

Project Overview

District-level context

- Located at the edge of the Fort Point Channel Landmark District
- Has the potential to serve as a gateway to the Landmark District and the Seaport District, bridging the old and the new



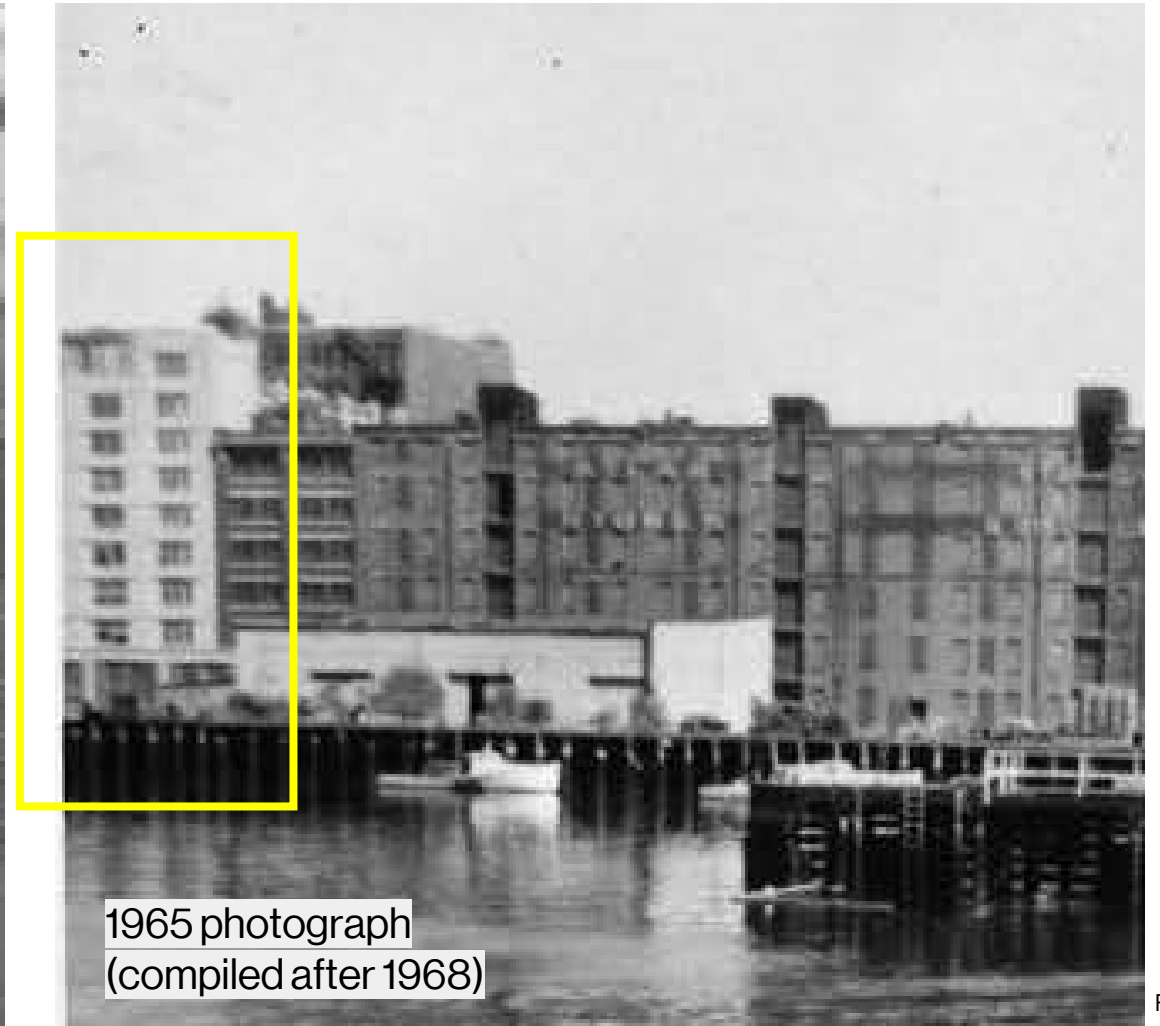
Figure 2

Historic character

- Built for United Shoe Machinery Co in 1929
- Stripped to superstructure and re-clad in 1982
- Original exterior shown in photos below



~1930 photograph



1965 photograph
(compiled after 1968)

Current condition

1982 renovation

- Key historic feature is building grid system, re-clad in 1982; verticality is a newly prominent feature of the historic asset

SYNOPSIS
CITY OF BOSTON

Location: 51 Sleeper Street District: West 6
 Name of owner: Stone & Webster Engineering Corp. Address: 245 Summer St., Boston
 Name of architect or engineer: Stone & Webster Engineering Corp. Lic. No. _____
 Material of building: Concrete Style of roof: Flat Construction of roof: G/G
 Size of building: 120' x 120' No. of stories: 8
 No. of feet in height from sidewalk to highest point of roof: 70' No. of stories: 8
 Thickness of exterior walls: 20' Party walls? _____

LEGAL OCCUPANCY OR USE (Applicant is not to fill in this box)
 Office, Machinery Warehouse 386/388 1978

IF EXTENDED ON ANY SIDE OR VERTICALLY
 Size of extension, No. of feet long: _____ No. of feet wide: _____ No. of feet high above sidewalk: _____
 No. of stories high: _____ style of roof: _____ material of roofing: _____
 Of what material will the extension be built: _____ Foundation: _____
 How will the extension be occupied: _____ Type of Construction: _____

GENERAL DESCRIPTION OF THE PROPOSED WORK AND ITS LOCATION.
 (ALL STRUCTURAL, MECHANICAL, ELECTRICAL, ETC., SHALL BE INCLUDED)

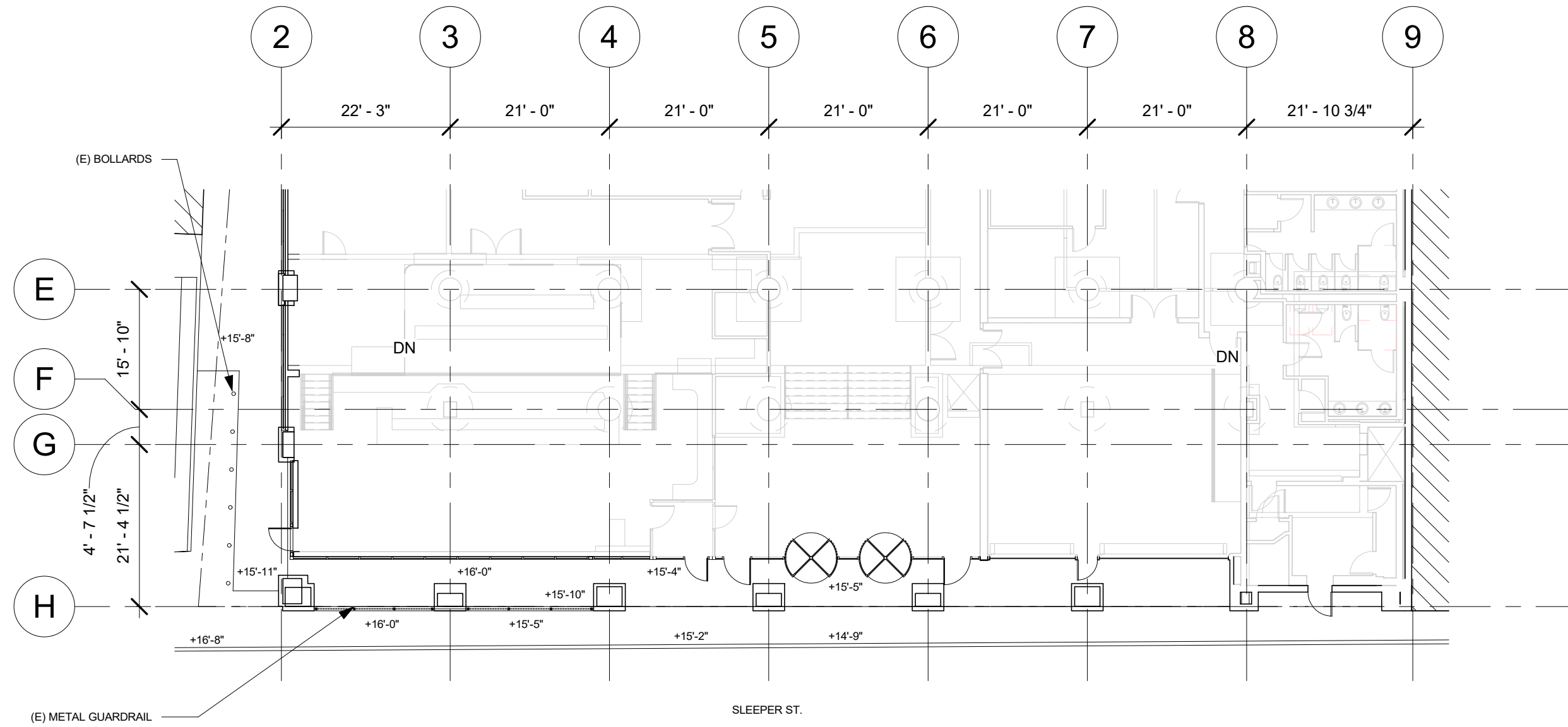
Strip to superstructure, totally refurbish, change windows.

Renovation of building

Date: July 26, 1982 Estimated cost: \$1,500,000.00
 The facts I have set forth above in this application and accompanying plans are a true statement to the best of my knowledge and belief.
 Signature of Owner: E. H. Brown, P.M., V. P. P. for Stone & Webster Engineering Corp. 245 Summer Street, Boston, Mass.
 Signature of Licensed Builder: Samuel J. Scott Stone & Webster Engineering Corp. (Name of Contractor)
 License No. 254 Class: ABC Building (Address) 245 Summer Street Boston, Mass. 02107
 My license expires: July 8, 1983



Figure 4



1 EXISTING FIRST FLOOR PLAN
1/16" = 1'-0"

51 Sleeper St.

51 Sleeper St.
Boston, MA 02210

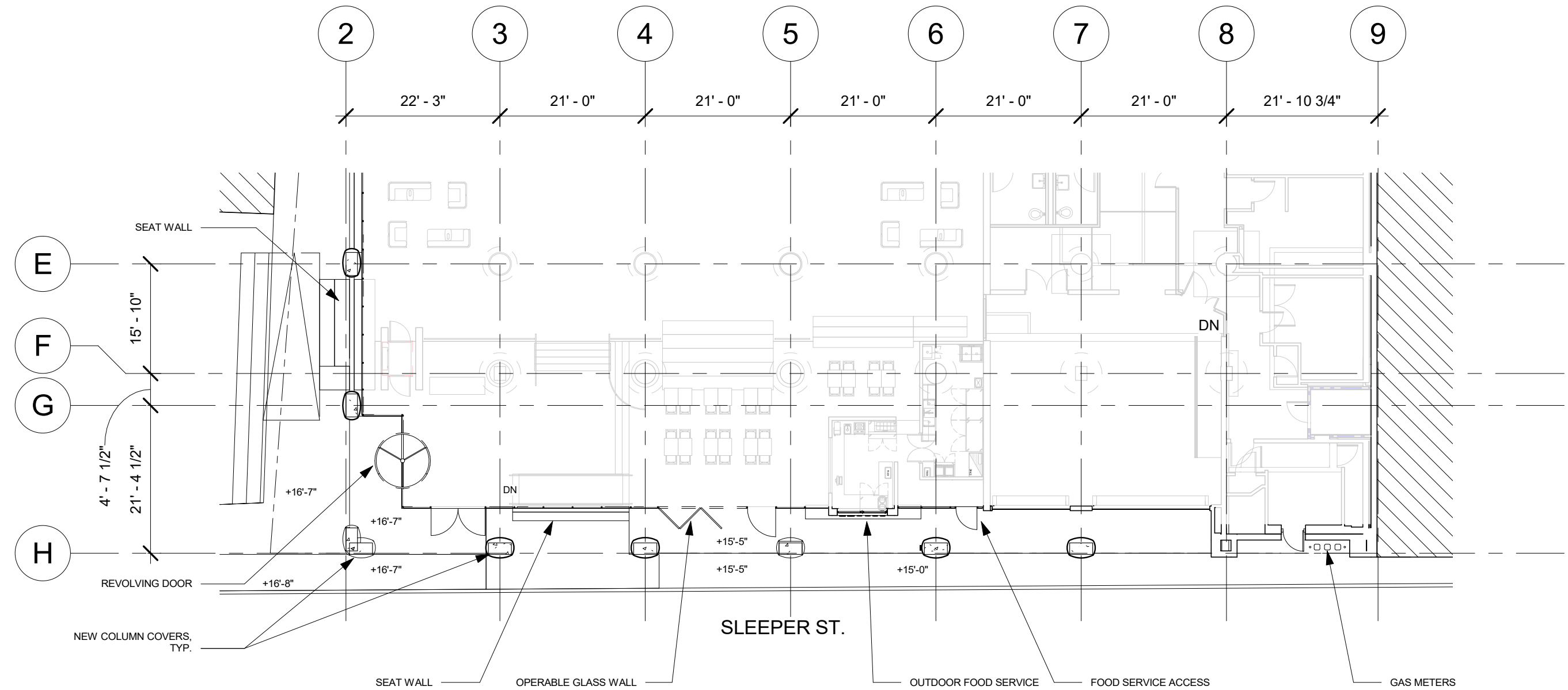
OWNER
NAN FUNG LIFE SCIENCES REAL ESTATE
1 LINCOLN ST, 24th FL.
Boston, MA 02211

ARCHITECT
SUPERNORMAL, LLC
186 HAMPSHIRE ST. #1
CAMBRIDGE, MA 02139

EXISTING FIRST FLOOR PLAN

LANDMARKS APPLICATION

04/22/21



1 PROPOSED FIRST FLOOR PLAN
1/16" = 1'-0"

51 Sleeper St.

51 Sleeper St.
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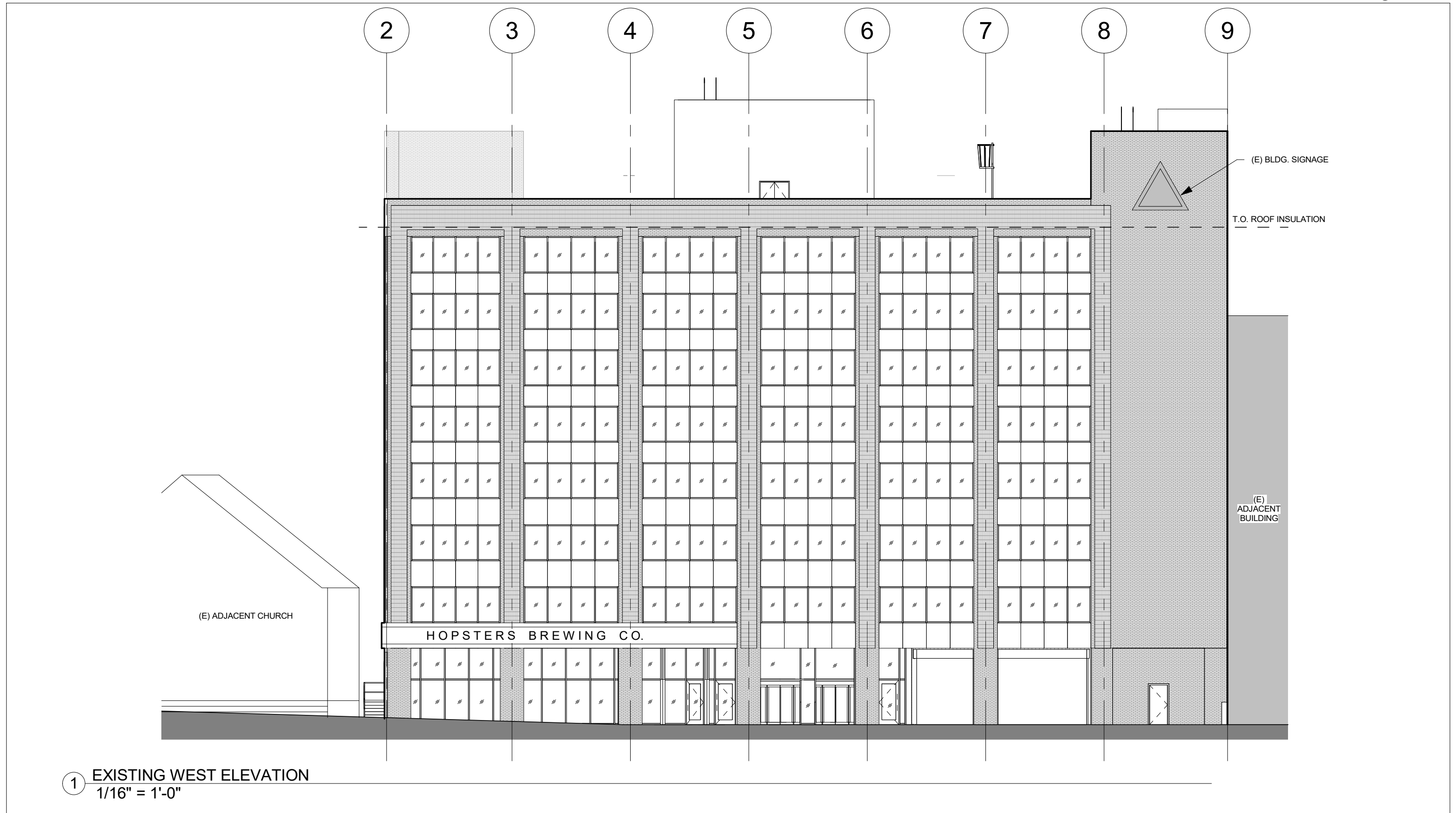
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PROPOSED FIRST FLOOR PLAN

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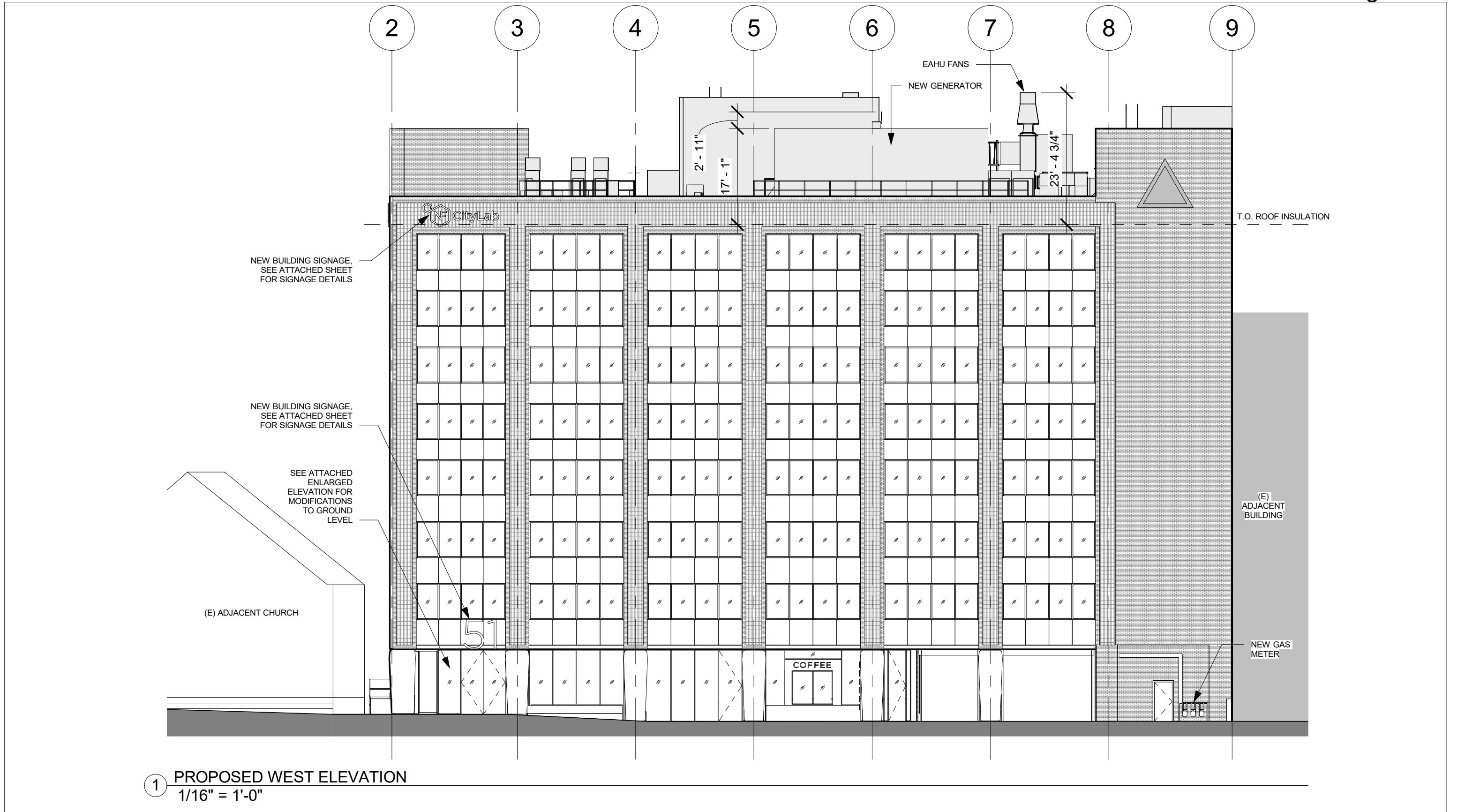
ARCHITECT
SUPERNORMAL, LLC
186 HAMPSHIRE ST. #1
CAMBRIDGE, MA 02139

