GUARDIA | ARCHITECTS

Beaux Arts Apartments ● 307 & 310 East 44th Street Manhattan
Proposed window replacement

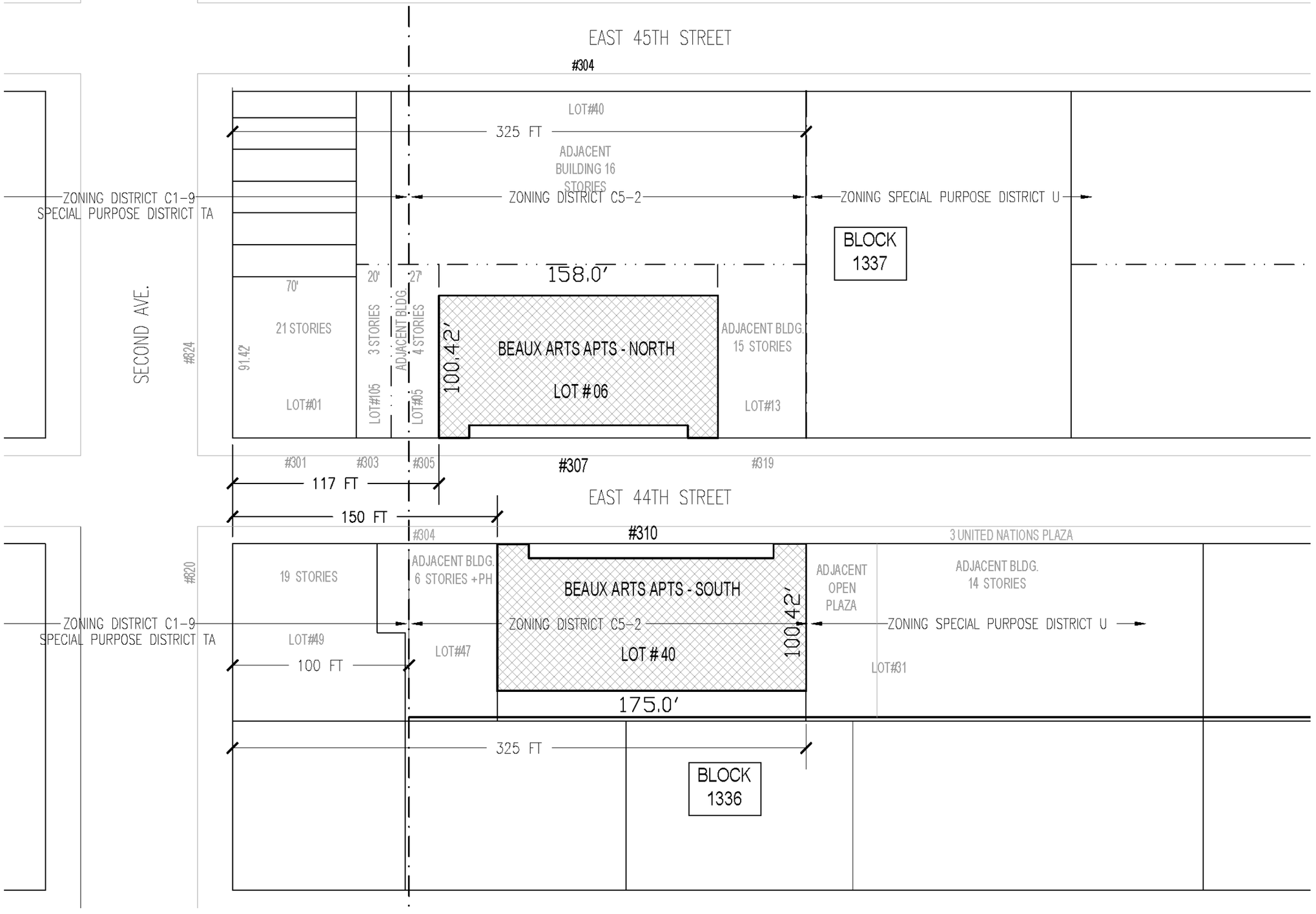
Landmarks Preservation Commission ● 21 November 2017

110 West 40th Street, 24th Floor, New York, NY 10018 - P 212-244-1444
www.guardiaarchitects.com

Beaux Arts Apartments

- **Twin buildings on either side of East 44th Street.**
- **Built 1929-30 by architect-developers as housing for architects, artists and those interested in the arts.**
- **Sited adjacent to the then new Beaux Arts Institute of Design, an outpost for Americans who studied at the *Ecole des Beaux Arts*, Paris.**
- **Architects: Raymond Hood & Kenneth Murchison.**
- **Developers included the architects Whitney Warren, the firms of Delano & Aldrich and Voorhees, Gmelin & Walker and William H. Gompert. Other members were decorative artists, a painter, and a sculptor. Real estate firm of Douglas L. Elliman & Company and the construction firm of George A. Fuller were also principals.**

Source: LPC designation report



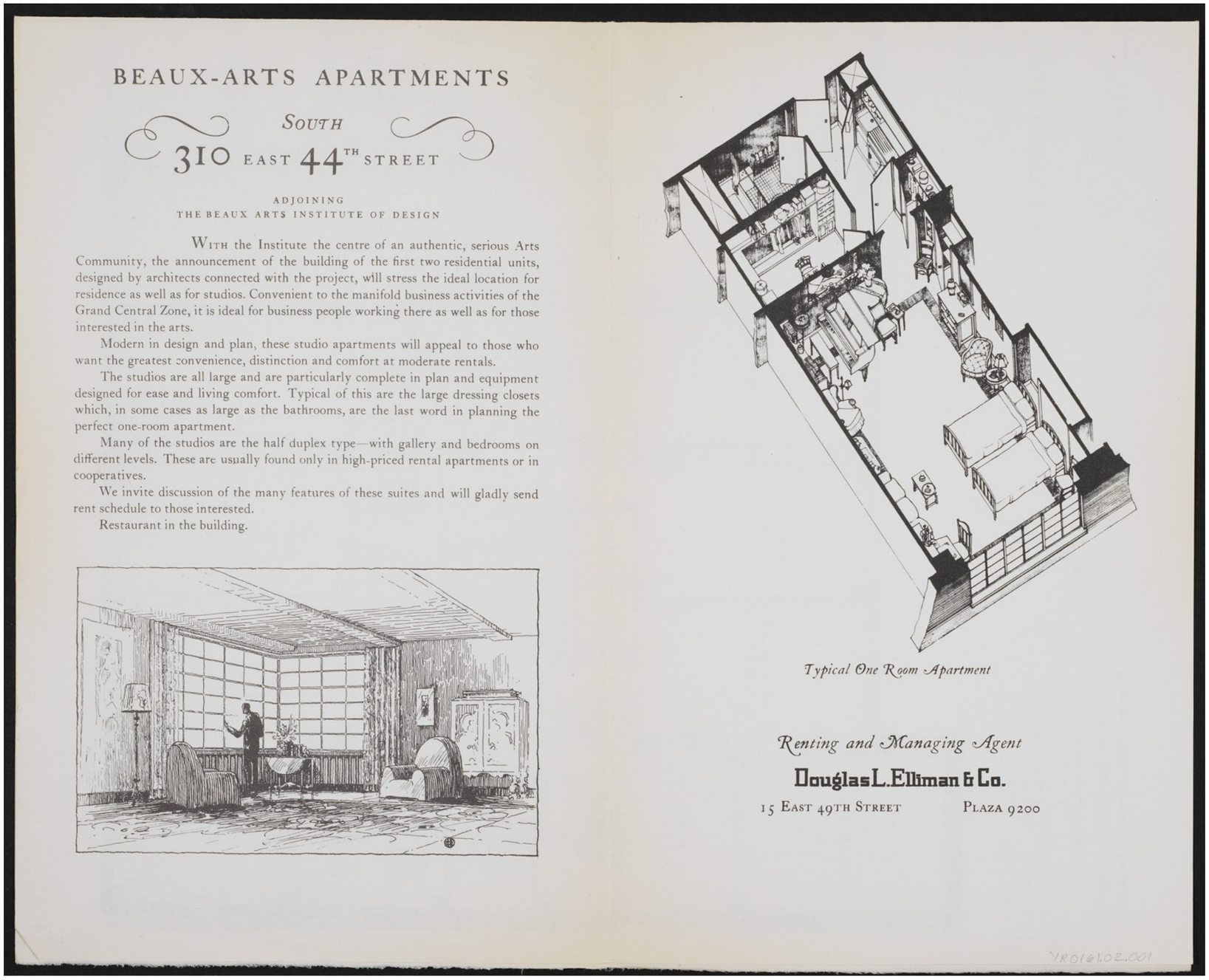
1 — PLOT PLAN

NOT TO SCALE

Most apartments are “Efficiencies” (one room) marketed as “Studio Apartments” to elicit an artistic image. The architects included Murphy Beds, smaller than standard appliances & compact and attractive layouts.

Kitchens were intended less for cooking that to warm food from the “Napoleon Boneparte” restaurant at the South Building.

Maid service was available.



BEAUX-ARTS APARTMENTS

South

310 EAST 44TH STREET

ADJOINING
THE BEAUX ARTS INSTITUTE OF DESIGN

With the Institute the centre of an authentic, serious Arts Community, the announcement of the building of the first two residential units, designed by architects connected with the project, will stress the ideal location for residence as well as for studios. Convenient to the manifold business activities of the Grand Central Zone, it is ideal for business people working there as well as for those interested in the arts.

Modern in design and plan, these studio apartments will appeal to those who want the greatest convenience, distinction and comfort at moderate rentals.

The studios are all large and are particularly complete in plan and equipment designed for ease and living comfort. Typical of this are the large dressing closets which, in some cases as large as the bathrooms, are the last word in planning the perfect one-room apartment.

Many of the studios are the half duplex type—with gallery and bedrooms on different levels. These are usually found only in high-priced rental apartments or in cooperatives.

We invite discussion of the many features of these suites and will gladly send rent schedule to those interested.

Restaurant in the building.

