City of Chicago Section 106 Review – Historic Property Identification and Determination Checklist
HUD Funded Program Subject to Section 106 Review: Multi-Family Loan Program
Subject Property Address: 2120-28 N. Mozart St. – Humboldt Park United Methodist Church Redevelopment

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PART A: **Determination of Area of Potential Effects** (APE)

☒ The undertaking does not have potential to affect properties outside the boundary of the subject property. APE includes subject property only.

☐ The undertaking has potential to affect adjacent properties only. APE will include subject property and adjacent properties only. APE boundary overlaid on a Chicago zoning map is attached.

☐ The undertaking has potential to affect properties within 1/8-mile radius of the subject property. APE will include subject property and all properties within a 1/8-mile radius, which have visual connection to the subject property. (Note: 1/8-mile based on approximate distance of one Chicago block.) APE boundary overlaid on a Chicago zoning map is attached.

☐ The undertaking has potential to affect properties outside of a 1/8-mile radius of the subject property. APE boundary overlaid on a Chicago zoning map is attached.

If necessary, add additional rationale for the APE boundary determination:

Click or tap here to enter text.

(Proceed to Part B)

PART B: **Photos and Attachments** for each property located within the APE

☒ Photo(s) of property

☒ Online Chicago zoning map with property identified (source: https://gisapps.chicago.gov/ZoningMapWeb/)

☒ Chicago Historic Resources Survey (CHRS) inventory list of property street and, if applicable, property detail report (source: https://webapps1.chicago.gov/landmarksweb/search/home.htm)

☒ Historic and Architectural Resources Geographic Information System (HARGIS) map and, if applicable, property information report (source: https://www2.illinois.gov/dnrhistoric/Preserve/Pages/HARGIS.aspx)

(Proceed to Part C)

PART C: **Identification and Evaluation** of properties located within APE based on Chicago online zoning map, CHRS, HARGIS, and property age

Approximate construction year of each property: 1928

Are any properties a National Historic Landmark (NHL)?

☒ No ☐ Yes If yes, identify property address and NHL name:
Click or tap here to enter text.
If yes and there is an Adverse Effect determination in Part F below, Advisory Council on Historic Preservation notification required.

Are any properties listed (or previously determined eligible) for the National Register of Historic Places?

☒ No ☐ Yes If yes, identify property address and individual or district listing name:
Click or tap here to enter text.

Are any properties a Chicago Landmark or in a Chicago Landmark District?

☒ No ☐ Yes If yes, identify property address and individual or district listing name:
Click or tap here to enter text.

Are any properties identified in CHRS?

☐ No ☒ Yes If yes, identify property address and color-coding:
2120-2128 N. Mozart St., CHRS Orange Rating

Are any properties identified in HARGIS?

☐ No ☒ Yes If yes, identify property address and designation:
2120 N Mozart St., Designation: Undertermined

Are any properties historic-age (50 years or older) and not previously identified or evaluated for listing in the National Register of Historic Places?

☐ No ☒ Yes If yes, identify property address below and attach a Determination of Eligibility (DOE) worksheet:
2120-28 N. Mozart St.

(Proceed to Part D)

PART D: **Determination of Historic Property/ies**

☐ No historic properties will be affected by the undertaking. Properties within APE **are not** listed or eligible for listing on the National Register of Historic Places either individually and/or as a contributing building to a historic district. **(Section 106 Review Complete)**

☒ The undertaking may affect historic properties. Properties within the APE **are** listed or eligible for listing on the National Register of Historic Places either individually and/or as a contributing building to a historic district.

Identify each property address and briefly explain why property is considered a historic property:

2120-28 N. Mozart St., which is potentially eligible for listing in the NRHP, but additional research is required for such a determination. Treated as eligible under Criteria C for the purposes of this undertaking.

(Proceed to Part E)

PART E: **Exempt Activity Determination** for Historic Property/ies

☐ Undertaking determined to involve one or more exempt activity that by their nature have limited potential for an adverse effect and therefore further review is not required. The undertaking is considered exempt based on the following (select all that apply):

- ☐ Repair or replacement of electrical, plumbing, heating, and ventilation systems or their components, when no structural alteration is involved. This includes repair or replacement of interior electrical panels, breakers, circuits, switches, receptacles, plumbing and water lines, drains, sewers, fixtures, water heaters, heating vents, floor furnaces, wall heaters, central heat systems, and gas lines.
- ☐ Repair or replacement of existing asphalt roofing shingles with new asphalt roofing shingles.
- ☐ Painting of any exterior component which has previously been painted.
- ☐ Repair, removal, or replacement in kind of existing utilities in the same locations. Utilities include sewer, water, electrical, gas, and leach lines; storm drains; septic tanks; and wells. Installation of new utilities when those new utilities are replacing existing utilities that must be relocated to meet all applicable legal requirements.
- ☐ Repair, removal, or replacement in kind of existing, non-historic infrastructure, such as foundations, sidewalks, curbs, driveways.
- ☐ Replacement of existing porch footings in their existing locations.
- ☐ Acquisition, refinance or acquisition assistance.
- ☐ Non-structural, non-permanent interior modifications for handicapped accessibility in kitchens and bathrooms, including grab bars, walk-in/roll-in tubs/showers, etc.
- ☐ Non-structural interior modifications such as installing smoke/carbon monoxide detectors, weatherstripping, caulking, wall/trim repairing, painting previously painted surfaces, and installing new hardware where no historic hardware is present.

The undertaking will have no adverse effect. **(Section 106 Review Complete)**

☒ Undertaking does not involve an exempt activity. **(Proceed to Part F)**

PART F: **Determination of Effect** for Historic Property/ies

☐ Undertaking will have no adverse effect: **Section 106 Review Complete**

Identify each historic property address and briefly explain why undertaking will have no adverse effect:

Click or tap here to enter text.

☒ Undertaking constitutes an adverse effect. **(Consultation with SHPO required)**

Identify each historic property address and briefly explain why undertaking will have an adverse effect:

The property at 2120-28 N. Mozart Street is potentially eligible for listing in the NRHP. For purposes of this assessment, eligibility under Criteria C is assumed.

At the exterior, window and door replacement details are not provided. The proposed window replacement should be in kind or match

the existing units in appearance as close as possible in order to minimize impacts to the historic property's integrity of design and materials. The any proposed tuckpointing and brick or limestone repair should meet the Secretary of the Interior's Standards for the Treatment of Historic Properties in order to minimize impacts to historic materials and overall design. The proposed undertaking will modify the building exterior through the introduction of new dormer windows and aluminum cladding at the south elevation of the loft level, which would diminish the historic property's integrity of design, materials, and workmanship such that it's potential eligibility for listing in the NRHP under Criterion C would be compromised.

At the interior, the proposed rehabilitation to existing dwelling units including electrical, plumbing, and HVAC upgrades are considered exempt activities as described above in Part E. The proposed modifications to the existing sanctuary space, including removal of existing balcony, stairs, and pipe organ, as well as construction of new walls, floors, stairs, and elevator dividing the currently open volume, would diminish the historic property's integrity of design, materials, and workmanship such that it's potential eligibility for listing in the NRHP under Criterion C would be compromised.

SOI Qualified Personnel Signature: *I attest that I have examined this document, accompanying materials, and references, and have completed this form based on my professional understanding of the information within.*

Completed by (signature): _____ Date: March 27, 2023

Typed name, title, and firm: Carri Andrews, Associate Principal, JLK Architects

NOTE: Evaluation completed by Secretary of the Interior qualified professionals based upon the background materials presented in this document or referenced within. Unless otherwise noted, and per the directive of the PA, no site survey, additional research, or consultation with potential interested parties was conducted for these evaluations.

Attachment A – Determination of Eligibility Worksheet

Property Address: 2120-28 N. Mozart St.

Integrity:

☐ Location ☐ Design ☐ Materials ☐ Workmanship ☐ Setting ☐ Feeling ☐ Association

NRHP Eligibility:

☐ Criterion A ☐ Criterion B ☒ Criterion C ☐ Criterion D ☐ Not Eligible

Brief narrative justification:

The historic-age property at 2120-28 N. Mozart St. was built in 1928. The property is not previously recorded or evaluated for listing in the National Register of Historic Places. Preliminary research indicates that the property is potentially eligible for listing in the National Register of Historic Places, but additional research is required for such a determination; therefore, the property is left unevaluated and treated as Eligible for listing in the National Register of Historic Places for the purposes of this undertaking. Based on the property's CHRS Orange rating, "possesses potentially significant architectural or historical features," eligibility under Criterion C for archietcural design will also be assumed.

Property Address: Click or tap here to enter text.

Integrity:

☐ Location ☐ Design ☐ Materials ☐ Workmanship ☐ Setting ☐ Feeling ☐ Association

NRHP Eligibility:

☐ Criterion A ☐ Criterion B ☐ Criterion C ☐ Criterion D ☐ Not Eligible

Brief narrative justification: Click or tap here to enter text.

Property Address: Click or tap here to enter text.

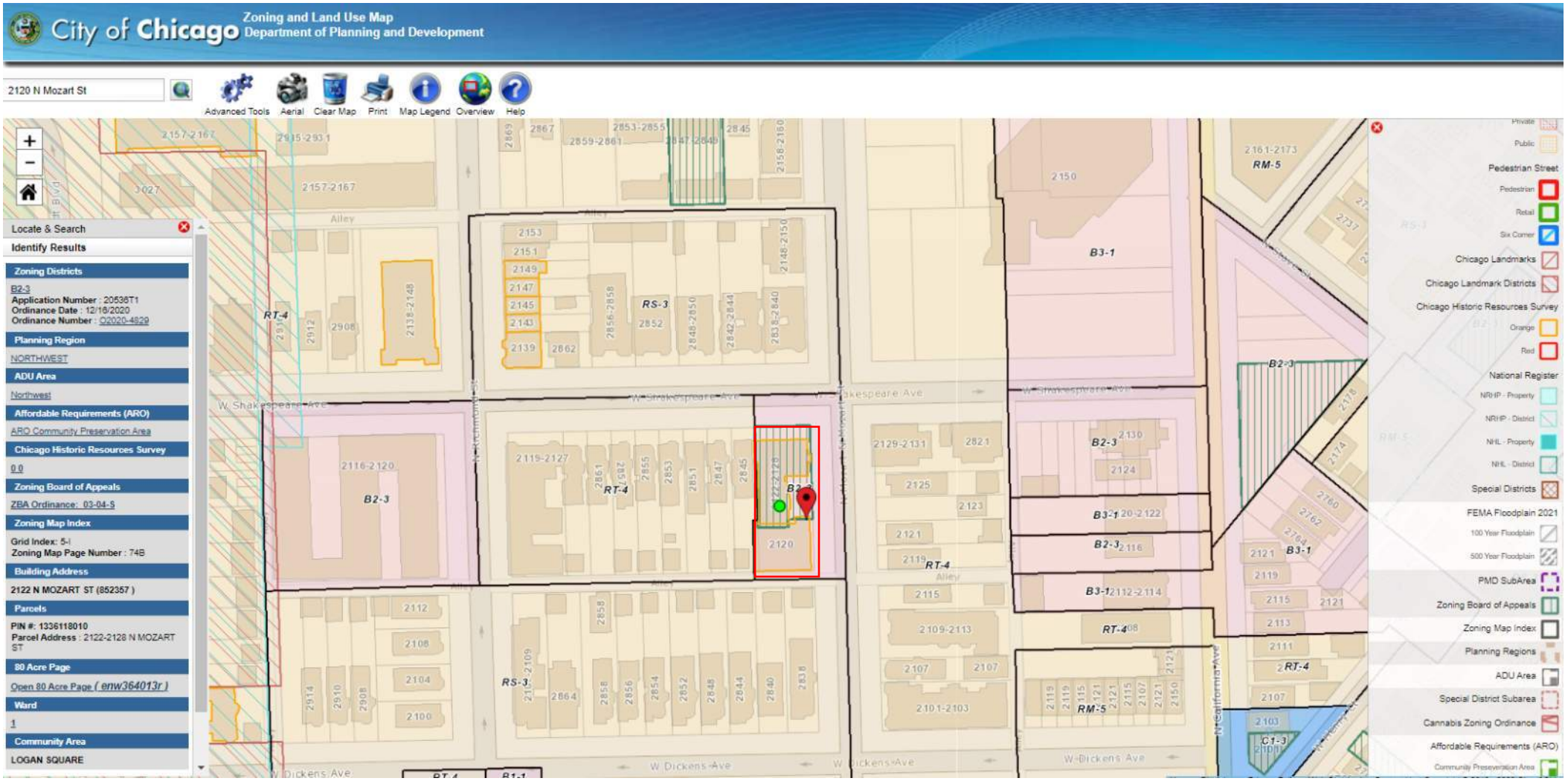
Integrity:

☐ Location ☐ Design ☐ Materials ☐ Workmanship ☐ Setting ☐ Feeling ☐ Association

NRHP Eligibility:

☐ Criterion A ☐ Criterion B ☐ Criterion C ☐ Criterion D ☐ Not Eligible

Brief narrative justification: Click or tap here to enter text.



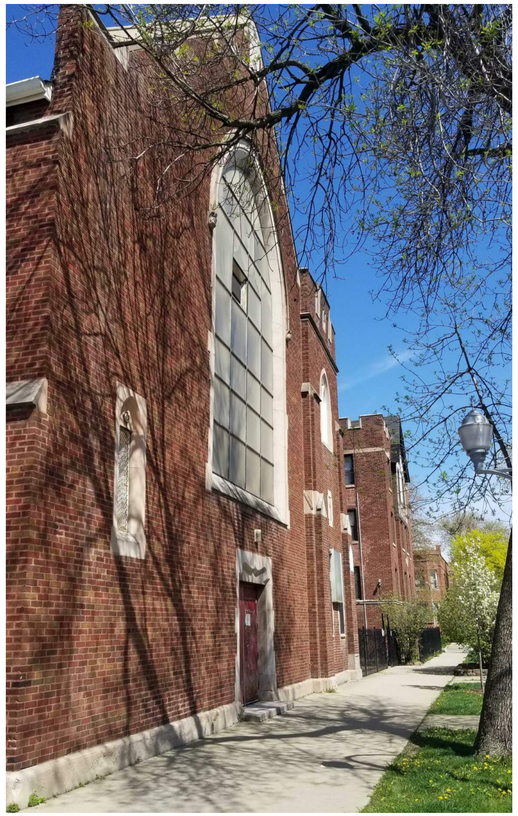
Subject Site

HPUMC ADAPTIVE REUSE

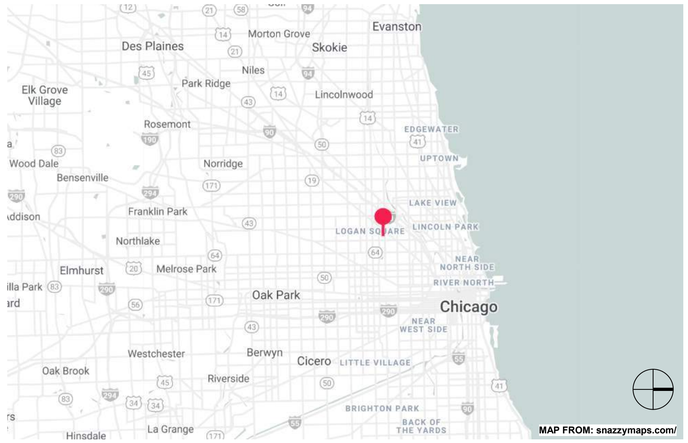
2120 N MOZART ST.
CHICAGO, IL 60647

ISSUED FOR: 25% DESIGN DEVELOPMENT

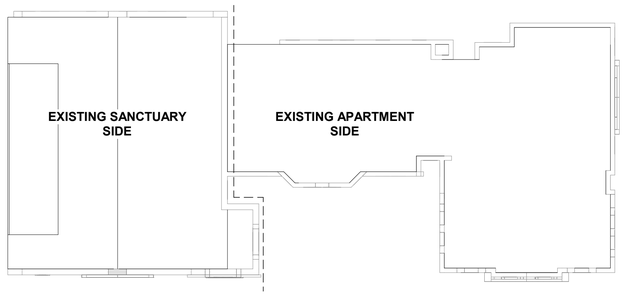
06.12.2020



PROJECT LOCATION MAP



PLAN DIAGRAM



PROJECT TEAM

CANOPY
ARCHITECTURE • DESIGN

ARCHITECT OF RECORD:

CANOPY ARCHITECTURE + DESIGN, LLC
180 W WASHINGTON STREET, SUITE 200
CHICAGO, IL 60602
PHONE: (312) 763-8005
www.canopy-chicago.com

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ADVANCING HOUSING AS A HUMAN RIGHT

PROJECT OWNER:

LUCHA
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CHICAGO, IL 60647
PHONE: (773) 276-5338

cea&a
STRUCTURAL ENGINEERS

STRUCTURAL ENGINEER:

CEA&A
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CHICAGO, IL 60606
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the engineering studio, inc.
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SHEET INDEX

CANOPY
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PROJECT
LUCHA

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PERMIT NUMBER: 000000

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ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR, AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS.

PROFESSIONAL SEAL EXP. 11/30/2020

ISSUANCE LOG

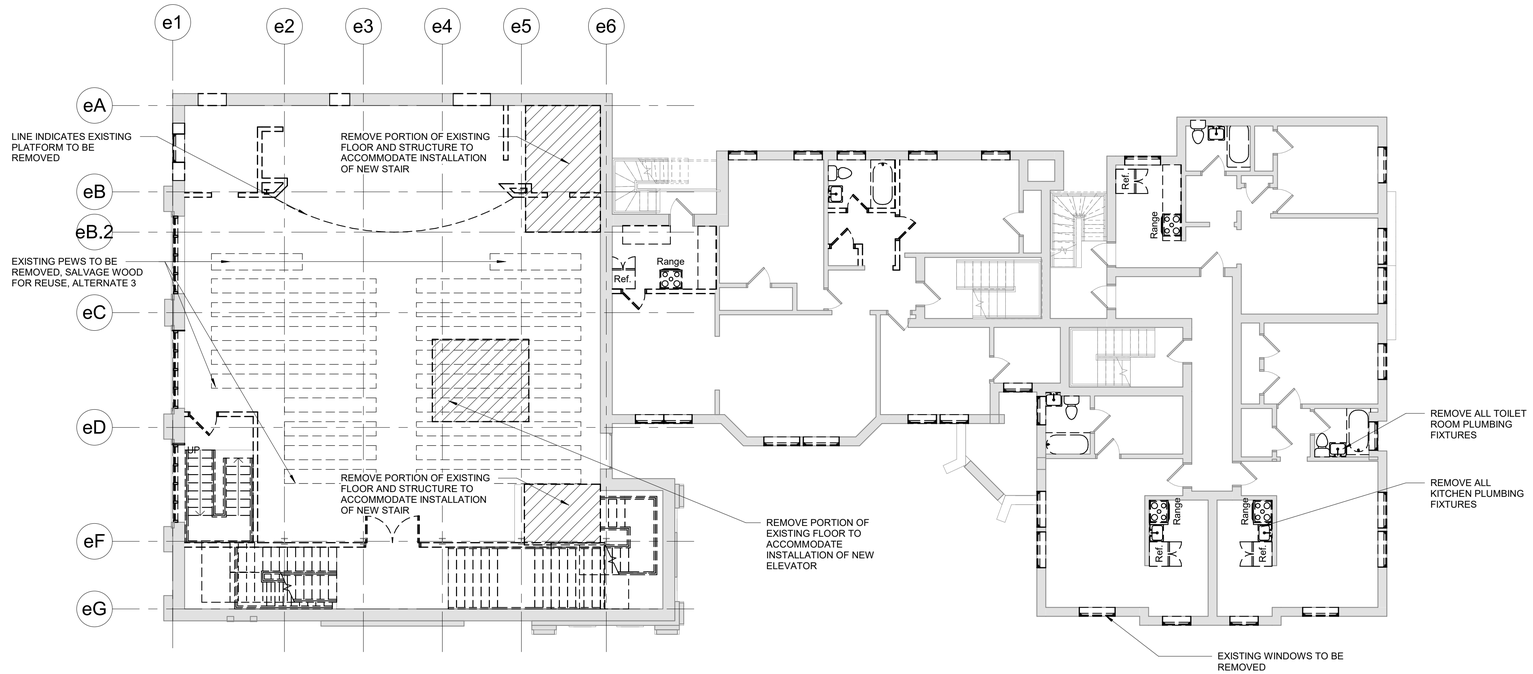
REV.	ISSUED FOR:	DATE
	SCHEMATIC DESIGN	05.18.2020
	25% DESIGN DEVELOPMENT	06.12.2020

PRINT DATE: 06.12.2020
ISSUED FOR: 25% DESIGN DEVELOPMENT

SHEET ID

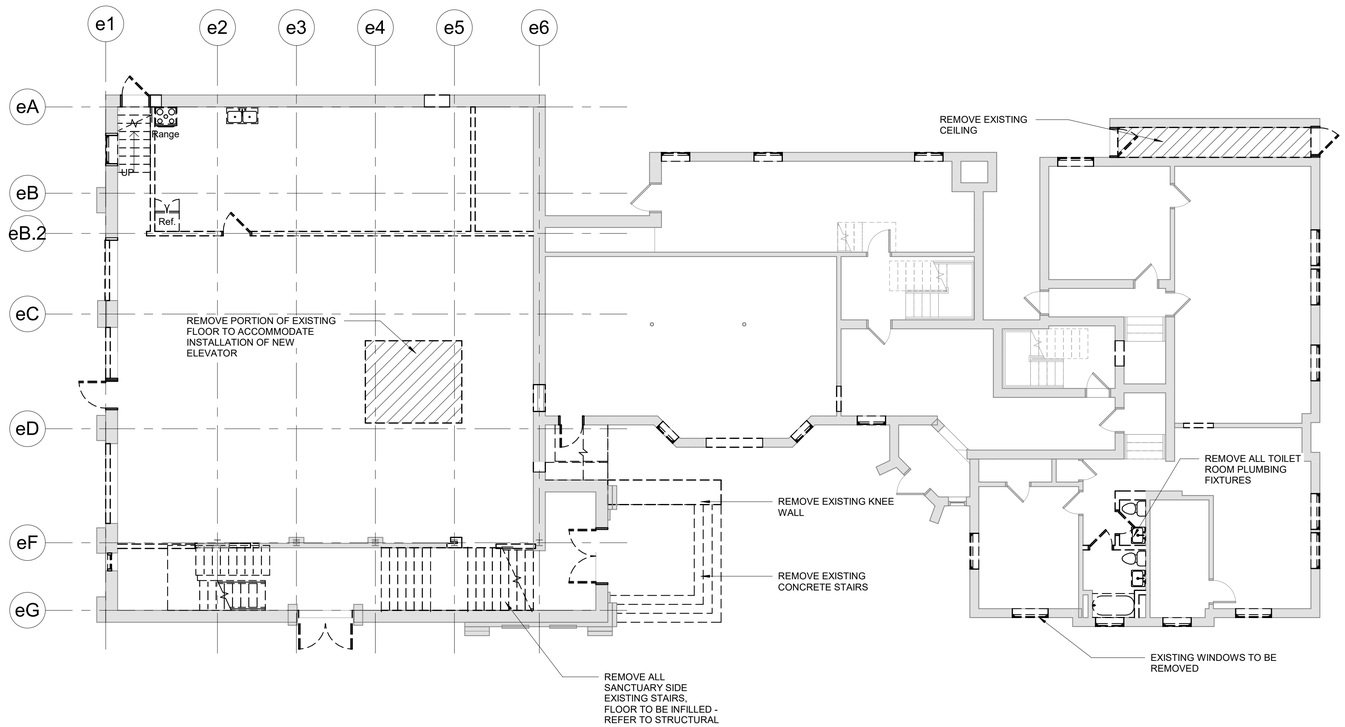
G-001

COVER SHEET



2 DEMOLITION - LEVEL 01

1/8" = 1'-0"