ARCHITECT
SMITH GROUP
100 HIGH ST #1800
BOSTON, MA 02110

EXISTING WEST ELEVATION

LANDMARKS
APPLICATION

04/22/21



1 PROPOSED WEST ELEVATION
 1/16" = 1'-0"

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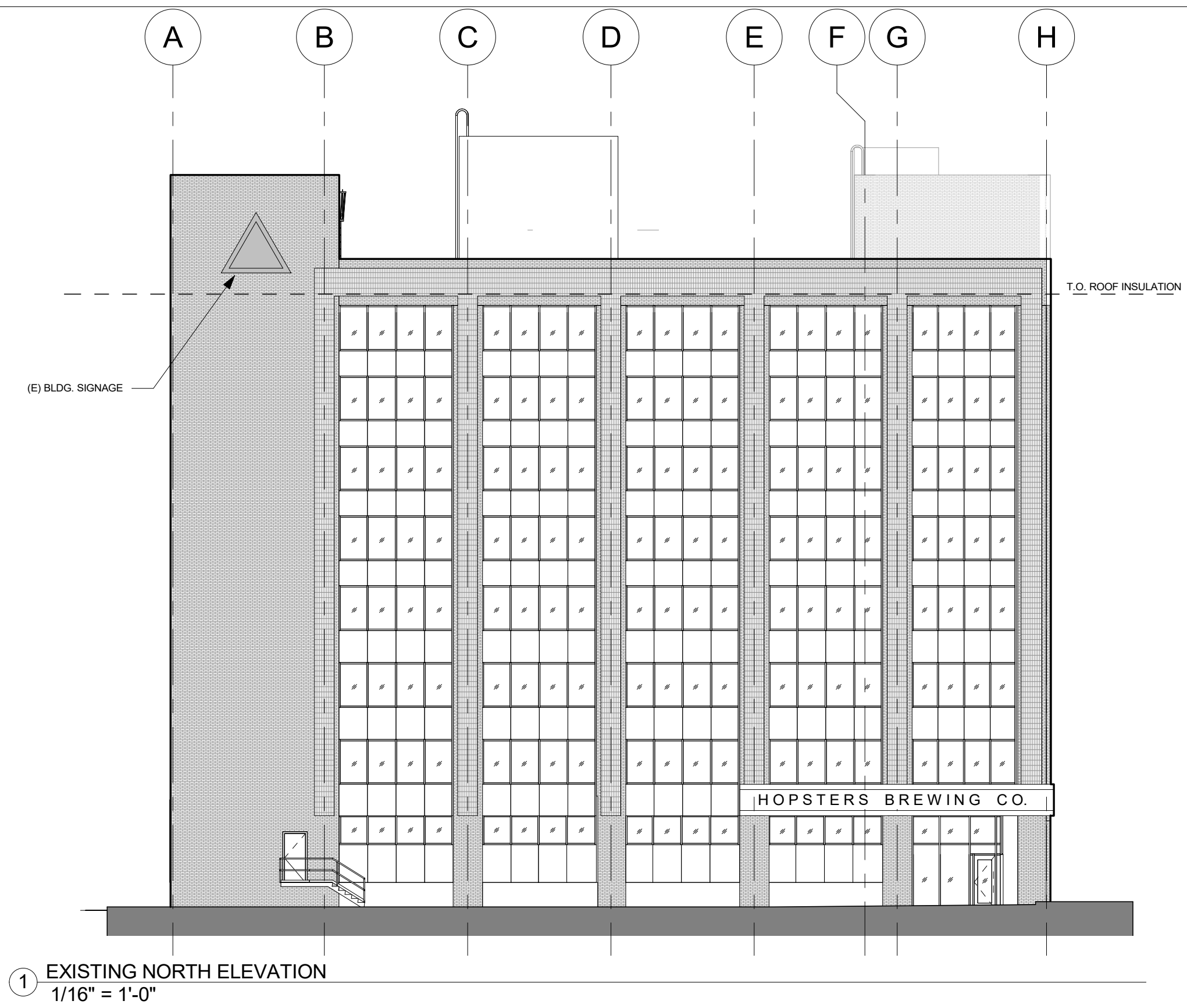
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PROPOSED WEST ELEVATION

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04/22/21



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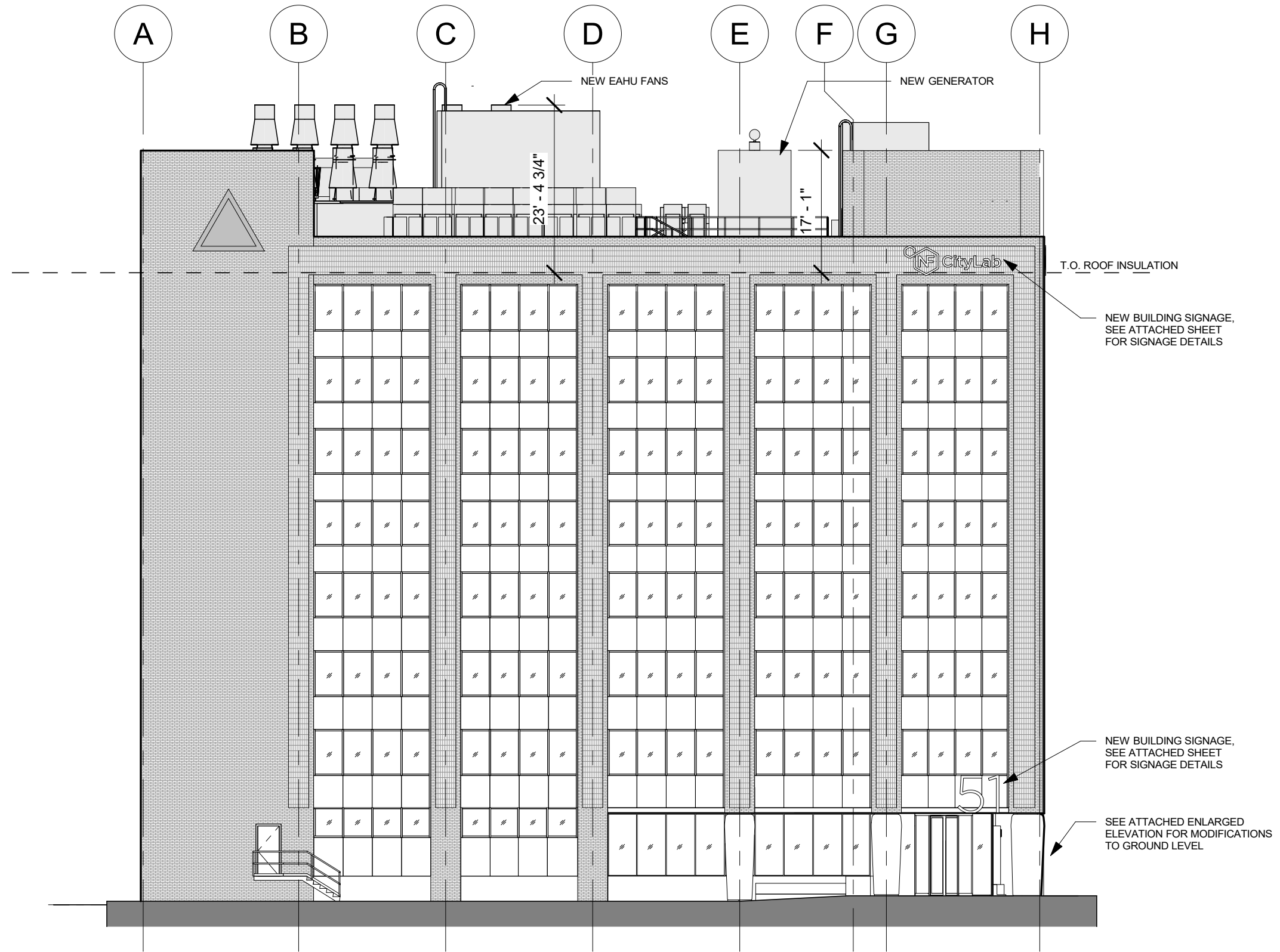
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EXISTING NORTH ELEVATION

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1/16" = 1'-0"

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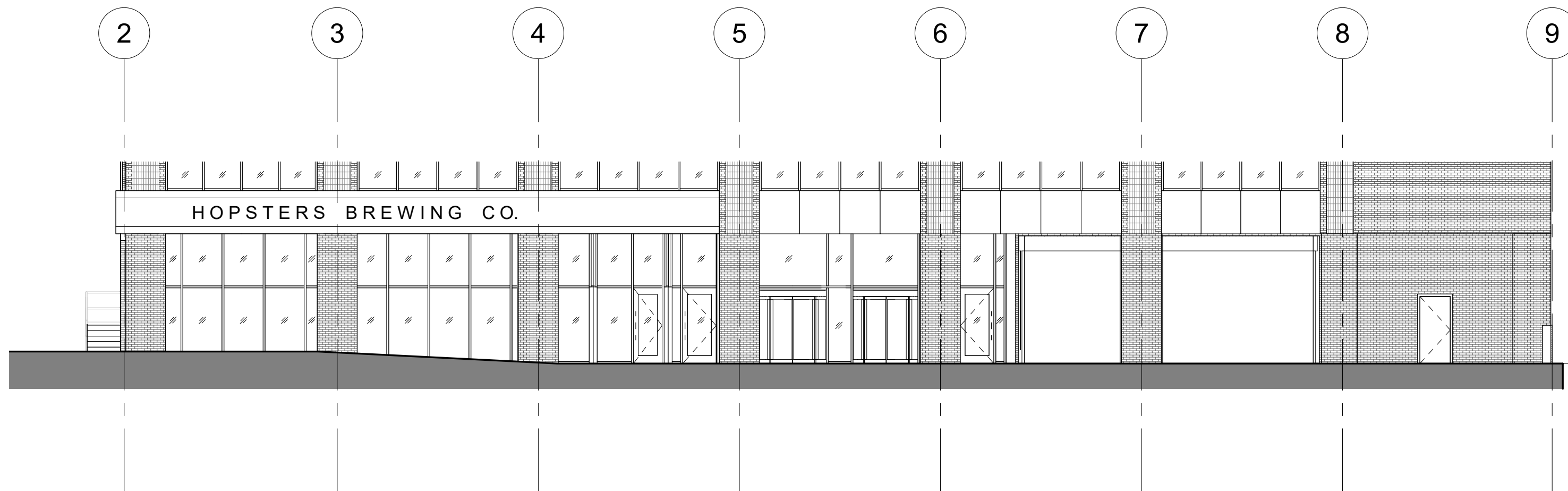
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PROPOSED NORTH ELEVATION

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EXISTING WEST ELEVATION AT
GROUND LEVEL

①
3/32" = 1'-0"

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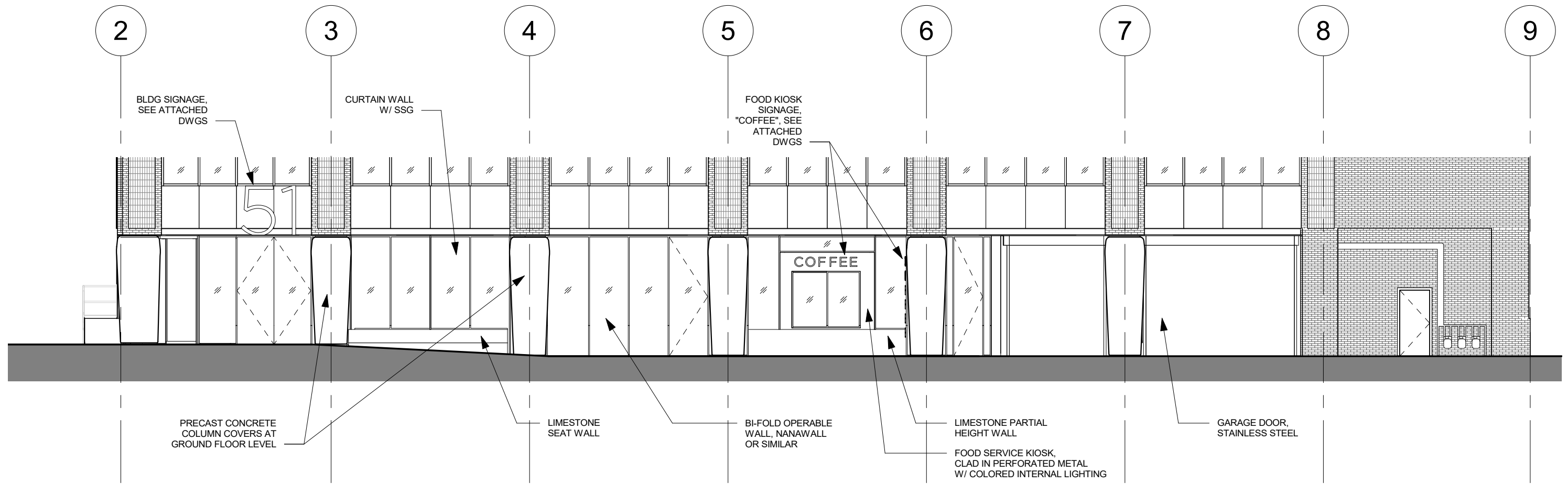
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**EXISTING WEST
ELEVATION -
GROUND LEVEL**

LANDMARKS
APPLICATION

04/22/21



EXISTING WEST ELEVATION AT
 GROUND LEVEL
 3/32" = 1'-0"

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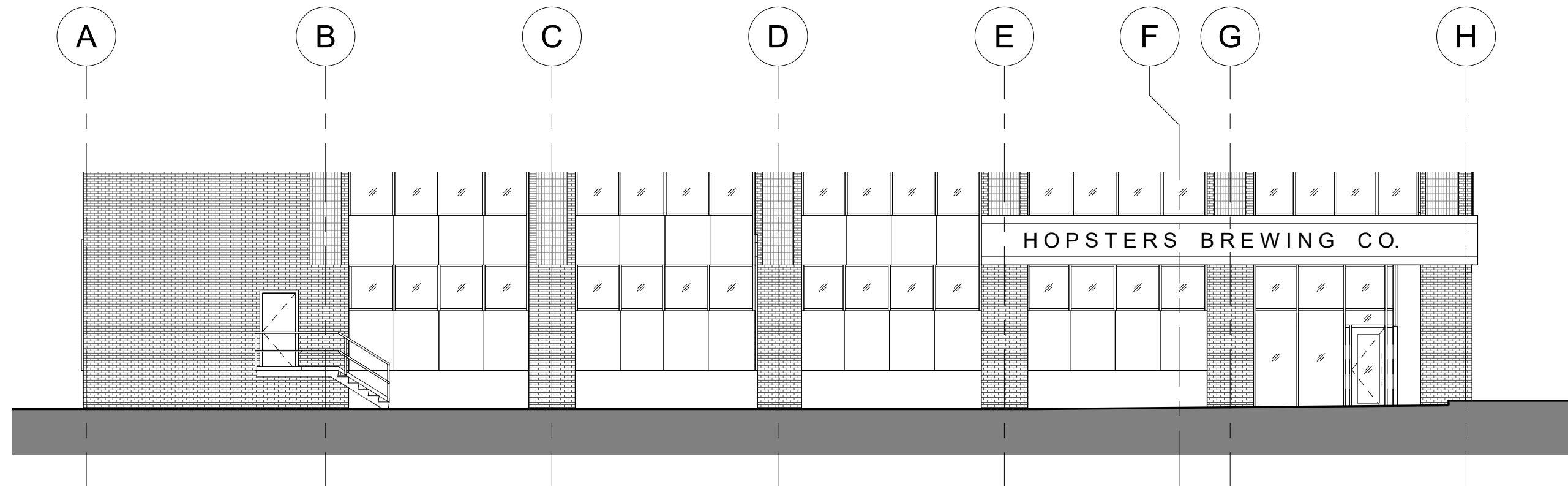
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**PROPOSED WEST
 ELEVATION -
 GROUND LEVEL**

LANDMARKS
 APPLICATION

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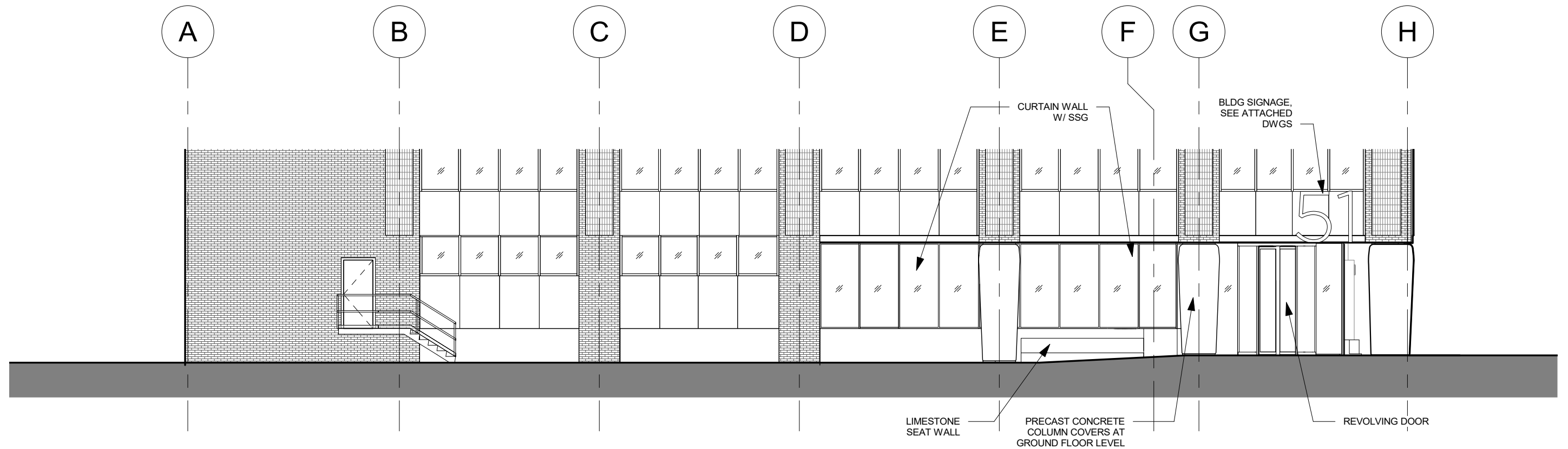
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**PROPOSED NORTH
 ELEVATION -
 GROUND LEVEL**

LANDMARKS
 APPLICATION

04/22/21

Proposed plan

Design Features:

1. Entry – Relocate the main entry from mid-building to the corner facing Seaport Blvd
2. Sitework – regrade the existing walkways for smoother transitions and extension of abutting public plaza
3. Storefront – New storefront increases transparency and frames sidewalk café zone
4. Signage – integrated with the historic and/or new architectural features

