

John L

DATE 7/24/04

LOADING AND BRACING IN SIDE OPENING ISO CONTAINERS OF PROPELLING CHARGES PACKED IN CYLINDRICAL METAL CONTAINERS

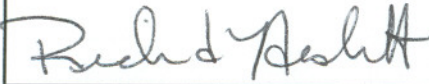
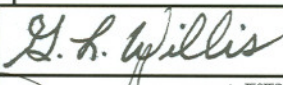

M16 SERIES CONTAINER

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- LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER CARRIERS.

U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY JOINT MUNITIONS 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 22.			
	DO NOT SCALE		DECEMBER 2003	
	ENGINEER OR TECHNICIAN	BASIC REV.	RICHARD GARSIDE	
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND 	TRANSPORTATION ENGINEERING DIVISION	<i>G. H. Willis</i>		
	VALIDATION ENGINEERING DIVISION	TESTED	CLASS	DIVISION
U.S. ARMY DEFENSE AMMUNITION CENTER	ENGINEERING DIRECTORATE	<i>Larry R. Norton</i>	19	48
			4264/ 4	DRAWING
				FILE
				15PM1003

GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1 AND AUGMENTS TM 743-200-1 (CHAPTER 5).
- B. THE OUTLOADING PROCEDURES SPECIFIED IN THIS DRAWING ARE APPLICABLE FOR THE M16 SERIES PROPELLING CHARGE CONTAINER ASSEMBLED ON THE 40" X 48" 4-WAY ENTRY PALLET. SEE PAGE 3 FOR DETAILS OF THE PALLET UNITS. SEE U. S. ARMY MATERIEL COMMAND DRAWING 19-48-4042A/4-20PM1001 FOR UNITIZATION PROCEDURES FOR THE M16 SERIES CONTAINERS. CAUTION: REGARDLESS OF THE QUANTITY OF UNITS TO BE SHIPPED, THE "MAXIMUM GROSS WEIGHT" OF THE SIDE OPENING ISO CONTAINER MUST NOT BE EXCEEDED.
- C. THE LOADS AS SHOWN ARE BASED ON 6,050 POUND 20' LONG BY 8' WIDE BY 8'-6" HIGH SIDE OPENING ISO CONTAINER WITH INSIDE DIMENSIONS OF 19'-4" LONG BY 89" WIDE BY 88" HIGH AND A MAXIMUM GROSS WEIGHT OF 52,910 POUNDS. THE LOAD IS DESIGNED FOR TRAILER/CONTAINER-ON-FLATCAR (T/COFC) SHIPMENT, HOWEVER, THE LOAD AS DESIGNED CAN ALSO BE MOVED BY MOTOR OR WATER CARRIERS. NOTICE: OTHER CONTAINERS OF THE SAME DESIGN CONFIGURATION CAN ALSO BE USED.
- D. WHEN LOADING THE UNITS, THEY ARE TO BE POSITIONED SO AS TO ACHIEVE A TIGHT LOAD (TIGHT AGAINST THE DUNNAGE ASSEMBLIES). THE UNBLOCKED SPACE ACROSS THE WIDTH OF A LOAD BAY IS NOT TO EXCEED 1-1/2". EXCESSIVE SLACK CAN BE ELIMINATED FROM A LOAD BY ADDING ADDITIONAL HORIZONTAL PIECES TO THE SIDE FILL ASSEMBLIES.
- E. DUNNAGE LUMBER SPECIFIED IS OF NOMINAL SIZE, FOR EXAMPLE, 1" X 6" MATERIAL IS ACTUALLY 3/4" THICK BY 5-1/2" WIDE AND 2" X 4" MATERIAL IS ACTUALLY 1-1/2" THICK BY 3-1/2" WIDE.
- F. A STAGGERED NAILING PATTERN WILL BE USED WHENEVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES OR WHEN LAMINATING DUNNAGE. ADDITIONALLY, THE NAILING PATTERN FOR AN UPPER PIECE OF LAMINATED DUNNAGE WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL FOR THAT PIECE WILL NOT BE DRIVEN THROUGH, ONTO, OR RIGHT BESIDE A NAIL IN A LOWER PIECE.
- G. IN SOME CONTAINERS THERE IS A SLOT AT THE CORNERS OF THE ENDWALLS. PIECES OF DUNNAGE MATERIAL MUST BE LAMINATED TO THE BUFFER PIECES ON THE END BLOCKING ASSEMBLIES TO PROVIDE A FLAT SURFACE FOR THE BUFFER PIECES. A PIECE OF 2" X 4", 2" X 3" OR A SPECIAL WIDTH PIECE CUT-TO-FIT CAN BE USED. THIS FILL PIECE WILL BE NAILED WITH ONE APPROPRIATELY SIZED NAIL EVERY 12". NOTE THAT SOME CONTAINERS ARE EQUIPPED WITH "TIE-BARS" IN THE CORNER SLOT, WHICH PRECLUDE THE USE OF A FULL HEIGHT FILL PIECE. WHEN "TIE-BARS" ARE PRESENT, THE FILL PIECE MUST BE INSTALLED IN SEGMENTS DESIGNED TO FIT BETWEEN THE "TIE-BARS" VERTICALLY. THE FILL PIECE(S) IS NOT REQUIRED WHEN THE CORNER PORTIONS OF THE CONTAINER ENDWALLS ARE SMOOTH AND FLAT. DO NOT ALLOW ANY DUNNAGE ASSEMBLY TO CONTACT THE CONTAINER ENDWALLS, ONLY THE CORNER POSTS OF THE CONTAINER SHOULD BE USED FOR LONGITUDINAL BLOCKING.
- H. CAUTION: DO NOT NAIL DUNNAGE MATERIAL TO THE CONTAINER WALLS OR FLOOR. ALL NAILING WILL BE WITHIN THE DUNNAGE. PORTIONS OF THE CONTAINER DEPICTED WITHIN THIS DRAWING, SUCH AS THE SIDE DOORS, HAVE NOT BEEN SHOWN IN THE LOAD VIEW FOR CLARITY PURPOSES.
- J. 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 25.4MM AND ONE POUND EQUALS 0.454 KG.

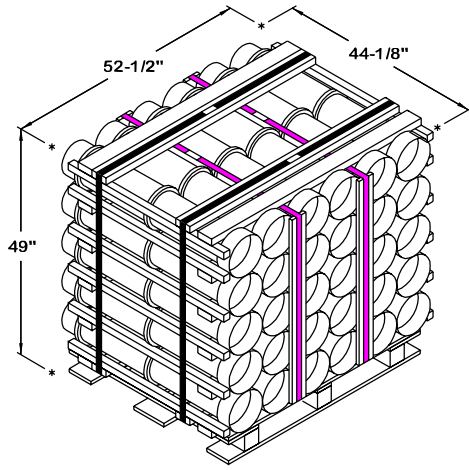
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(GENERAL NOTES CONTINUED)

- K. MAXIMUM LOAD WEIGHT CRITERIA:
THE MAXIMUM LOAD WEIGHTS ARE CONTROLLED BY EQUIPMENT CAPACITY FACTORS. ALTHOUGH THE HEAVIEST MAXIMUM LOADS ARE DELINEATED IN THE LOAD VIEWS, PROVISIONS ARE INCLUDED WITHIN THIS DRAWING SO THAT THE BASIC LOADS CAN BE ADJUSTED TO SATISFY A LESSER QUANTITY OF LADING UNITS. DEPENDING ON TRANSPORTATION ROUTING, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY "WEIGHT LAWS" OF CERTAIN STATES. ALSO, IT MAY BE NECESSARY TO REDUCE THE LOAD WEIGHT TO SATISFY OTHER WEIGHT RESTRICTIONS IMPOSED ON THE INTERMODAL CONTAINER SYSTEM.
- L. REQUIREMENTS CITED WITHIN THE ASSOCIATION OF AMERICAN RAILROADS (AAR) INTERMODAL LOADING GUIDE APPLY WHEN THE SHIPMENT MOVES BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC). SPECIAL T/COFC NOTES FOLLOW:
 - A. A LOADED CONTAINER MUST BE ON A CHASSIS EQUIPPED WITH TWO BOGIE ASSEMBLIES WHEN BEING MOVED IN TOFC SERVICE.
 - B. THE LOAD LIMIT OF A T/COFC RAILCAR MUST NOT BE EXCEEDED, NOR WILL A CAR BE LOADED SO THAT THE TRUCK UNDER ONE END OF THE CAR CARRIES MORE THAN ONE-HALF OF THE LOAD LIMIT FOR THAT CAR.
- M. DURING INTRASTATE AND/OR INTERSTATE MOVES BY MOTOR CARRIER, A PROPER CHASSIS OR MODIFIED FLATBED TRAILER MUST BE USED TO PRECLUDE VIOLATION OF ONE OR MORE "WEIGHT LAWS" APPLICABLE TO THE STATE OR STATES INVOLVED.
- N. WHETHER A CONTAINER IS FULL OR IS LOADED WITH A REDUCED QUANTITY OF LADING UNITS, THE LENGTHWISE CENTER OF GRAVITY OF THE LOAD MUST BE WITHIN 12", IN EITHER DIRECTION, OF THE MID-POINT OF THE CONTAINER.
- O. THE QUANTITY OF PALLET UNITS SHOWN IN THE LOAD ON PAGES 4, 6, 8, 10, 12, AND 14 MAY BE REDUCED FOR SHIPMENT, IF DESIRED. SEE THE OMITTED UNIT ASSEMBLY ON PAGE 21.

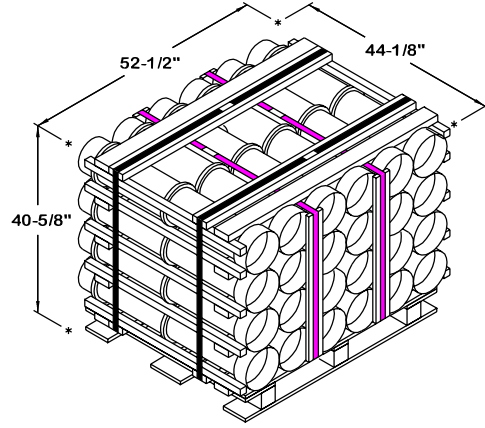
MATERIAL SPECIFICATIONS

- LUMBER - - - - - : SEE TM 743-200-1 (DUNNAGE LUMBER) AND VOLUNTARY PRODUCT STANDARD PS 20.
- NAILS - - - - - : ASTM F1667; COMMON STEEL NAIL (NLCMS OR NLCMMS).