1 DEMOLITION - GRADE/GARDEN LEVEL

1/8" = 1'-0"

DEMOLITION LEGEND

EXISTING CONSTRUCTION TO REMAIN

EXISTING CONSTRUCTION TO BE REMOVED

CANOPY
ARCHITECTURE • DESIGN

PROJECT

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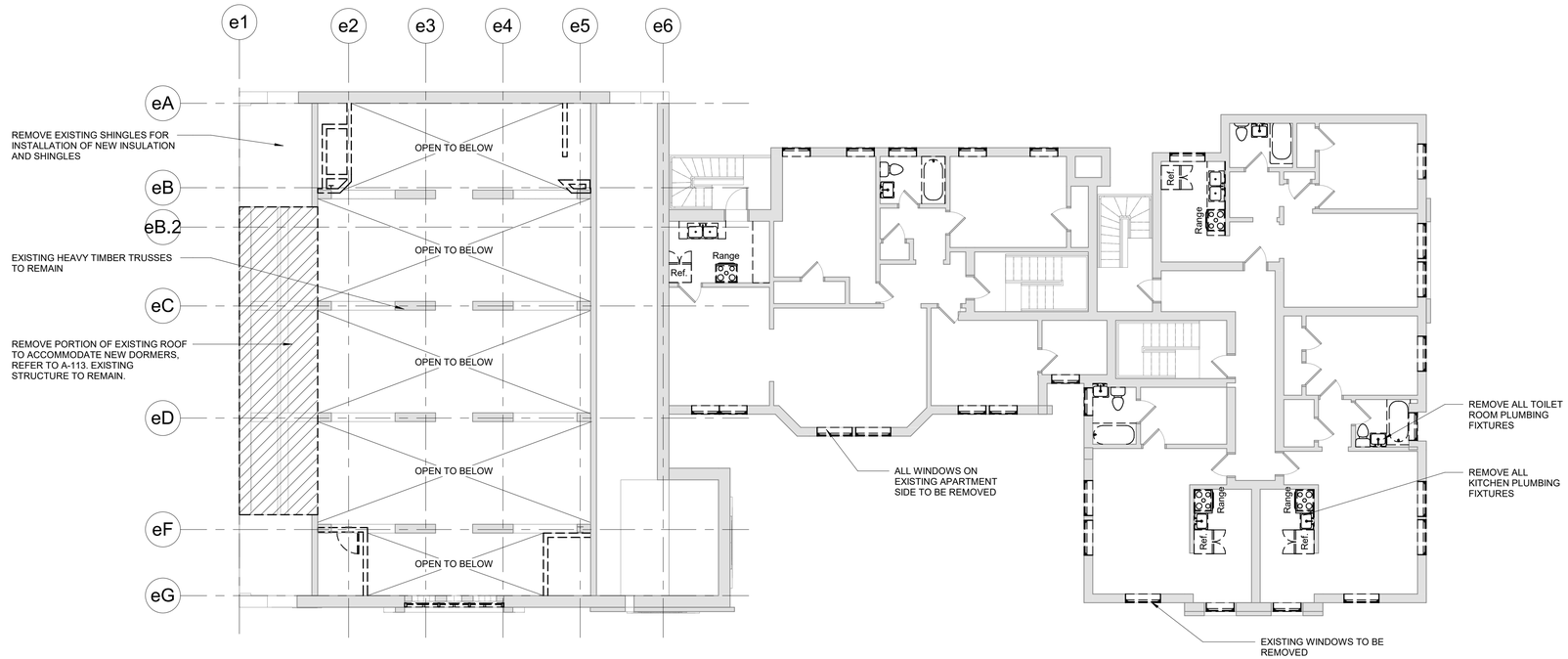
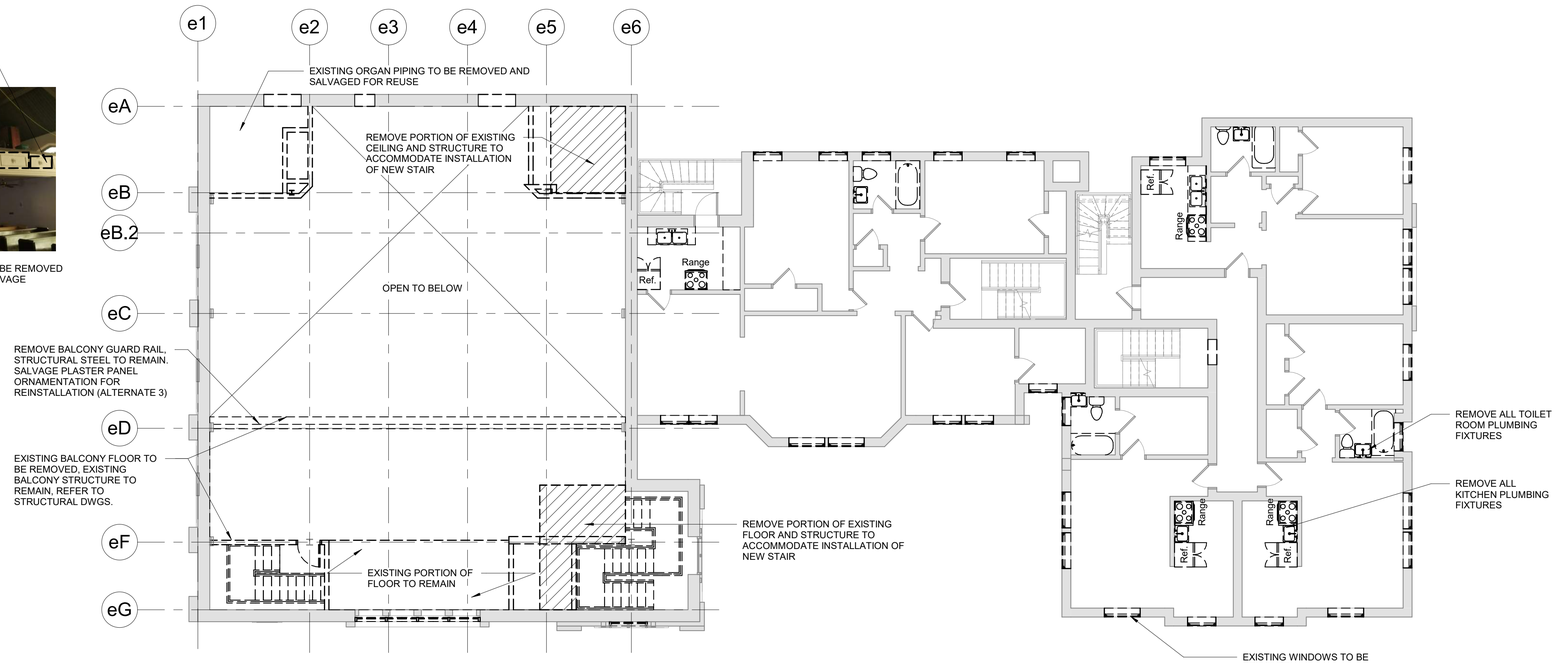
AD-111

DEMOLITION PLAN - GARDEN/GRADE AND LEVEL 01



2 DEMOLITION - LEVEL 03
1/8" = 1'-0"

IMAGE 1



1 DEMOLITION - LEVEL 02
1/8" = 1'-0"

DEMOLITION LEGEND

EXISTING CONSTRUCTION TO REMAIN

EXISTING CONSTRUCTION TO BE REMOVED

CANOPY
ARCHITECTURE • DESIGN

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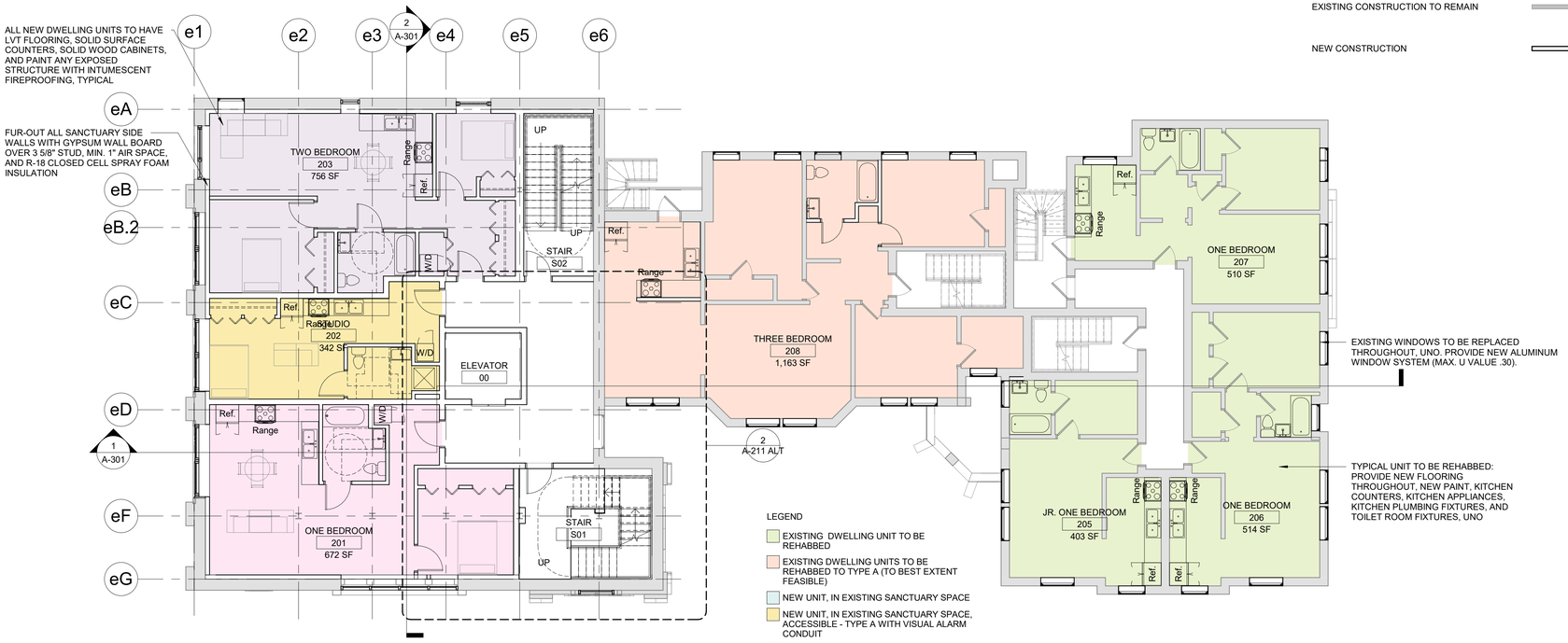
SHEET ID
AD-112

DEMOLITION PLAN - LEVEL 02 AND LEVEL 03

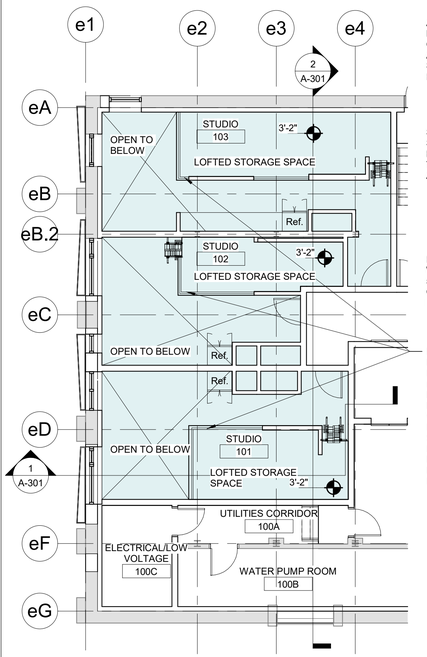
PLAN LEGEND

EXISTING CONSTRUCTION TO REMAIN

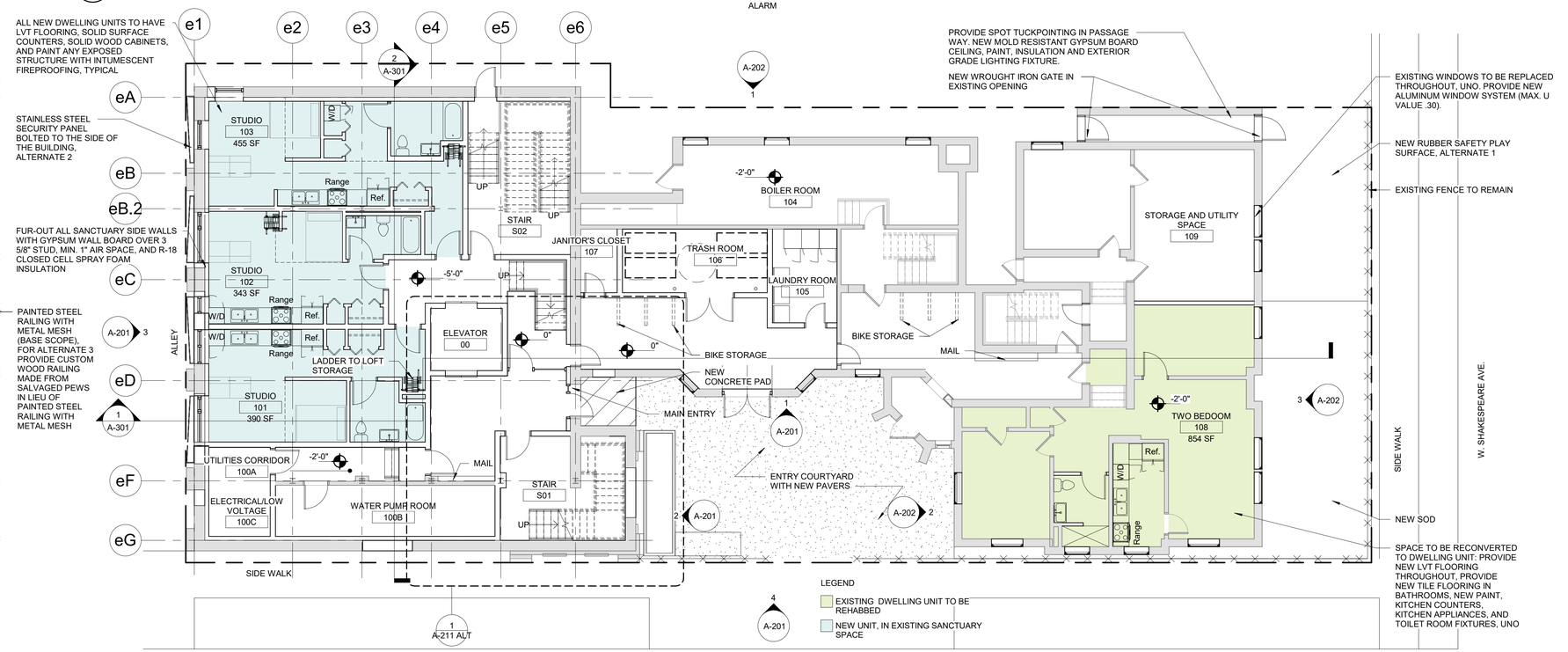
NEW CONSTRUCTION



2 PROPOSED FLOOR PLAN - LEVEL 01
1/8" = 1'-0"



3 PROPOSED STUDIO LOFTS
1/8" = 1'-0"



1 PROPOSED GRADE/GARDEN LEVEL PLAN
1/8" = 1'-0"

NORTH

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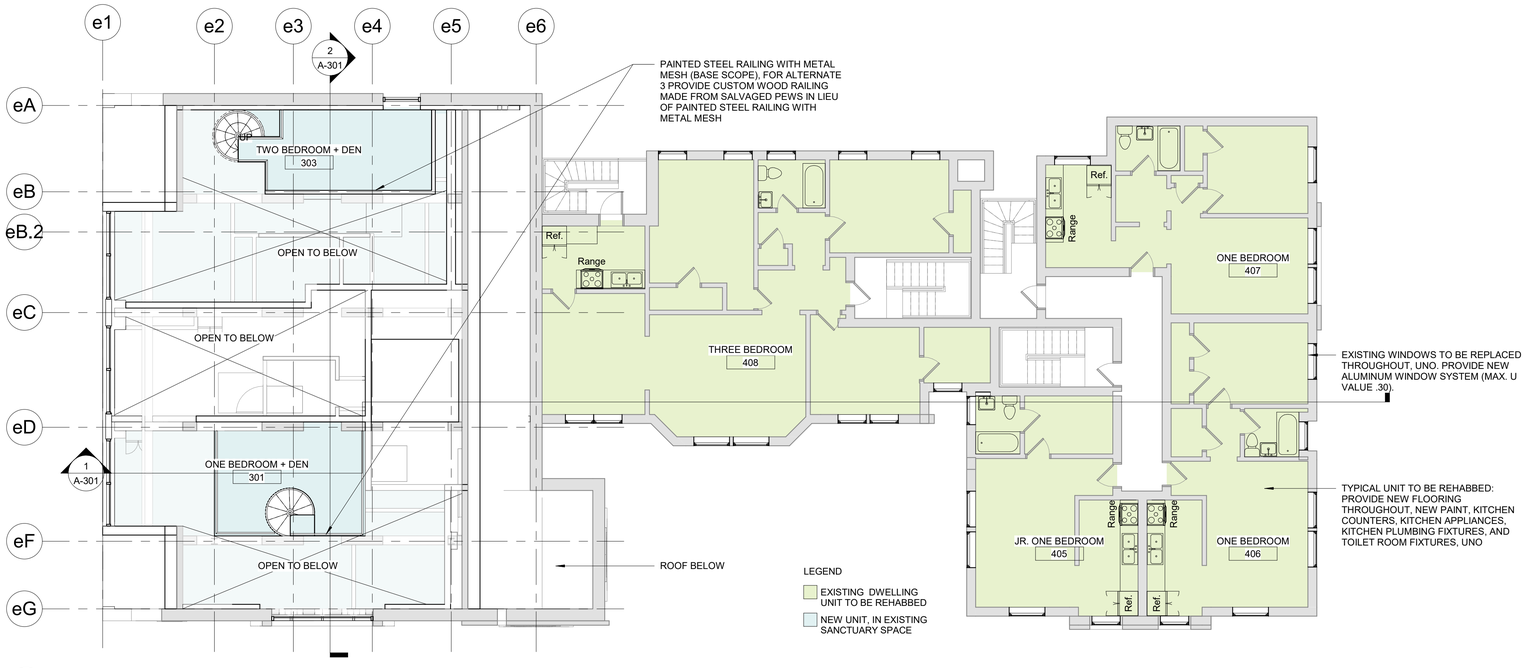
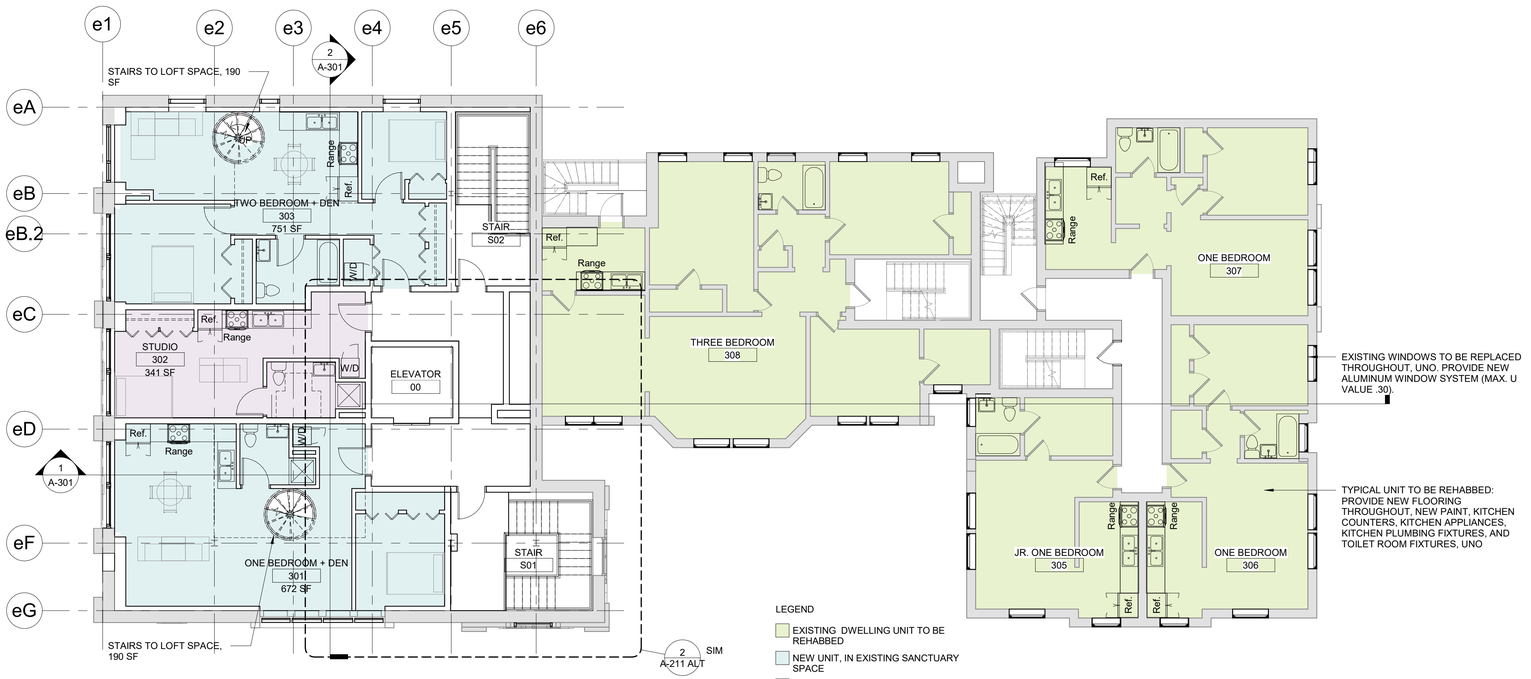
A-111