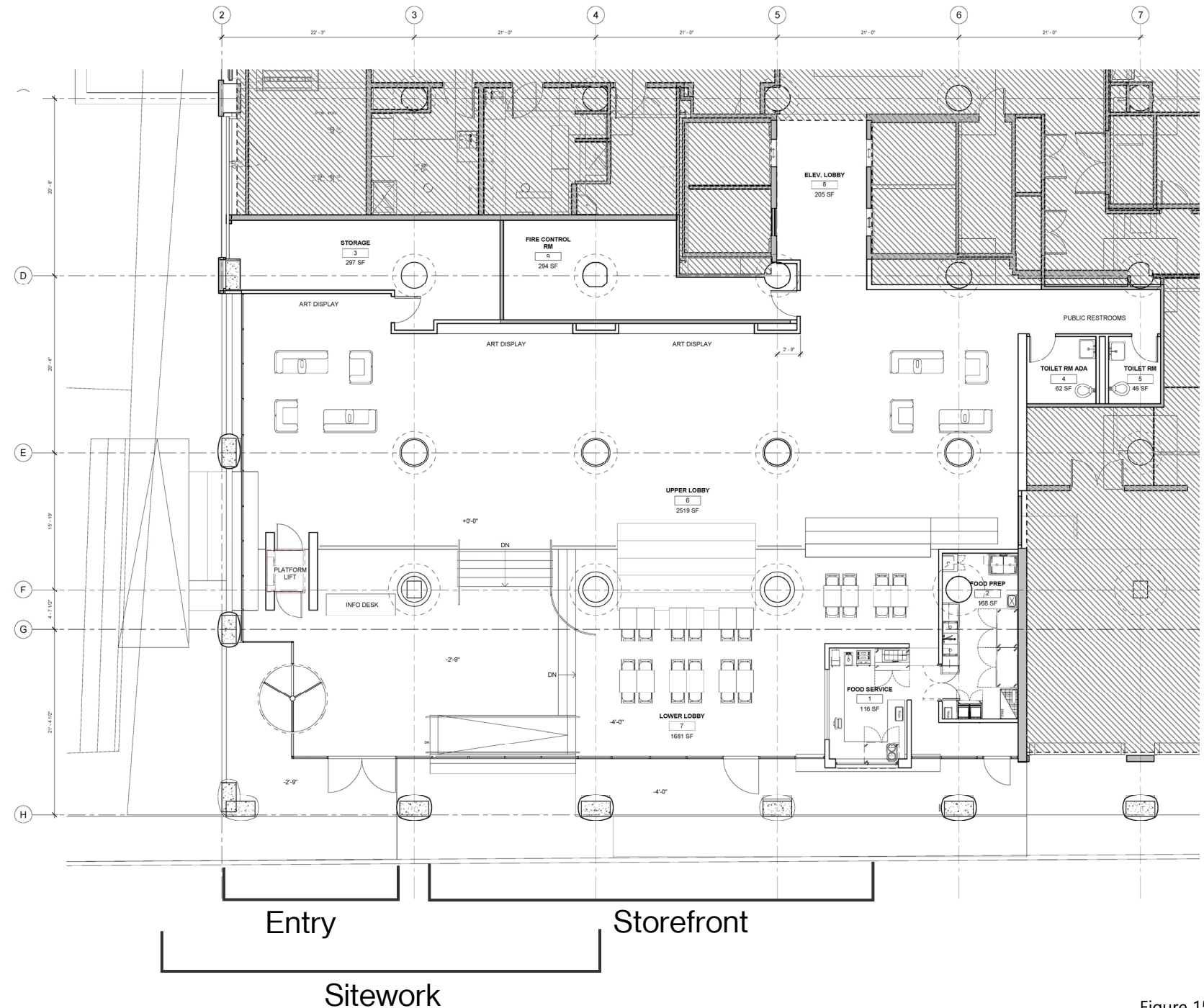


Figure 15

01. Building Entry

Existing:

- Obscured view of entry

Proposed:

- Recessed revolving door, yellow colored light and glass
- Remove existing signage, rails, barriers, and inconsistent grading
- Reveal concrete columns as a way to distinguish the entrance location to passers-by

Challenge:

- Sensitive design integration



01. Building Entry

Existing:

- Obscured view of entry

Proposed:

- Recessed revolving door, yellow colored light and glass
- Remove existing signage, rails, barriers, and inconsistent grading
- Reveal concrete columns as a way to distinguish the entrance location to passers-by

Challenge:

- Sensitive design integration



Figure 17

02. Site work

Existing:

- Bollards
- Step down from sidewalk to alley

Proposed:

- Remove existing bollards
- Re-grade sidewalks to provide seamless access around and into the building
- Introduce new public seat walls to complement the seating at church plaza

Challenge:

- Negotiating re-grading with interior floor level



Existing:

- Bollards
- Step down from sidewalk to alley





Grade contiguous with lower plaza/pathway
Building entry, plaza extension with public seating



Public seat wall to absorb grade change
No direct entry in this zone



Service and lower entry opening glass wall and kiosk service to sidewalk

03. Storefront

Existing:

- Visually impenetrable storefront with solid panels and highly reflective glass
- Sub-optimal public access

Proposed:

- Maintain and reinforce the existing rhythm of openings between brick piers
- Café kiosk engagement with sidewalk
- Increased transparency for visibility of historic structure on interior

Challenge:

- Cannot increase GFA
- Sidewalk grade change



03. Storefront

Existing:

- Visually impenetrable storefront with solid panels and highly reflective glass
- Sub-optimal public access

Proposed:

- Maintain and reinforce the existing rhythm of openings between brick piers
- Café kiosk engagement with sidewalk
- Increased transparency for visibility of historic structure on interior

Challenge:

- Cannot increase GFA
- Sidewalk grade change



Figure 22

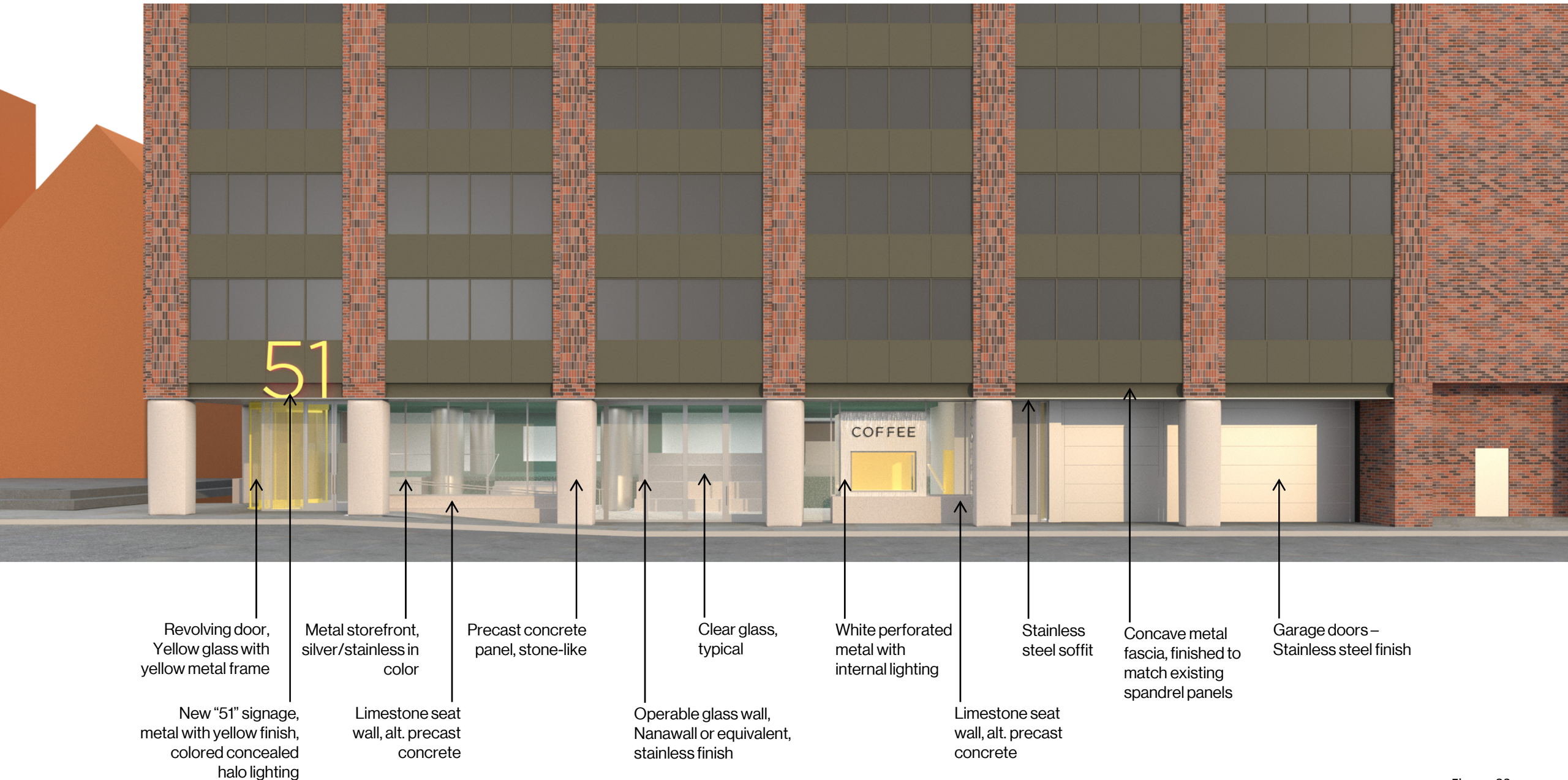


Figure 23

Operable Glass Wall – Closed



Operable Glass Wall – Partially Open



Operable Glass Wall – Fully Open



04. Signage

Existing:

- Signage obscures vertical expression and building character
- Minimal lighting, focused on interior only

Proposed:

- Remove existing signage at spandrel
- New signage integrated between columns, above entry and below spandrel

Challenge:

- Create clear building identity and visibility without obscuring core character of building



04. Signage

Existing:

- Brick and metal logo on the back corners of building

Proposed:

- Stainless steel CityLab logo directly above the relocated entry corner



Figure 28

04. Signage

Existing:

- Signage obscures vertical expression and building character
- Minimal lighting, focused on interior only

Proposed:

- Remove existing signage at spandrel
- New signage integrated between columns, above entry and below spandrel
- Halo-lit/back-lit signage

Challenge:

- Create clear building identity and visibility without obscuring core character of building



04. Signage

Existing:

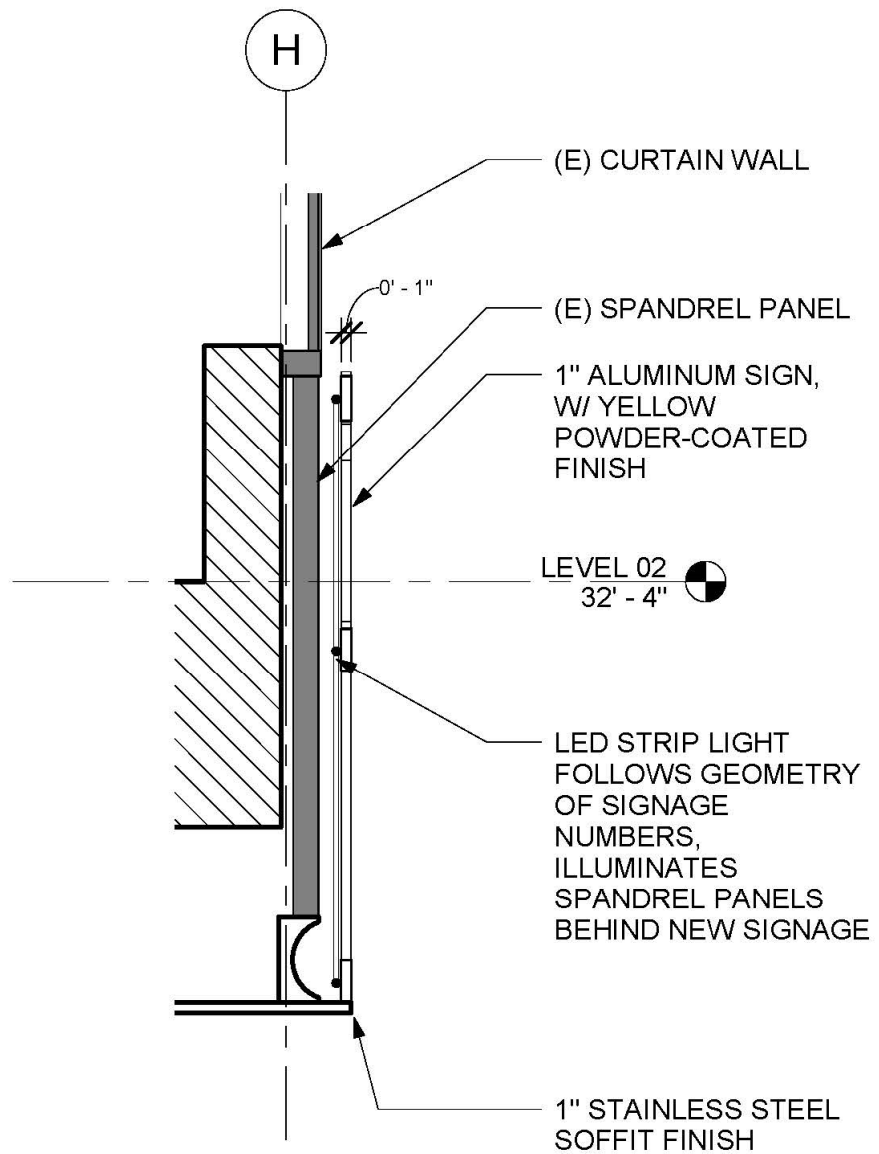
- Brick and metal logo on the back corners of building

Proposed:

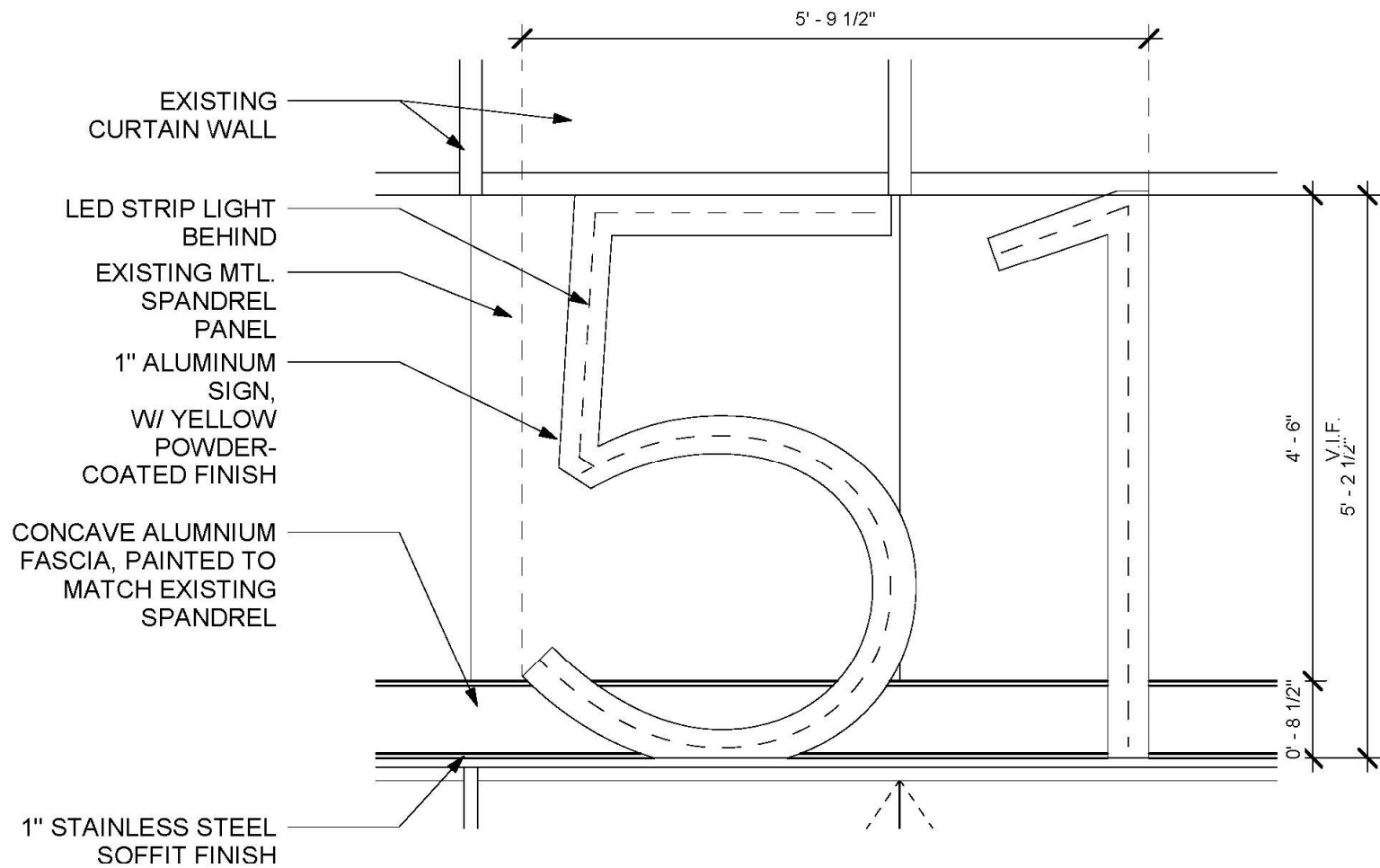
- Stainless steel CityLab logo consistent with signage at grade, directly above the relocated entry corner



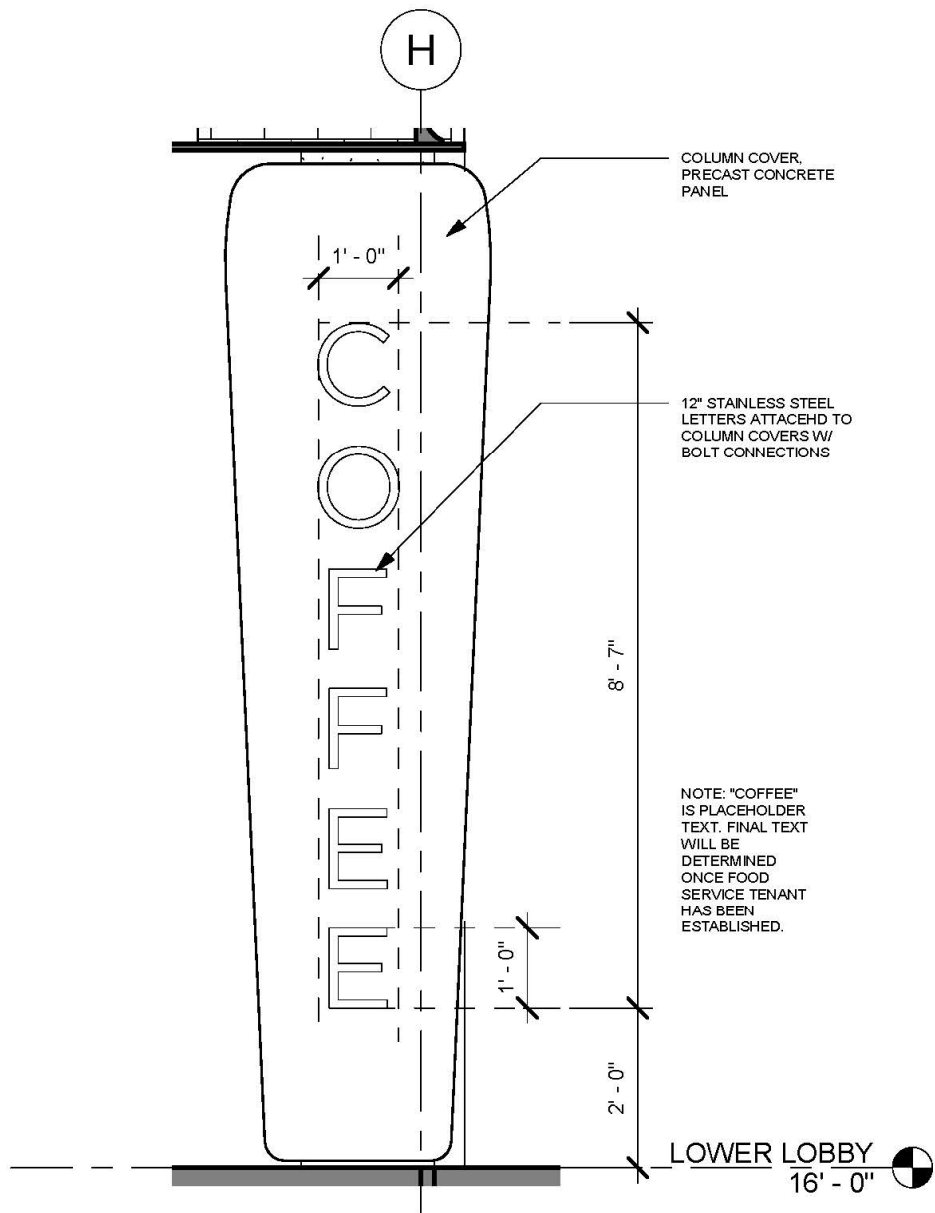
Figure 30



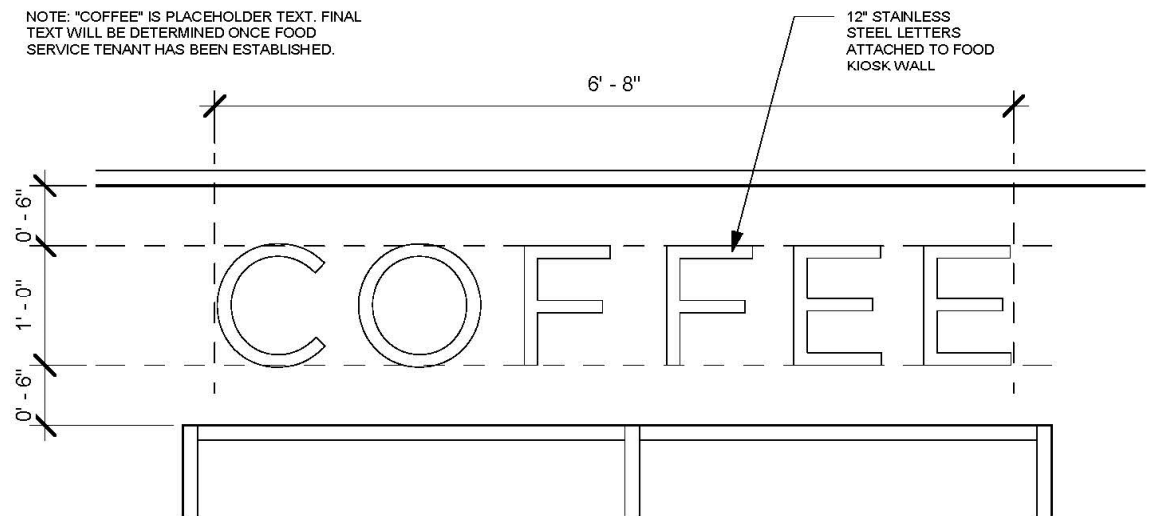
② SECTION DETAIL AT 51 SIGNAGE
3/4" = 1'-0"



