

TRUCKLOAD

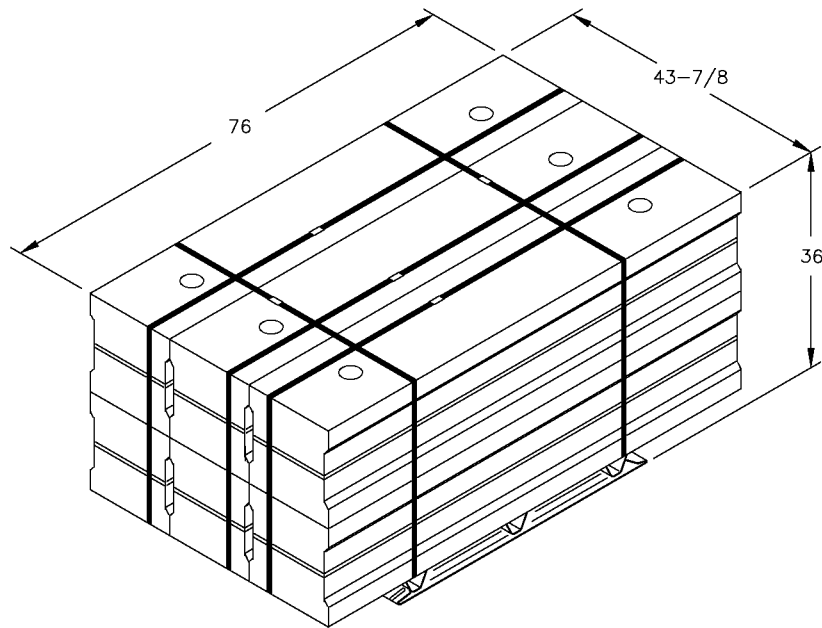
HELLFIRE MISSILE, AGM-II4

IN CONTAINER, SHIPPING & STORAGE, CNU-448/E

UNITIZED ON MK 3 MOD 0 PALLET

UNIT LOAD DATA

UNIT LOAD DOCUMENT.....NAVSEA DWG 6214039
 DIMENSIONS.....SEE ILLUSTRATION
 GROSS WEIGHT.....1,234 LBS
 CUBE.....69.5 CU-FT



NOTES:

1. GROSS WEIGHT IS ESTIMATED ONLY. DO NOT USE FOR SHIPPING WEIGHT.
2. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.
3. SEE SW020-AC-SAF-010 FOR THE FOLLOWING INFORMATION:
 - A) CROSS REFERENCE TO ASSOCIATED RAILCAR LOADING, PALLETIZING, AND CONTAINER LOADING MILITARY STANDARDS
 - B) HAZARD CLASSIFICATION

REV.	REVISION DESCRIPTION	DATE	TDA	SYSCOM	
A	SEE NWSC IHD DET EARLE ECP I08022	2001-5-12	S/ C CHAPIN	S/ R. SMITH	
	TECH DATA MANAGEMENT SUPERVISOR	S/ RE / AVS	2001-3-16		DISTRIBUTION STATEMENT A APPROVED FOR PUBLIC RELEASE: DISTRIBUTION IS UNLIMITED REQUIREMENTS FOR CONSTRUCTION OF THIS LOAD SHALL CONSIST OF THIS DOCUMENT & THE LATEST ISSUE OF MIL-STD-1320 (NAVY) THIS LOAD IS AUTHORIZED & RELEASED FOR HIGHWAY SHIPMENT ONLY
	SYSTEMS ENG. SUPERVISOR	S/ G BENDER	2001-3-16		
	S/ K.H. ZIMMS 16 MARCH 2001 NAVSEASYSKOM (BY DIRECTION)				
	DEPARTMENT OF THE NAVY NAVAL SEA SYSTEMS COMMAND ARLINGTON, VA 22242-5160	CAGE CODE 53711	DWG NO. 6214290		REV. A
	SIZE A	PAGE 1 OF 19			

GENERAL NOTES:

1. THIS DOCUMENT PROVIDES DETAILED INSTRUCTIONS FOR TRUCKLOADING THE HELLFIRE MISSILE, PACKAGED IN THE CNU-448/E SHIPPING & STORAGE CONTAINER, AND UNITIZED ON THE MK 3 MOD 0 PALLET.
2. THE PROCEDURES AND PRACTICES CONTAINED HEREIN ARE INTENDED FOR 40 FT AND LONGER TRAILERS (BOTH FLATBED AND ENCLOSED VAN) 96 TO 102 INCHES WIDE. PROCEDURES FOR LOADING ONTO FLATBED TRAILERS ARE SHOWN ON PAGES 4 THRU 6. PROCEDURES FOR LOADING INTO VAN TRAILERS USING A SINGLE ROW PATTERN ARE SHOWN ON PAGES 7 THRU 13. PROCEDURES FOR LOADING INTO VAN TRAILERS USING A DOUBLE ROW PATTERN ARE SHOWN ON PAGES 14 THRU 19.
3. BECAUSE THIS LOADING PLAN RELIES SIGNIFICANTLY ON WOOD DUNNAGE NAILED TO THE TRAILER FLOOR, THE FLOOR OF THE TRAILER (EITHER FLATBED OR VAN) SHALL BE PREDOMINANTLY WOOD.
4. STACKING IS NOT PERMITTED ON FLATBED TRAILERS.
5. TIEDOWN (FLATBED TRAILERS ONLY):
 - A. THE QUANTITY OF TIEDOWN ASSEMBLIES REQUIRED SHALL BE AS SHOWN IN THE ILLUSTRATIONS. EITHER CHAIN, 4-INCH WEB STRAPS, OR STEEL STRAPPING MAY BE USED FOR TIEDOWN.
 - B. WEB STRAPS:
 - 1) WEB STRAP TIEDOWNS SHALL CONFORM TO AND BE APPLIED AS SPECIFIED IN NAVSEA DRAWING 6214037 AND IN THIS DRAWING.
 - 2) ONLY ASSEMBLIES WITH 4-INCH STRAPPING SHALL BE USED.
 - 3) PROTECTOR BOARDS SHALL BE USED UNDERNEATH WEB STRAP TIEDOWNS. THE ENDS SHALL BE CHAMFERED AS SHOWN IN DETAIL A.
 - C. CHAINS:
 - 1) CHAIN SHALL CONFORM TO THE NATIONAL ASSOCIATION OF CHAIN MANUFACTURERS WELDED STEEL CHAIN SPECIFICATION. CHAIN SHALL BE GRADE 70 OR BETTER, SIZE 3/8 OR 5/16. GRABHOOKS, LOADBINDERS, AND OTHER LOAD BEARING HARDWARE SHALL HAVE A WORKING LOAD LIMIT AT LEAST THAT OF THE CHAIN AND SHALL BE COMPATIBLE WITH THE SIZE CHAIN BEING USED.
 - 2) CHAINS SHALL BE ATTACHED TO THE TRAILER'S STAKE POCKETS, NOT AROUND THE RUBRAIL.
 - 3) RATCHET TYPE LOADBINDERS ARE PREFERRED. HOWEVER, IF USING OVER-THE-CENTER TYPE LOADBINDERS, THE HANDLES SHALL BE SECURED IN THE CLOSED POSITION USING .08 DIA OR THICKER STEEL WIRE (ASTM A853; ANNEALED AT FINISH, BLACK OXIDE FINISH, GRADE 1006 OR BETTER).
 - 4) TO PREVENT DAMAGE TO THE PALLET FRAMES, DOUBLED 2 X 6 PROTECTOR BOARDS SHALL BE PLACED UNDER THE CHAINS AS SHOWN IN DETAIL B. NAILS SHALL BE USED TO KEEP THE CHAINS IN PLACE ON TOP OF THE PROTECTOR BOARDS. THIS IS ACCOMPLISHED BY DRIVING A 10d NAIL THROUGH ONE CHAIN LINK AND PARTIALLY INTO THE PROTECTOR BOARD ASSEMBLY AND THEN CLINCHING THE NAIL OVER THE CHAIN. USE ONE NAIL NEAR EACH END OF THE PROTECTOR BOARD ASSEMBLIES. DO NOT APPLY NAILS UNTIL AFTER THE CHAINS ARE TENSIONED.
 - D. STEEL STRAPPING:
 - 1) STRAPPING SHALL BE 2 X .044 OR 2 X .050 AND SHALL CONFORM TO ASTM D3953, TYPE 1, HEAVY DUTY, FINISH A, B (ANY GRADE), C, OR D. SEALS SHALL CONFORM TO ASTM D3953, CLASS H, FINISH A, B (ANY GRADE), OR C, STYLE I, II, III, OR IV.
 - 2) STEEL STRAP TIEDOWNS SHALL BE ATTACHED TO THE SIDES OF THE TRAILER BY LOOPING THE STRAP AROUND THE RUB RAIL OR STAKE POCKET AND BACK ONTO ITSELF. A MINIMUM OF ONE SEAL WITH TWO PAIR OF NOTCHES WILL BE USED TO SEAL THE JOINT WHEN A NOTCH-TYPE SEALER IS USED. A MINIMUM OF ONE SEAL WITH TWO PAIR OF CRIMPS WILL BE USED WHEN CRIMP-TYPE SEALERS ARE USED.
 - 3) WHERE STRAPPING IS JOINED IN AN END-OVER-END LAP JOINT, A MINIMUM OF ONE SEAL WITH TWO PAIR OF NOTCHES WHEN A NOTCH-TYPE SEALER IS USED. WHEN USING A CRIMP-TYPE SEAL, TWO SEALS WITH TWO PAIR OF CRIMPS SHALL BE USED.
 - 4) TO PROTECT THE STRAP FROM POSSIBLE SHARP EDGES OF THE RUB RAIL OR STAKE POCKET, AN ADDITIONAL PIECE OF STRAPPING (APPROXIMATELY 18 INCHES) SHALL BE PLACED UNDERNEATH THE STRAP AT THIS LOCATION. IT SHALL BE SECURED TO THE LOAD BEARING STRAP USING ONE SEAL WITH EITHER A SINGLE NOTCH OR A SINGLE CRIMP.
 - 5) PROTECTOR BOARDS ARE NOT REQUIRED TO BE USED UNDERNEATH STEEL STRAP TIEDOWNS.
 - E. DURING PRE-LOADING INSPECTION REQUIRED BY NAVSEA SW020-AG-SAF-010, ALL CHAIN AND WEB STRAP TIEDOWNS SHALL BE INSPECTED FOR DEFECTS. THE INSPECTION PROCEDURE FOR WEB STRAPS SHALL BE AS SPECIFIED IN DRAWING 6214037. CHAINS, FITTINGS AND LOAD BINDERS SHALL BE INSPECTED FOR STRETCH, GOUGING, BENT LINKS, WEAR, AND ANY OTHER NOTICEABLE DEFECTS THAT WOULD AFFECT THE STRENGTH OF THE ASSEMBLY. RESULTS OF THESE INSPECTIONS SHALL BE RECORDED IN ITEM 12-T OF DD FORM 626. ANY DEFICIENCY SHALL BE CAUSE FOR REJECTION OF THE CHAINS, FITTINGS, BINDERS, OR WEB STRAPPING ASSEMBLIES.

