DFSS
Department of Family and Support Services

PUBLIC BUILDING COMMISSION of Chicago

RADA ARCHITECTS Better Lives, By Design

DFSS Bronzeville Regional Senior Center

Public Building Commission of Chicago
PBC Project No. 10030

100% Schematic Design Report

August 15, 2025

A PLACE TO CONNECT, ENGAGE AND THRIVE

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE

Architecture
Planning
Interiors

PROJECT TEAM

Design Architect

RADA Architects Ltd https://www.rada-arch.com/

Civil MEP/FP Structural Engineer

Milhouse Engineering https://milhouseinc.com/

Landscape Architect

TGDA https://tgdastudio.com/

Food Services Consultant

S20 Consultants http://s2oconsultants.net/

A PLACE TO CONNECT, ENGAGE AND THRIVE

CONTENT

A PLACE TO CONNECT, ENGAGE AND THRIVE

1 EXECUTIVE SUMMARY

PROJECT SITE - **ANCHORED IN BRONZEVILLE CULTURAL HERITAGE**

The Design Team, in collaboration with the PBC and DFSS, has completed the Schematic Design Submission for the new Regional Senior Center, located in Bronzeville—Chicago's vibrant and culturally rich Near South Side neighborhood.

The Department of Family & Support Services currently operates six regional and fifteen satellite senior centers throughout Chicago, offering essential civic services to residents aged 60 and older. This project aims to expand that network with a new regional facility serving Bronzeville and surrounding communities.

The project site, at 4711–4755 S. Calumet Avenue, is a vacant lot situated between 47th and 48th Streets, conveniently near the 47th Street CTA Green Line station. It lies just one block west of S. Martin Luther King Drive—a historic north–south boulevard that bisects Bronzeville and forms part of Chicago's landmark boulevard system, listed on the National Register of Historic Places.

The new facility will feature off-street parking and an approximately 25,000-square-foot, two-story building with a dynamic program of spaces, including dining areas and multiple rooms for activities, recreation, and community engagement.

Bronzeville 1910 looking north on grand boulevard from 43th

The Regal Theater opened 1928, closed 19688, demolished in 1973.

- The name *Bronzeville* was coined by a theater editor at the Black newspaper *The Chicago Bee*.
- During the Great Migration, Bronzeville became densely populated, giving rise to a vibrant cultural scene that rivaled Harlem's. From the 1920s to the 1950s, it was the heart of "The Black Metropolis," known for its lively nightlife, music, dining, shopping, and influential intellectual community.
- By the mid-20th century, persistent segregation and urban renewal projects by the Chicago Housing Authority began to erode the neighborhood's physical and social fabric. As restrictive housing covenants were lifted, more affluent Black families moved away, accelerating the decline of what had once been a thriving, mixed-income community.

1 EXECUTIVE SUMMARY

THE BRONZEVILLE SENIOR CENTER – **A PLACE TO CONNECT, ENGAGE AND THRIVE**

In the spirit of collaboration and shared excitement, the Design Team conducted a series of interviews and visits to existing DFSS senior centers to help shape the program requirements. These engagements highlighted the importance of creating a building that reflects the vibrant energy experienced in those facilities.

The design responds by providing flexible, interchangeable, and multi-use spaces that accommodate a wide variety of activities—bringing people together in meaningful and dynamic ways.

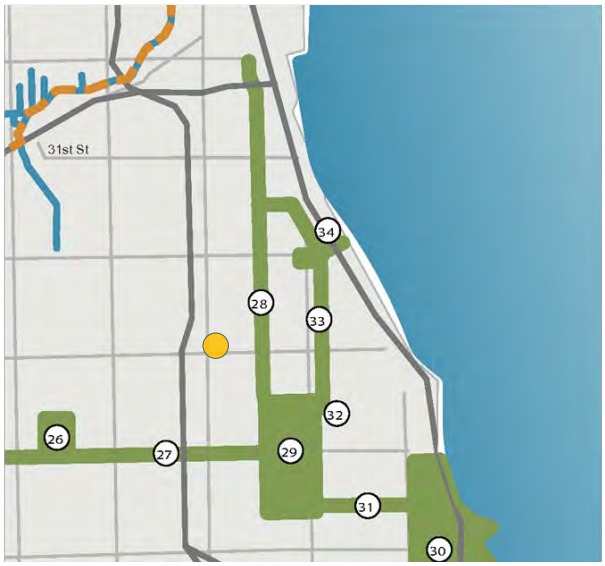
At the heart of the concept is a "bright, light-filled center," envisioned as a place where seniors can connect, engage, and thrive. The program is organized around a dynamic two-story space that visually and physically links the building's major areas. A skylight above floods the space with daylight, while balconies on the second floor overlook the activity below. A monumental stair connects the floors, encouraging movement and inviting visitors to explore more experiences.

Dining and multipurpose community rooms are positioned in close proximity. Movable partitions allow them to operate independently for smaller gatherings or combine for larger events.

A defining feature of the design is the integration of secure, dedicated outdoor spaces—both a ground-level courtyard and a spacious second-floor terrace—providing opportunities for recreation, relaxation, and fresh air.

The building massing respects the scale of the surrounding residential neighborhood while projecting the stature of a true "people's place." Articulated surfaces, overhangs, and changes in materials break down the scale to a human level, reinforcing a sense of belonging.

Aligned with the DFSS and PBC mission to design sustainably and responsibly, the project is targeting LEED Silver Certification and fully complies with the Chicago Sustainable Development Policy.



- The site is located next to one of Chicago's historical Boulevards; MLK drive and Washington park to the south.
- The boulevard system is recognized as a landmark system and listed on the National Register of Historic Places

2 PROGRAM OF SPACES

10030 DFSS Regional Senior Center — 15-Aug-25 — PROGRAM OF SPACES

	Room / Space	staff/occ	net sf/unit	total nsf	Activity & arrangements
1	**FRONT & ENTRY AREAS**				
1.1.	Entry Vestibule	1	120	120	
1.2.	Reception area	1	400	250	
12.a	Coat Closet				Front and Entry areas to be designed as open flexible use for access to reception, to surrounding community rooms and dining room and for community lounge activity; access to activity rooms and circulation; exhibitions space for rotating work; large gathering space for events
1.3.	Lobby	80	15	1,200	
1.3.a	Community Lounge			890	
1.4.	Office	1	120	120	
1.5.	Nurse	1	120	120	
1.6.	Shopw closet	1	200	200	
1.7.	Women's Restroom				
1.8	Men's Restroom				
1.9	All Gender/Family Restroom				
1.10.	Corridor				
	SUBTOTAL netsf			2,900	
2	**COMMUNITY SHARED AREAS**				
	Room / Space	staff/oc	net sf/unit	total nsf	Activity & arrangements
2.1.	Dining/Performance Room	150	15	2250	
2.2.	Community/Multipurpose 1			800	Community Shared areas to be designed with possibility to connect and/ or open and combine into larger areas. Performance furniture arrangement retains the dining tables; all furniture is movable.
2.3.	Community/Multipurpose 2			1000	
2.3.1	Storage furniture				
2.4.	Indoor Patio	30		750	
2.5.	Community Lounge at lobby				
2.6.	Hall (connecting hallway)				
	SUBTOTAL net sf			4,800	
3	**COMMUNITY SHARED AREAS SUPPORT**				
	Room / Space	staff/oc	net sf/unit	total nsf	Activity & arrangements
3.1.	Warming Kitchen + Storage	3	800	800	
3.1.1.	Vestibule				
3.2.	Lockers				Back of the house functions need to be in immediate vicinity to main functions - kitchen and storage next to dining; building engineer and support rooms off of main circulation. Access to parking for both is necessary, for deliveries and disposal.
3.3.	Back of the House Storage		200	160	
3.4.	Building Engineer Office	1	120	120	
3.5.	Corridor at back of house				
3.6.	Water Room				
3.7.	Electrical Rm				
3.8.	Mechanical Rm				
3.9.	Janitor's				
	SUBTOTAL net sf			1,080	
	TOTAL Entry, Community Shared + Supp. First R		NSF	8,780	
	Add Corridors + stairs, walls + structure + restrooms, el rm, water rm	1.35	gross factor		
	TOTAL PROGRAM AREA 1,2 + 3		**GSF**	**11,853**	

2 PROGRAM OF SPACES

10030 DFSS Regional Senior Center — 15-Aug-25 — PROGRAM OF SPACES

	Room / Space	staff/occ	net sf/unit	total nsf	Activity & arrangements
4	**RECREATIONAL ACTIVITY SPACES**				
4.1.	Community Lounge Hall			1,000	Recreational activities to be designed open and visually connected to outdoors and to main access hallways. Lounge furniture and planting, visuals and artwork on the walls to enhance relaxation experience. Ability to combine spaces at the same time with areas of privacy and quiet games as well
4.2.	Movie Room & Chair Storage	49	15	935	
4.3.	Fitness Room			1,300	
4.4.	Fitness Room Storage			300	
4.5.	Massage Room			200	
4.6.	Billiards (3 tables)			800	
4.7.	Women's Restroom				
4.8.	Men's Restroom				
4.5.	All Gender/Family Restroom				
	SUBTOTAL net sf			4,535	
5	**ACTIVITY ROOMS**				
	Room / Space	staff/occ	net sf/unit	total nsf	Activity & arrangements
5.1.	Tech Center			600	Activity Rooms are to be devoted to art groups, language groups, and also for technology assistance to seniors.
5.2.	Activity Room 1			700	
5.3.	Activity Room 2			700	
5.4.	Activity Corridor				
	SUBTOTAL net sf			2,000	
6	**ADMINISTRATION + SUPPORT**				
	Room / Space	staff/occ	net sf/unit	total nsf	Activity & arrangements
6.1.	Admin Offices and Break area	2		800	The Administrative suite is to be located off of main circulation, and grouped together with a flex conference room. The open office space to contain a break area with appliances and water to serve s mini kitchen.
6.2.	Offices	3			
6.3.	Conference Rm	20		400	
6.4.	Storage				
6.4.	MDF Rm				
6.5.	Jan Rm				
	SUBTOTAL net sf			1,200	
	TOTAL Rec. Activity + Activity Rms + Admin. Ste		**NSF**	7,735	
	Add Corridors + stairs, walls + structure + restrooms	1.65	**gross factor**		
	TOTAL PROGRAM AREA 4, 5 + 6		**GSF**	12,763	
	TOTAL PROGRAM AREA (GSF)			24,616	

3 SCHEMATIC DESIGN VISUALS

SITE LOCATION AND CONTEXT

4711 – 4755 S. Calumet Avenue, Chicago

3 SCHEMATIC DESIGN VISUALS

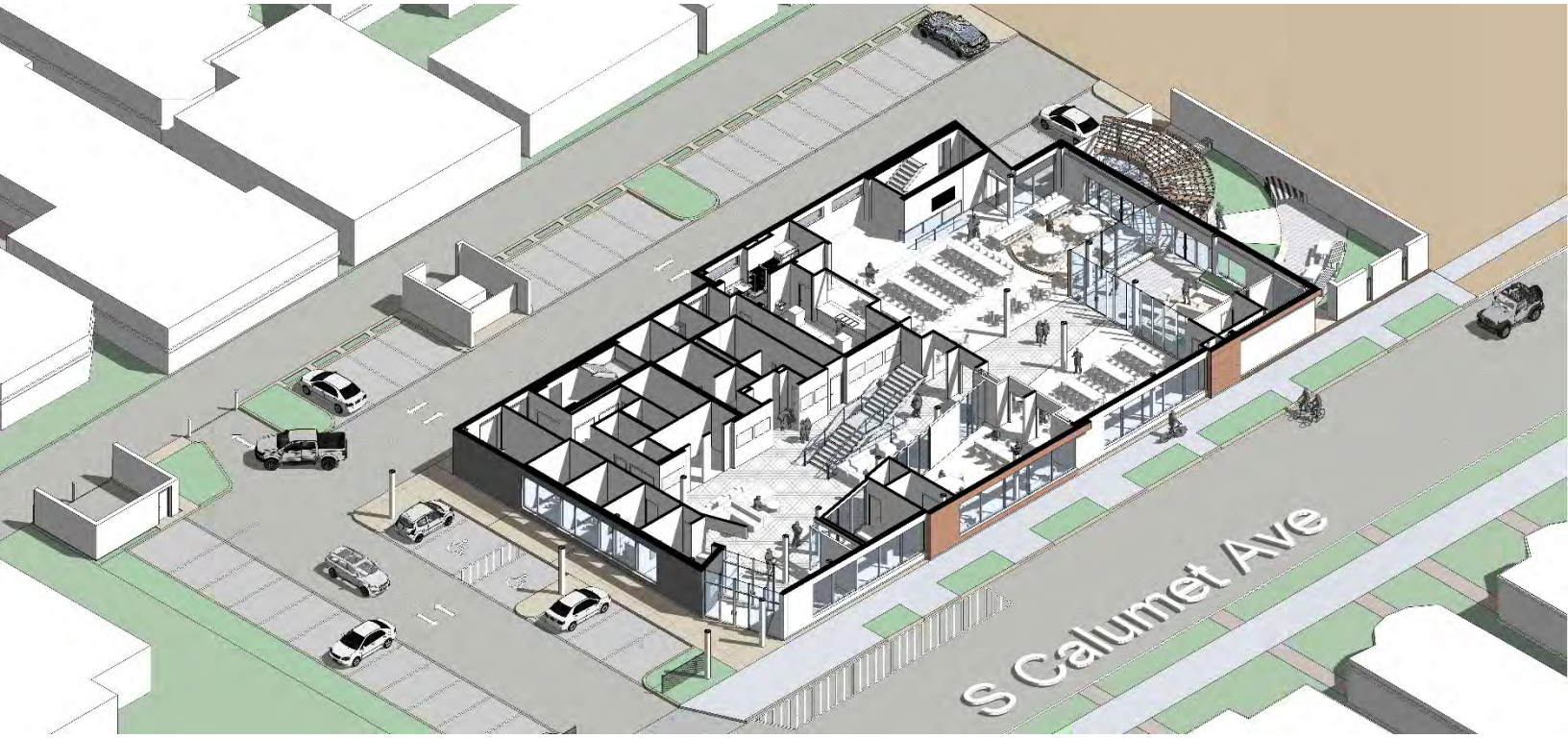
SENIOR CENTER AND SITE **AERIAL VIEW LOOKING SOUTHEAST**

4711 – 4755 S. Calumet Avenue, Chicago

3 SCHEMATIC DESIGN VISUALS

SENIOR CENTER AND SITE **AXON VIEWS LOOKING SOUTHEAST**

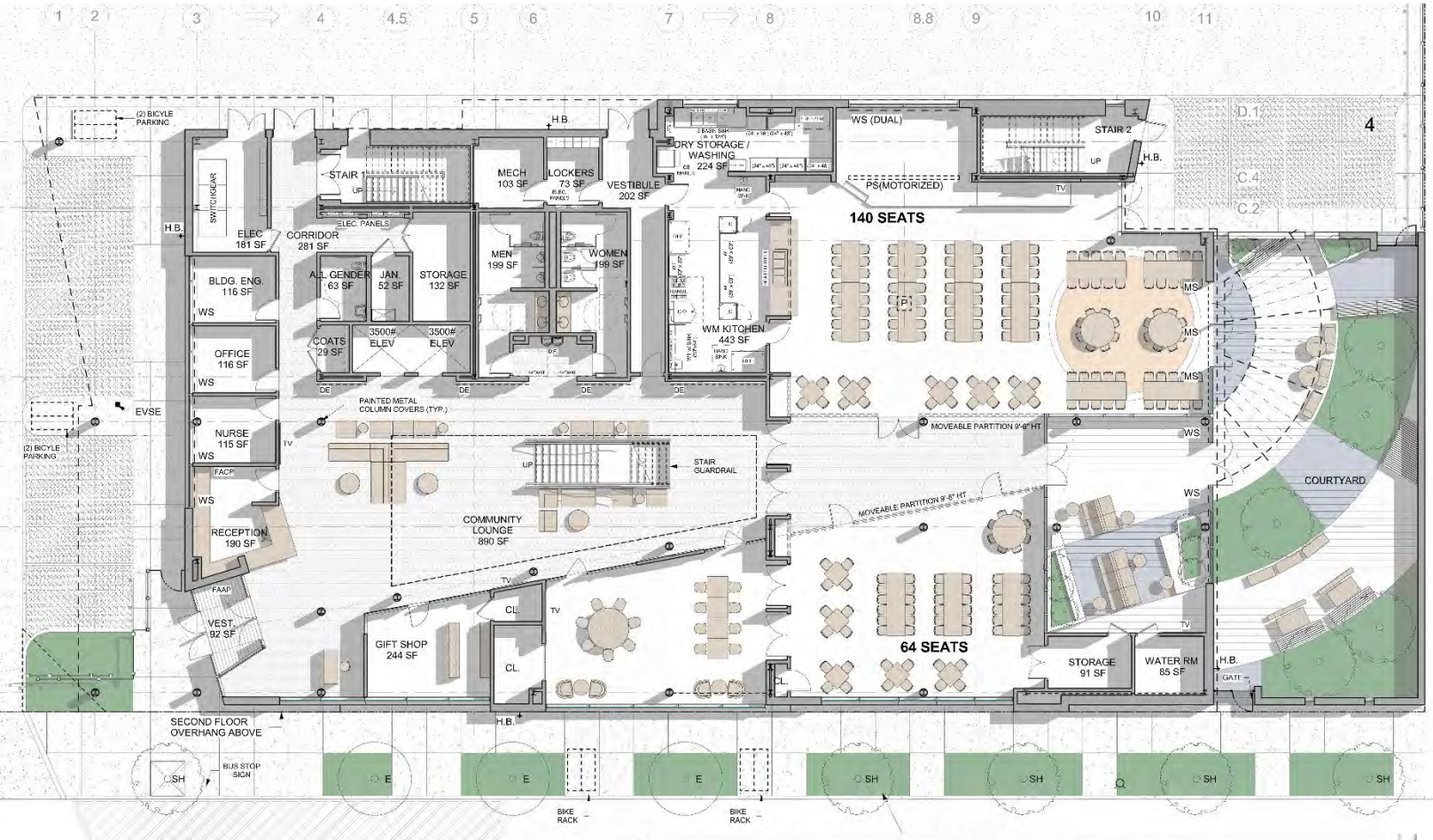
First Floor



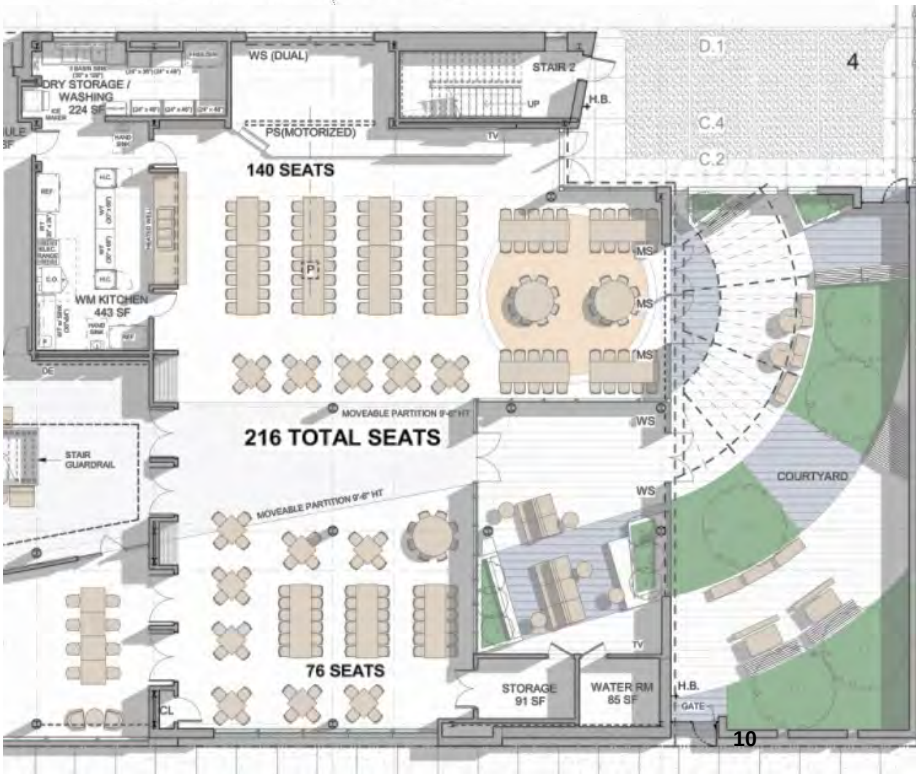
Second Floor

3 SCHEMATIC DESIGN VISUALS

SENIOR CENTER **FLOORPLAN** First Floor



Alternative Dining Arrangement



3 SCHEMATIC DESIGN VISUALS

SENIOR CENTER **FLOORPLAN** Second Floor

3 SCHEMATIC DESIGN VIEWS

View Looking at Main Entrance and Calumet Street Facade

3 SCHEMATIC DESIGN VIEWS

View Looking West

View along Calumet Ave Looking East

3 SCHEMATIC DESIGN VIEWS

Courtyard and Terrace Aerial View Looking Northeast

3 SCHEMATIC DESIGN VIEWS

View at Second Floor Balcony with Skylight

3 SCHEMATIC DESIGN VIEWS

Courtyard View with Pergola Trellis

3 SCHEMATIC DESIGN VIEWS

View at First Floor Lobby with Balcony Above

3 SCHEMATIC DESIGN VIEWS

View from Parking Looking Southwest

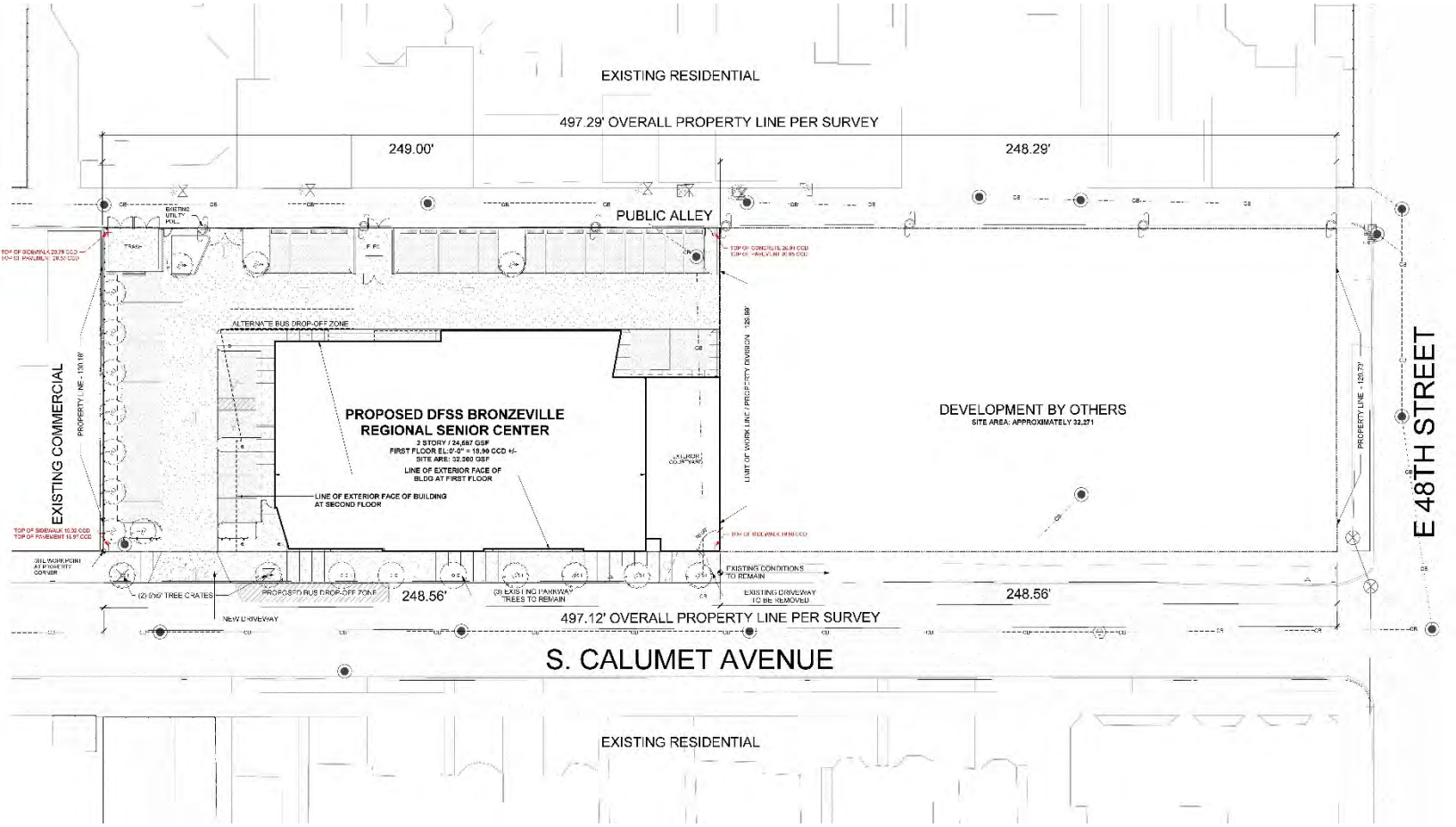
4 DESIGN NARRATIVES

Zoning & Building Code Review
Architectural + Program Requirements
Landscape Architecture
Food Service
Civil Engineering
Structural Engineering
Heating & Ventilation
Plumbing / Fire Protection
Electrical

A PLACE TO CONNECT, ENGAGE AND THRIVE

4 DESIGN NARRATIVES

1 Zoning & Building Code Review



ZONING INFORMATION	UNDERLYING ZONE	PROPOSED PROJECT
ZONING DISTRICT	B3-3 (Community Shopping District)	Special Use
BUSINESS DISTRICTS		
Allowed Uses 12-2-0207 Use Table and Standards	Community Centers allowed by Special Use	Special Use Permit Required
Bulk and Density Standards		
Floor Area Ratio (FAR) (17-3-043-A)	Maximum FAR:3.0	Existing Site Area: 64,614/2=32,307 SQ SF Total Building Area: 24,500 SF FAR Calculation: 24,500 SF / 32,307 SF = 0.76
FAR of Public and Civic Uses (17-13-1003-C)	The Zoning Administrator is authorized to approve an administrative adjustment to allow any permitted Public and Civic use in an B or C district to exceed the applicable FAR by up to 20% over the otherwise applicable maximum.	FAR 3.0+20%=3.6

4 DESIGN NARRATIVES

ZONING & BUILDING CODE SUMMARY

1 Zoning & Building Code Review

Summary / Scope of Work Description:

The project scope of work provides for constructing a new approximately 25,000 gsf, two-story senior community center located at 4711 S. Calumet Avenue, Chicago, Illinois.. The proposed building will include community rooms, a dining room with warming kitchen, a fitness room, various classrooms, and administrative spaces. The building includes a central, first floor commons area that is open to the second floor. The project will also include site improvements, landscaping, and access walkways.

Key elements include:

- The project is to be constructed on the northerly 50% of the present parcel, approximately 130 ft x 497 ft. The design and code related analysis are based on a central vertical opening between floors (non-atrium) with an open communicating stairway serving as an exit from the 2nd floor to the Main 1st floor, utilizing Type IIA Construction.
- Two additional enclosed exit stairs.
- Sprinklered building, with fire rated partition enclosures for shafts and select storage rooms.

Applicable Codes and Standards:

Zoning Code:	Chicago Zoning Ordinance (CZO 2025)
Building Code:	2019 Chicago Building Code (CBC 2019)
Plumbing Code:	2019 Chicago Plumbing Code, 2014 Illinois Plumbing Code
Mechanical Code:	2019 Chicago Mechanical Code
Energy Code:	2022 Chicago Energy Transformation Code
Electrical Code:	2018 Chicago Electrical Code
Fire Prevention Code:	2018 Chicago Fire Code
Conveyance Device Code:	Chicago Conveyance Device Code
Accessibility Requirements:	2018 Illinois Accessibility Code, Chapter 11 of the Chicago Building Code referencing ANSI 117.1-2009 with amendments, 2010 ADA Standards

ZONING SUMMARY

Zoning District:	17-3-0104	B3-3 Community Shopping District
Allowed Uses:	17-3-0207	Public and Civic Use Group I Parks and Recreation allows Community Centers in B3 Zoning District - Special Use Permit required
Lot Area:	Total Site:	64,631 Sq. Ft.
		Senior Center Site: 32,360 Sq. Ft. (approximately 50% of total site length)
Maximum Floor Area Ratio	17-13-1003-C	3.6 = (FAR 3.0 + 20%)
Total Building Area		Approx. 24,587 GSF
Building Height	17-3-0408-A	For District 3 w/Lot Frontage >50': 65 ft
Building Height Increase	17-3-0408-B	Allowed for transit-served locations:
Minimum Yards		
• Front Yard Setback	17-3-0404	Not Required
• Rear Yard Setback	17-3-0405-B2	Not Required except 16 Ft. when abuts R-zone property
• Side Yard Setback	17-3-0406	Not Required
Off Street Loading	17-10-1101	Civic Use Group 0-24,999 GSF Bldg: Not Required 24,000-199,999 GSF Bldg: (1) 10' x 25' loading space
Off Street Parking		1 per 3 employees + additional parking and drop-off spaces as determined by DZ/LUP
Landscaping		Per Chicago Landscape Ordinance

4 DESIGN NARRATIVES

ZONING & BUILDING CODE SUMMARY

Zoning & Building Code Review

Summary / Scope of Work Description:

The project scope of work provides for constructing a new approximately 25,000 gsf, two-story senior community center located at 4711 S. Calumet Avenue, Chicago, Illinois.. The proposed building will include community rooms, a dining room with warming kitchen, a fitness room, various classrooms, and administrative spaces. The building includes a central, first floor commons area that is open to the second floor. The project will also include site improvements, landscaping, and access walkways.

Key elements include:

- The project is to be constructed on the northerly 50% of the present parcel, approximately 130 ft x 497 ft. The design and code related analysis are based on a central vertical opening between floors (non-atrium) with an open communicating stairway serving as an exit from the 2nd floor to the Main 1st floor, utilizing Type IIA Construction.
- Two additional enclosed exit stairs.
- Sprinklered building, with fire rated partition enclosures for shafts and select storage rooms.

Applicable Codes and Standards:

Zoning Code:	Chicago Zoning Ordinance (CZO 2025)
Building Code:	2019 Chicago Building Code (CBC 2019)
Plumbing Code:	2019 Chicago Plumbing Code, 2014 Illinois Plumbing Code
Mechanical Code:	2019 Chicago Mechanical Code
Energy Code:	2022 Chicago Energy Transformation Code
Electrical Code:	2018 Chicago Electrical Code
Fire Prevention Code:	2018 Chicago Fire Code
Conveyance Device Code:	Chicago Conveyance Device Code
Accessibility Requirements:	2018 Illinois Accessibility Code, Chapter 11 of the Chicago Building Code referencing ANSI 117.1-2009 with amendments, 2010 ADA Standards

ZONING SUMMARY

Zoning District:	17-3-0104	B3-3 Community Shopping District
Allowed Uses:	17-3-0207	Public and Civic Use Group I Parks and Recreation allows Community Centers in B3 Zoning District - Special Use Permit required
Lot Area:	Total Site:	64,631 Sq. Ft.
		Senior Center Site: 32,360 Sq. Ft. (approximately 50% of total site length)
Maximum Floor Area Ratio	17-13-1003-C	3.6 = (FAR 3.0 + 20%)
Total Building Area		Approx. 24,587 GSF
Building Height	17-3-0408-A	For District 3 w/Lot Frontage >50': 65 ft
Building Height Increase	17-3-0408-B	Allowed for transit-served locations:
Minimum Yards		
• Front Yard Setback	17-3-0404	Not Required
• Rear Yard Setback	17-3-0405-B2	Not Required except 16 Ft. when abuts R-zone property
• Side Yard Setback	17-3-0406	Not Required
Off Street Loading	17-10-1101	Civic Use Group 0-24,999 GSF Bldg: Not Required 24,000-199,999 GSF Bldg: (1) 10' x 25' loading space
Off Street Parking		1 per 3 employees + additional parking and drop-off spaces as determined by DZ/LUP
Landscaping		Per Chicago Landscape Ordinance

4 DESIGN NARRATIVES

Zoning & Building Code Review

LANDSCAPE ORDINANCE (Based on CZO CHAPTER 17-11)

17-11-0101-A Applicability: Construction of a principal building…Applicable to this project.

17-11-0100 PARKWAY TREES

17-11-0103-A 1 parkway tree required per 25 ft of street frontage / min. caliper of 2.5" / tree grates required when planted in sidewalk openings

17-11-0200 VEHICULAR USE AREAS (applicable for vehicular use areas > 1,200 sq. ft.)

17-11-0202-A Screening from abutting Residential and Institutional Uses: screening via a wall, fence, or hedge 5 ft high min. / 7 ft. high max. Walls or fence must be masonry or wood, planted with vines.

17-11-0202-B Screening from Streets: 7 ft. wide landscaped setback. Hedge >2.5 ft. high / <4 ft. high / 1 tree for every 25 ft of street frontage. Front / rear car bumper allowed to overhang 2 ft max.

17-11-0202-C Fencing: Ornamental fence required along street frontage and where abutting front yard of R district. Fence to be mounted behind perimeter landscape. Fence to be 56 ft high unless 6 ft height is authorized by Zoning Administrator.

17-11-0203-A Interior Landscaping: interior landscaping required equal to 5% of vehicular use area for areas 3,000 – 4,500 sq ft / 7.5% for areas 4,501 – 30,000 sq ft

- 1 tree required per 125 sq ft of required interior landscape area
- 165 sq ft min landscape island / min 8 ft / 1 tree req'd

17-11-0205 Sight Triangles; 12 ft triangle required at drive intersections to street and alley / 12" max planting height

17-11-0300 Trash Storage Area Screening: 6 ft high masonry walls planted with vines

4 DESIGN NARRATIVES

Zoning & Building Code Review

BUILDING CODE (Based on CBC 2019)

Type of Project:

☒ New Construction ☐ Renovation of Existing Building ☐ Addition ☐ Tenant Build-out

Historic Building: ☒ No ☐ Yes

Change of Occupancy: ☒ No ☐ Yes

3 OCCUPANCY CLASSIFICATION & USE: (CBC Chapter 3)

303.4 Assembly Group A-3 Community Hall

302.2 Use Designation/ Associated Uses: Classrooms, offices

4 SPECIAL REQUIREMENTS – USE & OCCUPANCY: (CBC Chapter 4)

Not Applicable to this Project

5 GENERAL BUILDING HEIGHTS AND AREAS: (CBC Chapter 5)

Note: Construction Type IIA will be used for the design of the Senior Center building.

504 Height (table504.3)/Stories (table 504.4): Occupancy A-3: Type IIA allows 85 ft / 4 stories

506 Building Area: Occupancy A-3/Multiple Stories: Type IIA allows 48,000 SF

506.3 Frontage Increase: Area can be increased based on public way frontage per 506.3.1 through 506.3.3

508.2.4 Separation of Occupancies: Not required between main and accessory occupancies.

509 Fire-rated separation requirements per table 509:

- Furnace rooms and boiler rooms in bldgs. >200 occupants: 2 hr
- Storage rooms >100 SF: 1 hr
- Telecommunications room >50 SF: 2 hrs
- Electrical rooms w/ transformers: 2 hrs

6 TYPE OF CONSTRUCTION: (CBC Chapter 6)

602.2 Type II: building elements in table 601 are of non-combustible materials except as allowed by Section 603

602.1 Fire Resistance Requirements

- Primary structural frame: Type IIA- 1 hr
- Bearing walls: Type IIA- 1 hr
- Nonbearing walls & partitions- Exterior: per table 602
  - <3 ft separation: 2 hrs
  - >3 ft to 10 ft: 1 hr
  - >10 ft to 30 ft: 1 hr
  - > 30 ft: 0 hrs
- Nonbearing walls & partitions- Interior: Type IIA- 0 hrs
- Floor construction & associated members: Type IIA- 1 hr
- Roof construction & associated members: Type IIA- 1 hr

7 FIRE AND SMOKE PROTECTION FEATURES: (CBC Chapter 7)

712Vertical Openings- General: Each vertical opening comply with enclosure and separation requirements, with the following notable exceptions allowed:

712.1.9(2) Two-story openings: Allowed provided the opening does not connect more than 2 stories and building construction type is Type IA, IB, or IIA and one of the stories is a level of exit discharge. Use IIA Construction. Proposed design will use Type IIA Construction.

713.4 Shaft Enclosures: 1 hr fire rated enclosure required for shafts connecting less than 4 stories.

4 DESIGN NARRATIVES

Zoning & Building Code Review

8 INTERIOR FINISHES: (CBC Chapter 8)

803.13 Interior Wall & Ceiling Finishes by Occupancy: Group A-3 / sprinklered (table803.13)

- Stairways, ramps, exit ways: Class A
- Corridors & exit enclosures: Class B
- Rooms & enclosed spaces: Class C

804.4.2 Floor Finishes: Class II

806.7 Interior Trim: Class C

9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS: (CBC Chapter 9)

903.2.1.3 Sprinklers required for Occupancy Group A-3 buildings.

906.1 Portable fire extinguishers required

10 MEANS OF EGRESS: (CBC Chapter 10)

1004.5 Maximum Floor Area Allowances Per Occupant (table 1004.5)

Accessory Storage & Mechanical Equipment Room	300 SF Gross
Assembly with fixed Seats	# of Seats
Assembly without fixed Seats-	
Concentrated chairs only	7 SF Net
Outdoor Areas >400 SF	20 SF Net
Unconcentrated Tables & Chairs	15 SF Net
Standing Space	5 SF Net
Business	100 SF Net
Educational	
Classroom area	20 SF Net
Conference Rooms	20 SF Net
Exercise Rooms	
With Equipment	50 SF Gross
Open Floor	20 SF Net
Kitchen / Food Preparation Areas	200 SF Gross

1005 Means of Egress Sizing

1005.2 Minimum Width

- Stairways: Capacity in inches calculated by multiplying occupant load served by egress capacity factor of (0.3 non-sprinklered / 0.2 sprinklered) inch per occupant (44-inch general minimum)
- Other Egress Components (corridors): Capacity in inches calculated by multiplying occupant load served by egress capacity factor of (0.2 non-sprinklered / 0.15 sprinklered) inch per occupant (44-inch general minimum)

1005.4 Continuity: Minimum width shall not be reduced along the path of egress

1005.7 Encroachment: Doors in any position shall not reduce the required width by more than one quarter

1005.7.3 Protruding objects must comply with Section 1003.3 – limit to 4" projection when below 80" AFF

1006.2.1 Minimum of 2 exits required except as follows: Spaces with One Exit or Exit Access Doorway: (table 1006.2.1) – Maximum Occupant Load / Maximum Common Path of Egress Travel Distance

- Assembly Use: 49 Max. Occupants / 75 Ft Sprinklered
- Business Use: 49 Max. Occupants / 115 Ft Sprinklered

1006.3 Electrical Rooms: Two exit access doors required in electrical rooms containing equipment rated 3,000 amperes or greater

1006.3.2 Egress Based on Occupant Load: Minimum Number of Exits Per Story

- 1-500: 2 Exits
- 501-1,000: 3 Exits

4 DESIGN NARRATIVES

Zoning & Building Code Review

1007 Exit and Exit Access Configuration

1007.1.1 Two Exits or Exit Access Doorways; Separation distance to be not less than one-third of the length of the maximum overall diagonal dimension of the area served.

1009 Accessible Means of Egress

1009.1 Accessible spaces shall be provided with not less than one accessible means of egress.

1009.3 Stairways: Clear Width:

- 48” between handrails when non-sprinklered
- 48” not required for sprinklered buildings or where stairways are accessed fr4om an area of refuge

1009.3.3(2) Area of Refuge not required in stairways for sprinklered buildings

1009.4 Elevators: To be considered part of an accessible means of egress

- Standby power required
- Elevators shall be accessed from an area of refuge.

1010.1.2.1 Door Swing: Indirection of travel serving occupant load >49

1010.1.9 Door Operation: Readily openable from egress side without key or special knowledge

1010.1.10 Panic and Fire Exit Hardware: Group A Assembly - Panic exit hardware required for all rooms or spaces with an occupant load >49

1011 Stairways

1011.2 Width and Capacity: Not Less than 44”

1011.3 Headroom: 7’-0” min.

1011.5 Treads & Risers: 7” max. / 4” min. risers / 11” tread depth min. / 1 1/4"max. nosing projection / solid risers

1011.6 Stairway landings: Top & bottom of each stair / not less than stair width

1014 Handrails

- Between 34” to 38” above nosing
- 4 1/2" max. projection into stair width / 36” clear width min. between handrails
- Circular profile not less than 1 1/4" diameter
- Handrail extensions: min. 12” beyond top riser / 1 tread width+ 12” at bottom riser

1016 Exit Access

1016.2(2) Egress through intervening space: Allowed where adjoining rooms or areas served are accessory to one another. Path must provide a discernable path of egress travel to an exit.

1016.2(3) An exit access shall not pass through a room that can be locked to prevent egress.

1017.2 Exit Travel Distance

- 250 feet allowed, remote point to exit entrance, with sprinkler system

1019.3(1) Enclosure not required for exit access stairways and ramps

- Communicating only 2 stories
- Within atrium compliant design per 404

1020.1 Table 1020.1 – Corridor fire resistance: 1 hr fire-rating required for corridors serving spaces with an occupant load greater than 300

1020.2 Minimum Corridor Width: 44 inches

1020.4(3) Dead End Corridor: Generally, 20ft. max. / Exception: Not limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor

4 DESIGN NARRATIVES

Zoning & Building Code Review

11 ACCESSIBILITY: (CBC Chapter 11)

1106.1	Accessible Parking: 2 accessible parking spaces required for 26-50 total spaces

30 ELEVATORS AND CONVEYING SYSTEMS: (CBC Chapter 30)

3002.4	1 elevator car to accommodate an ambulance stretcher 24” x 84” with not less than 5” radius corners
713.4	1-hr fire rated enclosure required

4 DESIGN NARRATIVES

Architectural + Program Requirements

1. APPLICABLE BUILDING CODES AND STANDARDS

The project shall comply with the following applicable codes and standards:

A. Chicago Building Code – 2019
B. Chicago Energy Transformation Code – 2022 (Based on IECC 2021)
C. Chicago Conveyance Device Code
D. Chicago Fire Prevention Code
E. Chapter 11 Accessibility of the Chicago Building Code – ANSI 117.1-2009 w amendments
F. Illinois Accessibility Code – 2018
G. American with Disabilities Act Architectural Guidelines (ADAAG) – 2010

2. SUSTAINABILITY AND LEED CERTIFICATION

The project will be designed to achieve a minimum level of LEED Silver Certification, following the United States Green Building Council (USGBC) LEED v4/4.1 rating system for New Construction. Additionally, the project must meet the Chicago Sustainable Development Policy (2024-SDP) with matrix strategies that include "Bird Protection" and "Exceed the Chicago Energy Transformation code by 10%".

3. EXISTING CONDITIONS:

The project site is located at 4711 – 4755 S. Calumet Avenue, a currently vacant lot between 47th Street and 48th Street in the Bronzeville area of Chicago. The site is near the CTA 47th Street Green Line stop.
The site dimensions are approximately 130' deep x 497' wide with no visible structures. The project is planned to be developed on the Northerly half of the site via a division of the property into two approximately equal areas. The resultant site for the new Senior Center will be approximately 130' deep x 248.5' wide, with and area of 32,516 GSF. The remaining Southerly parcel of appr. 32,425 GSF will be developed by others.

The north end of the site is adjacent to a commercial parcel with a one-story retail building. The east end of the site is defined by a public alley with power poles. The west side of the site fronts S. Calumet Avenue and the south side is adjacent to a vacant parcel, under development By Others.

4. ZONING, CONSTRUCTION TYPE & OCCUPANCY:

The project site is zoned B3-3 "Community Shopping District," which allows "Community Center" use via a Special Use Permit. The project will be constructed following the requirements for Type II-A, non-combustible, protected construction according to CBC 2019. The occupancy types for the building are Assembly Use A-3.

5. CHICAGO ENERGY TRANSFORMATION CODE COMPLIANCE:

The Project is to be designed to better Energy Code Requirements by at least 10%. Compliance will be achieved through the prescriptive method. The following list indicates the required maximum allowable Code value requirement (in black text) and the Basis of Design value (BOD in red text) utilized in developing the Schematic Design:

a. Exterior Wall: Metal Framed U-0.055 utilizing continuous insulation. / BOD U-0.047
b. Floors: Unheated slab-on-grade U-0.52 for 24" below / BOD U-0.06
c. Roof U-Factor: U-0.32ci / BOD U-0.026
d. Fenestration U-Factor: Fixed: U-0.38 / BOD U-0.32 SHGC 0.38 / BOD 0.27, Operable: 0.45 / NA, Entrance Doors: 0.77 / BOD U-0.68, Skylights U-0.60 / BOD U-0.44 SHGC 0.75 / BOD 0.36
e. Glazing to Wall Ratio: Not to exceed 30% of building thermal envelope surface area

6. EXTERIOR WALL ENCLOSURE:

A. Rainscreen Wall System (Basis-of-Design values U-0.047):

6" Cold-formed metal framing with gypsum sheathing, fluid-applied membrane air barrier, 4 1/2" mineral wool insulation, and a support system for 5/16" / 8mm minimum thickness reinforced fiber cement panels with exposed fasteners in various factory finishes. Allow for up to 3 colors of cementitious panels:

- Basis of Design Selections
  - Color #1: Swiss Pearl Facade CARAT – ONYX 7090
  - Color #2: Swiss Pearl Façade CARAT – BLACK OPAL 7021
  - Color #3: Swiss Pearl Facade CARAT – TOPAZ 7070

4 DESIGN NARRATIVES
Architectural + Program Requirements

B. Window Wall System (Basis-of-Design values U-0.32 max./ SHGC 0.27):

1. Storefront Glazing: Natural anodized aluminum, 6” nominal depth x 2" width, Ultra-thermal performance dual thermal break, front glazed application storefront window wall system with high-performance organic finish. Basis of Design: Kawneer Trifab 601UT. Alternatively a curtain wall system is acceptable.

