

Mass Timber for Affordable Housing and Forest Resilience in New England

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How Mass Timber Can Support New England Forests

Mass Timber+ 2026

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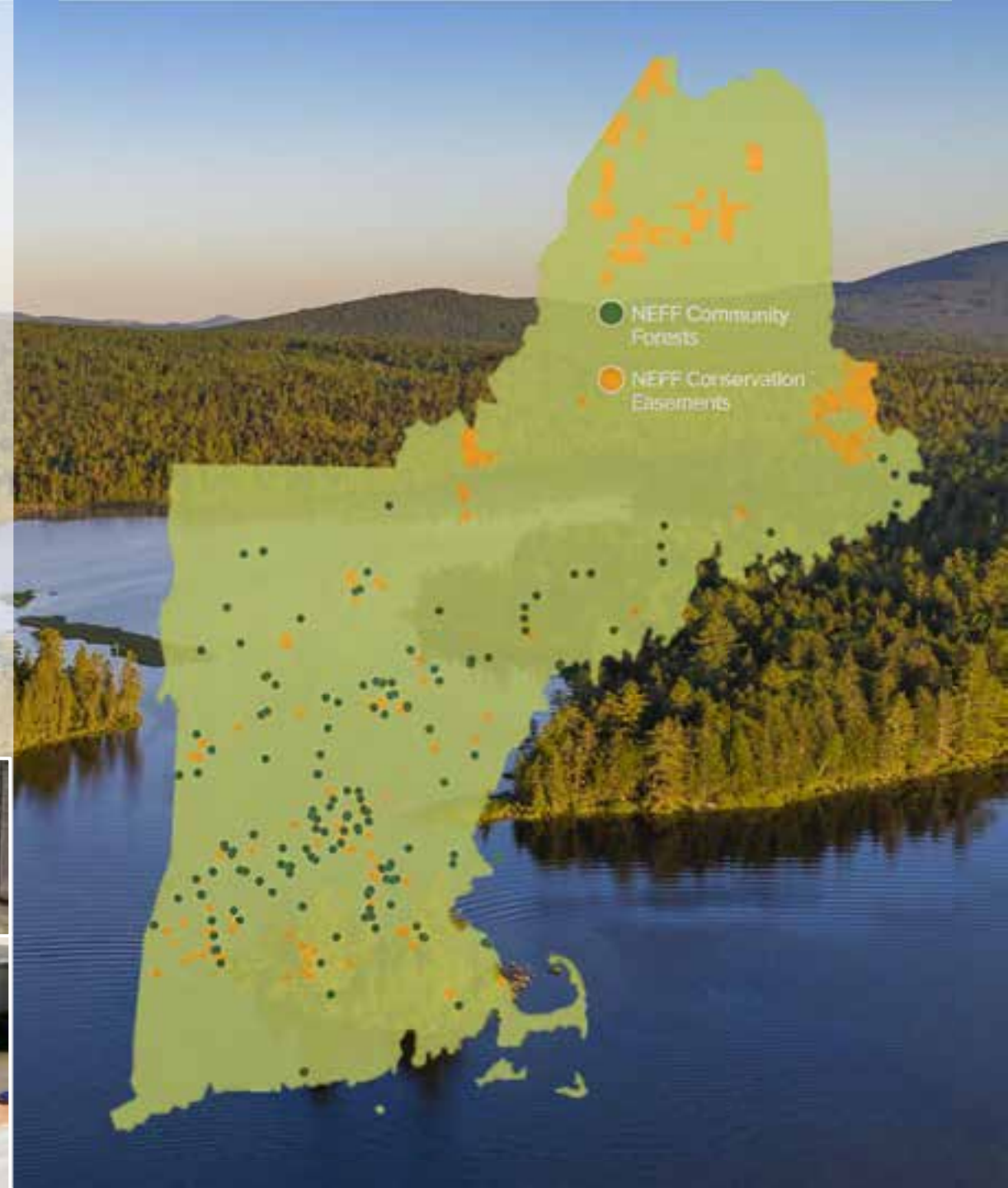


NEW ENGLAND
FORESTRY
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Northeast Timber Production + Market Expansion Program

\$32M Funded by USDA AMP Initiative

Build markets for the full range of forest products (including low-grade material) so that such practices will eventually be self-sustaining and economically viable.



WoodWorks | The Wood Products Council

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Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.



Course Description

As New England faces increasing demand for affordable housing, mass timber construction offers an opportunity to address housing needs while supporting sustainable forest management, regional manufacturing, and resilient building practices. This course explores the relationship between forest health, regional wood supply chains, and the use of mass timber in multi-family and affordable housing applications.

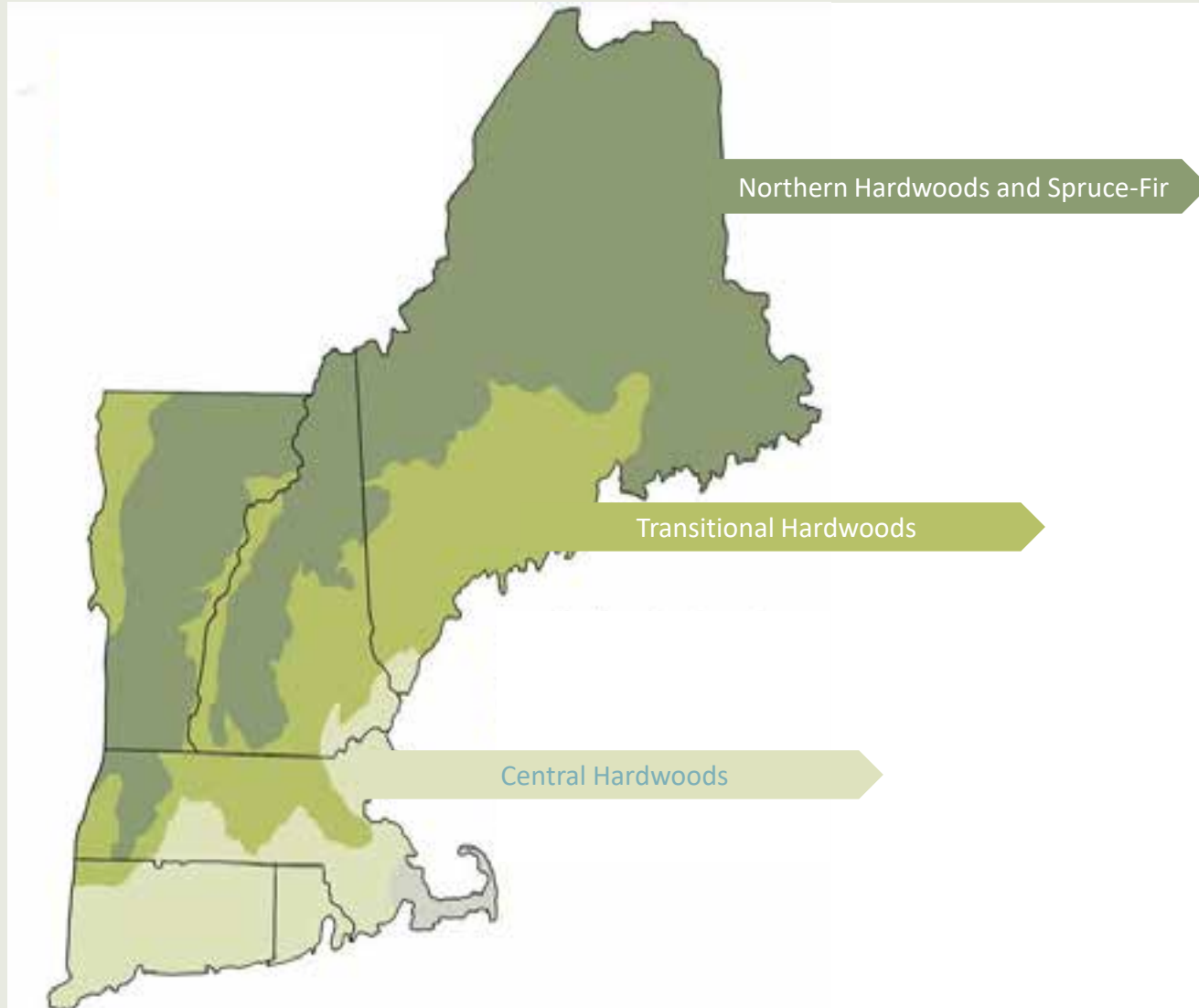
Participants will gain an overview of current initiatives to expand markets for locally sourced wood products and examine how these efforts support both forest resilience and the built environment. The course reviews design precedents for mass timber housing, highlighting strategies that improve construction efficiency, optimize project costs, and enhance occupant well-being. It also presents research on affordable housing demand throughout the Northeast and evaluates the potential role of mass timber in meeting future housing needs. Through case studies and market data, attendees will learn how thoughtful material selection and integrated design approaches can support healthy, durable, and sustainable housing while strengthening regional wood supply chains.

Learning Objectives

1. Describe how sustainable forest management, regional wood supply chains, and mass timber manufacturing contribute to resilient communities and the delivery of affordable housing.
2. Evaluate design strategies demonstrated in mass timber housing precedents that improve construction efficiency, occupant well-being, and overall building performance.
3. Assess current and projected affordable housing needs in the Northeast and analyze how mass timber construction can help address housing demand while supporting sustainable development goals.
4. Identify opportunities to incorporate mass timber into multi-family and affordable housing projects based on regional market conditions, available resources, and evidence from recent research and case studies.

Creating Healthy Forests in New England

Challenges Facing NE Forests



- 30,401,115 acres of timberland
 - ¼ forests(8.6M acres) conserved
 - 75-80% privately-owned
- Challenges
 - fragmentation
 - conversion (28k acres/yr)
 - pest & disease dynamics
 - milder winters
 - changing precipitation patterns

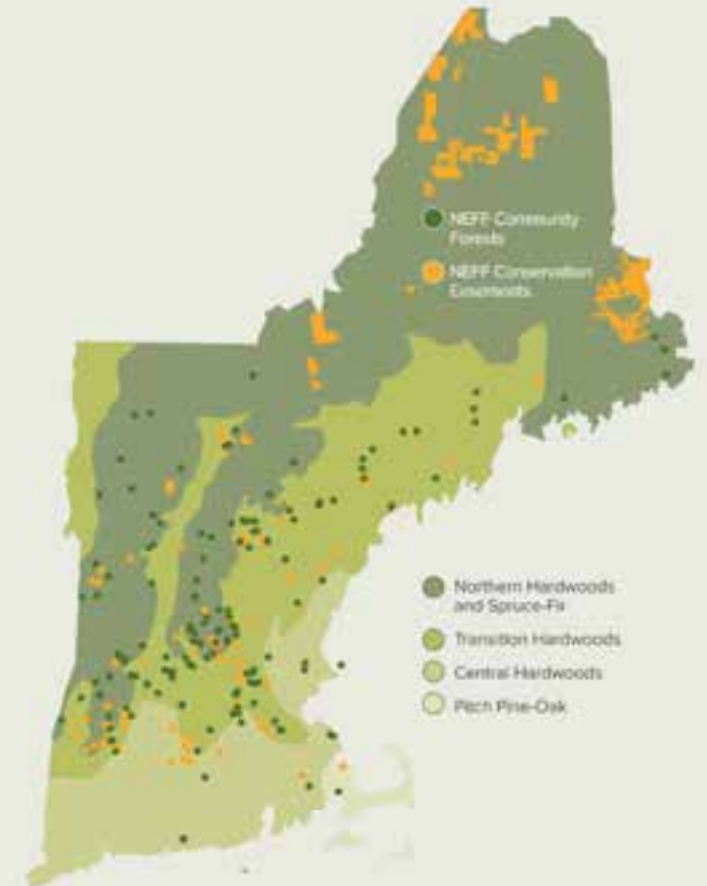
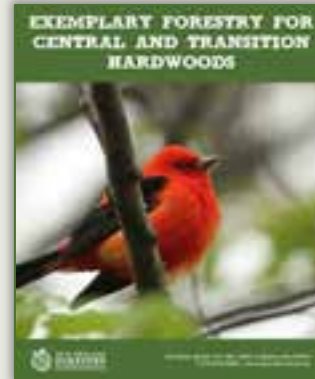
Achieving Resiliency

There are forest- and stand-level characteristics we can alter through management to improve forest resilience, productivity, timber quality, wildlife habitat, carbon sequestration & storage, etc.



NEFF Community Forests

- 155+ community forests
- 41,000+ acres
- Most properties open to the public for recreation, hunting, and fishing
- Managed to NEFF's Exemplary Forestry standards
- Wood mostly goes to local mills
- Earn between \$350-600k annually on timber sales



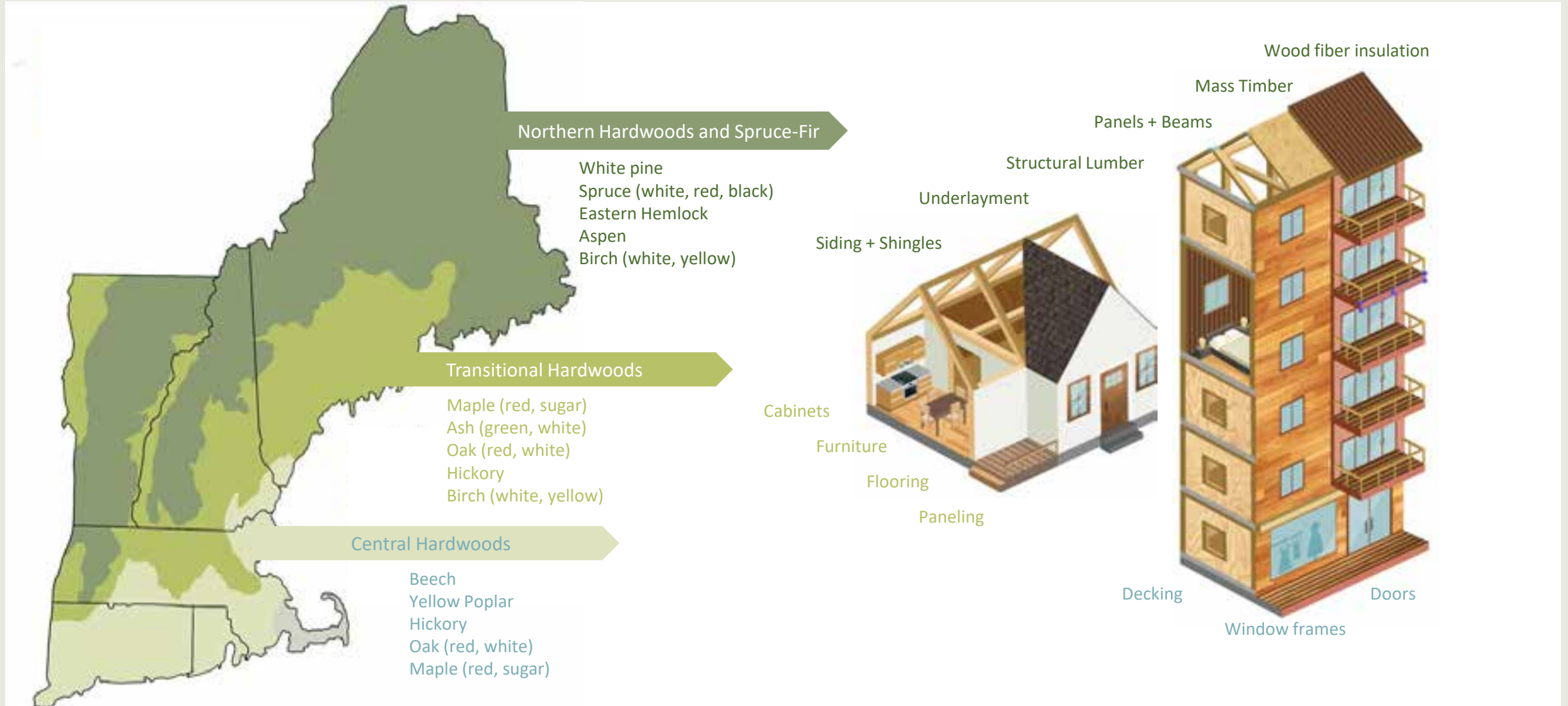
**Enhance
Wildlife Habitat**
for full suite of
species present

**↑ Wood Quality
& Quantity**
produced & retained in
stands over time

**Enhance Role of
Forests in
Mitigating
Climate Change**

How can Mass Timber Aid This Effort?

Our Forests Support Diverse Products



How Mass Timber Supports Forestry

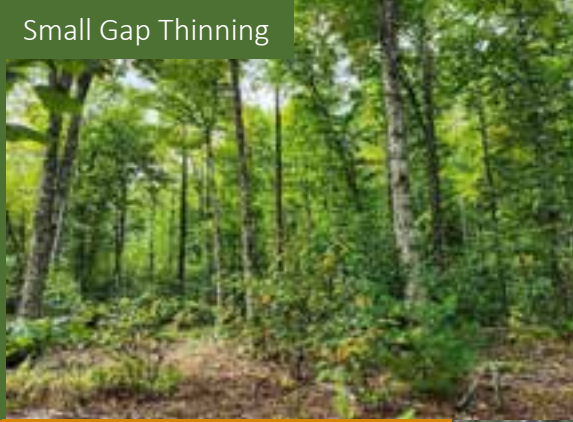


Increased Revenue Impacts:

You want to...

- Diversify species and habitat types
- Create openings for wildlife species
- Mimic natural disturbance patterns

Small Gap Thinning



You want to...

- Thin out overcrowded young stand
- Take out damaged or diseased trees
- Grow larger and healthier trees

Pre/Early Commercial Thinning



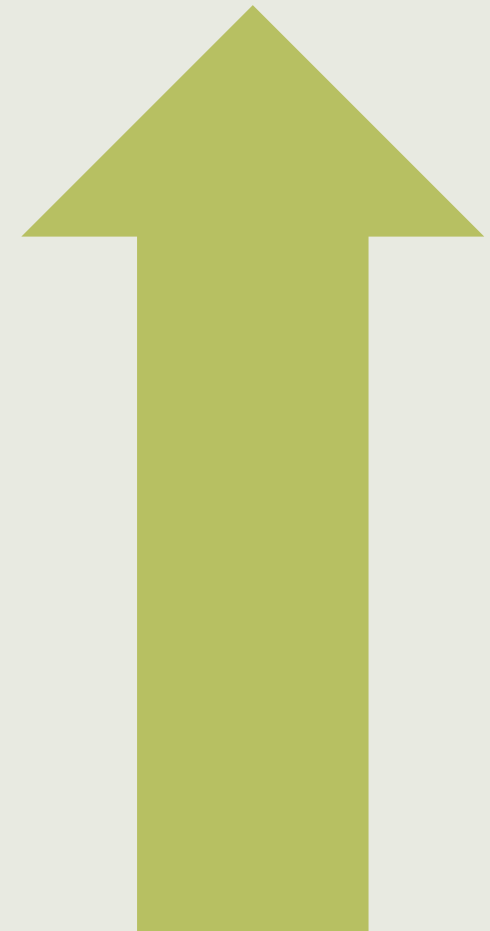
You want to...

- Protect certain tree species from pest infestations (e.g. hemlock wooly adelgid)

Predator Beetle Release



Higher value products create additional revenue to fund management and staff



Next Steps for New England

NE Mass Timber Sourcing

Name	Location	Products	New England Species Sourced
Sterling Structural	Phoenix, IL	CLT	eastern hemlock, SPF-S
Element5	St Thomas, ON, CA	CLT	SPF-S



Greater New England Producers

LVL

- Forex, Amos (PQ)
- Global LVL, Ville Marie (PQ)
- Weyerhaeuser, Buckhannon (WV)

Glulam

- Art Massive, St. Jean-Port-Joli (PQ)
- Arch. Toubois, Laval (PQ)
- GoodLam, Delson (PQ)
- Nordic, Chibougamau (PQ)
- RigidPly, Rigidply (PA)
- Stark Truss, Beach City (OH)
- TecoLam, Val-d'Or (PQ)
- Unalam, Unadilla (NY)
- Element 5, St. Thomas (ON)

OSL/LSL

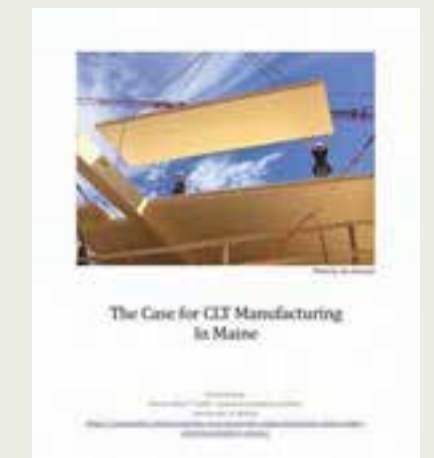
- LP, Houlton (ME)

PSL

- Weyerhaeuser, Buckhannon (WV)

CLT

- Element 5, St. Thomas (ON)
- Nordic, Chibougamau (PQ)



New England Forests: Species Mix



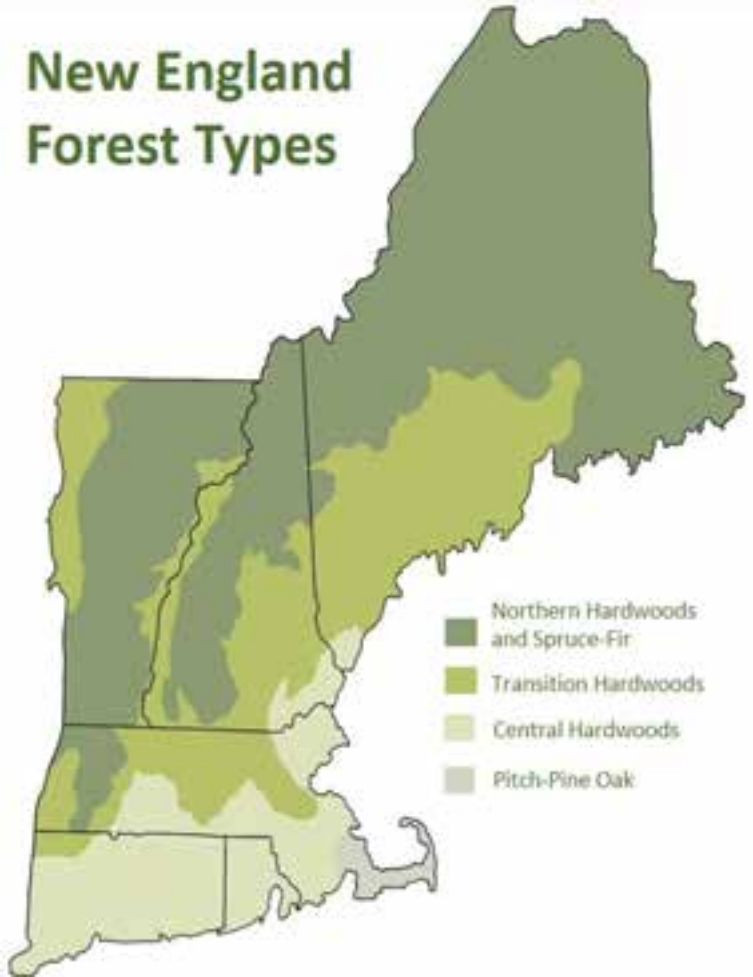
SPF-South =
red spruce, black spruce, white spruce, norway
spruce, balsam fir, jack pine, and red pine

Region	Approved Species
Northern Hardwoods and Acadian Forests	Common: eastern hemlock, norway spruce*, balsam fir, red pine, black spruce, white spruce May find at lower quantities: jack pine
Transition Hardwoods	Common: eastern hemlock, norway spruce*, balsam fir, red pine May find at lower quantities: black spruce, white spruce

**norway spruce is native to Europe but is integrated in New England ecology and is not invasive in this region*

Roughly 85% of the spruce-fir dimension lumber grades in New England are suitable for CLT production

In New England, the Growth-to-Drain Ratio is roughly 2:1 (and much higher in southern N.E. states)



Data: USFS Forest Inventory and Analysis One-Click State Factsheets (2021 & 2022 data), Poyry Report (2017)

Your Voice Matters

Interested in knowing more about how your procured wood supports communities and forests?

Ask!

Wood consumers have the power to shift this status quo:

Asking for information from suppliers and indicating interest is one of the most significant actions building industry teams can take in expanding the potential for growing local, balanced, and robust wood markets.



Questions?

Contact: vkomada@newenglandforestry.org



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BUILDING OPPORTUNITIES IN THE NORTHEAST

Affordable Housing Need and Meeting it with Northeast Forest Mass Timber

Mass Timber +
Philadelphia
6 October 2026

Disclaimer: This presentation was developed by a third party and is not funded by WoodWorks or the Softwood Lumber Board

SPIRITOS PROPERTIES

IMAGINE

Imagine a world where **housing equality** is achieved - with housing for everyone, that is safe, beautiful, healthy and durable; this is created by building with a mass timber structure with exposed ceilings and walls, or columns and beams.

Imagine a world where **forests are healthy**, managed and financially sound, providing well-needed jobs for communities, through logging, manufacturing and building; this is achieved with sound and resilient harvesting for those mass timber buildings.

Imagine a world where the air is cleaner, **climate change is diminished**, and we build even tall buildings with carbon storing structures; this is achieved by utilizing sustainably harvested mass timber for all affordable housing and for all building typologies.

Mass timber affordable housing is cost effective and has multiple unique attributes over other building systems.

Mass timber affordable housing is the **path** - addressing these three critically important challenges with one commitment to a new and vastly improved way to build.

