



Cor-Lok/Cut-Lok Flooring and Grandstand Layout

Models:
42' DIAMETER

Installation Manual

PNEG-221
Version 5.0

Date: 12-16-19



PNEG-221

All information, illustrations, photos, and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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NOTES

1 Safety Precautions

Topics Covered in this Chapter

- Safety Guidelines
- Cautionary Symbol Definitions
- Safety Cautions
- Safety Decals
- Safety Sign-off Sheet

Safety Guidelines

Safety guidelines are general-to-specific safety rules that must be followed at all times. This manual is written to help you understand safe operating procedures and problems that can be encountered by the operator and other personnel when using this equipment. Read and save these instructions.

As owner or operator, you are responsible for understanding the requirements, hazards, and precautions that exist and to inform others as required. Unqualified persons must stay out of the work area at all times.

Alterations must not be made to the equipment. Alterations can produce dangerous situations resulting in **SERIOUS INJURY or DEATH**.

This equipment must be installed in accordance with the current installation codes and applicable regulations, which must be carefully followed in all cases. Authorities having jurisdiction must be consulted before installations are made.

When necessary, you must consider the installation location relative to electrical, fuel and water utilities.








Personnel operating or working around equipment must read this manual. This manual must be delivered with equipment to its owner. Failure to read this manual and its safety instructions is a misuse of the equipment.

ST-0001-4

Cautionary Symbol Definitions

Cautionary symbols appear in this manual and on product decals. The symbols alert the user of potential safety hazards, prohibited activities and mandatory actions. To help you recognize this information, we use the symbols that are defined below.

Table 1-1 Description of the different cautionary symbols

Symbol	Description
	This symbol indicates an imminently hazardous situation which, if not avoided, will result in serious injury or death.
	This symbol indicates a potentially hazardous situation which, if not avoided, can result in serious injury or death.
	This symbol indicates a potentially hazardous situation which, if not avoided, can result in minor or moderate injury.
	This symbol is used to address practices not related to personal injury.
	This symbol indicates a general hazard.
	This symbol indicates a prohibited activity.
	This symbol indicates a mandatory action.

ST-0005-2

Safety Cautions

Use Personal Protective Equipment

- Use appropriate personal protective equipment:

Eye Protection



Respiratory Protection



Foot Protection



Hearing Protection



Head Protection



Fall Protection



Hand Protection



- Wear clothing appropriate to the job.
- Remove all jewelry.
- Tie long hair up and back.

ST-0004-1

Follow Safety Instructions

- Carefully read all safety messages in this manual and safety signs on your machine. Keep signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from the manufacturer.
- Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.
- If you do not understand any part of this manual or need assistance, contact your dealer.



ST-0002-1

Chapter 1: Safety Precautions

Maintain Equipment and Work Area

- Understand service procedures before doing work. Keep area clean and dry.
- Never service equipment while it is operating. Keep hands, feet, and clothing away from moving parts.
- Keep your equipment in proper working condition. Replace worn or broken parts immediately.



ST-0003-1

Prevent Roof Damage Due to Vacuum Pressure

- Roof damage can result from excessive vacuum or internal pressure from fans or other air moving systems. The manufacturer does not warrant this type of roof damage.
- Adequate ventilation or “makeup air” devices must be provided for all powered air handling systems.
- The manufacturer does not recommend the use of downward flow systems (suction).
- Severe roof damage can result from any blockage of air passages.
- Operating fans during high humidity or cold weather conditions can cause air exhaust or intake ports to freeze.



ST-0028-2

Sharp Edge Hazard

- This product has sharp edges, which can cause serious injury.
- To avoid injury, handle sharp edges with caution and always use proper protective clothing and equipment.



ST-0036-2


Safety Decals

The safety decals on your equipment are safety indicators which must be carefully read and understood by all personnel involved in the installation, operation, service and maintenance of the equipment.



To replace a damaged or missing decal, contact us to receive a free replacement.

GSI Decals

1004 E. Illinois Street
 Assumption, IL 62510
 Phone: 1-217-226-4421

Location	Decal No.	Decal	Description
Located next to aeration system.	DC-969		Caution Vacuum Pressure

Chapter 1: Safety Precautions

Location	Decal No.	Decal	Description
On bin door covers	DC-GBC-1A	 <p>WARNING</p> <p>Rotating flighting could kill or dismember. Flowing material could trap and suffocate. Crusted material could collapse and suffocate.</p> <p>Keep clear of all augers. DO NOT ENTER this bin!</p> <p>If you must enter the bin:</p> <ol style="list-style-type: none"> 1. Shut off and lock out all power. 2. Use a safety harness and safety line. 3. Station another person outside the bin. 4. Avoid the center of the bin. 5. Wear proper breathing equipment or respirator. <p>Failure to heed these warnings could result in serious injury or death.</p> <p><small>DC-GBC-1A</small></p>	Warning Keep Clear of Augers
On bin door covers	DC-GBC-2A	 <p>WARNING</p> <p>UNLOADING INSTRUCTIONS:</p> <ol style="list-style-type: none"> 1. Use CENTER FLOOR OUTLET ONLY until NO grain remains above this outlet. 2. Side floor outlets to be used ONLY when above condition is satisfied. 3. Lock all side floor outlets to avoid accidental premature use. 4. See manufacturers instructions for proper use of factory supplied sidedraw (wall) discharge systems. <p>Failure to heed these warnings could result in serious injury, death, structural damage or collapse of tank.</p> <p><small>DC-GBC-2A</small></p>	Warning Unload Instructions

NOTES

2 Floor Installation

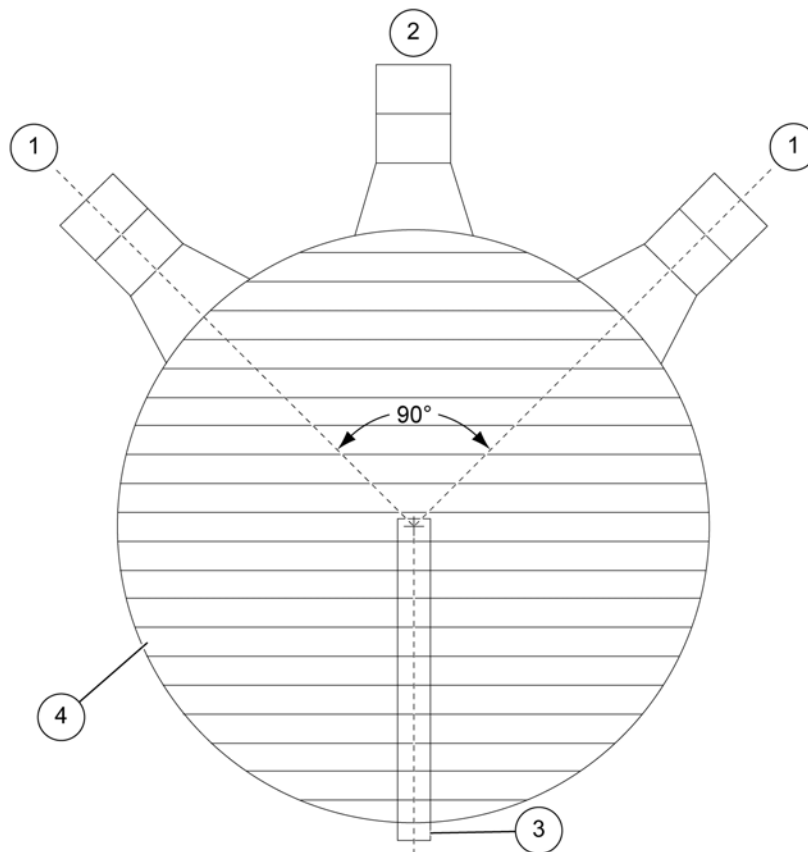
Topics Covered in this Chapter

- Fan Placement Diagram
- Full Floor Installation
- Undersplice Specifications
- Installing the Undersplice
- Installing the Undersplice and Oversplice for Small Grain Floor Planks

Fan Placement Diagram

1. For uniform air flow, place the fans (1 and 2) in relation to the unloading tube (3) as shown below.
2. Floor planks (4) should be perpendicular to the unloading tube (3).

Figure 2-1 Fan placement diagram



1	Placement with two fans	3	Auger/Unload equipment
2	Placement with one fan	4	Floor plank

Full Floor Installation

Using the GSI recommended method for full floor installation should save construction time and eliminate the problem of improper installation which could invalidate your warranty. Note the following dimensions as shown below.

- Dimension “A” is the leg-to-leg spacing along the centerline of a given plank.
- Dimension “B” is the amount of stagger between supports under adjacent planks and is half of dimension “A”.
- Dimension “C” is the distance from the center of the unload auger to the nearest row of supports and is half of dimension “B”.

Dimensions “A”, “B” and “C” are shown on the appropriate grandstand layout for wall heights under 32'. For taller bins, grandstand quantity as well as dimensions “A” and “B” are given in the grandstand layout on [2.66" Corrugation chart, page 48](#) and [4.00" Corrugation chart, page 49](#).

1. Layout centerlines of tank. Make sure one centerline (5) is in line with the direction of the flooring planks (4) while the other centerline (5) is perpendicular with the flooring planks (4).
2. From the centerline that is perpendicular to the flooring planks, measure the distance of “C” dimension and mark a chalk line (6).
3. From the line chalked (6), measure over the distance of “B” dimension and chalk another line. Repeat this procedure across the bin until reaching the wall in both directions. When completed, there should be a set of parallel lines (perpendicular to the floor planks (4)) with “B” dimension distance between each line.

Figure 2-2 Full floor installation

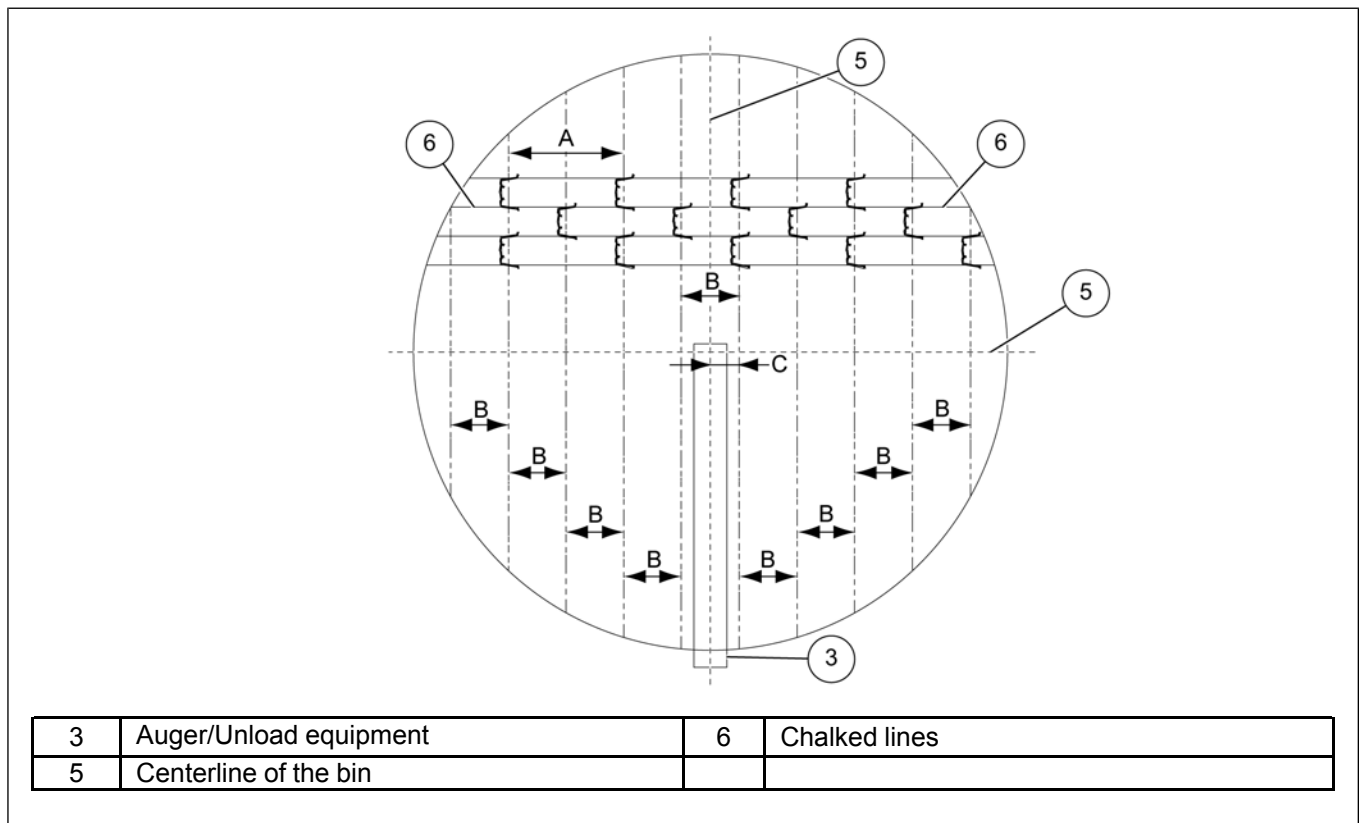
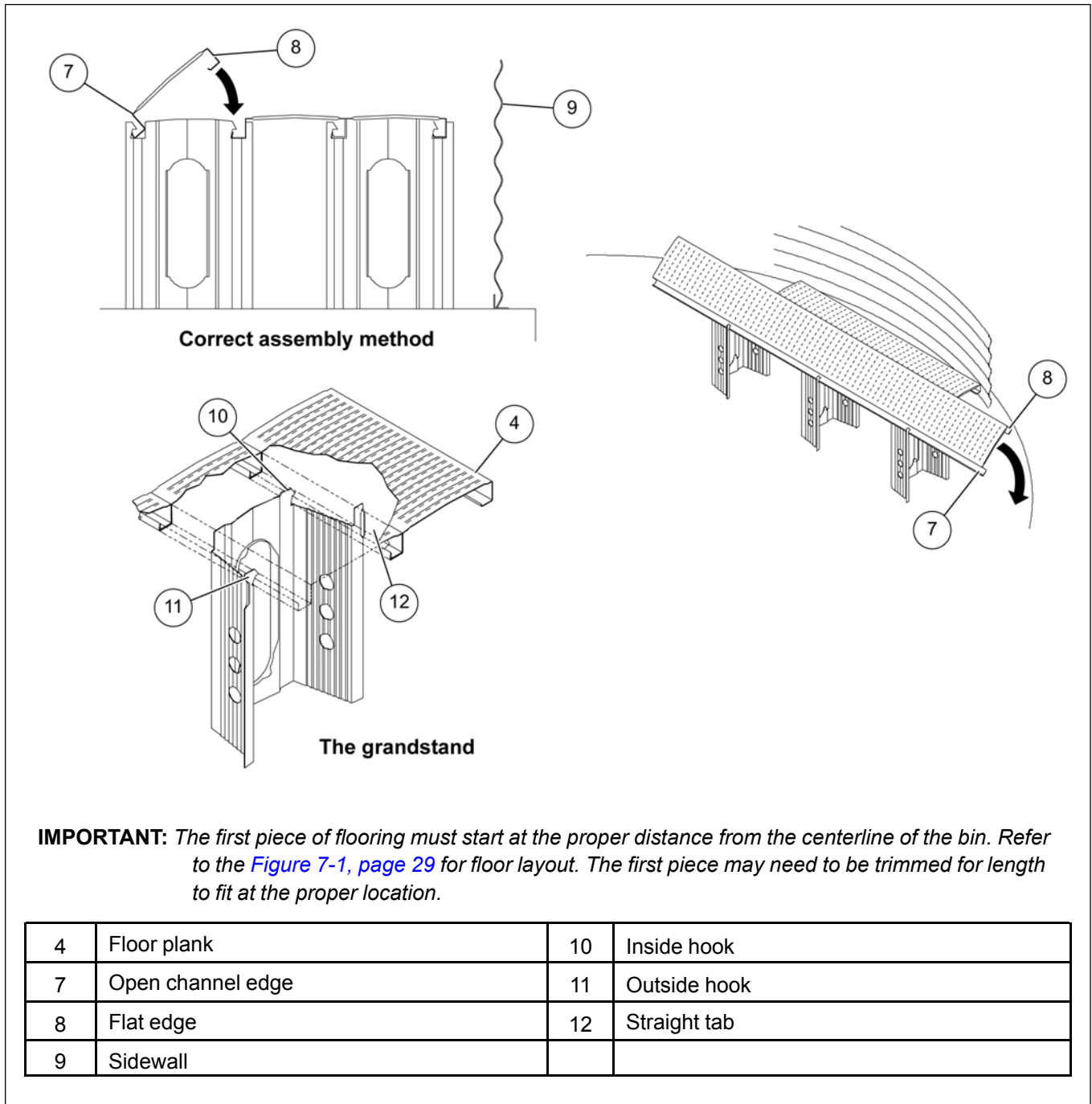


Figure 2-3 Floor plank assembly



4. Install the flooring starting at the sidewall (9) on the opposite side of the unload auger (3).
5. Floor planks (4) should be placed perpendicular to the unload auger (3) with the outside edge the correct distance from the center of the bin. Refer to the [Figure 7-1, page 29](#).
6. Make sure that the flat edge (8) of the floor plank (4) is facing the sidewall (9) and the open channel edge (7) is facing towards the center of the bin.
7. Position the supports for the first/shortest floor plank (4) according to the number of bin rings and corrugation as shown in the grandstand layout charts and illustrations. (Refer to [2.66" Corrugation chart, page 48](#) and [4.00" Corrugation chart, page 49](#).)

