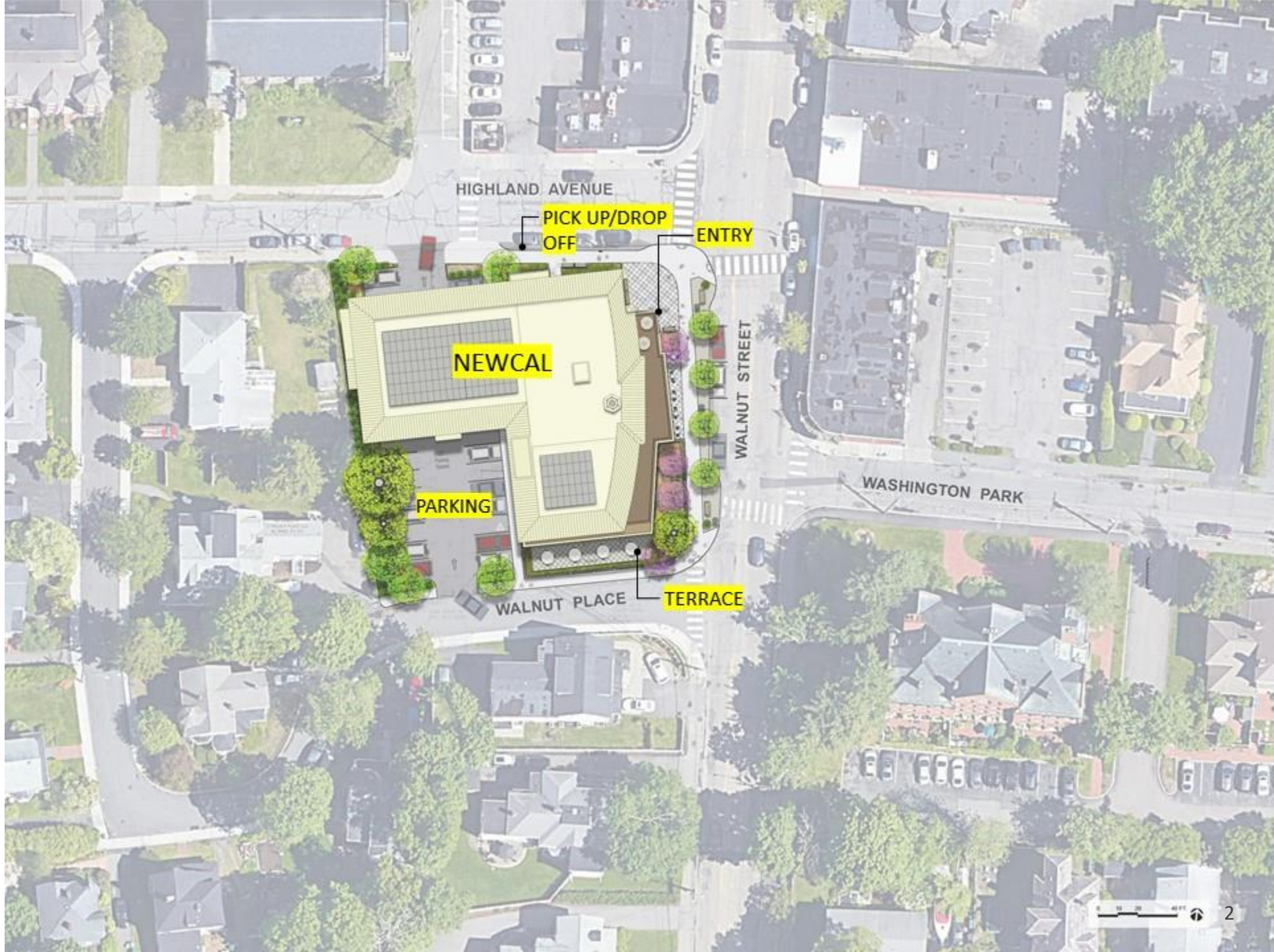


NewCAL

Community Update

March 17, 2022





HIGHLAND AVENUE

PICK UP/DROP OFF

ENTRY

NEWCAL

PARKING

WALNUT STREET

WASHINGTON PARK

WALNUT PLACE

TERRACE

Site Plan

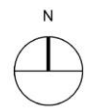
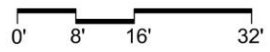
Highland Avenue

