

Tower Dryer Heat Reclaimer

Models:

1200, 1500, 1800, 2000, 2400, 2500, 2700, 3000, 3500, 4000,
4700, 5000, 6000, 7000, 10,000, 12,000

Installation Manual

PNEG-2016

Version 7.1

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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.

Contents

Chapter 1	Safety Precautions	5
	Safety Guidelines	5
	Cautionary Symbol Definitions.....	6
	Safety Cautions.....	7
	Safety Sign-off Sheet.....	11
Chapter 2	Duct Specifications	13
	Duct Specifications.....	13
Chapter 3	Heat Reclaimer Starting Locations	19
	Heat Reclaimer Starting Locations.....	19
Chapter 4	Duct Installation	53
	Installing the Duct Pass-Thru Window	53
	Installing the Duct Elbows	56
	Installing the Optional Duct Cover.....	57
	Assembling the Straight Ducts.....	58
	Installing the Top Duct Guard	59
	Installing the Duct Supports to the Vertical Channels.....	60
	Installing the Duct Supports to the Duct Columns.....	62
Chapter 5	Enclosure Installation	63
	Installing the Heat Reclaim Roof Panels.....	63
	Installing the Catwalk Clips	65
	Installing the Enclosure Supports.....	66
	Installing the Vertical Supports	68
	Installing the Short Vertical Supports.....	69
	Installing the Enclosure Horizontal Rail	71
	Installing the Enclosure Wall Sheets	72
	Installing the Heat Shield Wall for the Ladder Enclosure	73
	Installing the Vertical Supports to the Heat Shield	78
Chapter 6	Heat Reclaim Parts	79
	Parts List	79
Chapter 7	Appendix.....	83
	Dryer Dimensions.....	84
	Limited Warranty — N.A. Grain Products	89

NOTES

1 Safety Precautions

Topics Covered in this Chapter

- Safety Guidelines
- Cautionary Symbol Definitions
- Safety Cautions
- 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

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

Chapter 1: Safety Precautions

For Your Safety

- If you smell gas:
 - Do not try to light any appliance.
 - Extinguish any open flames.
 - Do not touch any electrical switch.
 - Immediately call your gas supplier. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- The use and storage of gasoline and other flammable vapors and liquids in open containers in the vicinity of this appliance is hazardous.
- Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment. Installation and service must be performed by a qualified installer, service agency or the gas supplier.



ST-0024-1

Follow Safety Instructions

- Warning: If the information in the manual is not followed exactly, a fire or explosion can result, causing property damage, personal injury or loss of life.
- 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.
- Retain these instructions for future reference.



ST-0025-3

Install and Operate Electrical Equipment Properly

- Electrical controls must be installed by a qualified electrician and must meet the standards set by applicable local codes (National Electrical Code for the US, Canadian Electric Code, or EN60204 along with applicable European Directives for Europe).
- Lock-out power source before making adjustments, cleaning, or maintaining equipment.
- Make sure all equipment is properly grounded.



ST-0027-4

Install and Operate Equipment Properly

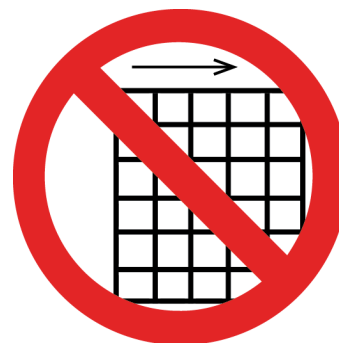
- Before attempting to remove and reinstall the fan blade, contact GSI for the recommended procedure.



ST-0033-2

Maintain Equipment and Work Area

- Equipment is intended for the use of grain drying only. Any other use is a misuse of this equipment.
- The operating instructions in this manual pertain to the common cereal grains as indicated. When drying any other grain, contact GSI for additional recommendations.
- Be certain that capacities of auxiliary conveyors are matched to dryer metering capacities.
- On LP fired units, set pressure regulator to avoid excessive gas pressure applied to the burner during ignition and operation. Do not exceed maximum recommended drying temperatures.
- Equipment has sharp edges that can cause serious injury. To avoid injury, handle sharp edges with caution and use proper protective clothing and equipment at all times.
- All guards must be in place before and during operation. Images of guards removed in this manual are for illustration purposes only.
- Use caution when working around high-speed fans, gas burners, augers and auxiliary conveyors which can start automatically.
- Keep hands, feet, and clothing away from moving parts.
- Do not bypass any safety device or interlock.
- Do not enter the dryer or bin while it is operating.
- Do not operate in an area where combustible material will be drawn into the dryer.



ST-0034-2

Safety Sign-off Sheet

Below is a sign-off sheet that can be used to verify that all personnel have read and understood the safety instructions. This sign-off sheet is provided for your convenience and personal record keeping.

[illegible]

ST-0007

NOTES

2 Duct Specifications

Topics Covered in this Chapter

- Duct Specifications

Duct Specifications

The number of duct sections and free-air openings will vary depending on the diameter and capacity of the dryer.

1. The number of ducts on the diameter will be equal to the number of duct elbow packages (GT4-1535) and will represent the number of grain columns that support the duct work.

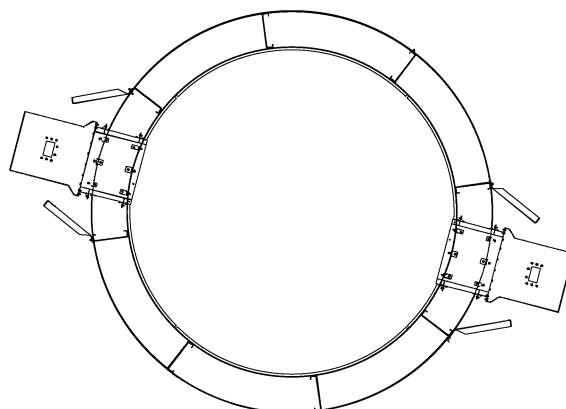
NOTE: *Space the ducts as evenly as possible around the diameter of the dryer.*

2. The required number of 40" duct sections tall represents the number of straight duct section assemblies (GT4-1533) that are stacked on each other to give height to the heat reclaim ducts.
3. In order to provide adequate airflow, all 18" free air openings must be removed EXCEPT for the number that is listed in the table; all 24" louvered doors will remain in the dryer.

NOTE: *For a **stainless steel** heat reclaim package, add "-SS" to the end of the base number.*

Chapter 2: Duct Specifications

Table 2-1 Models 1200, 1500, 1800 and 2000 BPH Capacity Duct Specifications



Dryer Capacity (BPH)	Heat Reclaim Package	Dryer Diameter (Ft.)	Number of Grain Columns	Number of Ducts on Diameter	Number of Straight Ducts Sections	Number of 18 in. Free Air Openings Required
1,200	GT4-1593	12	8	2	3	1
		12	8	2	3	1
1,500	GT4-1576	12	8	2	3	1
		12	8	2	3	1
		12	8	2	3	1
1,800	GT4-1590	12	8	2	4	1
		12	8	2	4	1
		12	8	2	4	1
2,000	GT4-1577	12	8	2	4	1
		12	8	2	4	1
		12	8	2	4	1

Table 2-2 Models 2400 and 2700 BPH Capacity Duct Specifications

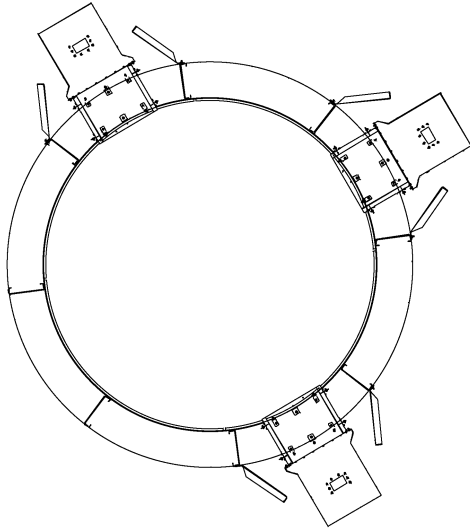
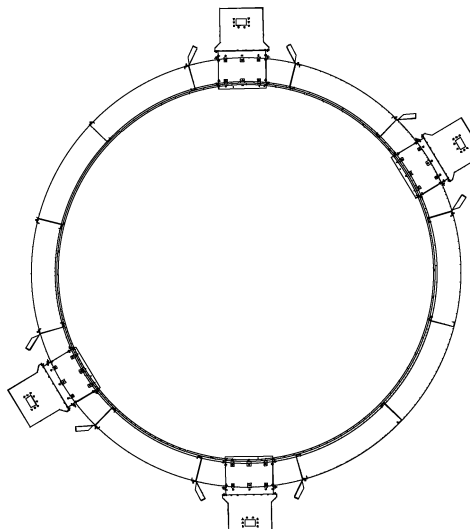
						
Dryer Capacity (BPH)	Heat Reclaim Package	Dryer Diameter (Ft.)	Number of Grain Columns	Number of Ducts on Diameter	Number of Straight Ducts Sections	Number of 18 in. Free Air Openings Required
2,400	GT4-1579	12	8	3	4	1
		12	8	3	4	1
		12	8	3	4	1
2,700	GT4-1644	12	8	3	6	1

Table 2-3 Models 2500 and 3000 BPH Capacity Duct Specifications

						
Dryer Capacity (BPH)	Heat Reclaim Package	Dryer Diameter (Ft.)	Number of Grain Columns	Number of Ducts on Diameter	Number of Straight Ducts Sections	Number of 18 in. Free Air Openings Required
2,500	GT4-1587	18	12	4	4	1
		18	12	4	4	1
3,000		18	12	4	4	1
		18	12	4	4	1

Chapter 2: Duct Specifications

Table 2-4 Model 3500 BPH Capacity Duct Specifications

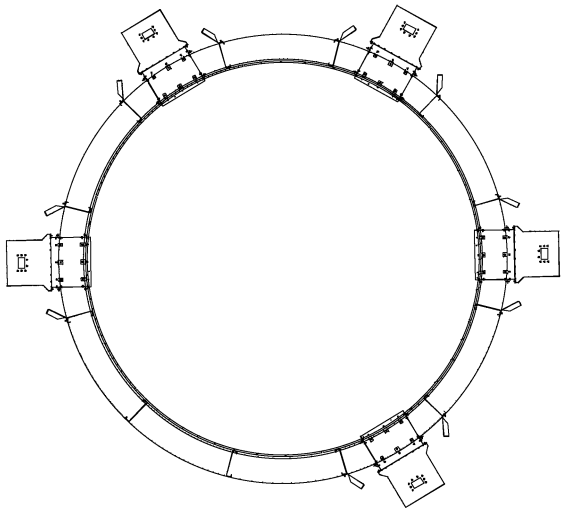
						
Dryer Capacity (BPH)	Heat Reclaim Package	Dryer Diameter (Ft.)	Number of Grain Columns	Number of Ducts on Diameter	Number of Straight Ducts Sections	Number of 18 in. Free Air Openings Required
3,500	GT4-1583	18	12	5	4	1
		18	12	5	4	1

Table 2-5 Models 4000 and 4700 BPH Capacity Duct Specifications

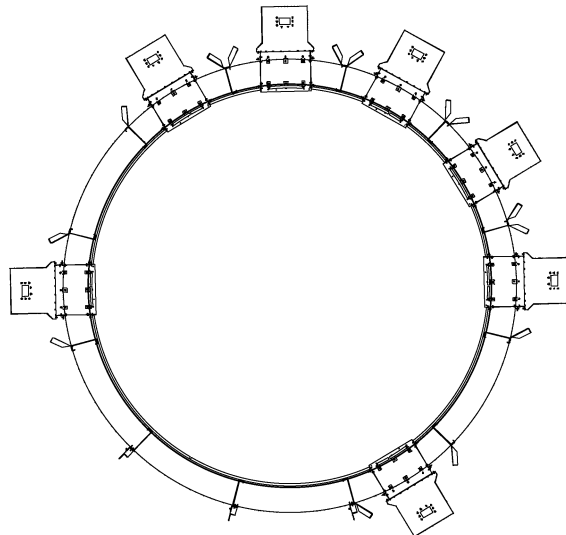
						
Dryer Capacity (BPH)	Heat Reclaim Package	Dryer Diameter (Ft.)	Number of Grain Columns	Number of Ducts on Diameter	Number of Straight Ducts Sections	Number of 18 in. Free Air Openings Required
4,000	GT4-1516	18	12	7	6	1
		18	12	7	6	1
4,700		18	12	7	6	2
		18	12	7	6	2

Table 2-6 Model 5000 BPH Capacity Duct Specifications

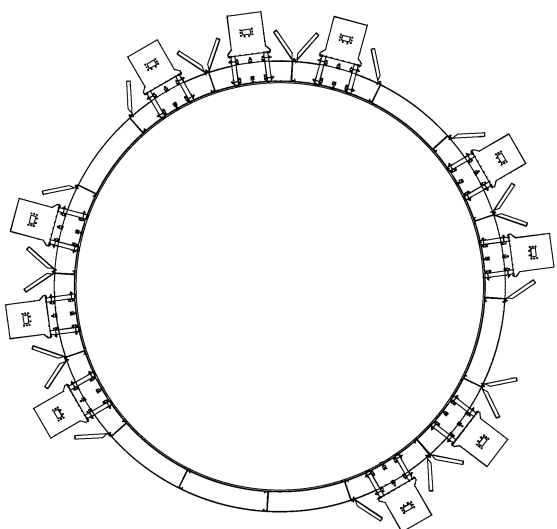
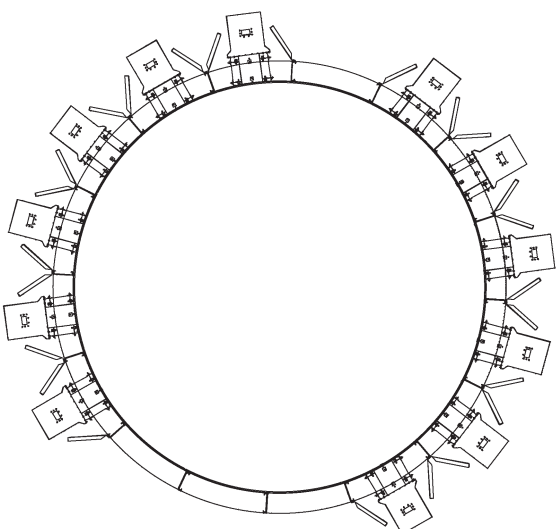
						
Dryer Capacity (BPH)	Heat Reclaim Package	Dryer Diameter (Ft.)	Number of Grain Columns	Number of Ducts on Diameter	Number of Straight Ducts Sections	Number of 18 in. Free Air Openings Required
5,000	GT4-1581	24	16	10	6	2
		24	16	10	6	2

Table 2-7 Models 6000 and 7000 BPH Capacity Duct Specifications

						
Dryer Capacity (BPH)	Heat Reclaim Package	Dryer Diameter (Ft.)	Number of Grain Columns	Number of Ducts on Diameter	Number of Straight Ducts Sections	Number of 18 in. Free Air Openings Required
6,000	GT4-1573	24	16	12	6	2
		24	16	12	6	2
7,000	GT4-1544	24	16	12	8	3
		24	16	12	8	3

Chapter 2: Duct Specifications

Table 2-8 Model 10,000 BPH Capacity Duct Specifications

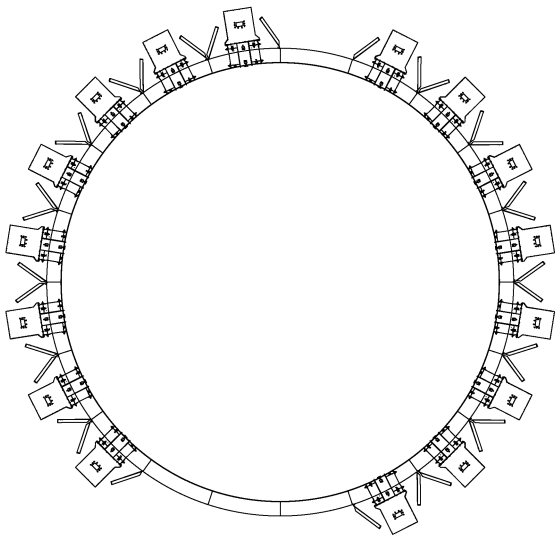
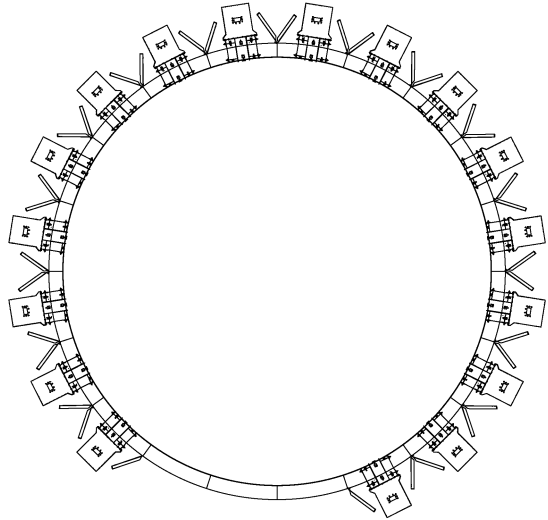
						
Dryer Capacity (BPH)	Heat Reclaim Package	Dryer Diameter (Ft.)	Number of Grain Columns	Number of Ducts on Diameter	Number of Straight Ducts Sections	Number of 18 in. Free Air Openings Required
10,000	GT4-1564	30	20	16	8	3
		30	20	16	8	3

Table 2-9 Model 12,000 BPH Capacity Duct Specifications

						
Dryer Capacity (BPH)	Heat Reclaim Package	Dryer Diameter (Ft.)	Number of Grain Columns	Number of Ducts on Diameter	Number of Straight Ducts Sections	Number of 18 in. Free Air Openings Required
12,000	GT4-1570	30	20	17	9	4

3 Heat Reclaimer Starting Locations

Topics Covered in this Chapter

- Heat Reclaimer Starting Locations

Heat Reclaimer Starting Locations

These starting locations are the where the ducts will pass through the grain column and where the enclosure roof flashing is installed. It's advised to install the duct work beginning at the duct pass-thru point, and work your way up. Once the duct work is installed, begin at the enclosure roof flashing start point and work your way down.

What You Should Know

The duct pass-thru window **MUST** pass through the grain column **BELOW** the divider hopper. The pass-thru duct window will split the sidewall sheet horizontal seams, therefore you will need to cut the sidewall sheet above and below the seam. For the duct and enclosure starting locations, reference the image for your dryer model in the following illustrations in this chapter.

1. Cut a half-circle out of the bottom side of the top sidewall sheets where the duct pass-thru will be installed.
2. Cut a half-circle out of the top side of the bottom sidewall sheets where the duct pass-thru will be installed.
3. Install the enclosure roof flashing on the horizontal seam as indicated in the enclosure starting location illustration for you dryer model.

Chapter 3: Heat Reclaimer Starting Locations

Figure 3-1 1,200 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

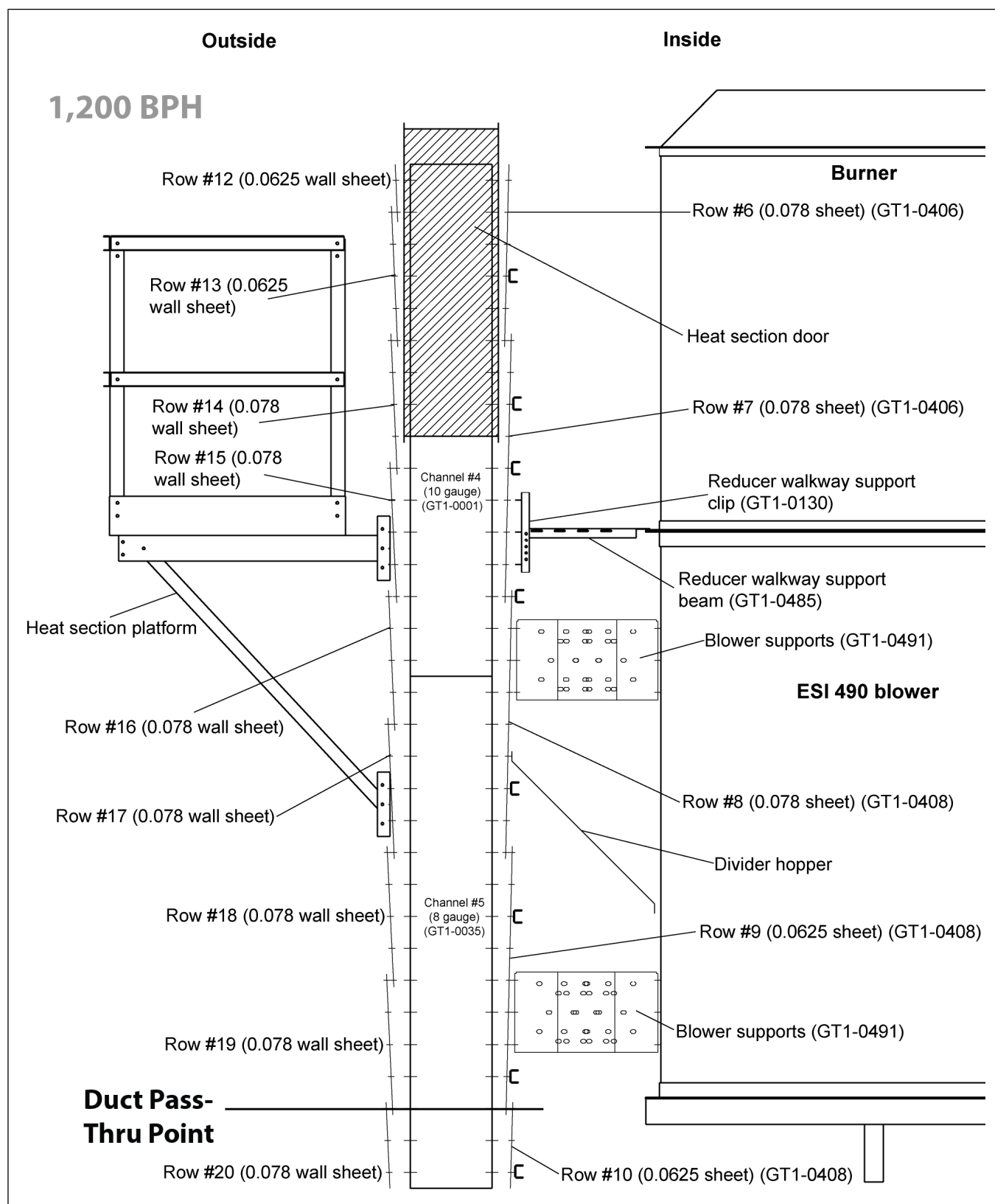
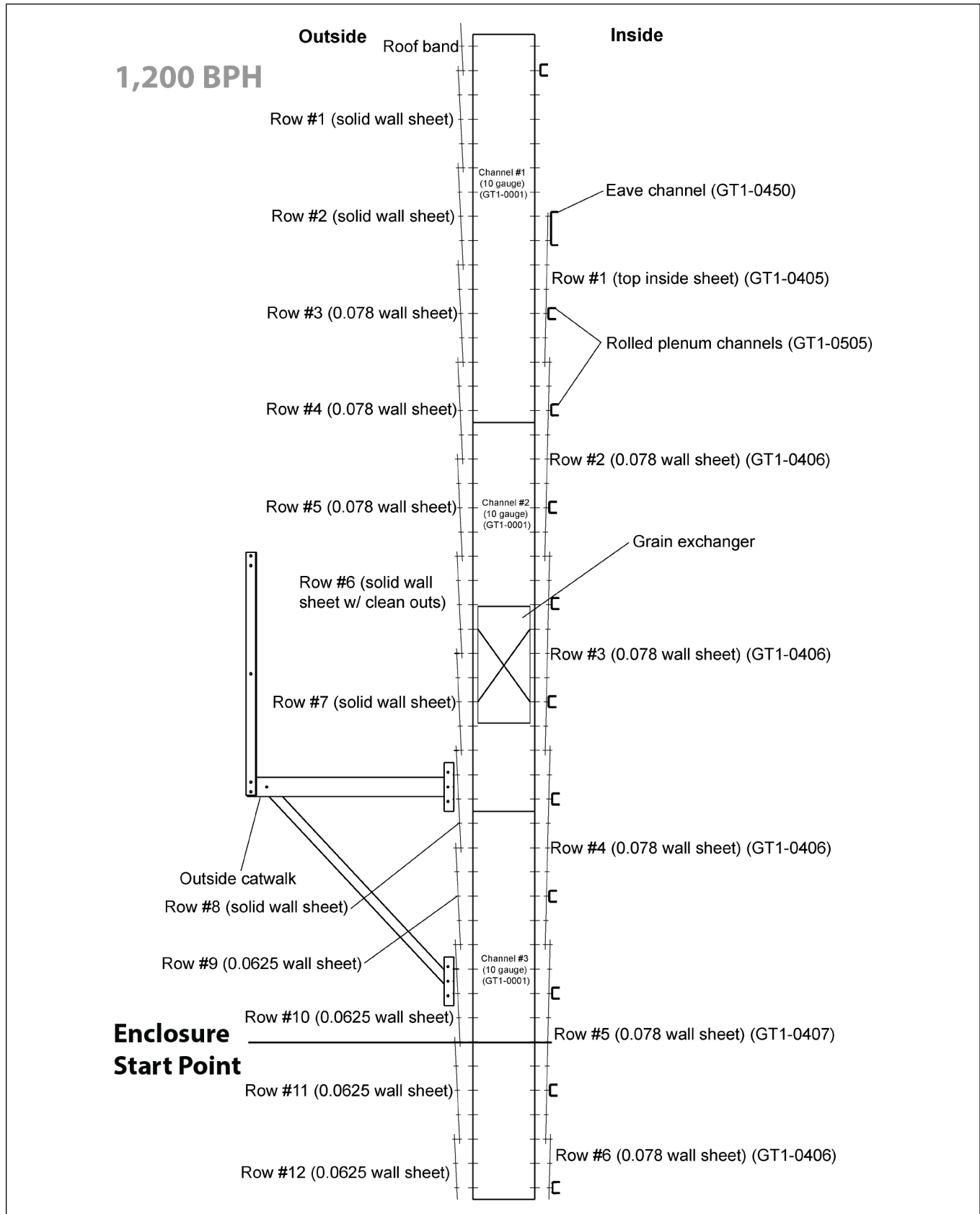


Figure 3-2 1,200 BPH Heat Reclaimer Enclosure Starting Location



Chapter 3: Heat Reclaimer Starting Locations

Figure 3-3 1,500 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

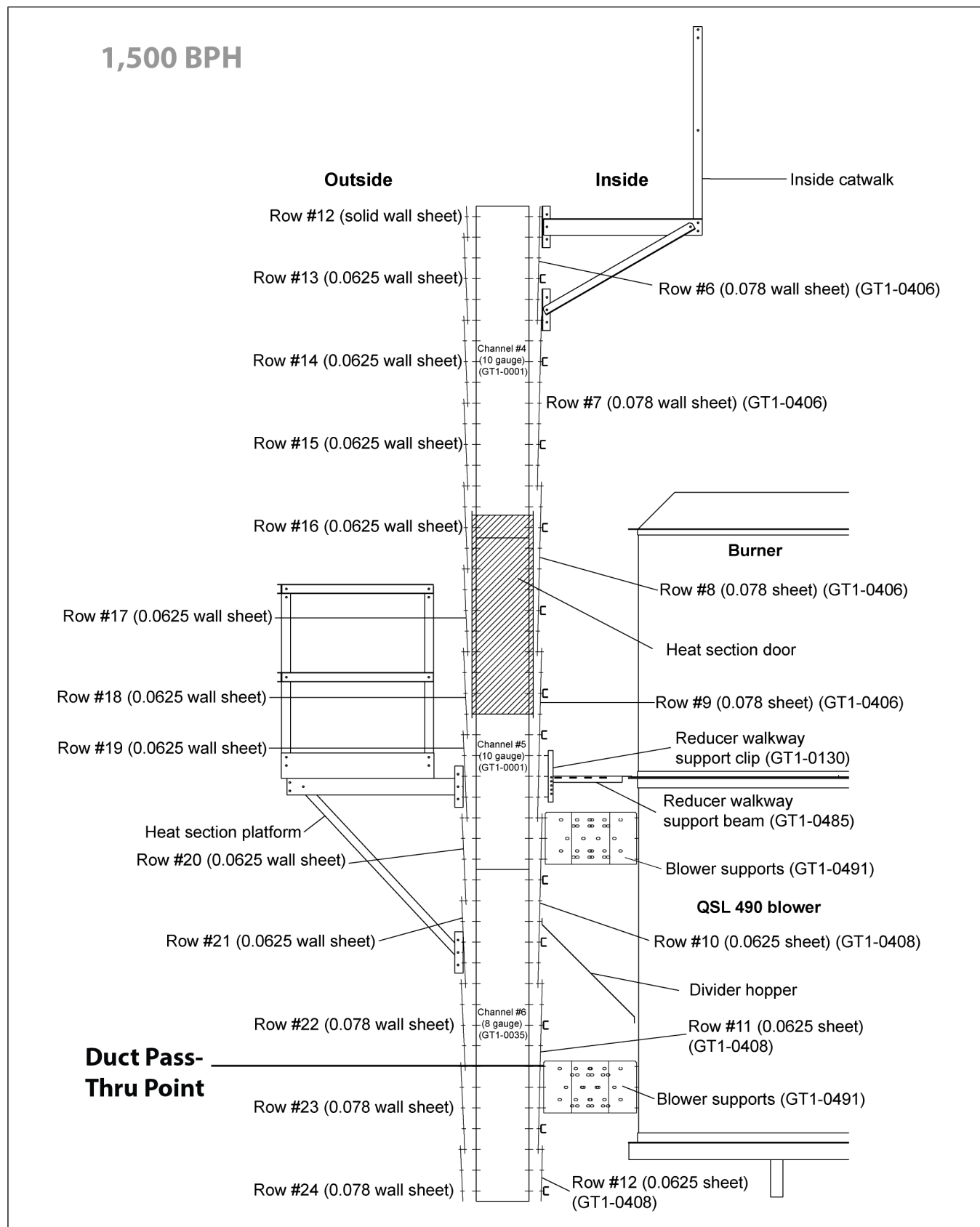
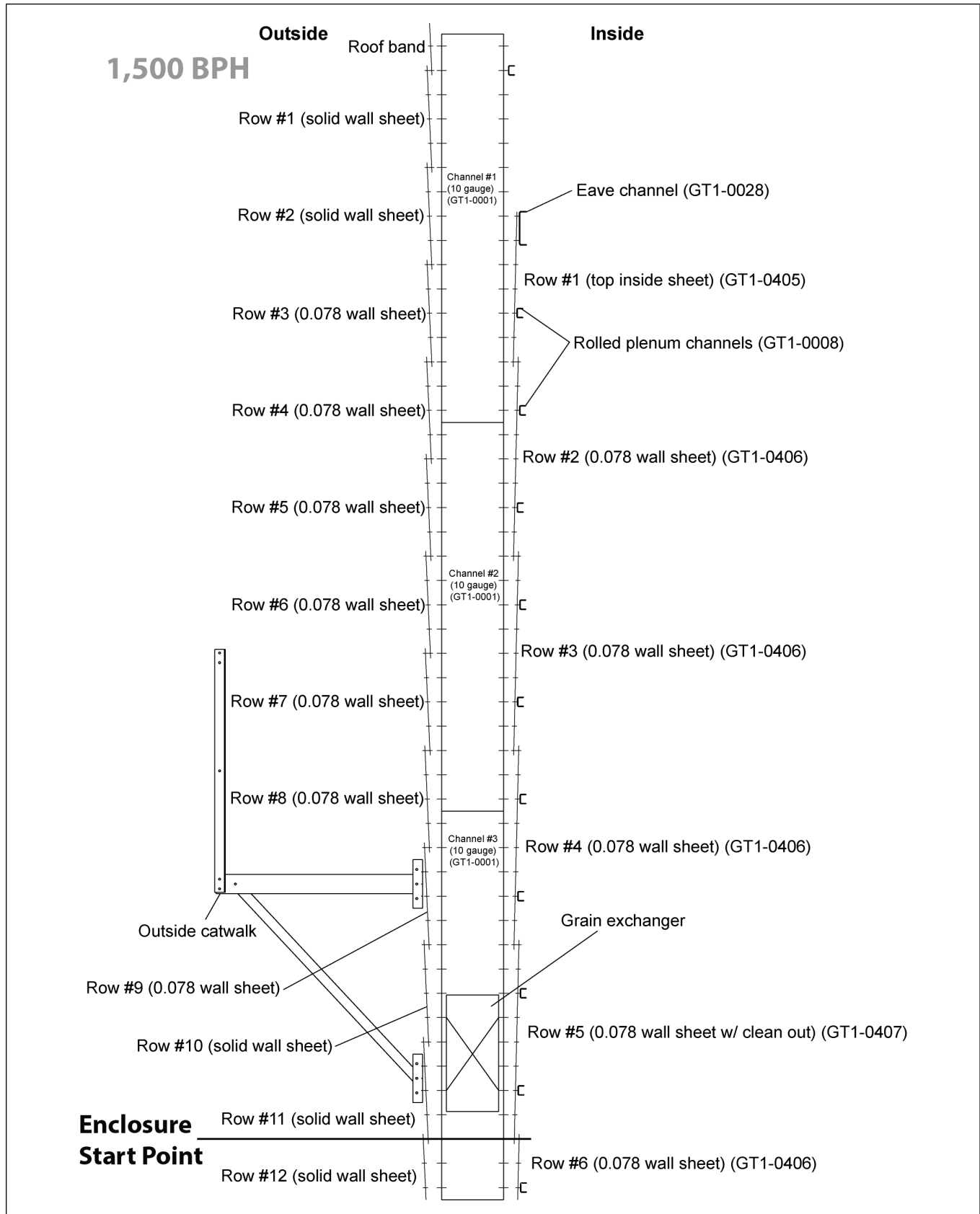