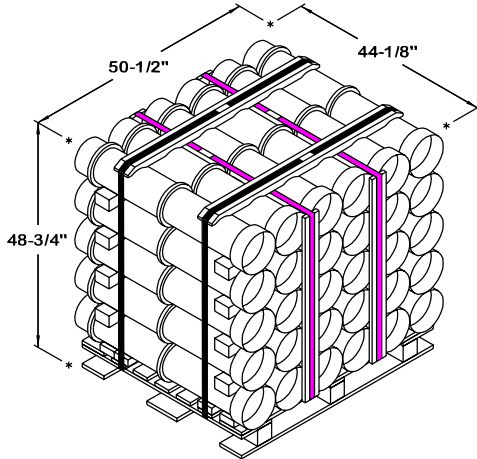
FLAT DUNNAGE METHOD (BASIC HEIGHT)

CONTAINER - - - - - 30 EACH @ 55 LBS (APPROX)
 CUBE - - - - - 65.7 CU FT (APPROX)
 GROSS WEIGHT - - - - - 1,870 LBS (APPROX)



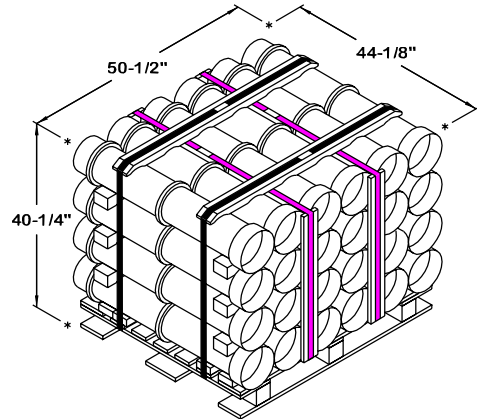
FLAT DUNNAGE METHOD (DECREASED HEIGHT)

CONTAINER - - - - - 24 EACH @ 55 LBS (APPROX)
 CUBE - - - - - 54.5 CU FT (APPROX)
 GROSS WEIGHT - - - - - 1,516 LBS (APPROX)



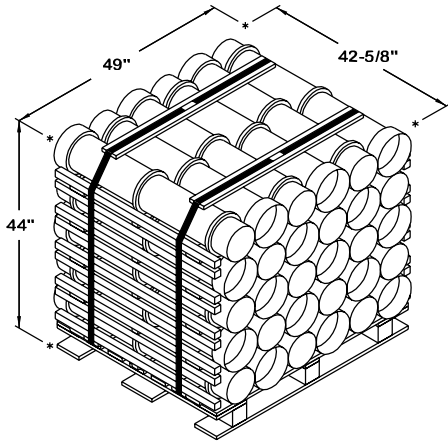
ROUTED DUNNAGE METHOD (BASIC HEIGHT)

CONTAINER - - - - - 30 EACH @ 55 LBS (APPROX)
 CUBE - - - - - 62.9 CU FT (APPROX)
 GROSS WEIGHT - - - - - 1,848 LBS (APPROX)



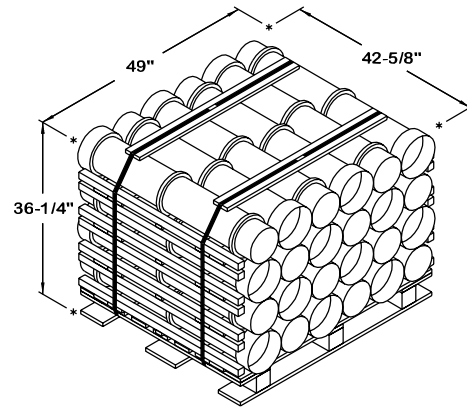
ROUTED DUNNAGE METHOD (DECREASED HEIGHT)

CONTAINER - - - - - 24 EACH @ 55 LBS (APPROX)
 CUBE - - - - - 51.9 CU FT (APPROX)
 GROSS WEIGHT - - - - - 1,494 LBS (APPROX)



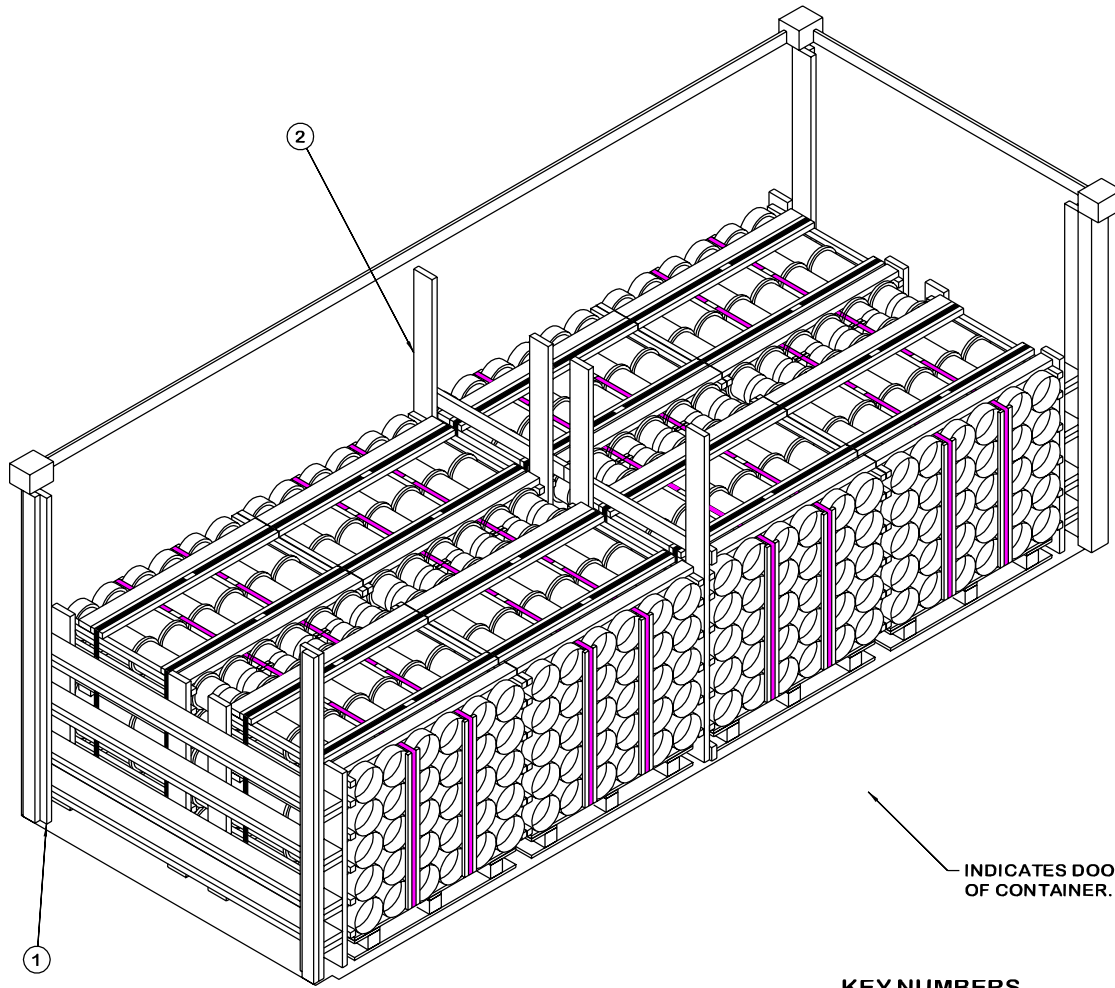
ALTERNATED DUNNAGE METHOD (INCREASED HEIGHT)

CONTAINER - - - - - 30 EACH @ 55 LBS (APPROX)
 CUBE - - - - - 53.2 CU FT (APPROX)
 GROSS WEIGHT - - - - - 1,820 LBS (APPROX)



ALTERNATED DUNNAGE METHOD (BASIC HEIGHT)

CONTAINER - - - - - 24 EACH @ 55 LBS (APPROX)
 CUBE - - - - - 43.8 CU FT (APPROX)
 GROSS WEIGHT - - - - - 1,472 LBS (APPROX)



INDICATES DOOR SIDE OF CONTAINER.

ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY A (2 REQD). SEE DETAIL ON PAGE 16.
- ② CENTER FILL ASSEMBLY A (1 REQD). SEE DETAIL ON PAGE 19.