Curb side drop off + Pick Up



Walnut Street

First Floor



V.2.1

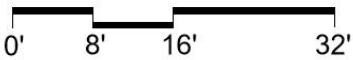
Walnut Place

Highland Avenue



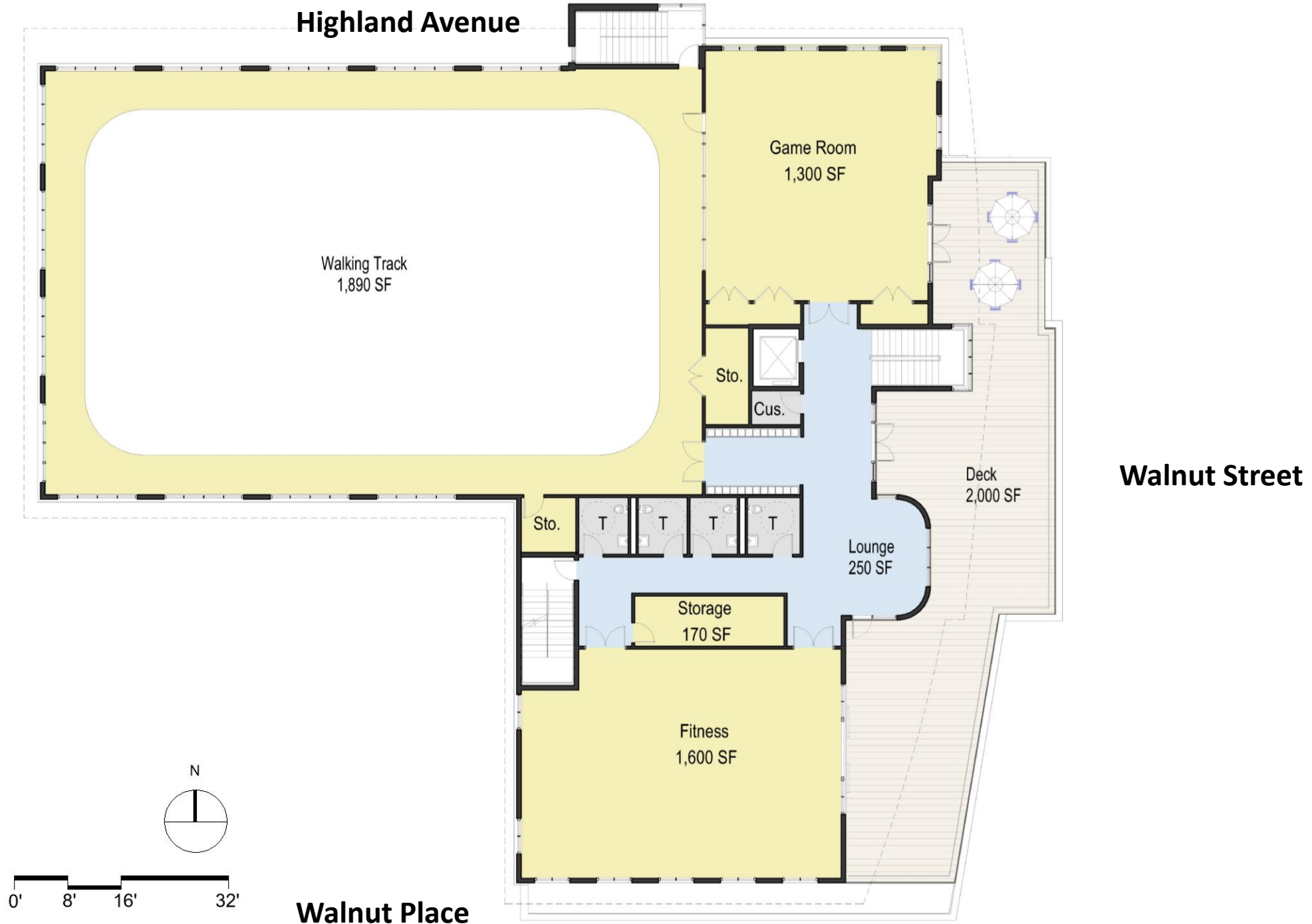
Walnut Street

Second Floor



Walnut Place

Third Floor





Front Entrance



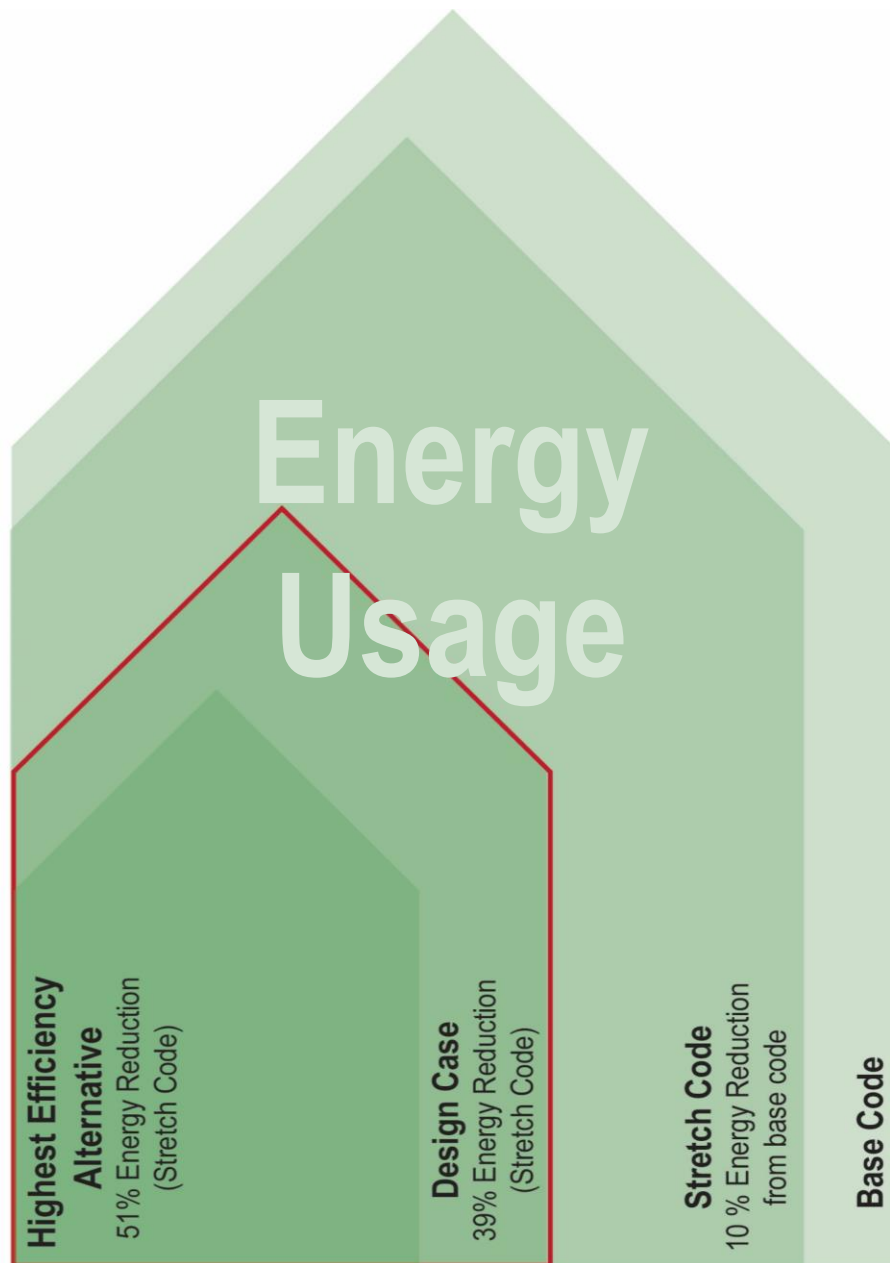
Walnut Street and Highland Avenue



Walnut
Walnut Pl

Walnut Street and Walnut Place

Energy Model Progress



Overall Energy + Green House Gas Comparison to Code

COMcheck Guidance

ENVELOPE BACKSTOP COMPLIANCE	
A+B+C+D+E	-170
Pass	

C406.8 ENHANCED ENVELOPE COMPLIANCE

A+B+C+D+E	-145
Pass C402.1.5	

DOER Guidance

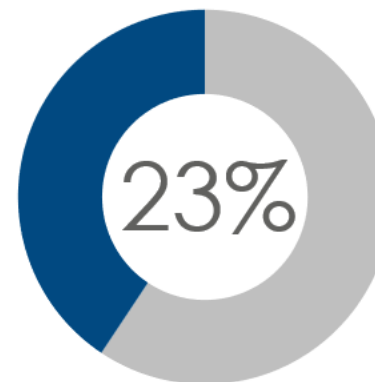