LEARNING OBJECTIVES

Understand the current and projected affordable housing needs in the Northeast, determined separately by National affordable and market rate housing experts, and each of the nine states that are working urgently to provide safe housing solutions for their citizens.

See how mass timber structural systems can address this pressing housing shortage and understand the unique and readily achievable benefits of mass timber building.

Understand that the forests in the Northeast states are well-suited and plentiful for delivering the wood products to create these homes and moreover, the general construction market, well into the future, without diminishing forest health or the greater forest ecology.

Building Opportunities for the Northeast US Part 1: Understanding and Quantifying Affordable Housing Needs Through 2040

Spiritos Properties LLC
With Contributions from New England Forestry Foundation
USDA Advancing Markets for Producers

June 2026



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Markets for Producers Program

Author's note:
Building Opportunities for the Northeast US Part 2: Assessing the Role and Potential Demand for Mass Timber in Housing
will bookend this Part 1 report, and is planned for publication, late Summer 2026.

Building Opportunities for the Northeast US Part 2: Assessing the Role and Potential Demand for Mass Timber in Housing

Spiritos Properties LLC
With Contributions from New England Forestry Foundation
USDA Advancing Markets for Producers

October 2026



Montpelier, Vermont

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Markets for Producers Program

Author's note:
This report is Part 2 of a series, which bookends the report titled – Building Opportunities for the Northeast US
Part 1: Understanding and Quantifying Affordable Housing Needs Through 2040, published on June 2026.

Acknowledgments

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Research, editing and graphic design by Sofia Chavez.

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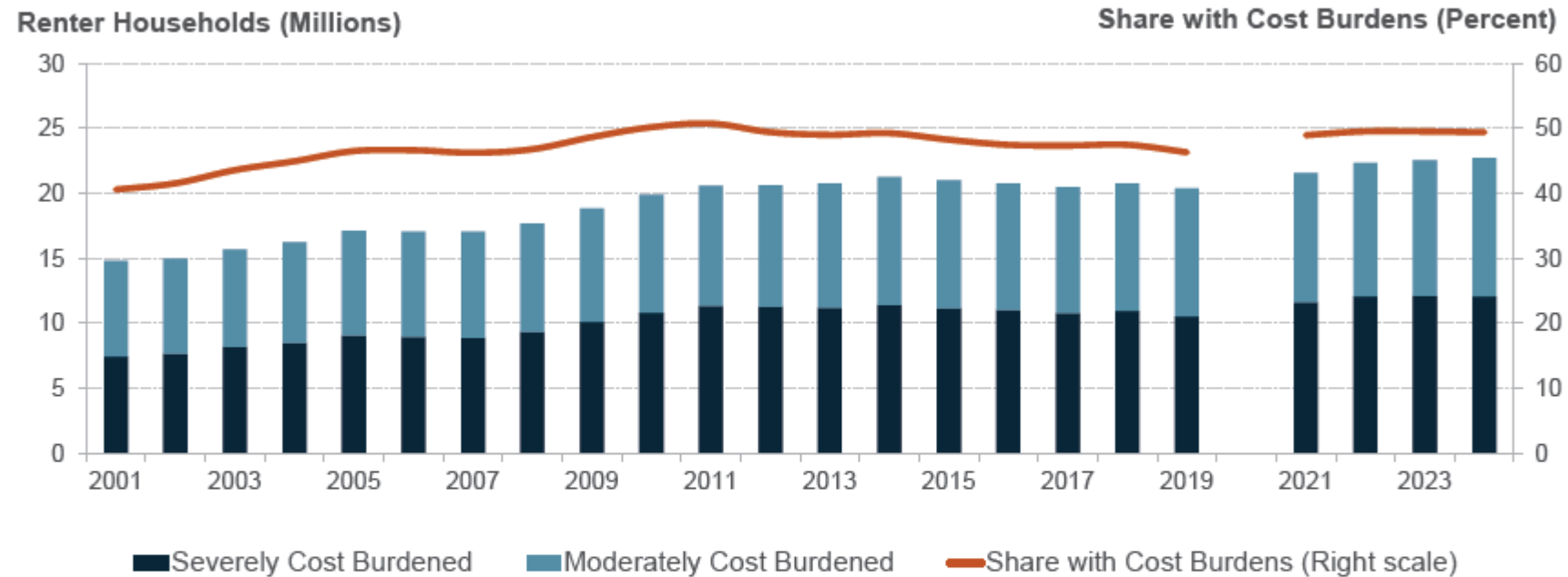
The world's population is predicted to grow from 8.2 billion people in 2024 to 9.7 billion by 2030, an increase of approximately 20 percent.

Source: United Nations, 2024.

In 2024, the U.S. population was estimated at 340 million people with approximately 132.7 million households. Of these households, approximately 46 million are renter households.

Source: U.S. Census, 2024a-b; NLIHC, 2026.

Figure 1: The Number of Cost-Burdened Renters Has Hit Another All-Time High



Notes: Moderately (severely) cost-burdened households spend more than 30% (more than 50%) of income on rent and utilities. Households with zero or negative income are assumed to have burdens, and households that are not required to pay rent are assumed to be unburdened. Estimates for 2020 are omitted because of data collection issues experienced during the pandemic.

Source: JCHS tabulations of US Census Bureau, American Community Survey 1-Year Estimates.

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Joint Center for Housing Studies of Harvard University 

Chart from *America's Rental Housing 2026*, by Joint Center for Housing Studies, 2026, p.3.

There is a shortage of 7.2 million homes needed throughout the country. About 1.42 million of that shortage falls across the nine-state Northeast region.

Source: NLIHC, 2026.

Figure 3: The Relative Supply of Affordable and Available Rental Homes Increases with Income

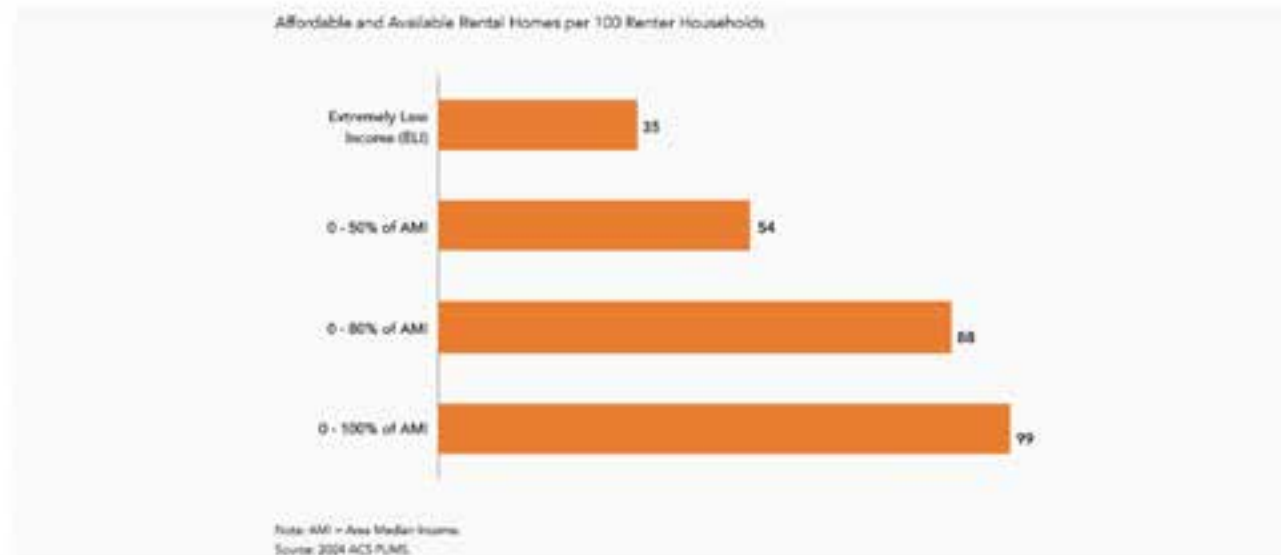
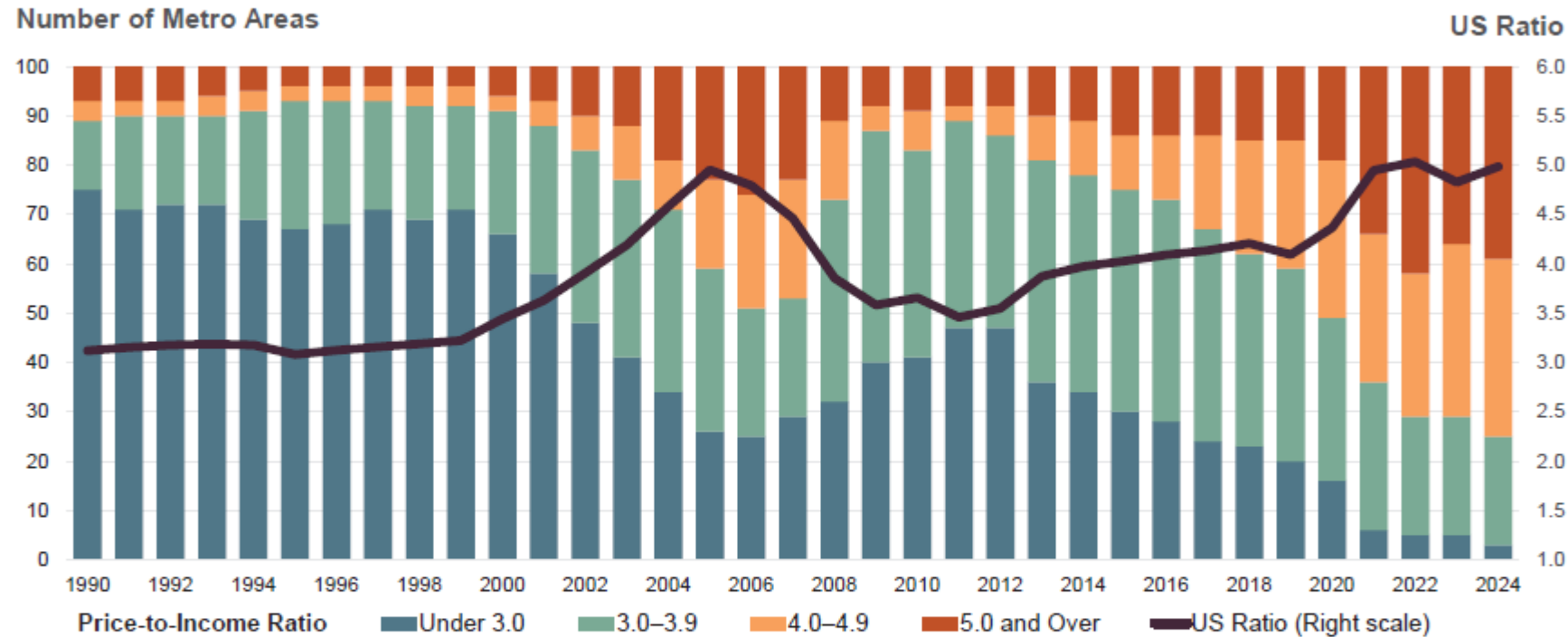


Chart from *The Gap: A Shortage of Affordable and Available Homes*, by National Low Income Housing Coalition, 2026, p.14.

Figure 4: Home Prices are Historically High Relative to Incomes



Notes: Price-to-income ratios are for the 100 largest metro areas by population. Income data for 2024 are based on Moody's Analytics forecasts.
Source: JCHS tabulations of NAR, Metropolitan Median Area Prices; Moody's Analytics estimates.

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Joint Center for Housing Studies of Harvard University JCHS

Chart from *The State of the Nation's Housing 2025*, by Joint Center for Housing Studies, 2025, p.10.

Figure 11: Map of the Northeast, U.S., which defines our study area



Table 1: Percent Forest Cover for U.S. Northeast States

State	Forest Cover Percentage	Rank
Maine	88	1
New Hampshire	83	2
Vermont	76	4
New York	62	10
Massachusetts	60	11
Pennsylvania	58	13
Connecticut	58	14
Rhode Island	56	16
New Jersey	41	25

Note: Forest Cover percentage based on sampled land area. Ranking is based on all U.S. 50 states. Data from Forest Inventory and Analysis database: Annual Snapshot, by U.S. Department of Agriculture, Forest Service, 2025.

Table 3: Northeast states shortage of available rental homes for Extremely Low Income (ELI) Households

State	Renter Households	Percentage of Renter Households	Shortage of Rental Homes Available	Affordable and Available Rental Homes per 100 Households
Connecticut	146,363	30	88,425	40
Maine	40,537	25	19,495	52
Massachusetts	298,909	28	160,543	46
New Hampshire	39,099	25	23,897	39
New Jersey	298,318	23	197,110	34
New York	986,369	28	640,223	35
Pennsylvania	434,197	26	262,753	39
Rhode Island	50,063	30	23,222	54
Vermont	18,079	24	11,597	36
Total	2,311,934	-	1,427,265	-

Note: Tabulations of Housing Needs by State: State Data Overview, Source: 2024 ACS PUMS.
Data from Housing Needs by State: State Data Overview, by National Low Income Housing Coalition, n.d.

Table 5: Northeast Inbound and Outbound Migration

State	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25
Connecticut	40/ 60	43/ 57	37/ 63	38/ 62	37/ 63	40/ 60	38/ 62	41/ 59	40/ 60	41/ 59	40/ 60	47/ 53	48/ 52	49/ 51	51/ 49
Maine	45/ 55	46/ 54	46/ 54	41/ 59	40/ 60	44/ 56	48/ 52	49/ 51	42/ 58	53/ 47	54/ 46	55/ 45	58/ 42	54/ 46	58/ 42
Massachusetts	51/ 49	49/ 51	52/ 48	48/ 52	47/ 53	48/ 52	48/ 52	48/ 52	47/ 53	45/ 55	50/ 50	50/ 50	52/ 48	50/ 50	50/ 50
New Hampshire	53/ 47	52/ 48	52/ 48	49/ 51	45/ 55	40/ 60	44/ 56	41/ 59	38/ 62	44/ 56	49/ 51	46/ 54	50/ 50	45/ 55	46/ 54
New Jersey	36/ 64	38/ 62	38/ 62	37/ 63	36/ 64	36/ 64	38/ 62	37/ 63	36/ 64	35/ 65	36/ 64	38/ 62	44/ 56	44/ 56	43/ 57
New York	41/ 59	41/ 59	38/ 62	39/ 61	38/ 62	41/ 59	43/ 57	45/ 55	44/ 56	35/ 65	39/ 61	41/ 59	48/ 52	48/ 52	48/ 52
Pennsylvania	37/ 63	37/ 63	38/ 62	35/ 65	34/ 66	39/ 61	40/ 60	39/ 61	39/ 61	41/ 59	41/ 59	40/ 60	43/ 57	43/ 57	44/ 56
Rhode Island	51/ 49	47/ 53	51/ 49	44/ 56	50/ 50	51/ 49	48/ 52	48/ 52	48/ 52	50/ 50	50/ 50	54/ 46	56/ 44	53/ 47	51/ 49
Vermont	66/ 34	62/ 38	63/ 37	58/ 42	65/ 35	64/ 36	65/ 35	68/ 32	67/ 33	67/ 33	70/ 30	65/ 35	76/ 24	74/ 26	73/ 27

Note: Total inbound percent/total outbound (percentage). Tabulation of NAMS migration data for Northeast U.S. from 2011 to 2025. Data from *Where Are People Moving to in 2025?*, by North American Moving Services, n.d.

Table 7: Projected homeowner and 5+ multifamily rental unit average yearly increases, national and Northeast states to 2035/2038

Tenure Group	NMHC (National)	JCHS (National)	NMHC (Northeast)	JCHS (Northeast)
Homeowner	0	466,000	0	93,200
Rental	266,000	220,000	53,200	44,000
Total	266,000	686,000	53,200	137,200

Tabulations of NMHC and JCHS data.

Table 8: Volume of roundwood industrial timber product by state

State	Softwood	Hardwood	Total
Connecticut	1,670	4,712	6,382
Maine	134,838	142,046	276,885
Massachusetts	7,489	6,376	13,866
New Hampshire	28,890	18,314	47,203
New Jersey	305	1,524	1,829
New York	23,767	69,678	93,445
Pennsylvania	10,846	213,448	224,294
Rhode Island	451.8	143.6	595.4
Vermont	305	1,524	1,829

Note: Total product by species in thousand cubic feet (MCF). Data from USFS Forest Inventory and Analysis Timber Products Output Tool, by the U.S. Department of Agriculture, Forest Service, 2025.

8 Mass Timber Housing Typologies

Small Mass Timber Housing

Single Family House
COCLO, MOREMAAS, Cold Springs, NY



Prefabricated Secondary Dwelling unit
Hatchhouse, LEW Architects



Townhouse
Wilson Forest Park Townhomes, Mithran Design Group, Portland, OR



Large Mass Timber Housing

6-8 Story Multifamily, IBC Type IV-C
Bunker Hill Station, Stantec, Chalfontown, MA



6-8 Story Multifamily, IBC Type IV-B
8090 Cleveland, Hartshorn-Punkins, Architects, Cleveland, OH



12+ Story Multifamily, IBC Type IV-H and I-A
ASCENT, Kurb and Associates, Milwaukee, WI



Medium Mass Timber Housing

2 Story Cottage cluster
Brookhouse, WAC Studio, Spokane, WA



3-4 Story Multifamily
340+ (Dewitt, Schaeffer, Samsky) Gray Organick Architects, New Haven, CT



Vertical Expansion, 5+ Story Multifamily Adaptive Reuse
ACME Timber Lofts, Gray Organick Architects, New Haven, CT



9 APPENDIX

Northeast States Housing Demand Report Data

This section brings together key demographic and housing information for the nine Northeast states, drawing from state housing assessment reports and related publications, presented in consistent format for each state, one page per state, with a **guide** for this data included on the next page. These one-page summaries provide context on projected housing needs, housing supply, and affordability across the region, as determined by each individual state.

Every effort has been made to access and reflect housing demand data from each state, however some data gaps and/or inconsistencies may exist due to differing individual state reporting focuses, varying methodologies, or the timing of state publications.

To explore housing information compiled for a specific state, select that state on the map and/or proceed to the following one-pager.



STATE

State Population (Year/Source)

Households (Year/Source)



HOUSING NEEDS & PRODUCTION

Existing Shortage (Units)

Production Goal/Progress
(# Units)Permit Rate
(Permits/1000 residents)

Projected Shortage (Units)

Units Permitted



HOUSING SUPPLY

Units in Structure

Vacancy Rate

Housing Built

Tenure/Occupancy



AFFORDABILITY

Cost-burdened Renters
by AMIRenter Household Deficit
(Units)

Cost burden and Severe Cost burden by Tenure

SOURCES:

1. Source, Report Title, Date (Month/Year)

2. Source, Report Title, Date (Month/Year)

3. Source, Report Title, Date (Month/Year)

4. Source, Report Title, Date (Month/Year)

5. Source, Report Title, Date (Month/Year)

6. Source, Report Title, Date (Month/Year)

7. Source, Report Title, Date (Month/Year)

8. Source, Report Title, Date (Month/Year)

GLOSSARY:

Definitions for housing terms referenced in state one-pagers.

CONNECTICUT

3,675,069 population (2023, Source 2)
1,420,170 households (2023, Source 2)

HOUSING NEEDS & PRODUCTION

Existing Shortage (Units)

119,500^{1,2}

Projected Shortage (Units)

Not provided

Production Goal/Progress (# Units)



Permit Rate¹ (per 1,000 residents)

Permits/1000 residents 1.82

Units Permitted



HOUSING SUPPLY

1,544,070 housing units^{1,2}

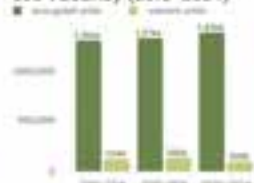
Units in Structure⁴



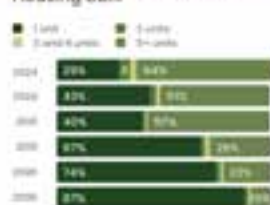
Tenure/Occupancy⁴



Vacancy Rate not provided, see Vacancy (2010-2024)⁴

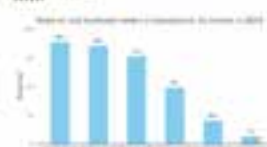


Housing Built⁴ (Per 1,000 units, 2010-2024)

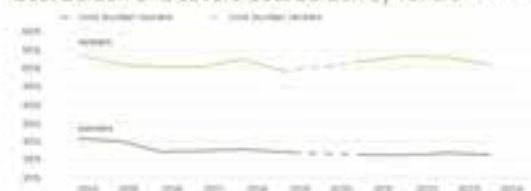


AFFORDABILITY

Cost-burdened Renters by AMI^{1,2}



Cost burden and Severe Cost burden by Tenure¹ (Per 1,000 units, 2010-2024)



SOURCES:

1. CT Office for State Housing Policy, 5/2023
2. FHC State of Housing in Connecticut, 1/2023

NOTES:

1. The CT Economic Report, 5/2024
2. FHC Housing Profiles, 2024
3. CT Office for State Housing Policy, 5/2023

LEGISLATION:

1. Legislative Priorities - CT State House, 2024
2. CT HFA The Housing Plan, 5/2023

DEFINITIONS:

Cost-burdened - A household is considered cost-burdened when it spends more than 30 percent of its income on housing costs.^{1,2}
Area Median Income (AMI) - The median family income in the metropolitan or nonmetropolitan area, not annually by HUD.^{1,2}

MAINE

1,414,974 population (2023, Source 2)
597,159 households (2023, Source 2)

HOUSING NEEDS & PRODUCTION

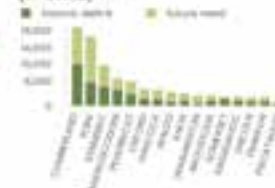
Existing Shortage (Units)

38,500^{1,2}

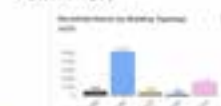
Projected Shortage (Units), see note

37,900-45,800/year
(average = 42,000)
4,200/year^{1,2}

Production Goal/Progress (# Units)



Permit Rate¹ (per 1,000 residents)



Units Permitted

Not provided

HOUSING SUPPLY

Units in Structure⁴



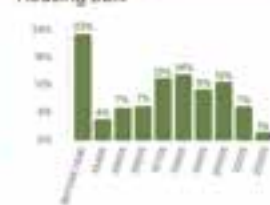
Tenure/Occupancy⁴



Vacancy Rate¹ (Per 1,000 units, 2010-2024)



Housing Built⁴ (Per 1,000 units, 2010-2024)

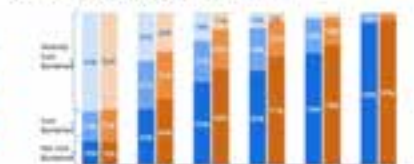


AFFORDABILITY

Rental Housing Types Affordable by AMI^{1,2}



Share of Owner Cost Burden¹ (Per 1,000 units, 2010-2024)



SOURCES:

1. AMHA Housing Production Needs Study, 12/2023

NOTES:

1. Mainehousing.org, 2024

DEFINITIONS:

1. HFA, A Roadmap for the Future of Housing Production in Maine, 1/2023

Table 1 - Northeast States Housing Demand Report Data

State	Current Shortage	Projected Need	Documented by
CT	119,600	Not Provided	Connecticut Fair Share Housing Study - May 2025
ME	38,500	4,200 (ave) (2021-2030)	MSHA Housing Production Needs Study - October 2023
MA	115,600	106,400	2025 A Home for Everyone Report, February 2025
NH	23,500	4,180 (ave) (2026-2040)	Current Estimates in New Hampshire's Housing Supply - Jan 2026
NJ	65,410	84,698	NJDCA Fourth Round Affordable Housing Obligations (2025-35), nd
NY	Not Provided	80,000 (ave) - (2024-2034)	NY Housing Compact - March 2023
PA	265,000	18,500 (ave) (2026-2035)	PA Housing Action Plan 2026-2035 - Feb 2026
RI	Not Provided	3,000 (ave) (2025-2030)	Housing Works RI @ RWU, 2025 Housing Fact Book - July 2025
VT	7,252	5,050 (ave) 2025-2050	VHFA Appendixx 1 - Statewide and Regional Housing targets - -2025
TOTAL	634,862	306,028	

