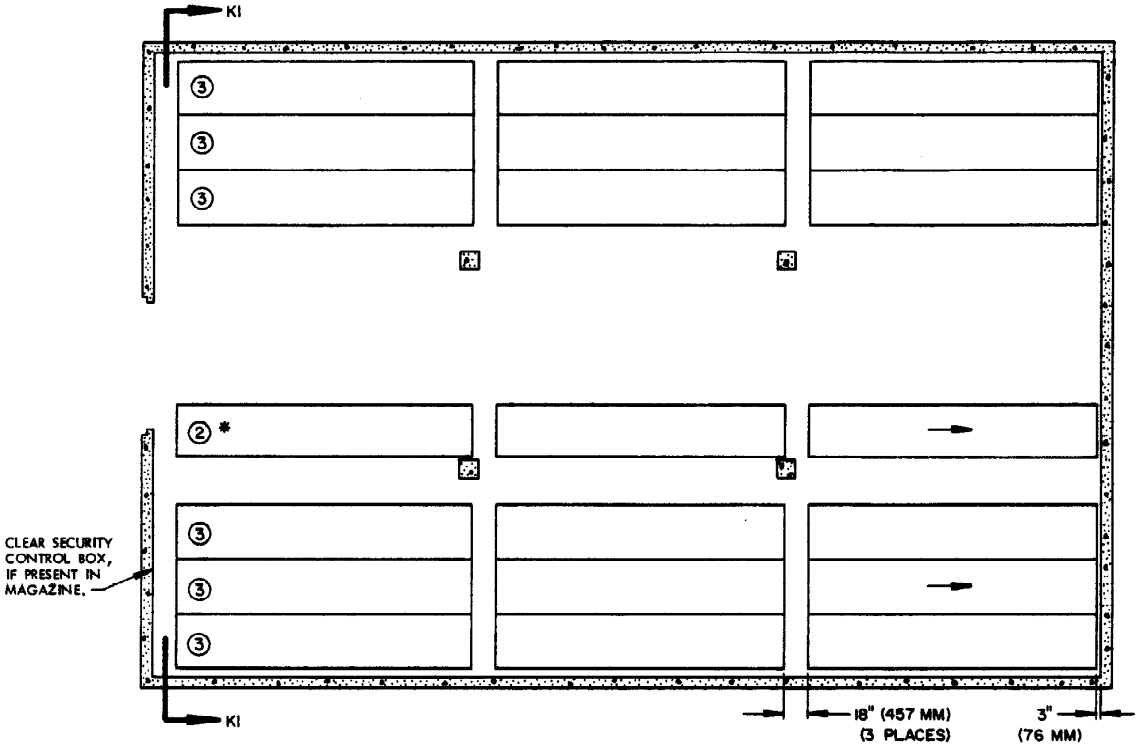
1. IF A FRONT/SIDE LOADING FORKLIFT TRUCK IS AVAILABLE, ADDITIONAL CANISTER STACKS MAY BE STORED WITHIN THE AREA SHOWN AS A MHE OPERATING AREA.

FOR "GENERAL NOTES", SEE PAGE 2.

STORAGE IN TYPE II BUNKER MAGAZINE

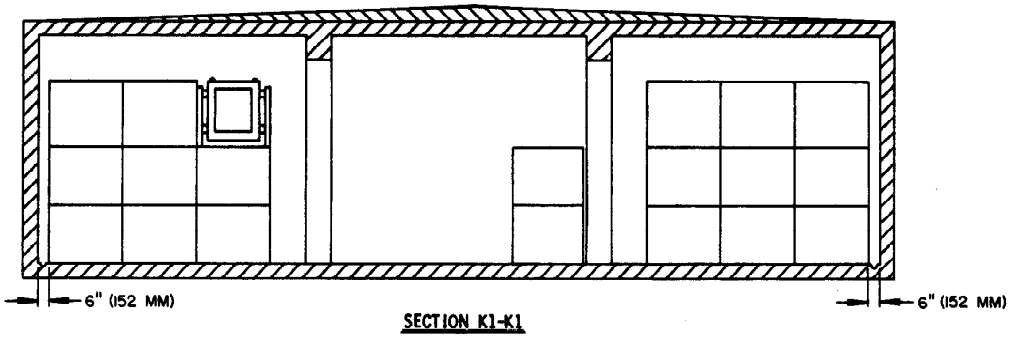
| ITEM | QUANTITY |
|---|---|
| CANISTER (W/OVERPACK) | 51 |

SEE GENERAL NOTE "K" ON PAGE 2.




PLAN VIEW
( TYPE III BUNKER MAGAZINE )

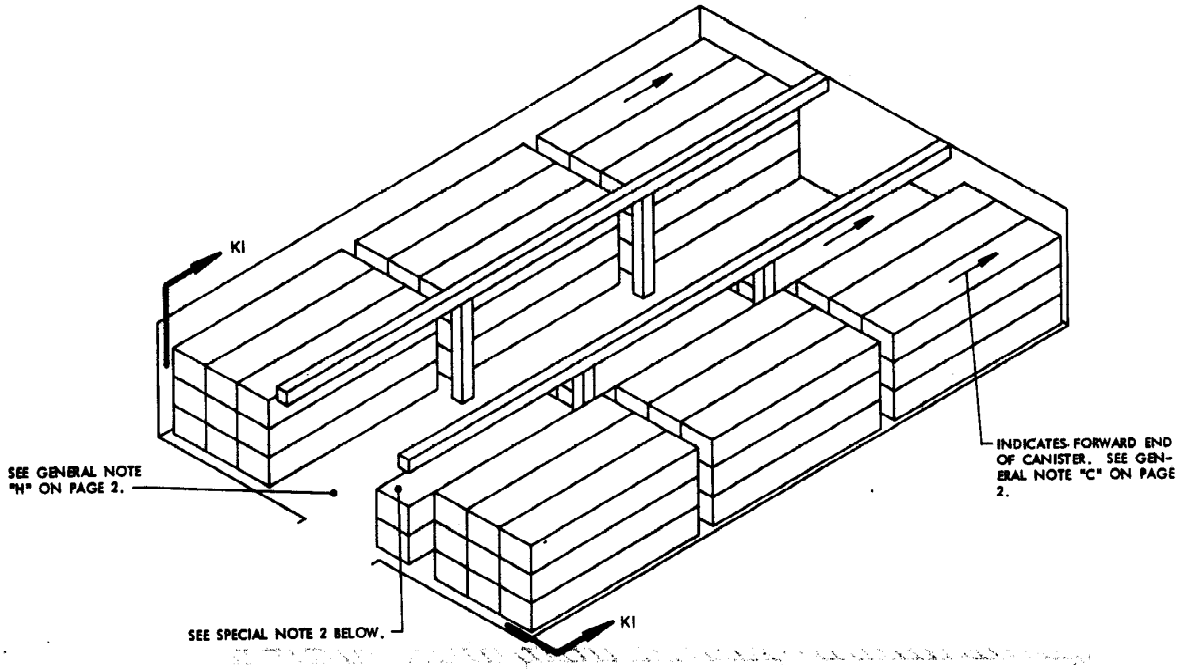
* SEE SPECIAL NOTE 2 ON PAGE 43.




