



1000 1st Ave



HARDY HOTEL

























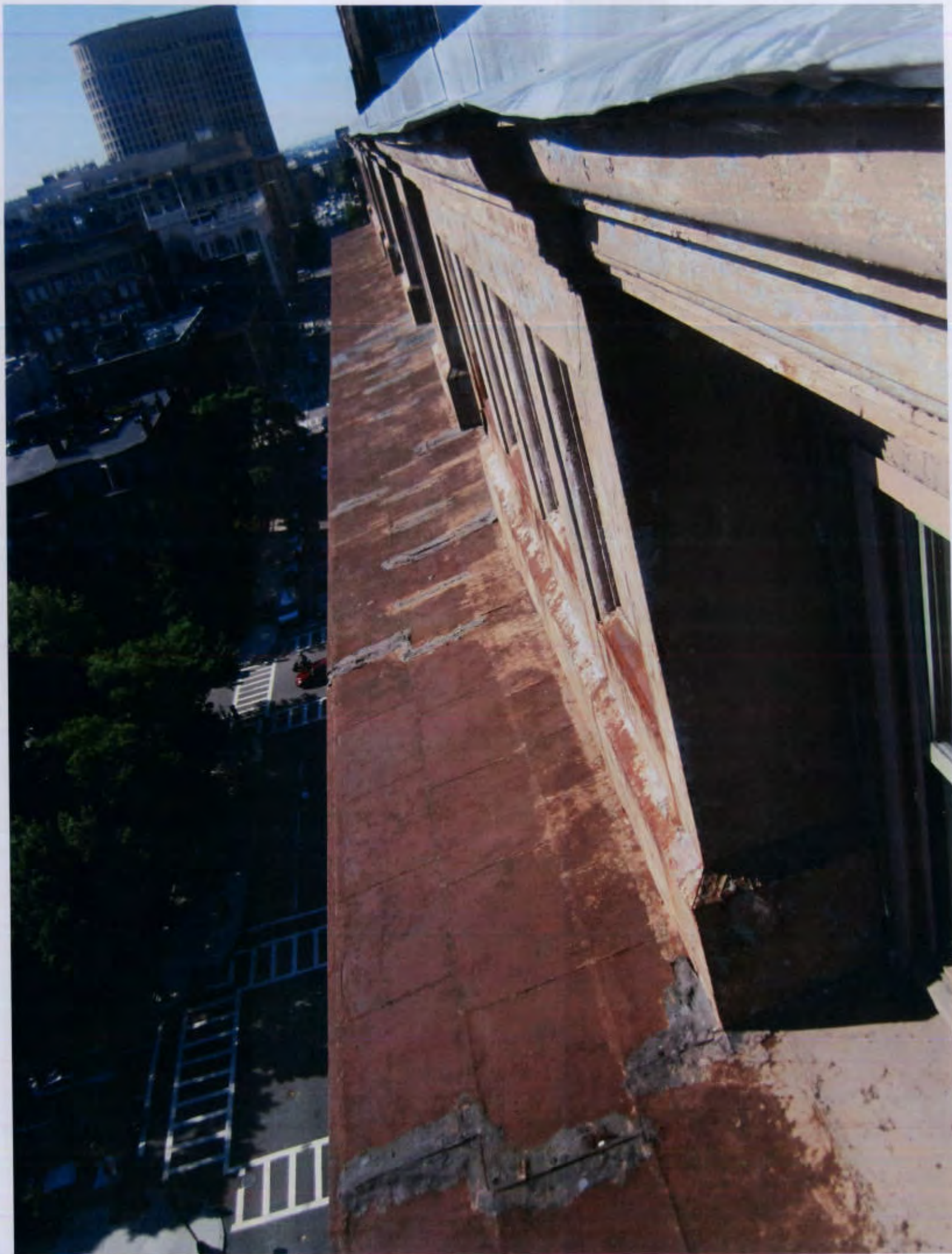












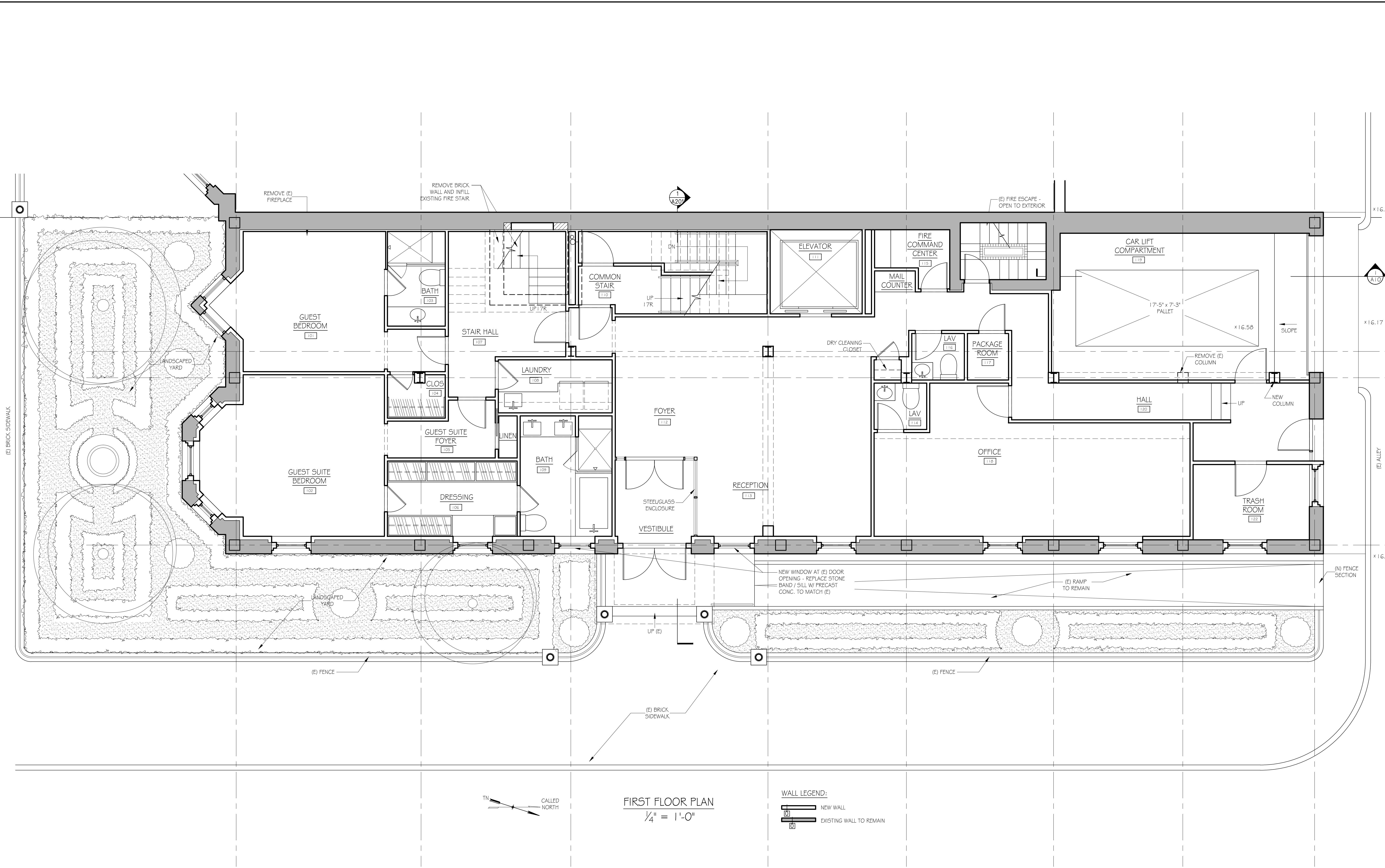








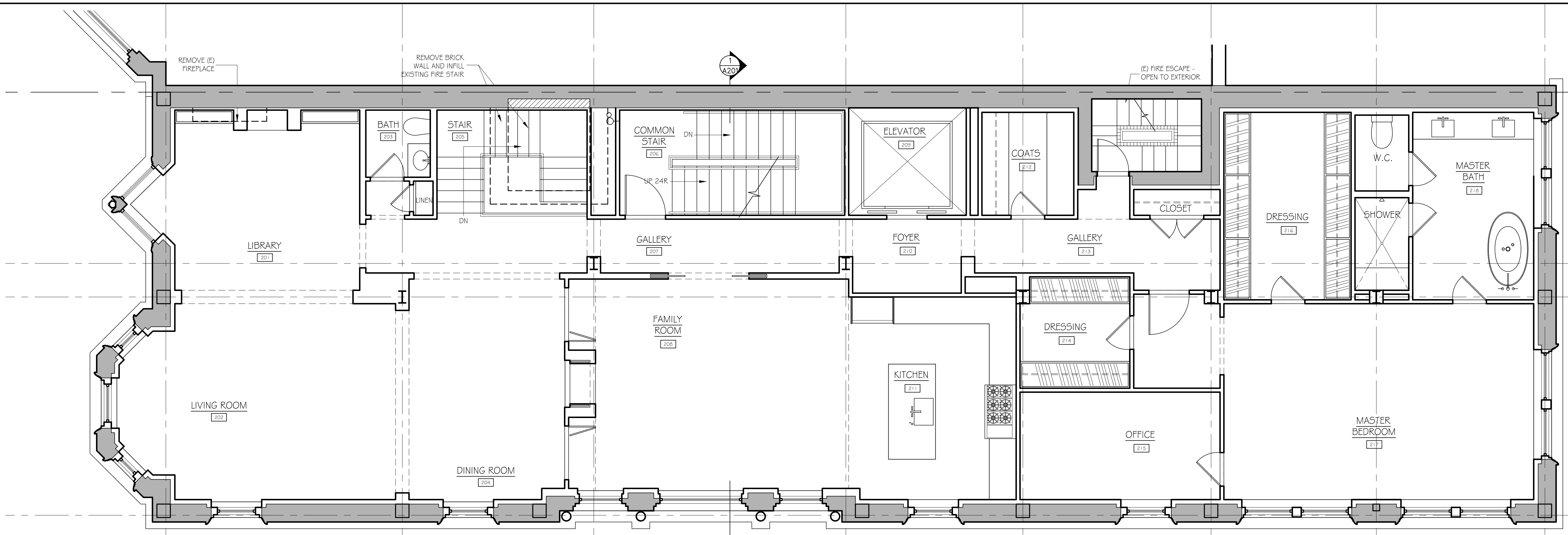




FIRST FLOOR PLAN
 $\frac{1}{4}'' = 1'-0''$

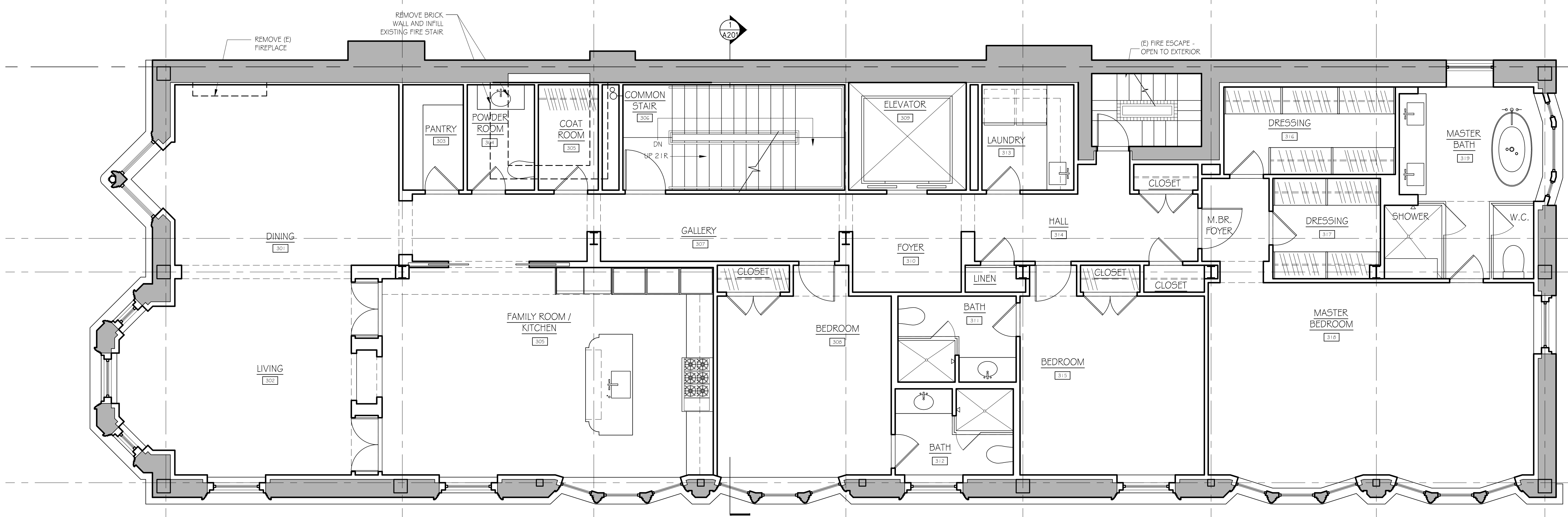
WALL LEGEND:

JOB NO: 1610	SCALE: 3/4" = 1'-0"
DATE: 06.18.18	REVISED



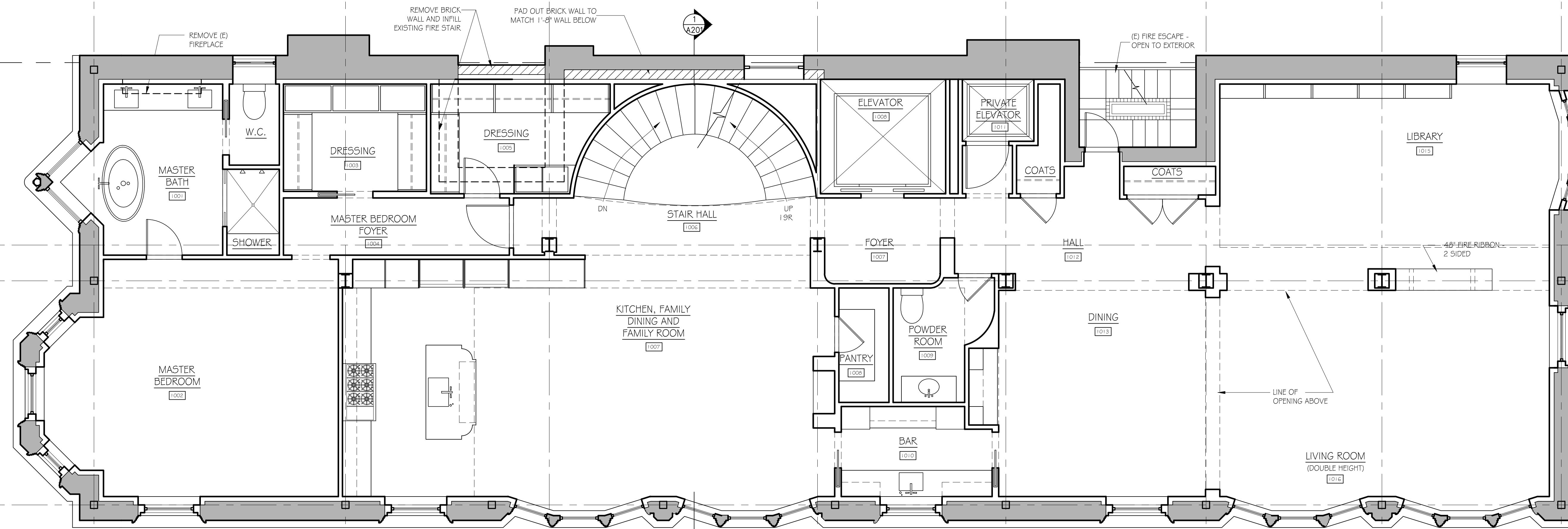
SECOND FLOOR PLAN
1/4" = 1'-0"

WALL LEGEND:
 NEW WALL
 EXISTING WALL TO REMAIN





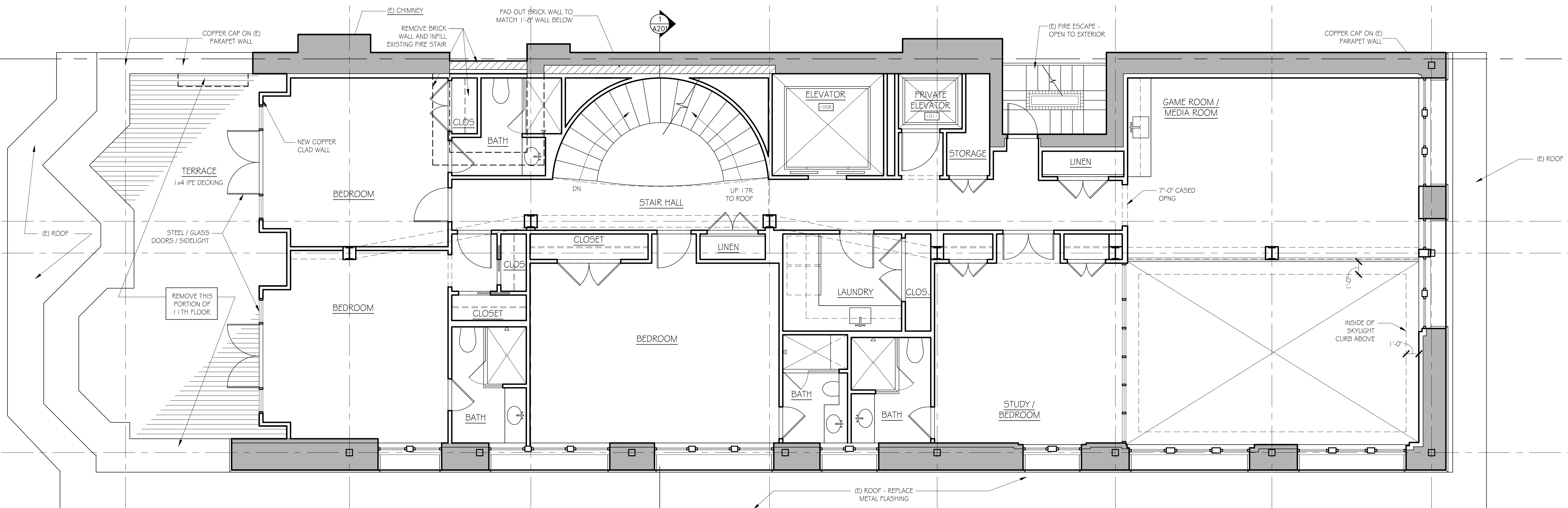
THIRD - NINTH TYPICAL FLOOR PLANS
1/4" = 1'-0"

WALL LEGEND:
 NEW WALL
 EXISTING WALL TO REMAIN





TENTH FLOOR PLAN
 $\frac{1}{4}'' = 1'-0''$

WALL LEGEND:
 NEW WALL
 EXISTING WALL TO REMAIN



ELEVENTH FLOOR PLAN
 $\frac{1}{4}'' = 1'-0''$

WALL LEGEND:
 NEW WALL
 EXISTING WALL TO REMAIN

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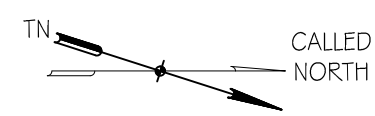
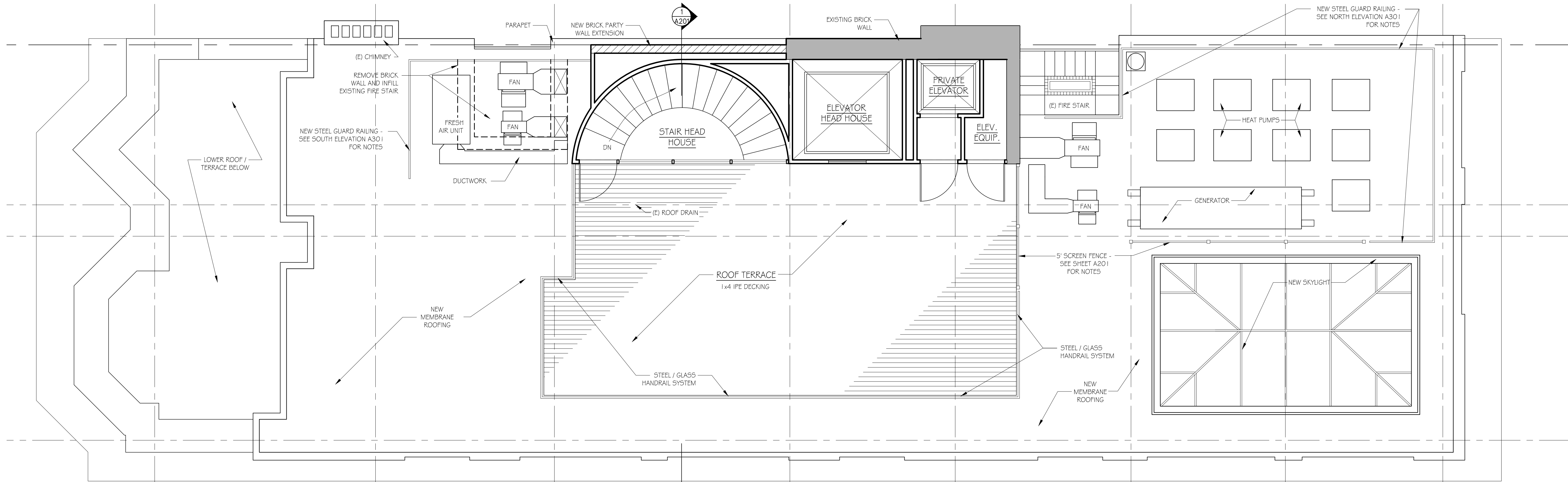
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BG BEAUCHEMIN GRASSI INTERIORS

JOB NO.: 1610
 SCALE: $\frac{1}{4}'' = 1'-0''$
 DATE: 06.18.18
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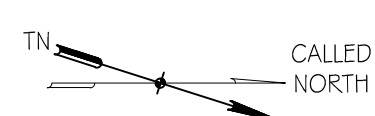
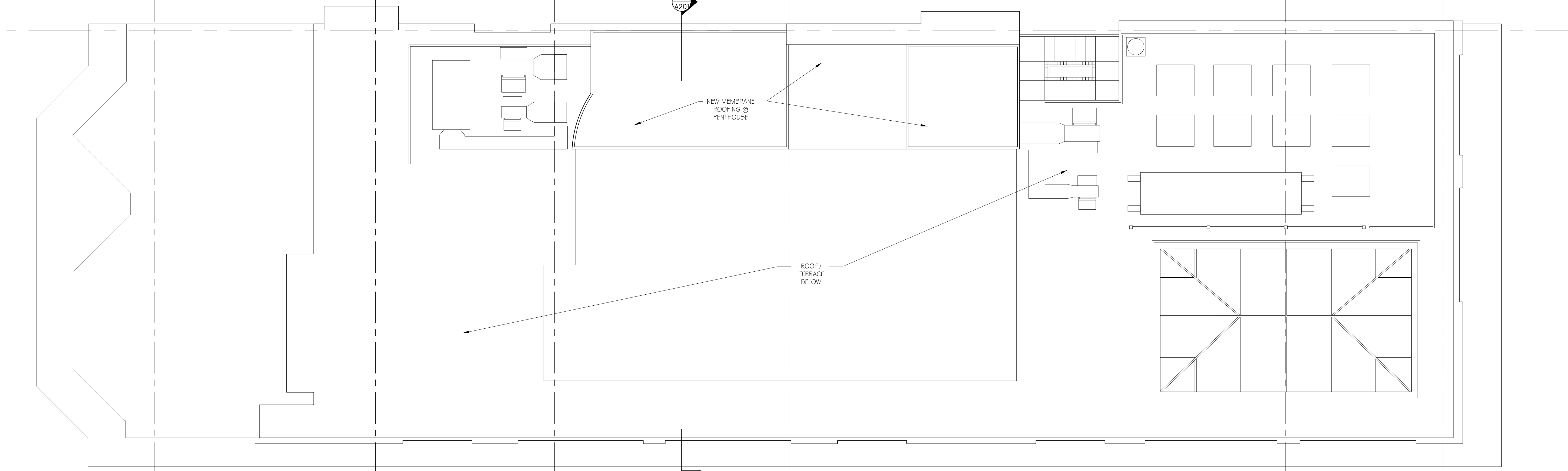
TENTH AND ELEVENTH
 FLOOR PLANS

A107



ROOF PLAN
1/4" = 1'-0"

WALL LEGEND:
 NEW WALL
 EXISTING WALL TO REMAIN



HEAD HOUSE ROOF PLAN
1/4" = 1'-0"

WALL LEGEND:
 NEW WALL
 EXISTING WALL TO REMAIN

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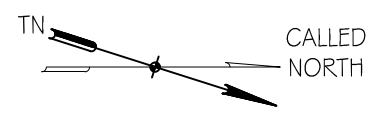
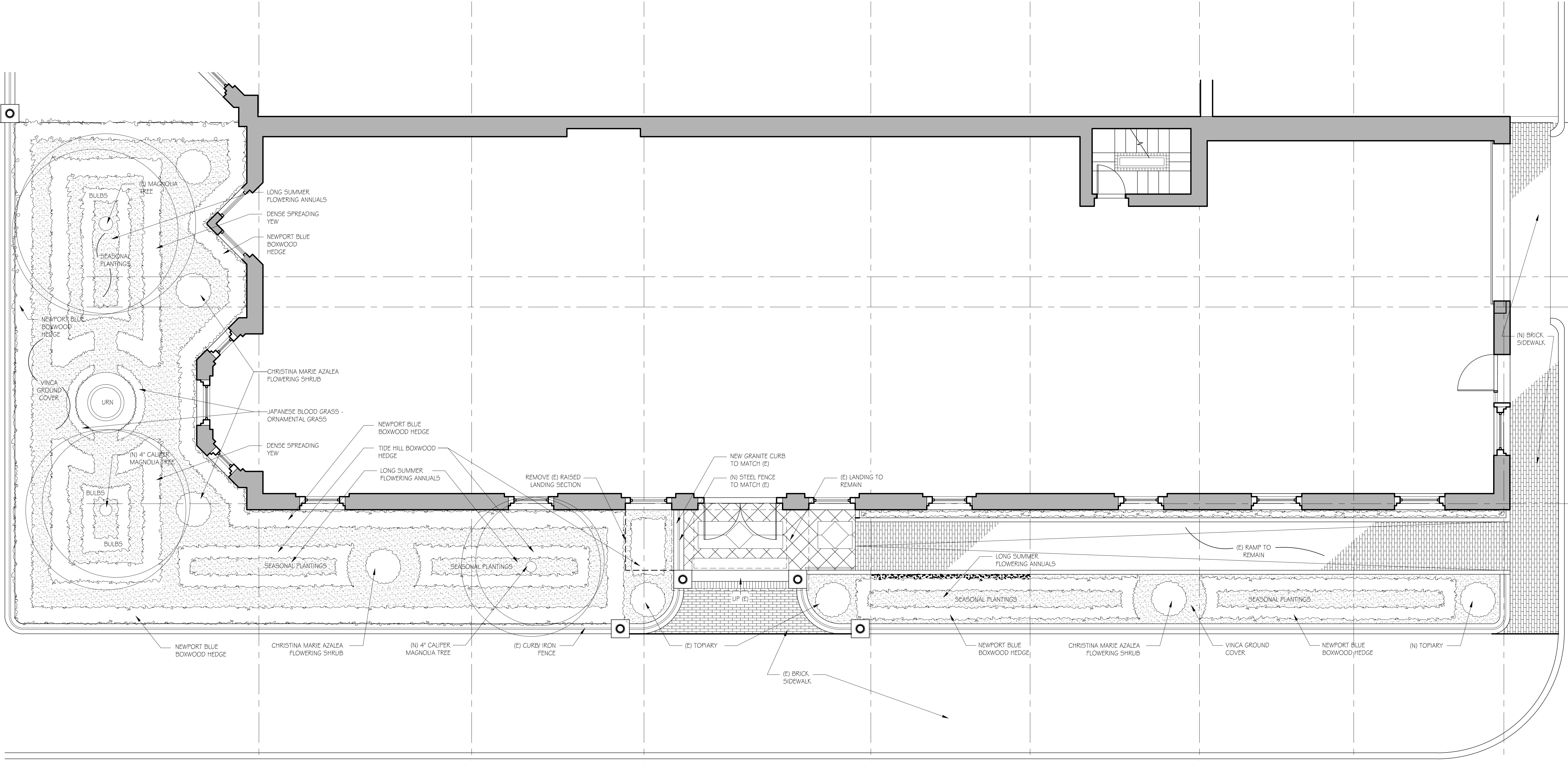
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JOB NO.: 1610
 SCALE: 1/4" = 1'-0"
 DATE: 06.18.18
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ROOF PLAN AND HEAD HOUSE ROOF PLAN

A108



LANDSCAPE PLAN
 1/4" = 1'-0"