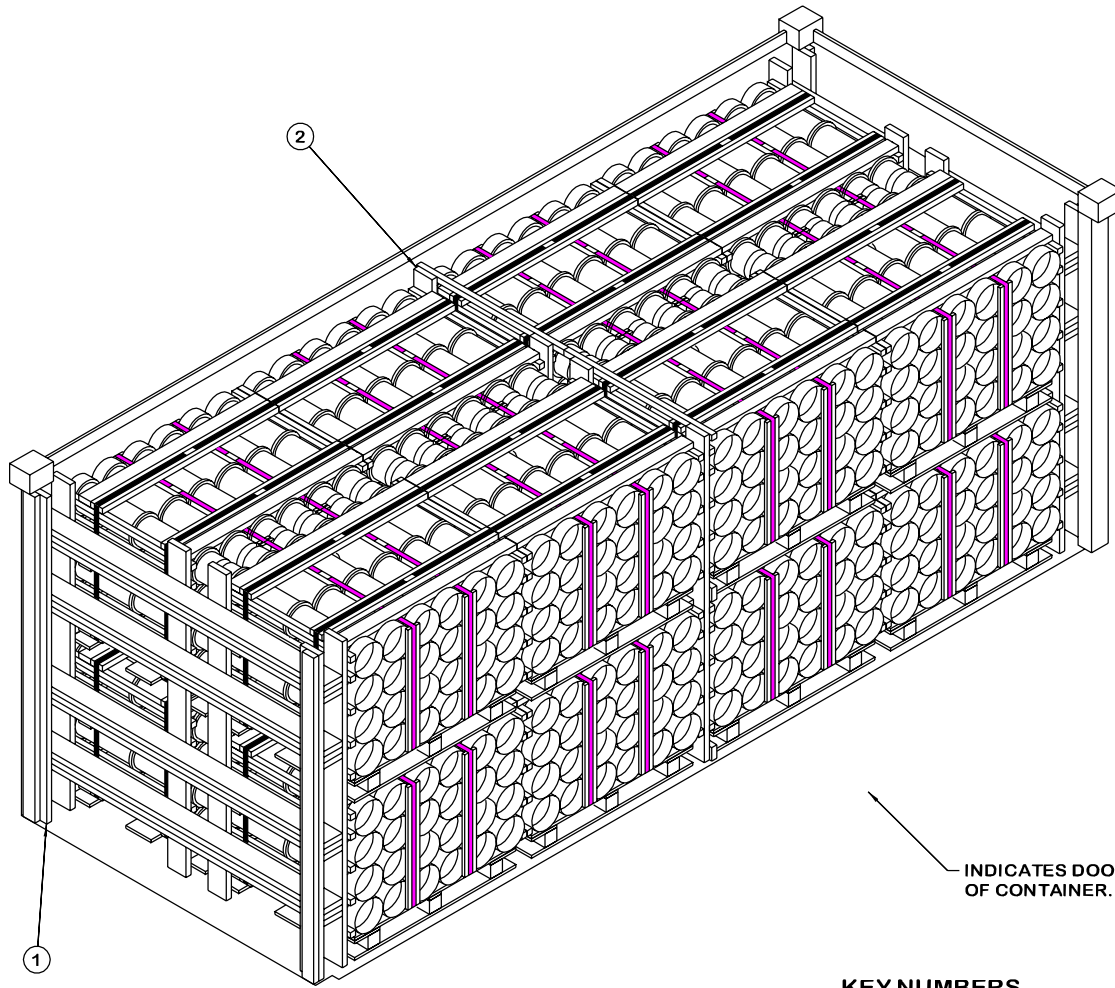
RECOMMENDED SEQUENTIAL PROCEDURES

1. PREFABRICATE TWO OF END BLOCKING ASSEMBLY "A", AND ONE OF CENTER FILL ASSEMBLY "A".
2. INSTALL ONE END BLOCKING ASSEMBLY AGAINST RIGHT SIDE END WALL AND LOAD TWO PALLET UNITS TIGHT AGAINST THE END BLOCKING ASSEMBLY.
3. INSTALL ONE END BLOCKING ASSEMBLY AGAINST LEFT SIDE END WALL AND LOAD TWO PALLET UNITS TIGHT AGAINST THE END BLOCKING ASSEMBLY.
4. LOAD ONE PALLET UNIT ALONG BACK WALL, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
5. LOAD ONE PALLET UNIT ALONG BACK WALL, TIGHT AGAINST LEFT SIDE PALLET UNITS.
6. INSTALL LEFT HALF OF CENTER FILL ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG THE BACK WALL.
7. LOAD ONE PALLET UNIT ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
8. LOAD ONE PALLET UNIT ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST LEFT SIDE PALLET UNITS.
9. INSTALL RIGHT HALF OF CENTER FILL ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG DOOR SIDE OF CONTAINER.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	43	29
2" X 6"	205	205
NAILS	NO. REQD	POUNDS
10d (3")	232	3-3/4

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT	8	14,960 LBS
DUNNAGE		472 LBS
CONTAINER		6,050 LBS
TOTAL WEIGHT		21,482 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY B (2 REQD). SEE DETAIL ON PAGE 17.
- ② CENTER FILL ASSEMBLY B (1 REQD). SEE DETAIL ON PAGE 19.

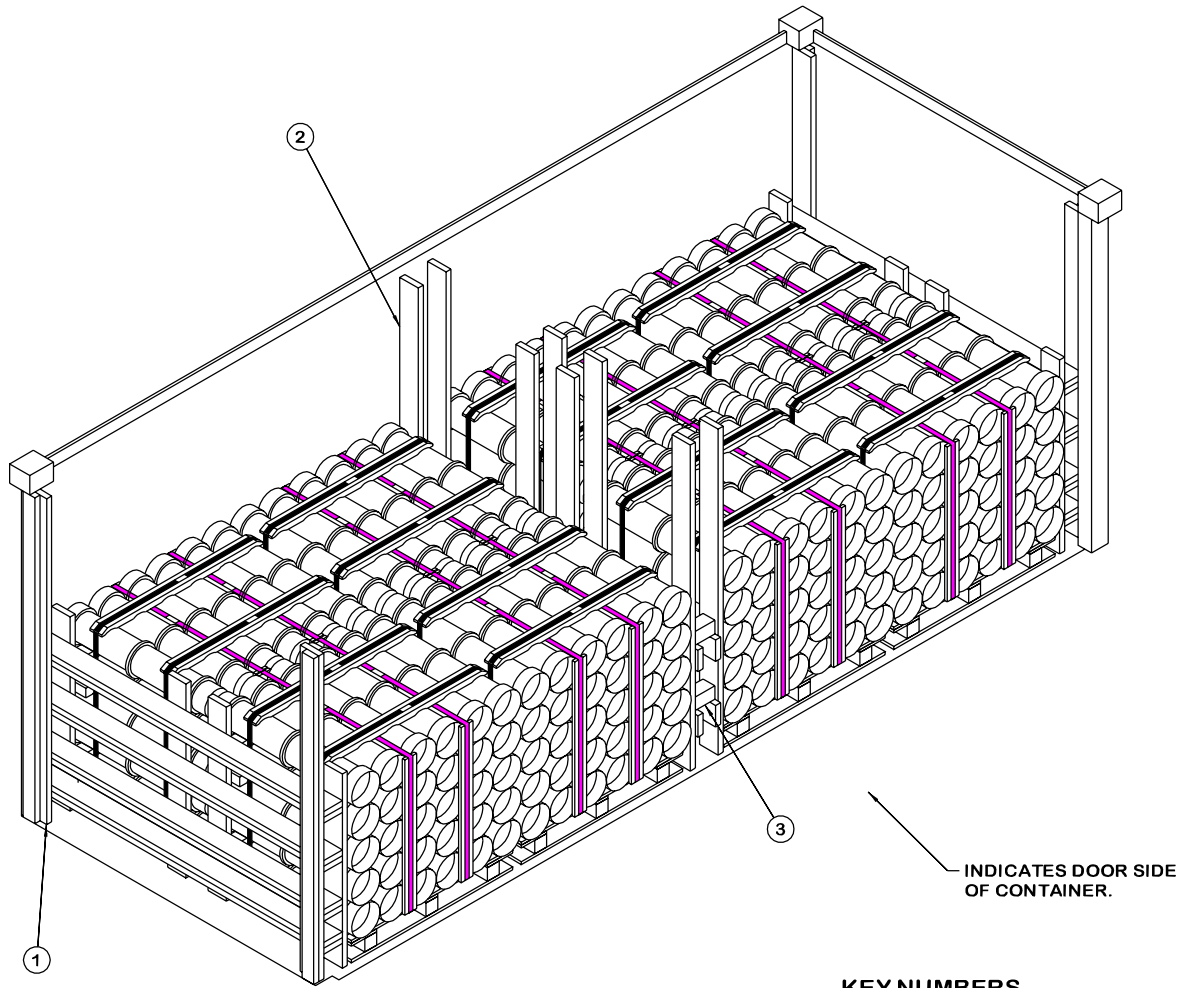
RECOMMENDED SEQUENTIAL PROCEDURES

1. PREFABRICATE TWO OF END BLOCKING ASSEMBLY "B", AND ONE OF CENTER FILL ASSEMBLY "B".
2. INSTALL ONE END BLOCKING ASSEMBLY AGAINST RIGHT SIDE END WALL AND LOAD FOUR PALLET UNITS (ONE ROW OF TWO PALLET UNITS DOUBLE STACKED) TIGHT AGAINST THE END BLOCKING ASSEMBLY.
3. INSTALL ONE END BLOCKING ASSEMBLY AGAINST LEFT SIDE END WALL AND LOAD FOUR PALLET UNITS (ONE ROW OF TWO PALLET UNITS DOUBLE STACKED) TIGHT AGAINST THE END BLOCKING ASSEMBLY.
4. LOAD TWO PALLET UNITS (STACKED) ALONG BACK WALL, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
5. LOAD TWO PALLET UNITS (STACKED) ALONG BACK WALL, TIGHT AGAINST LEFT SIDE PALLET UNITS.
6. INSTALL LEFT HALF OF CENTER FILL ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG THE BACK WALL.
7. LOAD TWO PALLET UNITS (STACKED) ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
8. LOAD TWO PALLET UNITS (STACKED) ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST LEFT SIDE PALLET UNITS.
9. INSTALL RIGHT HALF OF CENTER FILL ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG DOOR SIDE OF CONTAINER.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 2"	8	3
2" X 4"	43	29
2" X 6"	286	286
NAILS	NO. REQD	POUNDS
10d (3")	376	6

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT	16	24,256 LBS
DUNNAGE		642 LBS
CONTAINER		6,050 LBS
TOTAL WEIGHT		30,948 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY A (2 REQD). SEE DETAIL ON PAGE 16.
- ② CENTER GATE ASSEMBLY (2 REQD). SEE DETAIL ON PAGE 18.
- ③ STRUT (8 REQD). SEE DETAIL ON PAGE 21.