2. U-value enhancing / Bird Safe Glass: 1” insulated clear glazing units with low-e coating and argon gas fill, front glazing plane, mechanically retained with gaskets on four sides.

    a. Basis-of-Design: Vitro Architectural Glass – Sungate ThemL + AviProtek E

        i. Outer Lite: 6mm clear #1 Surface: AviProtek E, 215 2’x2” square laser etched pattern / #2 Surface SOLARBAN 70 Clear

        ii. 1/2" Argon filled space

        iii. Inner Lite: 6mm clear / #4 Surface: Sungate THERML (4) – Winter Argon U-0.19 / SHGC 0.27

B. Exterior Doors

1. Aluminum-Framed Entrances (Basis-of-Design U-0.68): 2 1/4" depth, medium stile aluminum with thermal break entrance doors, for moderate to high traffic applications, with finish and glazing to match window wall. At doors in pairs, provide removable center mullion to allow rim mounted exit devise hardware and integral weatherstripping. Basis of Design: Kawneer 350T Thermal Entrances.

2. Service Doors (Switchgear Rm + East Vestibule) (Basis-of-Design U-0.37): Painted, insulated hollow metal (galvanized) double and single doors, welded frames for non-aluminum framed locations..

C. Skylight System (Basis-of-Design values U-0.44 SHGC 0.36)

1. Hipped end ridge skylight with 4 1/2 to 12 slope. Thermally broken aluminum tubular framing system with integral gutter. 1 1/4" insulated, fully tempered and laminated glazing with ceramic frit pattern to limit light transmittance to approximately 20%. Product Basis of Design: Old Castle Building Envelope BMS-3000 or similar by others.

D. Awnings at 2ND Floor Terrace: Lateral-arm, motorized, retractable awnings with high-performance fabric canopy, metal facia (no fabric valance) and integral light fixtures at arms extending approximately 12 feet from building face. Provide powder-coated aluminum arms, integral high-tension springs and stainless-steel arm cables and hardware. Design and engineer anchorage/brackets for site wind conditions per Chicago code/ASCE 7 using Risk Category II and local exposure. Provide remote control, wall switch/es and wind sensors to integrate to auto-retract with adjustable thresholds. Provide multiple awnings to extend over an approximate 62 foot length. Basis-of-Design product: Sunesta+1Mr Awnings large commercial lateral arm.

7. ROOFING:

A. Deck & Single-Ply Roof (Basis-of-Design U-0.026 max.)

1. The primary slope to roof drains is achieved by sloping the structural framing (1/4” per 1’-0”). Secondary slopes as required to pitch to drain locations, including crickets, saddles, and roof drain sumps are to be achieved using tapered roof insulation.

2. Roofing assembly: 60 mil fully adhered PVC membrane roof, 1/2" polyisocyanurate cover board, two layers of 2.6” polyisocyanurate flat insulation, vapor retarder adhered to concrete filled metal roof deck. Provide tapered polyisocyanurate insulation (1/2” per 1’-0”) over the (2) layers of flat insulation, to insure a resultant slope of 1/4” per 1’-0” minimum sloping to roof drain sumps.

4 DESIGN NARRATIVES
Architectural + Program Requirements

8. INTERIORS:

A. Interior Construction

1. Partitions (14'-0" typical floor-to-deck vertical span).

Typical partition: Metal stud partition (3 5/8", 24" oc.) braced to deck above with (2) layers of 5/8" gypsum board each side, abuse resistant on outer layer. Provide 3" thickness sound attenuation mineral wool insulation in all partitions.

1. Interior glazed partitions

a. Aluminum non-thermal, center-glazed storefront stick system, pre-finished, with ¼" tempered clear glass glazing.

Moveable Wall Systems – Top supported/overhead braced, individual, manual, acoustically rated horizontal stacking/retractable, clear satin anodized aluminum-framed glass wall
panel system at the Dining Room and Multipurpose Rooms. Provide ceramic frit doit screen pattern band from 30"A.F.F. to 66"A.F.F. for visual semi-private screening of partition. .Basis-of-Design product: Luminous-Movable Glass Walls by Kwik-Wall / model: Stella Series – STC 50

B. Interior Doors + Frames
Doors: Flush panel, solid core, transparent finish wood doors 8'-0" high typical (provide 8'-6" high doors at main portal millwork portal to Dining / MPR #2 area).
Typical Door Frames + Borrowed Lites: Satin natural-anodized center-glazed aluminum framing system with 1/4" clear glass tempered glass at sidelites.
Fire-Rated Door Frames: Painted, welded hollow metal.
Door Hardware: Heavy duty commercial grade stainless steel finished hardware. Provide rim type exit device hardware for all exit doors, stair doors, and room spaces with an occupant load greater than 55 people.

C. Fittings
1.Toilet Accessories: Stainless Steel
Toilet tissue and paper towel dispensers
Warm air dryers
Soap dispensers
Sanitary napkin dispenser, disposal
Grab bars
Mirrors above lavatories, one full length per toilet room
Waste dispensers
2. Storage Shelving
Stainless steel, wall mounted shelving at Janitor's Closets
3. Toilet Compartments
Phenolic core HPL, ceiling hung.
4. Fire extinguisher cabinets: Recessed type with stainless steel cabinet finish

D. Interior Finishes
1.Primary Vestibule Entrance/Exit
Floor: Recessed floor mat with floor drain
Walls: Matching cementitious exterior wall cladding / wall covering for others
Ceiling: Painted gypsum board
Lighting: Recessed linear LED fixtures
Other: Wall recessed cabinet unit heater

4 DESIGN NARRATIVES
Architectural + Program Requirements

2. Toilet Rooms
a. Floor / Base: Large format porcelain ceramic tile and base
b. Walls: Large format porcelain ceramic tile
c. Ceiling: 9ft high / 2ft x 2ft tegular acoustic tile
d. Lighting: Recessed Linear LED fixtures

3. Janitor Closets
a. Floor / Base: 12" x 12" VCT resilient tile floor with resilient vinyl wall base.
b. Walls: Ceramic tile wainscot at mop basin
c. Ceiling: 8ft high / 2ft x 2ft tegular acoustic tile
d. Lighting: Recessed Linear LED fixtures
e. Other: Stainless steel utility shelf/mop holder / adjustable plastic laminate shelving

4. Offices, Administrative, Storage Rooms, and support spaces
a. Floor / Base: Carpet tile / 4" heavy duty sculpted straight resilient wall base
b. Walls: Painted gypsum board
c. Ceiling: 9'-6" high minimum / 2ft x 2ft tegular acoustical tile
d. Lighting: Recessed Linear LED fixtures

5. Activity Rms, Tech Center and Conference Rm
a. Floor / Base: Carpet tile / 4" heavy duty sculpted straight resilient wall base
b. Walls: Painted gypsum board
c. Ceiling: 9'-6" high minimum / 2ft x 2ft tegular acoustical tile

d. Lighting: Pendant direct/indirect linear LED fixtures with split switching and dimming controls
e. Other:
Include (1) 4'H x 16'L glass markerboard per room
Include (1) 4'H x 8'L tackboard surface per room
Include ceiling mounted projection screen

6. Movie Rm
Floor / Base: Carpet tile / 4" heavy duty sculpted straight resilient wall base
Walls: Painted gypsum board
Ceiling: 9'-6" high minimum / 2ft x 2ft tegular acoustical tile
Lighting: Pendant direct/indirect linear LED fixtures with split switching and dimming controls
Other:
Include ceiling mounted projection screen

7. Game Rm
Floor / Base: Large format ceramic tile and base.
Basis-of-Design Note: Large format ceramic tile, as used in this narrative, refers to through-body porcelain tile such as American Olean – "Relevance" tile available in 24"x48" / 24"x24" / 12"x24" sizes, as well as mosaic tile suitable for accent areas such as the Dining Room accent area.
Walls: Painted gypsum board / glass
Ceiling: 9'-6" minimum high / 2ft x 2ft tegular acoustical tile
Lighting:
Pendant direct/indirect linear LED fixtures with split switching and dimming controls
Supplemental decorative pendant lights at perimeter lounge furniture groupings

4 DESIGN NARRATIVES
Architectural + Program Requirements

8. Fitness Rm
a. Floor / Base:
    a. General Area: Carpet tile / 4" heavy duty sculpted straight resilient wall base
    b. Free Weights Area: Specialty rubber tile laid over carpet tile (allow for 300 SF area)
b. Walls:
    a. General: Painted gypsum board.
    b. Provide 8'H x 24'L mirror wall with hardwood balance rail
c. Ceiling: 9'-6" minimum high / 2ft x 2ft tegular acoustical tile
d. Lighting:
    a. Pendant direct/indirect linear LED fixtures with split switching and dimming controls

9. Community / Hall / Multipurpose Rms (MPR #1 / MPR #2)
a. Floor / Base: Large format ceramic tile (carpet tile at Community Multipurpose #1)
b. Walls: Wall covering / aluminum framed glass / moveable partitions
c. Ceiling: 9'-6" minimum high / 2ft x 2ft tegular acoustical tile with gypsum board soffits
d. Lighting:
1. Pendant direct/indirect linear LED fixtures with split switching and dimming controls
2. Supplemental decorative pendant lights at perimeter lounge furniture groupings

10. Dining Rm + Raised Platform
a. Floor / Base: Large format ceramic tile with partial multi color/pattern area.
b. Walls: Wall covering / aluminum framed glass / moveable partition
c. Ceiling: 9'-6" minimum high / 2ft x 2ft tegular acoustical tile with gypsum board soffits
d. Lighting:
1. Pendant direct/indirect linear LED fixtures with split switching and dimming controls
2. Supplemental decorative pendant lights
e. Other:
    1. Include ceiling mounted projection screen and recessed motorized ceiling projector

11. Indoor Patio
a. Floor / Base: Two-color decorative concrete topping slab of same concrete mixes used in outdoor Courtyard paving, placed over depressed building concrete slab-on-grade over vapor barrier.
b. Interior Planters: Cast-in-place concrete walls integral with concrete slab-on-grade, waterproofing , a, protection drainage panel and insulation course, planting soil medium + interior plants.
c. Walls: aluminum framed glass / painted gypsum board as occurs.
d. Ceiling: 9'-0" minimum high / painted gypsum board
e. Lighting:
1. Decorative pendant LED lights

12. Lobby, Community Lounges, Circulation Corridors, and Hall
a. Floor / Base: Large format ceramic tile
b. Walls: Painted gypsum board
c. Ceiling: 9'-6" minimum high / 2ft x 2ft tegular acoustical tile
d. Lighting:
Recessed linear LED fixtures
Supplemental decorative pendant lights
e. Central Opening below Skylight: Allow for approximately 26 baffles/approx.. 400lf of 18"" deep acoustical baffle blades with integral lighting, switched and dimmable. (Basis-of-Design product: Focal Point Linear Acoustical Baffles – Seem 1 Acoustical Louver Direct)

4 DESIGN NARRATIVES
Architectural + Program Requirements

13. Warming Kitchen
a. Floor / Base: Quarry Tile with coved tile base.
b. Walls: Ceramic tile and stainless-steel backsplashes at counters and working surfaces.
c. Ceiling: 9'-0" minimum high, cleanable, faced Gypsum board lay in panels.
d. Lighting: Recessed LED fixtures.
e. Other: Provide overhead rolling counter door at servery line to separate kitchen area from dining room.

14. Electrical, Mechanical, Miscellaneous Support Spaces
a. Floor / Base: Sealed concrete
b. Walls: Painted abuse resistant gypsum board
c. Ceiling: exposed structure
d. Lighting: Pendant LED fixtures

F. Stairs + Ladders

1. Enclosed Stairs #1 & #2:
   a. Concrete filled metal pan treads and landings with sealed finish and abrasive nosing inserts at treads.
   b. Painted ornamental metal post and wire mesh guardrails with stainless steel handrails.
2. Open Stair #3:
   a. Stair Structure: Painted steel boxed stringers with painted perforated steel plate closed risers and pan support for precast terrazzo treads and landing.
   b. Stair and atrium guardrail: Structural 1/2" tempered glass railing system with 1 1/2" diameter stainless steel handrail cap rail and stainless-steel base shoe.
3. Roof Access Ladder: 60-degree metal ships ladder from Stair 1 landing to roof hatch. Provide wire mesh partition enclosure with lockable door separating ship ladder roof access area from public access to roof.

G. Column Treatment

1. Interior Free-Standing Columns: But-seamed, circular painted sheet metal column covers approximately 12 to 14-inches in diameter. Paint finish to be charcoal metallic closely matching exterior rainscreen color #2.
2. Interior Concealed columns: Gypsum board enclosures integral with adjacent walls.
3. Exterior Free-Standing Columns: Steel column to be concrete encased with a minimum 2" cover to steel and wrapped with a round painted aluminum column cover closely matching exterior rainscreen color #2.

H. Window Treatment

1. All windows to be furnished with roller shades. Refer to floor plans for specific locations requiring motorized shades.
2. Provide dual shade (1 light screening / 1 black-out) at Dining Rm clerestory window.

I. Elevators: Machine-Roomless / holeless hydraulic elevators- 3500 lbs. capacity / passenger / 125ft/min. / standard side entry / to accommodate 24" x 84" ambulatory stretcher / manufacturer's standard cab finishes. Otis HydroFit or similar.

J. Audio-Visual and IT Systems

1. The building is to be furnished with a fully integrated technology system and Audio-Visual system serving all occupiable rooms.

4 DESIGN NARRATIVES
Architectural + Program Requirements

10030 DFSS Bronzeville Regional Senior Center **PROGRAM REQUIREMENTS**

	Room / Space	Furniture and fixtures	Finishes and Furnishings	Comp. st, Printers, TVs
1	**FRONT & ENTRY AREAS**			
1.1.	**Entry Vestibule**	None	floor: ceramic tile and floormat; walls: wall coverings and paint 50/50	None
1.2.	**Reception + Coat Closet**	Two computer desk top workstations with u.c. filing cabinets; security monitors, standalone printer; three ergonomic chairs, tall filing cabinets and	floor: LVT tile, walls: paint/wallcoverings; solid surface counters	(2) computer desk top stations; standalone printer
1.3.	**Lobby/Hall**	Limited soft seating; security station furniture at entry	floor: ceramic tile and floormat; walls: wall coverings and paint 50/50	Infrastructure for owner provided AV equipment (ex. sound system, tv screen) Infrastructure for a security station near main entrance
1.3.a	**Community Lounge**	Soft seating; small table + café type chairs seating	floor: ceramic tile and floormat; walls: wall coverings and paint 50/50; artwork wall rails throughout	Infrastructure for owner provided AV equipment (ex. sound system, tv screen)
1.4.	**Office**	(1) Work Desk with computer desk top workstations + u.c. filing cabinet; one ergonomic chair, one visitor chair; wardrobe with work desking system	floor: carpet, walls paint	(1) computer desk top station
1.5.	**Nurse**	(1) Monitor with table top; medical supplies cabinets; one ergonomic chair, one visitor chair; wardrobe with work desking system; visitor side table for BP measuring	floor: LVT tile, walls paint	(1) computer/ swing monitor station
1.6.	**Shop**	Retail counter with glass case; retail adjustable shelves with slotted standards	floor: ceramic tile; walls: wall coverings and paint 50/50	cashier register, computer station

4 DESIGN NARRATIVES

Architectural + Program Requirements

0030 DFSS Bronzeville Regional Senior Center **PROGRAM REQUIREMENTS**

	Room / Space	Furniture and fixtures	Finishes and Furnishings	Comp. st, Printers, TVs
2	**COMMUNITY SHARED AREAS**			
2.1.	**Dining/ Performance Rm with Stage**	Stage podium is fixed 12 ft deep, 14 inch high; folding tables, compact stackable chairs.	floor: ceramic tile; walls: wall coverings and paint 50/50;	(1) Projector w/drop down screen, A/V connections for Podium; Sound system, Light system control panel
2.2.	**Community/ Multipurpose 1**	Dining table furniture used for activity, and for dining; folding tables, compact stackable chairs	floor: ceramic tile; walls: wall coverings and paint 50/50;	(1) Projector w/drop down screen, Sound system, Light system control panel
2.3.	**Community/ Multipurpose 2**	Folding tables, compact stackable chairs	floor: stone tile fl; walls: wall coverings and paint	(1) Projector w/drop down screen, Sound system, Light system control panel
2.4.	**Indoor Patio**	Soft seating; lounge chairs and tables	floor: exposed concrete; walls: wall coverings	TV monitor
2.5.	**Community Lounge at lobby**	Soft seating; small table + café type chairs seating	floor: ceramic tile; walls: wall coverings and paint 50/50; artwork wall rails throughout	Infrastructure for owner provided AV equipment (ex. sound system, tv screen)
3	**COMMUNITY SHARED AREAS SUPPORT**			
3.1.	**Warming Kitchen**		per kitchen program	
3.2.	**Food Storage**			
3.3.	**Back of the House Storage**	Metal shelving	sealed concrete floor, walls: paint	none
3.4.	**Building Engineer Office**	(1) Work Desk with computer desk top workstations + u.c. filing cabinet; one ergonomic chair, one visitor chair; wardrobe with work desking system	floor: LVT, walls paint	(1) computer desk top station

4 DESIGN NARRATIVES

Architectural + Program Requirements

10030 DFSS Bronzeville Regional Senior Center **PROGRAM REQUIREMENTS**

	Room / Space	Furniture and fixtures	Finishes and Furnishings	Comp. st, Printers, TVs
4	**RECREATIONAL ACTIVITY SPACES**			
4.1.	**Community Lounge Hall**	Soft seating;	floor: ceramic tile; walls: wall coverings and paint 50/50; artwork wall rails	
4.2.	**Movie Room & Chair Storage**	Soft theatre type seating;	floor: carpet, walls: wallcoverings	(1)Projector w/drop down screen
4.3.	**Fitness Room**	Fitness Equipment per Owner's Consultant	floor: carpet and rubber tile; walls: mirrors, paint	TV monitors per Owner's Fitness Equipmt. Cons.
4.4.	**Fitness Room Storage**	Metal shelving	floor: LVT, walls: paint	none
4.5.	**Massage Room**	Massage table; Cabinet and counters, carts	floor: carpet, walls: paint	
4.6.	**Billiards**	3 pool tables	floor: carpet, walls: wallcoverings/ paint	TV monitor (1)
5	**ACTIVITY ROOMS**			
5.1.	**Tech Center**	Café height collaboration tables and chairs, soft seating as well as flip top nesting tables and chairs, some traditinal computer stations around tables	floor: carpet, walls: paint, marker boards, art rails	(16) desk top computer stations + (1) instructor computer station; TV client server
5.2.	**Activity Rm 1**	Folding tables chairs; instructor desk; marker boards	floor: carpet, walls: paint, marker boards, art rails	(1) Instructor computer station with l large monitor
5.3.	**Activity Rm 2**	Folding tables chairs; instructor desk; marker boards	floor: carpet, walls: paint, marker boards, art rails	(1) Instructor computer station with l large monitor
6	**ADMINISTRATION + SUPPORT**			
6.1.	**Admin offices and Break area**	Open workstations + u.c. filing cab., ergonomic chairs; wardrobe with workdesking system; casework for break area; sink, micro and refrigerator	floor: carpet, walls: wal coverings/ paint	(2) computer desk top stations; standalone printer
6.2.1.	**Director Office**	(1) Work Desk with comp. desk top + u.c. filing cabinet; ergon. chair, two visitor chairs; wardr. w desking system	floor: carpet, walls paint	(1) computer desk top station
6.2.2.	**Staff Office (2 each)**	(1) Work Desk with comp. desk top + u.c. filing cabinet; ergon. chair, two visitor chairs; wardr. w desking system	floor: carpet, walls paint	(1) computer desk top station
6.3.	**Conference Rm**	Conference room table with 20 guest chairs and side chairs; ability to connect to video conferencing and data	floor: carpet, walls paint	(1) computer server with large monitor display; secondary monitor

4 DESIGN NARRATIVES

Landscape Architecture

Landscape / Site + Courtyard Design Narrative

1. OVERALL LANDSCAPE DESIGN

The DFSS Regional Senior Center project will deliver a landscape that provides the staff, residents, and visitors with direct access to the renewed garden landscape by optimizing green space opportunities. Visible and interactive green spaces provide biodiversity, assist stormwater management, and provide a respite in the urban realm throughout the seasons.

The design approach of this reimaged site interprets the landscape and building as a whole system to integrate the program, functionally and spatially. Exterior destination green spaces are visually connected to the building interior allowing for the gardens to be experienced from inside as well as outside. The outdoor environment engages the Senior Center community by incorporating garden spaces as part of their everyday experience.

The aesthetic native and adaptive plantings provide an innovative landscape representative of the region.

2. GROUND LEVEL SITE SPACES

A. Parking Lot

1. Design to meet Chicago Landscape Ordinance Requirements including: Screening, Buffer, and Internal Planting Includes vegetative screening- hedge and groundcover designed to be maintained at 36” to 48” mature height. Provide native and salt tolerant species, to the greatest extent possible. Shrub species could include compact Viburnums, Lilacs, and others. Groundcover and low site-line areas could be Grow-low sumac, Euonymus, other, interplanted with perennial ornamentals. Internal planting area trees, 2.5” caliper minimum, should be canopy/shade type and provide a diversity of species.
2. 4’ height ornamental metal fence along public ROW along S. Calumet and the north property line, including gates and fence elements at isolated additional locations. Ornamental metal fence to be black painted finished 1/2"x1/2” pickets at 4” on center. Entrance sliding gates to be manual bi-parting type matching fence design.
    a) 6’ height opaque fence along alley
    b) Black metal frame post and rail design with composite wood slats. Planting strips be provided for vine planting per ordinance.
3. Trash Enclosure
    a) Reinforced 10” decorative (split-faced units) with 4” thick cut limestone coping.
    b) Vines planted on three sides of masonry enclosure

Gates: Ornamental metal gate frame with composite wood slats matching alley fence.

4. Parking Lot Area Lighting: Provide (3) pole light fixtures.
5. Bicycle Racks per zoning requirements: 2 racks required for 40 parking spaces.

4 DESIGN NARRATIVES

Landscape Architecture

A. Courtyard

1. Enclosure Walls: Reinforced 10” decorative (split-faced units) with 4” thick cut limestone coping.
2. Enclosed garden landscape with direct connection to indoor common spaces
3. Ornamental native and adaptive plantings
4. Provide plant identification signage
5. Provide wood benches with backs, café tables and chairs and benches
6. Decorative split faced 8’ CMU masonry wall with natural stone cap to enclose courtyard. Provide ornamental fenced openings for cross ventilation.
7. Hardscape paving to be two (2) color decorative concrete slab-on-grade
8. Raised Planters: Cast-in-place concrete structure, waterproofing + geotextile drainage panel/insulation protection lining.
9. Plantings include variety of shade and ornamental trees, shrubs, groundcovers, and ornamental perennials.

B. Calumet Ave Streetscape

1. Reconstruct concrete sidewalk and roadway curb
2. Protect three existing parkway trees
3. Maintain and restore existing turf parkways, provide courtesy walks
4. Provide parkway canopy trees, 2.5” minimum caliper; 25’ o.c to meet landscape ordinance. Provide a diversity of tree species to compliment the existing parkway trees scheduled to remain.
5. Provide bike racks in public ROW (2 racks)
6. Curb cut for parking lot
7. Parking lot buffer and screening – hedge and groundcover designed to be maintained at 36” to 48” mature height. Provide native and salt tolerant species, to the greatest extent possible. Shrub species could include Viburnums, Lilacs, and others.

3. SECOND FLOOR SPACES

A. Second Floor Terrace

1. Exterior Terrace: 24” x 24” precast concrete pavers with 1/4" maximum open joints, set on adjustable paver stands, over PVC roofing membrane with protection course beneath pedestal supports. Roofing assembly to be the same as main roof for U-value, with insulation type adjusted for paver/terrace use loads. Provide exterior furniture, and planting for outdoor gathering
2. Perimeter Planters / Safety Barrier Rails: Cast-in-place concrete structure, waterproofing, geotextile drainage mat liner all surfaces, 1 1/2" polyisocyanurate board insulation protection liner, intensive green roof planting.
3. Intensive green roof planting
   i. Soil: 24” depth
   ii. Low maintenance plantings with allowance for seasonal plantings.
4. Hose bibbs on building every 100 LF for maintenance

A. Interior Planters: Cold-formed metal structured walls with internal lined exterior sheathing, waterproofing, geotextile drainage mat liner all surfaces, 1 1/2" polyisocyanurate board insulation protection liner, intensive green planting.

4 DESIGN NARRATIVES
Food Service

DFSS Bronzeville Regional Senior Center Program Foodservice Narrative

The Bronzeville Regional Senior Center is a new facility within the City of Chicago's Department of Family and Support Services (DFSS) network. It will be located at 4711 S. Calumet Ave. and will be designed to be a hub for seniors, offering social, educational, and recreational activities. The center will provide resources and programs aimed at enhancing the quality of life for older adults in the Bronzeville community.

Warming Kitchen and Serving Line

There is one food service space, a warming kitchen with a serving line and a dining room. This narrative addresses the kitchen and serving line.

The warming kitchen and serving line will be designed to support 150 diners daily with an occasional event capacity of 214 diners. All meals are delivered to the Center prepared. Prepared food will be rethermed or held until service. Typical entrée choices include either a boxed lunch or a hot meal.

All hot meals will be served from a double hot well with an NSF food shield with heat lamps and lights in front of the wells per health department code. Staff will serve each guest on disposables and provide disposable eating utensils. An overhead gate is planned at the serving counter. The food shield placement will take into consideration the gate placement. The 34” tall ADA serving counter will include space on the guest side for 16” x 12” serving trays. Servery tray size needs to be confirmed to ensure the space is sufficient. The staff side of the serving counter will include a stainless-steel apron for the hot well and heat lamp controls. The counter will sit on a knee wall and will be supported by stainless steel legs on the staff side. This allows staff to place shelving under the counter and easy access to the floor sink for cleaning. The serving counter will be in the millwork package.

The hot wells will include a water autofill and drain feature that removes the need for manual filling and draining.

A cookline with a 6-burner electric range and single convection oven are on the back wall with mobile tables and a mobile heated cabinet placed in front of the cookline. This space is used as a landing or prep space. Ceiling mounted pendant receptacles will be located above the mobile table to provide power.

The balance of the space includes a worktable with sink for any required prep, hand sinks, reach-in refrigerator and freezer, wall shelves, shelving units, an ice maker and a three-compartment sink. The three-compartment sink will include bowls sized to completely submerge 18” x 26” sheet pans. This is required to support the convection oven. The space also includes a mop sink area. All fixed worktables will include shelving above the table as well as the three-compartment sink. Space above the sink will be provided for ECO Lab chemical dispensers.

4 DESIGN NARRATIVES

Food Service

Equipment List

Item #	Qty	Item Description
4.171	1	Single Convection Oven, Electric
4.958	1	Electric Range, 36", 6 Burners, Oven Base
8.005A	1	Ice Maker, Cube-Style, 700 lb. per 24 hours
8.028	1	Water Filtration System for Ice Machines
8.201	1	Ice Bin for Ice Machines
9.001	2	Corner Guard
9.002	1	Wall Sheathing
12.081	2	Reach-In Refrigerator
12.084	1	Reach-In Freezer
13.004	5	Shelving Unit
14.021	2	Shelving, Wall Mounted
14.027	1	Shelving, Wall Mounted
14.052S	2	Wall Mounted Hand Sink
14.121	1	Three (3) Compartment Sink
15.012	1	Mobile Worktable, Stainless Steel Top, 30" x 36"
15.113	2	Mobile Worktable, Stainless Steel Top, 30" x 60"
15.249S	1	Worktable w/ Sink, 84"
16.302	2	Mobile Heated Cabinet
17.999	1	Mobile Cart, 24" x 36"
19.022	1	Wall / Splash Mount Faucet, worktable w/ Sink
19.023	2	Wall / Splash Mount Faucet, three-Comp Sink
19.320	1	Drain, Lever / Twist Waste, worktable w/ Sink
19.321	3	Drain, Lever / Twist Waste, three-Comp Sink
21.001	1	Type 1 Exhaust Hood
21.909	1	Fire Extinguishing System
24.101	1	Food Shield, Combo Service

Floor Sinks

There are four pieces of equipment that require an indirect drain with an airgap to a floor sink. They include the three-compartment sink, ice maker, worktable with sink, and hot wells. The floor sinks are in the plumbing scope. However, they do need to be accounted for within an overall budget number. The ice maker and three-compartment sink can share one floor sink as they are placed next to each other. The food service estimate does not include any floor sinks.

Required Finishes

All food service spaces require finished ceilings and walls. Finishes shall be smooth and easy to clean. Additionally, any areas with an ice maker require a finished ceiling even when not located within a food service space. The floors shall be either epoxy or quarry tiles. The flooring shall include a non-skid surface with a coved base.

I. CIVIL

A. Project Summary

1. Department of Family and Support Services (DFSS) Regional Senior Center will have state-of-the-art comforts that allow seniors to feel at home while enjoying luxuries, building friendships, and strengthening themselves in mind and body. The proposed development includes an approximate 25,000 SF, two story building with a courtyard and parking lot up to 40 spaces. The project is considered a regulated development and will be required to meet the Chicago Stormwater Ordinance for rate and volume control. The proposed solution includes a combination of subsurface detention and bmp's as well as new wet and dry utilities to serve the center.

B. Demolition and Erosion Control

1. Removal of existing site paving and base
2. Removal of right of way curbs and pavement
3. Clear and grub of site
4. Existing trees to remain and be protected
5. Existing fire hydrant to remain and be accessible throughout construction
6. Removal of foundations
    a. Cut 2-ft below proposed grade in areas that are not in conflict with proposed improvements
    b. Remove in entirety in areas that are in conflict with proposed buildings, structures, utilities
7. Removal of utilities
    a. All existing water services must be terminated at the connection to City water main per CDWM requirements. Removal of existing site paving and base
8. Removal of all signage and return to owner
9. Provide inlet protection for all existing and proposed open-grate structures.
10. Provide construction fence and silt fence around the perimeter of the site
    a. Provide double silt fence around proposed bmps
    b. Provide construction entrance with concrete washout at S Calumet Ave

C. Paving

1. Public
    a. Right of way curb and concrete pavement per CDOT Standards. No reinforcement allowed for public sidewalk and driveway pavement.
    b. Street restoration per CDOT Standards. Final restoration to be determined by perimeter restoration agreement.
2. Private

a. All concrete and asphalt pavement to be type PV and per IDOT SSRBC, current edition.
b. Final pavement sections to be determined after geotechnical report is received.
c. Concrete paving to have 3-year aged solar reflectance (SR) value of 0.28 or an initial value of 0.33 at installation.
d. Curb and gutter to be standard B6.12.
e. Concrete pavement and base to be heavy duty and reinforced to handle HS-20 loading.
    i. 8" PCC with 6"x6" W4/W4 WWF
    ii. 8" CA-6 compacted to 95% Mod. Proctor density
    iii. Compacted subgrade
f. Concrete sidewalk and base
    i. 5" PCC with 6"x6" W1.4/W1.4 WWF
    ii. 6" CA-6 compacted to 95% Mod. Proctor density
    iii. Compacted subgrade
g. Asphalt pavement and base
    i. 1.5" HMA Surface Course, Mix D N50, IL-9.5
    ii. 2" HMA Binder Course, N50, IL-19.0
    iii. 10" CA-6 compacted to 95% Mod. Proctor density
    iv. Compacted subgrade
h. Parking lot striping to be 4" paint. Color per IDOT standards.
i. Permeable Pavers to have 3-year aged solar reflectance (SR) value of 0.28 or an initial value of 0.33 at installation. See "Stormwater" section for more information.

D. Grading and Drainage
    1. All public right of way to meet ADA requirements.
    2. There is an existing grade change from east to west of approximately 2-ft. The site drainage will be collected with a series of catch basins and storm piping. Overland flow path through proposed driveway in S Calumet Ave. See civil drawings for more information.
    3. Preliminary FFE of proposed building = 19.2 CCD
        a. Final FFE to be coordinated and determined in future design phase.

E. Utilities
    1. Water
        a. New combined 6" fire and domestic water service to 8" City Water Main in S Calumet Ave with valve vault per COC DWM Requirements
            i. Ductile iron pipe
            ii. Minimum 5' cover

iii. Provide minimum 18” vertical separation from sewer per IEPA.

2. Storm
    a. New 8” storm connection to 12” City Combined Sewer Main above spring line with catch basin and restrictor per COC DWM Requirements.
        i. Ductile iron pipe
        ii. Minimum 3’ cover
3. Sanitary
    a. 4” Sanitary connection to combine with site storm sewer and one single connection to 12” City Combined Sewer Main above spring line.
        i. Ductile iron pipe
        ii. Minimum 3’-6” cover
    b. Exterior grease interceptor and 4” kitchen waste line to connect to sanitary sewer prior to connection to S Calumet Ave.
4. Electric
    a. Size and final service location(s) to be coordinated with ComEd.

F. Stormwater
1. Stormwater requirements are met for both rate control and volume control per DOB Stormwater regulations.
    a. Release rate = 0.27 CFS/AC per RAPS General Tributary Area Outfall.
    b. Detention – Approximately 12,500 CF required and met through a combination of 5’-8”’ depth underground detention vault and permeable pavers.
        i. Underground Vault
            i. 1,288 SF x 5’-8” Depth
        ii. Permeable Pavers
            i. 5,262 SF
            ii. 2” CA-16 setting bed
            iii. 6” CA-7
            iv. 3’-6” CA-1
            v. Stone to be wrapped in non-woven geotextile fabric
            vi. Underdrains per “Civil Exhibit”.
    c. Volume Control – Approximately 1,400 CF required and met through permeable pavers.
2. LEED
    a. LEED credits will be further reviewed for feasibility after a geotechnical report is provided.
3. The stormwater design will be reviewed after geotechnical information is provided.

II. STRUCTURAL

A. PROJECT SCOPE SUMMARY

1. A structural system is proposed for this senior center to be located at 4711-4755 South Calumet Avenue, Chicago, Illinois. The structure is a 2-story building with a total area of 24,500 sq. ft.

B. DESCRIPTION OF BUILDING STRUCTURAL SYSTEMS

Foundation

Soil properties and related construction issues such as the appropriate foundation system, earth retention system (if any), over-excavation requirements (if any), and potential foundation settlement will be confirmed by a future subsurface investigation. This narrative assumes that a shallow foundation system will be utilized for the new footings. All organic and unsuitable soils below the footings and slab-on-grade shall be removed and replaced with compacted engineered fill. The depth of fill removal will be established by the subsurface investigation.

Assuming net allowable soil bearing capacity of 3,000 pounds per square foot (psf), the following preliminary shallow foundation elements may be assumed for budgetary purposes:

Foundation Walls and Strip Footings -

The exterior perimeter concrete foundation wall will be 1'-2' wide by 3'-0" deep with approximately 4.5 pounds per liner foot (plf) of mild steel reinforcement. Continuous concrete strip footings will be 3'-0" wide by 1'-0" thick with approximately 6 pounds per lineal foot (plf) of mild steel reinforcement. The top elevation of all exterior strip footings may be assumed to be 3'-0" below finish floor. Epoxy coating will not be required for footings and foundation wall reinforcement.

Column Spread Footings:

Nine (9) interior footings averaging 9'-0" x 9-0" x 1'-6" with 9-#7 each way bottom Seventeen (17) exterior footings averaging 6'-0" x 6'-0" x 1'-4" with 6-#6 each way bottom.

Top of all footing elevations will be 3'-0" below finish floor.

Piers:

Concrete Pier for each footing of each scheme will be 24"x24" with 8-#6 vertical and #3 ties at 8" on centers. Top elevation of these piers will be 1'-0" below finish floor.

Slab-on- Ground:

The interior concrete slab-on-grade will be 5 inches thick and reinforced with welded wire fabric WWF 6x6–W2.9xW2.9, placed within 2" of the top surface of the slab. For cost estimating purposes, assume that the slab will be supported by a layer of compacted granular fill consisting of a minimum of 6 inches of CA-6 material. Accessories and bar supports are in addition to this quantity of steel. A future geotechnical investigation will determine the amount of unsuitable fill removal, if any.

SUPERSTRUCTURE

Roof:

Roof framing will consist of wide flange steel beams spaced at 10'-0" (maximum) on centers. The steel beams will be supported by steel girders at column lines. The steel beams and girders will support 2"-18 gage galvanized composite metal deck (3-span condition) with 3 ¼" inch thick light weight concrete for a total slab thickness of 5 ¼". Headed shear studs will provide composite action between the slab and steel beams. It is anticipated that the total floor depth will be no more than 24 inches (including the W18 beams) + SFRP thickness. For budgetary purposes, assume 10 psf of structural steel for the roof framing. Composite slab design assumes simple support conditions with the steel deck acting as the positive moment reinforcing and no intentional negative moment reinforcing. Concrete fill will be reinforced with WWF6x6-

W2.1xW2.1 (or fiber reinforcement) for temperature and shrinkage control. Assume #4 x 4'-0" reinforcing steel bars @ 18" on centers over the top of all structural steel members for crack control. Beams that are 30' or longer will be cambered to 80% of calculated elastic dead load deflections. Beams shorter than 30' will not be cambered.

Framed Floors:

The supported floor will consist of wide flange steel beams spaced at 10'-0" (maximum) on centers. The steel beams will be supported by steel girders at column lines. The steel beams and girders will support 3 ½"-18 gage galvanized dovetail composite metal deck with 2 ½" inch thick normal concrete for a total slab thickness of 6". Headed shear studs will provide composite action between the slab and steel beams. The total floor depth will be no more than 24 inches (including the W18 beams) + SFRP thickness. For budgetary purposes, assume 12 psf of structural steel for floor framing. Composite slab design assumes simple support conditions with the steel deck acting as the positive moment reinforcing and no intentional negative moment reinforcing. Concrete fill will be reinforced with WWF6x6-W2.9xW2.9 (or fiber reinforcement) for temperature and shrinkage control. Assume #4 x 4'-0" reinforcing steel bars @ 18" on centers over the top of all structural steel members for crack control. Beams that are 30' or longer will be cambered to 80% of calculated elastic dead load deflections. Beams shorter than 30' will not be cambered.

Columns:

For budgetary purposes, assume the following column size from ground floor to roof:

HSS6x6

Lateral Force Resisting System:

Lateral force resistance will be provided by R=3 braced frames. For budgetary purposes, assume 2 brace members per brace per floor and HSS6x6 sizes.

C. BUILDING/STRUCTURAL DESIGN CODES

Building Code:

- Chicago Building Code 2019 Edition with 2022 Supplement

Structural Design Codes:

- Minimum Design Loads for Buildings and Other Structures (ASCE 7-16)
- American Concrete Institute, Building Code Requirements for Structural Concrete (ACI 318-14)
- Building Code Requirements and Specifications for Masonry Structures (TMS 402/602-16)
- American Institute of Steel Construction (AISC)
    - AISC 360-16 Specification for Structural Steel Buildings
    - Manual, 16th Edition.
- Steel Deck Institute (SDI)
    i. Design Manual for Composite Decks, Form Decks and Roof Decks No. 31
    ii. SDI-C-2017 Standard for Composite Steel Floor Deck-Slabs
- Structural Steel Welding Code (AWS D1.1).

Design Live Loads:

Floor Live Loads:

Stairs and exit ways…….100 psf.

Public rooms and corridors serving them…….100 psf.

Offices ……..……... 50 psf (plus 15psf partition dead load).

Light Storage…..……125 psf.

Kitchen and Dining……...100 psf.

Classrooms……. 40 psf.

Restrooms……100 psf.

Fitness Room…….. 100 psf.

Terrace……. 100 psf.

Snow Design Criteria:

Ground Snow Load, Pg	-	25 psf
Flat Roof Snow Load, Pf	-	17.5 psf
Minimum Balanced Snow Load, Pb	-	20 psf
Snow Exposure Factor, Ce	-	1.0
Snow Importance Factor, Is	-	1.0
Thermal Factor, Ct	-	1.0
Snow Drift	-	per ASCE 7-16
Wind Design Criteria:		
Basic Wind Speed (V)	-	107 mph
Risk Category	-	II
Wind Exposure Category	-	B
Internal Pressure Coefficient	-	+/- 0.18
Seismic Design Parameters:		
Risk Category	-	II
Seismic Importance Factor, Ie	-	1.0
Mapped MCE 5% damped, spectral accelerations for short periods (Ss)	-	0.118 g
Mapped MCE 5% damped, spectral accelerations for a 1 second period (S_1)	-	0.064 g
Design, 5% damped, structural response acceleration Parameter at short periods (S_{DS})	-	0.126 g
Design, 5% damped, structural response acceleration Parameter at short periods (S_{D1})	-	0.102 g
Seismic Design Category	-	B
Site Class	-	D (assumed)
Response Modification Factor (R)	-	3

Other Structural Design Criteria

D. **Deflections (Roof) – Span/240 for superimposed snow load or span/180 for total load.**

E. **Deflections (Floor) – Span/360 for superimposed live load, or span/240 for total load**

F. **Deflection of members supporting masonry – smaller of span/600 or 0.3”**

SECTION 033000

CAST-IN-PLACE CONCRETE

1.01 DESCRIPTION OF WORK

A. Work for this Section includes all labor, materials, equipment and services necessary to complete concrete work.

B. Concrete work shall conform to ACI 301, 318 and 347.

1.02 MATERIALS

A. Cement - ASTM C150, Type II.
B. Fly ash or other pozzolans – ASTM C618.
C. Fine and course normal weight aggregate - ASTM C33.
D. Light-weight aggregate - ASTM C330.
E. Water-reducing agent - ASTM C494.
F. Water - potable.
G. Reinforcing bars - newly rolled billet steel ASTM A615, Grade 60.
H. Welded wire fabric - ASTM A185.
I. Concrete in elevated decks shall be 4000 psi.
J. Concrete in slabs-on-grade shall be 4000 psi normal weight (145#/cf).
K. Concrete in foundation walls and footings shall be 4000 psi normal weight (145#/cf).
L. All other concrete shall be 4000 psi normal weight (145#/cf) with air entrainment as required.

1.03 EXECUTION

A. Concrete operations will be subject to inspection by Owner’s Testing Agency.
B. Concrete to be central plant mixed, controlled concrete. Batch, mix, place, consolidate, finish and cure in accordance with ACI Standards.
C. Cure concrete slabs by wet curing method.

END OF SECTION 033000

SECTION 051200

STRUCTURAL STEEL

1.01 DESCRIPTION OF WORK

A. Furnishing, fabricating, delivering, and erecting structural steel.

B. Work shall be in accordance with AISC, Manual of Steel Construction - 13th Edition, AISI, and AWS Codes and Standards.

1.02 MATERIALS

A. Structural Steel: Shapes ASTM A992 Grade 50, unless otherwise noted.

B. Steel Pipe: ASTM A53 GR B.
C. Steel Tube: ASTM A500 GR 13.
D. Anchor Rods: ASTM F1554.
E. All Other Steel: ASTM A36.
F. Welds: Electrodes E70XX.

1.03 EXECUTION

A. Provide shop and erection drawings with connection calculations by an Illinois licensed structural engineer for structural steel connections.

B. Structural steel work shall be inspected and tested by Owner's Testing Agency.
C. Bolting shall conform to "Specifications for Structural Joints using ASTM A325 or A490 Bolts".
D. Welding shall conform to AWS D1.1 "Code for Welding in Building Construction".

E. Provide temporary erection bracing to hold structural steel securely in position.

END OF SECTION 051200

SECTION 053100

STEEL DECK

1.01 DESCRIPTION OF WORK

A. Furnishing, delivering, and erecting (but not hoisting) of steel deck including closures and transition plates.

B. Cutting of steel deck openings, field touch-up of scarred steel deck.

C. Work shall be in accordance with AISC, AISI, and AWS standards.

1.02 MATERIALS

A. Steel floor deck - 2” composite 18 gage, non-cellular.

B. Galvanized coating - A60 or G60.

C. Accessories - 18 gage.

D. Headed studs (shear connectors) - ¾” x 3 1/2” long.

1.03 EXECUTION

A. Provide shop erection drawings for steel deck work.

B. Steel deck work shall be inspected and tested by Owner’s Testing Agency.

C. Welding shall conform to AWS D1.3 “Structural Welding Code - Sheet”.

D. Attach metal decking by use of ¾” puddle welds. Weld spacing at ends, end laps, intermediate supports and where deck panels abut: 1’-0” on center. Weld spacing at longitudinal edges and edge laps 2’-0” on center.