Typical One Room Apartment

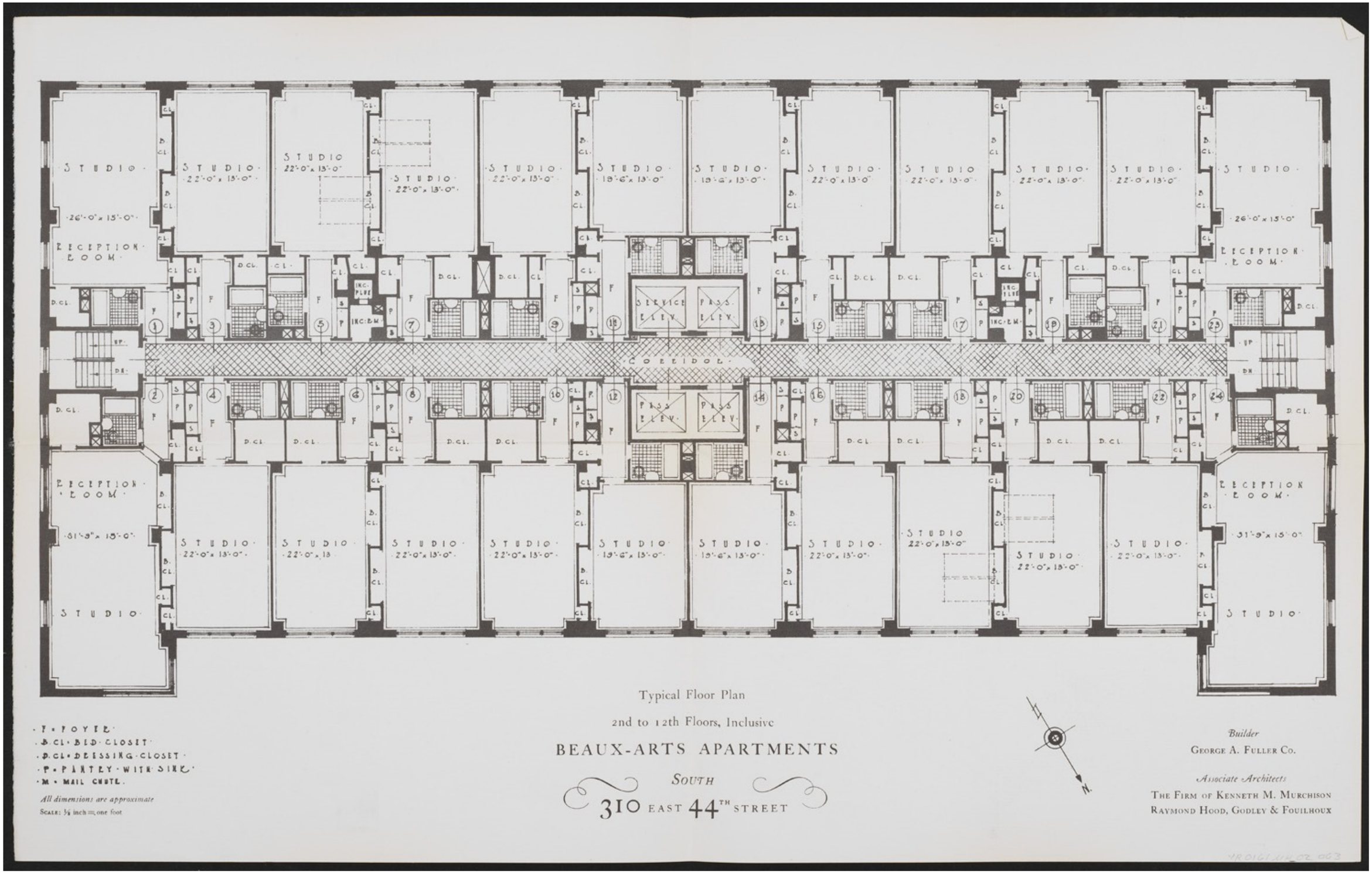
Renting and Managing Agent

Douglas L. Elliman & Co.

15 East 49th Street Plaza 9200

- **555 Studios**
- **40 One Bedrooms**
- **13 Two Bedrooms**

TYPICAL FLOOR PLANS (South Building, 2nd to 12th floors)

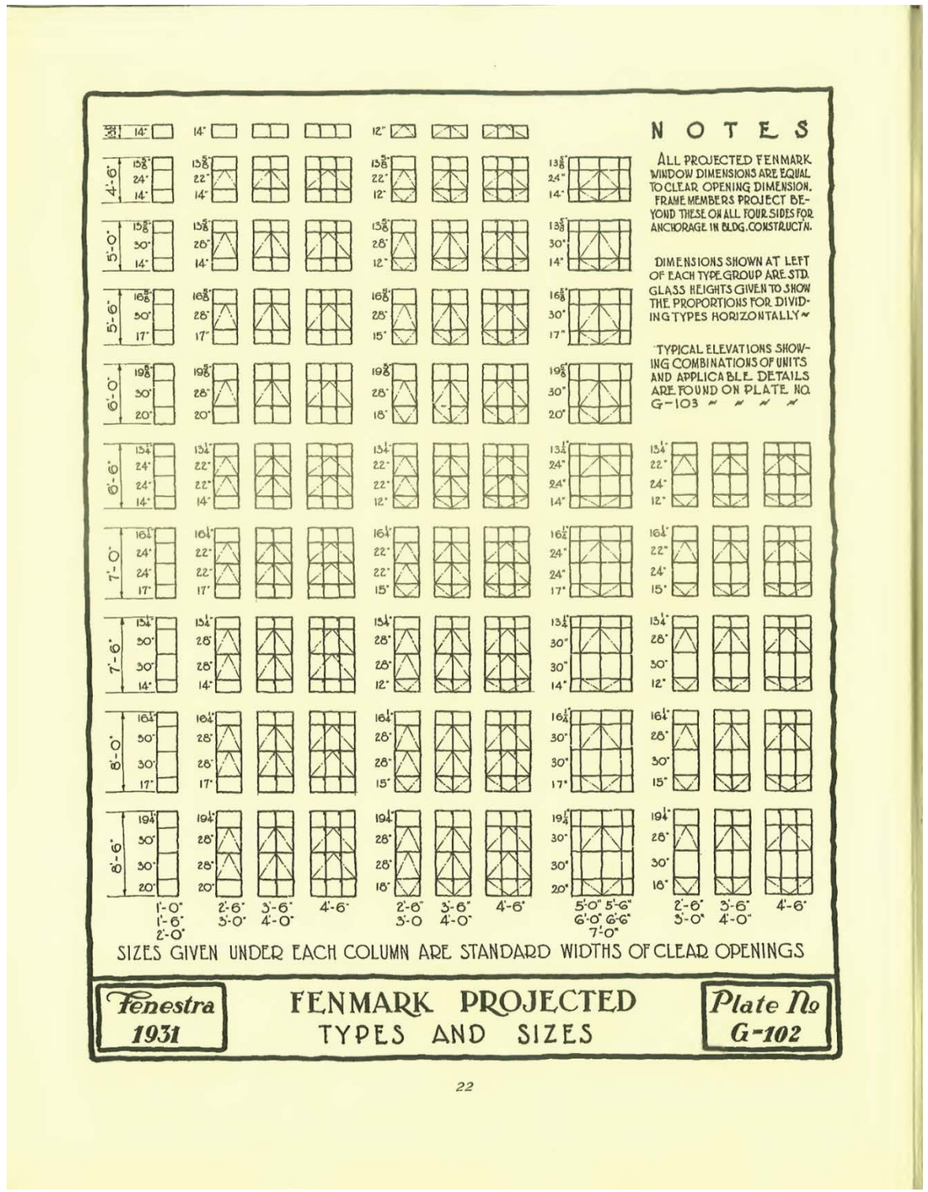


NYC Tax Photos c. 1940: East 44th was garages and light industrial uses.
The choice of rolled steel windows fits into the nature of the area.
Replacement windows should preserve this cultural memory.

The Beaux Arts: Horizontal bands are the emphasis.

Right: **Raymond Hood's *McGraw Hill Building* does horizontal with double-hung windows**

Below: **FENESTRA Brand windows, catalogue excerpt. Industrial style windows for a residential building on an industrial street.**



NOTES

ALL PROJECTED FENMARK WINDOW DIMENSIONS ARE EQUAL TO CLEAR OPENING DIMENSION. FRAME MEMBERS PROJECT BEYOND THESE ON ALL FOUR SIDES FOR ANCHORAGE IN BLDG. CONSTRUCTN.

DIMENSIONS SHOWN AT LEFT OF EACH TYPE GROUP ARE STD. GLASS HEIGHTS GIVEN TO SHOW THE PROPORTIONS FOR DIVIDING TYPES HORIZONTALLY ~

TYPICAL ELEVATIONS SHOWING COMBINATIONS OF UNITS AND APPLICABLE DETAILS ARE FOUND ON PLATE NO. G-103 ~ ~ ~ ~

SIZES GIVEN UNDER EACH COLUMN ARE STANDARD WIDTHS OF CLEAR OPENINGS

Fenestra 1931 — FENMARK PROJECTED TYPES AND SIZES — Plate No G-102

22

DESIGN PROCESS

Existing Fenestra Steel Windows:

- Industrial window type elegant details
- Very light structure and muntons
- Operable sashes predominate
- Standard studio apartment window is six casements below a heavier mullion with three awning sashes above
- High transparency / Single glazing
- Poor energy efficiency
- Frame embedded in the structure
- Clean interior reveals
- Mutilated for ad-hoc AC installation

Design challenges & goals:

- **Energy-efficient aluminum replacements with insulated glass**
- **Maintain industrial aesthetic with light elements in switch to bulkier aluminum:** Operable sashes require heavy mullions and meeting rails. *Reduce operable sashes to a minimum*.
- **Design for AC with an engineered mount:** Almost all windows are in studio apartments. Window AC must be accommodated. Exterior brackets not acceptable. AC color to match windows.
- **Retain horizontal emphasis of the Hood-Murchison design**
- **Retain the design of one heavier horizontal mullion in each window**