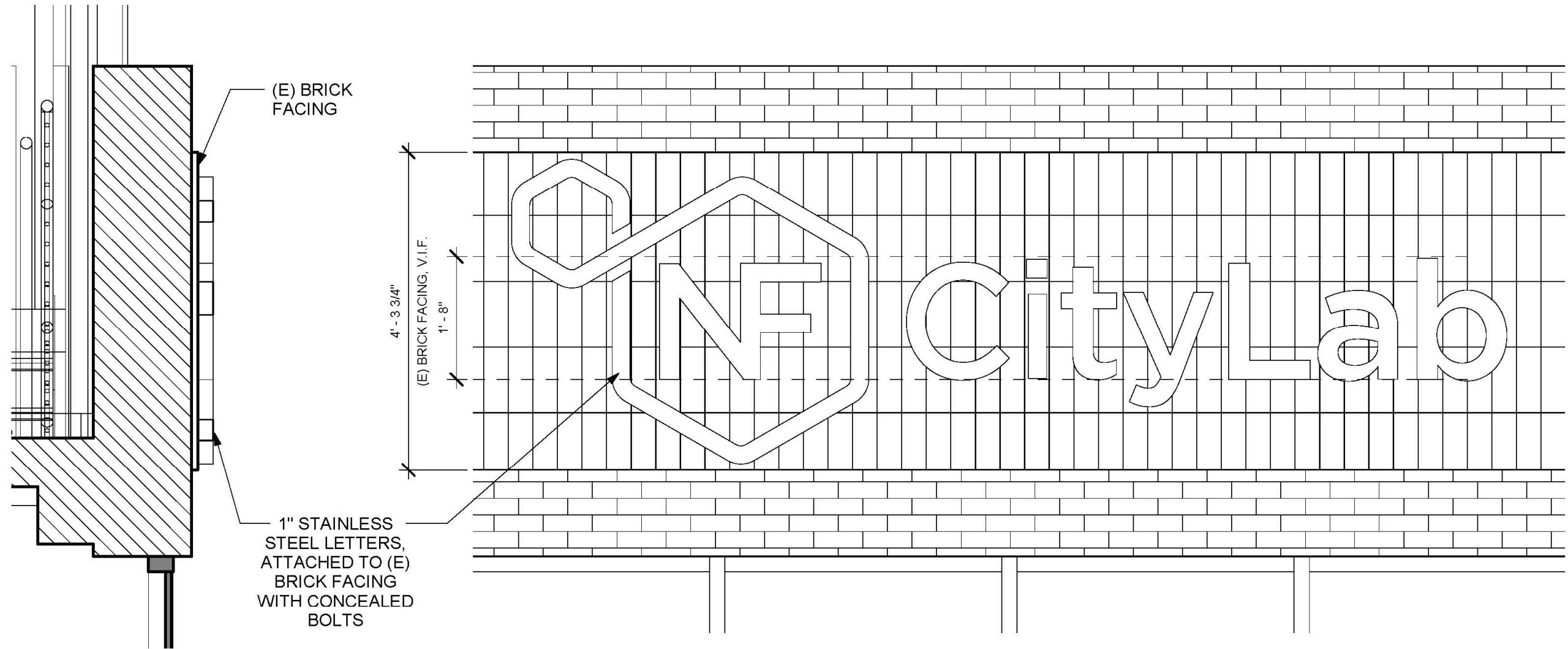
① ELEV. DETAIL AT 51 SIGNAGE
3/4" = 1'-0"



ELEV. DETAIL AT FOOD KIOSK SIGNAGE
 ② - VERTICAL
 1/2" = 1'-0"



ELEV. DETAIL AT FOOD KIOSK SIGNAGE
 ① - HORIZONTAL
 3/4" = 1'-0"



2 SECTION DETAIL AT CITYLAB SIGNAGE
3/4" = 1'-0"

1 ELEV. DETAIL AT CITYLAB SIGNAGE
3/4" = 1'-0"

SPECULATIVE LAB AND OFFICE BUILDING RENOVATION

51 SLEEPER STREET, BOSTON, MA

SHEET LIST-LANDMARKS

SHEET NAME

LANDMARKS

LANDMARKS - COVER SHEET
LANDMARKS - EXISTING AND PROPOSED ROOF PLANS
LANDMARKS - SECTION
LANDMARKS - EXISTING AND PROPOSED AERIAL RENDERING
LANDMARKS - VIEWS IN DISTRICT
LANDMARKS - VIEWS OUTSIDE DISTRICT
LANDMARKS - EXISTING EAST (ALLEY) ELEVATION
LANDMARKS - PROPOSED EAST (ALLEY) ELEVATION
LANDMARKS - EXISTING SOUTH ELEVATION
LANDMARKS - PROPOSED SOUTH ELEVATION



1 LINCOLN STREET
24TH FLOOR
BOSTON, MA, 02111
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SMITHGROUP

100 HIGH STREET
SUITE 1800
BOSTON, MA 02110
617.502.3400
www.smithgroup.com

R.W. Sullivan Engineering

MEPPF ENGINEERING

The Schrafft Center, 529 Main Street,
Suite 203
Boston, MA, 02129-1107
617.523.8227

McNamara Salvia

STRUCTURAL ENGINEERING

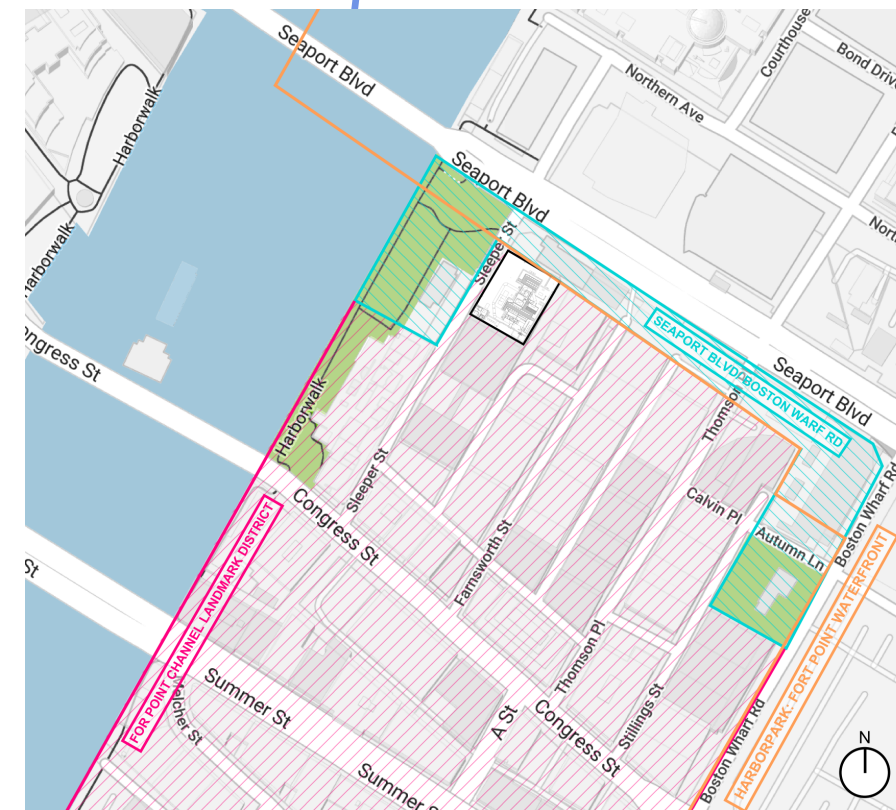
101 Federal Street, Suite 1100
Boston, MA, 02110
617.737.0040

VOLUME I OF I

ISSUED FOR:
LANDMARKS APPLICATION

ISSUE DATE:
APRIL 22, 2021

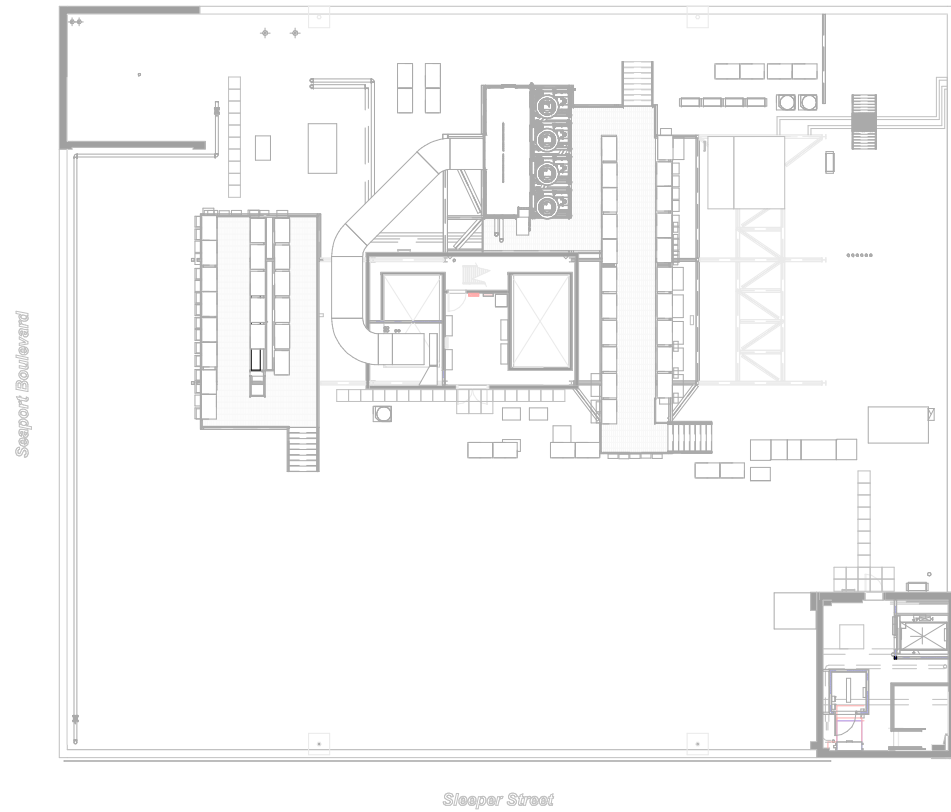
SG Project # 12183.000



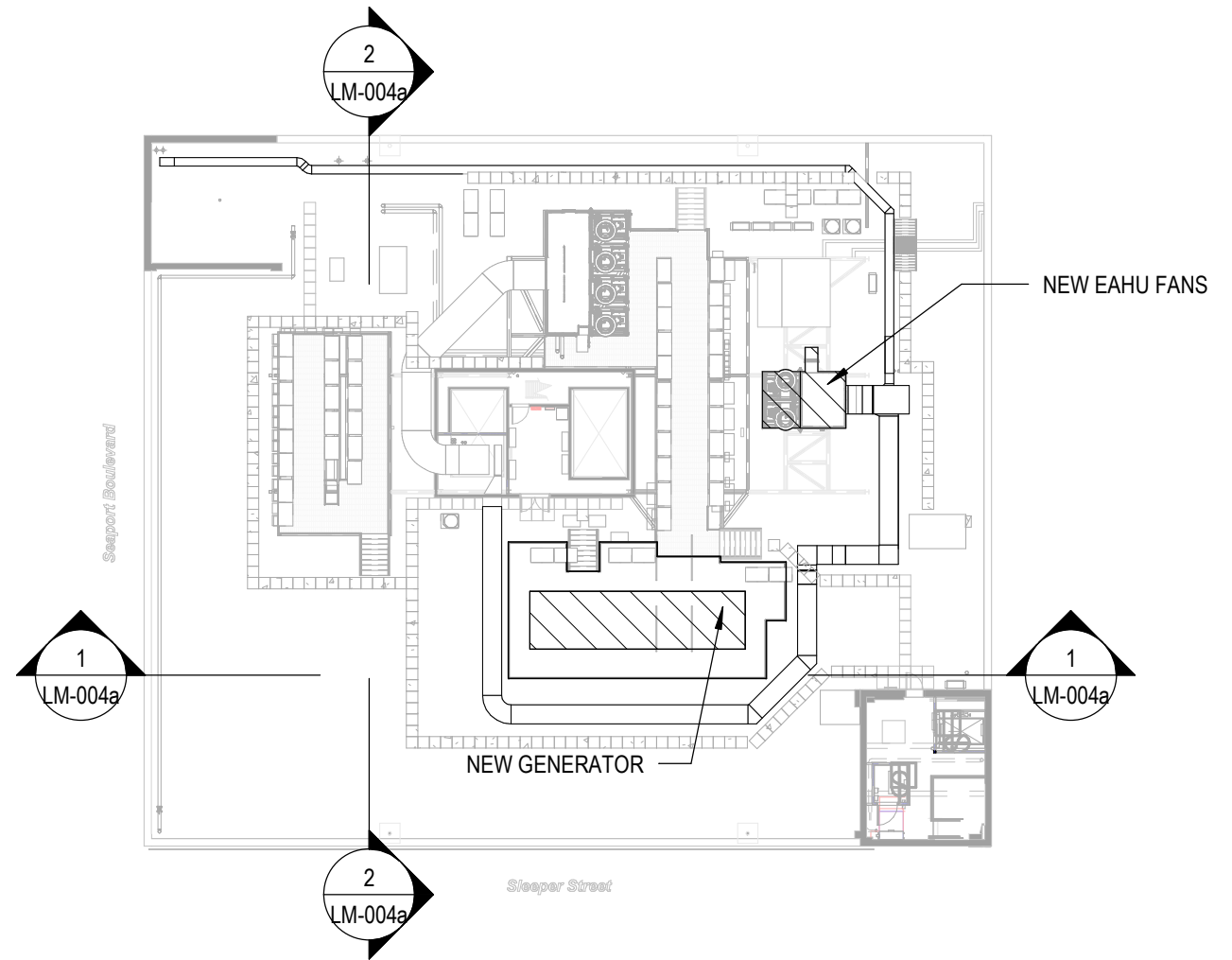
LOCUS PLAN

Plot Date: 4/20/2021 9:59:50 AM

Plot Date:



1 LANDMARKS - EXISTING ROOF PLAN
SCALE: 1/32" = 1'-0"



2 LANDMARKS - PROPOSED ROOF PLAN
SCALE: 1/32" = 1'-0"

B. Rooftop Additions (Including New construction and Roofdecks) (See also Section G for Standards and Criteria pertaining to Utilities)

1. Rooftop additions should be not visible or minimally visible from existing or proposed streets and ways open to public travel. "Minimally visible" is defined as any rooftop addition which, when viewed from the areas of review described above, is visible by no more than 12 inches in height, or, due to its placement and size does not call attention to itself nor detract from any significant architectural features. All rooftop additions, including rooftop equipment and utilities, will be carefully reviewed on a case-by-case basis for their appropriateness of location and visibility (See also Section G for Standards and Criteria for Utilities). Additionally, the massing, materials, and details will be reviewed for their appropriateness and impact to the character-defining features of the District.

In any instance, a rooftop addition that is visible from existing or proposed streets and ways open to public travel at the pedestrian level of the building that is receiving the rooftop addition will be subject to the following guidelines:

d. Rooftop additions to buildings on all other existing or proposed streets and ways open to public travel shall not be visible from directly across the street on any adjacent existing or proposed street or way open to public travel, and may be minimally visible within 300 feet of the building receiving the rooftop addition.

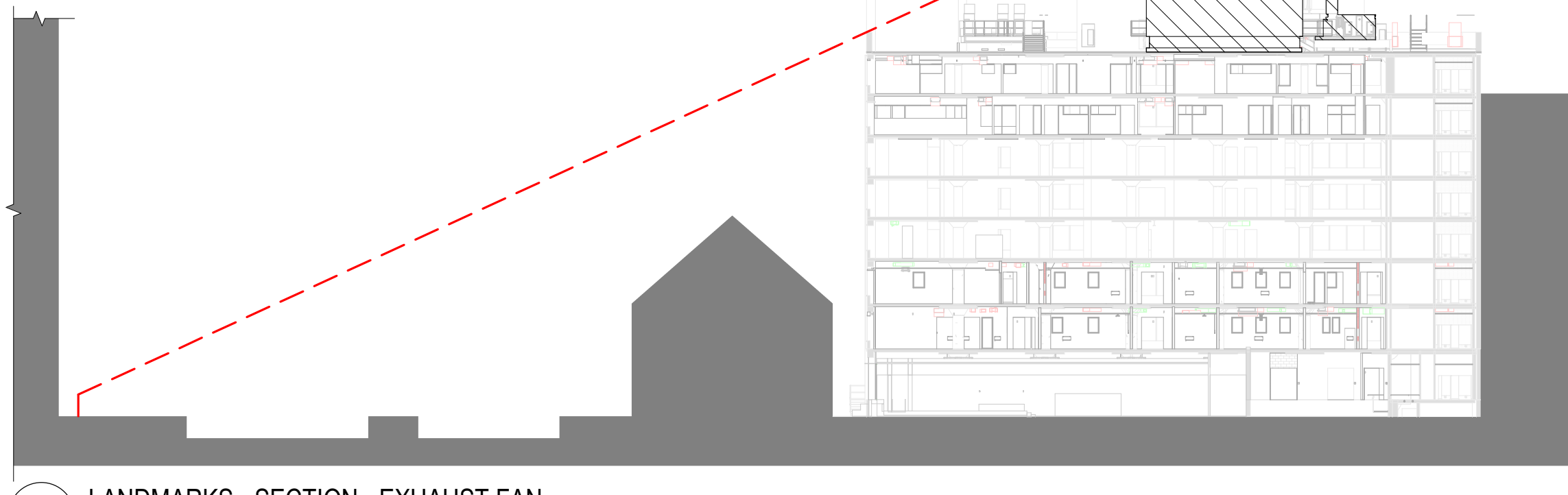
G. Utilities

1. The location of mechanical and/or electrical equipment, stair or elevator head houses, satellite dishes, antennas and other communication devices should be integrated into the design of the new construction so as to minimize the visibility of the utilities. When located on the roof, such equipment should be set back as to minimize visibility from any existing or proposed street or way that is open to public travel.