END OF SECTION 053100

III. HVAC

A. Adopted Codes and Standards

1. Codes

a. Building Code - 2018 International Building Code with 2019 Chicago Building Code Amendments with Revised April 2022 Supplement

b. Life Safety Code NFPA 101

c. Electrical Code – 2017 National Electrical Code NFPA 70 with 2018 Chicago Electrical Code Amendments

d. Mechanical Code - Title 14M, interim Chicago Mechanical Code

e. Plumbing Code - Title 14P, interim Chicago Plumbing Code

f. Energy Conservation Code - International Energy Conservation Code - IECC 2021 with 2022 Chicago Energy Transformation Code Amendments

g. LEED V4.0

h. Fire Protection Code - Title 14F, interim Chicago fire prevention code (partial adoption and amended version of the 2018 International Fire Code) (FM Global may be needed Ownership to confirm.)

i. Fire Alarm Code - National Fire Alarm and Signaling Code NFPA 72

B. General Building Design Criteria and Assumptions

1. Summer Space Environmental Requirements - Occupied: 72°F ± 2°F, Unoccupied: 85°F ± 2°F, 60% ±5% RH high limit.

2. Cooling Design Outdoor Air Conditions: 91.2°Fdb/74.1°Fwb. (Based on ASHRAE 0.4% DB/MCWB for Chicago Illinois.

3. Winter Space Environmental Requirements: Occupied: 70°F ± 2°F, Unoccupied: 55°F ± 2°F, no humidity control 50%RH low limit.

4. Zone Heating Design Outdoor Air Conditions: -10°F (based on ASHRAE 99.6% Heating DB.

C. Envelope Assumptions for the purpose of HVAC Load Calculations:

	U-value (Btu/h*sf*F)	SHGF
Wall	0.055	NA
Roof	0.027	NA
Skylight	0.55	0.30

D. HVAC SYSTEMS
1. Ceiling cavities will be used as plenum return.
2. Four (4) roof-mounted packaged heat pump rooftop units serving the first floor, second floor, dining room, and indoor patio.
   a. HP-1: Aaon, VAV, 8,000 CFM (serves the first floor, except dining room and patio)
   b. HP-2: Aaon, VAV, 10,000 CFM, with ERV (serves the dining room)
   c. HP-3: Aaon, SZVAV, 6,000 CFM, with ERV (serves the indoor patio)
   d. HP-4: Aaon, VAV, 20,000 CFM, with ERV (serves the entire second floor)
      Provide:
      i. 18-inch insulated roof curb and noise attenuation between the bottom of unit and roof deck.
      ii. Hot Gas Bypass
      iii. Filters
      iv. 25% OA
      v. Economizer with powered exhaust fan
      vi. HP-2,3,4: ERV
3. One (1) roof-mounted packaged heat pump makeup air rooftop unit, and one (1) kitchen exhaust fan serving the warming kitchen.
   a. MAU-1: Aaon, 6,000 CFM
      Provide:
      i. 18-inch insulated roof curb and noise attenuation between the bottom of unit and roof deck.
      ii. Filters
      iii. 100% OA
   b. KEF-1: Greenheck, 7,200 CFM, interlocked to kitchen hood and MAU-1.
      Provide:
      i. Welded black iron ductwork
      ii. 18-inch insulated roof curb

4. Terminal VAV boxes with electric reheat. EAT 55F and LAT 90F
5. Perimeter pedestal electric baseboard interlocked with VAV units.
    a. Baseboard shall be Vulcan or equal 250w/LF
    b. VAV shall be Titus or equal.
6. AC split system serving MDF room.
7. Miscellaneous unit heaters and cabinet unit heaters serve the stairwell, vestibule and mechanical/electrical rooms with local control.
8. Linear slot diffusers and 2x2 diffusers.
9. Transfer grills from space to plenum.
10. Toilet exhaust fan, with 18 inch roof curb.

E. DUCTWORK

1. All supply ductwork upstream of the VAV box shall be medium pressure based on 2000fpm. Positive pressure Class 2" WC, Seal Class A and Leakage Class 1, wrapped 2" wrap insulation.
2. All supply ductwork downstream of the VAV box shall be low pressure based on .1"/100ft friction loss and less than 1500fpm. Positive pressure Class 2" WC, Seal Class A and Leakage Class 1, wrapped 2" wrap insulation.
3. All return ductwork shall be low pressure based on .1"/100ft friction loss and less than1500fpm. Negative pressure Class 2" WC, Seal Class A and Leakage Class 1, wrapped 2" wrap insulation.
4. All exhaust ductwork shall be low pressure based on .1"/100ft friction loss and less than1500fpm. Negative pressure Class 2" WC, Seal Class A and Leakage Class 1.
5. Kitchen exhaust welded black iron with access clean outs.

F. MISCELLANEOUS

1. BAS shall be a bacnet compatible central bas system for the following equipment.
    a. Heat Pumps monitoring only. Package controls for unit operation.
    b. Demand Control Ventilation
    c. Interface fintube with VAVs
    d. Exhaust Fans
    e. Kitchen hoods
    f. Monitor temperature in MDF and Water service room.
    g. Local controls, no monitoring for the following:
        i. AC Units
        ii. Fintube
        iii. Cabinet Heaters

iv. Unit Heaters

2. Test and Balance all air systems and equipment.
3. Provide shop drawings and fabrication drawings.
4. Coordinate with all trades.
5. Provide third party commissioning.

D. LEED REQUIREMENTS

1. Comply with LEED requirement items listed in the LEED Check List

IV. PLUMBING

1. Applicable Codes
   a. The Piping Systems will be designed in accordance with the following Codes:
      1) City of Chicago Plumbing Code
      2) Illinois Administrative Code including the following:
      3) State of Illinois Plumbing Code
         a) COMM 82 – Design, Construction, Installation, Supervision, Maintenance and Inspection of Plumbing
2. Applicable Guidelines and Standards
   a. The Piping Systems will be designed in accordance with appropriate portions of the following Guidelines and Standards:
      1) National Fire Protection Association (NFPA) guidelines and standards
      2) LEED (Leadership in Energy and Environmental Design),
      3) American Society of Plumbing Engineers (ASPE) data books

B. System Descriptions

1. Storm and Clearwater Drainage
   a. System Description
      1) A storm drainage system will be provided to convey rainwater from flat roofs to an exterior underground storm retention vault provided by Civil, (the sizing & release rate determined by Civil) to be directed into the combined storm & sanitary sewer in S. Calumet Ave.
      2) Secondary roof drainage will be accomplished by using a dedicated piped overflow drainage system, separate from the primary storm drainage system, which will connect into the vertical storm downspout risers.
      3) Drains directed into the storm system shall be provided for drainage of all planters, exterior planting and the Terrace areas, open to rainfall.

4) Clearwater waste from air handling units, coolers, and other devices and equipment that discharge clear water will be conveyed by gravity flow through a separate piping system and will connect to the building storm drain.

b. Design Criteria

1) The primary storm drainage system will be sized based on a maximum rainfall rate of 4" in/hr. The secondary storm drainage system will be sized based on the same design criteria as the primary system.

2) Horizontal Storm drainage piping will be installed at uniform slopes not less than the following:

Piping 3" and less in diameter = 1/4" fall per foot

Piping 4" and greater in diameter = 1/8" fall per foot

3) The sizing for all clear water discharge from equipment system will be based on the maximum flow rate of the equipment.

4) Based on 13,265 sf building roof area and 1,540 sf of Terrace area @ Level 2, the storm drain leaving the building shall be 10" @ 1/8" per ft. slope

c. Equipment

1) Storm and clear water drainage systems which cannot discharge to the storm sewer by gravity flow will be drained by gravity to a sump with duplex pumps and will be pumped into the building storm drainage system. Each pump will be sized for 100% of the estimated design flow.

d. Materials

1) See Material Schedule on drawing.

2. Sanitary Waste and Vent

a. System Description

1) A sanitary waste and vent system will be provided for all plumbing fixtures and other devices that produce sanitary waste. Plumbing fixtures will be drained by gravity through conventional soil, waste and vent stacks into building drains and building sewers, to the street sanitary or combined storm & sanitary sewer.

2) All fixtures will have traps and will be vented through the roof. Vent terminals will be located away from air intakes, exhausts, doors, openable windows and parapet walls at distances required by the plumbing code.

3) Based on a less than 180 DFUs the house drain leaving the building shall be 4" @ 1/8" per ft. slope

b. Design Criteria

1) The sanitary waste piping will be pitched to maintain a minimum velocity of 2 fps when flowing half full.

2) The sanitary vents and the venting system will be designed and installed so that the water seal of a trap will be subject to a maximum pneumatic pressure

differential equal to 1" water column. This will be accomplished by sizing and locating the vents in accordance with the venting tables contained in the plumbing code. Vents for the sanitary and waste system will be minimally sloped to drain back to drainage lines.

3) Horizontal drainage piping for sanitary and waste system will be installed at uniform slopes not less than the following:

Piping less than 3” diameter = 1/4” fall per foot

Piping 3” and greater in diameter = 1/8” fall per foot

4) All underground sanitary & waste piping shall be a minimum of 4” diameter.

5) Floor drains will be provided as a minimum in the following locations:

Mechanical Equipment Rooms:

Public Toilet Rooms

Water heater T&P discharge pipes

c. Equipment

1) Waste from grease producing fixtures in kitchens will be drained by gravity through an interior kitchen grease waste system, which will pass through a 48” dia. exterior manhole grease interceptor before connecting to the exterior building sanitary system.

2) Floor drains, floor sinks and indirect waste receptors will be provided with automatic trap primers when subject to loss of their trap seals due to evaporation caused by infrequent use.

3) All suspended sanitary waste piping which collects clear water condensate from air handing equipment will be insulated to prevent condensation on the piping.

d. Material

1) See Material Schedule on drawing.

3. Domestic Water

a. System Description

1) Domestic water will be provided to all toilet room fixtures, electric water coolers/drinking fountains, sinks, and any other devices that require a domestic water supply.

2) Hot water at 120°F will be provided to all fixtures and devices that require hot water, through an ASSE 1017 master thermostatic mixing valve located adjacent to the water heating equipment.

3) Hot water reduced to 110°F will be provided to all public access fixtures and devices that require hot water with ASSE 1070 point of use mechanical mixing valves.

4) Water shall be from a 6”combined domestic/fire water service tap to the Municipal water main in S. Calumet Ave., extended into the building interior

and split into separate services, that include a 3" domestic water line with a 2/12" meter assembly and a 6" DCDA backflow assembly on the fire service.

b. Design Criteria

1) Maximum velocities in piping:

Water service entrance maximum 5 fps (with booster pump)

Water service entrance maximum 8 fps (without booster pump)

2) System operating pressures: minimum 25 psi, maximum 80 psi.

3) Pressure drop in piping due to friction:

2 psi/100 ft. maximum without a booster pump

3 psi/100 ft. maximum with a booster pump.

4) The distribution system piping will be sized to limit the velocity in any section of copper piping to a maximum of 6 fps for cold water system, 5 fps for hot water and 4 fps hot water circulating systems.

5) Water flow requirements will be developed in accordance with the fixture unit method as indicated in the City of Plumbing Code.

6) Water heaters shall be sized according to the methods established by ASHRAE and ASPE.

7) Each water heater will be sized for 75 % of the design hot water load.

c. Equipment

1) A water meter will be provided at the building service entrance. The water meter will be sized for the building's maximum design flow rate.

2) Sub-metering for LEED point: a water meter assembly complete with shut-off valves and strainer will be installed on the domestic cold-water feed to 1.) the domestic water heating equipment and 2.) on the domestic cold-water feed to the plumbing fixtures. Sub-meter locations are indicated on the Level 1 plumbing plan.

3) Domestic hot water will be produced by paired duplex electric type water heaters. Isolated remote fixtures may be provided with hot water by separate electric instantaneous water heaters.

4) Booster water heaters shall be provided as part of dishwashing equipment where water temperature requirements for sanitizing are above the normal distribution temperature stated above.

5) The hot water system temperature will be maintained by recirculating the hot water through a continuous loop back to the water heating equipment with an in-line circulating pump located at the water heating equipment.

6) Water hammer arrestors will be provided at all quick closing solenoid valves and at other potential water hammer sources.

7) (2) A.O. SMITH DVE 80 GAL. ASME 280 GPH EACH @ 40F-140F (EACH 75% FULL LOAD) 36 KW 480 V, 3PH.

d. Material

1) See Material Schedule on drawing.

2) Provide shut-off valves for risers & fixture groups of (3) or more, within 2 ft. of the horizontal distribution mains and shall be made with 3 elbow swing joints, minimum.

3) Chrome plated, cast brass, loose key supply stops shall be provided at each plumbing fixture;

4) Backflow preventors and/or vacuum breakers will be provided at all interconnections between the potable water system and points of possible contamination by backflow or back siphon age from the drainage system, in accordance with the requirements of local code.

5) Cold water hose bibbs shall be provided as a minimum in the following locations:

Mechanical Equipment Rooms

6) Non-freeze wall hydrants shall be provided at intervals of 100 foot maximum around the perimeter of the building.

7) Adequately sized connections with RPZ back flow preventers shall be provided at points required of the irrigation system design, done by others.

8) The hot water system will be insulated in accordance with Code.

9) The cold water system will be insulated to prevent condensation from forming. Isolation valves will be provided at all riser connections, branch piping run-outs to fixture groups, and at devices requiring maintenance.

4. Plumbing Fixtures

a. System Description

1) All plumbing fixtures will be new, commercial grade products.

2) Plumbing fixtures designated as barrier-free will be manufactured and installed in accordance with local, state and federal accessibility requirements.

b. Fixtures

1) Water closets will be wall hung, vitreous china, with elongated bowls. Flush valves will be diaphragm type, sensor operated, hard wired 1.28 gallon flush.

2) Urinals will be wall hung, vitreous china. Flush valves will be diaphragm type, sensor operated, hard wired 0.125 gallon flush.

3) Lavatories will be vitreous china. Faucets will be hot and cold mixing type, sensor operated, hard wired 0.35 gpm flow control. Refer to architectural floor plans for areas with hall hung units and counter mounted units.

4) Sinks will be countertop mounted stainless steel. Faucets will be hot and cold mixing type, 1.5 gpm flow control.

5) Electric water coolers will be wall mounted, self-contained, dual level, sensor operated, with stainless steel cabinets and disposable activated carbon water filters.

6) Janitor sinks will be floor mounted, precast terrazzo, drop front, with stainless steel splash panels. Faucets will be hot and cold mixing type with hose connections and elevated vacuum breakers.

7) Exterior hose bibbs will be flush mounted, freeze resistant, with vacuum breakers and loose key operators.

8) Mechanical room hose bibbs will be surface mounted, with vacuum breakers.

5. Fire Stopping

1) Fire stop all penetrations of fire rated walls, partitions and floors with a 2 part minimum, prior tested and U.L. Listed detail, equal to the rating of the wall or floor penetrated.

6. LEED REQUIREMENTS

a. Comply with eth LEED requirement items listed in the LEED Check List

V. FIRE PROTECTION

A. Base Design Criteria

1. Applicable Codes, Guidelines and Standards:

a. The Fire Protection Systems will be designed in accordance with the following Codes, Guidelines and Standards:

1) NFPA 25 Standard for the Inspection testing and Maintenance of Water Based Fire Protection Systems.

2) NFPA 13, Installation of Sprinkler Systems

3) NFPA 10, Fire Extinguishers

4) City of Chicago and State of Illinois Building, Mechanical, and Fire Codes

5) Underwriters Laboratories (UL) Fire Protection Equipment Directory

B. System Descriptions

1. Fire Service

a. System Description

b. Design Criteria

c. Equipment and Material

d. Distribution

2. Sprinkler Systems

a. System Description

1) The building's full sprinkler systems will be served from the residual city water pressure, as the typical water supply pressures are predicted to be adequate to serve supply the minimum fire protection demands of 2-Story building.

It shall be the design-builder's responsibility to determine the acceptability of this approach, from a review of a current water supply flow test, that is less than one year old, obtained from the Chicago City Water Department, in order to determine the capacity of the water mains, and establish the concurrence of the Chicago Fire prevention Bureau to continue such an approach.

C. Design Criteria

1) The Building's full sprinkler system will be served from the residual city water pressure as the typical water supply pressures are predicted to be adequate to serve the minimum fire protection demands of a 2-story building.

2) If a fire pump becomes a necessity, additional requirements and restrictions shall apply to the selection of the capacity of the fire pump and the type of controller.

2. Wet Pipe Sprinkler System

a. System Description

1) The building will be protected throughout with hydraulically calculated sprinkler systems, which except for special protection needs, will be wet pipe systems.

2) All areas of the building will be protected per NFPA 13, including, unless specifically excluded by the CFPB as the Authority Having Jurisdiction (AHJ), electrical rooms

(i.e. switchgear rooms, transformer rooms, electrical closets, and similar rooms), stair towers, exterior canopies, and mechanical rooms.

3) Each floor shall be a separate sprinkler zone, isolated from other systems by a supervised control valve, alarmed by a water flow switch and attended by an inspector's test and drain assembly, that is piped to a drain riser or an AHJ acceptable other location, inside or outside of the building.

4) Fire stop all penetrations of fire rated walls, partitions and floors with a 2 part minimum, prior tested and U.L. Listed detail, equal to the rating of the wall or floor penetrated.

5) All arm-overs greater than 24" to sprinkler drop nipples shall be supported by a hanger. If the maximum pressure at the sprinkler exceeds 100 psi and a branch line above the ceiling supplies sprinklers in a pendent position below the ceiling, the hanger assembly supporting the pipe supplying an end sprinkler in a pendent position, shall be of a type that prevents upward movement of the pipe.

b. Design Criteria

1) The sprinkler system for the building will be designed and installed in accordance with both the required and advisory provisions of NFPA 13, as modified by the Chicago Fire Code amendments, from the edition year referenced in the Building Code that is recognized by the Chicago Fire Prevention Bureau (CFPB) as the Authority Having Jurisdiction (AHJ).

2) All systems will be hydraulically calculated with a computer calculation program using the Hazen-Williams method. Water discharge from individual sprinklers in the hydraulically most remote areas shall be between 100% minimum and 130% maximum, of the code required minimum application densities or as the drawings specify, whichever is greater, with a maximum piping velocity that shall not exceed 30 feet per second in any pipe section.

3) If there are no special Client standards or Client insurance carrier recommendations, the following sprinkler design densities shall apply:

a) Areas designated, as Light Hazard will be designed for a minimum sprinkler flow of 0.12 gpm per sq ft.

b) Areas designated as Ordinary Hazard, Group 1 and where stockpiles of combustibles do not exceed 8 ft, will be designed for a minimum sprinkler flow of 0.15 gpm per sq ft.

c) Areas designated as Ordinary Hazard, Group 2 and where stockpiles of combustibles do not exceed 12 ft, will be designed for a minimum sprinkler flow of 0.20 gpm per sq ft.

d) The system demand will be based upon the most remote 1500 sq ft.

4) The pipe sizing for the systems will be as required to satisfy the hydraulic demand.

c. Equipment and Material
   1) The piping for the wet pipe sprinkler system will be black steel.
   2) Piping 2" and smaller in size will be Schedule 40 with threaded joints.
   3) Piping larger than 2" will be Schedule 10 with rolled groove fittings & couplings or Schedule 40 with threaded joints & fittings, or cut groove fittings & couplings.
   4) All sprinklers in Light Hazard areas will be quick response type.
   5) The type of sprinkler installed in a particular area will be selected by the Engineer and the Project Architect. Generally, concealed sprinklers will be installed in areas of high visibility and quality of finishes. Recessed sprinklers will be installed in other areas having suspended ceilings. Pendent or upright sprinklers will be installed in areas without ceilings. Sidewall sprinklers and extended coverage sidewall sprinklers, will be provided only when other types cannot be utilized.
   6) Areas subject to temperatures below 40°F will be protected by dry sprinklers when possible. If dry sprinklers cannot be provided, then a dry pipe sprinkler system will be installed. Glycol antifreeze system will be an option, if acceptable to the owner and CFPB as the AHJ.
   7) The building sprinkler system shall have the availability to be supported from a fire pumper truck through an FDC fire dept. connection with a check valve, on the front of the building, clearly labeled “SPRINKLERS”

d. Distribution
   1) The sprinkler system will be provided throughout the building in accordance with NFPA 13 and when required by the Owner, with insurance carrier recommendations.

VI. ELECTRICAL

A. CODES AND STANDARDS

1. As a minimum, the design of the Electrical System shall meet the following codes:
    a) All applicable state and local codes.
    b) Chicago Building Code (CBC) 2019
    c) City of Chicago Bureau of Fire Prevention Requirements
    d) Interim Chicago Fire Prevention Code
    e) Americans with Disabilities Act (ADA).
    f) Illinois Accessibility Code (IAC)
    g) Electrical Code: Chicago Electrical Code (CEC) – 2018 Edition
    h) Energy Code: 2022 Chicago Energy Transformation Code (IECC 2021)
2. The following standards are referenced for design guidance:
    a) National Fire Protection Association (NFPA).
    b) Underwriters Laboratories (UL).
    c) National Electrical Manufacturer's Association (NEMA).
    d) American Society for Testing and Materials (ASTM).
    e) National Electrical Testing Association (NETA)
    f) Association of Edison Illuminating Companies (AEIC)
    g) Certified Ballast Manufacturers (CBM)
    h) Electrical Testing Laboratories (ETL)
    i) Federal Aviation Agency (FAA)
    j) Illuminating Engineering Society of North America (IESNA)
    k) Institute of Electrical and Electronics Engineers (IEEE)
    l) Insulated Cable Engineers Association (ICEA)
    m) International Green Construction Code (IgCC) - 2021
    n) The Institute of Electrical and Electronics Engineers (IEEE)
    o) Occupational Safety and Health Administration (OSHA)
    p) American National Standards Institute (ANSI)

B. DESIGN CRITERIA

1. Load Densities: Heating
    a) Heating shall be from the central heating plant.
    b) Infared Heating
        a. Snow melting: 100 volt ampere/sq ft.
2. Load Densities: HVAC, Plumbing, and Fire Protection
    - 100% of connected load.
3. Load Density: Emergency Lighting
    - Emergency lighting feeder and panel capacity shall be sized on the basis of 0.2 volt-amperes/sq.ft. of gross area of the building.
4. Illumination Levels: Will be provided by the lighting design and will meet average-maintained foot candles as recommended by the Illuminating Engineering Society (IES).

C. SYSTEM DESCRIPTION:
1. Utility Service
ComEd power utility primary service conduits from the property line into one outdoor utility pad-mounted ComEd transformer. The secondary service feeders of utility transformer will terminate at the building's main service distribution panel DP.
a) All primary and secondary electrical utility service feeders shall be routed underground, encased in a concrete envelope, at a minimum of 36" below finished grade.
b) ComEd shall provide and terminate the primary service conductors between the ComEd and pad mounted transformer.
c) The Electrical contractor shall provide all secondary electrical service conductors between the pad mounted transformer and Main Switchboard located in the Electrical room.
d) Utility C/T section within switchboard will be provided for electric utility company metering.

D. METERING:
1. Each service will be individually metered by ComEd at 480/277V 3PH, 4W via owner provided meter center cabinets with spaces for the installation of tenant meters.
2. Electrical energy monitoring compliance with ASHRAE 90.1. Switchboards, panel boards, and distribution panels shall be equipped with electronic metering capable of interfacing with the BAS and tracking energy usage for each of the following systems separately:
a) Total electrical energy
b) HVAC systems
c) Interior Lighting
d) Exterior Lighting
e) Receptacle Circuits

3. These systems shall be separately monitored for the total building as determined by the Measurement & Verification Plan as defined by the LEED consultant.

E. SERVICE & DISTRIBUTION:
1. HVAC: 480Y/277V, 3Ph, 4W
2. Lighting: 277V
3. Receptacles: 120V
4. Electrical Vehicle Charging: 208/2P connected to a 208Y/120V panel.
5. Arc flash labels will be provided on all electrical equipment in accordance with CEC 110.16 and 110.21.
6. The feeders shall be in conduit and wired according to the Chicago code amendments.
7. Feeders and branch circuits will be installed in metallic conduit using copper conductors.
8. Electrical rooms shall be stacked and accommodate feeders, meter centers, heating panels, house panels, emergency panels and grounding system components.

9. Feeder conductors will be sized to limit the voltage drop to a maximum of 3% at the further outlet of power, heating, and lighting loads or combination of such loads. Maximum total voltage drops on both feeder and branch circuits will not exceed 5% at the furthest outlet.
10. All panelboards will be designed with 25% additional amperage capacity and 20% spare space capacity.
11. Short circuit current rating of all panels/switchboards shall be confirmed upon system study report.
12. Minimum wire size will be #12 AWG, copper with 600V insulation. Minimum conduit size will be ¾".
13. All general use power receptacle and equipment circuits shall be fed from normal 120/208V branch circuit receptacle panels. These panelboards shall be provided with 10% spares minimum.
14. Main service equipment and all emergency power distribution system equipment and branch panels will be provided with Type 1 or Type-2 SPD (Surge Protection Devices).
15. For 120V branch circuits, the maximum load shall be limited to:
16. 1400VA for 15 ampere protection
17. 1900VA for 20 ampere protection
18. For 277V branch circuits, the maximum load shall be limited to:
19. 3300VA for 15 ampere protection
20. 4400VA for 20 ampere protection
21. 6000VA for 30 ampere protection
22. Motors of 1/2 horsepower and larger shall be served at 480V, 3 phase, 3 wire. Motors less than 1/2 horsepower shall be served at 277V or 120V service, 1 phase, 2 wire.

F. INTERIOR LIGHTING: LIGHTING AND CONTROL SYSTEMS

1 All lighting systems shall be LED unless otherwise noted in the final light fixture schedule prepared by lighting designer.

2 Include necessary accessories such as diffusers, lenses, and mounting hardware to meet design objectives.

3 The lighting system for the senior center shall be designed and installed in full compliance with the latest Illuminating Engineering Society (IES) Recommended Practice for Lighting and the Visual Environment for Older Adults and the Visually Impaired (ANSI/IES RP-28-20). The design shall address both the quality and quantity of lighting to promote safety, independence, and well-being for seniors and individuals with low vision.

4 General Illumination:
- Provide higher light levels than standard commercial spaces to compensate for age-related vision loss.
- Maintain uniform light distribution to minimize shadows and glare, which can cause discomfort or disorientation.

- Ensure high illumination in transition areas (e.g., corridors, entrances, stairwells) to aid visual adaptation and reduce fall risk
- Use light sources with a minimum Color Rendering Index (CRI) of 80, with preference for higher CRI in areas where color discrimination is important.
- Select a correlated color temperature (CCT) of 3000K, to enhance color perception and contrast for older adults.
- Minimize direct and reflected glare through appropriate fixture selection and placement.
- Ensure sufficient contrast between surfaces and lighting to help seniors distinguish between objects and boundaries.
- Select fixtures that provide indirect or diffuse light distribution to reduce glare and shadows
- Ensure fixtures are robust, easy to maintain, and aesthetically appropriate for senior environments.

5 Lighting: Complete lighting systems:

1. All building lighting systems shall be LED unless otherwise noted in the final light fixture schedule prepared by the lighting designer.
2. Lighting will be provided based on the lighting designer's/architectural reflected ceiling plans. Lighting shall be provided for building lobbies; electrical, telephone, mechanical, and elevator equipment rooms; service areas; corridors; stairways; toilets; storage rooms; elevator pits; supply and recirculation fan plenums; roof hatches; etc. Specialty architectural lighting for the base building shall be designed by the specialty lighting consultant to meet the lighting design criteria in compliance with established design criteria on the bases of IES design standards. The lighting system shall be complete with fixtures, drivers, lamps, accessories, branch circuits, and control wiring.
3. The lighting designer will provide lighting level calculations.
4. Lighting system consisting of luminaires with embedded lighting control logic, occupancy and ambient light sensors, wireless networking capabilities, and local override switching capability, where required.
5. Lighting controls shall comply with the Chicago Energy Transformation Code.
6. Install control wiring for lighting automation, occupancy sensing, and daylight harvesting to enhance energy efficiency and user comfort.
7. Lighting controls shall comply with ASHRAE 90.1 – 2019.
8. Provide guidance for ongoing maintenance to ensure continued compliance with IES standards and optimal lighting performance.
9. The lighting selection must include the drivers and control that is compatible with the lighting control system.
    1. 0-10V dimming
    2. Lighting fixtures with embedded sensors that are installed at time of manufacture.

3. Pendants, hangers and supports that complement the esthetics and compatible with the structure.

10. Lighting controls are not required for the following:
    - Areas designated as security or emergency areas that are continuously lit.
    - Interior exit stairways, interior exit ramps and exit passageways
    - Emergency egress lighting that is normally off.

G. EXTERIOR LIGHTING: LIGHTING AND CONTROL SYSTEMS

i. Provide pole mounted luminaires throughout the parking lot to ensure uniform illumination and minimize shadows between vehicles and walkways. Select pole heights and fixture spacing appropriate for the lot size and layout—typically 15 to 20 feet high for general parking areas.

ii. Provide façade lighting and canopy entry lighting to meet energy code requirements and an average of 4fc.

iii. Illumination Levels:
    - Provide horizontal illuminance of 0.5–2.0 footcandle (fc) in the main parking area, with a maximum uniformity ratio (max:min) of 10:1.
    - Limit installed lighting power to meet or be below ASHRAE 90.1 or local code requirements.

iv. Fixture Selection:
    - Use full cutoff, dark sky compliant fixtures to minimize uplight and light pollution. Fixtures should have a color temperature of 3000K or below for dark sky compliance.
    - Ensure fixtures are energy-efficient, such as LEDs with a minimum efficacy of 100 lumens per watt.

v. Lighting Controls:
    - Incorporate lighting controls such as occupancy sensors, dimmers, or timers to reduce energy use during periods of low activity.
    - Incorporate lighting control panels.

vi. Light Trespass:
    - Limit light spill at property lines to no more than 0.1 footcandle, especially near residential areas.

vii. Provide photometric plans and calculations to demonstrate compliance with LEED requirements and local codes.

H. RECEPTACLES

a. Receptacles shall be provided in sufficient quantity and appropriate locations to support the intended use of each space, ensuring safe and convenient access for all occupants, particularly seniors and individuals with limited mobility or dexterity. Tamper-resistant receptacles shall be provided.

b. Split controlled receptacles shall be provided in enclosed offices, conference rooms, rooms used primarily for copy or print functions, breakrooms, classrooms and individual workstations, including those installed in modular partitions and

module office workstation systems.

c. Receptacles for maintenance and any special equipment shall be twist lock type, unless otherwise noted.
d. Ground fault interrupter receptacles shall be provided 50' on centers and adjacent to HVAC equipment as needed for service and maintenance.

I. GROUNDING

a. System and equipment grounding will be provided. All switchboards, distribution panels, transformers, motor starters, panelboards, power wiring systems, MDF and IDF rooms, etc., will be effectively grounded.

J. LEED COMMISSIONING:

1. Project will pursue LEED v4 Enhanced Commissioning. Contractor shall include time and scope to accommodate the commissioning process.

F. TESTING AND INSPECTION

1. Final testing and inspection of electrical equipment and systems will be in accordance with project specifications.
2. Acceptance testing of the Emergency systems will be conducted in accordance with NFPA 70 and the City of Chicago Electrical Code.

G. MECHANICAL EQUIPMENT CONNECTIONS:

1. Service to all mechanical equipment, electric heating coils, domestic water heaters, unit heaters, cooling tower immersion heaters, duct heaters/fan powered boxes, fan coil units, thermostats, etc., including furnishing of all electrically associated devices such as disconnect switches, contactors, magnetic or manual starters, lock out switches, etc., which are not furnished under the Mechanical Plumbing and Fire Protection Sections

H. EMERGENCY LIGHTING SYSTEM AND ILLUMINATED EXIT SIGNS:

1. The code required emergency system shall be provided through a listed UL924 emergency inverter.
2. Maintain at least 1 footcandle (fc) average along all egress paths, with a minimum of 0.1 fc at any point. The maximum-to-minimum illumination ratio should not exceed 40:1
3. Emergency lighting must remain operational for at least 90 minutes after loss of normal power.
4. Install emergency lighting in all exit access areas, exits, exit discharges, corridors, stairways, and immediately outside exit doors
5. Provide exit signs per Chicago Building Code. Exit signs must clearly mark all exit routes and be visible from any direction of egress travel. Place signs so that no

point in an exit access corridor or passageway is more than 100 feet from the nearest visible exit sign.

I. ELECTRIC SNOW MELTING

1. The requirement of electric snow melt for the following must be further identified:
   a. Exterior sidewalk to the parking
   b. Exterior driving ramp

K. ELECTRIC VEHICLE CHARGING

a. 20% of the total parking spaces must be either EVSE-ready or EVSE installed.
b. EV installation shall include Level 2 charging stations at 32 FLA, 208V, 1PH, 3W with a dedicated 40A/2P circuit breaker.
c. Power for the charging stations will be distributed via dedicated EV power distribution panels.
d. Location of chargers and power requirements will be coordinated with Architect and the equipment supplier.
e. Quantity of parking spaces on EVC:
i. 40 parking spots total x 20% per code = 8 total spots on EVC Stations
f. *EVC Demand Management* is a concept that monitors all 'in use' chargers and allows for normal vehicle recharge times until the electrical supply system capacity is met.
   i. Once this maximum capacity is reached, and another EVC is called into use, every active recharge is 'slowed down' so all are accommodated.
   ii. Slowing everyone down so everyone is accommodated is common in personal cellular data plans.
   iii. *Demand Management* allows this project to provide a reasonable size electric service for the garage as not all EVCs will be charging full load all the time. *Demand Management* is new technology for the EVC systems manufacturers and without code may require the excessive size. More information will be developed during the next step of the design.

L. BUILDING AUTOMATION SYSTEM:

i. Provide power/conduit as needed to any BMS/BAS unit.
ii. Integrate the BMS to continuously monitor and optimize HVAC, lighting, and other building systems to reduce energy consumption and support LEED credits for energy performance and advanced energy metering.
iii. Use real-time analytics and automated controls to identify inefficiencies and adjust operations for maximum energy savings.
iv. Enable 24/7 monitoring of critical thermal comfort parameters to support LEED requirements for occupant well-being.

v. Ensure the BMS can generate reports and performance data required for LEED documentation and ongoing performance verification.
vi. Design the BMS to meet all state and local applicable energy codes (e.g., ASHRAE, IECC) and LEED prerequisites, including minimum program requirements and sustainable operations policies.

M. FIRE ALARM SYSTEM
i. Provide an addressable intelligent fire alarm control panel (FACP) with full system monitoring and event logging.
ii. The system shall have the capability to identify and display the exact location of any initiating device in alarm, trouble, or supervisory condition.
iii. Provide addressable smoke detectors, heat detectors, and manual pull stations in all required locations as per NFPA 72 and local code.
iv. The system shall have audible and visual notification appliances (horns, strobes) installed in all occupied and public areas, meeting ADA and code requirements. Provide addressable relay and control modules for integration with HVAC shutdown, elevator recall, and magnetic door holder release.
v. The system shall have a backup power supply capable of 24 hours standby operation and 5 minutes in full alarm mode.
vi. Provide short circuit isolators on all device loops to ensure system reliability in the event of a wiring fault.
vii. The system shall have remote annunciator panels at main building entrances and other required locations for emergency personnel.
viii. Provide programming for zoned and phased evacuation sequences as indicated on the plans.
ix. The system shall have connectivity to a UL-listed central station for 24/7 remote monitoring and emergency response notification.
x. Provide complete testing, commissioning, and certification of the fire alarm system in accordance with NFPA 72 and local authority requirements.

5 LEED & Chicago SDP GOALS

LEED:

The project has been registered with GBCI under LEED BD+C New Construction, version 4/4.1. The Design Team has developed strategies to target 55 points, with an additional 10 points currently listed as “Maybe,” pending confirmation in future design phases. Meanwhile, 47 points have been deemed impractical to pursue.

Since LEED Silver certification requires 50 points and LEED Gold requires 60, the project is well-positioned to achieve Silver and remains within reach of Gold. A LEED checklist and accompanying narrative have been provided to outline the strategies identified as achievable.

Chicago Sustainable Development Policy:

In addition to LEED certification, the project must comply with the Chicago Sustainable Development Policy (SDP), a point-based system that assigns values to sustainability strategies and building certifications for projects receiving City funding or zoning approvals. There are two compliance pathways, each requiring a total of 100 points. Under Pathway 1, LEED Silver Certification must be paired with 100 points earned from the SDP menu options. Under Pathway 2, LEED Gold Certification automatically contributes 80 points, leaving 20 points to be selected from the Pathway 2 menu. Furthermore, the Public Building Commission (PBC) has specified two mandatory criteria for the project: “Bird Protection” and “Exceed Energy Transformation Code by 10%.” A matrix has been provided to outline the strategies that are readily achievable and to illustrate both compliance pathways.

To satisfy the “Bird Protection” requirement, the Design Team proposes applying a laser-etched pattern to the #1 surface of the glazing, enhancing visibility for birds. Additionally, a preliminary energy model has been developed using key project inputs to evaluate compliance with the Chicago Energy Transformation Code. The model indicates that the project is on track to exceed the baseline performance by 18%, surpassing the required 10% improvement threshold.

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: **DFSS Bronzeville Reginal Senior Center**

8/8/2025

Y	?	N			
1			Credit	Integrative Process	1

13	1	2	**Location and Transportation**		16
		16	Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
1	1		Credit	**High Priority Site, LEED v4.1**	2
5			Credit	Surrounding Density and Diverse Uses	5
5			Credit	Access to Quality Transit	5
		1	Credit	Bicycle Facilities	1
		1	Credit	Reduced Parking Footprint	1
1			Credit	**Electric Vehicles LEED v 4.1**	1

3	1	6	**Sustainable Sites**		10
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
		2	Credit	Site Development - Protect or Restore Habitat	2
		1	Credit	Open Space	1
		3	Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
	1		Credit	Light Pollution Reduction	1

4	1	6	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
1	1	4	Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

12	1	20	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
5		1	Credit	Enhanced Commissioning	6
5	1	12	Credit	**Optimize Energy Performance, LEED v 4.1**	18
1			Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
		3	Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
		2	Credit	Green Power and Carbon Offsets	2

6	2	5	**Materials and Resources**		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
		5	Credit	Building Life-Cycle Impact Reduction	5
2			Credit	**Building Product Disclosure and Optimization - Environmental Product Declarations, LEED v4.1**	2
1	1		Credit	**Building Product Disclosure and Optimization - Sourcing of Raw Materials, LEED v4.1**	2
1	1		Credit	**Building Product Disclosure and Optimization - Material Ingredients LEED v4.1**	2
2			Credit	Construction and Demolition Waste Management	2

9	3	4	**Indoor Environmental Quality**		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
1	1		Credit	**Enhanced Indoor Air Quality Strategies LEED v4.1**	2
3			Credit	**Low-Emitting Materials, LEED v4.1**	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1	1		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1	1		Credit	Interior Lighting	2
		3	Credit	Daylight	3
1			Credit	Quality Views	1
		1	Credit	Acoustic Performance	1

6	0	0	**Innovation**		6
5			Credit	Innovation; Bird Protection, Green Education, LED Lighting, Others	5
1			Credit	LEED Accredited Professional	1

1	1	4	**Regional Priority**		6
1			Credit	Regional Priority: Advanced Energy Metering	1
	1		Credit	Regional Priority: High Priority Site	1
		1	Credit	Regional Priority: Enhanced Indoor Air Quality Strategies	1
		1	Credit	Regional Priority: Site Development: Protect or Restore Habitat	1
		1		Regional Priority: Rainwater Management	1
		1	Credit	Regional Priority: Building Life-Cycle Impact Reduction	1

55	10	47	**TOTALS**	Possible Points:	112

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

DFSS Bronzeville Senior Cener

LEED v4 / 4.1 New Construction BD+C

LEED Detailed Matrix

8/8/2025

	Pre-Requisite / Credit	YES	?	NO	Poss.	Responsibility	Strategy	Notes
IP	**INTEGRATIVE PROCESS**							
	Integrative Process	1			1	Design Team, User, Owner	Energy Related Systems: Provide SD energy model for decision making. Water Systems: Evaluate options in SD. Building Orientation and Massing studies.	SD Energy Model provided by Milhouse. Water Systems evaluated by Milhouse.
LT	**LOCATION AND TRANSPORTATION**	13	1	2				
	LEED for Neighborhood Development Location			16	16	-		Not Applicable
	Sensitive Land Protection	1			1	AOR	Option 1: Locate the development footprint on land that has been previously developed.	Site has no current building but it certainly was previously developed.
	High Priority Site, LEED v4.1	1	1		2	-	Option 1: Path 1; Economically Disadvantaged Community Location; Option 2: Equity and Community Benefits; very likely as this is a Senior Center	Census data needs to be reviewed for Option 1. For Option 2, this is a new center to serve Seniors in the Community. DFSS is a City Organization to assist Seniors.
	Surrounding Density and Diverse Uses	3			3	AOR	Option 1 (2-3 pts): locate on a site whose surrounding existing density is w/in 1/4 mile radius of the project boundary meeting values in Table 1.	Diagrams done to confirm the points are possible.
		2			2	AOR	Option 2 (1-2 pts): Construct a bldg's entrance w/in 1/2 mile walking distance of the main entrance of 4-7 (1pt) or 8+ (2pts) existing publicly available diverse uses.	Diagrams done to confirm the points are possible.
	Access to Quality Transit	5			5	AOR	Verify public transit type and frequency of trips. CTA Green Line is adjacent to site and achieves all possible points.	Diagrams done to confirm the points are possible.
	Bicycle Facilities	0		1	1	-		There is no shower in the scope. This credit will no be pursued.
	Reduced Parking Footprint	0		1	1	-		The zoning requirement for parking is very low making this point unachievable.
	Electric Vehicles, LEED v4.1	1			1	AOR / EOR	Option 2: Electric Vehicle Ready Infrastructure; 10% of parking spaces or at least (6) spaces EV Ready.	City of Chicago Code requires 20% of parking spaces to be EV Ready so this point is achieved by meeting Chicago Ordinance.
SS	**SUSTAINABLE SITES**	3	1	6				
	Construction Activity Pollution Prevention	Req'd	-	-	-	Civil Engineer / GC	Create and implement an erosion and sedimentation control plan for all construction activities associated with the project.	
	Site Assessment (Linked to Integrative Process, Sensitive Land Protection)	1			1	AOR	Site Assessment of the following must be described in a narrative, site assessment worksheet or Site map: Topography, Vegetation, Hydrology, Climate, Soils, Human Use, and Human Health Effects	
	Site Development Protect or Restore Habitat (Linked to Site Assessment and Integrative Process)			2	2	-	There is no path forward to get this point.	
	Open Space			1	1	-	This is no path forward to get this point, the outdoor garden is the only open space and the area is not sufficient.	
	Rainwater Management			3	3	-	Path 3, Zero Lot Line Projects; This needs to be determined, is it economically viable to meet this point? There is a storm trap that can be used for water collection.	This credit will not be pursed after consideration due to cost and other complexities.
	Heat Island Reduction (Roof / Non roof)	2			2		Option 1: Nonroof measures AOR to ensure specs indicate high SRI to meet requirements. Calculation indicates compliance by using permeable pavers in the parking islands and asphalt in the driveway.	5,200/.5 +25,000/.75 > 15,981 + 25,000 43,733 sf > 40,981 sf Another Option; Could be 100% light colored concrete and not have pavers.
	Light Pollution Reduction		1		1			Difficult to achieve, project still needs to use full cutoff luminaires for Bird Protection.

	Pre-Requisite / Credit	YES	?	NO	Poss.	Responsibility	Strategy	Notes
WE	**WATER EFFICIENCY**	4	1	6				
	Outdoor Water Use Reduction	Req'd	-	-	-	EOR	Option 1: No Irrigation	
	Indoor Water Use Reduction	Req'd	-	-	-	EOR	Milhouse has indicated project meets requirement	
	Building-Level Water Metering	Req'd	-	-	-	EOR / DFSS	Letter of intent from DFSS to share utility data with USGBC. Meters included in the project support this prereq.	
	Outdoor Water Use Reduction	**2**			2	EOR	Option 1: No irrigation or use of rainwater for irrigation	
	Indoor Water Use Reduction	**1**	**1**	4	6	EOR	Milhouse confirmed (2) points is achievable for indoor water use reduction.	Calculations to be performed by EOR.
	Cooling Tower Water Use			2	2		Not applicable, there is no cooling tower.	
	Water Metering	**1**			1	EOR	Milhouse confirmed cold water to fixtures and cold water to domestic heaters to be metered.	
EA	**ENERGY & ATMOSPHERE**	12	1	20				
	Fundamental Commissioning and Verification	Req'd	-	-	-	PBC / Cx	PBC will include a Cx on the project in the next phase.	
	Minimum Energy Performance	Req'd	-	-	-	Energy Modeling	Comply w ASHRAE 90.1-2016 OR Beat ASHRASE 90.1-2010 by 5%	Achieved, see Energy Model.
	Building-Level Energy Metering	Req'd	-	-	-	DFSS	DFSS to commit to sharing electric meter data with USGBC, the building does not have natural gas.	
	Fundamental Refrigerant Management	Req'd	-	-	-	EOR	EOR to confirm no CFC based refrigerants	
	Enhanced Commissioning	**5**		1	6	PBC / Cx	PBC to add Cx to the project. Monitoring based commissioning assume not to be provided. All other enhanced commissioning to be included including envelope.	
	Optimize Energy Performance, LEED v4.1	5	1	12	18	EOR	Whole Building Energy Simulation; Energy Model indicates 19% reduction when compared to ASHRAE 90.1-2016. See Energy Model text.	Energy model used to compare LEED v4 and LEED v4.1 requirements. LEED v4.1 will result in more points.
	Advanced Energy Metering	**1**			1	EOR	Milhouse indicated this point is achievable.	
	Demand Response			2	2	-	Not practical for a Senior Center that functions as a warming and cooling center.	
	Renewable Energy Production			3	3	-	Not attempted. Not cost effective.	
	Enhanced Refrigerant Management	**1**			1	EOR	Option 2: Calculation of refrigerant impact. No CFC based refrigerants will be included in the project.	
	Green Power and Carbon Offsets			2	2	-	Not attempted.	
MR	**MATERIALS AND RESOURCES**	6	2	5				
	Storage & Collection of Recyclables	Req'd	-	-	-	AOR	Include plan in specifications Provide dedicated areas accessible to waste haulers and bldg occupants for the collection & storage of recyclable mtrls for entire bldg. Recyclables must include: mixed paper, corrugated cardboard, glass, plastics, metals. Must also include 2 of the following: batteries, e-waste, mercury lamps.	
	Construction & Demolition Waste Mgmt. Planning	Req'd	-	-	-	GC	Include plan in specifications. Contractor responsibility, construction submission	
	Building Life Cycle Impact Reduction			5	5	-	Cost prohibitive. Not attempted	
	Environmental Product Declaration, LEED v4.1	**2**			2		Points are achievable	
	Sourcing of Raw Materials, LEED v4.1	**1**	**1**		2		Points are achievable	
	Material Ingredients, LEED v4.1	**1**	**1**		2		Points are achievable	
	Construction Waste Management Plan	**2**			2		City of Chicago requires waste management.	