3 A301 ELEVATION– PRIMARY FACADE
SCALE: 1" = 10'-0"
WEST EXPOSURE CENTER BAY PROPOSED

4 A301 ELEVATION– PRIMARY FACADE
SCALE: 1" = 10'-0"
EAST EXPOSURE CENTER BAY PROPOSED

2 A301 ELEVATION– PRIMARY FACADE– EAST EXPOSURE
SCALE: 1" = 10'-0"
PROPOSED

1 A301 ELEVATION – PRIMARY FACADE – SOUTH EXPOSURE – PROPOSED
SCALE: 1" = 10'-0"

5 A301 ELEVATION– PRIMARY FACADE– WEST EXPOSURE
SCALE: 1" = 10'-0"
PROPOSED

DOB BSCAN

NORTH BLDG # 307

WINDOW REPLACEMENT AT A LANDMARK BUILDING

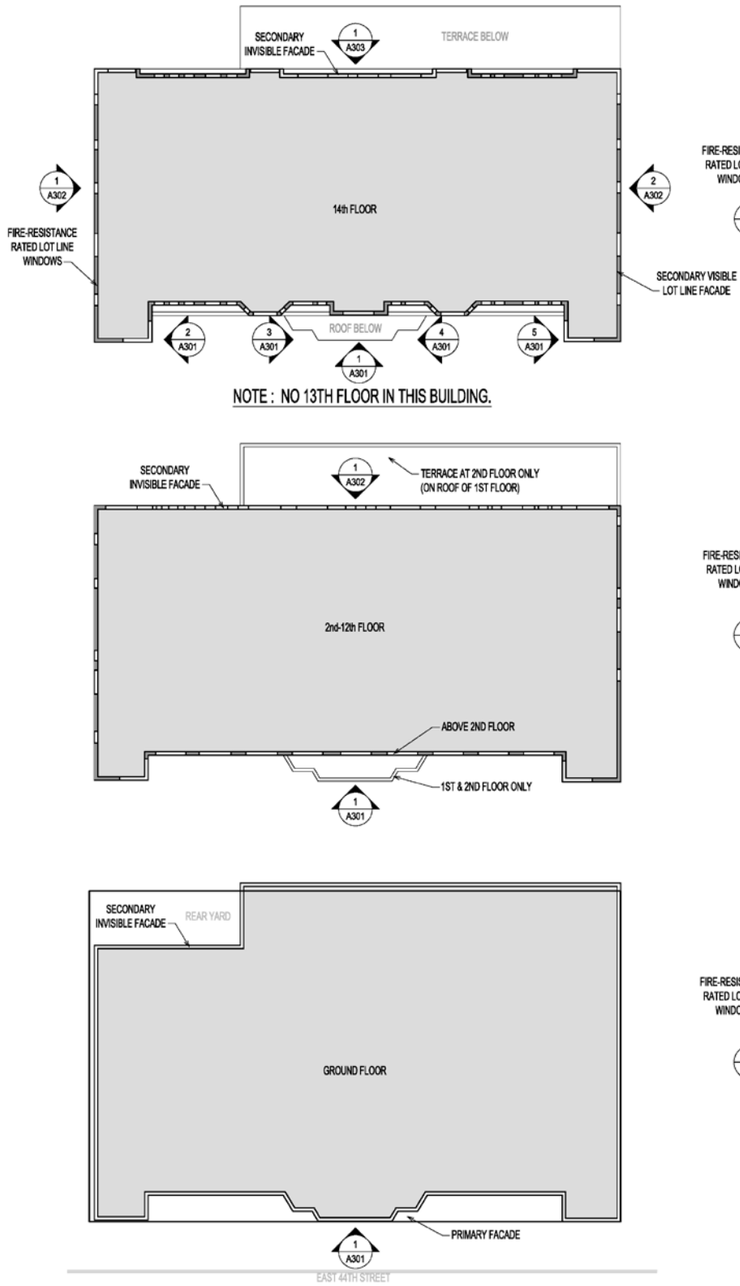
ARCHITECT: GUARDIA ARCHITECTS 110 W 40TH ST SUITE 2405, NEW YORK, NY, 10018
212 244 1444 BG@GUARDIAARCHITECTS.COM

PROJECT
BEAUX ARTS APTS - NORTH
307 E 44TH ST
NEW YORK, NY 10017

ELEVATIONS - PRIMARY FACADE
SOUTH EXPOSURE - PROPOSED

SCALE AS NOTED WHEN PRINTED OVER 11X17 PAPER

A-301.00
4 OF 7



1/A101 KEY PLAN – GROUND FLOOR
SCALE: 1" = 20'-0"

DOB BSCAN

NORTH BLDG # 307

WINDOW REPLACEMENT AT A LANDMARK BUILDING

ARCHITECT: GUARDIA ARCHITECTS 110 W 40TH ST SUITE 2405, NEW YORK, NY, 10018
212-244-1444 BG@GUARDIAARCHITECTS.COM

SEAL AND SIGNATURE

PROJECT
BEAUX ARTS APTS - NORTH
307 E 44TH ST
NEW YORK, NY 10017

KEY PLANS

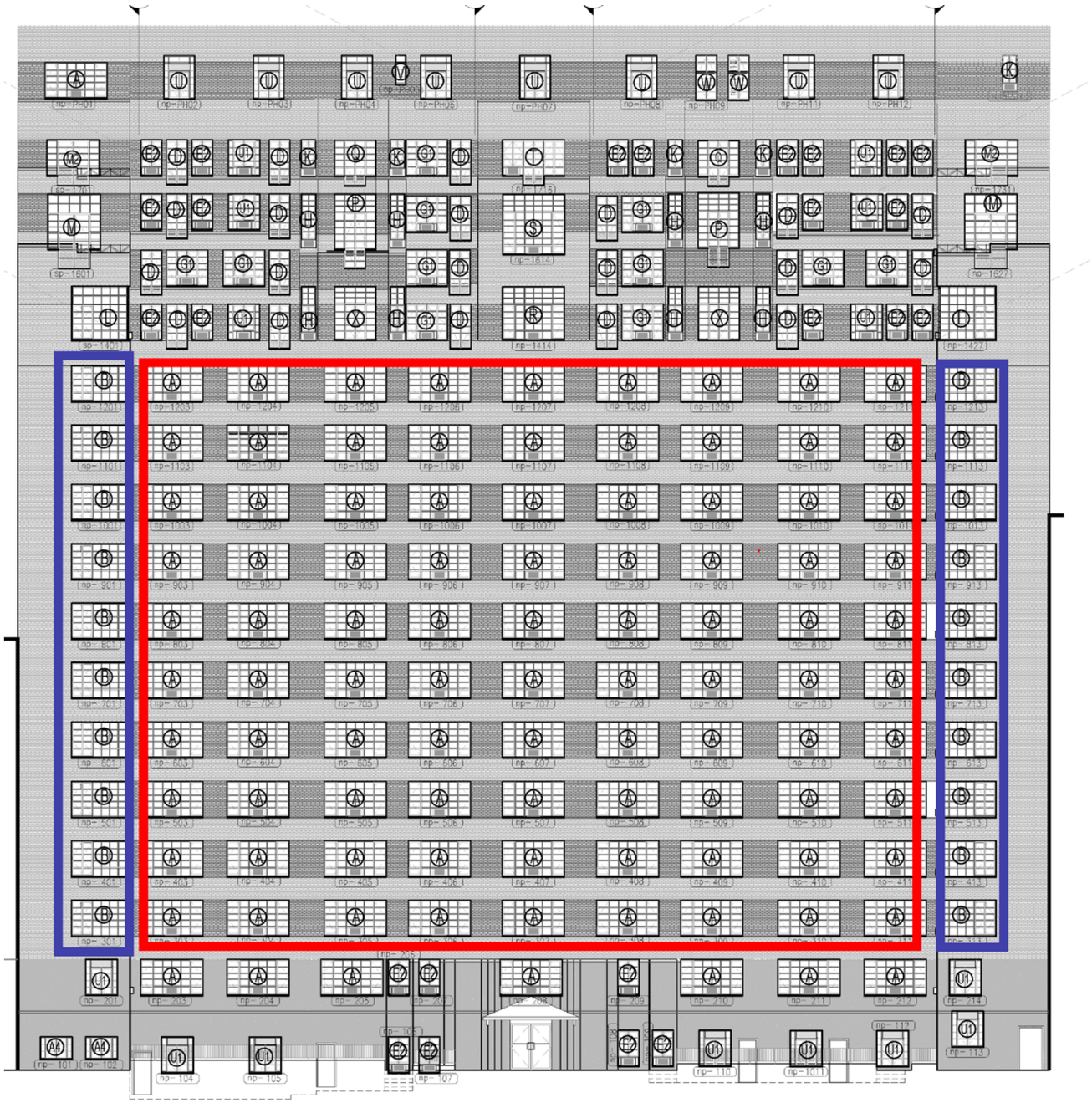
SCALE AS NOTED WHEN PRINTED ON 30" X 34" PAPER

A-101.00
2 OF 7

Window types

31 types

Two predominate. The balance are variations on assembled elements (as in the original Fenestra windows)



Window description						
Type	Description	Window Area	Operable sashes	Fixed sashes	AC Panel	ALL FACADES
				TOTALS:		1029
A	**Standard studio window**	52.2	2	1	1	468
A4	Small with 2 sidelights	16.9	2	2	0	4
B	**Corner window parallel**	49.6	2	1	0	40
C	**Corner window perpendicular**	28.6	2	1	1	40
D	French doors, balconies	21.4	2	0	0	45
E1	Two operable with fixed below	17.0	2	1	0	0
E2	Two operable with AC	17.0	2	0	1	167
E3	F1 side by side	23.1	4	1	0	0
F1	Two operable fixed above	12.0	2	1	0	93
G1	Similar to A	49.3	4	1	1	17
G2	Similar to A	34.9	4	0	1	3
H	Two sashes above above & AC	17.3	2	1	1	16
K	Two sashes with AC	11.8	2	0	1	9
L	B with lights above	67.5	2	3	0	4
M	Door w/ sidelights & fixed above	79.3	2	3	0	4
M2	Door w/ sidelights	50.1	2	2	0	4
M3	French doors sashes L&R & AC	37.2	6	1	1	22
P	Door w/ sidelights	60.7	2	3	0	2
P1	French doors	24.9	2	0	0	2
Q	Door w/ sidelights	38.3	2	2	0	2
R	A with fixed above	77.1	2	2	1	3
S	A with fixed above	84.9	2	2	1	3
T	French door 4 operable & AC	55.4	6	0	1	1
U	Operable with sidelights	31.0	2	2	1	18
U1	Window special	26.3	2	2	0	30
V	Signle fixed sash	6.8	0	1	0	1
W	Two operable (tall)	21.8	2	0	0	2
X	Two operable sidelights sash above	49.8	2	3	0	2
X1	Two operable sidelights sash above	37.3	2	3	0	2
Y	C with sash above	42.1	2	3	1	4
Z	Single operable	10.6	1	0	0	14
Z1	Two operable fixed above & AC	25.8	2	1	1	7