Chapter 2: Floor Installation

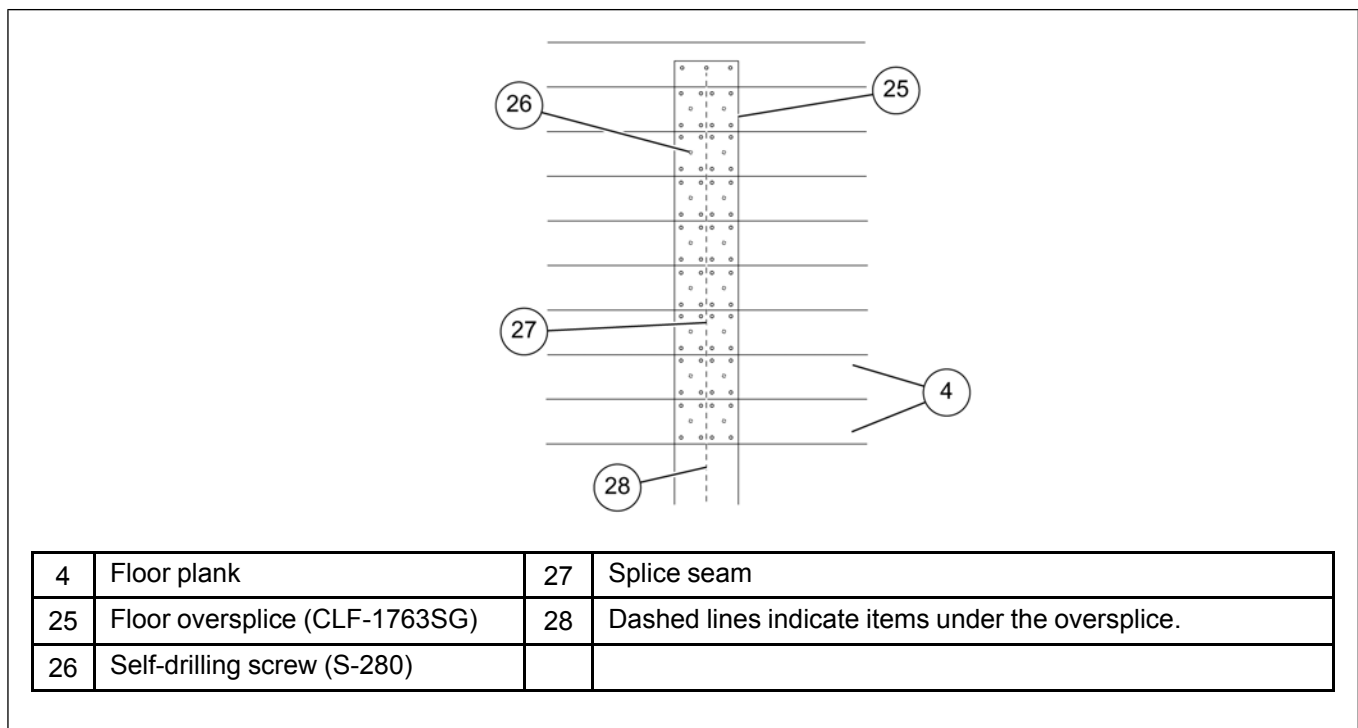
8. Attach the flashing to flooring and sidewall (9) to hold floor plank (4) in place. Refer to the [Chapter 4, page 23](#) for flashing installation.
9. **POSITION THE NEXT ROW OF SUPPORTS ACCORDING TO THE CHALK LINES (6)** and support layout. The straight tab (12) should “snap” under the first (previous) floor piece.
10. After the supports in the row are correctly positioned, install the next floor piece by hooking the open channel edge (7) under the outside hooks (11) of the floor supports.
11. Push down sharply on the edge of the floor piece until it snaps into the previous floor piece. Continue this process for the rest of the floor cutting planks for the center and intermediate wells as needed.
12. Refer to the [Chapter 5, page 25](#) for center well support locations.

NOTE:

- Whenever there is more than dimension “B” divided by three inches ($B/3$) of plank (4) unsupported beside the sidewall (9), there should be a support on that plank (4) or a support on each of the planks (4) adjacent to it such that no more than dimension “B” divided by three inches ($B/3$) is unsupported.
- For example: 2.66" bin with 8 rings has a “B” dimension of 22". Take $22"/3 = 7.33$ " (Round to 7"). Therefore, there should be no more than 7" of unsupported floor plank (4).

13. Some floor planks (4) will need to be spliced together. Refer to the [Figure 6-1, page 27](#), [Figure 7-1, page 29](#) and [42' Plank Lengths, page 32](#) for more information.
14. Install plank length “A” first, then install the corresponding plank length “B” by butting plank “B” up against plank “A”.
15. Make sure that the planks are supported by a grandstand on each side of the splice. Continue this until the floor is complete.

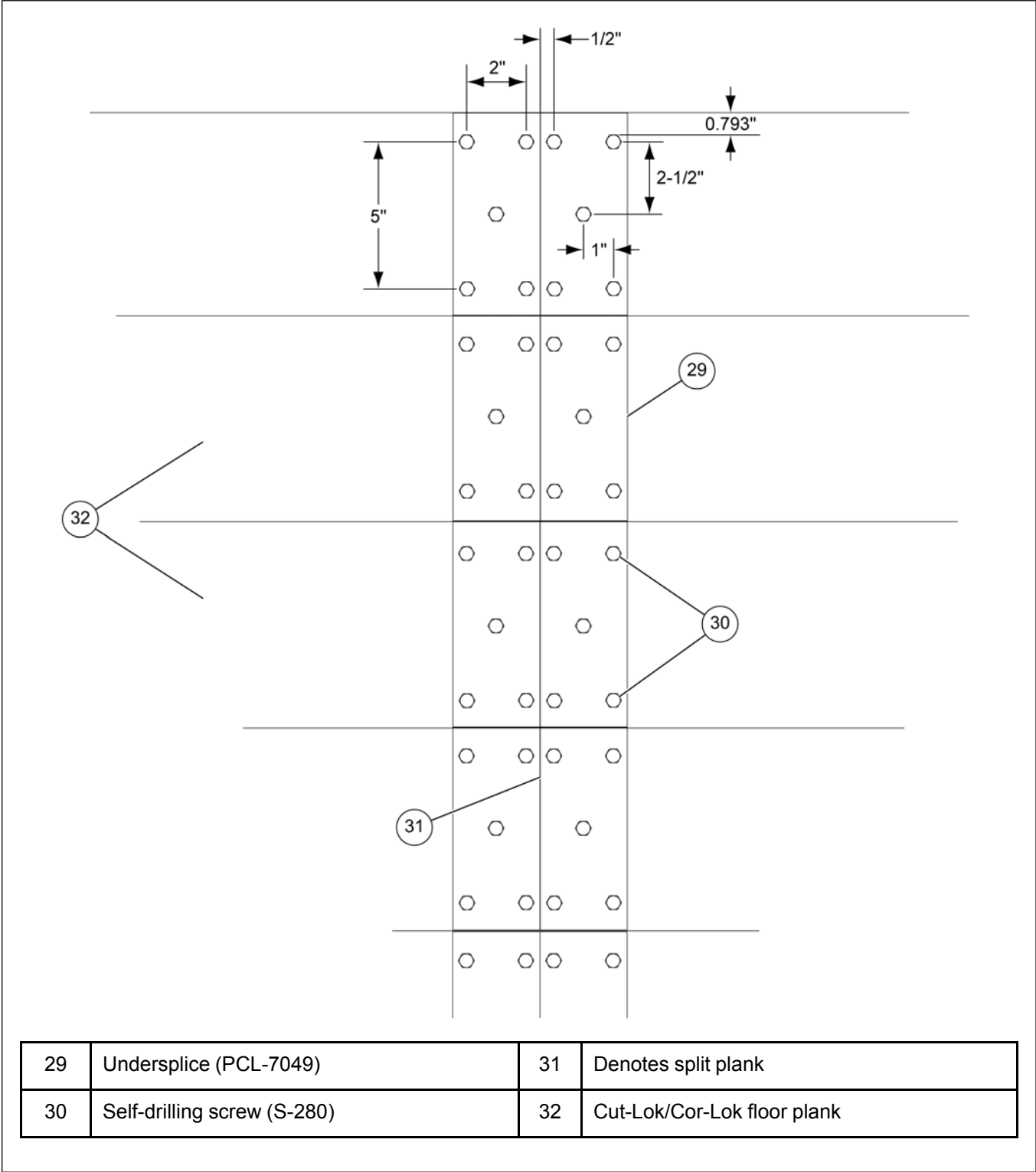
Figure 2-4 Oversplice bolt pattern for small grain floors



Undersplice Specifications

- 1. The undersplice should be installed underneath the planks at the split after both plank lengths have been butted together.
- 2. Each splice has to be installed as each row of planks are installed. Below figure shows the layout of the undersplice plates (29) and the screw pattern used to secure them.

Figure 2-5 Specifications for installing the undersplice to floor planks

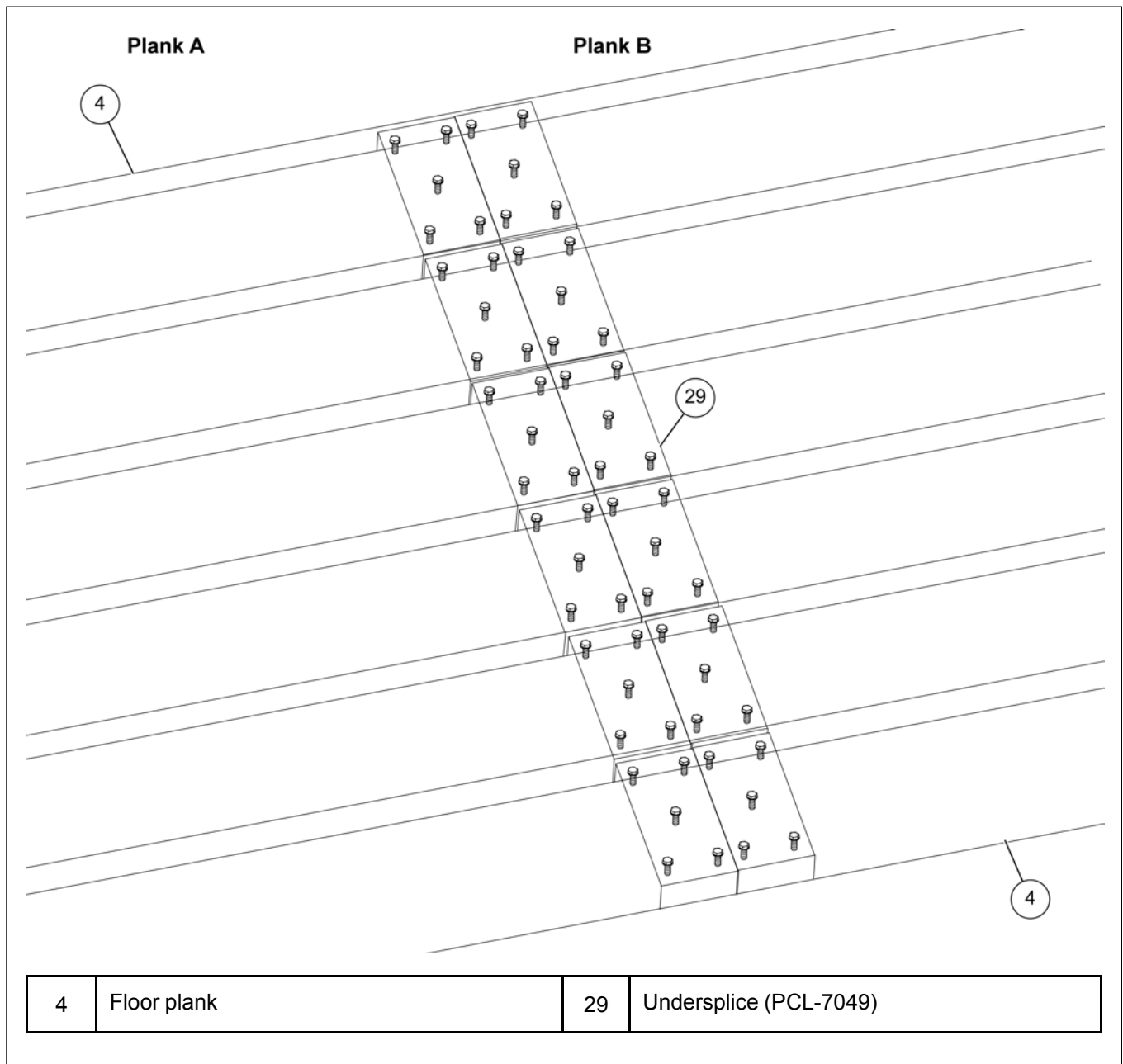


Installing the Undersplice

1. Place floor plank (4) ends together.
2. Place the undersplice (29) under the floor planks (4). Make sure the undersplice (29) extends 3" across each floor plank (4).
3. The undersplice (29) should extend 3" under each floor plank (4). The undersplice (29) should be screwed in place as shown in [Figure 2-4, page 16](#).
4. Repeat for all the plank locations requiring a splice.

NOTE: *Small grain perforated floors include an oversplice that is installed at the same time as the undersplices.*

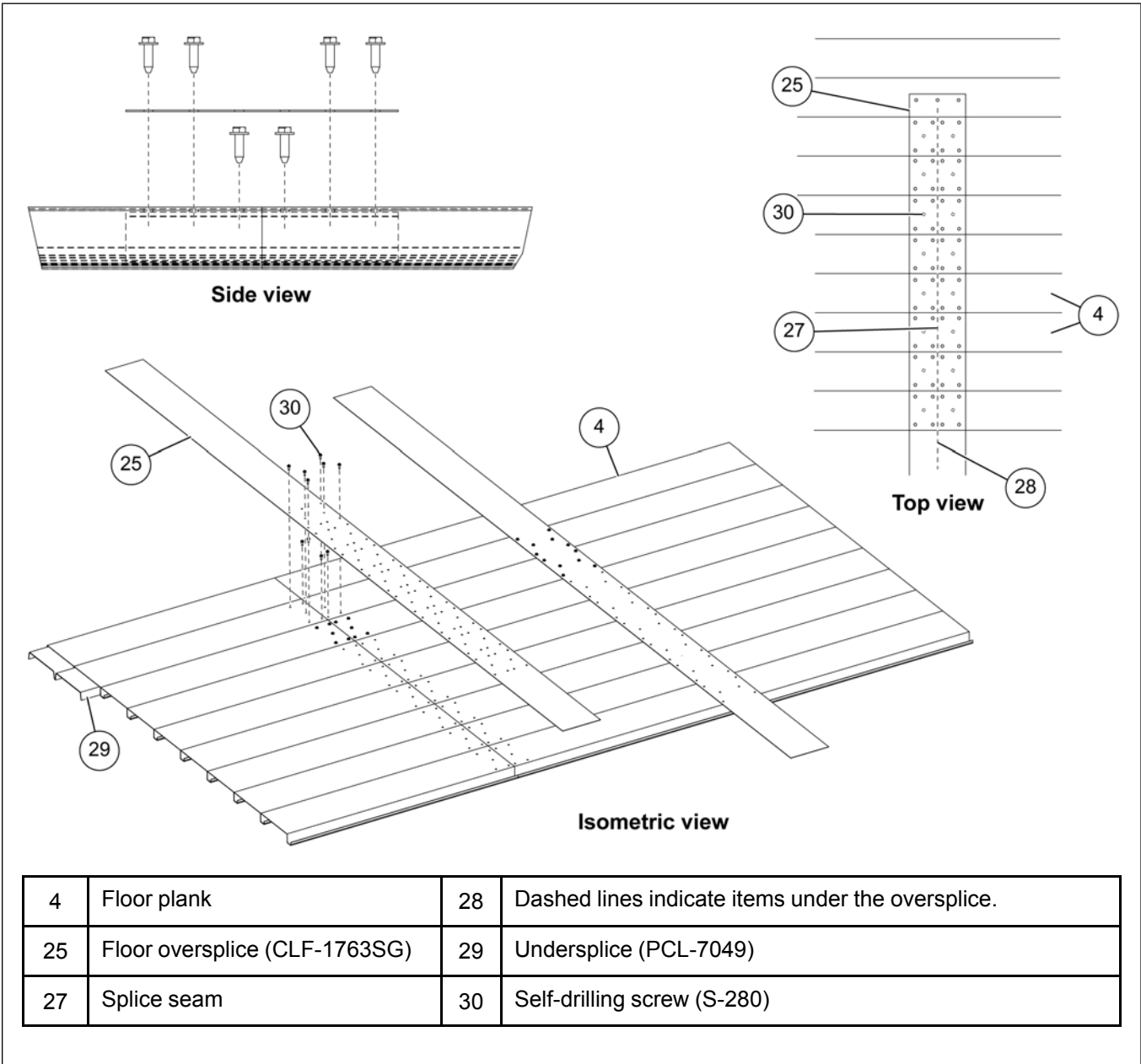
Figure 2-6 Installing the undersplice



Installing the Undersplice and Oversplice for Small Grain Floor Planks

1. Place plank ends together.
2. Place the undersplice (29) under the planks. Make sure the undersplice (29) extends 3" across each plank.
3. Install the undersplice (29) to the planks using two self-drilling screws (30) per splice to hold it in place.
4. Place the oversplice (25) over the length of the plank splice seams.
5. Install the oversplice (25) to the planks and undersplices (29) using three self-drilling screws (30) per each undersplice.