Figure 3-4 1,500 BPH Heat Reclaimer Enclosure Starting Location



Chapter 3: Heat Reclaimer Starting Locations

Figure 3-5 1,800 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

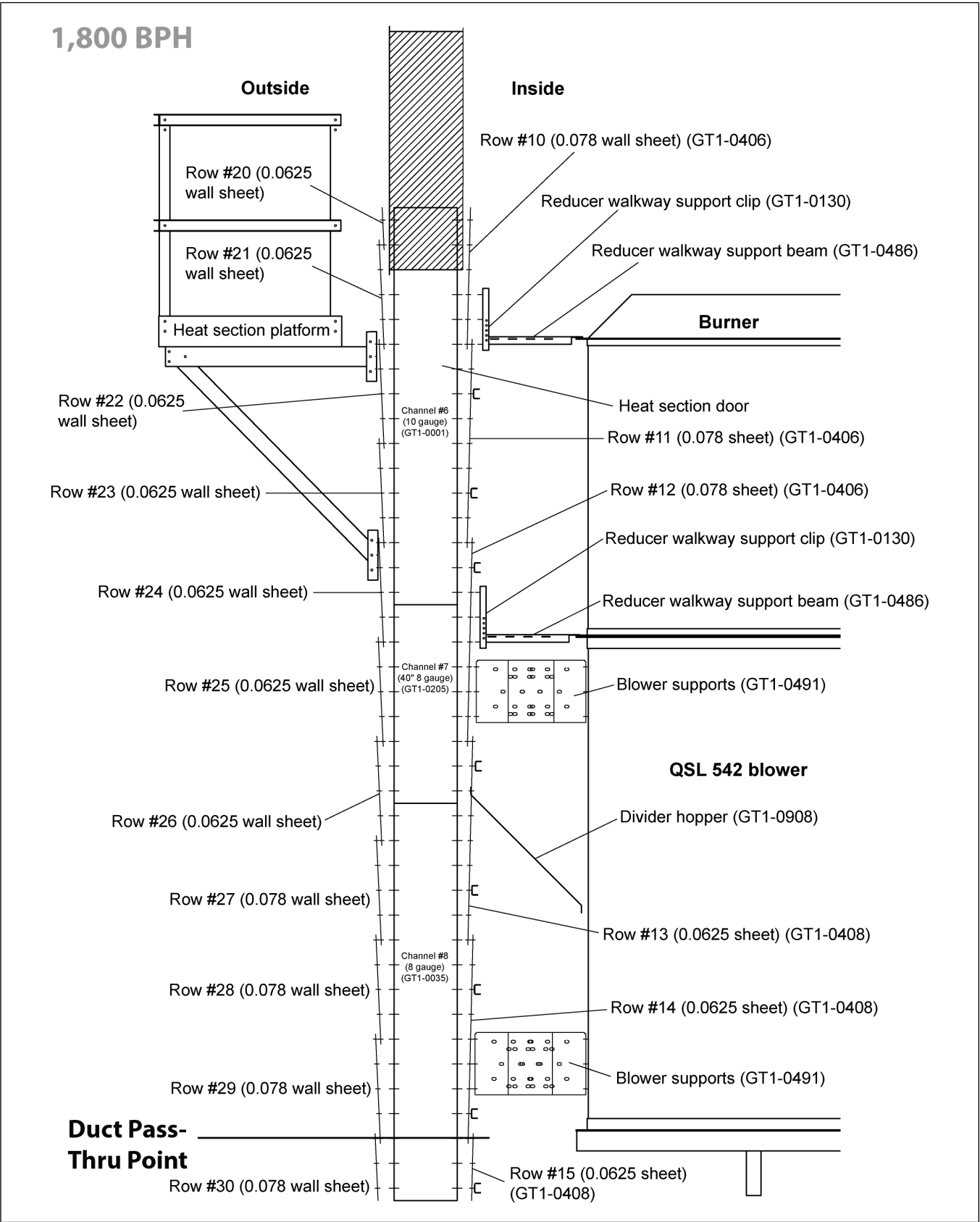
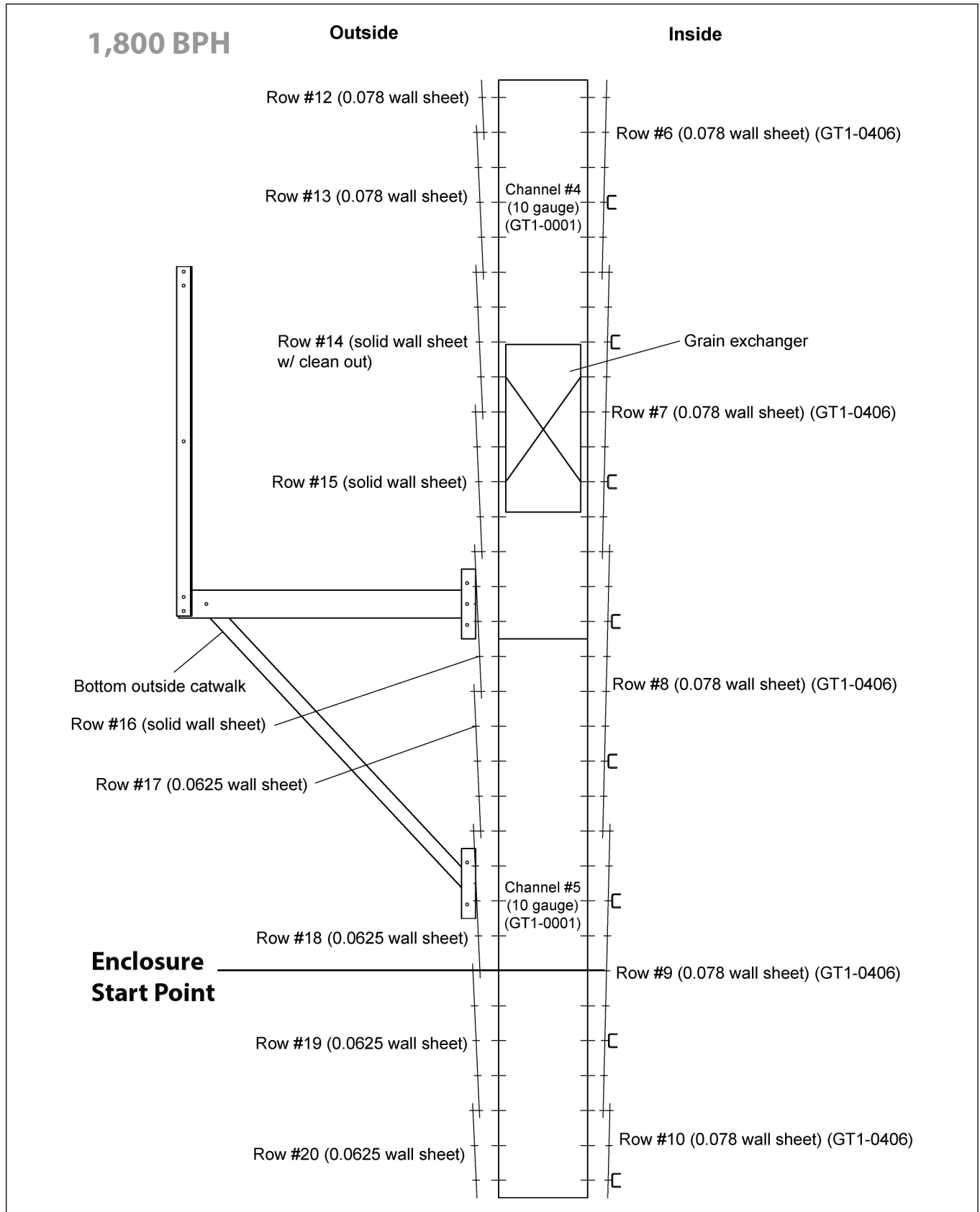


Figure 3-6 1,800 BPH Heat Reclaimer Enclosure Starting Location



Chapter 3: Heat Reclaimer Starting Locations

Figure 3-7 2,000 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

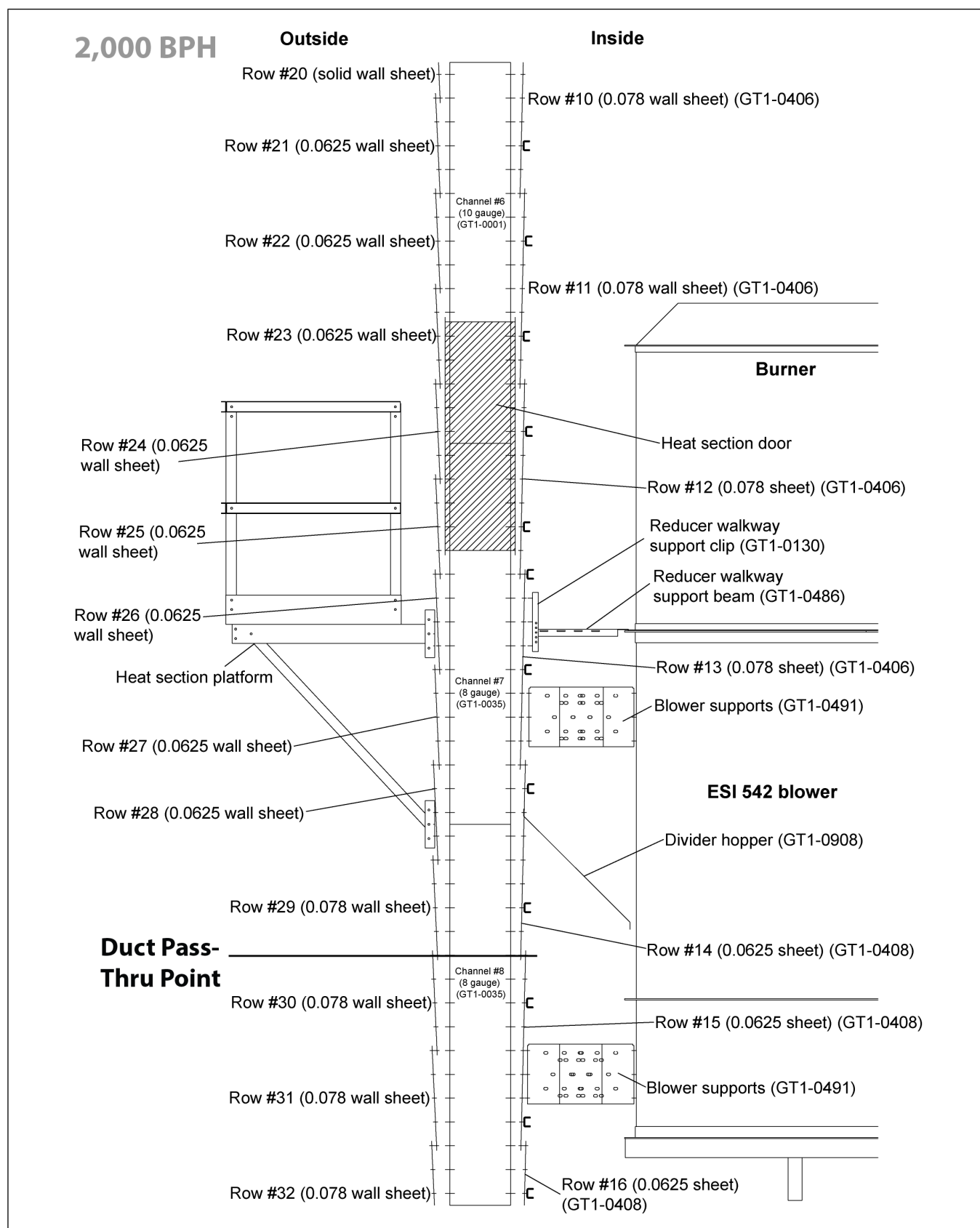


Figure 3-8 2,000 BPH Heat Reclaimer Enclosure Starting Location

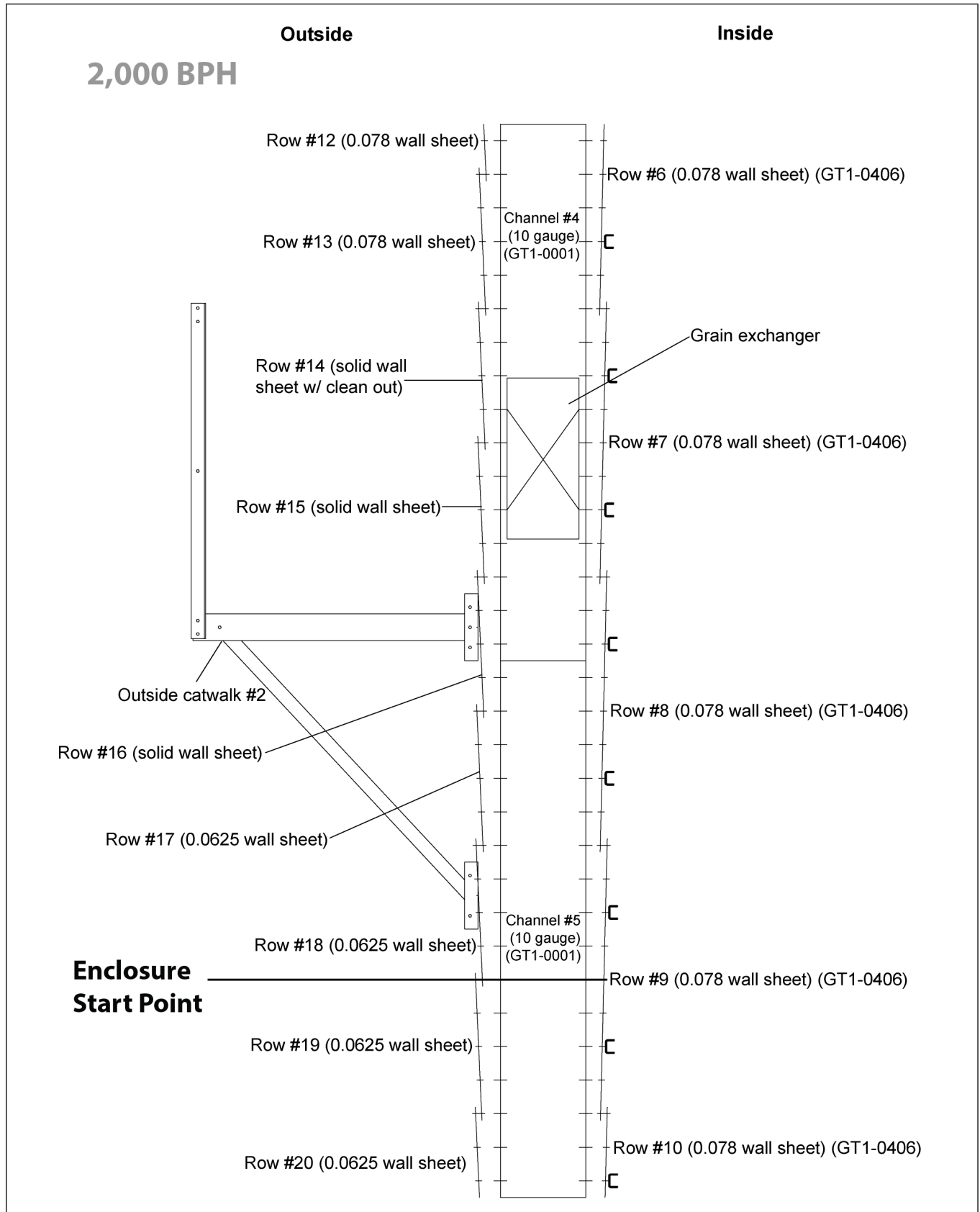


Figure 3-9 2,400 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

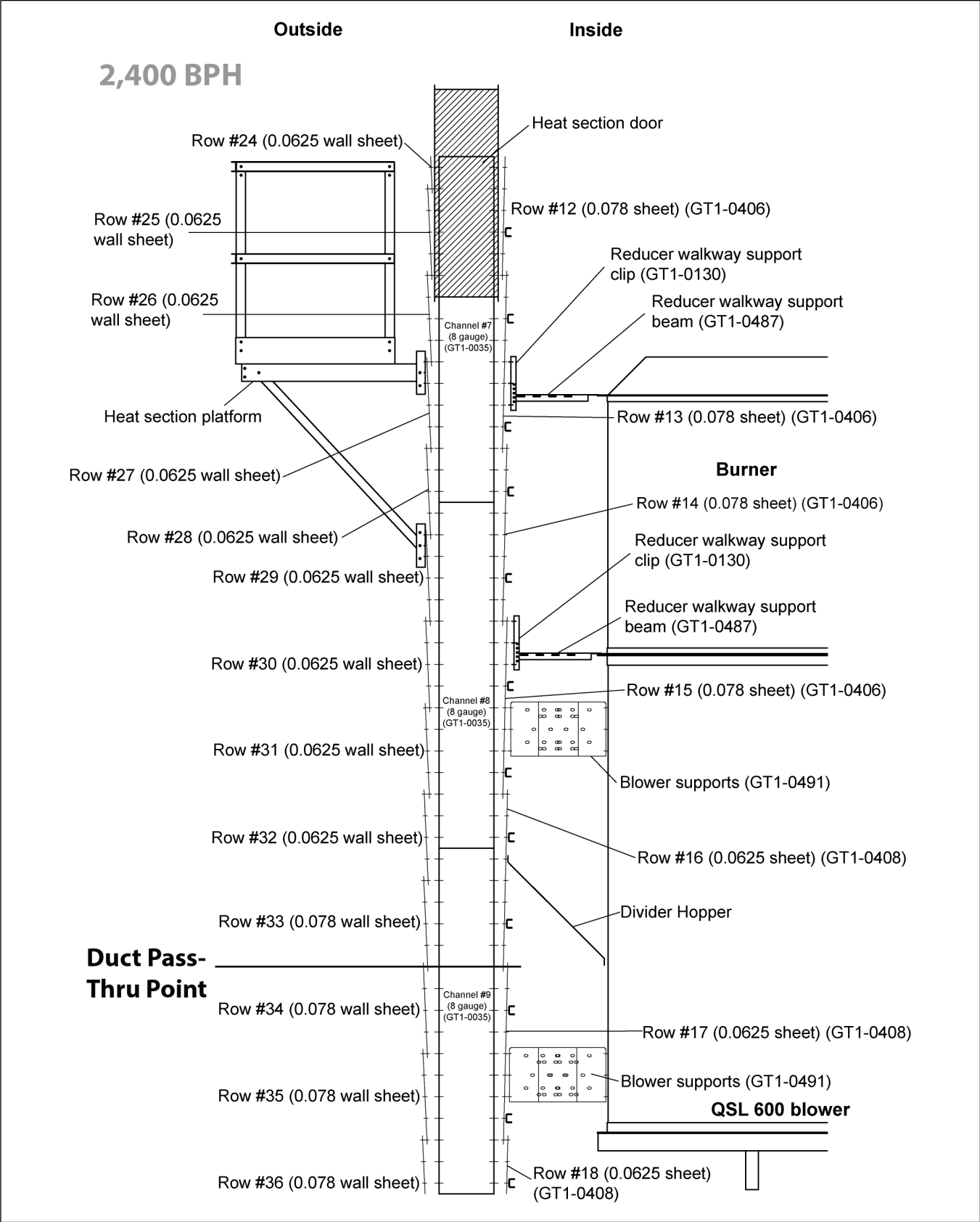
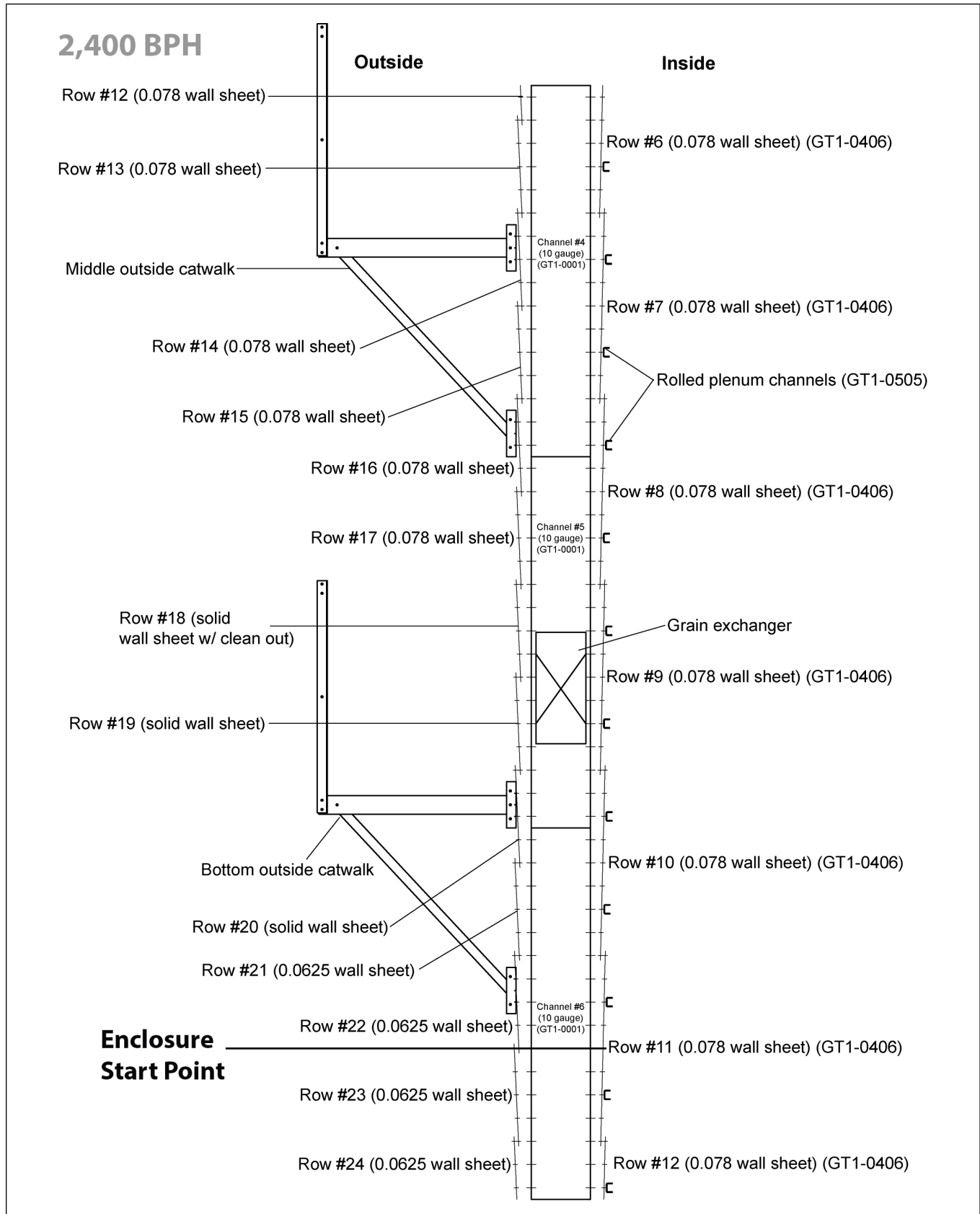


Figure 3-10 2,400 BPH Heat Reclaimer Enclosure Starting Location



Chapter 3: Heat Reclaimer Starting Locations

Figure 3-11 2,500 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

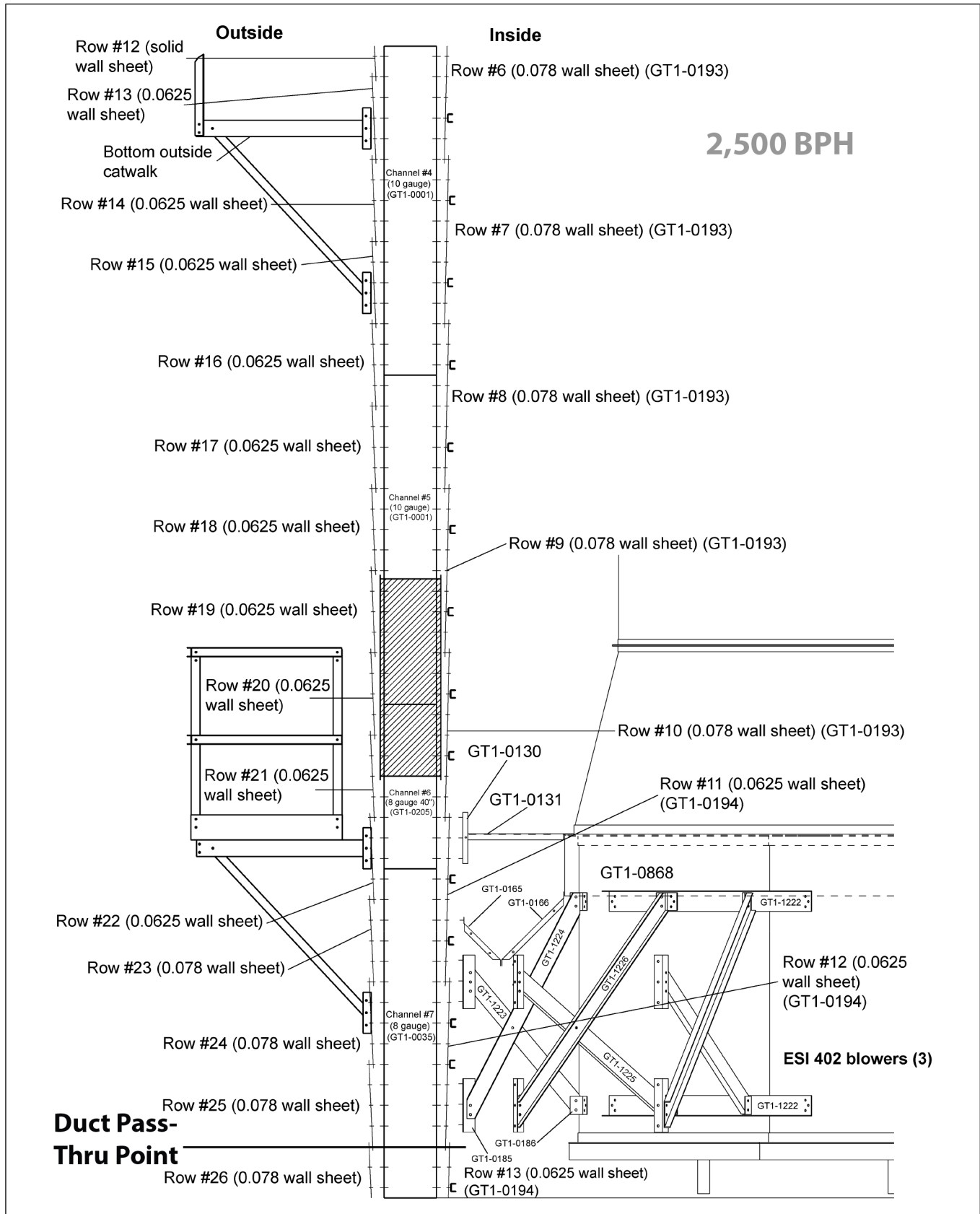
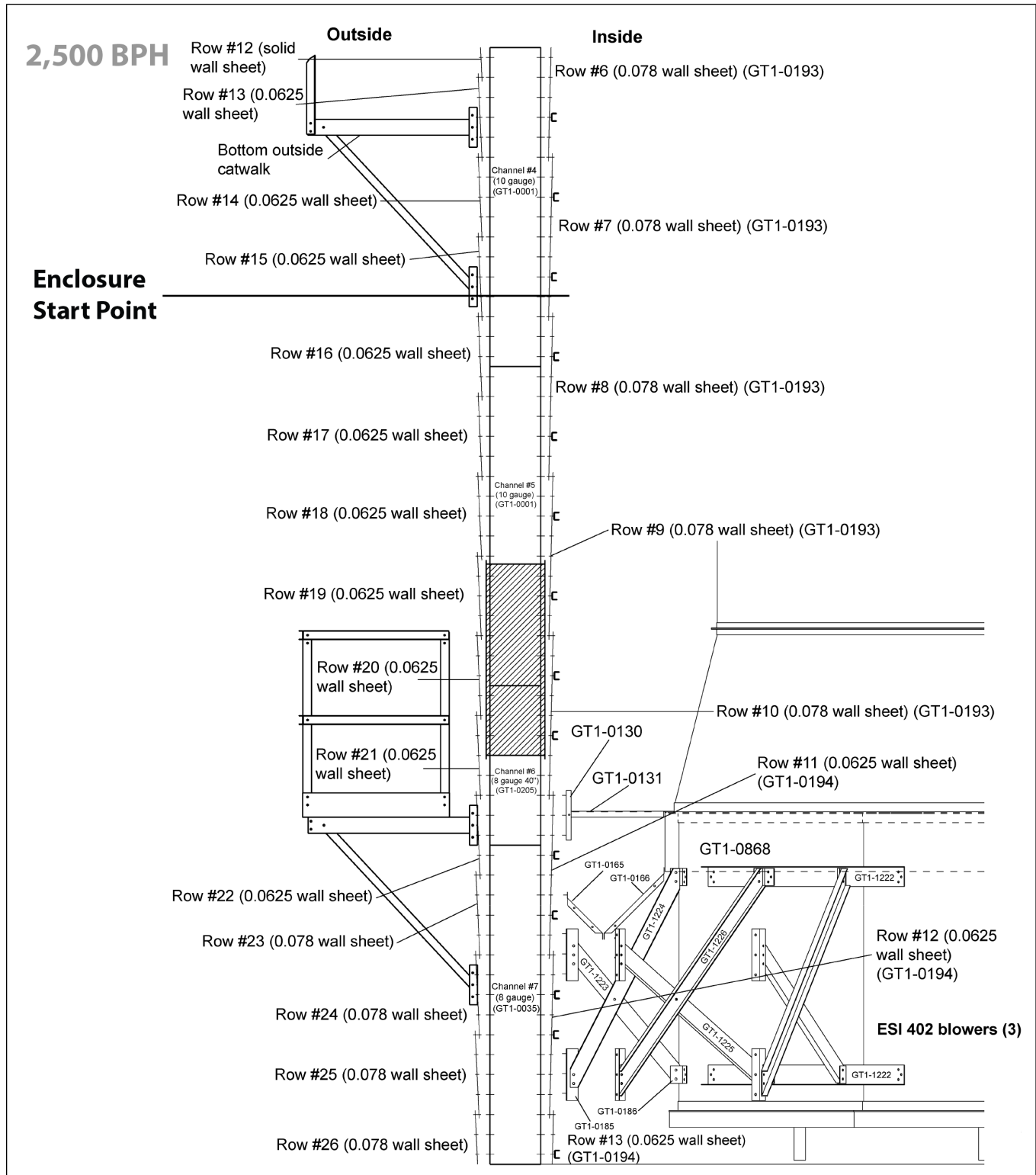


Figure 3-12 2,500 BPH Heat Reclaimer Enclosure Starting Location



Chapter 3: Heat Reclaimer Starting Locations

Figure 3-13 2,700 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

NOTE: Attach the enclosure support bracket between the enclosure vertical rail and platform handrail post.