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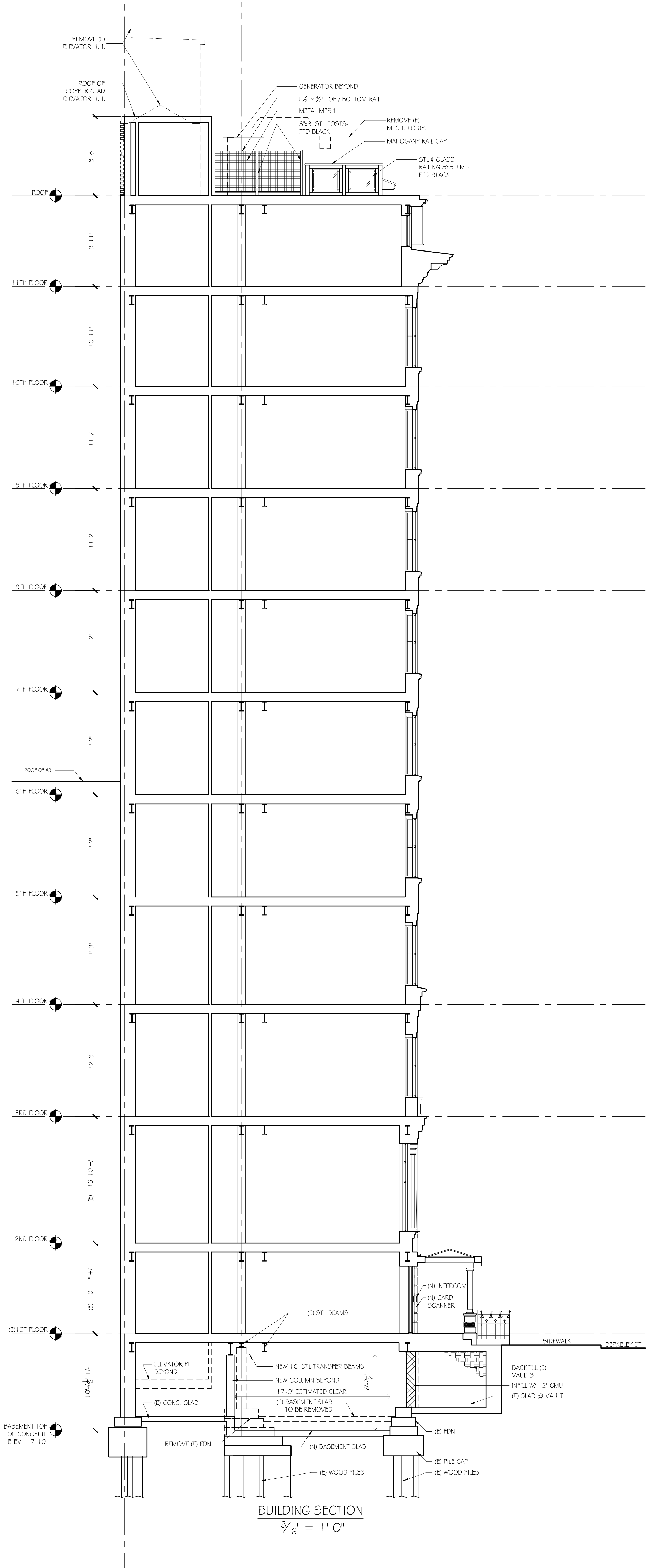
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JOB NO: 1610	SCALE: 3/4" = 1'-0"
DATE: 06.18.18	REVISED

29 COMMONWEALTH AVE.
 BOSTON, MASSACHUSETTS

LANDSCAPE PLAN

11





SOUTH ELEVATION
SCALE: 3/16" = 1'-0"

NORTH ELEVATION
SCALE: 3/16" = 1'-0"

A301

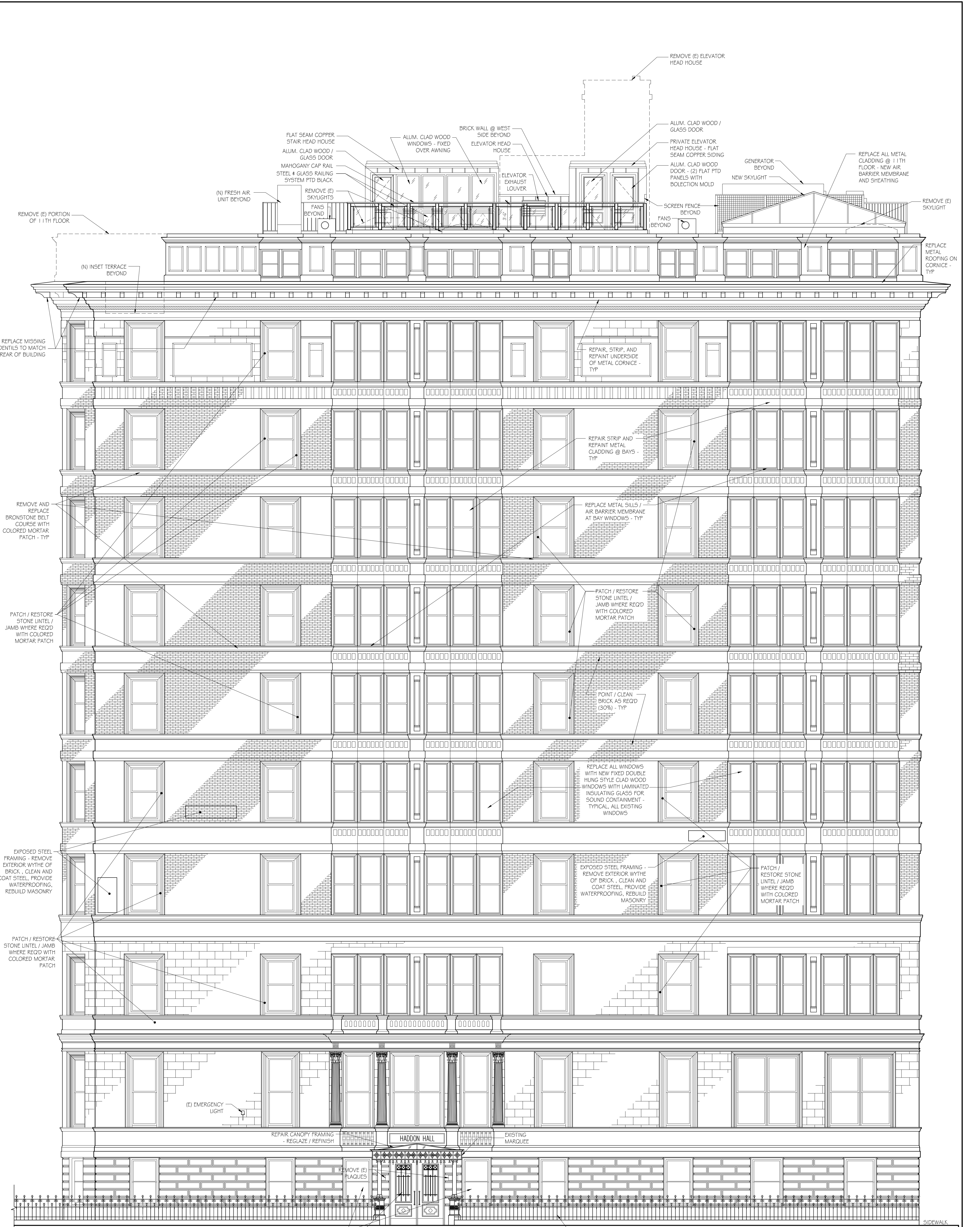
NORTH AND SOUTH
ELEVATION

29 COMMONWEALTH AVE.
BOSTON, MASSACHUSETTS

JOB NO: 1610
SCALE: 3/16" = 1'-0"
DATE: 06.18.18
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EAST ELEVATION
 $\frac{3}{16}'' = 1'-0''$

A302

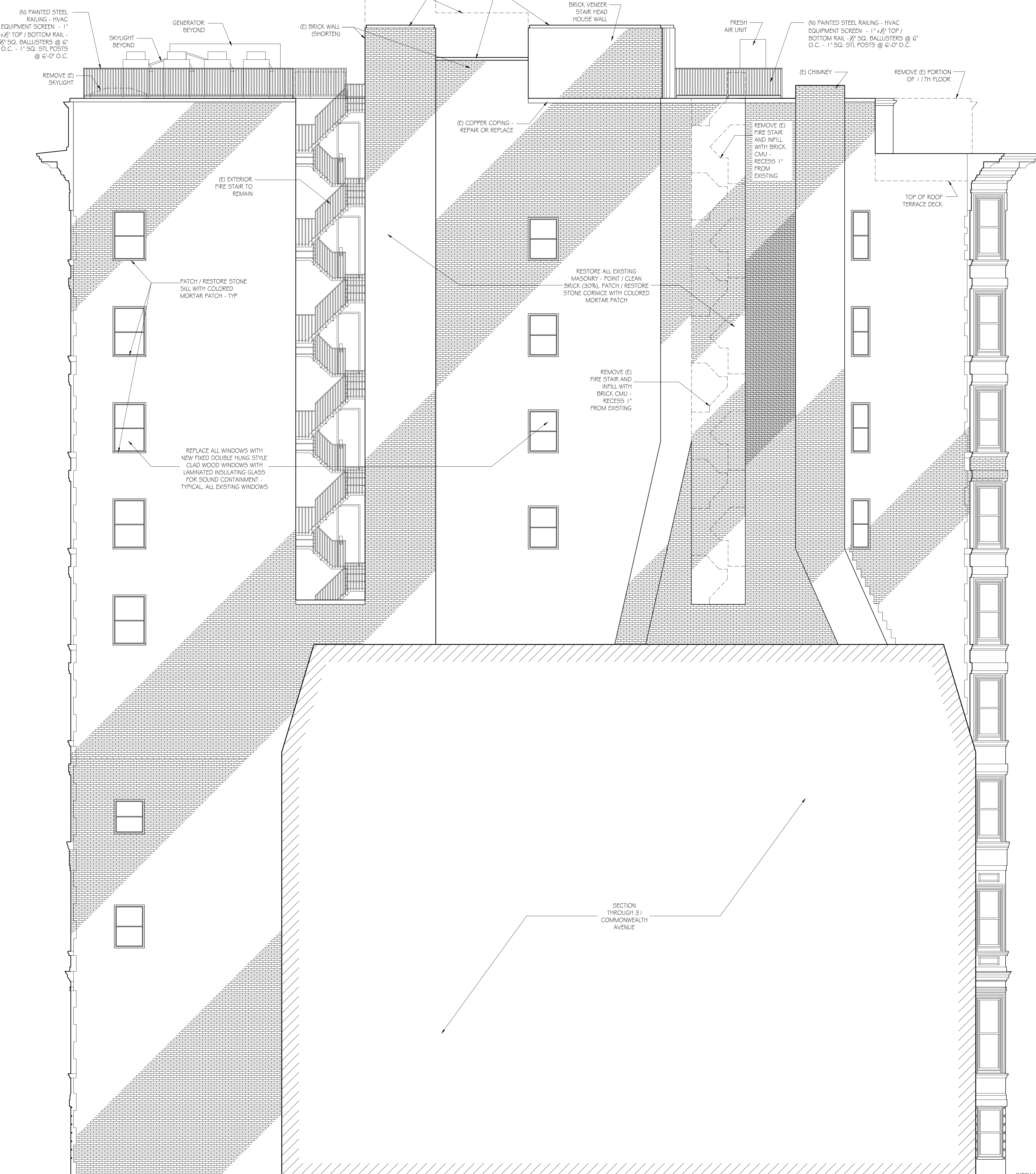
EAST ELEVATION

29 COMMONWEALTH AVE.
 BOSTON, MASSACHUSETTS

JOB NO:	1610
SCALE:	$\frac{3}{16}'' = 1'-0''$
DATE:	06.18.18
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WEST ELEVATION
 $\frac{3}{16}'' = 1'-0''$

A303

WEST ELEVATION

29 COMMONWEALTH AVE.
 BOSTON, MASSACHUSETTS

JOB NO:	1610
SCALE:	$\frac{3}{16}'' = 1'-0''$
DATE:	06.18.18
REVISION:	



GRASSI DESIGN GROUP
 BEAUCHEMIN GRASSI INTERIORS

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Paint Colors

Black

2132-10

Benjamin Moore Black 2132-10:
For windows / doors & iron work

NANZ



N° 6901BBW

The N° 6901BBW surface-mounted pull, based on our popular Bauhaus lever, embodies the geometric ideals of the modernist school. A cylindrical handle is offset by square posts with a 90 degree return, which then transition again to a round base. The round backplates repeat the shape of the handle and base. All Nanz plated and patinated finishes are available.



Length	Projection
7½	2¼
10	2¼
18	2¼
20	2¼
26	2¼
30	2¼

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THE NANZ COMPANY 20 VANDAM STREET NEW YORK NY 10013 TEL 212 367 7000 NANZ.COM



Siedle Steel - Video Door station - Intercom Unit
Recess mounted with 2 push buttons (One shown)



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\$16.15



RF IDeas RDR-6081AKU Access Control Reader

2

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Is this feature helpful?



HID Corporation

HID 5355AGK00 ProxPro Proximity Card Reader w/Keypad & Terminal /iegand Gray

2 customer reviews
1 questions

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\$289.45 + \$8.98 shipping
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ENTRY DOORS HARDWARE

V1996 Kickplates

V-PAC

8" x 34", Brass

Stock # N244-079

Finish:



Selected: Brass

Size:

8" x 30"

8" x 34"

*Not all sizes are available in all finishes.

+ ADD TO PROJECT LIST

WHERE TO BUY >

Click image to Zoom

ENLARGE

Product Overview

- Plate is easy to install
- Plastic cover protects finish during installation
- Includes fasteners
- Aluminum material
- Anodized surface for extra durability



Home Designs

A variety of knobs, pulls, cabinet catches and hinges designed to add the final detail to any kitchen or bathroom.

Package Specifications

V-PAC

Stock #	N244-079
Catalog #	V1996
Material	Aluminum
UPC	038613244078
Quantity Per Package	1
Quantity Per Box	2 PK

Documents



Technical Drawing



Line Art

Related Products



DATE: _____ TYPE: _____

NAME: _____

PROJECT: _____

Incandescent

P5602-31

Utility Lantern

Powder-coated finish. Clear marine glass.

Category: Outdoor

Finish: Black (powdercoat)

Construction:

Glass: Clear glass



Width: 4-1/2"
Height: 7-1/4"
Depth: 5-1/2"
H/CTR: 2-1/4"

MOUNTING	ELECTRICAL	LAMPING	ADDITIONAL INFORMATION
Wall mounted 4-1/2" dia.	Pre-wired 6" of wire supplied 120V	Quantity: 1 75W Medium Base Medium porcelain socket	UL-CUL Wet location listed 1 year warranty Companion fixtures are available

DATE: _____ TYPE: _____

NAME: _____

PROJECT: _____



Halogen

P5223-31WB

Deck Lighting

One-light die-cast aluminum low voltage landscape deck light. Black finish is powder-coat painted to resist chipping, fading and the effects of salt air. 12-volt. Mounts directly to vertical posts. Units must be wired to a 12V transformer with proper capacity.

- Black finish
- Mounts directly to vertical posts.
- Units must be wired to a 12V transformer with proper capacity.

Width: 3-1/8"

Height: 1-1/2"

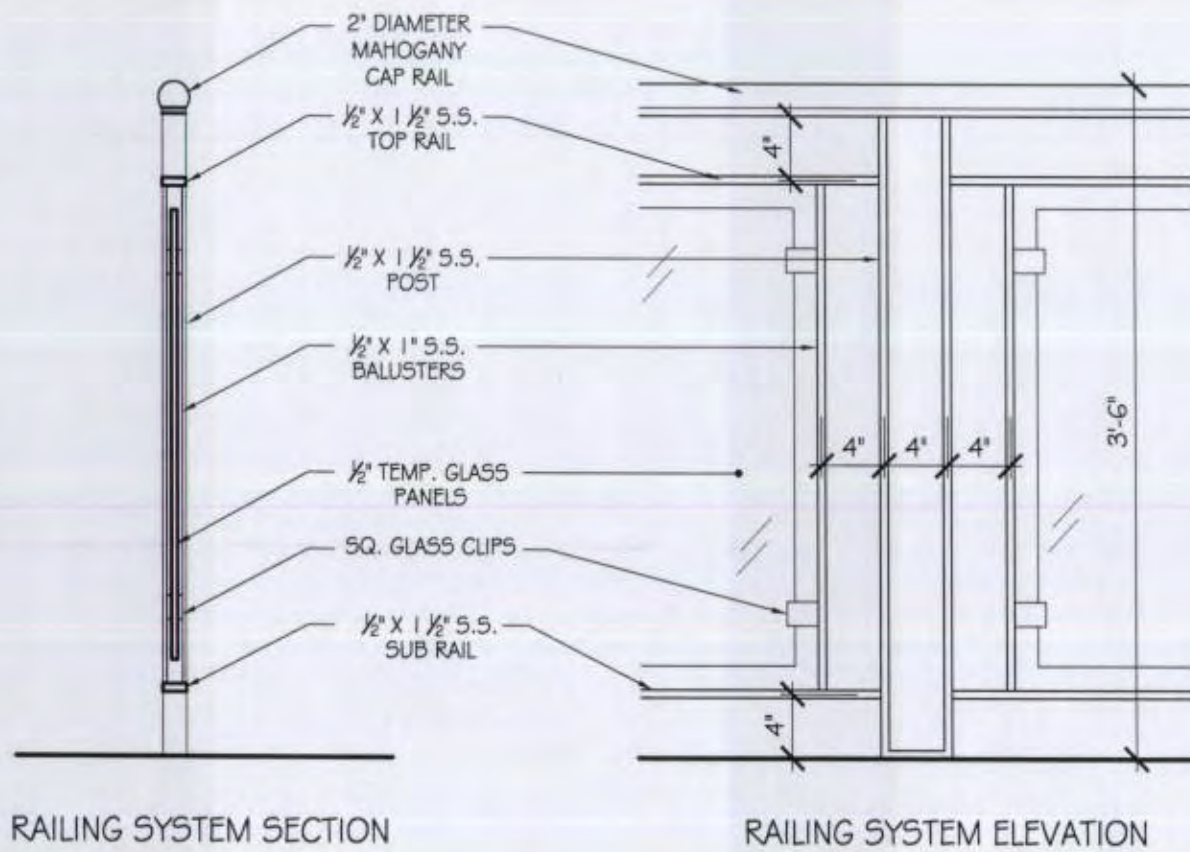
Depth: 2"

Category: Landscape

Finish: Black (powdercoat)

Construction: Die-cast aluminum construction

MOUNTING	ELECTRICAL	LAMPING	ADDITIONAL INFORMATION
Deck mounted	Pre-wired 6 feet of wire supplied 12 V	Quantity: One 13w max. T5 wedge base(included) Wedge base ceramic socket	UL-CUL Wet location listed 1 year warranty

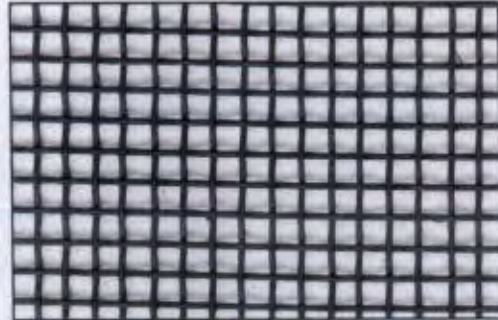


JOB NO: 1610	SCALE: 1" = 1'-0"	DATE: 06.12.18	STEEL / GLASS RAILING SYSTEM	7
GD GRASSI DESIGN GROUP 46 Waltham Street, Suite 3A Boston, MA 02118 Phone 617-956-9992 Fax 917-956-9993		<u>29 COMMONWEALTH AVE</u> BOSTON, MA		

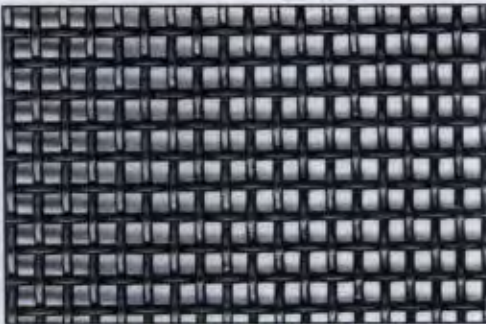
Square Mesh Wire Cloth Specifications



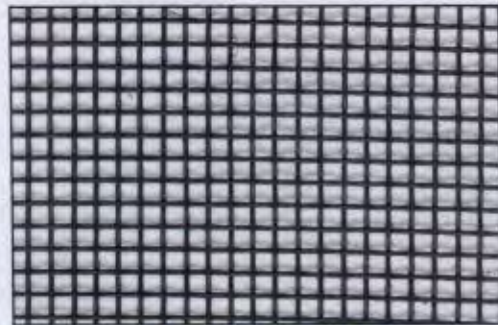
4 MESH .047" SS WOVEN



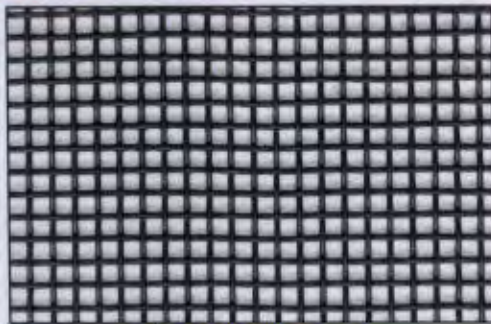
6 MESH .035" SS WOVEN



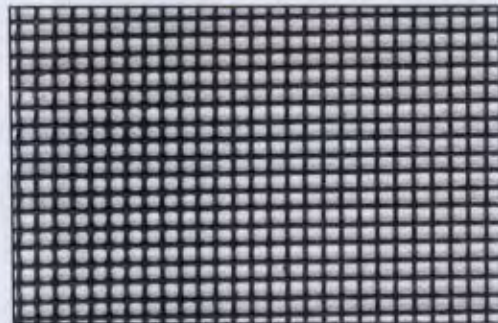
6 MESH .063" SS WOVEN



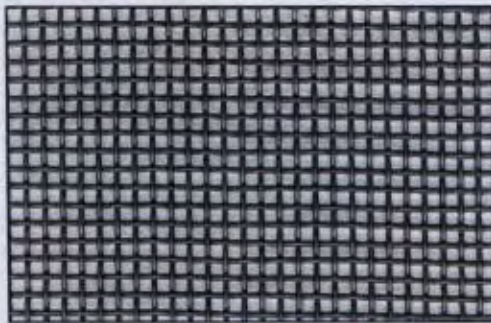
8 MESH .028" SS WOVEN



8 MESH .035" SS WOVEN



10 MESH .025" SS WOVEN



10 MESH .035" SS WOVEN



12 MESH .028" SS WOVEN

Job Name: _____
 System Reference: _____ Date: _____



OUTDOOR VRF HEAT PUMP WITH HEAT RECOVERY SYSTEM

UNIT OPTION

- Standard Model.....PURY-P72TLMU-A
- Seacoast (BS) Model.....PURY-P72TLMU-A-BS

ACCESSORIES

- Joint Kit.....for details see Pipe Accessories Submittal
- BC Controller (required).....for details see BC Controller Submittals
- Low Ambient Kitfor details see Low Ambient Kit Submittal
- Snow/Hail Guards Kit.....for details see Snow/Hail Guards Kit Submittal
- Base Pan Heater Kit.....for details see Base Pan Heater Kit Submittal

Specifications		Model Name
Unit Type		PURY-P72TLMU-A (-BS)
Nominal Cooling Capacity (208/230V)	Btu/h	72,000
Nominal Heating Capacity (208/230V)	Btu/h	80,000
Operating Temperature Range *1	Cooling (Outdoor) *2	23~126° F (-5~52° C) DB
	Heating (Outdoor)	-13~60° F (-25~15.5° C) WB
External Dimensions (H x W x D)	In. (mm)	64-31/32 x 36-1/4 x 29-5/32 (1,650 x 920 x 740)
Net Weight	Lbs. (kg)	444 (201)
External Finish		Pre-coated galvanized steel sheet
Electrical Power Requirements	Voltage, Phase, Hertz	208 / 230V, 3-Phase, 60Hz
Minimum Circuit Ampacity (MCA)	A	24 / 22
Maximum Overcurrent Protection (MOP)	A	35 / 35
Piping Diameter (Brazed) (In. / mm)	Liquid (High Pressure)	5/8 (15.88)
	Gas (Low Pressure)	3/4 (19.05)
Max. Total Refrigerant Line Length	Ft.	1,804
Max. Refrigerant Line Length (Between ODU & IDU)	Ft.	541
Max. Control Wiring Length	Ft.	1,640
Indoor Unit	Total Capacity	50~150% of outdoor unit capacity
	Model / Quantity	P06~P96/1~18
Sound Pressure Levels	dB(A)	58.0
Fan		
Type x Quantity		Propeller fan x 1
Airflow Rate	CFM	6,550
External Static Pressure	In. WG (Pa)	Selectable: 0, 0.12 or 0.24"WG; factory set to 0"W.G.
Compressor Operating Range		13% to 100%
Compressor Type x Quantity		Inverter scroll hermetic compressor
Refrigerant		R410A; 13 lbs. + 3 oz. (6.0 kg)
Protection Devices	High Pressure	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (Comp. / Fan)	Over-current protection
	Fan Motor	Thermal switch
AHRI Ratings (Ducted/Non-Ducted)	EER	13.5 / 14.8
	IEER	23.1 / 28.1
	COP	3.65 / 4.30
	SCHE	25.9 / 28.4

NOTES:

- *1. When applying product below -4° F, consult your design engineer for cold climate application best practices, including the use of a backup source for heating.
- *2. For details on extended cooling operation range down to -10° F DB, see Low Ambient Kit Submittal.

Model: PURY-P72TLMU-A (-BS) – DIMENSIONS

Unit: mm (in.)

- Accessories>
- ◁Connecting pipe
- ◁Low pressure>
- Pipe (IDx25.5x11.18)×ODx22.2(7/8) ... 1pc
- Pipe (IDx22.2(7/8)×ODx10.0(5/8)) ... 1pc
- Elbow (IDx25.5x11.18)×ODx28.5x(1.18) ... 1pc
- ◁High pressure>
- Pipe (IDx25.4(1)×ODx15.8x(5/8)) ... 1pc
- Pipe (IDx25.4(1)×ODx15.8x(5/8)) ... 1pc

Note 1 Please refer to the engineering manual for information regarding necessary spacing around the unit and foundation work. Outdoor unit must be mounted at least 12" off the ground or 12" above the highest average snow depth, whichever is greater.

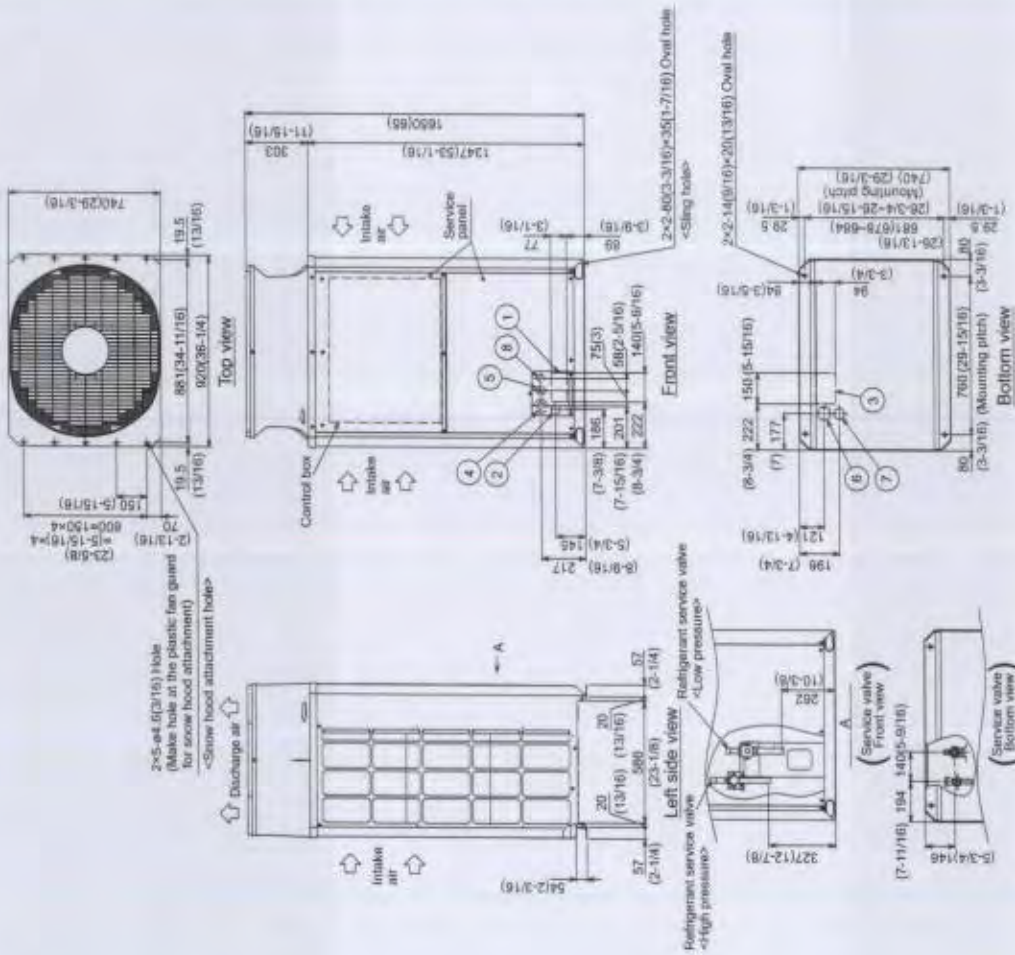
2 All brazing of pipes wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C(248 °F).

Connecting pipe specifications

Model	Refrigerant pipe		Diameter		Service valve
	High pressure	Low pressure	High pressure	Low pressure	
PURY-P72TLMU	ø15.88 Brazed (5/8)	ø13.06 Brazed (1/2)	1.13 (3/4)	1.13 (1)	ø25.4 (1) ø28.58 (1-1/8)

*1 Use the included connecting pipe and connect to the refrigerant service valve piping.

NO.	Usage	Specifications
①	Front through hole (Use when wiring ø6 (nominal part) is required)	140 × 77 Knockout hole (5-3/16)(3-1/16)
②	Bottom through hole	ø45 Knockout hole (1-13/16)
③	Front through hole	150 × 84 Knockout hole (5-15/16)(3-3/4)
④	Front through hole	ø27.7 or ø34.5 Knockout hole (2-7/2) (1-3/8)
⑤	Front through hole	ø43.7 or ø22.2 Knockout hole (1-3/4) (7/8)
⑥	Bottom through hole	ø55 Knockout hole (2-5/16)
⑦	Bottom through hole	ø52 Knockout hole (2-1/16)
⑧	For transmission cables	ø34 Knockout hole (1-3/8)



- NOTES:**
- SEACOAST PROTECTION**
- Anti-corrosion Protection: A coating treatment is applied to condenser coil for protection from air contaminants.
 - Standard: Salt Spray Test Method - no unusual rust development to 480 hours.
 - Sea Coast (BS): Salt Spray Test Method (JIRA 9002) - no unusual rust development to 960 hours.



COOLING & HEATING

1340 Satellite Boulevard, Suwanee, GA 30024
Toll Free: 800-433-4822 www.mehvac.com



ENERVEX® BEF 200-800 BOX VENTILATOR

3932011 04.18

Product Information

Use

The BEF is designed to provide movement of air in exhaust and air supply systems. Suitable uses include comfort ventilation, make-up air for laundry and mechanical rooms, and exhaust and air supply in kitchens/bathrooms/laundries in multi-story, multi-family buildings.