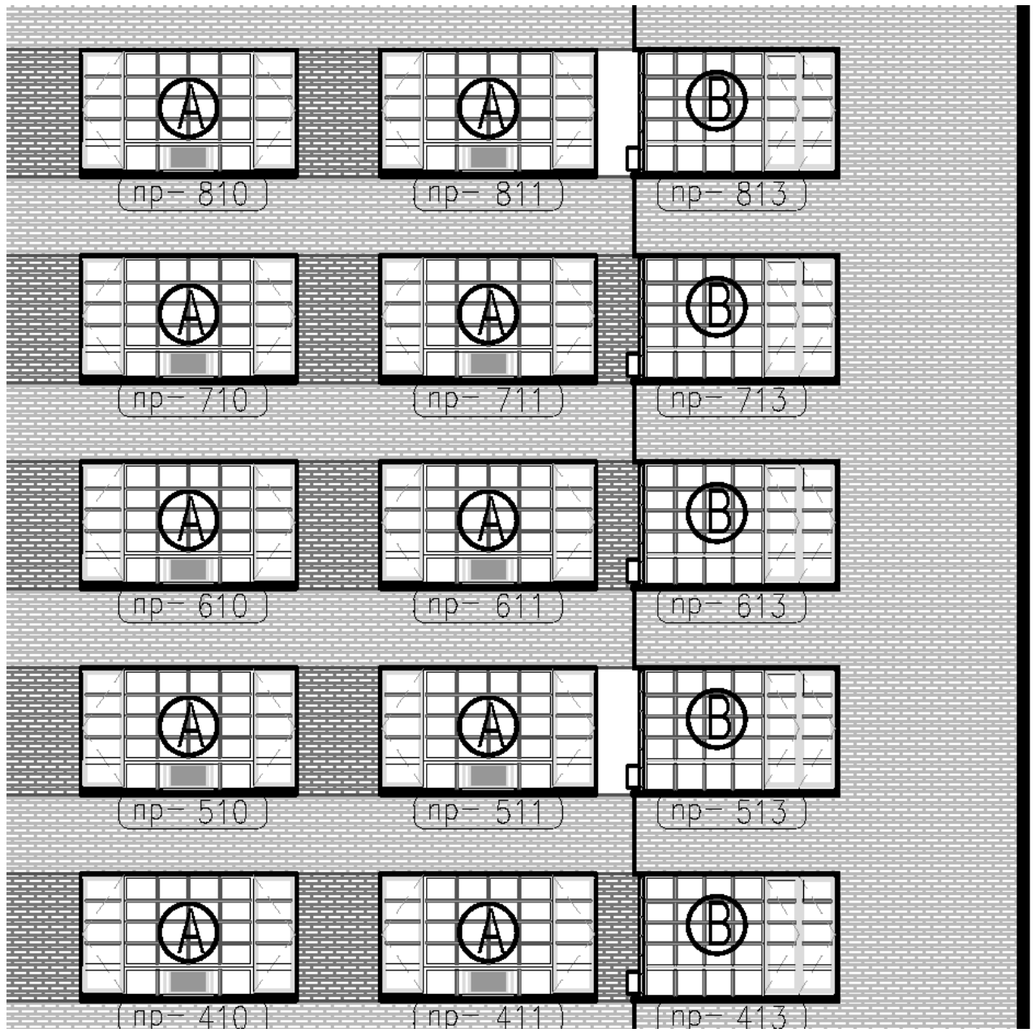
The two principal window types:

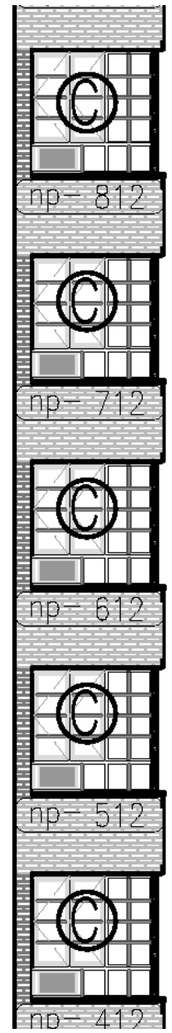
Type “A”

Type “B/C”

B is the street facade of the corner window

C is the reveal of the corner window





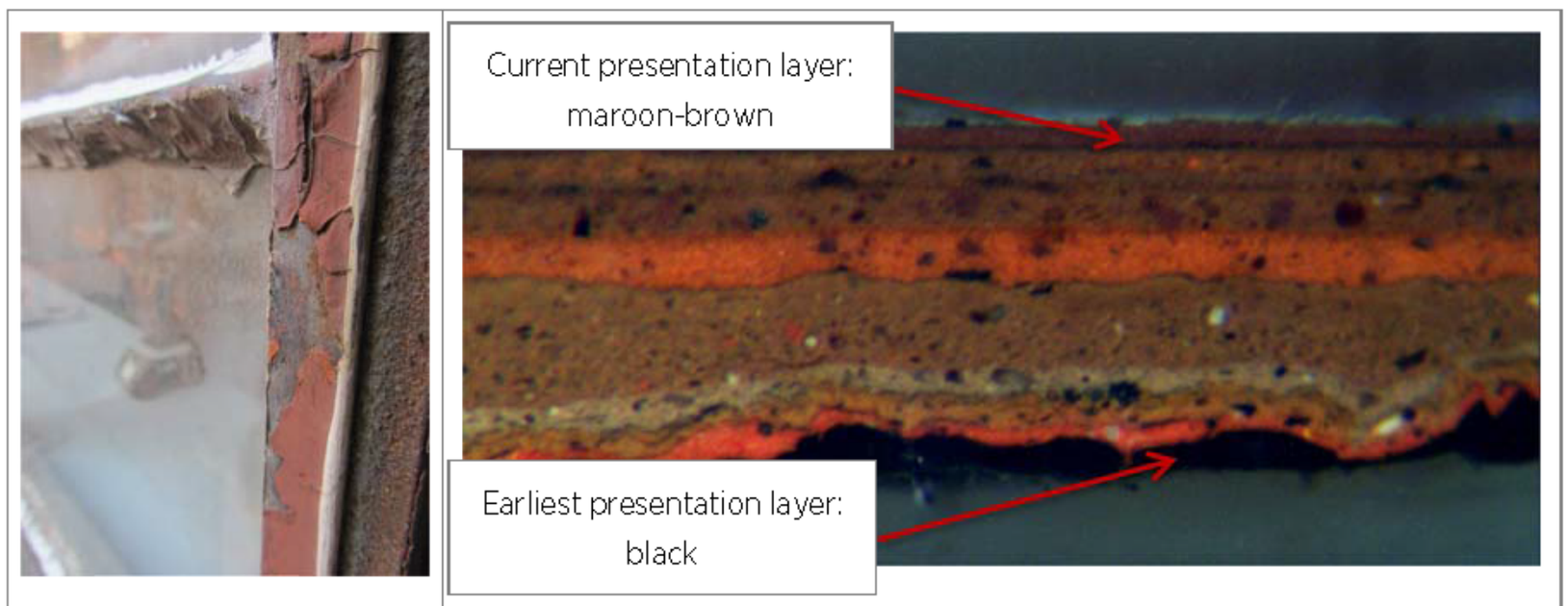
PROPOSED SOLUTION: Custom window by Diamond Window & Doors of Boston.

Munton details emulate steel

COLOR

- **No conclusive photographic evidence of original color has been found**
- **Horizontal design emphasis supports either charcoal or a burnt orange to match brick colors in horizontal bands**
- **Paint analysis and report dated December 2015 by *Integrated Conservation Resources* concludes that the original presentation layer was black.** Argument can be made it might have been burnt orange
- **Prototypes with red/orange were not successful**
- **Charcoal is historically consistent for the window type and adds an elegance to the facade**
- **CONCLUSION: Match the charcoal color brick in the horizontal band**

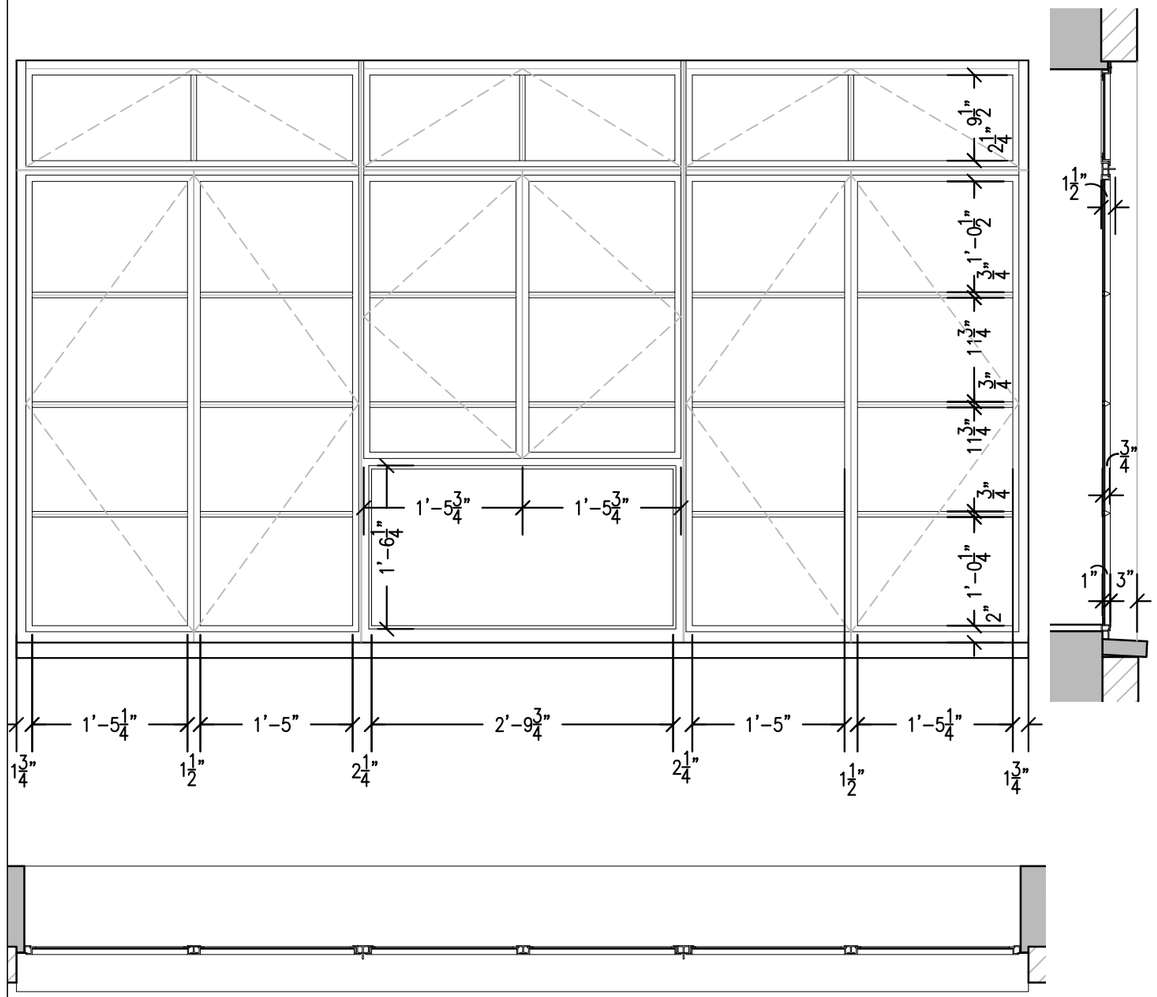
Color: Benjamin Moore "Carbon Copy" 2117-10