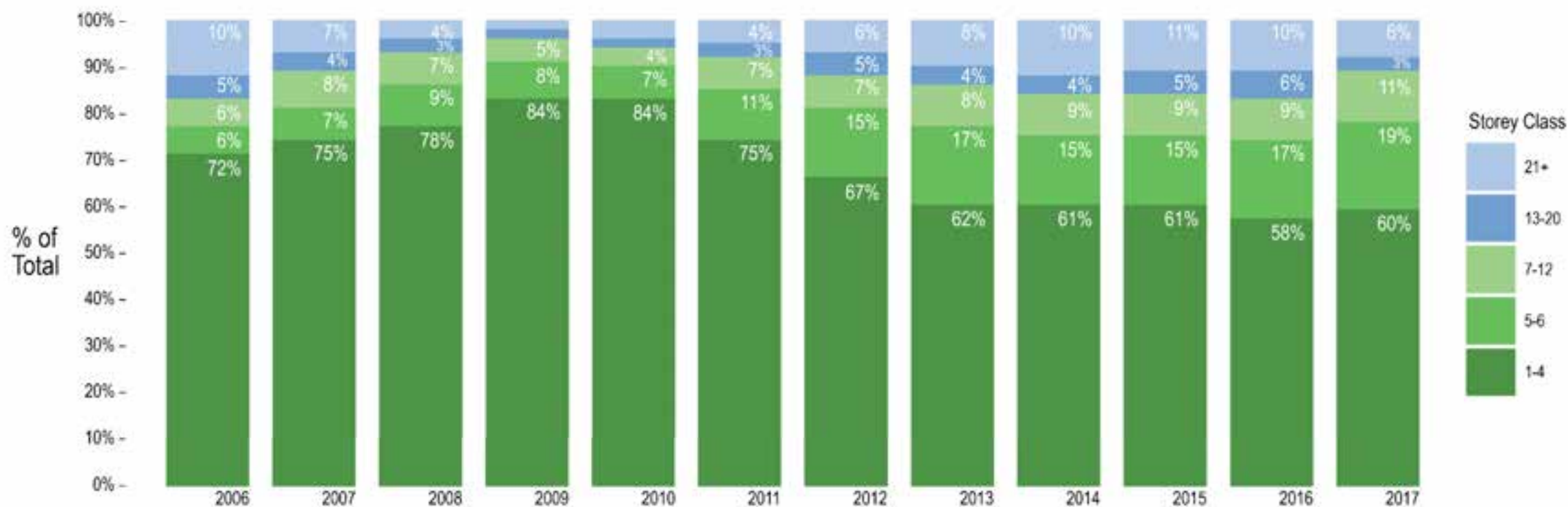
Note - assumptions for figures not provided to project the totals

Mass Timber's Sixteen Distinguishing Attributes

Item	Characteristic
1	Structural solution for all housing shapes and sizes
2	Prefabrication dependability
3	Predictable and lower risk
4	Much smaller crew sizes
5	Far fewer parts and pieces
6	Vastly improved productivity
7	Reduced site impact - fewer material deliveries, quieter
8	Faster to erect and start follow-on trade work
9	Safer for workers to build
10	Useable for building stair and elevator cores
11	Inherently fire resistance
12	Light weight - Ideal for vertical extensions
13	Made from trees - a renewable resource
14	Durable and resilient, increasing lifespan and value
15	Healthy and natural - stress reducing and comfortable
16	Lower cost due to speed and faster to revenue and value

US Multi-Family Construction by Height

Over 80% of all multistory, non-single-family housing is 12 stories or less, and the same is true for most big Cities, such as NYC



source: FPIinnovations, Dodge

Northeast States Mass Timber Housing Projects

Item	Project Name	City	State	Year Built
1	340+ Dixwell Ave	New Haven	CT	2024
2	ACME Timber Lofts	New Haven	CT	2023
3	Firehouse 12	New Haven	CT	2016
4	CABN	Hancock	ME	2024
5	11 E Lenox	Boston	MA	2022
6	Bunker Hill Housing Redevelopment - Building F	Boston	MA	2028
7	Bunker Hill Housing Redevelopment - Stellata	Boston	MA	2024
8	The Guild (154 Broadway)	Boston	MA	2025
9	The Hancock	Quincy	MA	2027
10	Up@310 Lofts	Keene	NH	2026
11	CSCLT	Cold Spring	NY	2018
12	283 Greene Ave / Frame 283	Brooklyn	NY	2021
13	360 Wythe Avenue	Brooklyn	NY	2017
14	Brooklyn Mass Timber House	Brooklyn	NY	2023
15	Frame 122	Brooklyn	NY	2025
16	CLT Courtyard House	Brooklyn	NY	2026
17	CLT House	Rhinebeck	NY	2023
18	Timber House - Multi-family	Brooklyn	NY	2023
19	Timberburg - 179 North 10th St.	Brooklyn	NY	2026
20	Garden Theater Block	Philadelphia	PA	2023
21	Martin House Residence	Philadelphia	PA	2018
22	Woodward Lofts	Harrisburg	PA	2027
23	Mass Timber House	Jamaica	VT	2026

Sources - Conifer Advising, WoodWorks WIN

Note 1 - includes only projects that have started or completed their construction

Note 2 - only includes projects that have mass timber floor components, CLT, GLT, NLT, not including timber frame glulam only

Table 5.3-1: Northeast General Mass Timber Demand

State	Total Project Area (sf)	Project Area % of Total	Total Volume (ft3)	Volume % of Total
Connecticut	459,946	10.3%	333,993	11.1%
Maine	280,830	6.3%	232,251	7.7%
Massachusetts	1,116,227	25.1%	681,562	22.7%
New Hampshire	220,129	4.9%	116,330	3.9%
New Jersey	788,890	17.7%	500,097	16.7%
New York	650,724	14.6%	478,206	15.9%
Pennsylvania	639,285	14.3%	471,781	15.7%
Rhode Island	287,535	6.5%	177,555	5.9%
Vermont	12,259	0.3%	10,244	0.3%
TOTAL	4,455,824	100.0%	3,002,019	100.0%

Table 5.4-3: Estimated Mass Timber Material Volume Demand (ft³) in the Northeast by Year and Average CAGR

CAGR	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
15%	487,176	560,252	644,290	740,933	852,073	979,884	1,126,867	1,295,897	1,490,281	1,713,823	1,970,897
20%	487,176	584,611	701,533	841,839	1,010,207	1,212,249	1,454,698	1,745,638	2,094,766	2,513,719	3,016,463
25%	487,176	608,969	761,212	951,515	1,189,393	1,486,742	1,858,427	2,323,034	2,903,793	3,629,741	4,537,176
30%	487,176	633,328	823,327	1,070,325	1,391,422	1,808,849	2,351,503	3,056,954	3,974,041	5,166,253	6,716,129
35%	487,176	657,687	887,877	1,198,635	1,618,157	2,184,511	2,949,090	3,981,272	5,374,717	7,255,868	9,795,422
40%	487,176	682,046	954,864	1,336,810	1,871,534	2,620,147	3,668,206	5,135,488	7,189,683	10,065,557	14,091,780

Table 5.4-4: Estimated Mass Timber Material Project Area Demand (sf) in the NE by Year and Average CAGR

CAGR	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
15%	686,688	789,691	908,145	1,044,367	1,201,022	1,381,175	1,588,351	1,826,604	2,100,594	2,415,683	2,778,036
20%	686,688	824,026	988,831	1,186,597	1,423,916	1,708,699	2,050,439	2,460,527	2,952,633	3,543,159	4,251,791
25%	686,688	858,360	1,072,950	1,341,188	1,676,484	2,095,605	2,619,507	3,274,384	4,092,979	5,116,224	6,395,280
30%	686,688	892,694	1,160,503	1,508,654	1,961,250	2,549,624	3,314,512	4,308,865	5,601,525	7,281,982	9,466,577
35%	686,688	927,029	1,251,489	1,689,510	2,280,838	3,079,132	4,156,828	5,611,718	7,575,819	10,227,356	13,806,931
40%	686,688	961,363	1,345,908	1,884,272	2,637,981	3,693,173	5,170,442	7,238,619	10,134,066	14,187,693	19,862,770

Northeast Timberland Potential to Mass Timber Construction Conversion

An estimate on potential forest recovery to housing and economics.

Legend

Yellow + blue text	INPUT — override freely. Basis column says SOURCE or ESTIMATE.
Light green + green text	CONST — pure unit conversion only. Do not edit.
White + black text	CALC — formula, driven entirely by the cells above it.
Green fill + bold	RESULT — the output of a step.

Steps 1 to 9 model current forestry, harvesting and production practice, and estimate how much of that fibre could become mass timber. They establish a baseline fibre allocation.

Steps 10 to 12 estimate what an additional, sustainable harvest would yield in product volume, gross floor area, and economic value.

STEP 9 — Net Product Volume to Building Floor Area

Table 9.1 — Mass timber material intensity by structural system

Source: 2025 Pacific Northwest Regional Mass Timber Market Study, Appendix 3, midpoint of the stated range. Not revalidated for Northeast snow loads. PNW numbers use m³/ft² of floor area. M³ of mass timber product is the standard international unit of measure to keep concepts easily comparable. Steps 10 to 12 estimate what an additional, sustainable harvest would yield in product volume, gross floor area, and economic value.

Structural system	Low (m ³ /ft ²)	Typical (m ³ /ft ²)	High (m ³ /ft ²)	Typical (ft ³ /ft ²) Ref.	Notes
Thin CLT floors	0.0100	0.0145	0.0200	0.5121	Light framing, efficient spans SOURCE: PNW Appendix 3, midpoint of stated range. The PNW intensities cover the whole mass timber structure, panels and beams together, so 9.3 uses TOTAL mass timber (8.5), not CLT alone.
Post and panel	0.0130	0.0175	0.0220	0.6180	Panel walls plus post/beam floors SOURCE: PNW Appendix 3, midpoint of stated range. The PNW intensities cover the whole mass timber structure, panels and beams together, so 9.3 uses TOTAL mass timber (8.5), not CLT alone.
Short-span commercial	0.0180	0.0220	0.0260	0.7769	Higher tenant loads, short spans SOURCE: PNW Appendix 3, midpoint of stated range. The PNW intensities cover the whole mass timber structure, panels and beams together, so 9.3 uses TOTAL mass timber (8.5), not CLT alone.
Tall wood (2-hr FRR)	0.0220	0.0260	0.0300	0.9182	Added layers for fire and acoustics SOURCE: PNW Appendix 3, midpoint of stated range. The PNW intensities cover the whole mass timber structure, panels and beams together, so 9.3 uses TOTAL mass timber (8.5), not CLT alone.
9.1 SELECTED MATERIAL INTENSITY	0.0195	m ³ /ft ²	INPUT	PNW sample	Held in the source's published unit so it can be checked against the table.
9.2 same, imperial	0.6886	ft ³ /ft ²	CONST	1 m ³ = 35.3147 ft ³	
9.3 ANNUAL ACHIEVABLE BUILDING FLOOR AREA	17,683,672	ft ² GFA/yr	CALC		Driven by TOTAL mass timber product, panels plus beams.

Section End Summary:

The above analysis reviews current harvest practices, growth, and lumber yields. This is what could be built if current lumber were redirected towards mass timber but nothing changed on a forest management level. The below analysis reviews how changes in current timberland management areas could yield an increase in potential mass timber products as well as various other co-products.



turn **IMAGINATION**
into **REALITY**
with
MASS TIMBER

Thank you

SPIRITOS PROPERTIES

Mass Timber & Housing Precedents Research

Disclaimer: This presentation was developed by a third party and is not funded by WoodWorks or the Softwood Lumber Board.

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**NEW ENGLAND
FORESTRY
FOUNDATION**

Product of the USDA Advancing
Markets for Producers Program

USA



U-NW-1: HEARTWOOD



U-NW-2: THE CANYONS



U-NW-3: TIMBERVIEW



U-NW-4: CHILES HOUSE



U-NW-5: SHORTSTACK, MISSISSIPPI



U-NW-6: KNIGHT BUILDING AT BUCKS 14



U-SW-1: SONRISA

CANADA



C-1: BROCK COMMONS



C-2: LFS PAVILIONS PL/46

SOUTH AMERICA



SA-1: 6 HOUSES IN ALCANTARA ST



USA



U-NE-1: 164 BROADWAY



U-NE-2: BUNKER HILL DEVELOPMENT



U-NE-3: ACME TIMBER LOFTS



U-NE-4: 340 DOWELL



U-NE-5: FRAME 122



U-C-1: BAKER'S PLACE



U-C-2: JUNCTION LOFT



U-S-1: ADONIS HALL



U-S-2: PROJECT VIA



U-S-3: JUNO EAST AUSTIN

0 600m
0 600km

EUROPE & UK



E-1: FUKKLOKKA HOUSING BLOCK



E-2: IBA APARTMENT



E-3: UNIVERSAL DESIGN HQ



E-4: HOTEL HAUHOFSSTRASSE



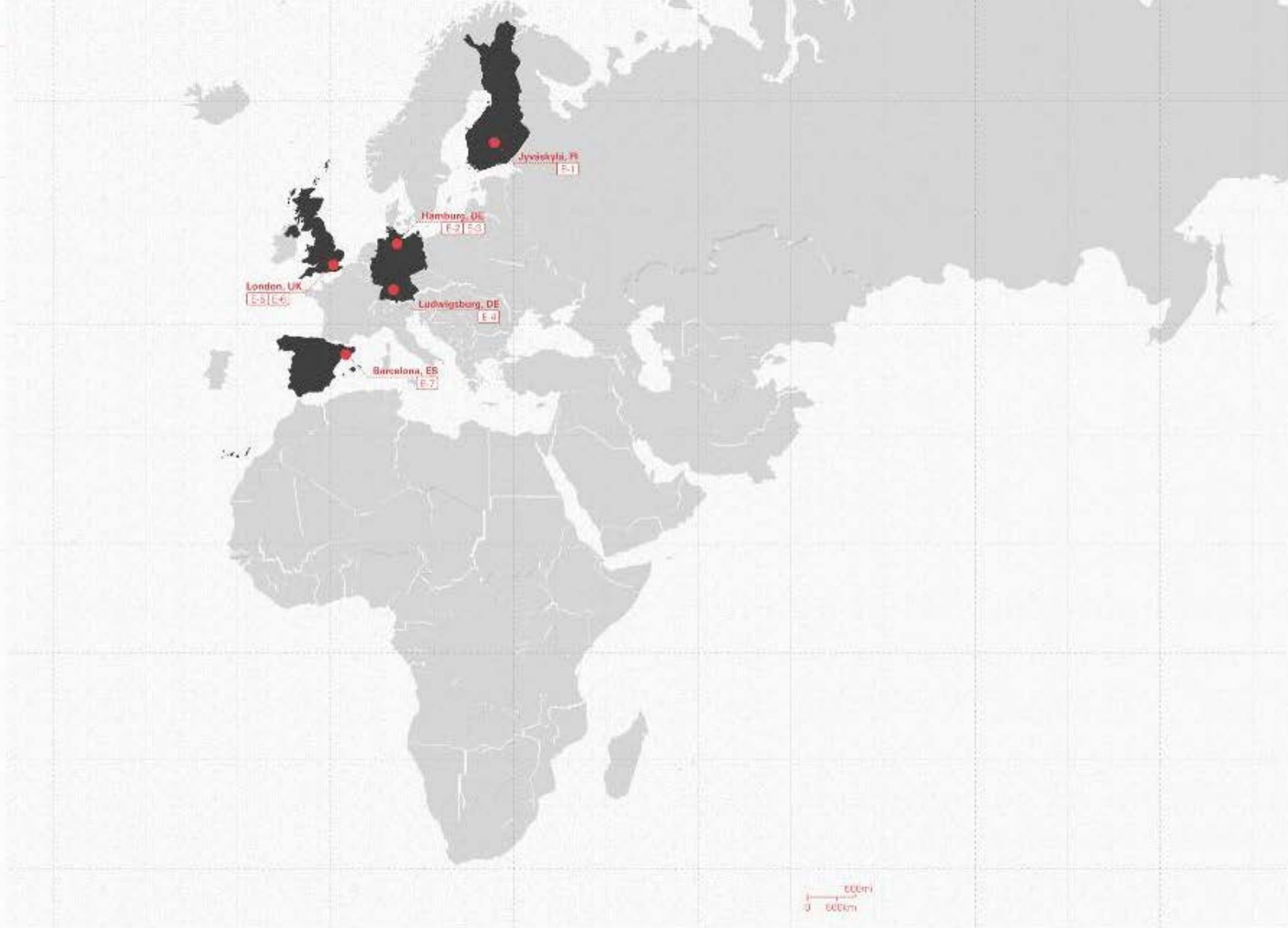
E-5: BARRETT'S GROVE



E-6: VERLOCK ROAD



E-7: SS SOCIAL HOUSING



NO.	Project	Location	Building Type	Area (sq)	Year built/Status	Construction Cost	Cost per sq	Stories	Unit	Structure Type	Type of Mass timber Product	Program	Architect	Client / Developer	Structural Engineer	Contractor	Mass timber Supplier	Mass Timber Manufacturer	Space Efficiency	Construction Type	Corridor Type
1	154 Broadway	Somerville, MA, USA	Mixed-Use	38,350	2025	-	-	5	45	Bearing Walls - Light Frame	Sply CLT panel Light-frame Wall	1F - retail 2F-6F - residential units	USK, Inc.	Construction Managers & Developers, LLC	RSE Associates	Haycon, Inc.	SmartLam NA	SmartLam: Eastern Hemlock @ exposed areas Canadian supplier: spruce-fir	12.4%	V-A	double-loaded corridor
2	Chiles House	Portland,OR, USA	Multi-Family (Apartments, Condos)	16,700	2022	\$4,893,900	\$287	5	27	Bearing Walls - Light Frame	Light-frame Wall Glulam Column & Beam Sply CLT panel	Residential	All Hands Architecture; Ben Carr		Holmes; Eric McDonnell	Truebeck Construction	Kalenikoff Mass Timber	Kalenikoff	23.7%	II-B	double-loaded corridor
3	The Canyons	Portland, OR, USA	Residential	110,000	2020	\$22,900,000	\$201	6	70	Bearing Walls - Light Frame	Light-frame Wall Sply CLT panel	Residential	KAISER+PATH	KAISER+PATH	Celene Consulting Engineers	RMI Construction	Structurlam	Structurlam	14.0%	II-A	double-loaded corridor
4	Serita Studio Apartments	Sacramento, CA, USA	Mixed-Use	23,800	2023	\$13,806,000	\$585	5	58	Bearing Walls - Light Frame	Glulam Column & Beam Light-frame Wall Sply CLT panel	1F - lobby, Café 2- 5F - residential units (538)	Williams + Padden	Governor Newsom / CADA	Holmes	Tricorp Group	Kalenikoff (CLT)	Kalenikoff	-	II-A	single-loaded corridor
5	Adoki Hall	Fayetteville, AR, USA	Residential (Student Housing)	202,027	2019	-	-	6-7	706	Columns & Beams	Glulam Column & Beam Sply CLT panel	Residential (Student Housing)	USK Wirtzgroup Associates modus studio Markus Mitchell Architects	University of Arkansas	Equilibrium Consulting, Inc Engineering Consultants, Inc	Nabholz	Binderholz Mass Timber	Binderholz	23.6%	II-B	double-loaded corridor
6	Bunker Hill Development	Charlestown, MA, USA	Multi-Family (Apartments, Condos)	119,600	2024	-	-	6	2,699		7ply CLT	Mixed Use	Stamco	Leggat McCall Properties	McNamara Salvia	Suffolk Construction	Nordic Structures	Nordic	-	IV-C	double-loaded corridor
7	Baker's Place	Madison, WI, USA	Mixed Use	304,869	2025	\$73,800,000	\$242	14	206	Columns & Beams	Glulam beams Sply CLT panel	Mixed Use	Michael Green Architecture, Angus-Young	The Neutral Project, LLC	Equilibrium Consulting, Angus-Young	C.D.Smith	KUH Timber/KUHBEAR Spruce Hasselbacher Nordic Stamco/climate.beams	KUH: 188mm Austrian Spruce Hasselbacher: Glulam beams	14.3%	IV-B	double-loaded corridor
8	Frame 122	Brooklyn, NY, USA	Multi-Family (Apartments, Condos)	31,000	2025	-	-	4	15	Columns & Beams	Sply CLT panel; Glulam Column & Beam	Residential	Brent Buck Architects	Frame Home	Murray Engineering	CM & Associates Construction Management, LLC	Element5	-	II-A	single-loaded corridor	
9	Heartwood Workforce Housing	Seattle, WA, USA	Multi-Family (Apartments, Condos)	67,900	2023	\$29,900,000	\$430	8	126	Columns & Beams	Glulam Column & Beam Sply CLT panel MPP panel (stairs)	1F - retail, bike parking, residential units 2-8F - residential units	atelierjones LLC	Community Roots Housing / Skiptstone	DCI Engineers	Swinton	Timberlab (Fabrication + I)	Kalenikoff: Glulam, CLT Forces Engineered Wood: MPP	16.8%	IV-C	double-loaded corridor
10	TimberView	Portland,OR, USA	Multi-Family (Apartments, Condos)	74,385	2024	\$30,900,000	\$403	8	106	Columns & Beams	Glulam Column & Beam Sply CLT panel	BI - storage, laundry, mechanical 1F - retail, office, co-working space 2F-7F - residential units	Acacia Architecture	C&J Property Development	DCI Engineers	Truebeck Construction	Kalenikoff, Carpentry Plus, Inc (Timber installer)	Kalenikoff	13.8%	IV-C	double-loaded corridor
11	Juno East Austin	Austin, TX, USA	Mixed-Use	23,875	2024	-	-	5	24	Columns & Beams	MPP 4" Deck; 4" columns&beams	Mixed Use / Multi-Family	Ennead		Holmes Erik Kneer	IE2	Forces Engineered Wood: MPP	Forces Engineered Wood: MPP		II-B	single-loaded corridor
12	Brook Commons	Vancouver, Canada	Residential (Student Housing)	162,866	2017	\$37,086,779	\$226	10	306	Columns Only	Glulam Column Sply CLT panel PSL	1F - public 2F-10F - Residential	Acton Ostry Architects	University of British Columbia	Fast + Epp	Urban One Builders	Mercer Mass Timber LLC	Mercer Mass Timber	21.8%	IV-A	double-loaded corridor
13	346+ Dixonell	New Haven, CT, USA	Multi-Family (Apartments, Condos)	87,900	2024	\$17,944,968	\$205	4	68	Bearing Walls - CLT	Glulam Column & Beam Sply CLT panel	1F - retail 2F-5F - residential units ; 1b(26), 2a(32), 3a(16)	Gray Oganschi Architecture (Mass timber, Design)	Spiritos Properties (Timber) / Baulnah Land Development Corporation (community)	ODEH Engineers	LaRosa Building Group, LLC	Binderholz Mass Timber ASPECT Structural Engineers	Binderholz	26.7%	V-A	double-loaded corridor
14	ACME Timber Lofts	New Haven, CT, USA	Residential	23,900	2023	-	-	5	18	Bearing Walls - CLT	3ply, Sply CLT panel	Residential	Gray Oganschi Architects	ACME Timber LLC / Spiritos Properties LLC	ODEH Engineers	LaRosa Building Group (Construction manager)	SmartLam NA	SmartLam	20.4%	II-A	no corridor
15	Barnetts Grove	London, UK	Residential	6,825	2016	\$1,482,518	\$205	6	6	Bearing Walls - CLT	3ply, Sply CLT panel	Residential	GROUPWORK	Cobstar Developments	Webb Yates Engineers	Ecore Construction Ltd	Egoin	Egoin: CLT agraac	-	-	no corridor
16	ISA Apartment Housing	Hamburg, Germany	Residential	12,380	2013	-	-	4	6	Bearing Walls - CLT	3ply, Sply CLT panel	Residential	Adjaye Associates	Engel & Völkers Development	Besant	KUH Massivholz GmbH	-	-	-	-	double-loaded corridor
17	Shortstack Mississippi	Portland, OR, USA	Multi-Family (Apartments, Condos)	24,000	2025	-	-	4	36	(Prefab walls)	5-ply CLT floor and roof plates with panelized side-frame walls	Residential	Worke Architecture	Shortstack Housing	DCI Engineers	Owen Gabbett LLC	Kalenikoff	-	V-A	single-loaded corridor	
18	Winlock Road Mixed-use Building	London, UK	Mixed-Use	72,850	2013	\$10,752,088	\$148	10	50	Bearing Walls- Columns & Beams	Sply CLT panel	Mixed Use	HawkinsBrown	Regal Homes	Engenau; Pínguar James Consulting Engineers	Eurobuild; B+K	Binderholz	Binderholz; X-LAM Alliance	18.9%	-	no corridor
19	65 Social Housing	Cornellà de Llobregat, Barcelona, Spain	Residential	127,940	2021	-	-	6	65	Bearing Walls- Columns & Beams	Glulam Column & Beam 3ply, Sply CLT panel	1F - community 2F-6F - residential units	perifonction architects; Marta Peris, José Tost	IMPISOL - Metropolitan Land Promotions Institute	Bernáiz Fernández	VIA3 CONSTRUCCIONES Y CONTRATAS	Wood from Basque Country, Spain	Locally sourced: 8,380 m2 of wood from the Basque Country	6.1%	-	no corridor
20	8 Houses in Aleutians Street	Santiago, Chile	Residential	21,915	2016-2019	\$2,983,900	\$132	2	8	Bearing Walls- Columns & Beams	Glulam Column & Beam	Residential	Ostian Inquiere L.	Catholic Charities of Oregon Sister City	Oswaldo Petalosa	Tecton		Cortelima: Laminated Pinewood	5.8%	-	no corridor
21	Junction Lofts	West Des Moines, IA,USA	Mixed-Use	16,800	2022	-	-	3	11	Bearing Walls- Columns & Beams	Glulam Column & Beam Light-frame Wall MPP panel	Residential	Pelide Design Services	Cutler Development	Tomech Engineering Inc.	Cutler Construction	RedBuilt: Glulam Forces Engineered Wood: MPP	RedBuilt: Glulam Forces Engineered Wood: MPP	22.4%	V-B	single-loaded corridor
22	Project Via (500 Emma)	Springdale, AR, USA	Multi-Family (Apartments, Condos)	~70,300	under construction	\$23,500,000		3-4	132			Mixed Use / Multi-Family	Modus Studio BUP Studio	Bluecone Development	ASPECT Structural Engineers	ARCO	Starling Structural	Starling Structural (Hemlock)	-	II-B	double-loaded corridor
23	Knight Building at Bucks 74	Big Sky, MT, USA	Multi-Family (Apartments, Condos)	32,000	2025	-	-	3	56	Volumetric Bearing Walls - CLT	Modular Mass Timber	Residential	Peter Rees + Partners	Lone Mountain Land Company/RSE Associates	Highline Partners	Kalenikoff				V-B	double-loaded corridor
24	Paskankka Housing Block	Jyväskylä, Finland	Residential	206,747	2016-2018	\$30,206,268	\$150	6-8	194	Volumetric Bearing Walls - CLT	CLT panel	Residential	OOPEAA	Lakso Oy	Seroco Kakenetehniikka Oy	-	Stora Enso	Stora Enso	15.4%	-	double-loaded corridor
25	Les Pavillons du 49°	Châteauguay, Québec, Can	Residential	24,488	2024	\$6,093,900	\$245	4	40	Volumetric Bearing Walls - CLT	CLT panel	Residential	Studio Perih	L'ONBL des Pavillons du 49	Nordic Structures + TRSE	Chentiers Chibougamau	Nordic Structures	Chentiers Chibougamau	-	-	double-loaded corridor
26	Universal Design Quarter	Hamburg, Germany	Residential (Student Housing)	145,428	2017	\$29,910,798	\$274	6	371	Volumetric Bearing Walls - CLT	CLT panel	Residential (Student Housing)	Sauerbruch Hutton	Dritte PRIMUS Projekt GmbH	Marc Kley Partner, Witzel & von Seitz	(wood) Kaufmann Bauelemente GmbH	Mayr-Melnhof Holz Galsheim	Mayr-Melnhof Holz Galsheim	21.7%	-	double-loaded corridor
27	Hotel Buchhofnasse	Ludwigsburg, Germany	Hotel	22,752	2019	-	-	4	55	Volumetric Bearing Walls - CLT	Sply CLT panel	Hotel	Von M	Feder Schoen GmbH & Co KG, Kerndl-Münchingen	Marc Kley Partner	Kaufmann Bauelemente GmbH	Cinca, Glutz, Haffke, Hies design, Olafur	installer: Kaufmann Bauelemente	25.7%	-	double-loaded corridor