Figure 2-7 Installing the undersplice and oversplice



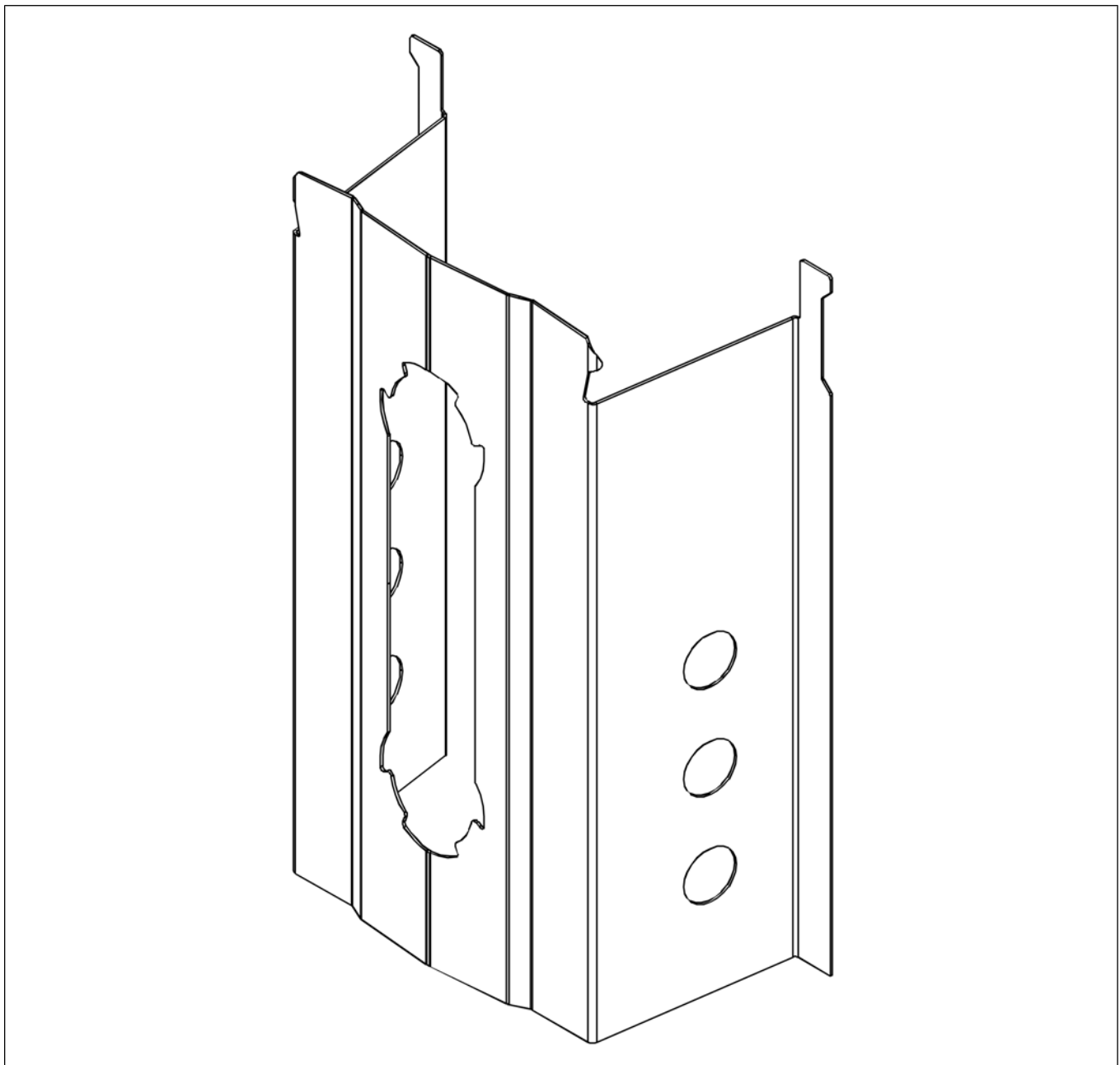
NOTES

3 20 Gauge Grandstand Identification

Table 3-1 20 gauge grandstand identification

Plenum clearance	Grandstand color code
11-7/8"	Blue
14-3/8"	White
17-3/16"	Yellow

Figure 3-1 Grandstand identification



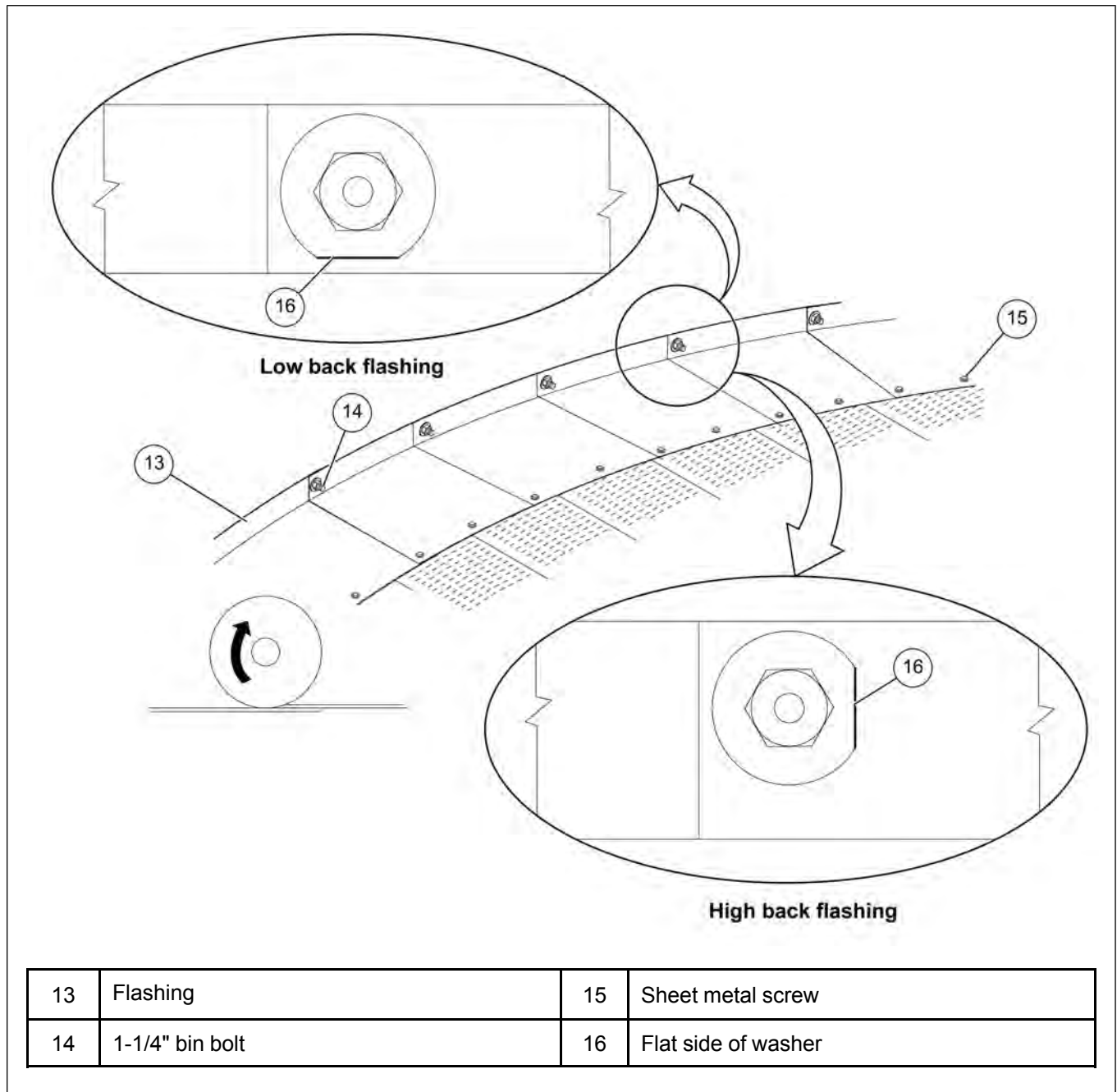
NOTES

4 Flashing Installation

1. If a bin sweep auger will be used, overlap flashing (13) so that the sweep will climb up on to the next flashing (13) section when rotating (usually clockwise).
2. This will prevent the rotating/slipping outer wheel of the sweep from catching on the flashing (13) edges.

NOTE: All GSI power sweeps and carry-in sweeps manufactured after April 2002 run clockwise.

Figure 4-1 Formed flashing installation



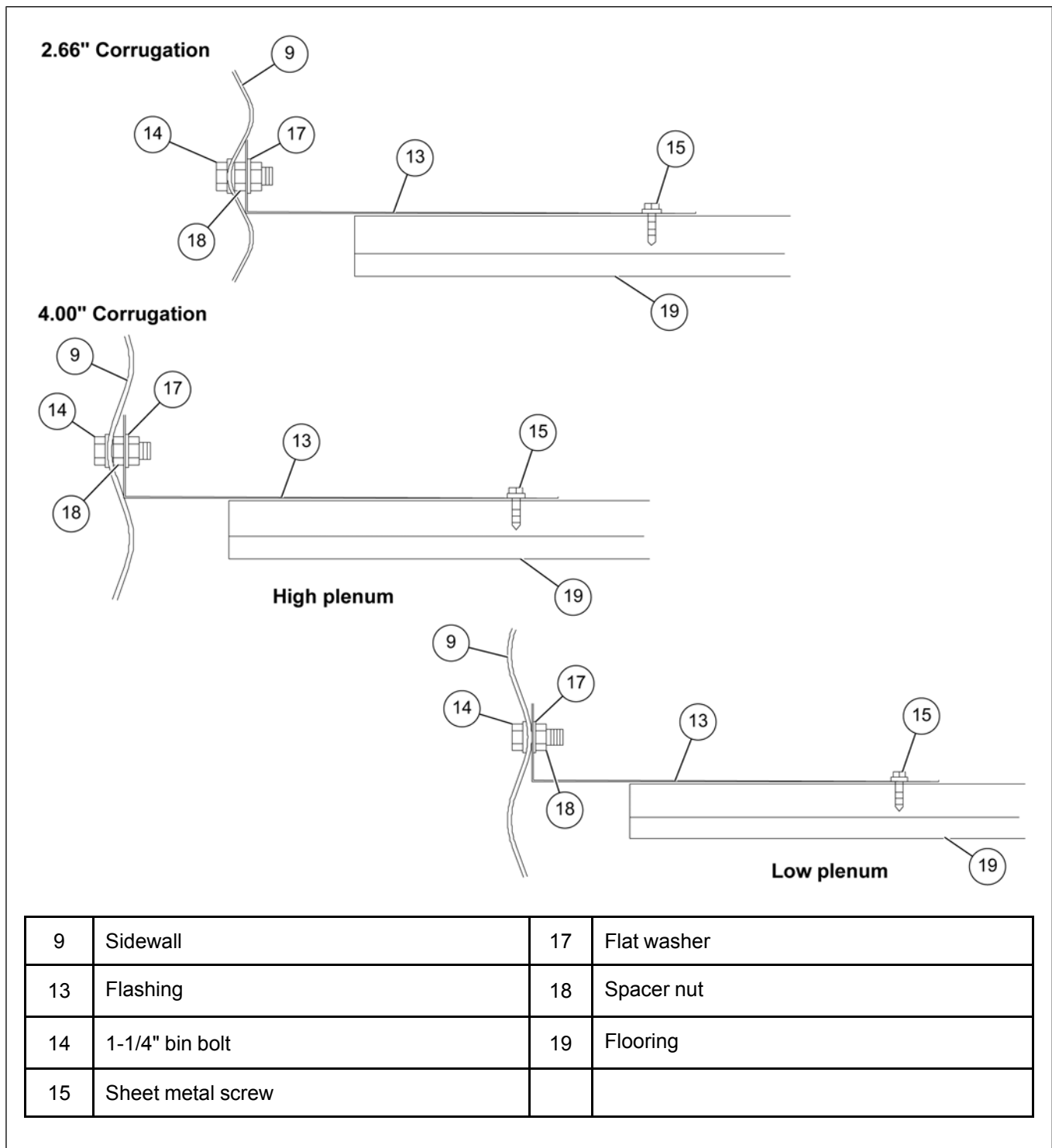
Chapter 4: Flashing Installation

- After floor (19) is in place, place 1-1/4" bin bolts (14) through the pre-punched holes in the sidewall (9). Refer the below figure to determine the correct sequence for placing the spacer nuts (18) and flat washers (17).

NOTE: Bolt (14) heads should be on the outside of the bin.

- Finger tighten the spacer nuts (18) until all flashing (13) is installed, then go back and fully tighten.
- While holding the flashing (13) flat and pushing in towards the sidewall (9), fasten the flashing (13) to the floor (19) with two sheet metal screws (15).

Figure 4-2 Corrugation details

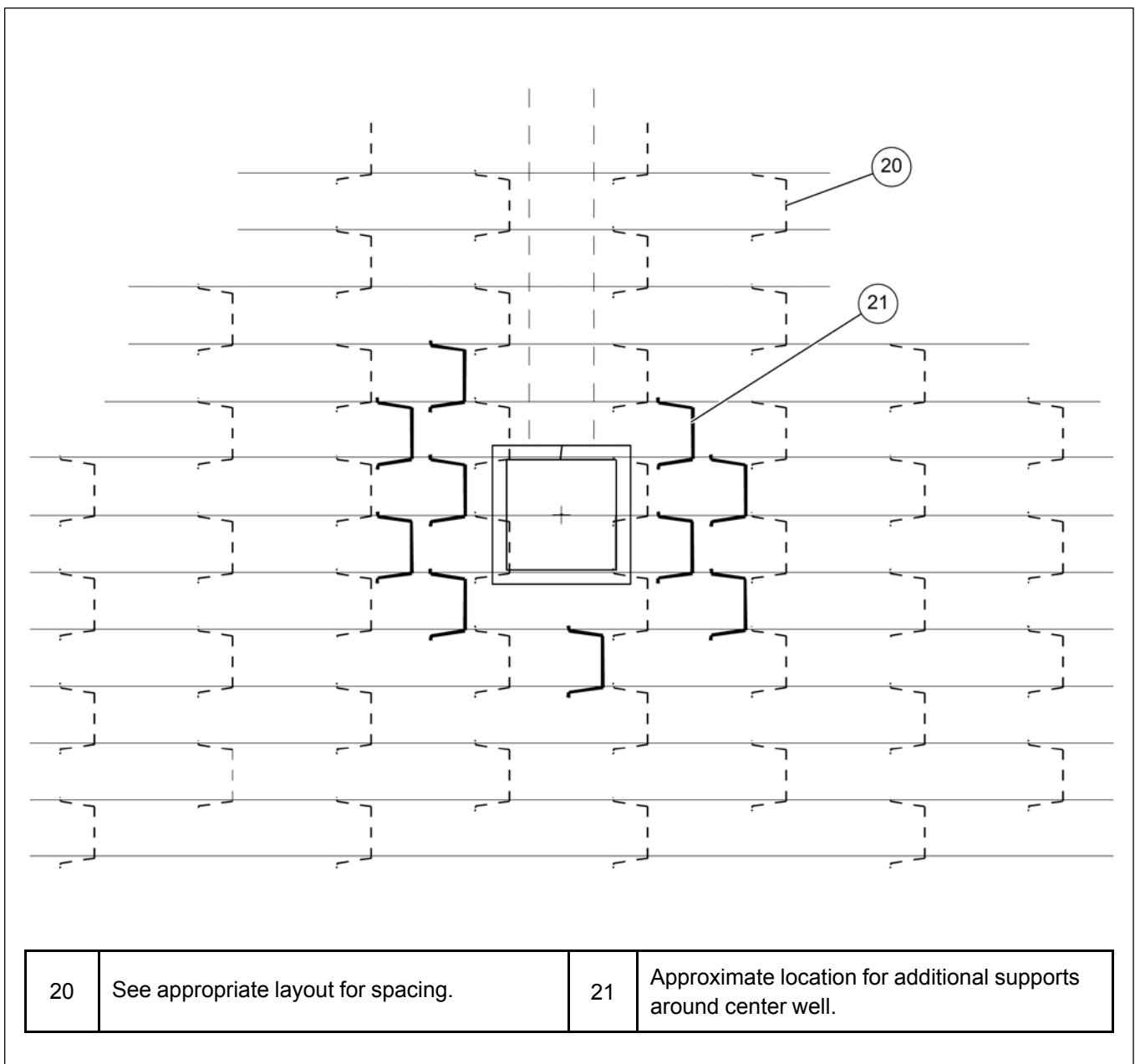


5 Grandstand Layout at Center Well for Recirculating System



Support all center wells to concrete.