	Pre-Requisite / Credit	YES	?	NO	Poss.	Responsibility	Strategy	Notes
EQ	**INDOOR ENVIRONMENTAL QUALITY**	9	3	4				
	Minimum Indoor Air Quality Performance	Req'd	-	-	-	EOR	Ventilation: Mech. Ventilation Spaces Option 1: ASHRAE Standard 62.1-2010	
	Environmental Tobacco Smoke Control	Req'd	-	-	-	DFSS	Prohibit smoking inside the building and around the site except in designated compliant smoking areas.	
	Enhanced Indoor Air Quality Strategies, LEED v4.1	**1**	**1**		2	EOR	3 strategies for 1 point 6 strategies for 2 points	EOR to confirm strategies.
	Low-Emitting Materials, LEED v4.1	**3**			3	AOR / GC	Select 2-5 product categories that meet required % of VOC emissions OR inherently non-emitting sources criteria	Credit is achievable based on recent projects.
	Construction Indoor Air Quality Management Plan	1			1	GC	Develop IAQ management plan for specifications.	
	Indoor Air Quality Assessment	**1**	**1**		2	EOR / GC		PBC interested in pursuing, flush out, testing as a maybe.
	Thermal Comfort	**1**			1	EOR	Milhouse indicated this point is achievable based on zoning control of the AHUs.	
	Interior Lighting	**1**	**1**		2	EOR	Meet 1 Strategy for 1 pt. and 3 strategies for 2 pts: Glare control, Color rendering, lighting control, and surface reflectivity.	EOR to confirm strategies.
	Daylight			3	3	-	Not practical for this project.	
	Quality Views	**1**			1	AOR	Achieve a direct line of sight to the outdoors for 75% of all regularly occupied spaces.	Project includes enough perimeter glazing. AOR to confirm.
	Acoustic Performance			1	1	-	Possible but perhaps not easy with the various moveable partitions and flexible / open spaces.	
ID	**INNOVATION / EP**	6	0	0				
	Pilot Credit - Low Mercury Lamping	**1**			1	EOR	100% LED Lighting	
	Green Education	**1**			1	AOR	Green Education Design by AOR	
	Exemplary Performance: BPDO EPD	**1**			1	AOR / GC	AOR to collect EPDs as submittals are received	
	All-Gender Restroom	**1**			1	AOR	Pilot Credit	
	Bird Protection	**1**			1	AOR	Part of Chicago SDP Requirements by PBC	
	LEED Accredited Professional	**1**			1	Desing Team Member	LEED AP credentials to be uploaded to LEED online	
RP	**REGIONAL PRIORITY**	1	1	4				
	Advanced Energy Metering	**1**				EOR		
	High Priority Site		**1**					
	Enhanced Indoor Air Quality Strategies			1				
	Site Dev.: Protect or Restore Habitat			1				
	Rainwater Management			1				
	Building Life Cycle Impact Reduction			1				
		55	**10**	**47**				

LEED Silver: 50 to 59

LEED Gold: 60 to 79

Chicago Sustainable Development Policy (2024)

Strategy Menu and Third-Party Building Certifications

	Strategy No.	Strategy Name	Points	Available in Compliance Pathway #1: Menu	Available in Compliance Pathway #2: Third-Party Certification
	A. Bird Protection				
*	A.1	Bird Protection (Basic)	20	Y	Y
	~~A.2~~	~~Bird Protection (Enhanced)~~	~~30~~	~~Y~~	~~Y~~
	B. Energy				
	~~B.1~~	~~Exceed Energy Transformation Code (5%)~~	~~20~~	~~Y~~	~~N~~
*	B.2	Exceed Energy Transformation Code (10%)	30	Y	N
	~~*B.3*~~	~~*Rooftop Solar-Ready Construction**~~	~~*5*~~	~~*Y*~~	~~*Y*~~
	~~*B.4*~~	~~*On-Site Renewable Energy Provision of 5-10%**~~	~~*10*~~	~~*Y*~~	~~*Y*~~
	~~*B.5*~~	~~*On-site Renewable Energy Provision of 10-20%**~~	~~*20*~~	~~*Y*~~	~~*Y*~~
	~~*B.6*~~	~~*On-site Renewable Energy Provision of > 20%**~~	~~*30*~~	~~*Y*~~	~~*Y*~~
	B.7	Building Electrification	30	Y	N
	B.8	Maximum 40% Glass Facade	10	Y	N
	B.9	Meet ComEd New Construction Best Practices	20	Y	N
	C. Landscape and Green Infrastructure				
	~~C.1~~	~~Green Roof (>50%)~~	~~10~~	~~Y~~	~~Y~~
	~~C.2~~	~~Green Roof (100%)~~	~~20~~	~~Y~~	~~Y~~
	~~C.3~~	~~Productive Landscapes~~	~~5~~	~~Y~~	~~Y~~
	~~C.4~~	~~Native Landscapes~~	~~5~~	~~Y~~	~~Y~~
	C.5	Tree Health	5	Y	Y
	~~*C.6*~~	~~*Industrial Landscaped Buffer**~~	~~*10*~~	~~*Y*~~	~~*Y*~~
	~~C.7~~	~~Non-toxic Pavement Sealants~~	~~5~~	~~Y~~	~~Y~~
	~~C.8~~	~~Naturalize River Edge~~	~~10~~	~~Y~~	~~Y~~
	~~C.9~~	~~Exceed River Setback for Naturalized Spaces~~	~~5~~	~~Y~~	~~Y~~
	~~C.10~~	~~Aquatic River Habitat~~	~~10~~	~~Y~~	~~Y~~

Third-party Building Certification Program	Points
LEED Gold	80
LEED Platinum	90
LEED Zero	95
Three Green Globes	80
Four Green Globes	90
Green Globes Journey to Net Zero Carbon / Net Zero Energy	95

Third-party Building Certification Program	Points
PHIUS	90
PHIUS Zero	95
ILFI Living Building Challenge	90
ILFI Zero Energy	95
Enterprise Green Communities	80
National Green Building Standard Gold	70
National Green Building Standard Emerald	80

Pathway 1: LEED Silver, 100 Points Required: Credits w green box are achievable and can contribute to the 100 point total.

Pathway 2: LEED Gold, 20 Points Required in addition to the 80 points achieved for LEED Gold: Credit with yellow highlight are achievable and can contribute to the 20 points needed.

* A.1 Bird Protection (Basic) and B.2 (Exceed Energy Transformation Code (10%) are PBC project requirements.

Strategy No.	Strategy Name	Points	Available in Compliance Pathway #1: Menu	Available in Compliance Pathway #2: Third-Party Certification
D. Public Health and Community Benefits				
~~D.1~~	~~WELL Building Standard~~	~~50~~	~~Y~~	~~Y~~
~~D.2~~	~~Fitwel Certification~~	~~30~~	~~Y~~	~~Y~~
~~D.3~~	~~100% on-site ARO~~	~~10 to 15~~	~~Y~~	~~Y~~
~~*D.4*~~	~~*Air Quality Monitoring**~~	~~*10*~~	~~*Y*~~	~~*Y*~~
~~D.5~~	~~Indoor Air Quality~~	~~5~~	~~Y~~	~~Y~~
~~*D.6*~~	~~*Cleaner Industrial Operations Equipment**~~	~~*5*~~	~~*Y*~~	~~*Y*~~
~~D.7~~	~~Cleaner Construction Equipment~~	~~5~~	~~Y~~	~~Y~~
D.8	Community Resiliency Asset	10 to 15	Y	Y
D.9	*Workforce Development**	*10*	*Y*	*Y*
~~D.10~~	~~Exceed Requirements for Accessible Dwelling Units~~	~~5~~	~~Y~~	~~Y~~
E. Stormwater				
~~E.1~~	~~Sump Pump Capture and Reuse~~	~~5~~	~~Y~~	~~Y~~
~~*E.2*~~	~~*Exceed Stormwater Ordinance by 25%**~~	~~*10*~~	~~*Y*~~	~~*Y*~~
~~*E.3*~~	~~*Exceed Stormwater Ordinance by 50%**~~	~~*20*~~	~~*Y*~~	~~*Y*~~
~~E.4~~	~~100% Stormwater Infiltration~~	~~40~~	~~Y~~	~~Y~~
~~E.5~~	~~100-year Detention for Lot-to-Lot buildings~~	~~25~~	~~Y~~	~~Y~~
~~E.6~~	~~100-year Detention for Bypass~~	~~5~~	~~Y~~	~~Y~~
F. Transportation				
~~F.1~~	~~Divvy Bikeshare Sponsorship~~	~~5~~	~~Y~~	~~N~~
~~F.2~~	~~Residential Bike Parking Facilities~~	~~5~~	~~Y~~	~~N~~
~~F.3~~	~~Non-Residential Bike Parking Facilities~~	~~5~~	~~Y~~	~~N~~
~~F.4~~	~~EV Charging Stations 30%~~	~~5~~	~~Y~~	~~N~~
~~F.5~~	~~EV Charging Stations Fast Charger~~	~~10~~	~~Y~~	~~N~~
F.6	EV Charger Readiness (Basic)	5	Y	N
~~F.7~~	~~EV Charger Readiness (Enhanced)~~	~~10~~	~~Y~~	~~N~~
~~*F.8*~~	~~*Commercial EV Fleet Readiness**~~	~~*10*~~	~~*Y*~~	~~*Y*~~
~~F.9~~	~~CTA Digital Display~~	~~5~~	~~Y~~	~~Y~~
G. Waste				
G.1	80% Waste Diversion	5	Y	N
~~G.2~~	~~80% Waste Diversion + 10% reuse~~	~~10~~	~~Y~~	~~N~~
H. Water				
H.1	Indoor Water Use Reduction (25%)	5	Y	N
~~H.2~~	~~Indoor Water Use Reduction (40%)~~	~~10~~	~~Y~~	~~N~~
Sustainability Excellence & Innovation				
~~-~~	~~Sustainability Excellence and Innovation~~	~~5 to 20~~	~~Y~~	~~Y~~

DFSS Bronzeville Regional Senior Center
100% SD Chicago SDP Matrix Strategy
08/08/25

City of Chicago

Sustainable Development Policy -2024

DFSS Bronzeville Regional Senior Center

New Construction Projects

		Menu Strategies					
					Notes:	**Pathway 1**	**Pathway 2**
A		**Bird Protection**					
	A.1	Basic Bird Protection	20	Points	Required by PBC	Y	Y
B		**Energy**					
	B.2	Exceed ETC by 10%	30	Points	Required by PBC	Y	N
	B.7	Building Electrification	30	Points	PBC to Confirm	Y	N
	B.8	Maximum 40% Glass Façade	10	Points	Design Meets Requirement	Y	N
	B.9	Meet ComEd New Const. Best Practices	20	Points	Required by PBC	Y	N
C		**Landscape & Green Infrastructure**					
	C.5	Tree Health	5	Points	Simple Strategy	Y	Y
D		**Public Health & Community Benefits**					
	D.8	Community Resiliency Asset	10	Points	Nature of Senior Center	Y	Y
	D.9	Workforce Development	10	Points	This will be done by PBC	Y	Y
E		**Stormwater**					
F		**Transportation**					
	F.6	EV Charger Readiness Basic	5	Points	Only, if needed.	Y	N
G		**Waste**					
	G.1	Waste Diversion	5	Points	Only, if we need this	Y	N
H		**Water**					
	H.1	Indoor Water Use Reduction (25%)	5	Points		Y	N
		Total Points	**150**	**Points**			
Pathway 1		LEED Silver: Must meet 100 points min.	150	Points	Complies (all items in table)		
Pathway 2		LEED Gold: Must meet 20 points min.	45	Points	Complies (only yellow highlighted items for Pathway 2)		

Meeting Minutes Memorandum LEED Meeting

Project: DFSS Regional Senior Center
Meeting Date: July 25, 2025
Meeting Location: Virtual Teams
Memo Date: August 12, 2025
Attendees:

Kerl LaJeune	PBC, Director of Planning and Design
Keisha Johnson	PBC, Design Manager
Deeta Bernstein	PBC, Sustainability Manager
Miriam Gutierrez	PBC, Project Manager
Ahmad Anbari	Milhouse Engineering
Bradley Kieltyka	Milhouse Engineering
Matthew Antkowiak	Milhouse Engineering
Aram Garbooshian	RADA Architects

The following are summaries of the various discussions and directions:

	The LEED / Sustainability Charrette was held to discuss the schematic design and sustainability goals for the DFSS Bronzeville Senior Center.	Note / Action
A	**Introduction**	
	1. Introduction of the project was made, meeting parties include PBC, RADA Architects, Milhouse Engineering. 2. RADA explained the project has been registered with the GBCI under LEED v4 / 4.1.	-
B	**Chicago Sustainable Development Policy**	
	1. RADA presented the two compliance pathways for the Chicago SDP Policy. a. Pathway 1: LEED Silver – 100 Menu Points b. Pathway 2: LEED Gold – 100 Menu Points (80 Pts for Gold + 20 Pathway 2 Menu Points) 2. The various strategies discussed resulted in 150 possible points, far exceeding the required 100-point threshold. a. **A.1, Bird Protection**, (Basic) 20 Points: This is a PBC requirement for the project. It will be achieved by providing an etching on the #1 surface of the glazing in a pattern meant to protect birds from collisions and meeting all credit specific rules. b. **B.2, Exceed Energy Transformation Code** (10%), 30 points: This is a PBC requirement for the project. Milhouse indicated the schematic design energy model is nearing finalization. Based on preliminary assessments, achieving a performance that exceeds the requirements of the Chicago Energy Transformation Code (CETC) by 10% is feasible.	**PBC to discuss w/ 2FM on all Electric Building**

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	c. **B.7, Building Electrification,** 30 points: RADA / Milhouse explained the project is designed to be 100% electric, with no gas service, including roof top units, water heaters and warming kitchen range. PBC said they would need to review the 100% electric building concept with 2FM the operations group that will be maintaining the building. d. **B.8, Maximum 40% Glass Façade**, 10 points: RADA explained the design of the building is just over 30% glazed, making this achievable. e. **B.9, Meet ComEd New Construction Best Practices,** 20 points; PBC said to include this item as they work with ComEd on energy incentives and best practices as a part of their development process. f. **C.5 Tree Health,** 5 points: RADA suggested meeting the criteria for this credit, which is aimed at best practices for Parkway tree health. The requirements are not a big investment and provide a lasting asset, new trees that do not die off within a few years. g. **D.8 Community Resilience Asset,** 10-15 points**:** PBC suggested adding this item as the Senior Center should meet the criteria. h. **D.9 Workforce Development,** 10 points: PBC said to include this item since they provide specific workforce goals for the project development. i. **F.6 EV Charger Readiness (Basic),** 5 points: The project design does not currently meet the requirements but if an additional 5 points are needed it's possible to add EV infrastructure to a few more parking stalls. j. **G.1 80% Waste Diversion,** 5 points: The objective of this project is to achieve a 75% waste diversion rate, which qualifies for two credits under LEED MR Credit: Construction and Demolition Waste Management. If five additional points are required under the Chicago Sustainable Development Policy (SDP), the diversion rate can be increased to 80% to meet that target. k. **H.1 Indoor Water Use Reduction (25%),** 5 Points: Milhouse expects indoor water use reduction to be 30%.	
C	**LEED Credits / Checklist**	
	1. RADA presented the project checklist of LEED points, explaining which points were achievable based on various measures, calculations, research, and past project experience. 2. PBC provided feedback based on project goals, ownership criteria and their experience developing recent projects in Chicago. 3. Discussion on specific points are below: a. **LT High Priority Site:** RADA explained the Senior Center being a community center and a warming / cooling center should meet the criteria for High Priority Site; this will need to be further researched in the next project phase and possibility discussed with the USGBC for credit interpretation. b. **SS Rainwater Management**: RADA explained the project stormwater system will include a "storm-trap" under the parking lot and the captured rainwater could be used for irrigation. PBC did not want to pursue this, there is cost associated with pumping the water from the storm-trap, water quality measures to negotiate and future maintenance cost to consider. RADA to move this to the "no" column.	

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	c. **SS Heat Island Reduction:** RADA explained the design of asphalt drives with permeable paver parking stalls, along with the reflective roof will meet 2 points. PBC noted another option is to use concrete for the entirety of the site parking area, removing asphalt and perm. pavers but the downside is the storm-trap would need to get larger. The next team has options to meet this credit, RADA to leave design as is. d. **SS Light Pollution Reduction:** RADA explained this credit can be difficult to achieve and suggested listing in the "no" category. PBC requested to list in the "maybe" column. e. **Indoor Water Use Reduction:** Milhouse indicated two points with a 30% reduction of indoor water use is achievable. PBC cautioned that it's harder to achieve on a building like this and to list 1 point in the "yes" column and 1 point in the "maybe" column. f. **EA Enhanced Commissioning:** PBC indicated a Cx will be hired in the next project phase, and five points will be achievable, pursing all points except "monitoring". g. **EA Optimize Energy Performance**: Milhouse to complete the energy model and evaluate the LEED v4 and v4.1 criteria, noting that the v4 requirements references the March 2024 update. h. **EA Advanced Energy Metering**: Milhouse indicated this credit is achievable. i. **MR Credits**: PBC and RADA agreed the LEED v4.1 credits are best pursued for the EPD credits. j. **IEQ Indoor Air Quality Management Plan:** PBC said testing prior to occupancy has been done in the past and to add one extra point to the "maybe" column. k. **Innovation:** PBC asked for five points to be listed and mentioned Bird Protection could be used as an Innovation Credit. Other options discussed, Green Education, 100% LED Lighting and All Gender Restroom Pilot Credit. l. **Regional Priority Credits:** PBC requested all the RP credits to be listed on the spreadsheet. 4. The LEED checklist has been updated and is provided as an attachment.	

By: Aram Garbooshian, Principal
RADA Architects

The preceding information is the writer's understanding of the matters discussed, and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within seven days (7) of the transmitted date.

Attachments: Updated LEED Checklist
Updated LEED Narrative
Updated Chicago SDP Matrix
Updated Chicago SDP Table
Final SD Energy Model

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

8/15/2025

DFSS BRONZEVILLE REGIONAL CENTER SCHEMATIC DESIGN ENERGY MODEL

MILHOUSE ENGINEERING & CONSTRUCTION

https://milhouseinc.com/ 333 S Wabash Ave, Suite 400, Chicago, IL 60604
(571) 327-5800

CBP DFSS Bronzeville Regional Center Energy Model Report

Date: Thursday, August 14, 2025

Subject: CBP DFSS Bronzeville Regional Center Energy Model Report

1 General Requirements

1.1 Purpose

The purpose of this energy model is assist in the title building achieving the LEED goals. Currently, the design team is weighing which version of LEED, v4.0 or v4.1 is more worthwhile to pursue. As such, the proposed is evaluated versus the ASRAE 90.1 2016 and 2010 baseline buildings. Also, it is a PBC requirement that the building energy model exceed the ASRAE 90.1 2019 performance by 10%, in accordance with the Chicago Energy Transformation Code. The project is located in Climate zone 5A. The model was created in Trane TRACE 700.

2 Building Envelope

2.1 Construction Materials

Table 1 below shows the ASHRAE 90.1 baseline values, as well as the proposed building envelope values.

Table 1: Building Envelope Values

	ASHRAE 90.1 2010	ASHRAE 90.1 2016	ASHRAE 90.1 2019	Proposed Value
Exterior Wall U value	0.064	0.055	0.055	0.047
Exterior Door U value	0.70	0.68	0.068	0.068
Roof Assembly U value	0.055	0.037	0.037	0.022
Vertical Glass U value	0.45	0.38	0.36	0.32
Vertical Glass Shading Coefficient	0.5*	0.436*	0.475*	0.34
Skylight Glass U Value	1.17	0.5	0.5	0.44
Skylight Glass Shading Coefficient	0.487*	0.68*	0.5*	0.45

*Shading coefficients have been converted from SHGC.

3 Mechanical

3.1 System Description

The building is served by (4) DX cooled, electric heat packaged VAV rooftop units. HP-1 serves the first floor office and community spaces. HP-2 Serves the dining area. HP-3 serves the patio, and HP-4 serves the whole second floor. HP-2, 3 and 4 are complete with energy recover wheels to preheat the OA using system exhaust. All 4 units are equipped with airside economizers. All units have electric baseboard as perimeter heat, primary heating source. Units 1,2, & 4 have electric reheat terminal VAV boxes as a second stage of heating. The baseline system is modeled using system type 6, a packaged RTU with PFPBs and electric heat.

4 Lighting

4.1 System Description

Currently, the lighting power density employs the whole building area method. The building use case is a combination of a health-care clinic and office from table G3.8, which have a power density of 1 W/sqft. The power densities of the proposed are at a power density of 0.8 W/sqft.

5 Plumbing

5.1 System Description

The domestic water heater system is electric heat, using an assumed value of 35 kW and are identical in the baseline and proposed models. The final values for the domestic water load are pending the final warming kitchen design.

6 Outputs

6.1 Summary of Outputs

The below table 2 summarizes the building energy consumption of the proposed and baseline buildings, as well as the percentage of energy consumed by the proposed building relative to each baseline.

Table 2: Summary of Outputs

	ASHRAE 90.1 2010	ASHRAE 90.1 2016	ASHRAE 90.1 2019	Proposed Value
Energy Consumption (Btu 10^6 / yr)	3073	2,812	2788	2,275
% Better than ASHRAE 90.1 2010	-	-	-	25.9%
% Better than ASHRAE 90.1 2016	-	-	-	19.1%
% Better than ASHRAE 90.1 2019	-	-	-	18.4%

LEED uses two criteria when determining the number of points to award for energy optimization: Energy Cost and Greenhouse Gas reduction.

The proposed model and the baseline models are all electric buildings. Currently, a fixed electricity rate of 10 cents/kWh, meaning the energy improvements are identical to the percentages indicated in Table 2. This translates to 2 points for LEED v4, and 3 points for LEED v4.1.

Similarly, the greenhouse gas reduction is an assumed fixed utility grid rate structure based on 2023 data. The assumed grid is comprised of 54.89% Nuclear, 31.58% Fossil fuels (16% NG, 15.28% Coal, and 0.3% petroleum and other gases) and 13.53% renewable. Again, at this stage in the design the percentages are identical to the values listed in Table 2. These translate to 2 points for LEED v4 and 3 points for LEED v4.1.

In total, we expect the project to earn a total for 4 points in LEED v4 for “Optimize Energy Perforamnce” and a total of 6 points in LEED v4.1.

APPENDIX

Energy Cost Budget / PRM Summary

By MILHOUSE

Project Name: DFSS Bronzeville Regional Center - 2010 Baseline	Date: July 28, 2025
City: Chicago, IL	Weather Data: Chicago Midway TMY3

Note: The percentage displayed for the "Proposed/ Base %" column of the base case is actually the percentage of the total energy consumption.

* Denotes the base alternative for the ECB study.

		* Alt-1 DFSS Senior Center Ene		
		Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh
Lighting - Conditioned	Electricity	305.5	10	64
Space Heating	Electricity	785.3	26	1,185
Space Cooling	Electricity	583.1	19	503
Heat Rejection	Electricity	87.6	3	72
Fans - Conditioned	Electricity	259.5	8	141
Receptacles - Conditioned	Electricity	714.6	23	110
Stand-alone Base Utilities	Electricity	337.5	11	71
Total Building Consumption		**3,073.1**		

		* Alt-1 DFSS Senior Center Ene
Total	**Number of hours heating load not met**	4
	Number of hours cooling load not met	0

	* Alt-1 DFSS Senior Center Ene	
	Energy 10^6 Btu/yr	Cost/yr $/yr
Electricity	3,073.1	104,842
Total	**3,073**	**104,842**

Energy Cost Budget / PRM Summary

By MILHOUSE

Project Name: DFSS Bronzeville Regional Center - 2016 Baseline	Date: July 28, 2025
City: Chicago, IL	Weather Data: Chicago Midway TMY3

Note: The percentage displayed for the "Proposed/ Base %" column of the base case is actually the percentage of the total energy consumption.

* Denotes the base alternative for the ECB study.

		* Alt-1 DFSS Senior Center Ene		
		Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh
Lighting - Conditioned	Electricity	351.2	12	74
Space Heating	Electricity	596.2	21	1,088
Space Cooling	Electricity	467.2	17	397
Heat Rejection	Electricity	81.1	3	65
Fans - Conditioned	Electricity	264.6	9	132
Receptacles - Conditioned	Electricity	714.6	25	110
Stand-alone Base Utilities	Electricity	337.5	12	71
Total Building Consumption		**2,812.4**		

		* Alt-1 DFSS Senior Center Ene
Total	**Number of hours heating load not met**	0
	Number of hours cooling load not met	0

	* Alt-1 DFSS Senior Center Ene	
	Energy 10^6 Btu/yr	Cost/yr $/yr
Electricity	2,812.4	95,947
Total	**2,812**	**95,947**

Energy Cost Budget / PRM Summary

By MILHOUSE

Project Name: DFSS Bronzeville Regional Center - 2019 Baseline	Date: July 28, 2025
City: Chicago, IL	Weather Data: Chicago Midway TMY3

Note: The percentage displayed for the "Proposed/ Base %" column of the base case is actually the percentage of the total energy consumption.

* Denotes the base alternative for the ECB study.

		* Alt-1 DFSS Senior Center Ene		
		Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh
Lighting - Conditioned	Electricity	351.2	13	74
Space Heating	Electricity	592.3	21	1,090
Space Cooling	Electricity	443.5	16	376
Heat Rejection	Electricity	82.7	3	66
Fans - Conditioned	Electricity	266.1	10	137
Receptacles - Conditioned	Electricity	714.6	26	110
Stand-alone Base Utilities	Electricity	337.5	12	71
Total Building Consumption		**2,787.9**		

		* Alt-1 DFSS Senior Center Ene
Total	**Number of hours heating load not met**	0
	Number of hours cooling load not met	0

	* Alt-1 DFSS Senior Center Ene	
	Energy 10^6 Btu/yr	Cost/yr $/yr
Electricity	2,787.9	95,113
Total	**2,788**	**95,113**

Energy Cost Budget / PRM Summary

By MILHOUSE

Project Name: DFSS Bronzeville Regional Center - Proposed	Date: July 28, 2025
City: Chicago, IL	Weather Data: Chicago Midway TMY3

Note: The percentage displayed for the "Proposed/ Base %" column of the base case is actually the percentage of the total energy consumption.

* Denotes the base alternative for the ECB study.

		* Alt-1 DFSS Senior Center Ene		
		Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh
Lighting - Conditioned	Electricity	280.9	12	59
Space Heating	Electricity	390.6	17	856
Space Cooling	Electricity	267.8	12	229
Heat Rejection	Electricity	56.1	2	41
Fans - Conditioned	Electricity	227.5	10	86
Receptacles - Conditioned	Electricity	714.6	31	110
Stand-alone Base Utilities	Electricity	337.5	15	71
Total Building Consumption		**2,275.0**		

		* Alt-1 DFSS Senior Center Ene
Total	**Number of hours heating load not met**	483
	Number of hours cooling load not met	219

	* Alt-1 DFSS Senior Center Ene	
	Energy 10^6 Btu/yr	Cost/yr $/yr
Electricity	2,275.0	77,595
Total	**2,275**	**77,595**

6 PROJECT MANUAL

A PLACE TO CONNECT, ENGAGE AND THRIVE

Public Building Commission of Chicago

RADA Architects
233 North Michigan Avenue, Suite 1900
Chicago, IL 60601
312-856-1970

PROJECT MANUAL FOR

DFSS Bronzeville Regional Senior Center
Project No. 10030

DATE: **August 15, 2025 – Issued for 100% Schematic Design**

DOCUMENT TITLE

VOLUME 1

VOLUME 2

DIVISION 02	EXISTING CONDITIONS
02 31 19	Selective Demolition
DIVISION 03	CONCRETE
03 10 00	Concrete Forming and Accessories
03 20 00	Concrete Reinforcing
03 30 00	Cast-In-Place Concrete
DIVISION 04	MASONRY
04 20 00	Unit Masonry
04 22 00	Unit Masonry
DIVISION 05	METALS
05 12 00	Structural Steel Framing
05 21 00	Steel Joist Framing
05 31 00	Steel Decking
05 40 00	Cold-Formed Metal Framing
05 50 00	Metal Fabrications
05 52 13	Pipe and Tube Railings
05 58 13	Column Covers
05 73 00	Decorative Metal Railings
05 73 13	Glazed Decorative Metal Railings
05 75 00	Decorative Formed Material
DIVISION 06	WOODS, PLASTICS AND COMPOSITES
06 10 53	Miscellaneous Rough Carpentry
06 16 00	Sheathing
06 20 13	Exterior Finish Carpentry
06 40 23	Interior Architectural Woodwork
DIVISION 07	THERMAL AND MOISTURE PROTECTION
07 11 13	Bituminous Dampproofing
07 19 00	Water Repellants
07 21 00	Thermal Insulation
07 26 00	Vapor Retarders
07 27 26	Fluid Applied Membrane Air Barriers
07 48 13	Exterior Rainscreen
07 54 19	PVC Membrane Roofing
07 62 00	Sheet Metal Flashing and Trim
07 71 00	Roof Specialties
07 72 00	Roof Accessories
07 81 00	Applied Fire Protection
07 81 23	Intumescent Fire Protection
07 84 13	Penetration Firestopping
07 84 43	Joint Firestopping
07 92 00	Joint Sealants
07 92 19	Acoustical Joint Sealants

DIVISION 08	OPENINGS
08 11 13	Hollow Metal Doors and Frames
08 14 16	Flush Wood Doors
08 31 13	Access Doors & Frames
08 33 13	Coiling Counter Doors
08 42 13	Aluminum-Framed Entrances
08 43 13	Aluminum-Framed Storefronts
08 63 00	Metal-Framed Skylights
08 71 00	Door Hardware
08 71 13	Power Door Operators
08 80 00	Glazing
08 83 00	Mirrors
08 88 13	Fire-Resistant Glazing

DIVISION 09	FINISHES
09 22 16.23	Gypsum Board Shaft Wall Assemblies
09 22 16	Non-Structural Metal Framing
09 29 00	Gypsum Board
09 30 13	Ceramic Tiling
09 51 13	Acoustical Panel Ceilings
09 65 13	Resilient Base & Accessories
09 65 19	Resilient Tile Flooring
09 68 13	Tile Carpeting
09 72 00	Wall Coverings
09 84 36	Sound-Absorbing Ceiling Units
09 91 13	Exterior Painting
09 91 23	Interior Painting
09 96 00	High Performance Coatings

DIVISION 10	SPECIALTIES
10 11 00	Visual Display Units
10 14 19	Dimensional Letter Signage
10 14 23.16	Room-Identification Panel Signage
10 21 13.14	Stainless Steel Toilet Compartments
10 21 13.17	Phenolic-Core Toilet Compartments
10 22 39.13	Folding Glass-Panel Partitions
10 26 00	Wall and Door Protection
10 28 00	Toilet, Bath, and Laundry Accessories
10 44 13	Fire Protection Cabinets
10 44 16	Fire Extinguishers
10 51 29	Phenolic Lockers
10 73 13	Awnings

DIVISION 11	EQUIPMENT
11 40 00	Foodservice Equipment
11 52 13	Projection Screens

DIVISION 12	FURNISHINGS
12 24 13	Roller Window Shades
12 36 61.16	Solid Surfacing Countertops
12 36 61.19	Quartz Agglomerate Countertops
12 48 13	Entrance Floor Mats and Frames
12 92 00	Interior Planters and Artificial Plants
12 93 13	Bike Racks
12 93 43	Site Benches
12 93 45	Site Tables

DIVISION 13	SPECIAL CONSTRUCTION (NOT USED)
DIVISION 14	CONVEYING EQUIPMENT (NOT USED)
14 21 23	Machine Room – Less Hydraulic Passenger Elevators

VOLUME 3

DIVISION 21	FIRE SUPPRESSION
21 05 53	Identification For Fire Suppression Piping And Equipment
21 13 00	Fire Suppression Sprinkler Systems
DIVISION 22	PLUMBING
22 05 23	General-Duty Valves For Plumbing Piping
22 05 33	Heat Tracing For Plumbing Piping
22 05 53	Identification For Plumbing Piping And Equipment
22 07 16	Plumbing Equipment Insulation
22 07 19	Plumbing Piping Insulation
22 11 16	Domestic Water Piping
22 11 19	Domestic Water Piping Specialties
22 13 16	Sanitary Waste, Vent And Storm Drainage Piping
22 14 23	Drainage Piping Specialties
22 33 00	Electric, Domestic Water Heaters
22 37 00	Sanitary Sewage And Sump Pumps
22 40 00	Plumbing Fixtures
DIVISION 23	HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)
23 05 13	Common Motor Requirements For Hvac Equipment
23 05 53	Identification For Hvac Piping And Equipment
23 05 93	Testing, Adjusting, And Balancing For Hvac
23 07 13	Duct Insulation
23 09 21	Building Automation Systems
23 09 23	Direct-Digital Control System For Hvac
23 23 00	Refrigerant Piping
23 31 00	Hvac Ducts And Casings
23 33 00	Air Duct Accessories
23 34 13	Axial Hvac Fans
23 34 16	Centrifugal Hvac Fans
23 36 00	Air Terminal Units
23 37 13.13	Air Diffusers
23 37 13.23	Registers And Grilles
23 72 13	Heat Wheel Air To Air Energy Recovery Units
23 74 16.11	Packaged Rooftop Unit (15 Tons And Less)
23 75 16	Custom Packaged Multizone Rooftop Units
23 81 26.13	Small-Capacity Split-System Air Conditioners
23 82 00	Convection Heating And Cooling Units
23 82 36	Finned Tube Radiation Heaters
23 82 39.13	Cabinet Unit Heaters
23 82 39.16	Propeller Unit Heaters

DIVISION 26	ELECTRICAL
26 05 19	Low-Voltage Electrical Power Conductors And Cables
26 05 23	Control-Voltage Electrical Power Cables
26 05 26	Grounding And Bonding For Electrical Systems
26 05 29	Hangers And Supports For Electrical Systems
26 05 33	Raceways And Boxes
26 05 43	Underground Ducts And Raceways For Electrical Systems
26 05 53	Identification For Electrical Systems
26 05 73.13	Short Circuit Studies
26 05 73.16	Coordination Studies
26 05 73.19	Arc-Flash Hazard Analysis
26 09 23	Lighting Control Devices
26 22 00	Low-Voltage Transformers
26 24 13	Switchboards
26 24 16	Panelboards
26 27 26	Wiring Devices
26 28 13	Fuses
26 28 16	Enclosed Switches And Circuit Breakers
26 29 23	Variable Frequency Motor Controllers
26 33 35	Central Battery Inverters
26 36 00	Transfer Switches
26 43 00	Surge Protective Devices
26 51 00	Interior Lighting
26 52 13	Emergency And Exit Lighting
26 56 00	Exterior Lighting
DIVISION 31	EARTHWORK
31 10 00	Site Clearing
31 20 00	Earth Moving
31 25 00	Erosion and Sedimentation Controls
DIVISION 32	EXTERIOR IMPROVEMENTS
32 12 16	Asphalt Paving
32 13 13	Concrete Paving
32 13 16	Decorative Concrete Paving
32 13 73	Concrete Paving Joint Sealants
32 14 43	Porous Unit Paving
32 17 13	Parking Bumpers
32 17 23	Pavement Markings
32 17 26	Tactile Warning Surfacing
32 31 19	Decorative Metal Fences and Gates
32 33 00	Site Furnishings
32 91 00	Planting Soils
32 93 00	Plants
DIVISION 33	UTILITIES
33 10 13	Water Service
33 41 00	Sewerage And Drainage

1 - GENERAL

1.1 WORK INCLUDES

A. Base Bid:

1. General Contractor: Provide rear ventilated rain screen assembly designed to drain water and condensation to the exterior as shown on the Drawings and specified herein. Work under this Section includes a complete pre-engineered system including the following:

   a. Fiber-reinforced cementitious panels.
   b. Girt sub-framing and girt panel supports.
   c. Thermal isolation girt sub-framing.
   d. Flashing, weather-seals, and formed metal trim.
   e. Fasteners and accessories.

B. Alternate Bids: NONE.

1.2 RELATED WORK

A. Specified Elsewhere:

1. Section 05 40 00 "Cold-Formed Metal Framing” for exterior wall framing.
2. Section 05 50 00 “Metal Fabrications” for trims and closures.
3. Section 06 16 00 "Sheathing” for exterior sheathing.
4. Section 07 21 00 “Thermal Insulation” for exterior wall insulation.
5. Section 07 27 26 “Fluid- Applied Membrane Air Barriers.”
6. Section 07 62 00 “Sheet Metal Flashing and Trim.”
7. Section 08 43 13 "Aluminum-Framed Storefronts" for exterior glazing.

1.3 QUALITY ASSURANCE

A. Fabricator/Installer Qualifications:

1. Installer shall be experienced in performing work with solid cladding panels in an exterior rainscreen system of similar type and scope. Supervisors and installers shall have a minimum 5 years’ experience of projects of similar type.

2. The installer shall be acceptable to the panel manufacturer.

B. Mockups:

1. Build mockup of a minimum of 25 linear feet including a corner condition as directed by Architect to set quality standards for fabrication and installation.
2. Mockups shall be provided and approved by the Architect prior to construction of the exterior rainscreen.
3. Mockup shall include insulation, supports, attachments, and accessories.

4. The mockup may remain in place as part of the permanent exterior pending approval of the mockup by the Architect.
5. Approval of the mockup does not constitute approval of deviations contained in the mockup from the Drawings and Specifications unless the Architect specifically approves such deviations in writing.

C. Pre-installation Meetings:

1. Conduct pre-installation meeting at project site to verify project requirements, substrate conditions, and manufacturers' installation instructions.

1.4 ACTION SUBMITTALS

A. Shop Drawings: Submit shop drawings showing anchor placement, joint locations, and complete pattern layout plan.

1. Include plans, elevations, sections, full-size details, and attachments to other work.
2. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
3. Include of each vertical-to-horizontal intersection of the exterior rain screen, showing the following:

a. Fiber-reinforced cementitious panels.
b. Girt sub-framing and girt panel supports.
c. Flashings, weather-seals, and formed metal trim.
d. Flashing and drainage.
e. Fasteners and accessories.
f. Interface with adjacent construction.
g. Connection to and continuity with thermal, weather, air, and vapor barriers.
h. Insect screen.
i. Shims.

B. Samples:

1. Exterior panels for each color and pattern specified, submit a minimum of three samples, 12" x 12" minimum size and of actual thickness.
2. Each type of framing and fastener with exposed finish required, in manufacturer's standard sizes.

C. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes. Include manufacturer's written handling, storage, installation, and cleaning instructions and recommendations.

D. Quality Assurance Submittals

1. Letter from manufacturer stating that the Installer is acceptable.
2. Test Reports: Submit certified test reports showing compliance with specified performance characteristics and physical properties.
3. Certificates: Qualification Certificates: Submit certificate indicating compliance with qualification requirements in "Quality Assurance" article.
4. Product certificates signed by manufacturers certifying materials comply with specified performance characteristics and criteria and physical requirements.
5. Manufacturers' Instructions: Manufacturers' written installation instructions.
6. Field Quality Control Reports: Third party testing agency's field reports specified herein.

E. Delegated-Design Submittals:

1. Exterior wall panels, support system, fasteners, and anchors to comply with performance requirements defined in Section 05 40 00 "Cold-Formed Metal Framing" and design criteria, including analysis data signed and sealed by a qualified professional engineer licensed in the State of Illinois responsible for their preparation.

F. Closeout Submittals.

1. Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals Section.
2. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.
3. Warranties.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver exterior solid wall panels and support system components packaged to comply with manufacturers' requirements and shall be adequately protected from damage during shipment as well as prior to and after installation.

B. Panels shall be stored and handled vertically until installed or as per manufacturer recommendations.

C. Store exterior solid wall panels and support system components on platforms or pallets, covered with tarpaulins or other suitable weather-tight ventilated covering. Store components so that water accumulations will drain freely.

D. Do not store exterior solid wall panels and support system components in contact with other materials that might cause staining, denting, surface damage or other deleterious effects.

1.7 PROJECT CONDITIONS

A. Field Measurements:

1. Verify actual measurements/openings by field measurements before material fabrication and show recorded measurements on shop drawings.
2. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

2. PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Products: Subject to compliance with requirements, provide polyvinyl alcohol fiber-reinforced cementitious wall panels and panel fasteners by one of the following:

1. "AFC Core" (smooth-faced panels) by American Fiber Cement: www.americanfibercement.com
2. "Carat" (smooth-faced panels) by SWISSPEARL; www.swisspearl.com
3. "Natura" (smooth-faced panels) by EQUITONE; www.equitone.com

2.2 PERFORMANCE REQUIREMENTS

A. ASTM International

1. ASTM C1185: Standard Test Methods for Sampling and Testing Non-Asbestos Fiber-Cement Flat Sheet, Roofing and Siding Shingles, and Clapboards
2. ASTM C1186; Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems.
3. ASTM E84; Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASTM E228; Standard Test Method for Linear Thermal Expansion of Solid Materials with a Push Rod Dilatometer.
5. ASTM E330 Standard Test Method for Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

B. Rain Screen: System is a rear ventilated rain screen designed to drain water and condensation to exterior. System is a complete pre-engineered system including fiber-reinforced cementitious wall panels, support structure, closure pieces, trim and flashing. Complete system shall include the design and installation of the solid exterior wall panels and support structure system to provide, in conjunction with wall substrate and air barrier, a weather-tight wall assembly utilizing rain screen principle. Panels and panel fasteners shall be from a single source.

C. Delegated Design: A structural engineer licensed in the State of Illinois shall be engaged by the Installer to design the exterior rainscreen system.

D. General Performance: Comply with performance requirements specified, without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. Wall panels shall be removable with exposed fasteners.
2. Panels shall be secured to a support structure which is secured to cold-formed metal framing.
3. Spacing of cold-formed metal framing shall not be greater than 16-inch o.c.
4. Support structure has multiple components, with one component (girt sub-framing) attaching to structure over the air barrier and one component (girt panel supports) fastening to the girt sub-framing to allow for attachment of wall panels.
5. Rain screen weather resistive barrier membrane shall be visually inspected for breaches and repaired as specified in Section 07 27 26 "Fluid-Applied Membrane Air Barriers" prior to installation of support system.
6. Metal drainage flashing shall be provided to direct condensation and water infiltration within the wall to weeping points. Coordinate with air and Water Barrier specified in Section 07 27 26 "Fluid-Applied Membrane Air Barriers."

E. Structural Performance: Provide Solid Exterior Wall Panel and support system as follows:

1. Deflection shall not exceed specified limits.
2. At 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, shall not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
3. Durations: As required by design wind velocity, but not less than 10 seconds.
4. Deflection of Framing Members: At design wind pressure, as follows:
   a. L/300 of span or less when tested in accordance with positive and negative pressures.
5. Anchorage system: Wall anchorages for exterior systems shall be designed to prevent thermal transfer through fasteners to interior side of cold-formed metal framing which could result in condensation inside the stud cavity.
6. Structural Loads:

   a. Wind Loads: As indicated on drawings S1.001 and S2.001.