ENVELOPE BACKSTOP COMPLIANCE	
A+B+C+D+E	-359
Pass	

ENVELOPE BACKSTOP COMPLIANCE

A+B+C+D+E	-305
Pass	

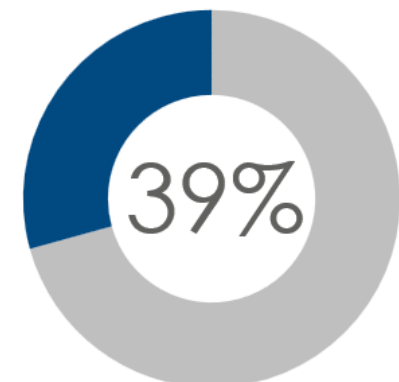
Design Case GHG

Percent of Green House Gas Reduction



Highest Efficiency Alternative GHG

Percent of Green House Gas Reduction



Energy Usage Intensity Comparison to Existing Senior Center



Existing Senior Center
11,000 SF



Stretch Code
32,000 SF



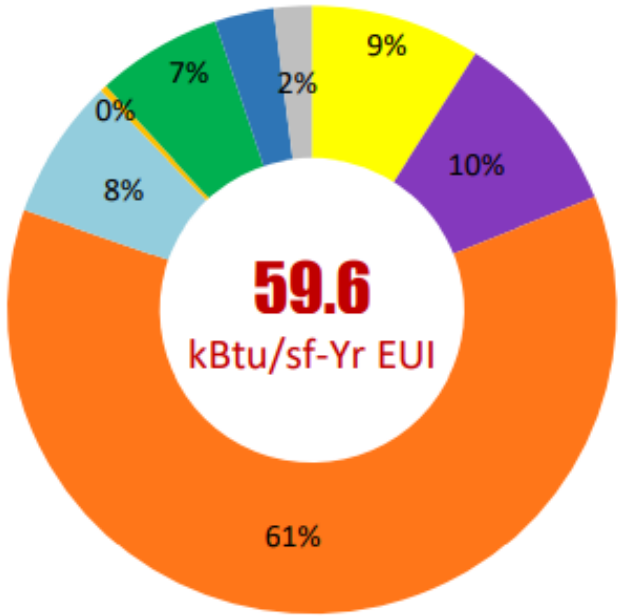
Design Case
32,000 SF



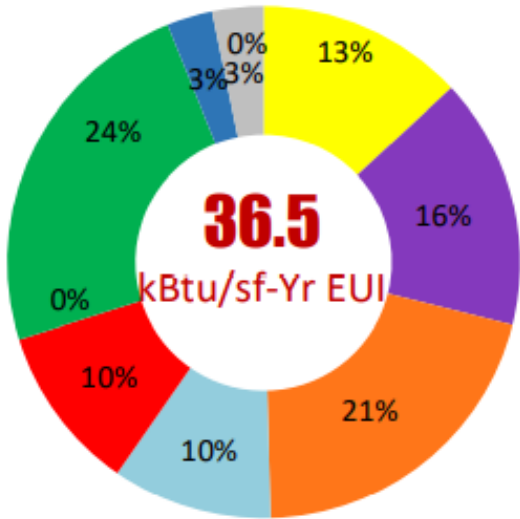
Highest Efficiency
Alternative
32,000 SF

Energy Usage Intensity

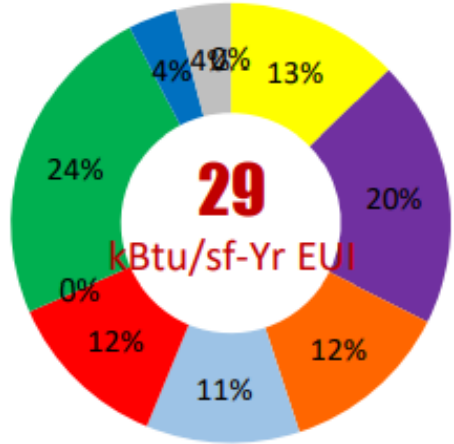
SITE ENERGY CONSUMPTION BY END-USE (REGULAR OCCUPANCY)