MARTIN'S PARK
ELEVATED FOOT BRIDGE

2 LANDMARKS - SECTION - EXHAUST FAN
SCALE: 1/32" = 1'-0"



1 LANDMARKS - SECTION - EXHAUST FAN
SCALE: 1/32" = 1'-0"

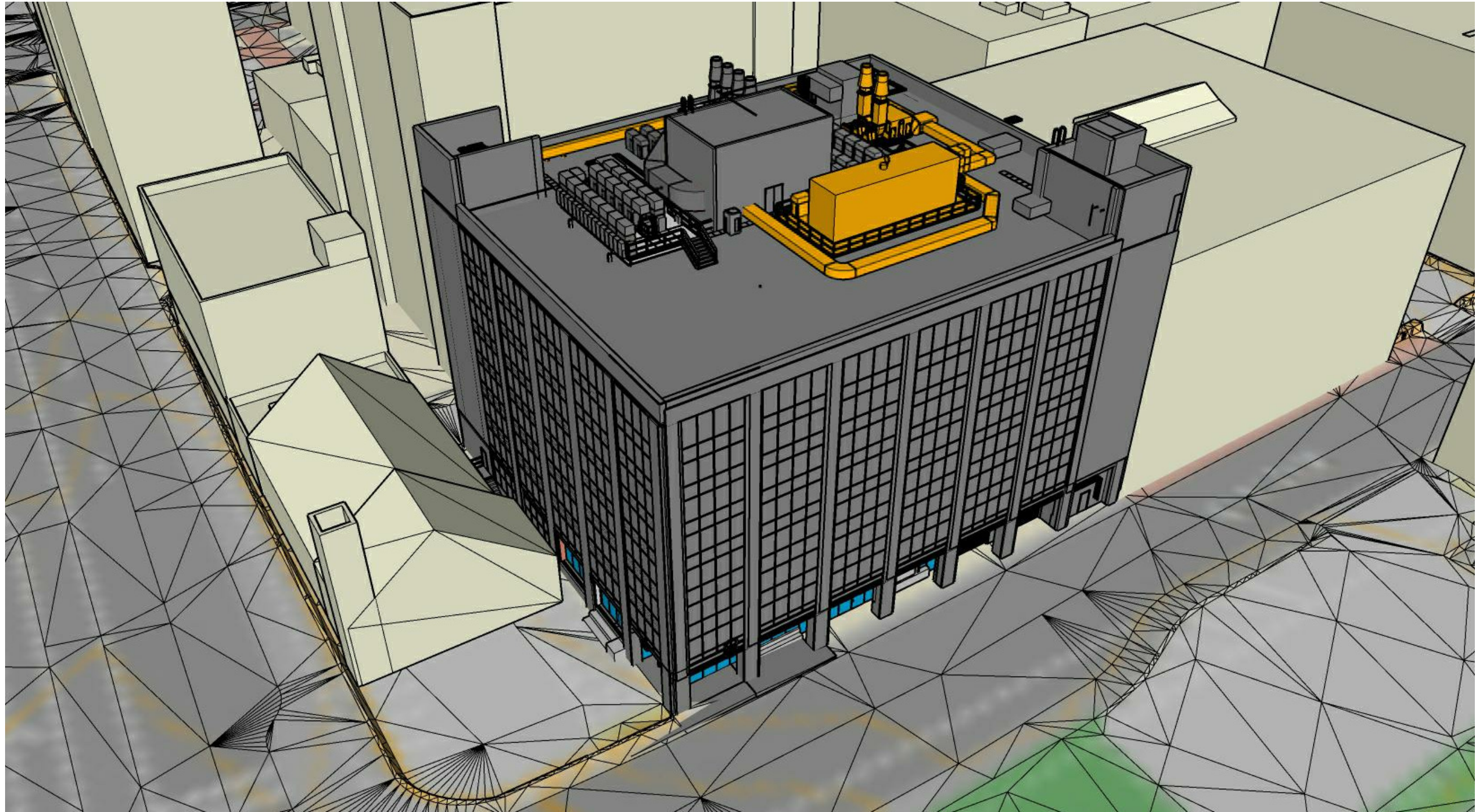
LANDMARKS - SECTION

 1/32" = 1'-0"

04/22/2021

51 SLEEPER STREET, BOSTON, MA

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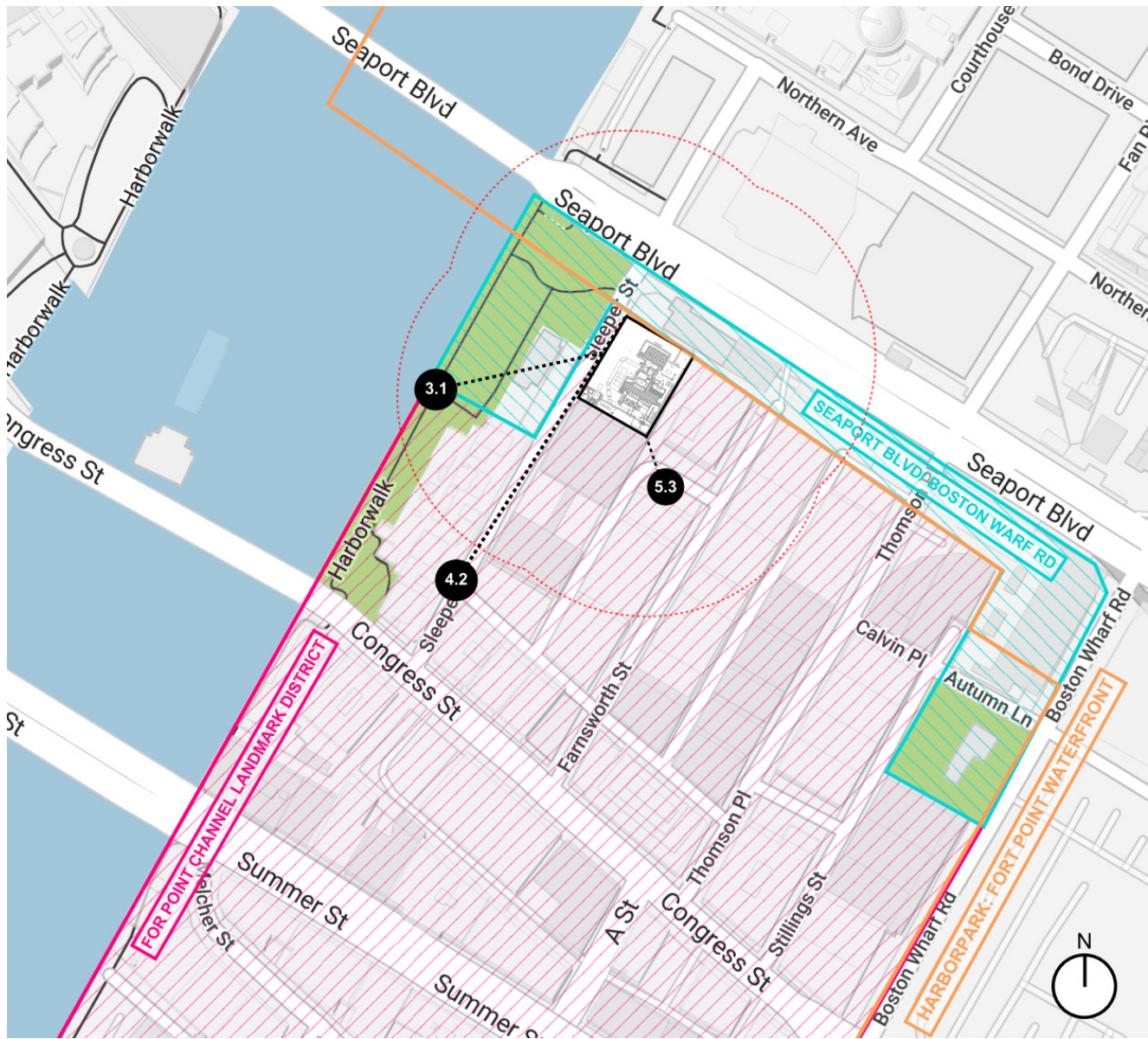
04/22/2021

LANDMARKS - EXISTING AND PROPOSED AERIAL RENDERING

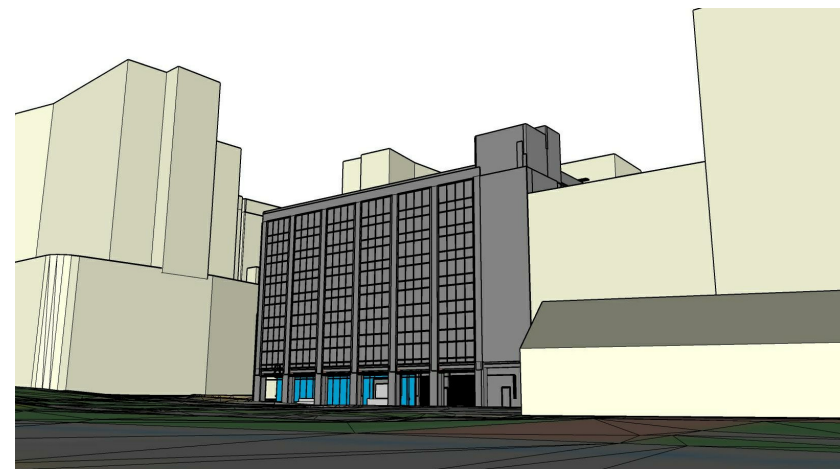
51 SLEEPER STREET, BOSTON, MA



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VIEW 3.1 - EXISTING



VIEW 3.1 - PROPOSED



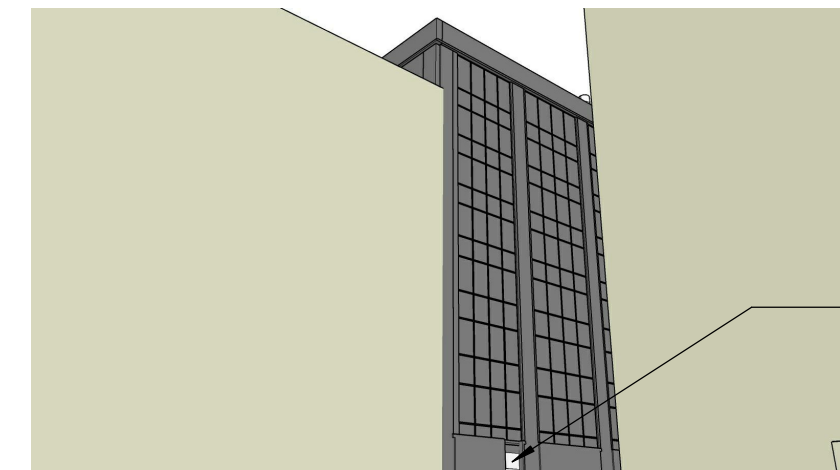
VIEW 4.2 - EXISTING



VIEW 4.2 - PROPOSED



VIEW 5.3 - EXISTING



VIEW 5.3 - PROPOSED

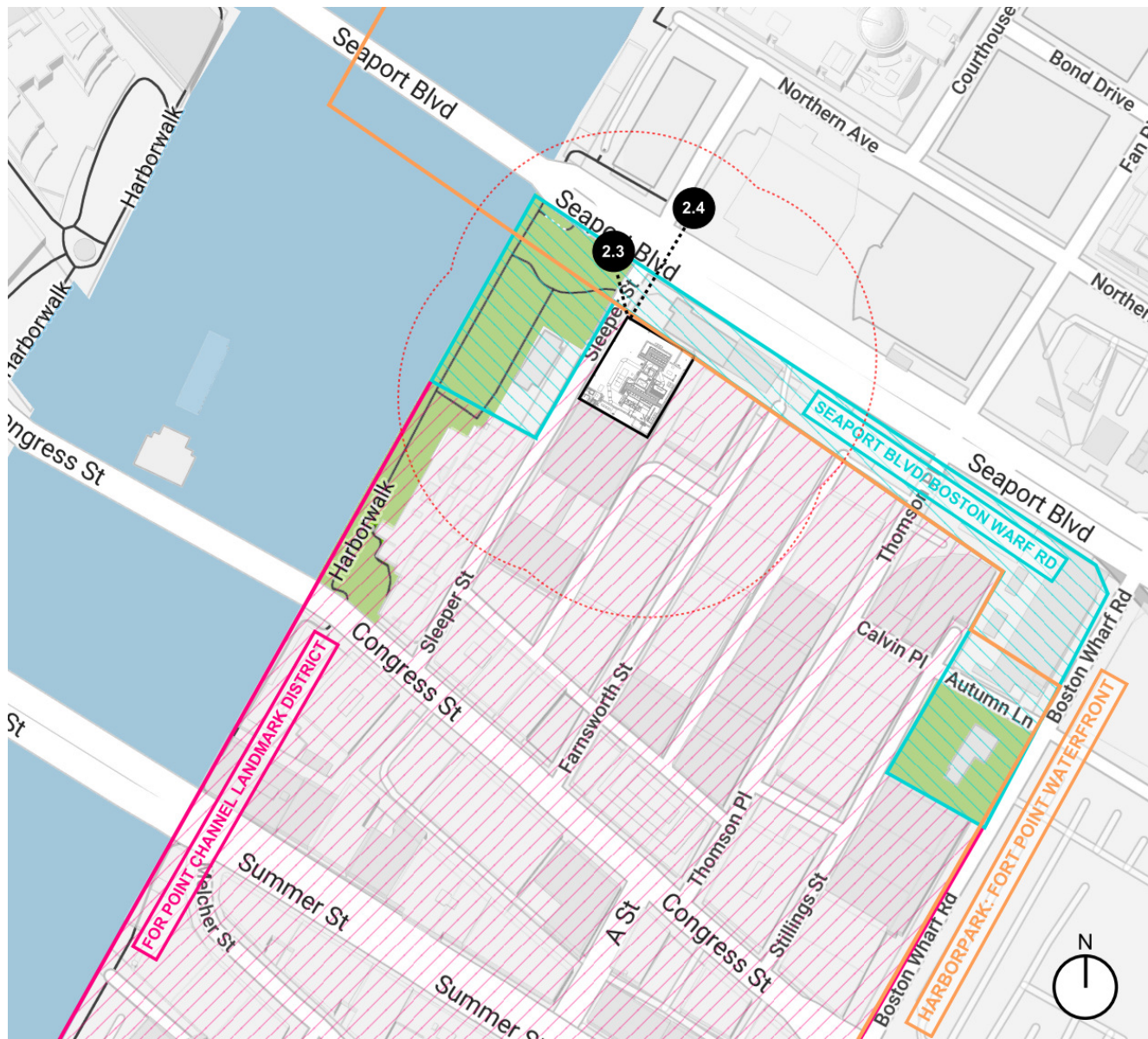
04/22/2021

LANDMARKS - VIEWS IN DISTRICT

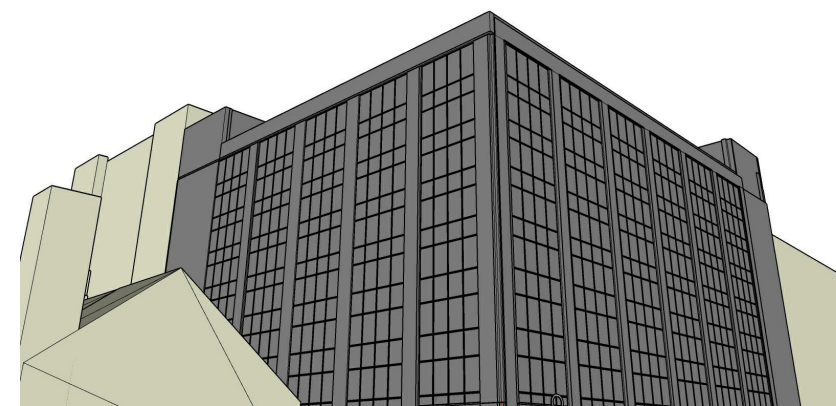
51 SLEEPER STREET, BOSTON, MA



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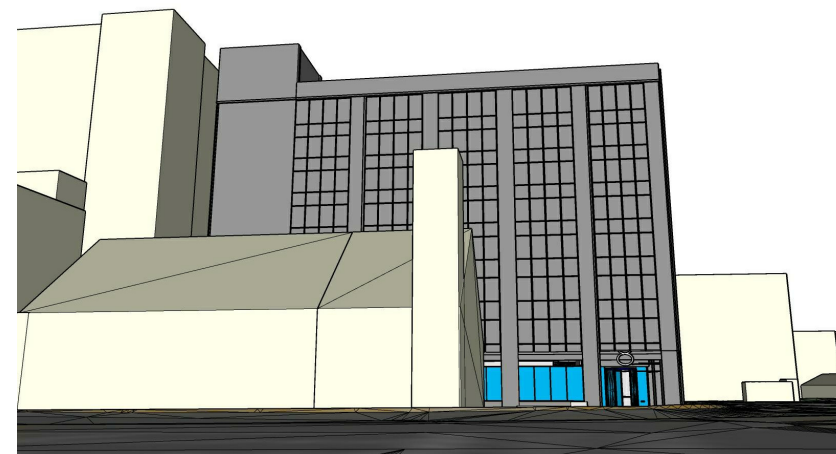
VIEW 2.3 - EXISTING



VIEW 2.3 - PROPOSED

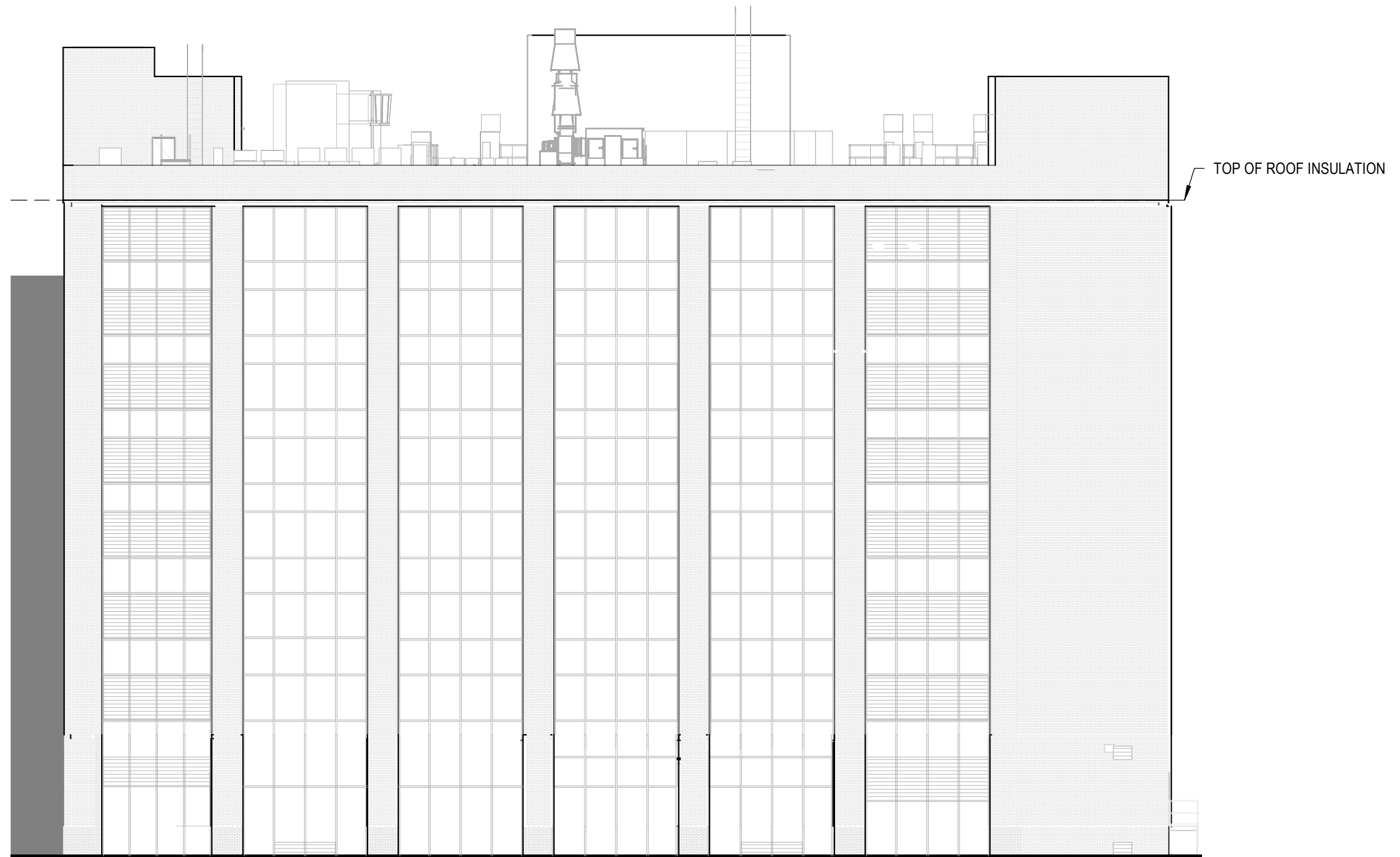


VIEW 2.4 - EXISTING



VIEW 2.4 - PROPOSED






1 LANDMARKS - EXISTING EAST (ALLEY) ELEVATION 1
SCALE: 1/16" = 1'-0"

04/22/2021

LANDMARKS - EXISTING EAST (ALLEY) ELEVATION

 1/16" = 1'-0"