SECTION K1-K1



STORAGE PROCEDURES FOR CANISTER ( W/O OVERPACK ) IN 60'L X 40'W X 11'H TYPE III BUNKER MAGAZINE




ISOMETRIC VIEW

( TYPE III BUNKER MAGAZINE )

SPECIAL NOTES:

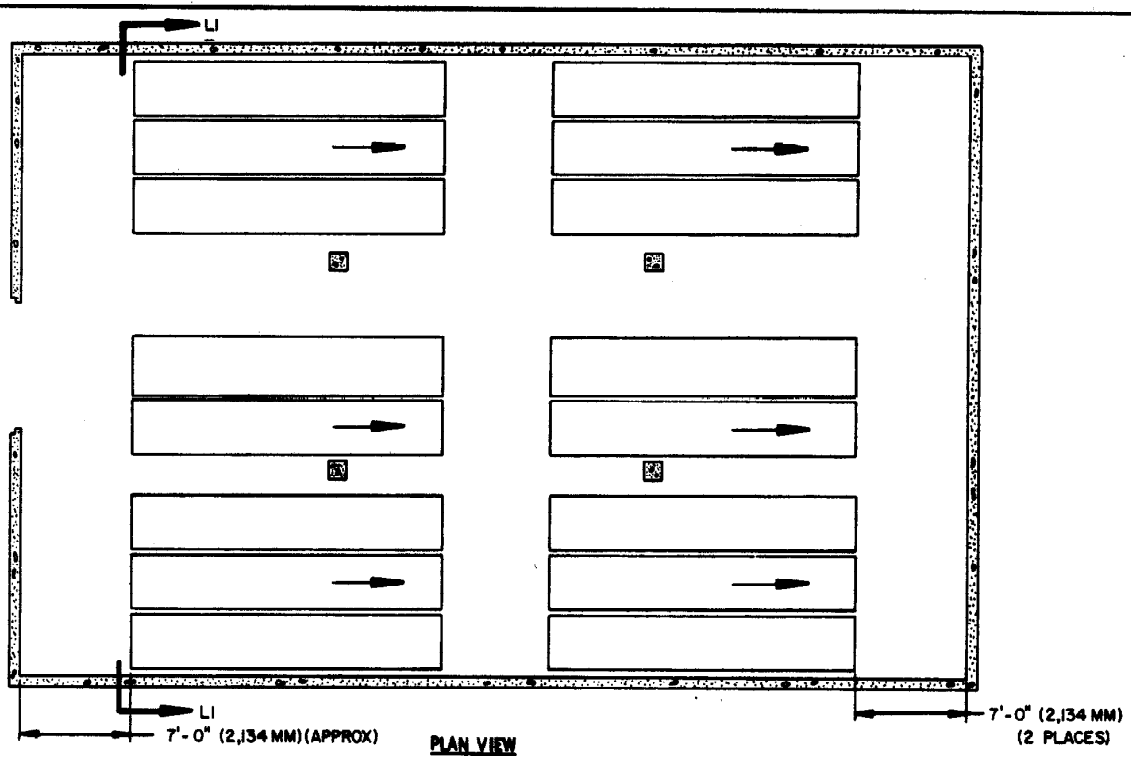
1. STORAGE PROCEDURES SHOWN ON PAGE 42 AND ABOVE ARE THE PREFERRED METHOD OF STORAGE IN TYPE III BUNKER MAGAZINES. HOWEVER, THEY ARE DESIGNED FOR USE WITH A FORKLIFT TRUCK WITH FRONT/SIDE LOADING CAPABILITIES AND THE CANISTER SKIDS MUST BE IN THE REVERSE POSITION. WHEN HANDLING THE CANISTERS WITH THE SKIDS IN THE REVERSED POSITION, FORWARD AND AFT END PROTECTORS, AS DETAILED ON PAGE 52, SHOULD BE USED. PROTECTORS ARE TO BE REMOVED AFTER A CANISTER IS STORED.
2. CANISTERS STORED IN THE CENTER PORTION OF THE MAGAZINE WILL BE LIMITED TO TWO UNITS HIGH UNLESS A FORKLIFT TRUCK WITH 6000/6000 POUND CAPACITIES IS USED. IF SO, THEN THOSE STACKS MAY BE THREE CANISTERS HIGH.
3. IF A FORKLIFT TRUCK WITH FRONT/SIDE LOADING CAPABILITIES IS NOT AVAILABLE, THEN THE ALTERNATE STORAGE PROCEDURES AS SHOWN ON PAGES 44 AND 45 SHOULD BE USED.

FOR GENERAL NOTES, SEE PAGE 2.