GENERAL NOTES (CONT'D):

6. A STAGGERED NAILING PATTERN WILL BE USED WHENEVER POSSIBLE WHEN NAILS ARE DRIVEN INTO JOINTS OF DUNNAGE ASSEMBLIES. ALSO, A STAGGERED NAILING PATTERN WILL BE USED WHEN NAILS ARE DRIVEN INTO FLOOR DUNNAGE, OR WHEN LAMINATING TWO OR MORE PIECES OF LUMBER. THE NAILING PATTERN WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL DOES NOT PENETRATE INTO OR NEAR A CRACK BETWEEN TRAILER FLOOR BOARDS. THE NAILING FOR AN UPPER PIECE OF FLOOR DUNNAGE WILL BE ADJUSTED AS REQUIRED SO THAT A NAIL FOR THAT PIECE WILL NOT BE DRIVEN NEAR A NAIL IN A LOWER PIECE.
7. THE MAXIMUM NUMBER OF UNIT LOADS THAT CAN BE LOADED INTO/ONTO A TRAILER DEPENDS ON THE AXLE WEIGHTS OF THE TRACTOR/TRAILER BEFORE LOADING AND THE ALLOWABLE WEIGHTS ALONG THE ROUTE TO THE LOAD'S DESTINATION. THE MAXIMUM ALLOWABLE GROSS WEIGHT OF THE TRACTOR-TRAILER AND THE ALLOWABLE AXLE WEIGHTS ARE THE RESPONSIBILITY OF THE CARRIER. THE CARRIER WILL ADVISE THE SHIPPER OF THESE LIMITATIONS AND THE SHIPPER SHALL LOAD THE TRAILER IN SUCH A MANNER THAT THE TRACTOR-TRAILER WILL NOT EXCEED THESE LIMITATIONS.
8. WHEN USING FLATBED TRAILERS, THE UNIT LOADS SHALL BE COMPLETELY COVERED WITH FIRE RESISTANT AND WATERPROOF TARPULINS. THE TARPULINS MAY BE UNDER THE TIEDOWNS.
9. IF USING A VAN TRAILER WITH A ROLL-UP REAR DOOR, THE TRAILER SHALL BE LOADED IN SUCH MANNER THAT THE LOAD CANNOT SHIFT AND BEAR AGAINST THE REAR DOOR. THUS, USE OF DETAILS F, G, OR N WOULD BE FORBIDDEN IN THIS TYPE OF TRAILER.
10. LUMBER SHALL CONFORM TO VOLUNTARY PRODUCT STANDARD PS 20-2005 (AMERICAN SOFTWOOD LUMBER STANDARD).
11. NAILS SHALL CONFORM TO ASTM F1667 DESIGNATION F1667 NL CM S - XX B, WHERE "XX" DESIGNATES THE SIZE (I.E., 10d, 16d, 20d, ETC.).
12. STEEL STRAPPING USED AS SHOWN ON PAGES 11 AND 14 SHALL CONFORM TO ASTM D3953, TYPE 1, HEAVY DUTY, FINISH A, B (ANY GRADE), C, OR D. SEALS SHALL CONFORM TO ASTM D3953, CLASS H, FINISH A, B (ANY GRADE), OR C, STYLE I, II, III, OR IV.
13. AFTER THE BLOCKING AND BRACING HAS BEEN INSPECTED, ATTACH THE SHIPPING DOCUMENTS TO AN ACCESSIBLE AREA INSIDE THE TRAILER, OR IF USING A FLATBED, ON THE REAR DECK OF THE TRAILER.
14. APPROPRIATE EXPLOSIVES PLACARDS SHALL BE ATTACHED TO THE BOTH SIDES, FRONT, AND REAR OF THE TRACTOR/TRAILER.
15. FOR GENERAL TRUCKLOADING PROCEDURES REFER TO THE GENERAL TRUCKLOADING DOCUMENT, MIL-STD-1320 (NAVY).

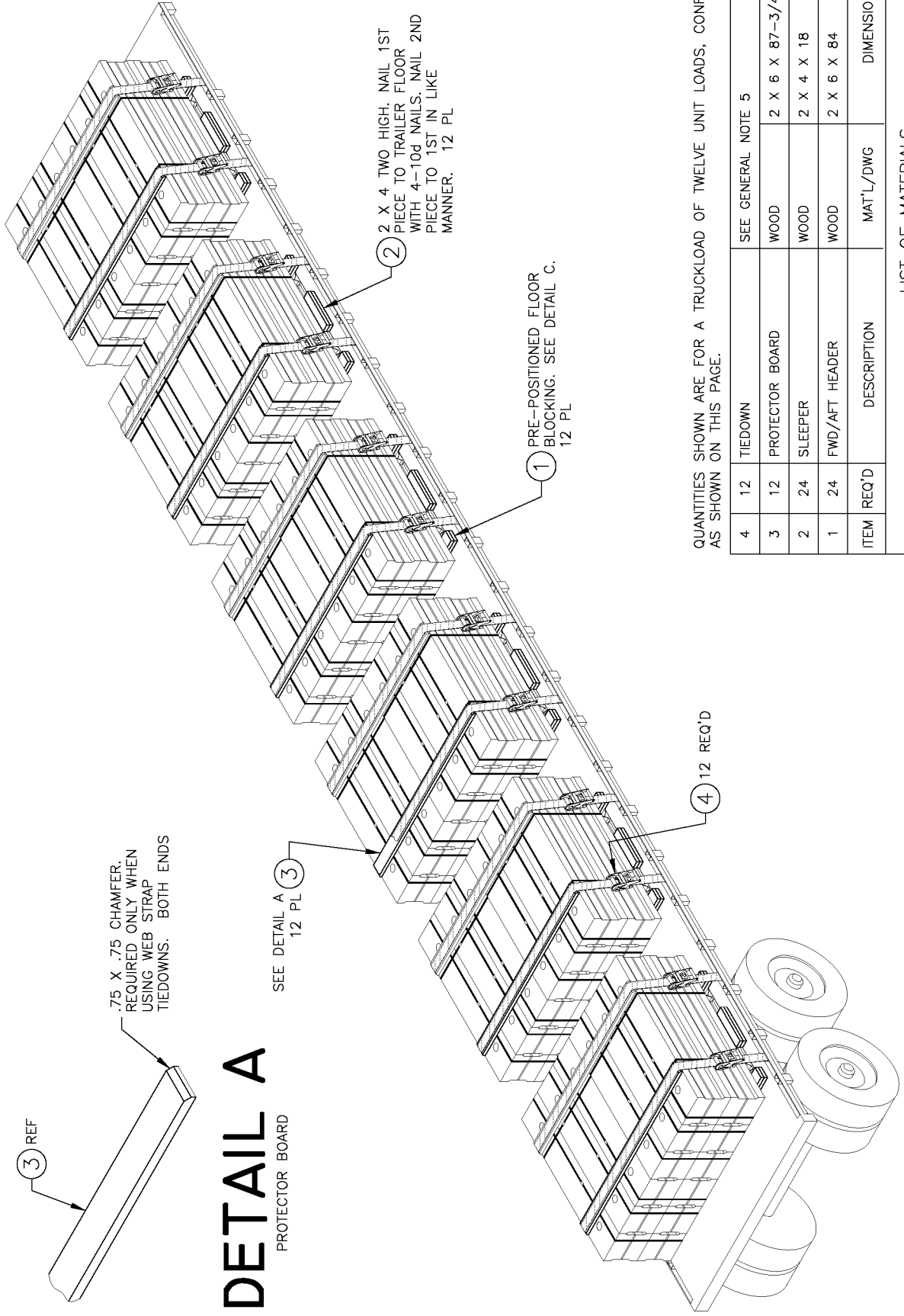
TYPICAL FULL TRUCKLOAD - FLATBED TRAILER

(102-INCH WIDE TRAILER REQUIRED FOR TWO-WIDE LOADING)

NOTES

③ REF

.75 X .75 CHAMFER.
REQUIRED ONLY WHEN
USING WEB STRAP
TIEDOWNS. BOTH ENDS



DETAIL A

PROTECTOR BOARD

SEE DETAIL A ③
12 PL

② 2 X 4 TWO HIGH NAIL 1ST
PIECE TO TRAILER FLOOR
WITH 4-10d NAILS. NAIL 2ND
PIECE TO 1ST IN LIKE
MANNER. 12 PL

① PRE-POSITIONED FLOOR
BLOCKING. SEE DETAIL C.
12 PL

QUANTITIES SHOWN ARE FOR A TRUCKLOAD OF TWELVE UNIT LOADS, CONFIGURED AS SHOWN ON THIS PAGE.

ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS
4	12	TIEDOWN	SEE GENERAL NOTE 5	
3	12	PROTECTOR BOARD	WOOD	2 X 6 X 87-3/4
2	24	SLEEPER	WOOD	2 X 4 X 18
1	24	FWD/AFT HEADER	WOOD	2 X 6 X 84

LIST OF MATERIALS

NAVSEA
DWG NO.

6214290

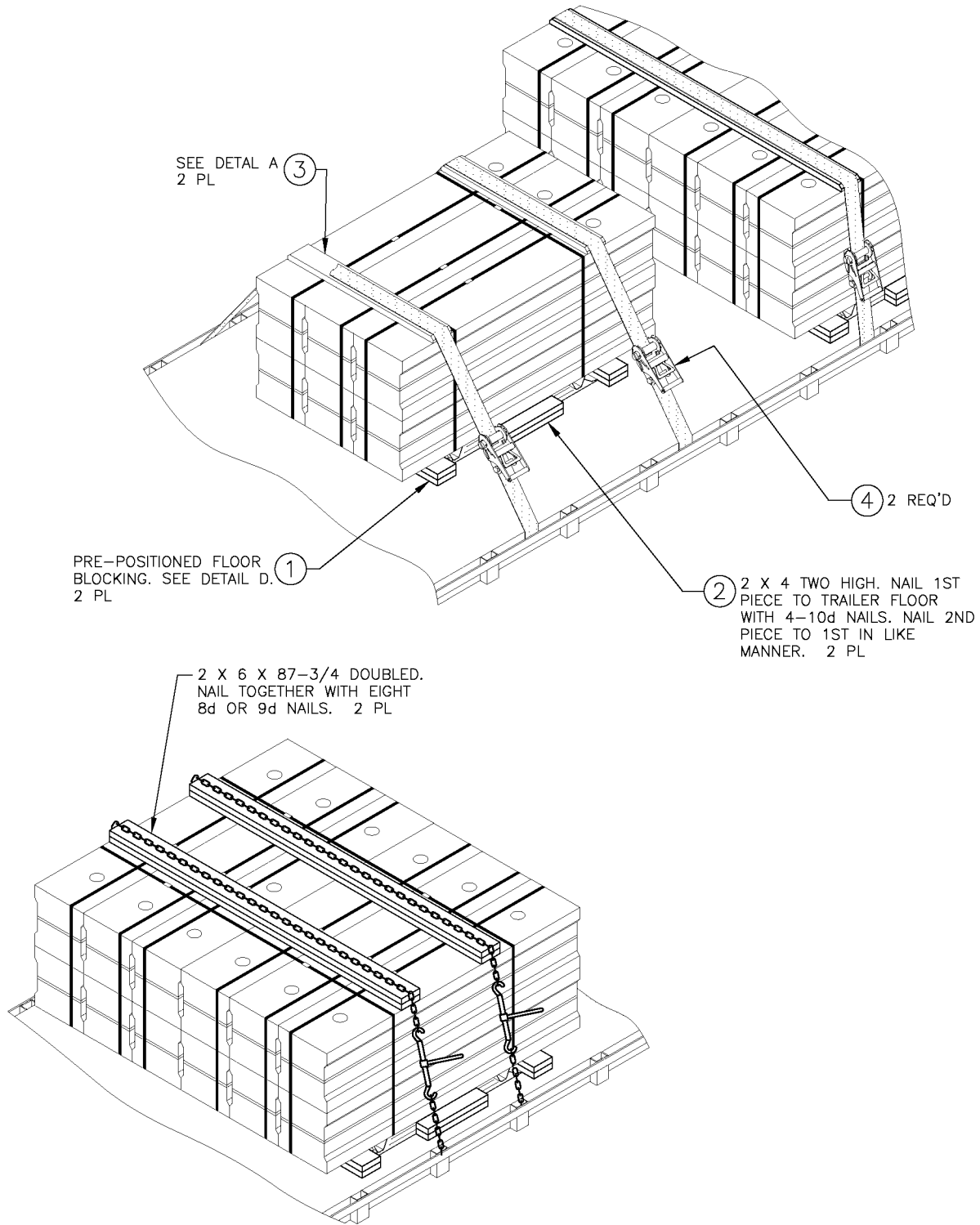
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SINGLE WIDE PALLET - FLATBED TRAILER



DETAIL B

USE OF CHAIN BOARDS

QUANTITIES SHOWN ARE FOR DUNNAGING A SINGLE UNIT LOAD AS SHOWN ON THIS PAGE

4	2	TIEDOWN	SEE GENERAL NOTE 5	
3	2	PROTECTOR BOARD	WOOD	2 X 6 X 43-7/8
2	4	SLEEPER	WOOD	2 X 4 X 18
1	4	FWD/AFT HEADER	WOOD	2 X 6 X 42
ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS

LIST OF MATERIALS

NAVSEA
DWG NO.

