

# Wilmington Senior Center

Public Forum  
06/08/2022

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Town of Wilmington, MA



06/08/2022

- Design Review
  - Building Plan Update
  - Material Studies at Building Entrance
- Building MEP/FP Systems – Basis of Design
- Building Structure – Basis of Design
- Next Steps

# Design Review

# Building Floor Plan

## Wilmington Senior Center





### EXTERIOR SIDING



FIBER CEMENT  
SIDING



PREFINISHED /  
PAINTED TRIM



STUCCO

### MASONRY



PRECAST CONCRETE



FIELD STONE



BRICK

### ROOFING MATERIAL



ASPHALT SHINGLE  
ROOF

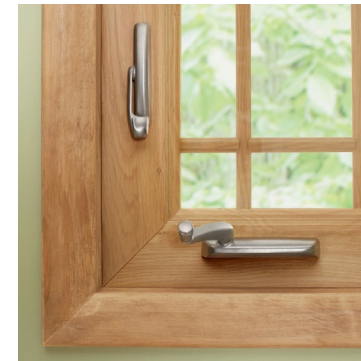


STANDING SEAM  
METAL

### WINDOWS - INSULATED



ALUMINUM



WOOD



FIBERGLASS



# Option 1 – Stucco & Siding

Wilmington Senior Center



# Option 2 – Clapboard & Stone

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# Option 3 – Brick & Painted Trim

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# Rendered Site Plan

## Wilmington Senior Center





## Building HVAC Systems – Basis of Design



## ■ VRF Heat pump System

- Operating Cost - Approximately \$31,000 per year
- Emissions – Approximately 112,000 lbs CO<sub>2</sub>e
- Relative First Cost - \$\$\$

## ■ Condensing Gas Boiler with DX Cooling

- Operating Cost - Approximately \$26,000 per year
- Emissions – Approximately 141,000 lbs CO<sub>2</sub>e
- Relative First Cost - \$\$\$\$

## ■ Condensing Gas Boiler with Chiller

- Operating Cost - Approximately \$28,000 per year
- Emissions – Approximately 150,000 lbs CO<sub>2</sub>e
- Relative First Cost - \$\$\$\$\$

\* Operating cost and emissions estimates are based on heating degree day building consumption estimates, estimated energy costs and estimated system seasonal efficiencies. If more accurate comparison is required than energy modeling will need to be performed.

## Option 1 - Variable Refrigerant Flow (VRF) Heat Pump System

- Uses electricity for heating and cooling.
- Reduces CO<sub>2</sub> emissions but increases operating costs.
- Multiple heating and cooling zones
- No natural gas service installation



Outdoor Heat Pump



Recessed Ceiling  
Cassette  
Fan Coil



Concealed Ducted  
Fan Coil



## Option 2 - Condensing Gas Boilers with DX Cooling

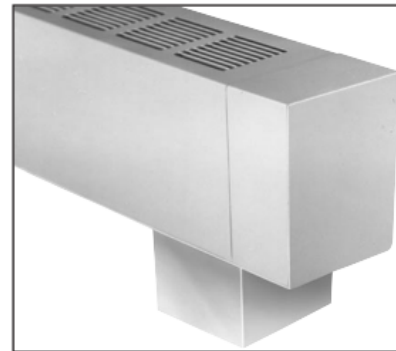
- Lower heating costs due to lower gas price
- Perimeter radiators for occupant comfort
- Common residential type equipment can be easier to maintain
- Less cooling zones due to requiring a condensing unit for each cooling zone.  
Building will likely require 10 to 12 condensing units



Condensing Mode  
Gas Fired Boiler



Fan Coil with  
Hydronic Heating and  
DX Cooling



Hydronic Perimeter  
Radiation



DX Condensing Unit

## Option 3 - Condensing Gas Boilers with Chiller

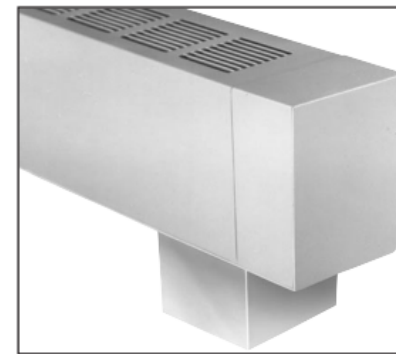
- Lower heating costs due to lower gas price
- Perimeter radiators for occupant comfort
- Allows for combinations of different types of equipment.
- Will require maintenance personnel familiar with commercial building systems and equipment.