Mass Timber & Housing Precedents Research

Project List Organization:

Prefabrication

Mass Timber Floor Panels only

Mass Timber Floor Panels + Frame (Columns & Beams)

Mass Timber Floor Panels + Frame Variations (hybrid, point support)

Mass Timber Floor Panels + Bearing Walls (& Frame)

Mass Timber Volumetric Elements & Units

Mass Timber Floor Panels only



154 Broadway



Chiles House



The Canyons



Sonrisa Studio Apartments



Shortstack Mississippi



Junction Lofts

Mass Timber Floor Panels + Frame (Columns & Beams)



Adohi Hall



Frame 122



Heartwood Workforce Housing



Timberview



8 Houses in Alcantara Street

Mass Timber Floor Panels + Frame Variations



Bunker Hill Housing



Juno East Austin



Bakers Place



Brock Commons

Mass Timber Floor Panels + Frame Variations



Bunker Hill Housing



Juno East Austin



Bakers Place



Brock Commons

Mass Timber Floor Panels + Bearing Walls



340 Dixwell



ACME Timber Lofts



Barretts Grove



IBA Apartment Housing



Wenlock Road Mixed-Use



85 Social Housing

Mass Timber Volumetric Modular Elements & Units



Hotel Bauhofstrasse



Universal Design Quarter



Puukuokka Housing Block



Project VIA



The Knight Building

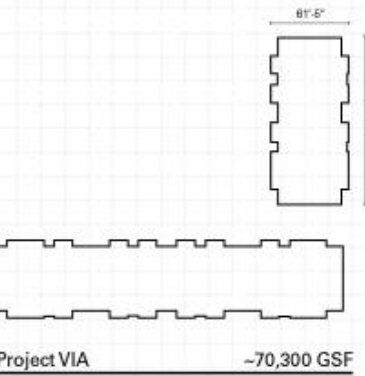
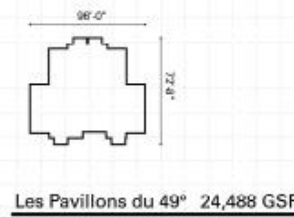
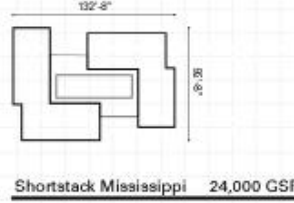
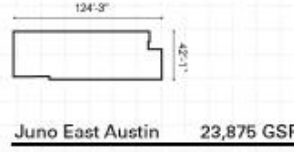
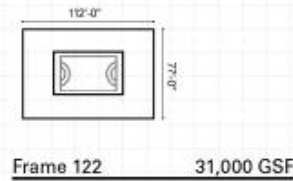
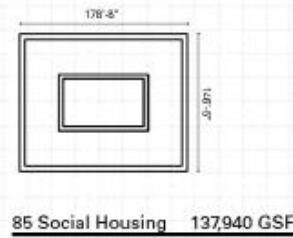
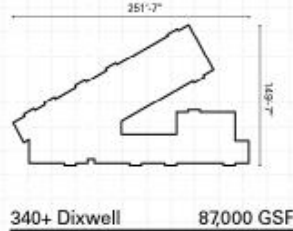
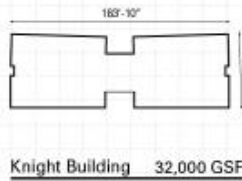
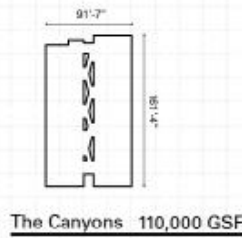
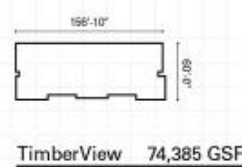
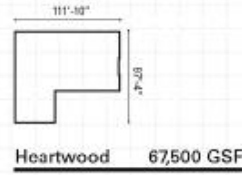
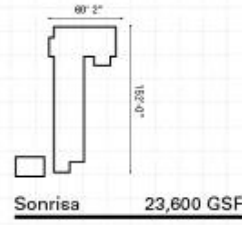
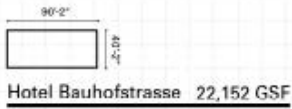
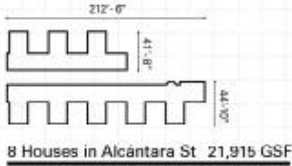
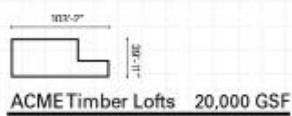
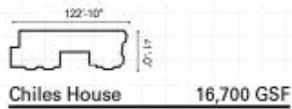
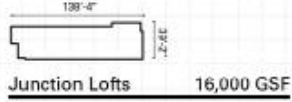
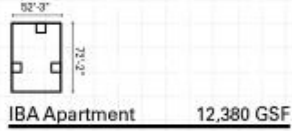
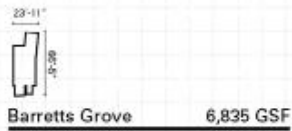


Les Pavillons Du 49

Mass Timber & Housing Precedents Research

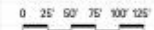
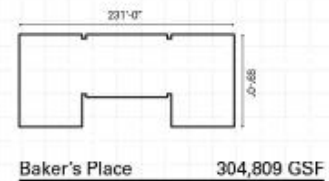
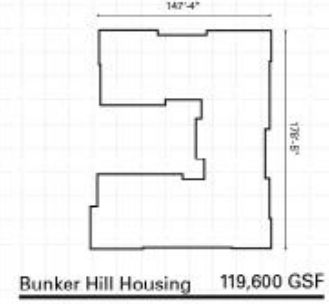
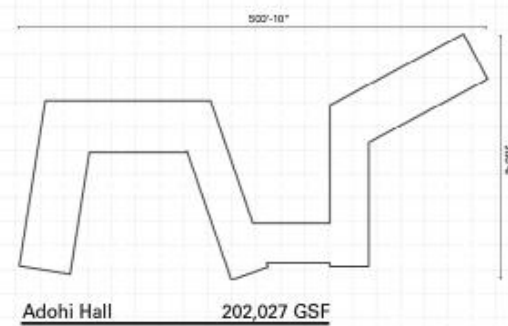
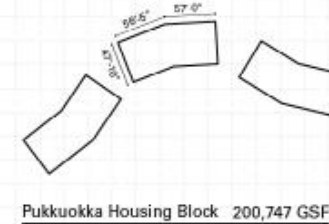
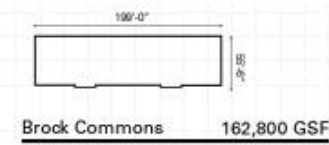
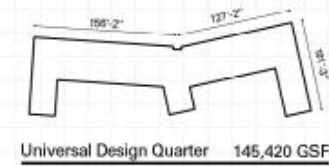
COMPARATIVE CATEGORIES:

Building Area
Space Efficiency
Corridor Type
Structural Type
Construction Method
Construction Type
Height
Number of Units
Sustainability Certification



Building Area

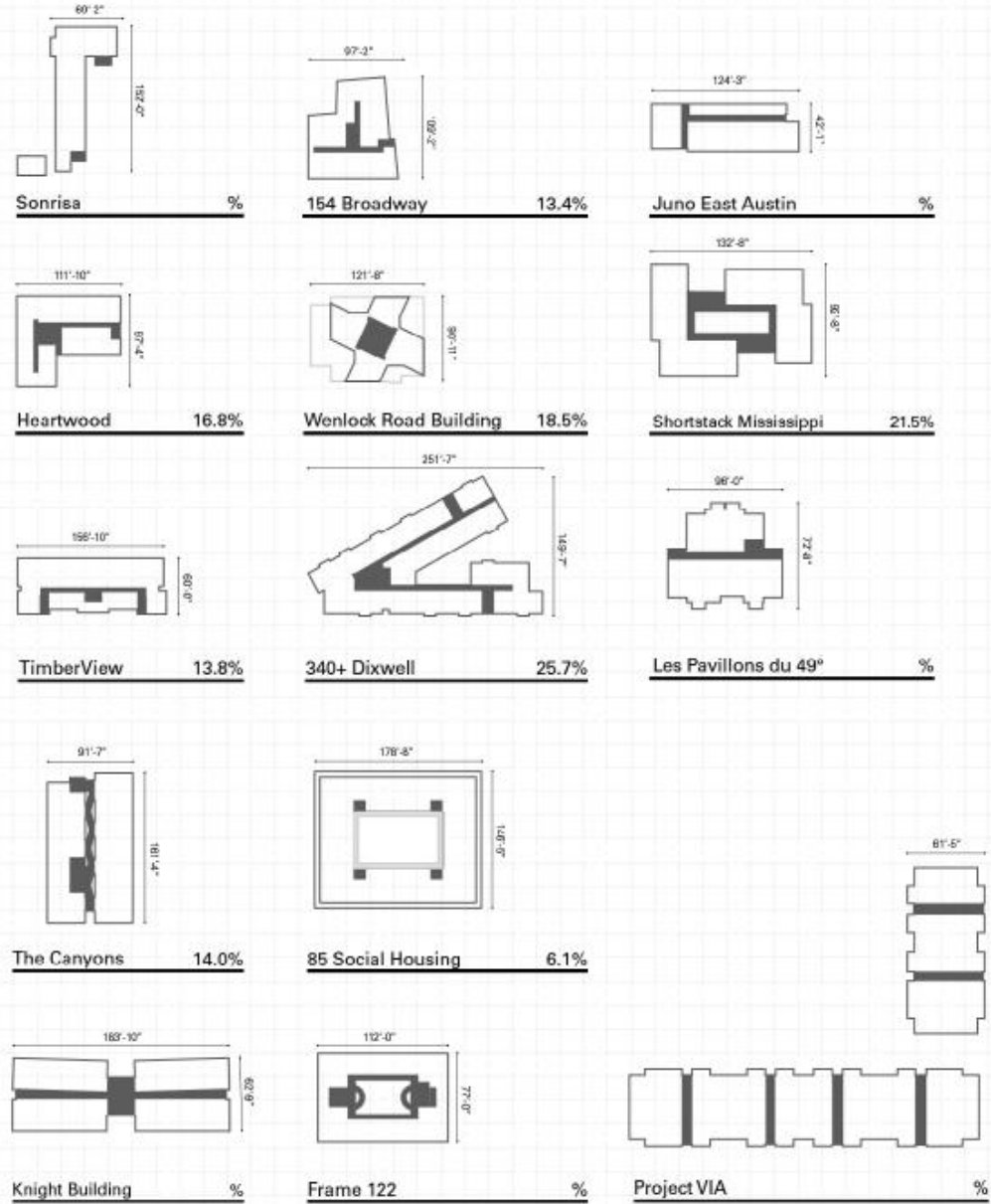
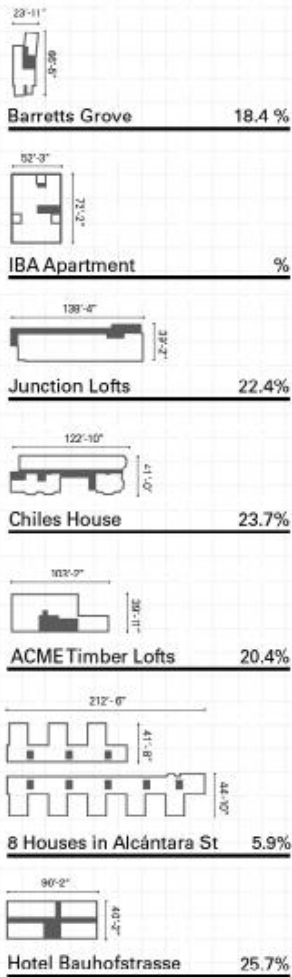
NOTE
: DIMENSIONS ARE APPROXIMATE.



Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

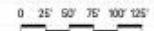
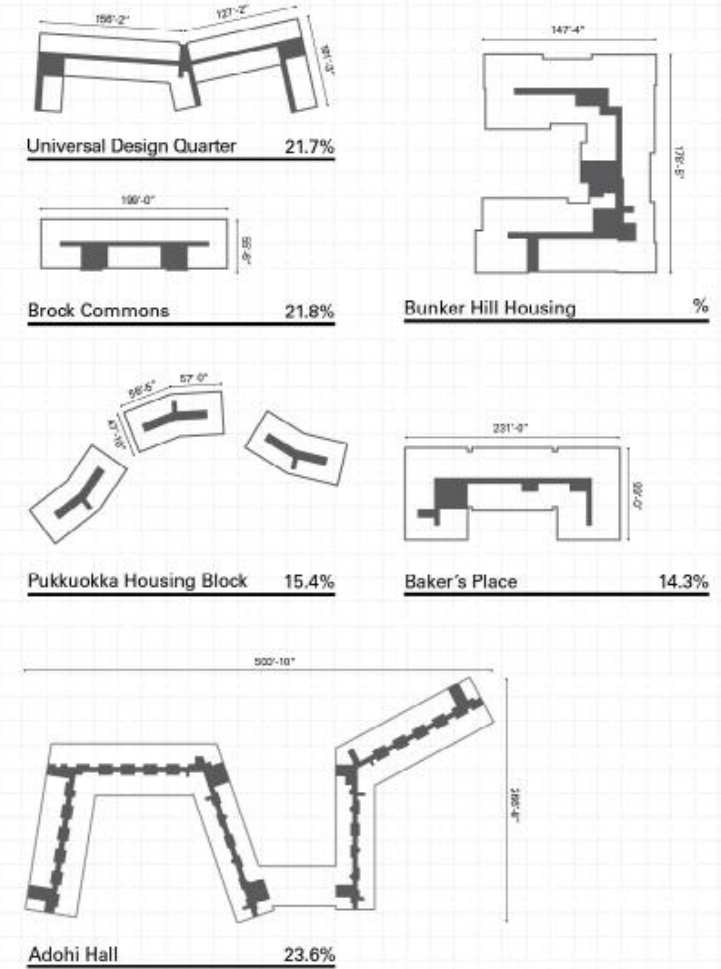
Large (140,001 GSF or more)



Space Efficiency

■ Circulation, MEP and Core
□ Occupiable spaces

NOTE
DIMENSIONS ARE APPROXIMATE.





Barretts Grove



IBA Apartment



Junction Lofts



Chiles House



ACME Timber Lofts



8 Houses in Alcántara St



Hotel Bauhofstrasse



Sonrisa



Heartwood



TimberView



The Canyons



Knight Building



154 Broadway



Wenlock Road Building



340+ Dixwell



85 Social Housing



Frame 122



Juno East Austin



Shortstack Mississippi



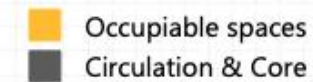
Les Pavillons du 49°



Project VIA

Corridor Type

Double-loaded Corridor



Universal Design Quarter



Brock Commons



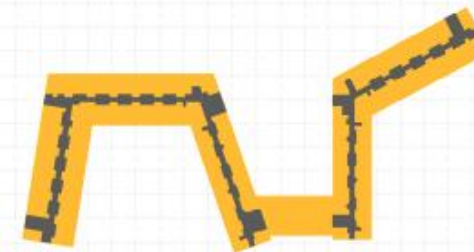
Pukkuokka Housing Block



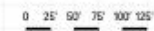
Bunker Hill Housing



Baker's Place



Adohi Hall



Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

Large (140,001 GSF or more)



Barretts Grove



IBA Apartment



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Sonrisa



154 Broadway



Juno East Austin



Heartwood



Wenlock Road Building



Shortstack Mississippi



TimberView



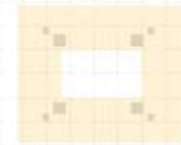
340+ Dixwell



Les Pavillons du 49°



The Canyons



85 Social Housing



Knight Building



Frame 122



Project VIA

Corridor Type

Single-loaded Corridor

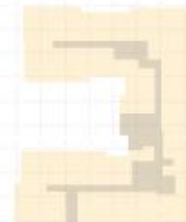
- Occupiable spaces
- Circulation & Core



Universal Design Quarter



Brock Commons



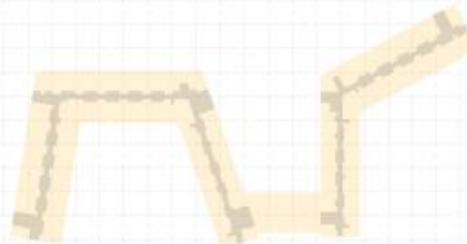
Bunker Hill Housing



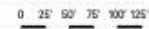
Pukkuokka Housing Block



Baker's Place



Adohi Hall



Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

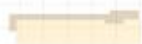
Large (140,001 GSF or more)



Barretts Grove



IBA Apartment



Junction Lofts



Chiles House



ACME Timber Lofts



8 Houses in Alcántara St



Hotel Bauhofstrasse



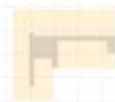
Sonrisa



154 Broadway



Juno East Austin



Heartwood



Wenlock Road Building



Shortstack Mississippi



TimberView



340+ Dixwell



Les Pavillons du 49*



The Canyons



85 Social Housing



Knight Building



Frame 122



Project VIA

Corridor Type

Compact Corridor

Single scissor stair, multiple entries...

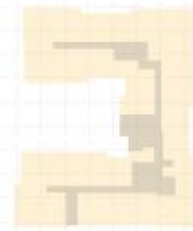
- Occupiable spaces
- Circulation & Core



Universal Design Quarter



Brock Commons



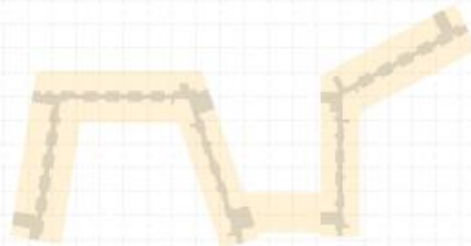
Bunker Hill Housing



Pukkuokka Housing Block



Baker's Place



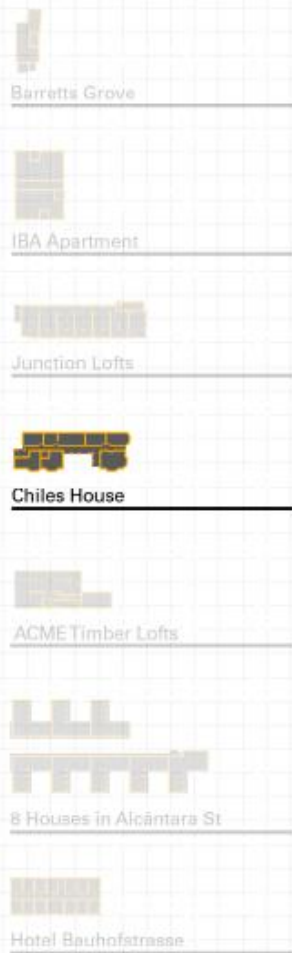
Adohi Hall

0 25' 50' 75' 100' 125'

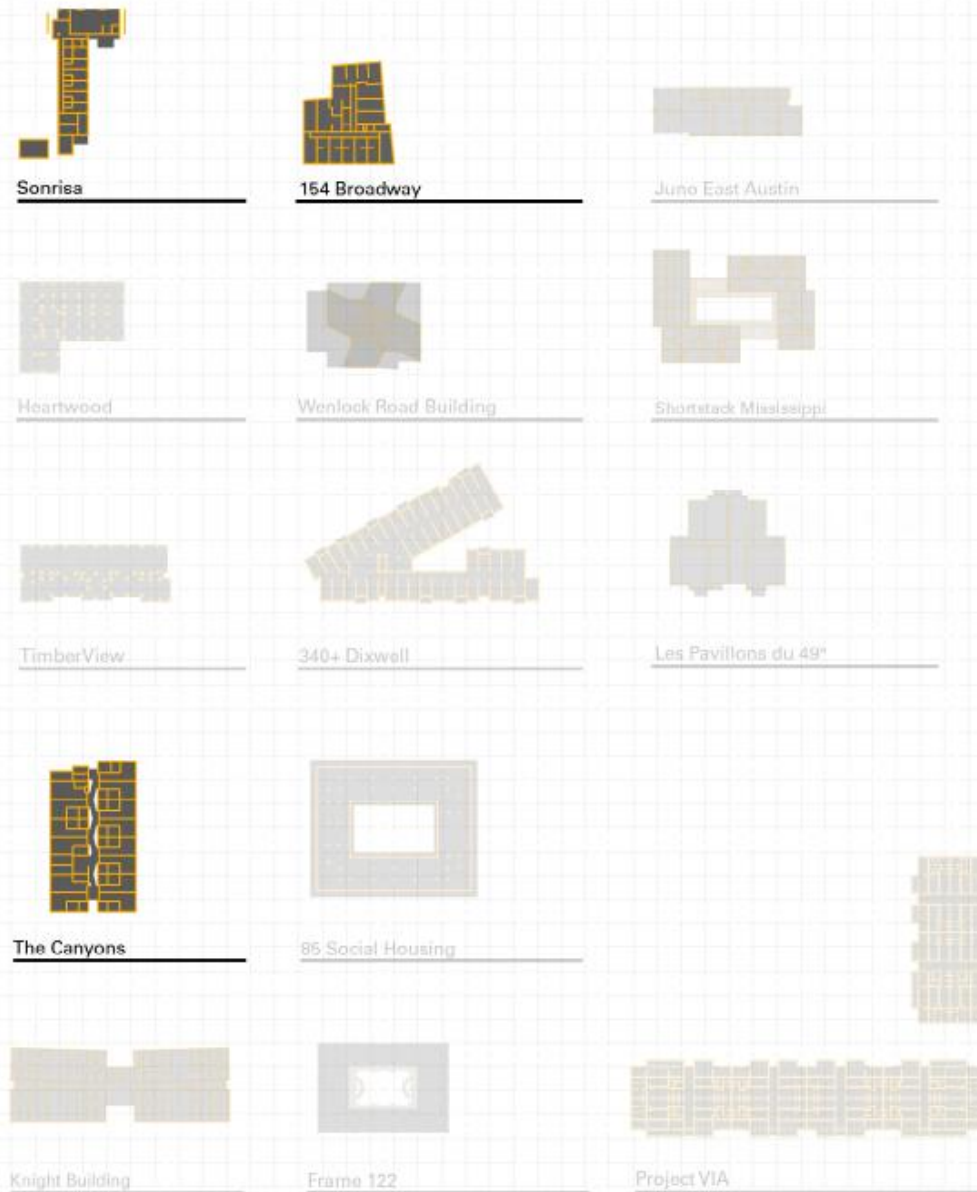
Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

Large (140,001 GSF or more)