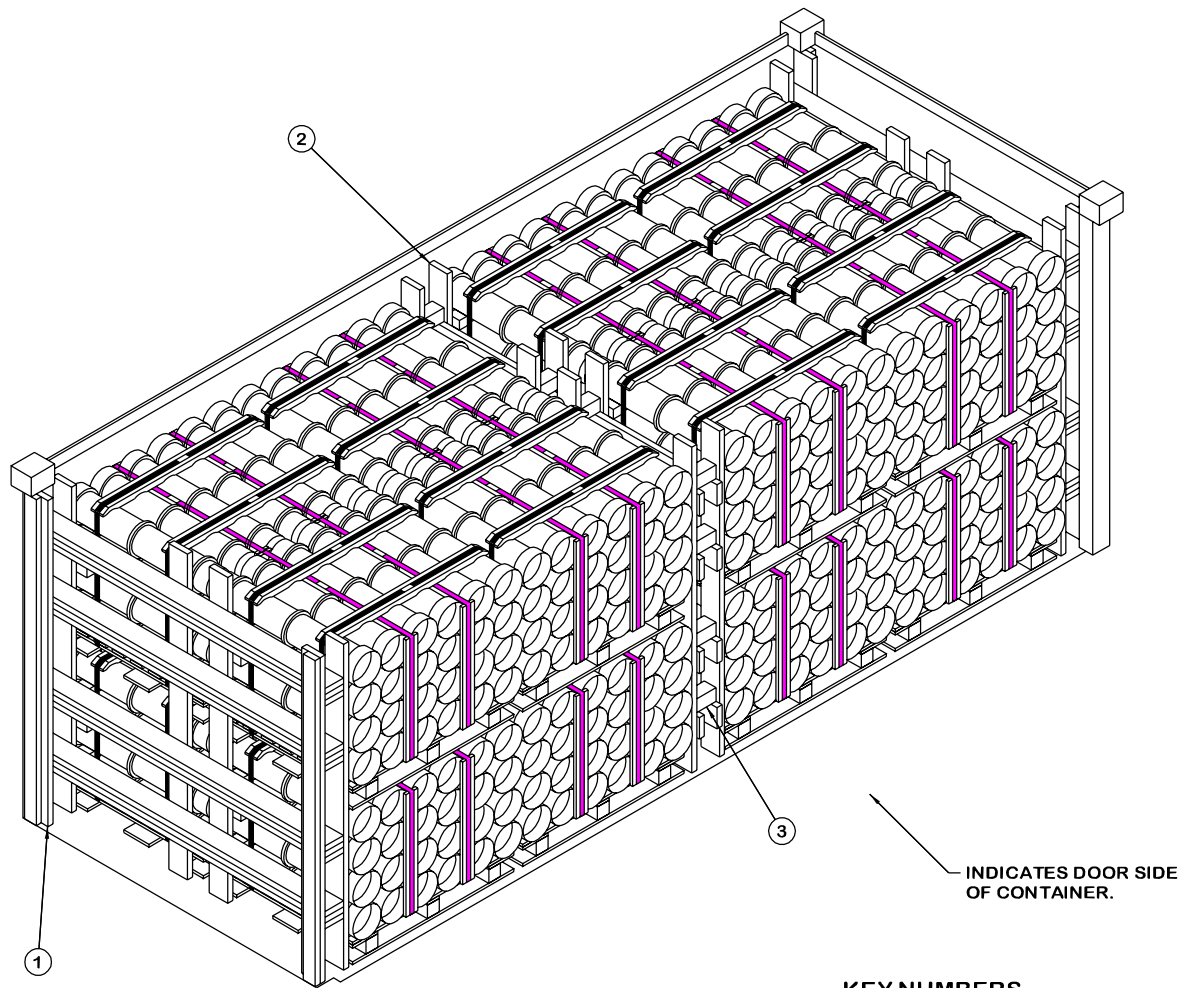
RECOMMENDED SEQUENTIAL PROCEDURES

1. PREFABRICATE TWO OF END BLOCKING ASSEMBLY "A", AND TWO CENTER GATE ASSEMBLIES (FOR ONE-HIGH LOAD).
2. INSTALL ONE END BLOCKING ASSEMBLY AGAINST RIGHT SIDE END WALL AND LOAD TWO PALLET UNITS TIGHT AGAINST THE END BLOCKING ASSEMBLY.
3. INSTALL ONE END BLOCKING ASSEMBLY AGAINST LEFT SIDE END WALL AND LOAD TWO PALLET UNITS TIGHT AGAINST THE END BLOCKING ASSEMBLY.
4. LOAD ONE PALLET UNIT ALONG BACK WALL, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
5. LOAD ONE PALLET UNIT ALONG BACK WALL, TIGHT AGAINST LEFT SIDE PALLET UNITS.
6. INSTALL RIGHT HALF AND LEFT HALF OF ONE CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG THE BACK WALL, WITH OUTER ENDS OF THE ASSEMBLY FACING BACK WALL AND THE FRONT OF EACH HALF FACING EACH OTHER.
7. MEASURE LENGTH FOR HORIZONTAL STRUTS AND CUT REQUIRED QUANTITY OF STRUTS.
8. REMOVE THE CENTER GATE ASSEMBLY AND PLACE STRUTS IN POSITION ACCORDING TO STRUT DETAIL. NAIL THROUGH CENTER GATE ASSEMBLY INTO STRUTS W/2-12d NAILS AT EACH END OF STRUT.
9. INSTALL THE STRUTTED CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG THE BACK WALL.
10. LOAD ONE PALLET UNIT ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
11. LOAD ONE PALLET UNIT ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST LEFT SIDE PALLET UNITS.
12. INSTALL RIGHT HALF AND LEFT HALF OF ONE CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG DOOR SIDE OF CONTAINER, WITH OUTER ENDS OF THE ASSEMBLY FACING THE DOOR AND THE FRONT OF EACH HALF FACING EACH OTHER.
13. MEASURE LENGTH FOR HORIZONTAL STRUTS AND CUT REQUIRED QUANTITY OF STRUTS.
14. REMOVE THE CENTER GATE ASSEMBLY AND PLACE STRUTS IN POSITION ACCORDING TO STRUT DETAIL. NAIL THROUGH CENTER GATE ASSEMBLY INTO STRUTS W/2-12d NAILS AT EACH END OF STRUT.
15. INSTALL THE STRUTTED CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG DOOR SIDE OF CONTAINER.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	58	39
2" X 6"	234	234
4" X 4"	5	7
NAILS	NO. REQD	POUNDS
10d (3")	280	4-1/2
12d (3-1/4")	32	1/2

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	8	14,784 LBS
DUNNAGE		565 LBS
CONTAINER		6,050 LBS
TOTAL WEIGHT		21,399 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY B (2 REQD). SEE DETAIL ON PAGE 17.
- ② CENTER GATE ASSEMBLY (2 REQD). SEE DETAIL ON PAGE 18.
- ③ STRUT (16 REQD). SEE DETAIL ON PAGE 21.

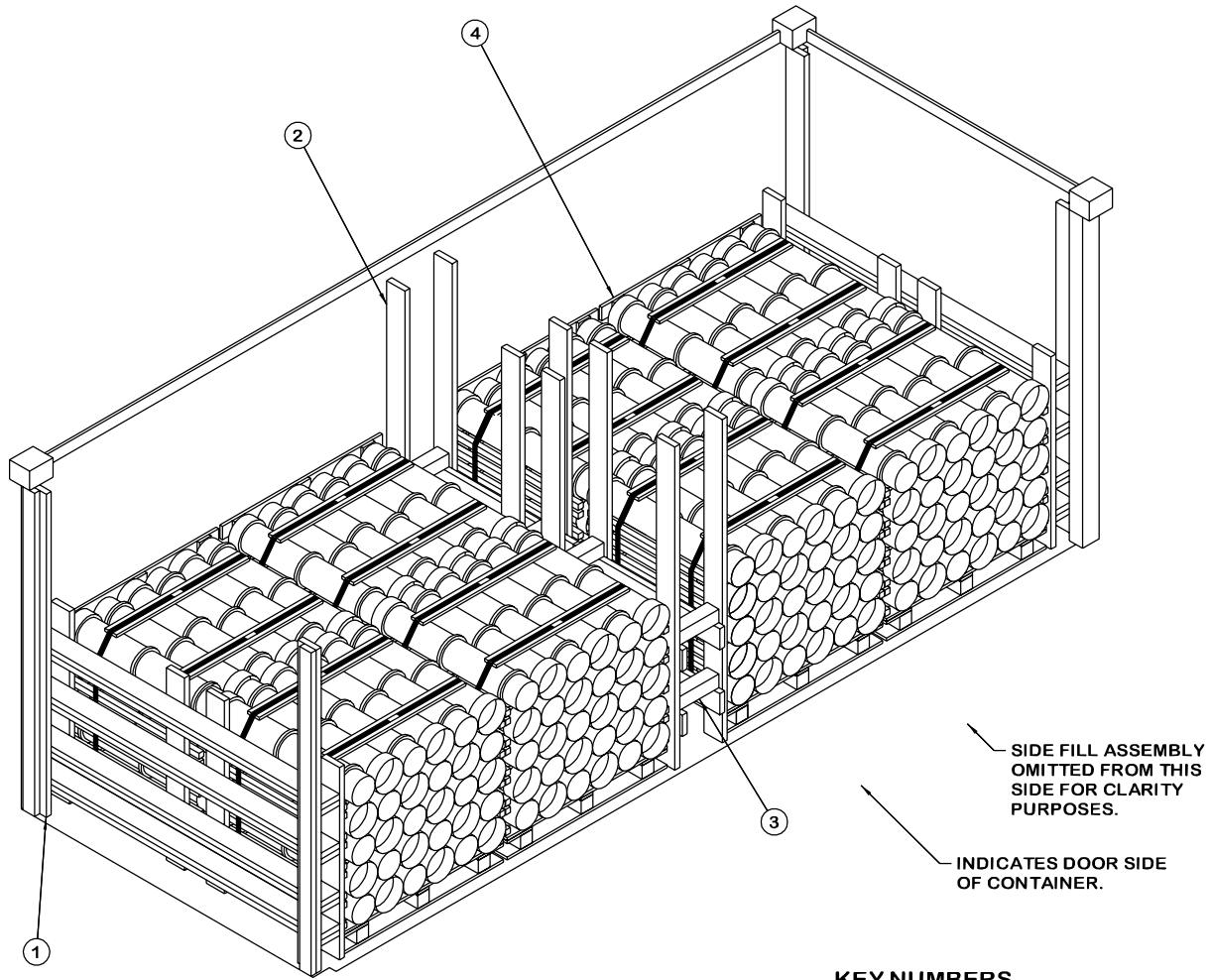
RECOMMENDED SEQUENTIAL PROCEDURES

1. PREFABRICATE TWO OF END BLOCKING ASSEMBLY "B", AND TWO CENTER GATE ASSEMBLIES (FOR TWO-HIGH LOAD).
2. INSTALL ONE END BLOCKING ASSEMBLY AGAINST RIGHT SIDE END WALL AND LOAD FOUR PALLET UNITS (ONE ROW OF TWO PALLET UNITS DOUBLE STACKED) TIGHT AGAINST THE END BLOCKING ASSEMBLY.
3. INSTALL ONE END BLOCKING ASSEMBLY AGAINST LEFT SIDE END WALL AND LOAD FOUR PALLET UNITS (ONE ROW OF TWO PALLET UNITS DOUBLE STACKED) TIGHT AGAINST THE END BLOCKING ASSEMBLY.
4. LOAD TWO PALLET UNITS (STACKED) ALONG BACK WALL, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
5. LOAD TWO PALLET UNITS (STACKED) ALONG BACK WALL, TIGHT AGAINST LEFT SIDE PALLET UNITS.
6. INSTALL RIGHT HALF AND LEFT HALF OF ONE CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG THE BACK WALL, WITH OUTER ENDS OF THE ASSEMBLY FACING BACK WALL AND THE FRONT OF EACH HALF FACING EACH OTHER.
7. MEASURE LENGTH FOR HORIZONTAL STRUTS AND CUT REQUIRED QUANTITY OF STRUTS.
8. REMOVE THE CENTER GATE ASSEMBLY AND PLACE STRUTS IN POSITION ACCORDING TO STRUT DETAIL. NAIL THROUGH CENTER GATE ASSEMBLY INTO STRUTS W/2-12d NAILS AT EACH END OF STRUT.
9. INSTALL THE STRUTTED CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG THE BACK WALL.
10. LOAD TWO PALLET UNITS (STACKED) ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
11. LOAD TWO PALLET UNITS (STACKED) ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST LEFT SIDE PALLET UNITS.
12. INSTALL RIGHT HALF AND LEFT HALF OF ONE CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG DOOR SIDE OF CONTAINER, WITH OUTER ENDS OF THE ASSEMBLY FACING THE DOOR AND THE FRONT OF EACH HALF FACING EACH OTHER.
13. MEASURE LENGTH FOR HORIZONTAL STRUTS AND CUT REQUIRED QUANTITY OF STRUTS.
14. REMOVE THE CENTER GATE ASSEMBLY AND PLACE STRUTS IN POSITION ACCORDING TO STRUT DETAIL. NAIL THROUGH CENTER GATE ASSEMBLY INTO STRUTS W/2-12d NAILS AT EACH END OF STRUT.
15. INSTALL THE STRUTTED CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG DOOR SIDE OF CONTAINER.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	88	59
2" X 6"	315	315
4" X 4"	10	13
NAILS	NO. REQD	POUNDS
10d (3")	416	6-1/2
12d (3-1/4")	64	1

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT	16	23,904 LBS
DUNNAGE		782 LBS
CONTAINER		6,050 LBS
TOTAL WEIGHT		30,736 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY A (2 REQD). SEE DETAIL ON PAGE 16.
- ② CENTER GATE ASSEMBLY (2 REQD). SEE DETAIL ON PAGE 18.
- ③ STRUT (8 REQD). SEE DETAIL ON PAGE 21.
- ④ SIDE FILL ASSEMBLY A (8 REQD). SEE DETAIL ON PAGE 20.