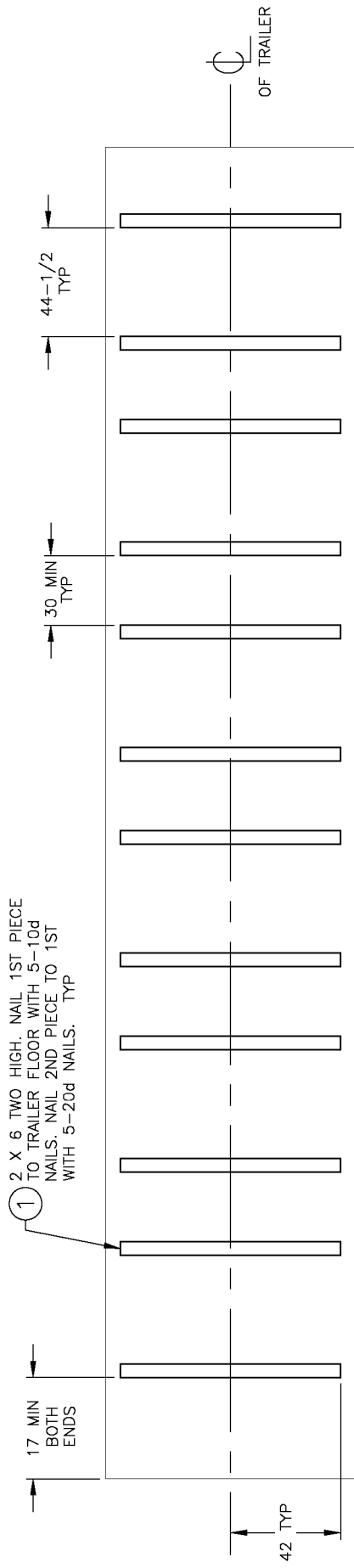
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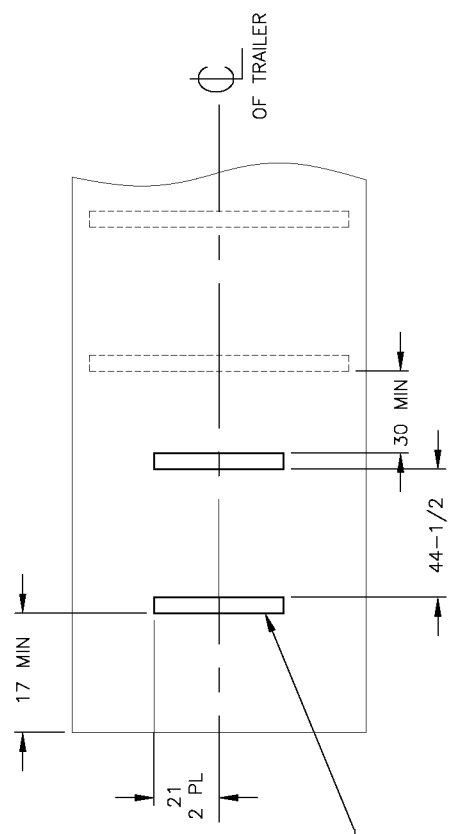
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DETAIL C
 PRE-POSITIONED FLOOR BLOCKING
 FLATBED TRAILER

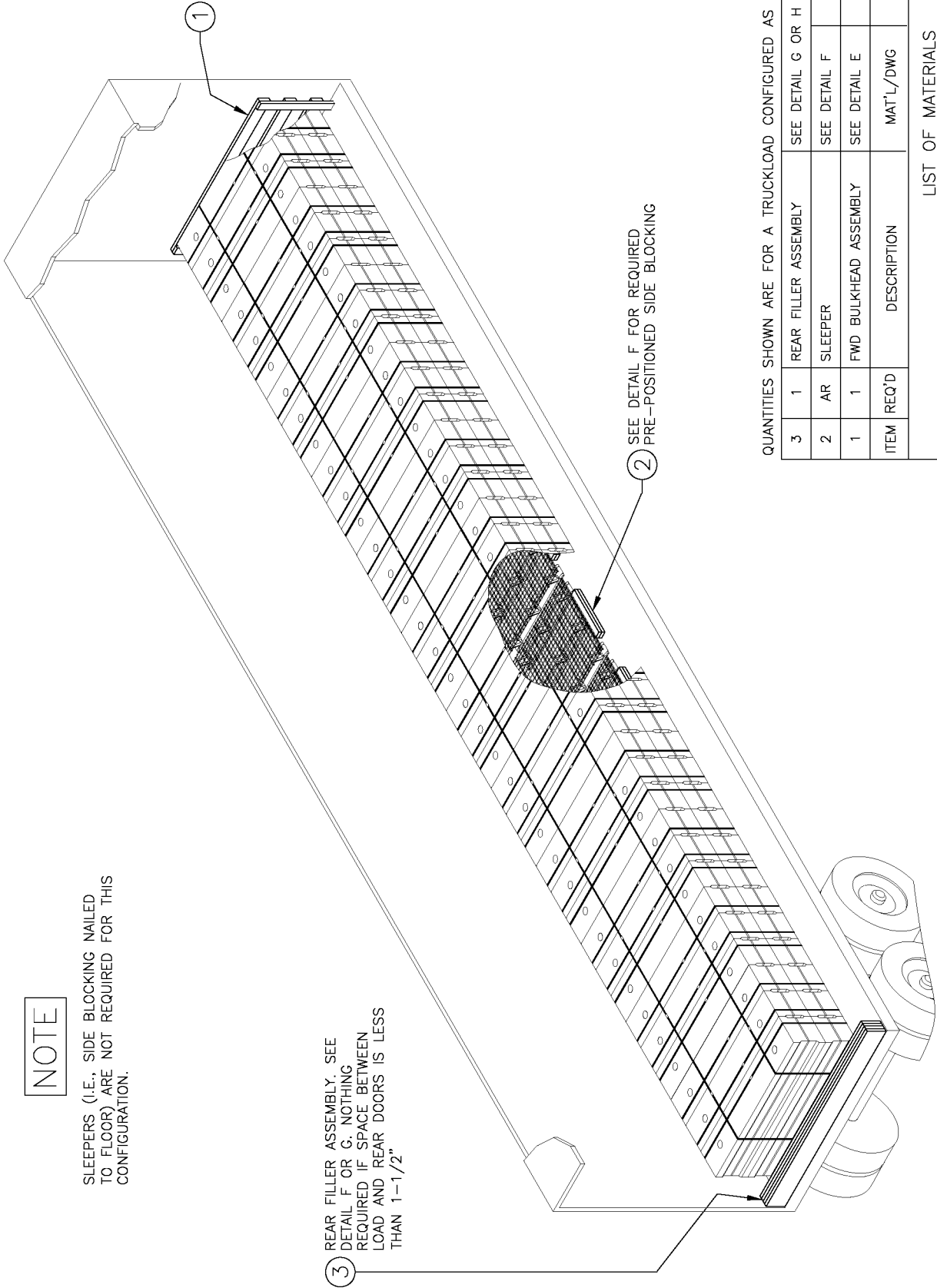


DETAIL D
 PRE-POSITIONED FLOOR BLOCKING FOR SINGLE PALLET
 FLATBED TRAILER

TYPICAL FULL TRUCKLOAD - VAN TRAILER - SINGLE ROW, SINGLE LAYER

NOTE

SLEEPERS (I.E., SIDE BLOCKING NAILED TO FLOOR) ARE NOT REQUIRED FOR THIS CONFIGURATION.



3 REAR FILLER ASSEMBLY. SEE DETAIL F OR G. NOTHING REQUIRED IF SPACE BETWEEN LOAD AND REAR DOORS IS LESS THAN 1-1/2"

2 SEE DETAIL F FOR REQUIRED PRE-POSITIONED SIDE BLOCKING

QUANTITIES SHOWN ARE FOR A TRUCKLOAD CONFIGURED AS SHOWN ON THIS PAGE.

ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS
3	1	REAR FILLER ASSEMBLY	SEE DETAIL G OR H	
2	AR	SLEEPER	SEE DETAIL F	
1	1	FWD BULKHEAD ASSEMBLY	SEE DETAIL E	

LIST OF MATERIALS

NAVSEA
DWG NO.