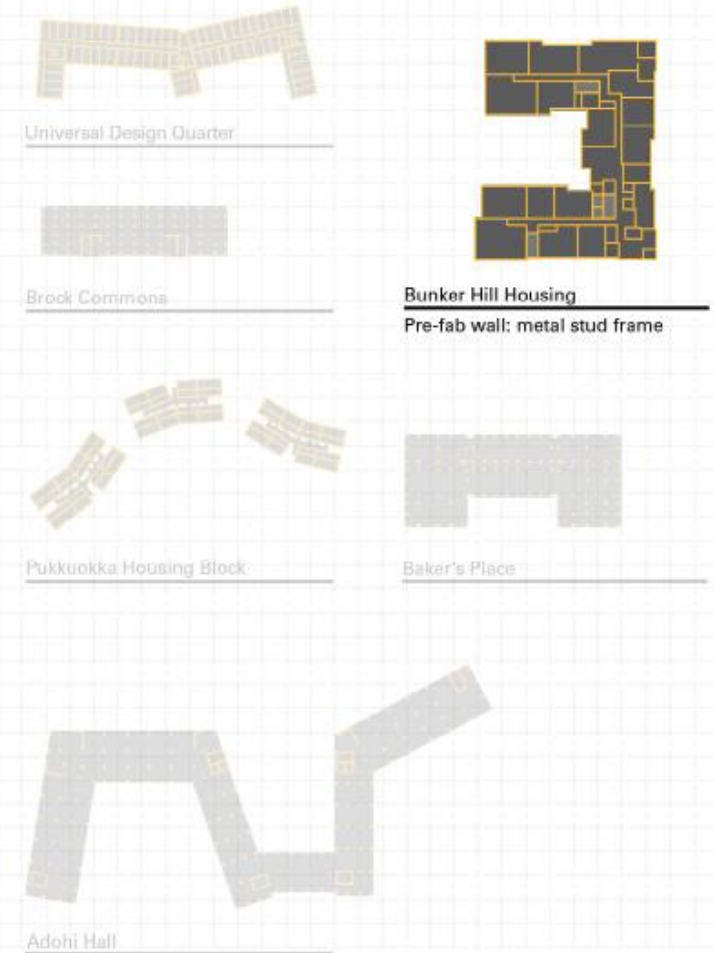
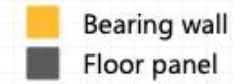
Small (up to 23,000 GSF)



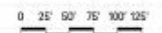
Medium (23,001 to 140,000 SF)

Structure Type

Bearing Walls - Stud Frame



Large (140,001 GSF or more)





Barretts Grove



IBA Apartment



Junction Lofts



Chiles House



ACME Timber Lofts



8 Houses in Alcántara St



Hotel Bauhofstrasse



Sonriss



154 Broadway



Juno East Austin



Heartwood



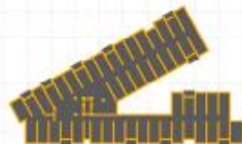
Wenlock Road Building



Shortstack Mississippi



TimberView



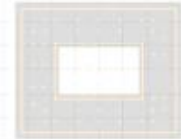
340+ Dixwell



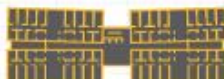
Les Pavillons du 49°



The Canyons



85 Social Housing



Knight Building

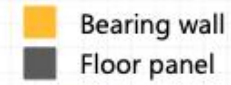


Frame 122



Project VIA

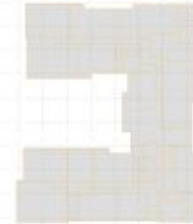
Structure Type Bearing Walls - CLT



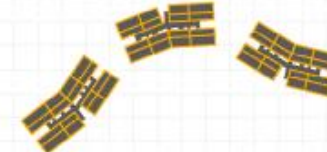
Universal Design Quarter



Brock Commons



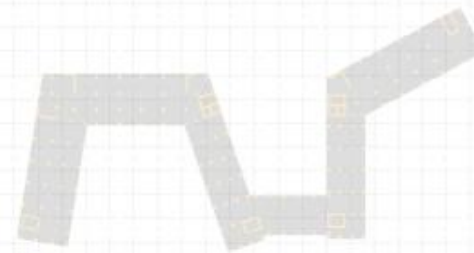
Bunker Hill Housing



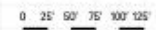
Pukkuokka Housing Block



Baker's Place



Adohi Hall



Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

Large (140,001 GSF or more)



Barretts Grove



IBA Apartment



Junction Lofts



Chiles House



ACME Timber Lofts



8 Houses in Alcántara St



Hotel Bauhofstrasse



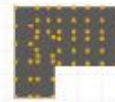
Sonriss



154 Broadway



Juno East Austin



Heartwood



Wenlock Road Building



Shortstack Mississippi



TimberView



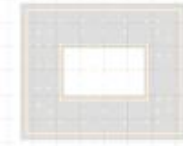
340+ Dixwell



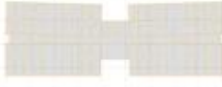
Les Pavillons du 49*



The Canyons



85 Social Housing



Knight Building

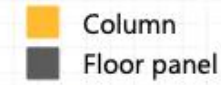


Frame 122



Project VIA

Structure Type Columns & Beams



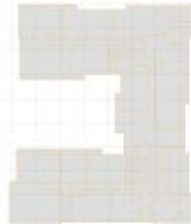
Universal Design Quarter



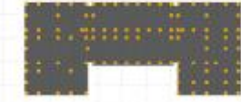
Brock Commons



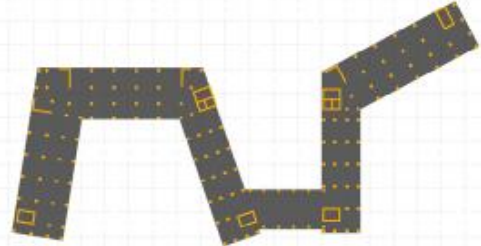
Pukkuokka Housing Block



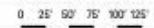
Bunker Hill Housing



Baker's Place



Adohi Hall



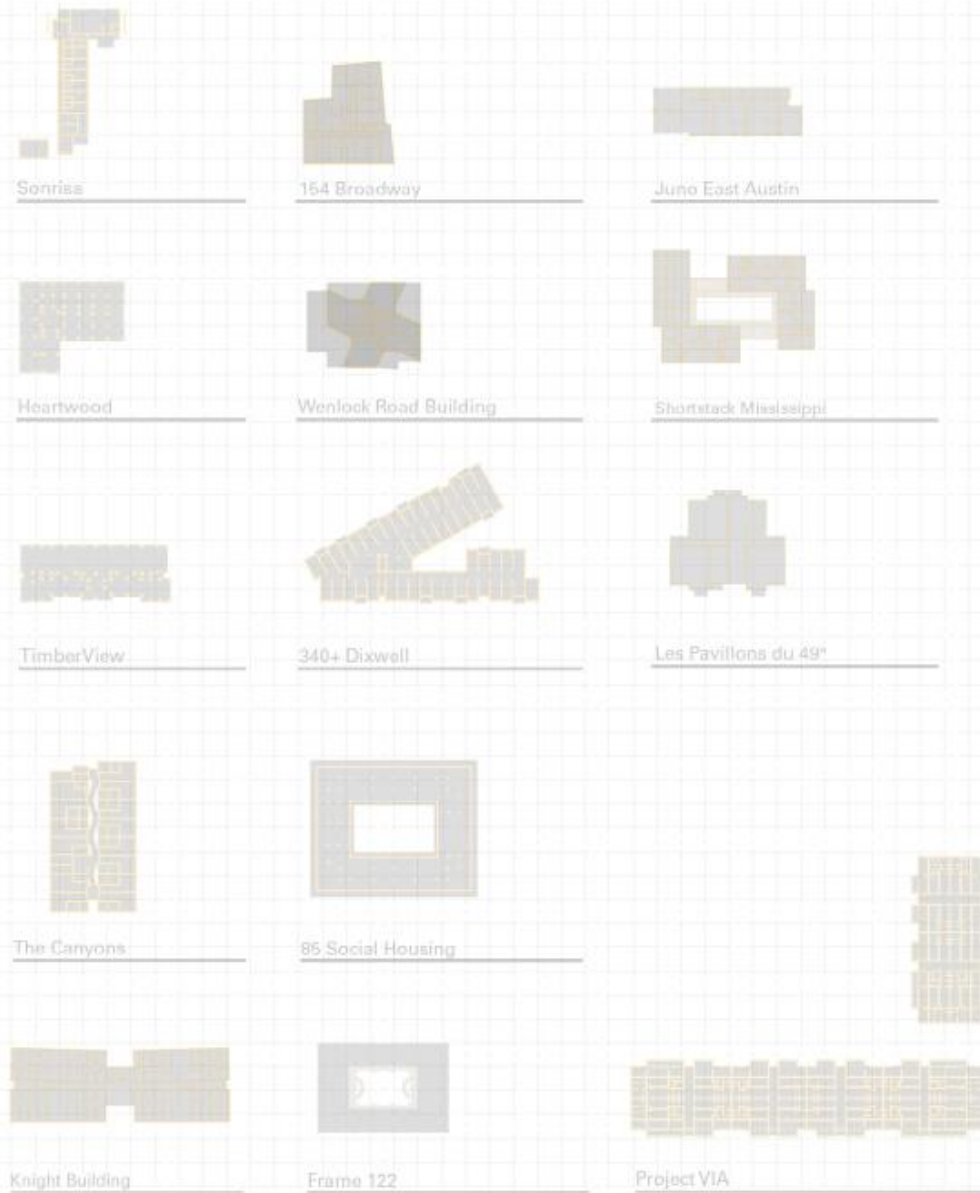
Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

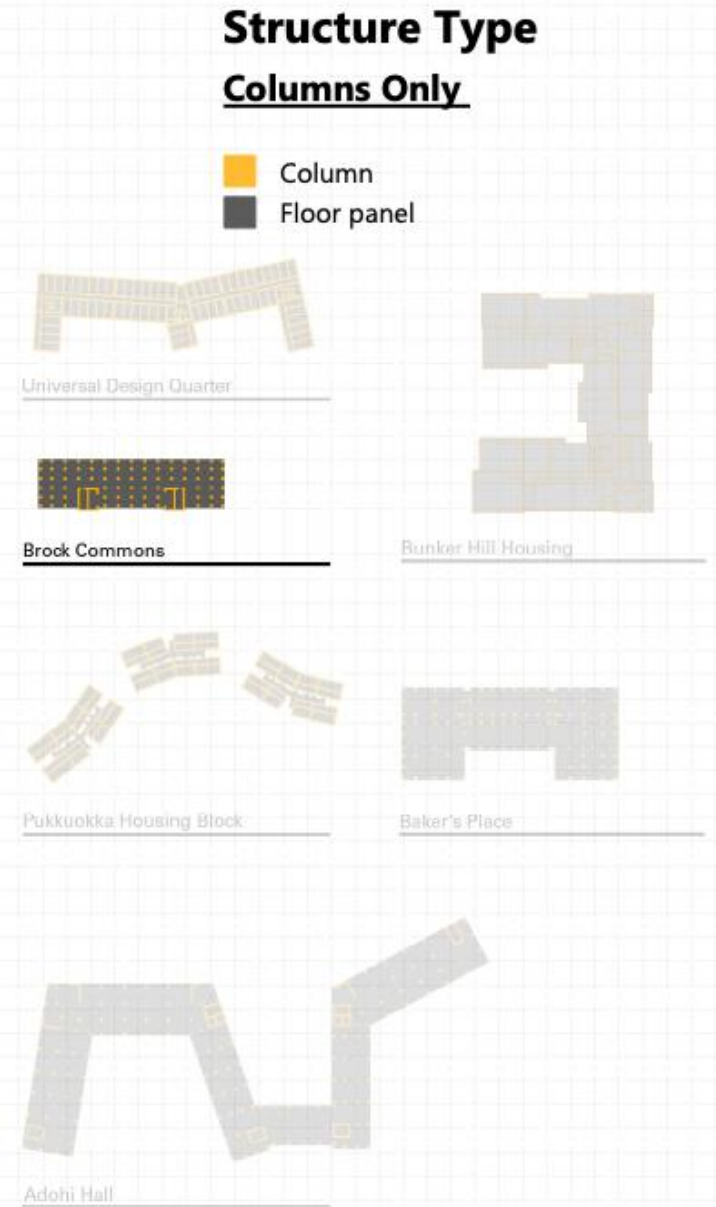
Large (140,001 GSF or more)



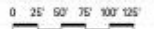
Small (up to 23,000 GSF)



Medium (23,001 to 140,000 SF)



Large (140,001 GSF or more)





Barretts Grove



IBA Apartment



Junction Lofts



Chiles House



ACME Timber Lofts



8 Houses in Alcántara St



Hotel Bauhofstrasse



Sonriss



154 Broadway



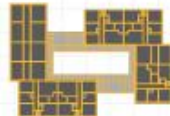
Juno East Austin



Heartwood



Wenlock Road Building



Shortstack Mississippi



TimberView



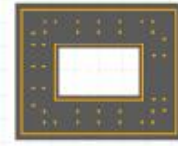
340+ Dixwell



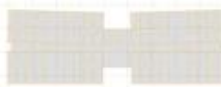
Les Pavillons du 49"



The Canyons



85 Social Housing



Knight Building



Frame 122



Project VIA

Structure Type

Bearing Walls + Columns & Beams

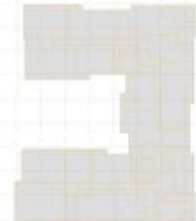
-  Bearing wall & Column
-  Floor panel



Universal Design Quarter



Brock Commons



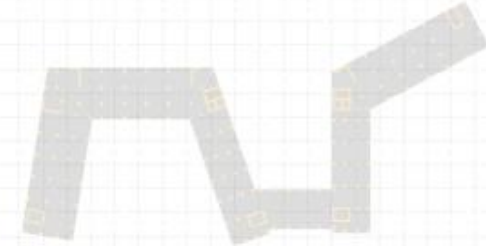
Bunker Hill Housing



Pukkuokka Housing Block



Baker's Place



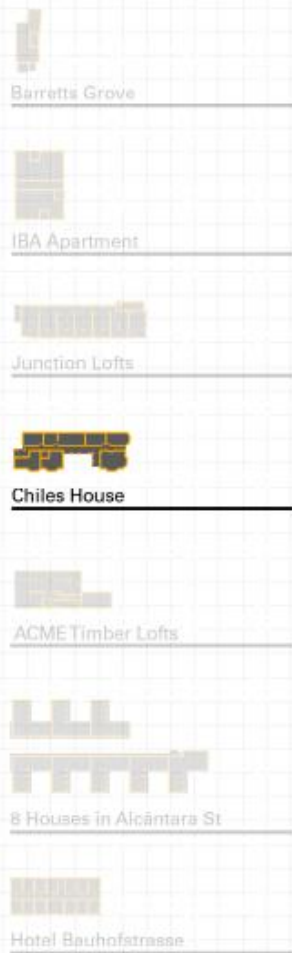
Adohi Hall

0 25' 50' 75' 100' 125'

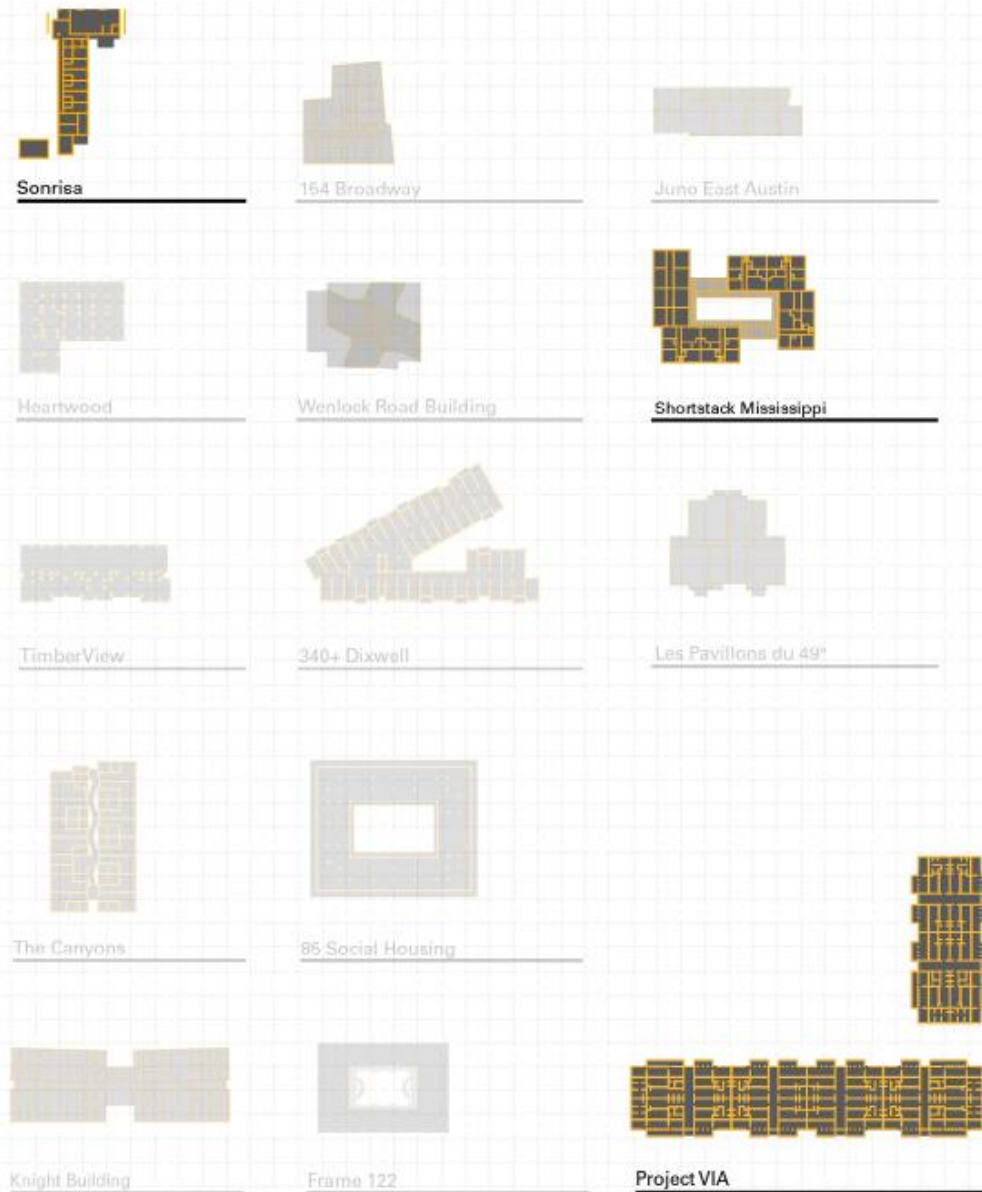
Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

Large (140,001 GSF or more)



Small (up to 23,000 GSF)

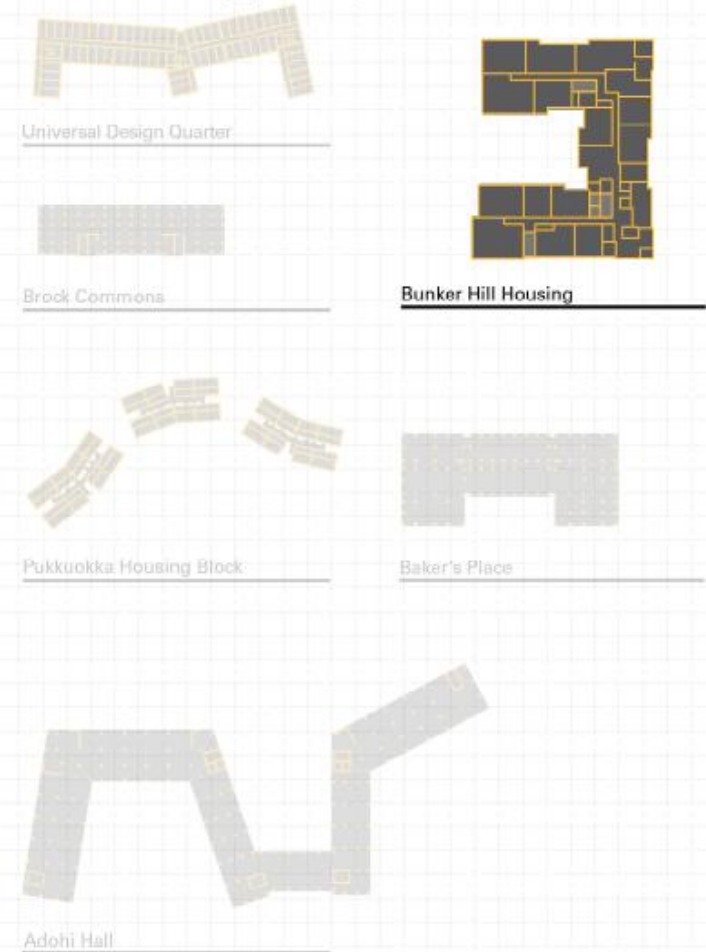


Medium (23,001 to 140,000 SF)

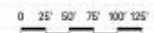
Construction Method

On Site: Light Frame Walls +CLT Floor Panels

- Bearing wall & Column
- Floor panel



Large (140,001 GSF or more)





Barretts Grove



IBA Apartment



Junction Lofts



Chiles House



ACME Timber Lofts



8 Houses in Alcántara St



Hotel Bahnhofstrasse



Sonrise



154 Broadway



Juno East Austin



Heartwood



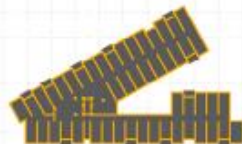
Wenlock Road Building



Shortstack Mississippi



TimberView



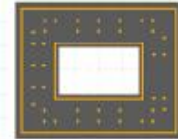
340+ Dixwell



Les Pavillons du 49*



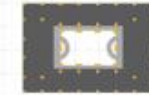
The Canyons



85 Social Housing



Knight Building



Frame 122



Project VIA

Construction Method

Flat Pack: CLT Walls + CLT Floor Panels

- Bearing wall & Column
- Floor panel



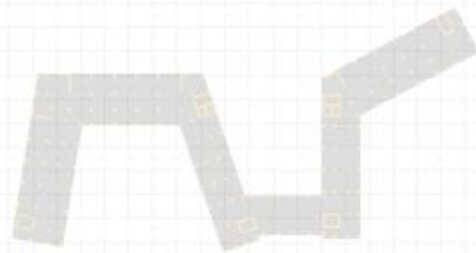
Universal Design Quarter



Brock Commons



Pukkuokka Housing Block



Adohi Hall



Bunker Hill Housing



Baker's Place

0 25' 50' 75' 100' 125'

Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

Large (140,001 GSF or more)



Barretts Grove



IBA Apartment



Junction Lofts



Chiles House



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8 Houses in Alcántara St



Hotel Bauhofstrasse



Sonrise



Heartwood



TimberView



The Canyons



Knight Building



154 Broadway



Wenlock Road Building



340+ Dixwell



85 Social Housing



Frame 122



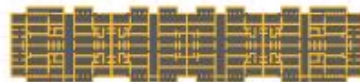
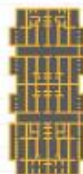
Juno East Austin



Shortstack Mississippi



Les Pavillons du 49*



Project VIA

Construction Method

Prefab Volumetric Baths

■ Bearing wall & Column
■ Floor panel



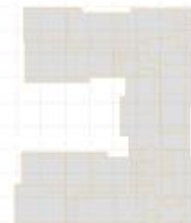
Universal Design Quarter



Brock Commons



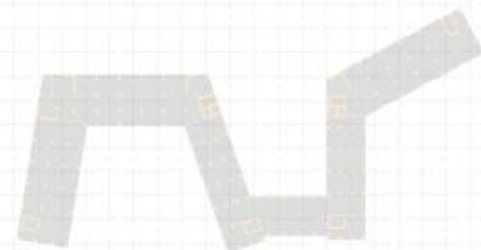
Pukkuokka Housing Block



Bunker Hill Housing



Baker's Place



Adohi Hall

0 25' 50' 75' 100' 125'

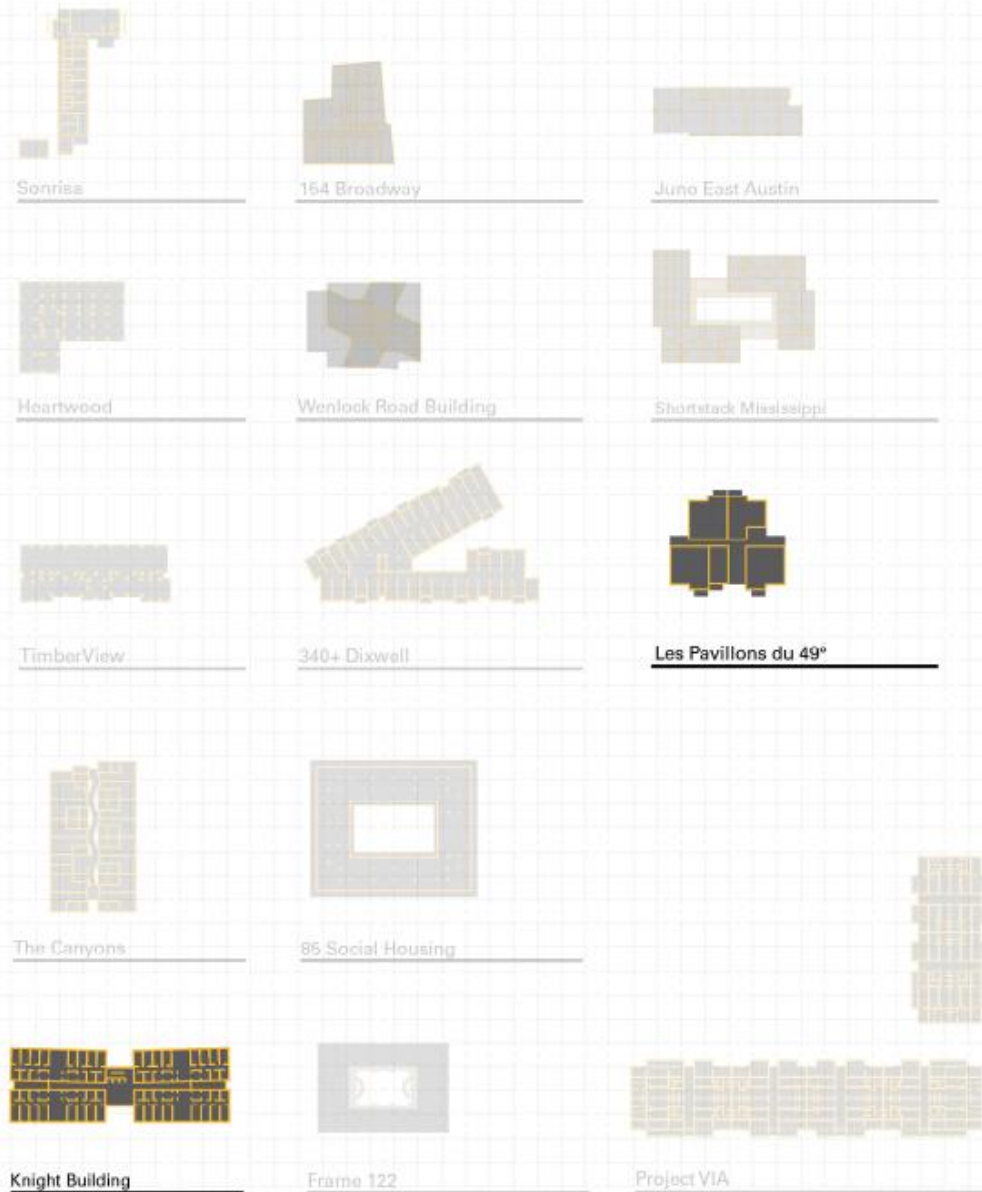
Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