Description

The BEF is a highly efficient box ventilator with an electronically commutated permanent magnet motor, that uses a backward curved centrifugal impeller to provide high capacity at a high static pressure. The ventilator cannot be used for transport of large particles.

The fan is designed to exhaust lint-laden air from single or multiple Type I and Type II residential and commercial clothes dryers. It can be installed indoors as well as outdoors.

The design meets Type B, Spark Resistant Construction, and is completely insulated against fire, noise, condensation and heat with 2" fiberglass insulation. A service door is provided to allow easy access to the impeller.

The unique design allows the fan to be oriented in multiple positions, standing on a flat surface or suspended from a ceiling. It can be installed indoors as well as outdoors. The box ventilator can operate with exhaust temperatures within 10°F (-12°C) and 400°F (200°C), and at ambient temperatures within -20°F (-30°C) and 120°F (50°C).

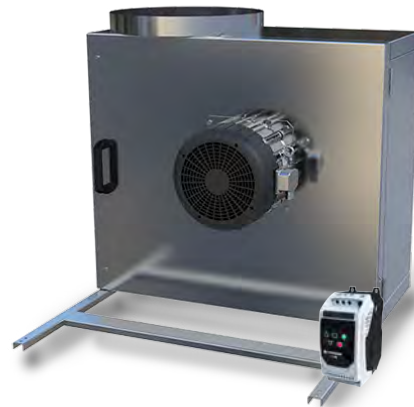
Material

The ventilator housing is galvanized steel while the impeller is welded aluminum.* The aluminum impeller is statically and dynamically balanced with permanently attached balancing weights.

* Stainless steel housing and impeller optional

Motor

The motor is an air cooled, maintenance-free variable speed permanent magnet motor with pre-lubricated and sealed ball bearings. The motor with controller is rated at 92% efficiency and able to operate as low as 50 RPM. It has integrated protection against overloading, blocking over and under voltage and over-heating. The motor shaft is internally isolated to eliminate the need for external shaft grounding. It is rated for outdoor installation.



The included EDrive motor control is factory programmed by ENERVEX for optimal operation of the ventilator.

Standard Equipment

- Support legs with vibration dampers
- 4" x 4" Junction box with cover and conduit
- EDrive Motor Controller w/mounting bracket

Optional Accessories

- MEC 24 Modulating Exhaust Control
- EBC 24 Modulating Pressure Controller
- EBC 30/31 Modulating Pressure Controller

Listings

The BEF 200 - 800 Box Ventilator is UL Listed in the U.S. and certified for Canada under Underwriters Laboratories Inc. file no. E479840:

- UL 705 Standard for Power Ventilators, Edition 6 - Revision Date 2013/12/17. With special consideration for venting lint-laden air from single or multiple dryers
- CSA C22.2 NO. 113-12 Fans and Ventilators Edition 9 - Revision Date 2012/10/01

Complies with and meets Type B, Spark Resistant Construction per AMCA standard 99-0401 classifications of Spark Resistant Construction.

Warranty

2-Year Factory Warranty. Complete warranty conditions are available from ENERVEX Inc.



ENERVEX Inc.
1685 Bluegrass Lakes Parkway
Alpharetta, GA 30004
USA

P: 770.587.3238
F: 770.587.4731
T: 800.255.2923
info@enervex.com
www.enervex.com

ENERVEX®
VENTING DESIGN SOLUTIONS

ENERVEX® BEF 200-800 BOX VENTILATOR

3932011 04.18

Product Information

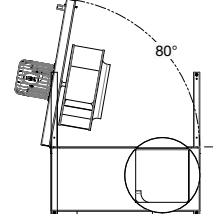
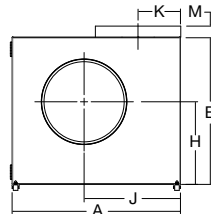
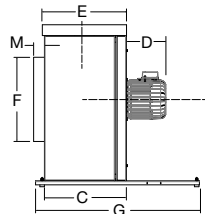
Specifications

NOTE: All published voltages relate to power supplied to the EDrive and NOT the motor.

Model	BEF 200	BEF 250	BEF 300	BEF 350	BEF 400	BEF 500	BEF 600	BEF 700	BEF 800	
Fan Type	Centrifugal Impeller (B-Wheel)									
Motor Type	ECM, Permanent Magnet									
Voltage *)	VAC	1x120 / 3x208-240 / 3x400-480			3x208-240 / 3x400-480			3x400-480		
Max. Amperage - EDrive A		2.3 / 2.3 / 2.2	2.3 / 2.3 / 2.2	4.3 / 4.3 / 2.2	5.8 / 7.0 / 4.1	10.5 / 5.8	10.5 / 5.8	18.0 / 9.5	18.0	24.0
Motor Output	HP	0.5 / 0.5 / 1	0.5 / 0.5 / 1	1	2	3	3	5	10	15
	kW	0.38	0.38	0.76	1.5	2.2	2.6	3.7	7.5	11.25
RPM (see note below)		1740	1740	2000	2300	2300	1740	1740	1740	1740
Weight	lbs / kg	98 / 44	110 / 50	126 / 57	150 / 68	167 / 76	227 / 103	310 / 141	320 / 145	390 / 145
	Duct Connection in / mm	8.0 / 203	12.0 / 305	14.0 / 356	16.0 / 406	16.0 / 406	18.0 / 456	20.0 / 508	22.0 / 558	22.0 / 558
Dimensions	A in / mm	20.1 / 510	24.6 / 625	27.2 / 690	30.3 / 770	30.3 / 770	36.3 / 921	38.5 / 978	41.0 / 1041	43.3 / 1041
	B in / mm	17.5 / 445	21.0 / 537	23.6 / 600	25.8 / 655	25.8 / 655	31.6 / 803	34.0 / 864	36.5 / 927	39.0 / 927
	C in / mm	9.2 / 234	11.5 / 293	12.2 / 309	13.1 / 333	13.1 / 333	16.6 / 422	18.6 / 473	20.5 / 521	21.6 / 521
	D in / mm	7.8 / 198	7.8 / 198	7.8 / 198	7.6 / 193	7.6 / 193	8.6 / 218	9.2 / 234	10.9 / 277	10.9 / 277
	E in / mm	7.9 / 201	11.9 / 302	13.9 / 353	15.9 / 404	15.9 / 404	17.9 / 454	19.9 / 505	21.9 / 555	23.9 / 555
	F in / mm	7.9 / 201	11.9 / 302	13.9 / 353	15.9 / 404	15.9 / 404	17.9 / 454	19.9 / 505	21.9 / 555	23.9 / 555
	G in / mm	18.5 / 470	24.4 / 620	32.3 / 820	32.3 / 820	32.3 / 820	35.8 / 909	38.8 / 986	41.8 / 1061	48.3 / 1061
	H in / mm	9.8 / 248	11.5 / 292	13.3 / 338	11.0 / 279	11.0 / 279	17.8 / 452	18.7 / 475	20.1 / 510	19.5 / 510
	J in / mm	11.5 / 292	14.3 / 362	16.3 / 414	17.8 / 452	17.8 / 452	20.8 / 528	22.0 / 559	24.6 / 625	21.7 / 625
	K in / mm	5.8 / 147	6.8 / 173	7.3 / 185	8.0 / 203	8.0 / 203	9.1 / 231	10.3 / 262	11.0 / 279	11.0 / 279
	M in / mm	2.0 / 50	2.0 / 50	2.0 / 50	2.0 / 50	2.0 / 50	2.0 / 50	2.0 / 50	2.0 / 50	2.0 / 50

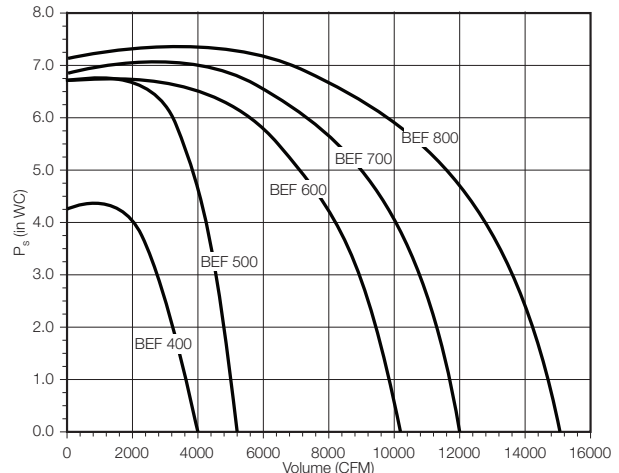
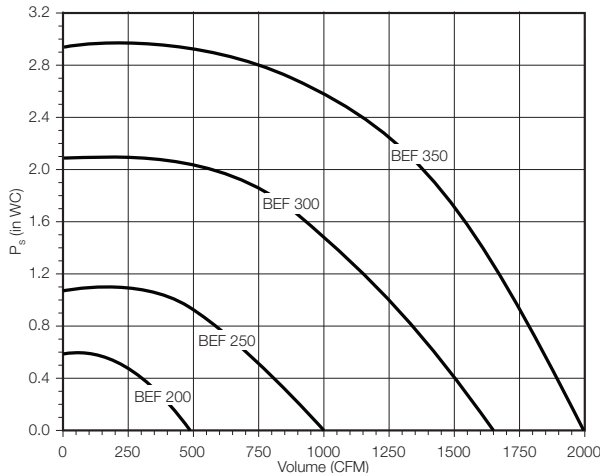
NOTE: Our ECM motor is a synchronous motor that is UL-listed to operate at speeds up to 4000RPM. The shown RPM and motor output data is the standard setup based on the standard control selection. RPM can be increased to provide higher performance, but a different EDrive model may be required. Please contact ENERVEX for assistance.

*) Select when ordering



minimum 1 each for dryer stack, bath exhaust stack and kitchen exhaust stack.

Capacity



ENERVEX Inc.
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ENERVEX®
VENTING DESIGN SOLUTIONS

RV-25

CONSTRUCTION FEATURES AND ACCESSORIES

Unit Overview

Model	Supply (CFM)	Outside Air (CFM)	Recirc (CFM)	Exhaust (CFM)	Heating	Cooling	Electrical V/C/P
RV-25-7.5	1,200	1,200	0	0	Indirect Gas	Packaged DX	208/60/3

Features

- Exterior housing constructed of galvanized steel
- Direct-drive backward inclined plenum blowers with factory mounted VFDs
- Ball bearing motors
- Corrosion resistant fasteners
- Internally lined with galvanized steel metal creating a double wall
- Insulated with 2 in. 2.4# R13 density foam insulation
- Internally mounted control center with motor starters, 24 VAC control transformer(s), control circuit fusing
- Stainless steel condensate drain pan and connection.
- Low Sound Condenser Fan Package

Options and Accessories

- UL\cUL1995
- Weatherhood: Downturned Hood
- Supply Filters - 2" Pleated MERV 8 and MERV 13, 8-20x20x2
- Roof Curbs - GKD-48/94.01-G14"
- Outdoor Air Dampers - Motorized Low Leakage
- Painted Exterior - Permatector Concrete Gray (RAL 7023)
- Microprocessor Controls
- Supply Fan VFD Control - Constant Volume (on/off)
- Phase and Brown Out Protection
- Unit Disconnect - Mounted By Factory
- Power Venting
- Furnace Controls: High Turndown - 12:1 Modulating



Note: Unit is provided with factory mounted and wired disconnect switch.

PERFORMANCE AND SPECIFICATIONS

Description/Arrangement

Model	Qty	Unit Weight (lb)	Outdoor Air Discharge	Outdoor Air Intake	Exhaust Air Discharge	Return Air Intake
RV-25-7.5	1	2,660	Side	End	N/A	N/A

Design Conditions

Elevation (ft)	Summer DB (F)	Summer WB (F)	Winter DB (F)
30	91	74	6

Air Performance

Type	Volume (CFM)	External SP (in. wg)	Total SP (in. wg)	RPM	Operating Power (hp)	Motor Qty/Size (hp)	Size (in.)/Type
Supply	1,200	1	1.159	1477	0.36	Qty 1 (1)	14/Plenum

Electrical/Motor Specifications

V/C/P	Unit MCA (amps)	Unit MOP (amps)	Exh. MCA (amps)	Exh. MOP (amps)	Enclosure	Supply Motor RPM	Supply Efficiency	Exhaust Motor RPM	Exhaust Efficiency
208/60/3	39.4	60	N/A	N/A	ODP	1750	PE	N/A	N/A

Heating/Cooling Specifications

Heating Type	Gas Type	Input (MBH)	Output (MBH)	LAT (F)	Temp. Rise (F)	Furnace Size	Furnace Control
Indirect Gas	Natural	150.0	120.0	98.6	92.6	150	High Turndown - 12:1 Modulating

Cooling Type	Total Capacity (MBH)	Sensible Capacity (MBH)	Compressor Quantity	Lead Compressor Type	Condensing Unit By
Packaged DX	97.8	56.1	1	Standard Scroll	Greenheck

Sound Performance in Accordance with AMCA

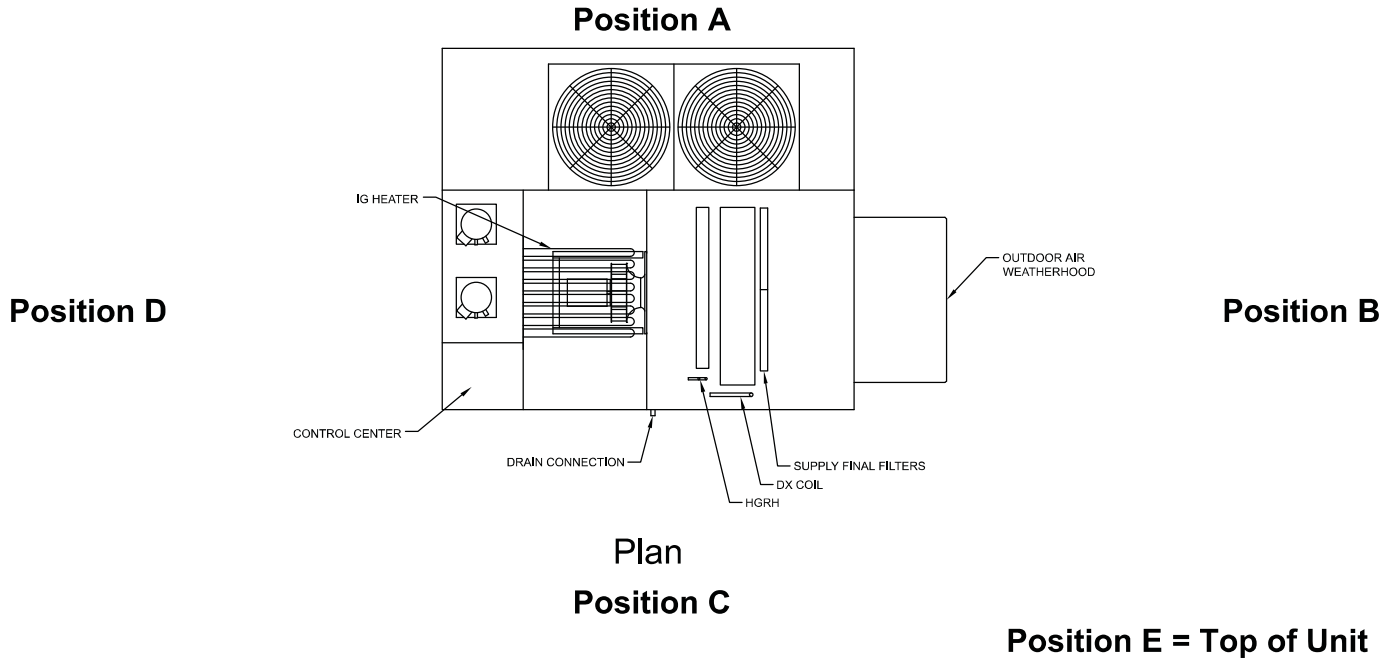
Fan	Sound Power by Octave Band								Lwa	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Supply	66	66	84	70	66	64	60	57	77	65	13.0

Unit Pressure Drop (in. wg)

Air Stream	Weatherhood	Damper Section	Filter Section	Cooling Section	Heating Section
Supply	0.014	0.006	0.044	0.052	0.038
Exhaust	0	N/A	N/A	N/A	N/A

Note: Filter pressure drop is based off of clean filters.

RADIATED SOUND



RV-25: Supply Air Flow Nominal, Largest Tonnage Condensing Section Available, PDX units only

Free Field Plane	Octave Band (Sound Power Lw)								Lw	LwA
	1	2	3	4	5	6	7	8		
A	73	85	78	80	81	73	67	62	88	83
B	71	79	69	78	73	68	64	57	83	78
C	79	77	69	76	75	70	60	59	83	78
D	74	77	72	74	74	67	61	58	82	77
E	77	84	78	79	77	72	65	61	87	81
Total	83	89	82	85	84	78	71	67	93	87

AMCA 320-07 - Laboratory Methods of Sound Testing of Fans Using Sound Intensity
 Tests conducted in accordance with this standard.
 Free field measurement plane created 1 foot from unit on all sides and top.
 Sound Intensity measured in Watts/m².
 Sound data converted to Sound Power (Lw) for the chart above.
 A-Weighted Sound Power was determined using AMCA Standard 301-90 Clause 9.1.

COOLING PERFORMANCE

Packaged DX Cooling

Nominal Tonnage	Total Capacity (MBH)	Sensible Capacity (MBH)	Refrigerant Type	Lead Compressor Type	Compressor Quantity	Condensing Unit
7.5	97.8	56.1	R-410A	Standard Scroll	1	By Greenheck

Hot Gas Reheat

Type	Capacity (MBH)	LAT (F)
Modulating	49.0	86.3

Condensing Unit Details

The RV will come equipped with the following components:

- Hermetic scroll type compressors
- Compressors mounted in a compartment to be serviceable without affecting airflow and on neoprene vibration isolation to minimize vibration transmission and noise
- Crankcase heater on compressor(s)
- Thermal expansion valve for refrigerant flow control
- Hot gas bypass
- Multiple condensing fans to allow fan cycling for head pressure control
- Liquid-Line filter drier
- High pressure manual reset cutout
- Low-pressure auto-reset cutout
- Time delay relays for compressor protection
- Service/charging valves
- Moisture-indicating sight glass
- Direct drive condensing fans with external rotors and molded fan blades
- Condensing coils with 5/16" copper tubes mechanically bonded to aluminum fins

Packaged DX Coil Details

Face Area (ft ²):	11.8
Rows Deep (Evap Coil):	5
Fins Per Inch:	12
Face Velocity (ft/min):	102
Entering Dry Bulb (F):	91.0
Entering Wet Bulb (F):	74.0
Leaving Dry Bulb (F):	48.5
Leaving Wet Bulb (F):	48.4
Cool Coil SP (in. wg):	0.052
Refrigerant Velocity (ft/min):	1,279
Suction Temp. (F):	46.7
Refrigerant:	R-410A
Evaporator Cap. (MBH):	97.8
AHRI 920 ISMRE:	5.4
Ambient Condenser Temp. (F):	95.0

Compressor and Condenser Details

Compressor 1 RLA (amps):	25
Compressor 1 LRA (amps):	164
Condenser Fan QTY:	2
Condenser Motor 1 HP:	0.62
Condenser Motor 2 HP:	0.62
Condenser Motor 1 FLA:	1.9
Condenser Motor 2 FLA:	1.9

HEATING PERFORMANCE

Indirect Gas Heating

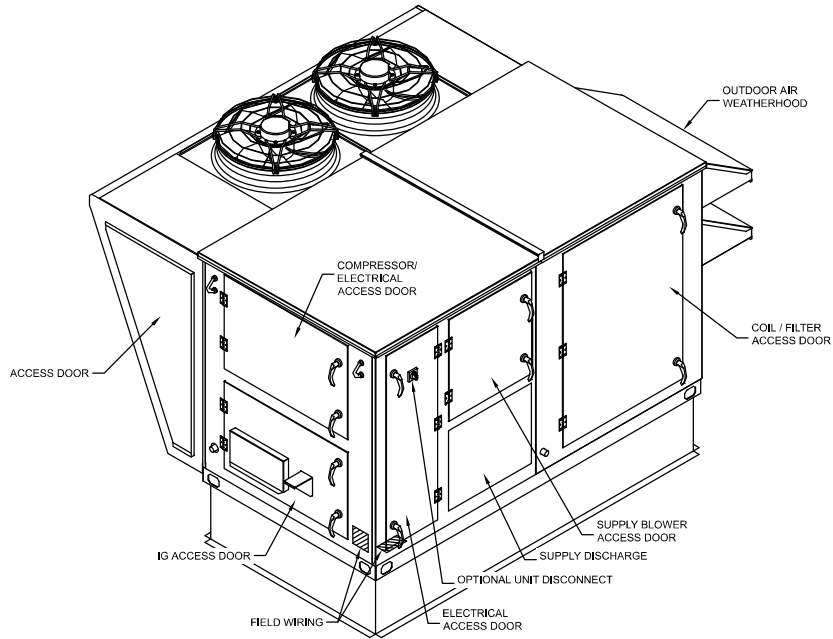
Heating Type	Gas Type	Input (MBH)	Output (MBH)	LAT (F)	Temp. Rise (F)	Furnace Control
Indirect Gas	Natural	150.0	120.0	98.6	92.6	High Turndown - 12:1 Modulating

Indirect Gas Unit Details

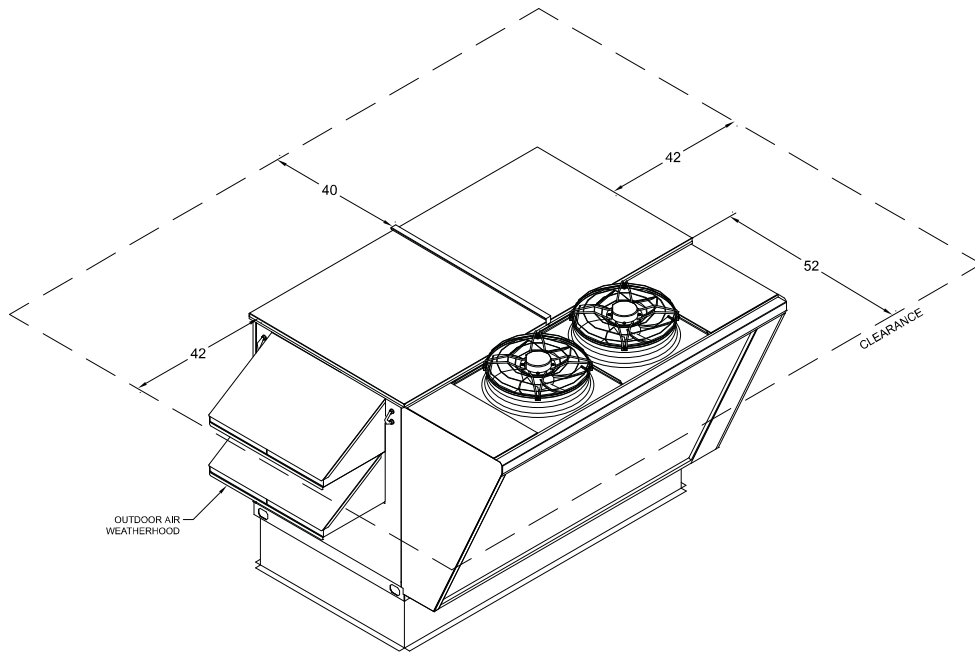
The RV will come equipped with the following:

- Power venting
- ETL listed to ANSI standard Z83.8 and CSA 2.6
- High Thermal efficiency
- Direct spark ignition
- Easy access burner controls
- 409 Stainless Steel heat exchange tubes
- 3/4" Gas Connection
- At least 6 in. wg of natural gas pressure (14 in. wg for LP) is required at the units gas connection in order to achieve maximum performance

ISOMETRIC DRAWINGS

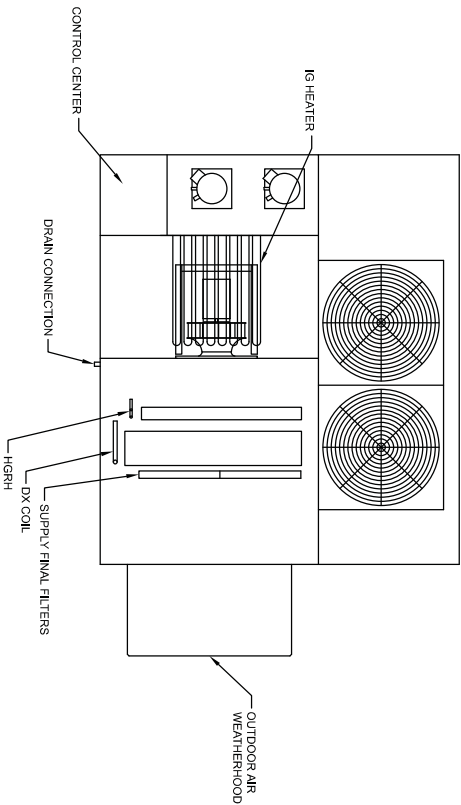


Back Right Isometric

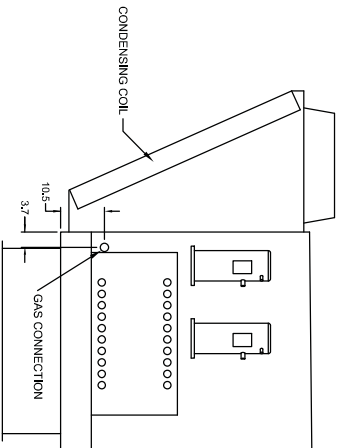


Front Left Isometric

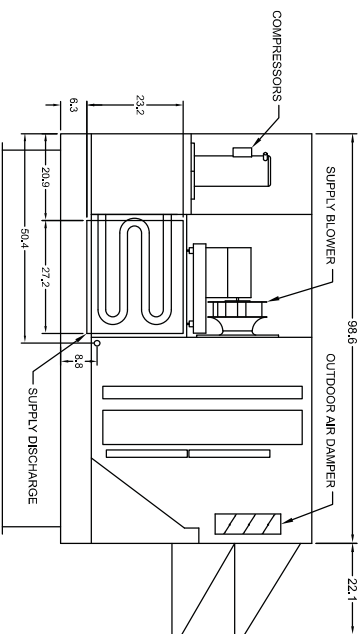
OVERVIEW DRAWINGS



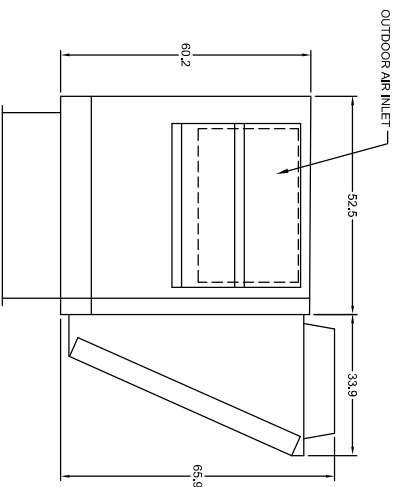
Plan



Left End



Elevation



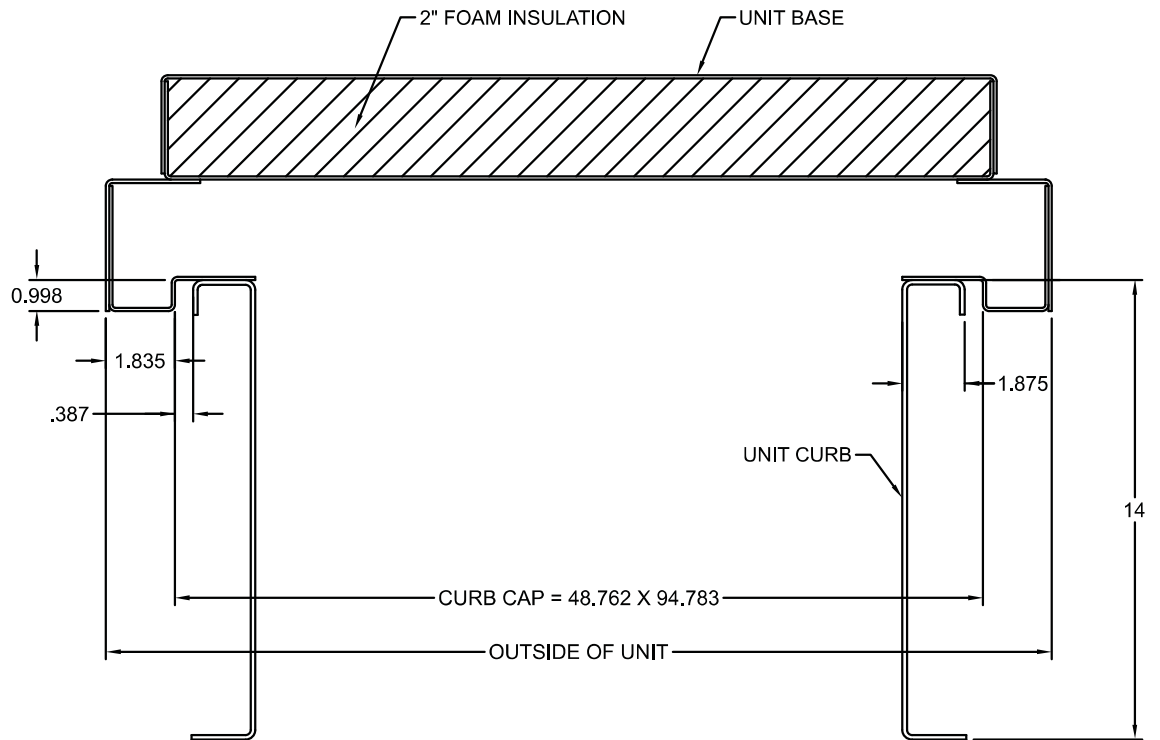
Right End

FOOTPRINT DRAWINGS

**Top View
of Curb**



**Cross-Section
View of Unit
on Curb**



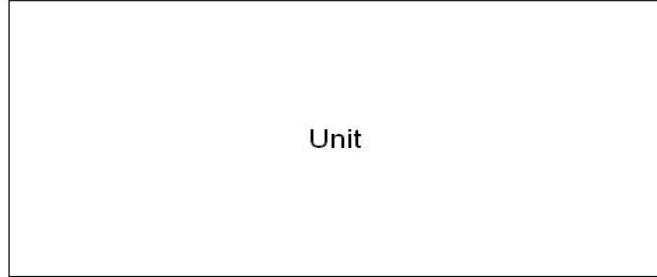
NOTES: All dimensions shown are in units of in.'s
If unit is selected with side or end discharge/return, there will not be bottom connections supplied with the curb.