6214290

REV. A

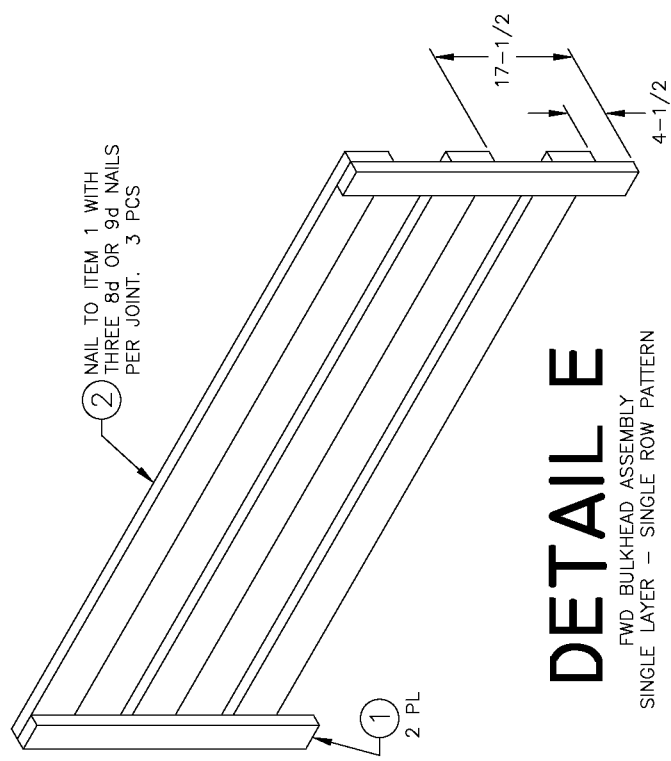
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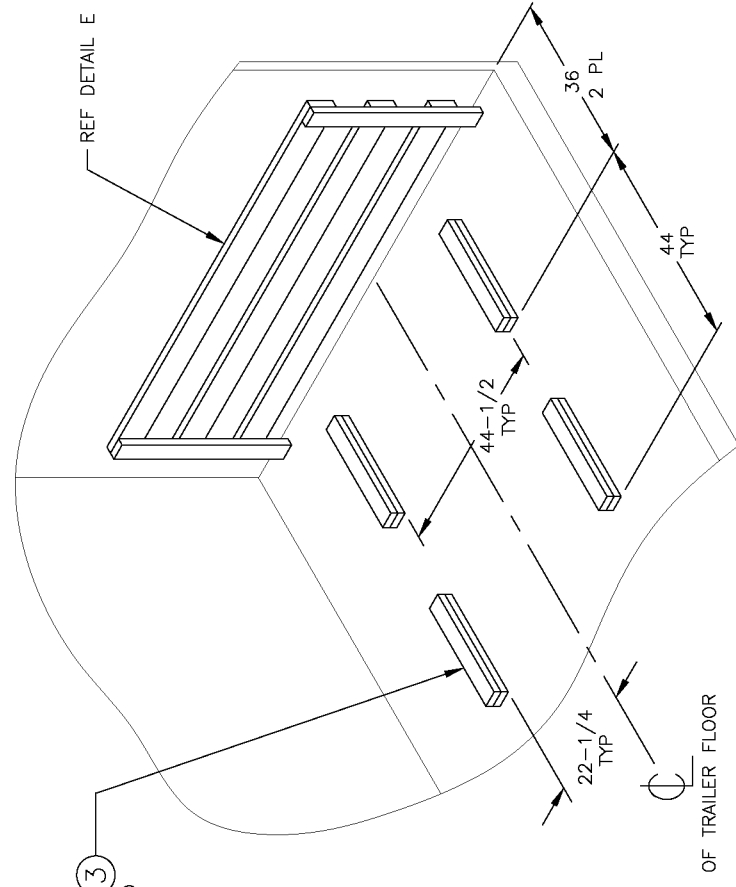
③ 2 X 4 TWO HIGH. NAIL 1ST
PIECE TO TRAILER FLOOR
WITH 4-10d NAILS. NAIL 2ND
PIECE TO 1ST IN LIKE
MANNER. TYP

② NAIL TO ITEM 1 WITH
THREE 8d OR 9d NAILS
PER JOINT. 3 PCS



DETAIL E

FWD BULKHEAD ASSEMBLY
SINGLE LAYER - SINGLE ROW PATTERN



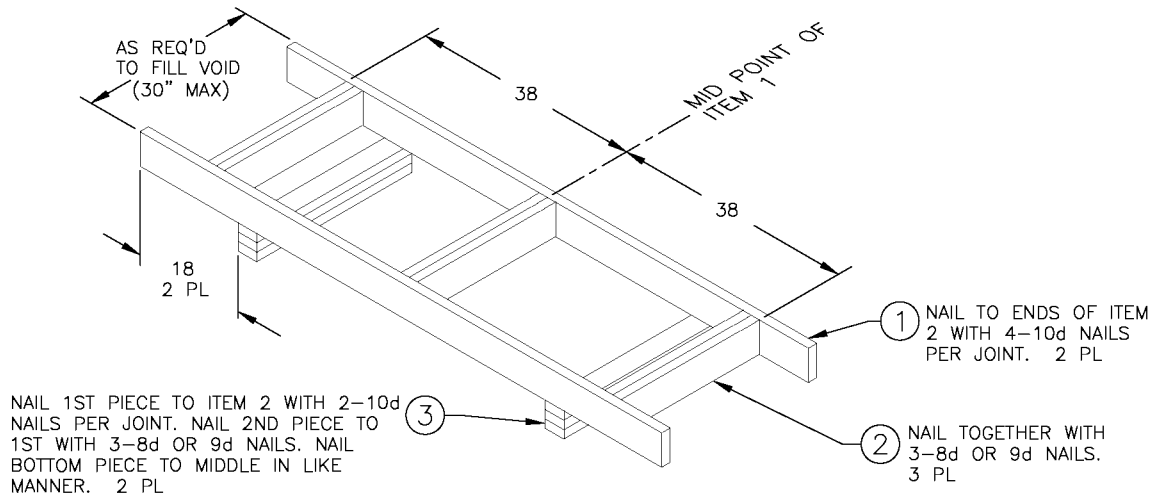
DETAIL F

FWD BULKHEAD ASSEMBLY
SINGLE LAYER - SINGLE ROW PATTERN

QUANTITIES SHOWN FOR ITEMS 1 AND 2 ARE THAT REQUIRED TO CONSTRUCT ONE OF DETAIL D.

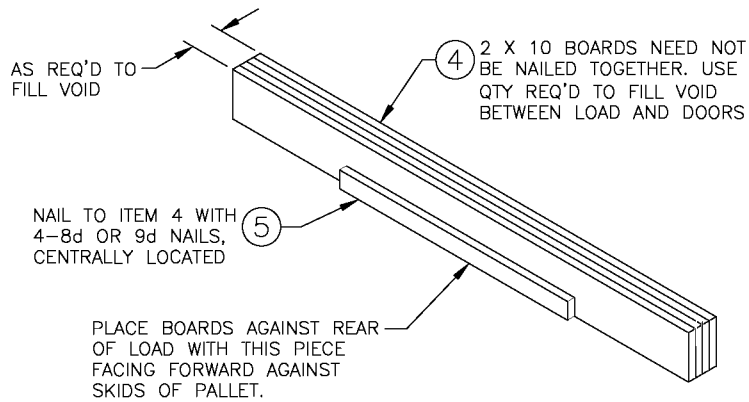
ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS
3	AR	SLEEPER	WOOD	2 X 4 X 24
2	3	CROSS PIECE	WOOD	2 X 6 X 85
1	2	VERTICAL	WOOD	2 X 4 X 36

LIST OF MATERIALS



DETAIL G

REAR FILLER ASSEMBLY - SINGLE ROW
TO FILL 12"-30" VOID



DETAIL H

REAR FILLER ASSEMBLY - SINGLE ROW
TO FILL 1-1/2"-12" VOID

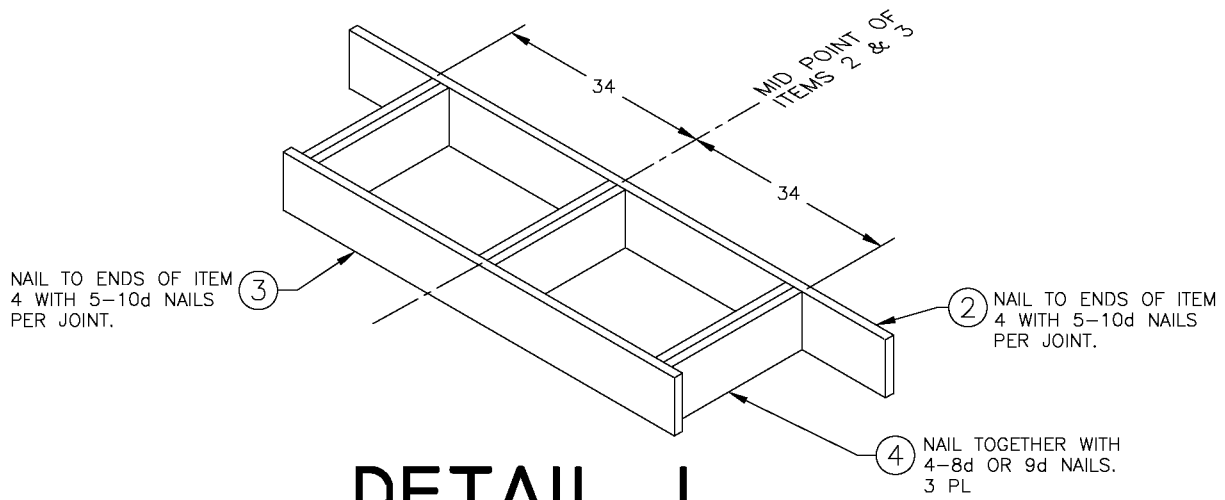
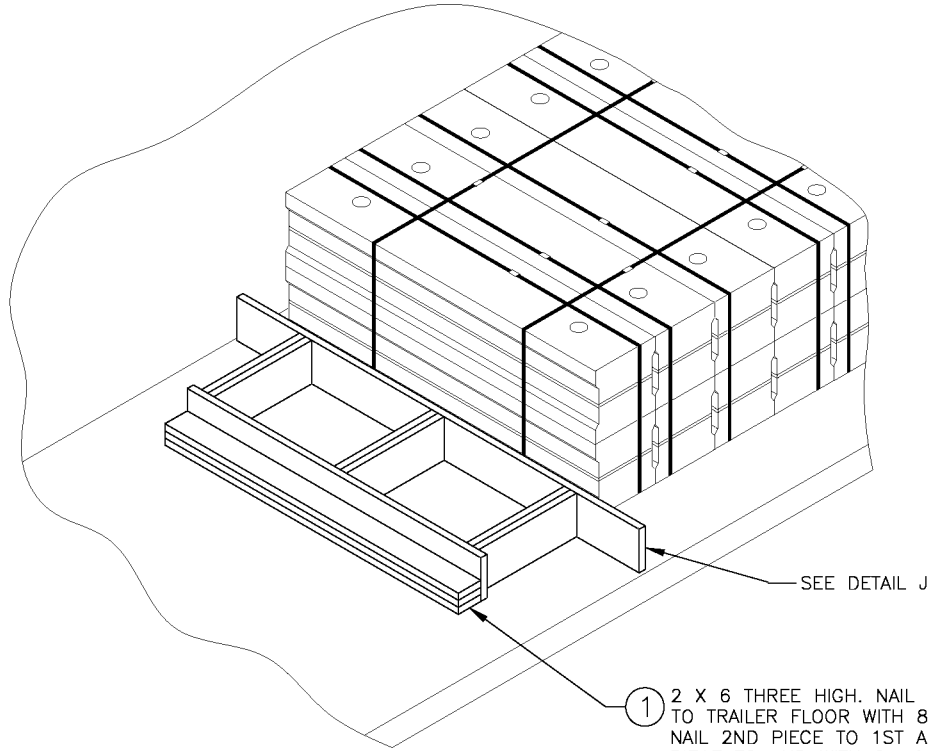
QUANTITIES SHOWN ARE THAT REQUIRED TO CONSTRUCT ONE OF EACH DETAILS F AND G.