SIDE FILL ASSEMBLY OMITTED FROM THIS SIDE FOR CLARITY PURPOSES.

INDICATES DOOR SIDE OF CONTAINER.

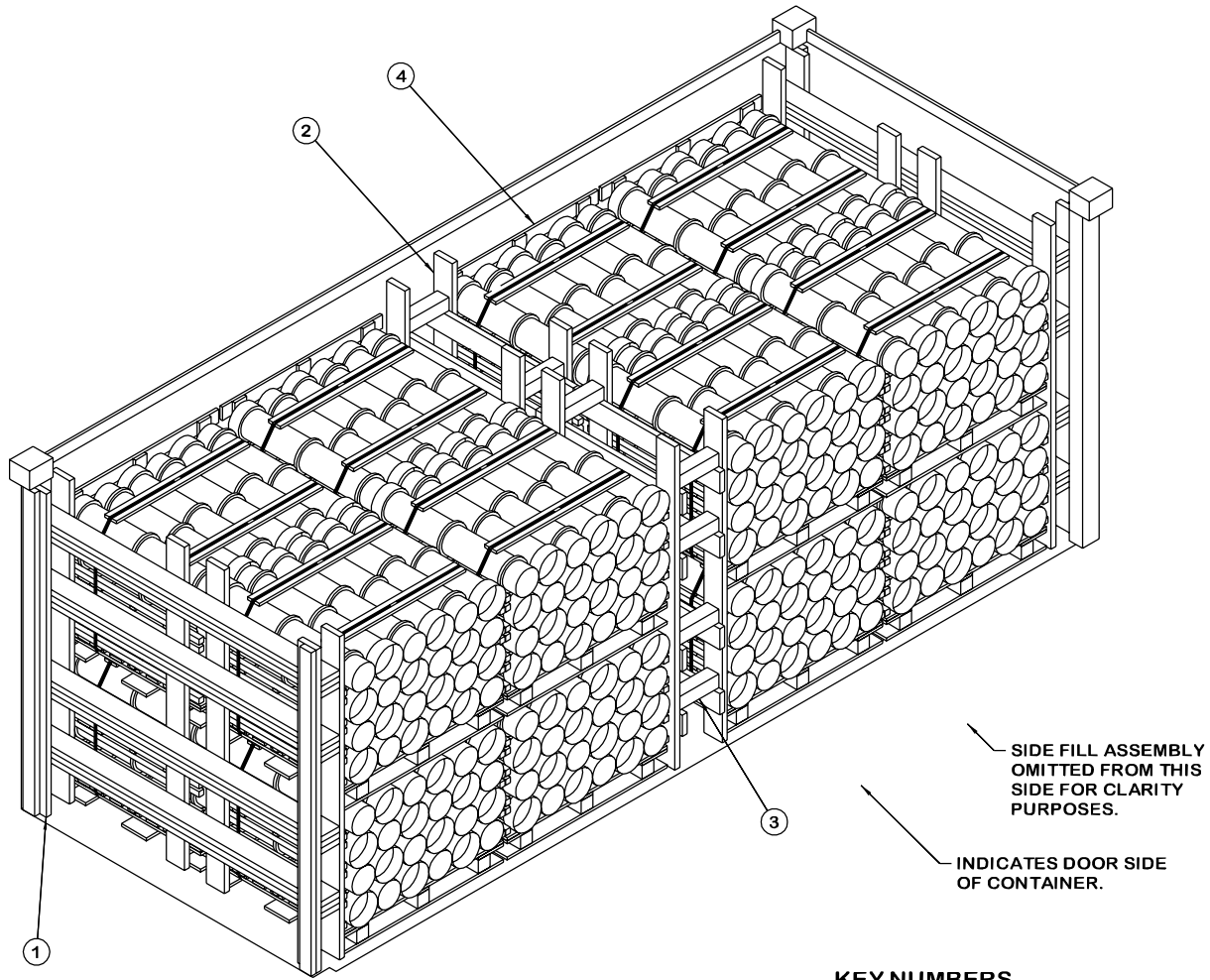
RECOMMENDED SEQUENTIAL PROCEDURES

1. PREFABRICATE TWO OF END BLOCKING ASSEMBLY "A", EIGHT OF SIDE FILL ASSEMBLY "A", AND TWO CENTER GATE ASSEMBLIES (FOR ONE-HIGH LOAD).
2. INSTALL FOUR SIDE FILL ASSEMBLIES ALONG BACK WALL OF CONTAINER, WITH CLEATS FACING PALLET UNITS.
3. INSTALL ONE END BLOCKING ASSEMBLY AGAINST RIGHT SIDE END WALL AND LOAD TWO PALLET UNITS TIGHT AGAINST THE END BLOCKING ASSEMBLY.
4. INSTALL ONE END BLOCKING ASSEMBLY AGAINST LEFT SIDE END WALL AND LOAD TWO PALLET UNITS TIGHT AGAINST THE END BLOCKING ASSEMBLY.
5. LOAD ONE PALLET UNIT ALONG BACK WALL, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
6. LOAD ONE PALLET UNIT ALONG BACK WALL, TIGHT AGAINST LEFT SIDE PALLET UNITS.
7. INSTALL RIGHT HALF AND LEFT HALF OF ONE CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG THE BACK WALL, WITH OUTER ENDS OF THE ASSEMBLY FACING BACK WALL AND THE FRONT OF EACH HALF FACING EACH OTHER.
8. MEASURE LENGTH FOR HORIZONTAL STRUTS AND CUT REQUIRED QUANTITY OF STRUTS.
9. REMOVE THE CENTER GATE ASSEMBLY AND PLACE STRUTS IN POSITION ACCORDING TO STRUT DETAIL. NAIL THROUGH CENTER GATE ASSEMBLY INTO STRUTS W/2-12d NAILS AT EACH END OF STRUT.
10. INSTALL THE STRUTTED CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG THE BACK WALL.
11. LOAD ONE PALLET UNIT ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
12. LOAD ONE PALLET UNIT ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST LEFT SIDE PALLET UNITS.
13. INSTALL RIGHT HALF AND LEFT HALF OF ONE CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG DOOR SIDE OF CONTAINER, WITH OUTER ENDS OF THE ASSEMBLY FACING THE DOOR AND THE FRONT OF EACH HALF FACING EACH OTHER.
14. MEASURE LENGTH FOR HORIZONTAL STRUTS AND CUT REQUIRED QUANTITY OF STRUTS.
15. REMOVE THE CENTER GATE ASSEMBLY AND PLACE STRUTS IN POSITION ACCORDING TO STRUT DETAIL. NAIL THROUGH CENTER GATE ASSEMBLY INTO STRUTS W/2-12d NAILS AT EACH END OF STRUT.
16. INSTALL THE STRUTTED CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG DOOR SIDE OF CONTAINER.
17. INSTALL FOUR SIDE FILL ASSEMBLIES ALONG DOOR SIDE OF CONTAINER, WITH CLEATS FACING PALLET UNITS.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	216	72
2" X 4"	66	44
2" X 6"	234	234
4" X 4"	9	12
NAILS	NO. REQD	POUNDS
10d (3")	504	7-3/4
12d (3-1/4")	32	1/2

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	8	14,560 LBS
DUNNAGE		732 LBS
CONTAINER		6,050 LBS
TOTAL WEIGHT		21,342 LBS (APPROX)



ISOMETRIC VIEW

KEY NUMBERS

- ① END BLOCKING ASSEMBLY B (2 REQD). SEE DETAIL ON PAGE 17.
- ② CENTER GATE ASSEMBLY (2 REQD). SEE DETAIL ON PAGE 18.
- ③ STRUT (16 REQD). SEE DETAIL ON PAGE 21.
- ④ SIDE FILL ASSEMBLY B (8 REQD). SEE DETAIL ON PAGE 20.