F. Panel Performance Characteristics:

1. Minimum strength and bending characteristics in accordance with ASTM C1185.

   a. Modulus of rupture: 0.024 kilonewton per square millimeter (average cross/length)
   b. Modulus of elasticity:14 gigapascal per kilonewton per square millimeter

2. Density: 1.47 grams per cubic centimeter minimum according to ASTM C1186.
3. Panel Weight: 2.5 pounds per square foot minimum.
4. Moisture properties per ASTM C1185, by mass.

   a. Normal: 6 percent
   b. Maximum: 20 percent

5. Water tightness per ASTM C1185: No visible droplets or surface wetting.
6. Fire resistance per ASTM E84 and NFPA 285:

a. Noncombustible
b. Flame spread index: 0
c. Smoke developed index: Less than or equal to 15
d. No flaming after 30 seconds; weight loss less than or equal to 50 percent; final center temperature less than or equal to 30 deg. C.

8. Temperature Range: Minus 40 degrees F to plus 176 degrees F
9. Frost Resistance per ASTM C1185: 2944psi
10. Coefficient of thermal expansion per ASTM E228: 10 by 10^{-6} m/m/deg K
11. Color Change for acrylic-coated panels in accordance with ASTM G155

a. 2000 Hours: Change in E less than or equal to 1.9
b. 5000 Hours: Change in E less than or equal to 3.6

12. Water tightness per ASTM C1185: No visible droplets or surface wetting.

G. Panel Colors and Finishes:

1. Finish exposed, front-facing surface of panels to match approved submittals. Panel faces shall be free of joint marks or other obvious defects.
2. Patterns and colors as scheduled on the Drawings.
3. Provide custom colors to match Architect's samples:
Color 1A: "White"
Color 1B1: "Medium Gray"
Color 1B2: "Light Grey"
Color 1C: "Orange"
Color 1D: "Dark Gray"

H. Panel Sizes: As shown on the drawings.

I. Panel Thickness: 5/16-inch (8-mm) minimum nominally, thickness variation +/- 1/16

J. Panel Edges: As shown on the drawings.

K. Panel Weight: 2.5 lbs./ ft², at 5/16"" thickness

2.3 PANELS

A. Panels shall be fabricated from the following materials:
1. Portland cement, ground limestone, additives
2. Manufacturer's standard fiber reinforcing.

2.4 SUPPORT STRUCTURE

A. Support Structure:

1. Complete assembly to support and anchor polyvinyl alcohol fiber-reinforced cementitious concrete wall panels. Aluminum support structure to be anchored to

cold-formed steel framing using thermal girt sub-framing to allow installation of continuous insulation.

B. Manufacturers Subject to compliance with requirements, provide girt sub-framing by one of the following:

1. STRONGIRT.
2. Cascadia Clip
3. Cladiator Slotted-Z

C. Components:

1. Girt Sub-framing: Provide sub-framing anchored through wall sheathing to cold-formed metal framing with stainless steel anchors. Provide sub-framing engineered to receive continuous girt framing and to transfer structural loads to cold-formed steel framing.
2. Vertical and/or horizontal metal girt panel supports: Extruded aluminum hat channels, Z-, and/or C-shapes as required for complete engineered panel support system.
   a. Minimum 2-millimeter-thick extruded aluminum alloy 6063 T-6. Extrusions exposed to view at open panel joints shall be black anodized.

2.4 AUXILIARY MATERIALS

A. Panel Anchors: Exposed fasteners by the panel manufacturer finished to match panel color.

B. Fasteners: of sufficient lengths and sizes to securely fasten support structure to building wall framing members, and as follows:

1. Use stainless steel fasteners as recommended by the panel manufacturers written instructions.
2. Fasteners exposed to view to have black finish.

C. Flashing:
1. Provide flashing that is compatible with the cladding system.
   a. Stainless Steel: ASTM A167, Type 304, 0.028” soft temper; smooth patterned finish.

D. Trim:

1. Provide trim as detailed and compatible with framing members and cladding system.
2. Aluminum Sheet: Commercial quality, ASTM B209, 606-T5 alloy prefinished to match curtainwall, 0.032” thick (minimum) except as otherwise indicated.

E. Insect Screen:
1. Perforated aluminum with black-anodized finish.

2.5 FABRICATION

A. Fabricate wall panels and accessory items at the factory to the greatest extent possible and in accordance with manufacturers' recommendations and approved submittals.

B. Field Dimension: Field verify overall dimensions prior to panel fabrication.

C. Dimensional Tolerances in accordance with ASTM C 1185:

1. Overall panel dimensions within 1 millimeter of panel width and height.
2. Squareness within 0.5 millimeter per meter.

D. Fabricate all panels to profiles, colors and textures per samples and approval selected by the Architect.

E. Field-cut panels (if required) and drill face-fastening anchor holes in accordance with the panel manufacturer's written directions.

2.6 WARRANTY

A. The Installer shall warrant, in addition to the Standard Documents for Construction, the materials specified for a period of 10 years from the date of substantial completion against defects.

B. The Installer shall warrant, in addition to the Standard Documents for Construction, the workmanship of the installed system for a period of 2 years from the date of substantial completion against defects.

C. Failures include, but are not limited to the following:

1. Structural failure: Cracking, rupture, warping, spalling, or peeling.
2. Surface failure: Efflorescence, fading, discoloration.
3. Thermal stresses transferring to building structure.
4. Solid exterior wall panels and support structure cracking or breakage.
5. Noise or vibration created by wind and thermal and structural movements.
6. Loosening or weakening of fasteners, attachments, and other components.

3. EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with manufacturers' product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.2 EXAMINATION

A. Examine structure and conditions for compliance with requirements for installation tolerances, true and level bearing surfaces, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 ERECTION/INSTALLATION

A. Install wall reinforcements, channel cleats, clips, hangers, and other accessories required for connecting wall panels to supporting members and backup materials per the approved delegated design and the Manufacturer's Design and Installation Manual.

B. Lift wall panels and install without damage.

C. Shim and align vertical panel supports. Install shims between substrate and panel supports. Shims between panels and panel supports are not allowed.

D. Install shims to the following tolerances:

1. Level, plumb, and panel joint lines - 1/4" in 20 feet

2. Joint widths – plus or minus 1/16" of width shown on drawings

3. Sub frame profile face alignment maximum L/300 between supports

E. Provide temporary supports and bracing as required to maintain position, stability, and alignment of panels until permanent connections are completed.

F. Field Quality Control
1. Architect/Engineer will engage a qualified third party testing agency to visually inspect the weather resistive barrier membrane for breaches requiring repair as specified in Section 07 27 26 "Fluid-Applied Membrane Air Barriers" prior to installation of support system.

3.4 CLEANING AND PROTECTION

A. Perform cleaning procedures according to panel manufacturer's written instructions.

B. Clean soiled surfaces with non-abrasive cleaners and water, using soft fiber brushes, rags and sponges, and rinse with clean water.

C. Prevent damage to surfaces and staining of adjacent material.

END OF SECTION 07 48 00

Unit Rating

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Price Version: 358

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	1	2	3A	3B	3C	3D	3E	4A	4B	4C	5A	5B	5C	5D	5E	6A	6B	6C	6D	6E	7	8	9A	9B	9C
R	N	A	-	0	3	0	-	C	-	A	-	3	-	H	J	B	0	C	-	0	0	0	0	0	:	0	0	-	0	A	G	A	M	-
G	0	0	-	0	0	0	0	0	-	A	B	L	B	L	-	D	C	-	C	B	0													
E	-	0	0	-	0	0	-	B	-	B	S	0	-	0	0	-	D	A	0	A	-	A	D	-	0	0	0	-	A	0	0	0	0	0
E	0	0	A	B	-	0	0	0	0	0	B																							

9D	10A	10B	11A	11B	12	13A	13B	13C	14	15	16A	16B	16C	16D	17A	17B	18A	18B	18C	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37

Tag: RTU-1

Job Information

Job Name:	*Milhouse*
Job Number:	*Senior Center*
Site Altitude:	*0 ft*
Refrigerant:	*R-454B*
Design System Charge (oz):	*845 / 845*

Static Pressure

External:	*3.80 in. w.g.*
Cooling Coil:	*0.76 in. w.g.*
Filters Clean:	*0.70 in. w.g.*
Dirt Allowance:	*0.35 in. w.g.*

Cooling Section

	Gross	Net
Total Capacity:	*325.8 MBH*	*274.9 MBH*
Sensible Capacity:	*267.8 MBH*	*217.0 MBH*
Latent Capacity:	*58.0 MBH*	
Mixed Air Temp (DB/WB):	*81.0 °F / 66.3 °F*	
Entering Air Temp (DB/WB):	*81.0 °F / 66.3 °F*	
Lv Air Temp (Coil) (DB/WB):	*55.9 °F / 55.4 °F*	
Lv Air Temp (Unit) (DB/WB):	*60.5 °F / 57.2 °F*	

Supply Air Fan:	*1 x 270 @ 18.59 BHP Ea.*
SA Fan RPM / Width:	*1791 RPM / 6.130 in*
SA Fan FEI:	*0.88*
Exhaust Air Fan:	*1 x RM220A-RN @ 6.71 BHP Ea.*
EA Fan RPM / Width:	*1748 RPM / 4.930 in*
EA Fan FEI:	*0.63*
Evaporator Coil:	*18.9 ft² / 6 Rows / 12 FPI*
Evaporator Face Velocity:	*530.0 fpm*

Unit Information

Approx. Op./Ship Weights:	*3661 lbs / 3661 lbs (±5%)*
Ambient Temperature (DB/WB):	*95.0 °F / 75.0 °F*
Coil Filter FV / Qty:	*480.0 fpm / 6*
Min. Room Area/Height/Airflow**:	*792 ft² / 7 ft / 1430 SCFM*
Exhaust Airflow/ESP/TSP:	*8000 SCFM / 1.40 in. w.g. / 1.75 in. w.g.*
Supply Airflow/ESP:	*10000 SCFM / 3.80 in. w.g.*
Outside Airflow:	*3000 SCFM*
Return Temperature (DB/WB):	*75.0 °F / 62.0 °F*
Economizer:	*0.20 in. w.g.*
Preheat:	*0.02 in. w.g.*
Cabinet:	*0.34 in. w.g.*
Total:	*6.14 in. w.g.*

Heating Section

Preheat Type:	
Total Capacity:	*40.0 kW*
Capacity Used:	*33.3 kW*
OA Temp (DB/WB):	*0.0 °F / -1.0 °F*
Preheat Leaving Temp:	*35.0 °F / 24.4 °F*
Input:	*40.0 kW*
Electric Preheat FLA:	*48.1*
Max Discharge Temp (DB):	*80.0 °F*
Max Ambient Temp (DB):	*60.0 °F*
Integrated Heat Capacity:	*112.8 MBH*
Primary Heat Type:	*Heat Pump*
Total Capacity:	*122.6 MBH*
OA Temp (DB/WB):	*0.0 °F / -1.0 °F*
RA Temp (DB/WB):	*75.0 °F / 62.0 °F*
Entering Air Temp (DB/WB):	*63.0 °F / 53.2 °F*
Leaving Air Temp (DB/WB):	*73.2 °F / 57.3 °F*
Fan Temp Rise:	*4.5 Δ°F*
Auxiliary Heating Type:	*No Heat*

Rating Information

Listing Model	*RN-030-3-0-HBBC-V0-21-000-A*
Cooling Capacity:	*304 MBH*
Cooling EER:	*9.8 BTU/h·W*
Cooling IEER:	*15.3 BTU/h·W*

**Rated in accordance with AHRI Standard 340/360 (I-P)*

Application EER @ Op. Conditions:	***5.8 BTU/h·W***
Application COP @ Op. Conditions:	***1.32 W/W***
Application COPH @ Op. Conditions:	***3.3 W/W***

Heating High Temp Capacity:	*268.0 MBH*
Heating High Temp COP:	*3.3 W/W*
Heating Low Temp Capacity:	*158 MBH*
Heating Low Temp COP:	*2.13 W/W*

Electrical Data

Circuit 1

Rating:	*460V/3Ø/60Hz*	*Minimum Circuit Amp:*	*160*
Unit FLA:	*142*	*Maximum Overcurrent:*	*175*
SCCR:	*10 KAIC*		

	Qty	HP	VAC	Phase	RPM	FLA	RLA
Compressor 1:	*1*		*460*	*3*			*26.0*
Compressor 2:	*1*		*460*	*3*	*3500*		*21.2*
Condenser Fan:	*3*	*0.75*	*460*	*3*	*1080*	*1.8*	
Supply Fan:	*1*	*20.00*	*460*	*3*	*1760*	*27.0*	
Exhaust Fan:	*1*	*10.00*	*460*	*3*	*1760*	*14.0*	

Cabinet Sound Power Levels*

Octave Bands:	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**
Discharge LW (dB):	*96*	*94*	*95*	*98*	*94*	*92*	*92*	*88*
Return LW (dB):	*94*	*92*	*90*	*84*	*82*	*81*	*77*	*70*

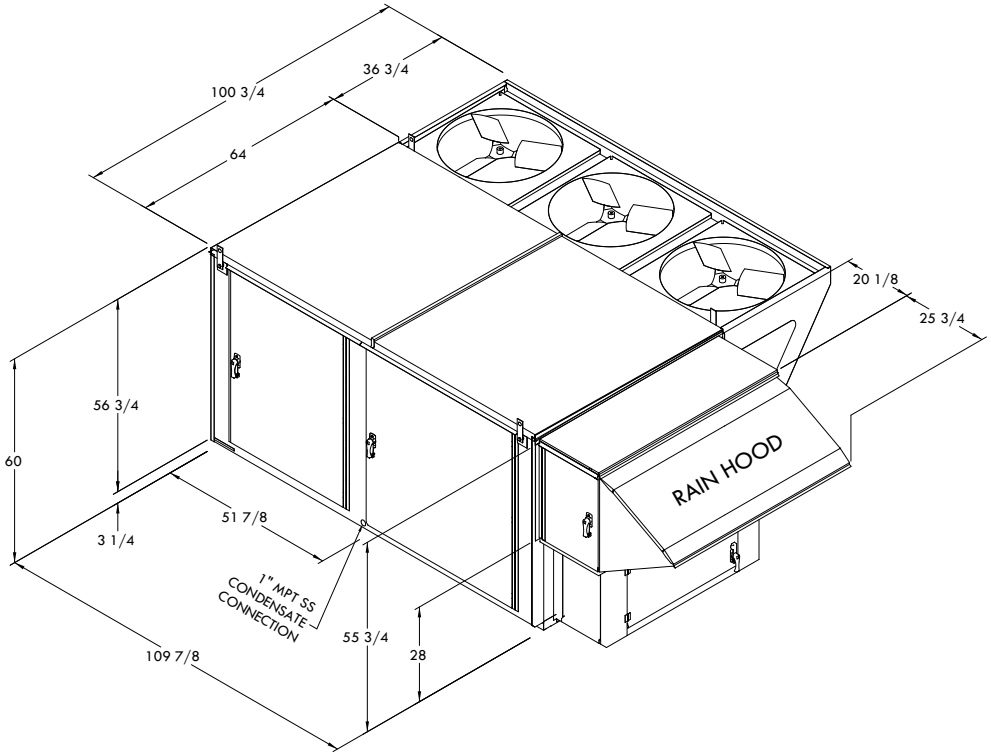
**Sound data is generated by a propriety acoustics model validated through unit testing in accordance with AHRI 260, utilizing tested fan sound data in accordance with AMCA 300.*

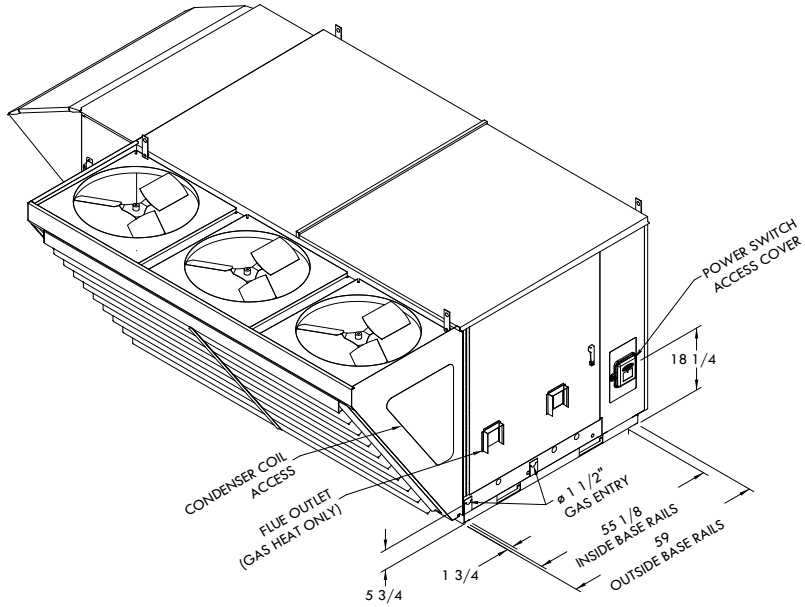
*****The minimum floor area for the Lower Flammability Limit (LFL) is calculated in accordance with UL60335-2-40 4th ed. (operating or storage). For UL60335-2-40 3rd ed. double the airflow and minimum floor area listed.***

Performance Data Table

Outside Air		Mixed Air		Leaving Air		Heat Pump Capacity	Heat Pump Integrated Capacity	Heat Wheel Heating Capacity	Heating COP
DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	MBH	MBH	MBH	W/W
62.0	56.2	71.1	60.3	104.9	71.3	368.2	368.2		2.80
57.0	51.6	69.6	59.1	101.1	69.6	343.7	343.7		2.71
52.0	47.1	68.1	58.0	97.3	68.0	319.4	319.4		2.60
47.0	42.6	66.6	56.9	93.8	66.5	297.9	297.9		2.51
42.0	38.0	65.1	55.9	90.3	65.0	276.9	276.9		2.41
37.0	33.5	63.6	54.9	83.6	62.4	256.7	220.5		2.03
32.0	28.8	63.0	54.3	81.7	61.5	235.5	205.8		1.95
27.0	24.3	63.0	54.1	80.3	60.7	214.8	190.5		1.86
22.0	19.7	63.0	53.8	78.9	60.0	195.0	175.2		1.76
17.0	15.0	63.0	53.6	77.6	59.3	176.4	160.5		1.66
12.0	10.4	63.0	53.5	76.3	58.7	159.3	146.1		1.56
7.0	5.7	63.0	53.4	75.0	58.1	143.3	131.9		1.46
2.0	0.1	63.0	53.1	73.7	57.4	127.9	117.6		1.36
0.0	0.0	63.0	53.4	73.4	57.5	124.5	114.6		1.34

*Invalid operation point - Compressor operating outside of operating envelope
**Electric preheat is used to maintain the entering air temperature when applicable.

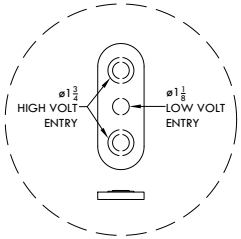




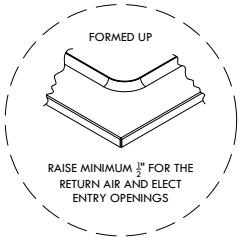
ALL DIMENSIONS IN INCHES

RN C-CABINET ALPHA CLASS HEAT PUMP
AIR COOLED WITH ECONOMIZER,
POWER EXHAUST, ELECTRIC PREHEAT

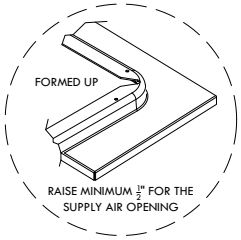
Job Name	Unit Tag	Drawing No.
Milhouse	RTU-1	RNC-00003P



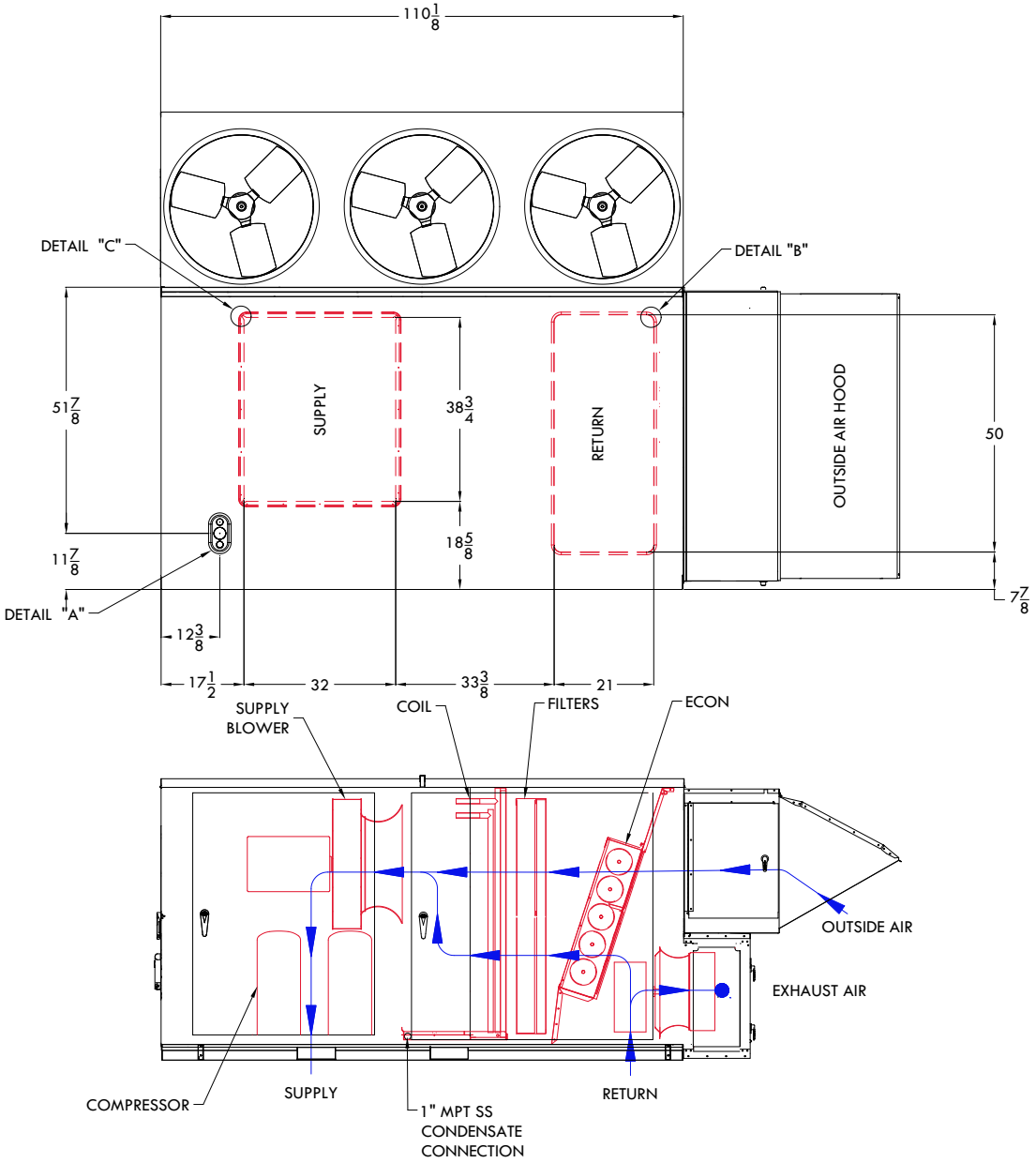
DETAIL A
UTILITY ENTRY



DETAIL B
RETURN AIR AND UTILITY
ENTRY OPENINGS



DETAIL C
SUPPLY AIR OPENING



ALL DIMENSIONS IN INCHES

RN C-CABINET ALPHA CLASS HEAT PUMP
AIR COOLED WITH ECONOMIZER,
POWER EXHAUST, ELECTRIC PREHEAT

Job Name	Unit Tag	Drawing No.
Milhouse	RTU-1	RNC-00003P

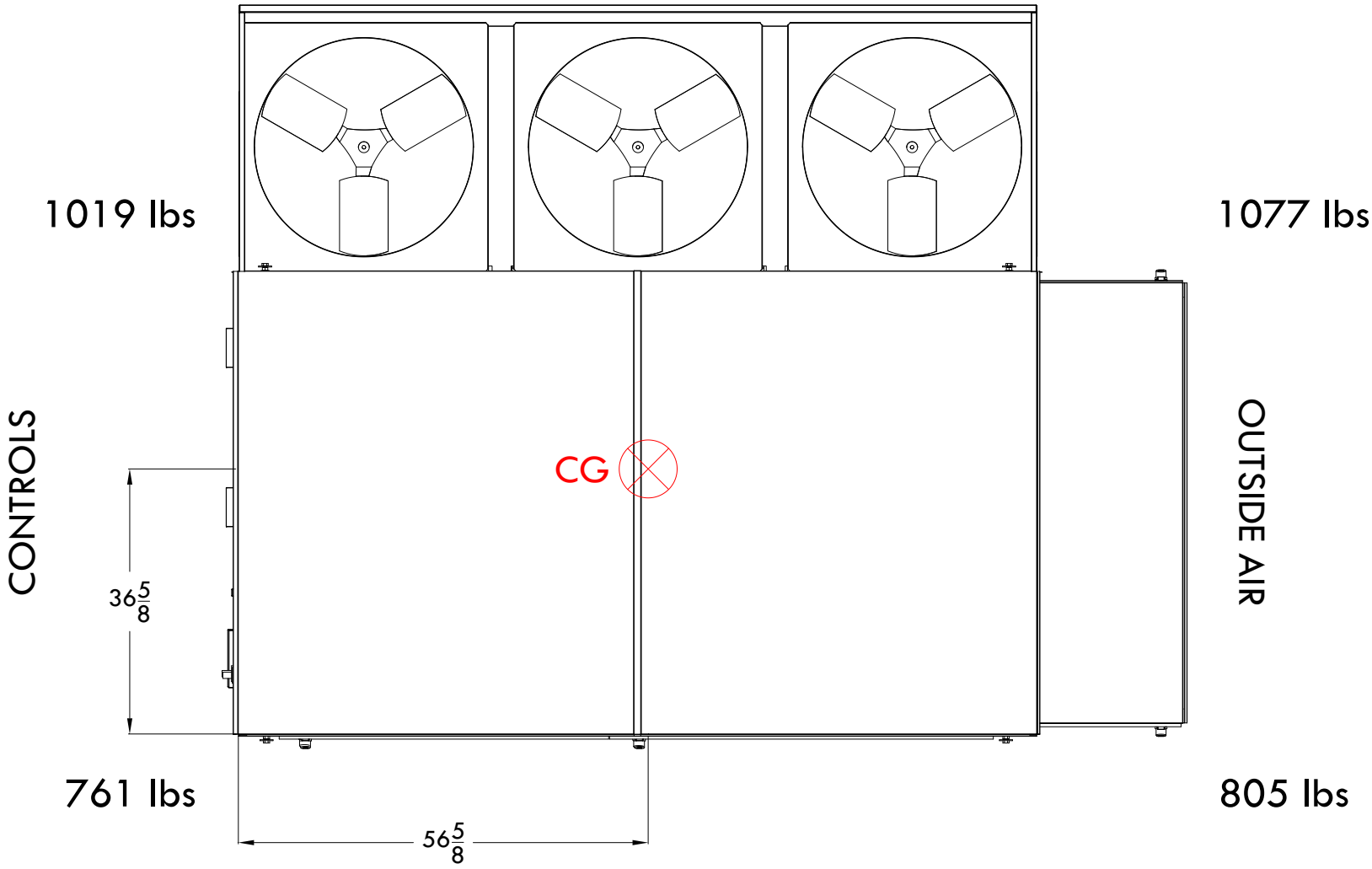
RNA-030-C-A-3-HJB0C-00000:00-0AGAM-G00-00000-ABLBL-DC-CB0E-00-00-B-BS0-00-DA0A-AD-000-A00000-E000AB-000000B

Shipping Weight: 3661 lbs ±5%

Operating Weight: 3661 lbs ±5%

Center of Gravity (X, Y): 56.6 in, 36.6 in

LEFT



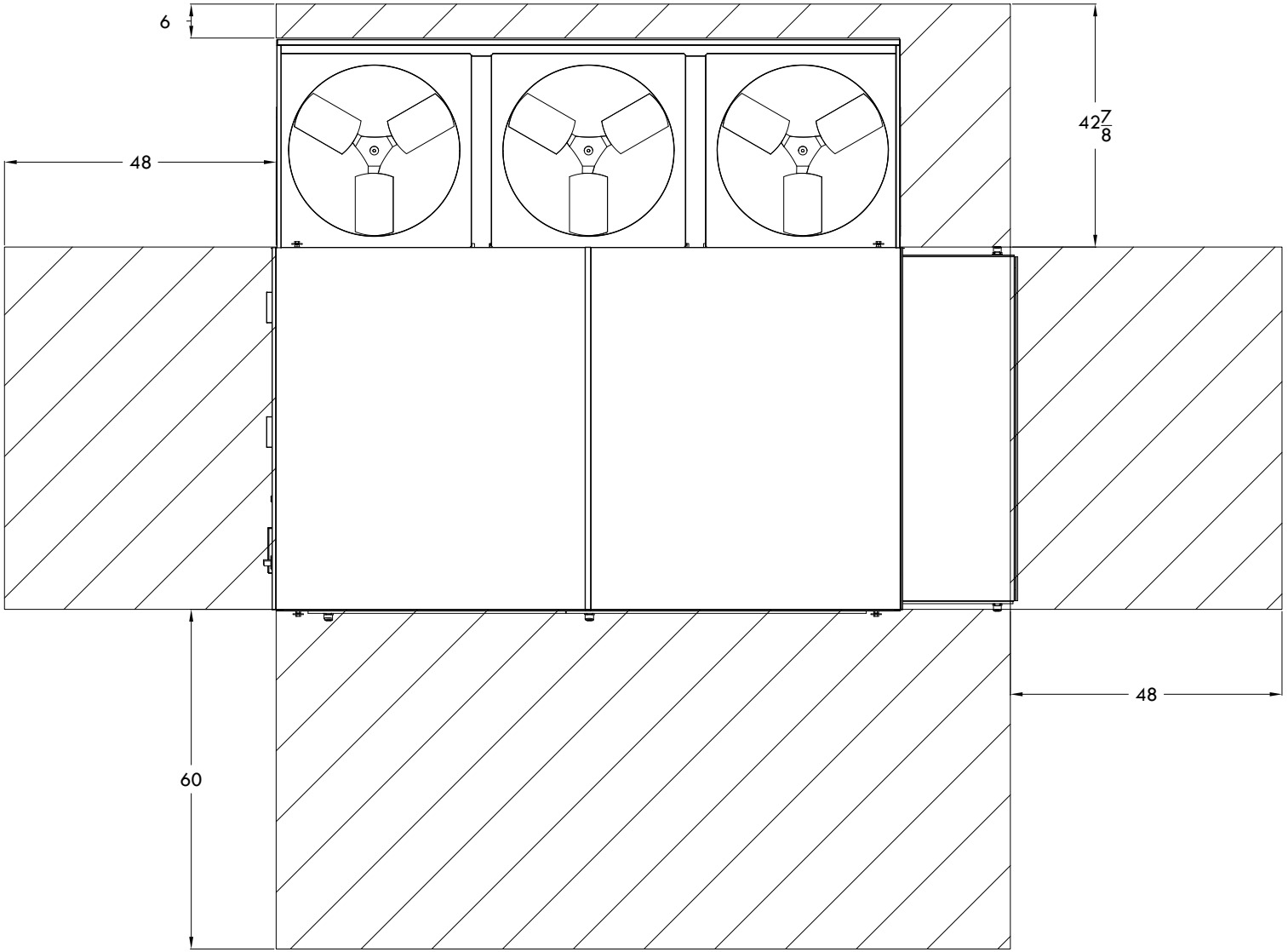
RIGHT

ALL DIMENSIONS IN INCHES

AAON

UNIT CORNER WEIGHTS AND CG

Job Name	Unit Tag	Drawing No.
Milhouse	RTU-1	RNC-00003P



ALL DIMENSIONS IN INCHES

UNIT CLEARANCES

Job Name	Unit Tag	Drawing No.
Milhouse	RTU-1	RNC-00003P

Unit Rating

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Price Version: 358

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	1	2	3A	3B	3C	3D	3E	4A	4B	4C	5A	5B	5C	5D	5E	6A	6B	6C	6D	6E	7	8	9A	9B	9C
R	N	A	-	0	3	0	-	C	-	A	-	3	-	H	J	B	0	C	-	0	0	0	0	0	:	0	0	-	0	A	G	A	M	-
Q	A	B	-	0	0	0	0	0	-	A	B	L	B	L	-	D	C	-	C	B	0													
E	-	0	0	-	0	0	-	B	-	B	S	0	-	0	0	-	D	A	0	A	-	A	D	-	0	0	0	-	A	0	0	0	0	0
E	0	0	0	A	B	-	0	0	0	0	0	B																						

9D	10A	10B	11A	11B	12	13A	13B	13C	14	15	16A	16B	16C	16D	17A	17B	18A	18B	18C	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37

Tag: RTU-2

Job Information

Job Name:	*Milhouse*
Job Number:	*Senior Center*
Site Altitude:	*0 ft*
Refrigerant:	*R-454B*
Design System Charge (oz):	*845 / 845*

Static Pressure

External:	*3.80 in. w.g.*
Cooling Coil:	*0.76 in. w.g.*
Filters Clean:	*0.70 in. w.g.*
Dirt Allowance:	*0.35 in. w.g.*

Cooling Section

	Gross	Net
Equivalent Total Capacity:	*355.4 MBH*	*304.5 MBH*
Total Capacity:	*318.8 MBH*	*267.9 MBH*
Sensible Capacity:	*263.3 MBH*	*212.3 MBH*
Latent Capacity:	*55.6 MBH*	
HW Total Cooling Capacity:	*36.6 MBH*	
Mixed Air Temp (DB/WB):	*79.2 °F / 65.0 °F*	
Entering Air Temp (DB/WB):	*79.2 °F / 65.0 °F*	
Lv Air Temp (Coil) (DB/WB):	*54.6 °F / 54.0 °F*	
Lv Air Temp (Unit) (DB/WB):	*59.1 °F / 55.9 °F*	

Supply Air Fan:	*1 x 270 @ 18.62 BHP Ea.*
SA Fan RPM / Width:	*1792 RPM / 6.130 in*
SA Fan FEI:	*0.88*
Exhaust Air Fan:	*1 x RM220A-RN @ 6.99 BHP Ea.*
EA Fan RPM / Width:	*1767 RPM / 4.930 in*
EA Fan FEI:	*0.64*
Evaporator Coil:	*18.9 ft² / 6 Rows / 12 FPI*
Evaporator Face Velocity:	*530.0 fpm*
Energy Recovery:	*1 x ERC-5262C*

Unit Information

Approx. Op./Ship Weights:	*4536 lbs / 4536 lbs (±5%)*
Ambient Temperature (DB/WB):	*95.0 °F / 75.0 °F*
Coil Filter FV / Qty:	*480.0 fpm / 6*
Min. Room Area/Height/Airflow**:	*792 ft² / 7 ft / 1430 SCFM*
Exhaust Airflow/ESP/TSP:	*8000 SCFM / 1.40 in. w.g. / 1.90 in. w.g.*
Supply Airflow/ESP:	*10000 SCFM / 3.80 in. w.g.*
Outside Airflow:	*3000 SCFM*
Return Temperature (DB/WB):	*75.0 °F / 62.0 °F*
Economizer:	*0.20 in. w.g.*
Preheat:	*0.02 in. w.g.*
Cabinet:	*0.34 in. w.g.*
Energy Recovery:	*0.52 in. w.g.*
Total:	*6.15 in. w.g.*

Heating Section

Preheat Type:	
Total Capacity:	*40.0 kW*
Capacity Used:	*35.1 kW*
OA Temp (DB/WB):	*0.0 °F / -1.0 °F*
Preheat Leaving Temp:	*35.0 °F / 24.4 °F*
Input:	*40.0 kW*
Electric Preheat FLA:	*48.1*
Max Discharge Temp (DB):	*80.0 °F*
Max Ambient Temp (DB):	*60.0 °F*
Integrated Heat Capacity:	*111.2 MBH*
Primary Heat Type:	*Heat Pump*
Total Capacity:	*120.9 MBH*
OA Temp (DB/WB):	*0.0 °F / -1.0 °F*
RA Temp (DB/WB):	*75.0 °F / 62.0 °F*
Entering Air Temp (DB/WB):	*66.4 °F / 55.8 °F*
Leaving Air Temp (DB/WB):	*76.6 °F / 59.7 °F*
Fan Temp Rise:	*4.5 Δ°F*
Auxiliary Heating Type:	*No Heat*

Rating Information

Listing Model	*RN-030-3-0-HBBC-V0-21-000-A*
Cooling Capacity:	*304 MBH*
Cooling EER:	*9.8 BTU/h·W*
Cooling IEER:	*15.3 BTU/h·W*

**Rated in accordance with AHRI Standard 340/360 (I-P)*

Application EER @ Op. Conditions:	***6.4 BTU/h·W***
Application COP @ Op. Conditions:	***1.53 W/W***
Application COPH @ Op. Conditions:	***3.3 W/W***

Heating High Temp Capacity:	*268.0 MBH*
Heating High Temp COP:	*3.3 W/W*
Heating Low Temp Capacity:	*158 MBH*
Heating Low Temp COP:	*2.13 W/W*

Electrical Data

Circuit 1

Rating:	*460V/3Ø/60Hz*	*Minimum Circuit Amp:*	*161*
Unit FLA:	*142*	*Maximum Overcurrent:*	*175*
SCCR:	*10 KAIC*		

	Qty	HP	VAC	Phase	RPM	FLA	RLA
Compressor 1:	*1*		*460*	*3*			*26.0*
Compressor 2:	*1*		*460*	*3*	*3500*		*21.2*
Condenser Fan:	*3*	*0.75*	*460*	*3*	*1080*	*1.8*	
Supply Fan:	*1*	*20.00*	*460*	*3*	*1760*	*27.0*	
Exhaust Fan:	*1*	*10.00*	*460*	*3*	*1760*	*14.0*	
Energy Recovery:	*1*	*0.17*	*460*	*1*	*1075*	*0.6*	

Cabinet Sound Power Levels*

Octave Bands:	63	125	250	500	1000	2000	4000	8000
Discharge LW (dB):	*96*	*94*	*95*	*98*	*94*	*92*	*92*	*88*
Return LW (dB):	*95*	*92*	*91*	*85*	*82*	*81*	*77*	*70*

**Sound data is generated by a propriety acoustics model validated through unit testing in accordance with AHRI 260, utilizing tested fan sound data in accordance with AMCA 300.*

*****The minimum floor area for the Lower Flammability Limit (LFL) is calculated in accordance with UL60335-2-40 4th ed. (operating or storage). For UL60335-2-40 3rd ed. double the airflow and minimum floor area listed.***

Performance Data Table

Outside Air		Mixed Air		Leaving Air		Heat Pump Capacity	Heat Pump Integrated Capacity	Heat Wheel Heating Capacity	Heating COP
DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	MBH	MBH	MBH	W/W
62.0	56.2	72.2	60.8	105.9	71.6	365.4	365.4	12.9	2.82
57.0	51.6	71.2	60.0	102.5	70.3	340.2	340.2	22.3	2.74
52.0	47.1	70.1	59.2	99.1	68.9	315.5	315.5	30.7	2.66
47.0	42.6	69.0	58.5	95.9	67.7	293.5	293.5	38.4	2.58
42.0	38.0	67.9	57.7	92.8	66.4	272.1	272.1	45.7	2.51
37.0	33.5	66.8	57.1	86.6	64.2	251.7	216.2	52.2	2.18
32.0	28.8	66.4	56.6	84.8	63.4	230.8	201.8	56.6	2.11
27.0	24.3	66.4	56.4	83.5	62.7	210.6	186.8	58.7	2.02
22.0	19.7	66.4	56.3	82.1	62.1	191.4	171.9	60.4	1.93
17.0	15.0	66.4	56.1	80.8	61.5	173.2	157.6	62.0	1.84
12.0	10.4	66.4	56.0	79.5	61.0	156.6	143.6	63.0	1.75
7.0	5.7	66.4	55.9	78.2	60.4	140.9	129.7	63.9	1.66
2.0	0.1	66.4	55.8	77.0	59.8	125.9	115.8	65.5	1.57
0.0	0.0	66.4	55.9	76.7	59.9	123.0	113.1	64.0	1.55

*Invalid operation point - Compressor operating outside of operating envelope
**Electric preheat is used to maintain the entering air temperature when applicable.

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266

Unit Rating

Ecat Price Version: 358

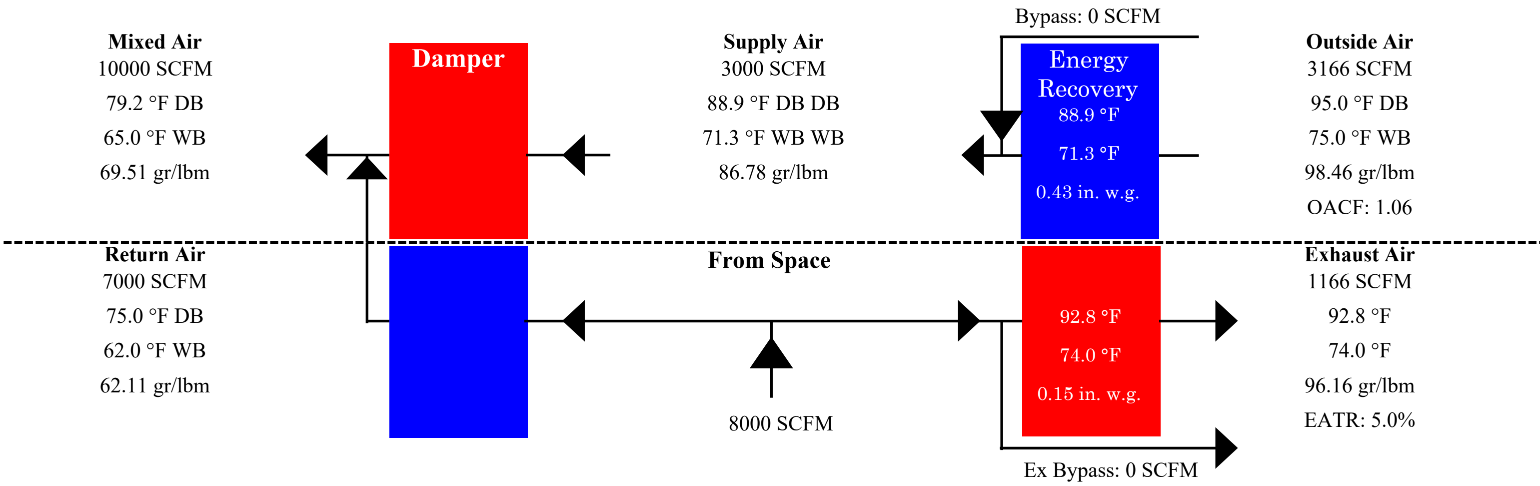
RNA-030-C-A-3-HJB0C-00000:00-0AGAM-QAB-00000-ABLBL-DC-CB0
E-00-00-B-BS0-00-DA0A-AD-000-A00000-E000AB-000000B

Tag: RTU-2

Job Name:	**Milhouse**	Energy Recovery Type:	**Total**
Job Number:	**Senior Center**	Energy Recovery Model:	**ERC-5262C**
Site Altitude:	**0 ft**	Energy Recovery Qty:	**1**
Net Supply Airflow Sum/Win:	**2851 SCFM / 2851 SCFM**	Energy Recovery Software Ver:	**1.1.0.0**
Purge Angle:	**0.0°**		

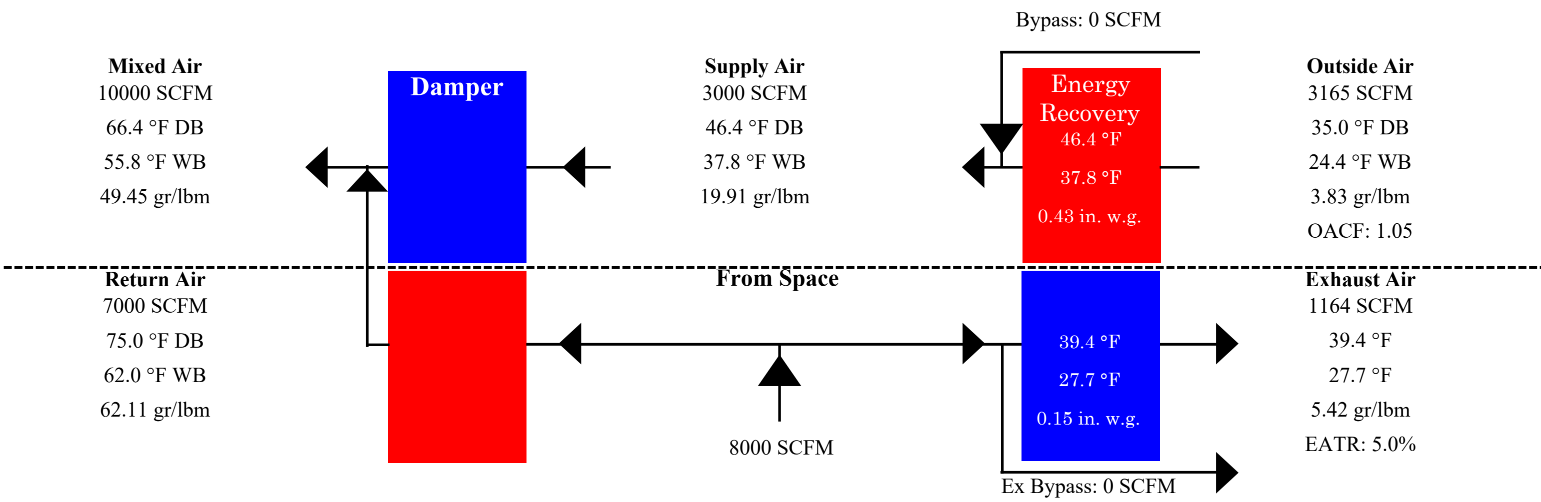
Application Rating is outside the scope of the AHRI ERV Certification Program but is rated in accordance with AHRI Standard 1060.