Curb Weight: 159 lb

Unit Corner Weights

876 lb

931 lb

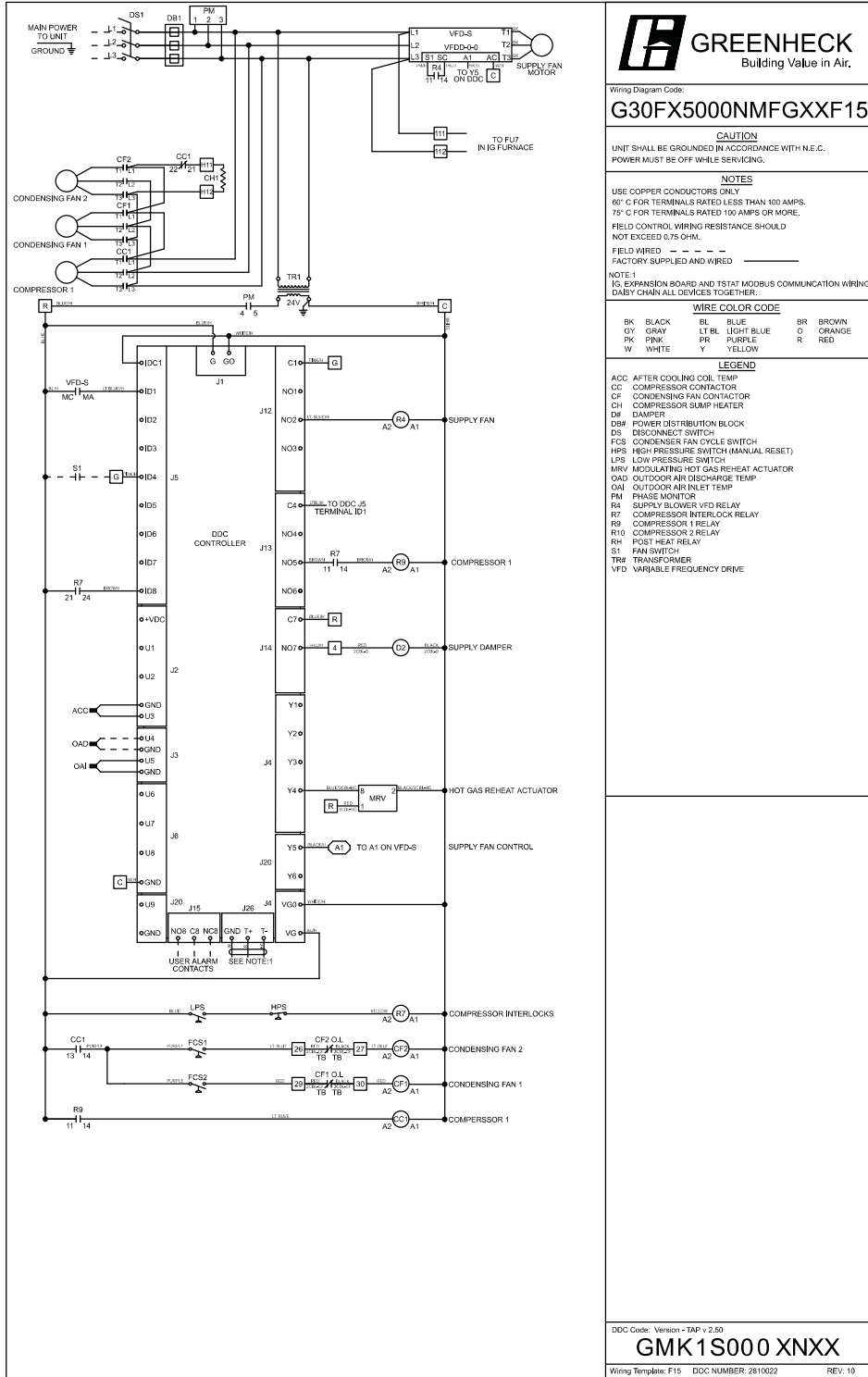


414 lb

440 lb

Note: Estimated corner weights are shown looking down on unit and the outside air intake will be on the right. Weights are applied at the base of the unit. Images not drawn to scale.

WIRING DIAGRAM



Wiring Diagram Code:
G30FX5000NMFXXF15

CAUTION
UNIT SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C.
POWER MUST BE OFF WHILE SERVICING.

NOTES
USE COPPER CONDUCTORS ONLY
60° C FOR TERMINALS RATED LESS THAN 100 AMPS.
75° C FOR TERMINALS RATED 100 AMPS OR MORE.
FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0.75 OHM.
FIELD WIRING - - - - -
FACTORY SUPPLIED AND WIRED - - - - -
NOTE: 1
IG EXPANSION BOARD AND TSTAT MODBUS COMMUNICATION WIRING, DABY CHAIN ALL DEVICES TOGETHER.

WIRE COLOR CODE

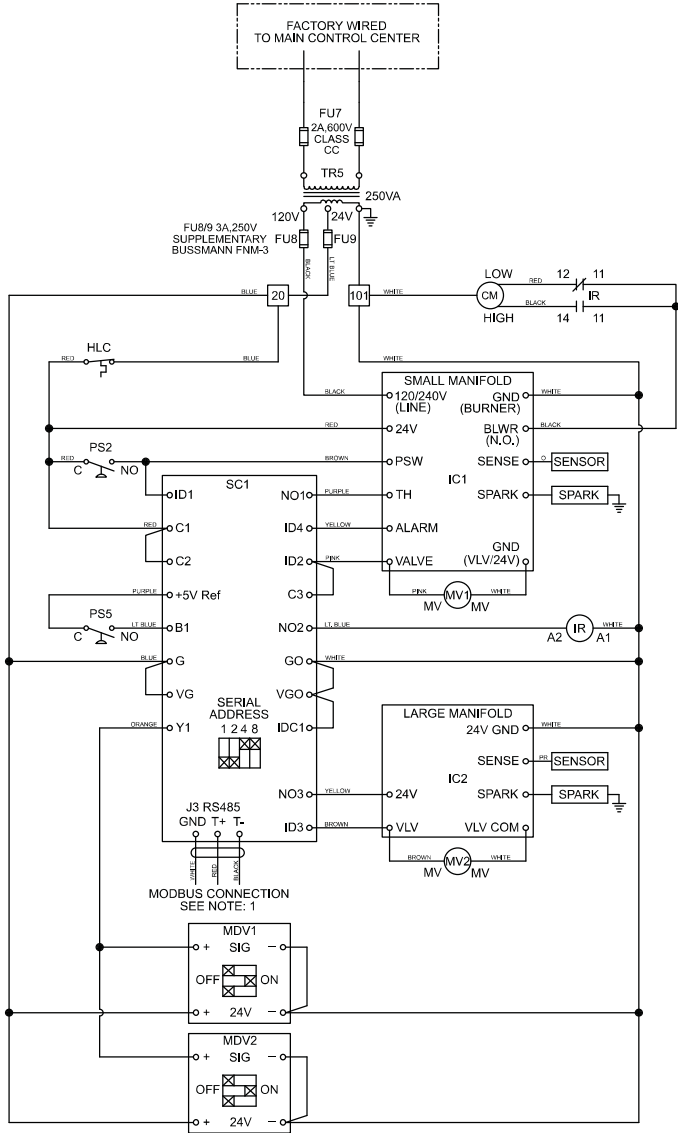
BK	BLACK	BL	BLUE	BR	BROWN
GY	GRAY	LT BL	LIGHT BLUE	O	ORANGE
PK	PINK	PR	PURPLE	R	RED
W	WHITE	Y	YELLOW		

LEGEND

- ACC AFTER COOLING COIL TEMP
- CC COMPRESSOR CONTACTOR
- CF CONDENSING FAN CONTACTOR
- CH COMPRESSOR SLUMP HEATER
- DF DAMPER
- DWB POWER DISTRIBUTION BLOCK
- DS DISCONNECT SWITCH
- FCS CONDENSER FAN CYCLE SWITCH
- HPS HIGH PRESSURE SWITCH (MANUAL RESET)
- LPS LOW PRESSURE SWITCH
- MRV MODULATING HOT GAS REHEAT ACTUATOR
- OAD OUTDOOR AIR INLET TEMP
- ON ON/OFF SWITCH
- PM FAN MONITOR
- R4 SUPPLY BLOWER VFD RELAY
- R7 COMPRESSOR INTERLOCK RELAY
- R8 COMPRESSOR 1 RELAY
- R10 COMPRESSOR 2 RELAY
- RH POST HEAT RELAY
- S1 FAN SWITCH
- TRM TRANSFORMER
- VFD VARIABLE FREQUENCY DRIVE

DDC Code: Version - TAP v 2.50
GMK1S000 XNXX
Wiring Template: F15 DDC NUMBER: 2810022 REV: 10

INDIRECT GAS WIRING DIAGRAM
FURNACE 1 - HTD MODULATING



Wiring Diagram Code:
G4N51P1RX0000S06

CAUTION
UNIT SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C.
POWER MUST BE OFF WHILE SERVICING.

NOTES
USE COPPER CONDUCTORS ONLY
60° C FOR TERMINALS RATED LESS THAN 100 AMPS.
75° C FOR TERMINALS RATED 100 AMPS OR MORE.
FIELD CONTROL WIRING RESISTANCE SHOULD NOT EXCEED 0,75 OHM.
FIELD WIRED - - - - -
FACTORY SUPPLIED AND WIRED _____

NOTE: 1
MODBUS COMMUNICATION WIRING, DAISY CHAIN TO ALL MODBUS DEVICES.

WIRE COLOR CODE

BK	BLACK	BL	BLUE	BR	BROWN
GY	GRAY	LT BL	LIGHT BLUE	O	ORANGE
PK	PINK	PR	PURPLE	R	RED
W	WHITE	Y	YELLOW		

LEGEND

CM	COMBUSTION BLOWER MOTOR
FU#	FUSE(S)
HLC	HIGH TEMPERATURE LIMIT CONTROL
IC1	IGNITION CONTROL - SMALL MANIFOLD
IC2	IGNITION CONTROL - LARGE MANIFOLD
IR	INDUCTION RELAY
MDV1	MODULATING VALVE - SMALL MANIFOLD
MDV2	MODULATING VALVE - LARGE MANIFOLD
MV1	MAIN GAS VALVE - SMALL MANIFOLD
MV2	MAIN GAS VALVE - LARGE MANIFOLD
PS2	COMBUSTION AIR PROVING SWITCH
PS5	HIGH SPEED PRESSURE SWITCH
SC1	STAGE CONTROLLER
TR#	TRANSFORMER(S)

DDC Code: Version - TAP v 2.40

GUSXSX

Wiring Template: S06

Microprocessor Controller Sequence of Operation

MICROPROCESSOR CONTROLLER: Controller shall be provided with required sensors and programming for rooftop unit. Controller shall be factory programmed, mounted and tested. Controller shall have a LCD readout for changing set points and monitoring unit operation.

UNIT START COMMAND (Unit will be enabled to start once a jumper is placed between R to G):

- Factory mounted and wired outdoor air damper actuator is powered
- Supply fan starts after 10 second delay.
- Tempering options to function as described below.

UNIT STOP COMMAND (OR DE-ENERGIZED):

- Supply fan, exhaust fan and tempering options de-energized.
- Outdoor air damper actuator is spring return close.

OCCUPIED/UNOCCUPIED MODES: Shall be based on a 7-day time clock internal to the controller. The schedule shall be set by the end user. When a user initiates an override input, the controller will switch from unoccupied to occupied mode. The controller will return to the scheduled occupied/unoccupied mode after the override time has expired (60 min, adj.). If internal time clock is disabled, a remote contact or a BMS can control the occupied/unoccupied mode.

Occupied Mode:

- Damper control per below.
- Supply fan ON.
- Heating per below.
- Cooling per below.

Unoccupied Mode (Unit Off): Unit remains off when in unoccupied mode.

- Supply fan OFF
- Tempering OFF
- Outdoor air damper closed.

Morning Warm-up: One hour prior to occupancy, the controller will reference the temperature differential between the current room temperature and the occupied temperature set point. The controller will then look at the amount of time required from the previous days morning warm up sequence and determine how far in advance the unit has to be started to meet the desired occupied set point by the time of occupancy.

SUPPLY BLOWER SEQUENCE: The supply blower is provided with a factory mounted variable frequency drive. The supply blower speed will be controlled with the following sequence.

Constant Volume (on/off): The supply blower will operate at a constant speed set point (adj.) during operation.

COOLING SEQUENCE: The cooling is controlled to maintain the supply temperature set point. The mechanical cooling will be locked out when the outside air is < 55°F - 2°F hysteresis (adj.).

Packaged DX Cooling (Standard Scroll): The controller will provide a digital signal for 1 stage of cooling to maintain the supply air set point (adj.).

Modulating Hot Gas Reheat Sequence: During dehumidification the modulating HGRH is controlled to maintain the supply temperature set point.

Standard Head Pressure Control: 2 condensing fans will stage on/off based upon condenser pressure.

DEHUMIDIFICATION SEQUENCE: The cooling is controlled to maintain the cooling-coil set point. The dehumidification sequence will be locked out when the OA is 10°F above the cold-coil set point (adj.).

Cold Coil Setpoint Reset Function: The controller will control the cooling to maintain an active set point. The active set point will set to local control (55° F, adj) from the factory and can be field adjusted to the following sequence:

REHEAT SEQUENCE: While the unit is in dehumidification mode the outdoor air will be reheated via Modulating Hot Gas Reheat for space neutral applications.

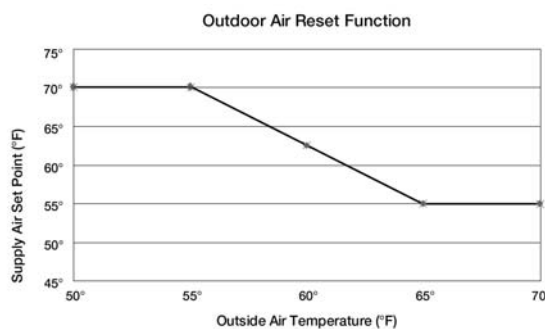
Modulating Hot Gas Reheat: The controller will modulate the hot gas reheat valve with a 0-10 V signal to maintain the supply temperature set point (adj.).

HEATING SEQUENCE: The heating is controlled to maintain the supply temperature set point. The heating will be locked out when the outside air is > $70^{\circ}\text{F} + 2^{\circ}\text{F}$ hysteresis, (adj.).

Indirect Gas Furnace: The controller will modulate the indirect gas furnace to maintain the supply temperature set point (adj.).

SUPPLY SET POINT RESET FUNCTION. The controller will modulate the heating and cooling to maintain an active set point. The active set point will be set to outdoor air reset from the factory and can be field adjusted to the following sequence:

OA Reset (Default): The controller will monitor the outdoor air temperature and adjusts the desired supply temperature set point accordingly. For example, when the outdoor air is below 55 °F, the controller will change the supply set point to 70 °F. If the outdoor air is above 65 °F, the controller will change the supply set point to 55°F. If the outdoor air temperature is between 55°F and 65°F, the supply set point changes according to the outdoor air reset function. A visual representation of this is shown below.



Local: The supply set point will be a constant temperature set from the controller (adj.).

BUILDING FREEZE PROTECTION: If the supply air temperature drops below 35°F (adj.) for 300s (adj.), the controller will de-energize the unit and activate the alarm output.

TEMPERATURE PROTECTION: The controller will enable the supply fan to modulate down to help the unit keep up with heating demand in the event of wheel failure or the unit operating outside design conditions. (This can be enabled under the manufacturer menu in the controller)

ALARMS INDICATION: The controller will display alarms and have one digital output for remote indication of an alarm condition. Possible alarms include:

Supply Air Alarm: The controller monitors the proving switch on supply blower and sends an alarm in the case of the blower proving switch not engaging for 30s (adj.).

DX Alarm: The controller monitors the refrigerant pressure. In the case of low refrigerant pressure the compressors will shut down until refrigerant pressure returns to normal values and the controller will send a alarm. In the case of high refrigerant pressure the compressors will shut down, requiring a manual reset and the controller will send a alarm.

Temperature Sensor Alarm: The controller sends an alarm in the case of a failed air temperature sensor.

Accessories: The following accessories will be included with the unit to expand the functionality or usability of the controller.

Phase and Brown Out Protection: Factory mounted and wired component which monitors the main power coming into the unit. If a phase drops out, or if the incoming voltage exceeds the acceptable range, the component will turn off the unit to help protect the electrical systems.

Unit Warranty

Limited Warranty

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of 1 year(s) from the purchase date. Any component which proves defective during the warranty period will be repaired, or replaced, at Greenheck's sole option when returned to our factory, transportation prepaid.

The warranty does not include labor costs associated with troubleshooting, removal, or installation. Greenheck will not be liable for any consequential, punitive, or incidental damages resulting from use, repair, or operation of any Greenheck product.

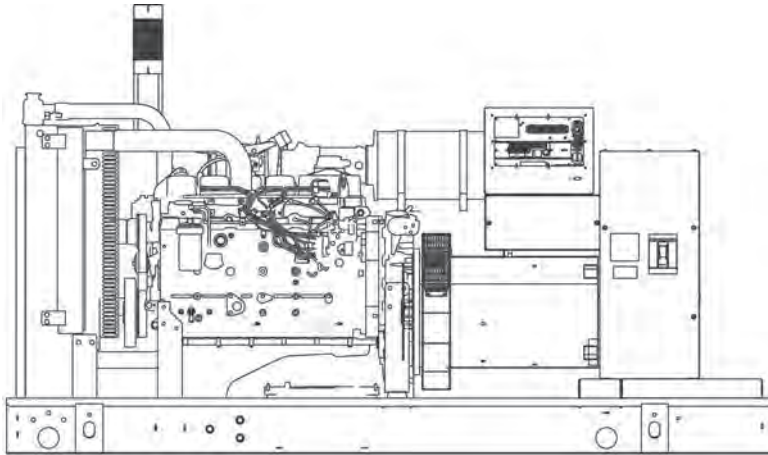
This warranty is exclusive, and is in lieu of all other warranties, whether written, oral or implied, including the warranty of merchantability and the warranty of fitness for a particular purpose.

STANDBY POWER RATING

130 kW, 163 kVA, 60 Hz

PRIME POWER RATING*

117 kW, 146 kVA, 60 Hz



*Built in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the U.S. or its Territories.

Image used for illustration purposes only

**Certain options or customization may not hold certification valid.


CODES AND STANDARDS

Generac products are designed to the following standards:

 UL2200, UL508, UL142, UL498

 NFPA70, 99, 110, 37

 NEC700, 701, 702, 708

 ISO9001, 8528, 3046, 7637, Pluses #2b, 4

 NEMA ICS10, MG1, 250, ICS6, AB1

 **ANSI**
American National Standards Institute
ANSI C62.41

POWERING AHEAD

For over 50 years, Generac has led the industry with innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial application under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

STANDARD FEATURES

ENGINE SYSTEM

General

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Critical Exhaust Silencer (enclosed only)
- Factory Filled Oil
- Radiator Duct Adapter (open set only)

Fuel System

- Fuel lockoff solenoid
- Primary fuel filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone resistant hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene glycol antifreeze
- 120 VAC Coolant Heater

Engine Electrical System

- Battery charging alternator
- Battery cables
- Battery tray
- Solenoid activated starter motor
- Rubber-booted engine electrical connections

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- 12 leads (3-phase, non 600 V)
- Class H insulation material
- Vented rotor
- 2/3 pitch
- Skewed stator
- Auxiliary voltage regulator power winding
- Amortisseur winding
- Brushless Excitation
- Sealed Bearings
- Automated manufacturing (winding, insertion, lacing, varnishing)
- Rotor dynamically spin balanced
- Full load capacity alternator
- Protective thermal switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of circuits - high/low voltage
- Separation of circuits - multiple breakers
- Silencer Heat Shield
- Wrapped Exhaust Piping
- Silencer housed in discharge hood (enclosed only)
- Standard Factory Testing
- 2 Year Limited Warranty (Standby rated Units)
- 1 Year Limited Warranty (Prime rated Units)
- Silencer mounted in the discharge hood (enclosed only)

ENCLOSURE (IF SELECTED)

- Rust-proof fasteners with nylon washers to protect finish
- High performance sound-absorbing material
- Gasketed doors
- Stamped air-intake louvers
- Air discharge hoods for radiator-upward pointing
- Stainless steel lift off door hinges
- Stainless steel lockable handles
- Rhino Coat™ - Textured polyester powder coat

TANKS (IF SELECTED)

- UL 142
- Double wall
- Vents
- Sloped top
- Sloped bottom
- Factory pressure tested (2 psi)
- Rupture basin alarm
- Fuel level
- Check valve in supply and return lines
- Rhino Coat™ - Textured polyester powder coat
- Stainless hardware

CONTROL SYSTEM



Control Panel

- Digital H Control Panel - Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- All-Phase Sensing DVR
- Full System Status
- Utility Monitoring
- Low Fuel Pressure Indication
- 2-Wire Start Compatible
- Power Output (kW)

- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus protocol
- Predictive Maintenance algorithm
- Sealed Boards
- Password parameter adjustment protection

- Single point ground
- 15 channel data logging
- 0.2 msec high speed data logging
- Alarm information automatically comes up on the display

Alarms

- Oil Pressure (Pre-programmable Low Pressure Shutdown)
- Coolant Temperature (Pre-programmed High Temp Shutdown)
- Coolant Level (Pre-programmed Low Level Shutdown)
- Low Fuel Pressure Alarm
- Engine Speed (Pre-programmed Over speed Shutdown)
- Battery Voltage Warning
- Alarms & warnings time and date stamped
- Alarms & warnings for transient and steady state conditions
- Snap shots of key operation parameters during alarms & warnings
- Alarms and warnings spelled out (no alarm codes)

CONFIGURABLE OPTIONS

ENGINE SYSTEM

General

- Oil Heater
- Industrial Exhaust Silencer

Fuel System

- Flexible fuel lines
- Primary fuel filter

Engine Electrical System

- 10A UL battery charger
- 2.5A UL battery charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical coating
- Permanent Magnet Excitation

CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breaker

GENERATOR SET

- Gen-Link Communications Software (English Only)
- IBC Seismic Certification
- 8 Position Load Center
- 2 Year Extended Warranty
- 5 Year Warranty
- 5 Year Extended Warranty

ENCLOSURE

- Weather Protected
- Level 1 Sound Attenuation
- Level 2 Sound Attenuation
- Steel Enclosure
- Aluminum Enclosure
- 150 MPH Wind Kit
- 12 VDC Enclosure Lighting Kit
- 120 VAC Enclosure Lighting Kit
- AC/DC Enclosure Lighting Kit
- Door Alarm Switch

TANKS (Size on last page)

- Electrical Fuel Level
- Mechanical Fuel Level
- 8" Fill Extension
- 13" Fill Extension

CONTROL SYSTEM

- 21-Light Remote Annunciator
- Remote Relay Panel (8 or 16)
- Oil Temperature Sender with Indication Alarm
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- Remote Communication - Modem
- Remote Communication - Ethernet
- 10A Run Relay
- Ground Fault Indication and Protection Functions

ENGINEERED OPTIONS

ENGINE SYSTEM

- Coolant heater ball valves
- Block Heaters
- Fluid containment pans

ALTERNATOR SYSTEM

- 3rd Breaker Systems

CONTROL SYSTEM

- Spare inputs (x4) / outputs (x4) - H Panel Only
- Battery Disconnect Switch

GENERATOR SET

- Special Testing

ENCLOSURE

- Motorized Dampers
- Door switched for intrusion alert
- Enclosure ambient heaters

TANKS

- Overfill Protection Valve
- UL2085 Tank
- ULC S-601 Tank
- Stainless Steel Tank
- Special Fuel Tanks (MIDEQ and FL DEP/DERM, etc.)
- Vent Extensions

RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

Prime - Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications. Power ratings in accordance with ISO 8528-1, Second Edition

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Iveco/FPT
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	6
Type	In-Line
Displacement - L (cu In)	6.7 (406.86)
Bore - mm (in)	104 (4.09)
Stroke - mm (in)	128 (5.2)
Compression Ratio	16.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	2 Valve
Piston Type	Alloy Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	+/- 0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow
Crankcase Capacity - L (qts)	17 (18)

Cooling System

Cooling System Type	Closed Recovery
Water Pump	Belt Driven Centrifugal
Fan Type	Pusher
Fan Speed (rpm)	2538
Fan Diameter mm (in)	599 (23.6)
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120 V /240 V

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	5
Fuel Injection	Stanadyne
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line mm (in)	12.7 (0.5) NPT
Fuel Return Line mm (in)	12.7 (0.5) NPT

Engine Electrical System

System Voltage	12 VDC
Battery Charging Alternator	Std
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<3%
Telephone Interference Factor (TIF)	<50

Standard Excitation	Synchronous Brushless
Bearings	Single Seated Cartridge
Coupling	Direct, Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
All	All
Regulation Accuracy (Steady State)	± 0.25%

OPERATING DATA

POWER RATINGS

		Standby
Single-Phase 120/240 VAC @1.0pf	130 kW	Amps: 542
Three-Phase 120/208 VAC @0.8pf	130 kW	Amps: 451
Three-Phase 120/240 VAC @0.8pf	130 kW	Amps: 391
Three-Phase 277/480 VAC @0.8pf	130 kW	Amps: 195
Three-Phase 346/600 VAC @0.8pf	130 kW	Amps: 156

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

Alternator	kW	480 VAC						208/240 VAC					
		10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	130	116	174	232	290	348	406	87	131	174	218	261	305
Upsize 1	150	133	199	265	332	398	464	100	149	199	249	299	340
Upsize 2	200	187	280	373	467	560	653	140	210	280	350	420	490

FUEL CONSUMPTION RATES*

Diesel - gal/hr (l/hr)

Fuel Pump Lift - ft (m)	Percent Load	Standby
3 (1)	25%	2.9 (11.0)
	50%	5.4 (20.4)
Total Fuel Pump Flow (Combustion + Return)	75%	7.7 (29.1)
29.1 gal/hr	100%	9.6 (36.3)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Coolant Flow per Minute	gal/min (l/min)	44.6 (168.8)
Coolant System Capacity	gal (L)	5.65 (21.4)
Heat Rejection to Coolant	BTU/hr	353,900
Inlet Air	cfm (m³/hr)	7900 (223.7)
Max. Operating Radiator Air Temp	F° (C°)	122 (50)
Max. Ambient Temperature (before derate)	F° (C°)	104 (40)
Maximum Radiator Backpressure	in H ₂ O	0.5

COMBUSTION AIR REQUIREMENTS

		Standby
Flow at Rated Power	cfm (m³/min)	390 (11.05)

ENGINE

		Standby
Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	198
Piston Speed	ft/min (m/min)	1559 (475)
BMEP	psi	213

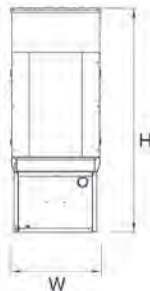
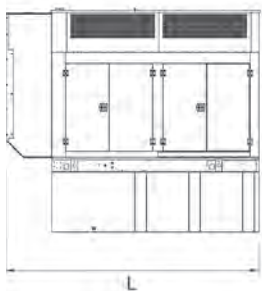
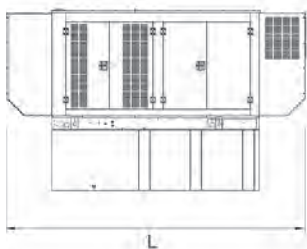
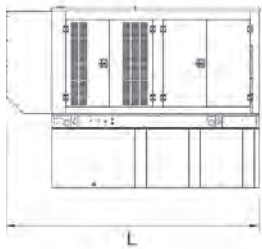
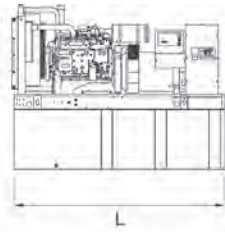
EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m³/min)	910 (25.8)
Max. Backpressure (Post Silencer)	inHg (Kpa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	960 (516)
Exhaust Outlet Size (Open Set)	mm (in)	101.6 (4)

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

DIMENSIONS AND WEIGHTS*



YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

OPEN SET

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Tank & Open Set	
			Steel	Aluminum
NO TANK	-	110 (2794) x 40 (1016) x 65 (1651)	3104 (1408)	
9	90 (340.7)	110 (2794) x 40 (1016) x 77 (1955.8)	3813 (1730)	
23	220 (832.8)	110 (2794) x 40 (1016) x 89 (2260.6)	4146 (1881)	
36	350 (1324.9)	110 (2794) x 40 (1016) x 101 (2565.4)	4488 (2036)	
53	510 (1930.6)	110 (2794) x 40 (1016) x 105 (2667)	4469 (2029)	
61	589 (2229.6)	128 (3251.2) x 49 (1244.6) x 107 (2717.8)	4948 (2244)	
72	693 (2623.3)	136 (3454.4) x 53 (1346.2) x 107 (2717.8)	4667 (2117)	

STANDARD ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	133 (3378) x 40 (1016) x 64 (1625.6)	500 (227)	
9	90 (340.7)	133 (3378) x 40 (1016) x 77 (1956)	165 (75)	
23	220 (832.8)	133 (3378) x 40 (1016) x 89 (2261)	165 (75)	
36	350 (1324.9)	133 (3378) x 40 (1016) x 101 (2565)	165 (75)	
53	510 (1930.6)	133 (3378) x 47 (1194) x 105 (2667)	165 (75)	
61	589 (2229.6)	133 (3378) x 49 (1125) x 107 (2718)	165 (75)	
72	693 (2623.3)	133 (3378) x 53 (1346) x 107 (2718)	165 (75)	

LEVEL 1 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	154 (3912) x 40 (1016) x 64 (1626)	750 (340)	
9	90 (340.7)	154 (3912) x 40 (1016) x 77 (1956)	250 (112)	
23	220 (832.8)	154 (3912) x 40 (1016) x 89 (2261)	250 (112)	
36	350 (1324.9)	154 (3912) x 40 (1016) x 101 (2565)	250 (112)	
53	510 (1930.6)	154 (3912) x 47 (1194) x 105 (2667)	250 (112)	
61	589 (2229.6)	154 (3912) x 49 (1245) x 107 (2718)	250 (112)	
72	693 (2623.3)	154 (3912) x 53 (1346) x 107 (2718)	250 (112)	

LEVEL 2 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	145 (3683) x 40 (1016) x 81 (2057)	1000 (454)	
9	90 (340.7)	145 (3683) x 40 (1016) x 84 (2134)	330 (150)	
23	220 (832.8)	145 (3683) x 40 (1016) x 106 (2692)	330 (150)	
36	350 (1324.9)	145 (3683) x 40 (1016) x 118 (2997)	330 (150)	
53	510 (1930.6)	145 (3683) x 47 (1194) x 122 (3099)	330 (150)	
61	589 (2229.6)	145 (3683) x 49 (1245) x 124 (3150)	330 (150)	
72	693 (2623.3)	145 (3683) x 53 (1346) x 124 (3150)	330 (150)	

*All measurements are approximate and for estimation purposes only. Sound dBA can be found on the sound data sheet. Enclosure Only weight is added to Tank & Open Set weight to determine total weight.