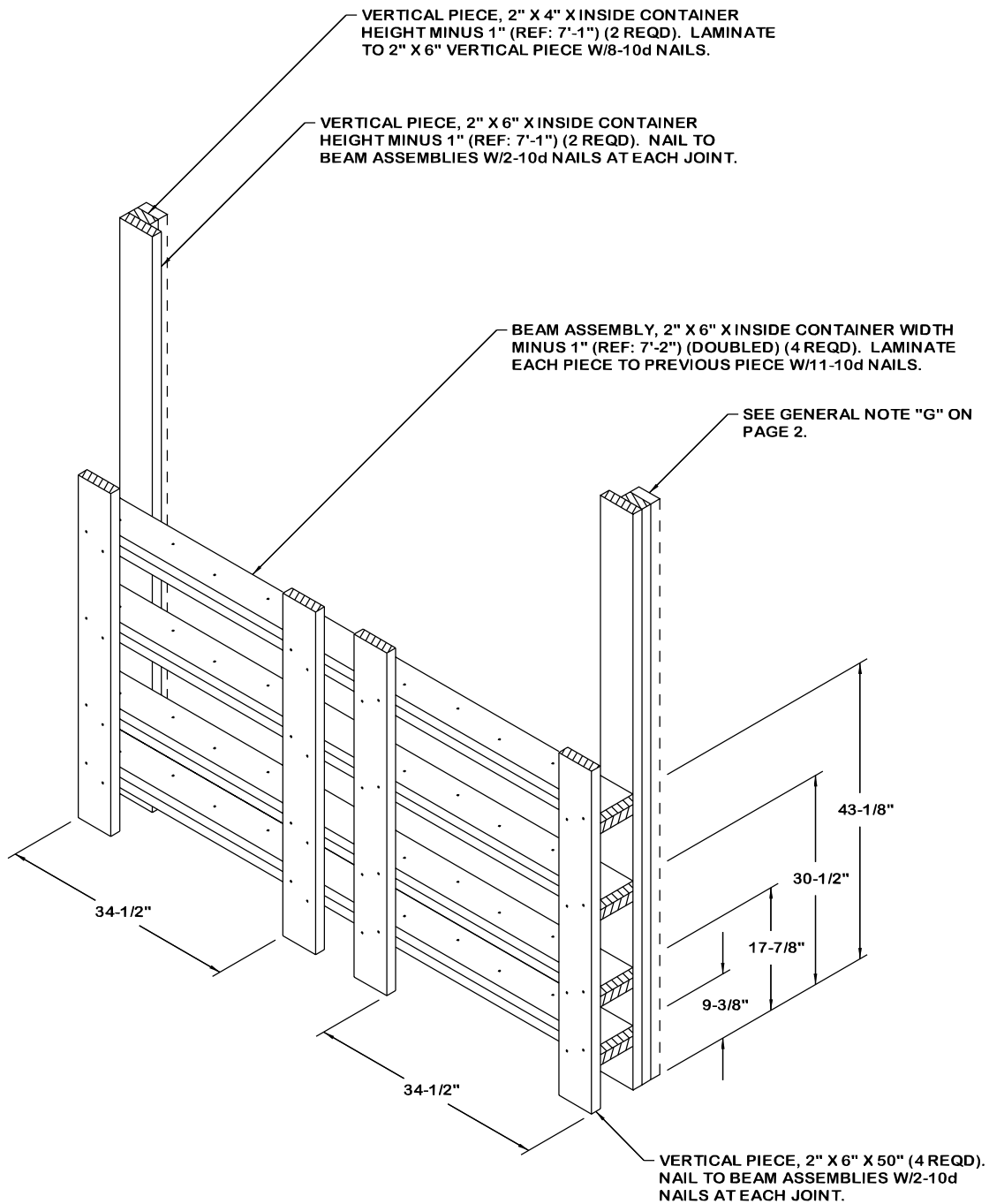
RECOMMENDED SEQUENTIAL PROCEDURES

1. PREFABRICATE TWO OF END BLOCKING ASSEMBLY "B", EIGHT OF SIDE FILL ASSEMBLY "B", AND TWO CENTER GATE ASSEMBLIES (FOR TWO-HIGH LOAD).
2. INSTALL FOUR SIDE FILL ASSEMBLIES ALONG BACK WALL OF CONTAINER, WITH CLEATS FACING PALLET UNITS.
3. INSTALL ONE END BLOCKING ASSEMBLY AGAINST RIGHT SIDE END WALL AND LOAD FOUR PALLET UNITS (ONE ROW OF TWO PALLET UNITS DOUBLE STACKED) TIGHT AGAINST THE END BLOCKING ASSEMBLY.
4. INSTALL ONE END BLOCKING ASSEMBLY AGAINST LEFT SIDE END WALL AND LOAD FOUR PALLET UNITS (ONE ROW OF TWO PALLET UNITS DOUBLE STACKED) TIGHT AGAINST THE END BLOCKING ASSEMBLY.
5. LOAD TWO PALLET UNITS (STACKED) ALONG BACK WALL, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
6. LOAD TWO PALLET UNITS (STACKED) ALONG BACK WALL, TIGHT AGAINST LEFT SIDE PALLET UNITS.
7. INSTALL RIGHT HALF AND LEFT HALF OF ONE CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG THE BACK WALL, WITH OUTER ENDS OF THE ASSEMBLY FACING BACK WALL AND THE FRONT OF EACH HALF FACING EACH OTHER.
8. MEASURE LENGTH FOR HORIZONTAL STRUTS AND CUT REQUIRED QUANTITY OF STRUTS.
9. REMOVE THE CENTER GATE ASSEMBLY AND PLACE STRUTS IN POSITION ACCORDING TO STRUT DETAIL. NAIL THROUGH CENTER GATE ASSEMBLY INTO STRUTS W/2-12d NAILS AT EACH END OF STRUT.
10. INSTALL THE STRUTTED CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG THE BACK WALL.
11. LOAD TWO PALLET UNITS (STACKED) ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST RIGHT SIDE PALLET UNITS.
12. LOAD TWO PALLET UNITS (STACKED) ALONG DOOR SIDE OF CONTAINER, TIGHT AGAINST LEFT SIDE PALLET UNITS.
13. INSTALL RIGHT HALF AND LEFT HALF OF ONE CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG DOOR SIDE OF CONTAINER, WITH OUTER ENDS OF THE ASSEMBLY FACING THE DOOR AND THE FRONT OF EACH HALF FACING EACH OTHER.
14. MEASURE LENGTH FOR HORIZONTAL STRUTS AND CUT REQUIRED QUANTITY OF STRUTS.
15. REMOVE THE CENTER GATE ASSEMBLY AND PLACE STRUTS IN POSITION ACCORDING TO STRUT DETAIL. NAIL THROUGH CENTER GATE ASSEMBLY INTO STRUTS W/2-12d NAILS AT EACH END OF STRUT.
16. INSTALL THE STRUTTED CENTER GATE ASSEMBLY IN THE SPACE BETWEEN THE PALLET UNITS ALONG DOOR SIDE OF CONTAINER.
17. INSTALL FOUR SIDE FILL ASSEMBLIES ALONG DOOR SIDE OF CONTAINER, WITH CLEATS FACING PALLET UNITS.

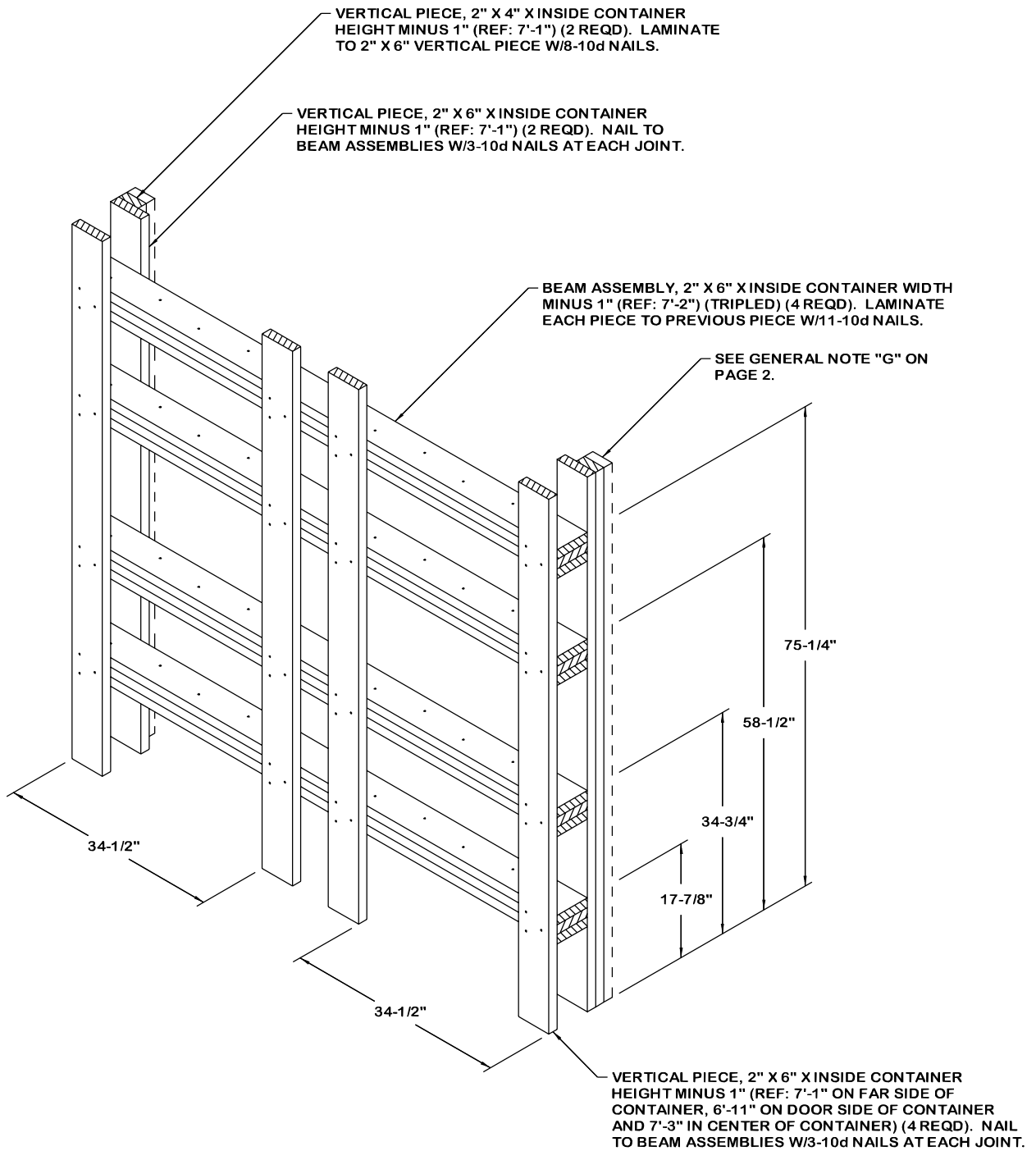
BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	310	104
2" X 4"	96	64
2" X 6"	315	315
4" X 4"	18	24
NAILS	NO. REQD	POUNDS
10d (3")	688	10-1/2
12d (3-1/4")	64	1

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	16	23,552 LBS
DUNNAGE		1,025 LBS
CONTAINER		6,050 LBS
TOTAL WEIGHT		30,627 LBS (APPROX)