51 SLEEPER STREET, BOSTON, MA

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NEW EAHU FANS

NEW GENERATOR

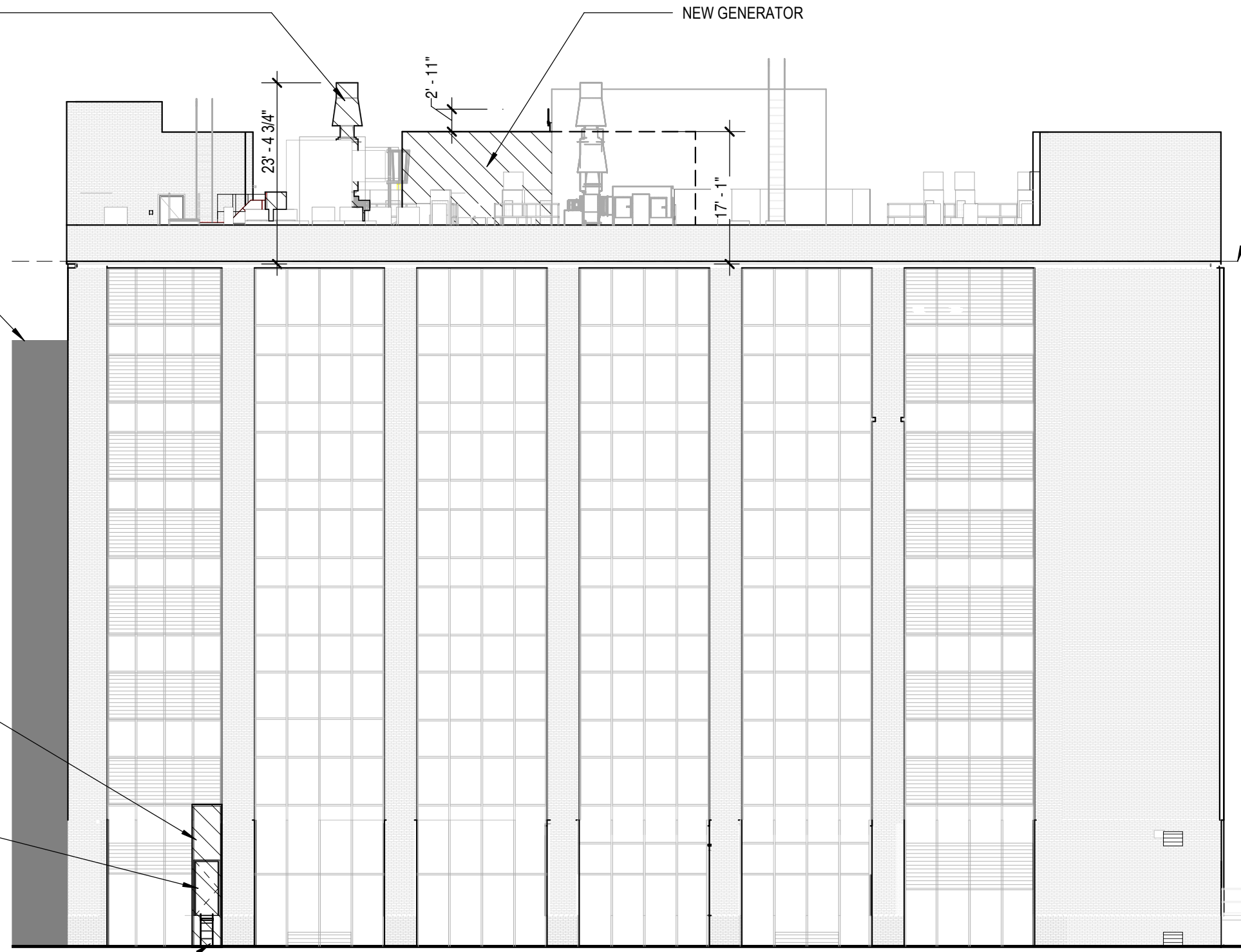
EXISTING ADJACENT BUILDING PARAPET

TOP OF ROOF INSULATION

REMOVE PORTIONS OF METAL PANEL AND LOUVER. ADD NEW METAL PANEL TO MATCH EXISTING COLOR.

NEW METAL MAINTENANCE DOOR. PAINT TO MATCH EXISTING METAL PANEL.

NEW FIXED LADDER TO ACCESS MAINTENANCE DOOR



1

LANDMARKS - PROPOSED EAST (ALLEY) ELEVATION

SCALE: 1/16" = 1'-0"

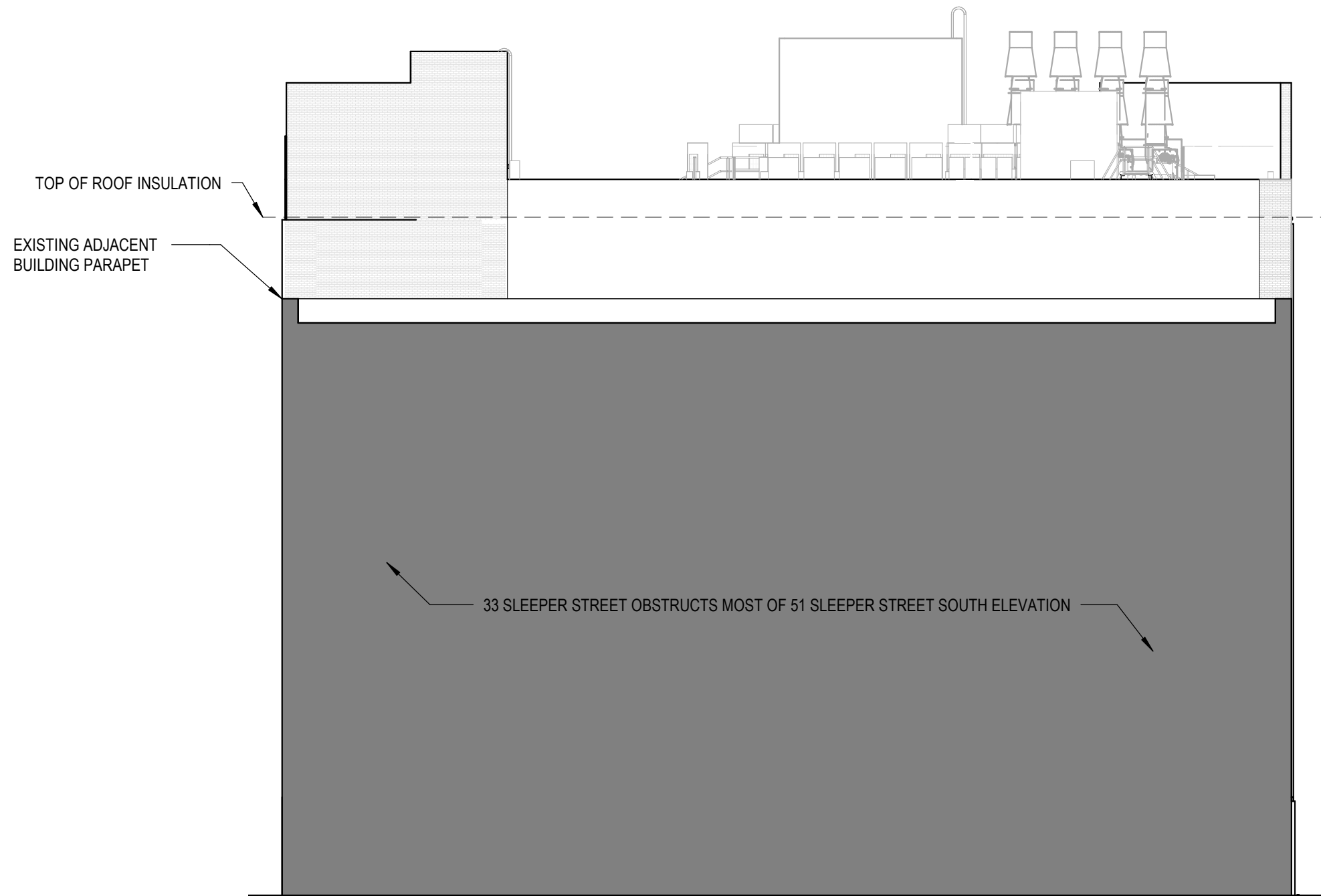
04/22/2021

LANDMARKS - PROPOSED EAST (ALLEY) ELEVATION

1/16" = 1'-0"

51 SLEEPER STREET, BOSTON, MA


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1 LANDMARKS - EXISTING SOUTH ELEVATION (NEW)
 SCALE: 1/16" = 1'-0"

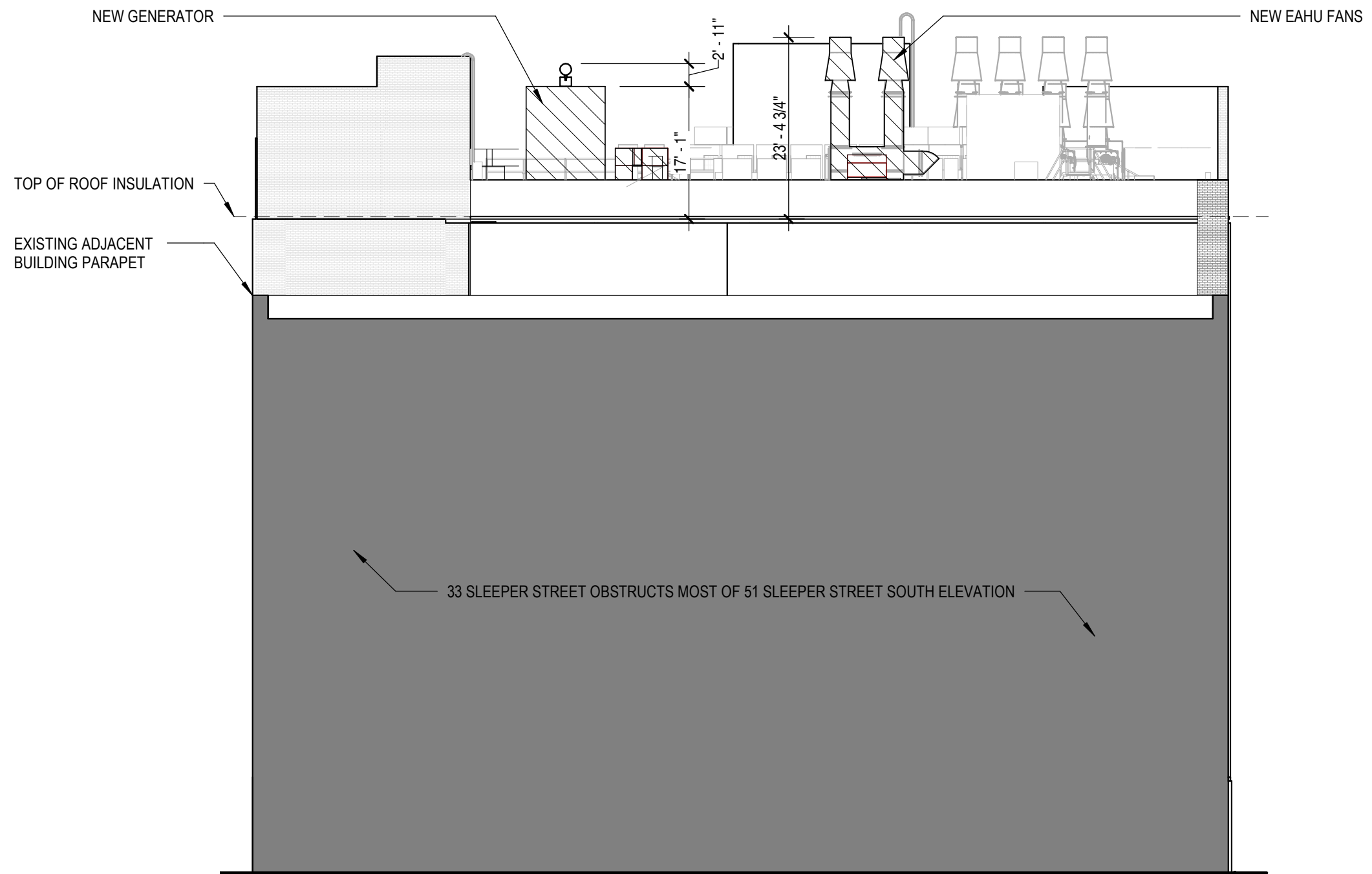
04/22/2021

LANDMARKS - EXISTING SOUTH ELEVATION

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51 SLEEPER STREET, BOSTON, MA


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1 LANDMARKS - PROPOSED SOUTH ELEVATION
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04/22/2021

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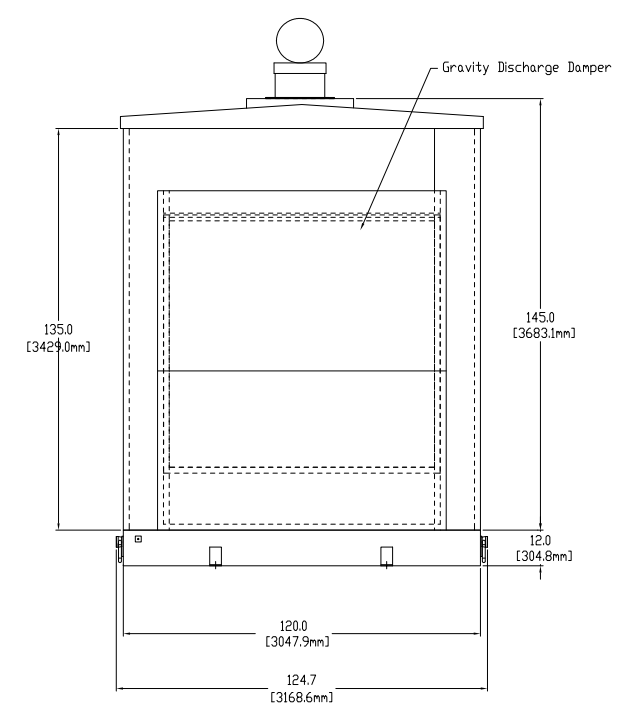
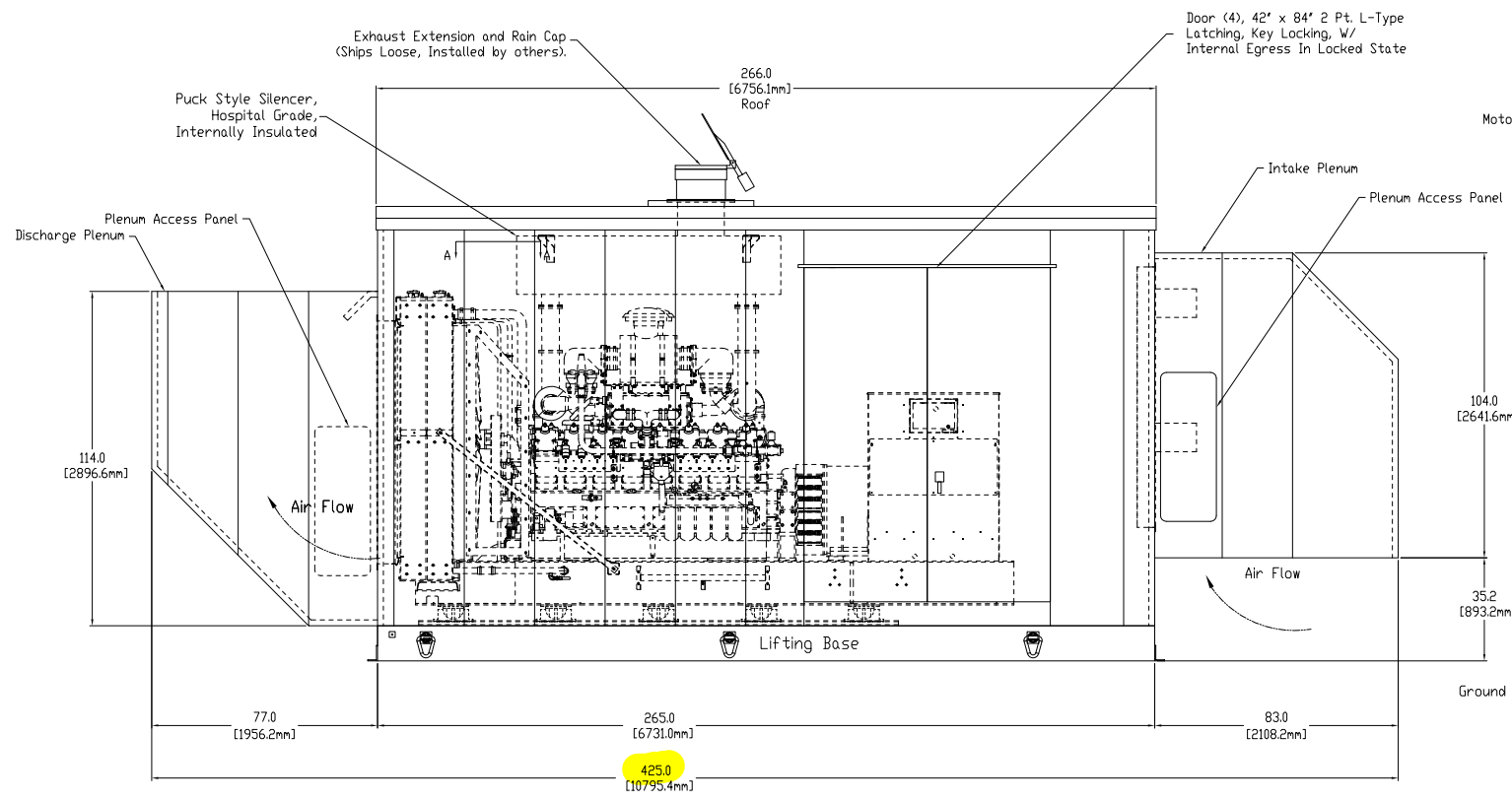
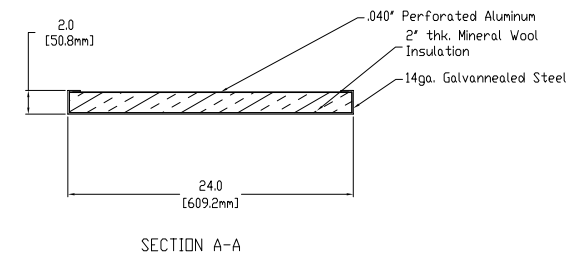
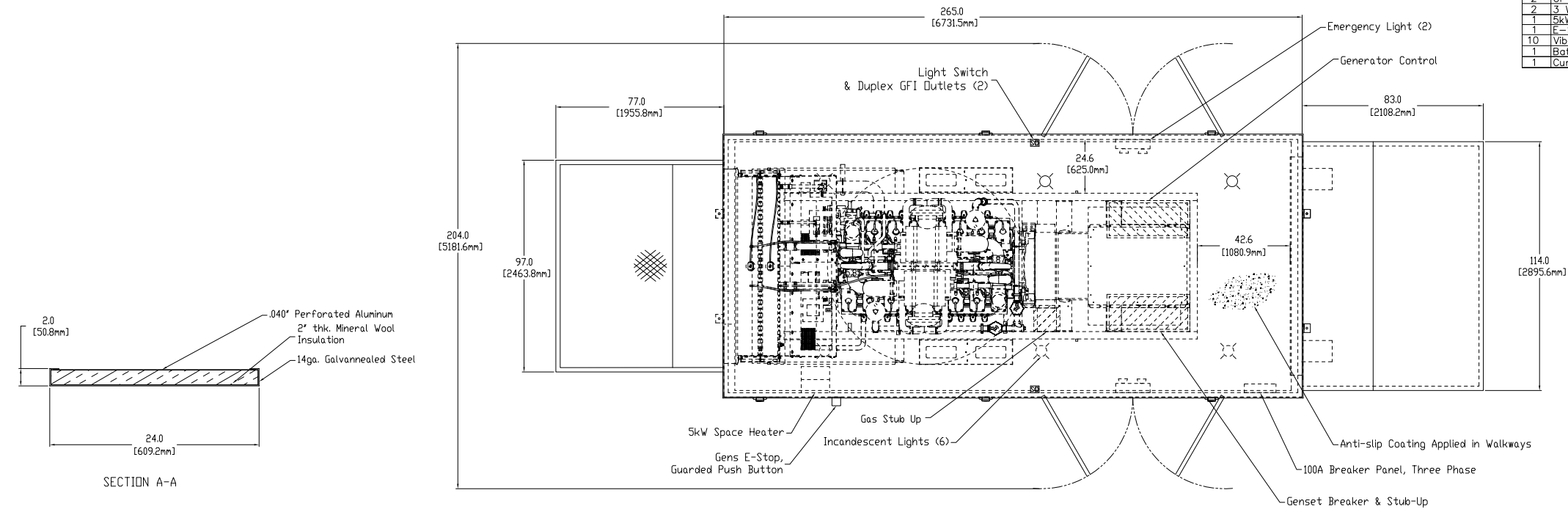
Qty	Description	Supplied By	Installed By
2	Double Door - 84"W X 84"H, 2pt. SS L-Type Latch, Key Locking	Hennig	Hennig
1	Puck Style, Hospital Grade Silencer w/ dual Inlet.	Hennig	Hennig
1	UL 142 Rated Fuel Tank	Hennig	Hennig
2	Flex Fuel Lines	Hennig	Hennig
1	Gravity Discharge Damper	Hennig	Hennig
1	Flexible Radiator Duct	Hennig	Hennig
1	Motorized Intake Damper, 120VAC, Fail Open	Hennig	Hennig
1	Intake Plenum w/ Bird Screen	Hennig	Hennig
1	Discharge Plenum w/ Bird Screen	Hennig	Hennig
1	14 Ga. Galv. Panels, 2'x8' Min. Wool Insul.	Hennig	Hennig
1	Perforated Aluminum Interior Skin	Hennig	Hennig
4	Incandescent Lights	Hennig	Hennig
1	100 Amp Breaker Panel, Three Phase	Hennig	Hennig
2	OPTIONAL - Stairs w/ Handrail, Aluminum Construction, Powder Coated - NOT DISPLAYED	Hennig	Hennig
2	3 Way Light Switches w/ Duplex GFI Outlets	Hennig	Hennig
1	5kW Space Heater	Hennig	Hennig
1	E-Stop, Guarded Push Button	Hennig	Hennig
10	Vibration Isolators	Customer	Hennig
1	Batteries & Battery Charger	Customer	Hennig
1	Cummins C750N6 Gen-Set	Customer	Hennig