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

Performance	
Quantity	1
Volume (CFM)	7,500
External SP (in. wg)	1.5
Total SP (in. wg)	1.647
Operating Power (hp)	3.38
Start-Up Power (hp)	3.38
Fan RPM	1111
Max Fan RPM	1570
Oper. Frequency (Hz)	60
Elevation (ft)	30
Start-up Temp.(F)	70
Operating Temp.(F)	70

Fan Configuration	
Construction Type	PermaLock
Size	24
Arrangement	10
Rotation	CW
Discharge Position	TH
Spark Resistance	None
Scroll Material	Steel
Wheel Material	Steel
Inlet Cone Material	Steel
Pedestal Material	Steel

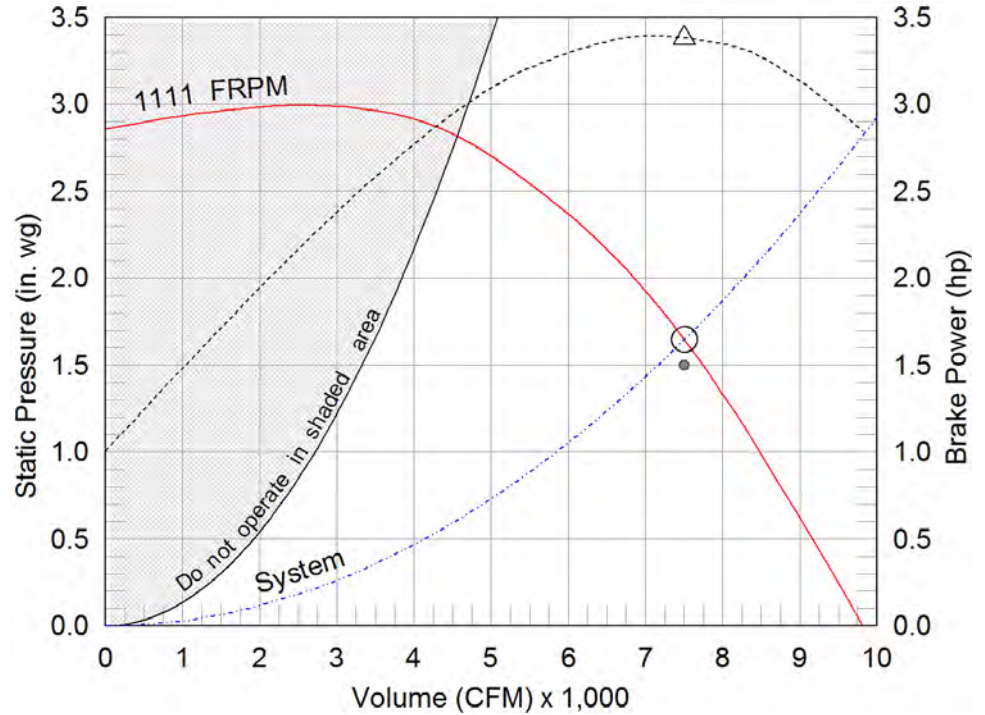
Equipment Weights	
Fan (LMD)(lb)	352
Motor/Drive (lb)	145
Accessories (lb)	12

Misc Fan Data	
Outlet Velocity (ft/min)	2,174
Static Efficiency (%)	60
Tip Speed (ft/min)	7,126

Motor and Drives	
Motor Supplier	Greenheck
Size (hp)	10
RPM	1725
Enclosure	ODP
Voltage	208
Cycle	60
Phase	3
Frame Size	215T
Max Frame Size	215
Location	Centered
Pulley Type	Constant
Drive Loss (%)	4.2
Drives	1.5 x Standard
Drive Service Factor	N/A

Model: USF-324-10-BI-100
Centrifugal Utility Fan - Backward Inclined Wheel

Operating Performance



- △ Operating Bhp point
- Operating point at Total SP
- Operating point at External SP
- Fan curve
- - - System curve
- · · Brake horsepower curve

External SP	1.5 in. wg
System Effect-Free Discharge	0.147 in. wg
Total SP	1.647 in. wg

Note: Using External SP only, the fan would have been incorrectly selected at:
1090 RPM 3.19 Bhp



Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	86	87	89	82	78	75	68	63	85	74	23
Outlet	96	93	90	83	82	77	70	65	87	76	27

LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB attenuation per octave band at 5 ft- dBA levels are not licensed by AMCA International
Sones - calculated using AMCA 301 at 5 ft

Model: USF-324-10-BI-100

Centrifugal Utility Fan - Backward Inclined Wheel

Standard Construction Features:

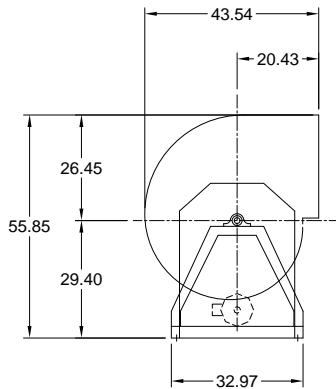
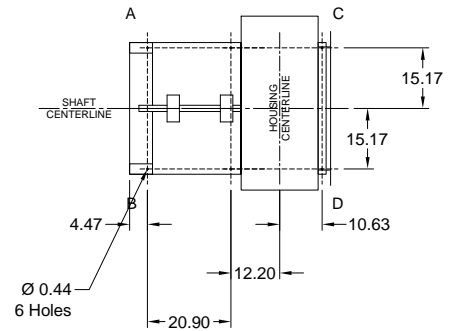
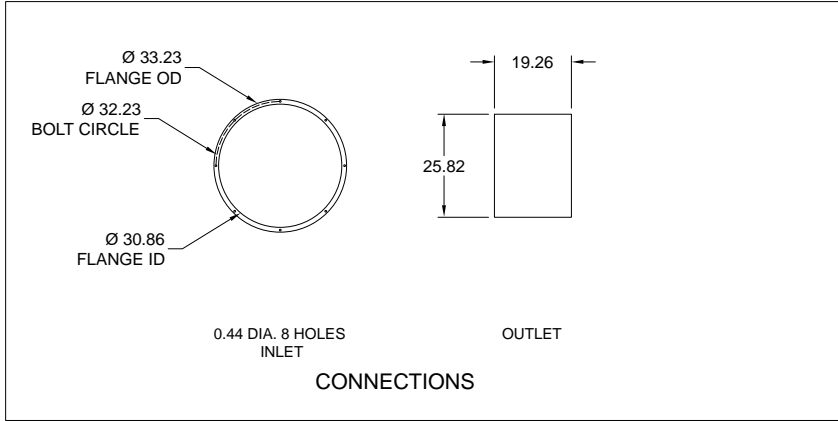
HOUSING: Steel housing with Perma-Lock construction - Unit support angles with pre-punched mounting holes - Adjustable motor plate - Corrosion resistant fasteners - Steel components are phosphatized and coated. BEARINGS, SHAFT, AND WHEEL: Air handling quality, self-aligning, ball bearing in pillow block housing - Polished, solid steel shafts - Backward inclined centrifugal wheel

Selected Options & Accessories:

NEMA Premium Efficient Motor - meets NEMA Table 12-12
Motor with Class B Insulation
1.5 times the minimum required number of belts
Coated with Permatecor, Concrete Gray-RAL 7023, Fan and Attached Accessories
Discharge Position - TH
UL/cUL-705 - Power Ventilators
Bearings - L(10) Life of 80k Hours
Inlet Connection - Inlet Flange, Punched
Outlet Connection - Slip Fit
Weatherhood - Steel
Inlet Guard - Inlet Guard, galvanized
Unit Warranty: 1 Yr (Standard)

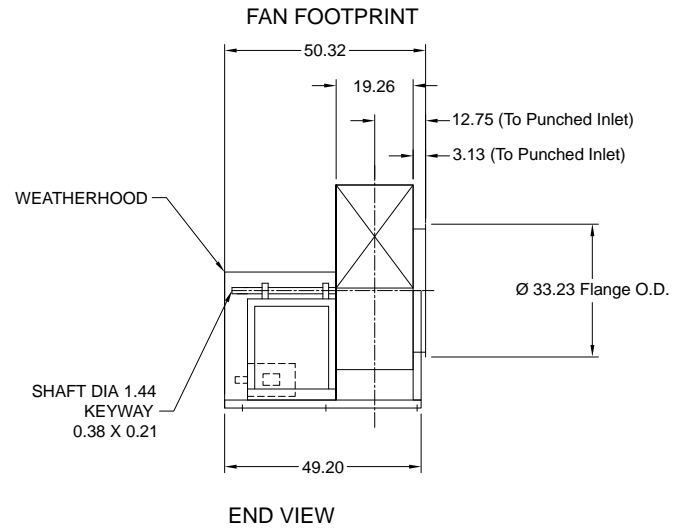
Model: USF-324-10-BI-100

Centrifugal Utility Fan - Backward Inclined Wheel



SIDE VIEW

*SIDE VIEW IS VIEWED FROM DRIVE SIDE
*FANS ARE SUBJECT TO ±.125 INCH TOLERANCE
*DUE TO CONTINUAL IMPROVEMENTS DIMENSIONS MAY CHANGE



END VIEW

Notes: All dimensions shown are in units of in.

AMCA



AMCA Licensed for Sound and Air Performance Without Appurtenances (Accessories). Power rating (BHP/kW) includes transmission losses.

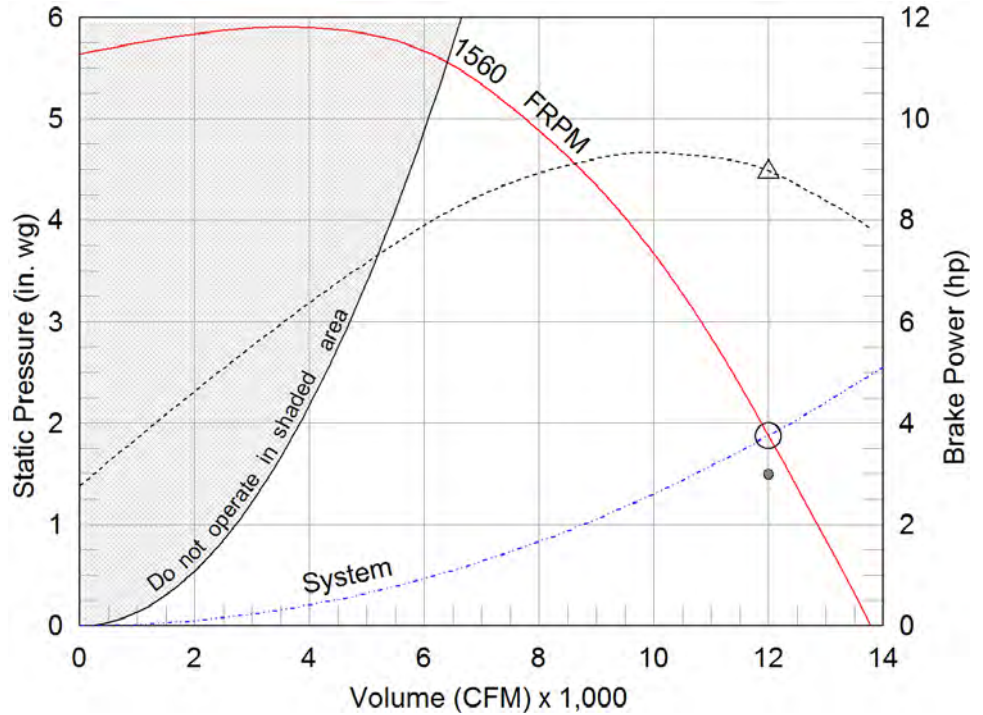
Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type B: Free inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power ratings (BHP/kW) include transmission losses. The sound power level ratings shown are in decibels, referred to 10-12 watts calculated per AMCA Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lwi, LwiA, and outlet Lwo, LwoA sound power levels for installation type B: Free inlet, Ducted outlet. Outlet ratings include the effects of duct end correction.

The AMCA licensed air and/or sound performance data has been modified for installation, appurtenances or accessories, etc. not included in the certified data. The modified performance is not AMCA licensed but is provided to aid in selection and applications of the product.

Performance	
Quantity	1
Volume (CFM)	12,000
External SP (in. wg)	1.5
Total SP (in. wg)	1.877
Operating Power (hp)	8.95
Start-Up Power (hp)	8.95
Fan RPM	1560
Max Fan RPM	1570
Oper. Frequency (Hz)	60
Elevation (ft)	30
Start-up Temp.(F)	70
Operating Temp.(F)	70

Model: USF-324-10-BI-100
Centrifugal Utility Fan - Backward Inclined Wheel

Operating Performance



Fan Configuration	
Construction Type	PermaLock
Size	24
Arrangement	10
Rotation	CW
Discharge Position	TH
Spark Resistance	None
Scroll Material	Steel
Wheel Material	Steel
Inlet Cone Material	Steel
Pedestal Material	Steel

Equipment Weights	
Fan (LMD)(lb)	352
Motor/Drive (lb)	145
Accessories (lb)	0

Misc Fan Data	
Outlet Velocity (ft/min)	3,478
Static Efficiency (%)	41
Tip Speed (ft/min)	10,007

Motor and Drives	
Motor Supplier	Greenheck
Size (hp)	10
RPM	1725
Enclosure	ODP
Voltage	208
Cycle	60
Phase	3
Frame Size	215T
Max Frame Size	215
Location	Centered
Pulley Type	Constant
Drive Loss (%)	3.6
Drives	Multiple
Drive Service Factor	1.5

△	Operating Bhp point	External SP	1.5 in. wg
○	Operating point at Total SP	System Effect-Free Discharge	0.377 in. wg
●	Operating point at External SP	Total SP	1.877 in. wg
—	Fan curve	Note: Using External SP only, the fan would have been incorrectly selected at: 1523 RPM 8.19 Bhp	
- - -	System curve		
· · ·	Brake horsepower curve		



Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	92	91	100	91	87	87	81	74	95	84	43
Outlet	102	100	101	94	93	91	85	78	99	87	55

LwA - A weighted sound power level, based on ANSI S1.4
 dBA - A weighted sound pressure level, based on 11.5 dB attenuation per octave band at 5 ft- dBA levels are not licensed by AMCA International
 Sones - calculated using AMCA 301 at 5 ft

Model: USF-324-10-BI-100

Centrifugal Utility Fan - Backward Inclined Wheel

Standard Construction Features:

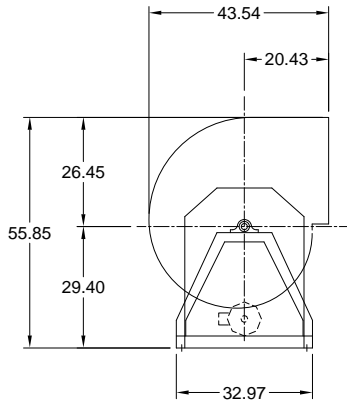
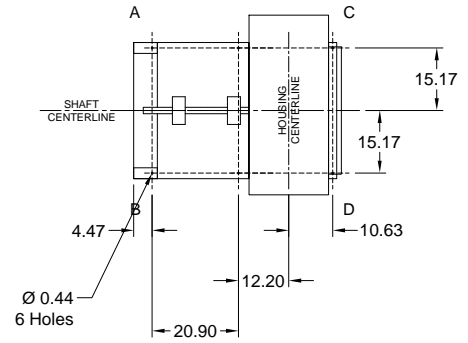
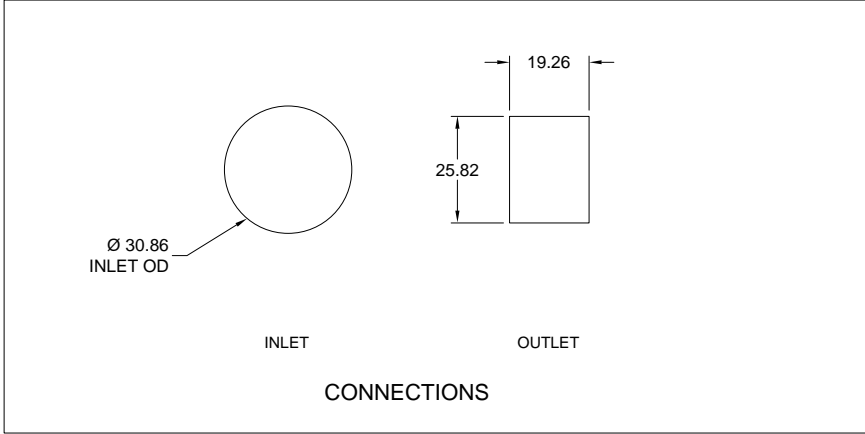
HOUSING: Steel housing with Perma-Lock construction - Unit support angles with pre-punched mounting holes - Adjustable motor plate - Corrosion resistant fasteners - Steel components are phosphatized and coated. BEARINGS, SHAFT, AND WHEEL: Air handling quality, self-aligning, ball bearing in pillow block housing - Polished, solid steel shafts - Backward inclined centrifugal wheel

Selected Options & Accessories:

Energy Efficient Motor - meets NEMA Table 12-11
Motor with Class B Insulation
Coated with Permatector, Concrete Gray-RAL 7023, Fan and Attached Accessories
Discharge Position - TH
UL/cUL-705 - Power Ventilators
Bearings - L(10) Life of 80k Hours
Inlet Connection - Slip Fit
Outlet Connection - Slip Fit
Weatherhood - Steel
Unit Warranty: 1 Yr (Standard)

Model: USF-324-10-BI-100

Centrifugal Utility Fan - Backward Inclined Wheel

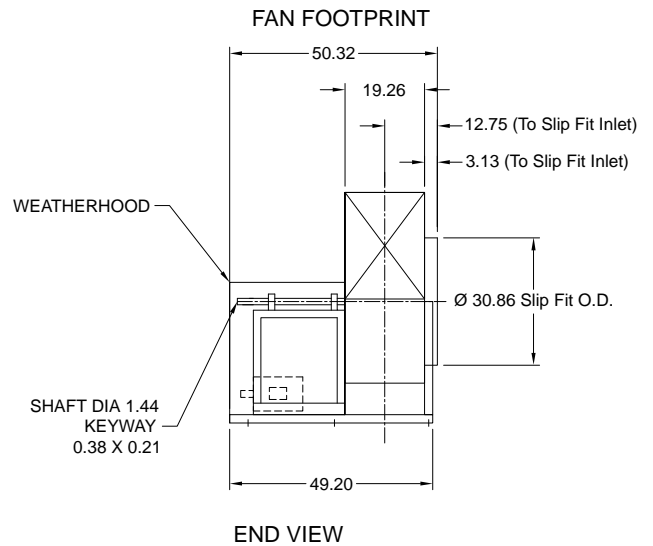


SIDE VIEW

*SIDE VIEW IS VIEWED FROM DRIVE SIDE

*FANS ARE SUBJECT TO ±.125 INCH TOLERANCE

*DUE TO CONTINUAL IMPROVEMENTS DIMENSIONS MAY CHANGE



Notes: All dimensions shown are in units of in.

AMCA



AMCA Licensed for Sound and Air Performance Without Appurtenances (Accessories). Power rating (BHP/kW) includes transmission losses.

Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type B: Free inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories). Power ratings (BHP/kW) include transmission losses. The sound power level ratings shown are in decibels, referred to 10-12 watts calculated per AMCA Standard 301. The A-weighted sound ratings shown have been calculated per AMCA International Standard 301. Values shown are for inlet Lwi, LwiA, and outlet Lwo, LwoA sound power levels for installation type B: Free inlet, Ducted outlet. Outlet ratings include the effects of duct end correction.

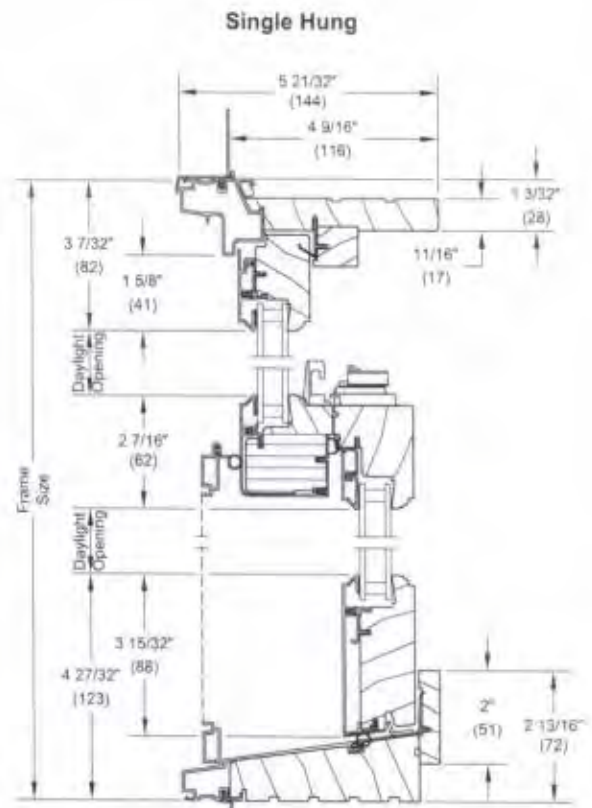
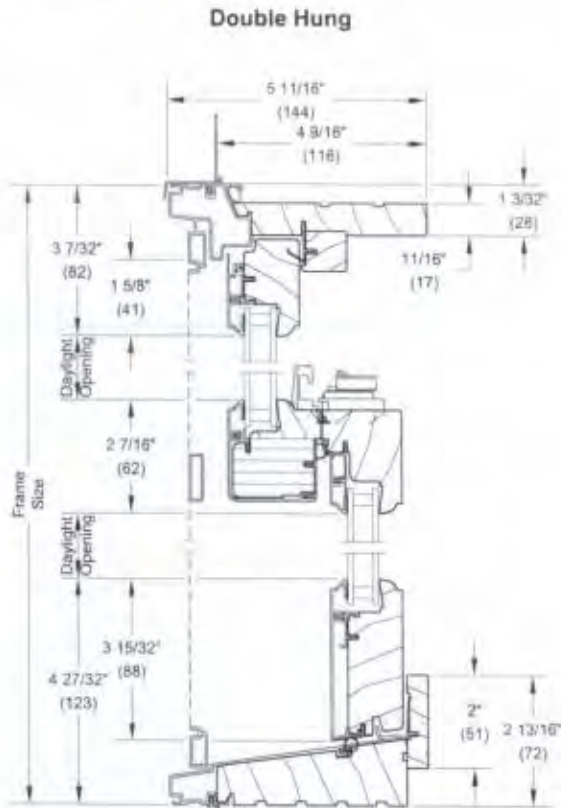
The AMCA licensed air and/or sound performance data has been modified for installation, appurtenances or accessories, etc. not included in the certified data. The modified performance is not AMCA licensed but is provided to aid in selection and applications of the product.

roof vents



Section Details: Operating

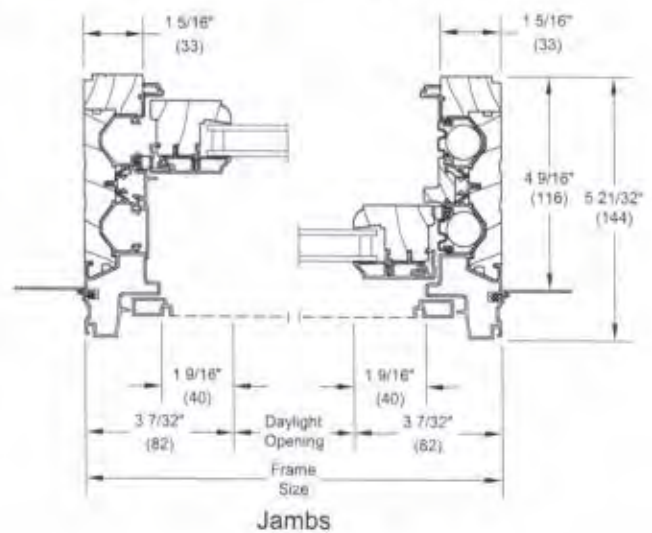
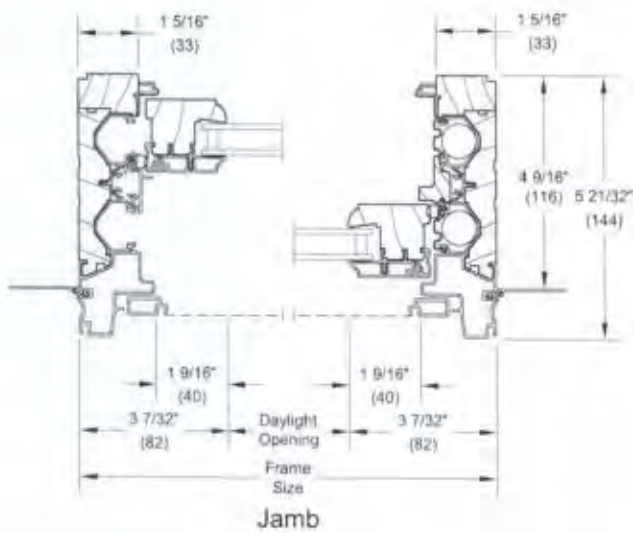
Scale: 3" = 1' 0"



Head Jamb and Sill

Head Jamb and Sill

NOTE:
 PROVIDE BLACK
 VINYL JAMB LNER COVER -



HOPE'S®

Jamestown 175™ Series

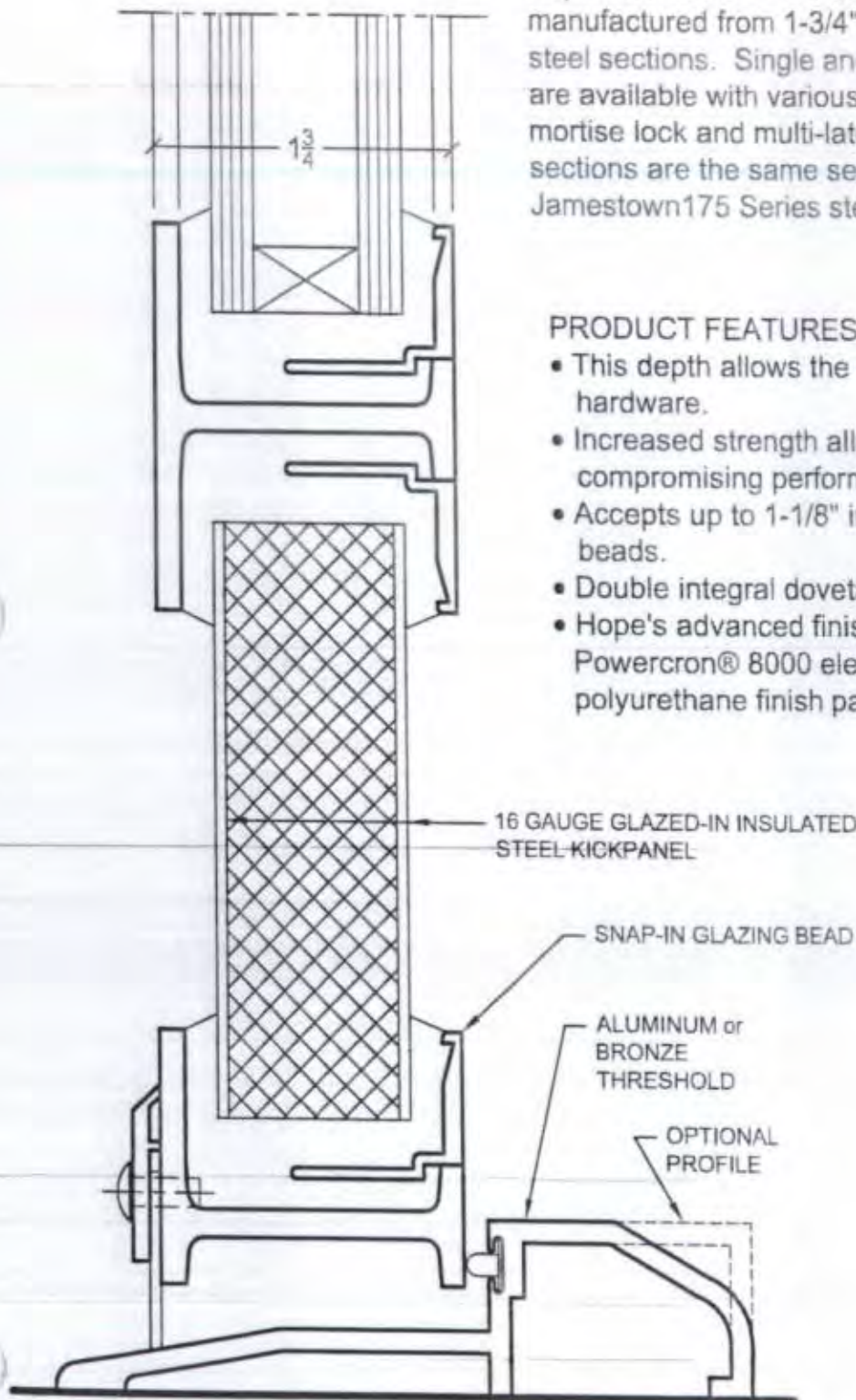
Swinging Steel Doors

11th FLOOR TERRACE
 PAIR OF DOORS &
 SWEIGHTS -

Hope's Jamestown 175 Series steel doors are custom manufactured from 1-3/4" deep heavy custom hot-rolled steel sections. Single and French-style configurations are available with various hardware options, including mortise lock and multi-latching cremone. The steel door sections are the same sections as used in the Jamestown 175 Series steel windows.