Figure 5-1 Grandstand layout for recirculating system



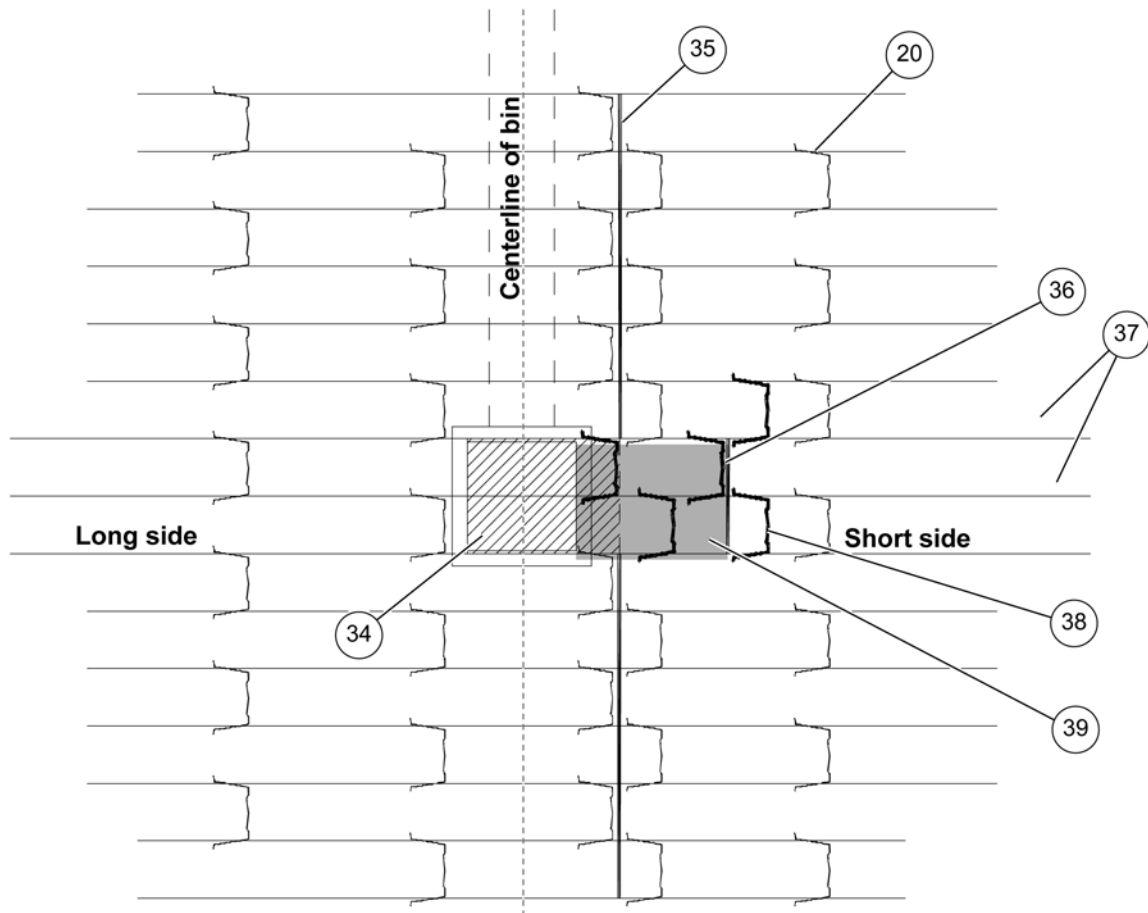
NOTES

6 Well Installation Cut Detail



Support all center wells to concrete.

Figure 6-1 Well installation plank cut detail for 42' split floor



20	See appropriate layout for grandstand spacing.	37	Cut short side planks to allow fall of long pieces, cut for well installation to be installed opposite the long pieces on this side of the well as shown.
34	Cut these pieces for well installation.	38	Additional grandstands
35	Standard splice location	39	Add entire cut pieces back in here with additional grandstands per plank as shown.
36	New splice at well locations		

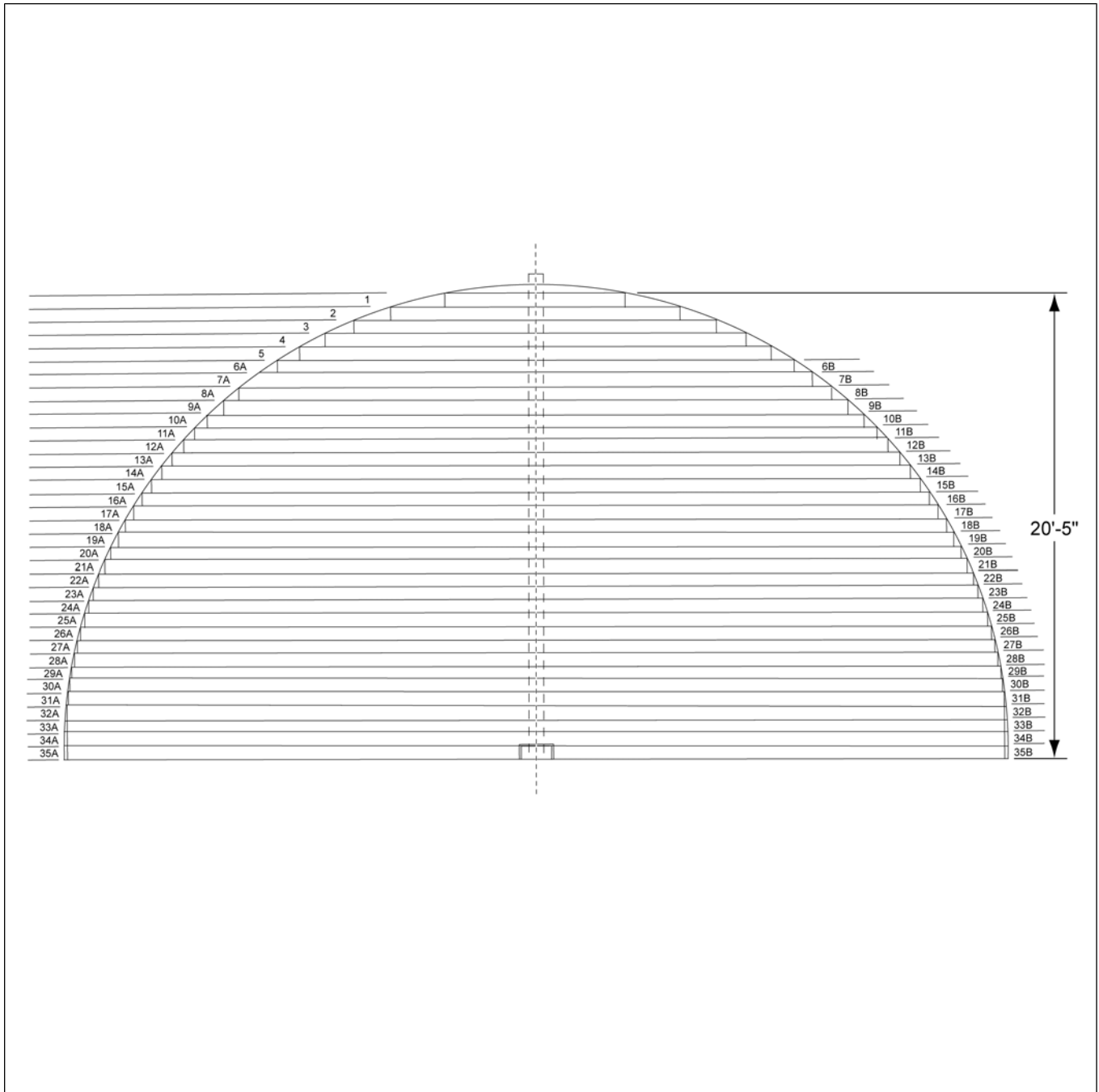
NOTES

7 42' Cor-Lok/Cut-Lok Plank Order



Support all center wells to concrete.

Figure 7-1 42' Cor-Lok/Cut-Lok plank order



NOTES

8 Plank Lengths

Topics Covered in this Chapter

- 42' Plank Lengths
- Optional 42' 3' Split Plank Length

42' Plank Lengths

The following plank lengths start at the sidewall and work towards the center of the bin. Refer to the grandstand layout on [2.66" Corrugation chart, page 48](#) and [4.00" Corrugation chart, page 49](#) for floor drawing.

Plank #	Length (ft. - in.)	Length (in.)
1	8'-5"	101"
2	12'-10"	154"
3	16'-0"	192"
4	18'-7"	223"
5	20'-9"	249"

Plank #	Length (ft. - in.)	Length (in.)
6A	12'-4"	148"
7A	13'-2"	158"
8A	13'-10"	166"
9A	14'-7"	175"
10A	15'-2"	182"
11A	15'-10"	190"
12A	16'-4"	196"
13A	16'-10"	202"
14A	17'-4"	208"
15A	17'-9"	213"
16A	18'-2"	218"
17A	18'-7"	223"
18A	18'-11"	227"
19A	19'-3"	231"
20A	19'-7"	235"
21A	19'-10"	238"
22A	20'-1"	241"
23A	20'-4"	244"
24A	20'-7"	247"
25A	20'-9"	249"
26A	20'-11"	251"
27A	21'-1"	253"
28A	21'-2"	254"
29A	21'-4"	256"
30A	21'-5"	257"
31A	21'-5"	257"
32A	21'-6"	258"
33A	21'-7"	259"
34A	21'-7"	259"
35A	21'-7"	259"

Plank #	Length (ft. - in.)	Length (in.)
6B	10'-4"	124"
7B	11'-2"	134"
8B	11'-10"	142"
9B	12'-6"	150"
10B	13'-2"	158"
11B	13'-9"	165"
12B	14'-4"	172"
13B	14'-10"	178"
14B	15'-4"	184"
15B	15'-9"	189"
16B	16'-2"	194"
17B	16'-7"	199"
18B	16'-11"	203"
19B	17'-3"	207"
20B	17'-7"	211"
21B	17'-10"	214"
22B	18'-1"	217"
23B	18'-4"	220"
24B	18'-7"	223"
25B	18'-9"	225"
26B	18'-11"	227"
27B	19'-1"	229"
28B	19'-2"	230"
29B	19'-4"	232"
30B	19'-5"	233"
31B	19'-5"	233"
32B	19'-6"	234"
33B	19'-7"	235"
34B	19'-7"	235"
35B	19'-7"	235"

Optional 42' 3" Split Plank Length

Plank #	Length (ft. - in.)	Length (in.)
1	8'-5"	101"
2	12'-10"	154"
3	16'-0"	192"
4	18'-7"	223"
5	20'-9"	249"

Plank #	Length (ft. - in.)	Length (in.)
6A	14'-4"	172"
7A	15'-2"	182"
8A	15'-10"	190"
9A	16'-6"	198"
10A	17'-2"	206"
11A	17'-9"	213"
12A	18'-4"	220"
13A	18'-10"	226"
14A	19'-4"	232"
15A	19'-9"	237"
16A	20'-2"	242"
17A	20'-7"	247"
18A	20'-11"	251"
19A	21'-3"	255"
20A	21'-7"	259"
21A	21'-10"	262"
22A	22'-1"	265"
23A	22'-1"	268"
24A	22'-7"	271"
25A	22'-9"	273"
26A	22'-11"	275"
27A	23'-1"	277"
28A	23'-2"	278"
29A	23'-4"	280"
30A	23'-5"	281"
31A	23'-5"	281"
32A	23'-6"	282"
33A	23'-7"	283"
34A	23'-7"	283"
35A	23'-7"	283"

Plank #	Length (ft. - in.)	Length (in.)
6B	8'-4"	100"
7B	9'-2"	110"
8B	9'-10"	118"
9B	10'-6"	126"
10B	11'-2"	134"
11B	11'-9"	141"
12B	12'-4"	148"
13B	12'-10"	154"
14B	13'-4"	160"
15B	13'-9"	165"
16B	14'-2"	170"
17B	14'-7"	175"
18B	14'-11"	179"
19B	15'-3"	183"
20B	15'-7"	187"
21B	15'-10"	190"
22B	16'-1"	193"
23B	16'-4"	196"
24B	16'-7"	199"
25B	16'-9"	201"
26B	16'-11"	203"
27B	17'-1"	205"
28B	17'-2"	206"
29B	17'-4"	208"
30B	17'-5"	209"
31B	17'-5"	209"
32B	17'-6"	210"
33B	17'-7"	211"
34B	17'-7"	211"
35B	17'-7"	211"

NOTES

9 42' Grandstand Layout for Recirculating System

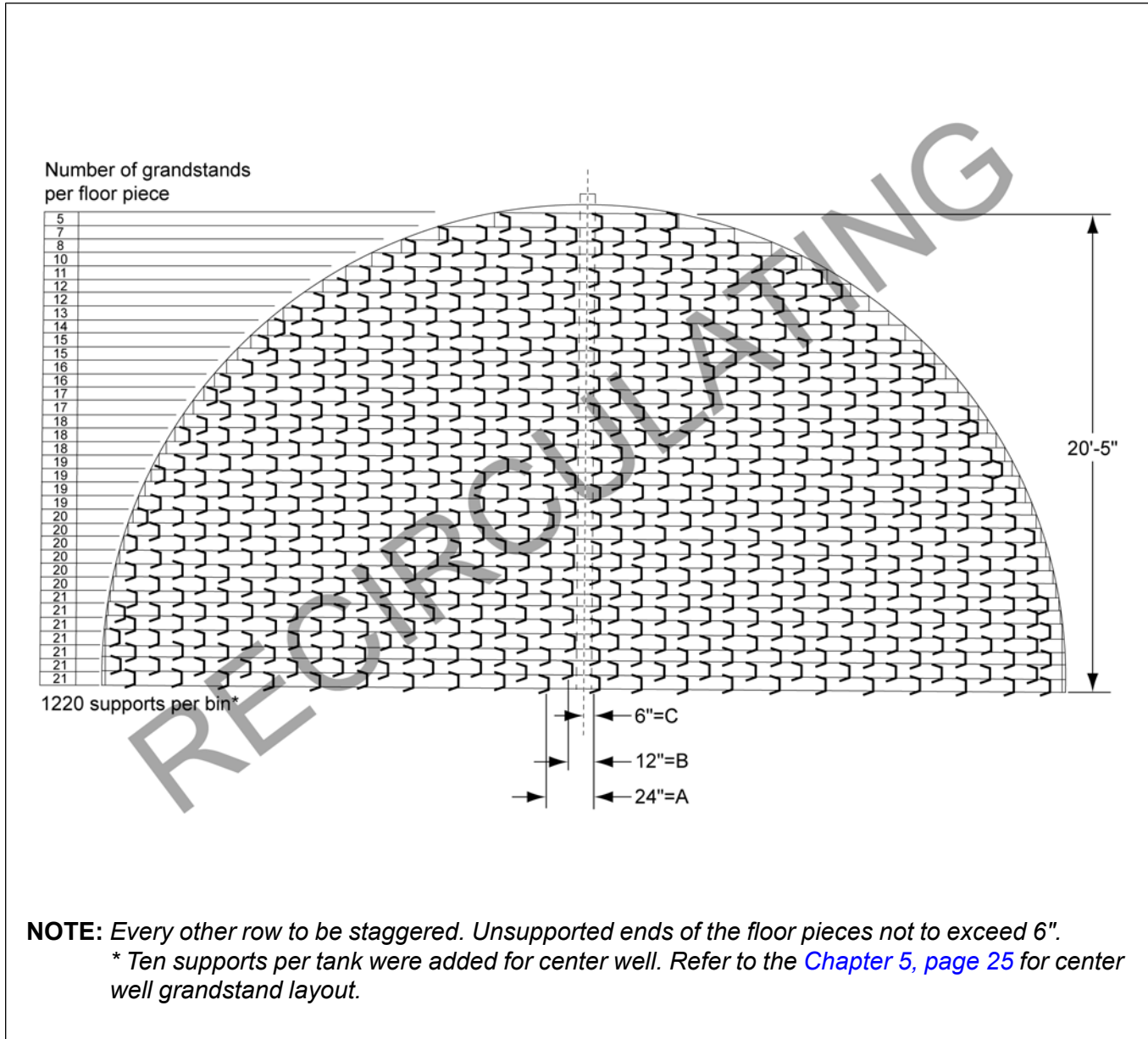
2.66" Bins 8 Rings Maximum and 4.00" Bins 6 Rings Maximum



Support all center wells to concrete.