Large (140,001 GSF or more)



Small (up to 23,000 GSF)

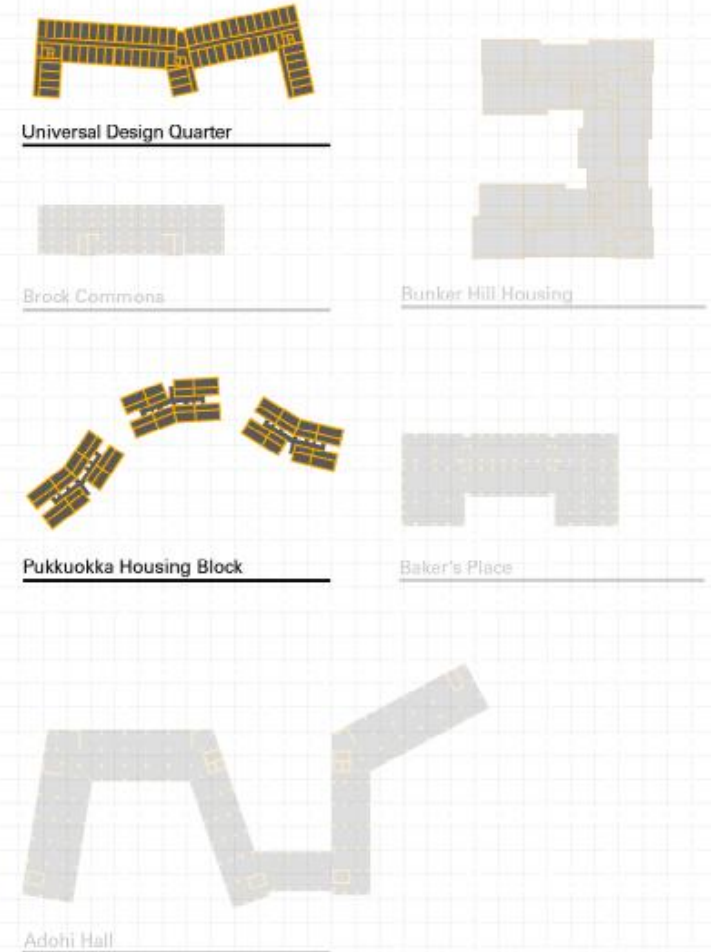


Medium (23,001 to 140,000 SF)

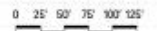
Construction Method

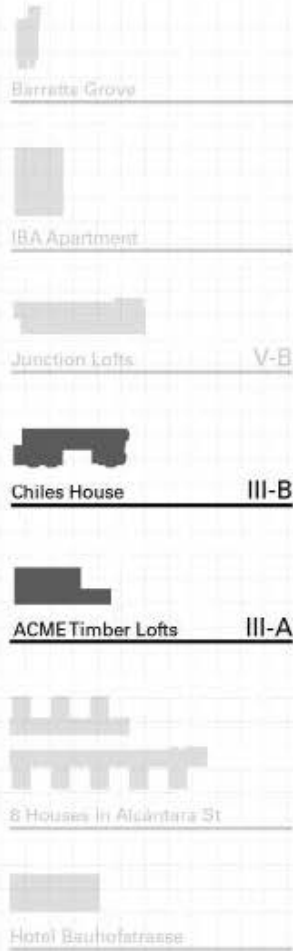
Prefab Volumetric Units with CLT Floor & Walls (Structure Only)

- Bearing wall & Column
- Floor panel

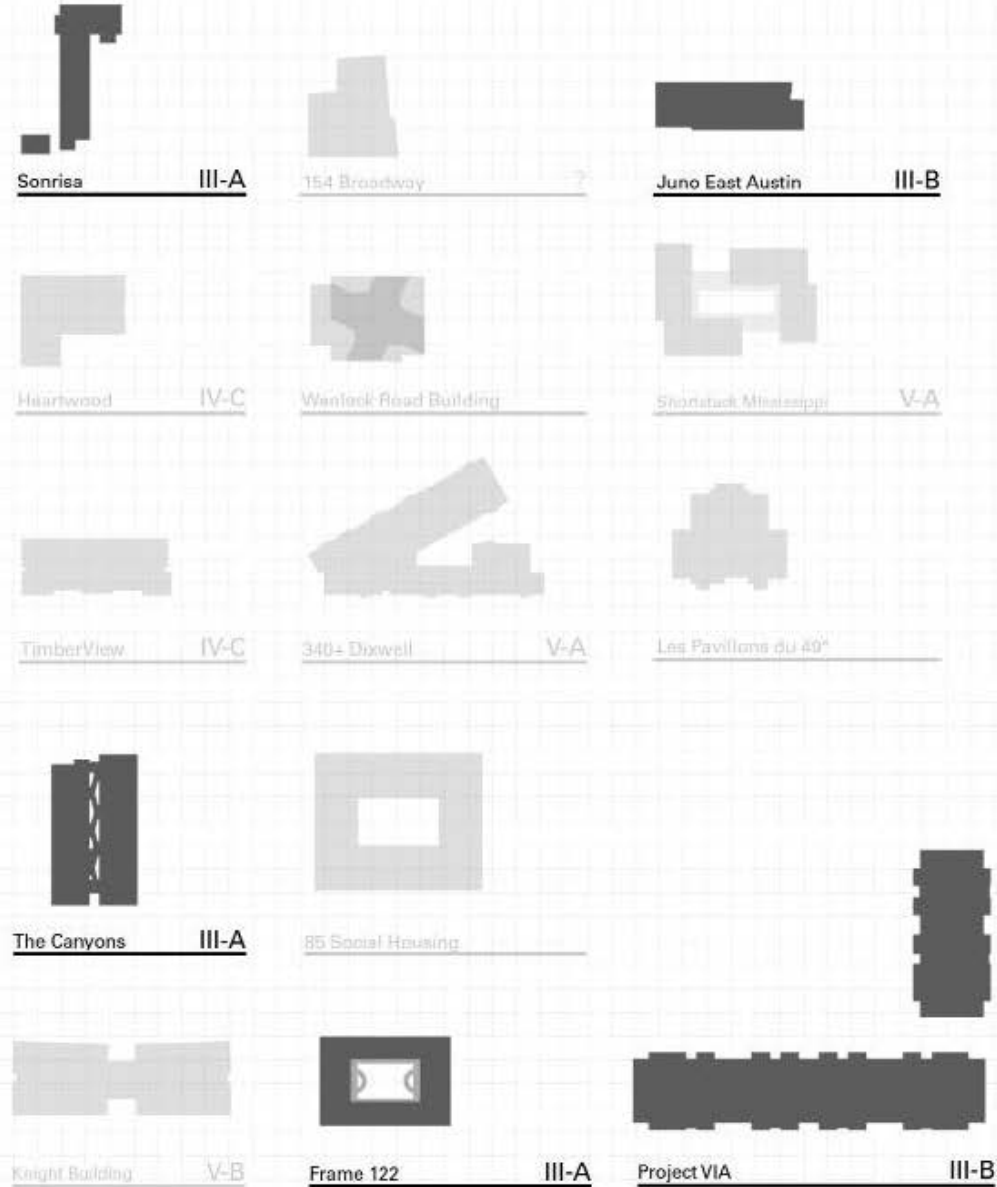


Large (140,001 GSF or more)

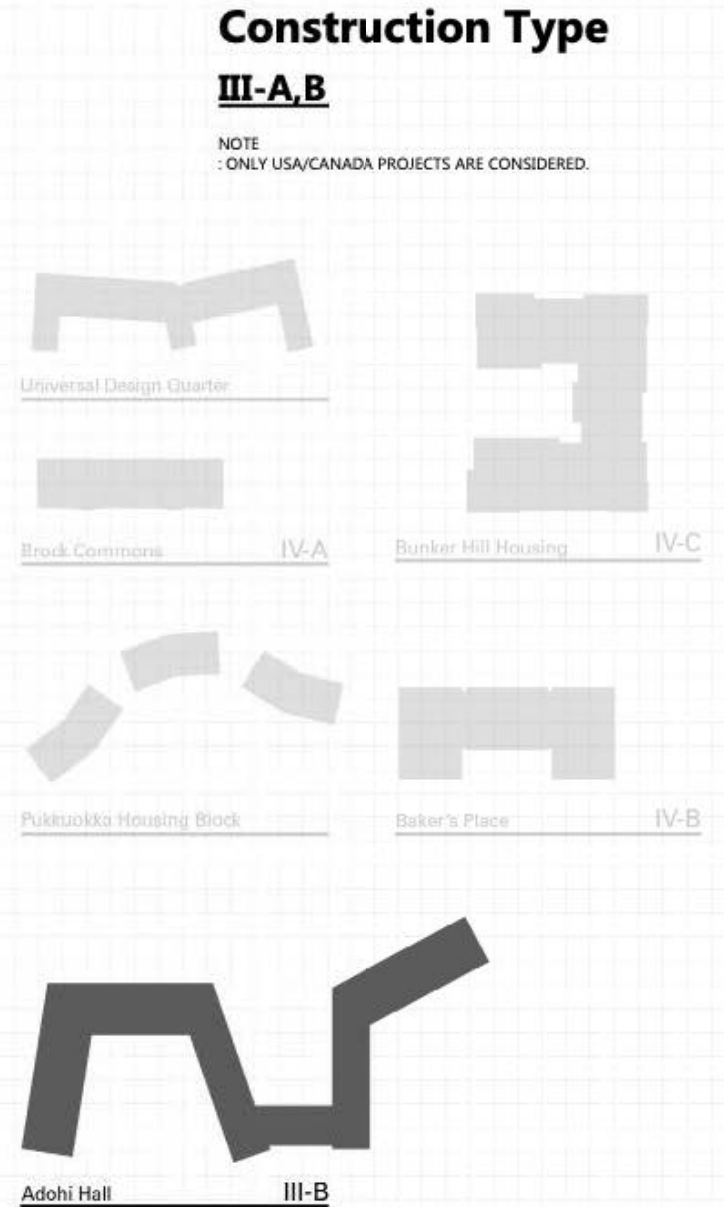




Small (up to 23,000 GSF)



Medium (23,001 to 140,000 SF)



Construction Type

III-A,B

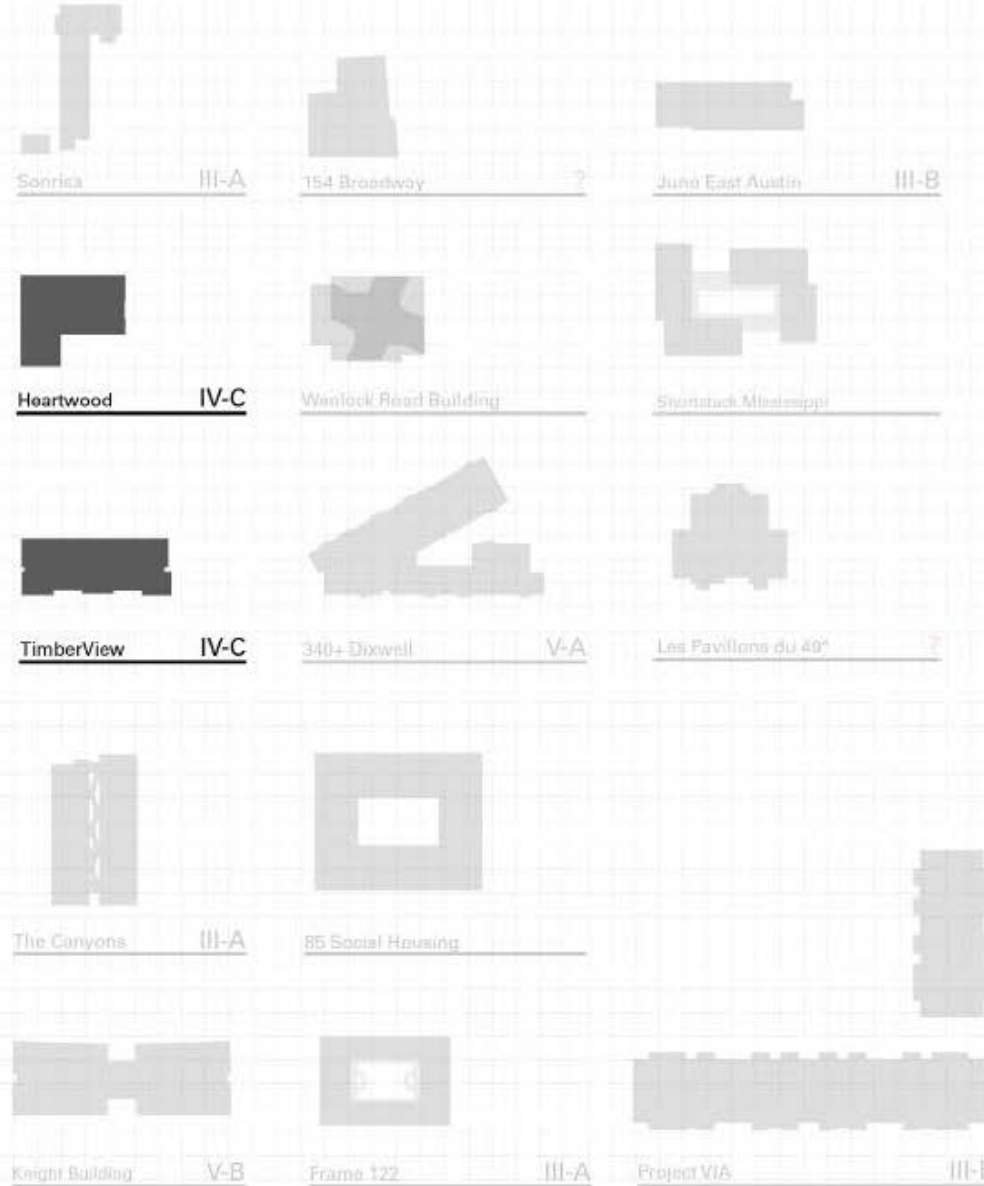
NOTE
: ONLY USA/CANADA PROJECTS ARE CONSIDERED.

0 25' 50' 75' 100' 125'

Large (140,001 GSF or more)



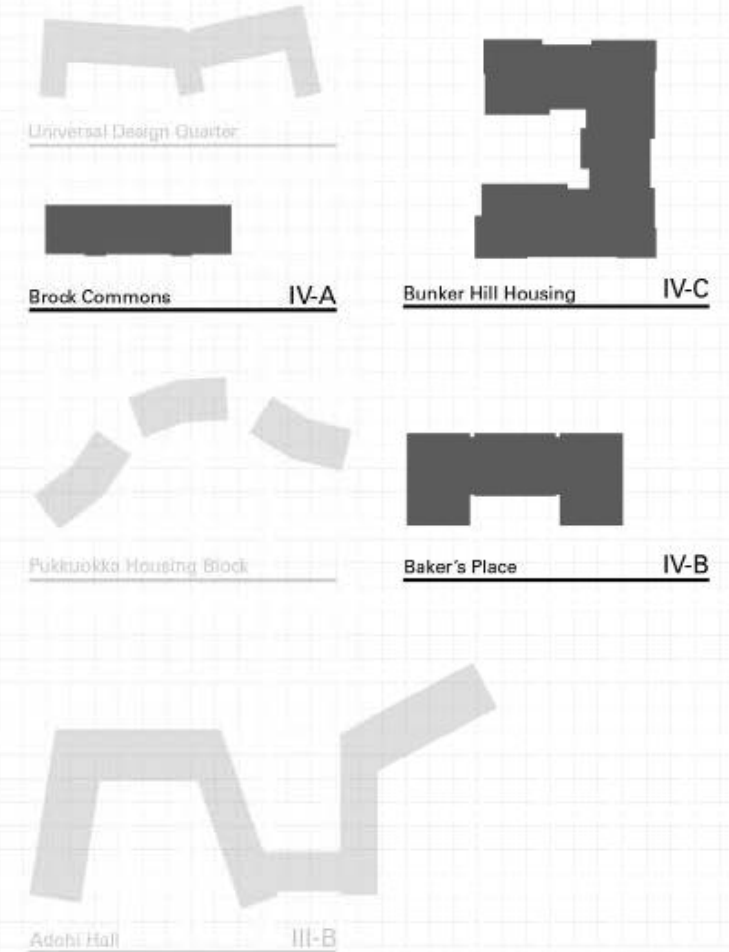
Small (up to 23,000 GSF)



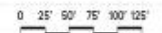
Medium (23,001 to 140,000 SF)

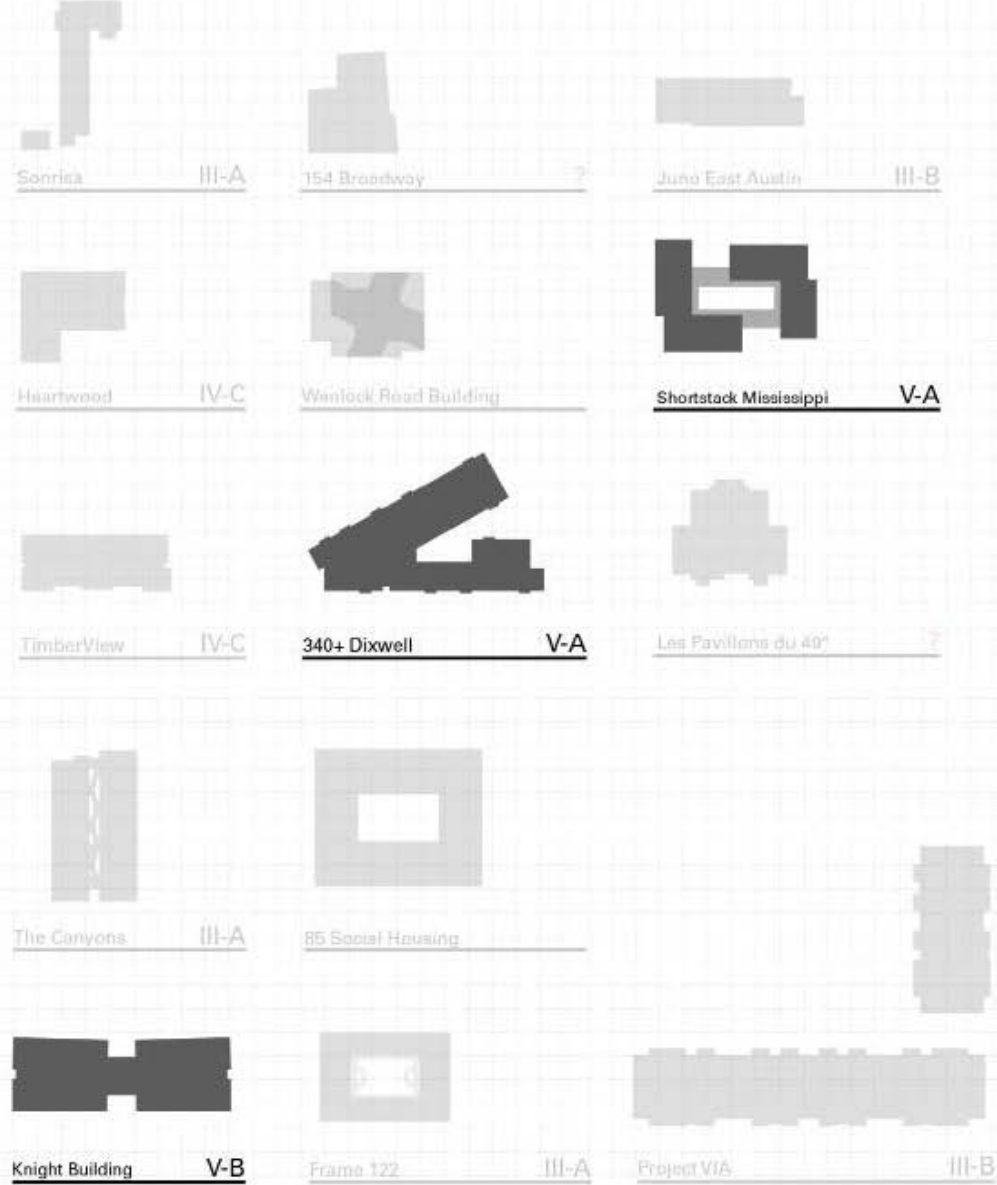
Construction Type IV-A,B,C

NOTE
: ONLY USA/CANADA PROJECTS ARE CONSIDERED.



Large (140,001 GSF or more)

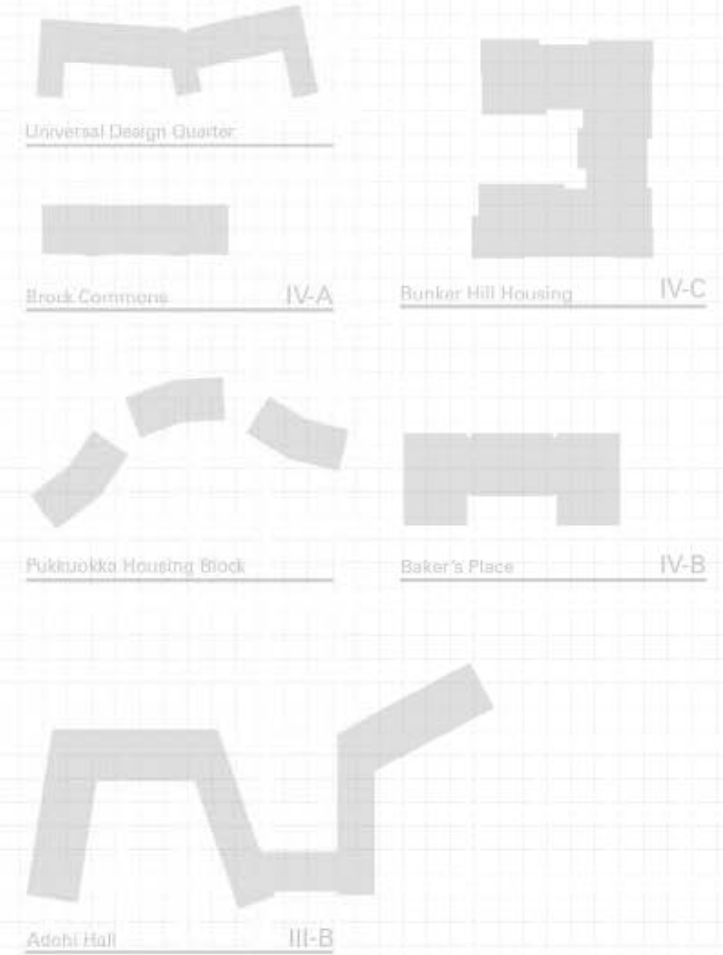




Construction Type

V-A

NOTE
: ONLY USA/CANADA PROJECTS ARE CONSIDERED.