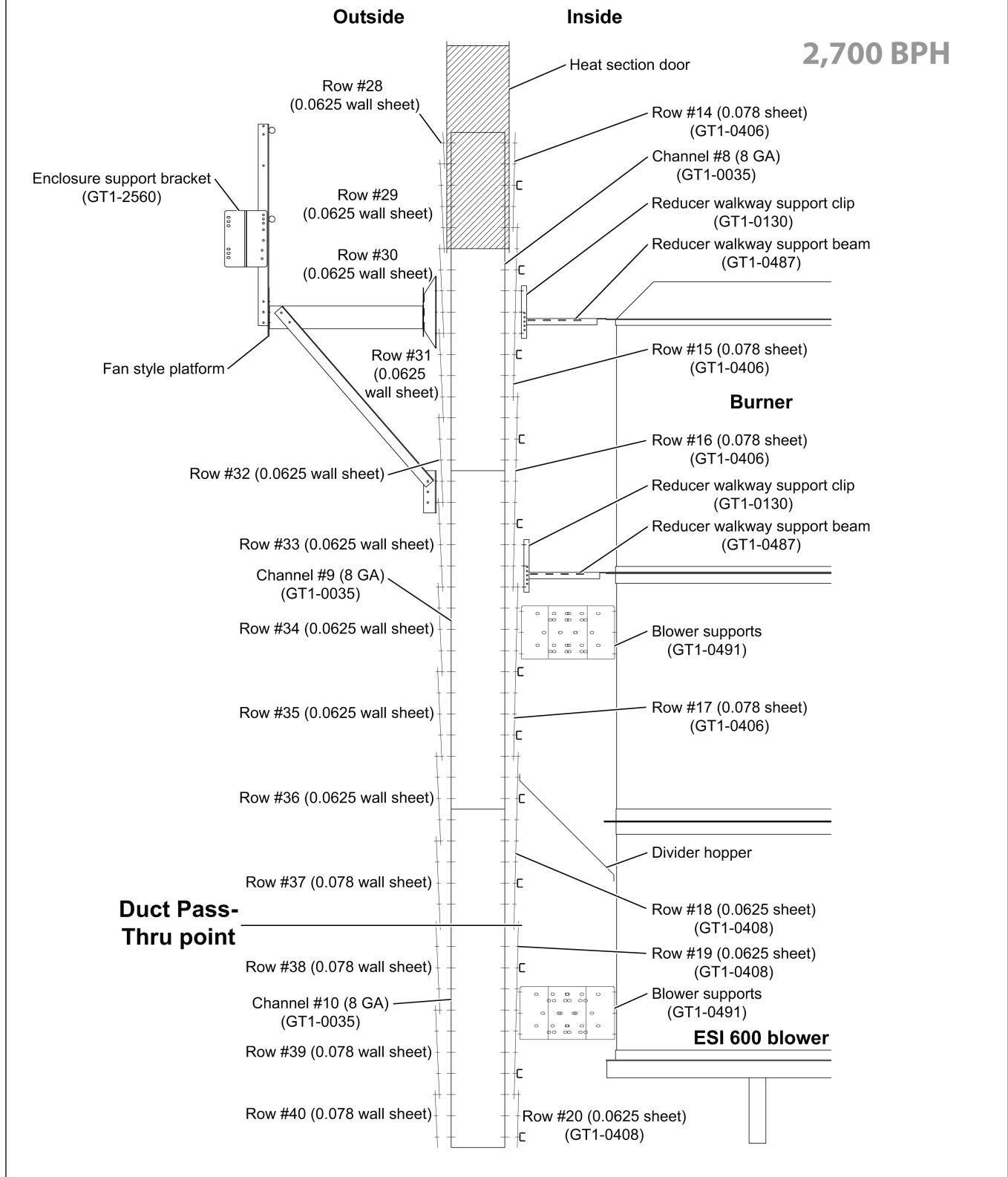
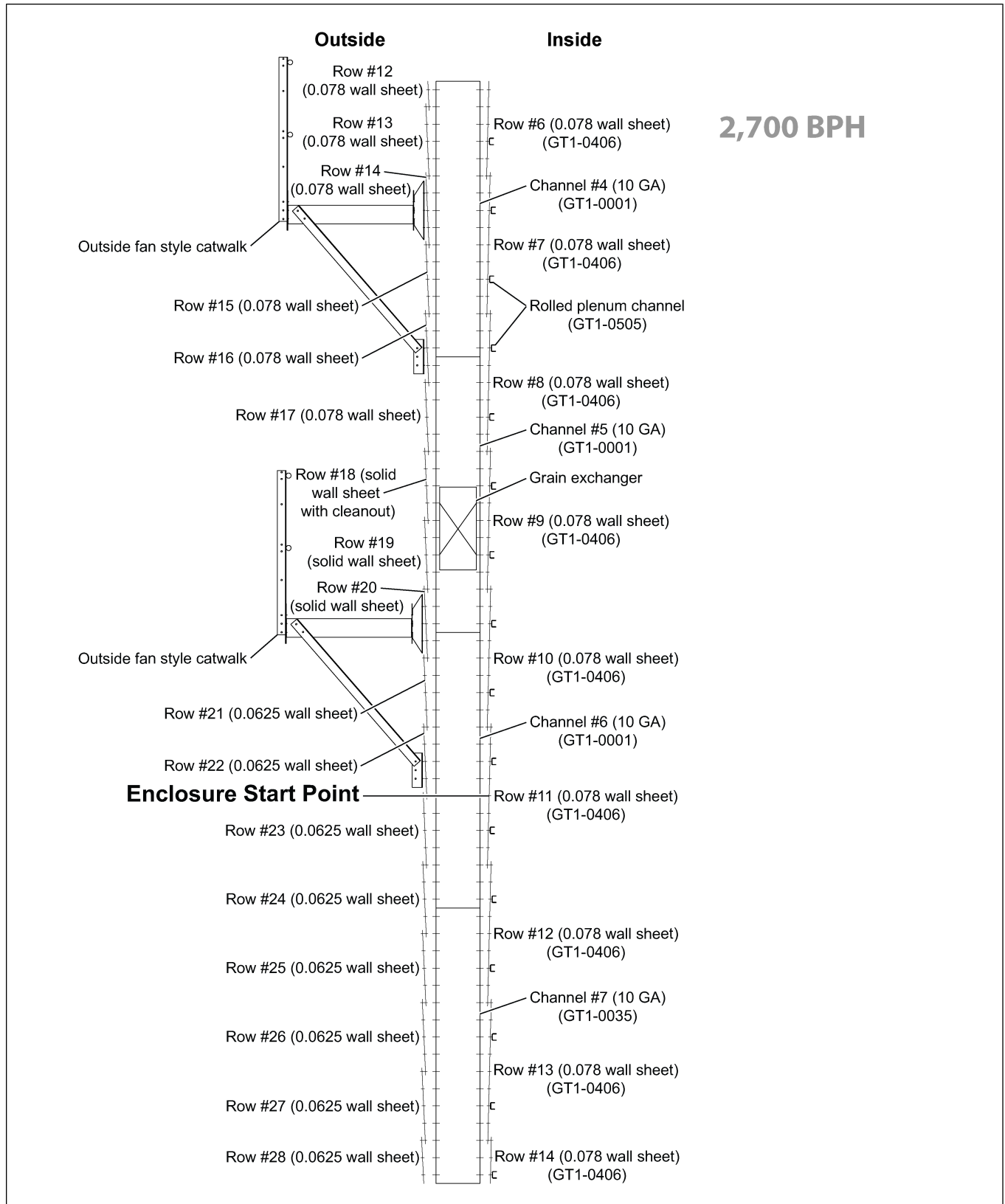


Figure 3-14 2,700 BPH Heat Reclaimer Enclosure Starting Location



Chapter 3: Heat Reclaimer Starting Locations

Figure 3-15 3,000 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

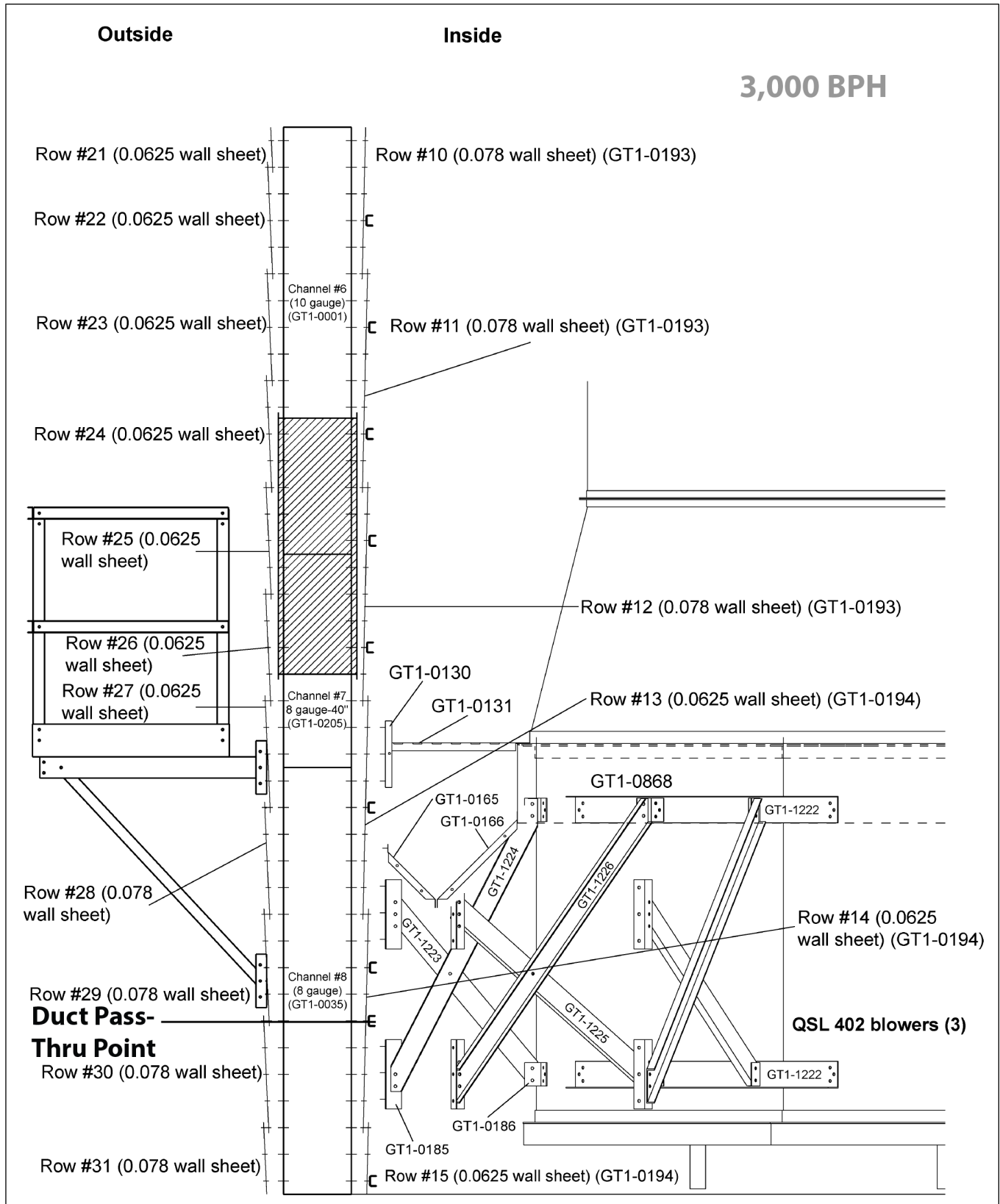
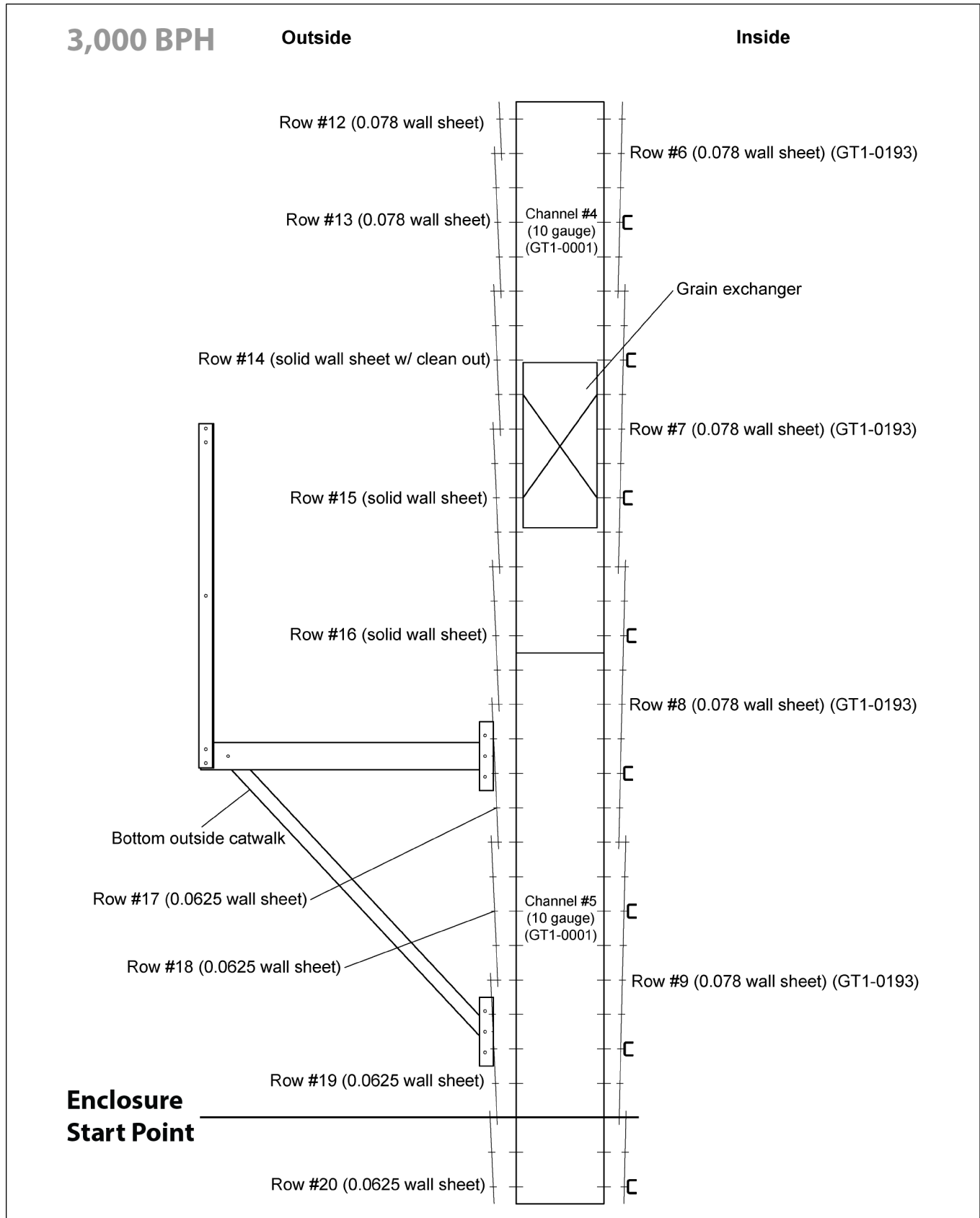


Figure 3-16 3,000 BPH Heat Reclaimer Enclosure Starting Location



Chapter 3: Heat Reclaimer Starting Locations

Figure 3-17 3,500 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

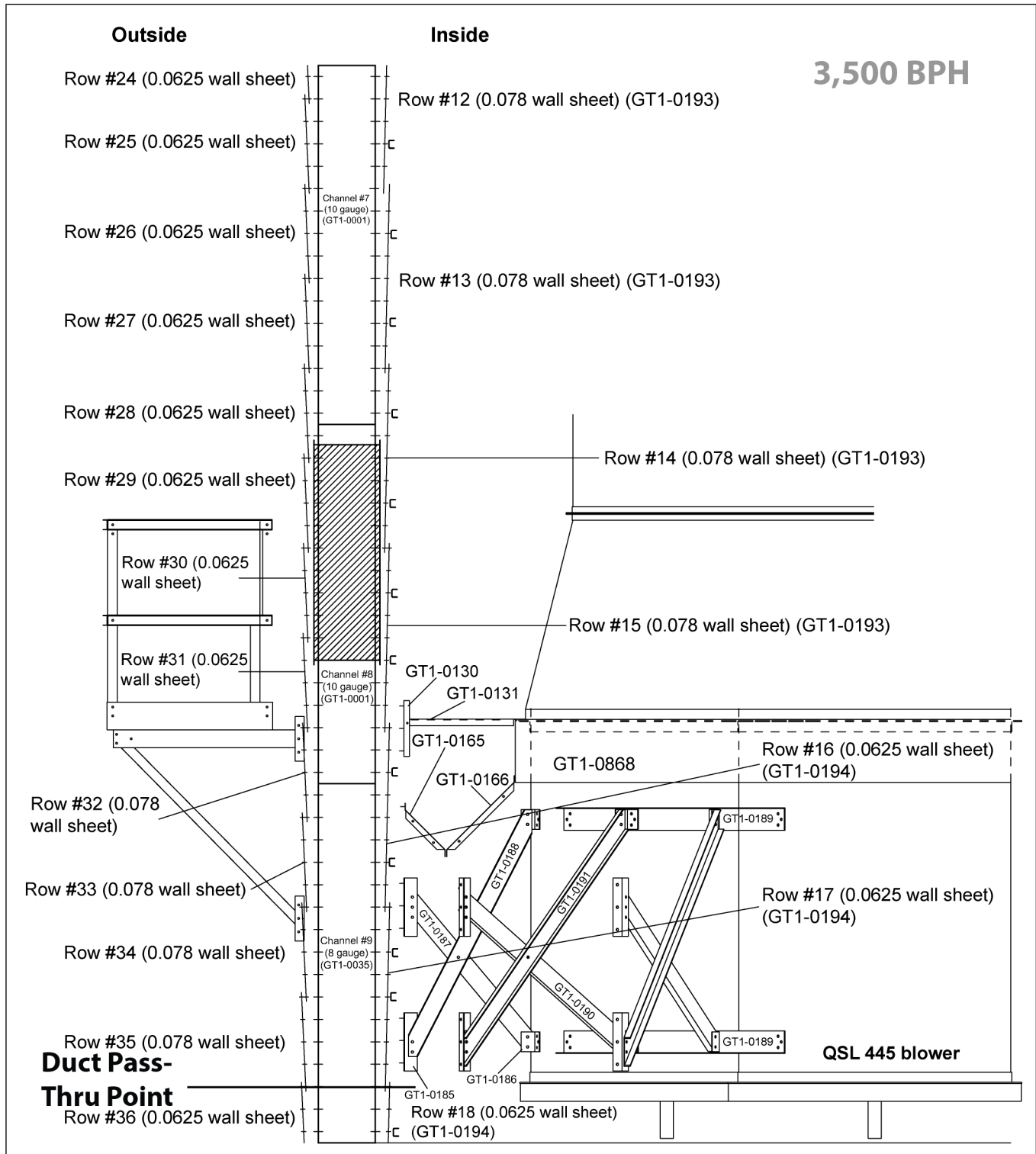


Figure 3-18 3,500 BPH Heat Reclaimer Enclosure Starting Location

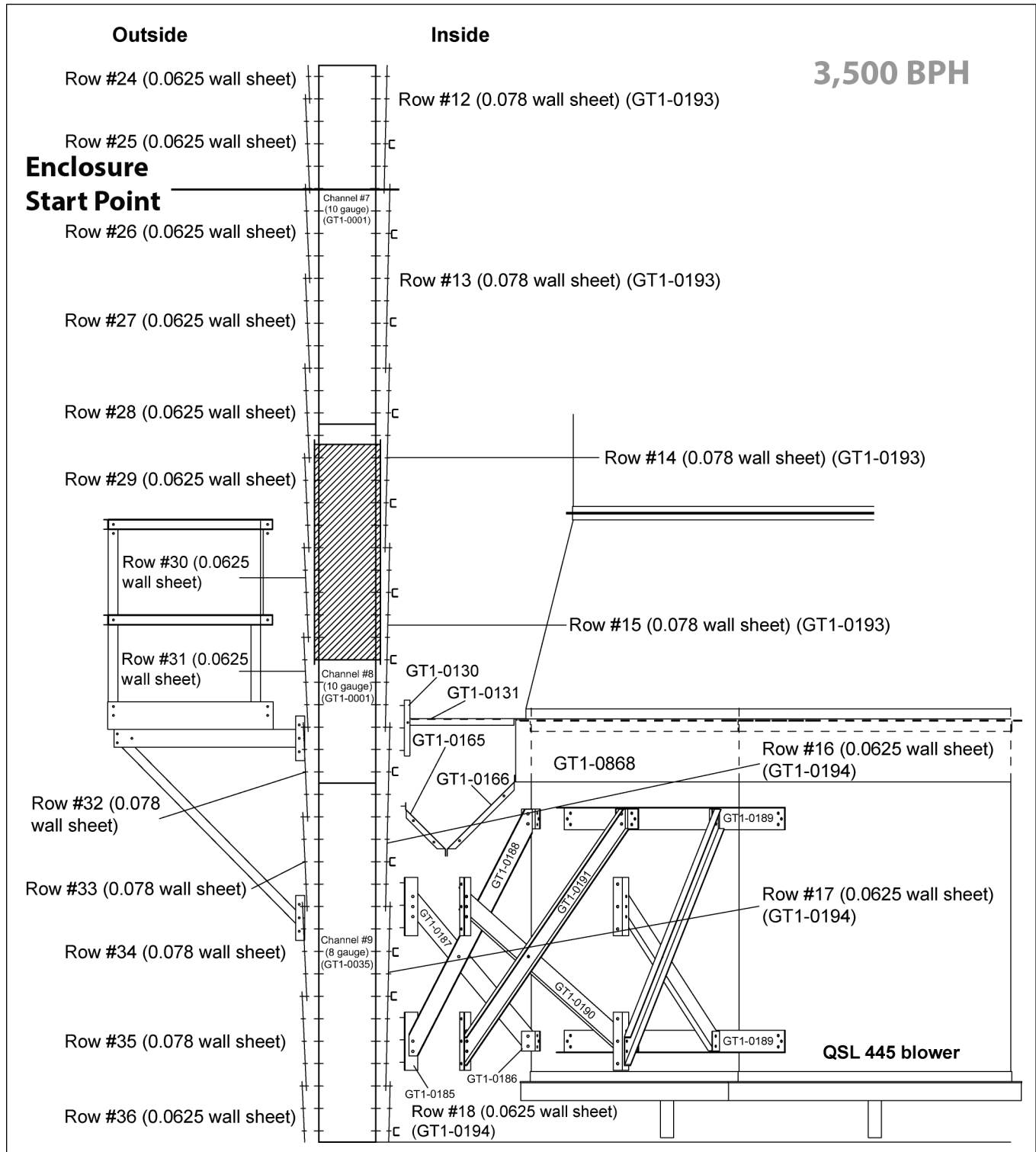


Figure 3-20 4,000 BPH Heat Reclaimer Enclosure Starting Location

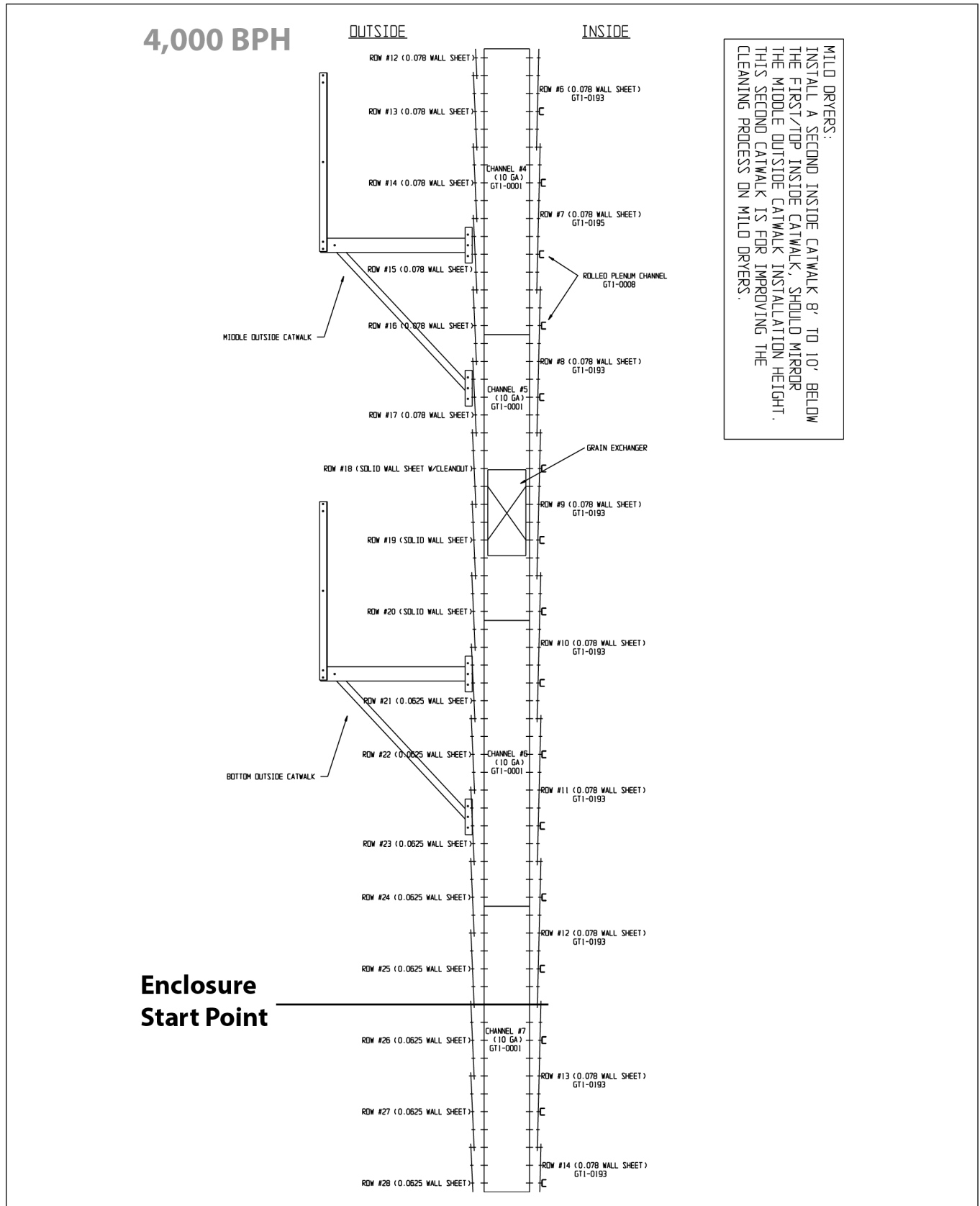


Figure 3-21 4,700 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

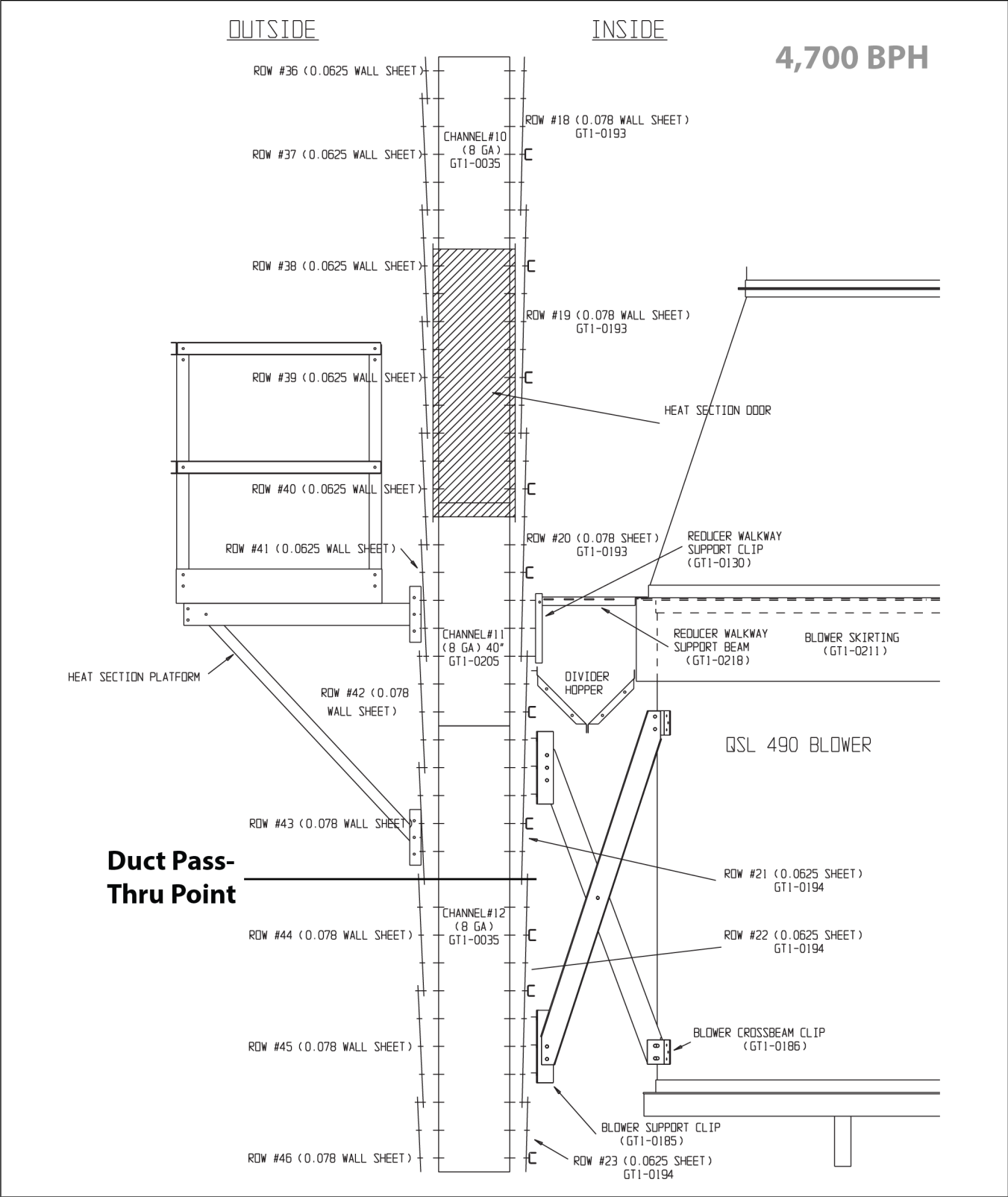
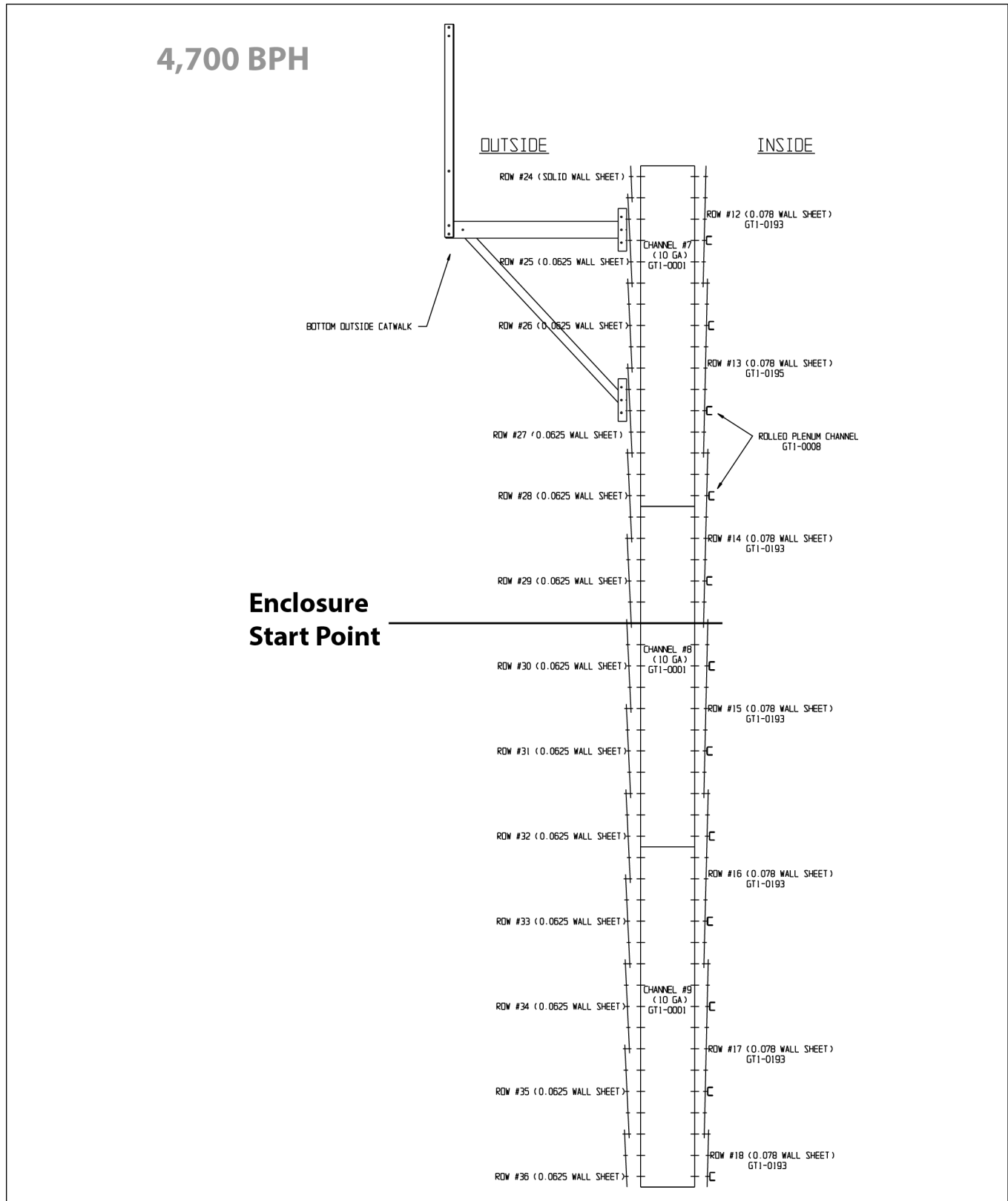