IMPORTANT: *The first piece of flooring must start at the proper distance from the center of the bin. The first few pieces may have to be trimmed to fit correctly.*

Figure 9-1 2.66" bins 8 rings maximum and 4.00" bins 6 rings maximum



NOTES

10 Cor-Lok/Cut-Lok and Grandstand Layouts (33' Max. Wall Height)

Topics Covered in this Chapter

- 2.66" Bins 5 Rings
- 2.66" Bins 6 Rings and 4.00" Bins 4-5 Rings
- 2.66" Bins 7 Rings
- 2.66" Bins 8 Rings and 4.00" Bins 6 Rings
- 2.66" Bins 9 Rings
- 2.66" Bins 10 Rings and 4.00" Bins 7 Rings
- 2.66" Bins 11 Rings and 4.00" Bins 8 Rings
- 2.66" Bins 12 Rings and 4.00" Bins 9 Rings

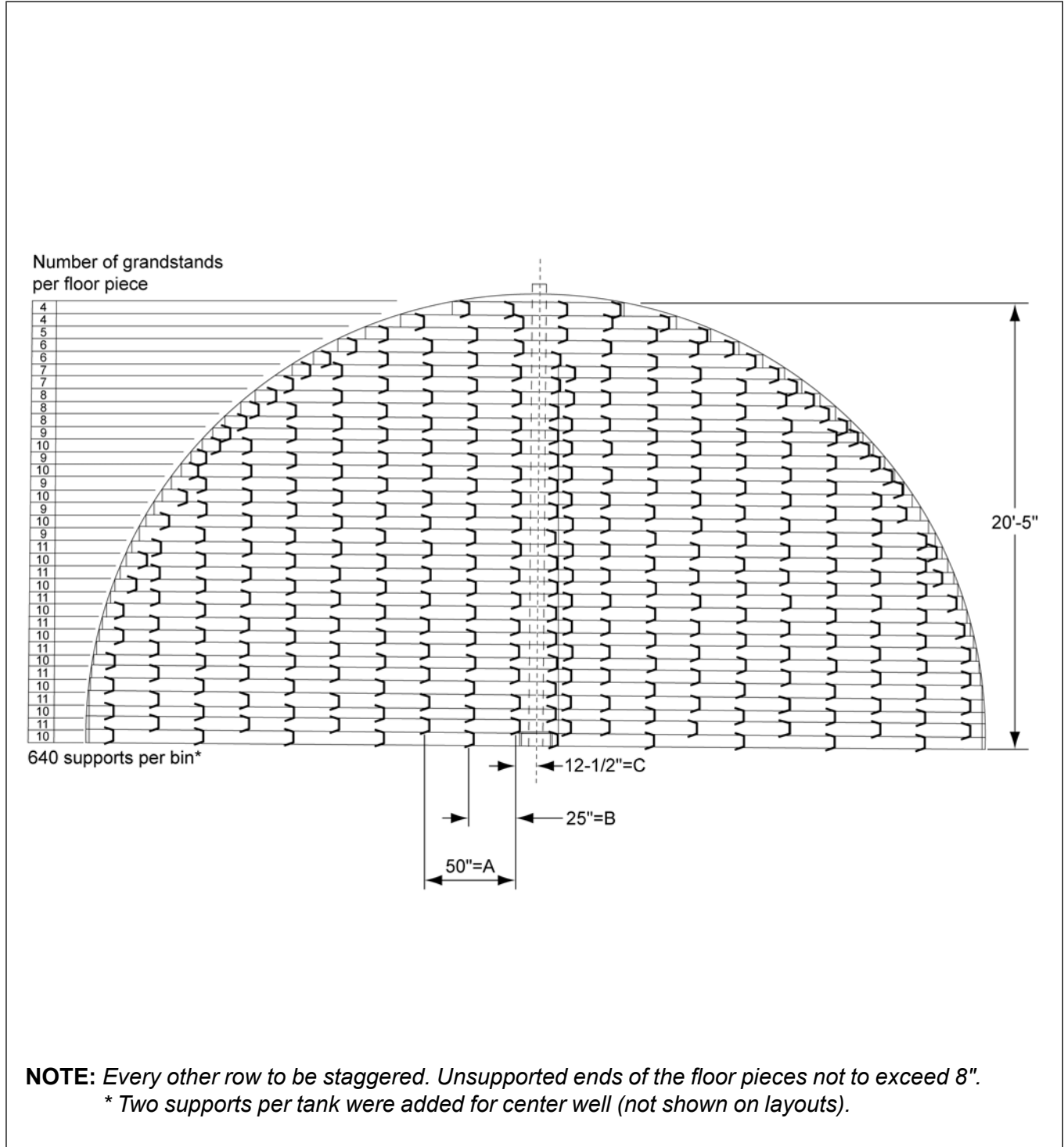
2.66" Bins 5 Rings



Support all center wells to concrete.

IMPORTANT: The first piece of flooring must start at the proper distance from the center of the bin.
The first few pieces may have to be trimmed to fit correctly.

Figure 10-1 2.66" bins 5 rings



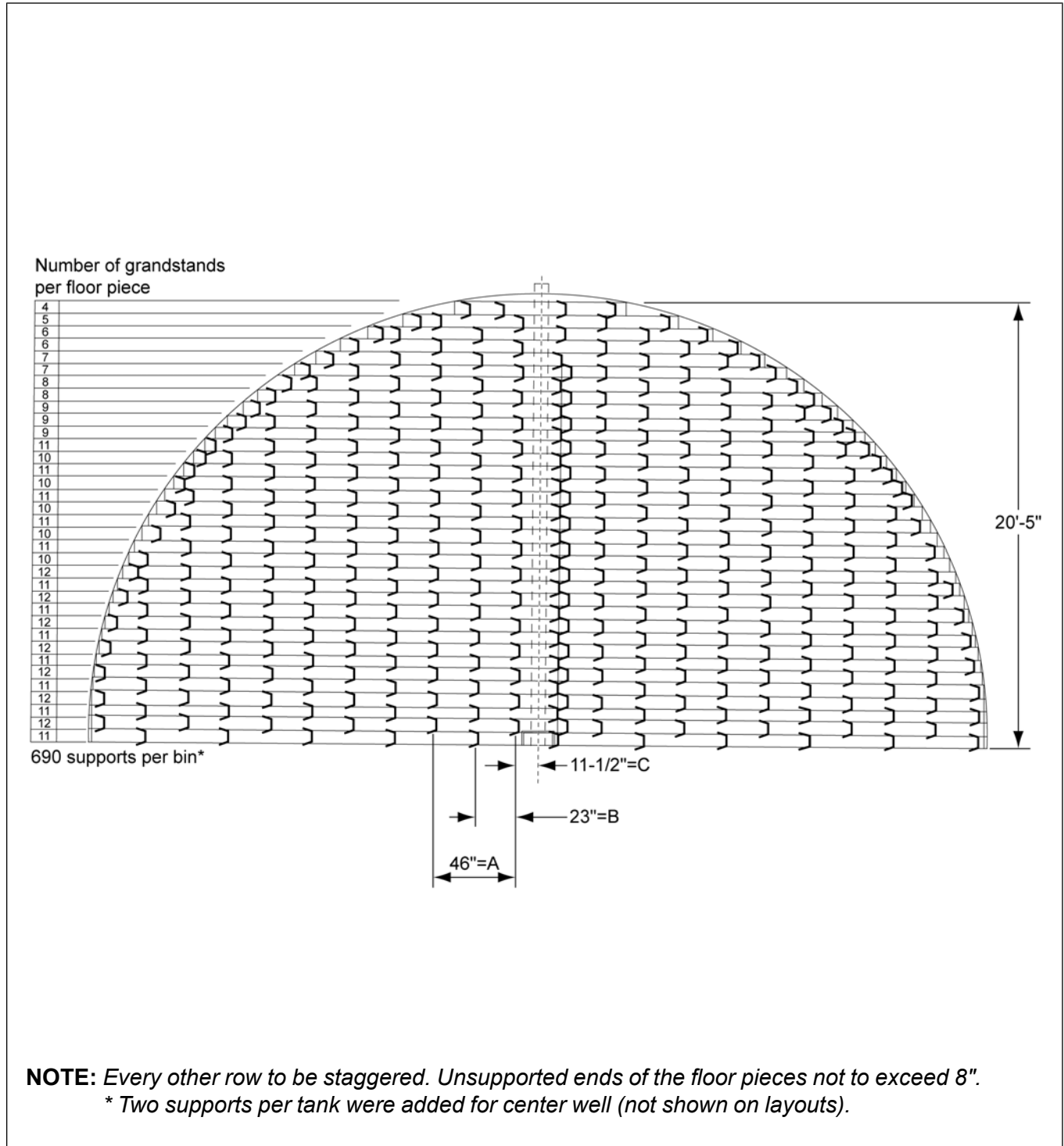
2.66" Bins 6 Rings and 4.00" Bins 4-5 Rings



Support all center wells to concrete.

IMPORTANT: The first piece of flooring must start at the proper distance from the center of the bin.
The first few pieces may have to be trimmed to fit correctly.

Figure 10-2 2.66" bins 6 rings and 4.00" bins 4-5 rings



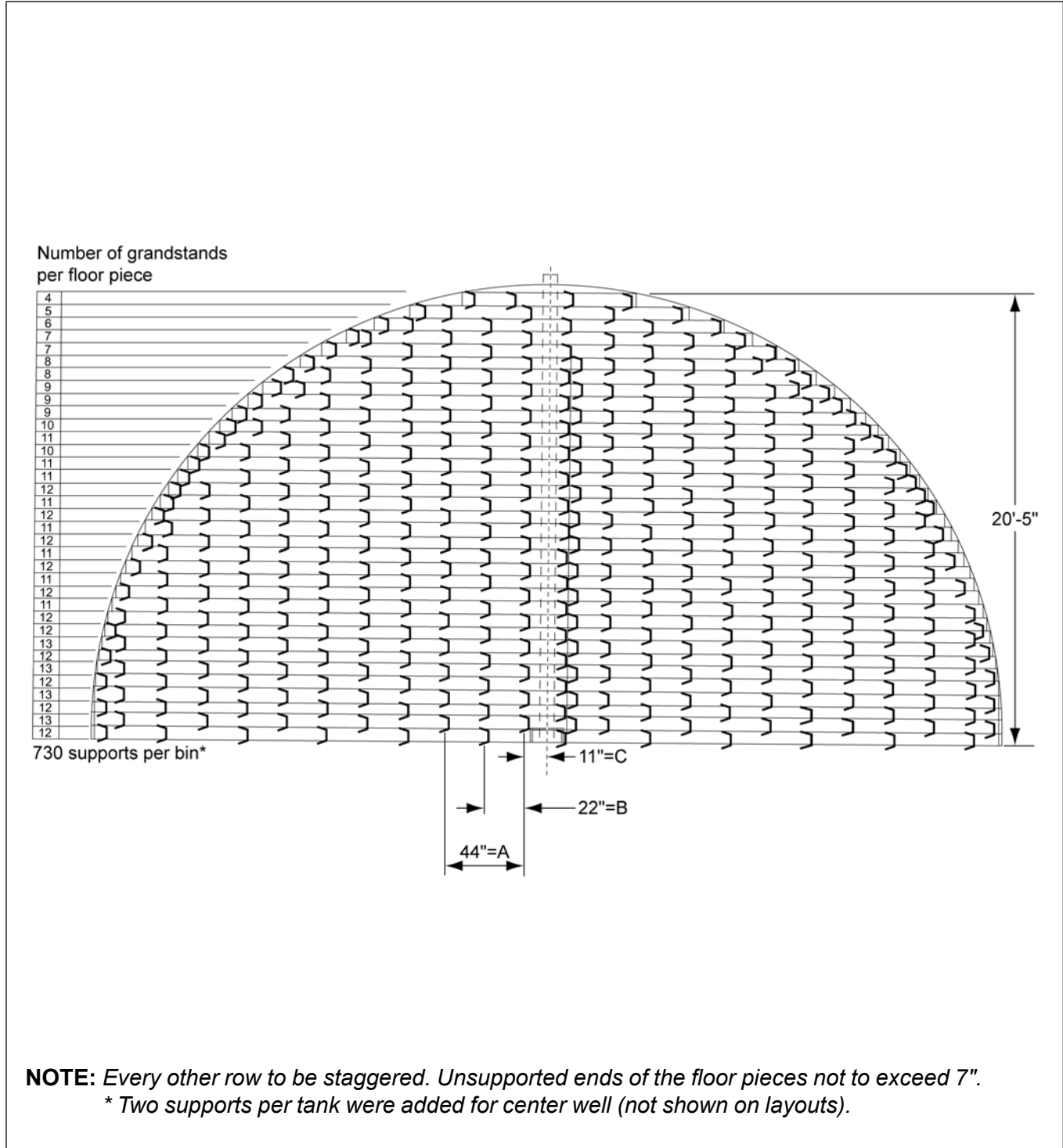
2.66" Bins 7 Rings



Support all center wells to concrete.

IMPORTANT: The first piece of flooring must start at the proper distance from the center of the bin.
The first few pieces may have to be trimmed to fit correctly.