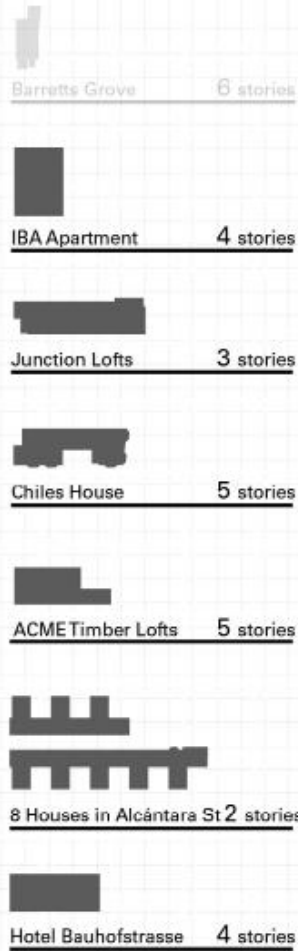


0 25' 50' 75' 100' 125'

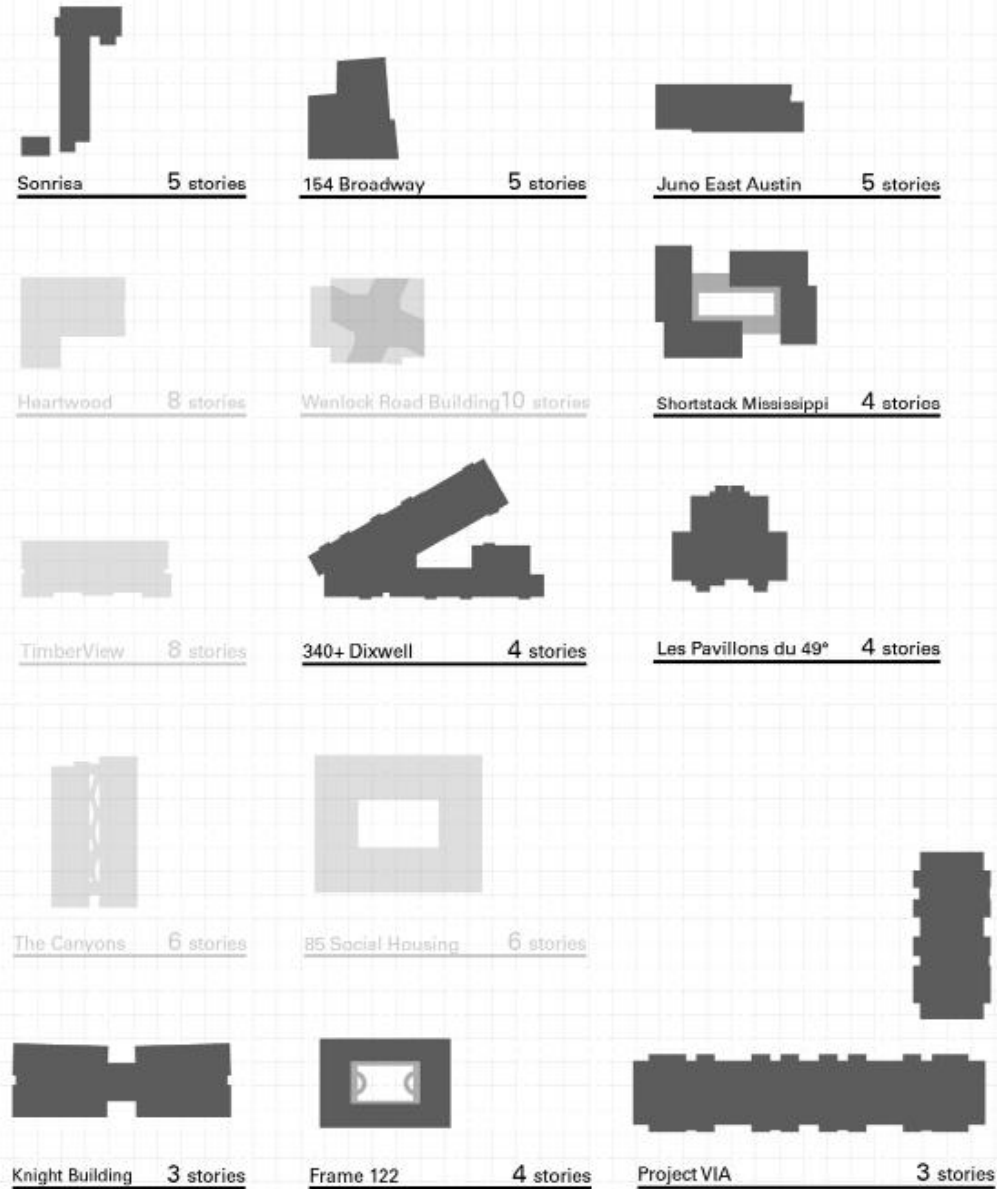
Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

Large (140,001 GSF or more)

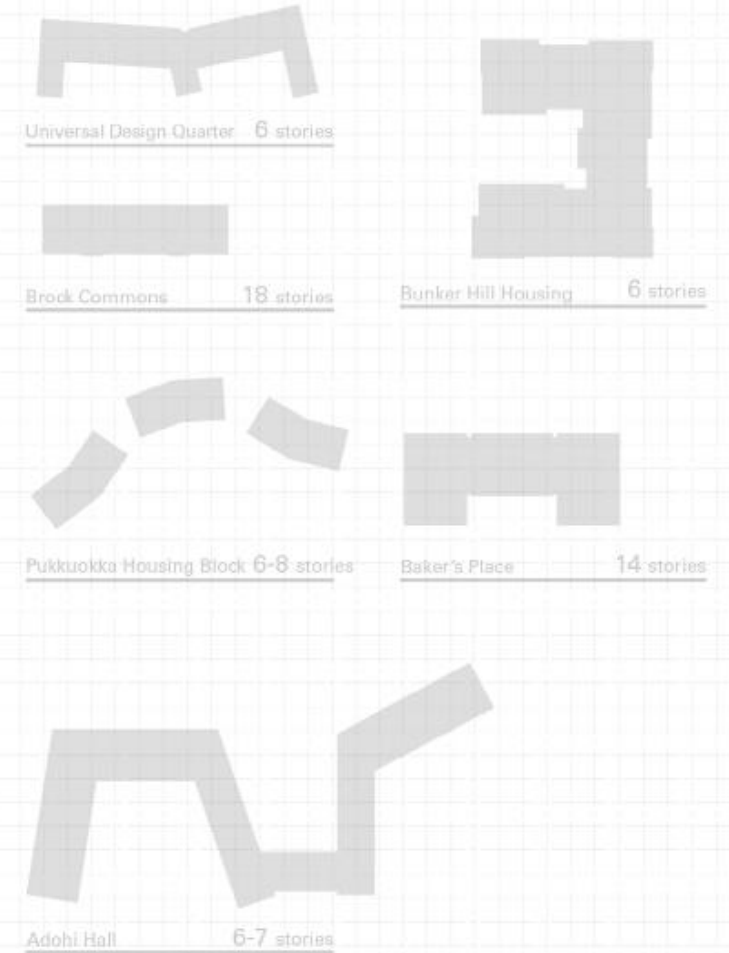


Small (up to 23,000 GSF)

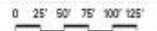


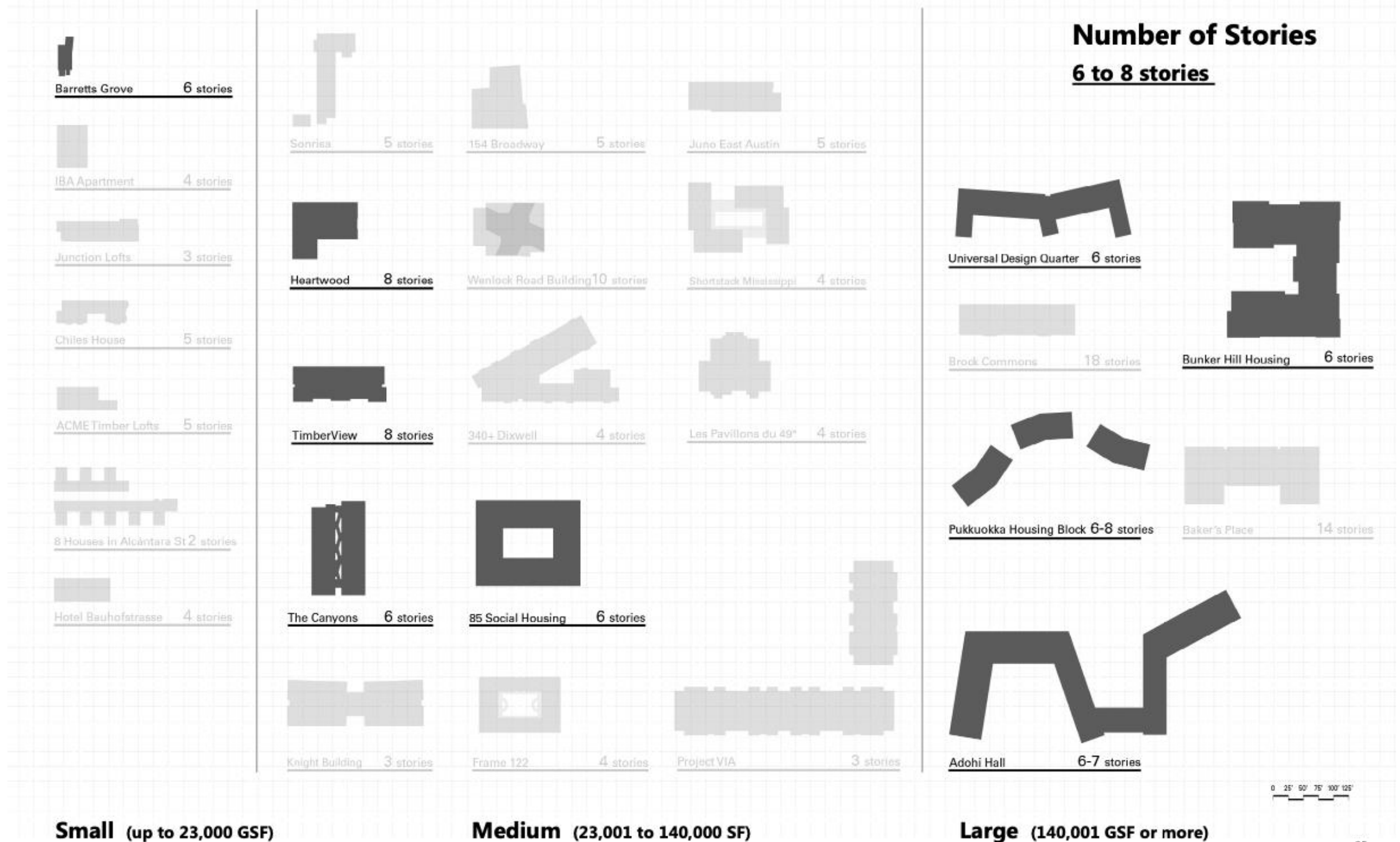
Medium (23,001 to 140,000 SF)

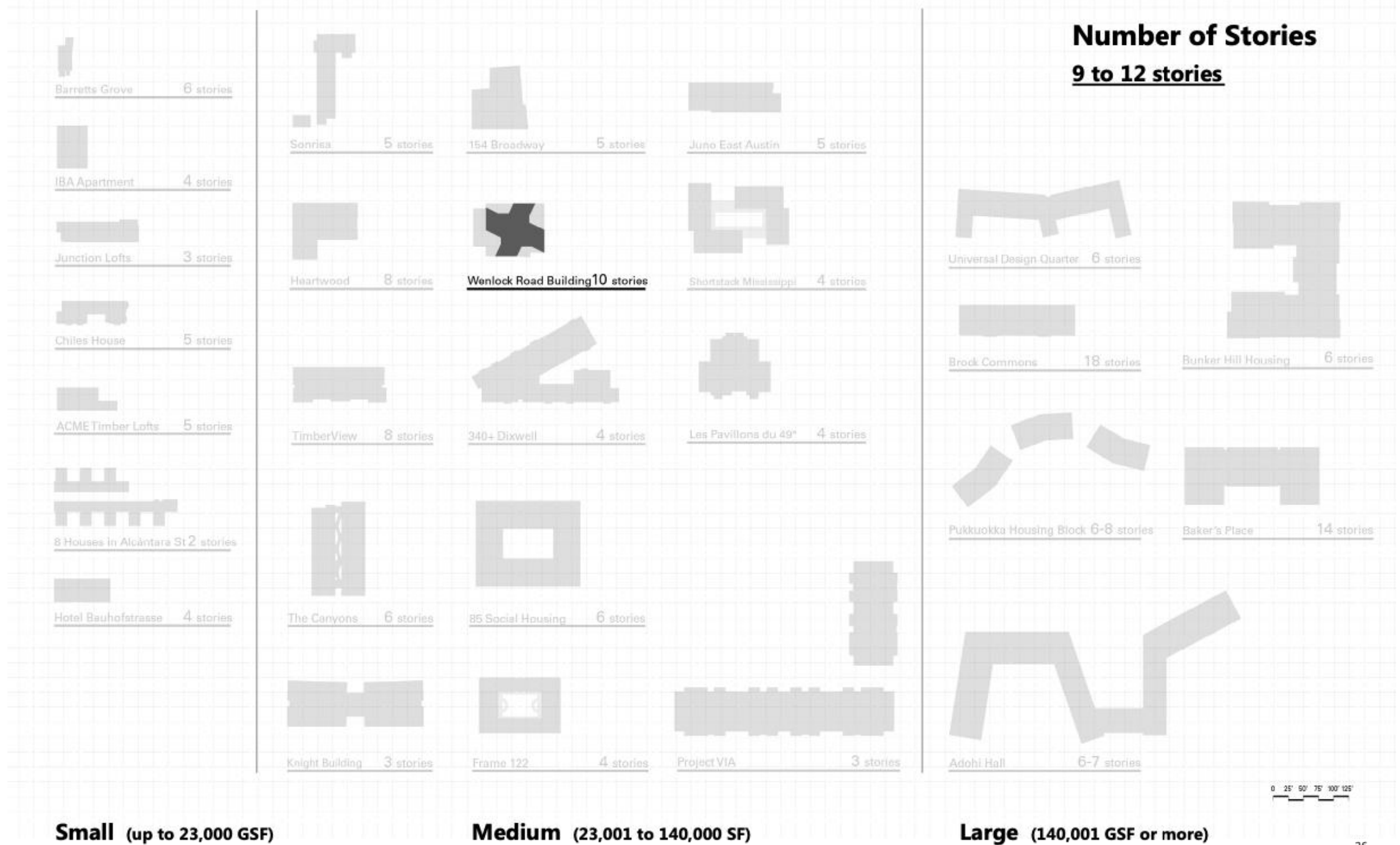
Number of Stories up to 5 stories

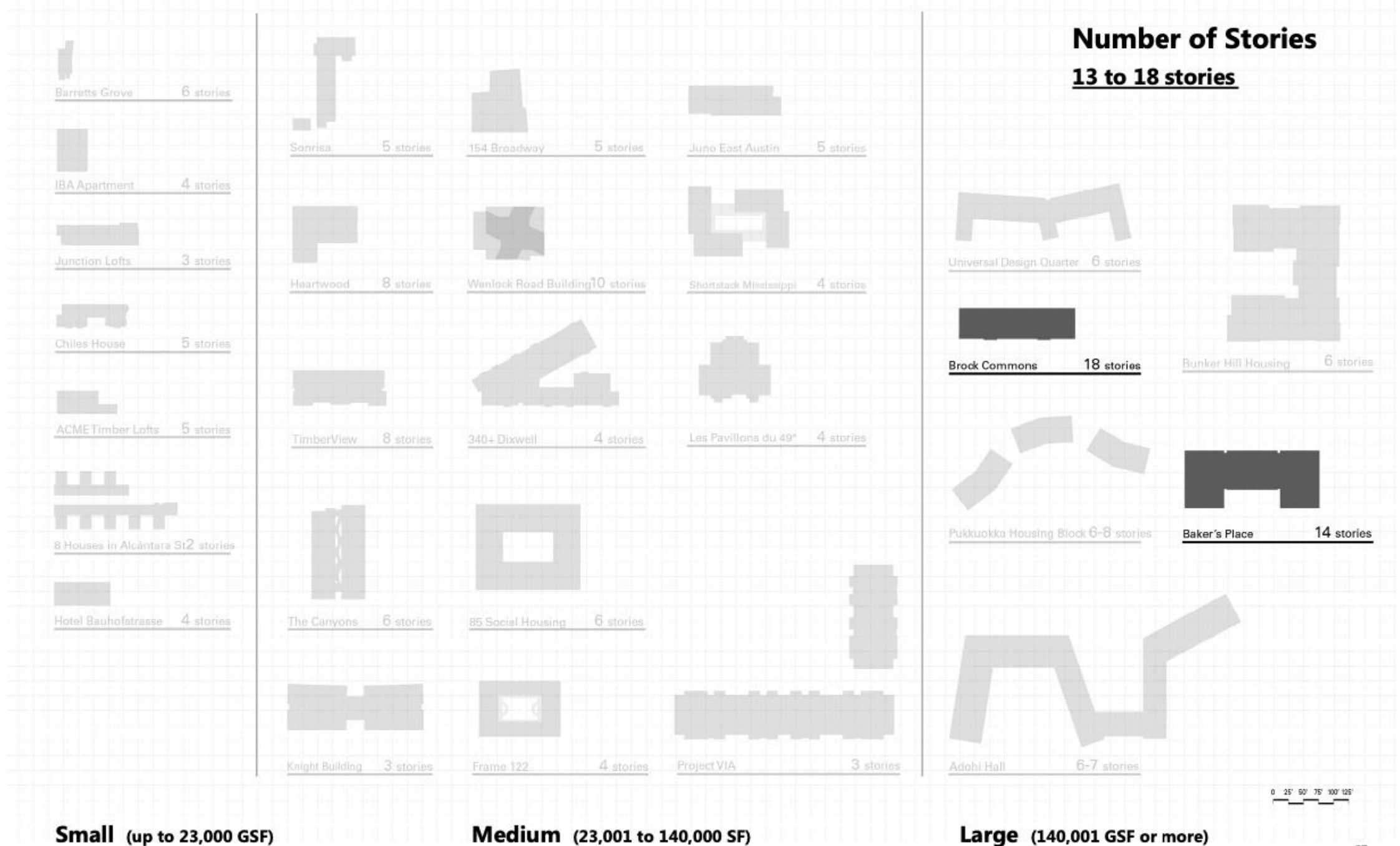


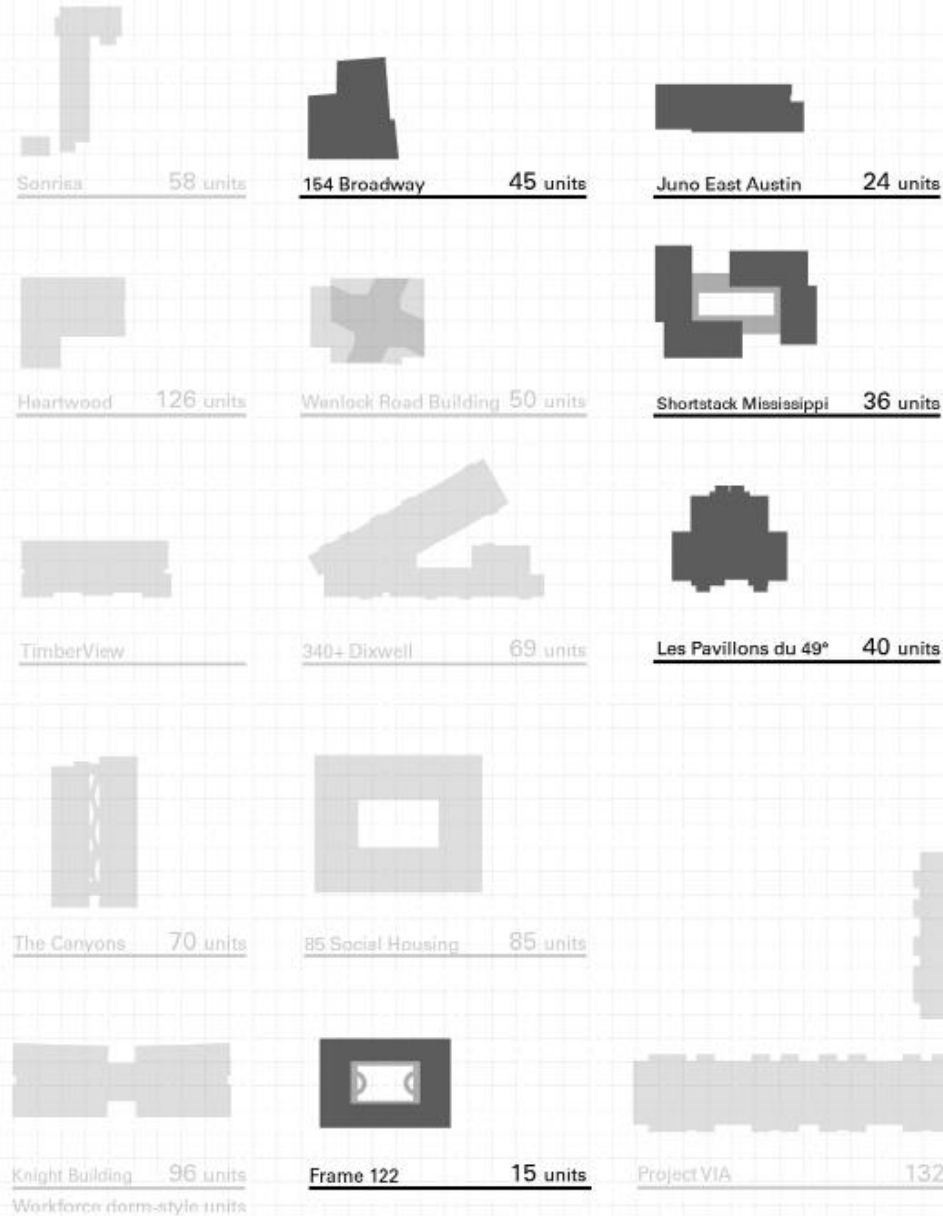
Large (140,001 GSF or more)



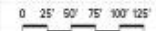
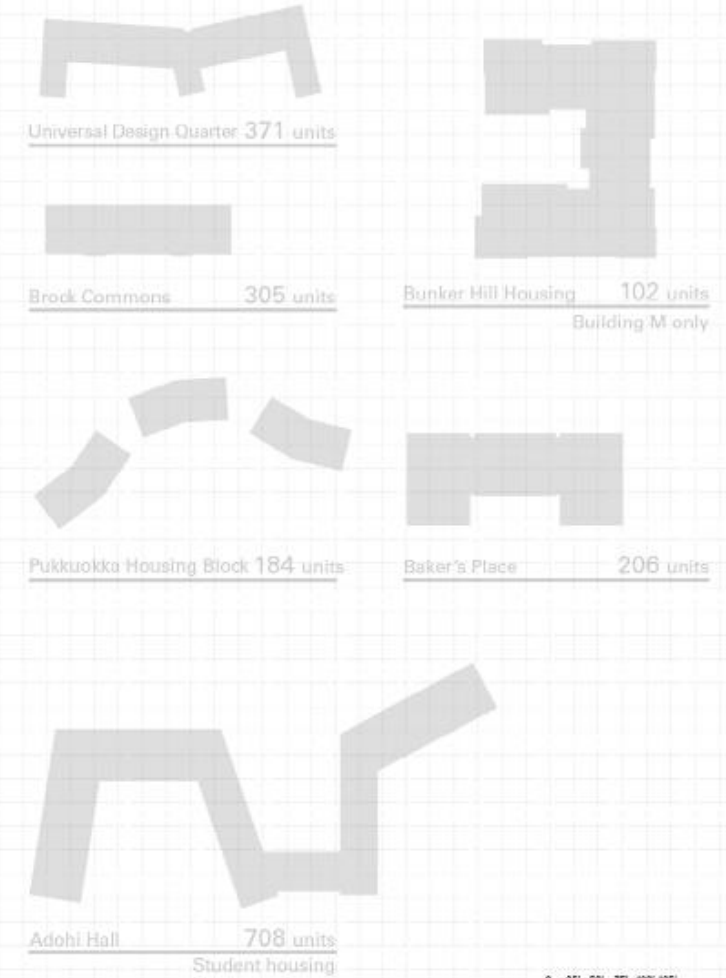








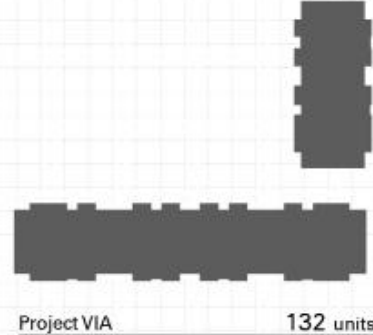
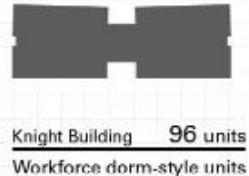
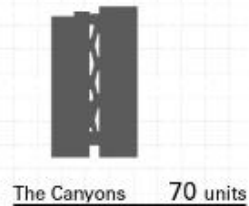
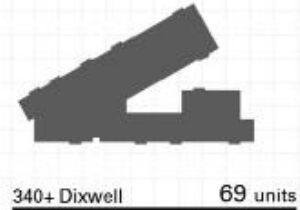
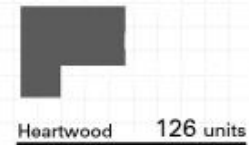
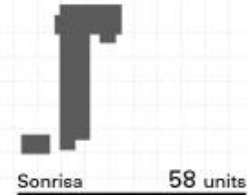
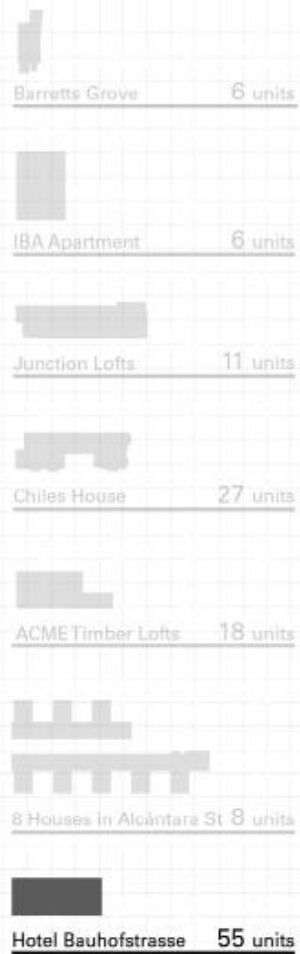
Quantity of Units up to 49 units



Small (up to 23,000 GSF)