STORAGE IN TYPE III BUNKER MAGAZINE

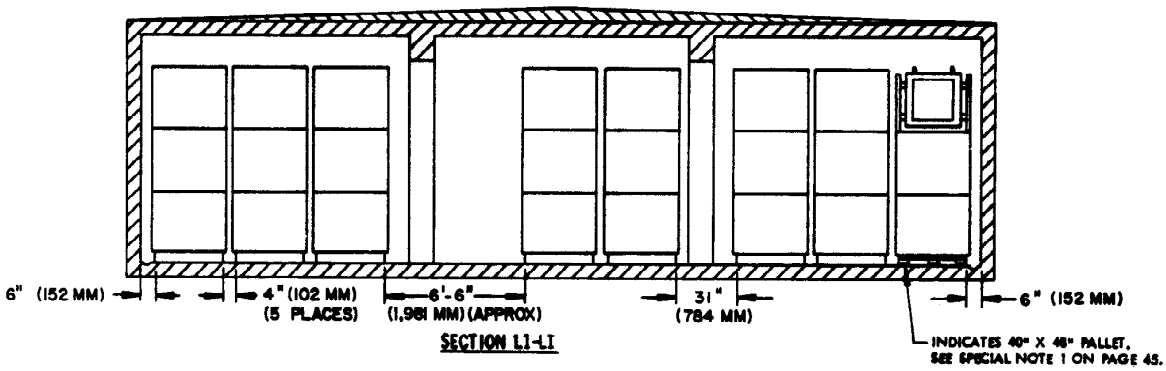
| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 60 |

SEE GENERAL NOTE "K" ON PAGE 2.




PLAN VIEW

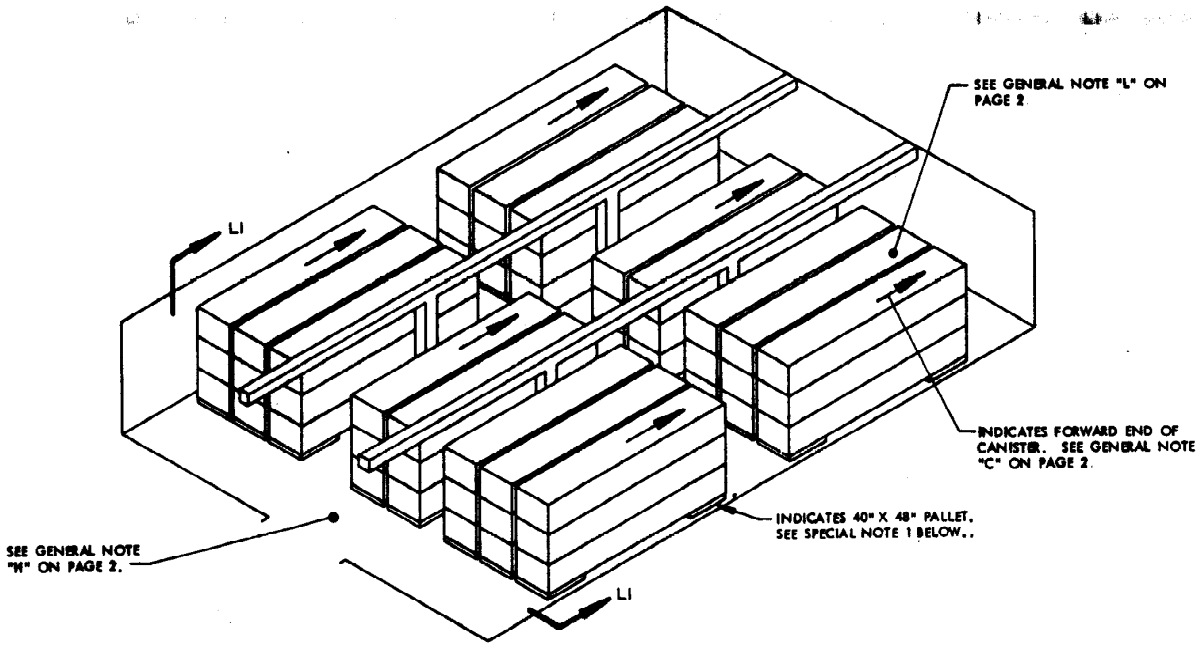
(TYPE III BUNKER MAGAZINE)




SECTION L1-L1



ALTERNATE STORAGE PROCEDURES FOR CANISTER (W/O OVERPACK) IN 60' L X 40'W X 11' H TYPE III BUNKER MAGAZINE




ISOMETRIC VIEW

( TYPE III BUNKER MAGAZINE )

SPECIAL NOTES:

1. THE STORAGE PATTERN DEPICTED REQUIRES THAT TWO ( 2 ) 40" X 48" HARDWOOD PALLETS BE USED UNDER EACH STACK OF CANISTERS. THE CANISTERS WILL BE STACKED NEAR OR IN THE DOORWAY AREA AND THEN MOVED TO THE STORED POSITION WITH THE AID OF A PALLET JACK AT THE FORWARD END OF THE STACK AND A FORKLIFT AT THE AFT ( REAR ) OF THE STACK. SEE "DETAIL A" ON PAGE 58.

2. IF THE CANISTERS TO BE STORED HAVE THE SKIDS IN THE REVERSE POSITION, THE END PROTECTORS AS SHOWN ON PAGE 58 MAY BE USED TO PROTECT THE CANISTERS DURING HANDLING OPERATIONS. THE PROTECTIVE COVERS WILL BE REMOVED AFTER A CANISTER STACK IS IN THE STORED POSITION.