Condensing Mode  
Gas Fired Boiler



Fan Coil with  
Hydronic Heating and  
Cooling

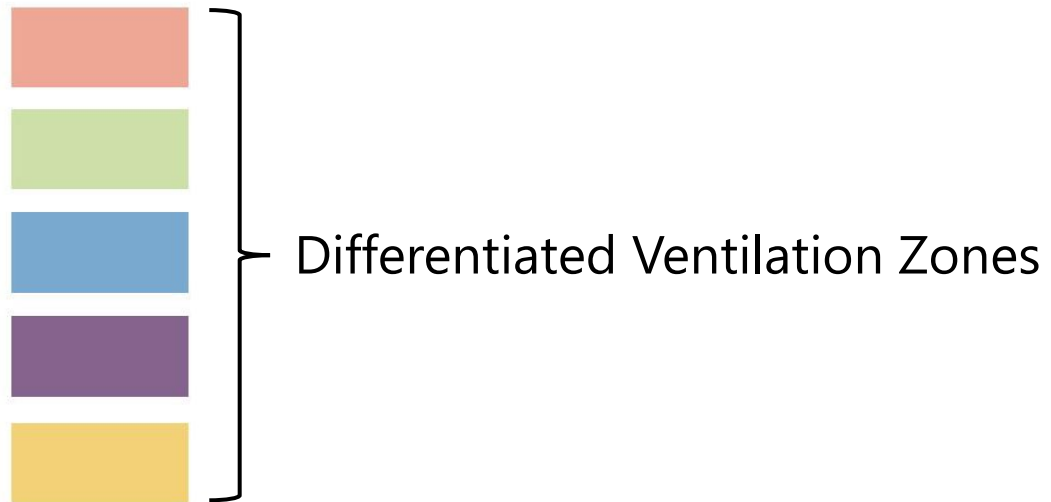


Hydronic Perimeter  
Radiation



Packaged Chiller





## Building Structure – Basis of Design



## Composite Wood Structure

- Mass Timber (Engineered Wood)  
At main spaces – entry and dinning room

AND

- Typical wood trusses and stick framing  
At all other spaces and for mechanical attics



Mass Timber Framing



Wood Truss & Dimensional Wood Framing

## Next Steps



## Building Committee Meeting on 7/6/2022

- Finalize exterior design for building and site

## Building Committee Meeting on 7/20/2022

- Vote to approve Schematic Design to send to cost estimating

## Add:

- Men's & women's multi-user toilet rooms (1,000 sf)
- Two fire-rated exit stairs (400 sf each)
- Sprinkler standpipes in each stair
- Elevator, machine room, and pit (100 sf & 100sf)
- Additional unfinished program space (10,000 sf)
- Increased structural design
- Taller roof line and bigger building
- 56% building area increase



Thank you.





# Summary of Spaces

## Wilmington Senior Center

Space Name	Proposed Area	Comments
<b>Entry</b>	<b>1,000 SF</b>	
Vestibule	120	Air Lock with sliding automatic doors , benches, sitting area for 3-4 seniors, lookout spot for bus
Reception desk area	150	Computerized check-in close to door
Entry lobby	150	Informational bulletin board, digital display
Café	130	Refreshment service bar - Counter and work space, direct access to Kitchen
Lounge	450	Seating and conversation area with (6) 4-top tables, bookcases, the Lounge will be located in the main central space of the building, long uninterrupted Corridors will be avoided, program spaces will extend from the central Entry, Reception, Cafe and Lounge areas
<b>Administration</b>	<b>1,279 SF</b>	
Executive Director Office	170	Desk, table for 3 chairs & file storage
Activities Director Office	80	Private Office, needs confidentiality
Outreach/Social Worker Office	80	Private Office, needs confidentiality
Senior Clerk Office	80	Alcove/open area adjacent to the Reception Desk
Administrative Open Office	600	Open office with office partitions, Activities Director, Volunteer Coordinator, 6 to 10 occupants
Volunteer Coordinator Office		Open Office space, use Admin Conference Room if need privacy
Admin Conference Room	120	4-6 person table for admin meetings, has confidentiality for Shine Masshealth program, Benefits counseling, Veteran's services, legal services, meetings with State repre or legislator, etc.
Admin Storage / Files	24	Two 6 FT wide closets
Staff Kitchenette	75	Sink, microwave, refrigerator with freezer and ice maker, coffee maker
Staff Restroom	50	Accessibility compliant
<b>Activities &amp; Recreation</b>	<b>2,892 SF</b>	
Arts and Crafts Room	900	Wet / Dry separation, operable partition, sink and counter, north light preferred
Arts and Crafts Storage	24	Two 6 FT wide closets for materials and projects
Workshop	200	Workbench, power tools, kiln, adjacent to Arts and Craft
Game Room	700	4 round tables, puzzles, games, cards
Game Room Storage	24	Two 6 FT wide closets
Recreation Room	900	Card tables, games, puzzles, billiards table, folding ping pong table
Recreation Storage	24	Two 6 FT wide closets
Library	120	Library and reading area, laptops on carts, TV, books, DVDs