Figure 3-22 4,700 BPH Heat Reclaimer Enclosure Starting Location



Chapter 3: Heat Reclaimer Starting Locations

Figure 3-23 5,000 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

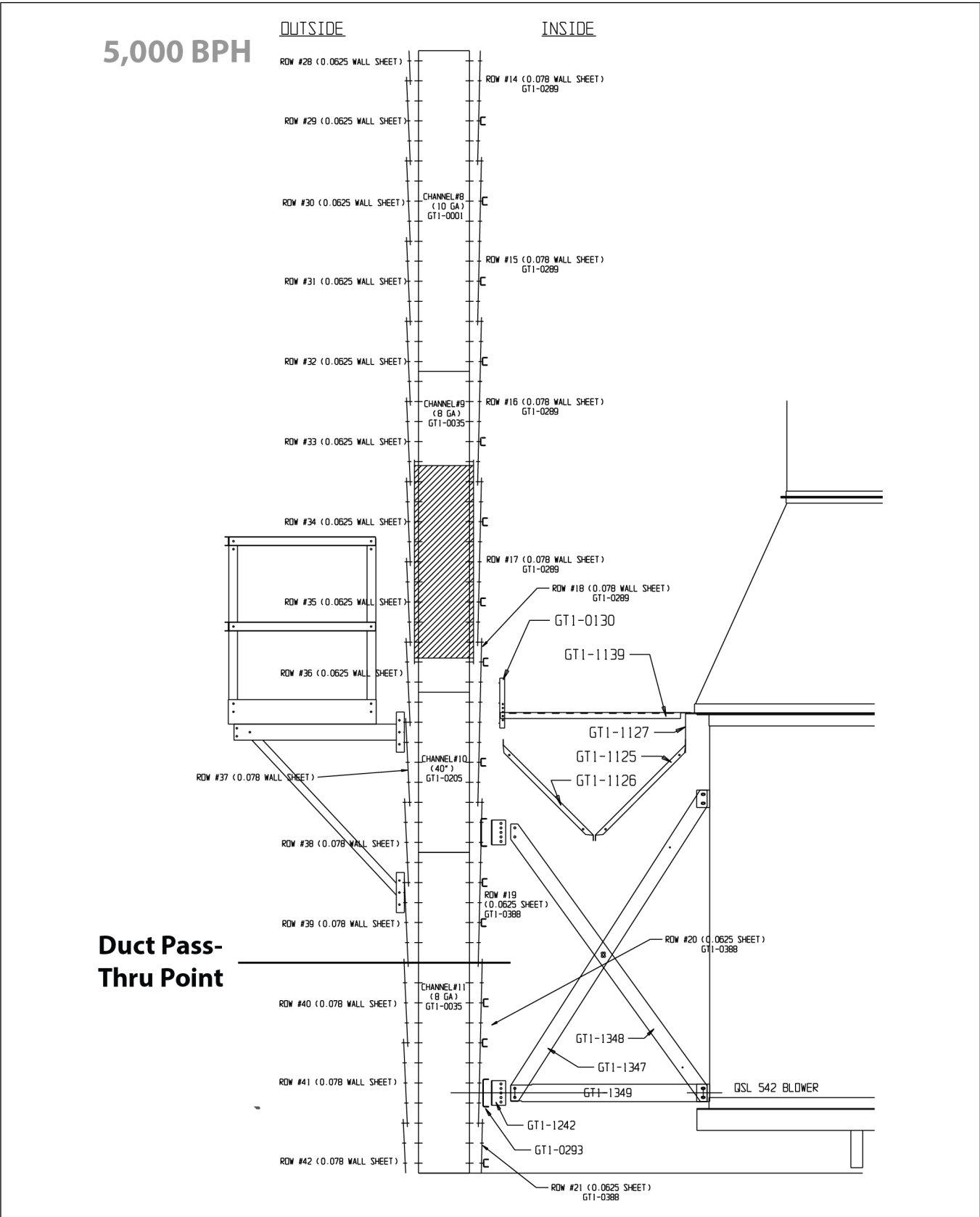
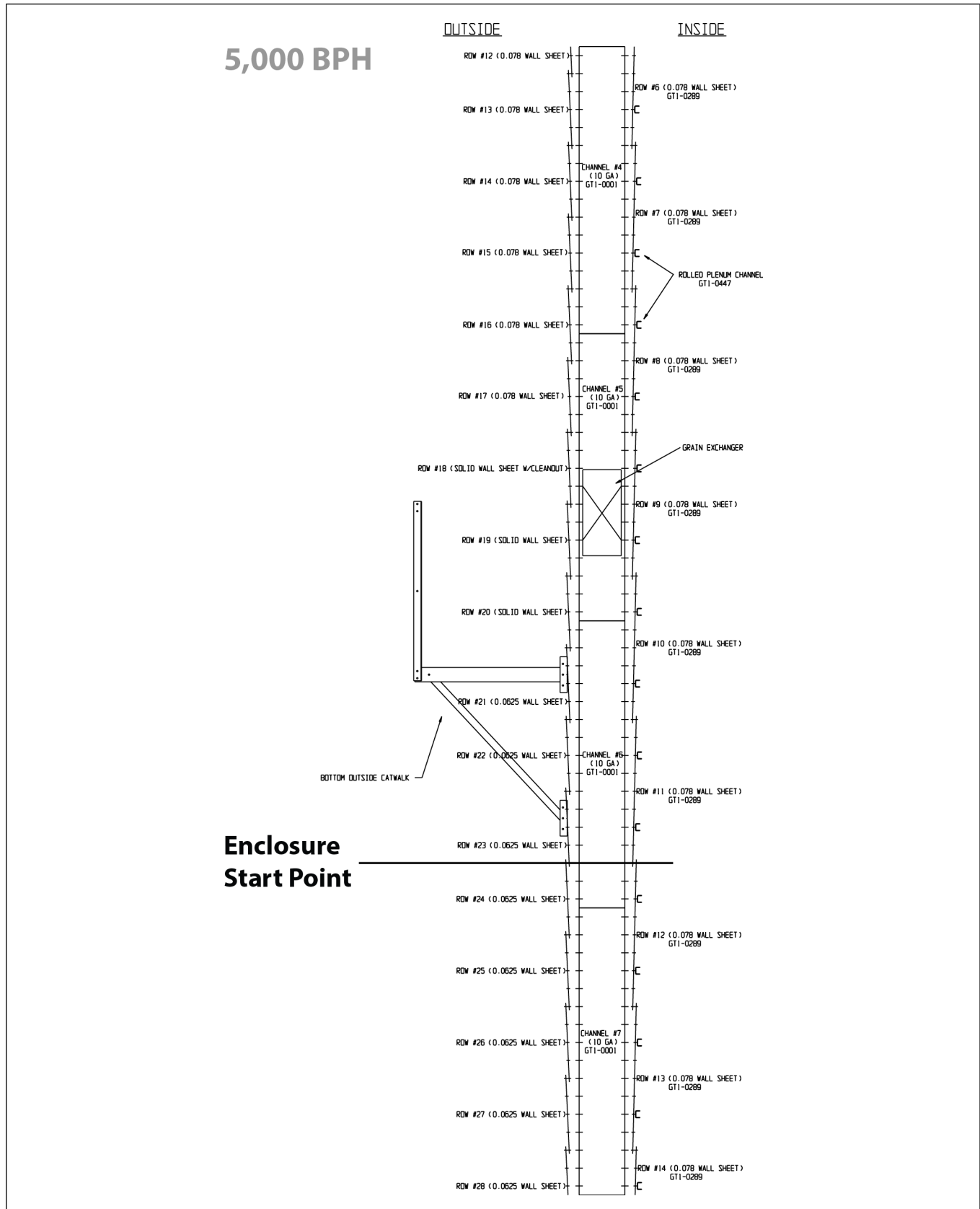


Figure 3-24 5,000 BPH Heat Reclaimer Enclosure Starting Location



Chapter 3: Heat Reclaimer Starting Locations

Figure 3-25 6,000 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

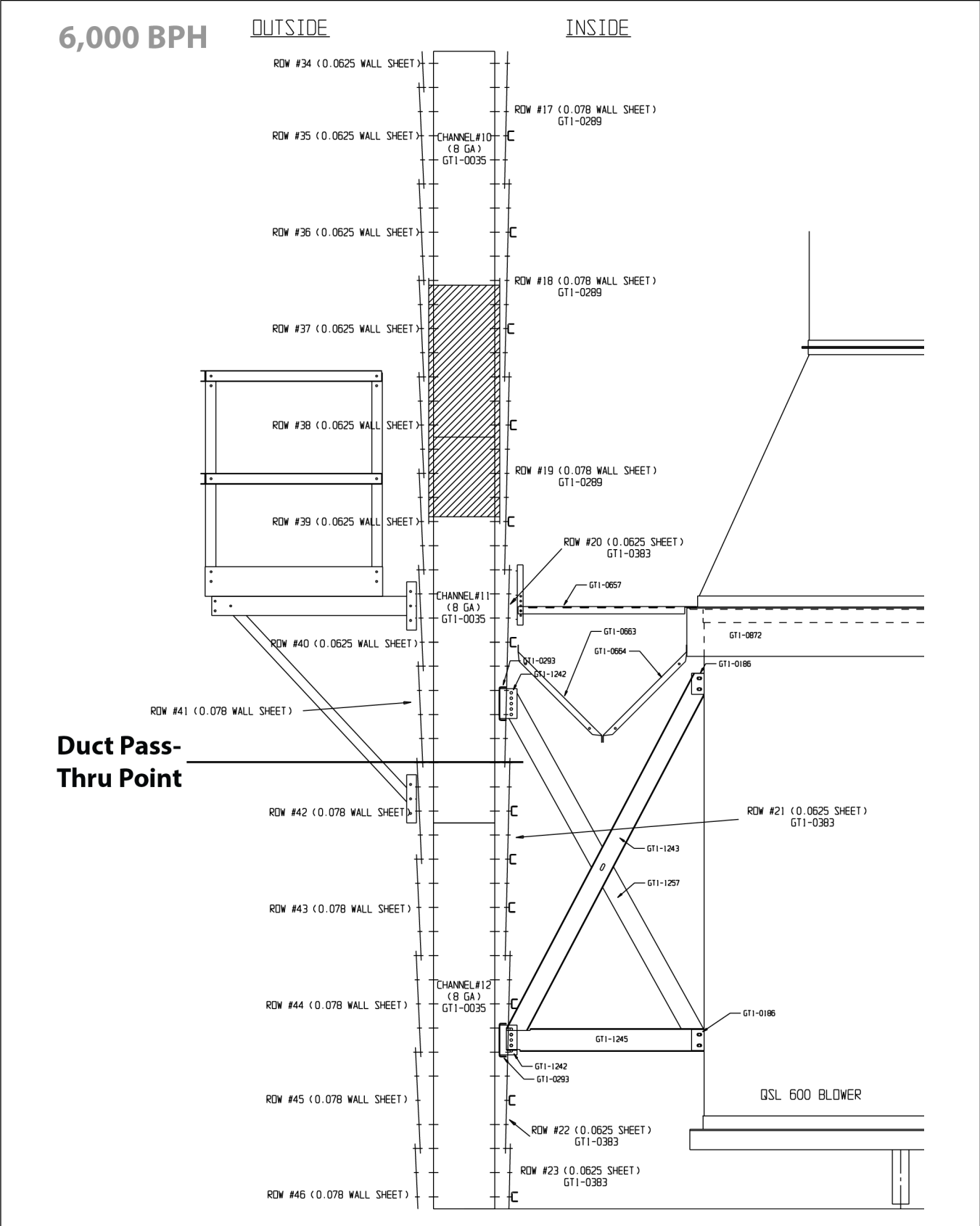


Figure 3-26 6,000 BPH Heat Reclaimer Enclosure Starting Location

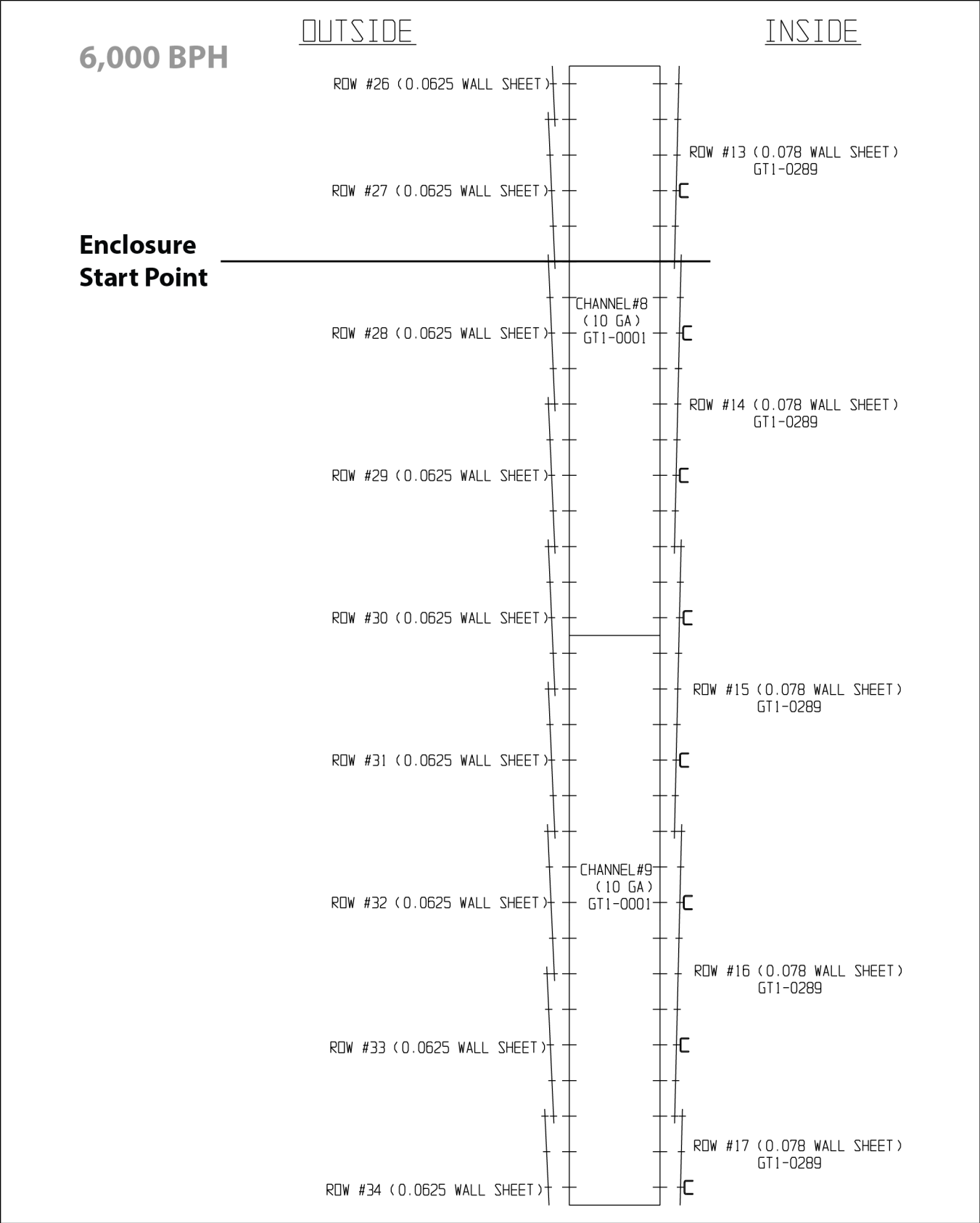


Figure 3-27 7,000 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

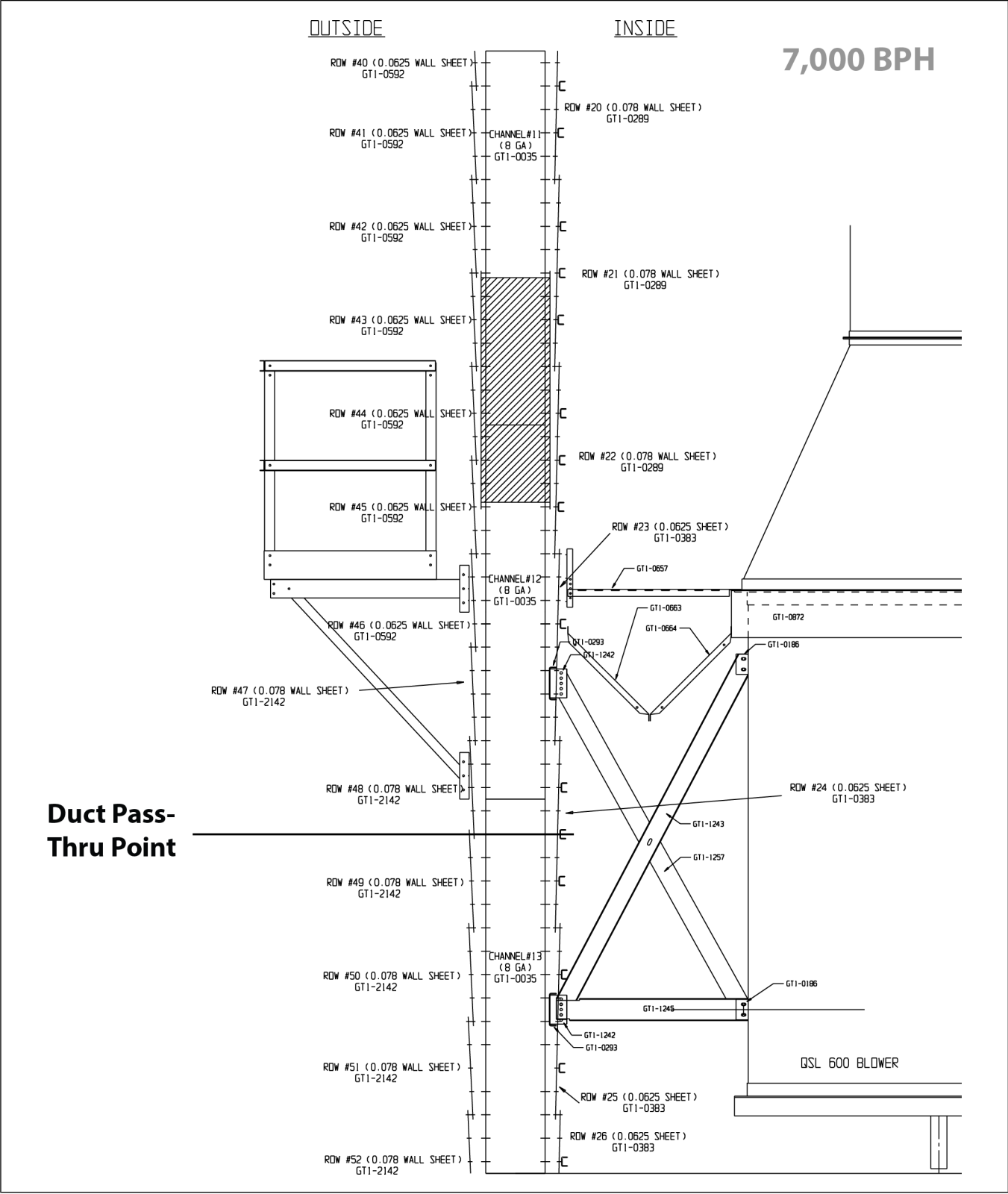
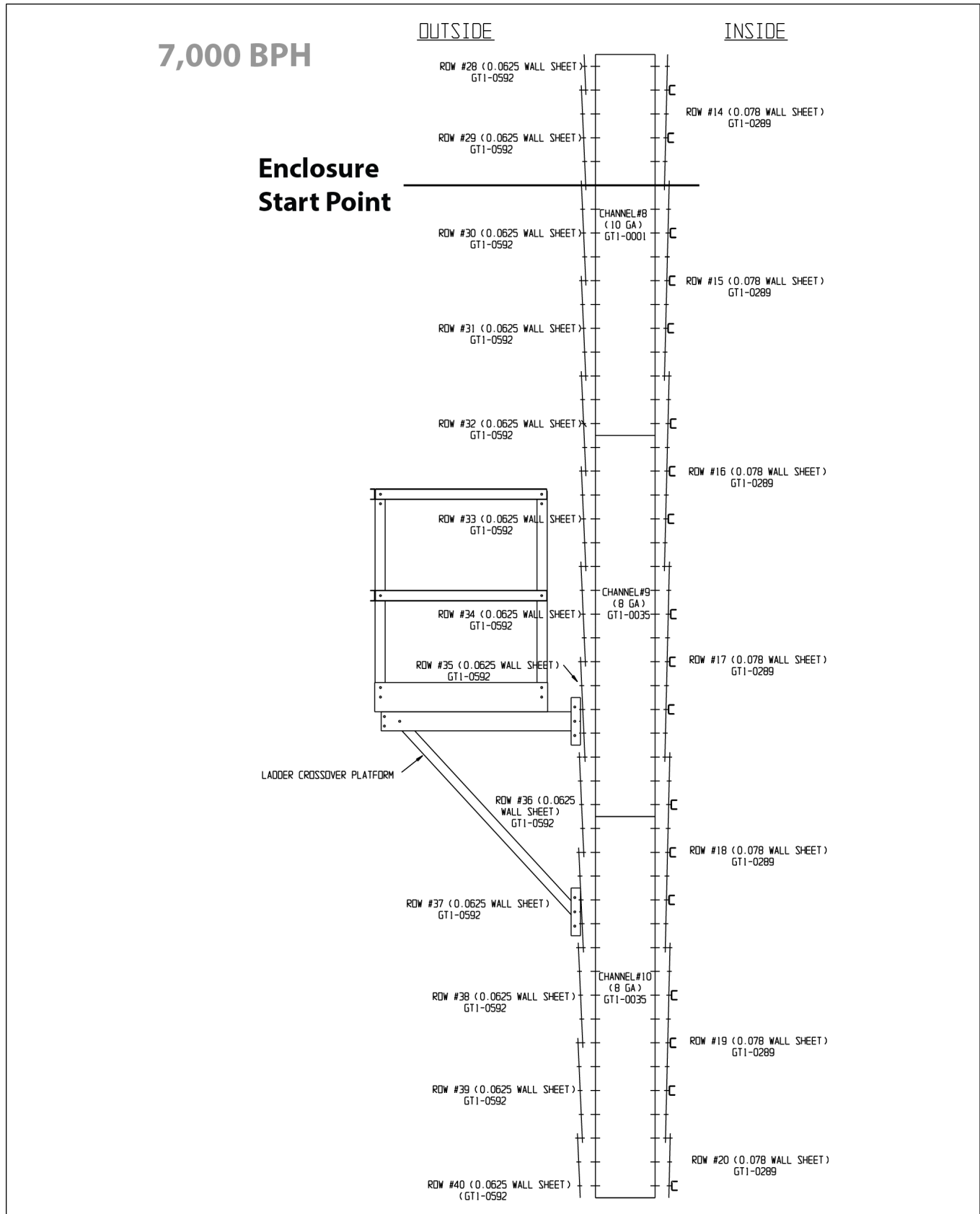
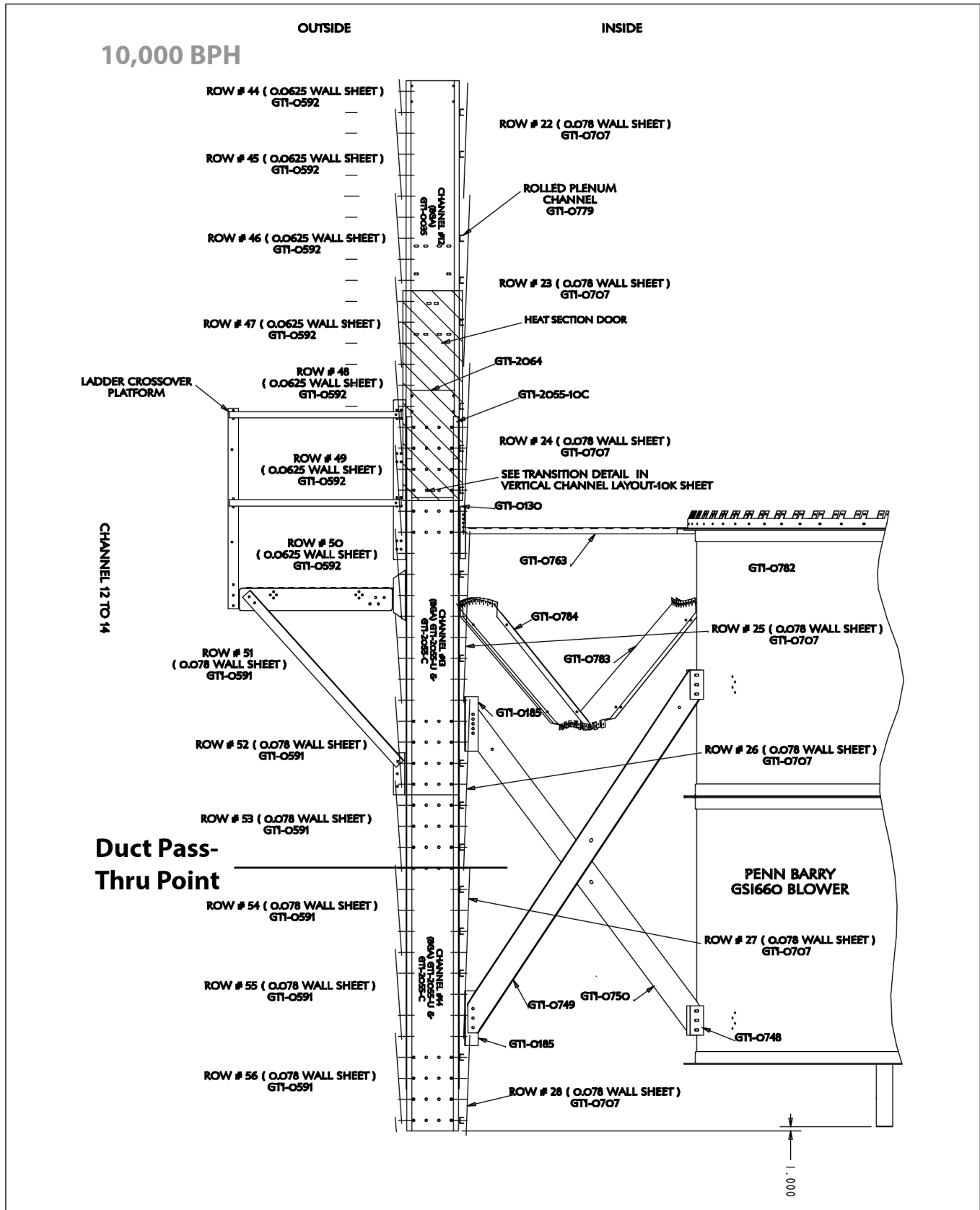