CODE BASELINE



DESIGN CASE

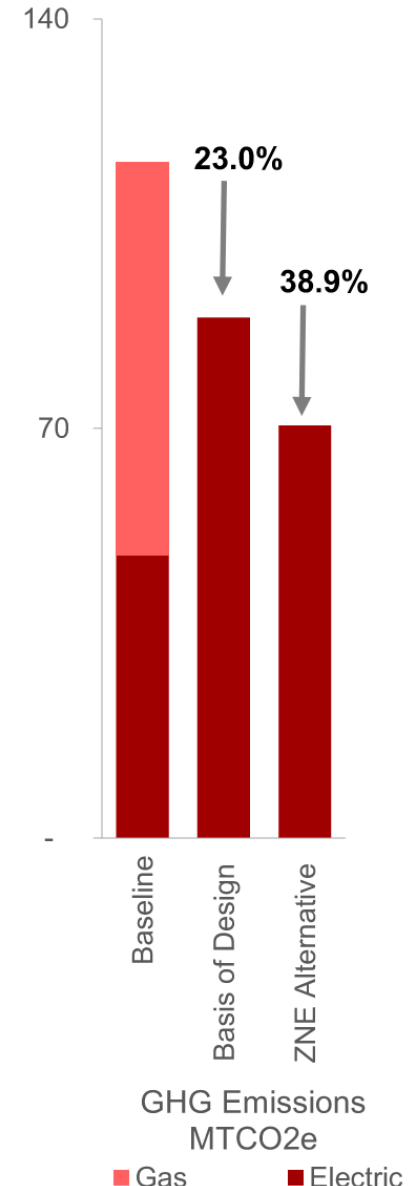
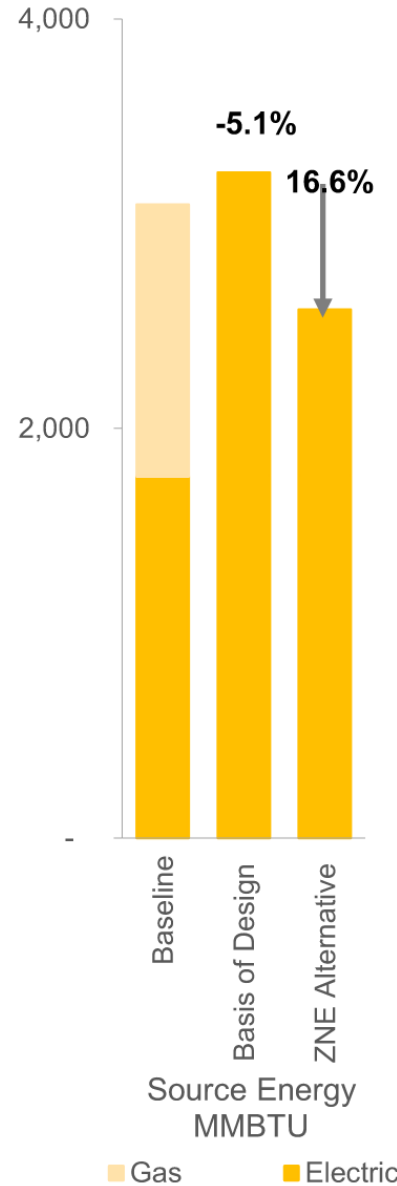
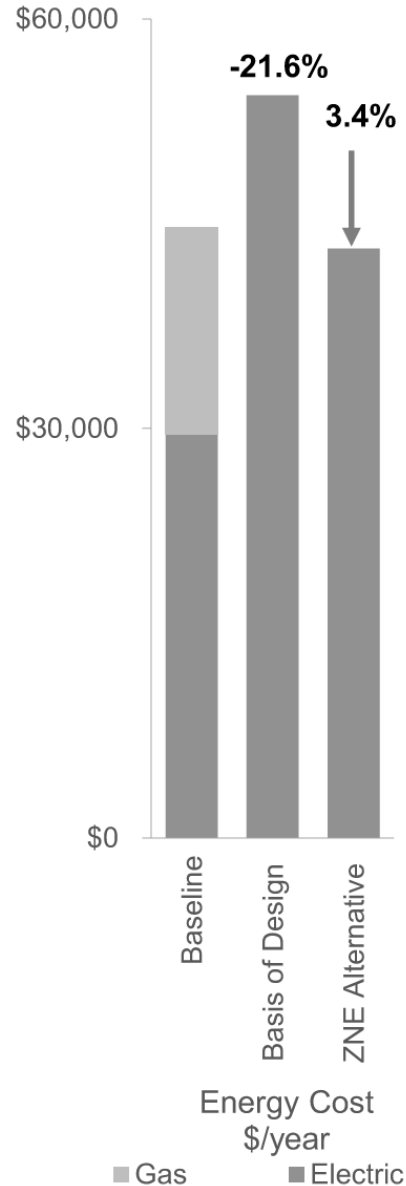
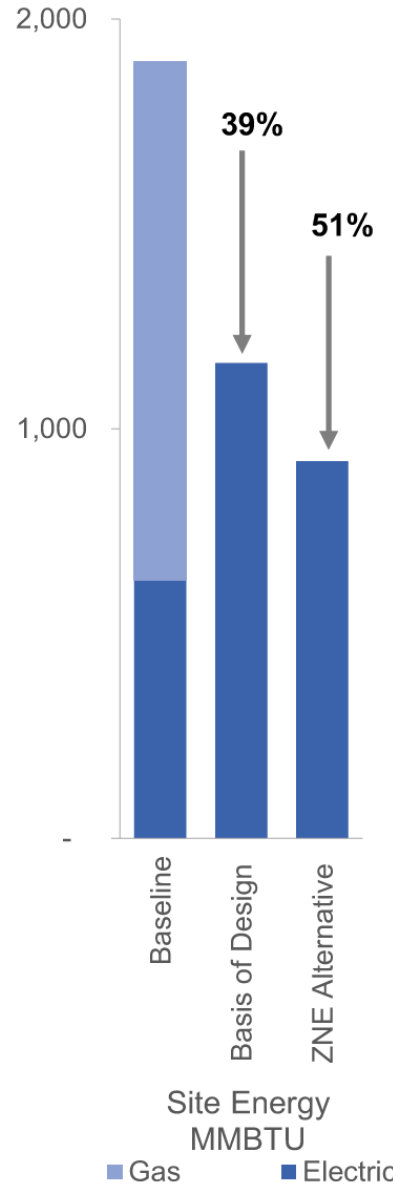