PRODUCT FEATURES:

- This depth allows the use of a wider variety of door hardware.
- Increased strength allows for larger door sizes without compromising performance.
- Accepts up to 1-1/8" insulating glass with flush glazing beads.
- Double integral dovetail weatherstripping.
- Hope's advanced finishing process, including PPG Powercron® 8000 electro-coat pretreatment and polyurethane finish paint.

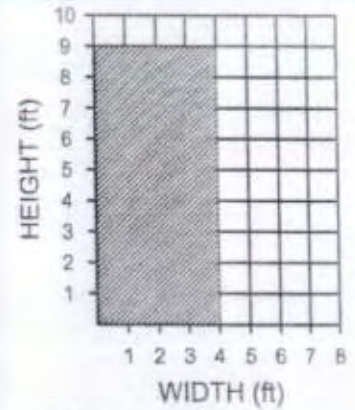
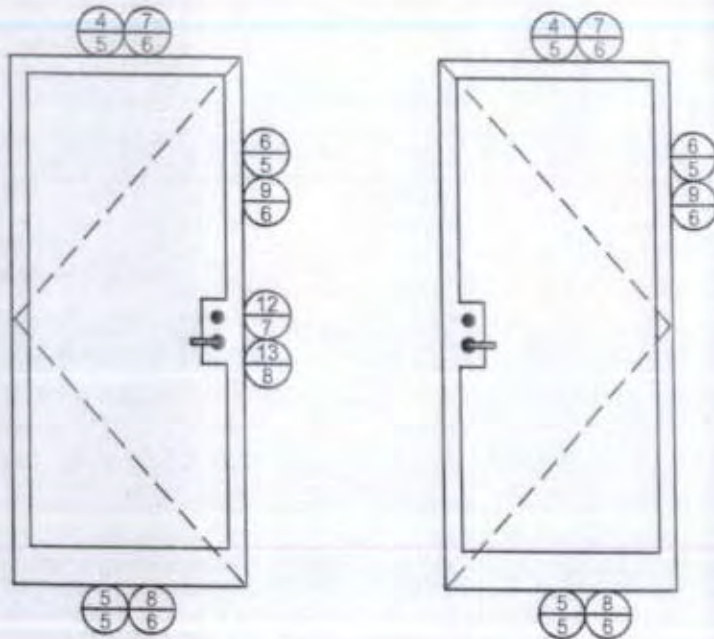


THRESHOLD DETAIL

Details are full scale.

Jamestown 175™ Series

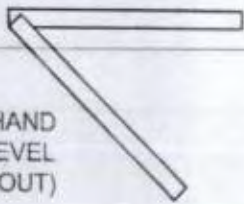
Size Capabilities



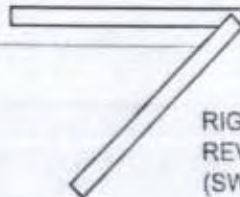
SIZES BASED ON 1" INSULATING GLASS WITH 1/4" PANES

FOR DOOR REQUIREMENTS EXCEEDING THE SIZES SHOWN, CONSULT HOPE'S FOR DESIGN ALTERNATIVES

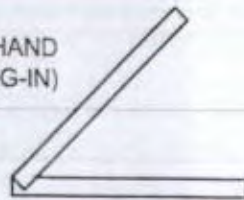
LEFT HAND
REVERSE BEVEL
(SWING-OUT)



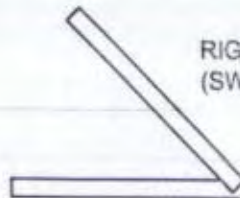
RIGHT HAND
REVERSE BEVEL
(SWING-OUT)



LEFT HAND
(SWING-IN)



RIGHT HAND
(SWING-IN)

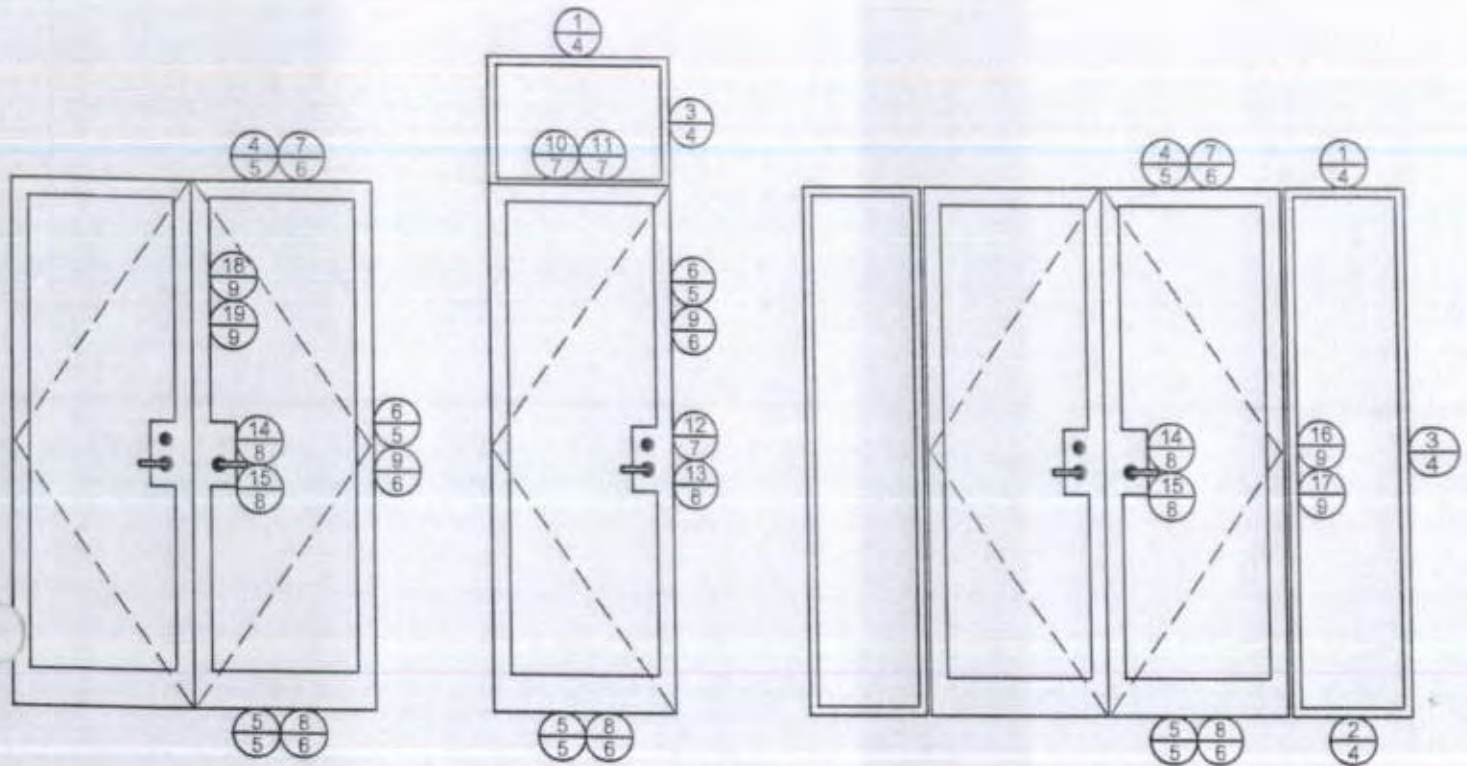


Elevations are for detail reference only. Elevations are not to scale.
All Hope's products are custom manufactured for your specific project requirements.

HOPE'S®

Swinging Steel Doors

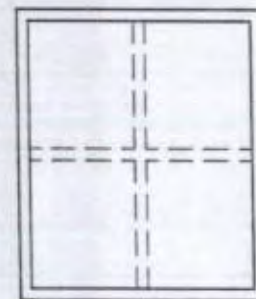
Jamestown 175™ Series



TRUE
MUNTIN



FOR TRUE MUNTINS AND
MUNTIN GRIDS SEE
"MUNTINS, MULLIONS,
STACKS AND EXPANSION
CHANNELS" SECTION



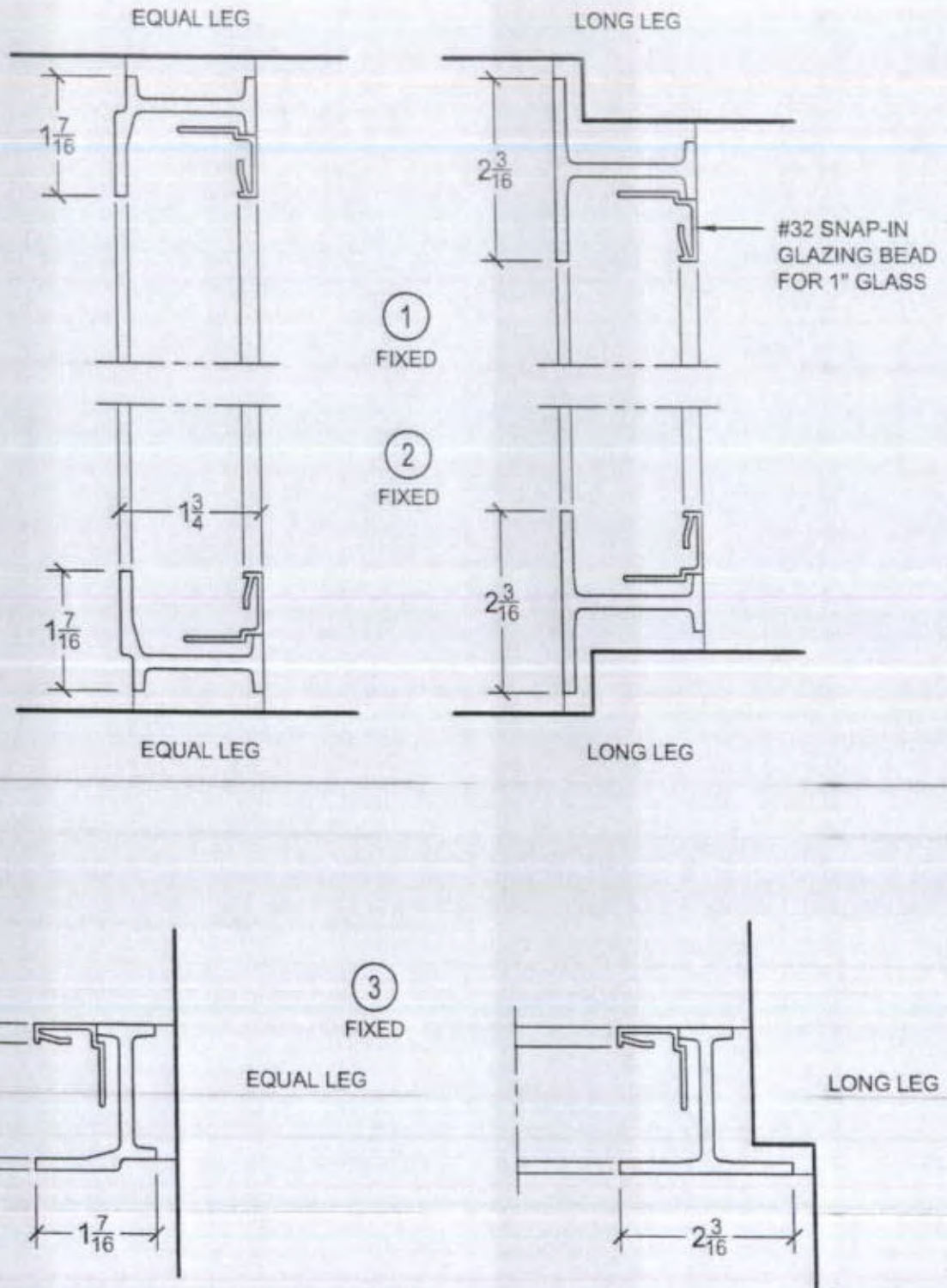
MUNTIN
GRIDS

Elevations are for detail reference only. Elevations are not to scale.
All Hope's products are custom manufactured for your specific project requirements.

HOPE'S®

Jamestown 175™ Series

Swinging Steel Doors

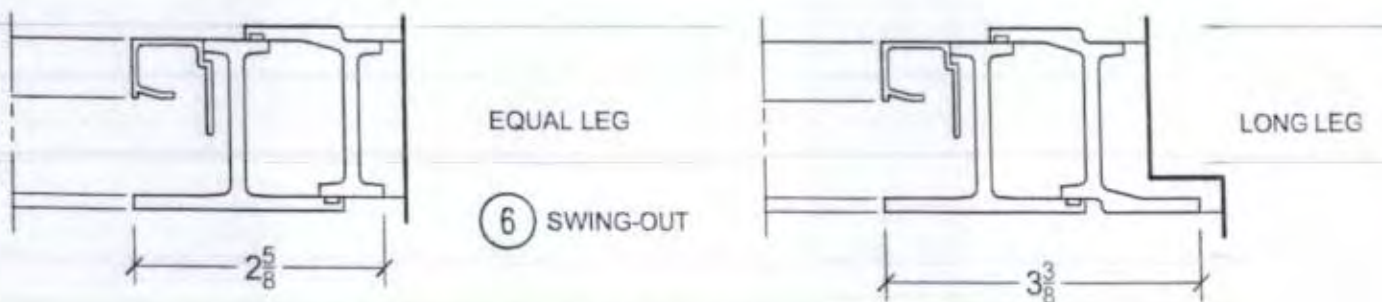
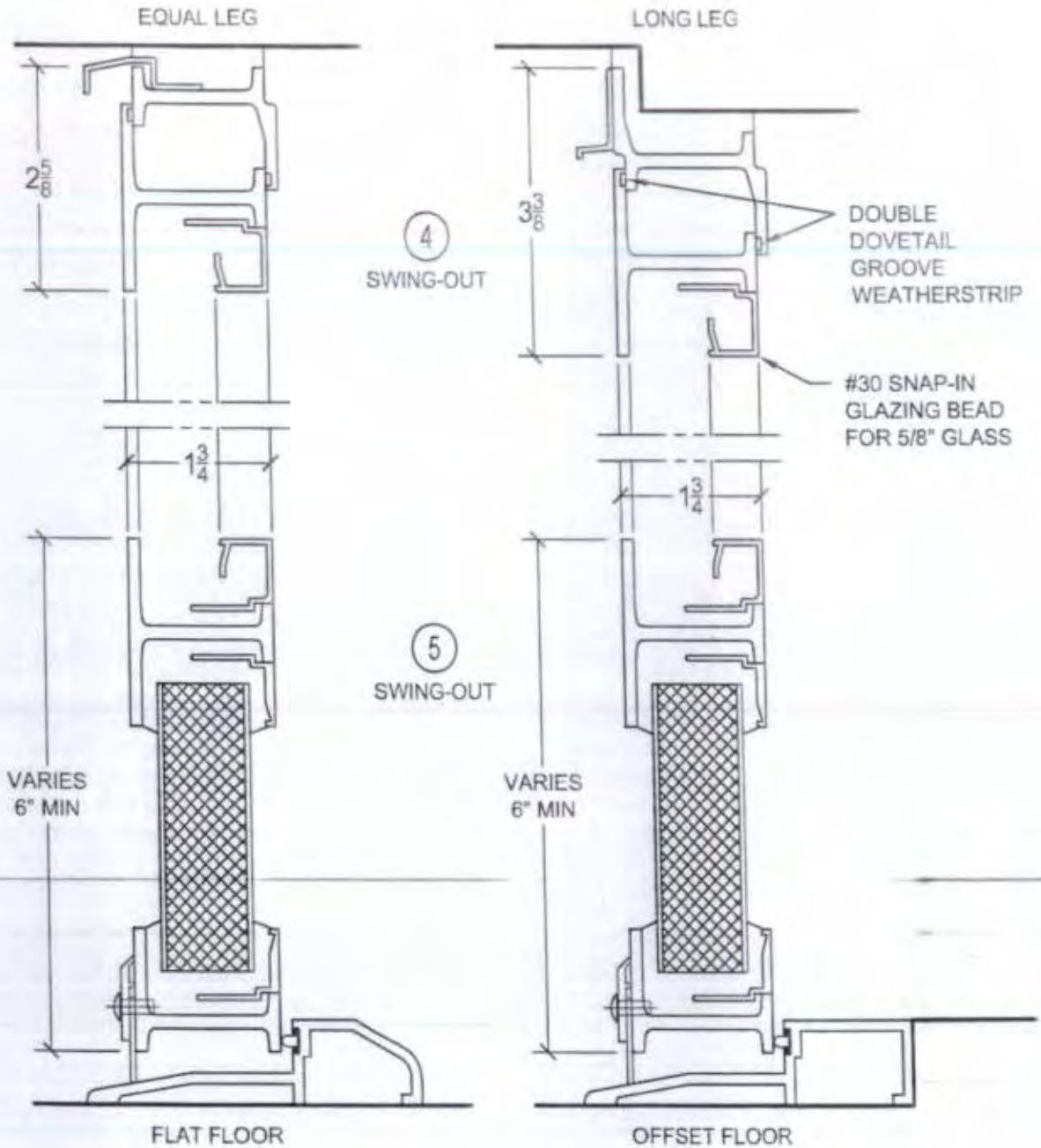


Details are half scale and shown inside glazed with 1" glass.
See page 10 for further glazing bead options.

HOPE'S®

Swinging Steel Doors

Jamestown 175™ Series



Details are half scale and shown inside glazed with 5/8" glass.
See page 10 for further glazing bead options.

HOPE'S®

Residential Door Hardware

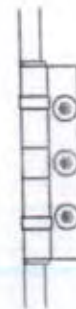
Mortise Lock

PIVOT / HINGE

- #237 - BRASS-BEARING WITH DECORATIVE KNUCKLE DESIGN
WELDED TO DOOR AND FRAME
- #1000HD - HEAVY DUTY 5-KNUCKLE BALL-BEARING HINGE
SCREW ATTACHED TO DOOR AND FRAME WITH
TAMPER-RESISTANT SCREWS



#237



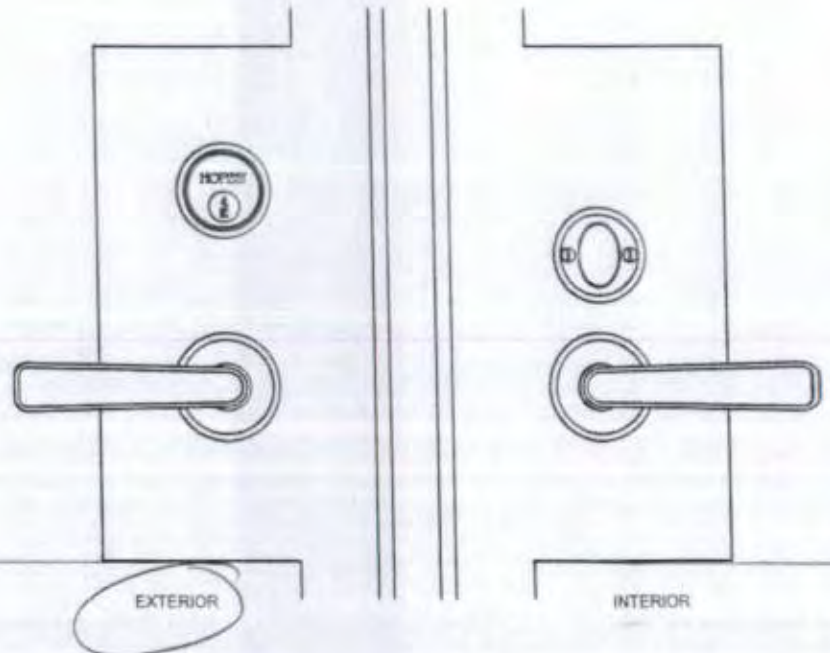
#1000HD

MORTISE LOCK

- ENTRANCE LOCK, INCLUDING:
- LEVER HANDLES (EXT & INT)
- ESCUTCHEON PLATES (EXT & INT)
- KEY CYLINDER (EXT)
- THUMBTURN (INT)

ADDITIONAL MORTISE LOCK FEATURES

- HEAVY DUTY LOCK
- LARGEST VARIETY OF LOCK FUNCTIONS
- LOCKBOX CUTS INTO GLASS
- ROSE AND ESCUTCHEON TRIM CHOICES



*Polished
BRASS
FINISH*

EXTERIOR

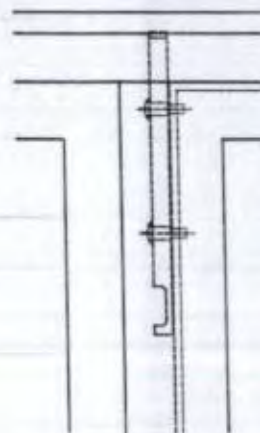
INTERIOR

TOP & BOTTOM BOLTS (DOUBLE DOORS ONLY)

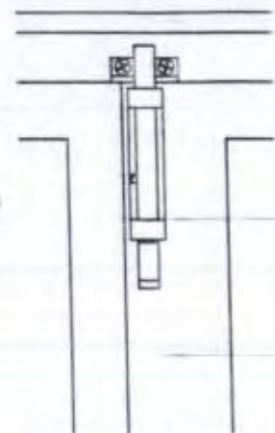
- #19-156M1 - CONCEALED
- #20-50 - EXPOSED
- MOUNTED ON THE INACTIVE LEAF

- 6" AT SILL
- 12" AT HEAD (UP TO 7'-6")
- 18" AT HEAD (7'-6" TO 8'-0")
- 24" AT HEAD (8'-0" TO 8'-6")

CONSULT HOPE'S FOR SIZE VARIATIONS



#19-156M1
(CONCEALED)



#20-50
(EXPOSED)

INTERIOR
VIEWS

Details are 1/4 scale

INSWING

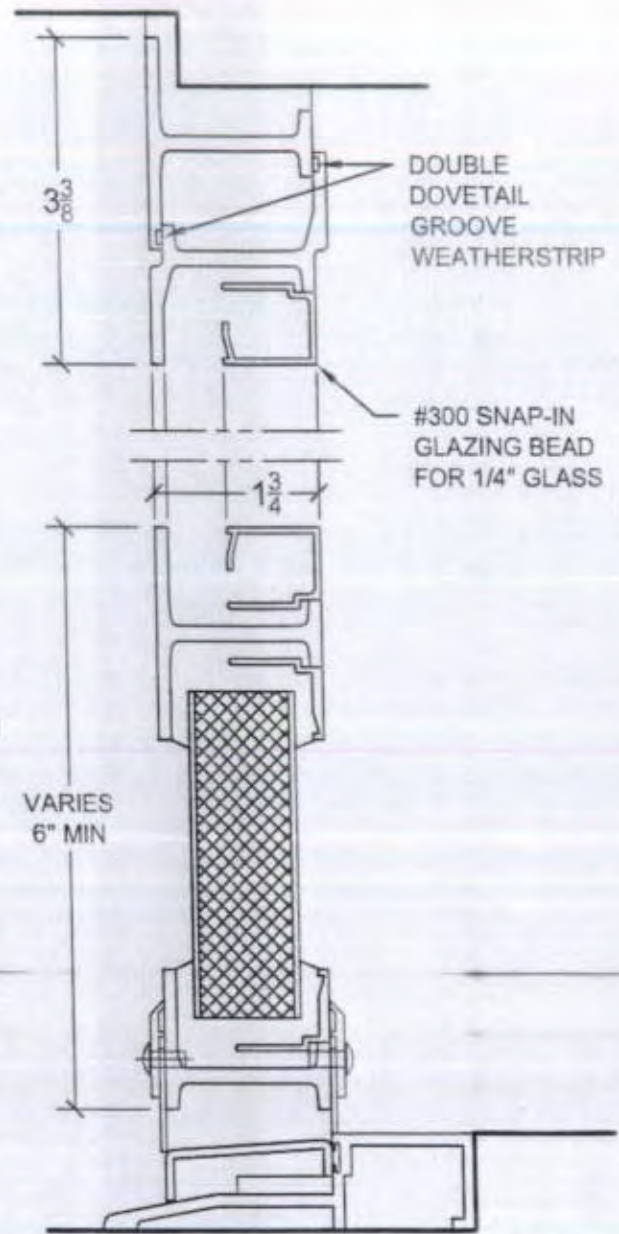
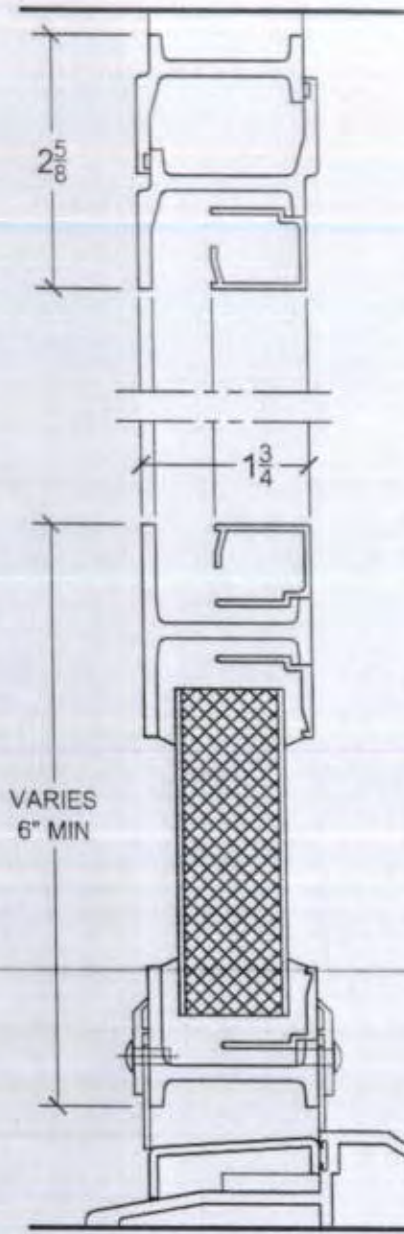
HOPE'S®

Swinging Steel Doors

Jamestown 175™ Series

EQUAL LEG

LONG LEG



7
SWING-IN

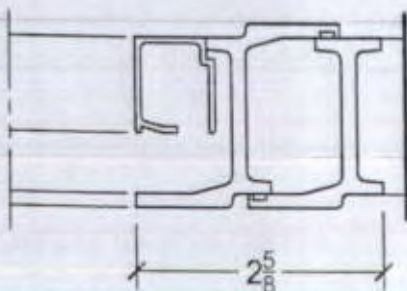
8
SWING-IN

DOUBLE
DOVETAIL
GROOVE
WEATHERSTRIP

#300 SNAP-IN
GLAZING BEAD
FOR 1/4" GLASS

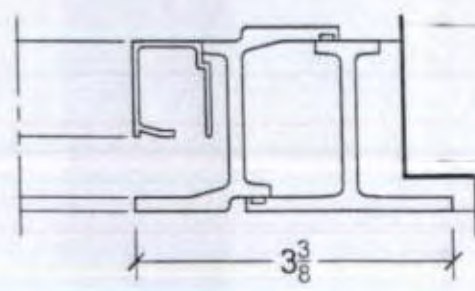
FLAT FLOOR

OFFSET FLOOR



EQUAL LEG

9
SWING-IN



LONG LEG

Details are half scale and shown inside glazed with 1/4" glass.
See page 10 for further glazing bead options.

HOPE'S®

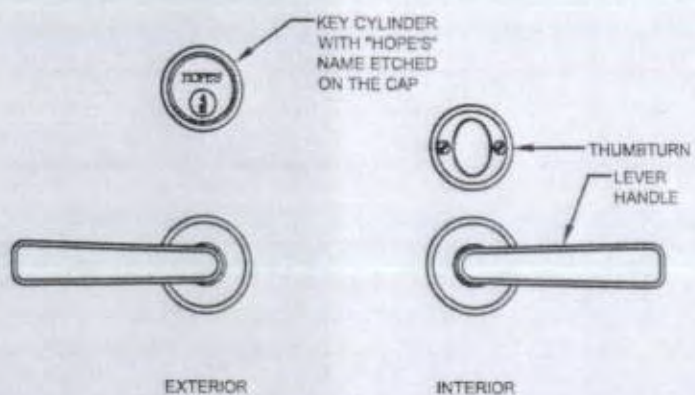
Residential Door Hardware

Mortise Lock

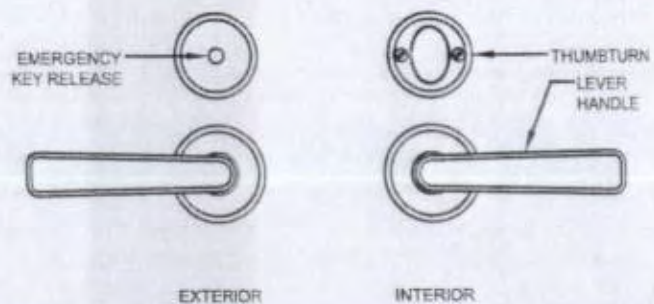
ROSE TRIM

ROSE SIZE-2-1/4Ø

ENTRANCE FUNCTION - #20400



PRIVACY FUNCTION - #20720



PASSAGE FUNCTION - #20700

FULL DUMMY - #20740



Details are 1/4 scale



190/350/500 Standard Entrances

- 2-1/8" (54mm), 3-1/2" (87.9mm), or 5" (127mm) sightline
- 1-3/4" (44.5mm) depth
- Non-thermal performance
- Moderate to high traffic application



Product Features

Tough yet attractive, the clean lines of Kawneer's Standard Entrances are designed as a single-source package of door, door frame and hardware that is easily adaptable to custom requirements.

Designed to complement new or remodel construction, modern or traditional architecture, they are engineered, constructed and tested to make good first impressions while withstanding the rigors of constant use by occupants and visitors.