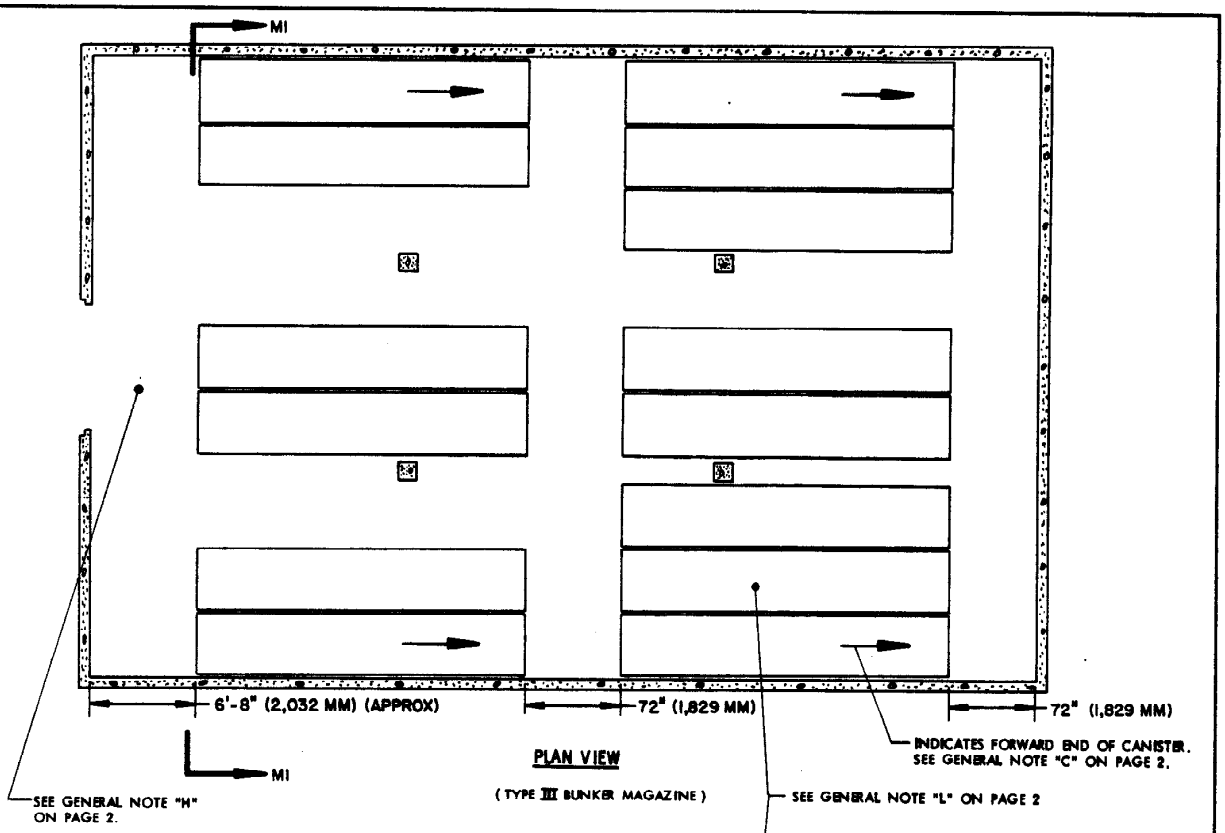
3. THE STORAGE PROCEDURES SHOWN ON PAGE 44 AND ABOVE ARE DESIGNED FOR USE WITH A CONVENTIONAL FRONT LOADING FORK-LIFT TRUCK AND A PALLET JACK. IF A FORKLIFT TRUCK WITH FRONT/SIDE LOADING CAPABILITIES IS AVAILABLE, THE PREFERRED METHOD OF STORAGE SHOWN ON PAGES 42 AND 43 SHOULD BE USED.

FOR "GENERAL NOTES", SEE PAGE 2.

STORAGE IN TYPE III BUNKER MAGAZINE

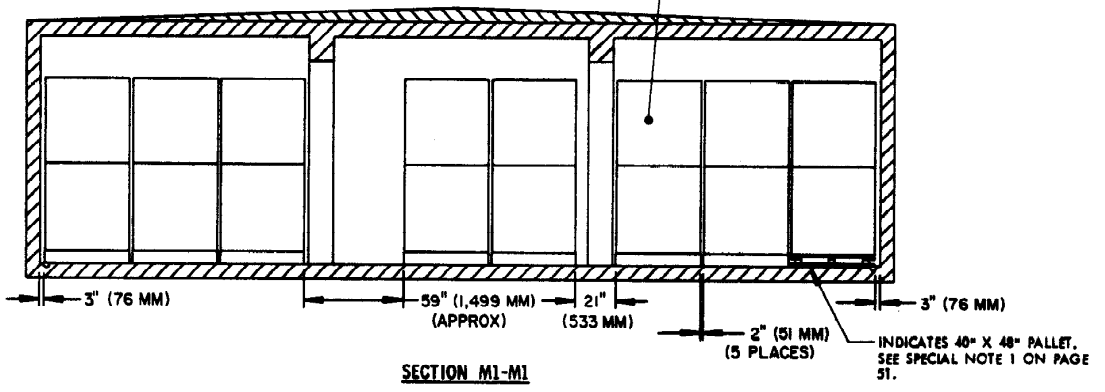
| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/O OVERPACK ) | 48 |

SEE GENERAL NOTE "K" ON PAGE 2.




PLAN VIEW

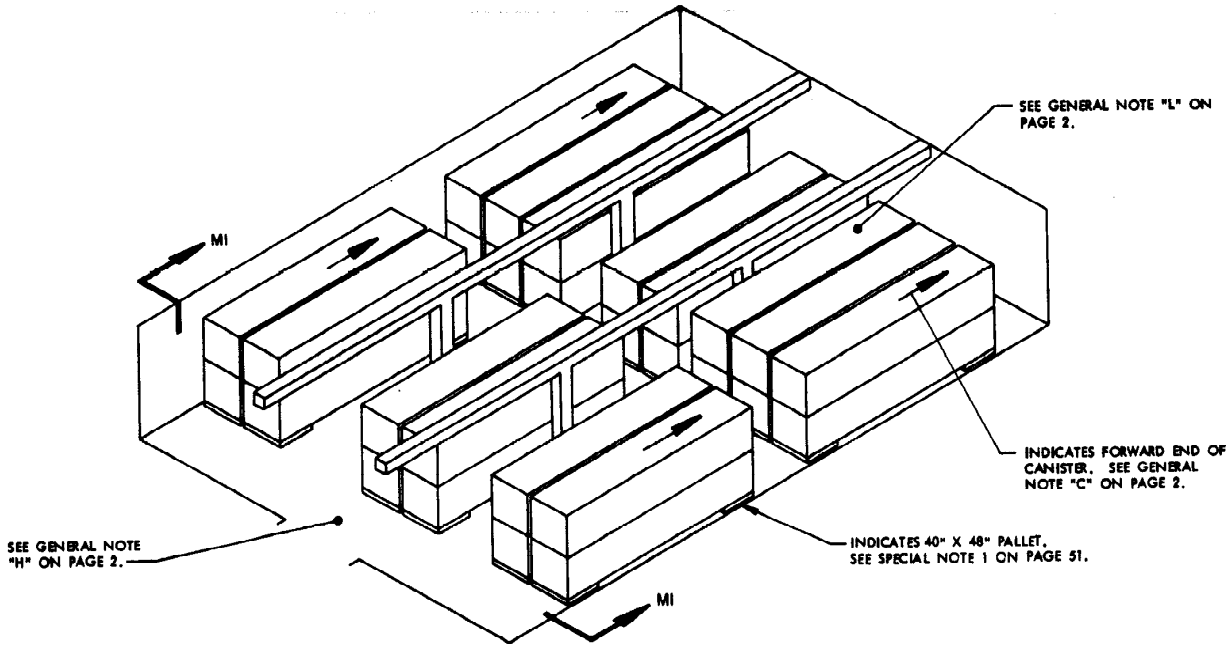
( TYPE III BUNKER MAGAZINE )