Figure 10-3 2.66" bins 7 rings



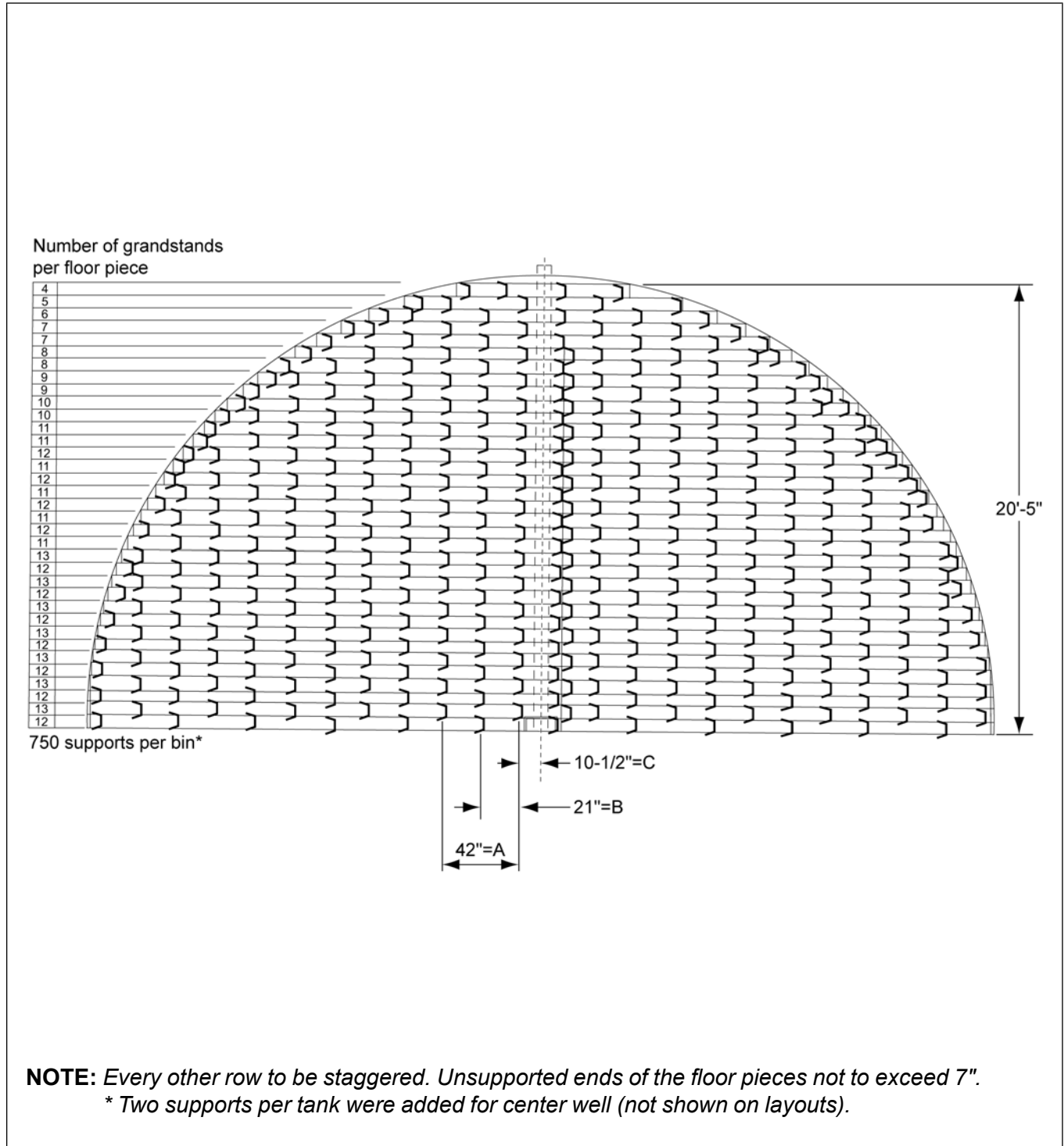
2.66" Bins 8 Rings and 4.00" Bins 6 Rings



Support all center wells to concrete.

IMPORTANT: *The first piece of flooring must start at the proper distance from the center of the bin.
The first few pieces may have to be trimmed to fit correctly.*

Figure 10-4 2.66" bins 8 rings and 4.00" bins 6 rings



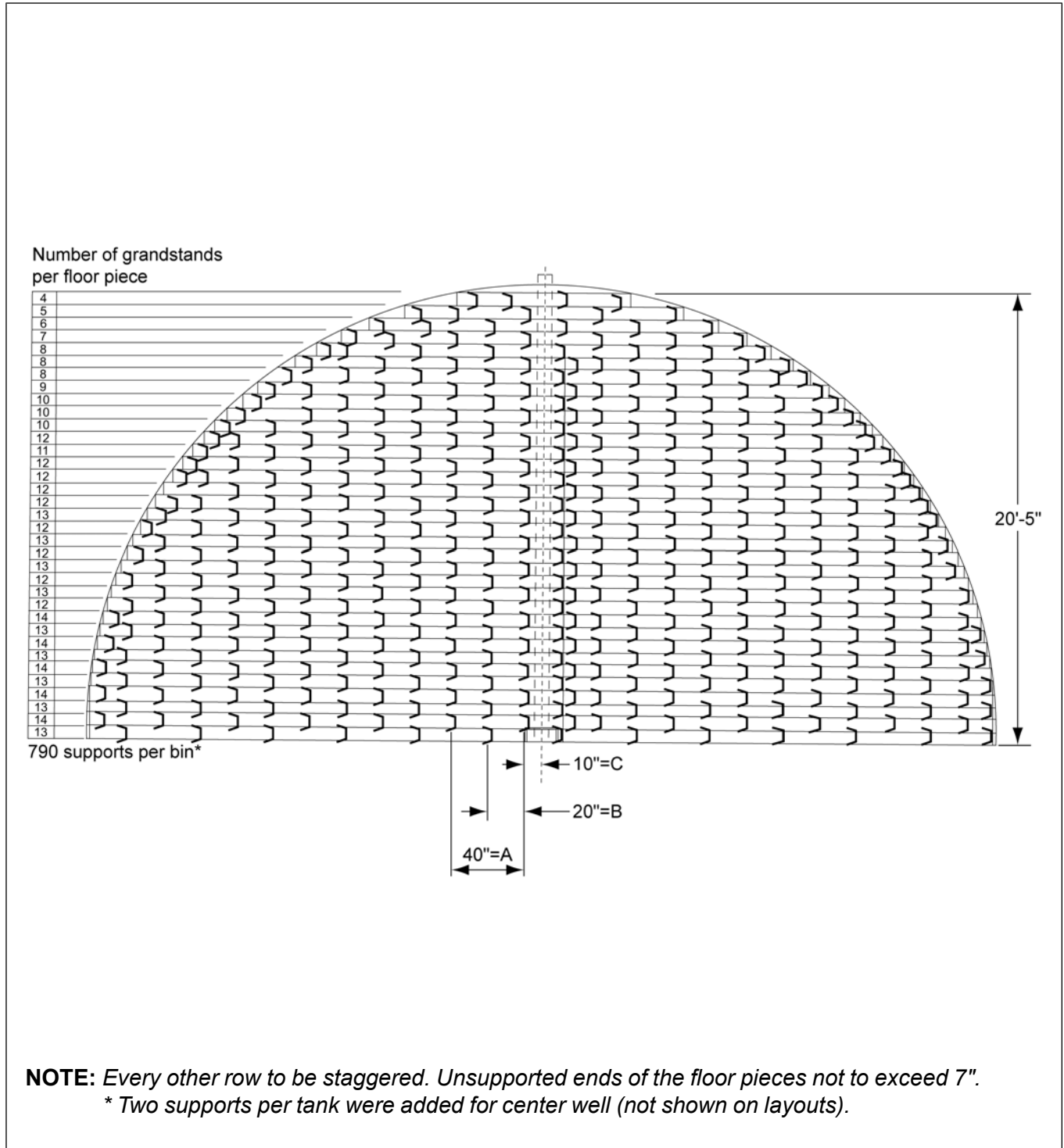
2.66" Bins 9 Rings



Support all center wells to concrete.

IMPORTANT: The first piece of flooring must start at the proper distance from the center of the bin.
The first few pieces may have to be trimmed to fit correctly.

Figure 10-5 2.66" bins 9 rings



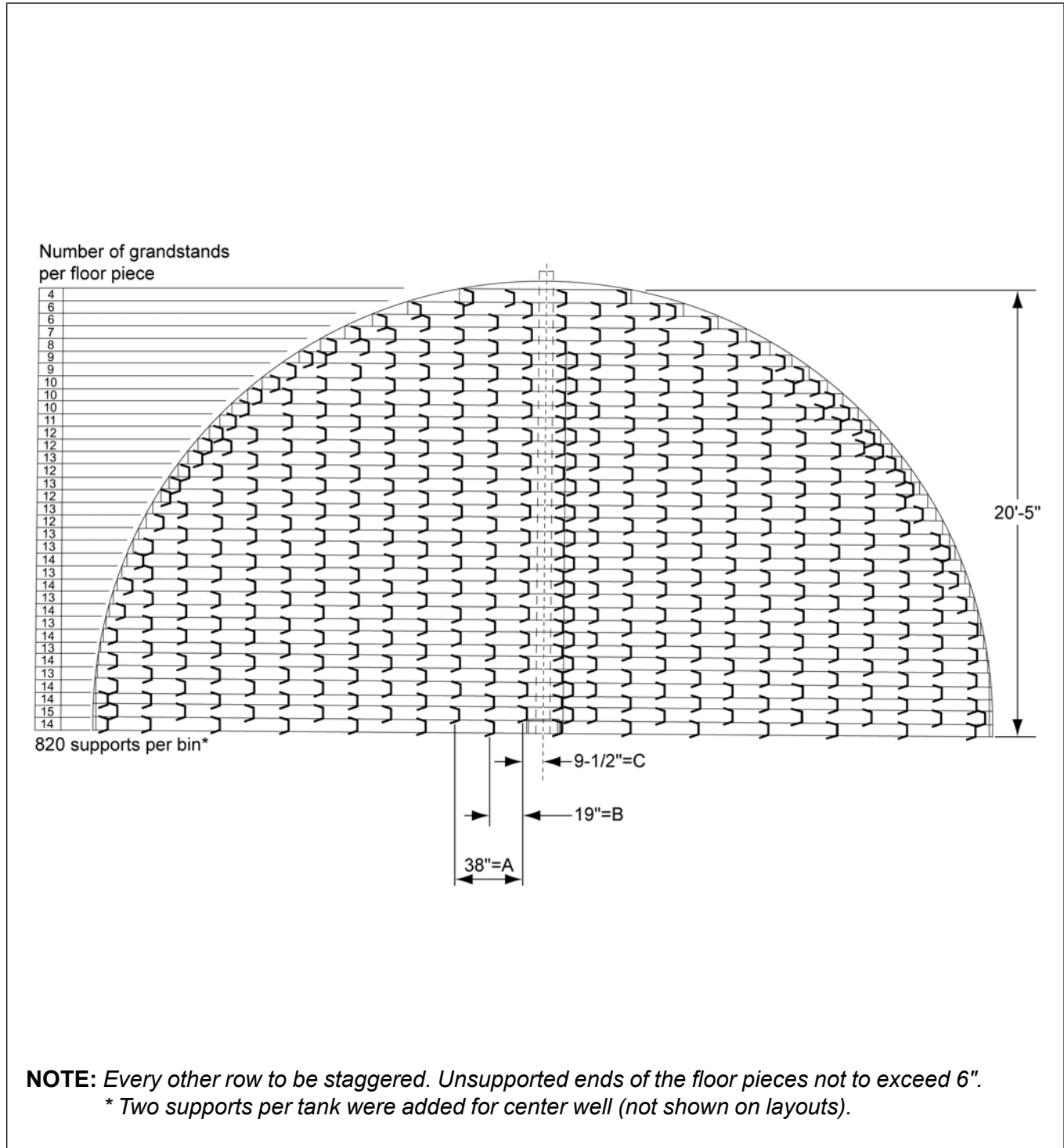
2.66" Bins 10 Rings and 4.00" Bins 7 Rings



Support all center wells to concrete.

IMPORTANT: *The first piece of flooring must start at the proper distance from the center of the bin.
The first few pieces may have to be trimmed to fit correctly.*

Figure 10-6 2.66" bins 10 rings and 4.00" bins 7 rings



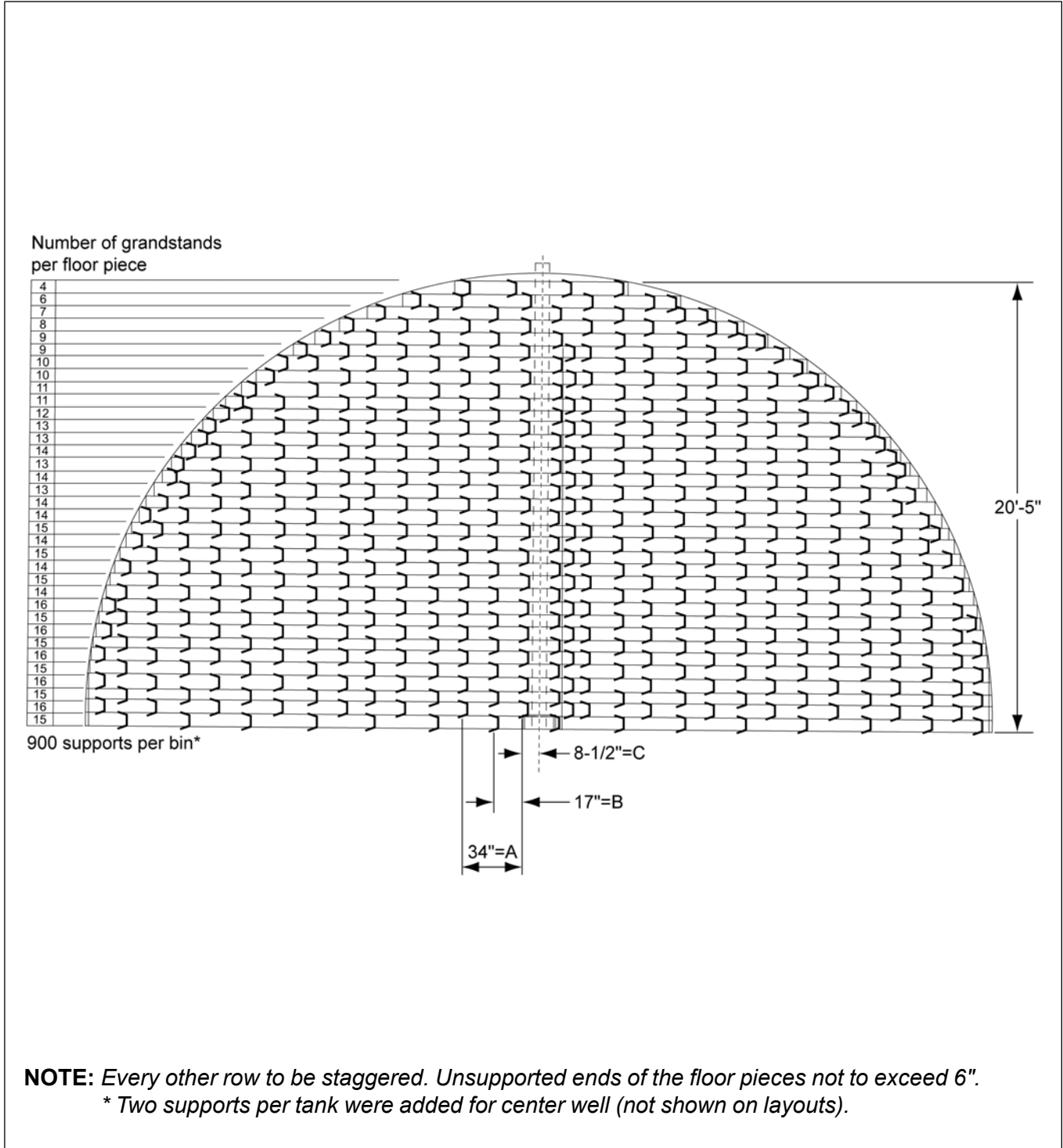
2.66" Bins 11 Rings and 4.00" Bins 8 Rings



Support all center wells to concrete.

IMPORTANT: The first piece of flooring must start at the proper distance from the center of the bin.
The first few pieces may have to be trimmed to fit correctly.

Figure 10-7 2.66" bins 11 rings and 4.00" bins 8 rings



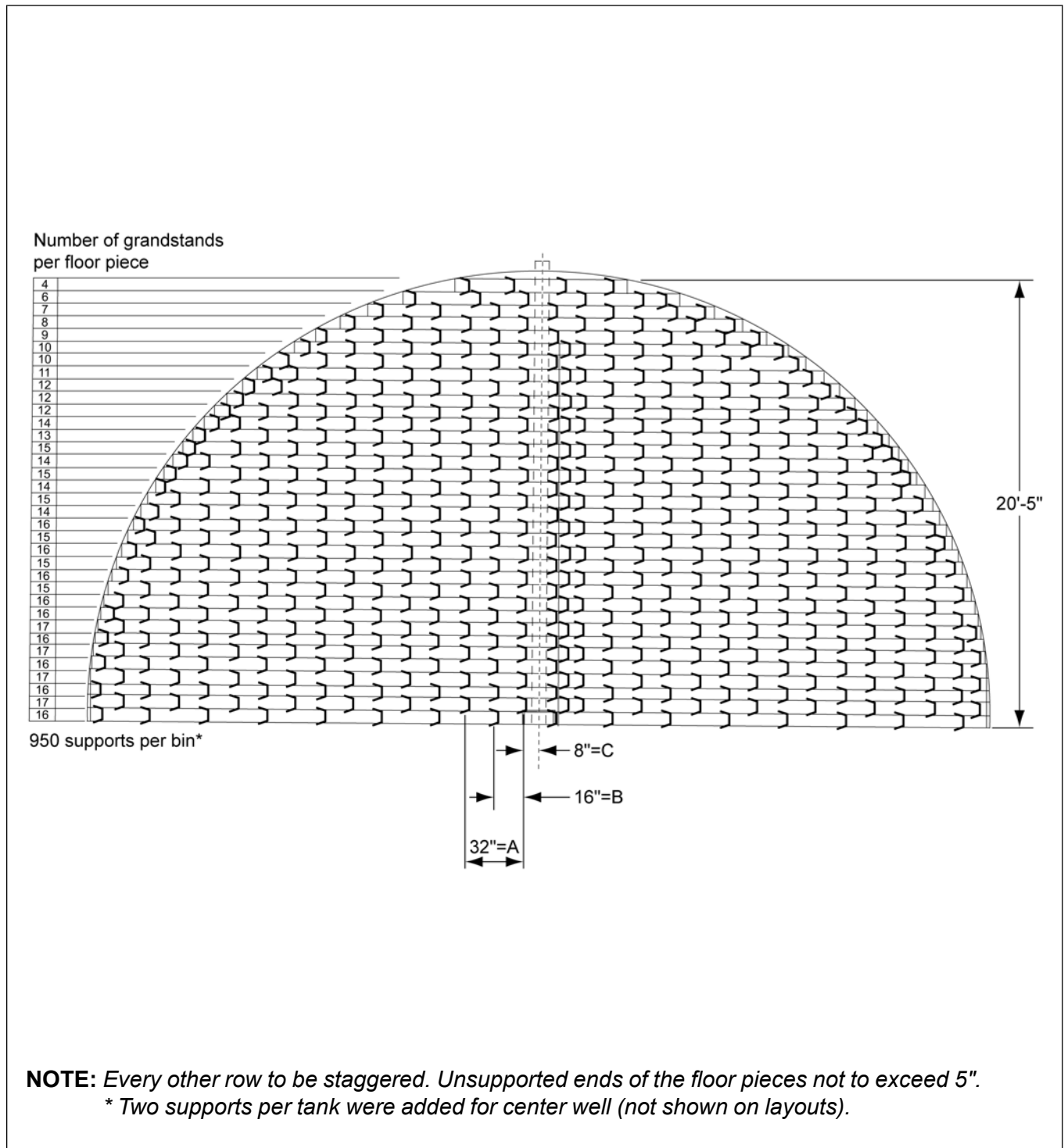
2.66" Bins 12 Rings and 4.00" Bins 9 Rings



Support all center wells to concrete.