5	1	SPACER	WOOD	2 X 4 X 48
4	AR	FILLER BOARD	WOOD	2 X 10 X TW-1 (96" MAX)
3	6	SUPPORT	WOOD	2 X 4 X AR
2	6	STRUT	WOOD	2 X 6 X AR
1	2	CROSS PIECE	WOOD	2 X 6 X TW-1 (96" MAX)
ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS

"TW" = TRAILER WIDTH

LIST OF MATERIALS

VAN TRAILER - REAR BLOCKING OF PARTIAL LOAD - SINGLE LAYER, SINGLE ROW



DETAIL J

REAR BLOCKING ASSEMBLY

QUANTITIES SHOWN ARE FOR DUNNAGING THE AFT END OF A LESS THAN FULL LOAD AS SHOWN ON THIS PAGE

"TW" = TRAILER WIDTH

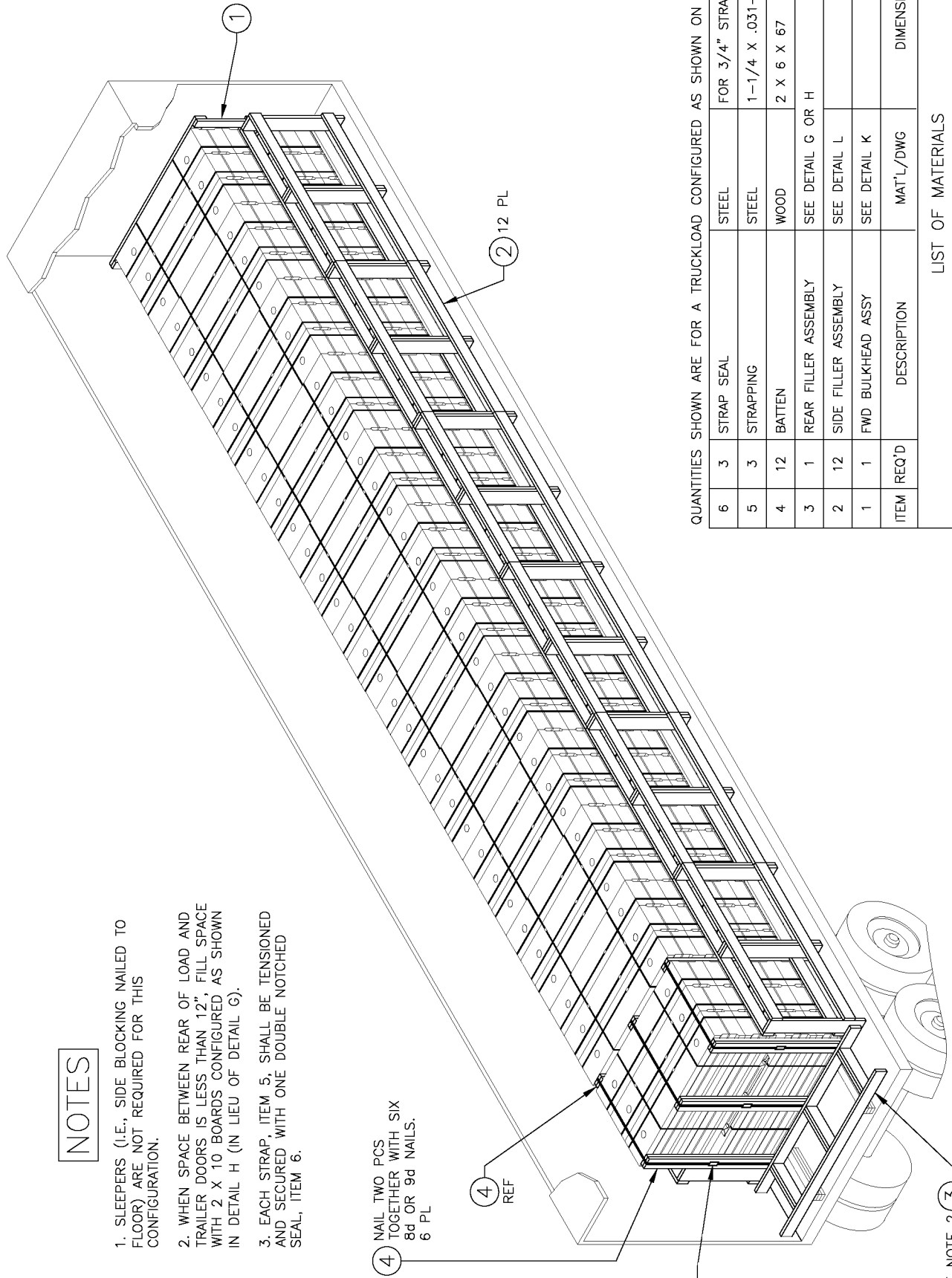
4	6	STRUT	WOOD	2 X 10 X 24
3	1	AFT CROSS PIECE	WOOD	2 X 10 X 72
2	1	FWD CROSS PIECE	WOOD	2 X 10 X TW-1 (96" MAX)
1	3	FWD/AFT HEADER	WOOD	2 X 6 X 72
ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS

LIST OF MATERIALS

TYPICAL FULL TRUCKLOAD - VAN TRAILER - SINGLE ROW, TWO LAYERS

NOTES

1. SLEEPERS (I.E., SIDE BLOCKING NAILED TO FLOOR) ARE NOT REQUIRED FOR THIS CONFIGURATION.
2. WHEN SPACE BETWEEN REAR OF LOAD AND TRAILER DOORS IS LESS THAN 12", FILL SPACE WITH 2 X 10 BOARDS CONFIGURED AS SHOWN IN DETAIL H (IN LIEU OF DETAIL G).
3. EACH STRAP, ITEM 5, SHALL BE TENSIONED AND SECURED WITH ONE DOUBLE NOTCHED SEAL, ITEM 6.



QUANTITIES SHOWN ARE FOR A TRUCKLOAD CONFIGURED AS SHOWN ON THIS PAGE.

ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS
6	3	STRAP SEAL	STEEL	FOR 3/4" STRAPPING
5	3	STRAPPING	STEEL	1-1/4 X .031-.035
4	12	BATTEN	WOOD	2 X 6 X 67
3	1	REAR FILLER ASSEMBLY	SEE DETAIL G OR H	
2	12	SIDE FILLER ASSEMBLY	SEE DETAIL L	
1	1	FWD BULKHEAD ASSY	SEE DETAIL K	

LIST OF MATERIALS

NAVSEA
DWG NO.

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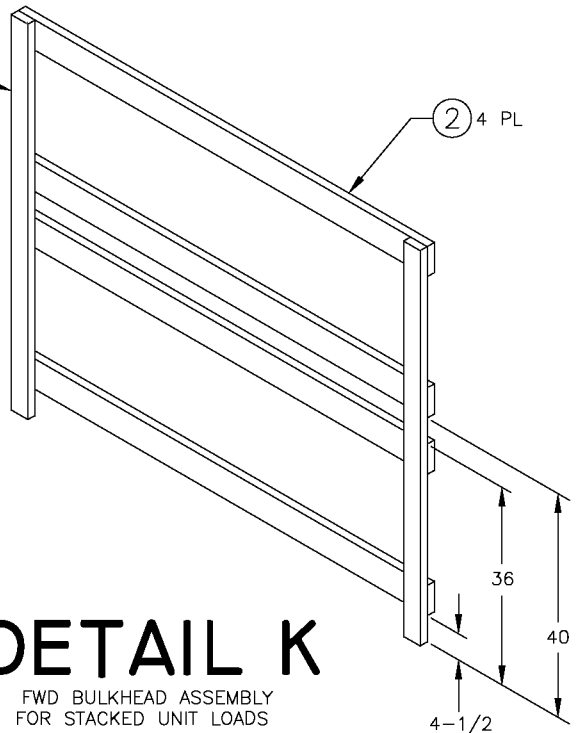
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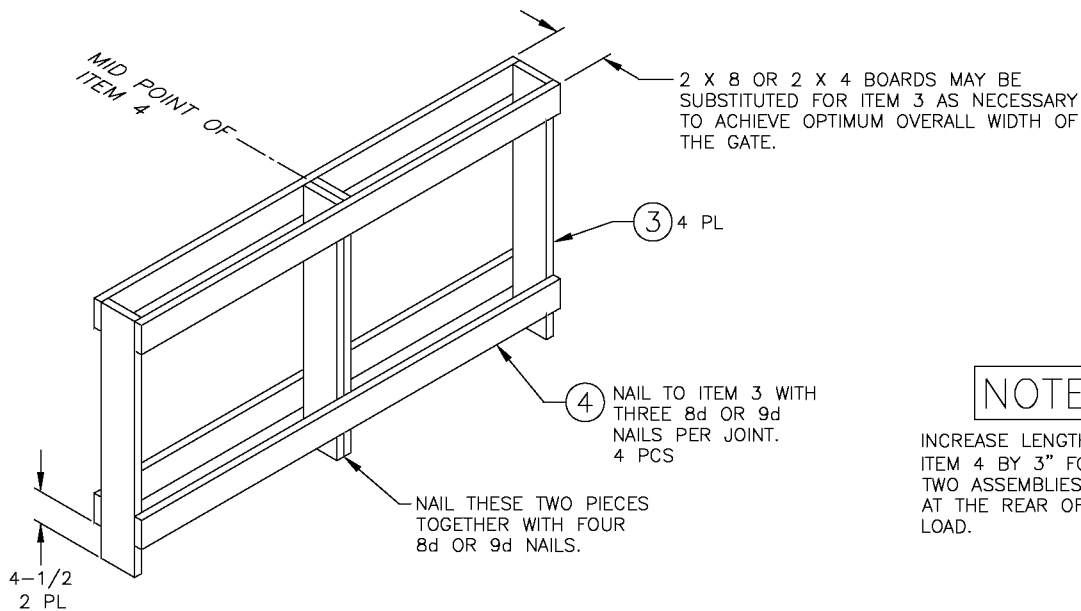
SEE NOTE 2 3

NAIL TO ITEM 2 WITH
THREE 8d OR 9d
NAILS PER JOINT.
2 PCS



DETAIL K

FWD BULKHEAD ASSEMBLY
FOR STACKED UNIT LOADS



DETAIL L

SIDE FILLER ASSEMBLY

NOTE

INCREASE LENGTH OF
ITEM 4 BY 3" FOR THE
TWO ASSEMBLIES USED
AT THE REAR OF THE
LOAD.

QUANTITIES SHOWN ARE THAT REQUIRED TO CONSTRUCT ONE OF EACH DETAILS K AND L.

4	4	CROSS PIECE	WOOD	2 X 6 X 87-3/4
3	4	VERTICAL	WOOD	2 X 8 X 48
2	4	CROSS PIECE	WOOD	2 X 6 X 85
1	2	VERTICAL	WOOD	2 X 4 X 72
ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS

LIST OF MATERIALS

NAVSEA
DWG NO.