HIGHEST EFFICIENCY ALTERNATIVE

- Lights
- Misc. Equip
- Space Heating
- Space Cooling
- HP Supplemental Heating
- Pumps & Aux
- Vent Fans
- DHW
- Other Misc
- Heat Rejection

*EUI includes energy use savings from On-Site PV as per C406.5 Requirements

Energy Comparison, Cost, Green House Gas Emission



Renewable Energy - PV (Solar Panels)

Design Case

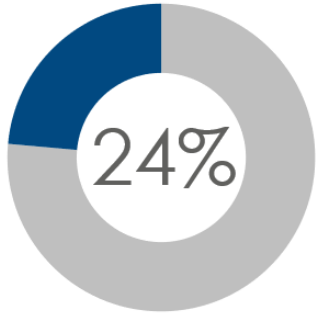
Summary

[Complete Energy offset](#)

19,510 SF

[Design Case](#)

4,600 SF



Renewable Energy - PV (Solar Panels)

Highest Efficiency Alternative

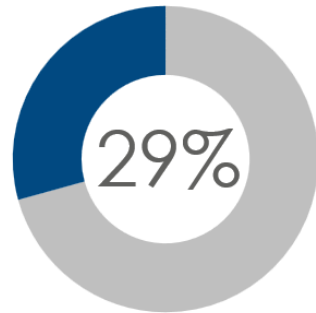
Summary

[Complete Energy offset](#)

15,710 SF

[Design Case](#)

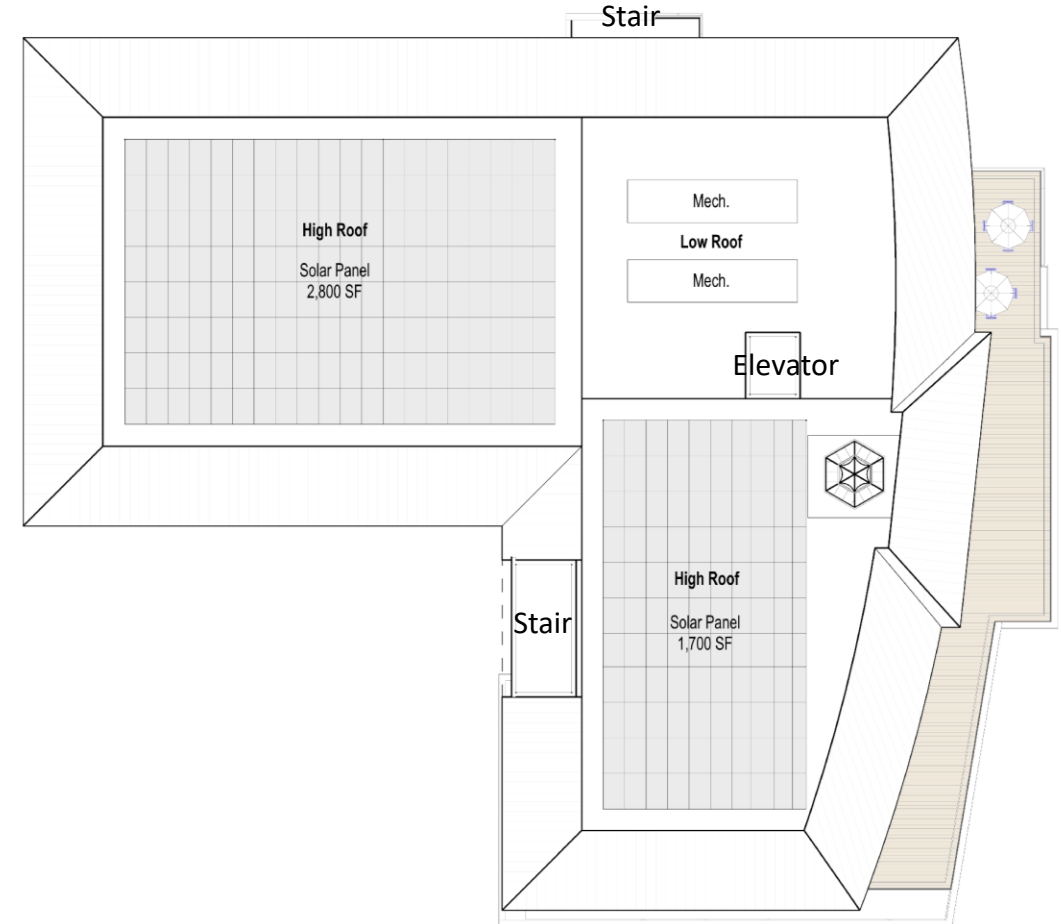
4,600 SF



PV Requirement to Achieve Zero Net Site Energy for Scenario 1								
Description	Annual Energy Use			Annual Energy Production				
	EUI (kBtu/sf/yr)	SF	kWh/yr	kWh req for NZE	kWh/kW (PV Watts)	pkW req for NZE	SF Roof Req	*Install Cost
Design Case	38.5	31,805	358,878	358,878	1,200	299.1	19,510	\$ 897,196
NZE Alternative	31.0	31,805	288,967	288,967	1,200	240.8	15,710	\$ 722,417

*Installed Cost is based on \$3/pWatt PV capacity and does not account for any solar incentives.