The 190 Narrow Stile Entrance

- Is engineered for moderate traffic in applications such as stores, offices and apartment buildings
- Vertical stile measures 2-1/8" (54); top rail 2-1/4" (57.2) and bottom rail 3-7/8" (98.4)
- Results in a slim look that meets virtually all construction requirements

The 350 Medium Stile Entrance

- Provides extra strength for applications such as schools, institutions and other high traffic applications
- Vertical stiles and top rails measure 3-1/2" (88.9)
- Bottom rail measures 6-1/2" (165.1) for extra durability

The 500 Wide Stile Entrance

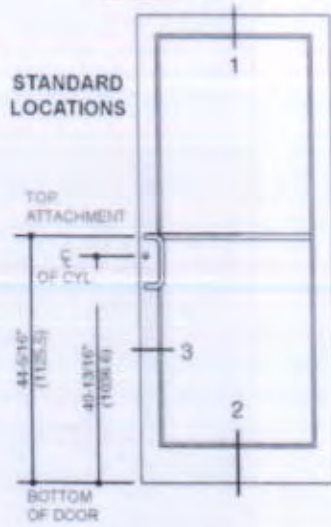
- Creates a monumental visual statement for applications such as banks, libraries and public buildings
- Vertical stiles and top rail are 5" (127); bottom rail measures 6-1/2" (165.1)
- Results in superior strength for buildings experiencing heavy traffic conditions

General

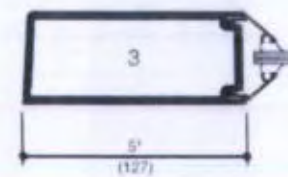
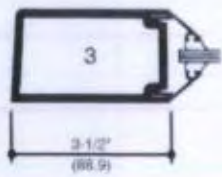
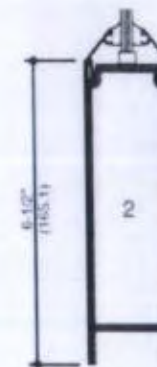
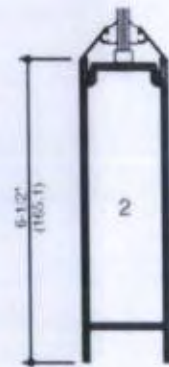
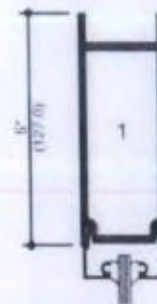
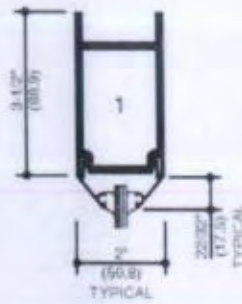
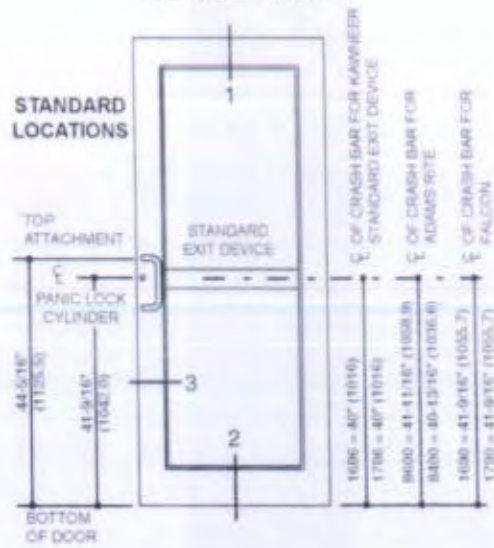
- Heights vary to 10 feet; widths range from approximately 3 to 4 feet
- Door frame face widths range to a maximum of 4" (101.6), while depths range to 6" (152.4)
- Door operation is single or doubleacting with maximum security locks or Touch Bar Panics standard
- Architect's Classic one inch round, bent bar push/pull hardware is available in various finishes and sizes
- Infills range from under 1/4" (6.4) to more than 1" (25.4)

SCALE 3" = 1' 0"

350 MEDIUM STILE



500 WIDE STILE



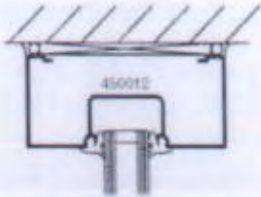
Local and building and safety codes governing the design and use of glazed entrance windows and curtain wall products vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.

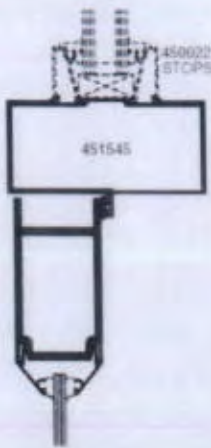
SCALE 3" = 1'-0"

350 HEAVY WALL DOORS
TRIFAB™ VG 451 CENTER DOOR FRAMES SHOWN
(HEAVY WALL FRAME OPTIONAL)

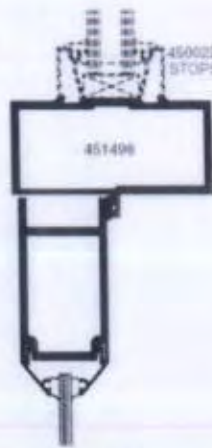
SINGLE ACTING DOORS



6
TRANSOM HEAD



7
DOOR HEADER/
TRANSOM BAR



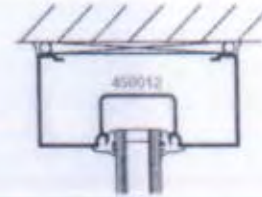
7A
DOOR HEADER/
TRANSOM BAR



8"
BOTTOM RAIL

*NOTE: Some building codes limit threshold height to 1/2" (12.7) max.

COC WITH SINGLE ACTING OFFSET ARM



6
TRANSOM HEAD



7B
DOOR HEADER/
TRANSOM BAR

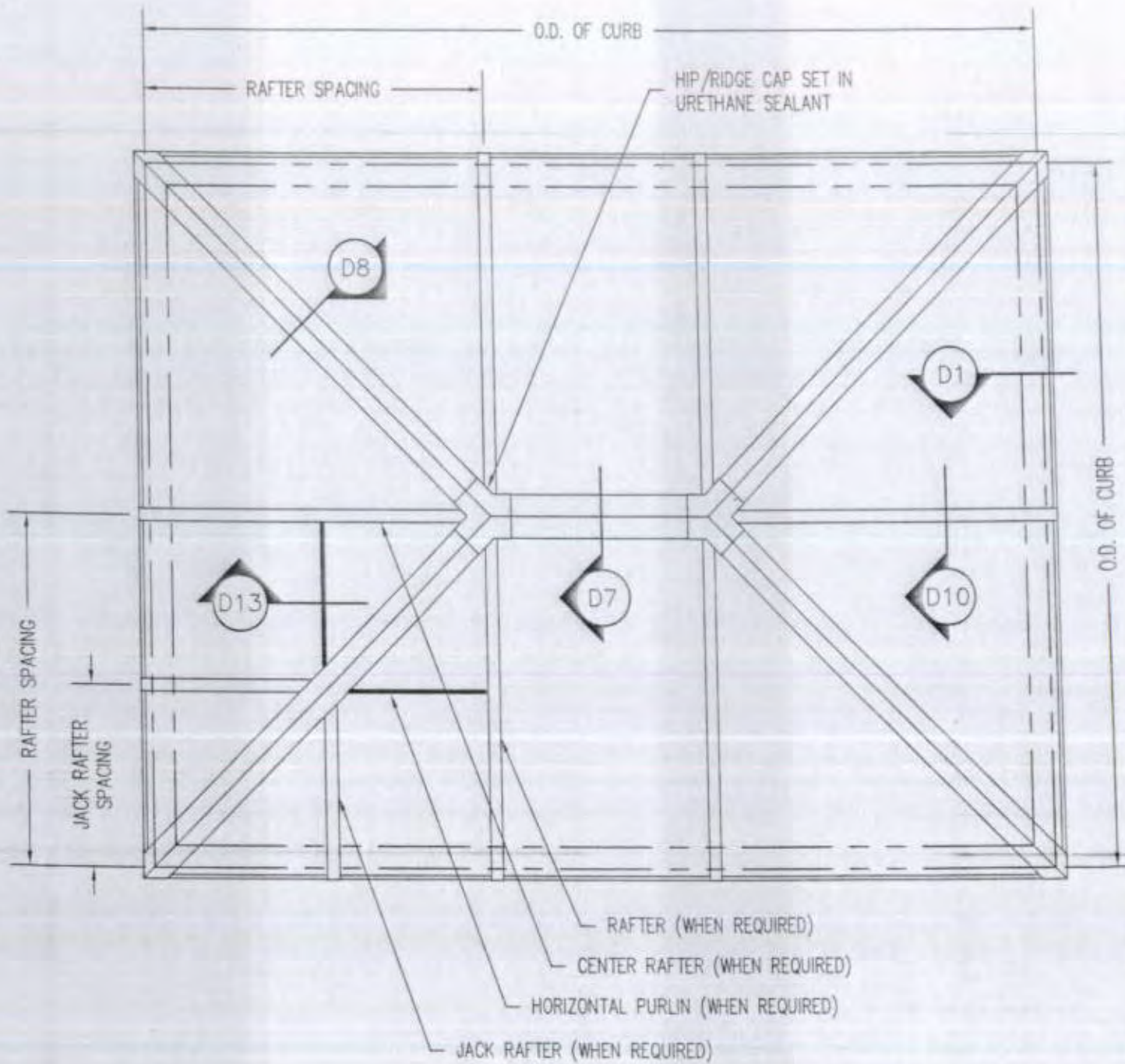


8"
BOTTOM RAIL

*NOTE: Some building codes limit threshold height to 1/2" (12.7) max.

Life and building code safety codes governing the design and use of glazed entrances, windows and curtain walls products vary widely. Kawneer does not control the selection of product configurations, accessories hardware, or glazing materials.

Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.



GENERAL NOTES:

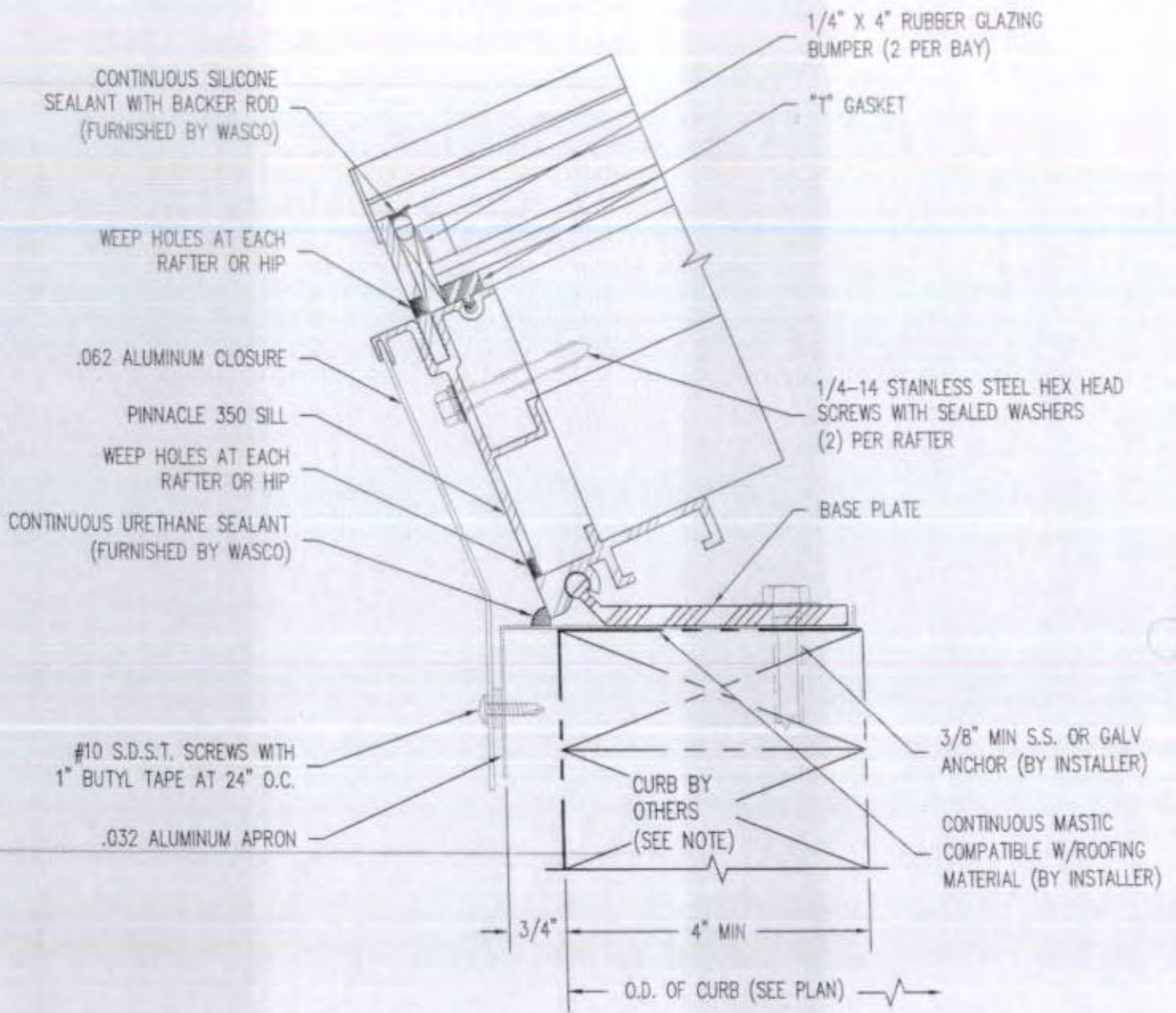
- 1) RAFTER LOCATION BASED ON WASCO'S RECOMMENDATIONS AND AAMA GLAZING GUIDELINES (BASED ON SIZE OF UNIT, TYPE OF GLAZING, CUSTOMER'S REQUEST, ETC.)
- 2) UNIT PITCHES ARE AVAILABLE FROM 3:12 TO 12:12



Wasco Products, Inc.
 22 Pioneer Avenue, P.O. Box 351
 Sanford, ME 04073
 Fax: 207-490-5270 sales@wascoproducts.com
 800-388-0293 www.wascoproducts.com

**Pinnacle 350 or 600
 (PYH) Extended
 Pyramid Plan View**

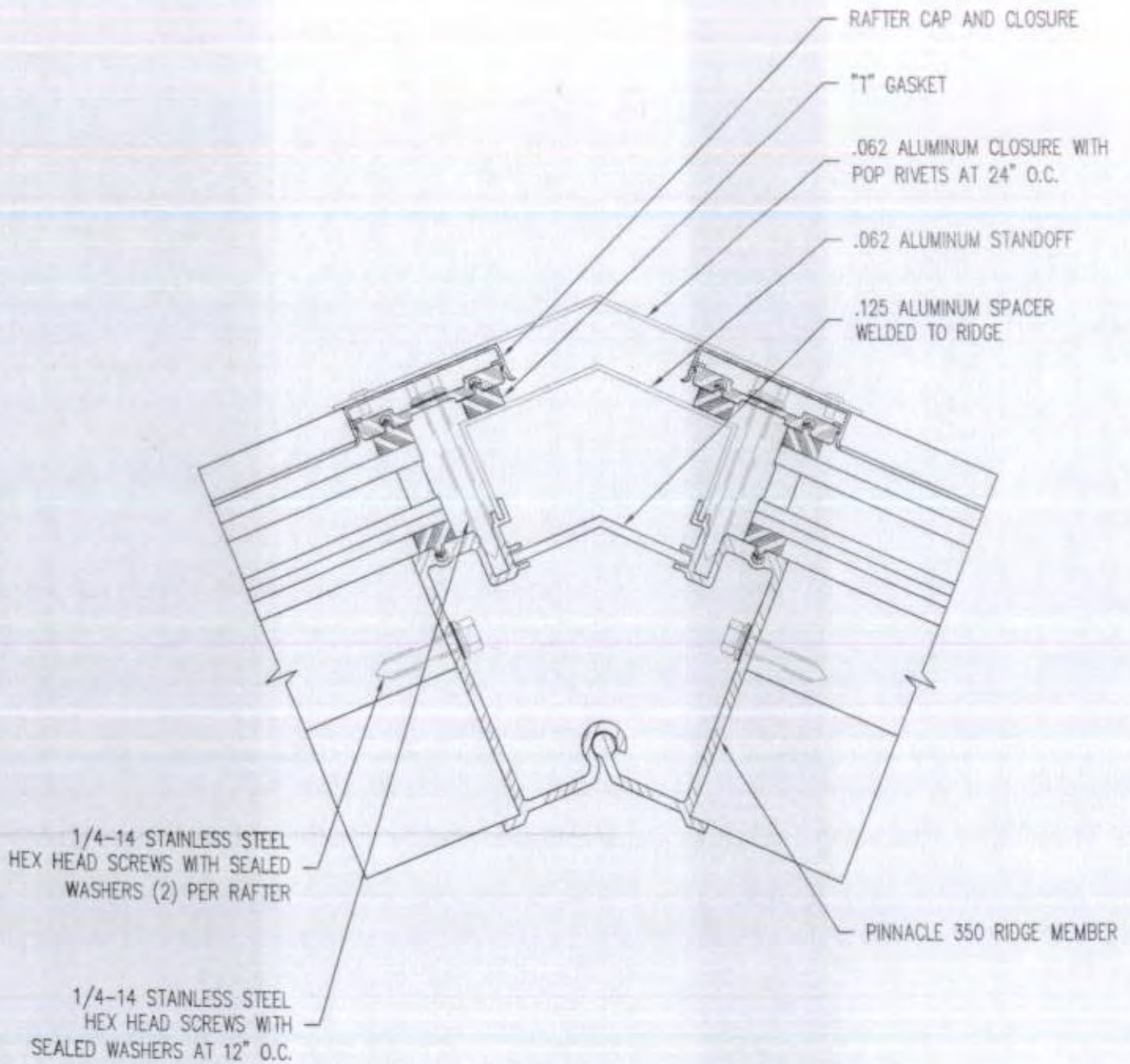
PLN2



Wasco Products, Inc.
22 Pioneer Avenue, P.O. Box 351
Sanford, ME 04073
Fax: 207-490-5270 sales@wascoproducts.com
800-388-0293 www.wascoproducts.com

Pinnacle 350 Sill Detail

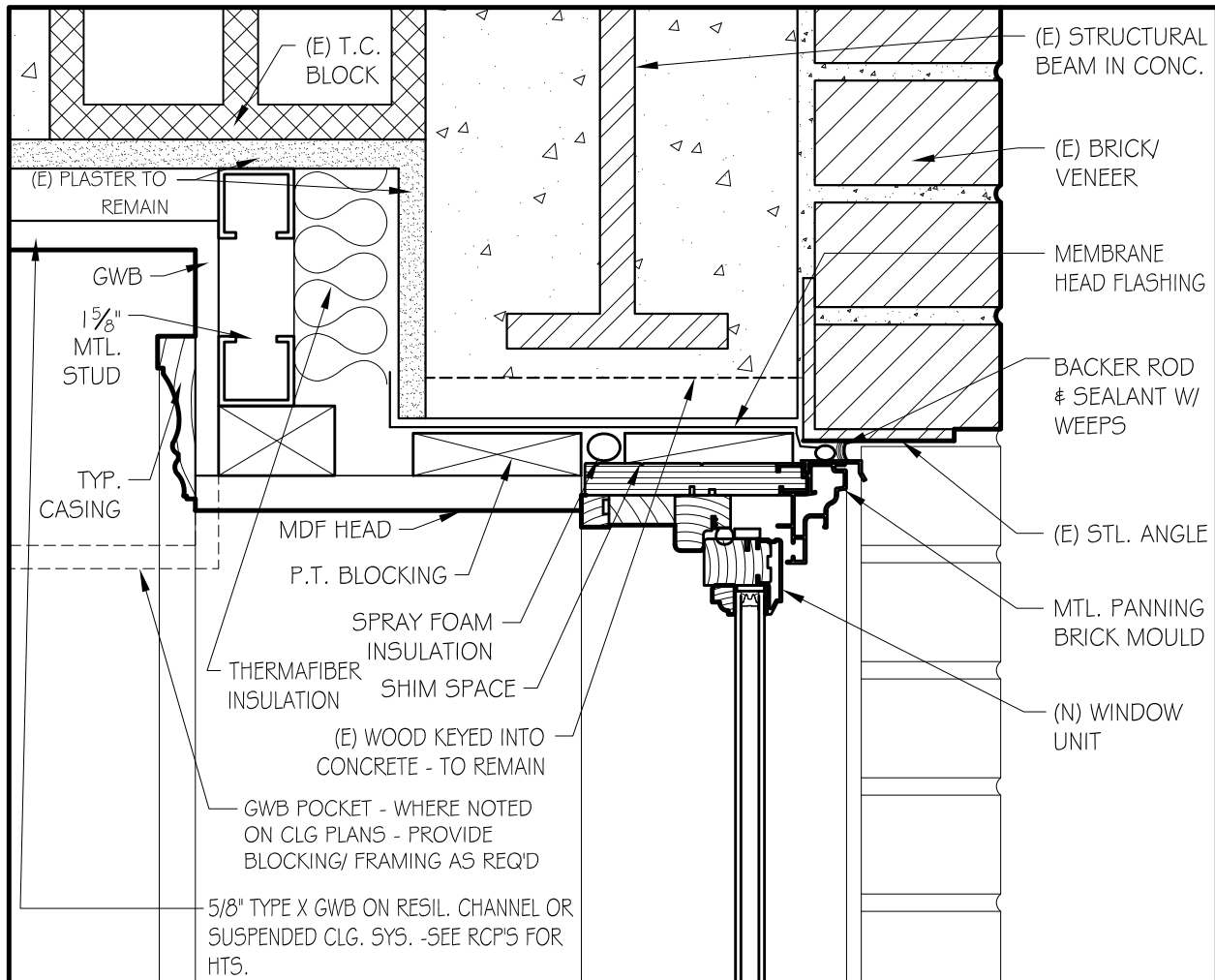
D1



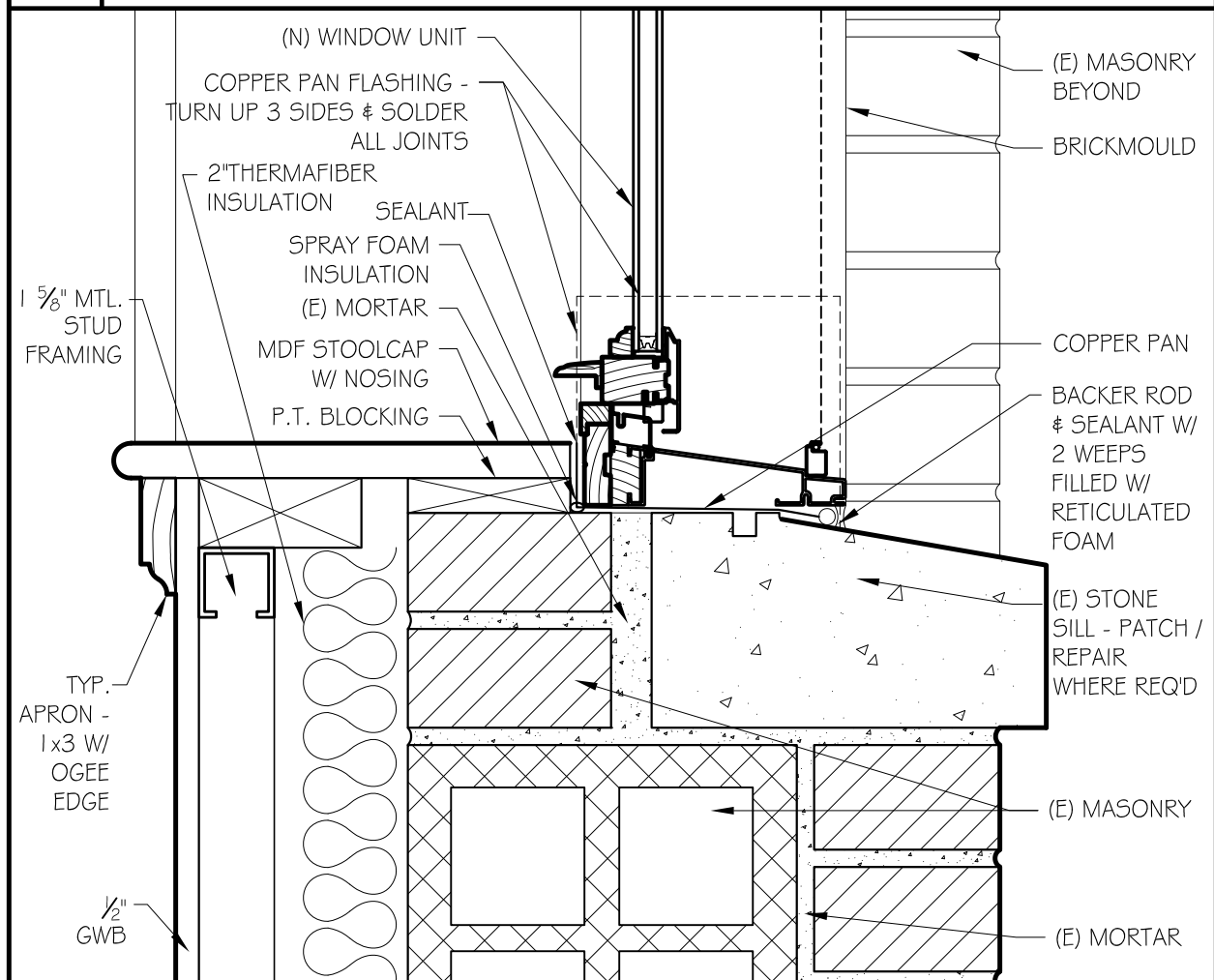
Wasco Products, Inc.
22 Pioneer Avenue, P.O. Box 351
Sanford, ME 04073
Fax: 207-490-5270 sales@wascoproducts.com
800-388-0293 www.wascoproducts.com

**Pinnacle 350
Ridge Detail**

D7



1 TYPICAL WINDOW HEAD @ (E) M.O. 3" = 1'-0"



2 TYPICAL WINDOW SILL @ (E) M.O. 3" = 1'-0"

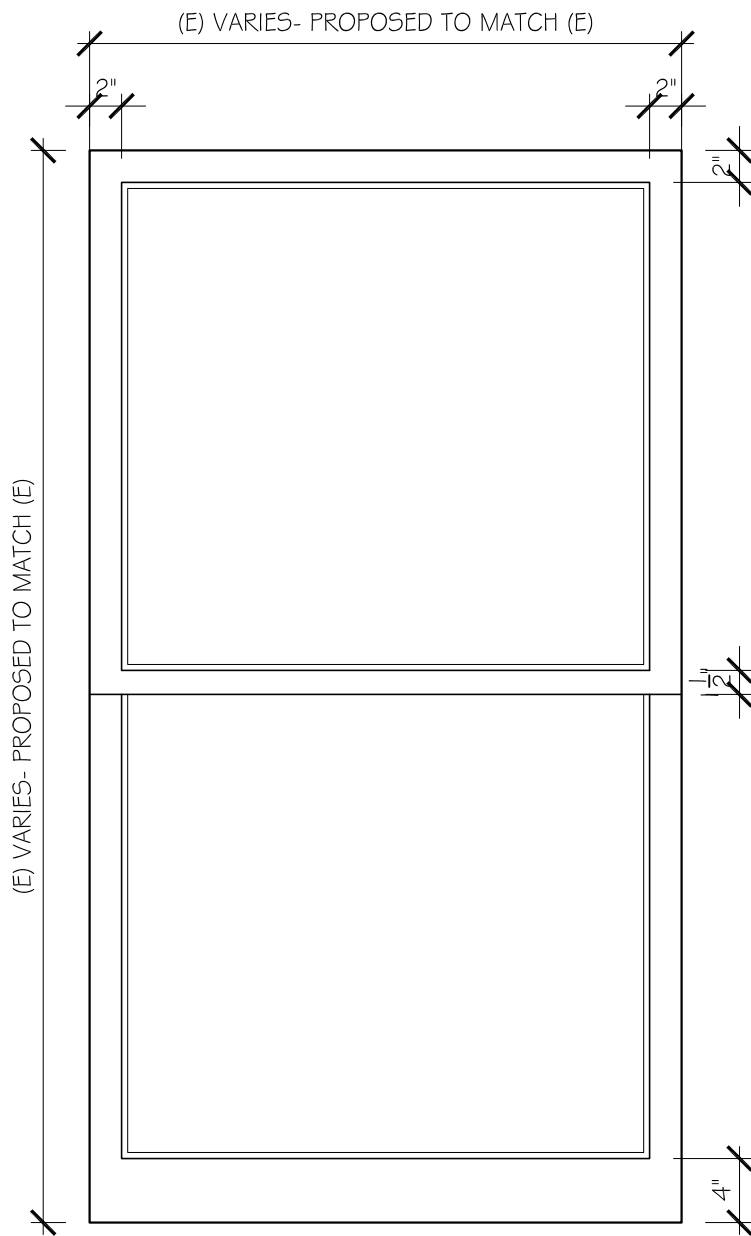
JOB NO: 1610 SCALE: 3" = 1'-0" DATE: 06.12.18

NEW WINDOWS IN EXISTING MASONRY OPENING DETAILS

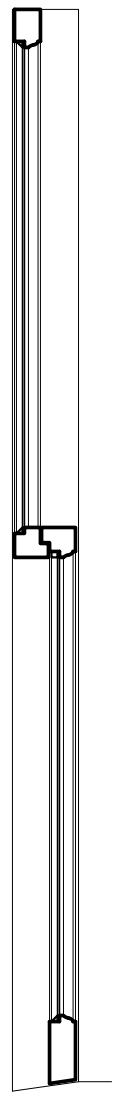
GD GRASSI DESIGN GROUP
 46 Waltham Street, Suite 3A
 Boston, MA 02118
 Phone 617-956-9992
 Fax 917-956-9993