6214290

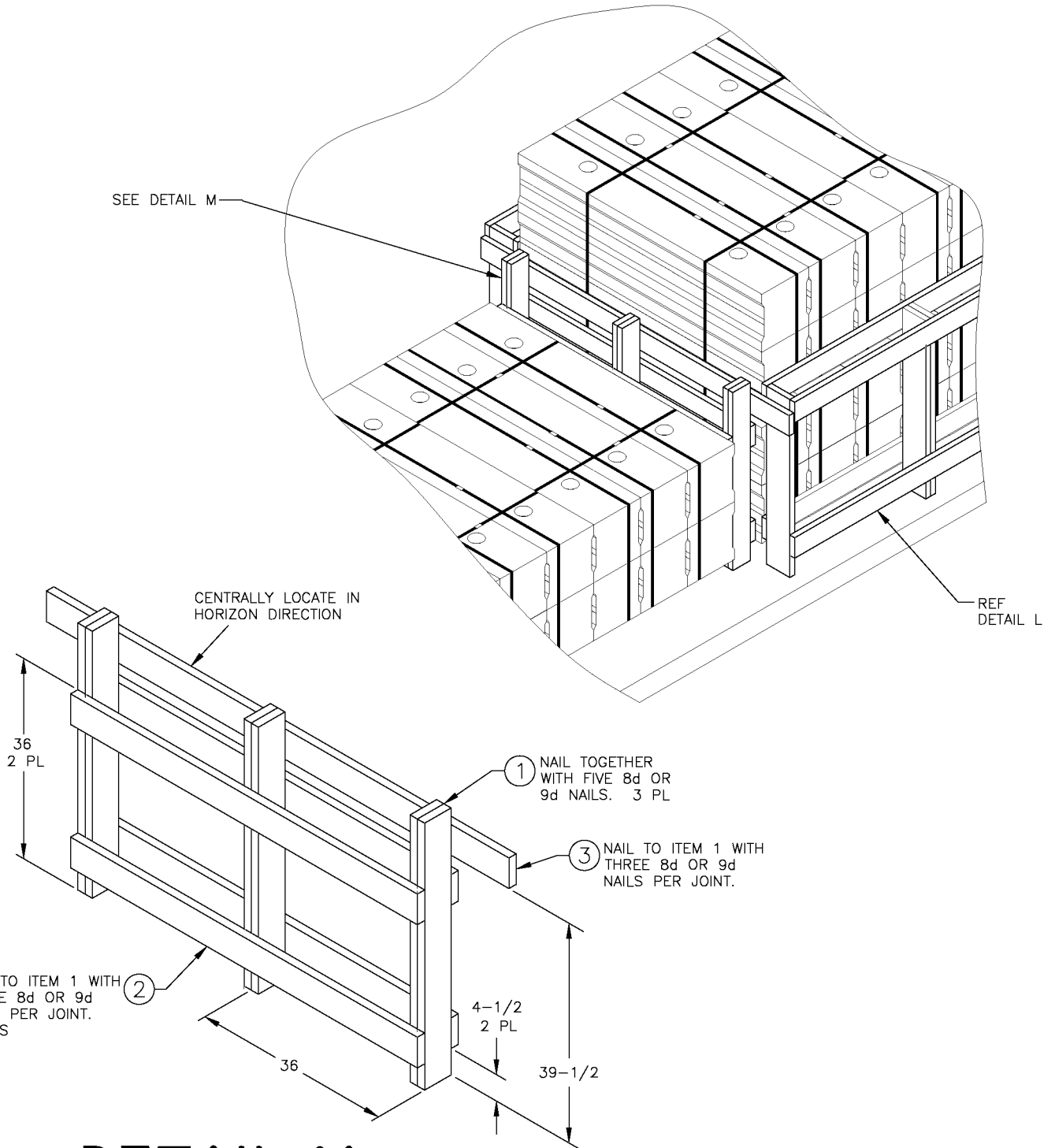
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TRANSITION FROM TWO LAYERS TO ONE LAYER - VAN TRAILER SINGLE ROW PATTERN



DETAIL M

STEP-DOWN GATE

"TW" = TRAILER WIDTH

QUANTITIES SHOWN ARE THAT REQUIRED TO CONSTRUCT DETAIL M.

3	1	CROSS PIECE, LONG	WOOD	2 X 6 X TW-1 (96" MAX)
2	4	CROSS PIECE, SHORT	WOOD	2 X 6 X 72
1	6	VERTICAL	WOOD	2 X 6 X 48
ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS

LIST OF MATERIALS

NAVSEA
DWG NO.

6214290

REV. A

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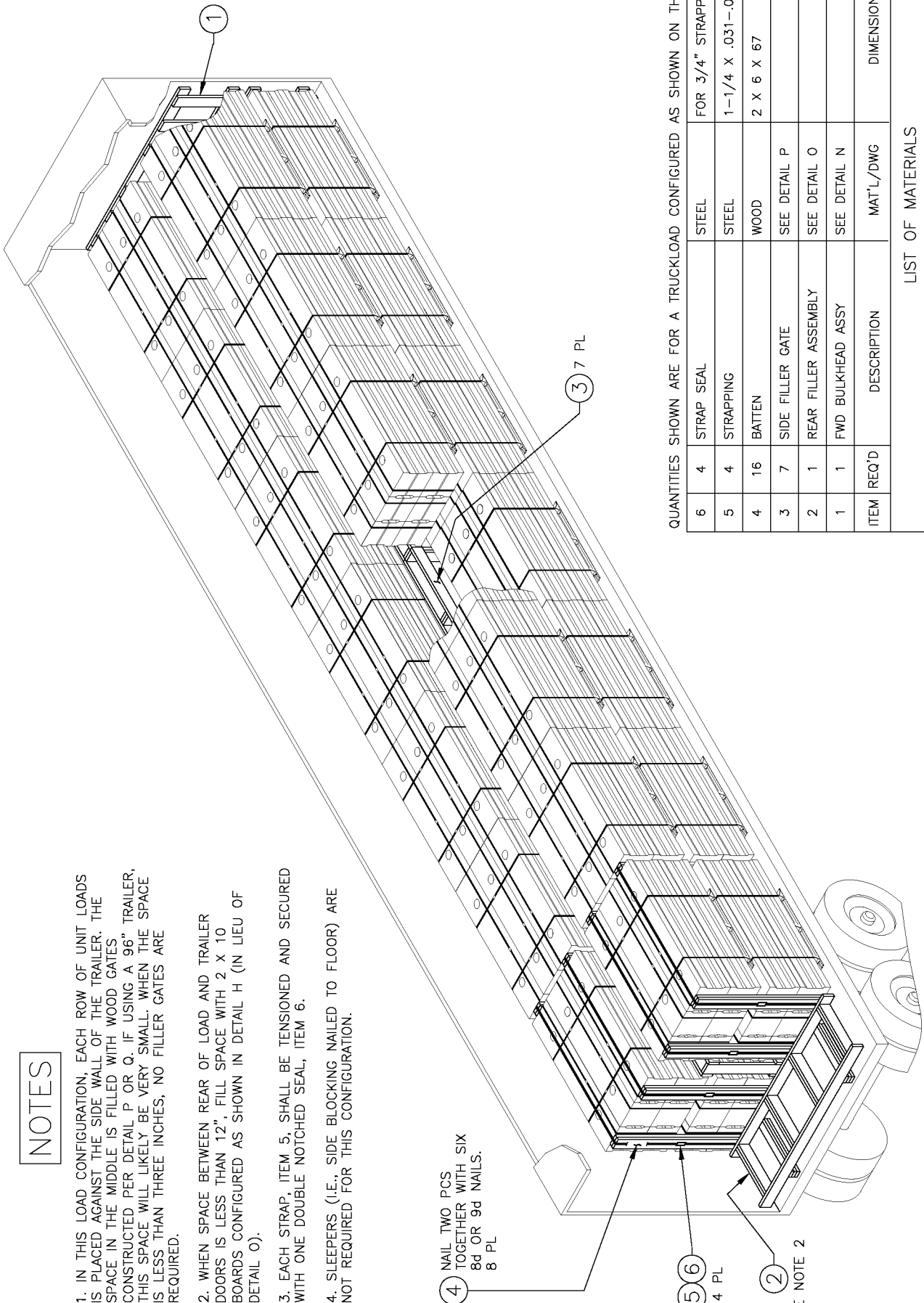
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TYPICAL FULL TRUCKLOAD - VAN TRAILER - DOUBLE ROW, TWO LAYERS

NOTES

1. IN THIS LOAD CONFIGURATION, EACH ROW OF UNIT LOADS IS PLACED AGAINST THE SIDE WALL OF THE TRAILER. THE SPACE IN THE MIDDLE IS FILLED WITH WOOD GATES CONSTRUCTED PER DETAIL P OR Q. IF USING A 96" TRAILER, THIS SPACE WILL LIKELY BE VERY SMALL. WHEN THE SPACE IS LESS THAN THREE INCHES, NO FILLER GATES ARE REQUIRED.
2. WHEN SPACE BETWEEN REAR OF LOAD AND TRAILER DOORS IS LESS THAN 12", FILL SPACE WITH 2 X 10 BOARDS CONFIGURED AS SHOWN IN DETAIL H (IN LIEU OF DETAIL O).
3. EACH STRAP, ITEM 5, SHALL BE TENSIONED AND SECURED WITH ONE DOUBLE NOTCHED SEAL, ITEM 6.
4. SLEEPERS (I.E., SIDE BLOCKING NAILED TO FLOOR) ARE NOT REQUIRED FOR THIS CONFIGURATION.



4 NAIL TWO PCS TOGETHER WITH SIX 8d OR 9d NAILS. 8 PL

5 6 4 PL

2 SEE NOTE 2

QUANTITIES SHOWN ARE FOR A TRUCKLOAD CONFIGURED AS SHOWN ON THIS PAGE.

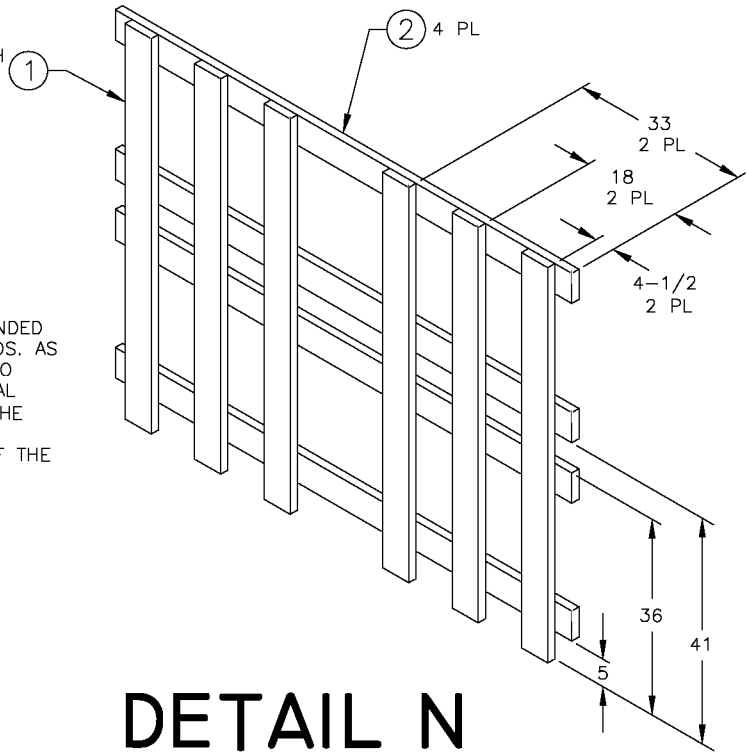
ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS
6	4	STRAP SEAL	STEEL	FOR 3/4" STRAPPING
5	4	STRAPPING	STEEL	1-1/4 X .031-.035
4	16	BATTEN	WOOD	2 X 6 X 67
3	7	SIDE FILLER GATE	SEE DETAIL P	
2	1	REAR FILLER ASSEMBLY	SEE DETAIL O	
1	1	FWD BULKHEAD ASSY	SEE DETAIL N	

LIST OF MATERIALS

NAIL TO ITEM 2 WITH TWO 8d OR 9d NAILS PER JOINT. 6 PCS

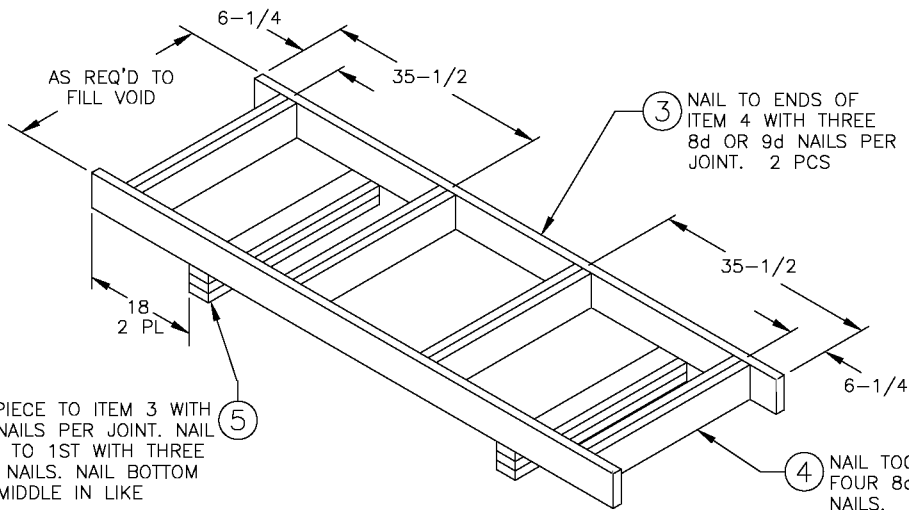
NOTE

SOME VAN TRAILERS HAVE ROUNDED CORNERS AT THE FORWARD ENDS. AS SUCH, IT MAY BE NECESSARY TO DOUBLE OR TRIPLE THE VERTICAL PIECES (ITEM 1) TO PREVENT THE ROUNDED CORNERS FROM INTERFERING WITH THE ENDS OF THE CROSS PIECES (ITEM 2).