Renewable Energy – Solar Panel



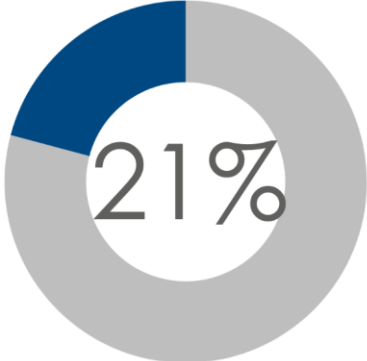
Proposed Design

V.2.1

Glazing to Wall Analysis

Total Building

Percent of Glazing to Wall Ratio



Summary

TOTAL WALL

8,414 SF

TOTAL GLAZING

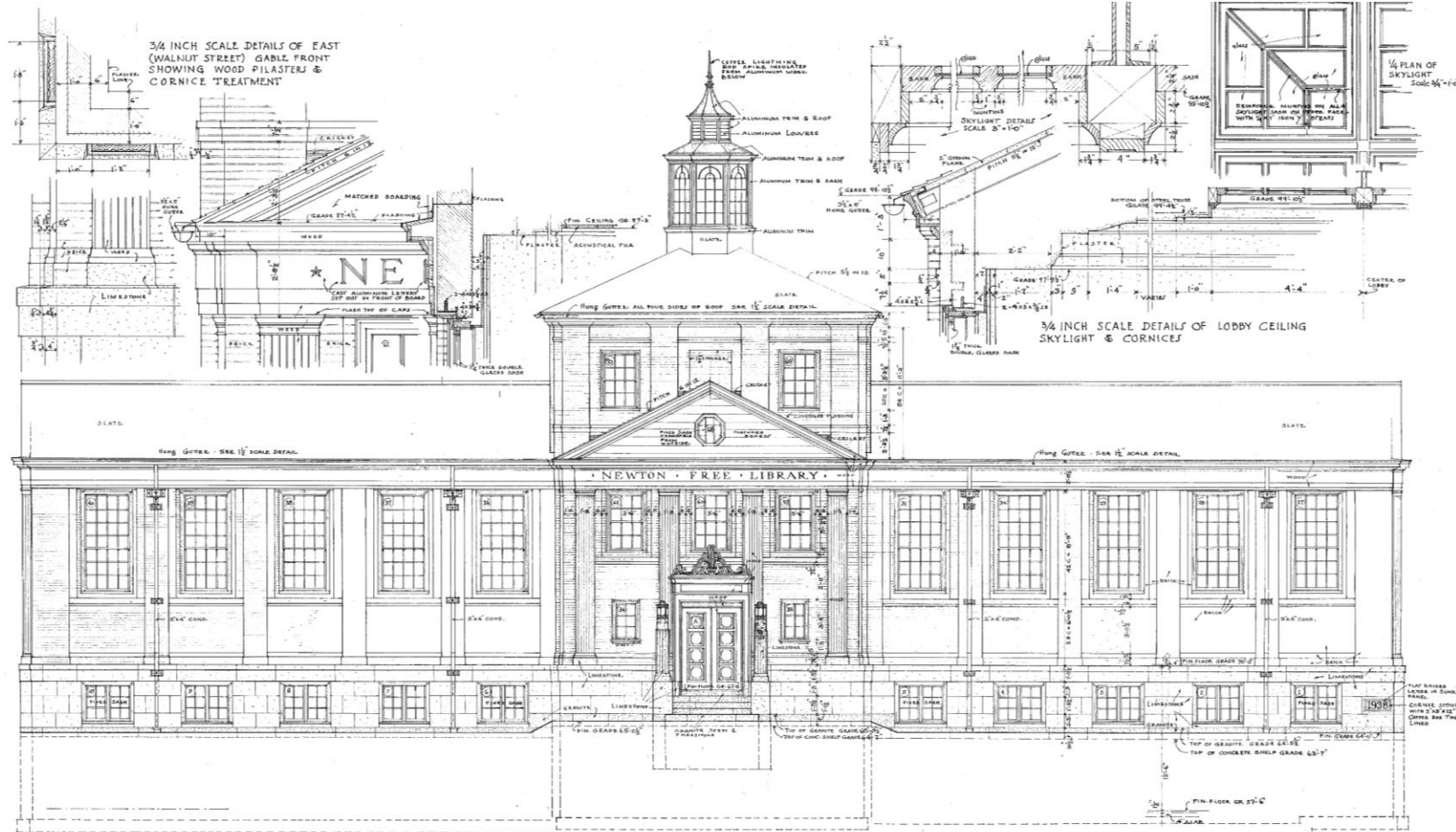
1,754 SF

Glazing to Wall Analysis Existing Senior Center

Newton Center for Active Living
3/17/2022

Glazing to Wall Summary

Wall/Surface	Glazing and curtainwall
	196 sf North
	120 sf South
	741 sf East
	697 sf West
6,660 sf	1,754 sf
8,414 sf	20.8% Total Wall + Glazing
sf	Roof
lf	Foundation wall perimeter
- sf	Under slab wall area

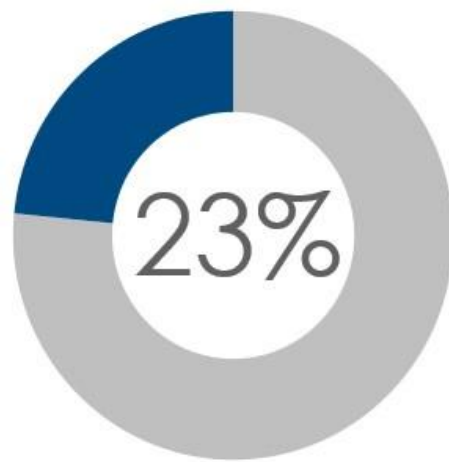


FRONT ELEVATION (EAST)
SCALE 1/4" = 1'-0"