BG BEAUCHEMIN GRASSI INTERIORS

29 COMMONWEALTH AVE
 BOSTON, MA



WINDOW ELEVATION



WINDOW SECTION

NOTE: PROPOSED REPLACEMENT WINDOW SASH TO MATCH EXISTING RAIL, STILE AND MUNTIN DIMENSIONS

JOB NO: 1610

SCALE:
1" = 1'-0"

DATE: 06.12.18

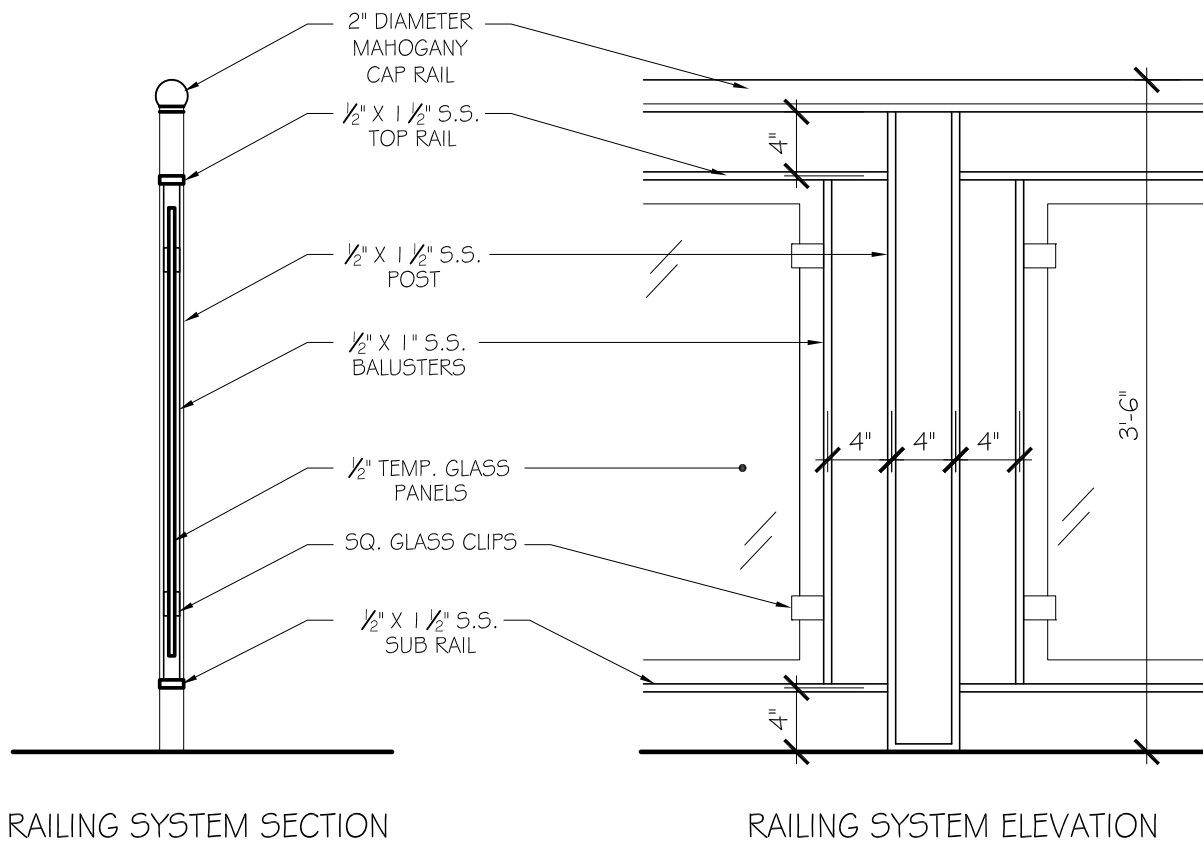
TYPICAL EXISTING WINDOW SASH



GRASSI DESIGN GROUP
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Boston, MA 02118
Phone 617-956-9992
Fax 917-956-9993

29 COMMONWEALTH AVE
BOSTON, MA

6



JOB NO: 1610 SCALE: 1" = 1'-0" DATE: 06.12.18

STEEL / GLASS RAILING SYSTEM



GRASSI DESIGN GROUP

BEAUCHEMIN GRASSI INTERIORS

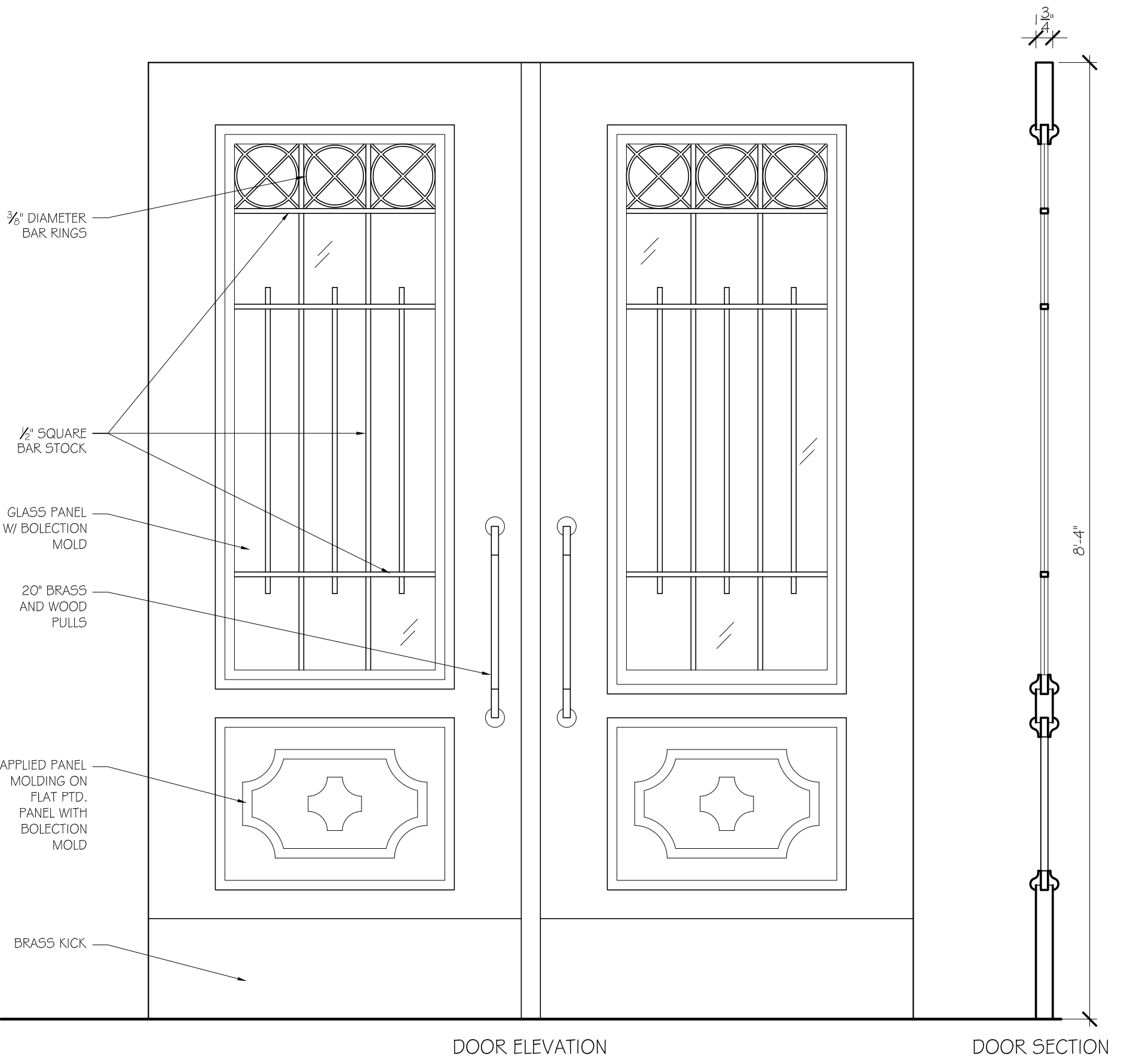
46 Waltham Street, Suite 3A
 Boston, MA 02118
 Phone 617-956-9992
 Fax 917-956-9993

29 COMMONWEALTH AVE

BOSTON, MA

RAILING SYSTEM SECTION

RAILING SYSTEM ELEVATION



DOOR ELEVATION

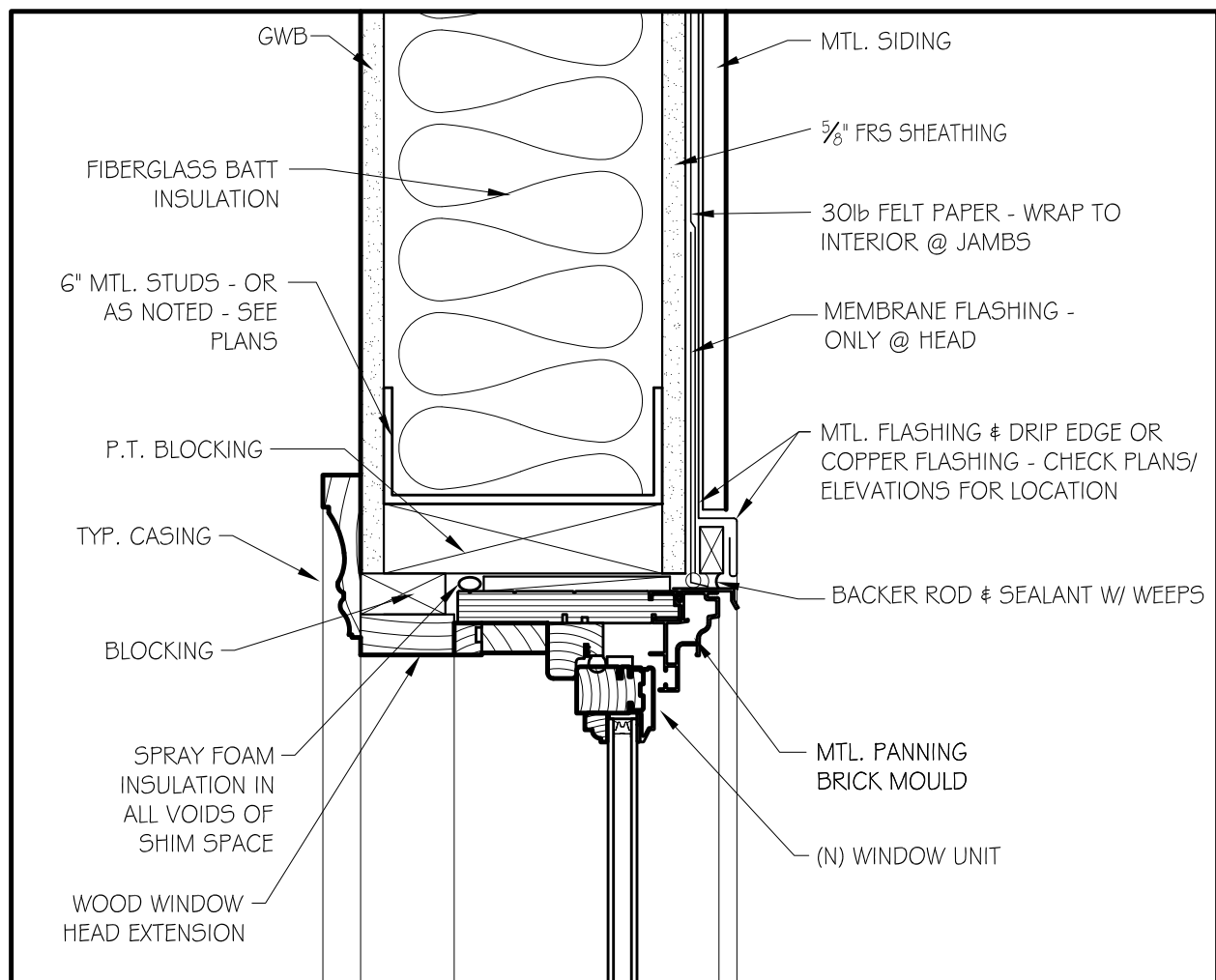
DOOR SECTION

JOB NO: 1610 SCALE: 1/2" = 1'-0" DATE: 06.12.18

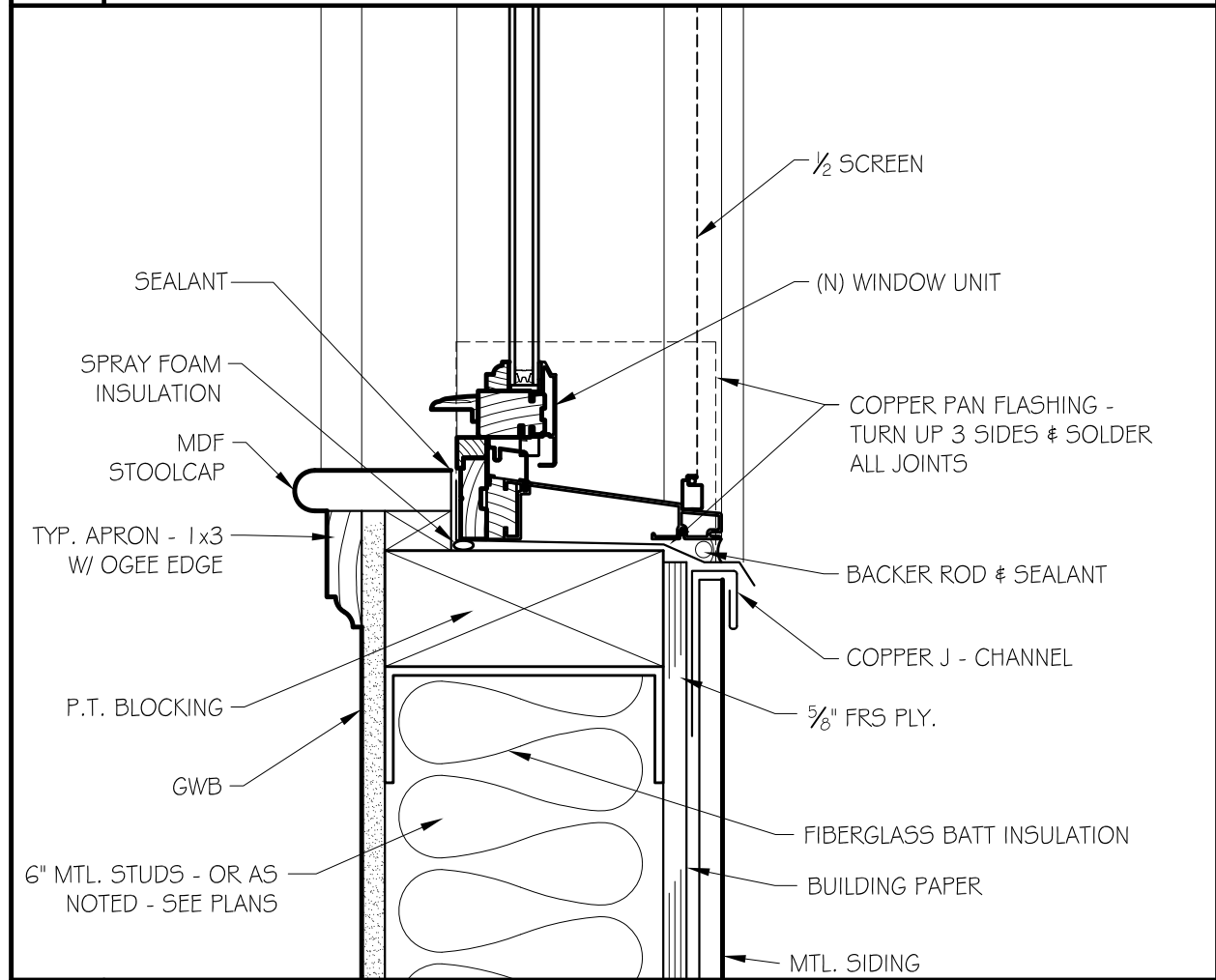
ENTRY DOOR ELEVATION

GD GRASSI DESIGN GROUP 46 Waltham Street, Suite 3A
 Boston, MA 02118
 Phone 617-956-9992
BG BEAUCHEMIN GRASSI INTERIORS Fax 917-956-9993

29 COMMONWEALTH AVE
 BOSTON, MA



1 WINDOW HEAD IN MTL. STUD WALL (JAMB SIM.) 3" = 1'-0"



2 WINDOW SILL IN MTL. STUD WALL 3" = 1'-0"

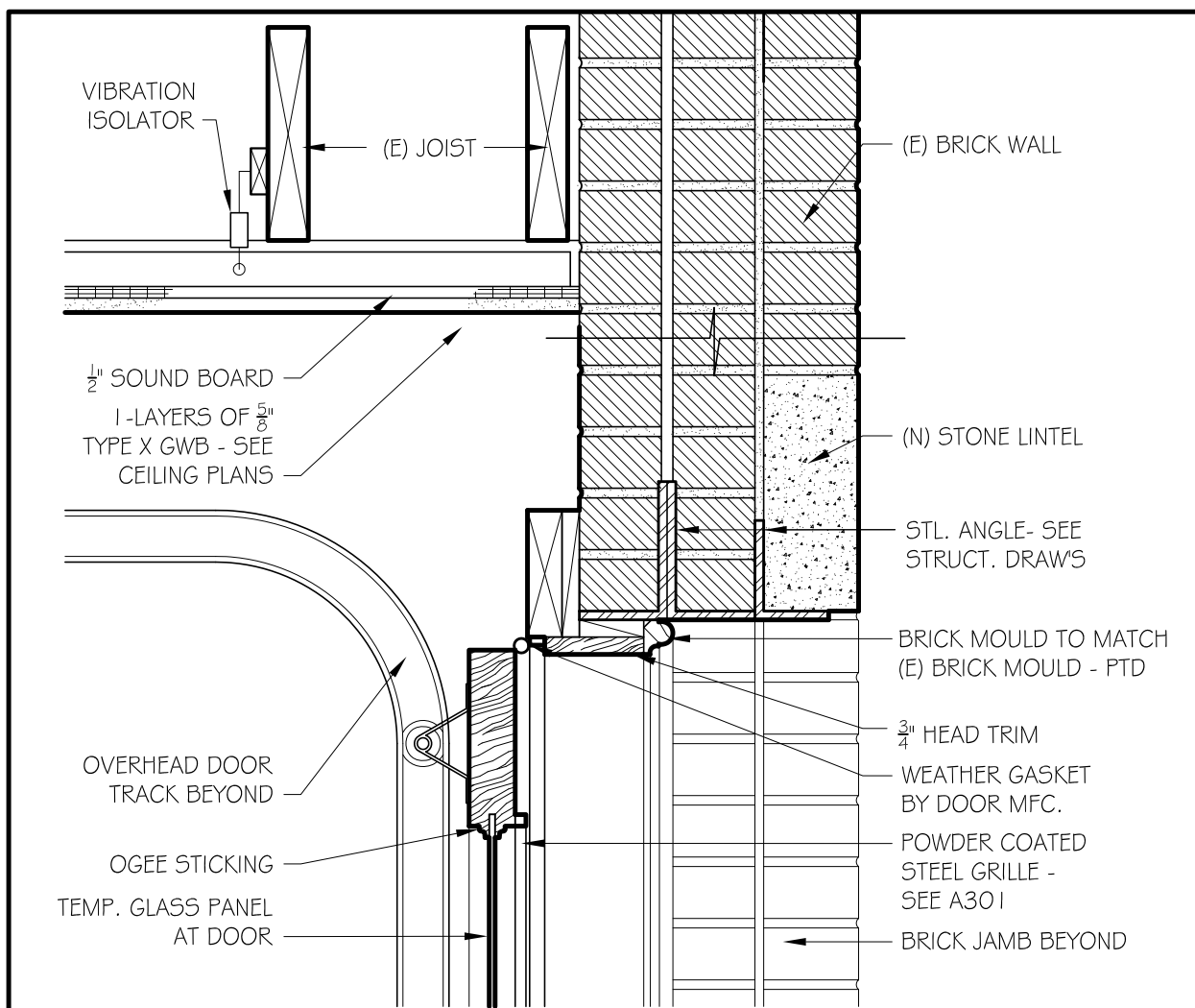
JOB NO: 1610 SCALE: 3" = 1'-0" DATE: 06.12.18

NEW WINDOWS IN METAL STUD WALL DETAILS

GD GRASSI DESIGN GROUP
 46 Waltham Street, Suite 3A
 Boston, MA 02118
 Phone 617-956-9992
 Fax 917-956-9993

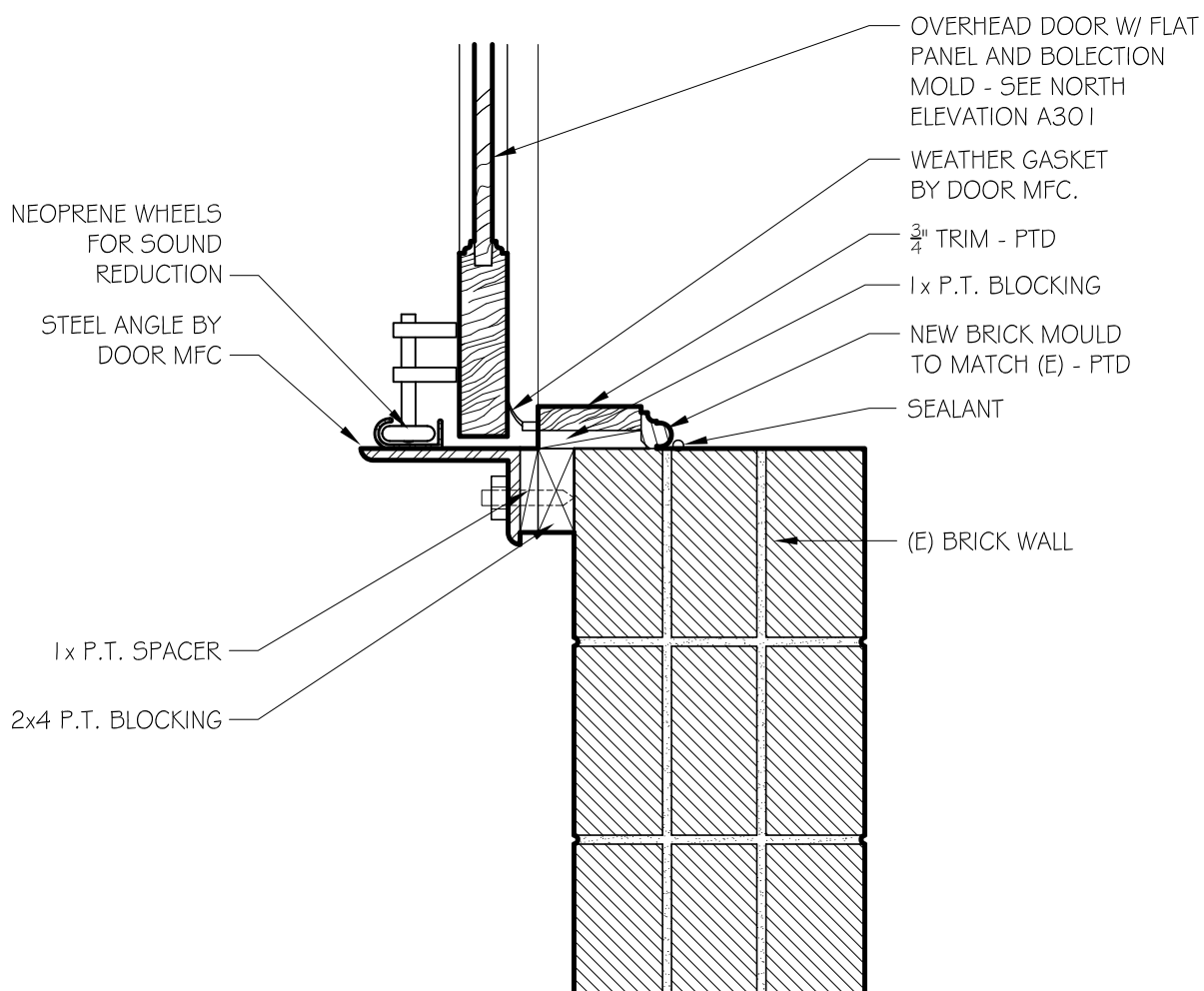
BG BEAUCHEMIN GRASSI INTERIORS

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 BOSTON, MA



1 GARAGE DOOR HEAD DETAIL

1 1/2" = 1'-0"



2 GARAGE DOOR JAMB DETAIL

1 1/2" = 1'-0"

JOB NO: 1610

SCALE:
1 1/2" = 1'-0"

DATE: 06.12.18

OVERHEAD GARAGE DOOR DETAILS

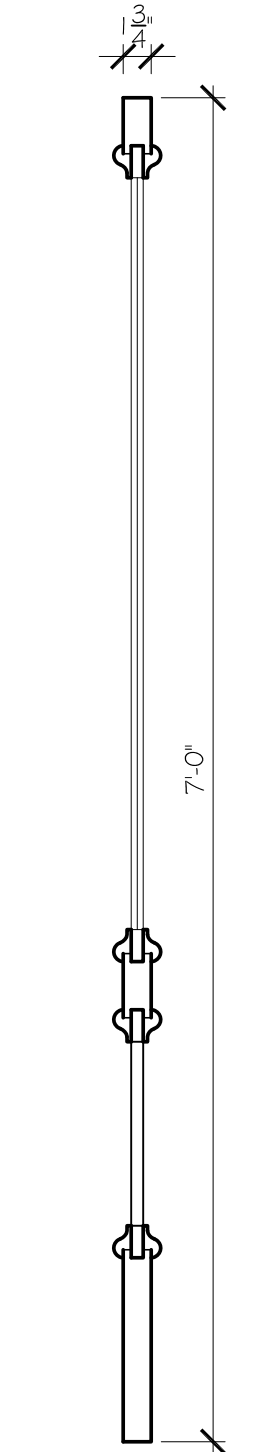
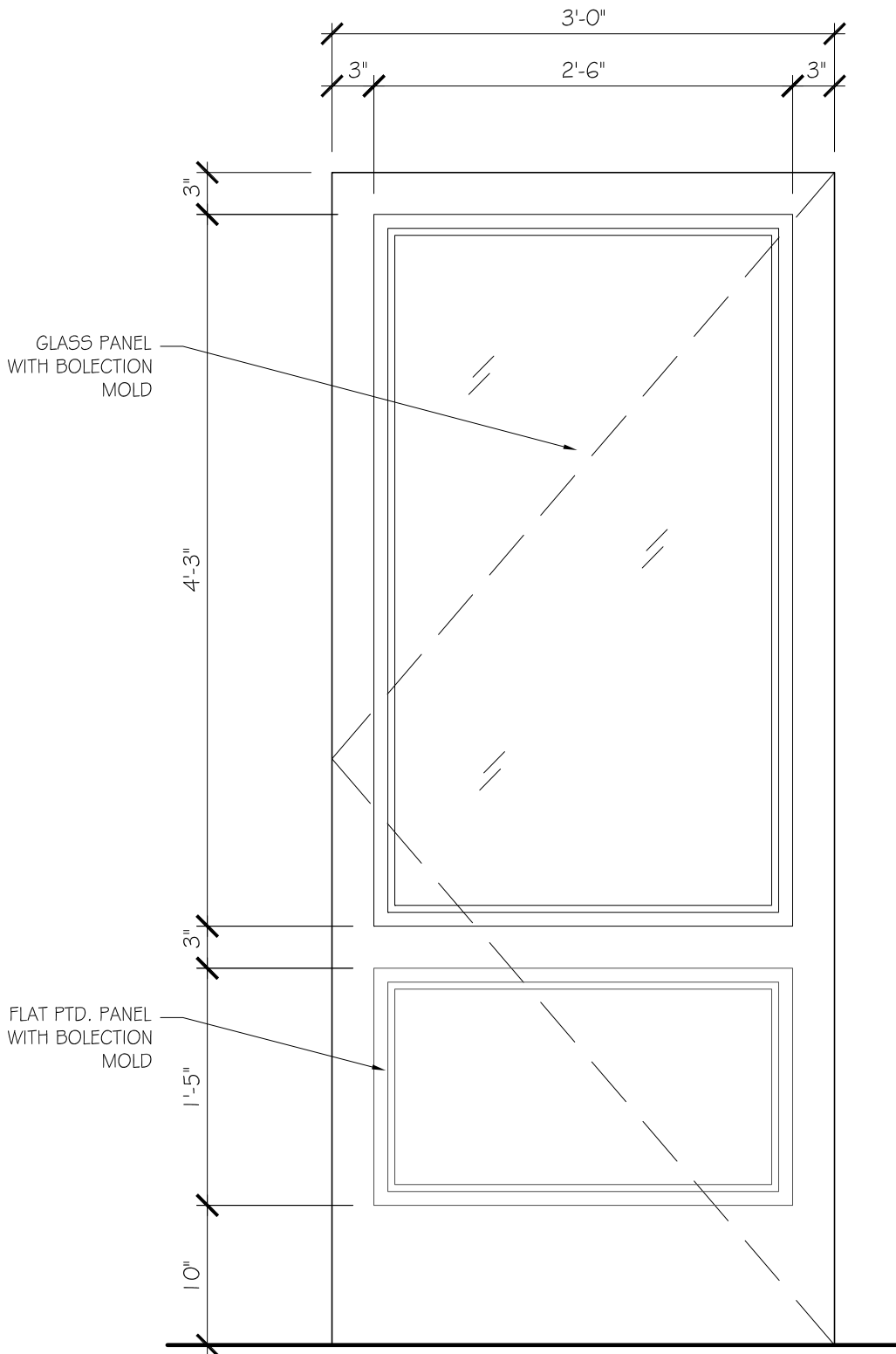
GD GRASSI DESIGN GROUP

46 Waltham Street, Suite 3A
Boston, MA 02118
Phone 617-956-9992
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29 COMMONWEALTH AVE

BOSTON, MA



BG BEAUCHEMIN GRASSI INTERIORS



DOOR FINISH : PAINTED BLACK

DOOR ELEVATION

DOOR SECTION

JOB NO: 1610	SCALE: 1" = 1'-0"	DATE: 06.12.18	TERRACE DOOR	
 	GRASSI DESIGN GROUP 46 Waltham Street, Suite 3A Boston, MA 02118 Phone 617-956-9992 Fax 917-956-9993 BEAUCHEMIN GRASSI INTERIORS	<u>29 COMMONWEALTH AVE</u> BOSTON, MA	<h1>5</h1>	