Summer Conditions

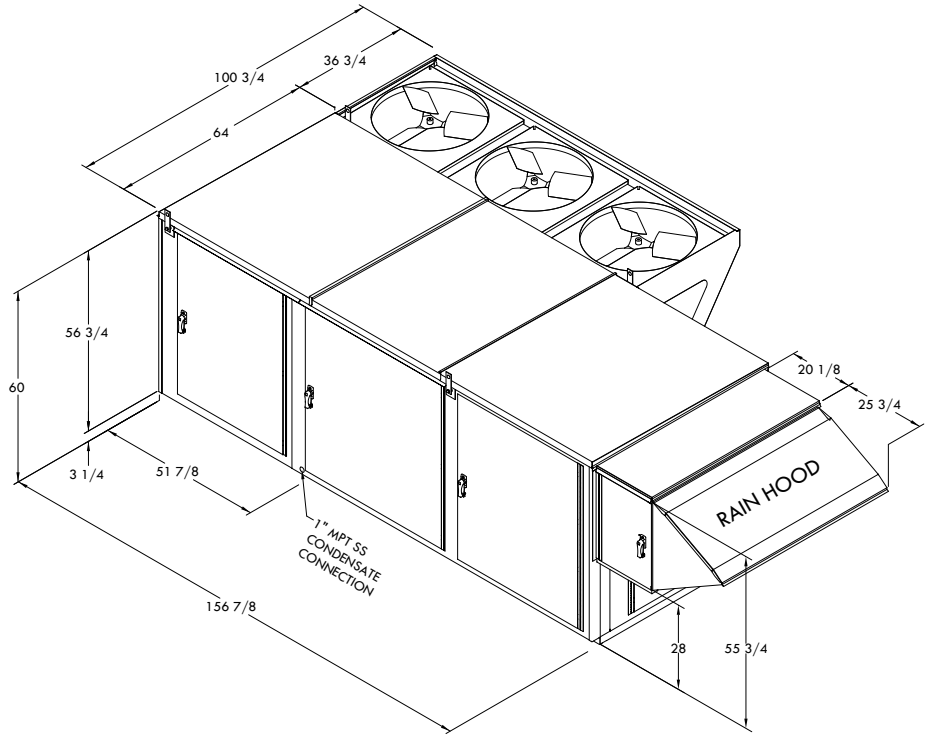


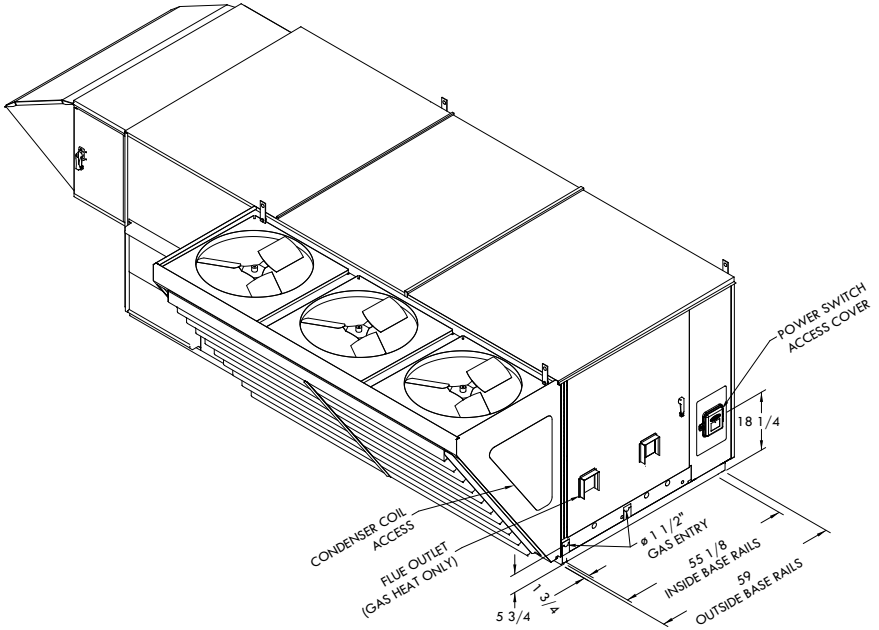
	Cooling/Dehumidification	Heating/Dehumidification	Effectiveness
Total Capacity:	36.6 MBH	0.0 MBH	81.8%
Sensible Capacity:	16.0 MBH	0.0 MBH	88.6%
Latent Capacity:	20.6 MBH	0.0 MBH	93.5%

Winter Conditions



	Cooling/Dehumidification	Heating/Dehumidification	Effectiveness
Total Capacity:	0.0 MBH	65.0 MBH	79.8%
Sensible Capacity:	0.0 MBH	32.0 MBH	88.5%
Latent Capacity:	0.0 MBH	32.9 MBH	94.0%

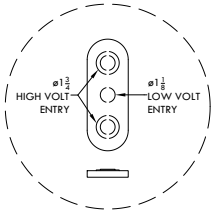




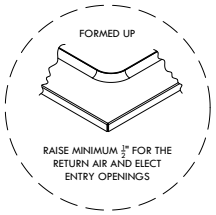
ALL DIMENSIONS IN INCHES

RN C-CABINET ALPHA CLASS HEAT PUMP
AIR COOLED WITH ECONOMIZER,
ENERGY RECOVERY SECTION, POWER EXHAUST, ELECTRIC PREHEAT

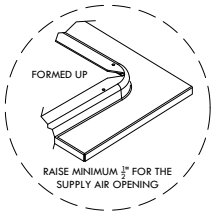
Job Name	Unit Tag	Drawing No.
Milhouse	RTU-2	RNC-00005P



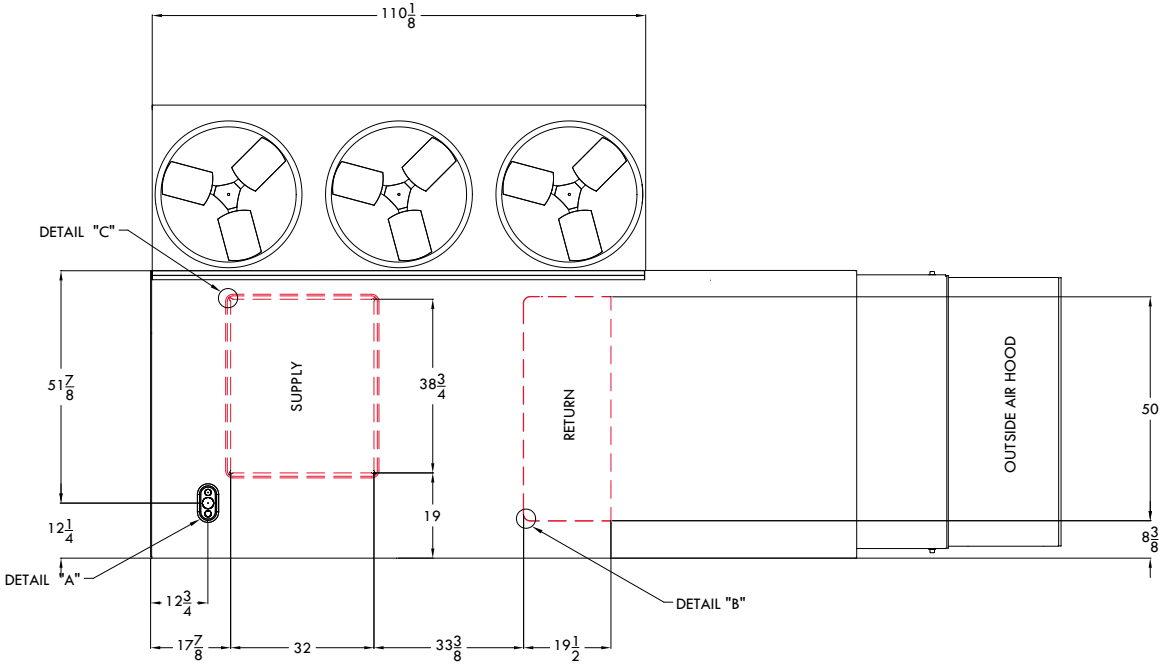
DETAIL A
UTILITY ENTRY

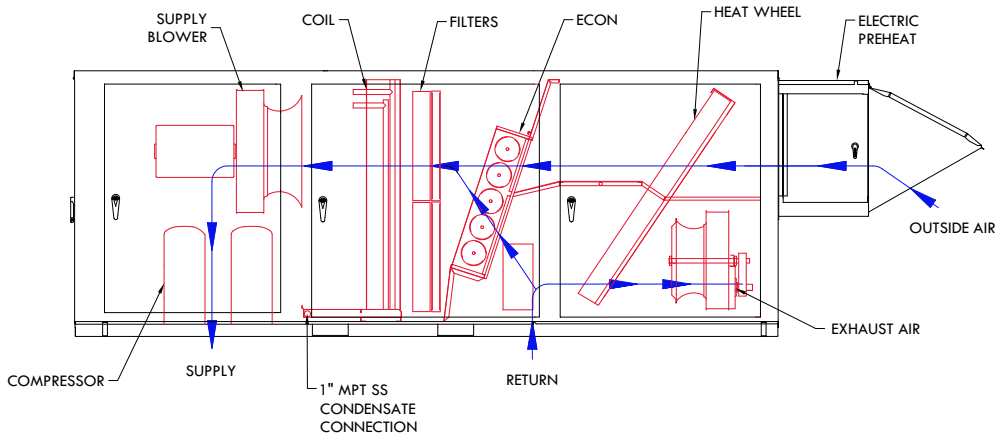


DETAIL B
RETURN AIR AND UTILITY
ENTRY OPENINGS



DETAIL C
SUPPLY AIR OPENING





ALL DIMENSIONS IN INCHES

AAON

RN C-CABINET ALPHA CLASS HEAT PUMP
AIR COOLED WITH ECONOMIZER,
ENERGY RECOVERY SECTION, POWER EXHAUST, ELECTRIC PREHEAT

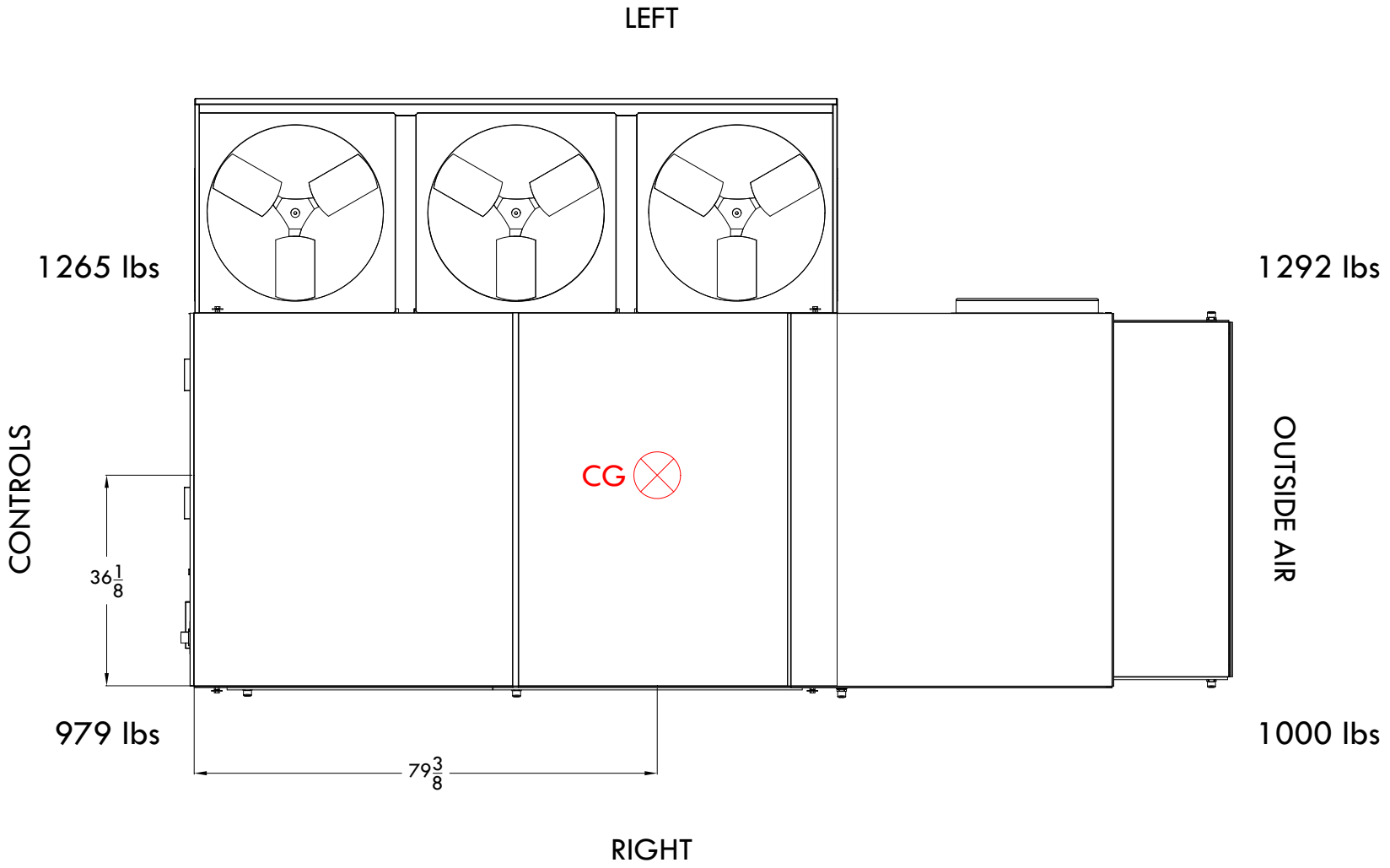
Job Name	Unit Tag	Drawing No.
Milhouse	RTU-2	RNC-00005P

RNA-030-C-A-3-HJB0C-00000:00-0AGAM-QAB-00000-ABLBL-DC-CB0E-00-00-B-BS0-00-DA0A-AD-000-A00000-E000AB-000000B

Shipping Weight: 4536 lbs ±5%

Operating Weight: 4536 lbs ±5%

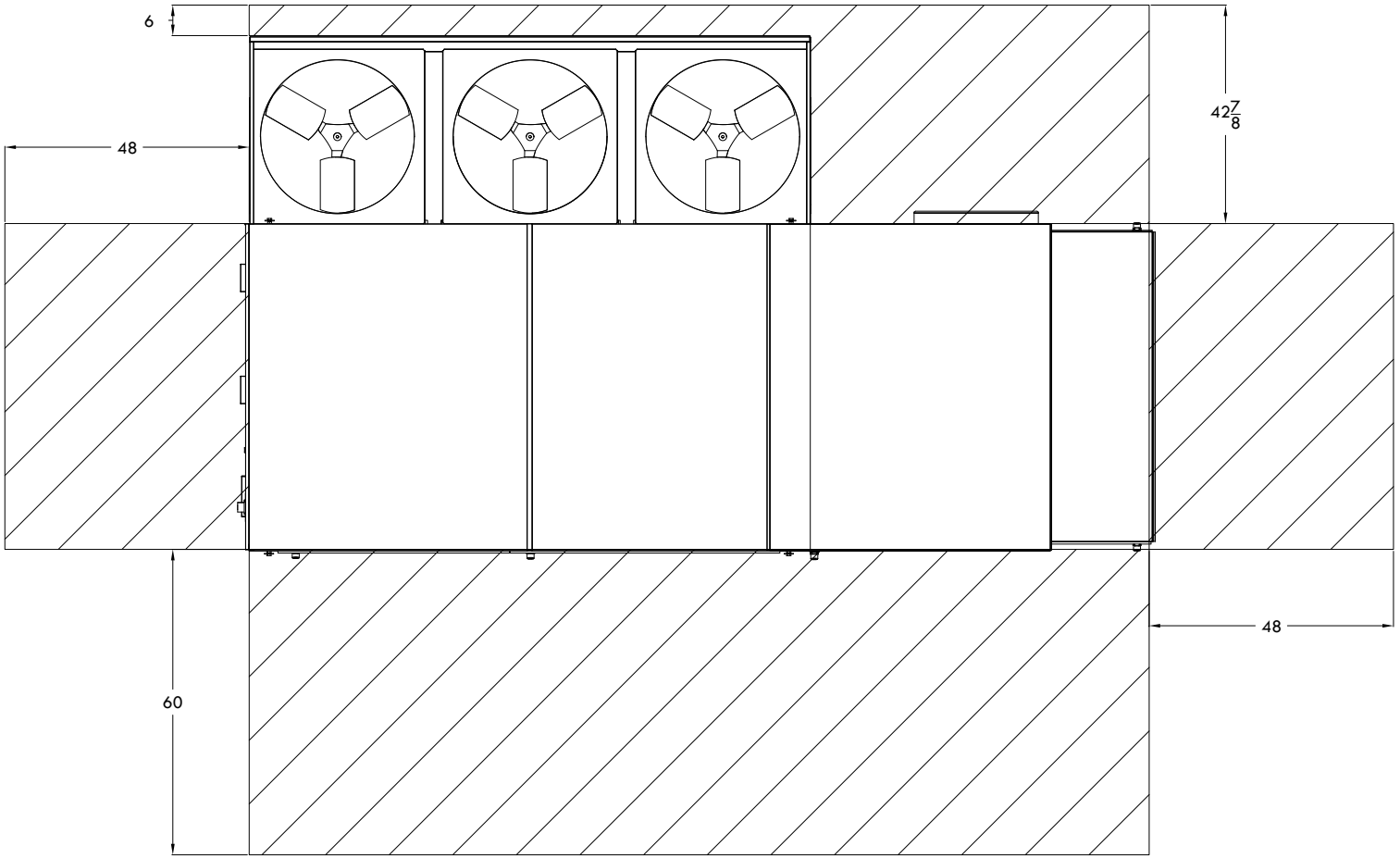
Center of Gravity (X, Y): 79.4 in, 36.1 in



ALL DIMENSIONS IN INCHES

UNIT CORNER WEIGHTS AND CG

Job Name	Unit Tag	Drawing No.
Milhouse	RTU-2	RNC-00005P



ALL DIMENSIONS IN INCHES

UNIT CLEARANCES

Job Name	Unit Tag	Drawing No.
Milhouse	RTU-2	RNC-00005P

Unit Rating

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Price Version: 358

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	1	2	3A	3B	3C	3D	3E	4A	4B	4C	5A	5B	5C	5D	5E	6A	6B	6C	6D	6E	7	8	9A	9B	9C
R	N	A	-	0	1	5	-	B	-	A	-	3	-	H	J	B	0	C	-	0	0	0	0	0	:	0	0	-	0	F	E	A	J	-

Q	A	B	-	0	0	0	0	0	-	A	B	J	B	H	-	D	C	-	C	B	0
E	-	0	0	-	E	0	-	B	-	B	L	0	-	0	0	-	D	A	0	A	-	A	B	-	0	0	0	-	A	0	0	0	0	0	-	E	0	0	0	A	B	-	0	0	0	0	0	0	B

9D	10A	10B	11A	11B	12	13A	13B	13C	14	15	16A	16B	16C	16D	17A	17B	18A	18B	18C	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37

Tag: RTU-3

Job Information

Job Name:	*Milhouse*
Job Number:	*Senior Center*
Site Altitude:	*0 ft*
Refrigerant:	*R-454B*
Design System Charge (oz):	*510 / 563*

Static Pressure

External:	*3.00 in. w.g.*
Cooling Coil:	*0.50 in. w.g.*
Filters Clean:	*0.43 in. w.g.*
Dirt Allowance:	*0.35 in. w.g.*
Reheat Coil:	*0.08 in. w.g.*

Cooling Section

	Gross	Net
Equivalent Total Capacity:	*204.5 MBH*	*184.2 MBH*
Total Capacity:	*173.1 MBH*	*152.8 MBH*
Sensible Capacity:	*152.2 MBH*	*131.9 MBH*
Latent Capacity:	*20.9 MBH*	
HW Total Cooling Capacity:	*31.4 MBH*	
Mixed Air Temp (DB/WB):	*78.6 °F / 64.6 °F*	
Entering Air Temp (DB/WB):	*78.6 °F / 64.6 °F*	
Lv Air Temp (Coil) (DB/WB):	*55.0 °F / 54.8 °F*	
Lv Air Temp (Unit) (DB/WB):	*58.0 °F / 56.0 °F*	

Supply Air Fan:	*1 x 220D70 @ 7.26 BHP Ea.*
SA Fan RPM / Width:	*2182 RPM / 3.450 in*
SA Fan FEI:	*1.15*
Exhaust Air Fan:	*1 x RM185-RN @ 2.29 BHP Ea.*
EA Fan RPM / Width:	*1623 RPM / 6.290 in*
EA Fan FEI:	*1.14*
Evaporator Coil:	*14.9 ft² / 6 Rows / 14 FPI*
Evaporator Face Velocity:	*401.9 fpm*
Energy Recovery:	*1 x ERC-3628C*

Unit Information

Approx. Op./Ship Weights:	*2791 lbs / 2791 lbs (±5%)*
Ambient Temperature (DB/WB):	*95.0 °F / 75.0 °F*
Coil Filter FV / Qty:	*432.0 fpm / 4*
Min. Room Area/Height/Airflow**:	*528 ft² / 7 ft / 953 SCFM*
Exhaust Airflow/ESP/TSP:	*5000 SCFM / 1.00 in. w.g. / 1.67 in. w.g.*
Supply Airflow/ESP:	*6000 SCFM / 3.00 in. w.g.*
Outside Airflow:	*1800 SCFM*
Return Temperature (DB/WB):	*75.0 °F / 62.0 °F*
Economizer:	*0.32 in. w.g.*
Preheat:	*0.02 in. w.g.*
Cabinet:	*0.34 in. w.g.*
Energy Recovery:	*0.65 in. w.g.*
Total:	*5.02 in. w.g.*

Heating Section

Preheat Type:	
Total Capacity:	*20.0 kW*
Capacity Used:	*20.0 kW*
OA Temp (DB/WB):	*0.0 °F / -1.0 °F*
Preheat Leaving Temp:	*32.1 °F / 22.5 °F*
Input:	*20.0 kW*
Electric Preheat FLA:	*24.1*
Max Discharge Temp (DB):	*80.0 °F*
Max Ambient Temp (DB):	*60.0 °F*
Integrated Heat Capacity:	*61.7 MBH*
Primary Heat Type:	*Heat Pump*
Total Capacity:	*67.1 MBH*
OA Temp (DB/WB):	*0.0 °F / -1.0 °F*
RA Temp (DB/WB):	*75.0 °F / 62.0 °F*
Entering Air Temp (DB/WB):	*66.9 °F / 56.4 °F*
Leaving Air Temp (DB/WB):	*76.3 °F / 59.9 °F*
Fan Temp Rise:	*3.0 Δ°F*
Auxiliary Heating Type:	*No Heat*

Re-heat Coil:

Capacity:	*99.9 MBH*
Leaving Air Temp (DB/WB):	*70.5 °F / 60.7 °F*
Relative Humidity:	*57.1%*

Rating Information

Listing Model	*RN-015-3-0-HBBC-V0-21-000-A*
Cooling Capacity:	*160.0 MBH*
Cooling EER:	*10.7 BTU/h·W*
Cooling IEER:	*17.84 BTU/h·W*

**Rated in accordance with AHRI Standard 340/360 (I-P)*

Application EER @ Op. Conditions:	***8.7 BTU/h·W***
Application COP @ Op. Conditions:	***1.90 W/W***
Application COPH @ Op. Conditions:	***3.59 W/W***

Heating High Temp Capacity:	*142.0 MBH*
Heating High Temp COP:	*3.59 W/W*
Heating Low Temp Capacity:	*83.0 MBH*
Heating Low Temp COP:	*2.231 W/W*

Electrical Data

Circuit 1

Rating:	*460V/3Ø/60Hz*	*Minimum Circuit Amp:*	*78*
Unit FLA:	*68*	*Maximum Overcurrent:*	*80*
SCCR:	*10 KAIC*		

	Qty	HP	VAC	Phase	RPM	FLA	RLA
Compressor 1:	*1*		*460*	*3*			*14.5*
Compressor 2:	*1*		*460*	*3*			*9.5*
Condenser Fan:	*2*	*0.75*	*460*	*3*	*1080*	*1.8*	
Supply Fan:	*1*	*7.50*	*460*	*3*	*1760*	*11.0*	
Exhaust Fan:	*1*	*3.00*	*460*	*3*	*1760*	*4.8*	
Energy Recovery:	*1*	*0.08*	*460*	*1*	*825*	*0.4*	

Cabinet Sound Power Levels*

Octave Bands:	63	125	250	500	1000	2000	4000	8000
Discharge LW (dB):	*97*	*97*	*99*	*96*	*88*	*84*	*81*	*77*
Return LW (dB):	*90*	*89*	*88*	*83*	*79*	*74*	*71*	*66*

**Sound data is generated by a propriety acoustics model validated through unit testing in accordance with AHRI 260, utilizing tested fan sound data in accordance with AMCA 300.*

*****The minimum floor area for the Lower Flammability Limit (LFL) is calculated in accordance with UL60335-2-40 4th ed. (operating or storage). For UL60335-2-40 3rd ed. double the airflow and minimum floor area listed.***

Performance Data Table

Outside Air		Mixed Air		Leaving Air		Heat Pump Capacity	Heat Pump Integrated Capacity	Heat Wheel Heating Capacity	Heating COP
DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	MBH	MBH	MBH	W/W
62.0	56.2	72.6	61.0	104.5	71.3	208.0	208.0	11.3	3.44
57.0	51.6	71.7	60.2	101.2	69.9	192.5	192.5	19.4	3.33
52.0	47.1	70.7	59.5	98.0	68.7	178.2	178.2	26.6	3.23
47.0	42.6	69.8	58.9	94.9	67.5	164.5	164.5	33.3	3.13
42.0	38.0	68.8	58.3	92.0	66.3	151.8	151.8	39.6	3.04
37.0	33.5	67.8	57.7	86.2	64.3	140.1	120.4	45.3	2.64
32.0	28.8	67.5	57.3	84.5	63.5	128.3	112.1	49.0	2.56
27.0	24.3	67.5	57.1	83.2	62.9	116.6	103.4	50.8	2.44
22.0	19.7	67.5	57.0	81.9	62.3	105.7	94.9	52.3	2.33
17.0	15.0	67.5	56.8	80.7	61.8	95.4	86.9	53.5	2.21
12.0	10.4	67.5	56.8	79.5	61.2	86.2	79.1	54.4	2.10
7.0	5.7	67.5	56.7	78.3	60.8	77.6	71.4	55.2	1.99
2.0	0.1	67.5	56.5	77.2	60.2	69.5	64.0	56.5	1.89
0.0	0.0	67.5	56.7	77.0	60.3	67.9	62.5	55.3	1.86

*Invalid operation point - Compressor operating outside of operating envelope
**Electric preheat is used to maintain the entering air temperature when applicable.

Unit Rating

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Price Version: 358

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	1	2	3A	3B	3C	3D	3E	4A	4B	4C	5A	5B	5C	5D	5E	6A	6B	6C	6D	6E	7	8	9A	9B	9C
R	N	A	-	0	1	5	-	B	-	A	-	3	-	H	J	B	0	C	-	0	0	0	0	0	:	0	0	-	0	F	E	A	J	-
Q	A	B	-	0	0	0	0	0	-	A	B	J	B	H	-	D	C	-	C	B	0													
E	-	0	0	-	E	0	-	B	-	B	L	0	-	0	0	-	D	A	0	A	-	A	B	-	0	0	0	-	A	0	0	0	0	-
E	0	0	A	B	-	0	0	0	0	0	0	B																						

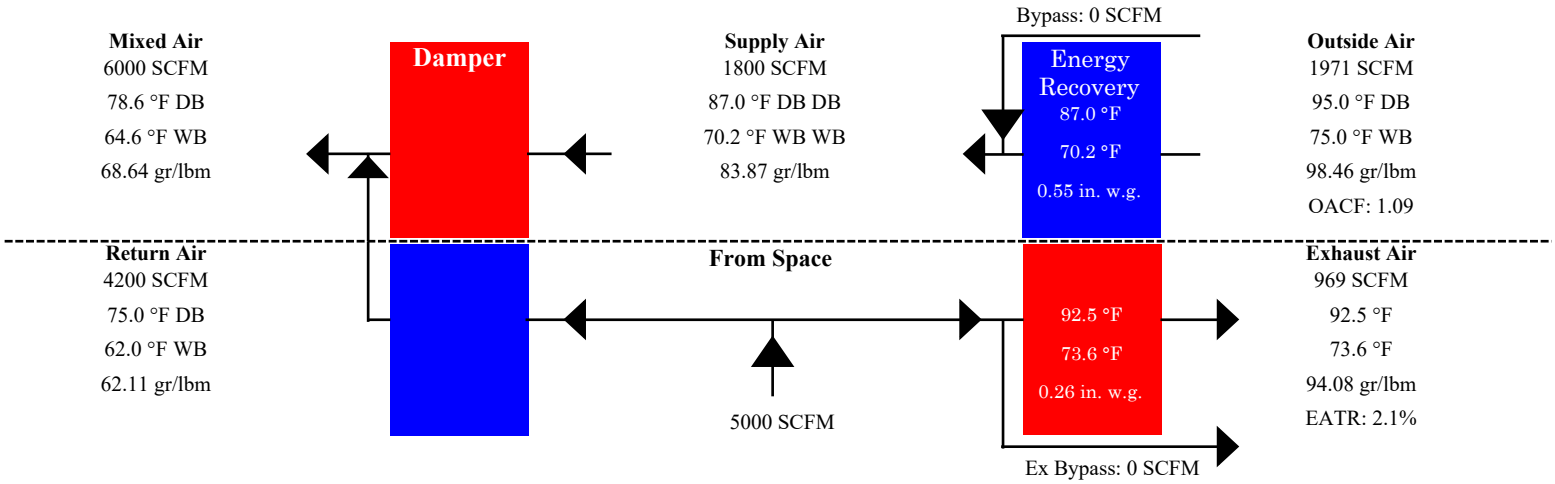
9 D	10A	10B	11A	11B	12	13A	13B	13C	14	15	16A	16B	16C	16D	17A	17B	18A	18B	18C	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37

Tag: RTU-3

Job Name:	**Milhouse**	Energy Recovery Type:	**Total**
Job Number:	**Senior Center**	Energy Recovery Model:	**ERC-3628C**
Site Altitude:	**0 ft**	Energy Recovery Qty:	**1**
Net Supply Airflow Sum/Win:	**1763 SCFM / 1763 SCFM**	Energy Recovery Software Ver:	**1.1.0.0**
Purge Angle:	**0.0°**		

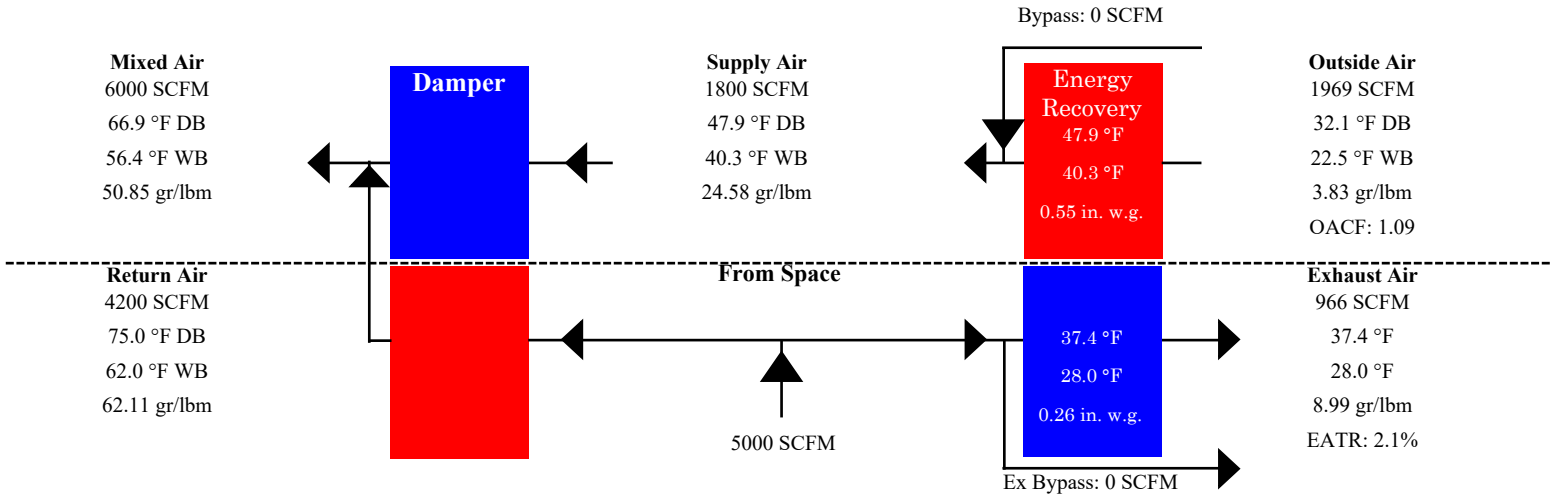
Application Rating is outside the scope of the AHRI ERV Certification Program but is rated in accordance with AHRI Standard 1060.

Summer Conditions

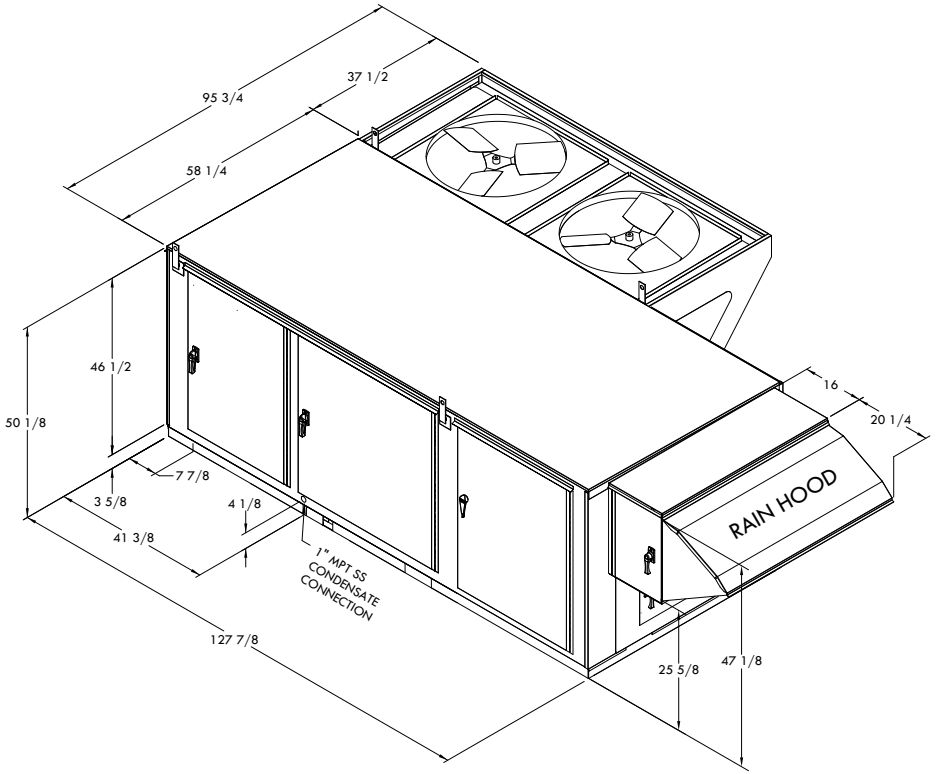


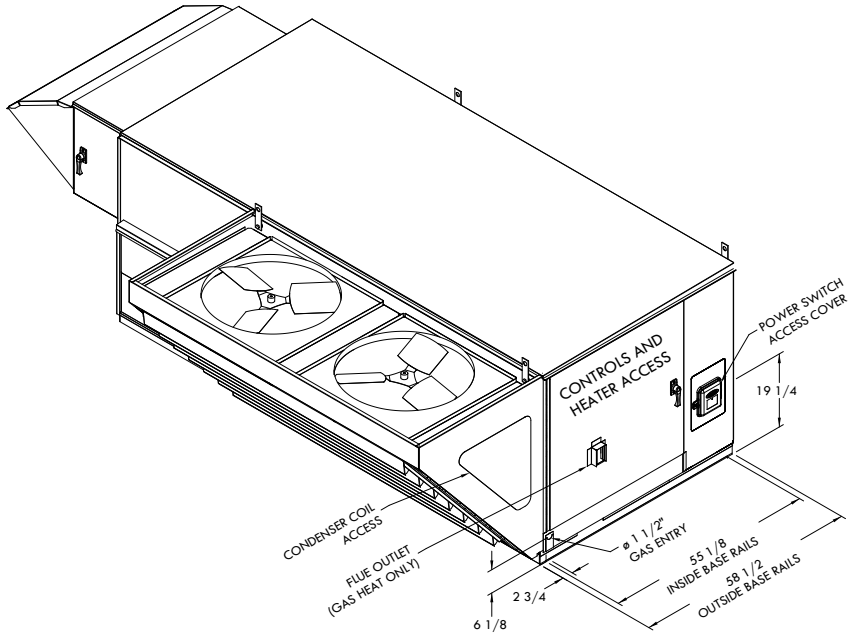
	Cooling/Dehumidification	Heating/Dehumidification	Effectiveness
Total Capacity:	31.4 MBH	0.0 MBH	85.4%
Sensible Capacity:	14.1 MBH	0.0 MBH	87.1%
Latent Capacity:	17.3 MBH	0.0 MBH	87.7%

Winter Conditions



	Cooling/Dehumidification	Heating/Dehumidification	Effectiveness
Total Capacity:	0.0 MBH	58.0 MBH	84.6%
Sensible Capacity:	0.0 MBH	30.4 MBH	87.2%
Latent Capacity:	0.0 MBH	27.6 MBH	88.3%

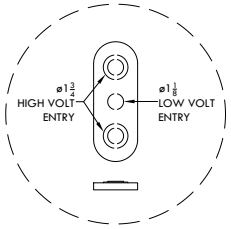




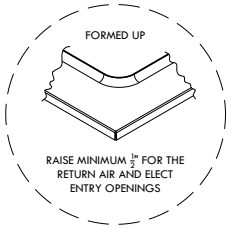
ALL DIMENSIONS IN INCHES

RN B-CABINET ALPHA CLASS HEAT PUMP
AIR COOLED WITH ECONOMIZER,
ENERGY RECOVERY SECTION, POWER EXHAUST, ELECTRIC PREHEAT

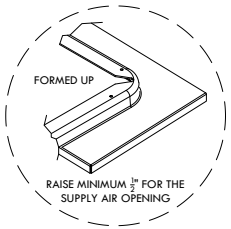
Job Name	Unit Tag	Drawing No.
Milhouse	RTU-3	RNB-00004P



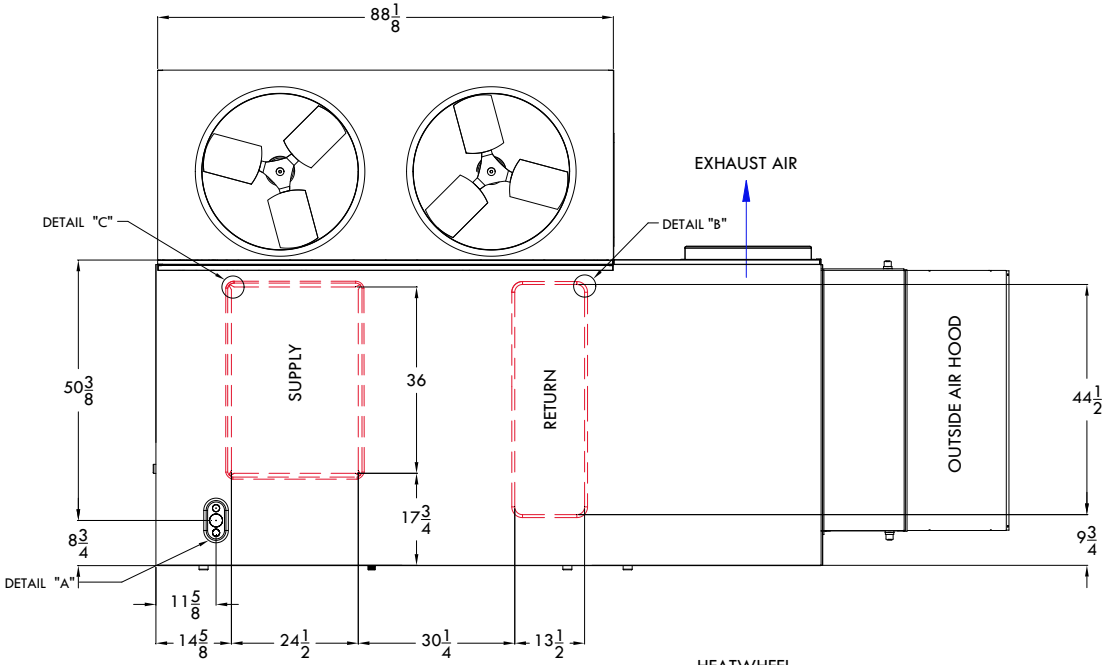
DETAIL A
UTILITY ENTRY

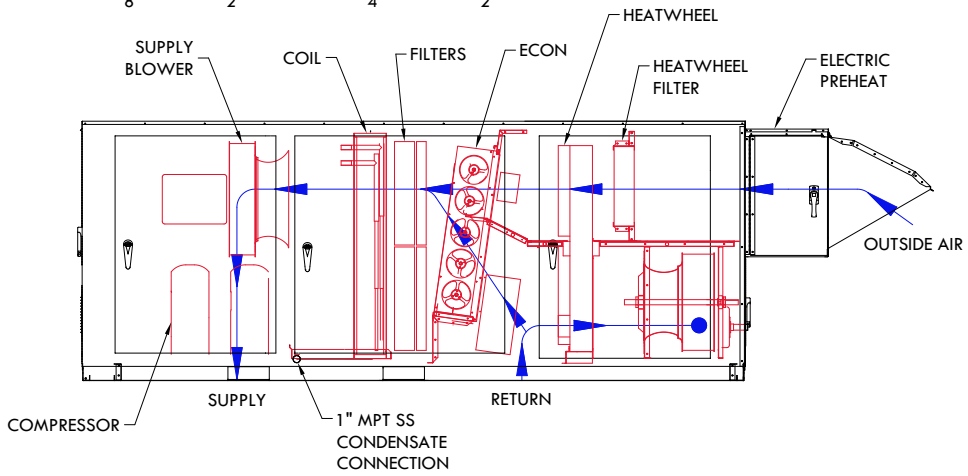


DETAIL B
RETURN AIR AND UTILITY
ENTRY OPENINGS



DETAIL C
SUPPLY AIR OPENING





ALL DIMENSIONS IN INCHES

AAON

RN B-CABINET ALPHA CLASS HEAT PUMP
AIR COOLED WITH ECONOMIZER,
ENERGY RECOVERY SECTION, POWER EXHAUST, ELECTRIC PREHEAT

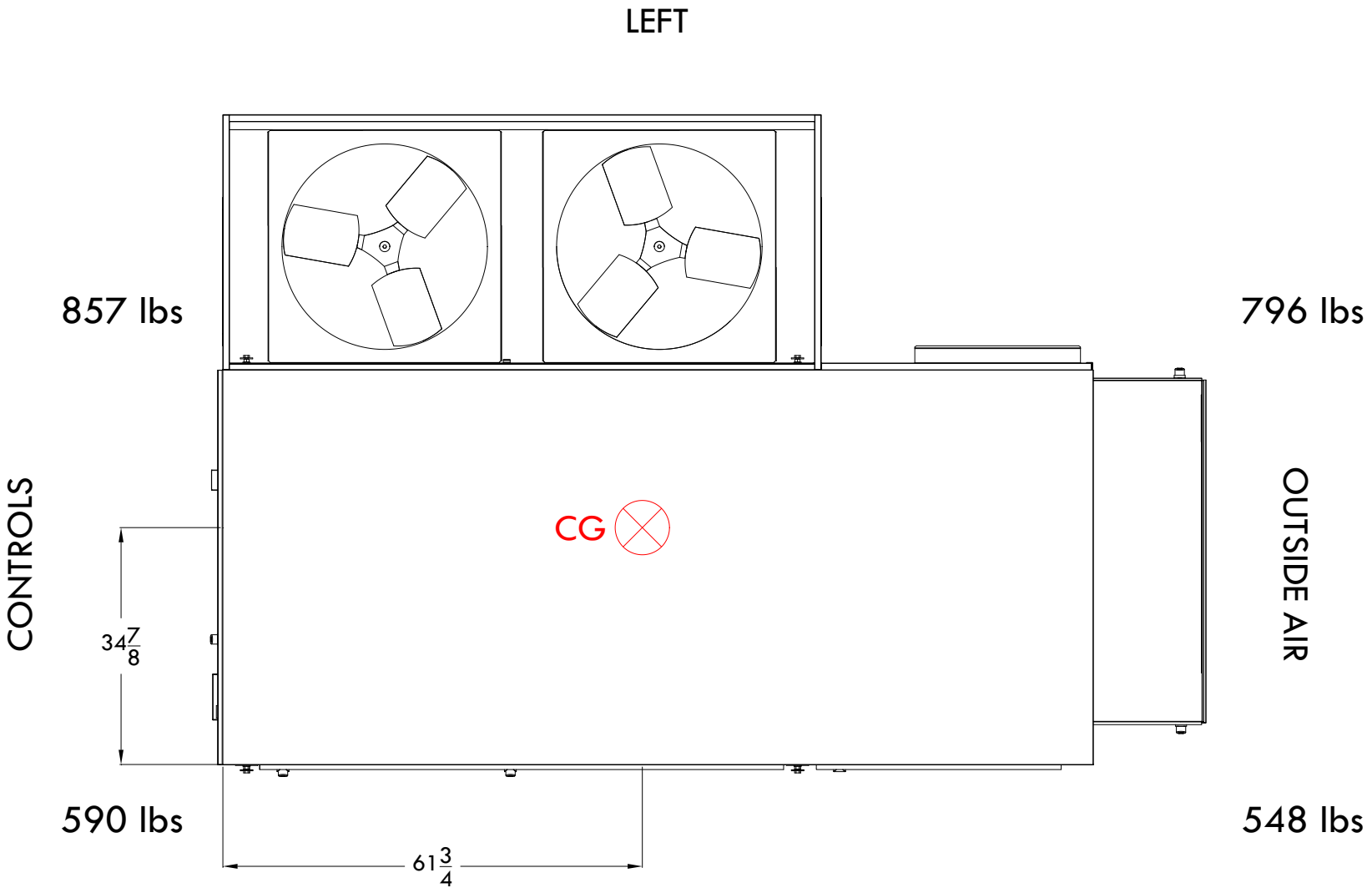
Job Name	Unit Tag	Drawing No.
Milhouse	RTU-3	RNB-00004P