FLOOR PLANS - GARDEN/GRADE AND LEVEL 01



2 PROPOSED FLOOR PLAN - LEVEL 03

1/8" = 1'-0"



1 PROPOSED FLOOR PLAN - LEVEL 02

1/8" = 1'-0"

PLAN LEGEND

EXISTING CONSTRUCTION TO REMAIN

NEW CONSTRUCTION

NORTH

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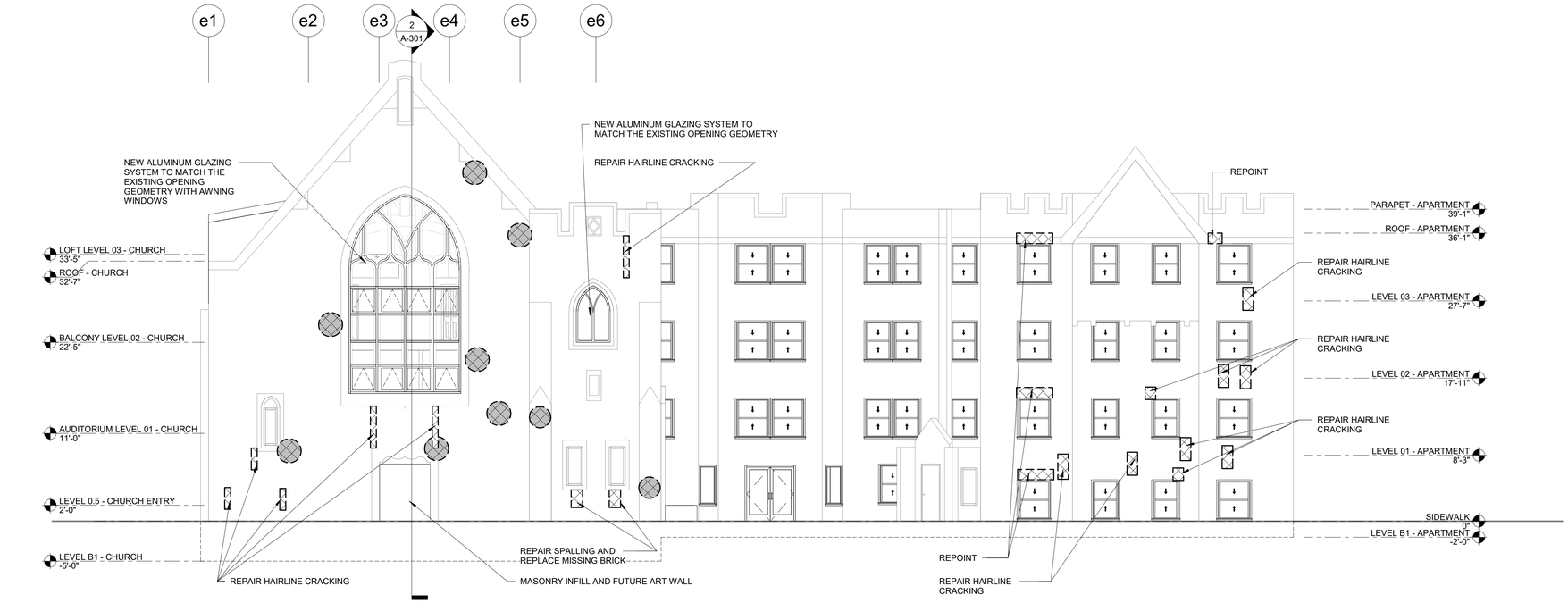
FLOOR PLANS - LEVEL 02 AND LEVEL 03

ELEVATION LEGEND

MASONRY REPAIR, REFER TO NOTE

AREA REQUIRES TUCKPOINTING



4 PROPOSED EAST ELEVATION
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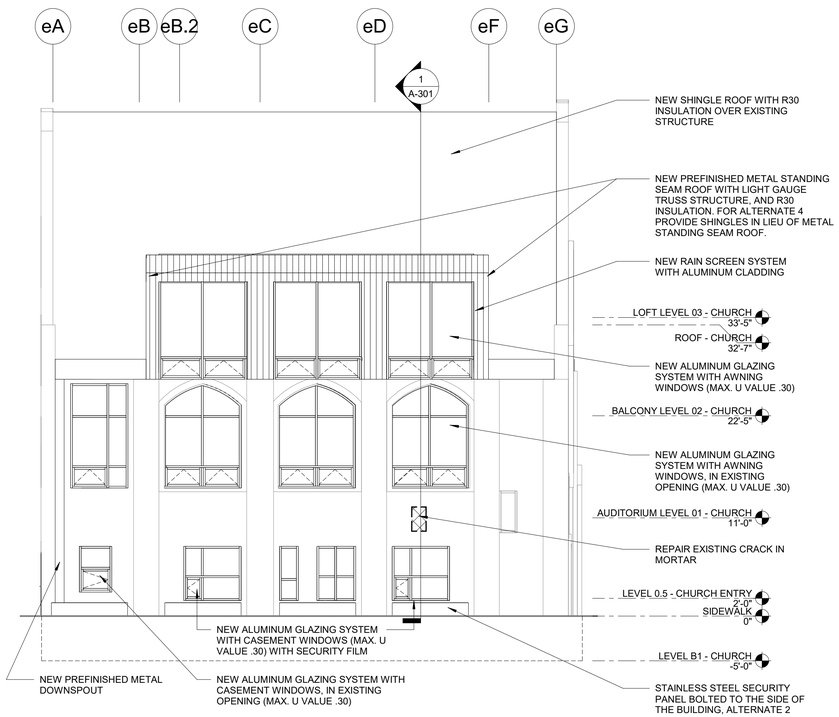

3 PROPOSED SOUTH ELEVATION
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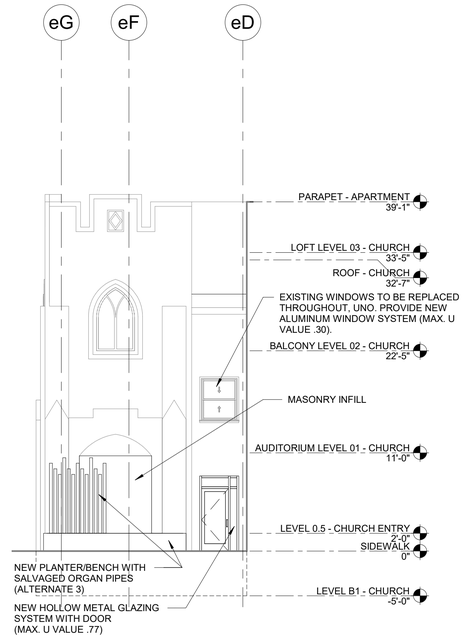
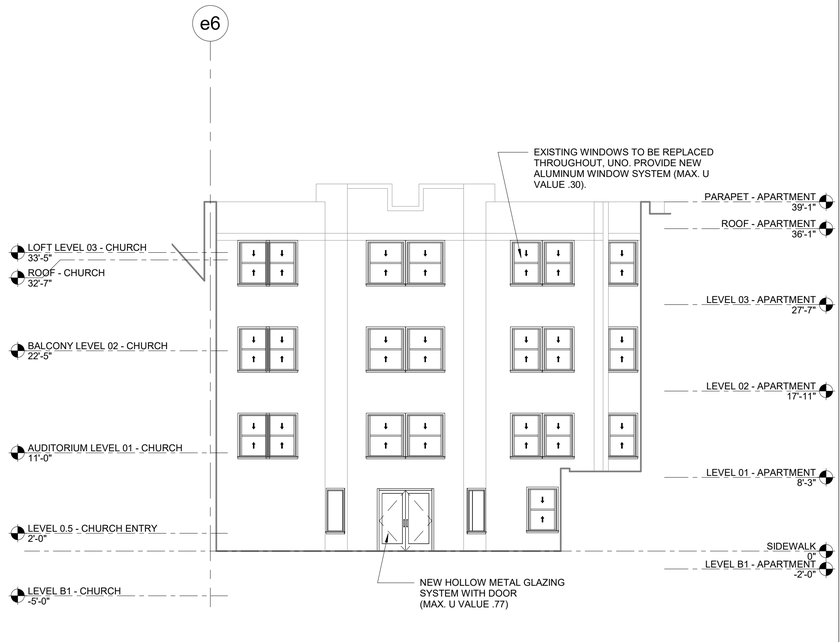


2 PROPOSED NORTH ELEVATION - ENTRY COURTYARD
1/8" = 1'-0"



1 PROPOSED EAST ELEVATION - ENTRY COURTYARD
1/8" = 1'-0"

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PROFESSIONAL SEAL EXP. 11/30/2020

ISSUANCE LOG

REV.	ISSUED FOR:	DATE
	SCHEMATIC DESIGN	05.18.2020
	25% DESIGN DEVELOPMENT	06.12.2020

PRINT DATE: 06.12.2020
ISSUED FOR: 25% DESIGN DEVELOPMENT

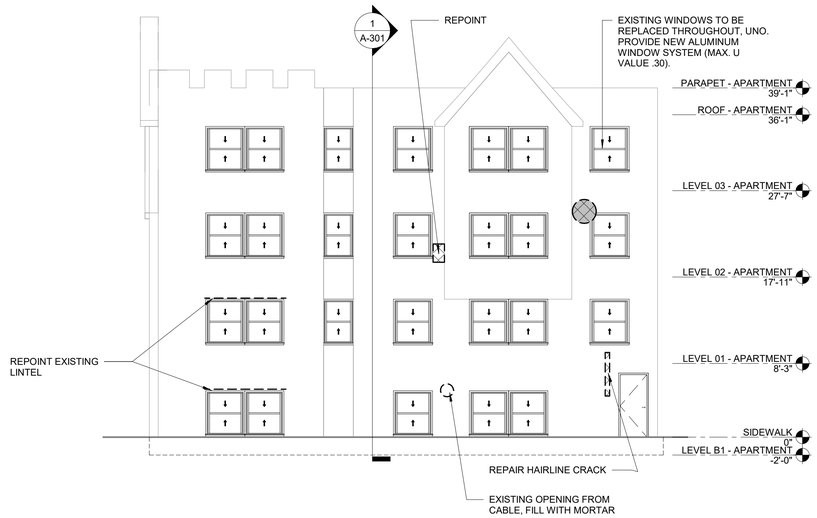
SHEET ID
A-201

EXTERIOR ELEVATIONS

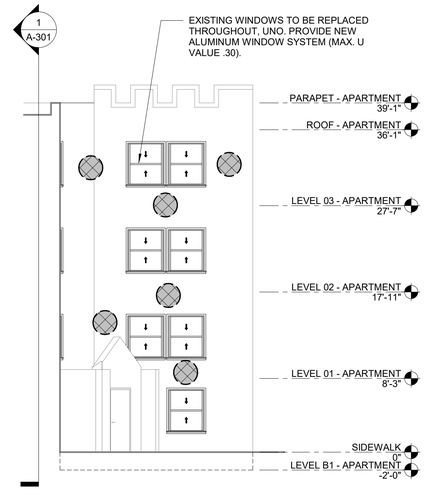
ELEVATION LEGEND

MASONRY REPAIR, REFER TO NOTE

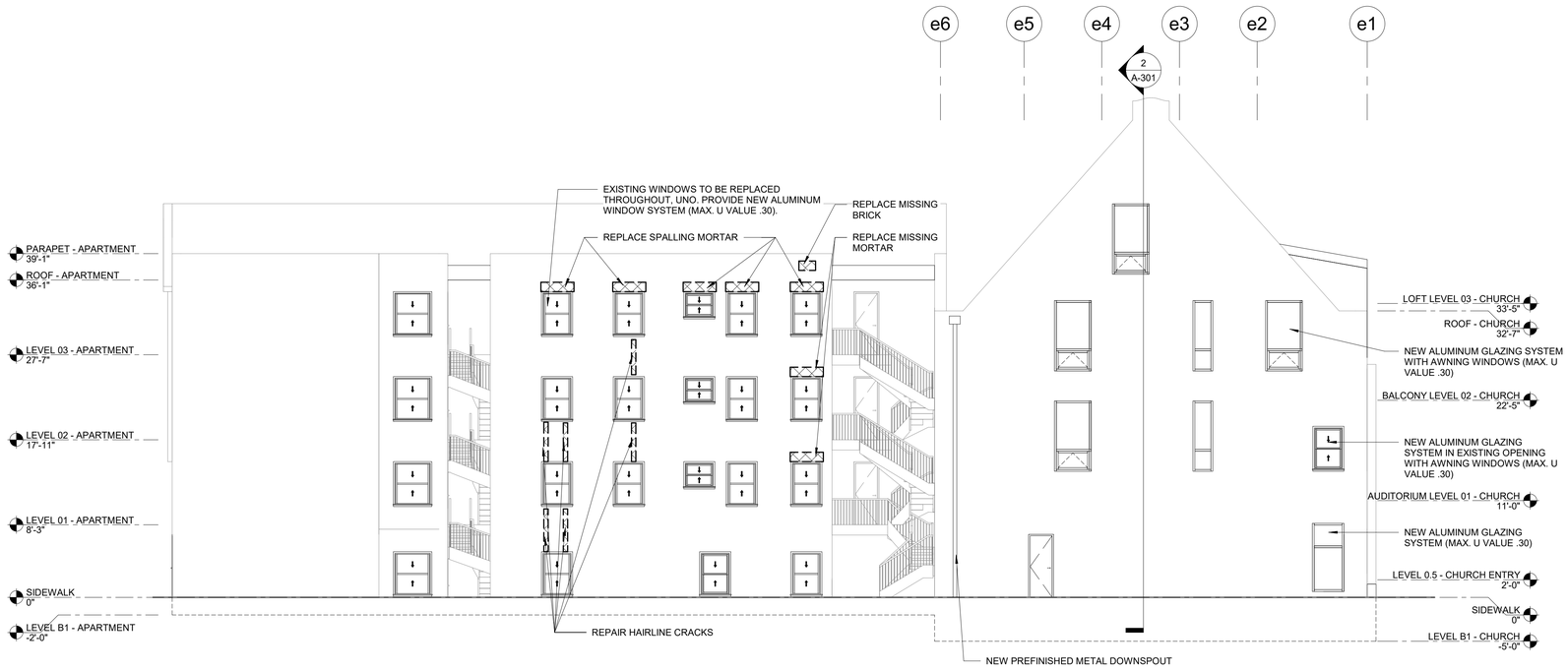
AREA REQUIRES TUCKPOINTING



3 NORTH ELEVATION
1/8" = 1'-0"



2 SOUTH ELEVATION - ENTRY COURTYARD
1/8" = 1'-0"



1 WEST ELEVATION
1/8" = 1'-0"

CANOPY
ARCHITECTURE • DESIGN

PROJECT
LUCHA

HPUMC ADAPTIVE REUSE
2120 N MOZART ST.
CHICAGO, IL 60647

PROJECT NUMBER: P2004
PERMIT NUMBER: 000000

ARCHITECT OF RECORD:
CANOPY ARCHITECTURE + DESIGN, LLC
180 W WASHINGTON STREET, SUITE 200
CHICAGO, IL 60602
PHONE: (312) 763-8005
canopy-chicago.com

PROJECT OWNER:
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3541 W NORTH AVENUE
CHICAGO, IL 60647
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STRUCTURAL ENGINEER:
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MEPF ENGINEER:
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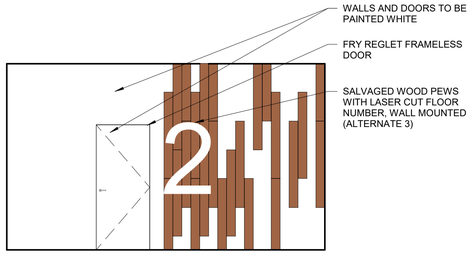
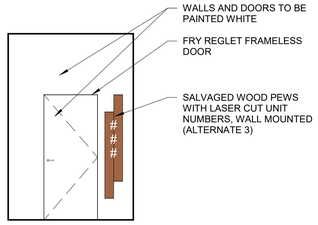
ISSUED FOR: 25% DESIGN DEVELOPMENT

SHEET ID
A-202

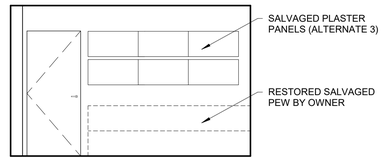
EXTERIOR ELEVATIONS



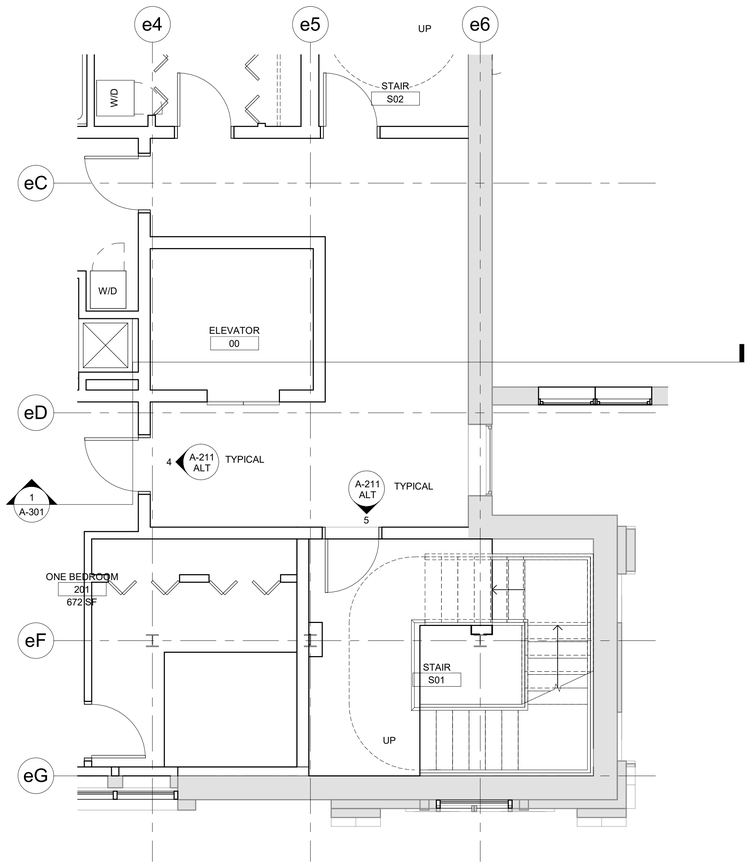
5 IE - WAYFINDING AT MAIN STAIR
1/4" = 1'-0"



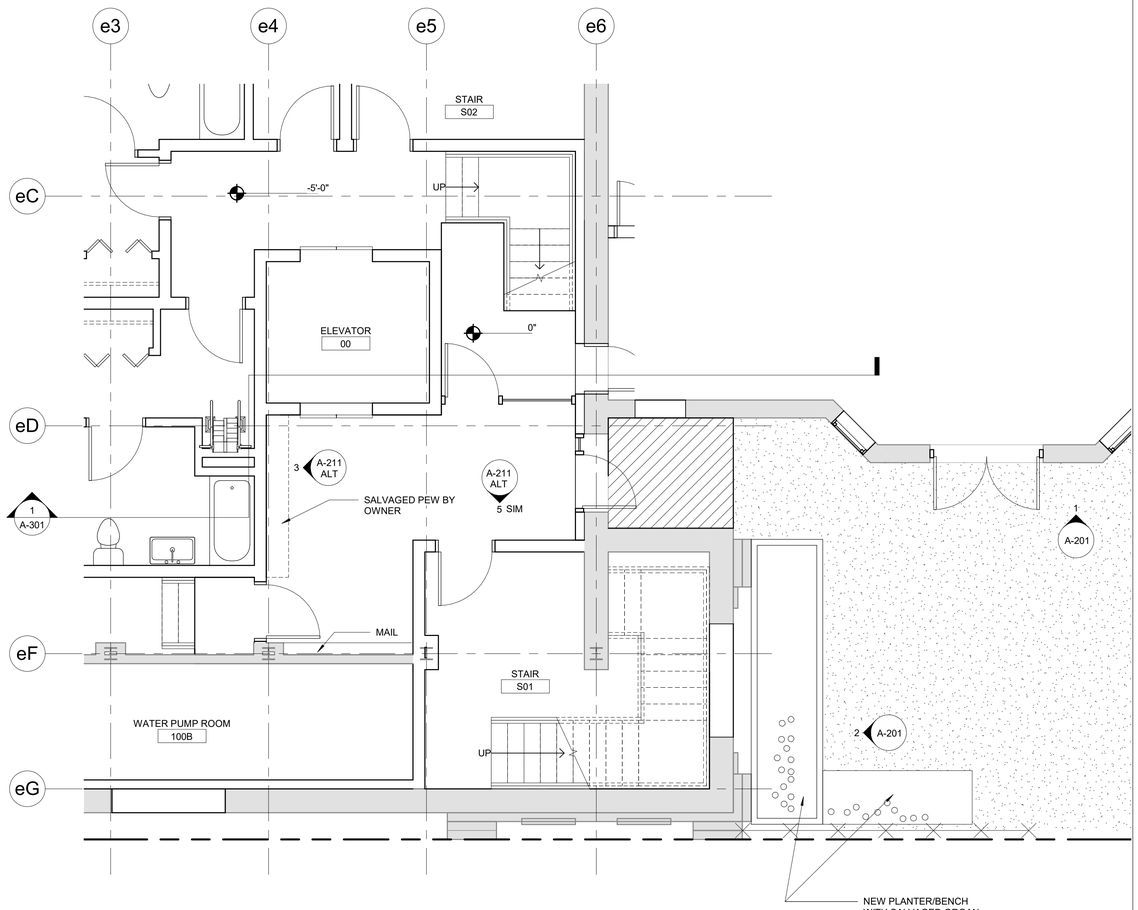
4 IE - TYPICAL APARTMENT SIGNAGE
1/4" = 1'-0"