Figure 3-28 7,000 BPH Heat Reclaimer Enclosure Starting Location



Chapter 3: Heat Reclaimer Starting Locations

Figure 3-29 10,000 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location



PNEG-2016 Tower Dryer Heat Reclaimer

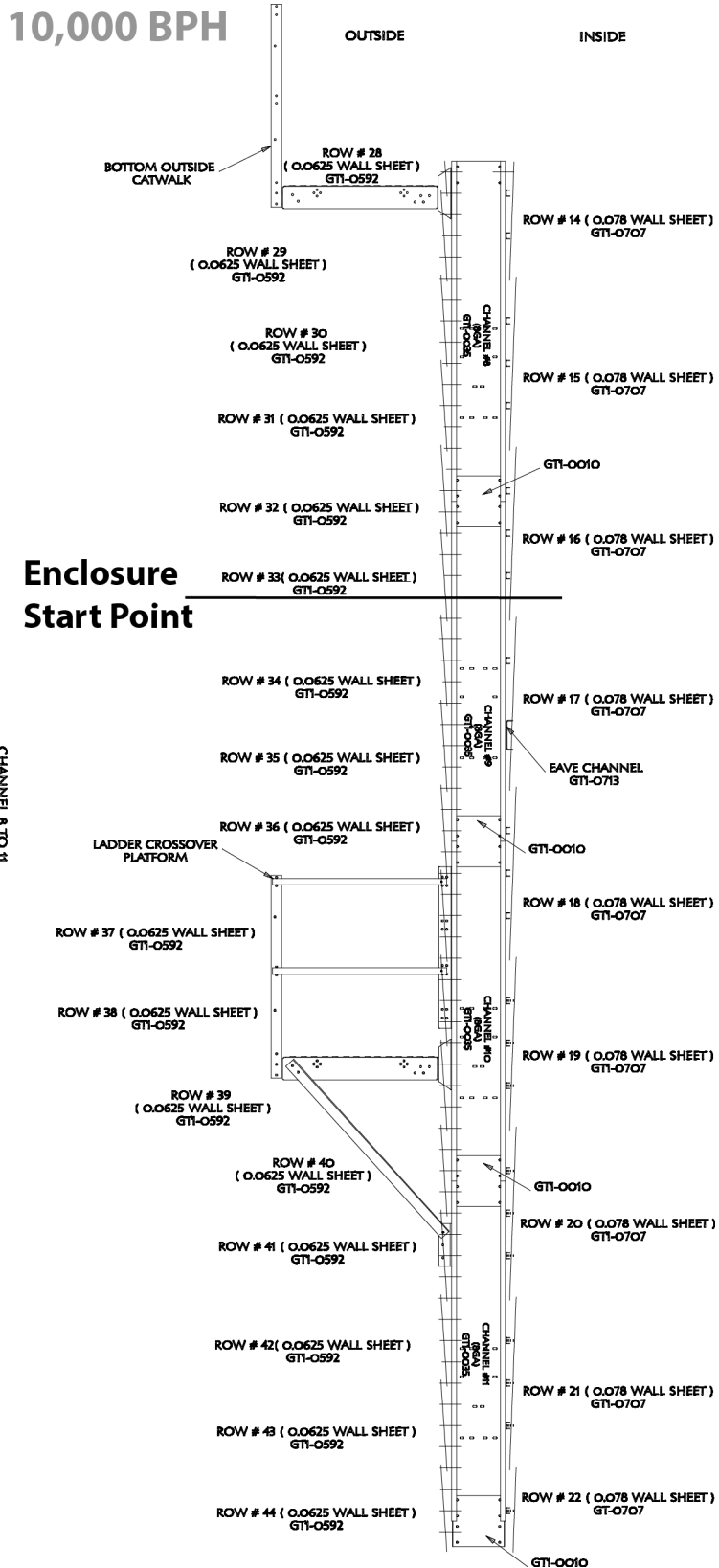


Figure 3-31 12,000 BPH Heat Reclaimer Duct Pass-Thru Window Starting Location

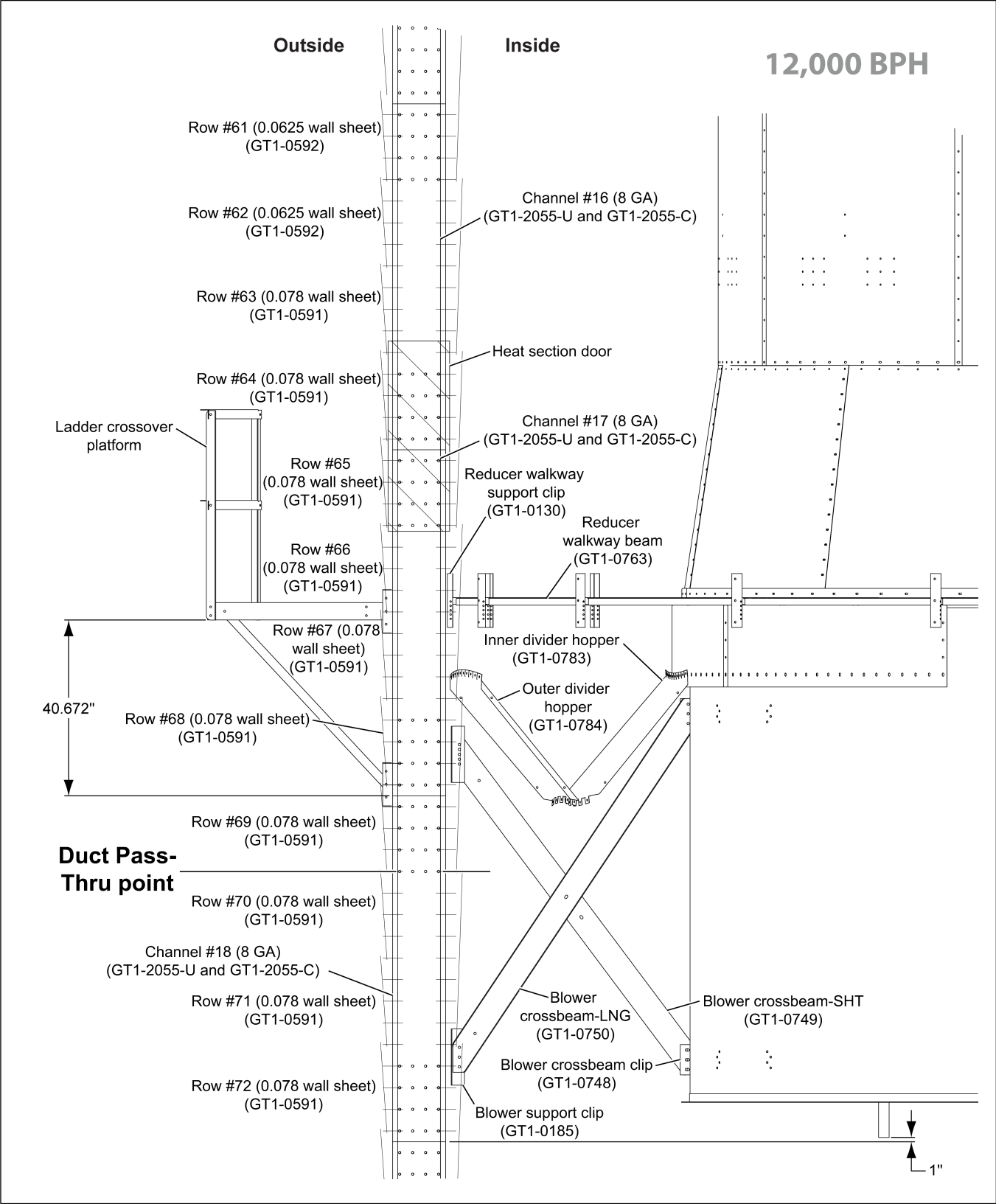
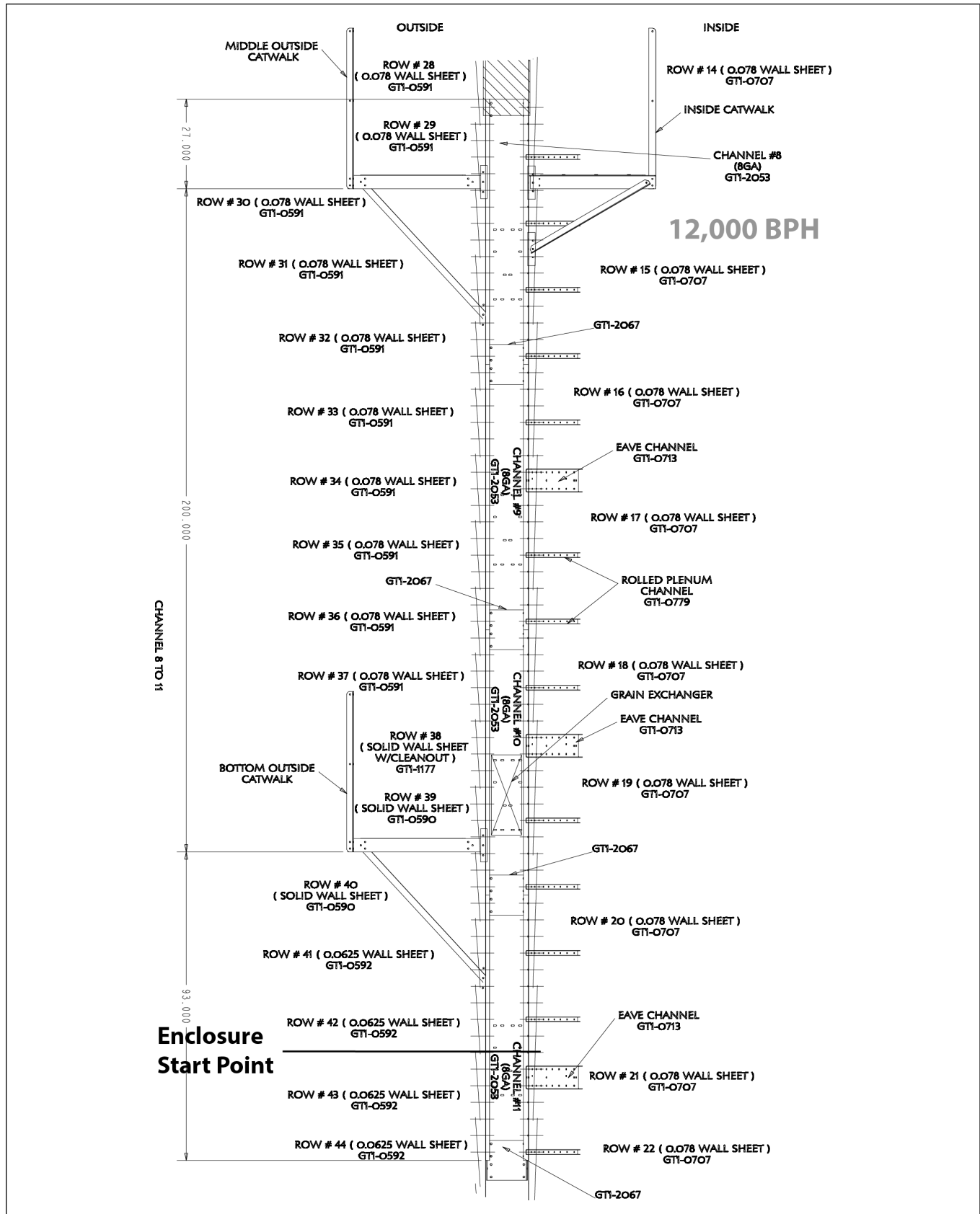


Figure 3-32 12,000 BPH Heat Reclaimer Enclosure Starting Location



NOTES

4 Duct Installation

Topics Covered in this Chapter

- Installing the Duct Pass-Thru Window
- Installing the Duct Elbows
- Installing the Optional Duct Cover
- Assembling the Straight Ducts
- Installing the Top Duct Guard
- Installing the Duct Supports to the Vertical Channels
- Installing the Duct Supports to the Duct Columns

Installing the Duct Pass-Thru Window

The duct pass-thru window passes through the grain column to the center of the cooling chamber, below the divider hopper.

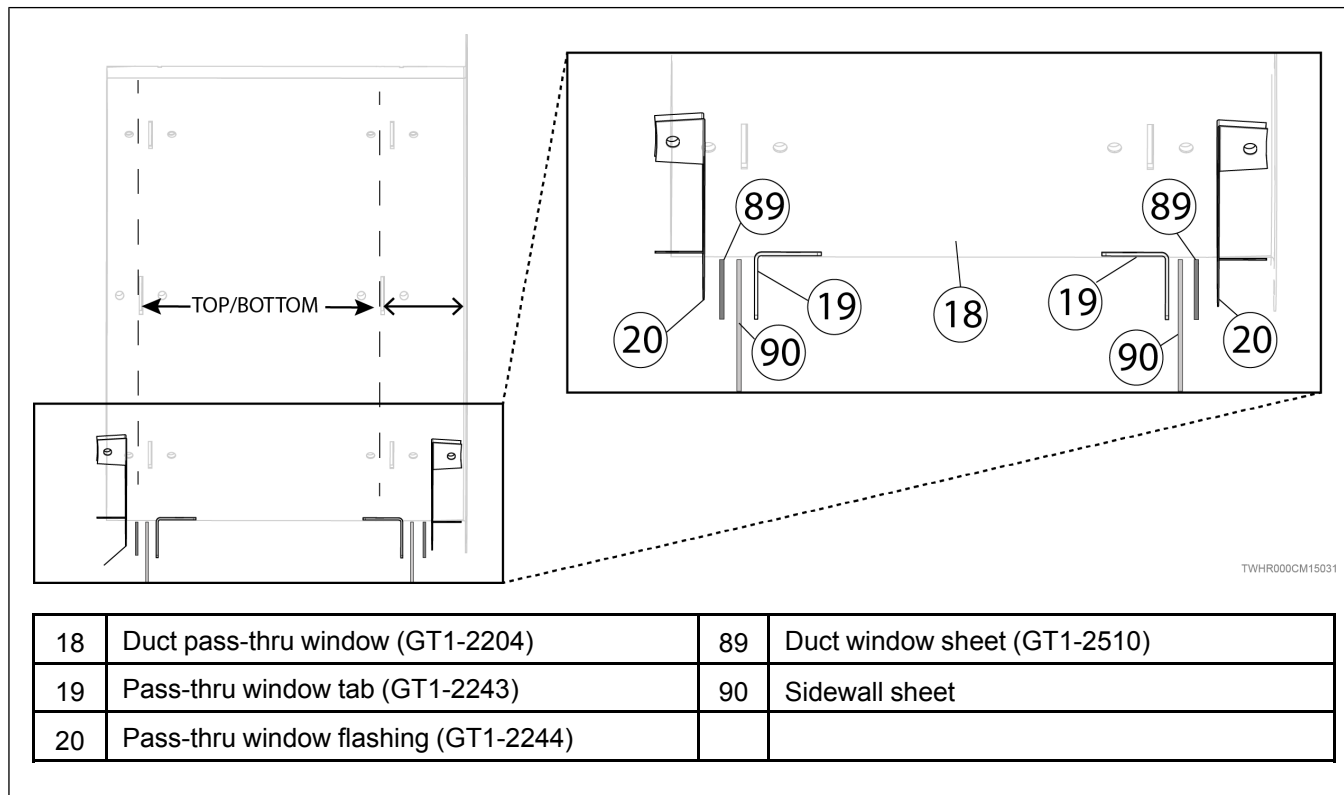
What You Should Know

Sidewall sheets above and below the duct pass-thru window may need to be removed for access to brackets and hardware.

1. Align the slots on the duct pass-thru window that are furthest from the edge so they are oriented on the top and the bottom of the duct pass-thru window when installed.

NOTE: *The duct pass-thru windows are cut this way to accommodate for the curvature of the dryer.*

Figure 4-1 Duct pass-thru top and bottom



2. Install the duct pass-thru windows (18) through the sidewalls wall sheets (90).

IMPORTANT: Make sure the holes on the flanges of the duct pass-thru (18) are positioned to line up with the holes in the duct elbow (45).

3. Install the pass-thru window tabs (19) through the slots in the duct pass-thru window (18).

NOTE: Pass-thru window tabs (19) will be located inside the grain column when installation is complete.

4. Secure the pass-thru window tabs (19) to the duct pass-thru window (18) using bolt (6) and nut (5).
5. On the outside of the drying walls, install the pass-thru window flashing (20) by inserting the tabs through the slots in the duct pass-thru window (18).
6. Secure the pass-thru window flashing (20) to the duct pass-thru window (18) with bolts (6) and nuts (5), making sure the bolt heads are located on the outside of the duct tube.

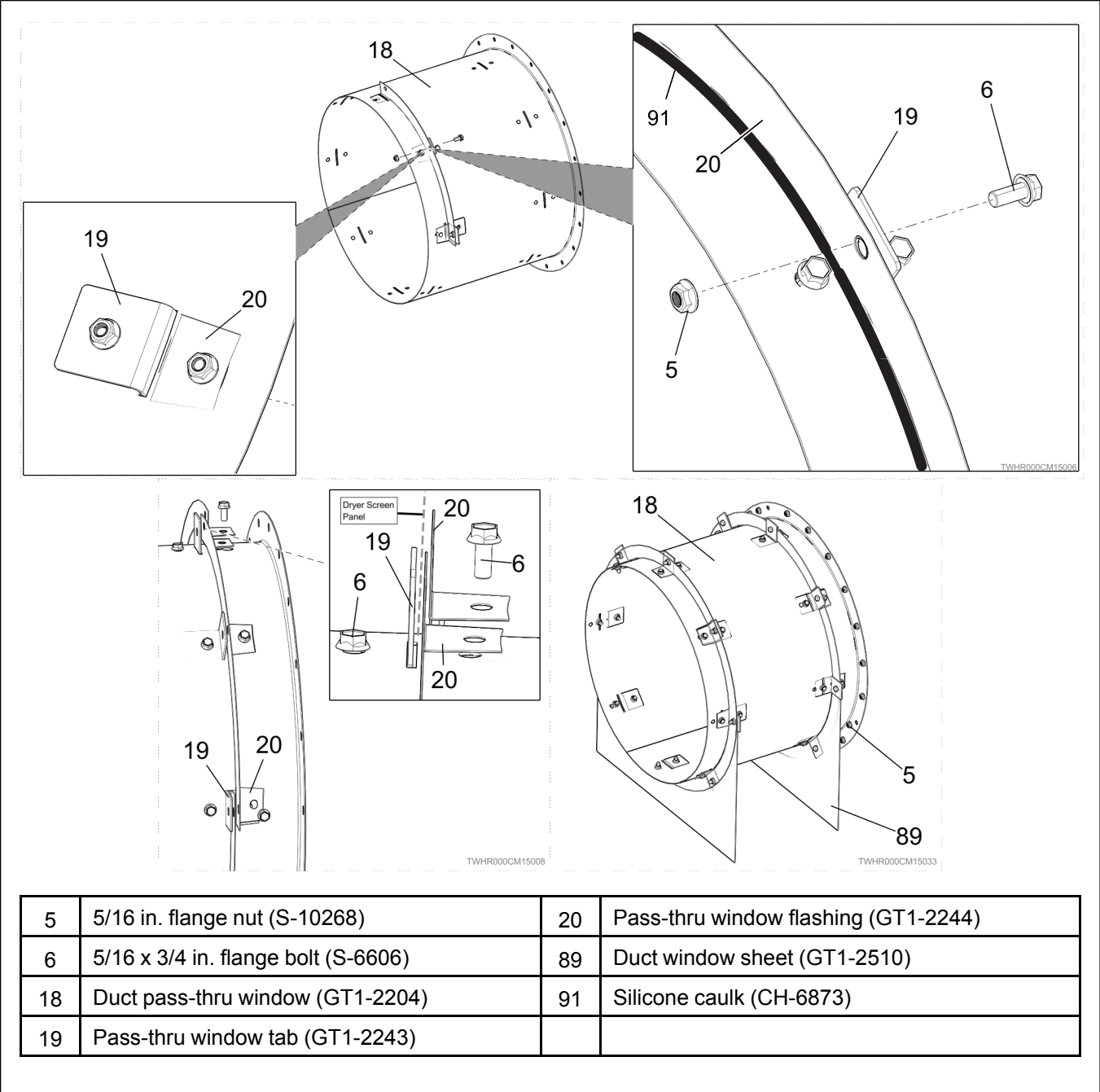
NOTE:

- The pass-thru window flashing (20) overlaps at each end.
- Caulk (91) on the outside where the pass-through flashing (20) and the Duct pass-thru window (18) meet to seal any gaps.

7. Fasten the pass-thru window flashing (20), the sidewall sheet (90) and the pass-thru window tabs (19) together using bolt (6) and nut (5).

NOTE: On the bottom of the pass-thru duct window install the duct window sheet (90) between the pass-thru window flashing (20) and the sidewall sheet (90).

Figure 4-2 Duct pass-thru window



Installing the Duct Elbows

The duct elbows attach to the duct pass-thru window and the bottom of the duct columns.

Before You Begin

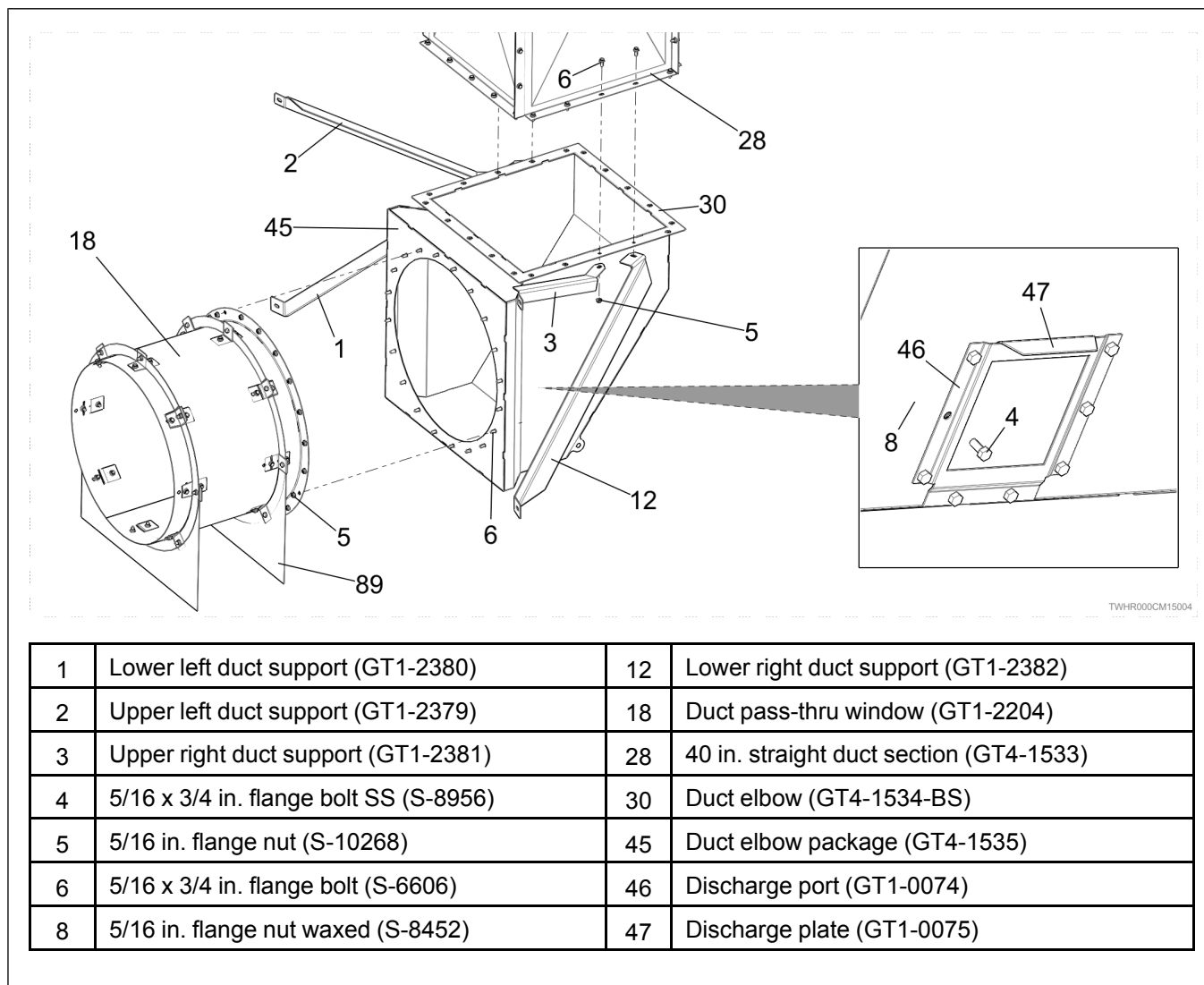
Install the duct pass-thru windows into the dryer prior to installing the duct elbows.

1. Attach the discharge port (46) to the slanted side of the duct elbow (30) using bolts (4) and nuts (8).
2. Slide discharge plate (47) into discharge plate port (46).
3. Align the duct elbow (30) to the duct pass-thru window (18) and secure using bolts (6) and nuts (5).
4. Install the 40" straight duct section (28) to the duct elbow (30) to using bolts (6) and nuts (5).

NOTE: Install the duct supports (1, 2, 3, and 12) at the same time.

NOTE: One end of the 40" straight duct section assembly has slots. Install the duct section assembly so that the flange with slots is mating with the duct elbow.

Figure 4-3 Duct elbow installation

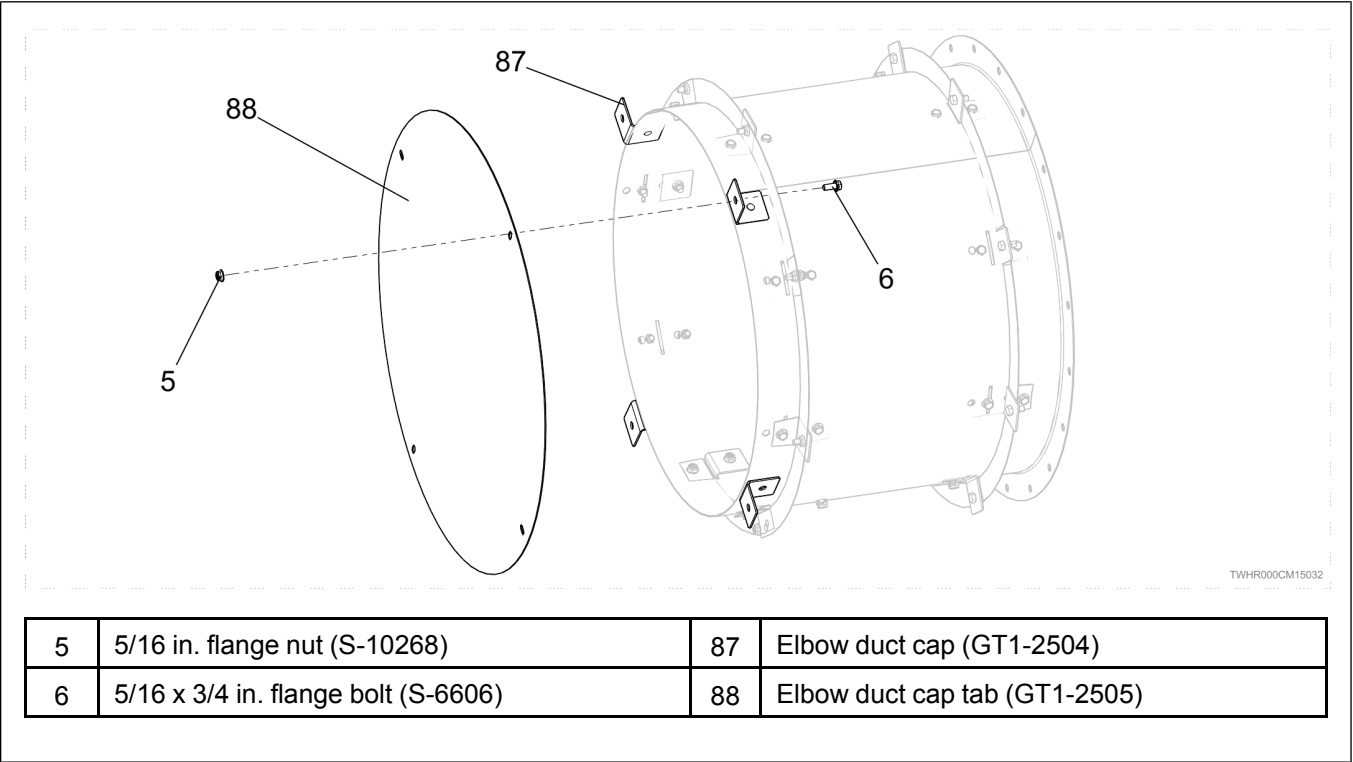


Installing the Optional Duct Cover

The duct covers are available to cover the opening in the event of a static pressure drop.

1. Align the four tabs elbow duct cap tabs (87) to the four holes at the end of the duct pass-thru window (18).
2. Install the elbow duct cap tabs to the duct pass-thru window (18) using bolts (6) and nuts (5).
3. Install the elbow duct cap (88) to the duct cap tabs (87) using bolts (6) and nuts (5).

Figure 4-4 Duct cover



Assembling the Straight Ducts

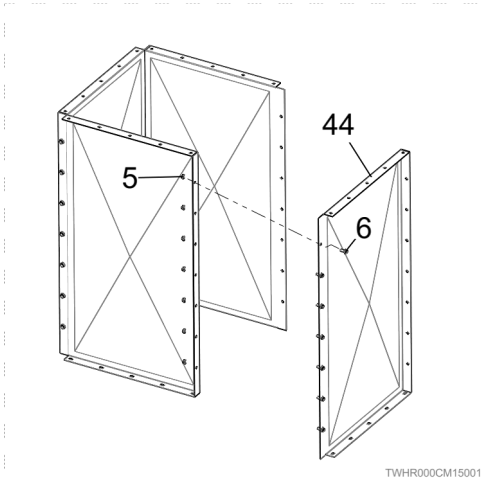
The straight duct assemblies are stacked to create the vertical ducts.

- 1. Place the flat edges of the duct walls (44) to the flanged edges of the duct walls (44) to form a box.

NOTE: Make sure to oriented the duct walls in the same direction when assembling. One end of the duct walls has slots, while the opposite end has round holes. Always install the duct section assembly so that the flange with slots is facing down as the ducts are assembled upward.

- 2. Fasten the duct walls (44) together using bolts (6) and nuts (5).

Figure 4-5 Assembling the duct walls



5	5/16 in. flange nut (S-10268)	44	Duct wall (GT1-2371)
6	5/16 x 3/4 in. flange bolt (S-6606)		

Installing the Top Duct Guard

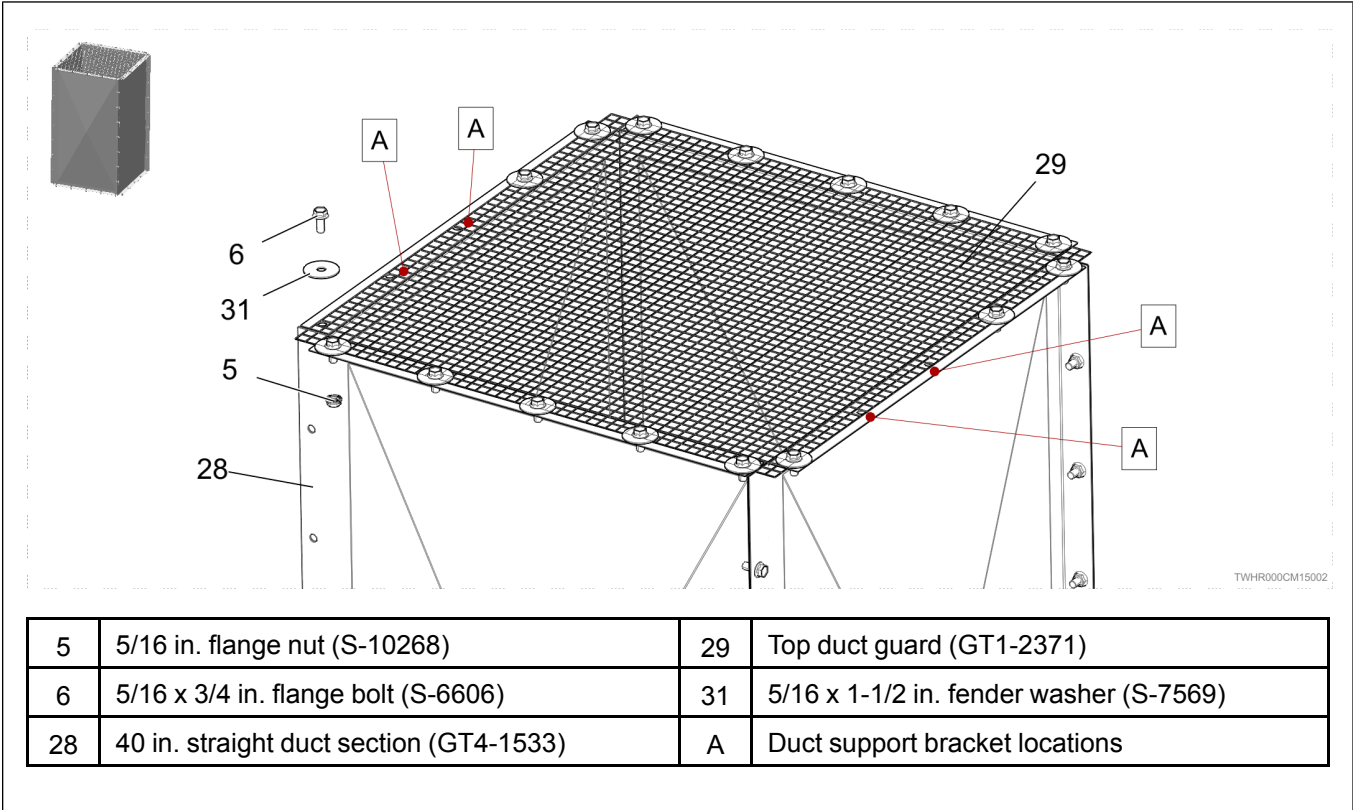
The top duct guard will prevent debris from falling into the duct work.

1. Place the top duct guard (29) onto the flanges of the top of the final 40" duct section (28).
2. Fasten the top duct guard (29) to the top of the 40" duct section (28) using bolts (6), washers (31), and nuts (5).

Tip

Leave out bolts in the locations labeled with callout "A" until installing the duct supports.