END BLOCKING ASSEMBLY A



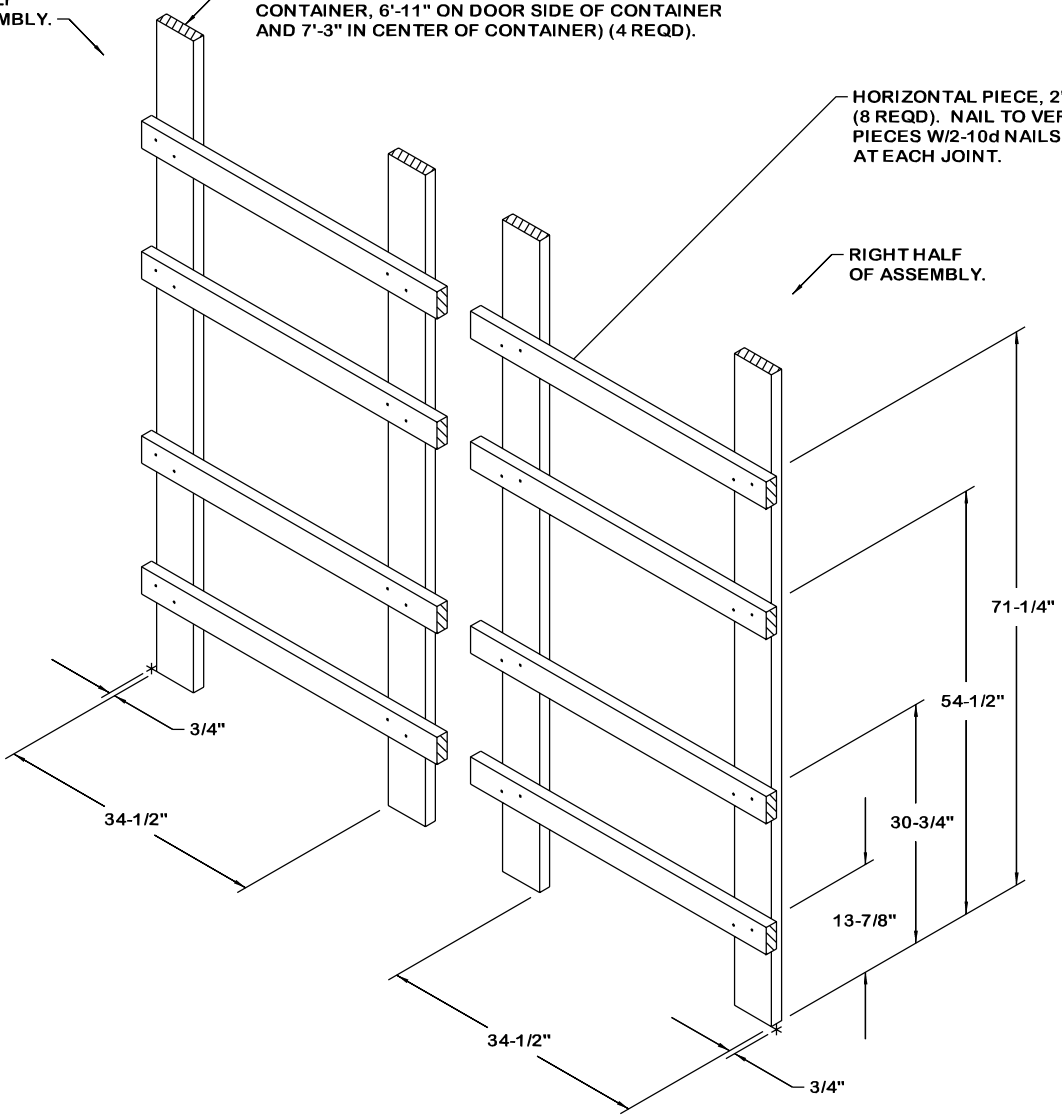
END BLOCKING ASSEMBLY B

LEFT HALF OF ASSEMBLY.

VERTICAL PIECE, 2" X 6" X INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-1" ON FAR SIDE OF CONTAINER, 6'-11" ON DOOR SIDE OF CONTAINER AND 7'-3" IN CENTER OF CONTAINER) (4 REQD).

HORIZONTAL PIECE, 2" X 4" X 44" (8 REQD). NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

RIGHT HALF OF ASSEMBLY.

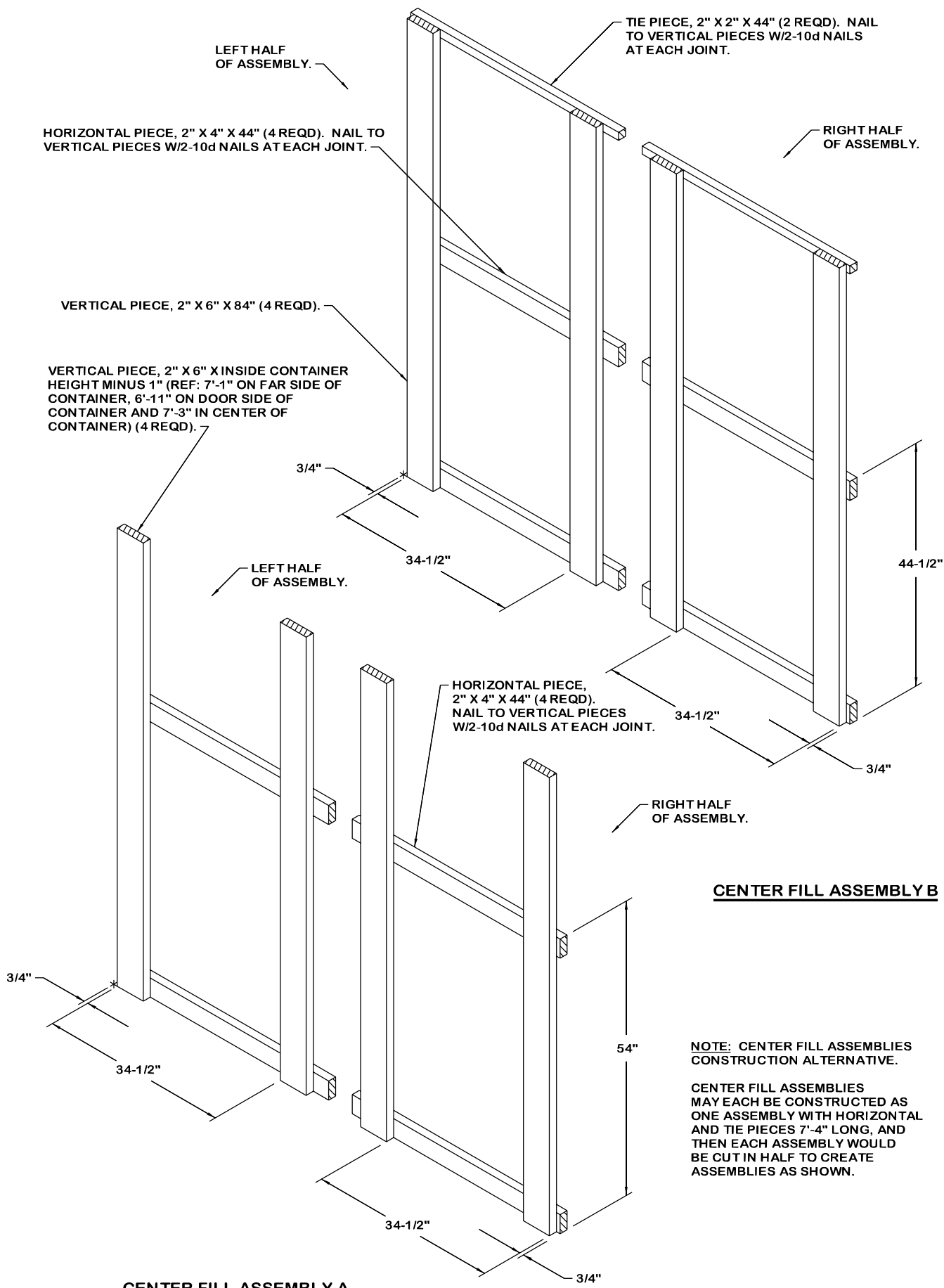


CENTER GATE ASSEMBLY

NOTE: FOR A ONE-HIGH LOAD, ELIMINATE THE TOP FOUR HORIZONTAL PIECES.

NOTE: CENTER GATE ASSEMBLY CONSTRUCTION ALTERNATIVE.

CENTER GATE ASSEMBLY MAY BE CONSTRUCTED AS ONE ASSEMBLY WITH HORIZONTAL PIECES 7'-4" LONG AND THEN ASSEMBLY WOULD BE CUT IN HALF TO CREATE THE ASSEMBLY SHOWN.



HORIZONTAL PIECE, 2" X 4" X 44" (4 REQD). NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

VERTICAL PIECE, 2" X 6" X 84" (4 REQD).

VERTICAL PIECE, 2" X 6" X INSIDE CONTAINER HEIGHT MINUS 1" (REF: 7'-1" ON FAR SIDE OF CONTAINER, 6'-11" ON DOOR SIDE OF CONTAINER AND 7'-3" IN CENTER OF CONTAINER) (4 REQD).

TIE PIECE, 2" X 2" X 44" (2 REQD). NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

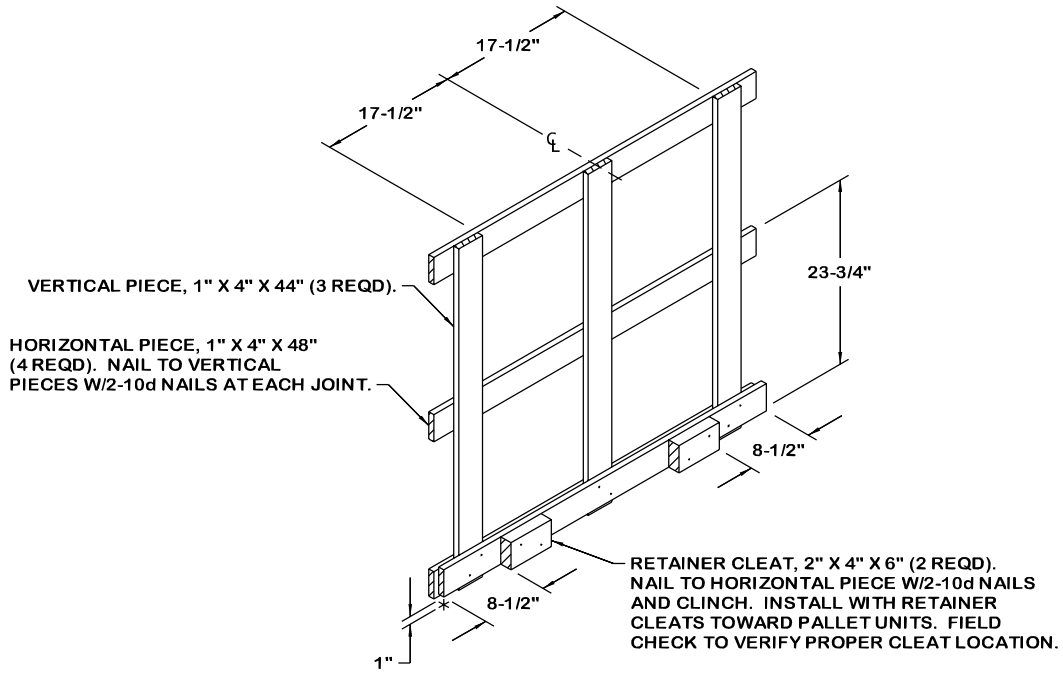
HORIZONTAL PIECE, 2" X 4" X 44" (4 REQD). NAIL TO VERTICAL PIECES W/2-10d NAILS AT EACH JOINT.