DETAIL N

FWD BULKHEAD ASSEMBLY FOR STACKED UNIT LOADS, DOUBLE ROW PATTERN



NAIL 1ST PIECE TO ITEM 3 WITH TWO 10d NAILS PER JOINT. NAIL 2ND PIECE TO 1ST WITH THREE 8d OR 9d NAILS. NAIL BOTTOM PIECE TO MIDDLE IN LIKE MANNER. 2 PL

NAIL TO ENDS OF ITEM 4 WITH THREE 8d OR 9d NAILS PER JOINT. 2 PCS

NAIL TOGETHER WITH FOUR 8d OR 9d NAILS. 4 PL

DETAIL O

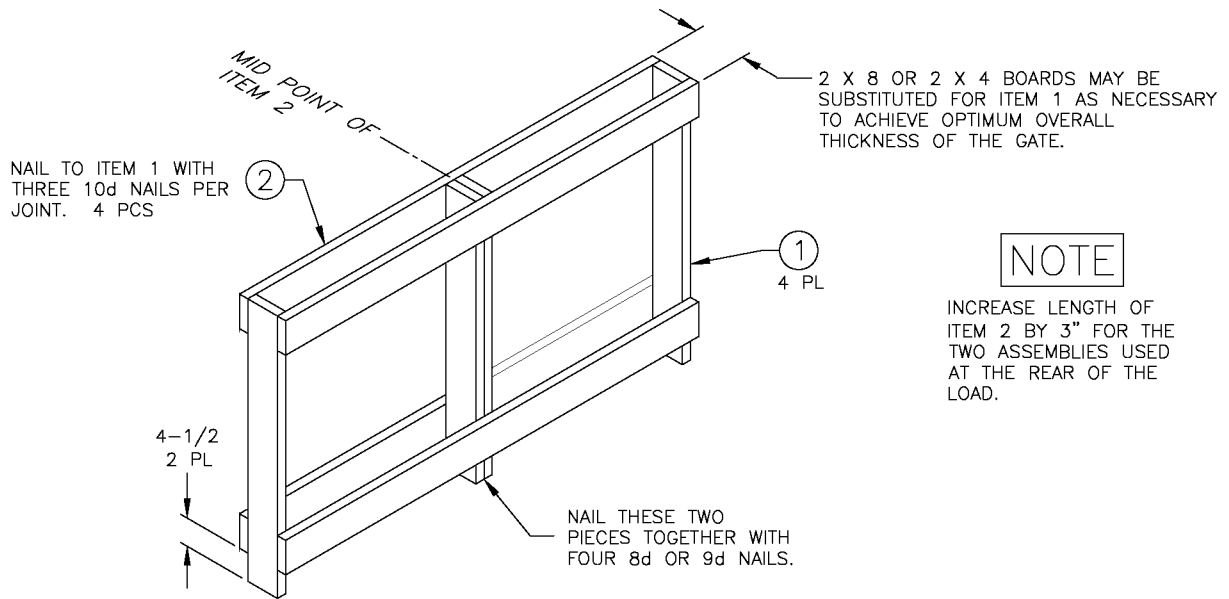
REAR FILLER GATE FOR DOUBLE ROW PATTERN

"TW" = TRAILER WIDTH

QUANTITIES SHOWN ARE THAT REQUIRED TO CONSTRUCT ONE OF EACH DETAILS N AND O.

5	6	SUPPORT	WOOD	2 X 4 X AR
4	8	STRUT	WOOD	2 X 6 X AR
3	2	CROSS PIECE	WOOD	2 X 6 X TW-1 (96" MAX)
2	4	CROSS PIECE	WOOD	2 X 6 X TW-1 (96" MAX)
1	6	VERTICAL	WOOD	2 X 6 X 72
ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS

LIST OF MATERIALS

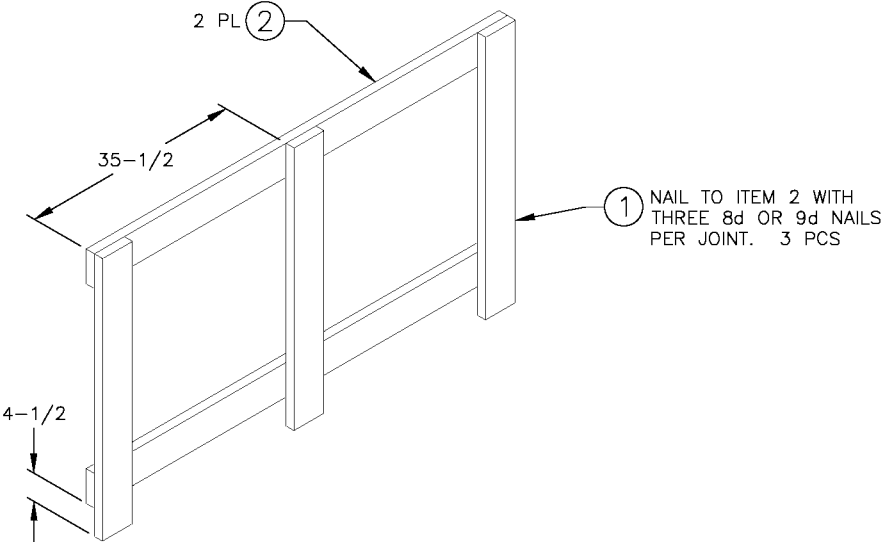


NOTE

INCREASE LENGTH OF ITEM 2 BY 3" FOR THE TWO ASSEMBLIES USED AT THE REAR OF THE LOAD.

DETAIL P

SIDE FILLER GATE



DETAIL Q

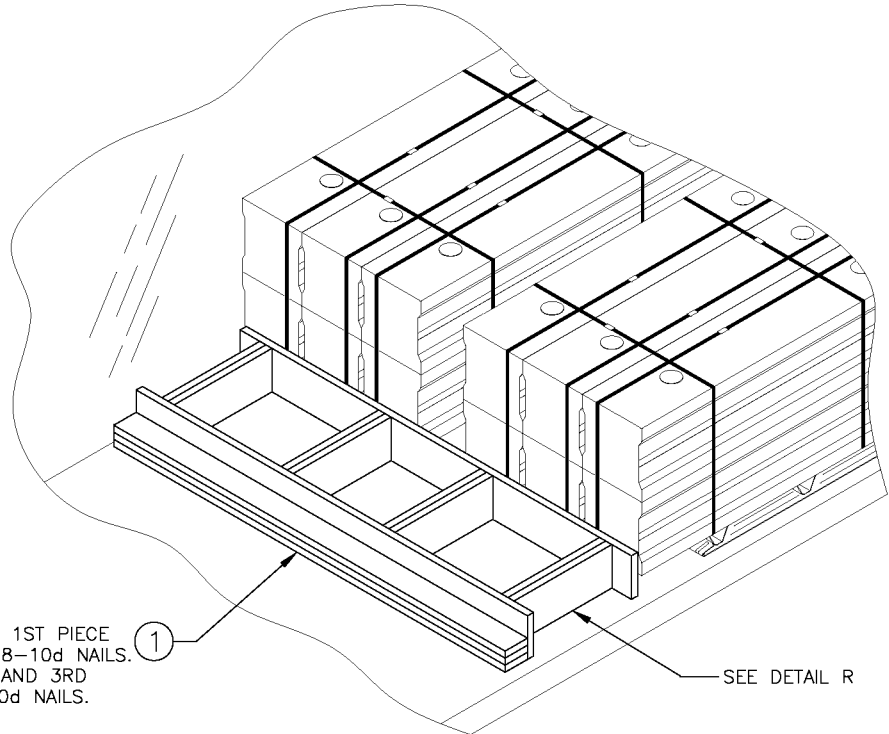
SIDE FILLER GATE
ALTERNATE CONSTRUCTION
FOR SMALLER GAP.

QUANTITIES SHOWN ARE FOR CONSTRUCTING ONE OF DETAIL P.

2	4	CROSS PIECE	WOOD	2 X 6 X 76
1	4	VERTICAL	WOOD	2 X 6 X 45
ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS

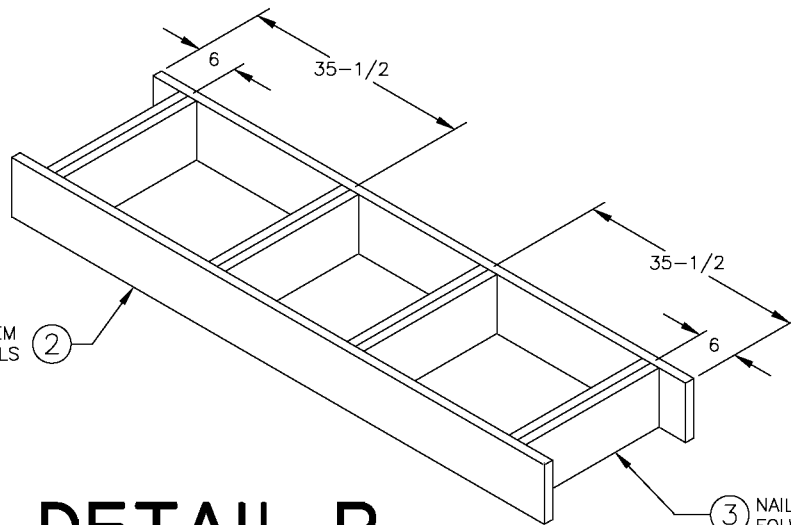
LIST OF MATERIALS

AFT END BLOCKING - LESS THAN FULL LOAD - DOUBLE ROW



① 2 X 6 THREE HIGH. NAIL 1ST PIECE TO TRAILER FLOOR WITH 8-10d NAILS. NAIL 2ND PIECE TO 1ST AND 3RD PIECE TO 2ND WITH 8-20d NAILS.

SEE DETAIL R



② NAIL TO ENDS OF ITEM 3 WITH FIVE 10d NAILS PER JOINT. 2 PL

③ NAIL TOGETHER WITH FOUR 8d OR 9d NAILS. 4 PL

DETAIL R

REAR BLOCKING ASSEMBLY FOR DOUBLE ROW PATTERN

QUANTITIES SHOWN FOR ITEMS 2 AND 3 ARE THAT REQUIRED TO CONSTRUCT ONE OF DETAIL R.

ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS
3	8	STRUT	WOOD	2 X 10 X 24
2	2	CROSS PIECE	WOOD	2 X 10 X TW-1 (96" MAX)
1	3	FWD/AFT HEADER	WOOD	2 X 6 X TW-1 (96" MAX)

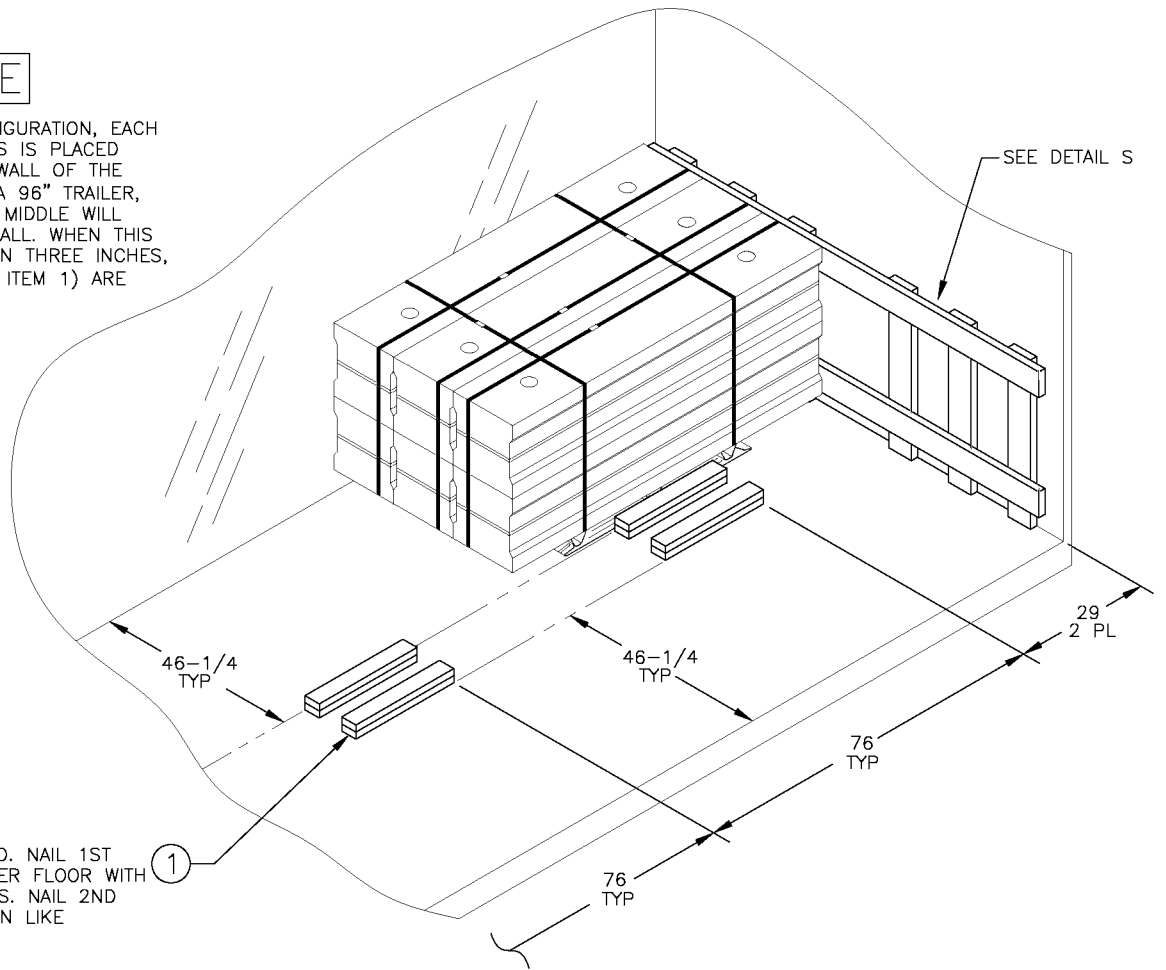
"TW" = TRAILER WIDTH

LIST OF MATERIALS

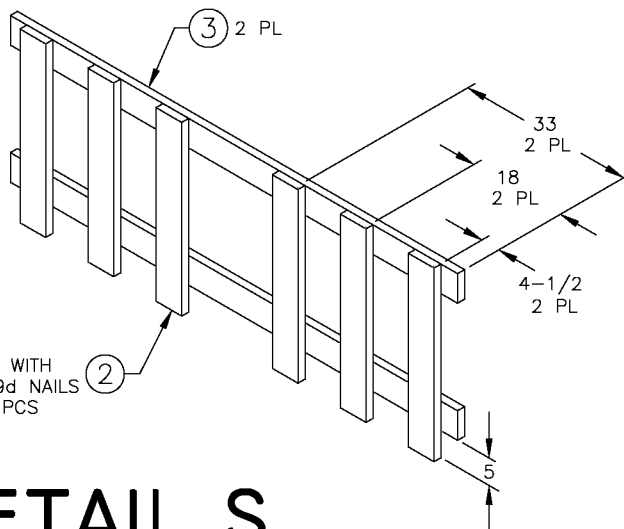
SIDE BLOCKING, FWD BULKHEAD - DOUBLE ROW, SINGLE LAYER

NOTE

IN THIS LOAD CONFIGURATION, EACH ROW OF UNIT LOADS IS PLACED AGAINST THE SIDE WALL OF THE TRAILER. IF USING A 96" TRAILER, THE SPACE IN THE MIDDLE WILL LIKELY BE VERY SMALL. WHEN THIS SPACE IS LESS THAN THREE INCHES, NO SLEEPERS (I.E., ITEM 1) ARE REQUIRED.



2 X 4 DOUBLED. NAIL 1ST PIECE TO TRAILER FLOOR WITH FOUR 10d NAILS. NAIL 2ND PIECE TO 1ST IN LIKE MANNER. TYP



NAIL TO ITEM 2 WITH THREE 8d OR 9d NAILS PER JOINT. 6 PCS

NOTE

SOME VAN TRAILERS HAVE ROUNDED CORNERS AT THE FORWARD ENDS. AS SUCH, IT MAY BE NECESSARY TO DOUBLE OR TRIPLE THE VERTICAL PIECES (ITEM 2) TO PREVENT THE ROUNDED CORNERS FROM INTERFERING WITH THE ENDS OF THE CROSS PIECES (ITEM 3).

DETAIL S

FWD BULKHEAD ASSEMBLY FOR SINGLE LAYER, DOUBLE ROW PATTERN

"TW" = TRAILER WIDTH

3	2	CROSS PIECE	WOOD	2 X 6 X TW-1 (96" MAX)
2	6	VERTICAL	WOOD	2 X 6 X 36
1	AR	SLEEPER	WOOD	2 X 4 X 24
ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS

LIST OF MATERIALS

NAVSEA
DWG NO.

6214290

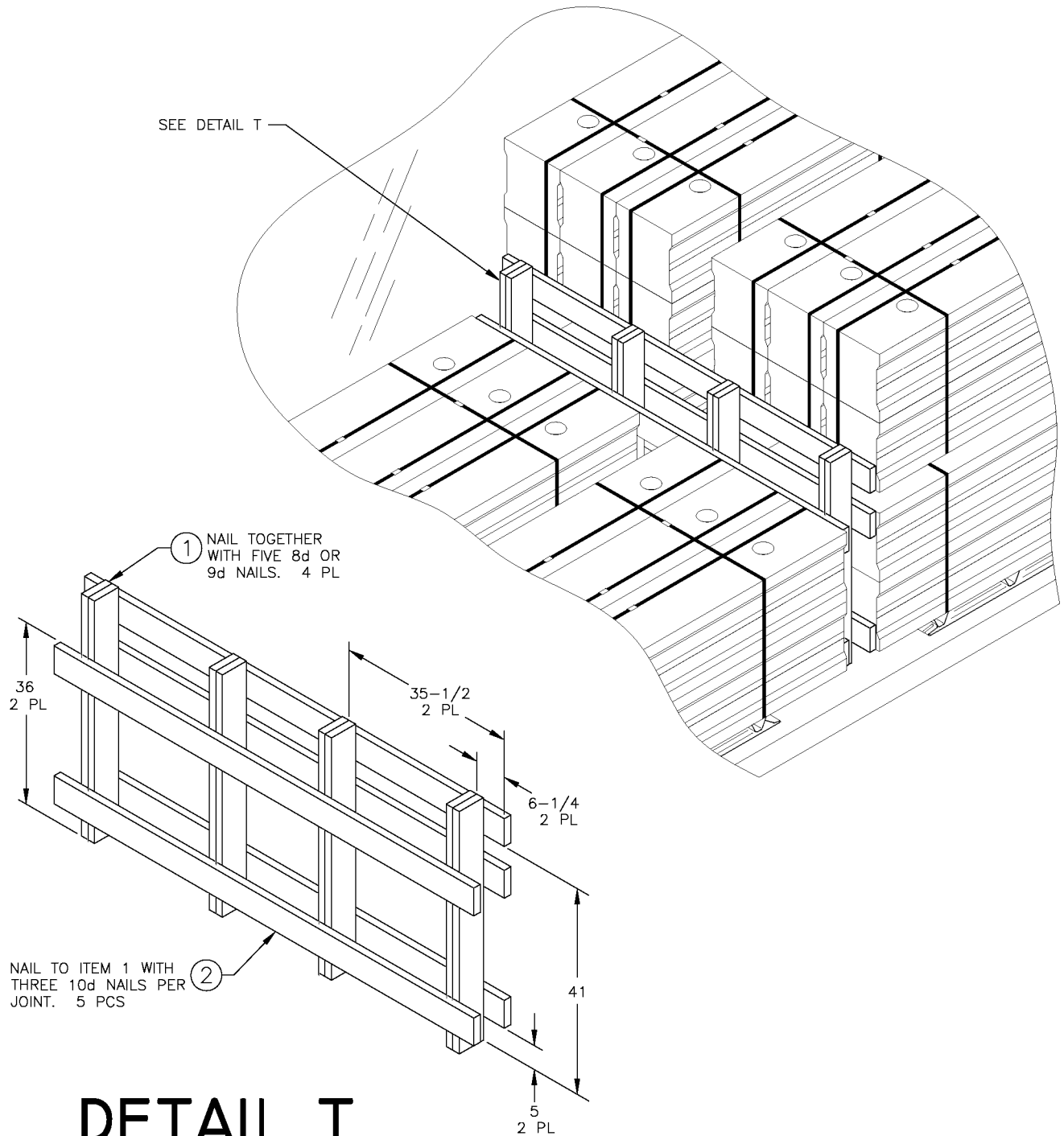
REV. A

SIZE A

CAGE CODE
53711

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TRANSITION FROM TWO LAYERS TO ONE LAYER - VAN TRAILER DOUBLE ROW PATTERN



DETAIL T

STEP-DOWN GATE
DOUBLE-ROW PATTERN

QUANTITIES SHOWN ARE THAT REQUIRED TO CONSTRUCT DETAIL T.

ITEM	REQ'D	DESCRIPTION	MAT'L/DWG	DIMENSIONS
2	5	CROSS PIECE	WOOD	2 X 6 X TW-1 (96" MAX)
1	8	VERTICAL	WOOD	2 X 6 X 48

"TW" = TRAILER WIDTH

LIST OF MATERIALS

NAVSEA
DWG NO.

6214290

REV. A

SIZE A

CAGE CODE
53711

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