Figure 4-6 Top Duct Guard



Installing the Duct Supports to the Vertical Channels

The duct supports connect the duct columns to the vertical channels.

What You Should Know

Vertical channels can vary depending on the dryer model, but the hole spacing should be the same.

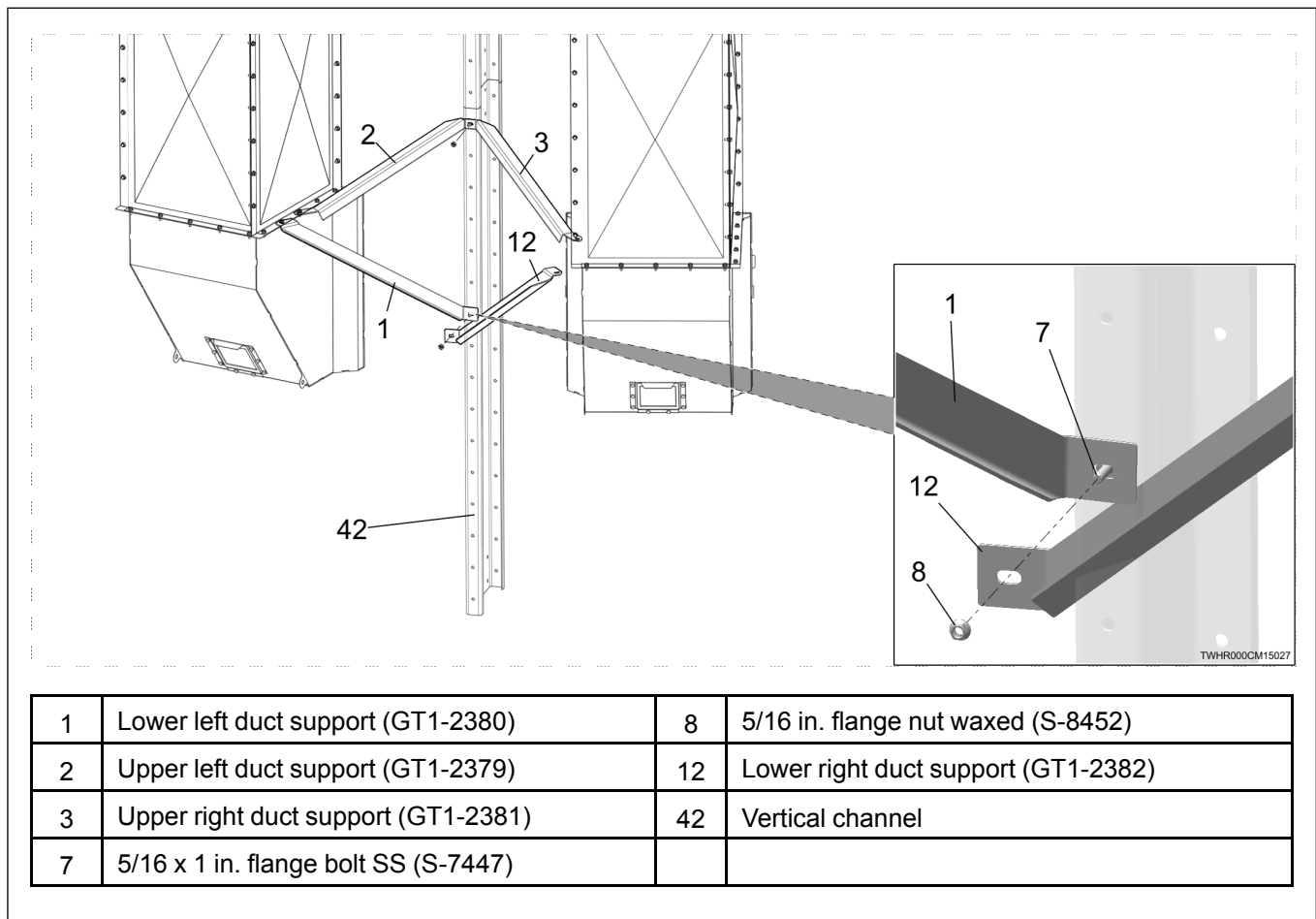
1. Install the left and right lower duct supports (1 and 12) to the vertical channel (42) using bolt (7) and nut (8).

NOTE: *Install the bolt head to the inside of the grain column.*

2. Locate the left and right upper duct supports (2 and 3) 30 in. above the lower duct supports (1 and 12) on the vertical channel (42).

NOTE: *Install the bolt head to the inside of the grain column.*

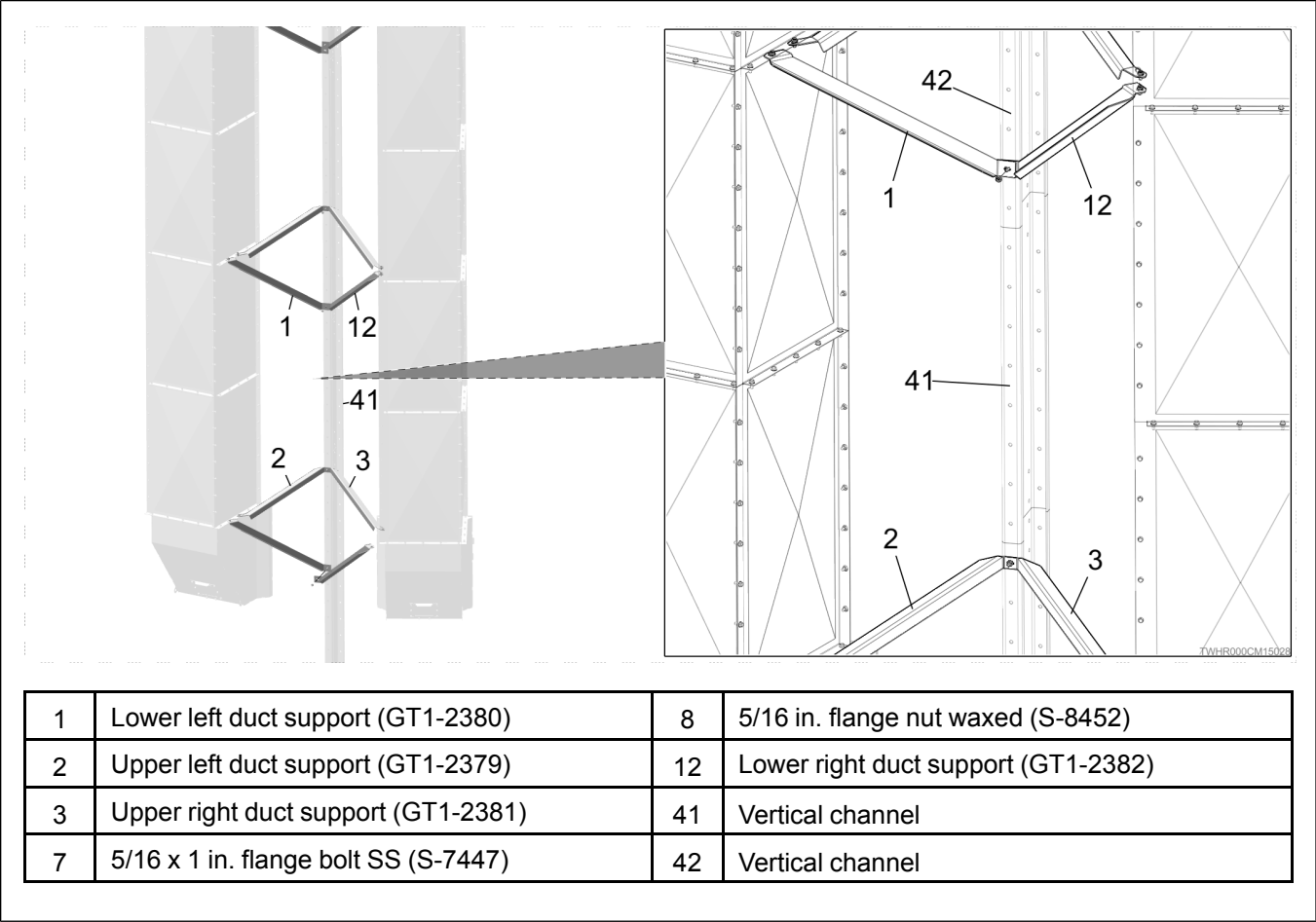
Figure 4-7 Duct supports



3. Locate the next set of lower duct supports (1 and 12) on the vertical channel (42), 50 in. above the set of upper duct supports (2 and 3).

NOTE: *Install duct supports at every other duct connection.*

Figure 4-8 Duct supports spacing



Installing the Duct Supports to the Duct Columns

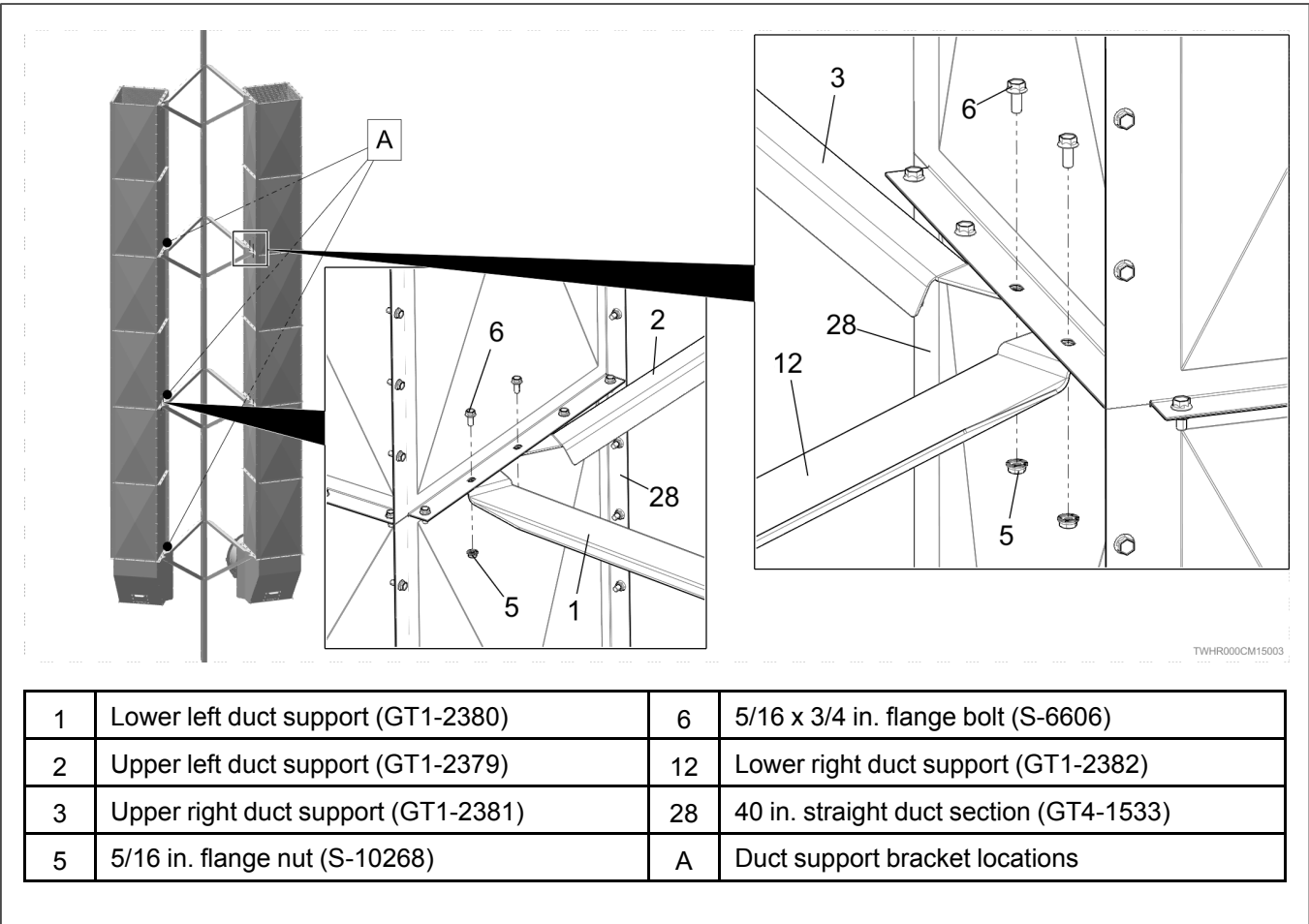
The duct supports connect the duct columns to the vertical channels.

What You Should Know

Duct supports are installed at the same time as the square ducts. Install the supports at the elbow duct first. Work your way up the duct column, installing supports at every other duct connection.

- 1. Install the left upper and lower duct supports (1 and 2) to the bottom side of the duct flanges on the left.
- 2. Install the right upper and lower duct supports (3 and 12) to the bottom side of the duct flanges on the right.
- 3. Fasten supports to the duct flanges using bolts (6) and nuts (5).

Figure 4-9 Duct supports to duct locations



5 Enclosure Installation

Topics Covered in this Chapter

- Installing the Heat Reclaim Roof Panels
- Installing the Catwalk Clips
- Installing the Enclosure Supports
- Installing the Vertical Supports
- Installing the Short Vertical Supports
- Installing the Enclosure Horizontal Rail
- Installing the Enclosure Wall Sheets
- Installing the Heat Shield Wall for the Ladder Enclosure
- Installing the Vertical Supports to the Heat Shield

Installing the Heat Reclaim Roof Panels

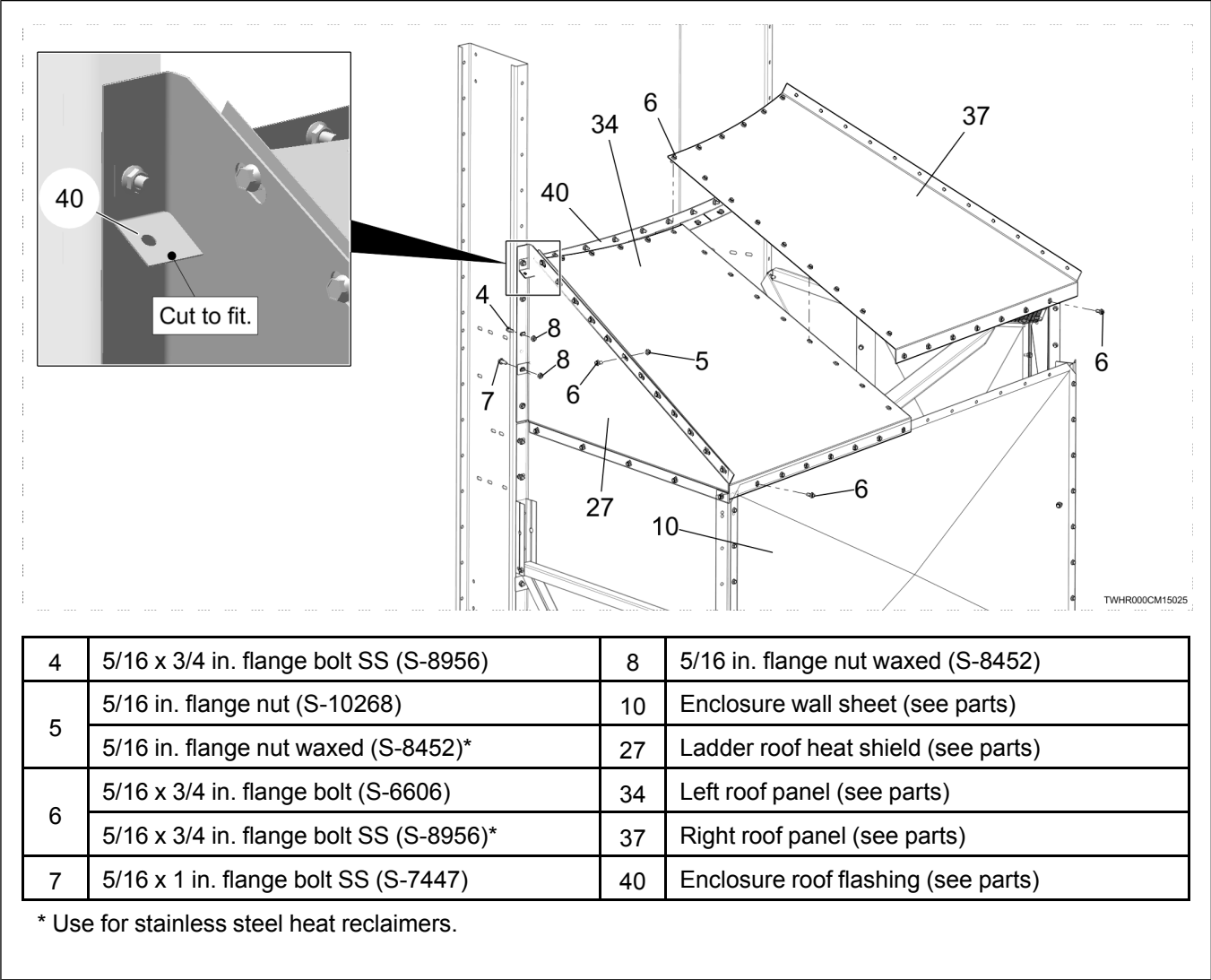
The roof panels attach to the wall sheets and enclose the heat reclaim area.

1. Install the ladder roof heat shield (27) to the ladder wall heat shield (26) using bolts (6) and nuts (5).
2. Install the left roof panel (34) to the enclosure wall (10) using bolts (6) and nuts (5).
3. Position the enclosure roof flashing (40) between the vertical channels and cut the flashing so it doesn't interfere with the ladder roof heat shield (27).
4. Install the roof flashing (40) to the dryer screens using a double-nut connection to the existing horizontal screen seams.
5. Attach the ladder roof heat shield (27) to the vertical channel using bolts (4) and nuts (8), except where the support bracket is located.

NOTE: Use bolt (7) and nut (8) where the ladder roof heat shield (27) overlaps the duct support on the vertical channel.

6. Install the left roof panel (34) to the ladder roof heat shield (27) and the enclosure roof flashing (40) using bolts (6) and nuts (5).
7. Install the right roof panel (37) to the left roof panel (34), the enclosure wall (10), and enclosure roof flashing (40) using bolts (6) and nuts (5).

Figure 5-1 Heat reclaim roof panels

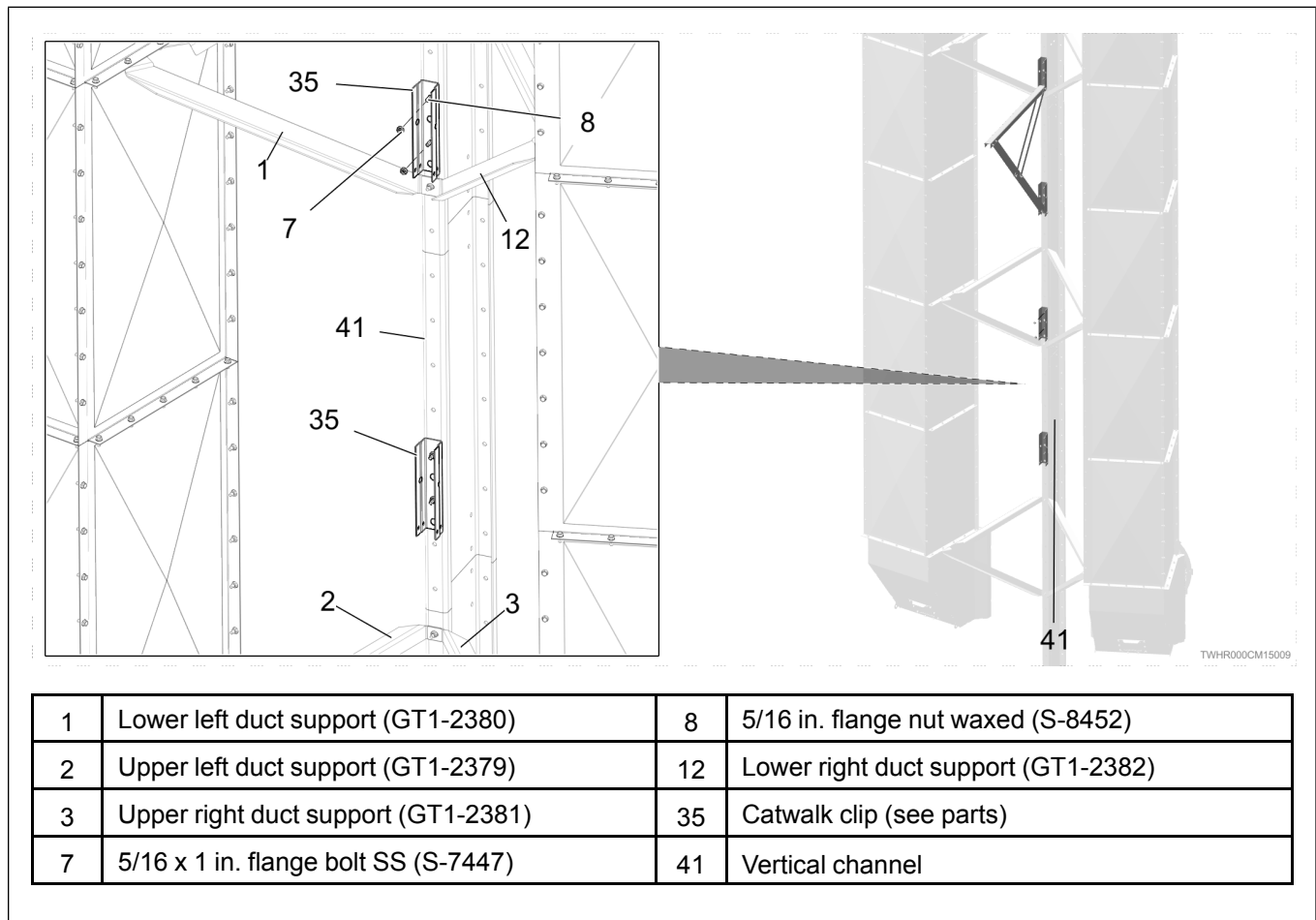


Installing the Catwalk Clips

The catwalk clips connect the enclosure supports to the vertical channels.

1. Locate the first catwalk clip (35) above the set of lower duct supports (1 and 12) that are located closest to the enclosure roof flashing (40).
2. Working your way down the vertical channel (41), space the remaining catwalk clips (35) six holes apart.
3. Secure the catwalk clips (35) to the vertical channels (41) using bolts (8) and nuts (7).

Figure 5-2 Catwalk clips



Installing the Enclosure Supports

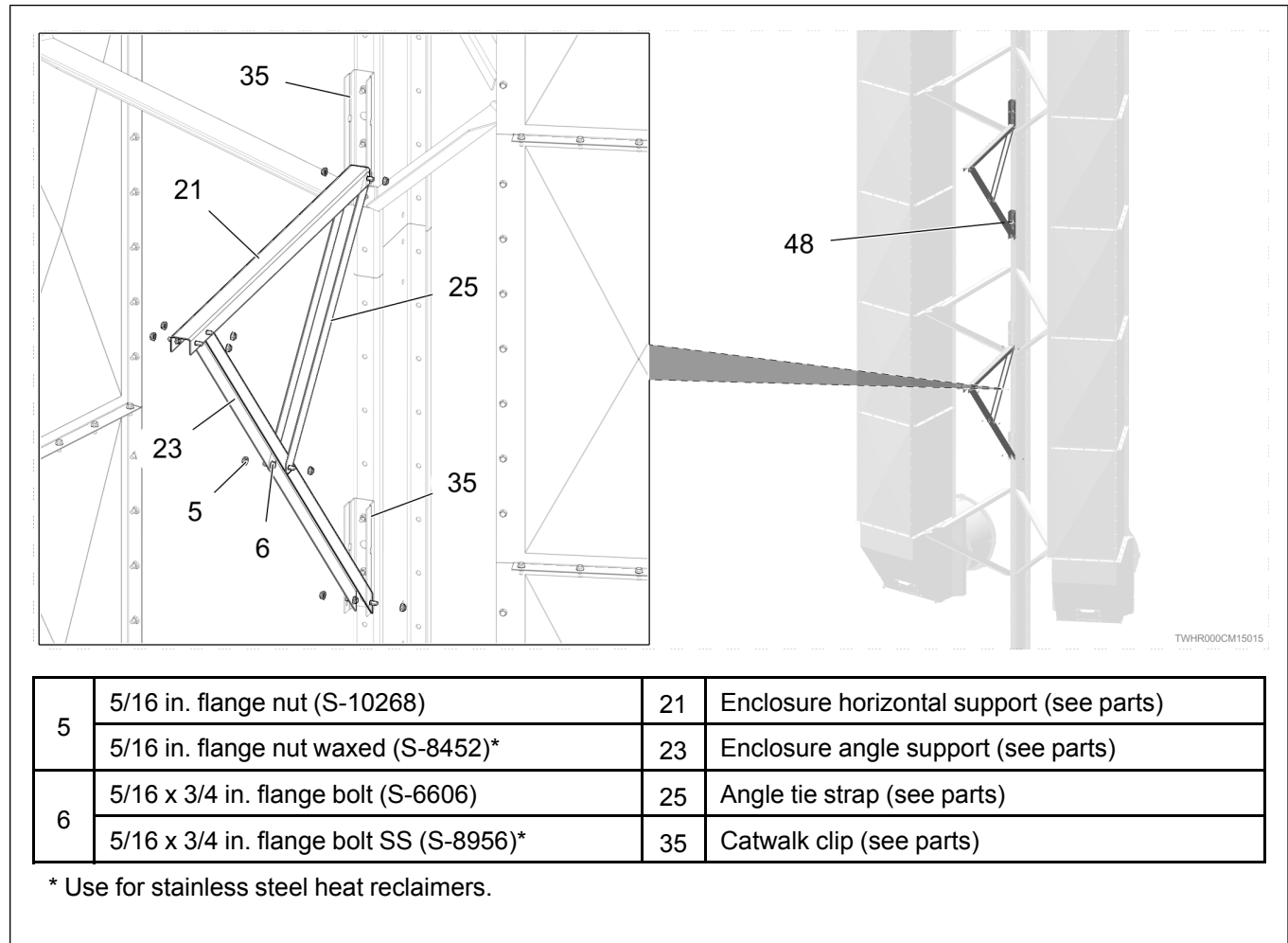
The horizontal and angle enclosure supports connect the vertical supports for the enclosure to the vertical channels.

What You Should Know

NOTE: *Enclosure supports are not to be installed above the catwalks to ensure there is enough head clearance. They are also not to be installed wherever there is a heat shield wall.*

1. Position the angle tie straps (25) to the inside of the enclosure horizontal support (21), lining up the holes with the inside set of holes on the catwalk clip (35).
2. Fasten the angle tie straps (25) and the enclosure horizontal support (21) to the catwalk clip (35) using bolts (6) and nuts (5).
3. Align the enclosure angle support (23) with the inside set of holes on the catwalk clip (35).
4. Fasten the enclosure angle support (23) to the catwalk clip (35) using bolts (6) and nuts (5).
5. Align the enclosure angle support (23) with the inside set of holes at the end of the enclosure horizontal support (21).
6. Fasten the enclosure angle support (23) to the enclosure horizontal support (21) using bolts (6) and nuts (5).
7. Fasten the angle tie straps (25) to the outside of the enclosure angle support (23) using bolts (6) and nuts (5).

Figure 5-3 *Enclosure supports*



Installing the Vertical Supports

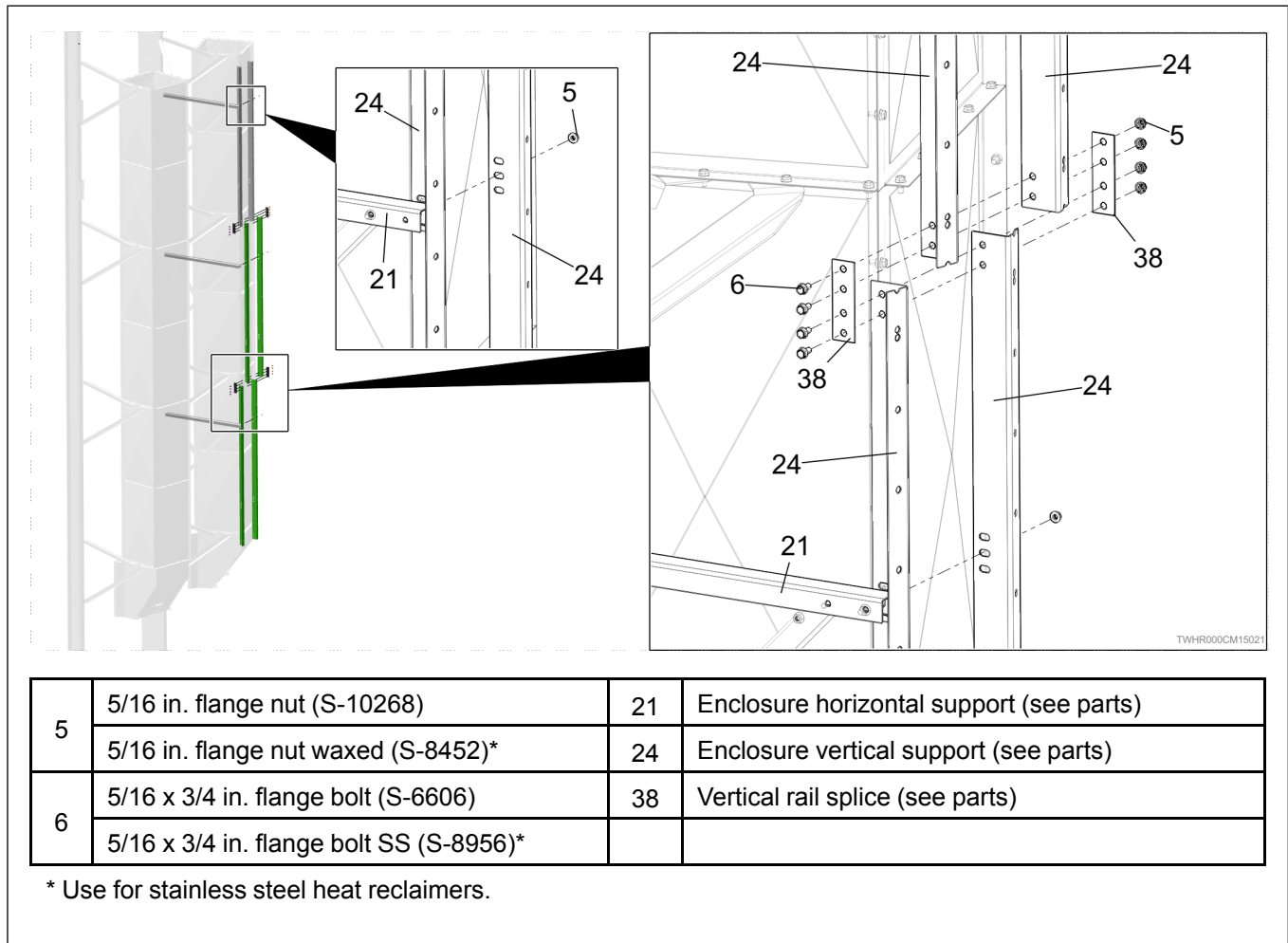
The vertical supports connect the horizontal rails and enclosure walls.

What You Should Know

The vertical support will be off to one side on the enclosure support. This chosen direction should be held consistently around the circumference of the dryer.

1. Align the top set of slots in the enclosure vertical supports (24).
2. Align the middle slot with the hole at the end of the enclosure horizontal supports (21) and fasten using bolt (6) and nuts (5).
3. Connect the enclosure vertical supports (24) together by aligning the ends and overlapping the seam with the vertical rail splices (38).
4. Align all the holes and connect together using bolts (6) and nuts (5).
5. Continue until the enclosure vertical supports (24) have been connected to all the enclosure horizontal supports (21).