3 IE - ENTRY LOBBY
1/4" = 1'-0"



2 PROPOSED FLOOR PLAN - LEVEL 01
1/4" = 1'-0"



1 GRADE LEVEL - ENLARGED LOBBY PLAN - ALTERNATE 3
1/4" = 1'-0"

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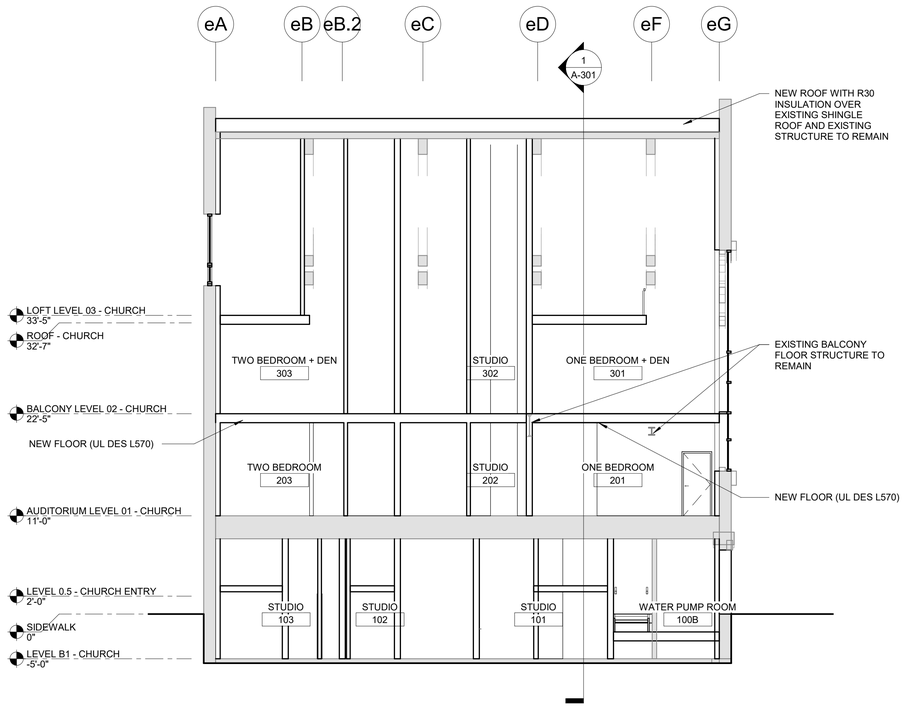
SHEET ID
A-211 ALT

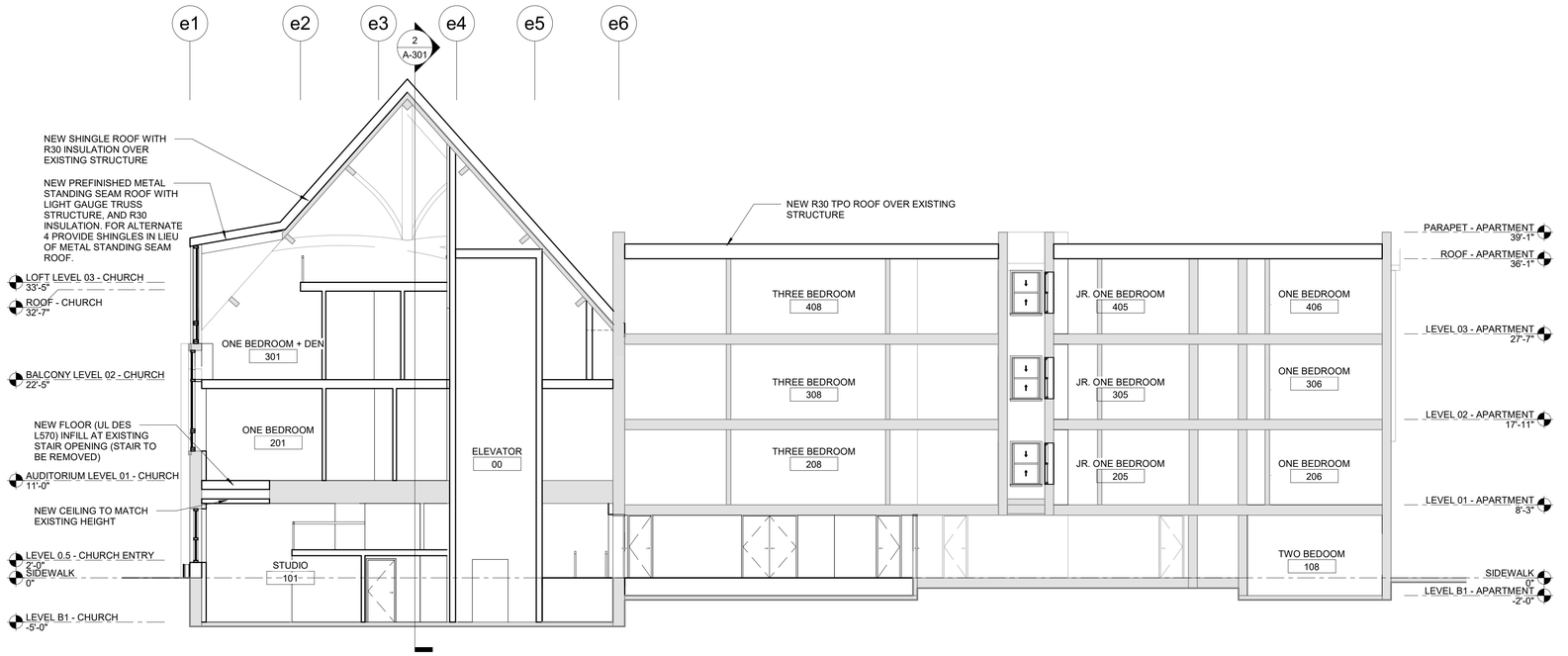
ALTERNATE 3 - SALVAGE AND REUSE OF HISTORIC CHURCH ELEMENTS

4
A-201



2 BUILDING SECTION - EAST/WEST

1/8" = 1'-0"



1 BUILDING SECTION - NORTH/SOUTH

1/8" = 1'-0"

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SHEET ID

A-301

BUILDING SECTIONS

the engineering studio, inc.

mechanical, electrical, plumbing, fire protection

2120 N. Mozart

Chicago, IL
Multifamily Residential Building Renovation/Conversion

Prepared for Canopy / Architecture + Design, LLC

Mechanical, Electrical, Plumbing, and Fire Protection
25% Design Development Narrative

Issued 06/12/2020

701 Lee Street, Suite 510, Des Plaines, IL 60016 | tel: 847-795-8810 |www.engineeringstudio.com

GENERAL

PART 1 PROJECT DESCRIPTION

1.01 BUILDING DESCRIPTION

A. The project consists of an existing 2-story (plus basement) church and adjacent 3-story (plus garden level) apartment building to be renovated for use as multifamily dwelling units. The project includes converting the church building to residential use, including adding 2 stories (plus loft space) within the existing building envelope. The final project will consist of approximately 20,000 square feet in a 3-story (plus garden level) building.

B. This schematic design narrative is based upon the plans provided by Canopy / Architecture + Design, LLC. These plans should be used in conjunction with the requirements listed in this narrative.

1.02 APPLICABLE CODES

A. 2019 Chicago Building Code
B. 2019 Illinois Energy Conservation Code (2018 IECC)
C. 2018 Chicago Electrical Code
D. 2014 Illinois Plumbing Code

1.03 SCOPE OF WORK

A. The intent of this narrative is to provide a description of MEPF systems required for the building – the systems described are intended to be complete systems with all items included for complete working systems, fully code compliant.

MECHANICAL SCHEMATIC DESIGN NARRATIVE

PART 1 MECHANICAL SCOPE OF WORK

1.01 REQUIREMENTS

A. Products and execution shall be provided for complete and fully operational heating, ventilating, and air conditioning systems throughout the extent of the project, in conformance with applicable codes, laws, ordinances and agency standards of governing bodies having jurisdiction, and in strict accordance with the contract documents, and building standards.

B. Products, including equipment, devices, fixtures, and materials shall be UL listed and/or bear appropriate label(s), and shall be new, unless noted otherwise.

C. Execution, including preparation, installation, starting, and testing shall be performed by skilled trades personnel, in compliance with the associated manufacturers recommendations, and coordinated with the other construction trades.

1.02 APPLICABLE LAWS AND AGENCY STANDARDS

A.	Associated Air Balance Council	AABC
B.	Air Diffusion Council	ADC
C.	American Gas Association	AGA
D.	Air Movement and Control Association	AMCA
E.	American National Standards Institute	ANSI
F.	Air-Conditioning and Refrigeration Institute	ARI
G.	American Society of Heating, Refrigerating, and Air-Conditioning Engineers	ASHRAE
H.	American Society of Mechanical Engineers	ASME
I.	American Society for Testing and Materials	ASTM
J.	American Welding Society	AWS
K.	Federal Communications Commission	FCC
L.	Gas Appliance Manufacturers Association	GAMA
M.	Hydronics Institute	HI
N.	Manufacturers Standardization Society	MSS
O.	National Environmental Balancing Bureau	NEBB
P.	National Electrical Manufacturers Association	NEMA
Q.	National Fire Protection Association	NFPA
R.	Sheet Metal and Air Conditioning Contractors' National Association	SMACNA
S.	Underwriters' Laboratories	UL

PART 2 HEATING, VENTILATION, AND AIR CONDITIONING SYSTEMS

2.01 AIR CONDITIONING AND HEATING SYSTEMS

A. Existing dwelling units (Apartment Building) shall be heated via existing steam radiators.

1. Provide electric heat in areas where existing walls/room modifications result in the creation of isolated, unheated areas.

B. Existing dwelling unit (Apartment Building) living room and bedroom areas shall be conditioned by new duct-free split-system heat pump. Each dwelling unit shall have an independent heat pump system.

1. Conditioned air shall be provided via high-wall, surface mounted indoor fancoil units.
2. Condensing units (outdoor heat pumps) shall be located on the roof.
3. Refrigerant piping shall connect each outdoor unit with one or more indoor fancoil units.
4. Thermostats shall be integral to each indoor fancoil unit and shall include 7-day programmable, electronic thermostatic functions with remote controls.
5. Indoor fancoil unit condensate discharge shall be collected via new pipe risers and combined horizontal piping within the first floor and/or garden level. Condensate shall be drained to plumbing floor drains (or open site drains).
6. Systems shall include heat pump heating function adequate to provide part-load heating during shoulder seasons.
7. Typical dwelling units shall have individual indoor fancoil units within each bedroom and within the main living space, sized for each room load. Each condensing unit shall be sized for 1.0-1.5 nominal tons of total cooling.
8. Three-bedroom dwelling units shall have individual indoor fancoil units within each bedroom, dining room, and main living space, sized for each room load. Each condensing unit shall be sized for 2.5-3.0 nominal tons of cooling. Branch circuit controller shall be provided within an accessible area such as a closet or within a ceiling/soffit space.

C. ALTERNATE: Apartment Building dwelling unit living room/bedroom areas shall be similar to above except areas shall be conditioned by new variable refrigerant flow [VRF] heat pump systems. Dwelling units shall share combined systems zoned per building exposure face.

D. New dwelling units (Church Building) shall be conditioned by new ducted split-system heat pump with electric heating. Each dwelling unit shall have an independent heat pump system.

1. Conditioned air shall be provided via a central concealed fancoil unit.
2. Supply air shall be ducted to the perimeter (within lowered ceilings, truss spaces, and/or soffits) where diffusers may be directed at the windows.
3. Return shall be ducted to a central grille near the entrance of the dwelling unit, within a hallway, or other central location.
4. Condensing units (outdoor heat pumps) shall be located on the roof of the Apartment Building.
5. Refrigerant piping shall connect each outdoor unit with associated indoor fancoil unit.
6. Thermostats for indoor fancoil units shall be wall mounted, 7-day programmable, electronic thermostats.
7. Fancoil units shall include electric heating coil sized for minimum 50% of residence overall heat load. Remaining heat load shall be provided via perimeter electric baseboard and/or fan-forced electrical wall heaters.
8. Smaller dwelling units shall have an indoor fancoil unit and associated condensing unit sized with 1.0 nominal ton of cooling.
9. Medium dwelling units shall have an indoor fancoil unit and associated condensing unit sized with 1.5 nominal tons of cooling.
10. Large dwelling units shall have an indoor fancoil unit and associated condensing unit sized with 2.0 nominal tons of cooling.

E. Where supply air may not be ducted sufficiently close to the perimeter exposures or where fancoil electric heating coil cannot provide 100% heating capacity, supplementary electric heat shall be provided (via electric baseboard heaters and/or fan-forced electric wall heaters).

1. Baseboard heaters shall be pedestal-type with extruded aluminum grille.
2. Electric wall heaters shall be recessed (or semi-recessed) with architectural grilles.

F. Provide electric cabinet unit heaters (within the Church Building) near the exterior doors within the Lobby entrance vestibules, near stairwell exterior doors, and within each stairwell (at ground level). Each heater shall have a minimum 3.0 kW heating capacity.

G. Provide electric unit heaters in the following spaces (within the Church Building). Each heater shall have a minimum 3.0 kW heating capacity:

1. Lobby/corridors
2. Electrical equipment rooms
3. Mechanical rooms

4. Utility and Back-of-House [BOH] room(s)
5. Trash room(s)
6. Storage room(s)
7. Stairwells (immediately below roof structure)
8. Other miscellaneous critical unconditioned spaces which must be prevented from freezing.

2.02 VENTILATION SYSTEMS

A. Toilet Exhaust (Church Building)

1. Each new dwelling unit toilet room (in the Church Building) shall have an individual ceiling exhaust fan, switched with the bathroom light. Typical toilet rooms shall have 100 CFM exhaust, shall be controlled via local light switch, and shall activate when the light is switched on. Larger bathrooms will have 150 CFM exhaust.
2. Toilet exhaust shall be routed individually to exterior terminations with 6" diameter round ductwork.
3. All toilet exhaust ductwork shall be sealed.
4. All toilet exhaust ductwork run within unconditioned portions of the building envelope, as well as all interior ductwork within 10'-0" of the roof penetration, shall be insulated.
5. Provide radiation dampers and/or fire dampers as required where toilet exhaust fan or ductwork penetrates fire-rated floor/ceiling (or roof/ceiling) assemblies. Fire damper installation locations and/or through-penetration fire-stop system installations shall be coordinated with General Contractor.
6. Ductwork shaft locations and construction shall be coordinated with Architect. Provide fire-rated duct wrap where required to maintain duct/shaft fire ratings.

B. Toilet Exhaust (Apartment Building)

1. Existing toilet rooms and ventilation provisions shall remain. In areas where existing toilet rooms (within the Apartment Building) are ventilated via natural ventilation openings, Architect shall coordinate natural ventilation area requirements with replacement window specifications.

C. Central Clothes Dryer Exhaust (Apartment Building)

1. Laundry Room clothes dryer exhausts shall be combined into a central exhaust duct, sized at 10" diameter.
2. New central exhaust duct riser shall be routed from Laundry Room area to the roof. New exhaust duct riser shall be located within existing three-bedroom units.

3. Provide modulating dryer exhaust system including constant pressure controller, variable frequency drive, dryer interlocks, and pressure sensors.
4. Provide makeup air supply fan interlocked with dryer exhaust fan operation. Makeup air shall be ducted from sidewall intake louver (located on the west wall of the Apartment Building) and shall include motorized two-position intake damper.
5. Outside air ductwork shall be fully insulated and shall include modulating electric duct heater sized at 15.0 kW capacity.
6. Maintain code-required minimum separation to operable windows and outdoor air intakes.
7. All dryer exhaust ductwork shall be fabricated per minimum requirements of the Chicago Building Code, Sections 18-28-504 and 18-28-603.
8. All dryer exhaust ductwork run outside the building envelope shall be insulated.
9. Provide duct cleanouts where required.
10. Through-penetration fire-stop systems installation shall be coordinated with General Contractor.

D. Dwelling Unit Clothes Dryer Exhaust (Church Building)

1. Dryer exhausts shall be individually routed to an exterior termination location.
2. Maintain code-required minimum separation to operable windows and outdoor air intakes.
3. The maximum length of the dryer exhaust duct shall be determined by the dryer manufacturer's installation instructions. Where the dryer model is unknown, maximum length of exhaust duct shall be 35 equivalent feet.
4. Provide a dryer booster fan for each dryer where the maximum exhaust duct length is exceeded.
5. Ductwork shall be 4" minimum diameter and include a backdraft damper at the termination location.
6. All dryer exhaust ductwork shall be fabricated per minimum requirements of the Chicago Building Code, Sections 18-28-504 and 18-28-603.
7. All dryer exhaust ductwork run within unconditioned portions of the building envelope shall be insulated.
8. Provide duct cleanouts where required.
9. Through-penetration fire-stop systems installation shall be coordinated with General Contractor.

E. Miscellaneous Exhaust Systems

1. Dwelling unit kitchen hoods (within Church Building) shall be of the recirculating type, and will not require ductwork unless natural ventilation is insufficient.

2. Provide flues and combustion air intakes for domestic water heaters up through the roof (or to approved sidewall termination locations). Flue/vent piping shall be terminated minimum 24" above roof/grade level. Vent termination locations shall be located a minimum 15' away from intakes and 4' away from windows and doors. Flue/vent termination locations shall be coordinated with Architect.
3. Provide one (1) exhaust fan to serve trash room.
4. Provide one (1) exhaust fan to serve janitor closet.
5. Provide one (1) exhaust fan to serve water service room.

2.03 NATURAL GAS SERVICES

A. Existing building gas meter shall serve all the gas-fired equipment in the building.

1. Existing gas service shall remain.
2. Gas delivery pressure shall be coordinated with local Gas Company.
3. Provide all materials, regulating valves, pressure reducing valves, equipment, and services in connection with any modifications to existing service(s) or service pressure(s).
4. Coordinate connected load requirements with local Gas Company.

2.04 NATURAL GAS PIPING SYSTEMS

A. Residential natural gas piping:

1. Existing residential gas meters shall be removed.
2. Existing branch piping serving Apartment Building dwelling units shall be removed and existing pipes capped and sealed at mains.

B. Building (common meter) natural gas piping:

1. Existing building common meter shall continue to serve the existing steam boiler and shall serve new domestic water heater(s).
2. Existing gas piping serving existing boiler shall remain.
3. Route new gas piping within Boiler Room (within Apartment Building) to serve new domestic water heaters.

C. All natural gas piping systems:

1. All existing gas meters and piping are anticipated at low pressure (1/4 PSIG or 7 inch water column).
2. Provide rigid gas pipe connections to all new equipment (domestic water heaters). Each connection shall include shutoff valve, dirt leg, and union as close to the equipment as practical.
3. Provide an appliance regulator for each new piece of gas-fired equipment

as per manufacturer's installation requirements.

2.05 CONTROL SYSTEMS

A. Each major piece of equipment shall include stand-alone controls. Stand-alone controllers shall control sequences, modes, and schedules including:

1. Occupied/Unoccupied Modes
2. Outdoor temperature reset schedules
3. Time-of-day setback schedules
4. Equipment duty schedules
5. Other modes as directed by Owner's Representative.
6. Provide alternate price for web-based interface (base-building systems)

PART 3 PRODUCTS

3.01 GENERAL

A. Use only new products, equipment, and materials, which have been tested, rated and listed by a recognized laboratory and bear the appropriate labels.

3.02 ROOF RAILS AND CURBS

A. Mount rooftop equipment on prefabricated roof rails or mounting bases.

1. Provide standard insulated roof curbs for ductwork roof penetrations and for exhaust fans where applicable.
2. Provide insulated roof curbs with insulated caps or piping portals for piping roof penetrations where applicable.
3. Provide resilient mounting pads for roof-mounted condensing units.
4. Provide all roof-mounted piping and ductwork with roof rails and/or free-standing supports on an extra layer of roofing material or resilient pad.

3.03 DUCTWORK

A. Fabricate ductwork from prime galvanized sheet steel in accordance with SMACNA and ASHRAE standards.

B. Exposed ductwork shall be round, spiral lock construction. Coordinate all exposed duct locations with architectural drawings.

C. Ductwork shall be constructed in accordance with SMACNA requirements for low-pressure systems.

D. Duct connections, supports and fasteners shall be arranged so that there are no

screws, pins, nails, projecting into the inner duct surfaces.

E. Seal all joints and connections with 3M duct sealant. For caulking, use GE silicone caulking grade sealant.

F. Maximum duct velocity shall be 1,100 feet/minute.

G. Ducts shall be thoroughly cleaned and made free of all lint, metal clippings, or filings, oil, loose duct sealant, or other debris.

3.04 AIR INLETS AND OUTLETS

A. Provide grilles, registers, and diffusers at each interior inlet/outlet point of supply, exhaust, return, or transfer air as follows:

1. Surface mounted grilles (exhaust, return, transfer) - "Titus" model 350RL, (or approved equal), single deflection steel grille.
2. Surface mounted registers (supply) - "Titus" model 300RL, (or approved equal), double deflection steel register, with opposed blade damper.
3. Lay-in ceiling diffusers (supply) - "Titus" model OMNI, (or approved equal), architectural plaque diffuser.
4. Lay-in ceiling grilles (exhaust, return, transfer) - "Titus" model PAR, (or approved equal), perforated ceiling panel.
5. Alternate type (enhanced security or tamperproof construction) as directed by Owner's Representative.

B. Provide drainable blade louvers for exterior outdoor air intake and exhaust air discharge locations. Coordinate with Architect and Owner's Representative.

3.05 LINING

A. Line all supply and return ductwork mains with 1 inch thick, 2 lb. density fiberglass lining.

B. Do not line outdoor air intake ductwork.

C. Line return duct shafts with 1 inch thick, 3 lb. density rigid fiberglass lining.

D. Line exhaust ductwork for a distance of 15' upstream of the fan.

E. Duct sizes, where indicated, represent free airway dimensions and must be increased by 2" per side for lined ductwork.

3.06 INSULATION

A. Insulate all unlined ductwork and ductwork in unconditioned spaces with 1-1/2" thick fiberglass flexible insulation with a factory applied reinforced foil-faced flame-resistant Kraft facing.

B. Insulate outdoor air intake ductwork with 2" thick fiberglass flexible insulation with a factory applied reinforced foil-faced flame resistant Kraft facing.

3.07 FLEXIBLE DUCTWORK

A. Flexible ductwork may only be installed on supply ductwork within accessible concealed areas. Maximum length of flexible ductwork shall be 5'-0".

B. Flexible ductwork is prohibited within residential units.

C. All flexible ductwork shall be properly supported.

D. No more than one 90 degree turn will be permitted in any length of flexible duct, and total sum of all turns shall not exceed 90 degrees.

3.08 DUCT SUPPORTS AND BRACING

A. Provide 1 x 1/8" galvanized band iron or 1 x 1/8" galvanized angle iron duct hangers, spacing per SMACNA recommendations. No perforated strap will be permitted. Support ducts only from building structure. All bracing must be external to the ducts with supports attached to the bracing.

3.09 ACCESS DOORS

A. Provide access doors where required for access and at each automatic damper, fire damper, or similar devices requiring access.

3.10 DUCT TURNS AND ELBOWS

A. Where possible, all turns shall be made using curved elbows having a minimum radius equal to the duct dimension in the plane of turn.

B. Where possible, turns shall be made without internal vanes, etc. If square turns are shown or are necessary, install double-skinned duct turns.

3.11 MANUAL DAMPERS

A. Provide all dampers, splitters, quadrants, etc., required to properly adjust, balance and control the various air systems.

B. Install a volume damper or splitter damper at each branch takeoff.

C. Splitter dampers shall be at least one gauge heavier than the duct in which it is installed, fitted with operating rod and Ventlok (or equal) No. 603 bracket and set screw.