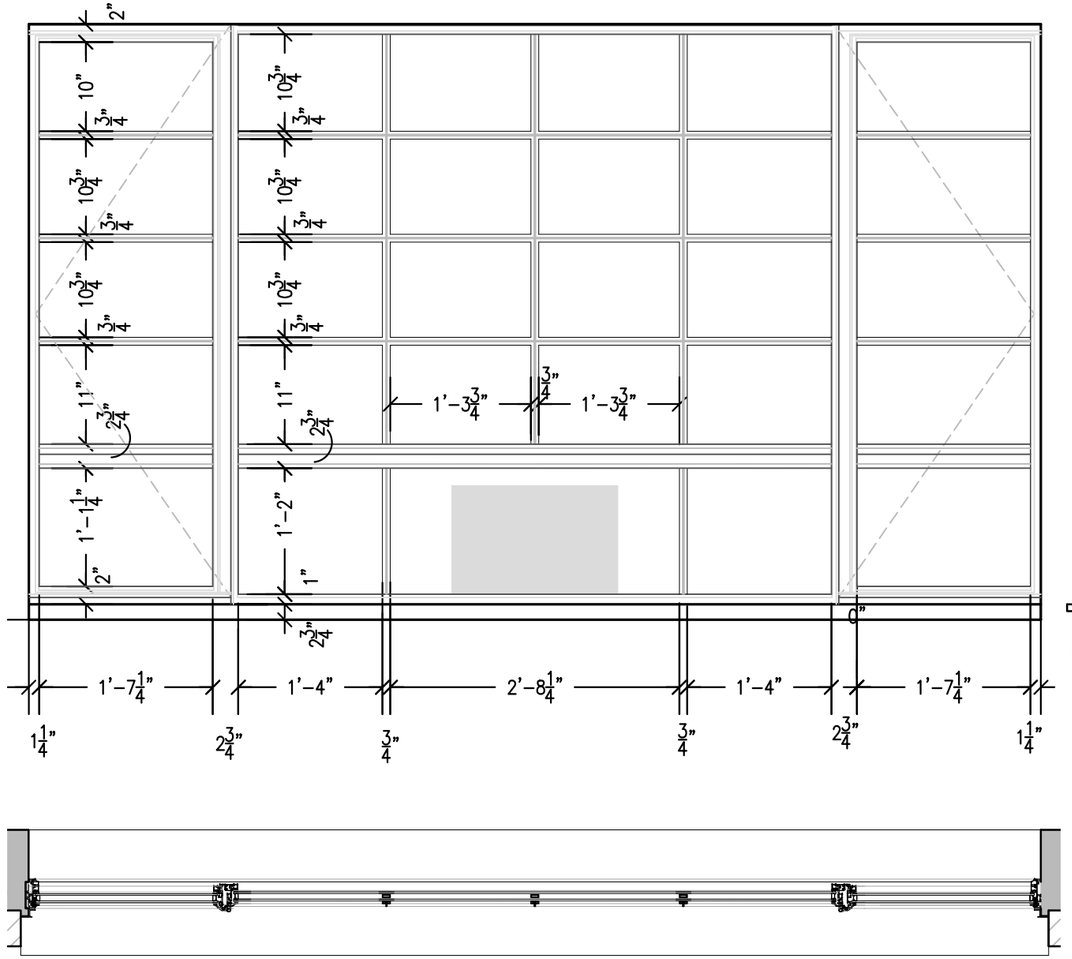
Sample 05 - 310 E. 44th Street, Apartment 713
Paint scraping at exterior window frame of apartment 310, room 713 (left) and photomicrograph of embedded sample in cross section indicating several paint campaigns with a lustrous black as the earliest evidenced layer (right)

RENDERING OF EXISTING (below) & PROPOSED (above)

- Location, size & color of AC units is regularized
- Color emulates charcoal brick in the horizontal band
- Horizontal emphasis is maintained – the heavier mullion is retained and moved to the bottom of the composition
- Very light muntons preserve the elegant industrial aesthetic



1 — WINDOW TYPE "A" — EXISTING
N.T.S.



2 — WINDOW TYPE "A" — PROPOSED
N.T.S.

NOTE: LOCATION & SIZE OF AIR CONDITIONERS VARIES.

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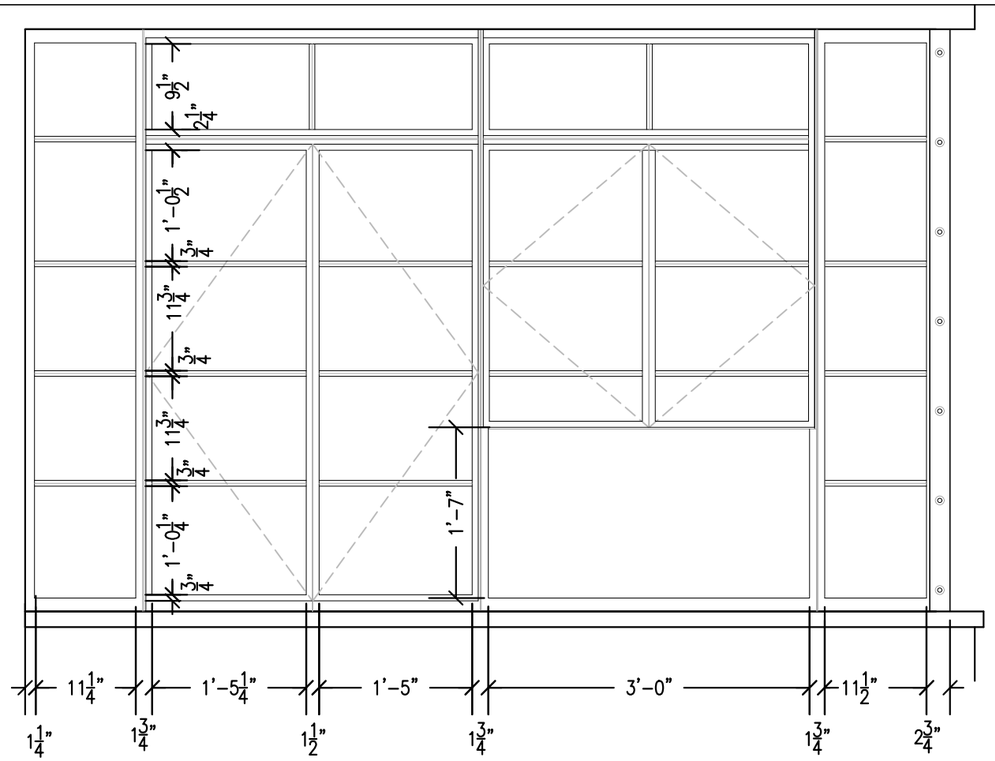

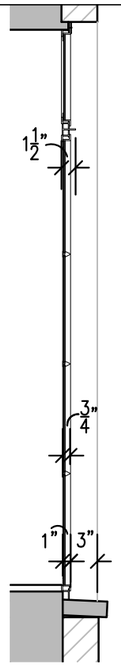

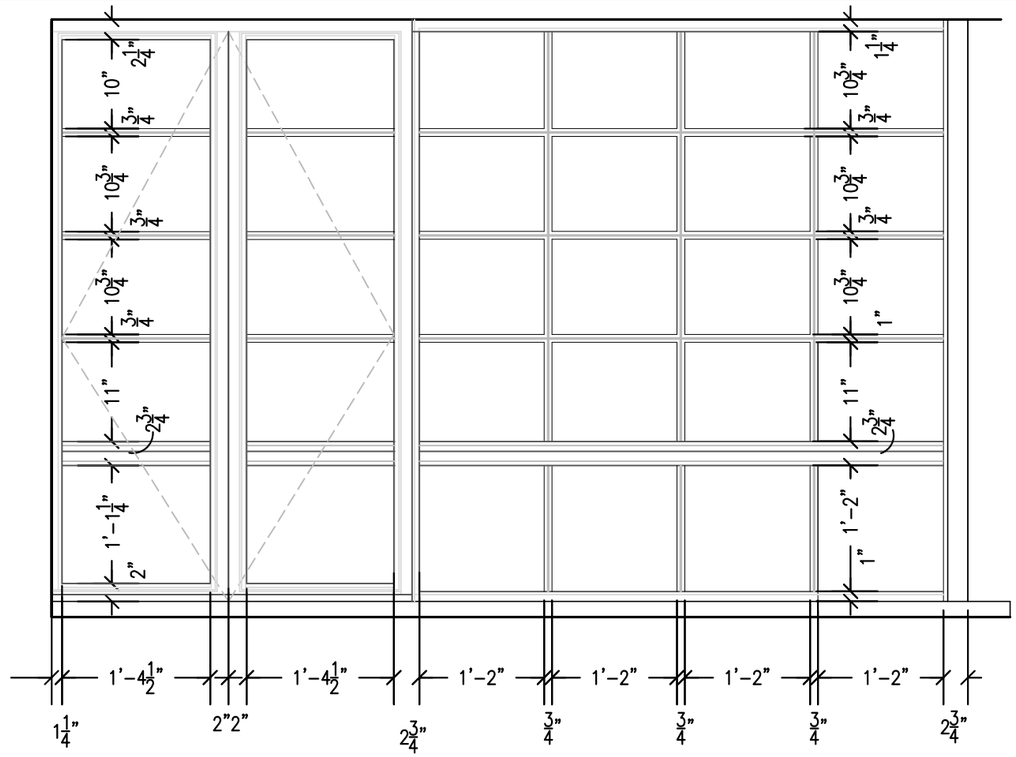

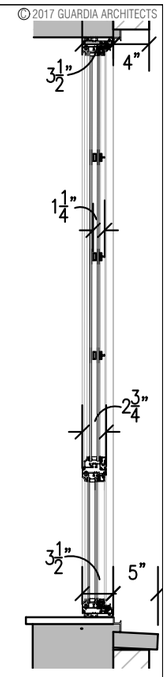

1 — ELEVATION—WINDOW TYPE "B"—EXISTING

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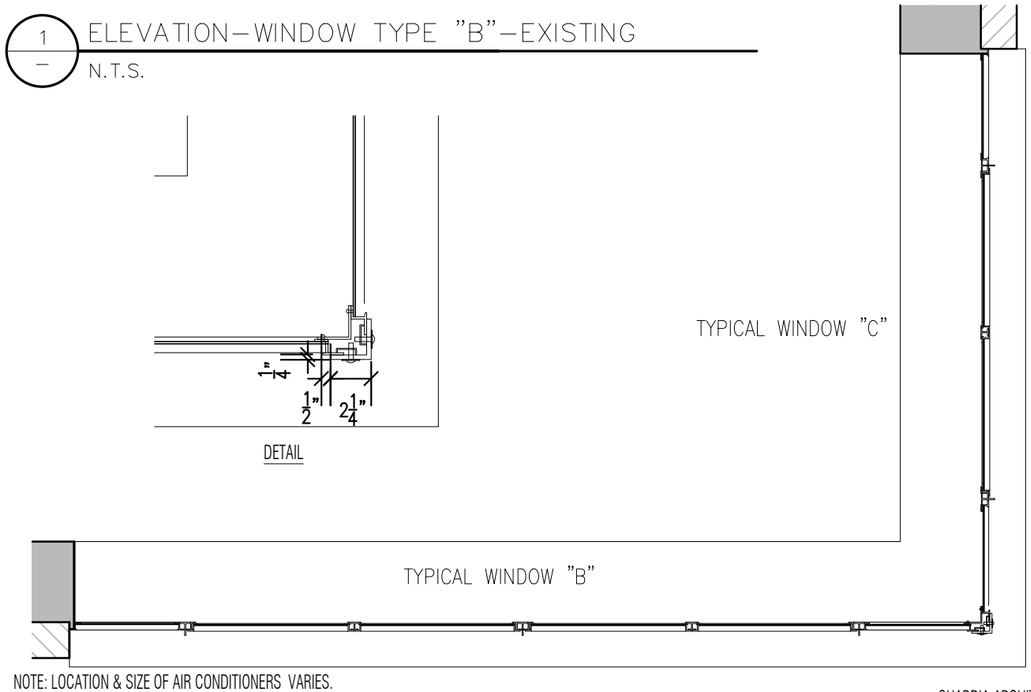