RNA-015-B-A-3-HJB0C-00000:00-0FEAJ-QAB-00000-ABJBH-DC-CB0E-00-E0-B-BL0-00-DA0A-AB-000-A00000-E000AB-000000B

Shipping Weight: 2791 lbs ±5%

Operating Weight: 2791 lbs ±5%

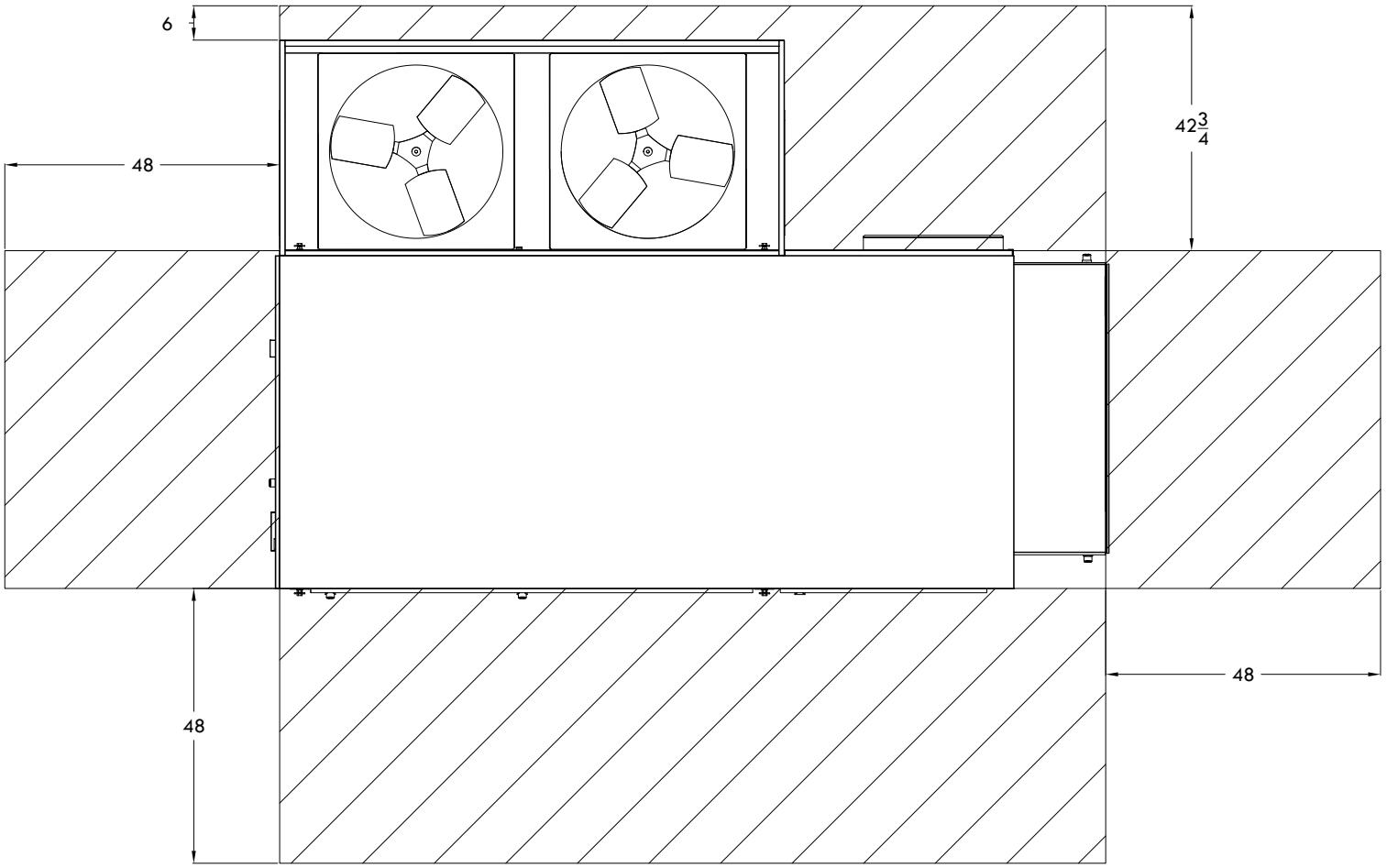
Center of Gravity (X, Y): 61.8 in, 34.9 in



ALL DIMENSIONS IN INCHES

UNIT CORNER WEIGHTS AND CG

Job Name	Unit Tag	Drawing No.
Milhouse	RTU-3	RNB-00004P



ALL DIMENSIONS IN INCHES

UNIT CLEARANCES

Job Name	Unit Tag	Drawing No.
Milhouse	RTU-3	RNB-00004P

Unit Rating

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Price Version: 358

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	1	2	3A	3B	3C	3D	3E	4A	4B	4C	5A	5B	5C	5D	5E	6A	6B	6C	6D	6E	7	8	9A	9B	9C
R	N	A	-	0	6	0	-	D	-	B	-	3	-	G	J	B	0	B	-	0	0	0	0	0	:	0	0	-	A	A	G	A	M	-	Q	A	B	-	0	0	0	0	0	-	B	B	N	B	L	-	D	C	-	U	B	0
E	-	0	0	-	0	0	-	B	-	B	T	0	-	0	0	-	D	A	0	A	-	0	0	-	0	0	0	-	A	0	0	0	0	0	-	E	0	0	0	A	B	-	0	0	0	0	0	0	B												

9D	10A	10B	11A	11B	12	13A	13B	13C	14	15	16A	16B	16C	16D	17A	17B	18A	18B	18C	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37

Tag: RTU-4

Job Information

Job Name:	*Milhouse*
Job Number:	*Senior Center*
Site Altitude:	*0 ft*
Refrigerant:	*R-454B*
Design System Charge (oz):	*1109 / 1109 / 1109 / 1109*

Static Pressure

External:	*4.40 in. w.g.*
Cooling Coil:	*0.52 in. w.g.*
Filters Clean:	*0.56 in. w.g.*
Dirt Allowance:	*0.35 in. w.g.*

Cooling Section

	Gross	Net
Equivalent Total Capacity:	*765.3 MBH*	*662.8 MBH*
Total Capacity:	*653.3 MBH*	*550.9 MBH*
Sensible Capacity:	*539.8 MBH*	*437.3 MBH*
Latent Capacity:	*113.6 MBH*	
HW Total Cooling Capacity:	*112.0 MBH*	
Mixed Air Temp (DB/WB):	*78.3 °F / 64.4 °F*	
Entering Air Temp (DB/WB):	*78.3 °F / 64.4 °F*	
Lv Air Temp (Coil) (DB/WB):	*53.1 °F / 53.0 °F*	
Lv Air Temp (Unit) (DB/WB):	*57.7 °F / 54.9 °F*	

Supply Air Fan:	*2 x 270D @ 18.73 BHP Ea.*
SA Fan RPM / Width:	*1796 RPM / 6.130 in*
SA Fan FEI:	*0.85*
Exhaust Air Fan:	*2 x RM270-RN @ 5.72 BHP Ea.*
EA Fan RPM / Width:	*1206 RPM / 6.130 in*
EA Fan FEI:	*1.00*
Evaporator Coil:	*43.8 ft² / 6 Rows / 12 FPI*
Evaporator Face Velocity:	*457.1 fpm*
Energy Recovery:	*2 x ERC-5262C*

Unit Information

Approx. Op./Ship Weights:	*9230 lbs / 9230 lbs (±5%)*
Ambient Temperature (DB/WB):	*95.0 °F / 75.0 °F*
Coil Filter FV / Qty:	*416.7 fpm / 24*
Min. Room Area/Height/Airflow**:	*1040 ft² / 7 ft / 1876 SCFM*
Exhaust Airflow/ESP/TSP:	*17000 SCFM / 1.50 in. w.g. / 2.48 in. w.g.*
Supply Airflow/ESP:	*20000 SCFM / 4.40 in. w.g.*
Outside Airflow:	*6000 SCFM*
Return Temperature (DB/WB):	*75.0 °F / 62.0 °F*
Economizer:	*0.20 in. w.g.*
Cabinet:	*0.16 in. w.g.*
Energy Recovery:	*0.51 in. w.g.*
Total:	*6.18 in. w.g.*

Heating Section

Preheat Type:	*Std (No Preheat)*
Integrated Heat Capacity:	*306.0 MBH*
Primary Heat Type:	*Heat Pump*
Total Capacity:	*332.6 MBH*
OA Temp (DB/WB):	*6.0 °F / 5.0 °F*
RA Temp (DB/WB):	*75.0 °F / 62.0 °F*
Entering Air Temp (DB/WB):	*62.8 °F / 55.1 °F*
Leaving Air Temp (DB/WB):	*76.7 °F / 60.4 °F*
Fan Temp Rise:	*4.6 Δ°F*
Auxiliary Heating Type:	*No Heat*

Rating Information

Listing Model	*RN-060-3-0-GBBC-V0-21-000-B*
Cooling Capacity:	*599 MBH*
Cooling EER:	*9.7 BTU/h·W*
Cooling IEER:	*12.6 BTU/h·W*

**Rated in accordance with AHRI Standard 340/360 (I-P)*

Application EER @ Op. Conditions:	***7.1 BTU/h·W***
Application COP @ Op. Conditions:	***2.29 W/W***
Application COPH @ Op. Conditions:	***3.3 W/W***

Heating High Temp Capacity:	*634 MBH*
Heating High Temp COP:	*3.3 W/W*
Heating Low Temp Capacity:	*654 MBH*
Heating Low Temp COP:	*2.9 W/W*

Electrical Data

Circuit 1

Rating:	*460V/3Ø/60Hz*	*Minimum Circuit Amp:*	*183*
Unit FLA:	*176*	*Maximum Overcurrent:*	*200*
SCCR:	*10 KAIC*		

	Qty	HP	VAC	Phase	RPM	FLA	RLA
Compressor 1:	2		460	3	3500		19.9
Compressor 2:	2		460	3	3500		21.2
Condenser Fan:	6	0.75	460	3	1080	1.8	
Supply Fan:	2	20.00	460	3	1760	27.0	
Exhaust Fan:	2	10.00	460	3	1760	14.0	
Energy Recovery:	2	0.17	460	1	1075	0.6	

Cabinet Sound Power Levels*

Octave Bands:	63	125	250	500	1000	2000	4000	8000
Discharge LW (dB):	99	97	97	102	98	96	96	92
Return LW (dB):	92	90	89	88	88	87	83	80

*Sound data is generated by a propriety acoustics model validated through unit testing in accordance with AHRI 260, utilizing tested fan sound data in accordance with AMCA 300.

The minimum floor area for the Lower Flammability Limit (LFL) is calculated in accordance with UL60335-2-40 4th ed. (operating or storage). For UL60335-2-40 3rd ed. double the airflow and minimum floor area listed.

Performance Data Table

Outside Air		Mixed Air		Leaving Air		Heat Pump Capacity	Heat Pump Integrated Capacity	Heat Wheel Heating Capacity	Heating COP
DB °F	WB °F	DB °F	WB °F	DB °F	WB °F	MBH	MBH	MBH	W/W
62.0	56.2	72.8	61.1	106.6	71.8	731.9	731.9	40.1	2.76
57.0	51.6	71.9	60.4	103.6	70.7	687.5	687.5	69.1	2.72
52.0	47.1	71.1	59.8	100.8	69.6	645.3	645.3	95.0	2.68
47.0	42.6	70.2	59.2	98.0	68.5	605.6	605.6	118.8	2.65
42.0	38.0	69.3	58.6	95.3	67.5	567.2	567.2	141.2	2.61
37.0	33.5	68.5	58.1	89.3	65.4	530.8	456.0	161.5	2.31
32.0	28.8	67.6	57.5	87.3	64.6	495.1	432.7	181.9	2.31
27.0	24.3	66.7	57.0	85.3	63.8	460.4	408.3	200.3	2.31
22.0	19.7	65.8	56.5	83.2	62.9	426.9	383.5	217.7	2.31
17.0	15.0	64.8	56.1	81.2	62.1	394.7	359.2	234.4	2.30
12.0	10.4	63.9	55.6	79.1	61.3	365.4	335.1	249.8	2.30
7.0	5.7	63.0	55.2	77.0	60.5	336.9	310.0	264.8	2.29
2.0	0.1	63.0	55.2	*	*	*	*	*	*
0.0	0.0	63.0	55.2	*	*	*	*	*	*

*Invalid operation point - Compressor operating outside of operating envelope
**Electric preheat is used to maintain the entering air temperature when applicable.

Unit Rating

2425 South Yukon Ave • Tulsa, OK 74107 • Ph: (918) 583-2266
Ecat Price Version: 358

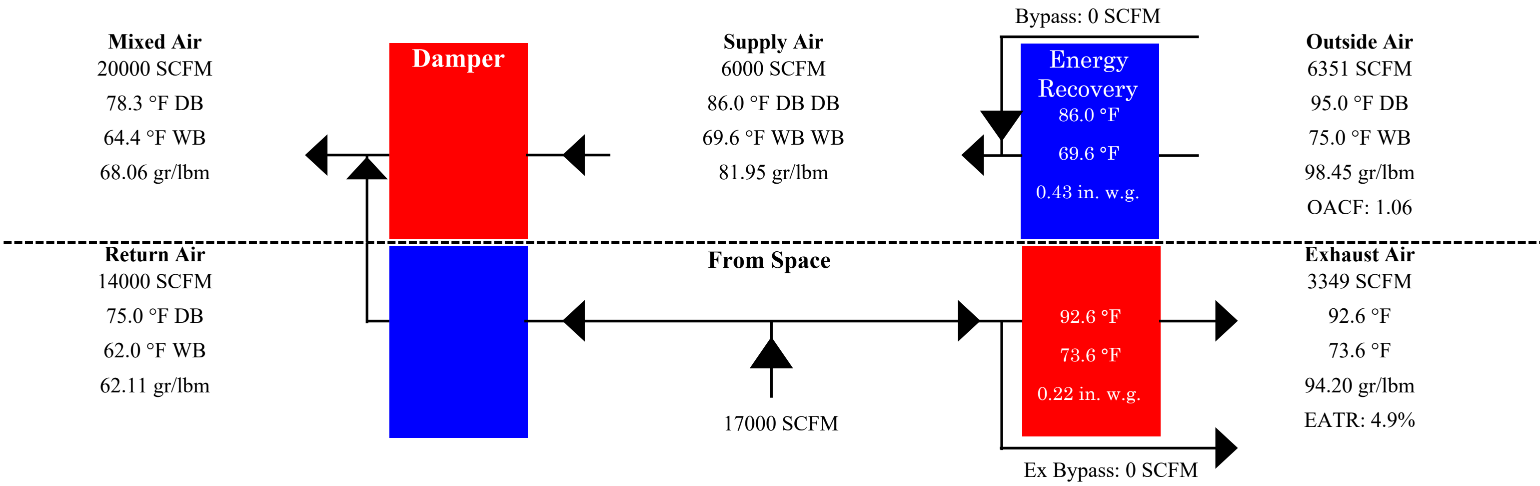
RNA-060-D-B-3-GJB0B-00000:00-AAGAM-QAB-00000-BBNBL-DC-UB0 E-00-00-B-BT0-00-DA0A-00-000-A00000-E000AB-000000B

Tag: RTU-4

Job Name:	**Milhouse**	Energy Recovery Type:	**Total**
Job Number:	**Senior Center**	Energy Recovery Model:	**ERC-5262C**
Site Altitude:	**0 ft**	Energy Recovery Qty:	**2**
Net Supply Airflow Sum/Win:	**5706 SCFM / 5706 SCFM**	Energy Recovery Software Ver:	**1.1.0.0**
Purge Angle:	**0.0°**		

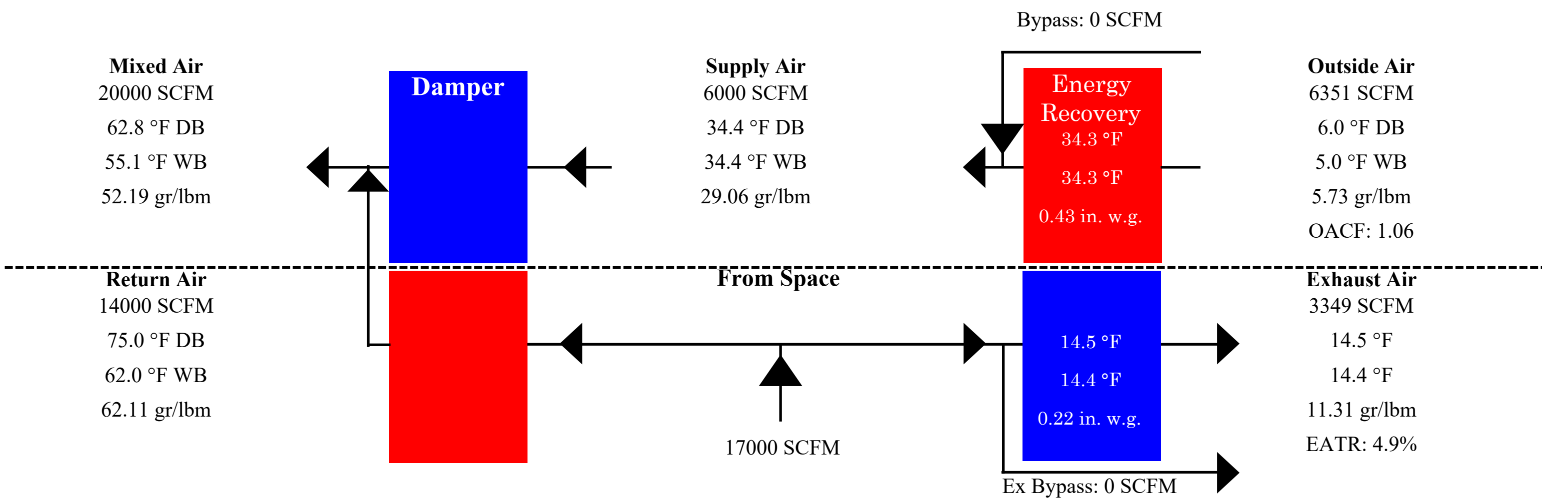
Application Rating is outside the scope of the AHRI ERV Certification Program but is rated in accordance with AHRI Standard 1060.

Summer Conditions



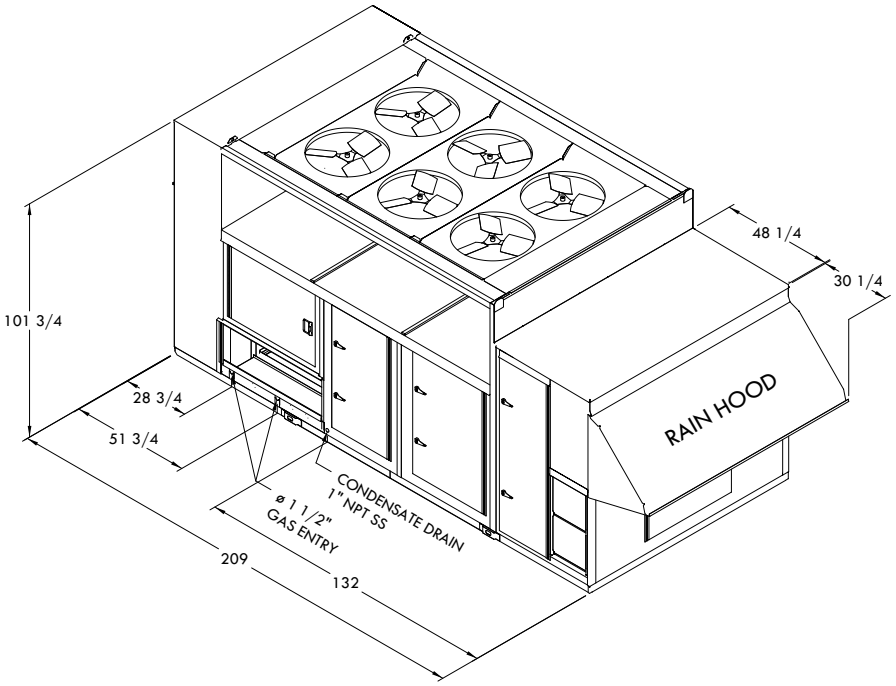
	Cooling/Dehumidification	Heating/Dehumidification	Effectiveness
Total Capacity:	112.0 MBH	0.0 MBH	83.5%
Sensible Capacity:	50.4 MBH	0.0 MBH	87.7%
Latent Capacity:	61.6 MBH	0.0 MBH	88.0%

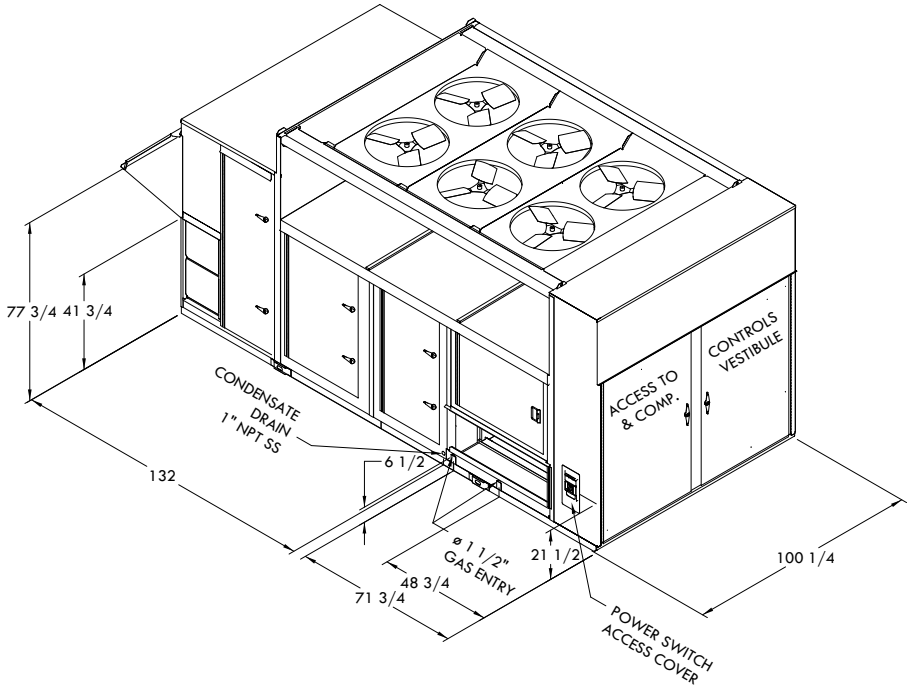
Winter Conditions



Frost Warning - Conditions for frost forming on the energy recovery exists. Outside air preheat is required to prevent frost formation. Optionally, the return air humidity ratio could be lowered to prevent frost formation. See AAON literature titled 'AAONAIRE ENERGY RECOVERY' for details.

	Cooling/Dehumidification	Heating/Dehumidification	Effectiveness
Total Capacity:	0.0 MBH	267.0 MBH	82.1%
Sensible Capacity:	0.0 MBH	174.2 MBH	87.8%
Latent Capacity:	0.0 MBH	92.8 MBH	88.9%



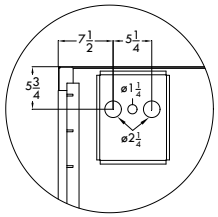


ALL DIMENSIONS IN INCHES

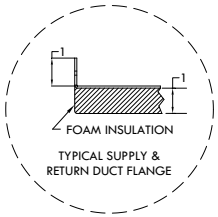
AAON

RN D-CABINET 40-70 TON ALPHA CLASS HEAT PUMP
AIR COOLED WITH ECONOMIZER, ENERGY RECOVERY WHEEL

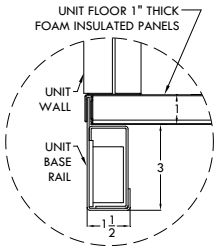
Job Name	Unit Tag	Drawing No.
Milhouse	RTU-4	CAT000463



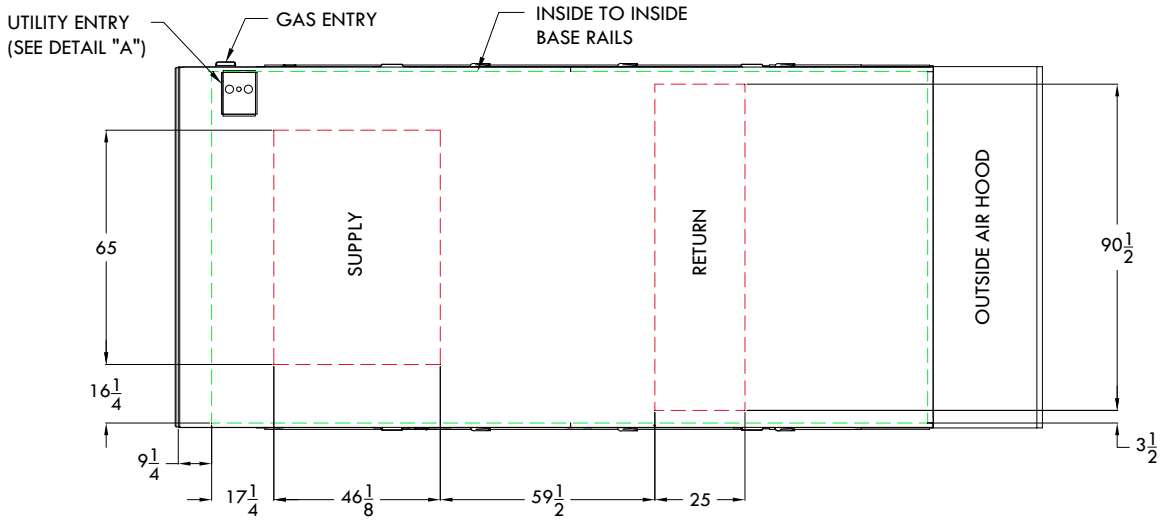
DETAIL A
UTILITY ENTRY

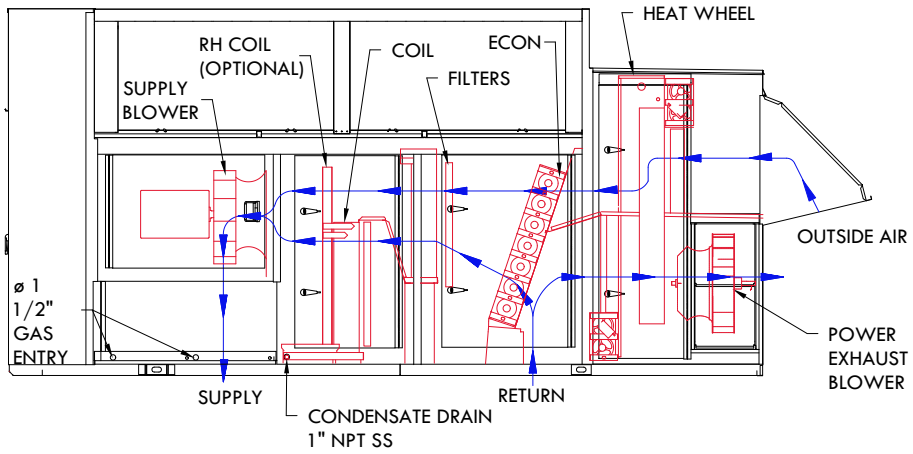


DUCT FLANGES



BASE RAIL
CLEARANCE





ALL DIMENSIONS IN INCHES

RN D-CABINET 40-70 TON ALPHA CLASS HEAT PUMP
AIR COOLED WITH ECONOMIZER, ENERGY RECOVERY WHEEL

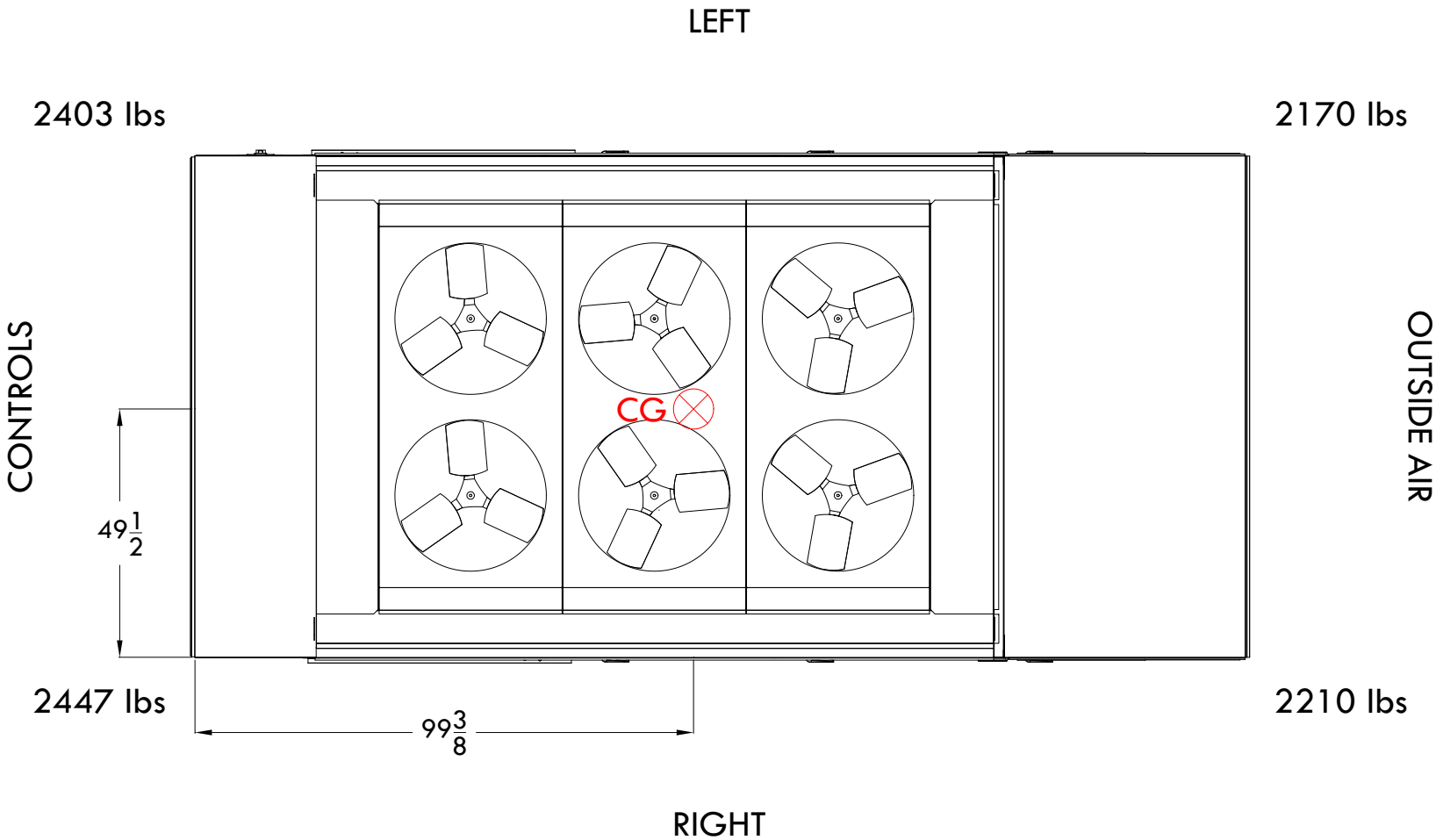
Job Name	Unit Tag	Drawing No.
Milhouse	RTU-4	CAT000463

RNA-060-D-B-3-GJB0B-00000:00-AAGAM-QAB-00000-BBNBL-DC-UB0E-00-00-B-BT0-00-DA0A-00-000-A00000-E000AB-000000B

Shipping Weight: 9230 lbs ±5%

Operating Weight: 9230 lbs ±5%

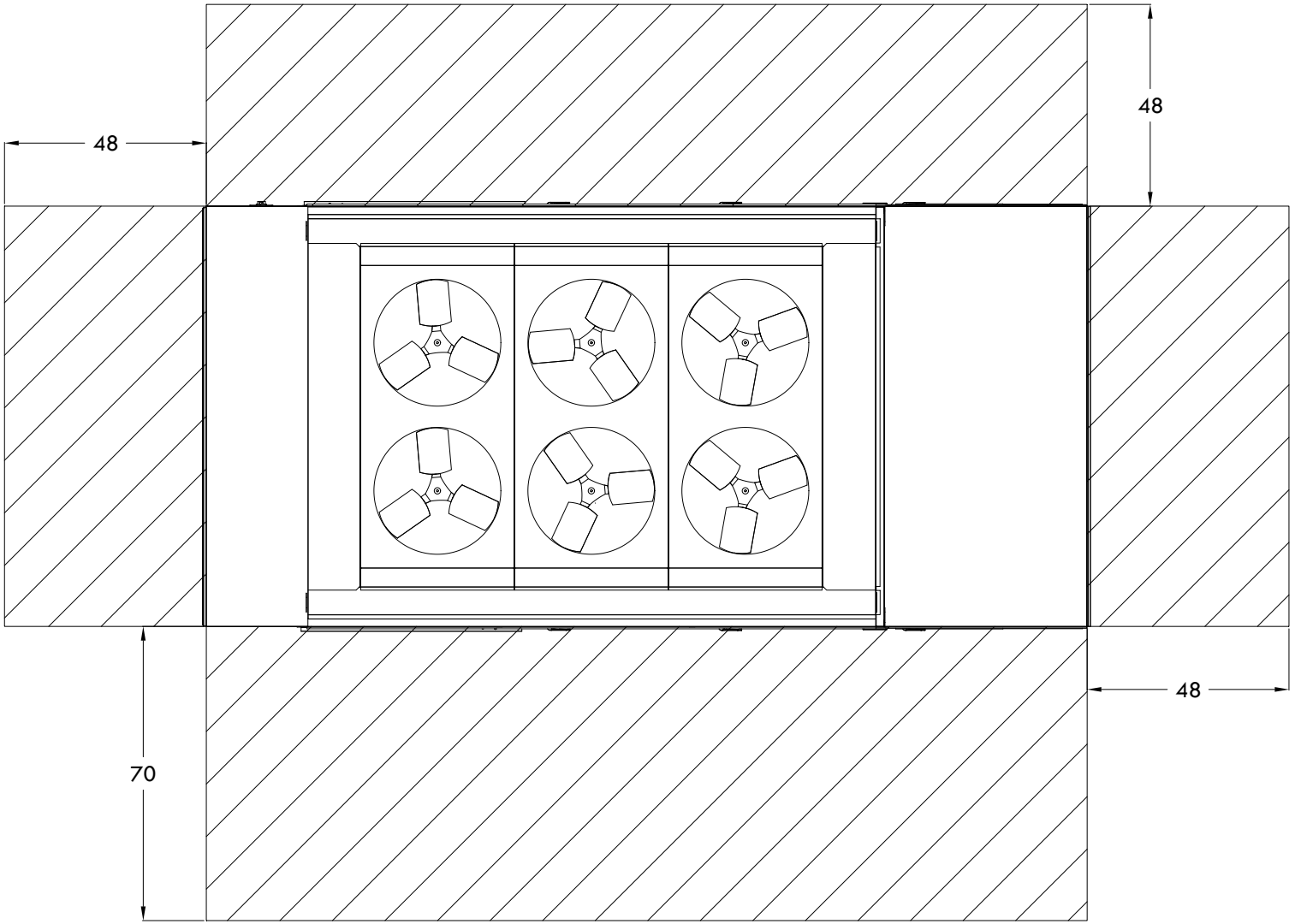
Center of Gravity (X, Y): 99.4 in, 49.5 in



ALL DIMENSIONS IN INCHES

UNIT CORNER WEIGHTS AND CG

Job Name	Unit Tag	Drawing No.
Milhouse	RTU-4	CAT000463



ALL DIMENSIONS IN INCHES

UNIT CLEARANCES

Job Name	Unit Tag	Drawing No.
Milhouse	RTU-4	CAT000463

7 PROJECT SCHEDULE

Project Schedule

DFSS Bronzeville Regional Senior Center

4711-4755 S. Calumet Avenue

Design Architect Services	Wks	Duration	Start	End	Comment
Schematic Design Phase	**16**	**114**	**5/7/2025**	**8/29/2025**	
Project Kickoff	**1**	**3**	**5/7/2025**	**5/9/2025**	
Project Kickoff Meeting with Users				5/7/2025	PBC Meeting
Project Kickoff Meeting with Alderman				5/8/2025	PBC / Alderman Meeting
PBC / DA Internal Meeting				5/9/2025	PBC / User Meeting
DFSS Senior Center Tours	**1**	**5**	**5/12/2025**	**5/16/2025**	
Southeast Atlas Regional Senior Center				5/13/2025	User Meeting & Tour
Northeast Levy Regional Senior Center				5/16/2025	User Meeting & Tour
Programming / Site Analysis	**1**	**5**	**5/19/2025**	**5/23/2025**	
Program, Site and Basic Schematic Overview				5/20/2025	PBC Meeting
Program, Prelim. SD discussion w/ Users				5/23/2025	User Meeting
50% Schematic Design	**4**	**31**	**5/26/2025**	**6/25/2025**	
Issue 50% SD Documents				6/20/2025	
50% SD Review Period and Cost Estimate				6/25/2025	
100% Schematic Design	**9**	**65**	**6/26/2025**	**8/29/2025**	
Issue 100% SD Documents				8/15/2025	
100% SD Review Period and Cost Estimate				8/29/2025	

8 DFSS/PBC/AOR USER MEETING MINUTES

- 05.23.25 User Meeting
- 05.30.25 User Meeting
- 06.06.25 User Meeting
- 06.13.25 User Meeting
- 06.20.25 User Meeting
- 07.03.25 User Meeting
- 07.11.25 User Meeting
- 07.16.25 User Meeting
- 07.18.25 User Meeting
- 07.25.25 User Meeting
- 08.08.25 User Meeting

Meeting Minutes Memorandum MTNG #6 – Program + SD in progress

Project: (PBC) DFSS Regional Senior Center
Meeting Date: May 23, 2025
Meeting Location: Virtual Teams
Memo Date: June 03, 2025
Attendees:

Margaret Laraviere	DFSS
Yolanda Curry	DFSS
Jordan Evangelista	DFSS
Angelica Dichosa	DFSS
Cynthia Corrales	DFSS
Kerl Lajeune	PBC
Keisha Johnson	PBC
Jose Barajas	PBC
Randy Williams	PBC
Miriam Gutierrez	PBC
Rada Doytcheva	RADA Architects
William Sitton	RADA Architects
Aram Garbooshian	RADA Architects

The following are summaries of the various discussions and directions:

	The weekly progress meeting was held to discuss Program and SD Options in progress.	Note / Action
A	**Recap of DFSS Regional Center Centers Visited for Review:**	
	1. Southeast Atlas Senior Center; visited 05/13/25 by PBC/ RADA / DFSS. 2. Northeast Levy Senior Center; visited 05/16/25 by PBC / RADA / DFSS. The design team found the centers visited to be vibrant places with a wide variety of activities and programs. A big takeaway, seniors like to be where the action is, and around other folks even if they are not participating in the activities themselves. There too are private spaces, for quiet games / activities and classes. The two centers visited were single story buildings with off-street parking. The SE building has a basement with a billiards room and fitness room. The directors at each center commented on the lack of parking, congested entry or multiple entries, and at the SE center, a lack of usable outdoor space. 3. Comments by DFSS: o While there is a lot of energy in the buildings, there are spaces of concentration that are necessary such as massage rooms or enclosed computer lab for instruction. o The SE Center outdoor space lacks protection from the sun and is directly off the parking, it may not be used due to a feeling of lack of safety. Having a private space like the NE Center is more desirable for Seniors.	**RADA to include sun protection in outdoor space design.** **RADA to include public / private mix of spaces discussed.**
B	**Material Presented by RADA Architects:**	
	1. Site Context Presentation. SD Option presented with concept of a two-story deeper building rather than a three-story skinny building, which allows parking to	

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	the north. SD concept includes a linear two-story interior space (atrium).	
	2. Site Analysis, Program of Spaces dated 05/20/25, SD Options shown on site with demarcation line between Senior Center area and Residential Building area.	
	3. Program Discussion: o Atrium Space: DFSS asked for clarification on the atrium. Rada (RADA Architects) explained that the atrium is like the space at the SE Center, central space with skylights above, except for this building it's proposed to be more linear. o Kitchen: DFSS confirmed the need for a warming / prep kitchen with commercial appliances.	**RADA to size kitchen for warming/prep function**
C	**Main Points of Site Analysis**	
	1. RADA Architects thought the site needs to favor the Senior Center in terms of locating the Residential Building. The latter needs to extend around the corner of Calumet Avenue and 48th Street, to leave more space to the south of the Senior Center. **The Design is based on moving the demarcation line of the parcel by 60 to 80 feet to the south,** also to open enough space to move the parking for Seniors closer to entry (shown in all SD schemes reviewed).	
	2. Site Demarcation Line discussion: a. The 2022 Developer Scheme had roughly a 50/50 split in the site for the Senior Center and the Residential Building. b. RADA suggested a 60/40 split favoring the senior center for the reasons outlined above. c. PBC directed a scheme to be developed with the 50/50 split and another with a maximum of 55/45 but the demarcation line location is subject to future discussion.	**RADA to develop two scheme, Scheme 1 with 50/50 split, Scheme 2 up to 55/45 split.**
	3. Parking: Margaret (DFSS) explained in the 2022 Developer study; the parking was to be used by the Senior Center from 8:30am to 4:30pm. After 4:30pm the Residential function was free to use the lot as the Senior Center is always closed in the evening.	
D	**NEXT STEPS**	
	1. Refine SD based on feedback from this meeting for 5/30/23 meeting.	**RADA**
	2. Future review with Department of Planning and Alderman to get direction required.	**PBC / RADA**
	3. Next meeting 5/30/25 to discuss SD Options.	**PBC/DFSS/ RADA**

By: Aram Garbooshian, AIA, LEED AP
RADA Architects

The preceding information is the writer's understanding of the matters discussed and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within three days (3) of the transmitted date.