Figure 5-4 Vertical supports



Installing the Short Vertical Supports

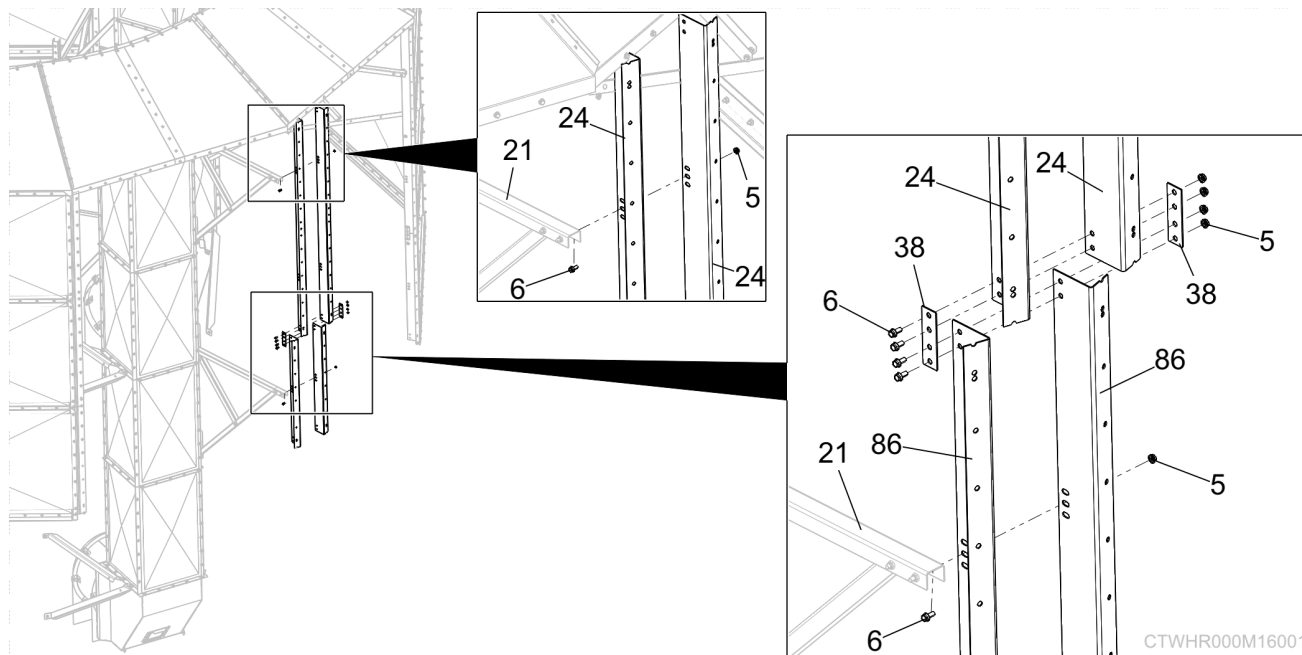
The short vertical supports are only used when there is an odd number of enclosure wall sheet rings. The standard vertical supports span two enclosure wall sheets and the short vertical support only spans one enclosure wall sheet. These are only used in GT4–1590, GT4–1587, and GT4–1583.

What You Should Know

The vertical support will be off to one side on the enclosure support. This chosen direction should be held consistently around the circumference of the dryer.

1. Align the top set of slots in the enclosure vertical supports (24).
2. Align the middle slot with the hole at the end of the enclosure horizontal supports (21) and fasten using bolt (6) and nuts (5).
3. Align the middle slot of the enclosure short horizontal supports (86) with the hole at the end of the enclosure horizontal supports (21) and fasten using bolt (6) and nuts (5).
4. Connect the enclosure vertical supports (24) and the enclosure short horizontal supports (86) together by aligning the ends and overlapping the seam with the vertical rail splices (38).
5. Align all the holes and connect together using bolts (6) and nuts (5).

Figure 5-5 *Enclosure short vertical supports*



5	5/16 in. flange nut (S-10268)	21	Enclosure horizontal support (see parts)
	5/16 in. flange nut waxed (S-8452)*	24	Enclosure vertical support (see parts)
6	5/16 x 3/4 in. flange bolt (S-6606)	38	Vertical rail splice (see parts)
	5/16 x 3/4 in. flange bolt SS (S-8956)*	86	Enclosure short vertical support (see parts)

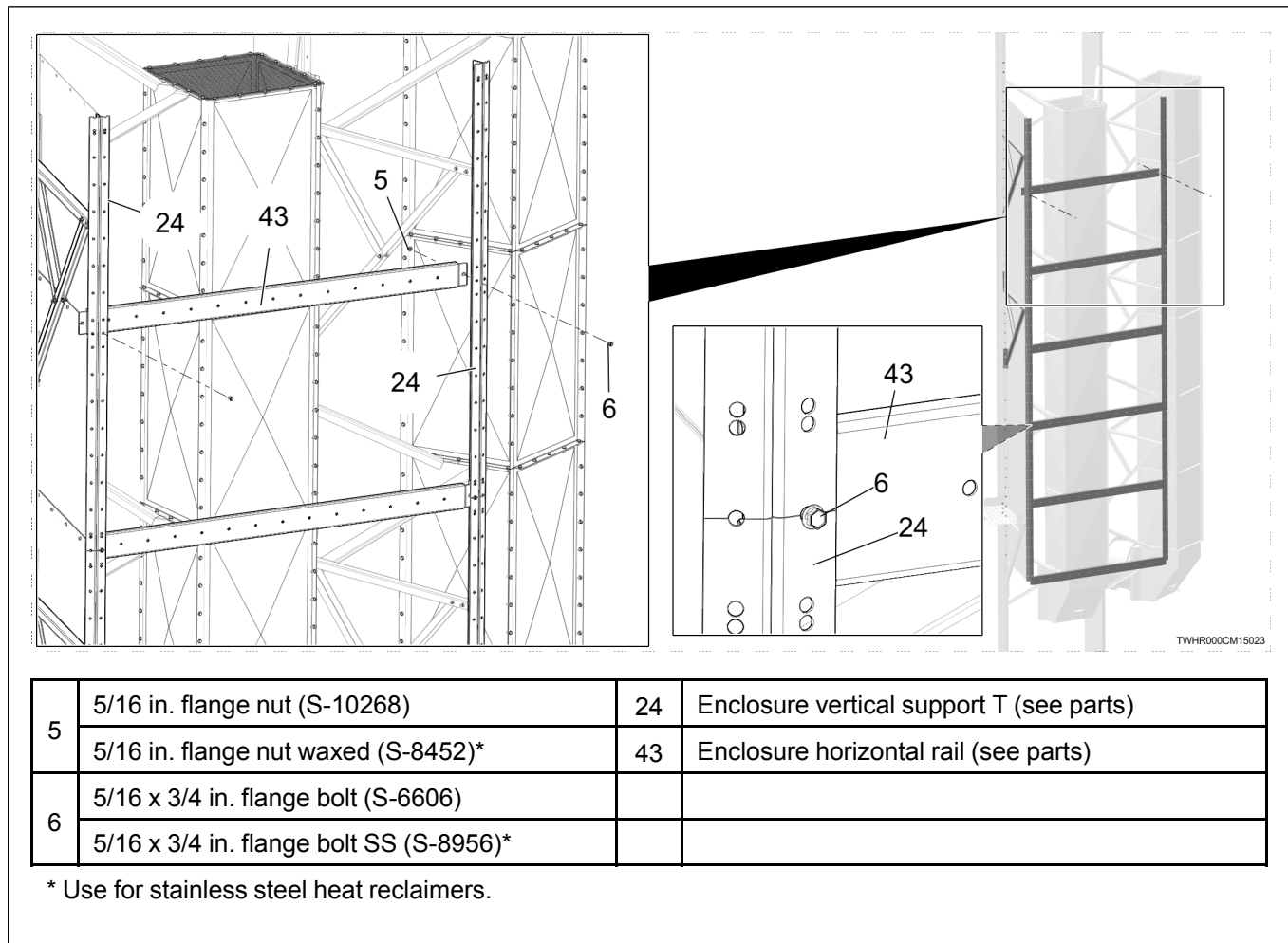
* Use for stainless steel heat reclaimers.

Installing the Enclosure Horizontal Rail

The enclosure horizontal rail connects to the vertical supports to support the enclosure walls.

1. Align the enclosure horizontal rails (43) in the 10th hole down from the top of the enclosure vertical supports (24).
2. Install the enclosure horizontal rails (43) to the inside of the enclosure vertical supports (24) using bolts (6) and nuts (5).
3. Install the remaining enclosure horizontal rails (43) spaced nine vertical holes apart.

Figure 5-6 Enclosure horizontal rail



Installing the Enclosure Wall Sheets

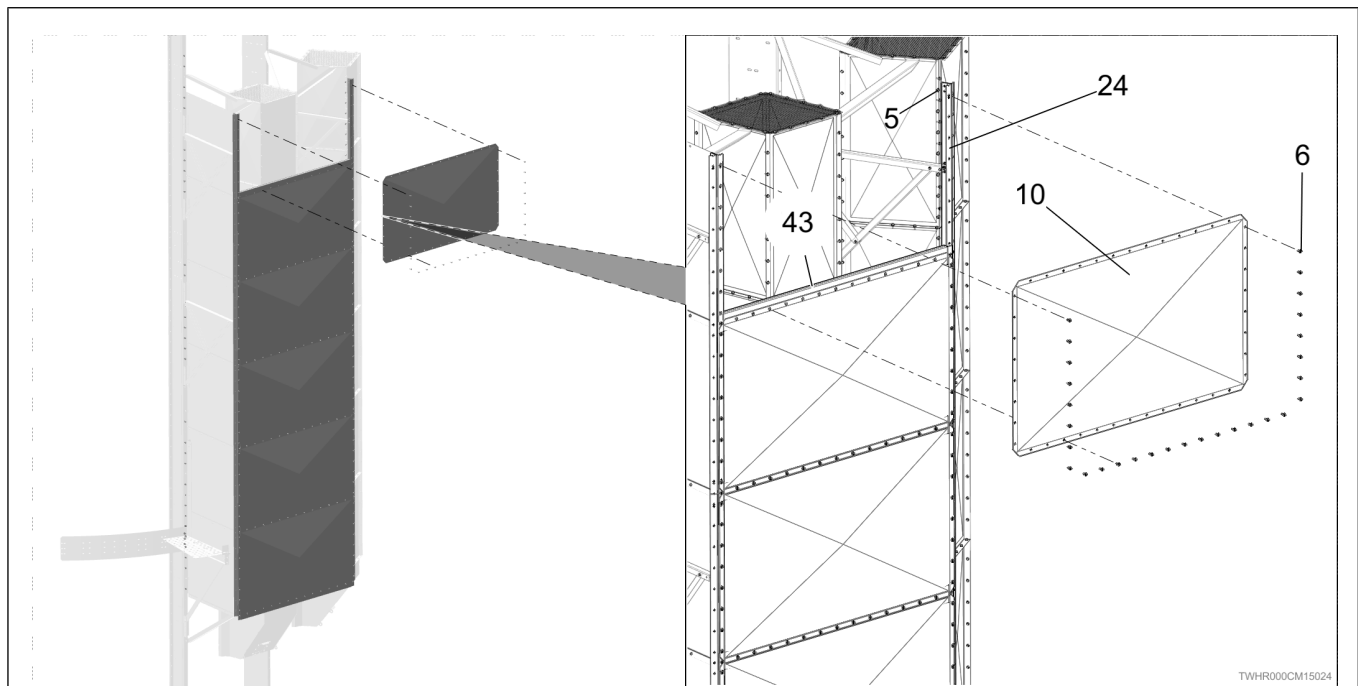
The enclosure wall sheets make up the main body of the heat reclaimer.

1. Install the enclosure wall sheets (10) starting from the top.
2. Align the enclosure wall sheets (10) with the top most enclosure horizontal rail (43).
3. Install the enclosure wall sheets (10) to the enclosure horizontal rail (43) and enclosure vertical supports (24) using bolts (6) and nuts (5).
4. Overlap and fasten the next enclosure wall sheet (10) to the enclosure horizontal rail (43) and enclosure vertical supports (24) using bolts (6) and nuts (5).

NOTE: *The enclosure wall sheets overlap only on the horizontal seams.*

5. Continue until all enclosure wall sheets (10) are installed.

Figure 5-7 Enclosure wall sheets



5	5/16 in. flange nut (S-10268)	10	Enclosure wall sheet - (see parts)
	5/16 in. flange nut waxed (S-8452)*	24	Enclosure vertical support (see parts)
6	5/16 x 3/4 in. flange bolt (S-6606)	43	Enclosure horizontal rail (see parts)
	5/16 x 3/4 in. flange bolt SS (S-8956)*		

* Use for stainless steel heat reclaimers.

Installing the Heat Shield Wall for the Ladder Enclosure

An enclosure heat shield will be installed where a ladder or catwalk exists inside the heat enclosure area.

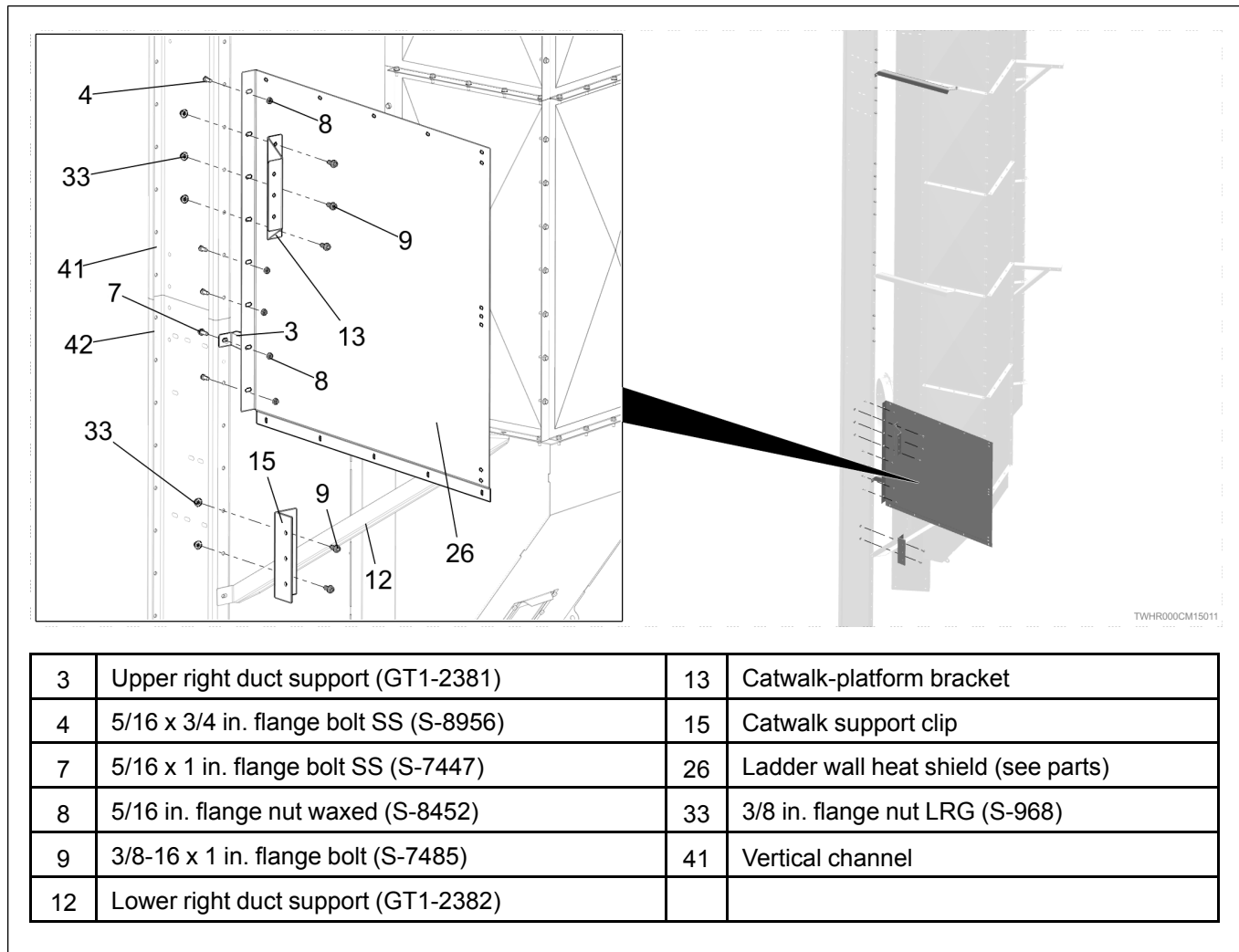
1. Install the catwalk support clip (15) to the vertical channel (41) above the lower right duct support (12) using bolts (9) and nuts (33).
2. Install the ladder wall heat shield (26) to the vertical channels (41) using bolts (8) and nuts (4) in all locations except for where the catwalk-platform bracket (13) is installed.

NOTE: Install the bolt heads to the inside of the grain column. The upper right duct support (3) is installed between the ladder wall heat shield (26) and the vertical channel (42) using bolt (7) and nut (8).

3. Install the catwalk-platform bracket (13) to the ladder wall heat shield (26) and vertical channel (41) using bolts (9) and nuts (10).

NOTE: Install the bolt heads from the catwalk-platform bracket (13) side.

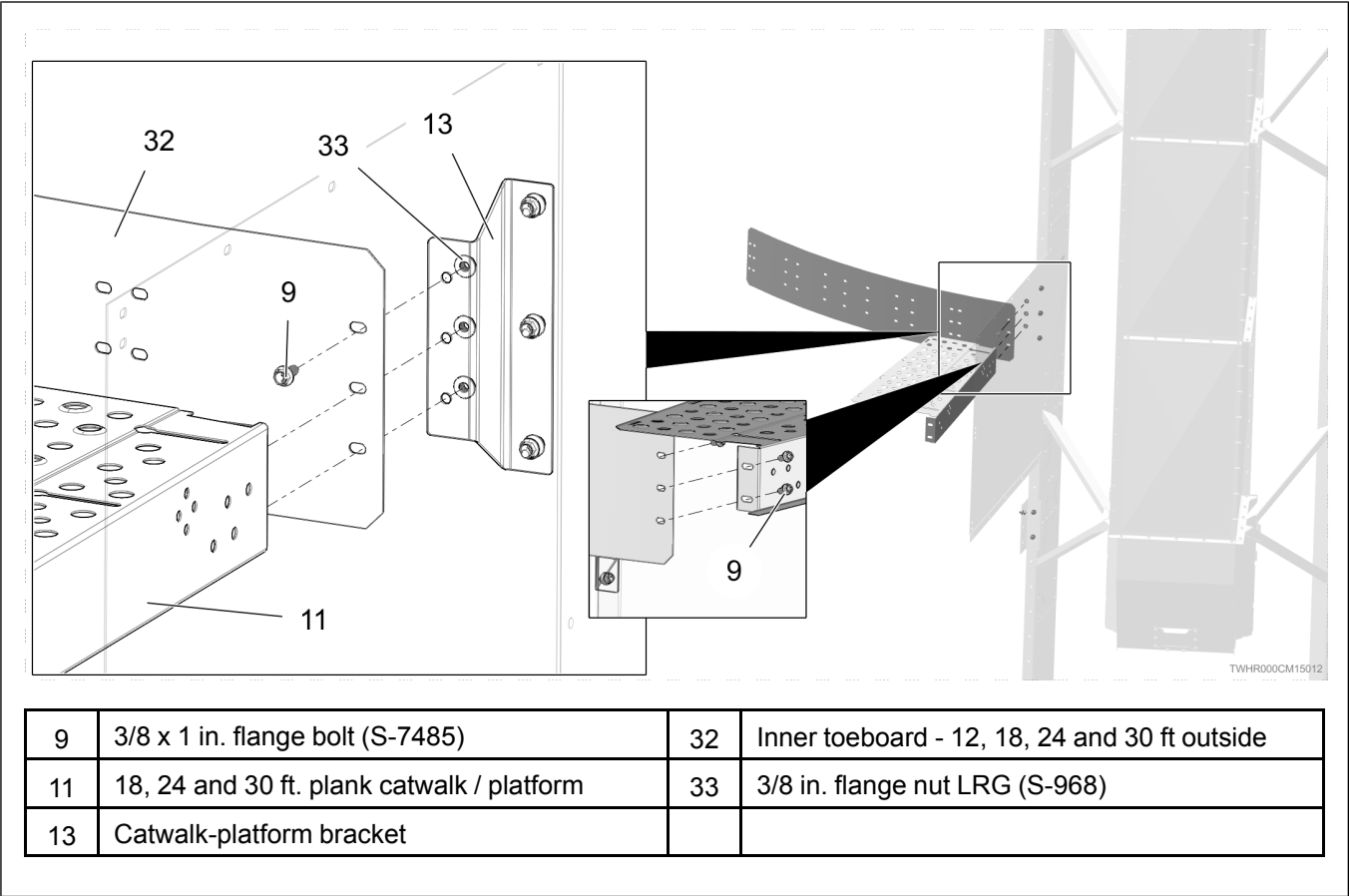
Figure 5-8 Ladder wall heat shield to vertical channel



Chapter 5: Enclosure Installation

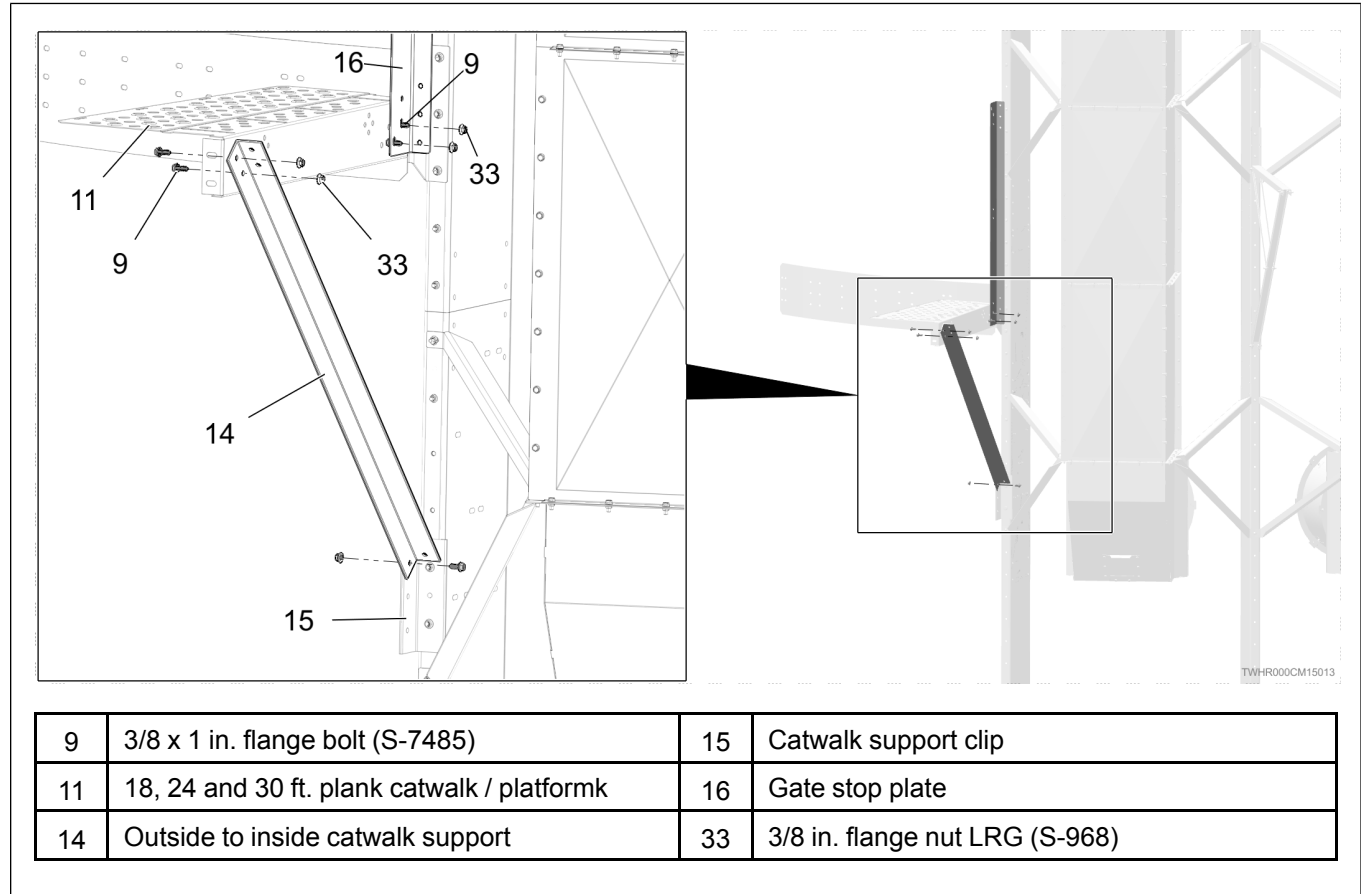
- 4. Install the inner toeboard (32) to the catwalk-platform bracket (13) using bolt (9) and nut (33) through the top hole.
- 5. Install the plank (11) and the inner toeboard (32) to the catwalk-platform bracket (13) using bolts (9) and nuts (33).

Figure 5-9 Catwalk to vertical channel connections



6. Install the gate stop plate (16) to the plank (11) using bolts (9) and nuts (33).
7. Install the outside to inside catwalk support (14) to the plank (11) and the catwalk support clip (15) using bolts (9) and nuts (33).

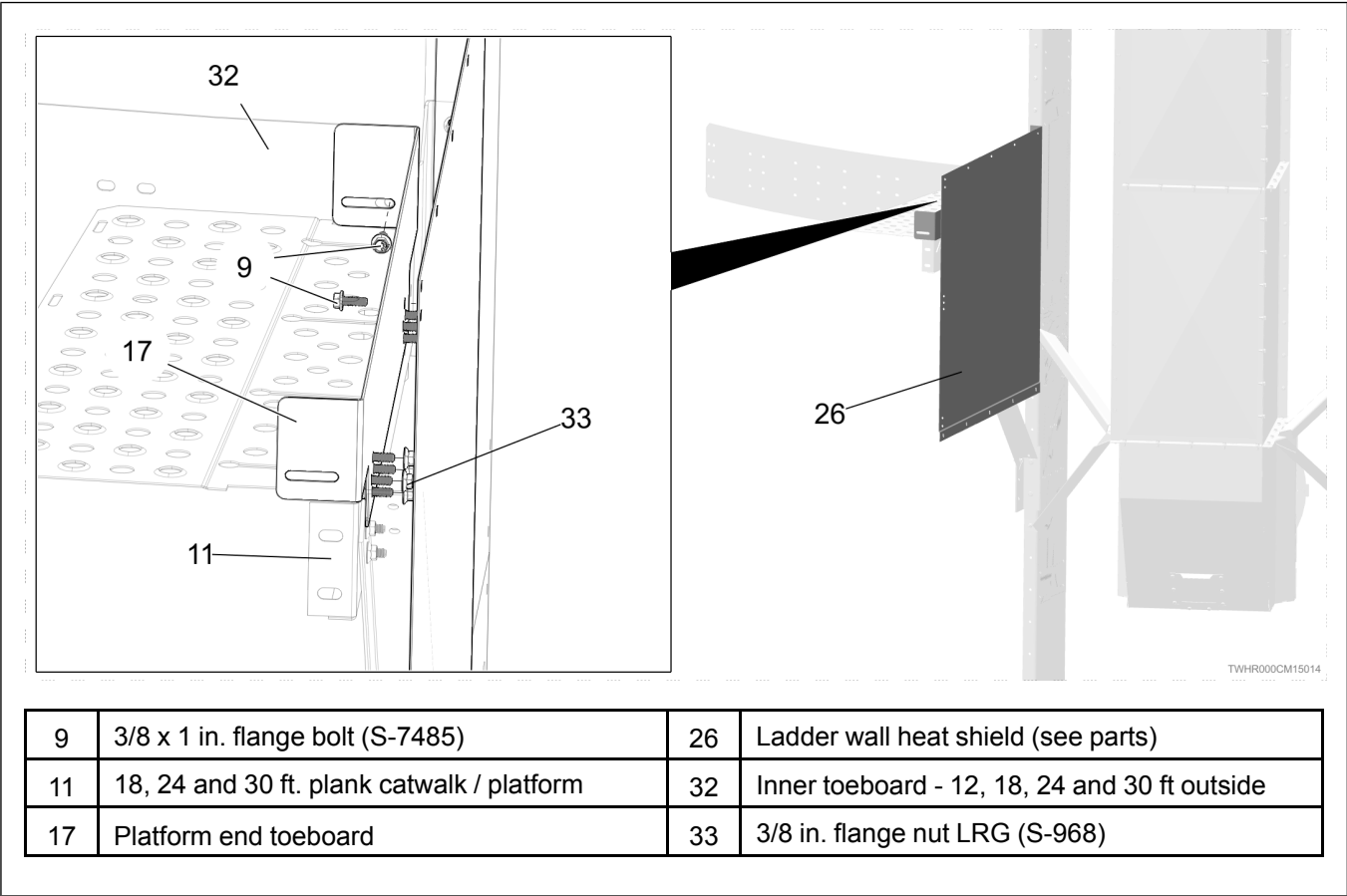
Figure 5-10 Catwalk support



8. Install the end toeboard (17) to the plank (11) and inner toeboard (32) using bolts (9) and nuts (33).

NOTE: *Install the head of the bolts to the inside of the platform.*

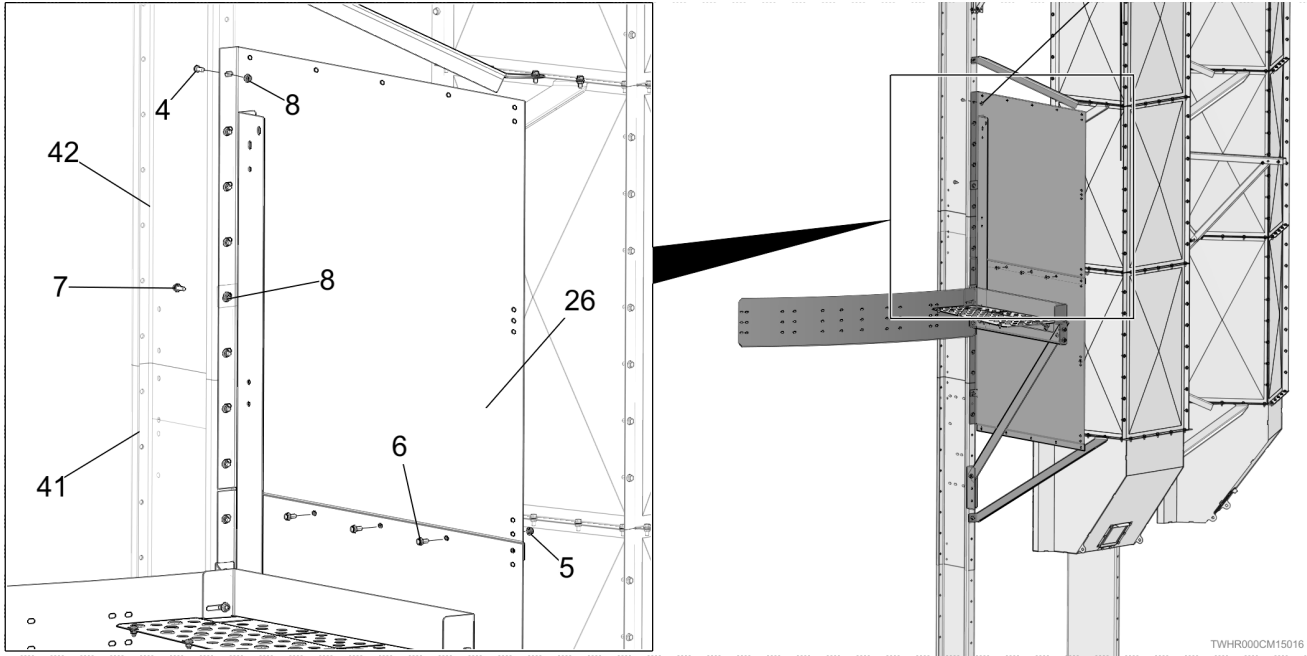
Figure 5-11 Catwalk toeboards



9. Install the next ladder wall heat shield (26) to the previous ladder wall heat shield (26) using bolts (6) and nuts (5).
10. Attach the ladder wall heat shield (26) to the vertical channels (41) using bolts (4) and nuts (8) except where the duct support is located.

NOTE: Use bolt (7) and nut (8) in the hole where the duct support is located.