D. Volume dampers shall be of the multiblade type with individual blades not over 10" in width. Individual damper blades shall be fitted with end bearings and Ventline No. 560 lever quadrant.

E. All dampers shall operate freely and shall be free of excessive vibration and noise.

F. Manual balancing dampers for air systems shall be: Ruskin Mfg. (or approved equal), model CD-35.

3.12 FLEXIBLE DUCT CONNECTIONS

A. Provide flexible duct or canvas connections at supply and return connections to make-up air unit and rooftop units using Ventfabrics, Inc., "Metaledge" type Neoprene coated glass fabric, 6 inch width.

3.13 PIPING

A. Condensate Drain Systems: Condensate drainage system components shall be provided in compliance with Section 307 of the Mechanical Code:

1. Condensate from condensing fuel-fired appliances shall be collected and discharged in accordance with the appliance manufacturer's installation instructions. Provide condensate neutralization as required.
2. Condensate drain piping shall be PVC, CPVC, ABS, or cross-linked polyethylene.
3. Condensate drain piping shall be minimum 3/4" diameter and shall not decrease in size from the drain pan connection to the point of discharge.
4. Condensate drain piping shall maintain a minimum horizontal slope in the direction of discharge not less than 1/8 inch vertical drop in 12 inches of horizontal run.
5. Provide cleanouts every 50 feet and at all changes in direction greater than 45 degrees.

B. Natural gas piping systems shall be schedule 40 black steel with beveled edges for welding (2-1/2" and larger) or threaded ends (2" and smaller).

C. Clean and test piping before tie-in to existing.

D. Clean and test natural gas piping before tie-in to gas service. Piping shall be

cleaned clear of chips and scale with compressed air at 100 psig. Piping shall be tested with air at a pressure of 50 psig for 24 hours without gauge pressure drop or leakage.

E. All exposed piping shall be protected from rust, and painted per architectural specifications.

F. Provide gas piping support hangers at maximum 10' spacing. All piping shall be supported in accordance with IFGC sections 407 and 415.

G. Provide "Miro" Pillow Block Pipe Stands located on concrete roof walkway pad or an extra layer of roofing material for all rooftop gas piping. Spacing shall be per manufacturer's recommendations.

H. Ball valves shall have cast bronze bodies, replaceable teflon seats, conventional port, blowout-proof stem, adjustable packing gland, chrome plated ball, sweat ends, and shall be rated for 600 WOG.

I. Unions shall be provided in the piping connections to each valve, device, or item of equipment; or elsewhere as required to construct or disconnect piping. Each union shall be installed as to permit the removal of parts and equipment for cleaning, inspection, or replacement without disconnecting any piping except the union.

J. Provide an individual gas shut-off valve with lever handle, dirt leg, and union at each piece of gas-fired equipment.

K. Strainers shall be “Y” pattern with removable basket screen. The basket shall be heavy gauge Monel metal with 1/32 inch perforations.

L. Drain valves shall be Nibco 74CL with 3/4” hose connection and threaded cap.

M. Provide dielectric waterways between piping of dissimilar metals.

PART 4 EXECUTION

4.01 GENERAL

A. The execution of all work, including installation and testing shall be performed by skilled tradesmen. All materials and equipment shall comply with the manufacturers' recommended installation standards and standards set forth by the building and the Owner's Representative.

4.02 DOCUMENTATION TO OWNER

A. Provide Owner's Representative with copies of assembled printed instructions for the operation and maintenance of each piece of installed equipment along with control wiring diagrams.

B. Contractor shall provide complete as-built drawings. As-Built Drawings shall indicate the mechanical installation exactly as constructed. As-Built Drawings shall be made with the same border lines and title blocks, as the Architect's Drawings, with the Mechanical Contractor's name added. Provide to the Architect/Engineer a complete set of electronic files consisting of AutoCAD™ .DWG files or a REVIT™ model, and a .PDF file containing all mechanical as-built drawings.

4.03 COORDINATION

A. Coordinate all work with existing utilities and new work of all trades, and with the Owner's Representative.

4.04 TESTING AND BALANCING

A. Testing and Balancing of mechanical systems shall be completed in accordance with AABC National Standards and/or NEBB Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems.

4.05 COMMISSIONING AND DOCUMENTATION

A. Provide functional testing of mechanical systems as directed by the Owner’s commissioning agent in accordance with the applicable energy code.

1. Provide qualified personnel to ensure that control hardware and software are calibrated, adjusted, programmed and in proper working condition in accordance with the construction documents and manufacturer’s instructions.
2. Functional testing shall be in accordance with the requirements of the applicable energy code and Owner’s commissioning agent.

B. Provide documentation in accordance with the requirements of the applicable energy code, within 90 days of the receipt of receipt of the certificate of occupancy.

1. Provide as-built construction documents.
2. Provide operating and maintenance manuals.
3. Provide a report of functional test results, including deficiencies found during testing and corrective measures taken which resulted in functional compliant systems.

ELECTRICAL SCHEMATIC DESIGN NARRATIVE

PART 1 ELECTRICAL DISTRIBUTION SYSTEM

1.01 ELECTRICAL SERVICES AND SERVICE EQUIPMENT

A. Provide a 200A, 208/120V, 3ø, 4W electrical service to serve the fire pump, consisting of 4#3/0 in 2 inch PVC Schedule 80 conduit, derived from an exterior utility pole-mounted transformer. The fire pump electrical service shall serve a 200A, 208/120V, 3ø, 4W meter/CT located in the fire pump room, via a separate weatherhead mounted on an exterior wall and service feeder run underslab.

B. Provide a 1200A, 208/120V, 3ø, 4W electrical service to serve the building, consisting of three (3) sets of 4#600kcmil in 4 inch PVC Schedule 80 conduit, derived from an exterior utility pole-mounted transformer. The electrical service shall have a separate weatherhead mounted on an exterior wall and a service feeder run exposed on the exterior wall to the electrical room. The building electrical service equipment shall be a 1200A, 208/120V, 3ø, 4W NEMA 1 meterbank with a 1200A/3P main circuit breaker (MCB) and the following integral distribution sections:

1. Base Building: 1200A, 208/120V, 3ø, 4W meterbank section with (2) 200A, 208/120V, 3ø, 4W meters (each with 200A/3P CB)
2. Residential (New Units): 1200A, 208/120V, 3ø, 4W meterbank sections with nine (9) 125A, 208/120V, 1ø, 3W meters (each with 100A/2P CB)
3. Residential (Existing Units): one (1) 600A, 208/120V, 3ø, 4W unmetered distribution section with 600A/3P CB (to serve a remote meterbank)

    a. The remote meterbank shall consist of 600A, 208/120V, 3ø, 4W meterbank sections with (1) 200A, 208/120V, 3ø, 4W meter (with 200A/3P CB) and thirteen (13) 125A, 208/120V, 1ø, 3W meters (each with 100A/2P CB)

1.02 ELECTRICAL DISTRIBUTION EQUIPMENT

A. Provide the following electrical distribution equipment:

1. Base Building: each 200A meter shall serve a 200A, 208/120V, 3ø, 4W branch circuit panelboard (each with 200A/3P MCB and 42 poles) served via 4#3/0, 1#6G in 2 inch conduit from the associated meter.
2. Residential: each dwelling unit shall be served by a 100A, 208/120V, 1ø, 3W, 24 pole loadcenter with a 100A/2P MCB served via 3#2 in 1 1/4 inch conduit from the associated meterbank.

3. Fire Pump: the meter shall serve the fire pump controller (provided by others) via 4#3/0 in 2 inch conduit. The controller shall be service rated and include bonding and grounding.

B. Electrical distribution equipment shall be circuit breaker type. The building's main overcurrent protection device (OCP) shall have an AIC rating as required for the utility's available short circuit current, and downstream equipment/devices shall be series rated at the required rating for available short circuit current.

C. Each dwelling unit loadcenter shall include:

1. The loadcenter shall have aluminum phase and neutral bus, with ampacity rating to match the service size, AIC rating suitable for available fault current, and plug-in type circuit breakers.
2. The loadcenter shall have a main circuit breaker and branch circuit breakers as required for the tenant loads.
3. 15A/1P circuit breakers shall be used with #14 AWG branch wiring and NEMA 5-15R receptacles. Provide 20A/1P circuit breakers used with #12 AWG branch wiring where code-required or required for the equipment served.
4. Alternate: Arc-fault circuit interrupter (AFCI) type circuit breakers shall be provided for all 120V/1P 15- and 20-amp branch circuits supplying outlets and devices within dwelling units.
5. Ground-fault circuit interrupter (GFCI) type circuit breakers shall be provided for all branch circuits as code-required. The ground-fault circuit interrupter shall be installed in a readily accessible location. Ground-fault circuit breakers shall be used where GFCI receptacles cannot be installed in a readily accessible location, such as behind a refrigerator, range, etc.
6. Loadcenters shall be mounted so that the highest overcurrent protection device is no higher than 48" above finished floor.

D. A complete short circuit and coordination study shall be provided. Final equipment interrupting current ratings shall be selected based upon the short circuit and coordination study. Series rated equipment shall be allowed.

1.03 FEEDERS AND BRANCH CIRCUITS

A. All feeders and branch circuits shall be wire in steel conduit.

B. Conductors serving the elevator and fire pump, and all electrical service feeders shall be copper wire, 90 degree C rated, with appropriate insulation type as required to accommodate the installation location.

C. Conductors less than 60A shall be copper wire, 90 degree C rated, with appropriate insulation type as required to accommodate the installation location.

D. Conductors 60A and greater shall be copper wire or compact stranded aluminum alloy (Stabiloy or equal) wire, 90 degree C rated, with appropriate insulation type as required to accommodate the installation location.

E. Equipment ground conductors (where used) shall be of the same material (copper wire or compact stranded aluminum alloy) as the phase and neutral wires within each circuit.

F. Branch circuit conductors shall be copper wire, 90 degree C rated, with appropriate insulation type as required to accommodate the installation location.

G. For branch circuits in all areas except dwelling units, one neutral wire shall be provided for each set of three (phase A, B and C) 120V branch circuits. For branch circuits in dwelling units, one neutral wire shall be provided for each set of two (phase A and B) 120V branch circuits.

H. All feeder and branch circuit conductors shall be upsized to reduce voltage drop so that feeders have no more than 3% voltage drop and branch circuit conductors have no more than 2% voltage drop.

I. All feeders and branch circuits, except those serving dwelling units, shall include an equipment ground conductor.

J. Feeders and branch circuits installed above-slab in interior locations shall be wire in EMT conduit.

K. Feeders and branch circuits installed above-grade/slab in exterior locations or interior locations subject to physical damage shall be wire in HWG conduit.

L. Feeders and branch circuits installed below-grade/slab or in-slab shall be wire in Schedule 40 (or Schedule 80 where noted) PVC conduit.

1.04 GROUNDING

A. Complete electrical system grounding and bonding shall be provided. Building service grounding shall be comprised of a grounding electrode conductor from each service bonded to the main water service pipe. Additional grounding electrodes, such as building steel, concrete-encased electrodes, etc. shall be connected to the grounding system where code-required.

1.05 EMERGENCY SYSTEM

A. Provide emergency lighting battery packs and battery exit signs throughout all public areas of the building as required by applicable codes. All emergency lighting and exit signs shall provide 90 minutes of battery back-up. Provide exterior emergency lighting heads (dual lamp type and served from an interior battery pack) at all exterior exits when required by applicable codes

1.06 LIGHTING

A. Lighting shall be provided throughout the dwelling units per the Lighting Designer's direction, and shall consist of a typical residential grade LED package. Switching shall be as code-required and as required by the Architect or Owner.

1. Provide minimum one (1) wall switch-controlled lighting fixture in each habitable room and bathroom. In rooms other than kitchens or bathrooms, receptacles controlled by a wall switch shall be allowed.
2. Provide minimum one (1) wall switch-controlled lighting fixture in each hallway.
3. All walk-in closets shall have a lighting fixture controlled by a wall switch. The lighting fixture shall be mounted on the ceiling.
4. Closets, other than walk-in closets, shall be provided with a lighting fixture if required by Code.

B. Lighting throughout the public areas shall be LED and selected for maximum energy efficiency. Local lighting controls shall be provided as desired/required. Provide individual lighting control (vacancy sensor with manual on) for each applicable public space/room or multiple-level manual control for each applicable large space, as required by the Energy Code.

C. Exterior/building lighting shall be LED and controlled by a timeclock with photocell override.

D. Wattage for all lighting fixtures shall meet the requirements of the applicable energy code, including requirements for an Efficient Lighting System (IECC compliance) where required. Controls for all lighting fixtures shall meet the requirements of the applicable energy code.

E. The building shall be considered to be in operation 24 hours, 7 days per week. The intent of the public lighting is to be continuously on, unless occupancy sensor control/dimming is specified/required. Individual public area rooms shall be provided with vacancy sensors or dual switching (and timeclock control) in compliance with the applicable energy code.

F. LED fixtures shall be compatible with 0-10V dimming. Dimming lights intended to be controlled and used for emergency illumination shall be provided with UL 924 dimming relays.

1.07 RECEPTACLES

A. Receptacles shall be provided throughout the dwelling units per the Architect's or Owner's direction, and at minimum, as required by the applicable codes.

1. All receptacles shall be horizontal in units.
2. Receptacles shall be located so that no point measured horizontally along the floor line in any wall space is more than 6'-0" from a receptacle in each kitchen, family room, dining room, bedroom, recreation room, or similar room or area within the dwelling unit.
3. Kitchen countertop receptacles shall be located so that no point is more than 24" from a receptacle. All receptacles serving kitchen countertop surfaces or wall-mounted receptacles within 6'-0" of a sink shall be GFCI protected.
4. Receptacles locations shall meet local code requirements.
5. Where applicable, provide switch-controlled split-wired duplex receptacle for the garbage disposal and dishwasher. The switch shall be mounted above counter. The unswitched side of the receptacle shall serve the dishwasher. Provide a handle-tie for the two (2) circuit breakers (circuits) serving this receptacle.
6. Provide the required receptacle to serve the range. Provide a receptacle or hardwired connection to serve the range hood/microwave per the Owner's requirements.
7. Provide the required receptacle to serve the dryer and washer.
8. Provide the required receptacle at the powered communications termination box.
9. All receptacles within dwelling units shall be tamper-resistant as required by applicable code.

B. Receptacles shall be provided throughout the public areas, as directed by the Architect.

1.08 ELECTRICAL CONNECTIONS TO EQUIPMENT

A. Refer to the Architectural drawings, Owner's project criteria and this narrative for equipment electrical requirements.

B. Provide an appropriately-sized electrical connection (consisting of wire in conduit) to each piece of mechanical and other equipment that requires power.

C. Provide code-required overcurrent protection (consisting of a circuit breaker or fuse) to protect each branch circuit and feeder. Overcurrent protection shall typically be located in the panelboard serving the equipment.

D. Provide a code-required disconnect switch for each piece of mechanical and other equipment that does not have an approved integral disconnect switch.

1.09 ACCESSIBLE/ADAPTABLE DWELLING UNITS

A. Refer to Architectural plans for locations of accessible and adaptable dwelling units.

B. Provide junction boxes and conduit for any required future visual alarms. Conduit shall be connected to junction box at required smoke detector(s) for future use.

C. Loadcenters shall be mounted so that the highest overcurrent protection device is no higher than 48" above finished floor.

D. Provide electrical provisions for any required remote control of hood/fan, range, etc.

E. Provide electrical provisions for any windows or sliding doors required to be converted in the future to electrical operation.

F. Provide doorbell with visual strobe within living room(s) and bedrooms. Strobe devices within bedrooms shall be capable of being turned off. Doorbell systems shall be hardwired.

G. Where required, light switches shall be rocker type (in lieu of toggle type).

PART 2 COMMUNICATIONS SYSTEM

2.01 COMMUNICATIONS SYSTEM SERVICES

A. Provide an exterior weatherhead to accept overhead utility services and two (2) empty 4 inch conduits run on the exterior wall and exposed to the telephone/CATV distribution equipment. Provide fire-rated plywood backboard(s) as required by the Utility Companies for telephone/CATV service to the building, and provide power receptacles as required for utility equipment. Refer to the Low Voltage Vendor for required work.

2.02 COMMUNICATIONS SYSTEM DISTRIBUTION

A. Telephone (and/or data), and cable television terminations shall be located at the main telephone terminal board (TTB).

B. Provide a one inch conduit (with pull string) from the TTB to each dwelling unit. Each of these conduits shall serve a powered communications termination box located in a typical dwelling unit.

C. Low voltage cable distribution within dwelling units shall be exposed within walls.

1. Provide a flush mounted structured media enclosure within each dwelling unit containing a duplex power receptacle and a coax splitter for CATV.
2. Provide CAT6 telephone cable, run concealed (within walls or ceilings) to each telephone outlet.
3. Provide RG-6 coax cable, run concealed (within walls or ceilings) to each CATV outlet.
4. Provide telephone and CATV outlets per Owner's requirements.

D. Low voltage cable distribution within public areas shall be in conduit (EMT), 3/4 inch minimum. Outlets shall be located by the Low Voltage Vendor. Provide a CAT 6 telephone cable to each telephone outlet and an RG-6 coax cable to each CATV outlet.

E. Telephone, data and coax cable risers shall be by the Low Voltage Vendor.

F. All electronic equipment, punchdown blocks, cabling, jacks and coverplates shall be specified by the Low Voltage Vendor.

G. Low Voltage scope within this document is for bidding purposes only. Final design and scope shall be provided by the Owner.

PART 3 DWELLING UNIT SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS

3.01 EQUIPMENT

A. Each dwelling unit shall have multistation photoelectric smoke detectors located in each sleeping room and in the path of egress within 15'-0" of each sleeping area. CO detectors shall be located within 15'-0" of each sleeping area. Where multiple smoke or CO detectors are used within a dwelling unit, they shall be multistation type. Combination smoke/CO detectors may be used where applicable. Smoke and CO detectors shall be 120V with battery back-up. All smoke and CO detectors shall be wired so that all detectors within the typical dwelling unit sound when any detector within the dwelling unit goes into alarm.

B. Each visual alarm dwelling unit shall have a single ADA compatible visual strobe/audible device in the main room and a visual strobe device in each additional habitable room. The remote visual strobe devices shall be connected to the smoke and CO detectors within the dwelling unit to provide visual alarm in each habitable room.

PART 4 FIRE ALARM SYSTEM

4.01 BUILDING FIRE ALARM SYSTEM

A. A fire alarm system, approved by the AHJ, shall be provided throughout the building. The fire alarm system shall be addressable and shall conform to the requirements of NFPA 72, the Illinois Accessibility Code (IAC) and the Americans with Disabilities Act (ADA).

B. The fire alarm control panel shall be addressable type and shall be located in the electrical room. A remote annunciator panel with full control capability shall be located at the main entrance. Final location of fire alarm panels shall be approved by the AHJ.

C. Provide smoke detectors, heat detectors, duct smoke detectors, visual strobe devices, and audible devices as required to meet the applicable codes. All visual strobe devices shall be synchronized. Devices shall be red in color.

D. Provide manual pull stations at each level/location of exit discharge, including exterior egress doors, stairwell doors, etc. Manual pull stations shall be double-action type and red in color.

E. If stairwell door locks are provided, automatic unlocking of door locks shall be provided upon fire alarm. All stairwell door locks shall be wired in fail-safe mode.

F. Provide electro-magnetic door hold-open devices and connections at horizontal exit doors and other locations where required.

G. At least one fire alarm system audible device shall be provided in each dwelling unit and connected to the building fire alarm system, in order to provide code-required fire alarm sound level throughout the dwelling unit. Quantity, location and sound level rating of audible devices with each dwelling unit shall be as determined by the equipment manufacturer using approved sound level calculations.

H. Each accessible dwelling unit shall have a visual strobe/audible device in the main room and a visual strobe device in each additional habitable room. These visual strobe devices shall be connected to the building fire alarm system, and be in addition to the second set of visual strobe devices connected to the single station or multistation combination smoke/CO detectors. In each room, the building fire alarm system visual strobe device shall be located adjacent to the single station visual strobe device.

I. The fire alarm system shall initiate automatic elevator recall if there is smoke in the elevator machine room, elevator lobbies (provide smoke detector in each lobby) or if a sprinkler waterflow switch on a floor is activated.

J. Alternate: Where code-required, the fire alarm system shall initiate automatic elevator shutdown upon heat detector activation (prior to sprinkler water flow) in the elevator machine room, elevator lobbies or elevator shaft/pit.

K. Provide connections to all devices provided by the Fire Protection Contractor (e.g. waterflow switches, valve supervisory switches, etc.).

L. Elevator smoke partitions shall be connected to fire alarm system through an addressable fire alarm relay module. Modules shall be selected to match voltage and current ratings required for systems being interfaced.

M. Provide connections to elevator shaft smoke relief dampers (if required). Dampers shall be automatically opened upon fire alarm. Where applicable, smoke detectors, to operate smoke dampers, shall be installed where ducts penetrate fire rated corridor walls.

N. Provide fire alarm shop drawings as required for submittal to the local Authority Having Jurisdiction (AHJ). Provide revisions to the shop drawings as required to obtain the permit, including all interpretive provisions and directives received during the permit review process. The fire alarm system is a delegated design that shall be performed by a Fire Alarm Contractor with license(s) as required.

O. Emergency services two-way portable radio communication reliability shall be provided as required. A bi-directional radio amplification system shall be provided within the building designed to operate in conjunction with all two-way portable radio communication equipment utilized by the Fire Department and the Police Department. This system shall provide ninety-five percent (95%) coverage of the proposed building/garage. The system shall provide a minimum output of 10 dB above the RF noise floor, at any point outside and/or within the building/garage.

PART 5 TWO-WAY COMMUNICATION SYSTEM

5.01 Where code-required, provide a two-way communication system from each accessible floor located above or below the exit discharge location to a monitored central station. The system shall consist of:

A. A main control panel with a master telephone headset and capability to communicate with remote communication stations.

B. Remote two-way communication stations capable of communicating with the master control panel.

PART 6 PRODUCTS

6.01 GENERAL

A. Use only new products, equipment, and materials, which have been tested, rated and listed by a recognized laboratory and bear the appropriate labels.

6.02 ENCLOSURES AND BOXES

A. Cabinets, enclosures and access panels shall be code gauge steel with baked enamel finish and flangeless hinges and fasteners. Equipment bases shall be 3 inch high concrete, steel braced and reinforced with 1/4 inch chamfer, and shall extend a minimum of 2 inches around base of equipment. Vibration isolation shall be spring elements in suspended rods and isolation pads below equipment, electrical connections shall be flexible conduit.

6.03 RACEWAY, FITTINGS AND SUPPORTS

A. Where used, minimum conduit size in public areas shall be 3/4 inch, except switch legs may be 1/2 inch. Where used, minimum conduit size in residential areas shall be 1/2 inch.