# Wilmington Senior Center

<b>Dining/ Function</b>	<b>3,950 SF</b>	
Dining/Function Hall	3,750	32 tables x 8 persons/table = 256 Occupants (Occupancy count per Master Plan = 250), operable partition, beverage counter area between Kitchen and Dining Room, Audio/Video service, raised Platform for presentations (208 SF) deleted
Function Hall storage	200	Large Storage Room (for tables, chairs & equipment)
<b>Wellness</b>	<b>2,078 SF</b>	
Fitness Room	1,200	Group classes - aerobics, yoga, TRX, etc. - sport flooring, mirrors, ballet barre, storage and cubbies for personal items. No Changing Room or shower function
Fitness Storage	100	Equipment, mats, chairs storage
Exercise Equipment Room	450	Cardio and weight machines, rubberized floor, mirrors
Wellness Clinic - Exam room	200	Hand sink, vanity with cabinet storage, Town Nurse
Wellness Storage	8	For medical and hygiene products
Medical Equipment Storage	120	For medical equipment storage, adjacent to Wellness Clinic
<b>Kitchen</b>	<b>1,245 SF</b>	
Kitchen (Full Commercial)	1,000	Prep area, serving area - ansul system, walk-in refrigerator, dishwashing, high density storage units, incorporate a Teaching Kitchen layout, side overhead coiling door
Kitchen Alcove	50	Adjacent to Kitchen, service entry
Kitchen Staff Restroom	75	Unisex - with shower for emergencies
Kitchen Storage	120	Walk-in freezers or dry storage, combined with Kitchen area
<b>Meeting</b>	<b>539 SF</b>	
Large Meeting Room - (Multi-purpose)	425	20 people, Multi-use space, COA meetings, community presentations, general meetings, classes, Audio/Video service, locate near Lobby
Large Meeting Room - Storage	8	2 x 4 FT
Small Meeting Room	100	4 person table
Small Meeting Room - Storage	6	
<b>Restrooms</b>	<b>970 SF</b>	
Restroom - Companion	210	3 Companion Restrooms (70 SF ea.) single-user restroom with extra space for
Restrooms - Men's	380	Airport style restroom entrance
Restrooms - Women's	380	Airport style restroom entrance

<b>Support Spaces</b>	<b>983 SF</b>
Custodian Sink and Storage	64 8 x 8 Room
Laundry Room	64 8 x 8 Room w/ Washer/dryer - near kitchen, not part of Kitchen space
General Storage	200 10 x 20 Room
Mechanical Room	225
Electrical Room	150
Server Room	60
Local TV Room	100 Space for local TV station use, work space, equipment
Equip Platform access ladder	80 Ship's ladder for access (2 locations, 40 SF ea.)
Snow Blower Storage	40 For snow blower storage, access from buiding exterior
<b>Subtotal</b>	<b>14,936 net square feet</b>

Circulation and partitions at 20% grossing factor

Corridors will include sitting areas with bookcases, built-in benches for miscellaneous  
2,987 storage and permanent areas for temporary art exhibits

**Total Gross SF**

**17,923 gross square feet**

<b>Outdoor</b>	
Greenhouse/Solarium	200 potting table, south facing, (Free standing pre-fab structure?)
Main Patio	2,500 2,500 (50Ftx50Ft) open terrace space (160 occupants approx. - 15 SF per person tables & chairs), 900 SF Covered outdoor space - tent or canopy 60 occupants - 15 SF per person tables & chairs)
Lounge Patio	216 12 FT x 18 FT access off Lounge