Attachments: Material presented by RADA Architects

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

Meeting Minutes Memorandum MTNG #8 – Program + SD in progress

Project: (PBC) DFSS Regional Senior Center
Meeting Date: May 30, 2025
Meeting Location: Virtual Teams
Memo Date: June 03, 2025
Attendees:

Margaret Laraviere	DFSS
Yolanda Curry	DFSS
Jordan Evangelista	DFSS
Kerl Lajeune	PBC
Keisha Johnson	PBC
Jose Barajas	PBC
Randy Williams	PBC
Miriam Gutierrez	PBC
Rada Doytcheva	RADA Architects
William Sitton	RADA Architects
Aram Garbooshian	RADA Architects
Diana Rodriguez	RADA Architects

The following are summaries of the various discussions and directions:

	The weekly progress meeting was held to discuss Program and SD Options in progress.	Note / Action
A	**Material Presented by RADA Architects:**	
	1. Site Layout Option Diagrams, utilizing 50% of the site for the Regional SC development and comparing Scheme 1 (two-story scheme), Scheme 1A (two-story scheme with partial third floor and Scheme 2 (three-story scheme).	
	2. Program of Spaces dated 05/29/25, Bubble Diagrams and three-dimensional axonometric diagrams.	
B	**Main Points of SD Schemes**	
	1. Scheme 1: Two-Story Building; Deeper building footprint to accommodate program on two-stories. Allows for double loaded parking north of the building to front entry and provides a buffer from the rear of the adjacent Retail Building. NW Corner Entry. All major program spaces are organized by a two-story circulation spine/ space. The program of spaces is slightly adjusted to fit in two stories.	**22,000 SF**
	2. Scheme 1A: Similar to Scheme 1, with the addition of a partial third story, allowing for a large roof terrace and possibly a green roof. The fitness area could be located on the third floor and second floor activity space could be expanded.	**26,000 SF**
	3. Scheme 2: Longer and narrower building footprint; required three full stories to fit program, double loaded parking to the rear of the site and entry from S. Calumet. The major program spaces are organized by a three-story atrium.	**27,000 SF**
	4. Margaret (DFSS) asked if the schemes utilized a 55/45 ratio between the Senior Center site and the Residential Building portion of the site. Rada (RADA Architects) explained all schemes utilize a 50/50 site demarcation. In each case, the outdoor plaza is slightly smaller than the “developer scheme”. All agreed it’s best to utilize the 50/50 site demarcation.	**RADA to keep pursuing 50/50 site demarcation**

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	5. DFSS asked for clarification regarding the Scheme 1A rooftop space; RADA and PBC explained a partial floor allows the roof space to be utilized as outdoor space on top of the building. DFSS questioned the seasonal use, can't be used in winter. Rada explained there are various methods, overhangs, infrared heaters, and awnings on ground level outdoor plaza to improve comfort. Yolanda (DFSS) restated the use for the outdoor areas; Yoga Class, Music, Gardening, Readings / Lounging.	**RADA to explore terraces / outdoor areas for function and program**
	6. Margaret (DFSS) asked for the purpose of the angled walls of the Scheme 1 design; Rada (RADA Architects) explained Scheme 1 captures a bigger footprint on the 2nd floor, by using overhangs, and also provides shade the first-floor entries. The angles create orientation more toward the street versus looking at the building next door or alley.	
	7. DFSS asked for the purpose of the angels at the interior two-story lobby / atrium; Rada (RADA Architects) explained the lobby or atrium are wider at the entry, where more traffic is anticipated, then "funnels" users toward the variety of program spaces.	
	8. Jordan (DFSS) asked if elevator capacity was a consideration, especially if a single elevator is down for maintenance. All agreed two-elevators could be explored or the program may have to be adjusted to move fitness to the 1st floor with 1 elevator.	**RADA to explore 2 Elevators**
C	**Main Points of Program of Spaces / Diagrams**	
	1. The project, Program of Spaces, has been adjusted based on previous discussions with PBC / DFSS, including flex spaces and size adjustments. 2. Total program square footage is approximately 27,800 sf.	
	3. Adjacency diagram provided, illustrating main circulation spine, private vs. semi-public functions and activities. Axonometric diagram provided for Scheme 1 & 2.	
D	**SCHEDULE**	
	June 6, Friday — **SD MTNG with the PBC / DFSS / Alderman Office** To finalize details of the scheme and review with all stakeholders. June 11, Wed — **50% arch SD Issue to consultants + possibly Meeting** June 13, Fri — **Regular status PBC/DA/User Meeting** June 20, Fri — **50% SD Narrative and cost due to team + Meeting** June 25, Wed — **50% Issue of SD + Meeting**	
E	**NEXT STEPS**	
	1. Refine SD based on feedback from this meeting and share with PBC / DFSS	**RADA**
	2. Site Survey urgently needed.	**PBC**
	3. Distribution of meeting material to PBC/ DFSS	**RADA**

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

By: Aram Garbooshian, AIA, LEED AP
RADA Architects

The preceding information is the writer's understanding of the matters discussed and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within three days (3) of the transmitted date.

Attachments: Material presented by RADA Architects

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture
Planning
Interiors

Meeting Minutes Memorandum MTNG #4 – Program + SD in progress

Project: (PBC) DFSS Regional Senior Center
Meeting Date: May 06, 2025
Meeting Location: Virtual Teams
Memo Date: June 24, 2025
Attendees:

Margaret Laraviere	DFSS
Yolanda Curry	DFSS
Jordan Evangelista	DFSS
Cynthia Corrales	DFSS
Angelica Dichosa	DFSS
Kerl Lajeune	PBC
Keisha Johnson	PBC
Jose Barajas	PBC
Randy Williams	PBC
Miriam Gutierrez	PBC
Rada Doytcheva	RADA Architects
William Sitton	RADA Architects
Aram Garbooshian	RADA Architects
Diana Rodriguez	RADA Architects
Fred Owens	Milhouse Engineering
George Bouris	Milhouse Engineering
Robert Thompson	Milhouse Engineering

The following are summaries of the various discussions and directions:

	The weekly progress meeting was held to discuss Program and SD Options in progress.	Note / Action
A	**Introduction PBC**	
	PBC provided a recap from the previous meeting; The three schemes from the 5/30/25 meeting have been reduced to two schemes: **Scheme 1: Two-Story Scheme with double-loaded parking in front of the building.** **Scheme 2: Three-Story Scheme with double-loaded parking at the rear of the site.**	-
B	**Material Presented by RADA Architects:**	
	1. RADA Presented the two design options using plans, axonometric views and vignettes. 2. Scheme 1: Two-Story Design; Changes from the previous design include: o Adding an indoor patio space to the south area of the first floor, providing an extension of the exterior courtyard that can be used all year as a conditioned space. o The second-floor exterior terrace was increased in area to provide a more usable space based on DFSS feedback. The exterior terrace is partially covered and allows for flexible program use. o An extra elevator was added to the scheme bringing the total to two elevators. All agreed with two elevators, the second floor can have a fitness room instead of relocating it to the first floor as discussed previously.	-

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	o Scheme 1 has 42 parking spaces, but the final number may be slightly reduced after all site program items are incorporated. o Feedback from DFSS; two elevators, a larger terrace and an indoor patio will work well for their needs.	
	3. Scheme 2: Three-Story Design: o RADA explained with the smaller footprint of this scheme; the courtyard space can be larger than scheme 1 and the indoor patio was similarly added. o Scheme 2 has 40 parking spaces, but the final number may be slightly reduced after all site program items are incorporated. o An extra elevator was added to the scheme bringing the total to two elevators.	-
	4. Feedback from PBC and DFSS: o PBC noted an advantage to Scheme 1 is the control of parking with the majority in front of the entry area to the building. o PBC requested for the Bus drop-off to be added to the site plans in front of the building on S. Calumet and in the rear as an "alternate drop-off area". o PBC requested for room areas and colored diagram plans of function to be provided by the Design Team. o DFSS explained the difference between the private and public functions of their Senior Centers, and all felt the designs reflected the User needs. o PBC / RADA and DFSS prefer Scheme 1 but both schemes are possible solutions. PBC noted the next step will be to set up a meeting with the Alderman to present the two design options and seek approval. The recommendation will to the Alderman will be to pursue Scheme 1.	**PBC to set Meeting with the Alderman's Office to get approval.**
D	**SCHEDULE**	
	TBD **Meeting with Alderman for Review / Approval** June 13, Fri **Regular tatus PBC/DA/User Meeting** June 20, Fri **50% SD Narrative and cost due to team + Meeting** June 25, Wed **50% Issue of SD Costs**	
E	**NEXT STEPS**	
	1. Set up Alderman meeting for Review / Approval	**PBC**
	2. Refine SD based on feedback from this meeting	**RADA**
	3. Distribution of meeting material to PBC/ DFSS	**RADA**

By: Aram Garbooshian, AIA, LEED AP
RADA Architects

The preceding information is the writer's understanding of the matters discussed, and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within three days (3) of the transmitted date.

Attachments: Material presented by RADA Architects

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

Meeting Minutes Memorandum MTNG #5–SD Phase, Weekly Mtg

Project: DFSS Regional Senior Center
Meeting Date: June 13, 2025
Meeting Location: Virtual Teams
Memo Date: June 24, 2025
Attendees:

Margaret Laraviere	DFSS
Yolanda Curry	DFSS
Jordan Evangelista	DFSS
Angelica Dichosa	DFSS
Cynthia Corralles	DFSS
Matilda Pulaha	DFSS
Kerl LaJeune	PBC
Keisha Johnson	PBC
Jose Barajas	PBC
Randy Williams	PBC
Miriam Gutierrez	PBC
Rada Doytcheva	RADA Architects
William Sitton	RADA Architects
Aram Garbooshian	RADA Architects
Diana Rodriguez	RADA Architects
George Bouris	Milhouse Engineering
Sadie Wood	Milhouse Engineering
Jerry Hall	Milhouse Engineering
Mehdi Modares	Milhouse Engineering

The following are summaries of the various discussions and directions:

	The weekly progress meeting was held to discuss Program and SD Options in progress.	Note / Action
A	**Introduction PBC**	
	1. PBC provided a recap of project activities to date and summarized the Meeting w/ Alderman Dowell which resulted in the selection of Two-Story scheme-1 for further development.	**Design Team to develop 2-Story Scheme**
	2. 50% SD pricing documents are due on 6/20, to be sent to the PBC's cost estimator. Goal is for the stakeholder budget and documents to be sent to DFSS and Alderman Dowell by 6/30.	**Design Team to issue docs to PBC**
	3. Alderman Dowell requested a community meeting for the end of July prior to the PBC's 8/12 board meeting. Specific dates and further details will be coordinated and provided by PBC.	**PBC to provide mtg details. Design Team will coordinate for presentation materials.**
B	**Material Presented by RADA Architects**	
	1. Site Development: Rada presented the development of the site. Various details added to the site; trash enclosure, transformer location, parking islands, loading berth, bus drop off locations; results in 40 total parking spaces included two accessible (ADA) parking stalls and EV ready stations.	-

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	2. Building Development: Rada noted the plan has been developed to add various building functions; Back of House elements including electrical switchgear rooms, mechanical shafts, receiving room, (2) elevators and various storage space. Building is currently programmed as 24,675 SF.	-
	3. Rada explained the development of the dining / indoor patio room, illustrating the key change expanding the dining room to the south into a portion of the enclosed patio space formerly labeled as "indoor / outdoor". This allows for a direct connection from the dining room to the courtyard and allows more dining capacity in the largest room. The placement of the stage has been also moved. (DFSS) inquired about the dining room capacity; Rada noted the dining room can accommodate approx. 100 people with tables and has a potential code capacity of 146 people. DFSS desire is to maximize the dining capacity, by exploring the use of mixed square tables or longer banquet style 6-8' rectangular tables. Rada noted that the design provides an opportunity for expanding dining capacity into Community Multipurpose rm #2, by adding back the moveable partitions on both sides of the corridor and using some of the corridor space for dining tables. DFSS would like to see configuration options that combine the dining room, multipurpose room(s) and possibly the enclosed patio room into a single large space. DFSS to confirm operations of the area with the lounge/flex space.	**RADA to confirm dining room capacity, most efficient furniture options and add moveable partition(s) conditions**
	4. Rada explained the development of the Multipurpose / Community Rooms #1 and #2. DFSS requested a moveable partition between the two rooms instead of doors on hold-opens. DFSS also inquired about noise control between the various spaces and the overall importance of acoustics per varied programming. All agreed, acoustically appropriate materials will need to be selected.	**RADA to provide movable partitions.**
	5. Rada presented the 2nd floor development noting the revised sizes of the various spaces including the movie room (relabeled from Theatre Rm per code requirements), fitness room, classrooms, etc. DFSS questioned the function of the "Movie Room" and thought it may be used for performances with a moveable stage etc. Rada explained the stage is located on the first floor and all agreed the first floor is the appropriate location but to move it from the dining room to the community room, freeing the dining room for more seating. The program listed the movie room (aka Theater) as 800 sf and as a place for viewing (not particularly performances). To stay within the requirement for having a single exit, Rada noted the largest that the movie room can be is 735 sf., The capacity needs to be kept at 49 person capacity (vs, program 50 people requiring two exits). DFSS did not want to reduce the size of the fitness room to expand the movie room. The request was, if possible, to mimic the size of the fitness room at the NE Center.	**RADA to explore making the Movie Room slightly larger** **RADA to review size of Fitness Room per NE Center and confirm equipment layout.**
	6. Rada presented design ideas for connecting the Dining, Indoor Enclosed Patio and Exterior Courtyard using materials and geometric flooring patterns. Various ideas and examples for seating, lighting and finishes were presented for the exterior courtyard and indoor enclosed patio. Overall DFSS was favorable to the ideas presented and noted the use of seat backs are preferable for benches in the exterior courtyard.	**RADA to explore design of spaces further.**

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

D	**SCHEDULE**	
	June 20, Fri **50% SD Documents (dwgs & narratives) to be submitted to PBC for pricing + Meeting**	
E	**NEXT STEPS**	
	1. Refine SD based on feedback from this meeting and share with PBC / DFSS	**RADA**
	2. Develop key questions regarding capacity and use for various spaces such as: "What is the needed banquet style seating capacity in the dining room?"; Number and types of fitness room equipment; Number of pool tables in billiards room, number of seats in classroom, etc. 3. Comparison of the original program area SF to the current design for understanding area impacts for DFSS review of operations.	**RADA**
	4. Distribution of meeting material to PBC/ DFSS	**RADA**

By: Aram Garbooshian, AIA, LEED AP
RADA Architects

The preceding information is the writer's understanding of the matters discussed, and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within seven days (7) of the transmitted date.

Attachments: Material presented by RADA Architects

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture
Planning
Interiors

Meeting Minutes Memorandum MTNG #6–SD Phase, Weekly Mtg

Project: DFSS Regional Senior Center
Meeting Date: June 20, 2025
Meeting Location: Virtual Teams
Memo Date: June 24, 2025
Attendees:

Margaret Laraviere	DFSS
Yolanda Curry	DFSS
Kerl LaJeune	PBC
Keisha Johnson	PBC
Miriam Gutierrez	PBC
William Sitton	RADA Architects
Diana Rodriguez	RADA Architects
Roshan Patel	RADA Architects
Mehdi Modares	Milhouse Engineering

The following are summaries of the various discussions and directions:

	The weekly progress meeting was held to discuss Program and SD Options in progress.	Note / Action
A	**Introduction PBC**	
	1. PBC provided a recap of project activities to date and summarized the next step as distributing the 50% SD documents for cost estimating to be issued by RADA to PBC by end of day.	**Design Team to issue docs to PBC**
	2. PBC initiated a discussion with DFSS to address some programmatic issues and questions raised in previous meetings. RADA suggested that a review of the developed plans would be a good way to start the discussion and allow discussion of key issues.	
B	**Material Presented by RADA Architects**	
	1. Site Development: RADA presented the development of the site and explained the adjustments made to fit the site in alignment with the site plat of survey. RADA noted that this required a 6.5ft reduction in the North / South direction. 2. Key adjustments included a 5ft reduction in the 1st floor offices, which were previously oversized. The offices are now sized 10ft x 12ft and will accommodate a standard office configuration with guest side chair/s. 3. RADA noted that the courtyard width was maintained at 30ft benefiting from building separation at the south line should the developer locate their building on the line. 4. The total building area as adjusted is 24,566GSF.	-
	5. Building Development: Rada noted the plans have been developed to address building functions and previous commentary. Specific elements discussed are in the following comments.	-

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	6. Dining Room: DFSS would like to seat 150 people in the primary dining room. RADA indicated that the 115 people indicated in the developed plan utilized 96-inch log banquet style tables to accommodate 8 people. PBC stated that the tables seem large and suggested the use of 80-inch-long tables for up to 8 people. RADA requested that DFSS provide RADA with the size of table that they predominantly use, allowing for an adjusted plan / population to be generated. As previously noted, the dining room has a potential code capacity of 146 people. 7. RADA explained the expanded storage rooms along the East wall for chair and table storage. 8. PBC noted that the stage shown in the Community/Multi-Purpose Rm #2 is presently shown as a fixed element but could be a portable/demountable type that could be stored when not in use. DFSS will review and advise.	**DFSS to provide additional information on table sizes and decide on fixed / movable stage.**
	9. RADA explained the plans show the resolved locations for moveable partitions for the Dining and Multipurpose / Community Rooms #1 and #2.	
	10. Rada presented the 2nd floor development noting the revised sizes of the various spaces including the movie room and fitness room, classrooms, etc. The Movie Rm has been adjusted to 735 SF allowing for a capacity of 49 max people to avoid a second exit. Fitness Rm: RADA presented the equipment/areas developed as representational of the equipment and space allocation possible for the room. DFSS noted that the amount of equipment in the fitness room should be maximized. DFSS stated that they would evaluate the room equipment needs and possibly consult with a vendor to determine equipment requirements and assist in laying out the space. DFSS discussed the possible need for a larger yoga area. It was pointed out that larger yoga groups/classes could possibly be scheduled in Classrooms. PBC/DFSS commented that the Massage room may be too large. DFSS stated the need for a massage table, stool, and cabinet with sink in the room.	**DFSS to provide equipment needs and possible layout.**
	11. Billiards Room: DFSS would like more than 2 billiards tables. RADA agreed that cue clearance space could overlap, and 3 tables could be accommodated. PBC suggested that this room be labeled as a Gaming Room.	**RADA to revise table layout.**
	12. Computer Classroom: DFSS noted that the RADA shown arrangement is a typical classroom style. Functionally the goal of this space is to serve as a technology lab and learning center. This may include learning how to use a smartphone, apps, etc in addition to traditional computers. An alternative table arrangement may be desirable. PBC stated that the "classroom" arrangement should be mirrored to face the opposite end wall for a traditional teaching scenario.	**RADA to adjust table arrangement**
	13. 2nd Flr Outdoor Terrace: PBC asked DFSS how they envisioned using his space, perhaps a lounge with tables and chairs. DFSS saw the possibility for a greater population / standing room / dance space with a DJ. RADA pointed out that, under that usage, the Terrace capacity would increase to about 156 people. The exiting doors as shown accommodate this capacity. Milhouse	**DFSS to review and advise usage and furniture needs.**

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	mentioned the need to evaluate dynamic loading in Structural engineering. Per DFSS power and data are needed in this space.	
D	**SCHEDULE**	
	June 20, 2025; 50% SD Documents (Dwgs & Narratives) submitted to PBC for pricing + Mtg **June 27, 2025;** DFSS Meeting DFSS Meeting **June 30, 2025;** 50% SD Cost Estimate Due	
E	**NEXT STEPS**	
	1. Refine SD based on feedback from this meeting and share with PBC / DFSS	**RADA**
	2. Distribution of meeting material to PBC/ DFSS	**RADA**

By: William Sitton, Principal
RADA Architects

The preceding information is the writer's understanding of the matters discussed, and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within seven days (7) of the transmitted date.

Attachments: Material presented by RADA Architects

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture
Planning
Interiors

Meeting Minutes Memorandum MTNG #7–50% SD Review Mtg

Project: DFSS Bronzeville Regional Senior Center
Meeting Date: July 03, 2025
Meeting Location: Virtual Teams
Memo Date: July 13, 2025
Attendees:

Margaret Laraviere	DFSS
Yolanda Curry	DFSS
Kerl LaJeune	PBC
Keisha Johnson	PBC
Miriam Gutierrez	PBC
Jose Barajas	PBC
Rada Doytcheva	RADA Architects
Aram Garbooshian	RADA Architects
William Sitton	RADA Architects

The following are summaries of the various discussions and directions:

	The weekly progress meeting was held to discuss Program and SD Options in progress.	Note / Action
A	**Introduction PBC**	
	1. PBC provided an introduction explaining the purpose of the meeting is to get feedback from DFSS on the Design Team's 50% SD Submission. The meeting was predominantly spent on the programmatic requirements for the dining room.	-
B	**DFSS Dining Room New Programmatic Requirement Discussion**	
	1. The focus of the discussion was centered on the first-floor dining room arrangement and capacity. RADA showed various new plan options to address increased capacity of the Dining Room, addressing previous requests to remove the stage from dining room to community room and to add dining furniture layout options in Community Room # 1. The Layout options presented were as follows: Dining Layout 1 **Three main spaces Dining, Community Rooms #1 and #2 functioning separately to main functions.** (Moveable partitions in closed position, separating them from main traffic and from each other.) Dining seats in space without stage – 144. Furniture closet for storing folding furniture in dining room provided. Dining Layout 2 **Dining separate (moveable partition in closed position), Community #1 and #2 combined in auditorium seating arrangement with stage**). Dining seats without stage 144. Furniture Closet for storing folding furniture provided. Dining Layout 3 **Dining combined in Dining Room and Community Room 2 (partitions open and stored in closets)**; Community #1 functioning separately (moveable partitions in closed position). Dining seats 144 + 60 provide 204. Closet for storing folding furniture provided. In dining space provided. 2. DFSS communicated that the dining room function is geared towards socializing around and with food as an element for events (i.e. lunch and learns). DFSS further clarified that the stage podium, which was moved to Community Room #2 to allow for more dining seating in the dining room, be moved back in the Dining room. Concerns about the sight	

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	lines were the main reason. DFSS also noted during large events they would like to have dining with 200 people, which is only achievable by combining Community Room 2. 3. Stage Location: (PBC) provided sketch for sight lines that address all spaces if stage is moved where Furniture Closet is shown in the dining room. DFSS agreed that this location addressed the concerns. No further discussion was held on how this location affects the furniture storage needs, nor the kitchen layout. The team was asked to make things work. 4. (RADA) provided alternative sketch for stage location in Community #2 with same good sightlines – if patio is reworked to an elongated shape, so that Dining and Community 2 are within one big rectangle – for consideration, so that furniture closet arrangement in Dining remains unaffected. PBC advised that this arrangement would further complicate the operations and circulation between all of the surrounding spaces. (PBC) requested that the design team show DFSS how the furniture storage will work. No information on the number of tables to be stored was provided. the plan for next steps for the layouts were discussed – based on including Community 2 in the dining arrangement together with Dining room and potentially isolating this area with a Temporary curtain or panel to maintain access around. The design team was to check code implications, if any. DFSS communicated that there will not be any problem accessing other activities on the floor or upper floor, as visitors can take stair 1 and the elevators or the monumental stair. 5. DFSS had no other comments on the 50% SD Submission.	
C	**SCHEDULE**	
	July 11, 2025; Next DFSS User Meeting	
D	**NEXT STEPS**	
	1. Design Team to Adjust Dining/Community Layout based on the programmatic feedback from this meeting, and PBC sketch locating stage in the location of furniture storage;	**RADA**
	2. Respond to PBC / DFSS 50% SD Review Comments	**RADA**

By: Aram Garbooshian, Principal
RADA Architects

The preceding information is the writer's understanding of the matters discussed, and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within seven days (7) of the transmitted date.

Attachments: Material presented by RADA Architects

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

Meeting Minutes Memorandum MTNG #8– SD Review Mtg

Project: DFSS Bronzeville Regional Senior Center
Meeting Date: July 11, 2025
Meeting Location: Virtual Teams
Memo Date: August 07, 2025
Attendees:

Margaret Laraviere	DFSS
Yolanda Curry	DFSS
Kerl LaJeune	PBC
Randy Williams	PBC
Keisha Johnson	PBC
Miriam Gutierrez	PBC
Jose Barajas	PBC
Rada Doytcheva	RADA Architects
Aram Garbooshian	RADA Architects
William Sitton	RADA Architects

The following are summaries of the various discussions and directions:

	The weekly progress meeting was held to discuss schematic design progress.	Note / Action
A	**Introduction PBC**	
	1. PBC provided an introduction explaining the purpose of the meeting to receive feedback from DFSS on the progress of schematic design. 2. PBC explained that the project budget and cost estimates will be reviewed in a separate meeting with DFSS.	**PBC / DFSS to meet on Budget**
B	**Warming Kitchen Discussion**	
	1. All agreed a meeting to discuss the specifics of the warming kitchen will be set up in the future. DFSS will bring the nutrition team to the discussion and RADA to provide questions for review prior to the meeting. 2. Preliminary comments: provide serving line with sneeze guards, durable materials for cleaning, proper depth for three compartment sinks, add ice machine, add handwashing sinks to main kitchen space in addition to dishwashing area.	**Team to review Warming Kitchen**
B	**DFSS Dining Room Layout Discussion**	
	Two dining area solutions were presented – Dining Layout 1 and 2, in response of previous meeting programmatic discussion. The two layouts only differ as to the configuration of the indoor patio. Otherwise, the main features are: • Dining room to have seating close to 150 p. • Stage location with good sight lines from everywhere including from Community MPR 2 • Community MPR 2 seating as shown to add to 200 p., while locating folding furniture storage at the far end of the overall viewing area (quite favorable, to not waste area in main Dining room, and take space from potentially most distant seating) • Moveable partition between Community MPR 2 and the Lobby, or no partition at all. For clarity plans show no partition. • Fixed partition between Community 1 and 2, or partition could be moveable, fixed shown for clarity. The idea of fixed came	

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	from the feedback that no performance and desirable connection between these two rooms was envisioned in this regard. (as proposed earlier). It also responded to the need to value engineer parts of the project, movable partitions are costly and to the need to find locations in this open plan where structural cross-bracing could be introduced. • Dining/Com 2 area could be closed off for larger event – with two double doors toward lobby as shown. Daily these two double doors can remain on hold-opens, virtually restoring the integrity of the lobby. The above discussion was not further extended, but feedback from User regarding still desirable connection between MPR1 and MPR 2 was noted. RADA to restore this connectivity. **Storage of Dining Room Furniture:** prior request and discussions called for accommodating storage of all movable furniture. The solution proposed was not discussed extensively, but the new directive was to accommodate storage for 50% of tables and chairs **Dining Capacity**: capacity in the Dining Room should be maximized to the extent possible. Capacity of 140 people is acceptable. For large events seating capacity of 200 people is acceptable.	
E	**Garden Space**	
	1. DFSS requested gas grilles for cooking. 2. PBC noted the water feature is not in the budget and should be removed.	
C	**SCHEDULE**	
	July 16, 2025; Next DFSS User Meeting	
D	**NEXT STEPS**	
	1. Design Team to Adjust Dining/Community Layout based on feedback from this meeting	**RADA**

By: Aram Garbooshian, Principal
RADA Architects

The preceding information is the writer's understanding of the matters discussed, and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within seven days (7) of the transmitted date.

Attachments: Material presented by RADA Architects

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

Meeting Minutes Memorandum MTNG #9 Warming Kitchen Program/SD Review

Project: DFSS Regional Senior Center
Meeting Date: July 16, 2025
Meeting Location: Virtual Teams
Memo Date: July 16, 2025
Attendees:

Margaret Laraviere	DFSS
Shavette Lovemore	DFSS
Janiece Johnson	DFSS
Alicia Henry	DFSS
Nathaniel Cummings	DFSS
Kerl LaJeune	PBC
Keisha Johnson	PBC
Miriam Gutierrez	PBC
Rada Doytcheva	RADA Architects
William Sitton	RADA Architects
Roshan Patel	RADA Architects

The following are summaries of the various discussions and directions:

	The meeting review of Kitchen Program and SD layout substituted the planned Final SD Plans review meeting, which was postponed.	Note / Action
A	**Introduction PBC**	
	1. PBC provided an introduction explaining that RADA Architects provided several programming questions via E mail, prepared a Program and Equipment list, as well as an SD layout, which fits in the overall program and floorplan. RADA Architects is looking for confirmation of the above information or comments on how to adjust to final Floorplan and Basis of design for the forthcoming project milestone issue.	-
B	**Main points of the Discussion:**	
	EQUIPMENT DISCUSSION AND DIRECTIONS: 1. STEAM TABLES, WARMING/ COOLING EQUIPMENT, CONVECTION OVENS, RANGE. The User communicated that **steam tables** are preferred to be used at the serving line. Two pans are usually used for serving. There are two **warming cabinets** used at Central Facility, with 3 shelves, however only one could suffice for this project. Steam table location after moving to serving line could be used as a work counter. Comment was made that 3 **convection** ovens are not needed, just one. Rather a **cooling table** for box lunches – needs to be added. **The direction is to include (1) steam table, (1) warming cabinet, (1) convection oven, (1) cooling table, (1) cooking range with an oven.**	

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	2. REFRIGERATORS. **The direction to include an additional commercial grade refrigerator**. Separate beverage refrigerator not needed. SPACES DISCUSSION AND DIRECTIONS: 1. **Isolating the serving line from the dining area** is desirable. Could be partial (shutter in off hours, and some visibility during the day), or complete – putting a wall behind the serving isle. The latter may create spatial constraints, which is not desirable within the limitations of the project. **The direction is to: Provide partial isolation to the extent possible**. Note: Kitchen is behind doors and can be locked, as will the dry food storage. 2. **Dry food storage**. Comments were made that it looks bigger than what the User currently have in other facilities. They currently have 6 shelves and hooks for aprons. The RADA plan has a separate locker area, **The direction is to: Reduce the dry food storage as needed.** 3. **Dishwashing area**. Comments were made that a dishwasher is not needed, neither the dishes drop off area, as all dishes and silverware are disposable. This area is used only for rinsing pans and trays and serving utensils. **The direction is to: Remove dishwasher, possibility to add the icebox in this room. Close the passthrough for dirty dishes.**	
C	**CONCLUSION**	
	Keisha J (PBC) and Rada D (RADA), summarized the results of this discussion, as follows: 1. The designated footprint for the warming kitchen is sufficient, 2. Functional flow is satisfactory. 3. Input from the User on the details was most useful and appreciated.	
D	**NEXT STEPS**	
	1. Design Team to adjust Program and Plan, for the RADA Food Service Consultant review. A revised final submittal of plan sketch, and narrative Basis of Design will be provided within a week back to the User, for minor adjustments if necessary prior to SD issue on Aug 15, 2025.	

By: Rada Doytcheva, PHD, FAIA, Principal
RADA Architects

The preceding information is the writer's understanding of the matters discussed, and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within seven days (7) of the transmitted date.

Attachments:

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

Meeting Minutes Memorandum MTNG #10 – Final SD Plans Review Mtng

Project:	DFSS Regional Senior Center	
Meeting Date:	July 18, 2025	
Meeting Location:	Virtual Teams	
Memo Date:	July 20, 2025	
Attendees:	Margaret Laraviere	DFSS
	Kerl LaJeune	PBC
	Keisha Johnson	PBC
	Miriam Gutierrez	PBC
	Jose Barrajas	PBC
	Rada Doytcheva	RADA Architects
	William Sitton	RADA Architects
	Roshan Patel	RADA Architects

The following are summaries of the various discussions and directions:

	The meeting goal was to confirm dining/performance/community rooms layout, as well as overall first and second floor layouts, as a basis for consultant coordination and completing SD package.	Note / Action
A	**Introduction PBC**	
	1. PBC turned the discussion to the DA to explain and present the layout.	
B	**RADA Architects layout presentation and plans confirmation by DFSS**	
	1. Dining/performance/community rooms layout • Rada presented the plan, explaining how each one of these spaces would function independently and separated, as well as how Dining and MPR#1 (Multipurpose Room #1) can be combined as one space using moveable partitions. • Rada reported about Department of Building Review of the plans, resulting in a recommendation that this area be separated from the main lobby with doors. Such a solution showing two double doors around a central fin, with the possibility of staying on hold opens was shown both in axon views as well as in plan views. Rada further explained that the separation could be avoided, but other costly code requirements throughout the building will need to be met. • PBC Keisha Johnson noted that the moveable partitions may not end up being glass partitions but still folding partitions to assure the function. This comment was budget related. • The DA (RADA) recommended that the above-described code separation between Dining/Performance/Community rooms be the basis of proceeding with the project, for code as well as for functional reasons – noise, odors, privacy. Such a solution provides separation, at the same time wide and clear circulation area through the door openings, extending the lobby and access to indoor patio when doors are in open position. Examples of similar solutions from other projects were reviewed. **Margaret Laraviere concurred that this is the best solution, and DFSS would like the project to continue on this basis**.	

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	2. Connection between MBR #1 and MPR #2 • Rada explained that the connection between the two community rooms can be achieved on the same basis – with two double doors, that could be closed, when individual use is need, or stay on "hold opens" when movement and visual connection between the two rooms is desirable. She further explained that this is also an appropriate solution in view of the structural requirement for this wall, which commands designing structural bracing between the columns. The solution described better addresses the latter given, and is also budget sensitive, and acoustically sound one. **Margaret Laraviere stated that it is understood that structural requirements need to be met, and that this solution will work well, in particular when acoustical separation may be important. DFSS would like the project to continue on this basis**. 3. **Review of overall First Floor Plan**. The DA presented in detail the whole plan, the following are the notable areas as discussed: • **Storage for folding furniture** was shown in the best location, which was least affecting Dining room seats, and vision sightlines. The storage area shown in closets and room on the west side of the building could accommodate all dining tables, and a large number of stackable chairs. It was discussed that there is no need to empty all spaces of furniture, which may also create a different code interpretation. The storage space then, seems oversized, but DFSS prefers to keep as shown. • **Fireplace and Water feature** – were discussed as items that will be removed from the project, until better comfort with the budget exists. They also represent items that could be added later to the building. DFSS stated understanding with the need to remove. • **Furniture in the Lobby and Community Lounge** was reviewed and positively accepted. The surrounding walls are to accept exhibit display rails for posting artwork as the design team saw in the other centers. • **The issue of placing a station for security officer in lieu of seating group by the shop was discussed**. DA suggested that any security personnel could be stationed in the large reception area, and that the entrance needs space for people walking in and out, and better visual perception upon entering the building. The current design is to remain. • **Support areas along the north side of the building** were reviewed and found acceptable The conversation confirmed that the First Floor Plan as designed is adequate and satisfactory to proceed to coordination and completion. 4. **Review of overall Second Floor Plan**. The DA presented in detail the whole plan, the following are the notable areas as discussed: • **The Fitness Center** layout addresses the inclusion of more workout stations, and removal of open floor area for yoga practice. • **The Terrace furnishings** were discussed whether they need to be different in view of DJ and other parties, it was concluded to remain unaltered. A discussion about sun control on this terrace was held – with the idea of retractable awning possibility, but it was concluded that sun shading using umbrellas is a budget friendly solution as well. No awning will be included in the project. • **The Classrooms** as designed are acceptable, with further confirmation of program for furnishing to come to the design team. DFSS intends to include different arrangements for classrooms than what the team saw during the visits. Program will be delivered to the design team at the beginning of the following week. The rooms configuration will not be affected. • **Renaming the Classrooms to function which describes them better**, and to avoid burdening the project with code requirements related to classrooms:	**RADA** **DFSS** **RADA**

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	Computer Classroom will be called Technology Center, in line with DFSS forward thinking. Classrooms will be called Activity Rooms, as they are not going to be used as typical classrooms. Activities that are going to take place are: Music Appreciation, clubs, sewing, quilting, and others. The conversation confirmed that the Second-Floor plan as designed is adequate and satisfactory to proceed to coordination and completion.	
C	**SCHEDULE**	
	July 25, 2025; Next DFSS User Meeting	
D	**NEXT STEPS**	
	1. The Design Team to receive formal approval of Final Plans, so that coordination with consultants can proceed on schedule.	**PBC**
	2. Next two weeks are important for structural and MEP coordination, LEED confirmation, energy code requirements and energy code model, value engineering continuing.	**PBC, RADA and design team**

By: Rada Doytcheva, PHD, FAIA,
Principal
RADA Architects

The preceding information is the writer's understanding of the matters discussed, and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within seven days (7) of the transmitted date.

Attachments: Material presented by RADA Architects

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture
Planning
Interiors

Meeting Minutes Memorandum MTNG #11 –User Meeting

Project: DFSS Regional Senior Center
Meeting Date: July 25, 2025
Meeting Location: Virtual Teams
Memo Date: August 07, 2025
Attendees:

Margaret Laraviere	DFSS
Yolanda Curry	DFSS
Kerl LaJeune	PBC
Keisha Johnson	PBC
Miriam Gutierrez	PBC
Aram Garbooshian	RADA Architects
Roshan Patel	RADA Architects

The following are summaries of the various discussions and directions:

	The weekly progress meeting was held to discuss the schematic design documents in progress.	Note / Action
A	**Introduction PBC**	
	1. PBC provided an introduction explaining the progress of project development.	-
B	**Warming Kitchen**	
	1. RADA presented the revised floor plan / equipment plan for the warming kitchen, incorporating the input from DFSS / RADA User Warming Kitchen programming meeting on 7/16/25. All agreed the layout is acceptable for the schematic design phase. 2. RADA explained the new range will be electric as the entire building is designed to be electric. PBC said they will have a separate discussion with 2FM regarding all electric building design. That discussion is related more to the building heating, but it would influence the warming kitchen range.	**PBC to discuss w/ 2FM on all Electric Building**
C	**Floor Plan Comments**	
	1. PBC questioned the size of the water room now that the plumbing engineer has determined that a booster and fire pump are not necessary. RADA to investigate with Milhouse. 2. PBC proposed if the water room decreases in size, the adjacent storage room could increase in size and be used for furniture storage from the multi-purpose room. This would remove the need for large storage closets in the room and make the room more rectangular. RADA to review. 3. Fitness Room: RADA to follow up and provide a dimensioned plan of the fitness room for DFSS use in discussion fitness equipment with fitness equipment venders. 4. PBC inquired on the height of the “stage” in the Dining Room. RADA explained the height is 14”. PBC asked to consider the name to change to “platform” since it is not a stage function, there will be no theatrical curtains / lighting or backdrops for instance.	**RADA to confirm water room size** **RADA to send Fitness Room Plan** **RADA to make plan changes**

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	5. PBC questioned the window behind the stage and suggested the window change to a clearstory. RADA agreed and will update the drawings. 6. RADA explained the shop size has increased by 5' to make the room more functional. All agreed this is an improvement. 7. PBC notes the upper terrace should have umbrellas for overhead protection. 8. PBC questioned the need for a large storage room adjacent to the Movie Room and thought two smaller storage rooms would be more functional. RADA to review but noted access to this space is limited.	
D	**Audio / Visual Discussion**	
	DFSS communicated the following A/V needs: 1. Dining Room and MP Room #2: Ceiling mounted retractable projection screen above the platform area, ceiling mounted retractable projector. Speaker system throughout. Lectern at Platform. **2.** Building Common Areas: DFSS said a public address system is needed in the common areas of the building with the capability to play music and make announcements. 3. Movie Room, Activity Rooms and Conference Room: Requires ceiling mounted retractable projector screen.	**AV Discussions to continue into the D/B phase.**
E	**Shades**	
	PBC requested roller shades to be shown on the plan where needed.	**RADA to provide**
F	**Mural**	
	DFSS asked if there is an appropriate area on the building where a mural could be commissioned. RADA to review internally and offer options.	**RADA to review**
F	**Community Input Meeting**	
	PBC explained a community input meeting will be held on Saturday, September 13th at 11am. Details are to be provided to RADA and DFSS for meeting preparation.	**PBC to follow up**
G	**SCHEDULE**	
	August 8, 2025; Next DFSS User Meeting	
H	**NEXT STEPS**	
	1. Refine layout based on feedback from this meeting and share with PBC / DFSS	**RADA**

By: Aram Garbooshian, Principal
RADA Architects

The preceding information is the writer's understanding of the matters discussed, and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within seven days (7) of the transmitted date.

Attachments: Material presented by RADA Architects

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

Meeting Minutes Memorandum MTNG #12 – Completed SD Plans Review and Virtual Walkthrough

Project:	DFSS Regional Senior Center	
Meeting Date:	August 8, 2025	
Meeting Location:	Virtual Teams	
Memo Date:	August 12, 2025	
Attendees:	Yolanda Curry	DFSS
	Jordan Evangelista	DFSS
	Keisha Johnson	PBC
	Jose Barrajas	PBC
	Rada Doytcheva	RADA Architects
	Roshan Patel	RADA Architects

The following are summaries of the various discussions and directions:

	The meeting goal was to review remaining adjustments to plans made since final plans were shared with DFSS.	Note / Action
A	**Introduction PBC**	
	1. PBC turned the discussion to RADA to present plans adjustments, and to do a virtual walkthrough through the building, prepared complementary to the building drawings.	
B	**RADA Architects plans presentations and virtual walkthroughs around and inside the building. Additional discussions took place on the following topics:**	
	RADA explained that the final plans are adjusted for structural bracing locations, penetrations of ductwork drop from the rooftop units and other coordination items with consultants. Items that were added as a follow through on prior programmatic conversations are: • **A light wood sun shading pergola in the courtyard facing south**, that would provide semi - shaded area around the dining and entrance. • **A retractable sun shading awning on the second-floor terrace, facing south**, desirable to block south sun exposure, beneficial to seniors. Retractable awnings have long history of additions to structures, they come tested for the appropriate wind loads. • **Streamlined overall exterior design**: the exterior planter on second floor west facade is now inside the building, saving on structure, waterproofing, plumbing, operable windows. There is less glazing throughout (in appropriate locations), and glass sizes and divisions eliminating the amount of tempered glass. • **Various other minor adjustments:** The east wall of Dining wall moved to align with the movable partition location in open position; the furniture storage in MPR #2 has been removed and storage designation changed to the adjacent, accessible also from the indoor patio space, room. The latter has been enlarged, now that the water room was coordinated with consultants and sized adequately. Yolonda Curry stated her appreciation with how the project has gone. She had only a few questions as follows: 1. Question whether the fence gates would be closed and locked on the weekend. Answer provided by Keisha Johnson: Yes, they would be closed, and access will need to be revisited when the adjacent development starts designs, as they will share parking. The current gates on the project are all manually operated, Rada added.	

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture Planning Interiors

	2. Question whether doors leading to the outdoor spaces – First Floor Courtyard and Second Floor Terrace – whether they would have a push button to open. PBC Keisha Johnson provided the answer – yes. 3. Question by John Evangelista as to the warranties and levels of maintenance required for the two outdoor sun shading features. Answer provided by PBC Keisha Johnson pointed to the likelihood that these features may not fit in the project budget. Answer provided by Rada: • **The wood pergolas** are widely used in public spaces, used frequently by Chicago Park District, and are considered inexpensive, low maintenance and items easy to replace, or replicate. The main steel structure shown on the plans could be also executed with wood. PBC could further inquire with the Park District regarding maintenance protocols they use. • **The retractable awning manufacturers** provide warranties depending on product line. This feature will be engineered by the manufacturers and easily added or removed form the project, however it is the most economical way to provide shade on the south terrace. Rada also presented examples from completed project showing similar wood pergola and variety of images from awning manufacturers in Chicago. Roshan Patel showed a virtual walkthrough around and inside the building.	
C	**SCHEDULE**	
	Aug 15, 2025: 100% SD completion issue for pricing	
D	**NEXT STEPS**	
	1. Design team working toward the above deadline	

By: Rada Doytcheva, PHD, FAIA,
Principal
RADA Architects

The preceding information is the writer's understanding of the matters discussed, and the conclusions reached in a summary format. This will become a part of the project record documents and is the basis upon which we will proceed. Concurrence is presumed unless the writer receives prompt notice of additions or corrections within seven days (7) of the transmitted date.

Attachments: Material presented by RADA Architects

CC: All Attendees

RADA ARCHITECTS LTD ILLINOIS CENTER
233 N MICHIGAN AVE STE 1900 CHICAGO, IL 60601
312 856 1970 RADA-ARCH.COM WBE DBE
Architecture
Planning
Interiors

9 DESIGN TEAM DIRECTORY

A PLACE TO CONNECT, ENGAGE AND THRIVE

Design Team Directory	DFSS Bronzeville Regional Senior Center			
Client:	Public Building Commission of Chicago (PBC)	4711 – 4755 S. Calumet Ave. Chicago, IL 60615		
Name/Individual	**Project Role**	**E- mail address**		**Phone Number(s)**
Prime Consultant / Architect				
RADA Architects Ltd.		www.rada-arch.com		
Rada Doytcheva, FAIA, NCARB, LEED AP BD+C	Principal	rada@rada-arch.com	O	312-856-1970 ext. 14
William Sitton	Principal - Tech Devlp.	wesitton@rada-arch.com	O	312-856-1970 ext. 25
Aram Garbooshian, AIA	Project Manager	agarbooshian@rada-arch.com	O	312-856-1970 ext. 18
MEP/ FP/ Structural/ Civil Engineering Consultant				
Milhouse Engineering Inc.		https://milhouseinc.com/		
Wilbur C. Milhouse III	President and CEO (Owner)	wmilhouse@milhouseinc.com	O	(312) 987-0061
Fred Owens	Executive VP, Chief Engineering Officer (Civil/Structural)	fowens@milhouseinc.com	O	312.924.4557
George Bouris, PE, CxA	VP MEP & HEAVY INDUSTRY (MEP/FP)	gbouris@milhouseinc.com	M	312-618-7185
Ahmad Anbari, PE, PMP, LEED AP	Vice President	aanbari@milhouseinc.com	O	312-987-0061
Scott Birney, SE, PE	Director of Structural Engineering	sbirney@milhouseinc.com	O	312-987-0061
Joel Aburto	BIM Lead	jaburto@milhouseinc.com	O	312-987-0061
Robert Thompson	Plumbing & Fire Protection	rthompson@milhouseinc.com	O	312-987-0061
Tom Hildebranski	Senior Mechanical Engineer (HVAC)	thildebranski@milhouseinc.com	O	312-987-0061
Bradley Kieltyka	Mechanical Engineer	bkieltyka@milhouseinc.com	O	312-987-0061
Matthew Antkowiak	Mechanical Engineer	mantkowiak@milhouseinc.com	O	312-987-0061
Matilda Pulaha	Electrical Engineer	mpulaha@milhouseinc.com	O	312-987-0061
Landscape Architecture Consultant				
TGDA		https://tgdastudio.com/		
Laura DeMink Kessel, PLA, SITES AP	Project Director/ Principal in Charge	laura@tgdastudio.com	O	312-481-8432
Ben Cole	Project Manager/ IT and BIM Contact for Protocol	ben@tgdastudio.com	O	312-481-8432
Food Service Consultant				
S2O Consultants, Inc.		http://s2oconsultants.net/services/		
Peg Galie, FCSI	Design Director	Peg@s2oconsultants.net	O	847-309-1163