B. Where used, flexible steel conduit shall be galvanized steel, with UL listed liquidtight jacket as required, for final connections to equipment/devices.

C. Where used, metallic conduit fittings shall be steel – die-cast fittings of pot metal are not acceptable; electrical metallic tubing (EMT) fittings shall be compression type with insulated throats; heavy wall conduit (HWG) fittings shall be threaded joints – set screw and compression fittings are not acceptable.

D. Conduit supports, including channels, angles, rods, and fasteners shall be hot-dipped galvanized steel.

E. Outlet boxes for all toggle switches, receptacles, communications devices, fire alarm devices, and life safety devices shall include plaster rings, device plates, and coverplates where required. Provide boxes suitable for plenum, wet, or hazardous locations as required. Device coverplates shall be as directed by the Architect and/or Owner. Multi-gang outlet boxes shall include suitable one-piece device cover plate. Outlets located on opposite sides of a partition shall be staggered by 12 inches, minimum. Outlet boxes installed in unit demising walls shall include a "putty" pad.

F. Floorboxes shall be adjustable concrete-tight pressed steel with brass flange and coverplates. Flush floorboxes shall include brass trim and hinged outlet covers. Fire rated poke-thru floor fittings shall be UL listed and approved for the floor slab fire rating.

6.04 WIRING

A. Minimum wire size for public areas shall be #12 AWG and minimum wire size for dwelling units shall be #14 AWG. All wire #12 AWG and smaller may be solid or stranded. All wire #10 AWG and larger shall be stranded.

B. Cable supports shall be appropriate for the size of conduit and type of wire and cables. Cable lubricant shall be less than six percent solid residue after drying and shall not contain any waxes, greases, silicones, or glycol oils.

6.05 PANELBOARDS AND METERING EQUIPMENT

A. Distribution panelboards shall be fully rated with copper or aluminum phase, neutral, and ground bus, braced at 65,000 AIC for 208Y/120 Volt systems, or more to be greater than the available short circuit current. Overcurrent protection shall be bolt-on molded case circuit breakers as indicated.

B. Branch panelboards shall be fully rated with copper or aluminum phase, neutral, and ground bus, braced at 22,000 AIC for 208Y/120 Volt systems, or more to be greater than the available short circuit current. Overcurrent protection shall be bolt-on molded case circuit breakers.

C. Residential loadcenters shall be fully rated with aluminum phase and neutral bus, braced at 10,000 AIC for 208/120 Volt systems, or more to be greater than the available short circuit current. Overcurrent protection shall be plug-in molded case circuit breakers.

D. Metering equipment for utility metering, including self-contained or instrument transformer type meters, shall be in accordance with utility requirements, shall be copper or aluminum bus and connections within suitable NEMA enclosure, and shall include all required components. Instrument transformers shall be provided

for all meters rated above 200 Amperes. Each individual meter in a meterbank section shall include a circuit breaker with lockable cover. Interchangeable coverplates shall be provided for all future or unused meter. Each meterbank section shall include bus extension for future additional meterbank sections.

6.06 DISCONNECT SWITCHES AND MOTOR STARTERS

A. Local disconnect switches for electrically operated equipment shall be heavy duty within enclosure suitable for the location. Fusible disconnect switches 800 Amps and larger shall be bolted pressure, load-break type. Fusible and non-fusible disconnect switches 600 Amps and smaller shall be quick-make, quick-break type.

B. Overcurrent and short circuit protection within fusible switches shall be Class L current limiting time delay fuses for switches rated 800 Amps and larger, and Class RK-1 current limiting time delay fuses for switches rated 600 Amps and smaller.

C. Individual motor starters shall include two sets of normally open contacts, one set of normally closed contacts, three overload relays, individually fused control transformer, hand-off-auto selector switch for automatic start, start-stop button for manual start, and pilot light(s) as required. Combination starter disconnects shall include fusible switches. Contactors shall be NEMA type, with replaceable coil and contact tips.

6.07 GROUNDING

A. Grounding system, including service and equipment grounding and bonding, shall be in accordance with applicable codes and shall connect all electrically operated equipment.

B. Provide a ground wire (minimum #6 AWG) from the building service ground point to the main telephone/CATV service board.

6.08 WIRING DEVICES

A. Receptacles in public areas shall be duplex NEMA 5-20R, back and side wired, specification grade, unless noted otherwise. Special receptacle configurations, isolated ground receptacles, ground fault circuit interrupter (GFCI) receptacles, and arc fault circuit interrupter (AFCI) receptacles shall be as required or as indicated. Receptacle color shall be white unless specified otherwise; verify color with the Architect.

B. Receptacles in dwelling units shall be tamperproof duplex NEMA 5-15R, residential grade, unless noted otherwise. Special receptacle configurations:

NEMA 5-20R, ground fault circuit interrupter (GFCI), and arc fault circuit interrupter (AFCI) receptacles shall be as required or as indicated. Receptacle color shall be white unless specified otherwise; verify color with the Architect.

C. Toggle switches in public areas shall be single pole 20 Amp, 120-277 Volt, back and side wired, specification grade, unless noted otherwise. Special switches, including 3-way, vacancy/occupancy sensors, pilot light and momentary contact, shall be as required or as indicated. Switch color shall be white unless specified otherwise; verify color with Architect.

D. Toggle switches in dwelling units shall be single pole 15 Amp, 120 Volt, residential grade, unless noted otherwise. Special switches, including 3-way, etc. shall be as required or as indicated. Switch color shall be white unless specified otherwise; verify color with Architect. For all accessible units, provide rocker switches (in lieu of toggle switches) within the path of egress.

E. Slide dimmers shall be low profile, quiet, single-pole or 3-way, slide-to-off type, and shall be rated as required for the wattage and specific load type.

6.09 TIMECLOCKS

A. Timeclocks shall be microprocessor-based, programmable, with astronomical clock. Timeclocks shall be capable of automatically adjusting for daylight savings time and have minimum on/off times of 1 second, and maximum on/off times of 365 days. Load contacts shall be rated for 120-277VAC and at least 20A general purpose and resistive loads. Quantity of load circuits shall be selected to meet the project requirements with an additional 2 spare circuits. Timeclocks shall be Energy Code compliant.

B. Occupancy and Vacancy sensors shall be low voltage type with point-of-use relay controls at each zone of lighting intended to be controlled. Relays shall be rated for a minimum of 120V-277VAC, 20A and be of the same manufacturer as the occupancy and vacancy sensors. Sensors shall be field-adjustable for occupancy or vacancy modes and shall be located and selected to provide full coverage in spaces requiring occupancy sensing.

C. Interior photocell daylight harvesting sensors, where required, shall be of the same manufacturer as the general lighting control system. Sensors shall low voltage type and be field adjustable for light sensitivity.

D. Exterior photocell sensors shall be weather resistant and field adjustable for light sensitivity. Sensors shall be line voltage type (120-277VAC) with integral switched output. Exterior sensors shall be located as near as practical to the exterior lighting served in coordination with the architecture and with shading obstructions taken into consideration.

6.10 LIGHTING FIXTURES

A. Lighting fixtures shall include all appropriate accessories, mounting frame and trim for ceiling type. LED fixtures shall include all drivers and shall be electronic-type, labeled as compliant with radio frequency interference (RFI) requirements of FCC Title 47 Part 15, and comply with NEMA SSL 1 “Electronic drivers for LED devices, arrays, or systems”.

B. LED drivers shall have a sound rating of “A”, have a minimum efficiency of 85 percent, and be rated for a THD of less than 20 percent at all input voltages. Dimmable LED drivers shall be 0-10V type and shall be capable of dimming without LED strobing or flicker across their full dimming range.

C. LED lamps shall have a color temperature of 3500 degrees K (unless otherwise noted), a CRI of 80 minimum, and a lumen maintenance L70 rating of 50,000 hours minimum.

D. Lighting fixtures shall include coordinated air handling capability, plenum rating, fire-rated accessories, damp label and wet label where required. Lighting fixtures recessed within grid type ceilings shall include securing clips as required by the local authority.

6.11 SURGE PROTECTION DEVICES (SPD)

A. Surge suppression equipment shall be parallel type and shall be rated with the maximum continuous operating voltage, clamping voltage, and the number of impulses per UL 1449, ANSI/IEEE C62.41, and NEMA LS-1 guidelines for the surge current ratings (per mode of protection) indicated.

PART 7 EXECUTION

7.01 EXECUTION

A. Penetrations and channels in floors and walls shall be via cutting and coring as required for the size of product, only in accordance with the Architect and Engineer recommendations. Patch and fill sleeves, inserts, penetrations, and channels with appropriate code approved fireproofing to match or restore the original fire rating of the construction.

B. Install a 4 inch concrete pad below each piece of floor-mounted equipment.

C. Make final connections to vibrating equipment, fixtures, and devices with flexible metal conduit or liquid tight flexible metal conduit as required. Extend ground wire through flexible connections.

D. Install conduit, fittings, supports, etc. in accordance with codes, standards, and manufacturer's recommendations.

E. Installations within air handling spaces, including plenum ceilings, shall be approved for plenum installation and shall be in strict accordance with all applicable codes.

F. Communications raceway shall include square outlet box and flush wall opening for each telephone/data/CATV device. If used, conduits shall be provided as follows:

1. Include pull strings, insulating bushings and wide radius bends in conduits.
2. Horizontal conduit distance between boxes shall not exceed 100 ft.
3. Total number of conduit bends shall not exceed two equivalent 90 degree bends between boxes.
4. Conduit size shall be based on the quantity of cables routed to each device.
5. Confirm actual cable type and physical size prior to conduit installation.

G. Install pull boxes, junction boxes, and outlet boxes in accordance with codes, standards, and manufacturers recommendations. Boxes shall include accessible covers, and shall be sized in accordance with code to adequately facilitate pulling and connecting the quantity and size of wires, cables, and feeders contained. Conduit terminations shall be made with bushings and locknuts. Supports for conduits and boxes shall be suspended directly to the building structural components and in no case shall they be attached to suspended ceiling grid, ductwork, or piping components.

H. Install feeders and branch circuit wiring in accordance with codes, standards, and manufacturers recommendations. Install power, fire alarm, and communications systems within independent continuous raceways (when used).

I. Install electrical distribution equipment and devices in accordance with codes, standards, and manufacturers recommendations.

J. Install grounding system in accordance with codes, standards, and manufacturers recommendations.

K. Install lighting and associated controls, including fixtures, ballasts/drivers, lamps, toggle switches, slide dimmers, dimming equipment, timeclocks/contactors, etc. in accordance with codes, standards, and manufacturers recommendations.

L. Install single and multiple device coverplates as required.

M. Install fire alarm and other life safety systems in accordance with codes, standards, and manufacturers recommendations.

N. Install a plastic laminate nameplate on the enclosure of each piece of electrical distribution equipment. Nameplates shall be white with black core, 1-1/4 inches by 3 inches minimum, with 3/16 inch lettering, secured to equipment with two machine screws. Provide a typewritten panelboard directory within each branch panelboard and loadcenter. Device plates shall be engraved for toggle switches and other devices whose function is not readily apparent. Markers shall be self-sticking for each wire and cable at terminations and at each accessible point in equipment and raceway.

O. Clean electrical apparatus prior to completion of construction. Keep work areas clean at all times.

P. Contractor shall guarantee all work and material for one (1) year after completion against all defects of material, equipment, and workmanship.

Q. Contractor shall provide complete equipment submittals and plan shop drawings for review. Equipment submittals shall include all electrical equipment, materials and devices. Plan shop drawings shall include all equipment locations, conduit runs, circuit numbers, etc.

R. Electrical Contractor shall provide Installation Drawings:

1. Installation Drawings shall be made under the direction and supervision of the Electrical Contractor and shall show all electrical work inclusive of conduit, wiring, electrical equipment and devices, lighting fixture junction box locations and elevations, points where conduit enters or leaves structural slabs and walls, junction boxes, conduit supports, and inserts. The complete electrical distribution system from source or sources up to and including each branch circuit panelboard shall be indicated and dimensioned exactly as installed, with all feeders located on plan. Major equipment and apparatus shall be indicated to scale and properly located. Installation Drawings shall also show exact locations and depths of underground conduits and ducts and their terminations, as installed.
2. Installation Drawings shall indicate the electrical installation exactly as constructed and shall be periodically revised to reflect all changes, throughout the construction process.
3. Installation Drawings shall be made using AutoCAD^{tm} or REVIT^{tm} software with the same border lines and title blocks as the Architect's Drawings, with the Electrical Contractor's name added.

S. Electrical Contractor shall provide As-Built Drawings:

1. As-Built Drawings shall be the final complete version of the Installation Drawings noted above, and shall indicate the electrical installation exactly as constructed.
2. As-Built Drawings shall indicate all branch wiring (including homeruns and circuit tick marks), feeders (including routing), circuit numbers at each electrical device, conduit/pull box sizes for communications systems, lighting fixture types, etc.
3. At completion of the project, all changes and deviations from the Contract Documents shall be recorded by the Electrical Contractor on As-Built Drawings.
4. As-Built Drawings shall be made using AutoCAD^{tm} or REVIT^{tm} software with the same border lines and title blocks as the Architect's Drawings, with the Electrical Contractor's name added.
5. Provide to the Architect/Engineer a complete set of electronic files consisting of the AutoCAD^{tm} .DWG files or the REVIT^{tm} model, and a .PDF file containing all electrical as-built drawings.

T. Provide functional testing of electrical systems as directed by the Owner's commissioning agent in accordance with the applicable energy code.

1. Provide qualified personnel to ensure that control hardware and software are calibrated, adjusted, programmed and in proper working condition in accordance with the construction documents and manufacturer's instructions.
2. Functional testing shall be in accordance with the requirements of the applicable energy code and Owner's commissioning agent.

U. Provide documentation in accordance with the requirements of the applicable energy code, within 90 days of the receipt of receipt of the certificate of occupancy.

1. Provide as-built construction documents.
2. Provide operating and maintenance manuals.
3. Provide a report of functional test results, including deficiencies found during testing and corrective measures taken which resulted in functional compliant systems.

PLUMBING SCHEMATIC DESIGN NARRATIVE

PART 1 PLUMBING SCOPE OF WORK

1.01 GENERAL

A. The execution of all work, including installation and testing shall be performed by skilled tradesmen. All materials and equipment shall comply with the manufacturers' recommended installation standards and standards set forth by the building and the Owner's Representative.

B. Prepare coordination drawings detailing major elements, equipment components, and systems of electrical equipment and materials in relationship with other systems, installations, and building components. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are of importance to the efficient flow of the work.

C. Provide Owner's Representative with copies of assembled printed instructions for the operation and maintenance of each piece of installed equipment along with control wiring diagrams.

D. Contractor shall provide complete as-built drawings. As-Built Drawings shall indicate the plumbing installation exactly as constructed. As-Built Drawings shall be made with the same border lines and title blocks, as the Architect's Drawings, with the Plumbing Contractor's name added. Provide to the Architect/Engineer a complete set of electronic files consisting of AutoCAD™ .DWG files or a REVIT™ model, and a .PDF file containing all plumbing as-built drawings.

E. Provide functional testing of service water heating systems as directed by the Owner's commissioning agent in accordance with the applicable energy code.

1. Provide qualified personnel to ensure that control systems are calibrated, adjusted, programmed and in proper working condition in accordance with the construction documents and manufacturer's instructions.
2. Provide qualified personnel to ensure that pumps and systems are proportionally balanced for proper flow in accordance with the construction documents and manufacturer's instructions.
3. Functional testing shall be in accordance with the requirements of the applicable energy code and Owner's commissioning agent.

F. Provide documentation in accordance with the requirements of the applicable energy code, within 90 days of the receipt of receipt of the certificate of occupancy.

1. Provide as-built construction documents.

2. Provide operating and maintenance manuals.
3. Provide a report of functional test results, including deficiencies found during testing and corrective measures taken which resulted in functional compliant systems.

1.02 DOMESTIC WATER SYSTEM

A. The building shall be served by a new 6-inch combination water service (for the domestic cold water system and the fire suppression system) connected to the municipal water system.

B. The existing water service shall be cut and capped from the municipal main and shall be cut and capped below the slab within the building.

C. All existing water supply piping within the Church, shall be removed.

D. One (1) 2-inch Water Meter Assembly and one (1) 6-inch Fire Sprinkler supply shall be split from the combination water service within the meter room.

E. One (1) 6-inch Double Detector Check Backflow Assembly shall be provided for the fire protection system and installed in the vertical position as permitted by the manufacturer. Provide a blind flange on the discharge side of the backflow preventer.

F. Estimated consumption for the Domestic Water Service is: 55 GPM for the Residential component of the building, 295 GPM for the Fire Service.

G. The residential domestic cold water shall be supplied via a Variable Speed Simplex Booster Pump System. The system shall consist of one (1) multi-stage pump mounted upon a single skid complete with hydro-pneumatic tank, with UL QCZJ listing for packaged booster systems. The booster package has been sized based upon a minimum incoming static water pressure of 35 PSI with a minimum of 25 PSI available at the hydraulically most remote plumbing fixture. The pump shall be as follows:

1. P1 – 55 GPM @ 70’ TDH –3 HP, 208 Volt, 3Ø, 3500 RPM. FLA: 16.8, MCA: 21, MOCP: 35. System based on Advanced Mechanical Technologies 00VBA11605GBVIXL Variboost Booster Pump

   a. Acceptable Manufacturers:

      i. Advanced Mechanical Technologies, Inc
      ii. ITT Bell & Gossett
      iii. Taco

H. Domestic Water Distribution is as follows:

1. A 2-inch boosted supply main from the booster pump shall extend from the new Water Service Room to the existing Boiler Room and shall supply the following:

    a. Reconnect the existing apartment building water distribution piping to the new supply line.
    b. Connect to the new water heating plant within the Boiler Room
    c. Reconnect to existing boiler makeup water supply. If backflow prevention is not per current code, install as required.
    d. Connect to distribution piping in the Garden/Grade Level ceiling within the Church building, to supply fixture riser groups.

2. Within the Church building, provide one (1) cold and hot water riser per fixture group. A single riser group may feed back-to-back fixture groups. A partition stop shall be provided at each floor (to be hidden within a closet or cabinet) where more than one fixture is served. A riser shut-off valve shall be provided at the top of each riser and be accessible from the corridor or other public space.
3. Each hot water riser shall be supplied with a hot water return riser that will be collected in the ceiling of the 1st Floor. Each hot water return riser shall be supplied with a thermostatically controlled balancing valve located within the corridor or other public space.
4. Air relief valves shall be installed at high points in the water distribution system.
5. Provide frame type access panels for each group of shut-off valves and balancing valves.
6. For estimation purposes, assume one (1) wheel handled hose bibb with elevated vacuum breaker (7'-6" AFF) within the Mechanical Room and Trash Room.
7. For estimation purposes, assume three (3) keyed type non-freeze wall hydrants to be installed around the perimeter of the building in locations to be determined by the Architect. Each hydrant shall be installed with a testable double check valve per City of Chicago requirements.

I. Domestic Hot Water System is as follows:

1. The building (Existing and New Apartments) will be served by a central water heating plant. The plant shall consist of two (2) Bock Opti-Therm OTI125N, fully modulating, high efficiency, 99 gallon, tank-type water heater, capable of producing 144 GPH of recovery at a 100°F rise. Gas input will be 125,000 BTU/H for each water heater with the capability of modulating down to 60,000 BTU/H. Accessories shall include an expansion tank, and in-line neutralizers for the condensate discharge.

The temperature setpoint shall be 140°F

2. Provide a Leonard Master Thermostatic Mixing Valve Control Station, Megatron 4NB-LF (or equal) capable of delivering 32 GPM @ 5 PSID across the valve and a minimum flow rate of 2 GPM. The valve shall be lab certified to ASSE 1017. Valve shall include integral strainers, check valves, tamper resistant set point and full port ball valves.
3. For the new apartments, provide one (1) hot water recirculation pump (Bell & Gossett EcoCirc XL 20-35 or equal), lead free, set to turn on at 122°F sized at 1 GPM per hot water riser as follows:

    a. RP-1 – 5 GPM @ 20' TDH – 1/6 HP, 120 Volt, 1Ø, 1750 RPM

        1. Acceptable Manufacturers:

            a. Bell & Gossett
            b. Grundfoss
            c. Taco

    b. <u>BID ALTERNATE</u>: The existing apartments are not believed to currently be served by a hot water return system, the contractor shall field verify the existing conditions. Provide a bid alternate to extend the hot water return system to the existing apartments if a return system does not exist.

4. The Existing Water Heater shall be removed

J. Plumbing Fixtures:

1. All Existing and new Dwelling units shall utilize WaterSense certified water closets, bathtub/shower fixtures, and lavatory faucets. The dwelling units shall also include self-rimming lavatories, self-rimming stainless steel sinks, washer/dryer connections. Verify exact fixture requirements with the Architect.
2. Point-of-Use Thermostatic Mixing Valves certified to ASSE 1070 shall be installed at each lavatory and kitchen sink.
3. Provide three (3) Washer Outlet Boxes within the Central Laundry Room in the existing apartment building.

K. Domestic Water Piping Materials:

1. Water Service to the building shall be ductile iron with mechanical joint or flanged fittings conforming to AWWA C115 standards.

2. Water distribution piping up to 3 inches shall be copper Type "L" with wrought copper fittings or Viega ProPress fittings.

3. The following domestic water installations shall be insulated as follows, including all risers within walls:

   a. Hot Water Piping including all branches up to supply stop or tub/shower valve per 2018 International Energy Conservation Code
   b. Hot Water Return Piping
   c. Cold Water Distribution Mains

4. Comply with NSF/ANSI 372 and/or NSF/ANSI 61-G, "Reduction of Lead in Drinking Water Act." All plumbing piping, fittings, and fixtures conveying water anticipated to be used for human consumptions must comply with the new Federal Law effective January 4, 2014.

1.03 SANITARY WASTE AND VENT SYSTEMS

A. The existing building is served by a Combination Sewer of unknown size. The Contractor shall verify utility connection requirements with the City of Chicago.

B. The Plumbing Contractor shall televise, map, document, and rod all existing subsoil drain tile, underground storm, and sanitary systems. Repair and replace existing underground piping as required.

C. All existing sanitary and kitchen waste piping within the Church, shall be removed.

D. For estimating purposes, assume (1) 4-inch waste and vent stack per bathroom stack. Assume that each stack will run full size through the roof. All 1st & 2nd Floor stacks shall be collected in the Garden/Grade Level ceiling and drain by gravity to the building sewer within the existing apartment building.

E. For estimating purposes, assume (1) 2-inch Kitchen waste and vent stack per kitchen stack for dwelling units within the Church. Stacks shall be collected in the ceiling of the Garden/Grade Level and brought down to the underground and routed to the Grease Interceptor located within the Water Service Room.