2 — ELEVATION—WINDOW TYPE "B"—PROPOSED

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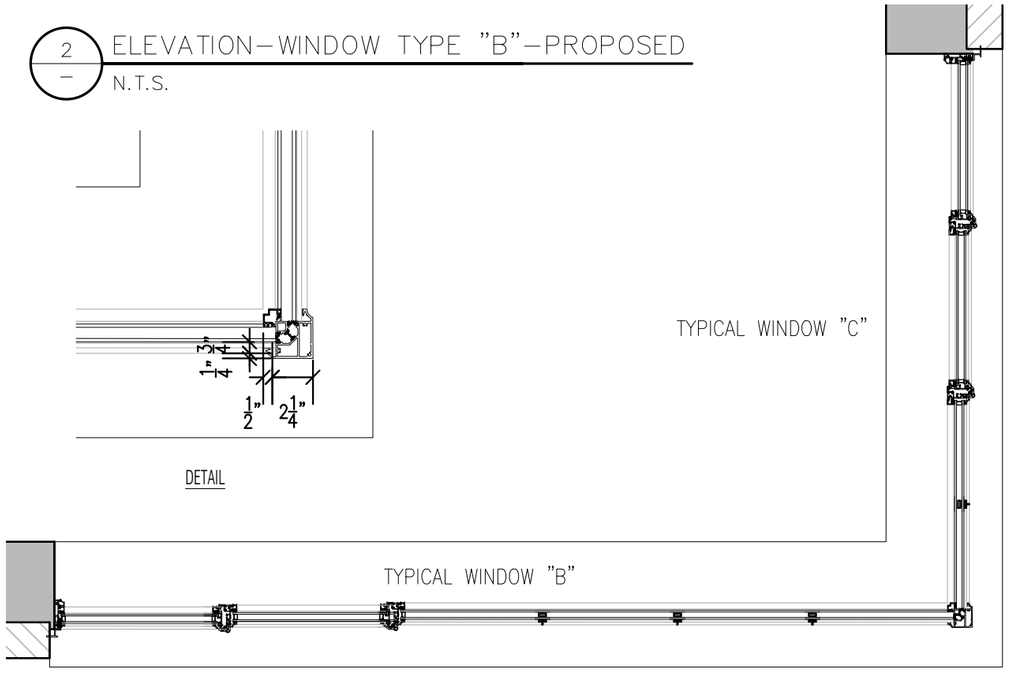

NOTE: LOCATION & SIZE OF AIR CONDITIONERS VARIES.

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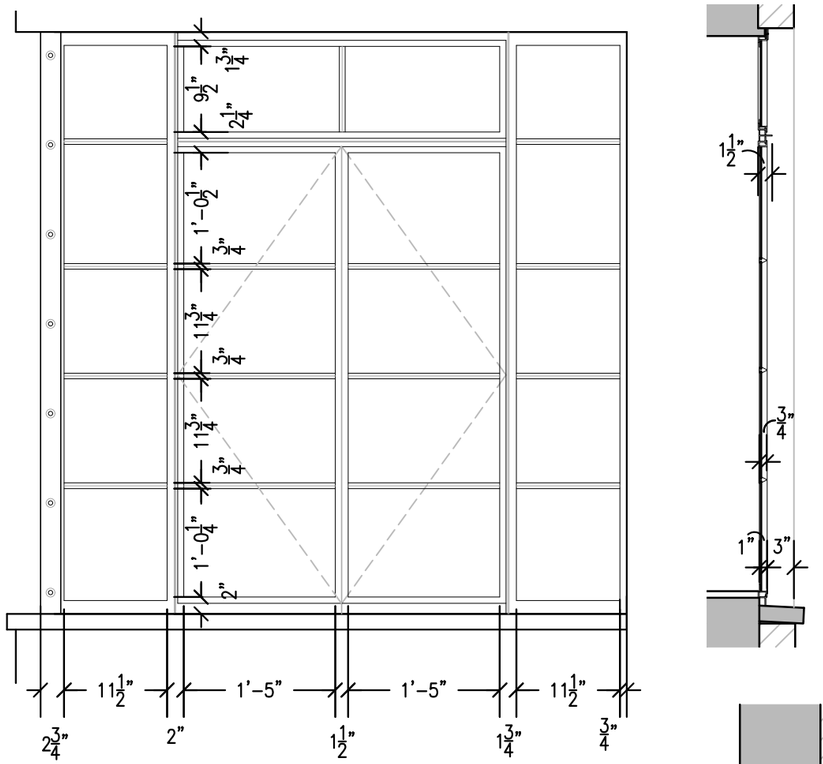

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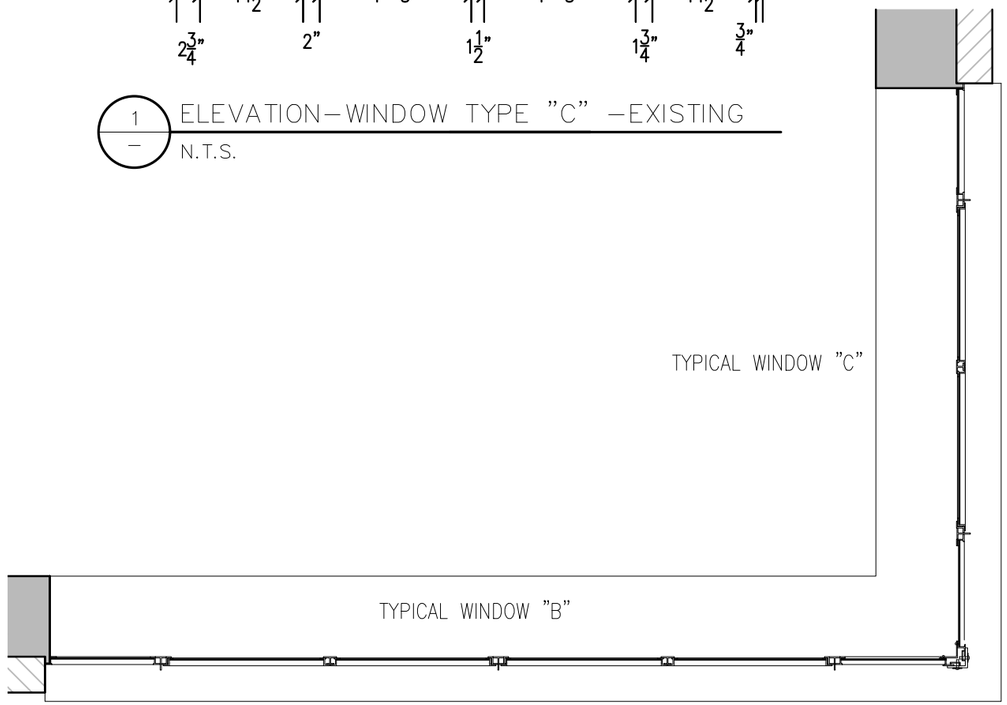
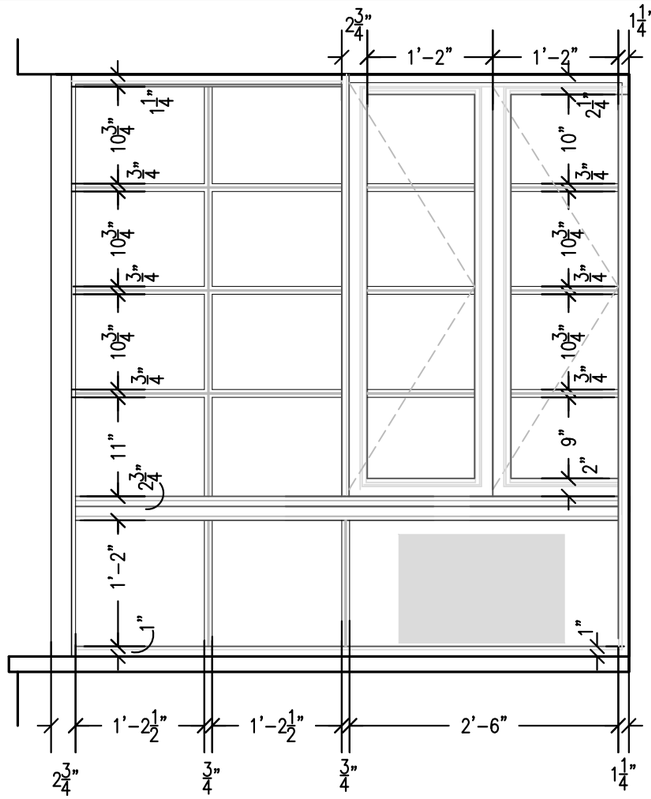
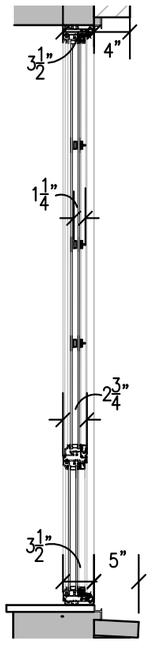
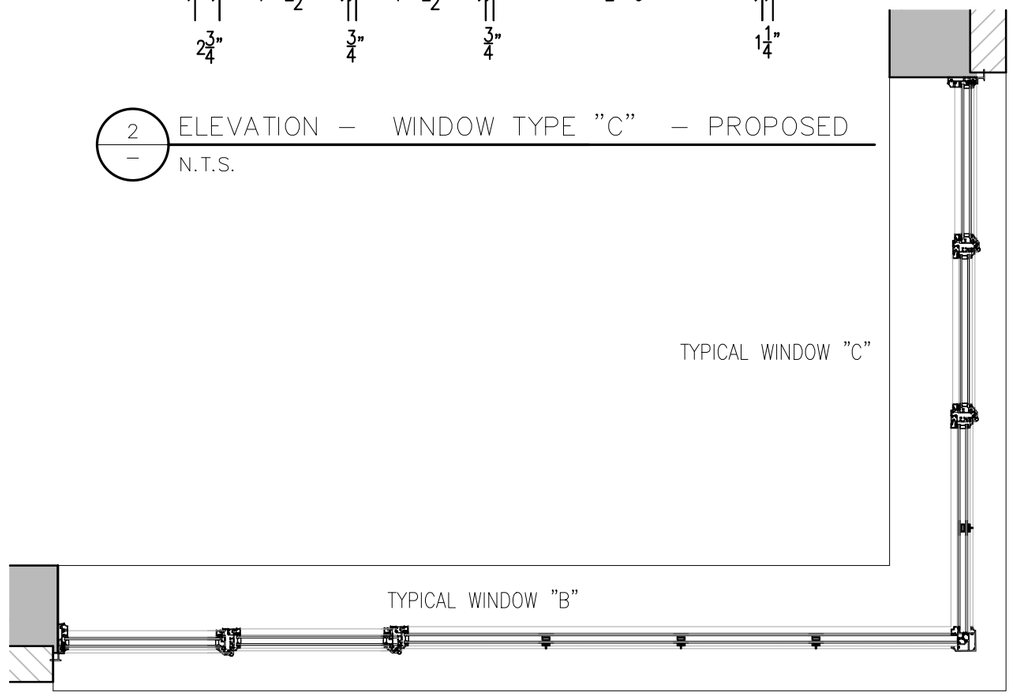