IMPORTANT: The first piece of flooring must start at the proper distance from the center of the bin.
The first few pieces may have to be trimmed to fit correctly.

Figure 10-8 2.66" bins 12 rings and 4.00" bins 9 rings



NOTES

11 20 Gauge Floor Support Requirements

Topics Covered in this Chapter

- 2.66" Corrugation Grandstand Chart
- 4.00" Corrugation Grandstand Chart

4.00" Corrugation Grandstand Chart

Table 11-2 Wide/4.00" corrugation - 20 gauge grandstand floor support chart

Full floor supports required for plank type flooring 4.00" corrugation (* Based upon 13-1/2" or taller floor heights)																				
Dia.	12'	15'	18'	21'	24'	27'	30'	33'	36'	39'	42'	45'	48'	54'	60'	72'	75'	78'	90'	105'
Rings	Support spacing support quantity																			
3	54/27 62	58/29 80	54/27 120	52/26 150	56/28 202	54/27 249	50/25 333	50/25 390	50/25 470	50/25 576	46/23 695	52/26 735	48/24 869							
4	54/27 62	54/27 88	54/27 120	52/26 160	52/26 214	48/24 275	50/25 333	50/25 390	50/25 470	50/25 576	46/23 695	48/24 775	48/24 869	46/23 1156	44/22 1430					
5	54/27 62	52/26 96	48/24 138	50/25 168	48/24 224	48/24 275	48/24 347	46/23 425	44/22 523	46/23 606	46/23 695	44/22 836	44/22 933	42/21 1236	42/21 1477					
6	48/24 70	48/24 100	48/24 138	46/23 182	46/23 230	44/22 303	44/22 363	44/22 435	44/22 523	42/21 656	42/21 751	42/21 866	42/21 977	40/20 1296	38/19 1650					
7	42/21 75	42/21 110	42/21 144	42/21 190	42/21 249	42/21 309	42/21 387	40/20 480	40/20 565	40/20 686	38/19 821	38/19 946	38/19 1057	36/18 1416	34/17 1779					
8	42/21 75	42/21 110	42/21 144	42/21 190	40/20 265	40/20 319	38/19 417	36/18 525	36/18 620	36/18 746	34/17 900	34/17 1036	34/17 1163	32/16 1566	32/16 1883	28/15 3550	18 Gauge Cor-Lok or Cut-Lok if diameter and number of rings are in shaded area.			
9	38/19 80	40/20 115	38/19 166	38/19 220	38/19 277	36/18 355	34/17 471	34/17 555	32/16 695	32/16 830	32/16 951	30/15 1156	30/15 1303	30/15 1660	28/14 2160	28/15 3550	24/12 3850	24/12 4160	24/12 5970	20/10 8820
10	36/18 90	34/17 130	34/17 180	34/17 230	34/17 300	34/17 380	32/16 500	32/16 600	30/15 750	28/14 930	30/15 1010	28/14 1230	28/14 1390	26/13 1870	24/12 2460	22/11 3820	22/11 4150	22/11 4480	20/10 6480	18/9 9680
11	32/16 95	30/15 150	32/16 190	32/16 250	32/16 320	32/16 400	30/15 520	30/15 650	28/14 790	26/13 990	26/13 1140	24/12 1400	24/12 1590	24/12 2000	22/11 2650	20/10 4150	20/10 4500	20/10 4870	18/9 7120	16/8 10760
12	28/14 100	28/14 160	28/14 210	28/14 280	28/14 360	28/14 450	28/14 550	28/14 670	26/13 840	24/12 1060	24/12 1220	22/11 1510	22/11 1710	20/10 2350	20/10 2880	18/9 4550	18/9 4950	18/9 5340	16/8 7910	16/8 10760
13	26/13 110	26/13 170	26/13 220	26/13 290	24/12 400	24/12 510	24/12 630	24/12 760	22/11 900	22/11 1140	20/10 1320	20/10 1640	18/9 1860	18/9 2570	16/8 3170	16/8 5060	16/8 5500	16/8 5940	16/8 7910	14/7 12150
14			22/11 260	22/11 340	22/11 440	22/11 550	22/11 680	22/11 820	20/10 1060	20/10 1240	20/10 1430	18/9 1800	18/9 2040	16/8 2860	16/8 3520	16/8 5060	16/8 5500	16/8 5940	14/7 8920	14/7 12150
15				20/10 370	20/10 480	20/10 600	20/10 740	20/10 890	20/10 1060	18/9 1360	18/9 1570	18/9 1800	16/8 2270	16/8 2860	16/8 3520	14/7 5710	14/7 6200	14/7 6710	14/7 8920	12/6 13990
16				18/9 400	18/9 520	18/9 660	18/9 810	18/9 970	18/9 1160	18/9 1360	18/9 1570	16/8 2000	16/8 2270	16/8 2860	14/7 3970	12/6 6580	12/6 7140	12/6 7730	12/6 10280	
17					16/8 580	16/8 730	16/8 900	16/8 1080	16/8 1290	16/8 1510	16/8 1750	16/8 2000	16/8 2270	14/7 3230	14/7 3970	12/6 6580	12/6 7140	12/6 7730		
18					16/8 580	16/8 730	16/8 900	16/8 1080	16/8 1290	16/8 1510	16/8 1750	16/8 2000	14/7 2560	14/7 3230	12/6 4570	Support spacing support quantity				
19						14/7 820	14/7 1010	14/7 1220	14/7 1450	14/7 1700	14/7 1970	14/7 2260	14/7 2560	12/6 3720	12/6 4570					
20						12/6 950	12/6 1160	12/6 1410	12/6 1670	12/6 1960	12/6 2270	12/6 2600	12/6 2950	12/6 3720						
21						12/6 950	12/6 1160	12/6 1410	12/6 1670	12/6 1960	12/6 2270	12/6 2600	12/6 2950							

* For Aeration Systems recessed in the concrete, add one ring for proper spacing.

When using FL-3102-3 or FL-3102-6 (3", 6") Grandstands, increase the listed quantities by 33% (Standard quantity x 1.33).

Quantities of Grandstands are minimum required for installation - Due to varying conditions and construction techniques at floor and wall penetrations, additional supports may need to be ordered.

Floor styles in order of increasing strength are 18 gauge Cor-Lok, Cut-Lok and Dura-Lok.

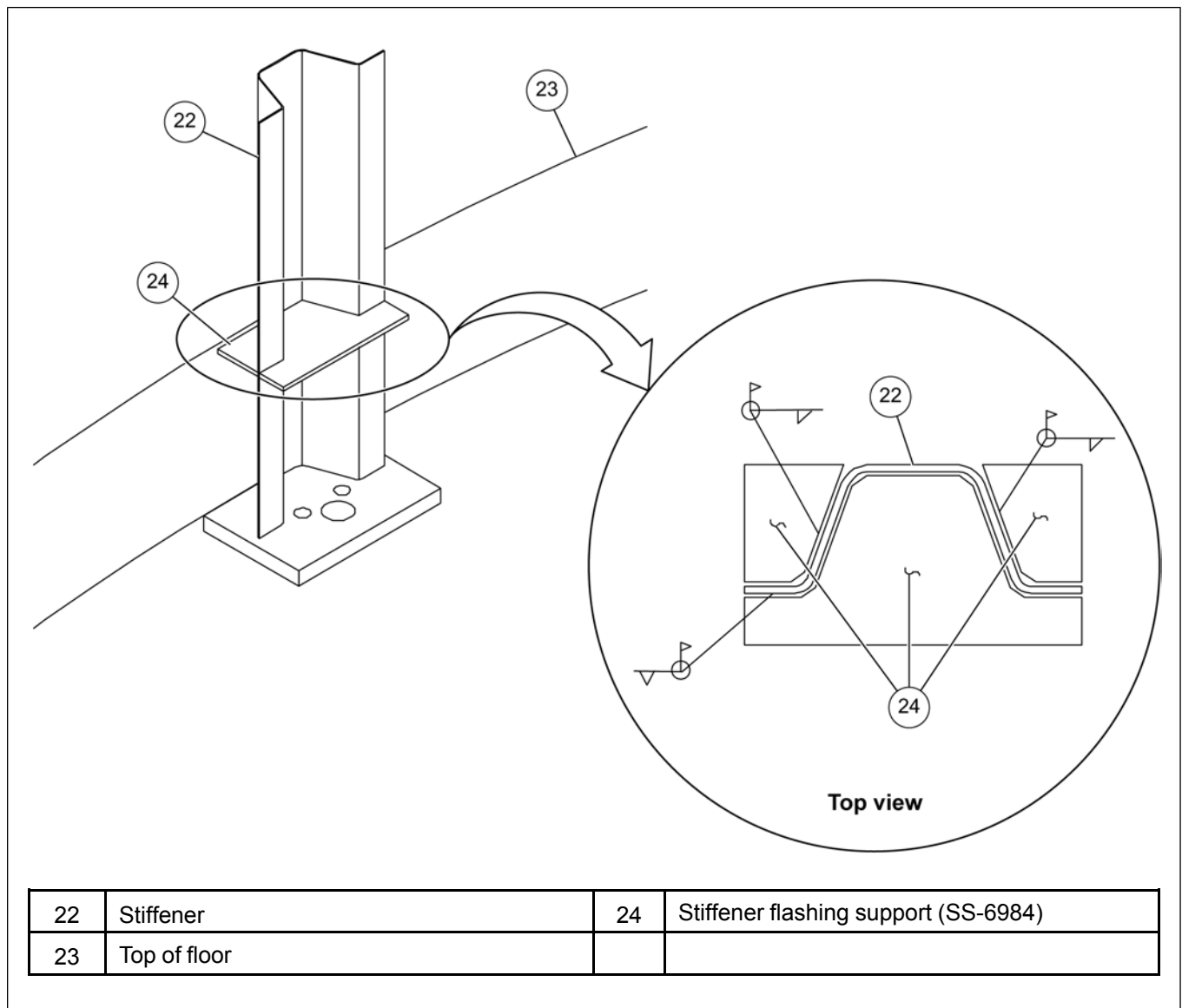
How to read the chart: For example, a 12' diameter bin with 5 rings would have spacing of 54/27 (the top numbers). Meaning A=54" and B=27". The number of supports needed would be 62, (the bottom number).

NOTES

12 Installing the Stiffener Flashing Support

1. Install the floor and support system, cutting the floor to go around the internal stiffeners as required.
2. Break the stiffener flashing support (24) into its three components.
3. Lay the stiffener flashing supports (24) on top of the flooring (23) and weld the flashing supports (24) to the stiffener (22) as close as possible. Fasten the flashing to the wall, flashing support (24) and floor. Seal all spaces by welding or caulking.
4. Paint all welds with good quality zinc rich paint.
5. Stiffener flashing supports (24) must be ordered separately from the standard floor and flashing.

Figure 12-1 Internal universal stiffeners



NOTES

13 Installing the Air Flow Supports

1. Determine the spacing and quantity of air flow supports required from the [Table 13-1, page 55](#). Make sure that the correct supports have been ordered for use with the proper depth of plank (either 1-1/8" or 1-3/8" deep).
2. Mark the center of the bin.
3. Install the discharge auger.
4. Mark the spacing lines parallel to the discharge auger.
5. Start on the side of the bin opposite from the discharge auger and place the first two rows of supports on the spacing lines.

NOTE: *The air flow supports are installed at an angle in an overlapping pattern, so the ends will overlap. Refer to the [Figure 13-2, page 56](#) for floor layouts.*

6. Install the channel lock flooring on the first two rows of supports and secure in place with sidewall flashing.
7. Finish placing supports on the spacing lines and installing the floor planks.
 - a. Single supports are used next to the sidewall and at the ends of split floor planks in order to maintain the floor manufacturer's recommended minimum distance from the end of a plank to a support.
 - b. Double supports are used at the sump and along the sides of the discharge auger for spacing of 16" or less and for recirculating bin equipment.
 - c. Full supports may have to be overlapped or angled to provide support at walls and to maintain spacing and flashing requirements.

Chapter 13: Installing the Air Flow Supports

Figure 13-1 *Methods of support placement*

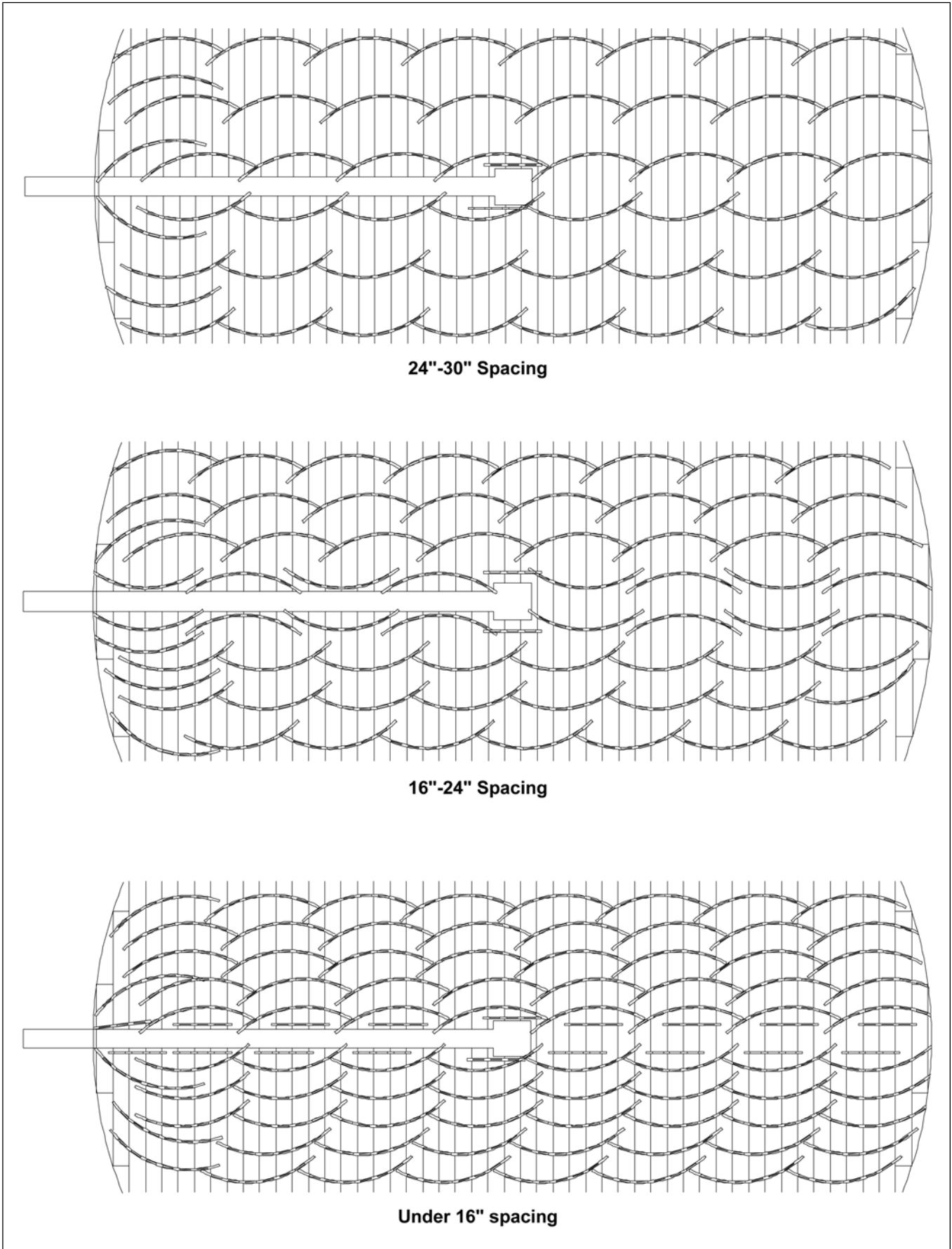


Table 13-1 * Installation, spacing and quantities of air flow supports under channel lock floors