F. For estimating purposes, assume (1) 2-inch waste and vent stack per under counter laundry stack. A washer outlet box shall be provided under the counter and the standpipe serving the washer outlet box shall be 24 inches tall, therefore requiring the laundry trap to be located below the floor.

G. Suds Pressure Zones shall be accommodated for all Laundry and Kitchen Waste Stacks locations as required by the City of Chicago where stacks exceed 16 feet in height.

H. A Floor Sink shall be provided within the Janitor's Closet in the existing apartment building.

I. Provide one (1) Heavy Duty Floor Drain with Sediment Bucket in the Water Service Room, Janitor's Closet, and Trash Room

J. Provide one (1) Light Duty Floor Drain within each new Dwelling Unit at the undercounter laundry machine. Trapped pipe stubs with grated cover shall not be permitted, a floor drain shall consist of a drain body.

K. Provide one (1) Light Duty Floor Drain within the Central Laundry Room in the existing apartment building.

L. A 38-gallon, basket style solids interceptor, Striem Products AA-M or equal, with 6-gallon solids capacity and 50 GPM flow rate, shall be provided within the Central Laundry Room in the existing apartment building.

M. Provide a 277 Gallon, 100 GPM Flow-Thru Rated, Grease Interceptor with 1,895 lbs of grease retention capacity, 277-gallon liquid capacity and 69-gallon solids capacity. The grease interceptor shall be a Schier Products GB-250 (or equal) to be installed flush with the finished grade within the garage. One (1) 2-inch vent shall be provided on the inlet and outlet connections to the grease interceptor. A remote suction discharge pipe shall be routed to the exterior with a quick connection fitting for grease interceptor cleaning.

N. Sanitary Piping Systems Materials:

1. All above ground waste and vent piping 2-1/2 inches and smaller shall be copper Type "M" tubing with soldered drainage fittings.

2. All above ground waste and vent piping 3 inches and larger shall be service weight cast iron hub & spigot with lead and oakum joints.

3. All underground waste and vent piping shall be service weight cast iron hub & spigot with gasketed joints.

4. All pressure piping shall be copper Type "M" tubing with soldered drainage fittings.

5. <u>BID ALTERNATE:</u> Provide a bid alternate to utilize Schedule 40 PVC with solvent cemented joints as part of the City of Chicago Alternative Plumbing Materials Pilot Program. Application for program shall include cost estimates for the code required materials and proposed alternate material. Bid alternate shall include additional cost related to firestopping

to maintain minimum required fire ratings as specified by the Architect.

O. Ejector Pump Systems

1. Elevator Pit Pump System as follows:

a. EP-1 – 50 GPM @ 20' TDH – 1/2 HP, 120 Volt, 1Ø with Oil Sensing System
b. The elevator pit pump discharge shall discharge indirectly into a new waste receptor located within the Janitor's Closet located within the Apartment Building.

2. Sewage Ejector Package (SE-1)

a. Provide a new Duplex Submersible Pump Package within the Water Service Room to serve the Garden/Grade Level residential units and all kitchen sinks in the Church building. Each pump shall be capable of pumping 40 GPM @ 25' TDH, 208v, 3Ø utilizing submersible, quick-disconnect pumps with guide rails, NEMA-4 UL Listed Control Panel with Thru-the-Door Main Disconnection and H-O-A switches, transformer, starters, run light and alarm horn and light with silence push button. Furnish & Install a 36-inch diameter x 90-inch deep fiberglass basin with anti-float flanges.
b. Provide a battery backup system in case of power failure.

3. Inspect all existing sewage ejector systems located in the lower level of the apartment building, repair and replace as required.

1.04 STORM WATER SYSTEM

A. The Plumbing Contractor shall televise, map, document, and rod all existing subsoil drain tile and storm systems that serve the existing church and apartment building. Repair and replace existing underground piping as required.

B. Inspect the existing sump pump system serving the draintile. Repair and or replace as required.

C. All found above ground horizontal storm water piping shall be insulated with 1/2 inch insulation to prevent condensation.

D. Storm Water Piping Systems Materials:

1. All above ground storm piping 2-1/2 inches and smaller shall be copper Type "M" tubing with soldered drainage fittings.

2. All above ground storm piping 3 inches and larger shall be service weight cast iron hub & spigot with lead and oakum joints.

3. All underground storm piping 3 inches and larger shall be service weight cast iron hub & spigot with gasketed joints.

4. All pressure piping shall be copper Type “M” tubing with soldered pressure fittings.

5. BID ALTERNATE: Provide a bid alternate to utilize Schedule 40 PVC with solvent cemented joints as part of the City of Chicago Alternative Plumbing Materials Pilot Program. Application for program shall include cost estimates for the code required materials and proposed alternate material. Bid alternate shall include additional cost related to firestopping to maintain minimum required fire ratings as specified by the Architect.

FIRE PROTECTION SCHEMATIC DESIGN NARRATIVE

PART 1 FIRE PROTECTION SCOPE OF WORK

1.01 GENERAL

A. The execution of all work, including installation and testing shall be performed by skilled tradesmen. All materials and equipment shall comply with the manufacturers' recommended installation standards and standards set forth by the building and the Owner's Representative.

B. Provide complete shop drawings (including catalog cuts and hydraulic calculations) to the Authority Having Jurisdiction for approval/permit prior to fabrication and the start of work.

C. Provide Owner's Representative with copies of assembled printed instructions for the operation and maintenance of each piece of installed equipment along with control wiring diagrams.

D. Contractor shall provide complete as-built drawings. As-Built Drawings shall indicate the fire protection installation exactly as constructed. As-Built Drawings shall be made with the same border lines and title blocks, as the Architect's Drawings, with the Fire Protection Contractor's name added. Provide to the Architect/Engineer a complete set of electronic files consisting of AutoCAD^{tm} .DWG files or a REVIT^{tm} model, and a .PDF file containing all fire protection as-built drawings.

1.02 FIRE PROTECTION SYSTEM

A. <u>The existing apartment building shall remain non-sprinklered.</u>

B. The entire church building shall be fully sprinklered, utilizing a wet pipe system for all portions of the building, including the vaulted ceiling at the 2nd Floor. The sprinkler system shall be designed and installed per NFPA 13, NFPA 13R, NFPA 20 and the City of Chicago Building Code (Title 14B). In the following sections, “building” shall refer only to the church building.

C. The sprinkler system shall be designed (hydraulically calculated) and installed per NFPA 13 and the Chicago Building Code Title 14B, Chapter 9 as follows:

1. Occupancy: Group R-2, Residential

a. General areas: .10 gpm over 1500 sqft.
b. Residential Units: .10 gpm over 1500 sqft.

2. Per local requirements, a safety factor of no less than 5 PSI shall be used.

D. The building shall be served by one (1) 500 GPM @ 231 Feet TDH, 45 HP 208V, 3 phase fire pump. The fire pump controller shall include the electrical service switch, and full-voltage starter.

E. The building shall be served by one (1) 7.5 GPM @ 254 Feet TDH, 1/2 HP 208V, 3 phase jockey pump and jockey pump controller.

F. Provide one (1) flush-with-wall Fire Department Connections (Siamese).

G. Provide one (1) flush-with-wall Fire Pump Test Header.

H. Provide sprinklers at the bottom of the elevator shaft with a supervised control valve. Verify sprinkler requirements with the local fire department.

I. All areas shall be sprinklered per NFPA 13 requirements except:

1. Electrical vaults, and any rooms or closets that contain electrical switchgear and/or transformers.
2. Elevator machine rooms.

1.03 MATERIALS AND METHODS

A. All exposed sprinkler piping systems 2-1/2 inches and smaller shall utilize Schedule 40 black steel pipe and fittings. Piping shall meet minimum pressure ratings for the area of the building it is serving.

B. All exposed sprinkler piping systems greater than 2-1/2 inches shall utilize Schedule 10 black steel pipe and fittings. Piping shall meet minimum pressure ratings for the area of the building it is serving.

C. Where sprinkler piping is concealed, wet sprinkler piping systems shall be Blazemaster CPVC with solvent cemented joints.

D. Provide wet system low point drains and auxiliary drains as necessary.

E. Provide hangers per NFPA 13.

F. Provide sprinkler protection under all mechanical ductwork or obstructions in excess of 4'-0" in width, in exposed structure areas, in accordance with NFPA 13 requirements.

G. Provide guards for all sprinklers within 7'-0" above finished floor and/or in areas subject to mechanical damage.

H. Intermediate temperature rated sprinklers shall be provided within all mechanical closets.

I. Sprinkler Types:

1. Finished Areas – Concealed Pendent and Sidewall – Metallic Finish
2. Finished Areas that require Exposed Sprinklers – Upright/Pendent – Polished Chrome Finish
3. Unfinished Areas – Upright, Pendent, or Sidewall – Brass Finish

J. The Sprinkler Contractor shall obtain the latest flow test data at the site to verify the available water supply.

K. All systems shall be tested hydrostatically at not less than 200 pounds per square inch pressure for two hours, or at 50 pounds per square inch in excess of the maximum static pressure when the maximum static pressure is in excess of 150 pounds.

L. The Sprinkler Contractor shall submit sample sprinklers to the Architect for approval before installation.

M. Submit four (4) sets of complete shop drawings to the Architect (including catalog cuts and hydraulic calculations) for approval prior to fabrication and the start of work.

End of narrative

Canopy Architecture and Design
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OUTLINE SPECIFICATIONS

June 12, 2020

PROJECT

LUCHA – HPUMC Affordable Housing Renovation

2120 N. Mozart, Chicago IL

INFORMATION & CONDITIONS

Project Scope Summary

1. The following is a scoping outline for the renovation of one three-story building located at 2120 N. Mozart in Chicago, Illinois. The building includes an existing church and connected apartments. The existing apartments will receive moderate rehab scope focused on finishes and MEP systems. The church sanctuary space will be a gut rehab, converting a former religious assembly space into affordable apartments with dedicated new egress stairs, a new elevator, and the installation of a new sprinkler system throughout. New dormers will be provided in the existing church roof to increase habitable space for the apartments. Total gross area will be 20,559 gross square feet with a total of (22) dwelling units: (9) new units in the former church sanctuary space and (13) existing rehabbed units on the existing apartment side. Dedicated tenant laundry facilities are located on the basement level of the existing apartment side. The project will provide communal interior bike storage and mailboxes in the common tenant lobby spaces. Exterior spaces, including the courtyard and the open space to the north of the site will be landscaped, in compliance with the local landscape ordinances, and provide additional exterior tenant use amenity areas.

Description of the Projects Construction

1. The construction of the new apartments in the former church sanctuary space will utilize existing steel columns and beams, existing heavy timber trusses and existing brick masonry bearing walls. New constructions elements will include new walls in light gauge metal framing and CMU, with open web wood joist floor structure. New roofing will be installed over the existing gable heavy timber truss roof at the church sanctuary. The church sanctuary roof dormers will be clad in

an aluminum composite rain screen panel system. Foundation systems will be of site cast concrete.

GENERAL REQUIREMENTS

Applicable Codes and Design Criteria:

1. Applicable Building Codes:
    a. Chicago Building Code, 2019 (CBC)
    b. Chicago Electrical Code, 2018
    c. Chicago Energy Conservation Code, 2019
    d. Chicago Fire Prevention Code, 2019
    e. Chicago Mechanical Code, 2019
    f. Chicago Plumbing Code, 2019

2. Applicable Accessible Codes, Standards, and Guidelines:
    a. International Code Council (ICC A117.1), 2009
    b. Municipal Code of Chicago, Title 18-11 Accessibility
    c. Illinois Accessibility Code (IAC), 2018
    d. 2010 ADA Standards for Accessible Design (ADAAG)
    e. Fair Housing Act Accessibility Guidelines (FHAAG)
    f. Uniform Federal Accessibility Standards (UFAS)

Structural Design Criteria:

1. Risk Category: II

2. Structural Design Loads per (CBC)
    a. Design Live Loads:
        i. Residential = 40 psf
        ii. Stairs = 100 psf
        iii. Roof = 20 psf
    b. Design Dead Loads per (CBC): Actual weights of materials of construction and fixed equipment shall be used.

    c. Wind and Snow loads
        i. Wind Load = per Section 1609 (CBC)
        ii. Snow Load = 25 psf

Energy Efficiency and Green Design Criteria:

1. Per CBC, Residential Buildings shall be considered as those occupancies which are characterized as Group R-2, R-3, R-4, and R-5 with no more than four stores above grade plane.
2. Climate Zone = 5A
3. Insulation levels to comply or exceed the following minimum requirements:
    a. Roof: R-49

b. Exterior Mass Wall: R13.3 c.i. min.
c. Fenestration: 0.30 U-factor max.
   All exterior glazing will be minimum thermal double pane windows and will meet energy performance requirements.
d. Exterior doors and frames: R-5 Assembly and thermally-broken.

4. Building must be properly sealed, tested and verified as having an air leakage rate no higher than 4 ACH.
5. Water conservation fixtures to meet the following minimum specifications:
   a. Toilets: 1.28 GPF
   b. Urinals: 0.5 GPF
   c. Showerheads: 2.0 GPM
   d. Kitchen faucets: 2.0 GPM
   e. Bathroom faucets: 1.5 GPM
6. All new appliances throughout project to be Energy Star Rated

Sound Design Criteria:

1. Residence/Residence STC – 54 (minimum)
   a. Demising Wall Residence/Residence – single layer resilient channel, single stud row framed with 25 gauge, 3-5/8" studs spaced 24" o.c. with a 3" mineral fiber blanket in the stud cavity. Face with one layer of Type X 5/8" gyp. board on each side.
   b. Floor Residence/Residence – ¾" gypcrete topping over SRB sound mat, wood subfloor, open web wood joist floor structure, and single layer resilient channel. Face with two layers Type X ½" gyp. board.

2. Corridor/Residence STC – 54 (minimum)
   a. Corridor Wall/Residence – single layer resilient channel, single stud row framed with 25 gauge, 3-5/8" studs spaced 24" o.c. with a 3" mineral fiber blanket in the stud cavity. Face with one layer of Type X 5/8" gyp. board on each side.

3. Elevator and Stairs/Residence STC – 52 (minimum)
   a. Elevator/Residence – 8" CMU. Faced with two layers of 5/8" gyp board on one side.
   b. Stairs/Residence – 8" CMU. Single layer resilient channel and one layer of Type X 5/8" gyp. board on each side of wall.

Other Criteria

Project shall meet all requirements of the City of Chicago, including:

1. Municipal review of: Mechanical, Electrical, Plumbing, Life Safety, Accessibility, and Energy Conservation
2. General contractor to meet all agency requirements pertaining to bonding, insurance, wage rates,
3. Project conforms to all MBE/WBE requirements and any local hiring requirements.

DIVISION 02 – SITE CONDITIONS

Excavation and Site Clearing

1. Excavate for foundation systems and elevator pit as required. Locate and coordinate all

local utilities prior to excavation.
2. Locate and coordinate all local utilities prior to excavation. Haul off excess material spoils per local and state standards.
3. An earth retention system will be required where foundations are being proposed directly adjacent to the property line.
4. Excavate as needed for utility work and haul off excess materials per local and state standards.
5. Pavement restoration in accordance with City standards at utility excavations.

Utility Improvements

1. Refer to MEFP drawings and specifications for the following:
    a. Storm sewer and sanitary sewer connection to City sewer main
    b. New domestic water service connection for new fire sprinkler system.
    c. Electrical service connection.
    d. Telecommunications connection.

Landscaping

1. Provide native trees, plants, ground cover, and sod at landscape areas indicated and areas for exterior central courtyard and north side outdoor space at grade.
2. Provide required topsoil (min. 4" for plants and more as required for shrubs or trees) and soil amendment materials to promote plant, shrub, and tree growth.
3. Provide mulch material and additional accessories required for plant installation and growth.
4. Provide planting, trees, and tree grates complying with the City of Chicago Landscape Ordinance.
5. Provide new concrete pavers and stainless steel planter box in courtyard as shown on ground floor plan.
6. Add Alternate #1: provide rubber play surface at north side outdoor space.
7. Add Alternate #2: provide stainless steel planter boxes at alley façade.

Site Furnishings

1. Provide powder coated (color TBD) surface mounted bicycle racks in the interior Bicycle Storage room and exterior bicycle parking areas.

DIVISION 03 - CONCRETE

Site Work and Cast In Place

1. Cast-in-place foundation and elevator pit.
2. Cast-in-place foundations at new stairs and elevator.
3. Concrete pavers at courtyard.
4. Provide reinforcement bar (rebar) for foundations.
5. Provide welded wire mesh as required for ground floor slab.

DIVISION 04 - MASONRY

1. Selective brick and mortar crack repair and tuckpointing as identified on drawing elevations.
2. Selective removal of brick masonry for new window openings.
3. Selective brick masonry infill of abandoned openings.
4. CMU masonry bearing walls

DIVISION 05 - METALS

Cold-Formed Metal Framing

1. Provide light-gauge framed metal (LGFM) studs, runners, and furring channels for exterior walls, interior walls, and partitions.

Metal Fabrications

1. Primed and painted metal egress stairs with steel pans for cast in place concrete treads.
2. Primed and painted metal railing for egress stairs.

Structural Steel

1. Steel beams and columns to support new floor framing
2. Steel reinforcing for existing steel beams
3. Steel lintels at new openings in existing exterior wall

DIVISION 06 - WOOD AND PLASTIC

Rough Carpentry

1. Provide new wood blocking as required for new cabinetry and millwork.
2. Provide blocking as required for grab bar and shower seat reinforcement in accessible bathrooms.
3. Open-web wood joists for floor framing
4. LVL beams for floor framing

Architectural Wood Casework

1. Common Areas and Tenant Unit cabinetry. Cabinet doors, frames, drawers, and fronts to be solid hardwood. 4" wire pulls.
2. Solid surface countertops in Tenant Unit kitchens
3. Solid surface top Bathroom vanities in Tenant Units

DIVISION 07 - THERMAL MOISTURE AND PROTECTION

Building Insulation

1. Layered rigid polyiso insulation on existing roof deck at both sanctuary and existing apartment sides of the building.

2. 3” spray foam insulation at metal stud furout on inside face of existing exterior walls at former Sanctuary space. Studs with min. 2” gap separation from existing brick masonry walls.
3. Fiberglass batt insulation in metal stud walls and wood truss floors between residential units for sound attenuation.

Building Cladding

1. Aluminum composite rain screen panel system for exterior building cladding. Colors and sizes to vary per elevations.

Roofing Systems

1. Asphalt shingles over layered polyiso insulation and existing roof sheathing at former sanctuary space roof system. Dormered portion to receive prefinished metal standing seam roof, color to match rain screen cladding.
2. TPO roofing membrane over tapered, layered polyiso insulation at the existing apartment roof.

Sheet Metal Flashing & Trim

1. Provide prefinished metal coping at existing brick parapet walls.
2. Provide prefinished metal flashing and trim assemblies for all wall transitions and terminations.
3. Provide prefinished metal gutters and downspouts at gabled roof above former sanctuary and west side of existing apartment roof.

Air and Moisture Barrier

1. Provide air sealing and water proofing at all exterior and roof penetrations and critical junctures
2. Provide damp proofing for new foundation walls and elevator pit walls.

Firestopping

1. Provide non-combustible firestopping and fire rated details at all penetrations through fire rated elements.

Joints and Sealants

1. All silicone sealants and joint fillers as required for windows and storefront systems.
2. Provide sealant, backings, and other compatible materials at all through-wall penetrations.

DIVISION 08 - OPENINGS

Exterior Doors and Frames

1. Provide all hardware, brackets, reinforcements, glazing, and gaskets for weather-tight performance on all exterior doors.
2. Provide accessible latch hardware for all building entry doors.
3. All exterior doors shall be operable with less than 8.5 lbs of force. Provide auto operators at main building entrance.
4. See Energy Efficiency criteria above for performance minimums.
5. Provide insulated roof access hatch for exterior access to roof.

Interior Doors and Frames

1. Provide accessible latch hardware for all doors.
2. All interior doors on an accessible route shall be operable with less than 5 lbs of force.
3. Fry reglet minimal door frame in aluminum at unit entry doors.

Store Front System

1. Thermally broken extruded aluminum storefront system, finish TBD.
2. Provide thermal pane glazing system to comply with Energy Efficiency criteria above at a minimum. Final glass color and coatings TBD.

Windows

1. Provide aluminum frame thermal pane window assemblies. Provide all hardware, brackets, reinforcements, glazing, and gaskets for weather-tight performance on all exterior widows. Garden unit operable windows to receive transom hardware extended to below 48" AFF.
2. Windows in all accessible units shall be operable with less than 5 lbs of force
3. See Energy Efficiency criteria above for performance minimums.

Glazing

1. See Energy Efficiency criteria above for performance minimums.
2. Provide tempered glass at all required safety locations.

Louvers and Vents

1. Powder coated aluminum louvers for locations of mechanical exhaust.

DIVISION 09 - FINISHES

Drywall

1. Provide gypsum wall board ASTM C36 for new partitions
2. Provide cement wall board for all walls containing plumbing and wet conditions
3. Provide moisture and mold resistant "green board" for wet walls only in kitchen and bath areas unless noted otherwise.
4. Provide "Type-X" gypsum board at all locations requiring fire rated separations.

Tiling

1. Provide ceramic tile at unit bathrooms floor and unit bathtub surrounds.

Luxury Vinyl Flooring

1. Provide new non slip vinyl plank flooring throughout tenant units and common areas.
2. Prepare substrate and adhere with water based acrylic adhesive.

Wall Base

1. Provide vinyl wall base to coordinate with flooring. Install base in maximum lengths to avoid seams.

Paint - Exterior

1. Provide no VOC exterior grade paint with (2) coats over primer.
2. Provide rust inhibitor with 2 coat of enamel paint on all exposed metal surfaces.

Paint - Interior

1. Provide no VOC paint at all interior locations with (2) coats of latex over primer throughout.
2. Provide intumescent to obtain one hour fire rating on exposed steel structural members.

DIVISION 10 - SPECIALTIES

Signage

1. Provide unit and way finding signage with accessible features

Toilet and Bath Accessories

1. Provide residential toilet accessories in tenant unit bathrooms
2. Provide stainless steel, satin finish grab bars with concealed fasteners at diameter, lengths, and heights indicated on drawings to meet applicable accessible codes.

Fire Protection Specialties

1. Provide Fire Extinguisher Cabinets as required per code

Postal Specialties

1. Provide USPS approved mailboxes with Type A and 504 tenant units mailboxes within accessible reach limits.

DIVISION 11 - EQUIPMENT

Residential Appliances

2. Provide new Energy Star rated refrigerators in tenant units

3. Provide new Energy Star rated ovens with range tops in tenant units
4. Provide new Energy Star rated recirculating range hoods in tenant units
    a. Provide ADA complaint models of these appliances in all accessible and adaptable tenant units

Common Area Appliances

1. Provide Energy Star qualified laundry appliances in Basement Laundry Room and new apartments at former sanctuary space. Quantities shall meet the minimum required by the local codes. At minimum, five percent of washers and dryers provided shall be accessible.