2 — ELEVATION — WINDOW TYPE "C" — PROPOSED
N.T.S.



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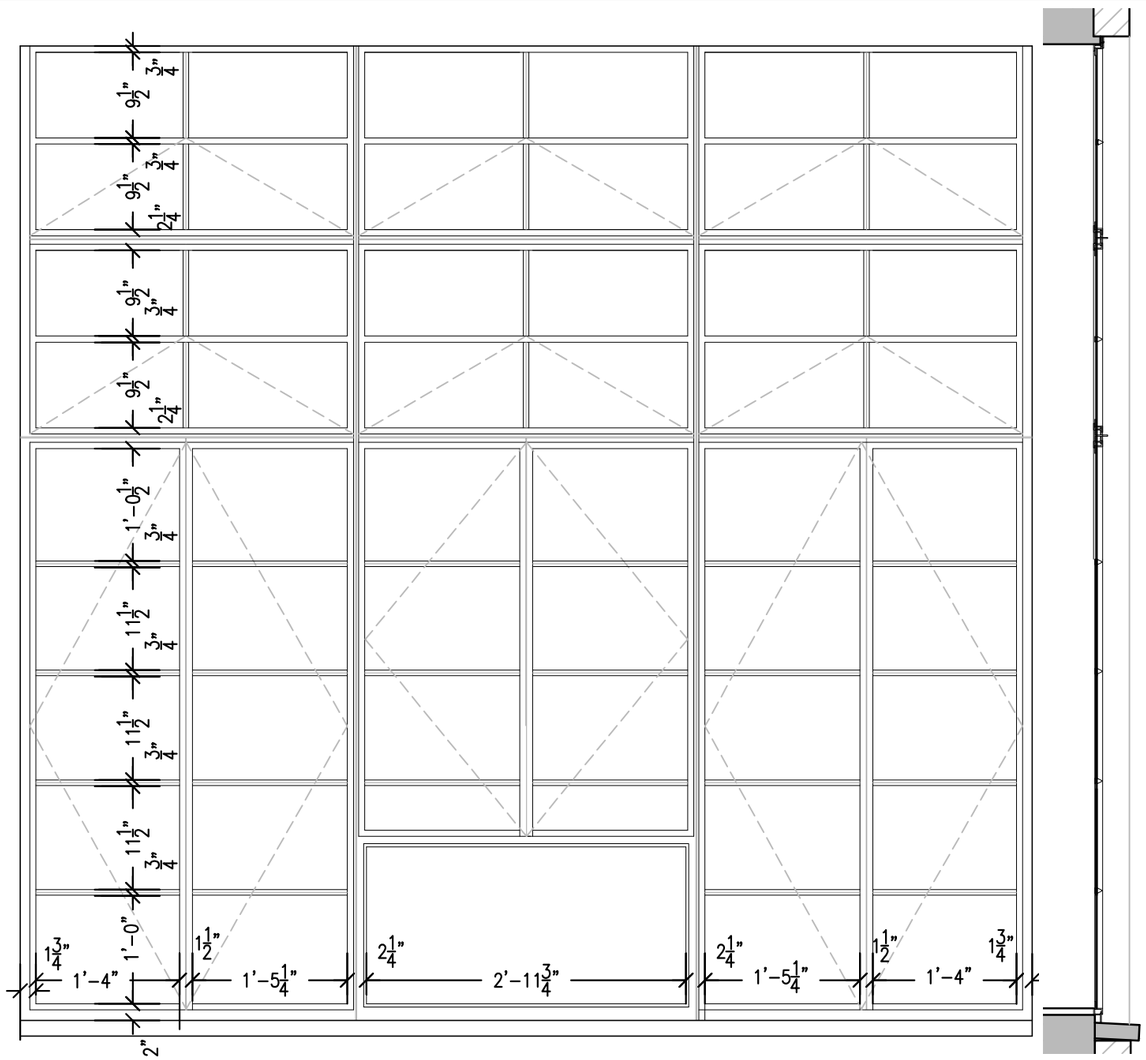

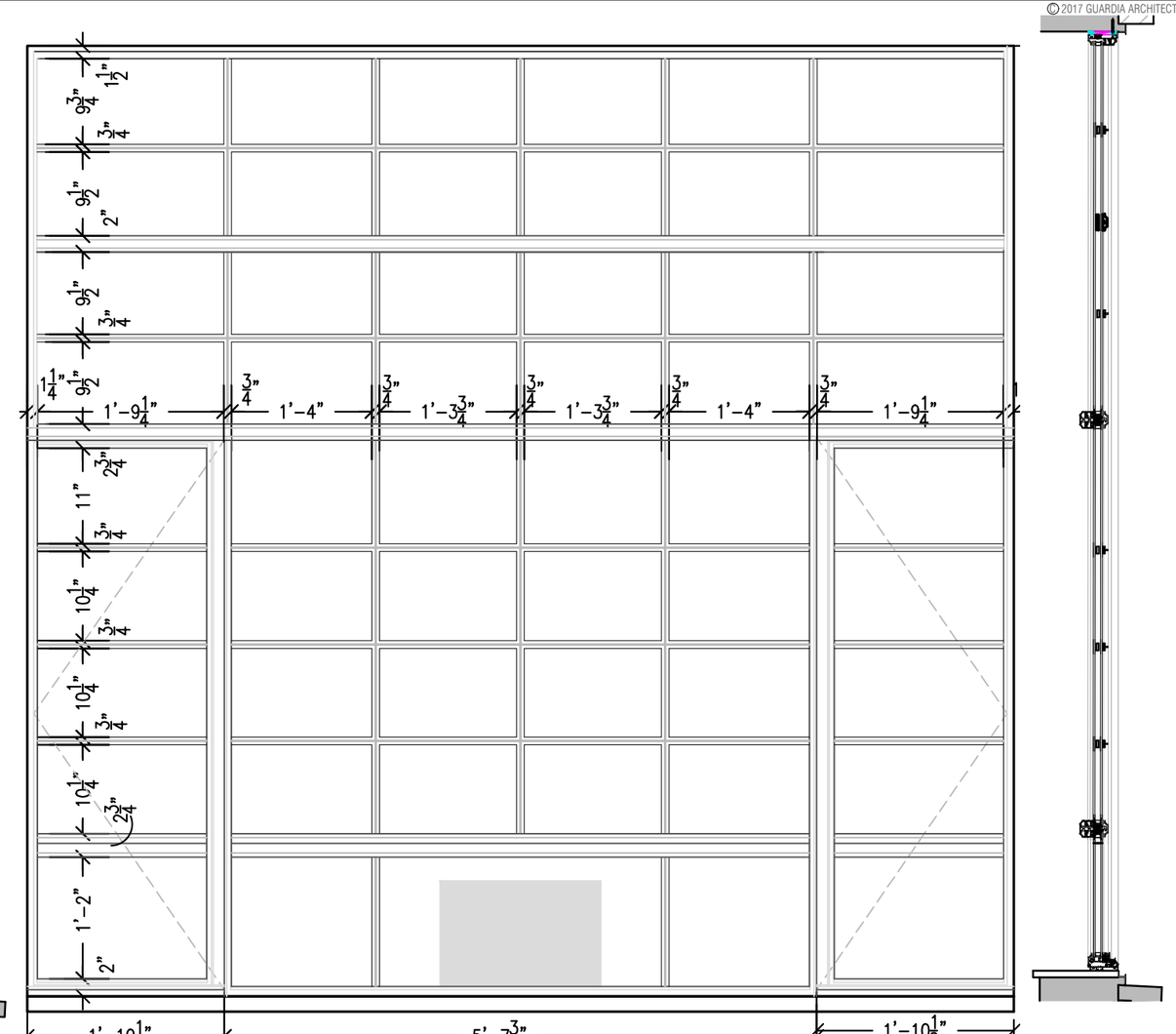

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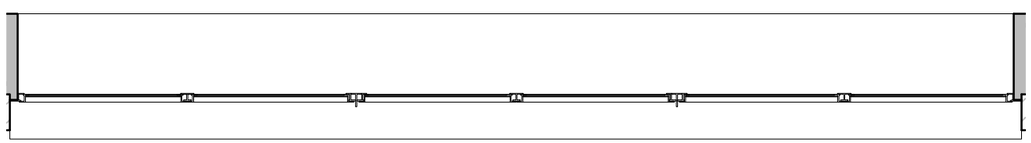