Figure 5-12 Ladder wall heat shield panel



4	5/16 x 3/4 in. flange bolt SS (S-8956)	7	5/16 x 1 in. flange bolt SS (S-7447)
5	5/16 in. flange nut (S-10268)	8	5/16 in. flange nut waxed (S-8452)
	5/16 in. flange nut waxed (S-8452)*	26	Ladder wall heat shield (see parts)
6	5/16 x 3/4 in. flange bolt (S-6606)	41	Vertical channel
	5/16 x 3/4 in. flange bolt SS (S-8956)*		

* Use for stainless steel heat reclaimers.

Installing the Vertical Supports to the Heat Shield

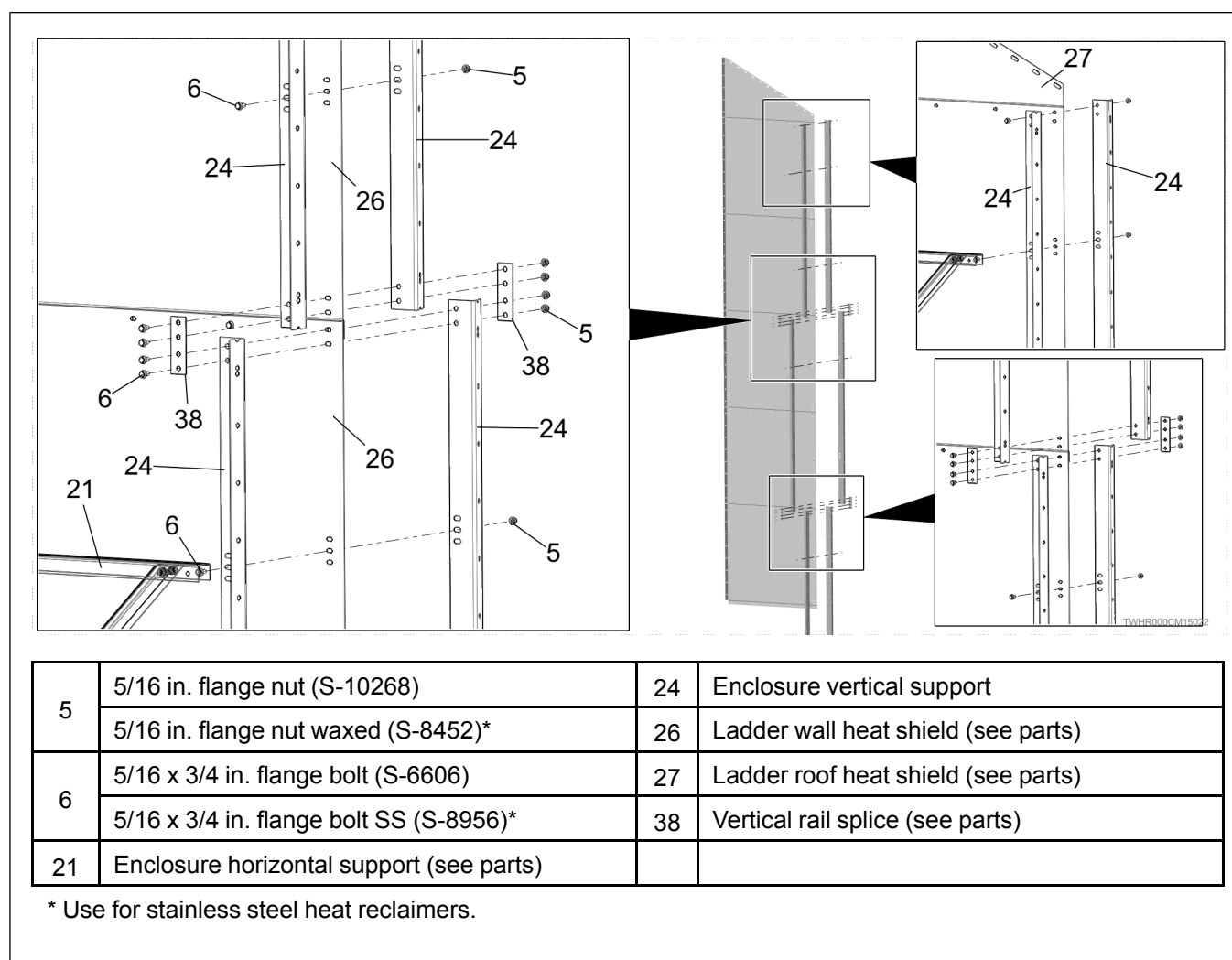
The vertical supports must be installed to the heat shield wall where there is a ladder or catwalk.

1. Place the ladder wall heat shield (26) between the enclosure vertical supports (24).

NOTE: You can install the heat shield to one side of the supports as long as it is maintained consistently around the circumference of the dryer.

2. Align the slots in the enclosure vertical supports (24) with the middle set of holes in the ladder wall heat shield (26).
3. Align the middle slot with the hole at the end of the enclosure horizontal support (21) and fasten using bolt (6) and nuts (5).
4. Align the enclosure vertical supports ends (24) with the vertical rail splices (38) on each side of the ladder wall heat shield (26).
5. Connect the vertical rail splices (38), the enclosure vertical supports (24), and the ladder wall heat shield (26) using bolts (6) and nuts (5).
6. Continue until the enclosure vertical supports (24) have been connected to all the enclosure horizontal supports (21) and ladder wall heat shields (26).

Figure 5-13 Ladder wall heat shield and vertical supports



6 Heat Reclaim Parts

Topics Covered in this Chapter

- Parts List

Parts List

NOTE: For a **stainless steel** heat reclaim, add **"-SS"** to the end of the base numbers that are highlighted with an asterisk **"*"**.

Table 6-1 Duct assembly

Item	Part	Description
1	GT1-2380	Lower Left Duct Support
	GT1-2496	Lower Left Duct Support - (1200-1500 BPH)
2	GT1-2379	Upper Left Duct Support
	GT1-2495	Upper Left Duct Support - (1200-1500 BPH)
3	GT1-2381	Upper Right Duct Support
	GT1-2497	Upper Right Duct Support - (1200-1500 BPH)
4	S-8956	Flange Bolt 5/16 x 3/4 in. SS
5	S-10268	Flange Nut 5/16 in. JS500 Grade 5
6	S-6606	Flange Bolt 5/16 x 3/4 in. ZN Grade 5
7	S-7447	Flange Bolt 5/16 x 1 in. SS (Full Thread)
8	S-8452	Flange Nut 5/16 in. SS Waxed (Must be Waxed)
9	S-7485	Flange Bolt 3/8 x 1 in. JS500 Grade 8 or 8.2
10*	GT1-2187	12 ft. Enclosure Wall Sheet
	GT1-1450	18 ft. Enclosure Wall Sheet
	GT1-1269	24 ft. Enclosure Wall Sheet
	GT1-1269-30	30 ft. Enclosure Wall Sheet
11	GT1-2033	18, 24 and 30 ft. Plank Catwalk / Platform
12	GT1-2382	Lower Right Duct Support
	GT1-2498	Lower Right Duct Support - (1200-1500 BPH)
13	GT1-2036	Bracket, Catwalk/Platform To Dryer Wall
14	GT1-2039-BS	Support, Outside/Inside Catwalk
15	GT1-2040-BS	Clip, Catwalk Support - Bin Silver
16	GT1-2091	Plate, Swing Gate Stop
17	GT1-2095	End Toeboard, Platform

Chapter 6: Heat Reclaim Parts

Table 6-1 *Duct assembly (cont'd.)*

Item	Part	Description
18	GT1-2204	Duct Pass-Thru Window
19	GT1-2243	Pass-Thru Window Tab
20	GT1-2244	Pass-Thru Window Flashing
89	GT1-2510	Duct Window Sheet
90	NA	Sidewall Sheet
91	CH-6873	Silicone Caulk

Table 6-2 *Enclosure support assembly*

Item	Part	Description
48*	GT4-1514	Enclosure Support (1 Count)
	GT4-1509	12 ft. Enclosure Support (1 Count) - (1200-1500 BPH)
21*	GT1-2246	Enclosure Horizontal Support
	GT1-2199	12 ft. Enclosure Horizontal Support
23*	GT1-2247	Enclosure Angle Support
	GT1-2198	12 ft. Enclosure Angle Support
25*	GT1-2249	Angle Tie Strap
35*	801-2020-7	Catwalk Clip
24*	GT1-2238	12 ft. Enclosure Vertical Support
	GT1-2248	18 ft. Enclosure Vertical Support
	GT1-1266	24 ft. Enclosure Vertical Support
	GT1-1266-30	30 ft. Enclosure Vertical Support
86*	GT1-2511	12 ft. Enclosure Short Vertical Support
	GT1-2512	18 ft. Enclosure Short Vertical Support
26*	GT1-2298	Ladder Wall Heat Shield
	GT1-2325	12 ft. Ladder Wall Heat Shield
27*	GT1-2299	Ladder Roof Heat Shield
	GT1-2326	12 ft. Ladder Roof Heat Shield
28	GT4-1533	40 in. Straight Duct Section
44	GT1-2371	Duct Wall
29	GT1-2372	Top Duct Guard
30	GT4-1535	Duct Elbow Package
45	GT4-1534-BS	Duct Elbow
46	GT1-0074	Port, Discharge
47	GT1-0075	Plate, Discharge
31	S-7569	Fender Washer 5/16 x 1-1/2 in. ZN
32	GT1-2035	Inner Toeboard - 12, 18, 24 and 30 ft. Outside
33	S-968	Flange Nut LRG 3/8 in. ZN Grade 5

Table 6-2 Enclosure support assembly (cont'd.)

34*	GT1-2189L	Left Roof Panel - 12 ft. Enclosure
	GT1-1446L	Left Roof Panel - 18 ft. Enclosure
	GT1-1264L	Left Roof Panel - 24 ft. Enclosure
	GT1-1264-30L	Left Roof Panel - 30 ft. Enclosure
37*	GT1-2189R	Right Roof Panel - 12 ft. Enclosure
	GT1-1446R	Right Roof Panel - 18 ft. Enclosure
	GT1-1264R	Right Roof Panel - 24 ft. Enclosure
	GT1-1264-30R	Right Roof Panel - 30 ft. Enclosure
38*	GT1-1267	Vertical Rail Splice
39	GT1-0001	Vertical Channel - 80 in. 10 Gauge
40*	GT1-2188	Enclosure Roof Flashing - 12 ft.
	GT1-1445	Enclosure Roof Flashing - 18 ft.
	GT1-1263	Enclosure Roof Flashing - 24 ft.
	GT1-1263-30	Enclosure Roof Flashing - 30 ft.
41	GT1-0205	Vertical Channel - 40 in.
42	GT1-0035	Vertical Channel - 80 in. 8 Gauge
43*	GT1-2221	12 ft. Enclosure Horizontal Rail
	GT1-1449	18 ft. Enclosure Horizontal Rail
	GT1-1268	24 ft. Enclosure Horizontal Rail
	GT1-1268-30	30 ft. Enclosure Horizontal Rail
88	GT1-2504	Elbow Duct Cap
87	GT1-2505	Elbow Duct Cap Tab
B	NA	Leave hole open until later.

NOTES

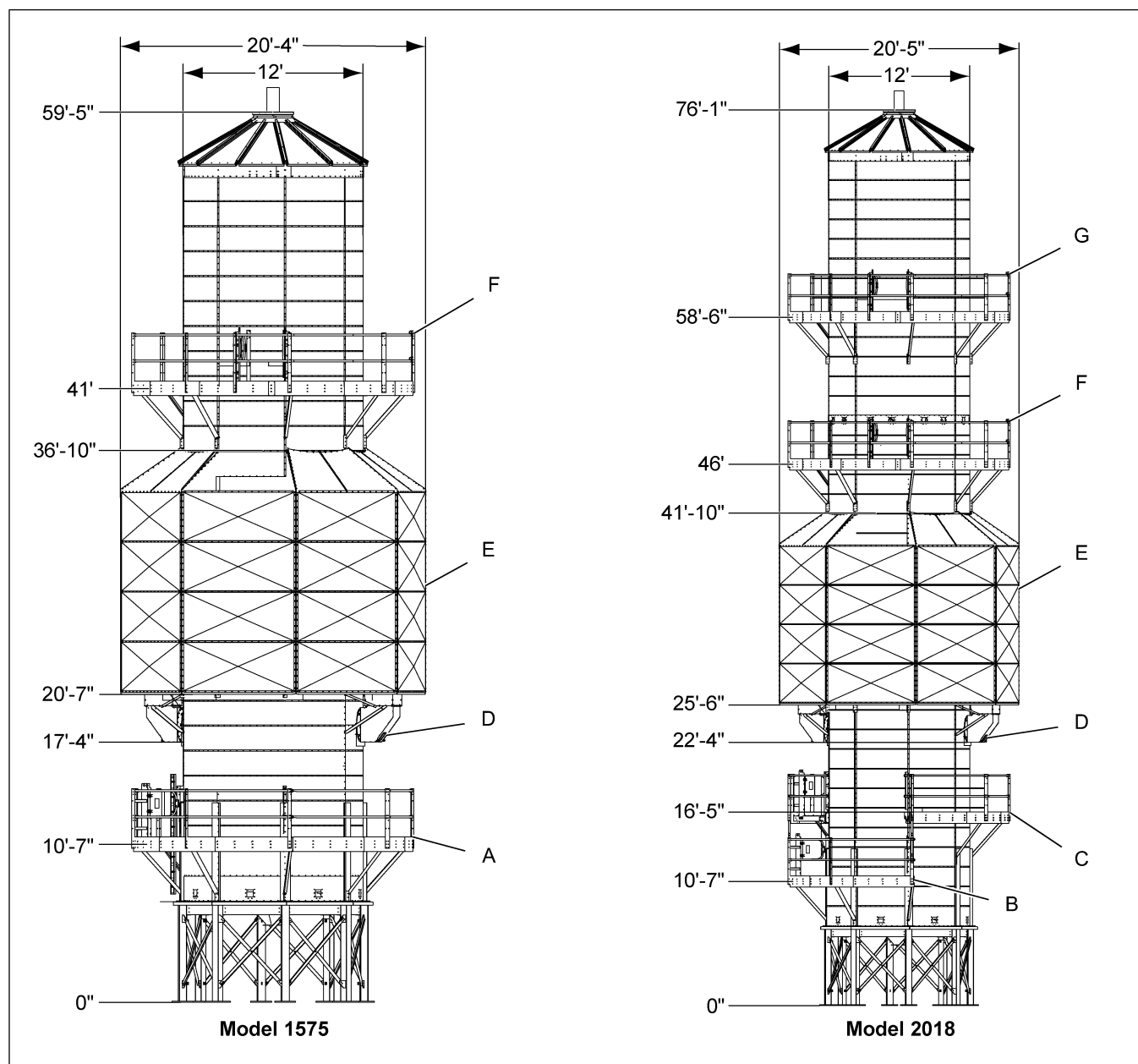
7 Appendix

Topics Covered in this Chapter

- Dryer Dimensions

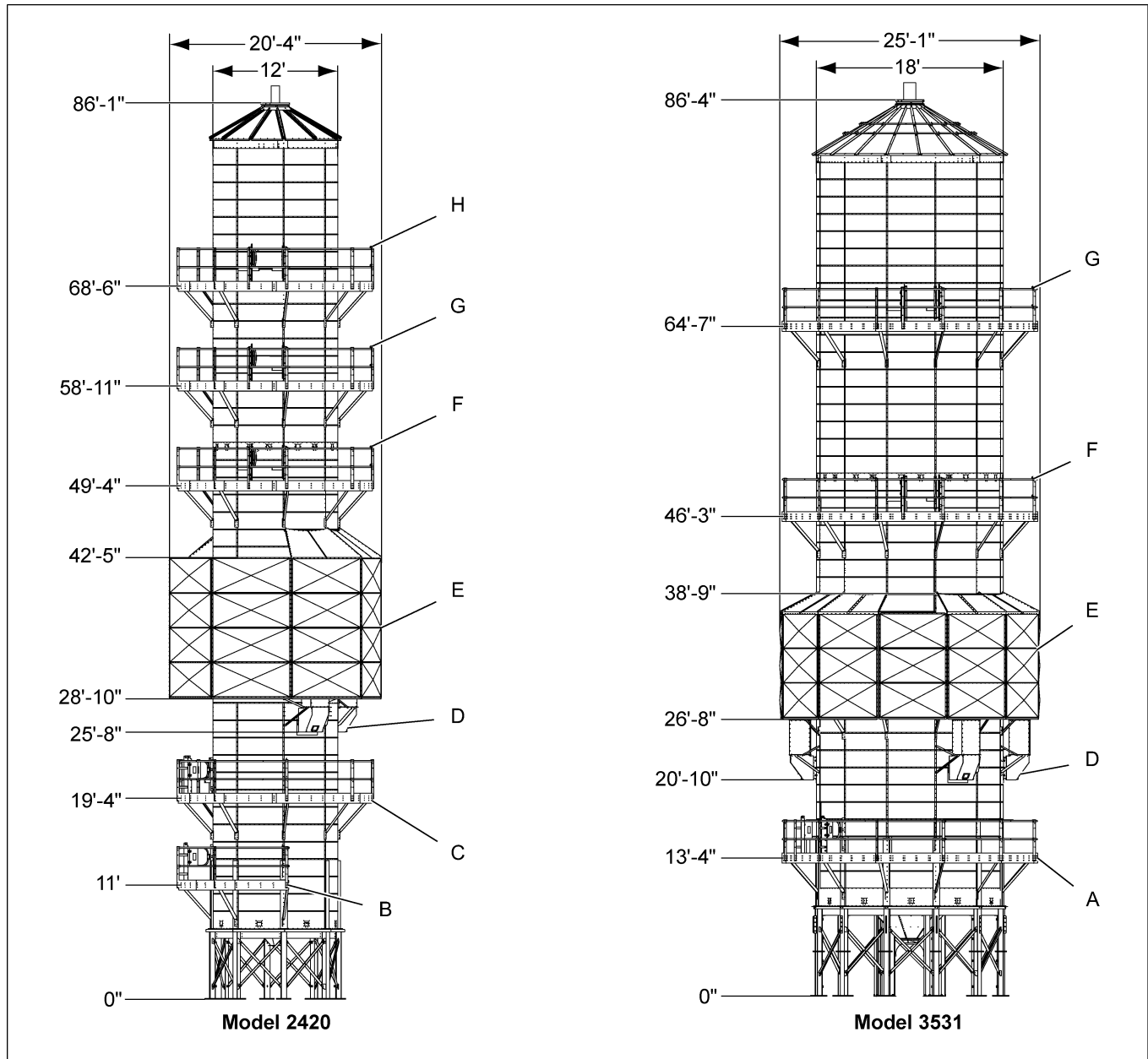
Dryer Dimensions

Figure 7-1 Dryer dimensions - Models 1575 and 2018



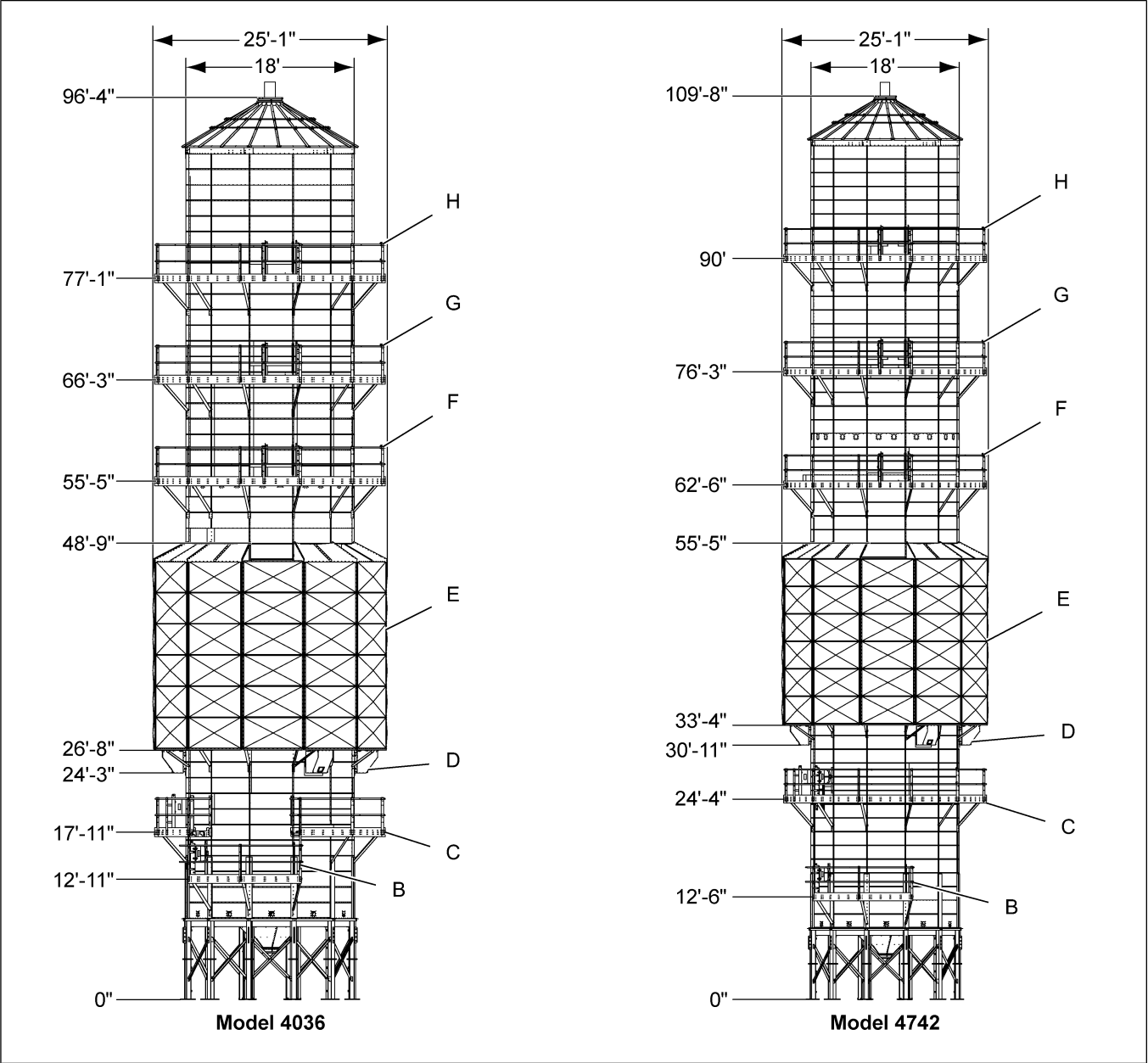
Callout	Description
A	Standard cool section platform and optional catwalk conversion package
B	Standard cool section platform #2
C	Optional catwalk
D	Heat reclaim ducts
E	Standard heat section platform hidden inside the enclosure
F	Standard catwalk #1
G	Standard catwalk #2

Figure 7-2 Dryer dimensions - Models 2420 and 3531



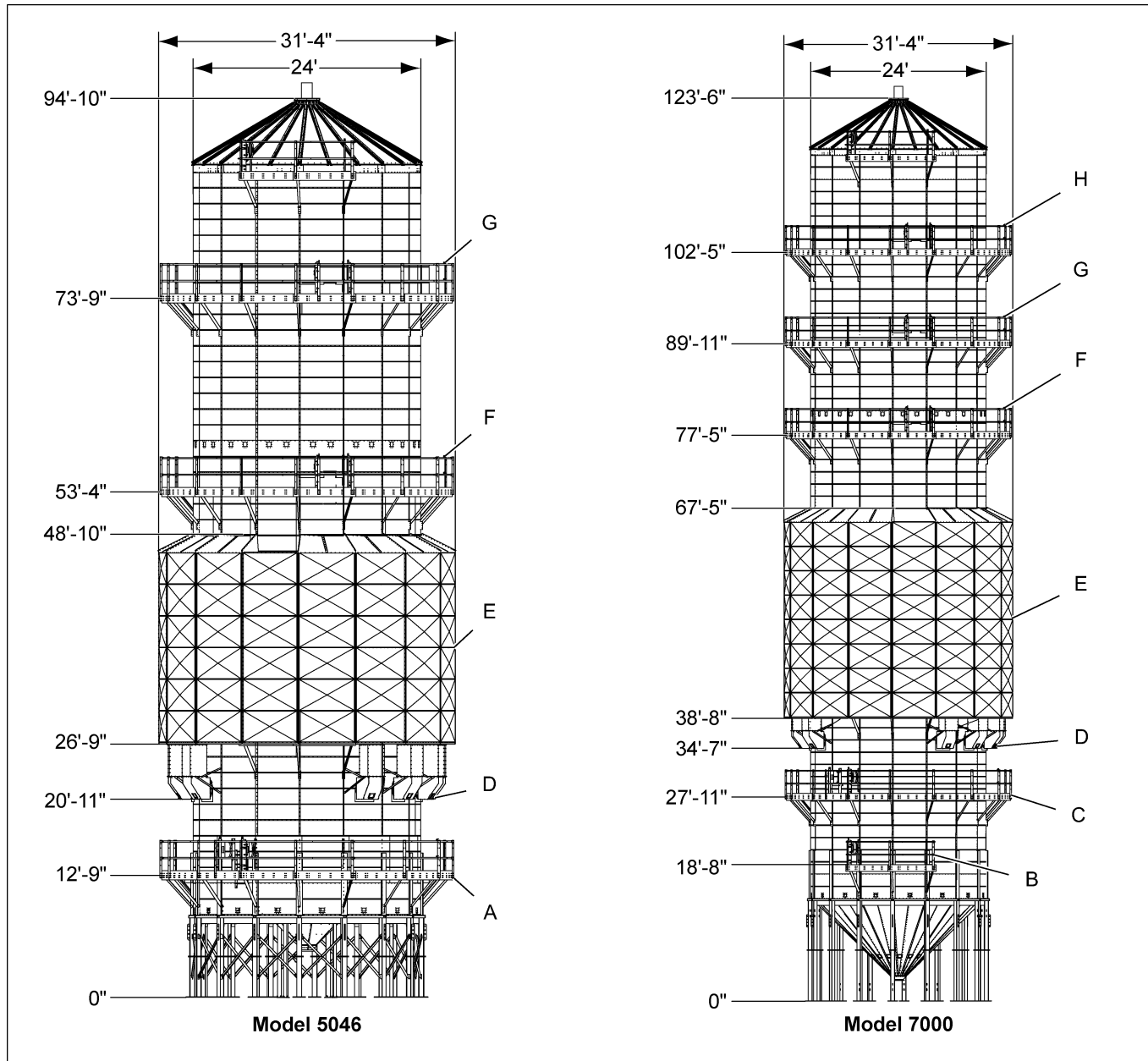
Callout	Description
A	Standard cool section platform and optional catwalk conversion package
B	Standard cool section platform #2
C	Optional catwalk
D	Heat reclaim ducts
E	Standard heat section platform hidden inside the enclosure
F	Standard catwalk #1
G	Standard catwalk #2
H	Standard catwalk #3

Figure 7-3 *Dryer dimensions - Models 4036 and 4742*



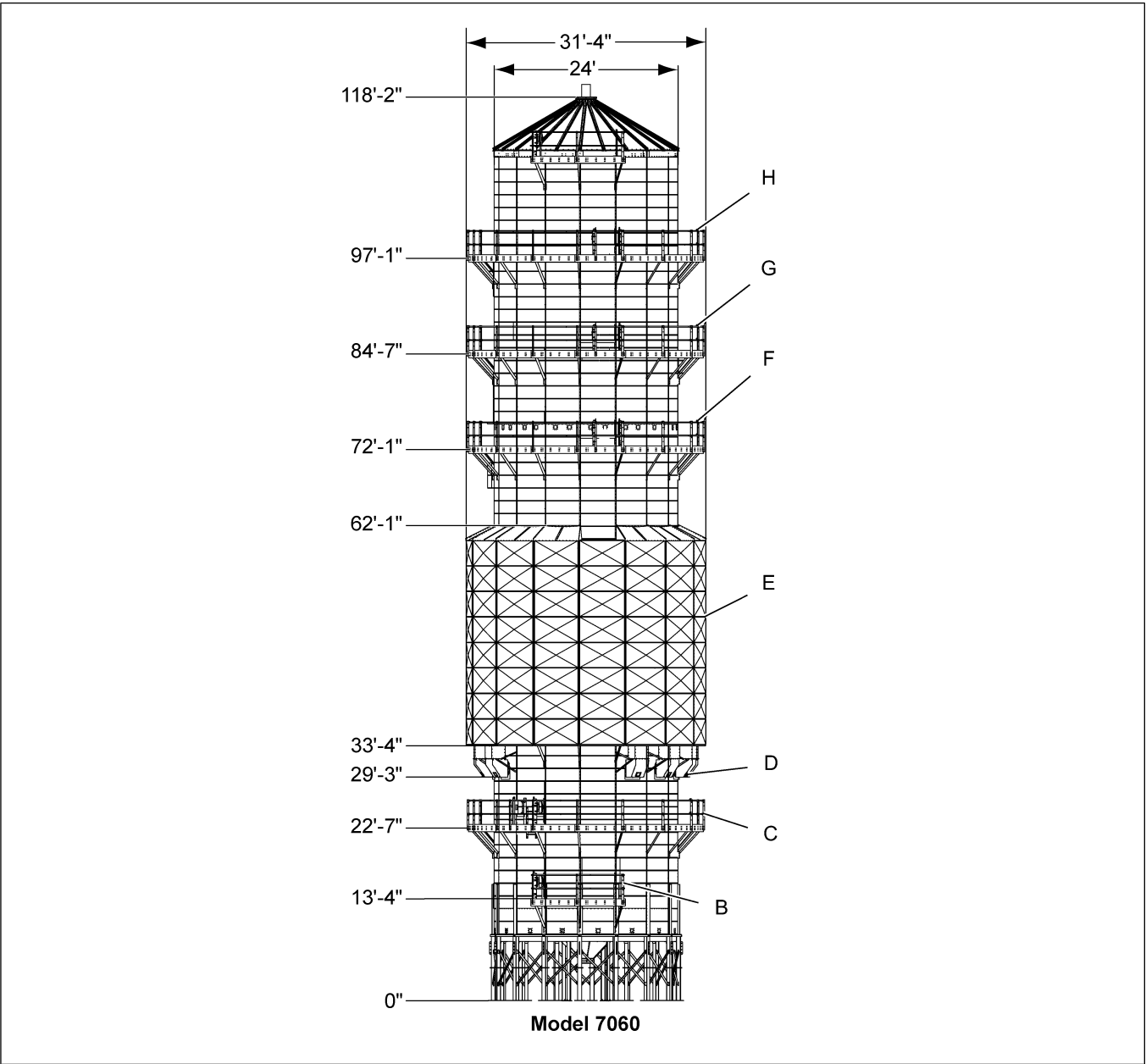
Callout	Description
B	Standard cool section platform #2
C	Optional catwalk
D	Heat reclaim ducts
E	Standard heat section platform hidden inside the enclosure
F	Standard catwalk #1
G	Standard catwalk #2
H	Standard catwalk #3

Figure 7-4 Dryer dimensions - Models 5046 and 7000



Callout	Description
A	Standard cool section platform and optional catwalk conversion package
B	Standard cool section platform #2
C	Optional catwalk
D	Heat reclaim ducts
E	Standard heat section platform hidden inside the enclosure
F	Standard catwalk #1
G	Standard catwalk #2
H	Standard catwalk #3

Figure 7-5 Dryer dimensions - Model 7060



Callout	Description
B	Standard cool section platform #2
C	Optional catwalk
D	Heat reclaim ducts
E	Standard heat section platform hidden inside the enclosure
F	Standard catwalk #1
G	Standard catwalk #2
H	Standard catwalk #3

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	5 Years
	• Sidewall, roof, doors, platforms and walkarounds • Flooring (when installed using GSI specified floor support system for that floor) • Hopper tanks (BFT, GHT, NCHT, and FCHT)	
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 and internal wiring)	2 Years
	All Non-PTO Driven Centrifugal and Axial Fans	3 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 01 October 2020)

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.



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