DIVISION 12 - FURNISHINGS

Residential Accessories

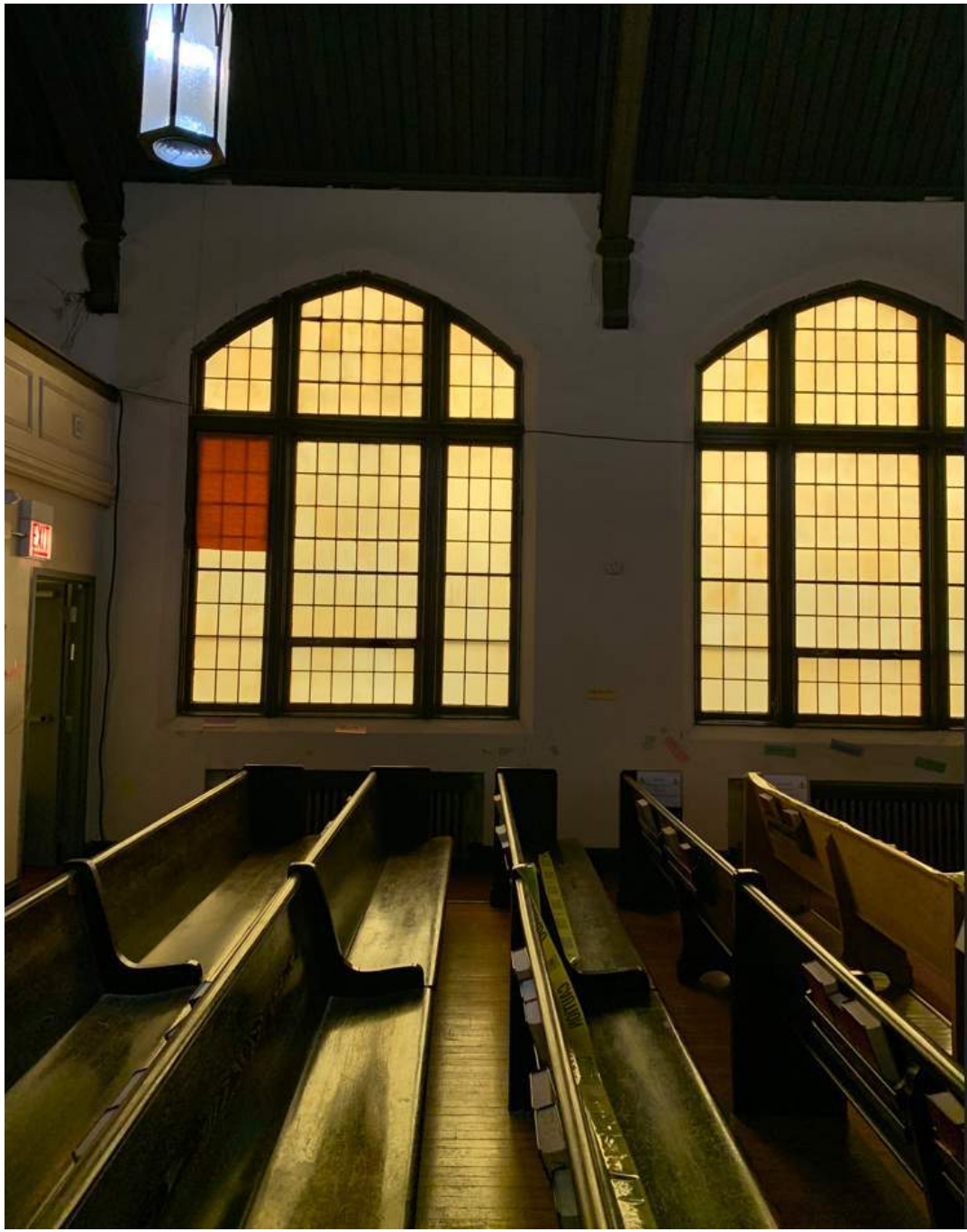
1. Provide residential blinds for tenant unit windows.

DIVISION 14 - CONVEYING EQUIPMENT

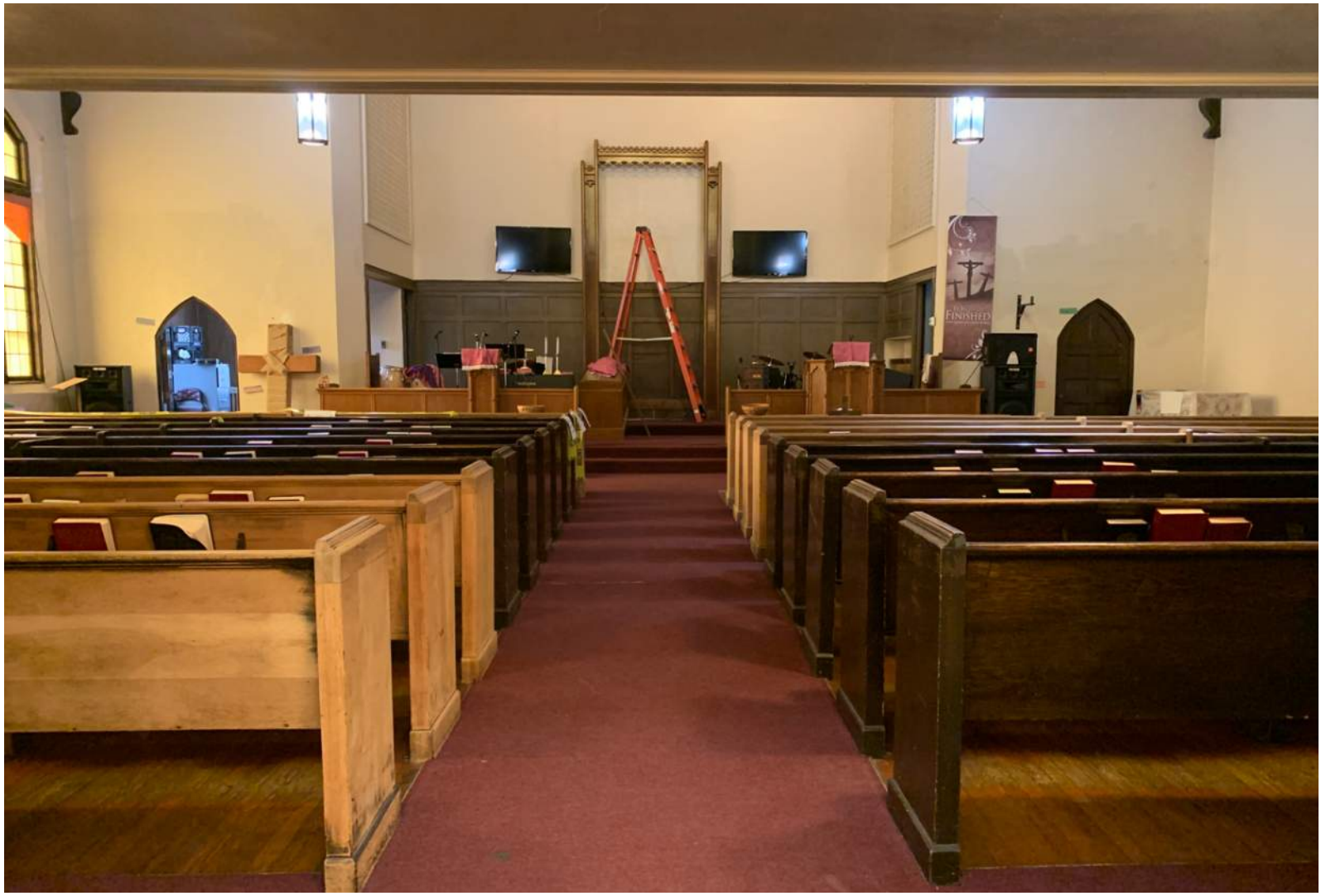
Elevators

1. Provide machine room-less gearless 3500 lb capacity, 4-stop elevator to access all (3) floors and Basement at former sanctuary side of building. Elevator to open on two sides.

CANOPY Architecture + Design, LLC
Registered Design Firm, State of Illinois
Registered Architect, State of Illinois
Self-Certified Architect, City of Chicago
Registered Energy Professional. City of Chicago
Minority-owned Business Enterprise (MBE) Firm, Cook County of Illinois and State of Illinois (CMS)




El Poder de la Oración

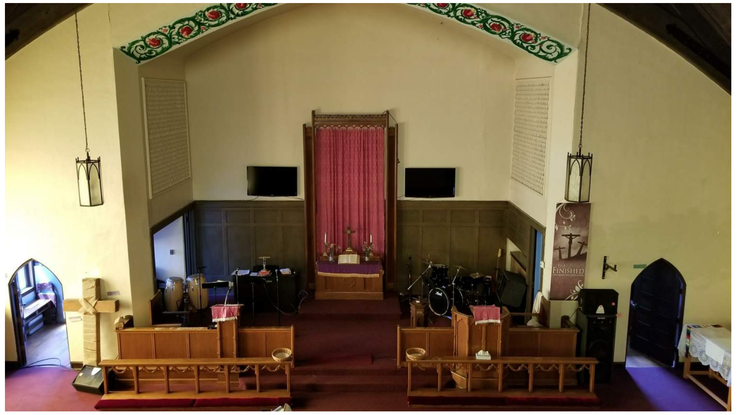

FINISHED

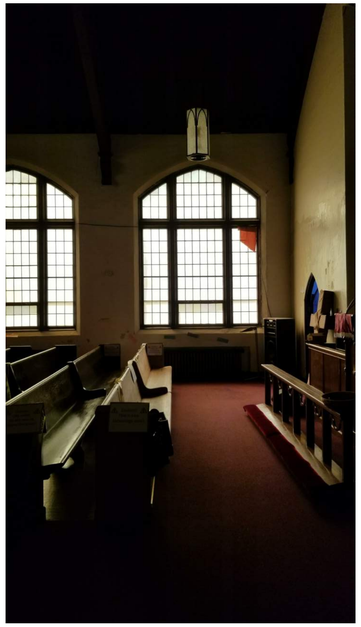
EXISTING EXTERIOR - OVERALL

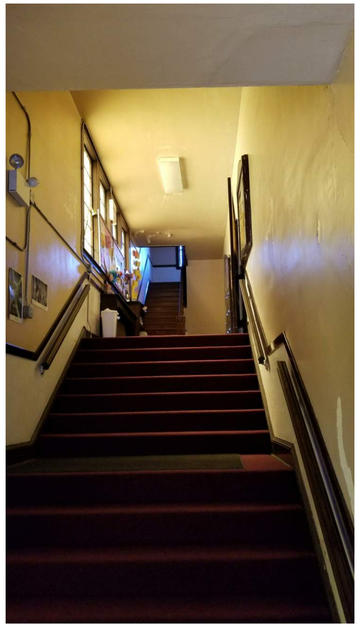
EXISTING EXTERIOR - APARTMENT SIDE

EXISTING EXTERIOR - SANCTUARY SIDE

EXISTING SANCTUARY SPACE







CANOPY
ARCHITECTURE • DESIGN

PROJECT
LUCHA

HPUMC ADAPTIVE REUSE
2120 N MOZART ST.
CHICAGO, IL 60647

PROJECT NUMBER: P2004
PERMIT NUMBER: 000000

ARCHITECT OF RECORD:
CANOPY ARCHITECTURE + DESIGN, LLC
180 W WASHINGTON STREET, SUITE 200
CHICAGO, IL 60602
PHONE: (312) 763-8005
canopy-chicago.com

PROJECT OWNER:
LUCHA
3541 W NORTH AVENUE
CHICAGO, IL 60647
PHONE: (773) 276-5338

STRUCTURAL ENGINEER:
CEA&A
175 NORTH FRANKLIN STREET SUITE 410
CHICAGO, IL 60606
PHONE: (312) 750-1701

MEPF ENGINEER:
THE ENGINEERING STUDIO, INC.
701 LEE STREET, SUITE 510
DES PLAINES, IL 60016
PHONE: (847) 795-8810
engineeringstudio.com

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR, AND THE ARCHITECT NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS.

PROFESSIONAL SEAL EXP. 11/30/2020

ISSUANCE LOG

REV.	ISSUED FOR	DATE
	SCHEMATIC DESIGN	05.18.2020
	25% DESIGN DEVELOPMENT	06.12.2020

PRINT DATE: 06.12.2020
ISSUED FOR: 25% DESIGN DEVELOPMENT

SHEET ID
A-911

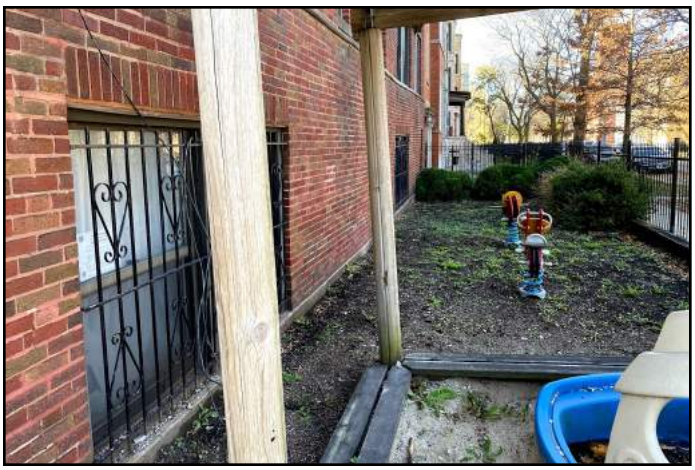
REFERENCE PHOTOS

View of the subject building, looking southwest

View of subject building, looking northwest

Southern subject property border

General refuse dumpsters along southern wall of subject building



Garden/children's play area at northern portion of subject property

Suspect UST fill pipe located at northeastern portion of courtyard

PIONEER Engineering & Environmental Services, LLC	2120-2128 Mozart Street Chicago, Illinois	**PHOTOGRAPHIC LOG**
	Project Number: 20-0461-101	DATE: November 2020

Suspect UST vent pipe located in northwestern portion of courtyard

Interior of church sanctuary

Interior of typical residential unit

Typical kitchen in residential units

Common room in northeastern portion of basement

Furnace located in northern portion of basement

PIONEER Engineering & Environmental Services, LLC	2120-2128 Mozart Street Chicago, Illinois	**PHOTOGRAPHIC LOG**
	Project Number: 20-0461-101	DATE: November 2020

Boiler located in mechanical room in west-central portion of subject building

Natural gas-powered hot water heater for subject building

Asbestos containing AirCell pipe wrapping in boiler room

Property Data | Exemption History | Appeal History | Certificate of Error

Property Characteristics

2021 Tax Year Property Information

PIN:	**13-36-118-010-0000**
***Property Location:**	2120 N MOZART ST
City:	CHICAGO
Township:	West Chicago
Property Classification:	315
Square Footage (Land):	5,728
Neighborhood:	30
Taxcode:	77135

Assessed Valuation

	2021 Assessor Certified	2020 Board of Review Certified
Land Assessed Value	1,818	1,817
Building Assessed Value	17,591	10,292
Total Assessed Value	19,409	12,109

Property Characteristics

Estimated 2021 Market Value	N/A
Estimated 2020 Market Value	N/A
Description	**
Age	**
Building Square Footage	**
Assessment Pass	Assessor Certified

* “Property Location” is not a legal/postal mailing address. Its sole purpose is to help our Office locate the property. Therefore, you should not utilize the property location for any purpose, however, you may update the Property Location with your Legal/Postal Mailing Address should you choose to do so. Updating the address will not change the Property Location to a Legal/Postal Mailing Address.

** Information may be available by submitting an FOIA Request

City of Chicago

Search Results for MOZART ST

Address	Name	Year Constructed	Architect	Community
320-320 S MOZART ST		1870s		East Garfield Park
818-818 N MOZART ST				West Town
1017-1017 N MOZART ST				West Town
1027-1027 N MOZART ST				West Town
1055-1055 N MOZART ST				West Town
1056-1056 N MOZART ST		1890s		West Town
1111-1111 N MOZART ST				West Town
1118-1118 N MOZART ST		1890s		West Town
1131-1131 N MOZART ST				West Town
1142-1142 S MOZART ST		1900s	DALSEY, HARRY I.	North Lawndale
1663-1663 N MOZART ST				West Town
1665-1667 N MOZART ST				West Town
1722-1722 N MOZART ST				West Town
1728-1728 N MOZART ST				West Town
2120-2128 N MOZART ST		1920s	LAMPE, CLARENCE W.	Logan Square
2726-2726 N MOZART ST		1890s		Logan Square
3821-3835 N MOZART ST	ST. PAUL'S HOUSE	1920s	WOLTERSDORF & BERNHARD	Irving Park
4500-4500 N MOZART ST		1920s	TEICH & SULLIVAN	Albany Park

Search Again

City of Chicago The City of Chicago's Official Site

Details for building at (2120-2128) N MOZART ST

Architect:	LAMPE, CLARENCE W.
Historic Name:	
Community:	Logan Square (22)
Address:	(2120-2128) N MOZART ST
Constructed:	Started in
Classification:	1
Style:	TUDOR REVIVAL
Type:	CHURCH
Color Code:	Possesses potentially significant architectural or historical features(OR)
Major Tenant:	HUMBOLDT PARK UNITED METHODIST
Building Details:	GOTHIC
Pin:	1336118011

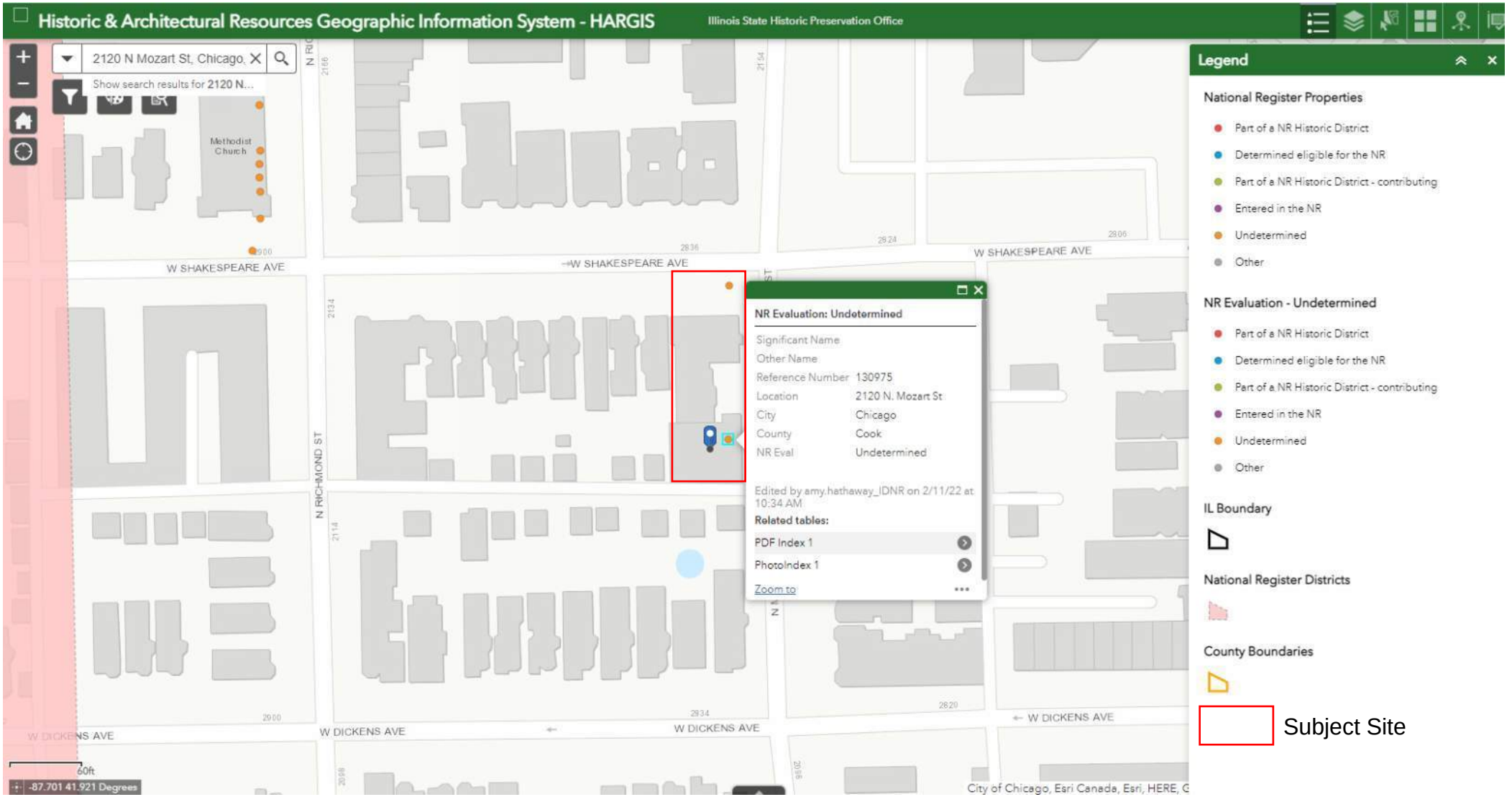
Back to Search Results Search Again

City of Chicago The City of Chicago's Official Site

Search Results for SHAKESPEARE AV

Address	Name	Year Constructed	Architect	Community
2233-2233 W SHAKESPEARE AV				Logan Square
2300-2310 W SHAKESPEARE AV	FIELDHOUSE, HOLSTEIN PARK	1910s	ZIMMERMAN, WILLIAM CARBYS	Logan Square
2900-2904 W SHAKESPEARE AV	EVANGELICAL LUTHERAN CHURCH	1910s		Logan Square

Search Again


Historic & Architectural Resources Geographic Information System - HARGIS
Illinois State Historic Preservation Office
2120 N Mozart St, Chicago,
Show search results for 2120 N...
Methodist Church
W SHAKESPEARE AVE
N RICHMOND ST
W DICKENS AVE
NR Evaluation: Undetermined
Significant Name
Other Name
Reference Number 130975
Location 2120 N. Mozart St
City Chicago
County Cook
NR Eval Undetermined
Edited by amy.hathaway_IDNR on 2/11/22 at 10:34 AM
Related tables:
PDF Index 1
PhotoIndex 1
Zoom to
Legend
National Register Properties
Part of a NR Historic District
Determined eligible for the NR
Part of a NR Historic District - contributing
Entered in the NR
Undetermined
Other
NR Evaluation - Undetermined
Part of a NR Historic District
Determined eligible for the NR
Part of a NR Historic District - contributing
Entered in the NR
Undetermined
Other
IL Boundary
National Register Districts
County Boundaries
Subject Site
-87.701 41.921 Degrees
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