SECTION M1-M1



STORAGE PROCEDURES FOR CANISTER ( W/OVERPACK ) IN 60' L X 40' W X 11' H TYPE III BUNKER MAGAZINE




**ISOMETRIC VIEW**

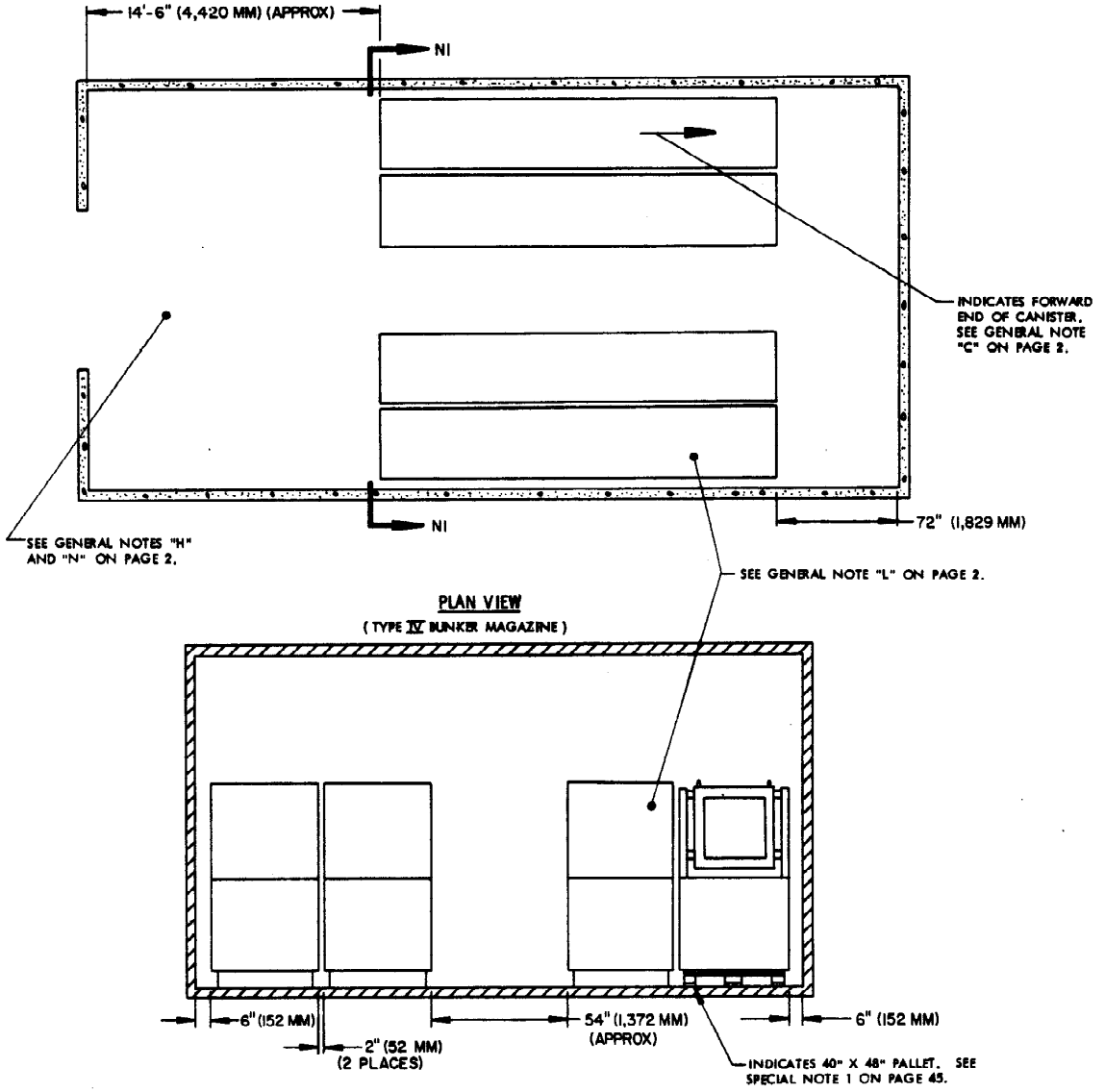
(TYPE III BUNKER MAGAZINE)