SUPERSTRUCTURE
PROPOSED LIBRARY
WALNUT ST. E. HIGHWAY AVE

Total Building

Percent of Glazing to Wall Ratio



Summary

TOTAL WALL

24,105 SF

TOTAL GLAZING

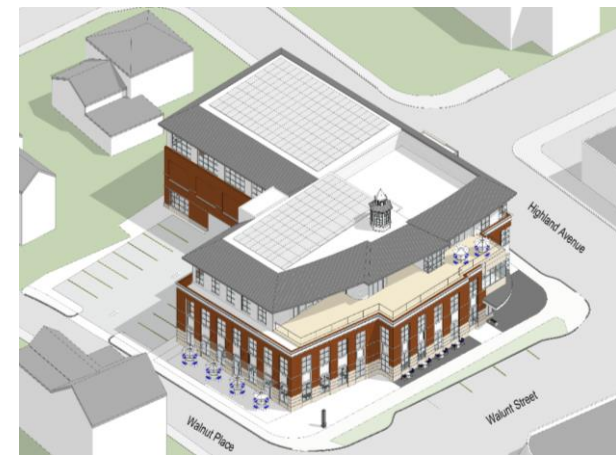
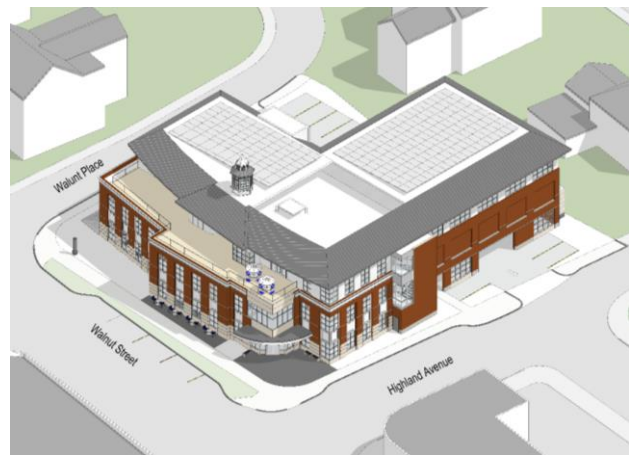
5,647 SF

Newton Center for Active Living
3/17/2022

Glazing to Wall Summary

Wall/Surface	Glazing and curtainwall	
	1,326 sf	North
	1,388 sf	South
	2,061 sf	East
	872 sf	West
18,458 sf	5,647 sf	
24,105 sf	23.4%	Total Wall + Glazing
11,800 sf		Roof
560 lf		Foundation wall perimeter
2,240 sf		Under slab wall area