CENTER FILL ASSEMBLY B

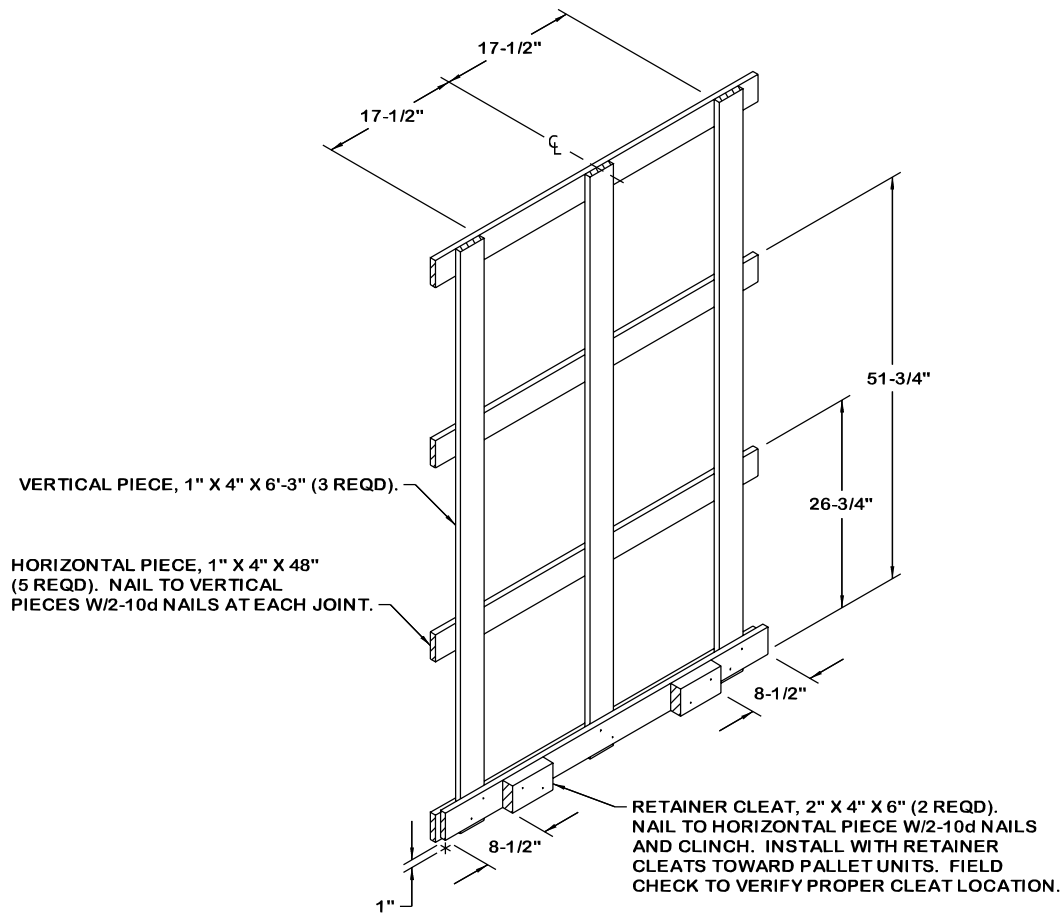
NOTE: CENTER FILL ASSEMBLIES CONSTRUCTION ALTERNATIVE.

CENTER FILL ASSEMBLIES MAY EACH BE CONSTRUCTED AS ONE ASSEMBLY WITH HORIZONTAL AND TIE PIECES 7'-4" LONG, AND THEN EACH ASSEMBLY WOULD BE CUT IN HALF TO CREATE ASSEMBLIES AS SHOWN.

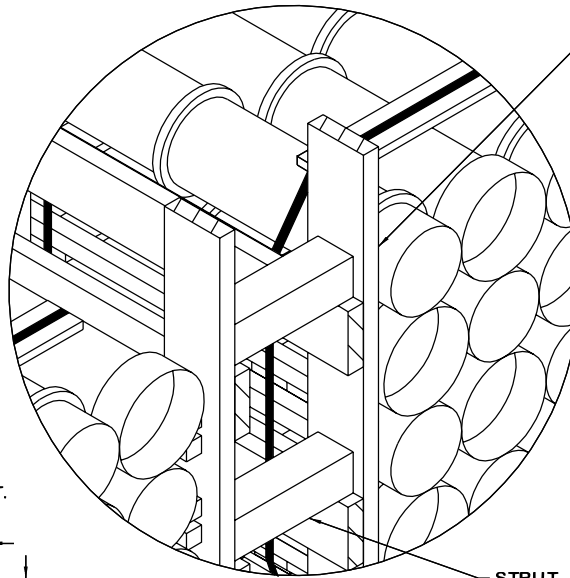
CENTER FILL ASSEMBLY A



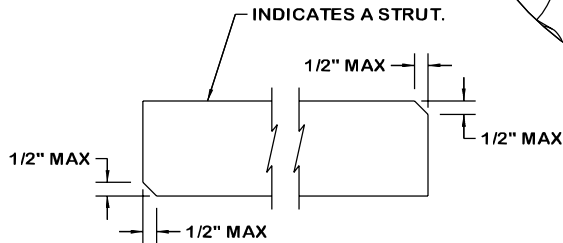
SIDE FILL ASSEMBLY A



SIDE FILL ASSEMBLY B



CENTER GATE ASSEMBLY



INDICATES A STRUT.

1/2" MAX

1/2" MAX

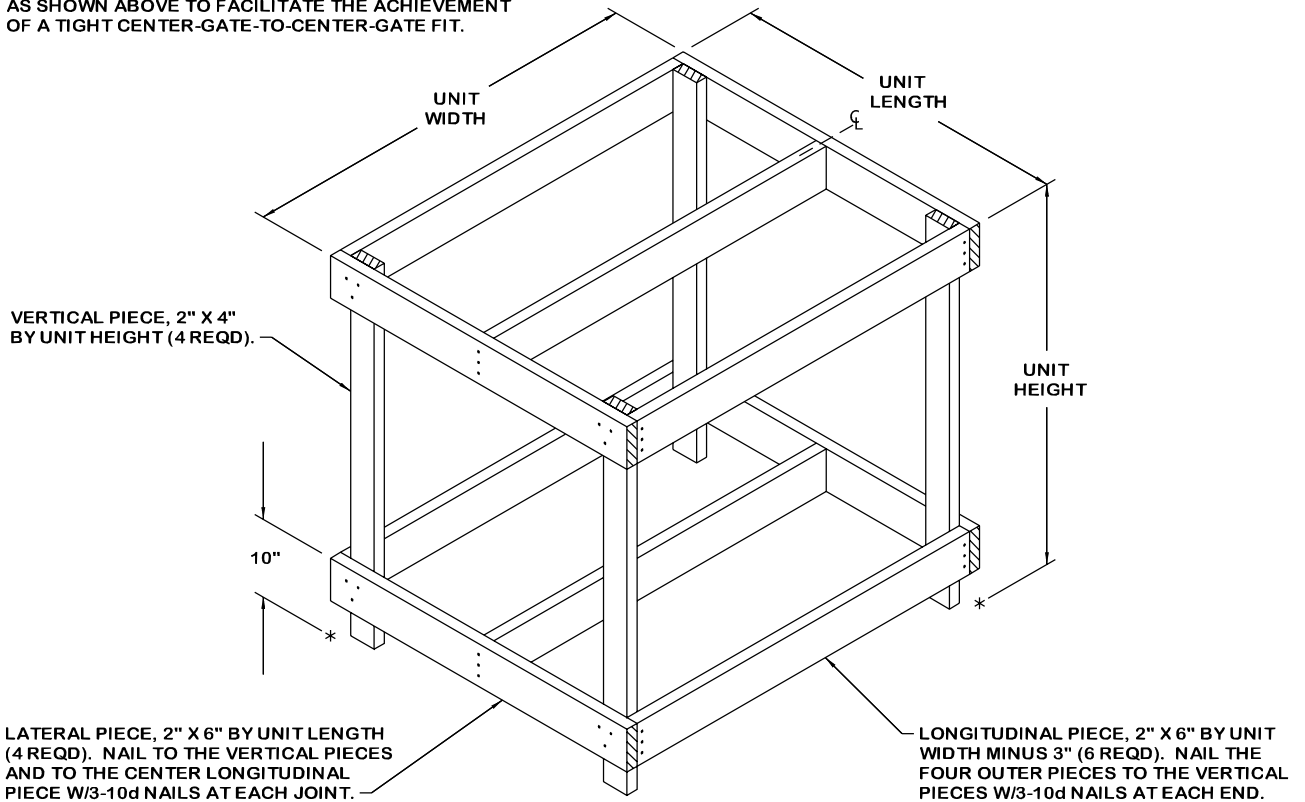
1/2" MAX

STRUT, 4" X 4" BY CUT TO FIT (REF: 7" FOR ROUTED PALLET UNITS, 13" FOR ALTERNATED PALLET UNITS). EIGHT REQD FOR SINGLE STACKED LOAD, SIXTEEN REQD FOR DOUBLE STACKED LOAD. NAIL THROUGH CENTER GATE ASSEMBLIES INTO STRUTS W/2-12d NAILS AT EACH END BEFORE INSTALLATION ON LOAD.

STRUT DETAIL

BEVEL-CUT

IF DESIRED, EACH END OF A STRUT MAY BE BEVEL-CUT AS SHOWN ABOVE TO FACILITATE THE ACHIEVEMENT OF A TIGHT CENTER-GATE-TO-CENTER-GATE FIT.



VERTICAL PIECE, 2" X 4" BY UNIT HEIGHT (4 REQD).

LATERAL PIECE, 2" X 6" BY UNIT LENGTH (4 REQD). NAIL TO THE VERTICAL PIECES AND TO THE CENTER LONGITUDINAL PIECE W/3-10d NAILS AT EACH JOINT.

LONGITUDINAL PIECE, 2" X 6" BY UNIT WIDTH MINUS 3" (6 REQD). NAIL THE FOUR OUTER PIECES TO THE VERTICAL PIECES W/3-10d NAILS AT EACH END.

OMITTED UNIT ASSEMBLY

THIS ASSEMBLY IS FOR USE IN PLACE OF AN OMITTED PALLET UNIT. NO MORE THAN THREE OMITTED UNIT ASSEMBLIES MAY BE USED PER TWO-HIGH LOAD, AND NO MORE THAN ONE OMITTED UNIT ASSEMBLY MAY BE USED PER ONE-HIGH LOAD. DO NOT INSTALL AN OMITTED UNIT ASSEMBLY IMMEDIATELY ADJACENT TO ANOTHER OMITTED UNIT ASSEMBLY.