FOR "GENERAL NOTES", SEE PAGE 2

**STORAGE IN TYPE III BUNKER MAGAZINE**

| ITEM | QUANTITY |
|---|---|
| CANISTER (W/OVERPACK) | 28 |

SEE GENERAL NOTE "K" ON PAGE 2

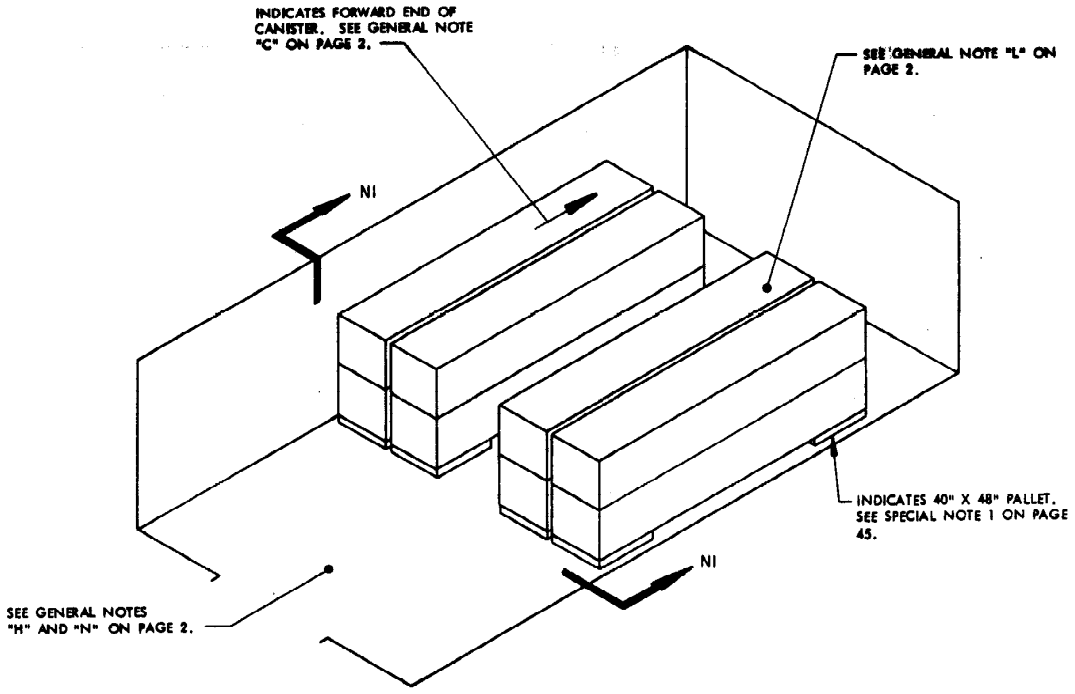



PLAN VIEW

( TYPE IV BUNKER MAGAZINE )




SECTION N1-N1




ISOMETRIC VIEW

(TYPE IV BUNKER MAGAZINE)

SPECIAL NOTES:

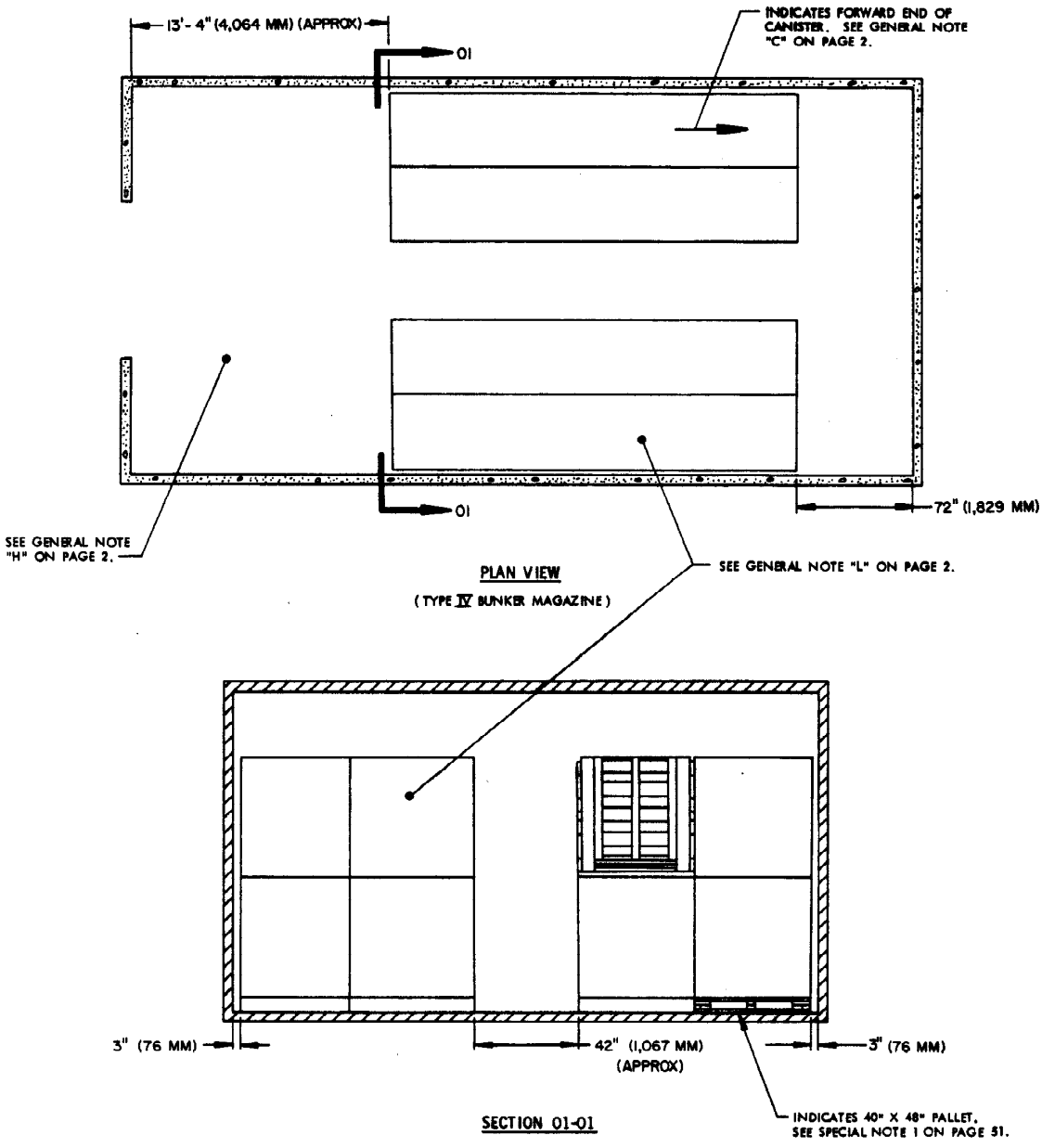
1. IF THE CANISTERS BEING STORED HAVE THE ISOLATION FRAME ASSEMBLIES REVERSED (WITH THE WOODEN SKIDS EXTENDING UNDER THE BODY OF THE CANISTER RATHER THAN PROTRUDING) IT WILL BE POSSIBLE TO STORE TWO (2) ADDITIONAL CANISTERS. A 2-CANISTER STACK CAN BE POSITIONED CROSSWISE AT THE REAR OF THE BUNKER MAGAZINE. ALLOW A 3" (72MM) SPACE BETWEEN THE CROSSWISE STACK AND THE REAR WALL, AND A 72" (1,829MM) SPACE AFTER THE STACK IS POSITIONED. POSITION FOUR LENGTHWISE STACKS SIMILAR TO THOSE SHOWN FOR A TOTAL STORAGE QUANTITY OF TEN (10) CANISTERS.
2. END PROTECTORS, AS DETAILED ON PAGE 52, SHOULD BE USED WHEN STORING CANISTERS THAT HAVE THEIR ISOLATION FRAME ASSEMBLIES REVERSED. AFTER A CANISTER IS STORED, PROTECTOR ASSEMBLIES ARE TO BE REMOVED.