2 — ELEVATION— WINDOW TYPE "S"—PROPOSED

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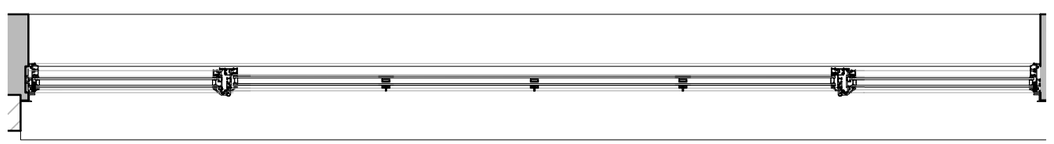

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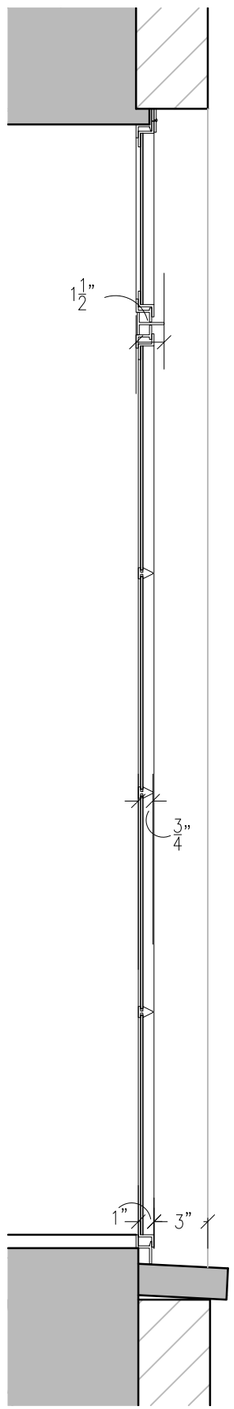
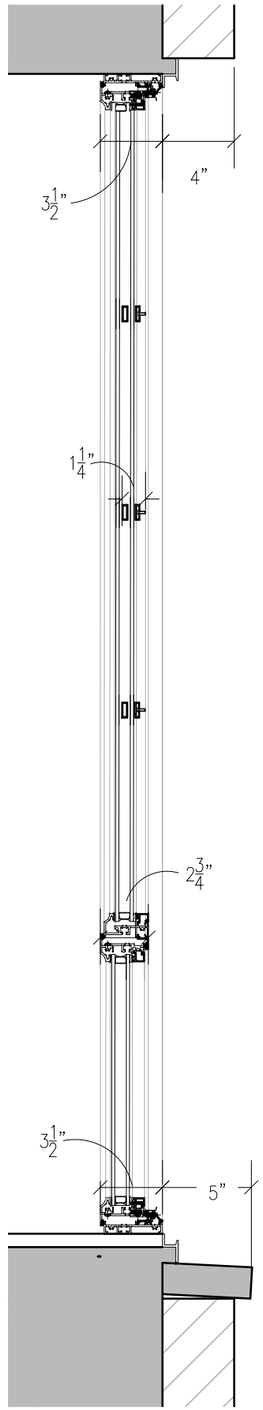


TYPICAL SECTION- EXISTING



TYPICAL SECTION- PROPOSED

NOTE: LOCATION & SIZE OF AIR CONDITIONERS VARIES.

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STATISTICS

Beaux Arts Diamond Windows			
Light calculations			
Type	Existing	Proposed	Increase (Decrease)
A	36.1	37.05	2.63%
B/C	55.35	52.2	-5.69%

Energy consumption (heat only)

Energy consumption / Heat . Annual Benchmark Report CY 2016

Address	Window Type	Weather Normalized (kBtu/ft²)	Energy Use
160 West 71st Street	100% Replacement insulated	69.3	
310 East 44th Street (Beaux Arts South Building)	Rolled steel single glass	119.1	171.86%
307 East 44th Street (Beaux Arts North Building)	Rolled steel single glass	112.7	162.63%

EXISTING TYPICAL “TYPE A” (PRINCIPAL TYPE) WINDOW

SELECTION OF PHOTOS FROM THE CONDITIONS SURVEY

Ad-hoc openings for window air conditioners have mutilated most windows
Corrosion ● Poor condition of paint
Bowing and misalignment of sashes ● Glazing compound missing or deteriorated

HIGHLIGHTS OF THE CONDITIONS SURVEY

In their 88 years of service, the rolled steel windows have suffered from:

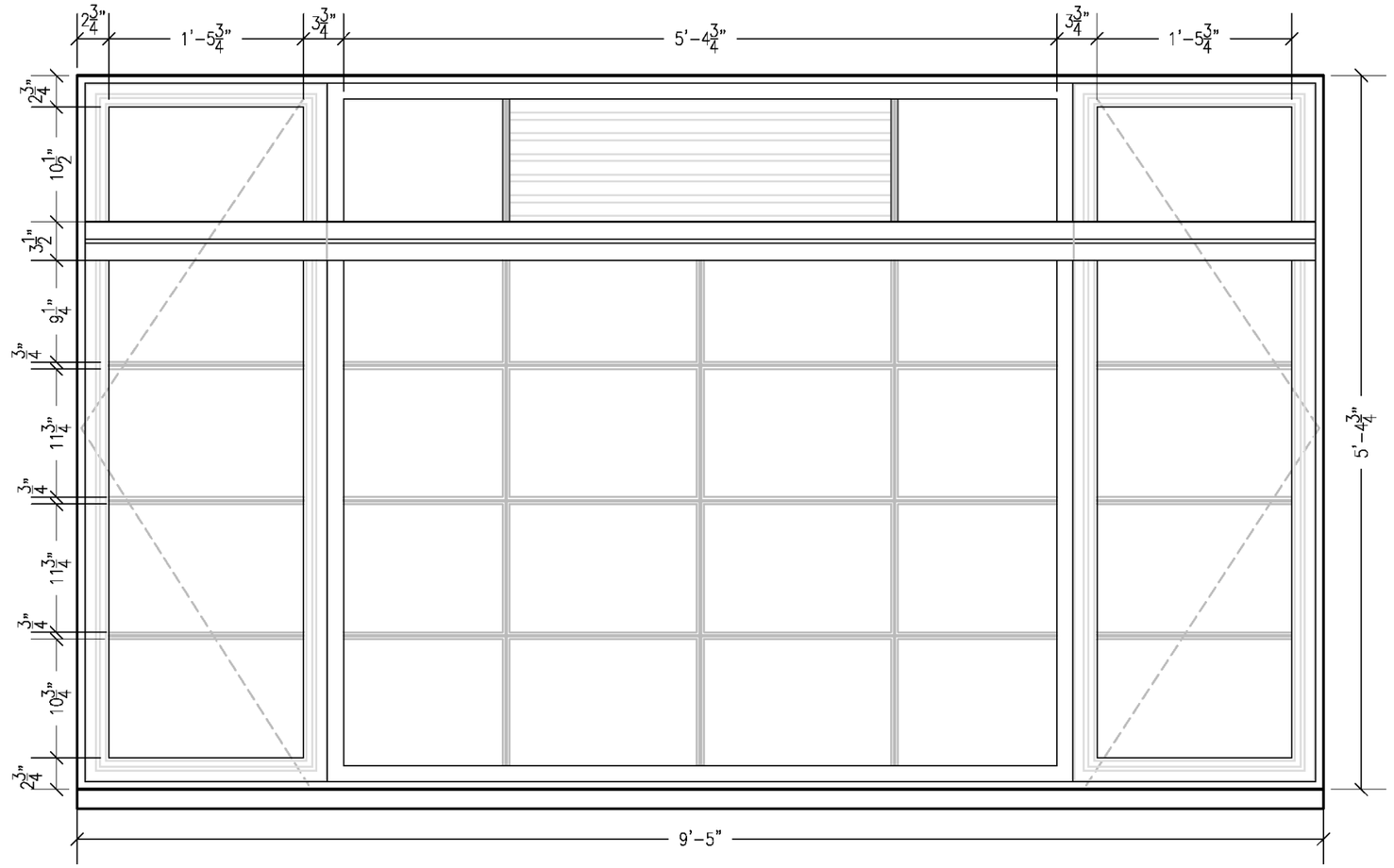
- **Ad-hoc openings for window air conditioners have mutilated most windows**
- **Corrosion**
- **Poor condition of paint**
- **Bowing and misalignment of sashes**
- **Glazing compound missing or deteriorated**
- **Deteriorated masonry surrounds, sills and lintels** were only recently restored and contributed to deterioration for decades

100%:	**All windows show some signs of deterioration.**
55%	**are suffering from misalignment of sashes. Many sashes are inoperable as a result. In some instances the only cure for deteriorated and misaligned sashes is caulking them when they cannot be made operable.**
40%	**have extensive corrosion. We have done a random sampling of windows in both buildings and this finding is consistent with ours. In house the staff describe the worst of these as "Swiss cheese" windows. Repairs can only be effected by caulking corroded openings in the steel itself. At about 12 locations steel has been welded and sistered to address structural failure of the windows.**
90%;	**of lights are estimated to have caulking in poor or missing condition**
75%	**have interior paint in poor condition. Where possible interiors of windows are stripped of paint during apartment renovations, but many are in a condition that makes this impossible.**
100%	**have exterior paint in poor condition**
85%	**have ongoing material air infiltration issues. Many of those can be mitigated temporarily with caulking. About 20% of the apartments have windows that make heating the units to minimum required statutory limits on coldest days of the year impossible.**
16% per annum:	**Maintenance logs show that substantial repairs are required to 16% of apartment units' windows per annum on average over the past two years.**
Energy consumption:	**Replacement should achieve at least a 30% reduction in energy use.**

Conclusion: Based on our experience and following NPS Technical Services Bulletin 13, replacement of these windows is mandated.

<u>Alternative approaches / Dominant Window (Type “A”)</u>:

- **Mount AC at top of openings**. This maintained the location of the heavier horizontal element at the top of the window where it provides support for the AC. *Eliminated as there were conflicts with the structural lintels, issues with wiring and controls, lack of air conditioners on the market that meet requirements and interior conflicts that could not be resolved.*



4 / A501 ELEVATION – EXTERIOR VIEW – TYPICAL WINDOW TYPE "A" – PROPOSED

SCALE: 1" = 1'–0"

- **Replicate multiple sashes.** Aluminum sashes require heavy meeting rails which can ruin the aesthetic required. This results in a window with a nominal configuration similar to the existing, but which completely destroys the industrial aesthetic of light mullions and muntons. This installed mockup includes six operable sashes. (It does not include the awning sashes along the top row of lights that are part of the original). *Elegance of the original is lost completely.*

Mockups executed

Four prototypes by different manufacturers have been commission; three have been installed on a rear facade. Working with LPC staff best elements of each were consolidated into the proposed design.

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Supporting material:

Landmarks Preservation Commission Application Form
Conditions Survey
Paint Analysis Report
DoB Filing Sets
Paint sample
Diamond Window material samples
Window mockup (at Diamond Window)

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