Approx. Weights			
Base Weight (lb)	Genset Dry Weight (lb)	Enc. Weight (lb)	Total Weight (lb)
7,875	24,650	11,038	43,563

Shipping Notes:
Enclosure, tank & generator ship fully assembled.

LOOSE PARTS:
(INSTALLED BY OTHERS)

- Exhaust Extension and Rain Cap
- Optional Stairs and Platforms



- Notes:**
- Enclosure Designed to Provide 25 dB(A) Reduction @ 7m in a Free Field Environment.
 - Enclosure Powdercoat Color T.B.D. by Customer.
 - Tank Painted Black.
 - All Wiring In EMT Conduit Or Raceway.
 - Jacket Heater, Batteries & Battery Charger To Be Installed & Wired At Hennig Ass'y.
 - Designed for 100mph Wind Resistance, 40lb/sqft Roof Load.
 - Exhaust Extension and Stairs/Platforms Shipped Loose.
 - Designed for 1,000 fpm Based Upon 61,640 SCFM Generator Cooling and Combustion Air Flow Requirements.

CONCEPT DRAWING FOR REFERENCE ONLY

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HENNING ENCLOSURE SYSTEMS	
Level II Walk-In Enclosure	
DRAWN BY: JMS	DATE: 10/19/17
CHECKED BY: CG	DATE: 10/27/17
CUSTOMER: Cummins Northeast	GENERATOR MODEL: C750N6
DO NOT SCALE THE DRAWING	DRAWING # CONCEPT DRAWING

SKYPLUME™

TECHNOLOGIES



A DIVISION OF



Plasticair



SKYPLUME G1- ELMV- 27

Project: 31648-51 Sleeper Street	Project Location:
Contractor:	Engineer Location:
SKYPLUME Sales Rep: Building System and Services	Fan Tag: EF-1, EF-2

FAN PERFORMANCE DATA			
Volume at Plenum Inlet: 12500 CFM	Wheel Size: 27 inches	Tip Speed: 13692.8 ft/min	Altitude: 0 ft
Volume at Bypass: 560 CFM	Wheel Width: 100 %	Nozzle Velocity: 5826 ft/min	Actual Density: 0.075 lb/ft ³
Volume at Fan Inlet: 13060 CFM	Fan Power: 24.81 BHP	AMCA Drive Arrangement #: 4	Temperature: 70 °F
Fan E.S.P.: 6 in. W.G	Fan Speed: 1937.1 RPM	Fan Class: Class II	
Efficiency (Mechanical): 55 %	Efficiency (Static): 50 %		

STACK PERFORMANCE DATA		PLENUM REQUIREMENT	
Inlet Volume	13060 CFM	Plenum Required: Yes	
Induced Volume	20648 CFM	Plenum Wall Construction: Double Wall, Insulated	
Windband Volume	33708 CFM	Energy Recovery Coil: Yes	
Dilution Ratio Of The System	258.10 %	Plenum Arrangement: Inline	
Nozzle Exit Velocity	5826 FPM	No. of Operating Fans: 1	
Windband Velocity	5851 FPM	No. of Standby Fan: 1	
Stack Pressure Loss	1.52 in.WG	Total No. of Fans: 2	

EFFECTIVE PLUME RISE AT INLET VOLUME (DOES NOT INCLUDE EQUIPMENT)	
CROSSWIND	PLUME RISE(ft)
10 MPH	54.02
15 MPH	36.02
20 MPH	27.01

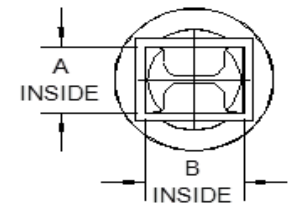
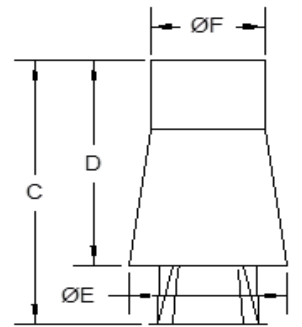
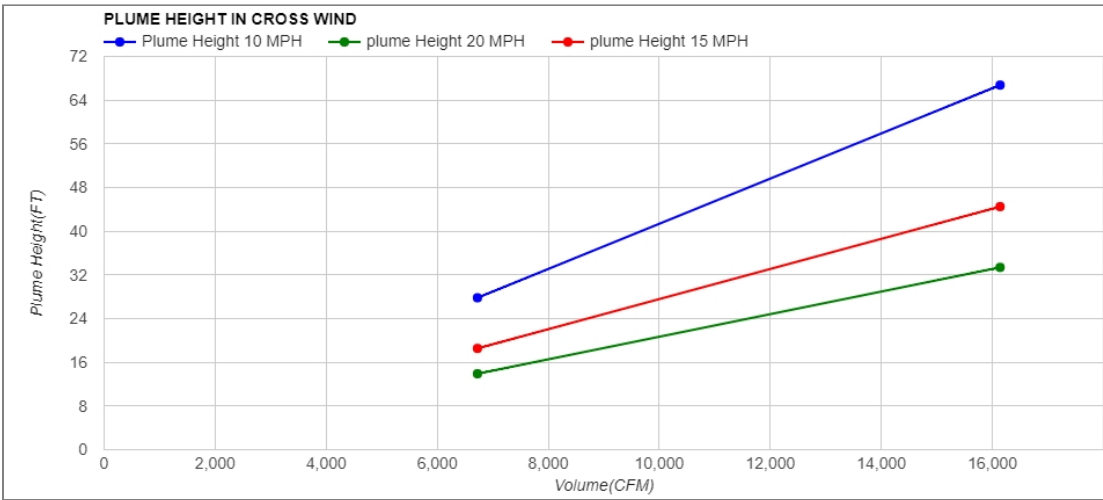
EFFECTIVE STACK HEIGHT (INCLUDES EQUIPMENT)	
CROSSWIND	EFFECTIVE STACK HEIGHT(ft)
10 MPH	66.49
20 MPH	39.48
15 MPH	48.49

Add 7' to effective stack height numbers to account for integral stack silencer.



SKYPLUME G1- ELMV- 27

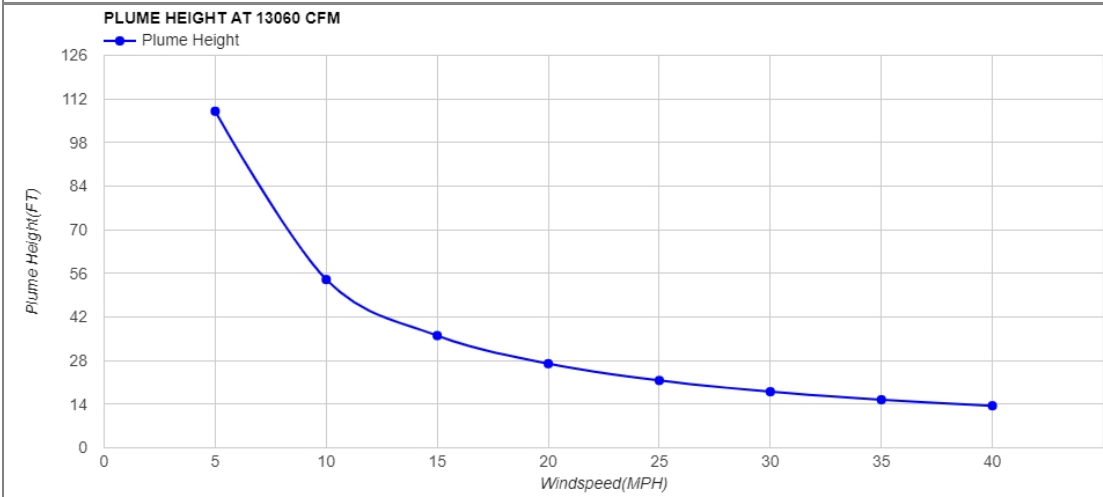
Project: 31648-51 Sleeper Street	Project Location:
Contractor:	Engineer Location:
SKYPLUME Sales Rep: Building System and Services	Fan Tag: EF-1, EF-2



VIEW ON FLANGE

Stack Dimensions		
Dimension	Inches	[mm]
A	21.31	541
B	28.62	727
C	85.25	2165
D	66.25	1683
E	45.62	1159
F	32.5	826

*Approximate Dimensions



Performance Data	
Inlet Volume	13060 CFM
Induced Volume	20648 CFM
Windband Volume	33708 CFM
Dilution Ratio Of The System	258.10 %
Nozzle Exit Velocity	5826 FPM
Windband Velocity	5851 FPM
Stack Pressure Loss	1.52 in.WG

*Tested in still air, crosswinds may effect performance.

Effective Plume Rise at Inlet Volume	
CROSSWIND	PLUME RISE(ft)
10 MPH	54.02
20 MPH	27.01
15 MPH	36.02

** - Effective Plume rise does not include height of fan and stack.

Information

- *- Performance ratings do not include the effects of appurtenances (accessories).
- *- Power ratings (watts, kW, bhp) does not include transmission losses.
- *- Performance ratings do not include the effects of cross winds.
- *- CATALOG: SKYPLUME EL 3.0 OCTOBER 2013
- *- Reference Catalog ID (AMCA): PLASTICAIR WEB FAN SELECTOR 5.0 - JUNE 2015

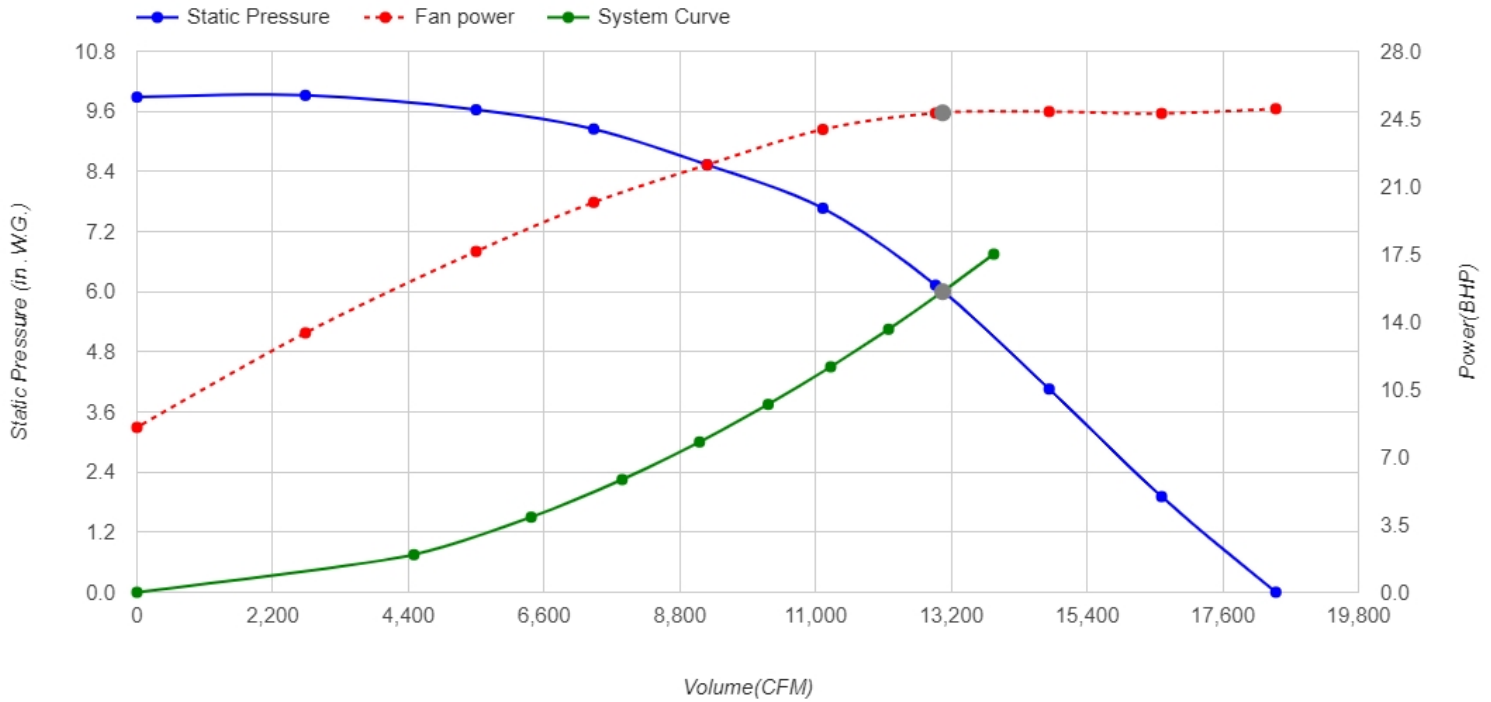
Standard Options

- Solid FRP Nozzle and Windband
- Lifetime Warranty against Rust
- SS316 Fasteners
- If Fan Discharge Dimensions differ from A & B above, use transition between fan and stack



SKYPLUME G1- ELMV- 27

Project: 31648-51 Sleeper Street	Project Location:
Contractor:	Engineer Location:
SKYPLUME Sales Rep: Building System and Services	Fan Tag: EF-1, EF-2



CFM:13060	RPM: 1937	Static Pressure: 6 in. W.G	BHP: 24.81
-----------	-----------	----------------------------	------------

Sound Data								
Octave Band Centre Frequency	63	125	250	500	1K	2K	4K	8K
Outlet Sound Power Levels (dB)	102	102	101	98	93	89	84	77
Sound Pressure Levels 50 ft (A-weighted)	42	52	58	61	59	56	50	42
Total A Weighted Sound Pressure @ 50 ft from Fan (dBA)	65							

Surrounding Conditions	
Temperature (°F)	70
Altitude (ft.)	0
Actual Density (lb/ft ³)	0.075

Other Performance Data	
Tip Speed (ft/min)	13692.8
Fan Class	Class II
Efficiency (Mech)	55 %
Efficiency (Static)	50 %
Wheel Width (%)	100
Nozzle Exit Velocity (ft/min)	5826



Plasticair Inc. certifies that the SKYPLUME -G1-EL laboratory exhaust models shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and Publication 311 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to Induced Flow Fan Air and Sound Performance (AMCA Standard 260).

dBA levels are not licensed by AMCA International.

dBA data is not AMCA International licensed

"Performance ratings do not include the effects of cross winds."

"Power rating (watts, kW, or bhp) does not include transmission losses."

"Performance ratings do not include the effects of appurtenances (accessories)."

*** The Sound Pressure Levels are based on a fan installation next to no reflective surface

Values shown are for (Outlet Lwo) Sound Power levels for: Installation Type C: Ducted Inlet, Free Outlet."

"The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301."

* The environment for the fan installation affects the measured sound values, therefor the dBA levels cannot be guaranteed. A fans dBA is influenced by nearby sound reflecting surfaces. A-weighted

Octave Band Sound Pressure levels (dBA) are not licensed by AMCA International. Please consult AMCA publication 303 for more information.



Division of Plasticair Inc.

SKYPLUME G1- ELMV- 27

INDUCED FLOW FAN - SWSI

Customer:	0	Fan Tag:	EF-1, EF-2
Rep:	HTS New England	Quote :	31648
Job ID:	51 Sleeper Street (Vivarium)	Catalogued	October 2013

Insert your Insertion loss		3	9	16	21	20	15	13	12
Acoustic Windband Insertion Loss									
Select Silencer Size (Inch)	84	Project Sound Performance							
Silencer Pressure Drop	0.35 in.w.g	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Outlet Sound Power Levels (dB)		101	102	100	97	93	89	83	76
Correction for 1 Fans Operating		0	0	0	0	0	0	0	0
Dynamic Insertion Loss for Silencer		-3	-9	-16	-21	-20	-15	-13	-12
Acoustic Windband insertion loss		0	0	0	0	0	0	0	0
Corrected Outlet Sound Power Levels (dB)		98	93	84	76	73	74	70	64
Correction for 50 Ft. - No Reflective Surfaces		-34	-34	-34	-34	-34	-34	-34	-34
Correction for 50 Ft. - 1 Reflective Surfaces (Floor)		0	0	0	0	0	0	0	0
Correction for 50 Ft. - 2 Reflective Surfaces (Floor & Wall)		0	0	0	0	0	0	0	0
Correction for 50 Ft. - 3 Reflective Surfaces (Corner)		0	0	0	0	0	0	0	0
Sound Levels at 50 Ft. Distance		64	59	50	42	39	40	36	30
A Weighting		-25.5	-15.5	-8.5	-3	0	1	1	-1
dBA Spectrum (50 Ft.)		39	43.5	41.5	39	39	41	37	29
Net Sound Level at 50 Ft.:					49 dBA (at 60 Hz)				

CERTIFIED
PERFORMANCE DATA

Bypass Silencer Cut-Sheet

Unit: Imperial

Insertion Loss (IL)

LENGTH (inches)	FACE VELOCITY (feet per minute)	OCTAVE BAND -Hz/DYNAMIC INSERTION LOSS (dB)							
		63	125	250	500	1000	2000	4000	8000
36	-2000	4	7	12	16	16	13	11	8
36	+2000	3	6	10	15	16	13	10	7
60	-2000	5	11	18	27	25	18	13	10
60	+2000	4	8	16	24	25	19	14	10
84	-2000	9	16	24	36	35	24	16	11
84	+2000	7	12	21	33	35	25	17	12
108	-2000	10	19	31	41	43	28	17	13
108	+2000	7	15	27	39	44	29	19	15

+: "forward flow" where noise & airflow move in same direction (e.g. supply side)

-: "reverse flow" where noise & airflow move in opposite directions (e.g. return side)

See pages 4.1-4.25 for selection information. DIL above 50dB may be limited due to noise flanking around the silencer or along the duct walls. If more than 50dB DIL is required, contact your local Vibro-Acoustics Representative or call 1-800-565-8401.