FOR "GENERAL NOTES", SEE PAGE 2

STORAGE IN TYPE IV BUNKER MAGAZINE

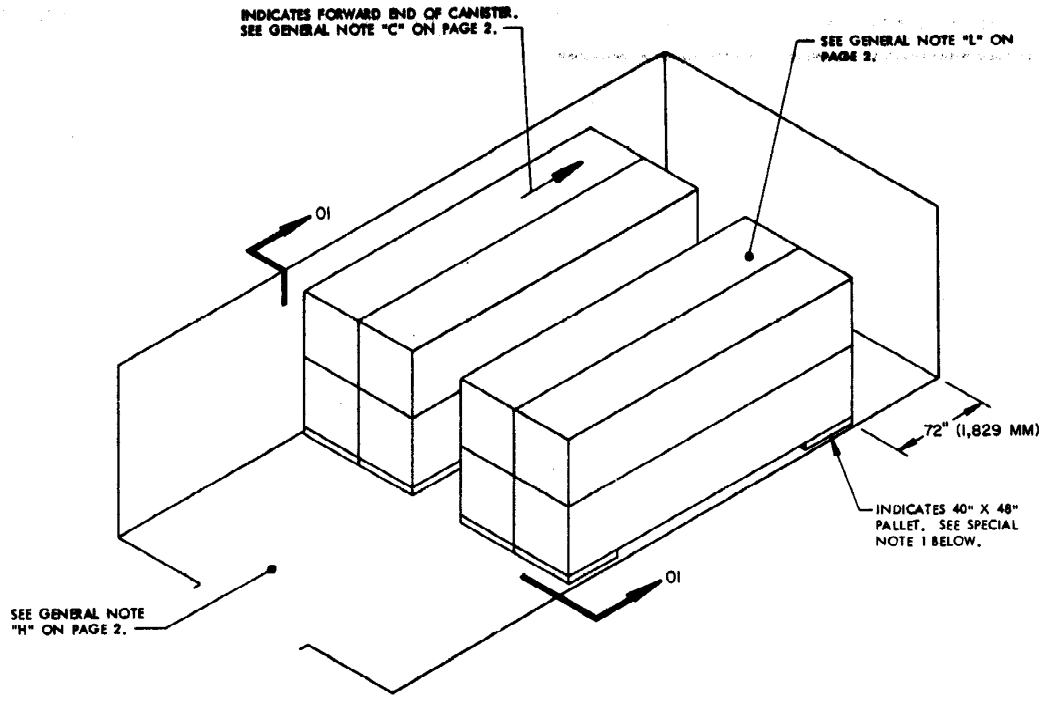
| ITEM | QUANTITY |
|---|---|
| CANISTER (W/O OVERPACK) | 8 |

SEE GENERAL NOTE "K" ON PAGE 2.






STORAGE PROCEDURES FOR CANISTER (W/OVERPACK) IN 40' L X 20' W X 11' H TYPE IV BUNKER MAGAZINE




ISOMETRIC VIEW

( TYPE IV BUNKER MAGAZINE )

SPECIAL NOTE:

1. THE STORAGE PATTERN DEPICTED REQUIRES THAT TWO ( 2 ) 40" X 48" HARDWOOD PALLETS BE USED UNDER EACH STACK OF OVERPACKED CANISTERS. THE OVERPACKED CANISTERS WILL BE STACKED NEAR OR IN THE DOORWAY AREA AND THEN MOVED TO THE STORED POSITION WITH THE AID OF A PALLET JACK AT THE FORWARD END OF A STACK AND A FORKLIFT AT THE AFT ( REAR ) OF THE STACK. SEE "DETAIL B" ON PAGE 53.

FOR "GENERAL NOTES", SEE PAGE 2.

STORAGE IN TYPE IV BUNKER MAGAZINE

| ITEM | QUANTITY |
|---|---|
| CANISTER ( W/OVERPACK ) | 8 |

SEE GENERAL NOTE "K" ON PAGE 2.