Bin diameter - Number of supports																
Grain depth at sidewall	Spacing	18' diameter			21' diameter			24' diameter			27' diameter			30' diameter		
		Full	Double	Single	Full	Double	Single	Full	Double	Single	Full	Double	Single	Full	Double	Single
18'	30"	34	2	8	48	2	10	60	2	12	84	2	14	88	2	14
24'	26"	36	2	8	56	2	10	74	2	12	92	2	14	104	2	14
27'	24"	44	2	8	62	2	10	76	2	12	92	2	14	112	2	14
32'	20"	54	2	10	64	2	12	84	2	14	106	2	16	130	2	18
40'	16"	58	10	14	80	12	16	104	14	18	128	16	20	160	18	22
48'	13"	72	10	16	98	12	20	126	14	22	158	16	24	190	18	28
53'	12"	76	10	18	106	12	22	140	14	24	172	16	28	210	18	30
68'	10"	86	10	22	116	12	26	156	14	28	212	16	32	250	18	36
16'	24" and 12"	68	10	8	82	12	10	104	14	12	120	16	14	140	18	14

(for grain flow)

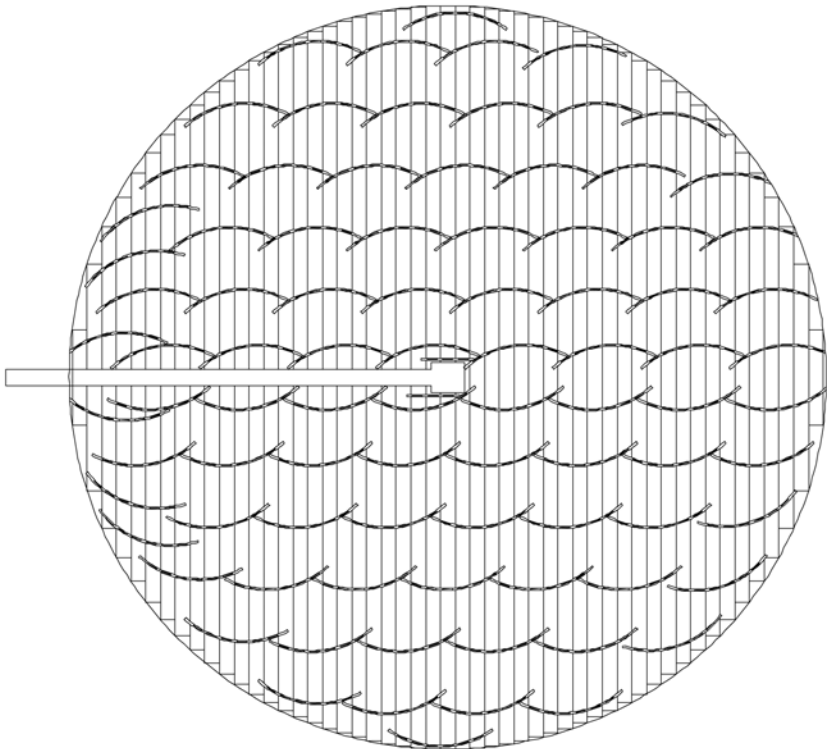
Bin diameter - Number of supports																
Grain depth at sidewall	Spacing	33' diameter			36' diameter			42' diameter			48' diameter			60' diameter		
		Full	Double	Single	Full	Double	Single	Full	Double	Single	Full	Double	Single	Full	Double	Single
18'	30"	116	2	16	136	2	18	172	2	20	Use 24" spacing			Use 24" spacing		
24'	26"	124	2	16	144	2	18	200	2	20	Use 24" spacing			Use 24" spacing		
27'	24"	136	2	16	154	2	18	212	2	20	274	2	22	422	2	30
32'	20"	150	2	20	184	2	22	242	2	26	326	2	28	498	2	36
40'	16"	192	20	24	234	22	28	314	24	32	410	28	36	620	34	46
48'	13"	238	20	30	278	22	34	368	24	38	488	28	44	762	34	56
53'	12"	262	20	34	306	22	36	416	24	42	534	28	48	838	34	60
68'	10"	296	20	40	356	22	44	478	24	50	652	28	58	1024	34	72
16'	24" and 12"	168	20	16	188	20	18	264	24	20	350	28	20	N/A	N/A	N/A

(for grain flow)

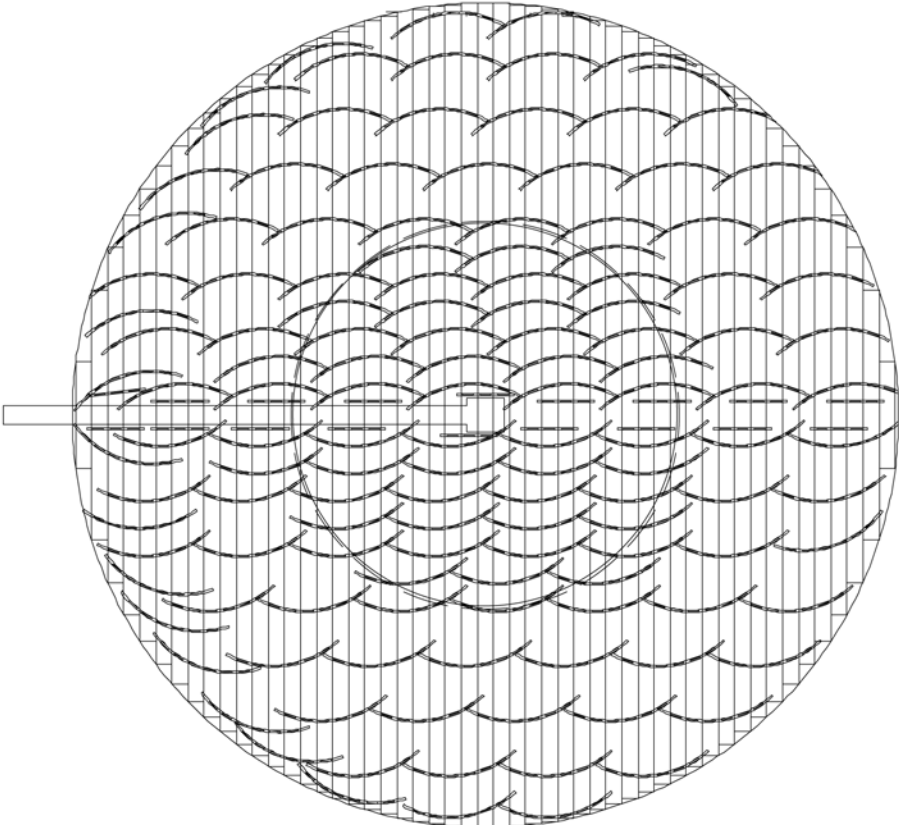
NOTE:

1. Use a maximum spacing of 16" for perforated corrugated flooring.
2. The number of supports listed is based on the maximum peaked capacity of each bin.
3. Use extra single supports for the split floors.
4. Extra supports are required for grain recirculating equipment. Use the manufacturer's recommendation for the number and spacing of extra supports.
 - For grain flows, air flow supports are doubled in a 14' diameter in the center of the floor.
5. Contact a representative for air flow supports required for larger bins and deeper grain depths.
6. * Increase the number of supports by 5% when used with 6-3/4" wide MFS floor planks.

Figure 13-2 Floor layouts



Example showing 30" spacing



Example showing 24" spacing with supports doubled (12" spacing) in the center of recirculating equipment.

Chapter 13: Installing the Air Flow Supports

Table 13-2 Installation, spacing and quantities of air flow supports under channel lock floors york and chief bins

Bin diameter - Number of supports																
Grain depth at sidewall	Spacing	15' 6"			18' 7"			21' 8"			24' 9"			27' 10"		
		Full	Double	Single	Full	Double	Single	Full	Double	Single	Full	Double	Single	Full	Double	Single
18'	30"	26	2	8	36	2	8	50	2	10	64	2	12	80	2	14
24'	26"	30	2	8	42	2	8	56	2	10	74	2	12	92	2	14
27'	24"	32	2	8	44	2	8	60	2	10	78	2	12	98	2	14
32'	20"	38	2	10	52	2	10	72	2	12	92	2	14	116	2	16
40'	16"	46	10	14	64	12	14	86	14	16	114	14	18	142	16	20
48'	13"	54	10	16	78	12	16	106	14	20	136	14	22	172	16	24
53'	12"	58	10	18	84	12	18	114	14	22	148	14	24	184	16	28
68'	10"	70	10	22	98	12	22	134	14	26	174	14	28	220	16	32
16'	24" and 12"	60	10	8	72	12	8	88	14	10	106	14	12	126	16	14

(for grain flow)

Bin diameter - Number of supports																
Grain depth at sidewall	Spacing	31'			34'			37' 1"			40' 3"			43' 4"		
		Full	Double	Single	Full	Double	Single	Full	Double	Single	Full	Double	Single	Full	Double	Single
18'	30"	98	2	14	116	2	16	136	2	18	160	2	20	182	2	22
24'	26"	112	2	14	132	2	16	154	2	18	182	2	20	208	2	22
27'	24"	120	2	14	142	2	16	166	2	18	196	2	20	224	2	22
32'	20"	140	2	18	168	2	20	198	2	22	232	2	26	260	2	26
40'	16"	174	18	22	208	20	24	244	22	28	286	24	32	330	26	32
48'	13"	210	18	28	252	20	30	298	22	34	350	24	38	402	26	38
53'	12"	228	18	30	272	20	34	316	22	36	378	24	42	434	26	42
68'	10"	270	18	36	324	20	40	384	22	44	450	24	50	520	26	50
16'	24" and 12"	148	18	14	170	20	16	194	22	18	224	24	20	252	26	22

(for grain flow)

Bin diameter - Number of supports										
Grain depth at sidewall	Spacing	49' 6"			55' 8"			61' 10"		
		Full	Double	Single	Full	Double	Single	Full	Double	Single
18'	24"	288	2	28	362	2	32	444	2	36
24'	20"	346	2	28	436	2	32	536	2	36
27'	20"	346	2	28	436	2	32	536	2	36
32'	20"	346	2	28	436	2	32	536	2	36
40'	16"	428	28	36	540	32	42	664	36	46
48'	13"	524	28	44	660	32	52	812	36	56
53'	12"	566	28	48	714	32	54	878	36	60
68'	10"	676	28	58	852	32	68	1050	36	72

(for grain flow)

Chapter 13: Installing the Air Flow Supports

Table 13-3 Installation, spacing and quantities of air flow supports under channel lock floors behlen bins

Bin diameter - Number of supports													
Grain depth at sidewall	Spacing	16' 5"			19' 8"			22' 11"			26' 3"		
		Full	Double	Single	Full	Double	Single	Full	Double	Single	Full	Double	Single
18'	30"	30	2	8	42	2	10	56	2	12	70	2	14
24'	26"	32	2	8	46	2	10	64	2	12	80	2	14
27'	24"	36	2	8	50	2	10	68	2	12	86	2	14
32'	20"	42	2	10	60	2	12	80	2	14	102	2	16
40'	16"	50	10	14	72	12	16	98	14	18	124	16	20
48'	13"	60	10	16	88	12	20	118	14	22	152	16	24
53'	12"	66	10	18	94	12	22	126	14	24	164	16	28
68'	10"	78	10	22	110	12	26	150	14	28	194	16	32
16'	24" and 12"	64	10	8	78	12	10	96	14	12	114	16	14

(for grain flow)

Bin diameter - Number of supports													
Grain depth at sidewall	Spacing	29' 6"			36' 1"			42' 8"			49' 3"		
		Full	Double	Single	Full	Double	Single	Full	Double	Single	Full	Double	Single
18'	30"	90	2	14	130	2	18	178	2	20	286*	2	28
24'	26"	102	2	14	148	2	18	202	2	20	286*	2	28
27'	24"	108	2	14	160	2	18	218	2	20	344**	2	28
32'	20"	128	2	18	188	2	22	260	2	26	344	2	28
40'	16"	158	18	22	232	22	28	320	24	32	426	28	36
48'	13"	192	18	28	282	22	34	390	24	38	520	28	44
53'	12"	206	18	30	306	22	36	422	24	42	562	28	48
68'	10"	246	18	36	364	22	44	504	24	50	670	28	58
16'	24" and 12"	136	18	14	188	22	18	246	24	20	N/A	N/A	N/A

(for grain flow)

* Use 24" spacing

** Use 20" spacing

Limited Warranty — N.A. Grain Products

The GSI Group, LLC. (“GSI”) warrants products which it manufactures, to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months from the date of shipment (or, if shipped by vessel, 14 months from the date of arrival at the port of discharge). If, in GSI’s sole judgment, a product is found to have a defect in materials and/or workmanship, GSI will, at its own option and expense, repair or replace the product or refund the purchase price. This Limited Warranty is subject to extension and other terms as set forth below.

Warranty Enhancements: The warranty period for the following products is enhanced as shown below and is in lieu of (and not in addition to) the above stated warranty period. (Warranty Period is from date of shipment.)

	Product	Warranty Period
Storage	Grain Bin Structural Design • Roof, doors, platforms and walk arounds • Flooring (when installed using GSI specified floor support system for that floor) • Hopper tanks	5 Years
Conditioning	Dryer Structural Design – (Tower, Portable and TopDry) • Includes (frame, portable dryer screens, ladders, access doors and platforms)	5 Years
	All other Dryer parts including: • Electrical (controls, sensors, switches & internal wiring)	2 Years
	Bullseye Controllers	2 Years
Material Handling	Bucket Elevators Structural Design	5 Years
	Towers Structural Design	5 Years
	Catwalks Structural Design	5 Years
	Accessories (stairs, ladders and platforms) Structural Design	5 Years

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH HEREIN; SPECIFICALLY, GSI DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) ANY PRODUCT MANUFACTURED OR SOLD BY GSI, OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

The sole and exclusive remedy for any claimant is set forth in this Limited Warranty and shall not exceed the amount paid for the product purchased. This Warranty only covers the value of the warranted parts and equipment, and does not cover labor charges for removing or installing defective parts, shipping charges with respect to such parts, any applicable sales or other taxes, or any other charges or expenses not specified in this Warranty. GSI shall not be liable for any other direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. Expenses incurred by or on behalf of a claimant without prior written authorization from the GSI warranty department shall not be reimbursed. This warranty is not transferable and applies only to the original end-user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor. Prior to installation, the end-user bears all responsibility to comply with federal, state and local codes which apply to the location and installation of the products.

This Limited Warranty extends solely to products sold by GSI and does not cover any parts, components or materials used in conjunction with the product, that are not sold by GSI. GSI assumes no responsibility for claims resulting from construction defects, unauthorized modifications, corrosion or other cosmetic issues caused by storage, application or environmental conditions. Modifications to products not specifically delineated in the manual accompanying the product at initial sale will void all warranties. This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained.

Notice Procedure:

In order to make a valid warranty claim a written notice of the claim must be submitted, using the RMA form, within 60 days of discovery of a warrantable nonconformance. The RMA form is found on the OneGSI portal.

Service Parts:

GSI warrants, subject to all other conditions described in this Warranty, Service Parts which it manufactures for a period of 12 months from the date of purchase unless specified in Enhancements above.

(Limited Warranty - N.A. Grain Products_ revised 19 October 2018)

This equipment shall be installed in accordance with the current installation codes and applicable regulations which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.



1004 E. Illinois St.
Assumption, IL 62510-0020
Phone: 1-217-226-4421
Fax: 1-217-226-4420
www.gsiag.com