Pressure Drop (PD)

LENGTH (inches)	FACE VELOCITY (feet per minute) / Pressure Drop (In.w.g.)						
	500	1000	1500	1750	2000	2250	2500
36	0.02	0.07	0.15	0.21	0.27	0.35	0.43
60	0.02	0.09	0.21	0.28	0.37	0.46	0.57
84	0.03	0.11	0.26	0.35	0.46	0.58	0.71
108	0.03	0.13	0.29	0.40	0.52	0.66	0.82

Acceptable (0-0.35 in.w.g.)

Caution (>0.35 in.w.g.) Pressure Drop may be too high for certain applications

Pressure drops are reported in accordance with ASTM E477 methods and are based upon IDEAL flow conditions (5 diameters of straight duct on silencer inlet and 10 on outlet). Less than ideal conditions will result in an increase in pressure drop due to System Effects. See Silencer System Effects Data on page 4.19.

Generated Noise (GN) @ 5 sq. ft. face area

LENGTH (inches)	FACE VELOCITY (feet per minute)	OCTAVE BAND - Hz/GENERATED NOISE (dB re 10 ⁻¹² watts)							
		63	125	250	500	1000	2000	4000	8000
ALL	-2000	57	56	55	56	57	60	54	39
ALL	-1250	53	50	48	48	49	48	36	28
ALL	+1250	56	50	43	41	43	43	34	27
ALL	+2000	59	58	52	51	51	56	52	37

GN correction chart at right must be used to correct GN to other face areas.

Face Area (sq. ft.)	2.5	5	10	20	40	80
dB	-3	0	+3	+6	+9	+12

Questions? 1-800-565-8401

We reserve the right to improve our designs and data at any time without notice

CROSS-SECTION SIZES*

"A" dimension (silencer width)

(inches):

12.5-13.5
25-27
50-54
75-81
100-108
125-135
150-162
175-189
200-216
225-243

"B" dimension (silencer height):

ANY SIZE

* To ensure a silencer selection that matches the ductwork dimensions, see page 4.25 or 5.3.



SKYPLUME G1- ELMV- 27

Project: 31648-51 Sleeper Street	Project Location:
Contractor:	Engineer Location:
SKYPLUME Sales Rep: Building System and Services	Fan Tag: EF-1, EF-2

Volume at Plenum Inlet: 12500 CFM	Wheel Size: 27 inches	Tip Speed: 13692.8 ft/min	Altitude: 0 ft
Volume at Bypass: 560 CFM	Wheel Width: 100 %	Nozzle Velocity: 5826 ft/min	Actual Density: 0.075 lb/ft^3
Volume at Fan Inlet: 13060 CFM	Fan Power: 24.81 BHP	AMCA Drive Arrangement #: 4	Temperature: 70 °F
Fan E.S.P.: 6 in. W.G	Fan Speed: 1937.1 RPM		

Standard Options

All Resin is Epoxy Vinyl Ester (Standard)
 Housing / Inlet Cone: FRP Fan Stand Arrangement # 4 (Epoxy Coated)
 Impellar - Backward Inclined (FRP) - Dia 27 inches
 Shaft - 1045 Carbon Steel, with FRP Sleeve
 Fasteners - SS304/SS316
 Bearings - Solid Pillow Block / 110,000 Hours L-10 Life
 Teflon Seal & Shaft Sleeve
 Outlet Connection - Flanged (not drilled)
 Inlet Connection - Slip Type
 Wheel Width :100%

Motor

HP: 30 RPM: 1770 Voltage: 208-230/460 Enclosure: TEFC - Prem Eff Frame: 286T

Selected Options

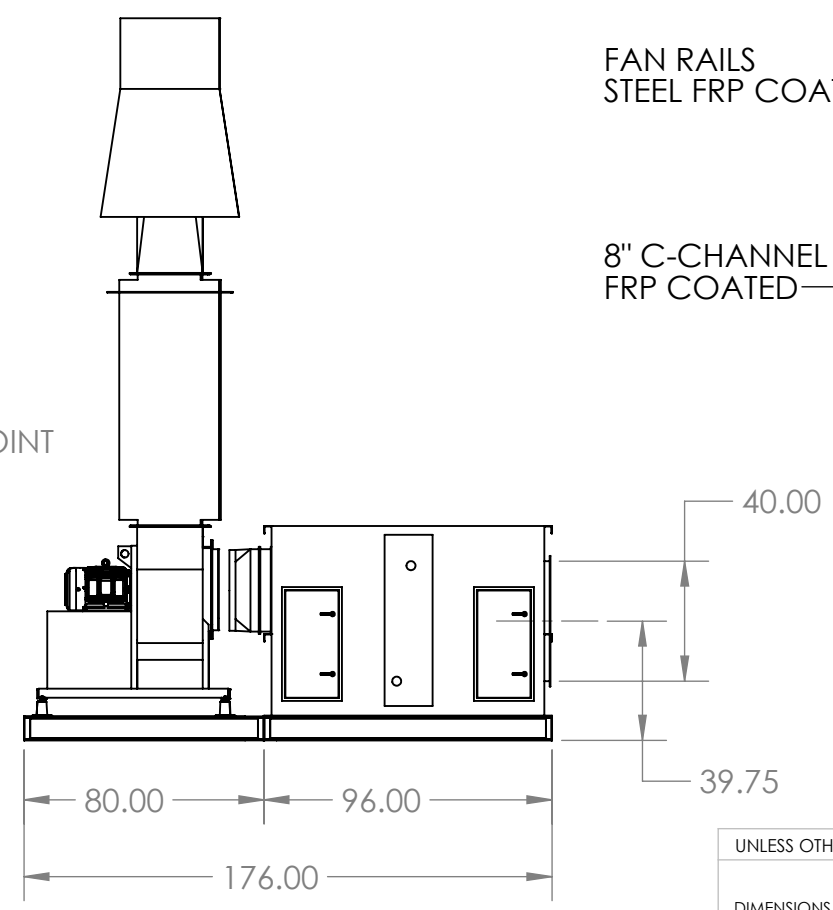
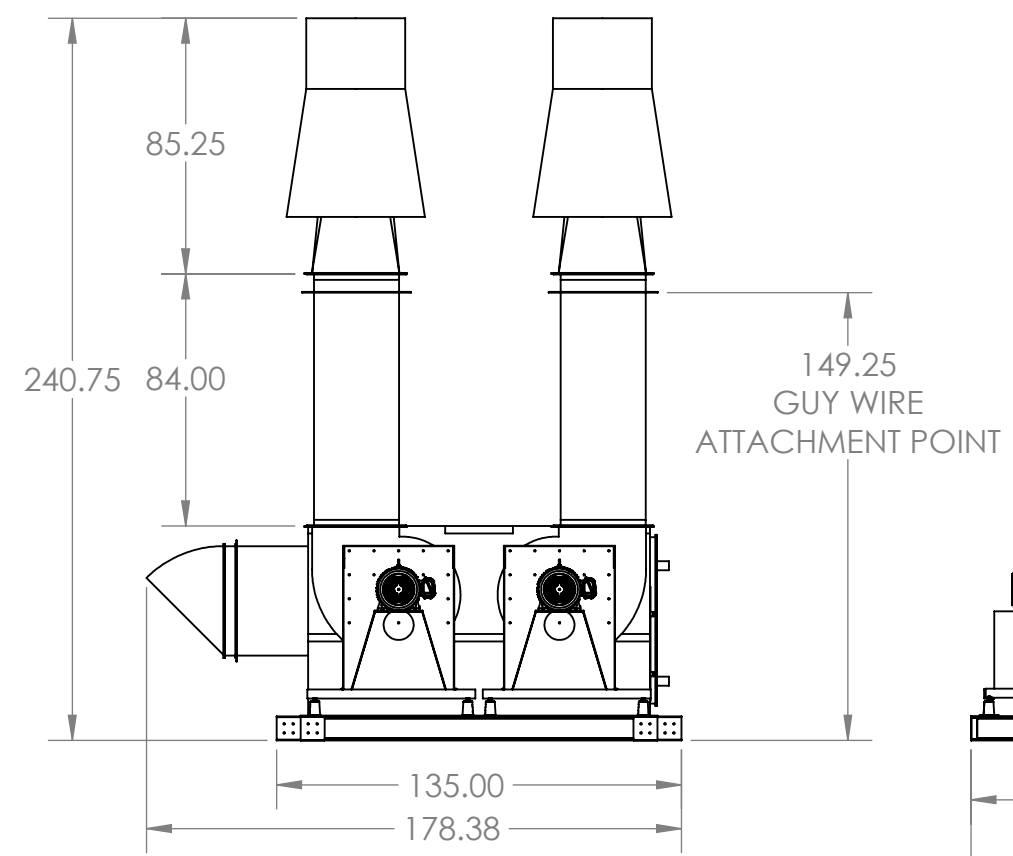
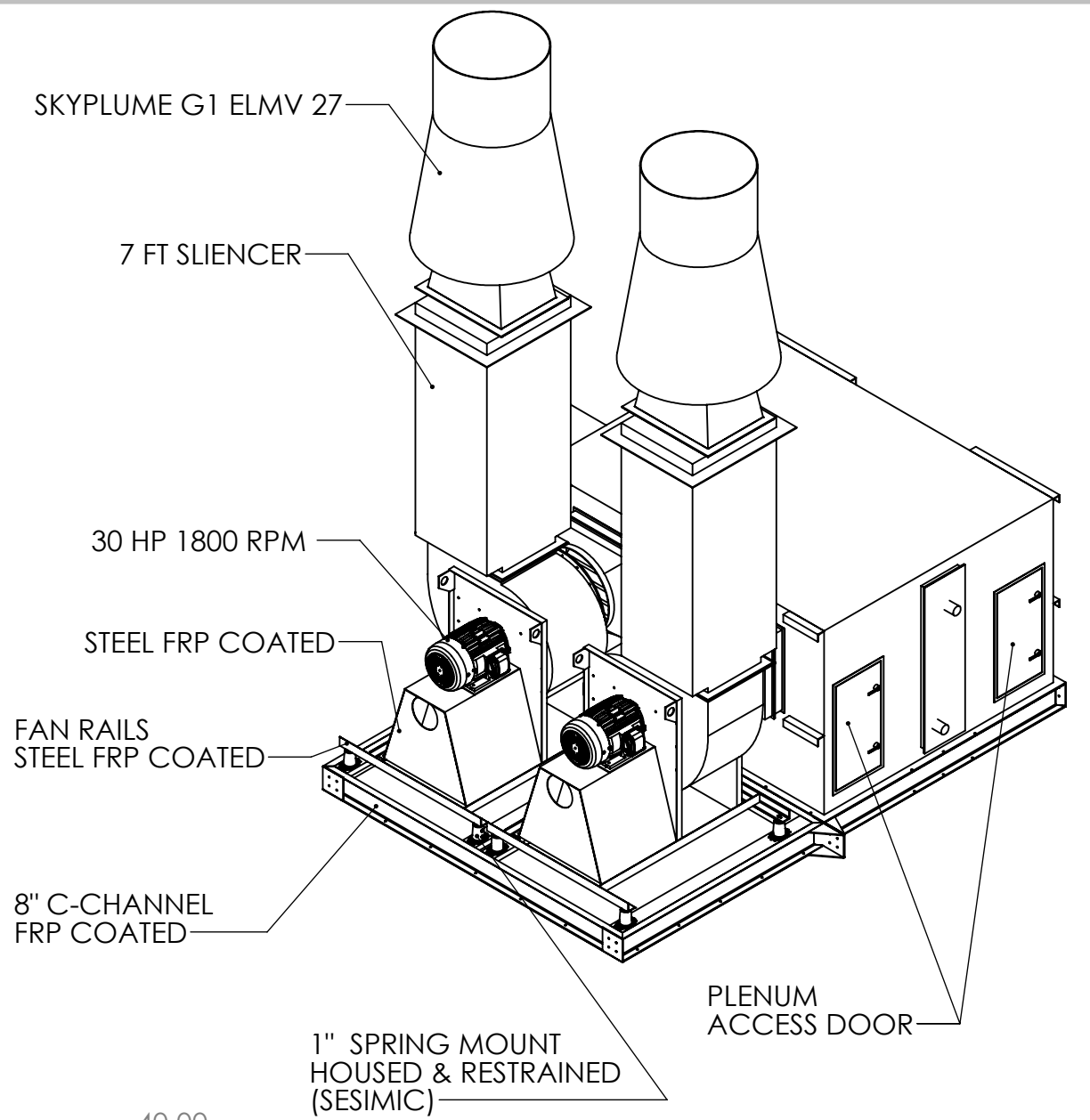
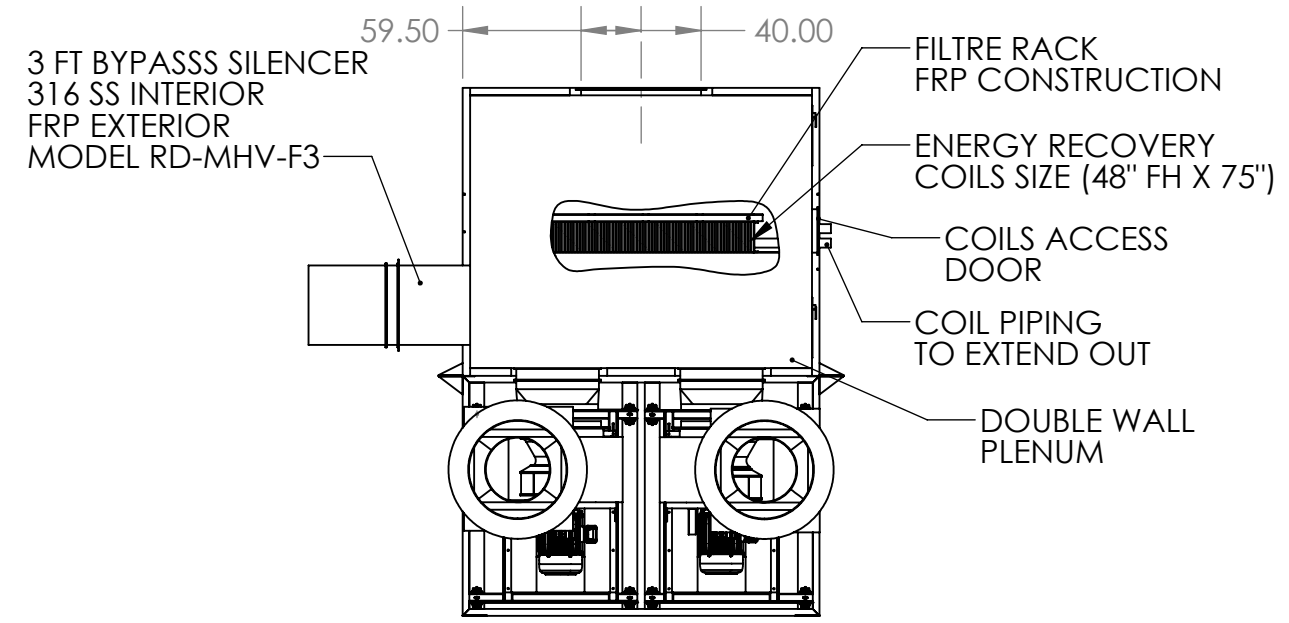
Double Wall
 FRP – Rust Proof construction, 2" insulation completely encapsulated in FRP, UV stable Exterior FRP Construction
 Energy recovery run around coil
 Insulated FRP double wall construction – Rust proof
 Access Door (Plenum)
 Drain at lowest point (Plenum)
 NEMA 3R disconnect - mounted - not wired
 Rain Hood
 Damper Actuator - Mounted
 Bypass Damper - FRP construction
 Isolation Damper - FRP Construction
 Access Door (Fan)
 Drain at lowest point (Fan)
 1" spring housed and restrained
 Motor to be installed with Helwig Shaft Grounding Brush
 VFD required (By Others)
 Common Base underneath fan and plenum - Epoxy Coated
 Coil Size - 48" FH X 75" FL - QTY 1
 2" Merv 8 Filters
 Coil and Filters provided by HTS New England
 4" Thick Plenum Floor
 7 ft Silencer - 316 SS interior - Exterior FRP
 3 ft Bypass Silencer - 316 SS interior - Exterior FRP (Size for 10,000 CFM)
 Bypass Silencer Model(RD-MHV-F3) - Insertion Loss - 4/7/11/16/16/12/10/8
 Bypass Silencer Pressure Drop - 0.47"wg
 Fan Stand - FRP Coated
 Common Base underneath Fan and Plenum - FRP Coated

4

3

2

1



ESTIMATED WEIGHT - 9,150 LBS
INCLUDING COILS

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DRAWN		C.B.	1/28/2021
CHECKED		Y.I.	1/28/2021
ENG APPR.			
MFG APPR.			
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/8" ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL			
NEXT ASSY	USED ON		
APPLICATION		DO NOT SCALE DRAWING	

TITLE:			
31648 51 SLEEPER STREET (VIVARIUM)			
SIZE	DWG. NO.	REV	
B	31648-1	0	
SCALE: 1:64		SHEET 1 OF 1	



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4

3

2

1

B

B

A

A



GTA 50 and GTA 50E Sound Data 60Hz

C750N6
C600N6 **C760N6**
C650N6 **C815N6**

Sound pressure levels @ 7 meters dB(A)

Configuration	Position*								8 position average
	1	2	3	4	5	6	7	8	
Standard unhooded with infinite exhaust	84.6	90.8	92.1	92.8	89.9	92.9	90.9	86.7	90.8
F001 weather with mounted muffler	84.8	90	90.6	91.7	86.9	88.9	90.1	84.3	88.4
F001 Level 1.0 with mounted muffler	80.8	80	77.7	82	82.1	83.7	78.3	82	80.8
F001 Level 2.0 with mounted muffler	78.8	77.2	74.7	77.5	79.0	78.7	76.0	80.7	78.2

*Position 1 faces the Generator Set (GenSet) front. The positions proceed around the GenSet in a counter-clockwise direction in 45° increments. All positions are approximately 7 m (23 ft.) from the surface of the GenSet and approximately 1.2 m (48 in) from floor level. The reference sound pressure is 20 µPa.

Sound power levels

Configuration	Octave band center frequency (Hz)*								Sound power level
	63	125	250	500	1000	2000	4000	8000	
Standard unhooded with infinite exhaust	92.2	103.0	107.5	114.2	115.6	113.4	108.8	103.4	120.1
F001 weather with mounted muffler	92.8	104.6	107.3	112.9	115.3	108.7	107.1	100.2	118.8
F001 Level 1.0 with mounted muffler	89.8	103.9	102.7	108.5	109.1	105.8	96.2	92.6	113.8
F001 Level 2.0 with mounted muffler	91.4	103.2	101.9	104.2	102.8	101.4	92.8	89.8	110.0

*The reference sound power is 1 pw (10⁻¹² W).

Data is based on a 100% rated load with a standard radiator-fan package.
 Sound levels are subject to instrumentation, measurement, installation, and manufacturing variability.
 The sound data for a GenSet with infinite exhaust does not include exhaust noise.



51 Sleeper Street, Boston



1. 51 Sleeper Street, northwest corner as viewed from the intersection of Seaport Boulevard and Sleeper Street.



2. North elevation of Sleeper Street, Shrine of Our Lady of Good Voyage in foreground.

51 Sleeper Street, Boston





3. North elevation of 51 Sleeper Street from church plaza.



4. Sleeper Street (west) façade of building, facing north toward Seaport Boulevard.

51 Sleeper Street, Boston



5. Sleeper Street (west) façade.



6. Sleeper Street (west) façade showing loading dock bays and stairtower exit. Building at extreme right is next door.

51 Sleeper Street, Boston



Design Review Application, April 2021
Existing Conditions Photographs



7. North alley between subject building and church plaza, showing grade change.



8. North alley between subject building and church plaza, showing grade change.



9. Sleeper Street façade at ground floor, showing grade change.



10. Sleeper Street façade at ground floor, showing grade change.

51 Sleeper Street, Boston



Design Review Application, April 2021
Existing Conditions Photographs



11. Rear (east) elevation of building from Farnsworth Street. 51 Sleeper Street is at the center of the photograph; one of the lower metal panels and louvers proposed for replacement with metal maintenance door for access to rooftop equipment.