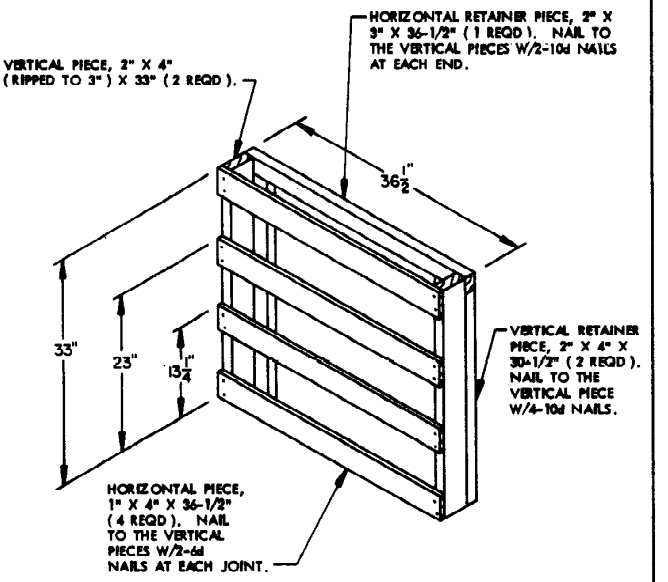
SPECIAL NOTES:

1. IF THE MISSILE CANISTER HAS THE SHOCK ISOLATION FRAMES IN THE REVERSE POSITION ( THE WOODEN SKIDS EXTENDING UNDER THE BODY OF THE CANISTER RATHER THAN PROTRUDING ), IT IS RECOMMENDED THAT "END PROTECTORS" SUCH AS THE TWO SHOWN ON THIS PAGE BE USED WHILE MOVING THE MISSILE CANISTER WITHIN A MAGAZINE.

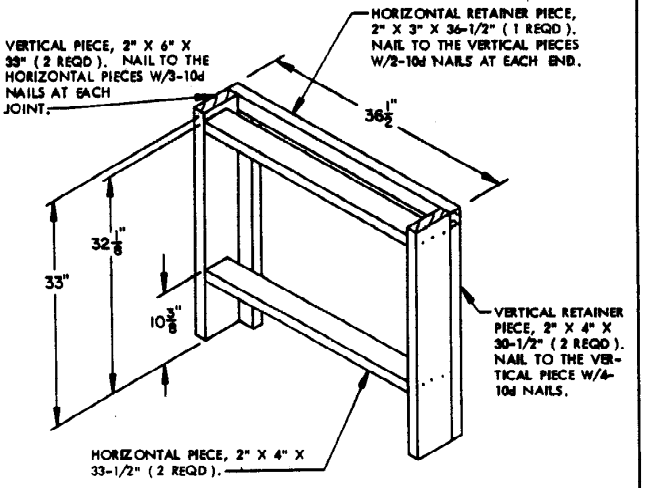
2. THESE PROTECTORS ARE DESIGNED TO SLIP OVER THE FLANGED END OF THE CANISTER FOR EASY APPLICATION AND REMOVAL. THE PROTECTORS MUST BE REMOVED FROM A CANISTER AFTER IT IS IN ITS STORED POSITION THEREFORE ONLY ONE SET OF PROTECTORS IS NEEDED WHILE STORAGE OPERATIONS ARE UNDERWAY.

3. WHILE THESE PROTECTORS WERE SPECIFICALLY DESIGNED FOR USE IN THE 100'-8" LONG BY 50'-0" WIDE RECTANGULAR MAGAZINE WHICH HAS COLUMNS, THEY MAY BE USED WITHIN OTHER MAGAZINES IF DESIRED.

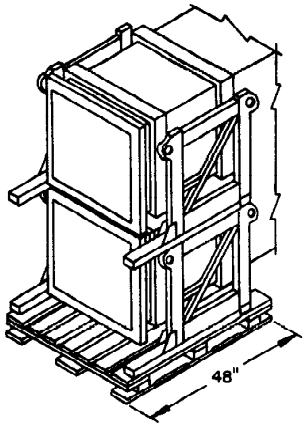
4. THESE PROTECTORS MUST BE USED WHEN STORING THE CANISTERS ACCORDING TO THE PROCEDURES SHOWN ON PAGES 24, 25, 42, AND 43. IT IS RECOMMENDED BUT NOT REQUIRED THAT "END PROTECTORS" BE REMOVED FROM THE CANISTERS WHEN STORED IN THOSE TWO MAGAZINES.




FORWARD END PROTECTOR

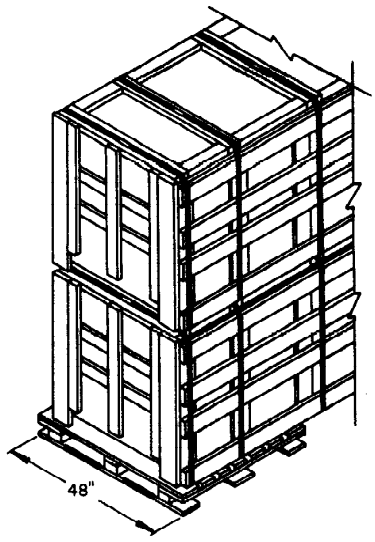



AFT END PROTECTOR




DETAIL A

THIS DETAIL DEPICTS THE PLACEMENT OF A 40" X 48" PALLET UNDER ONE END OF A STACK OF CANISTERS WHICH ARE WITHOUT THE OVERPACK.




DETAIL B

THIS DETAIL DEPICTS THE PLACEMENT OF A 40" X 48" PALLET UNDER ONE END OF A STACK OF CANISTERS WHICH ARE OVERPACKED.

SPECIAL NOTE:

HANDLING OF THE MISSILE CANISTERS FROM EACH END WITH OR WITHOUT THE OVERPACK, REQUIRES THE USE OF TWO (2) 40" X 48" 4-WAY ENTRY HARDWOOD PALLETS. THE FIRST CANISTER WILL BE PLACED ON TWO PALLETS PLACED NEAR OR IN THE DOORWAY AREA. THE SECOND CANISTER WILL BE PLACED DIRECTLY ON TOP OF THE FIRST. THIS STACK WILL THEN BE MOVED INTO THE STORED POSITION WITH THE AID OF A PALLET JACK AT THE FORWARD END OF A STACK AND A FORKLIFT TRUCK AT THE AFT (REAR) OF THE STACK. THE STACK OF CANISTERS WITHOUT THE OVERPACK IS LIMITED TO THREE CANISTERS HIGH; A STACK OF CANISTERS WITH THE OVERPACK IS LIMITED TO TWO HIGH. CAUTION: USE EXTREME CARE WHEN MOVING STACKED CANISTERS ON PALLETS.