Glazing to Wall Analysis New Building



North Wall

Glazing Area – North Elevation

Percent of Glazing to Wall Ratio

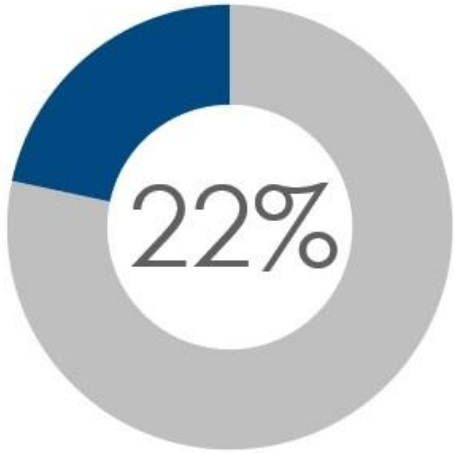
Summary

TOTAL WALL

6,120 SF

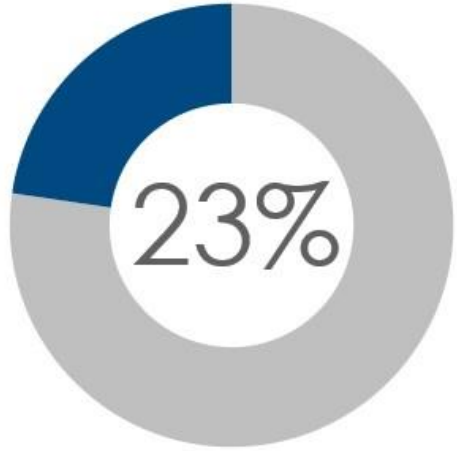
TOTAL GLAZING

1,326 SF



South Wall

Percent of Glazing to Wall Ratio



Summary

TOTAL WALL

6,120 SF

TOTAL GLAZING

1,388 SF

Glazing Area – South Elevation



Percent of Glazing to Wall Ratio

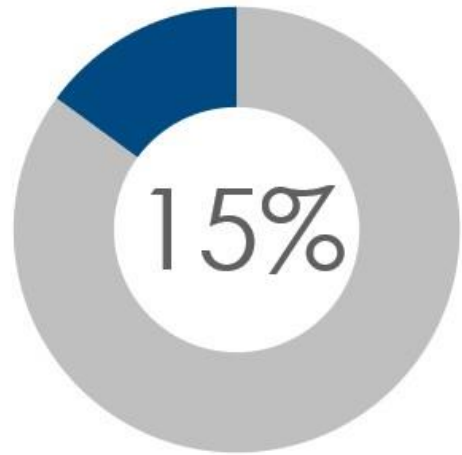
Summary

TOTAL WALL

5,835 SF

TOTAL GLAZING

872 SF



Thank you
Questions and Comments

Wall and Roof Assembly

Wall Section Diagram

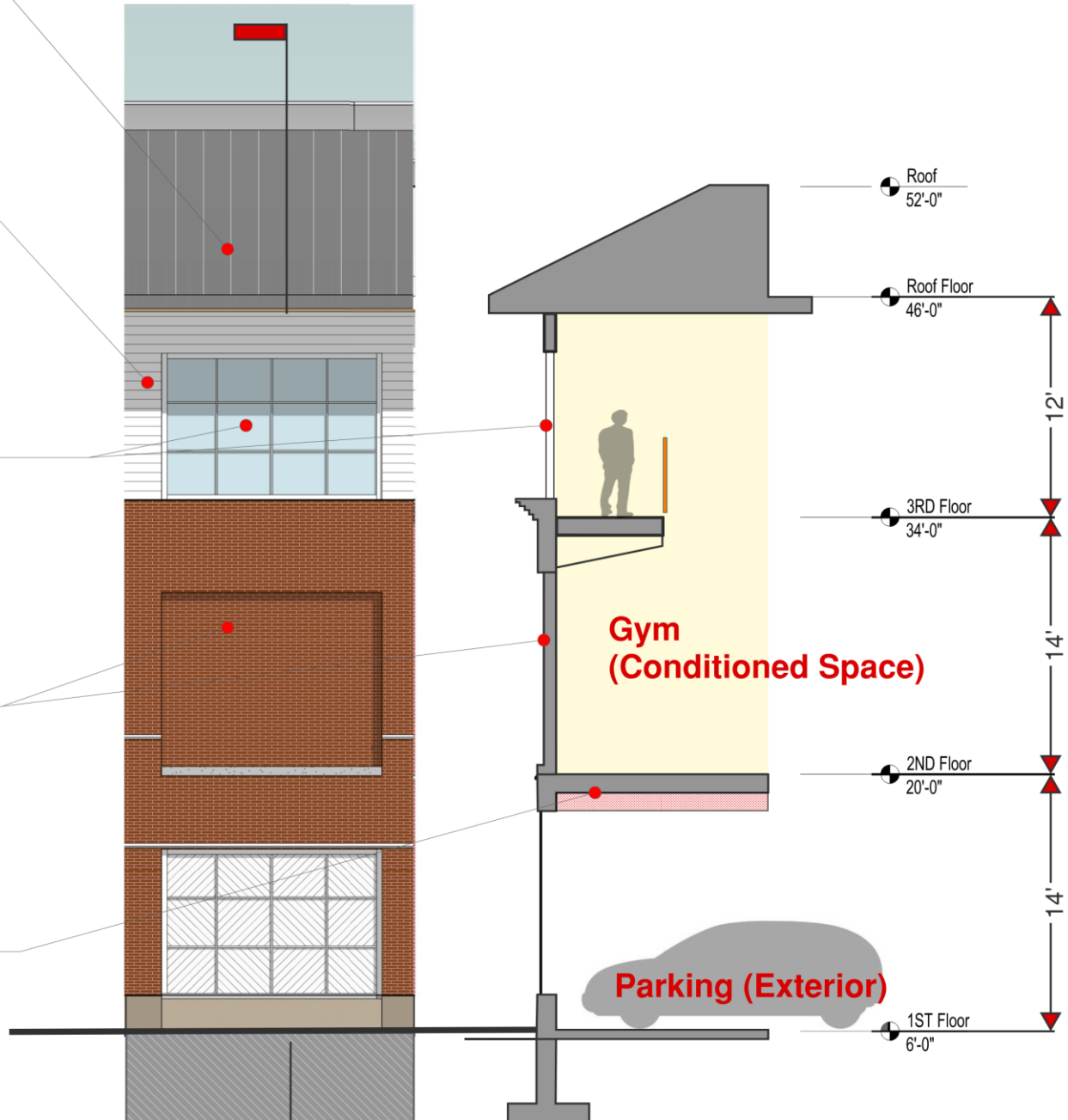
Roof
 R-Value 35 Continuous Insulation (ci)
 Assembly U-Value
 0.029

Wall (Opaque panel)
 Interior finish + Vapor Barrier
 Light gage metal frame + Batt insulation,
 Spray foam
 Sheathing + AVB
 Continuous insulation
 Exterior cladding
 Assembly U-Value
 0.065

Window
 Fiberglass + Insulated Glazing Unit
 Assembly U-Value
 0.36

Wall (Masonry)
 Interior finish + Vapor Barrier
 Light gage metal frame + Batt insulation,
 Spray foam
 Sheathing + AVB
 continuous insulation
 air space
 Exterior cladding
 Assembly U-Value
 0.065

Floor Slab (Gym)
 Insulation + Ceiling cavity
 Assembly U-Value
 0.36



**Gym
 (Conditioned Space)**

Parking (Exterior)

Roof
 52'-0"

Roof Floor
 46'-0"

3RD Floor
 34'-0"

2ND Floor
 20'-0"

1ST Floor
 6'-0"

12'

14'

14'

Wall Section Diagram

Roof
 R-Value 35 Continuous Insulation (ci)
 Assembly U-Value
 0.029

Wall (Opaque panel)
 Interior finish + Vapor Barrier
 Light gage metal frame + Batt insulation,
 Spray foam
 Sheathing + AVB
 Continuous insulation
 Exterior Cladding
 Assembly U-Value
 0.065

Window
 Fiberglass + Insulated Glazing Unit
 Assembly U-Value
 0.36

Wall (Masonry)
 Interior finish + Vapor Barrier
 Light gage metal frame + Spray foam
 Sheathing + AVB
 Continuous insulation
 air space
 Exterior Cladding
 Assembly U-Value
 0.065

Curtainwall system
 Assembly U-Value
 0.36

Floor Slab on Grade
 R-10 Continuous Insulation (24")
 F-Factor
 0.54