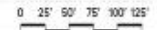
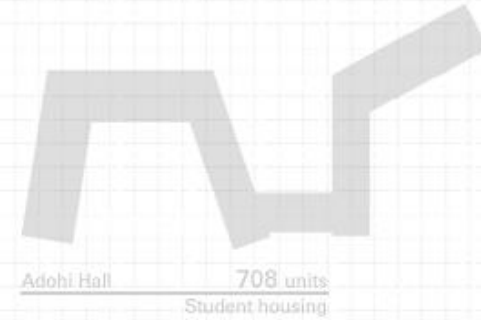
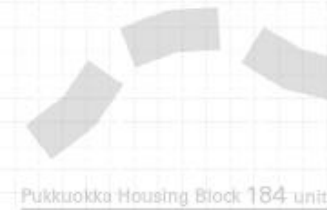
Medium (23,001 to 140,000 SF)

Large (140,001 GSF or more)



Quantity of Units

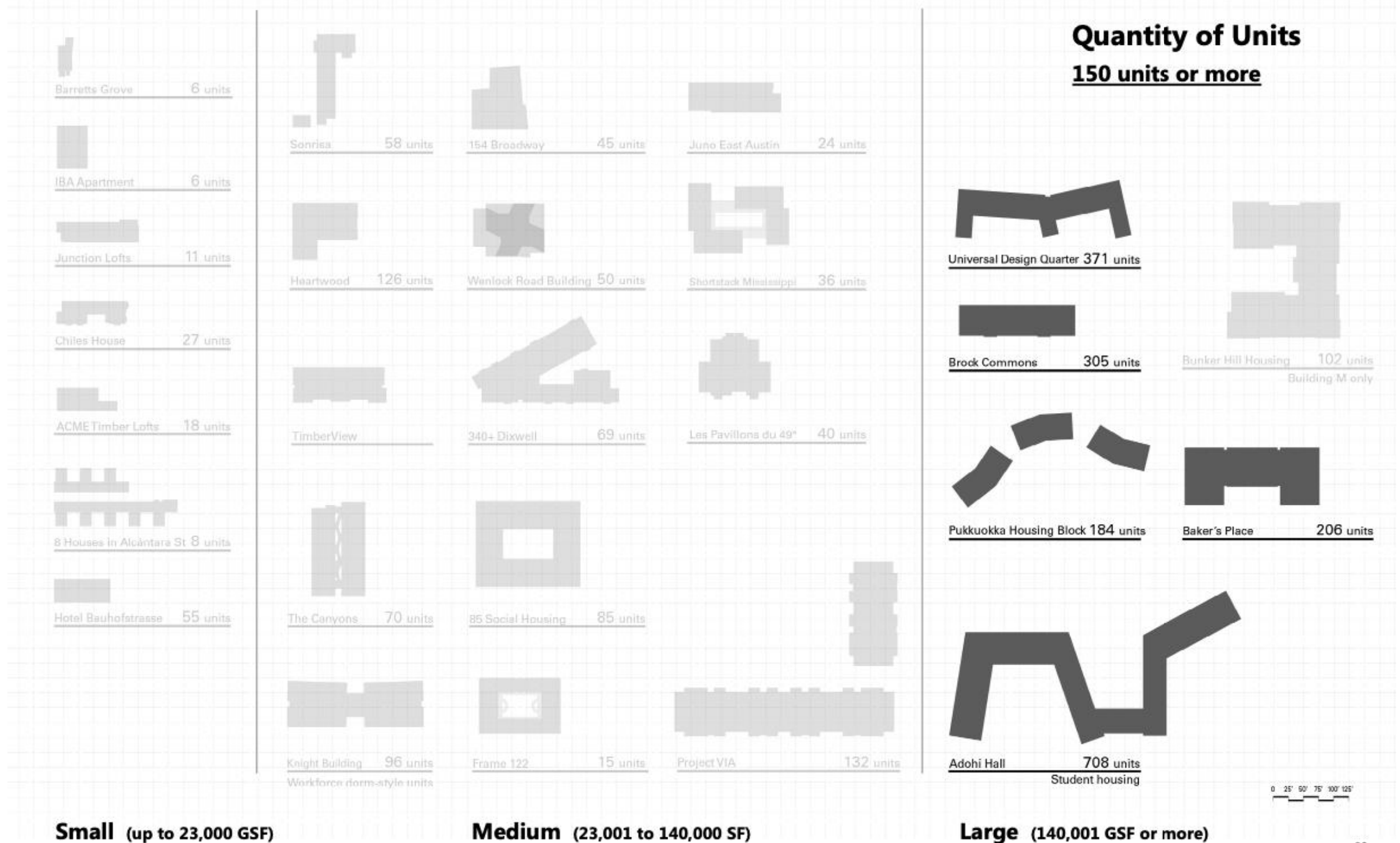
50 to 149 units

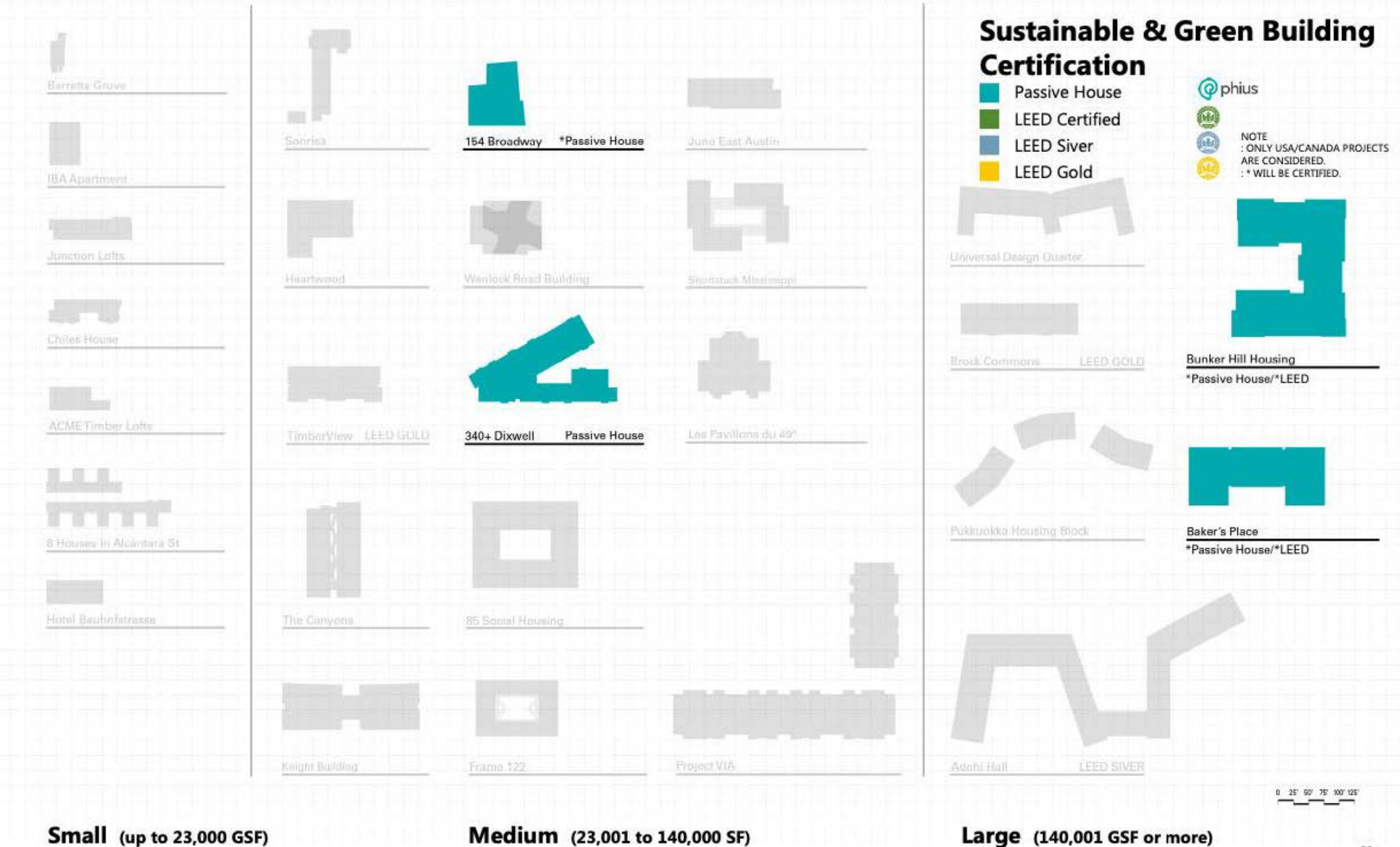


Small (up to 23,000 GSF)

Medium (23,001 to 140,000 SF)

Large (140,001 GSF or more)



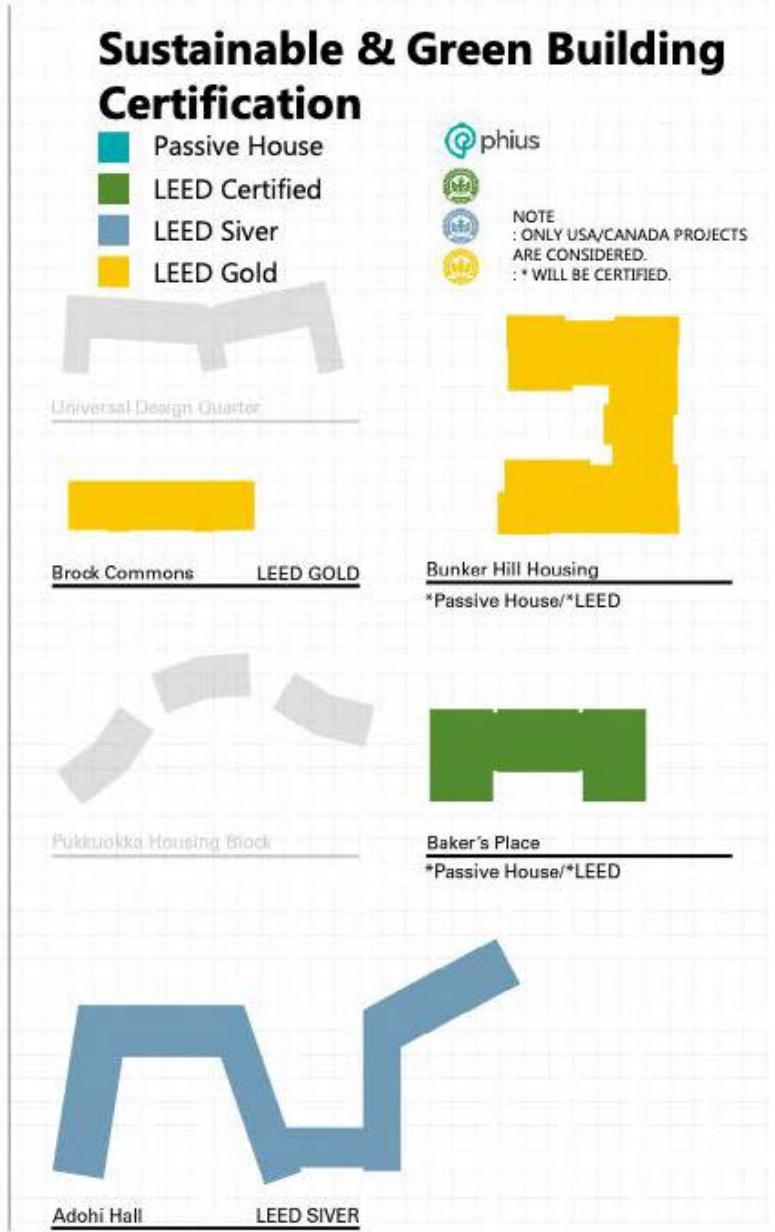




Small (up to 23,000 GSF)



Medium (23,001 to 140,000 SF)



Sustainable & Green Building Certification

- Passive House
- LEED Certified
- LEED Siver
- LEED Gold



NOTE
: ONLY USA/CANADA PROJECTS
ARE CONSIDERED.
: * WILL BE CERTIFIED.

0 25' 50' 75' 100' 125'

Large (140,001 GSF or more)

Mass Timber & Housing Precedents Research

EACH PROJECT:

Project Information

(gathered from publicly available on-line search)

Plans, Sections or Elevations

Diagrams

Construction Photographs

Finished Photographs

Analysis Diagrams

(by LWA research team)

Program Diagrams

Floor Panel Layouts

Structure Diagrams

Adohi Hall

Notable Attributes:

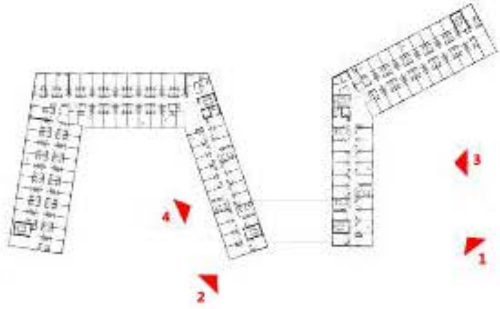
- Largest CLT building in the US at time of its completion in 2019
- Material Efficiency: minimal waste & cutting of CLT panels
- Repetitive structure: >95% same CLT panel type and size, glulam beams and columns



Location	Fayetteville, AR
Size	202,027 sf 708 units
Height /Stories	6-7 stories
Date built	2019
Type of mass timber product	Glulam, CLT
Program	Residential (Student Housing)
Architects	Leers Weinzapfel Associates modus studio Mackey Mitchell Architecture
Client /Developer	University of Arkansas
Structural Engineer	Equilibrium Consulting, Inc Engineering Consultants, Inc
Contractor	Nabholz
Mass timber Supplier	Binderholz Mass Timber

Exterior Views

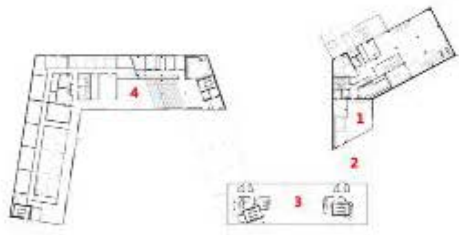
Adohi Hall





Ground Floor Views

Adohi Hall





overall structure



overall structure & core



Connection between beams & core



column & beams & panel

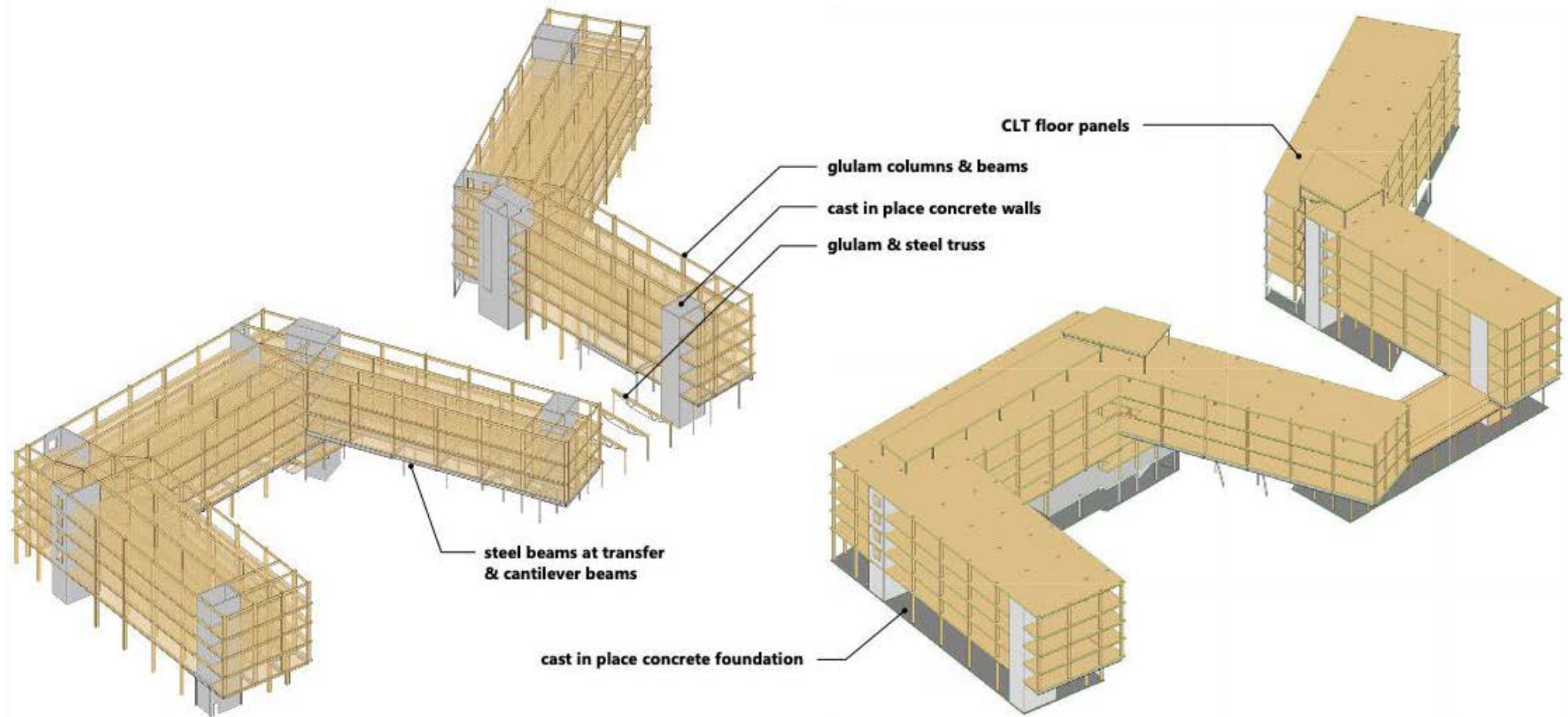


Glulam Column & Sply CLT panel



Truss

credit : Leers Weinzapfel Associates

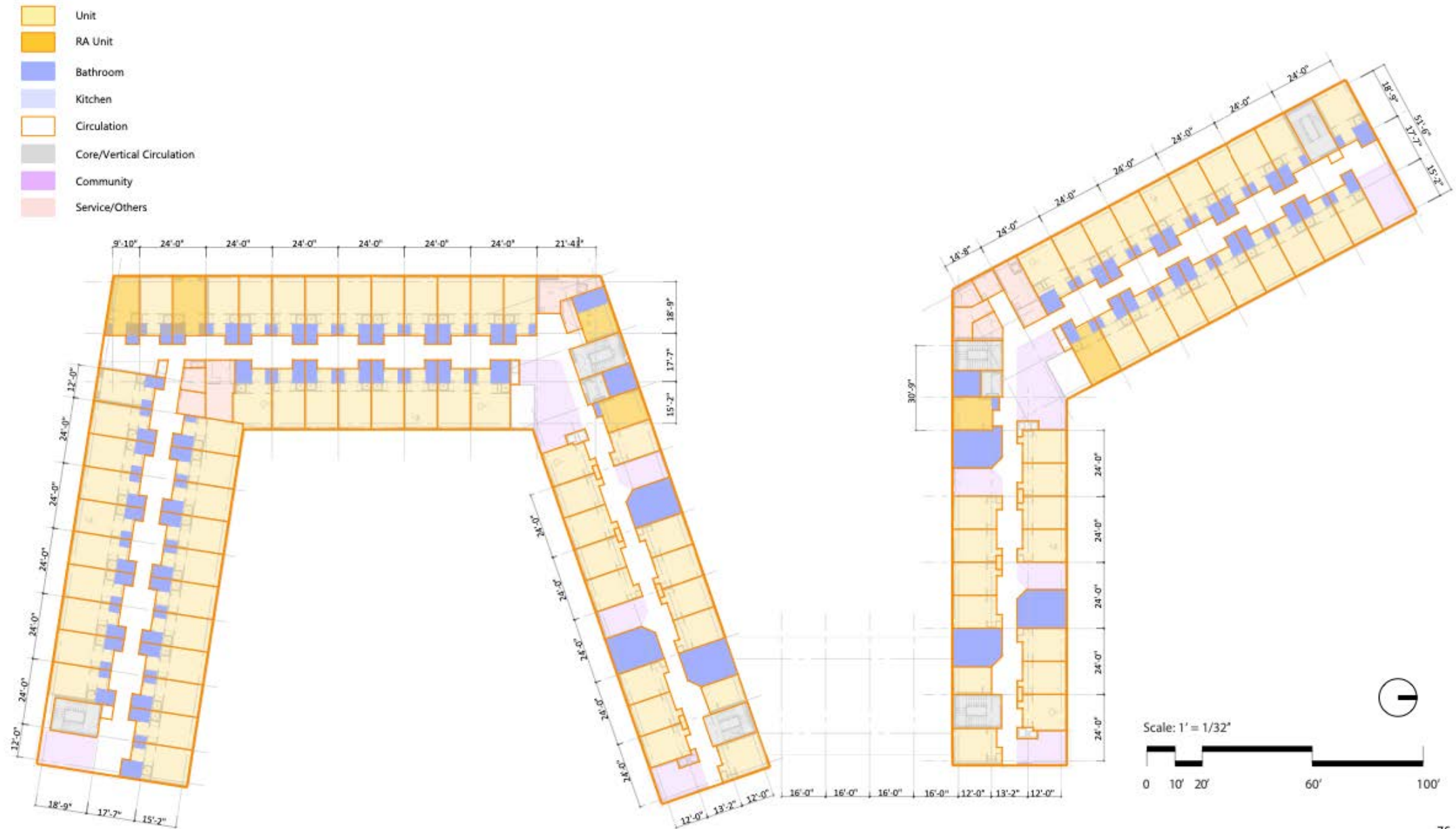


<https://www.lwa-architects.com/project/university-arkansas-stadium-drive-residence-halls/>

<https://www.woodworksinnovationnetwork.org/projects/adohi-residence-hall-university-of-arkansas#:~:text=Buildings%20A%20and%20B%20include,link-ing%20the%20two%20residential%20buildings.>



Adohi Hall

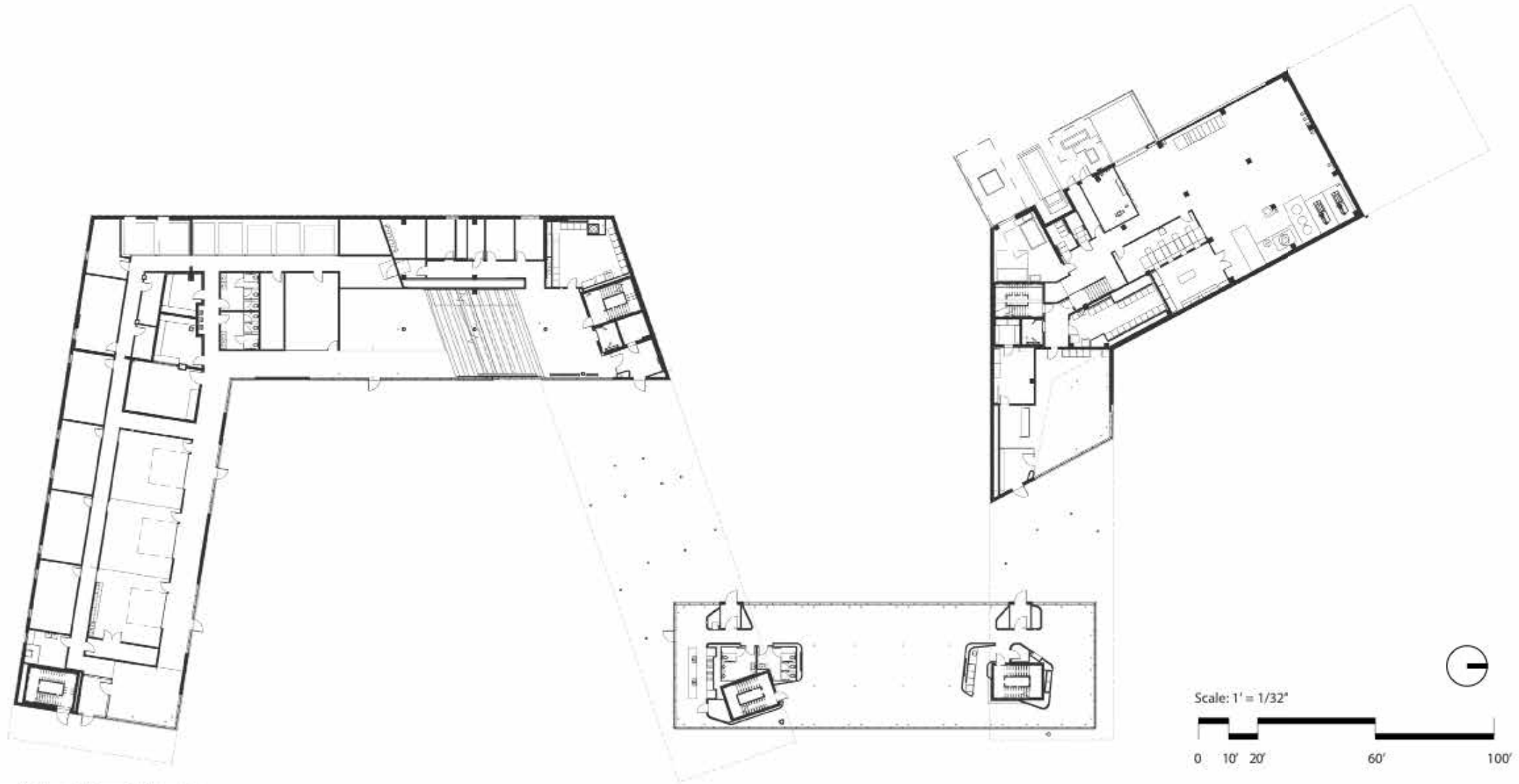


Adohi Hall



Adohi Hall





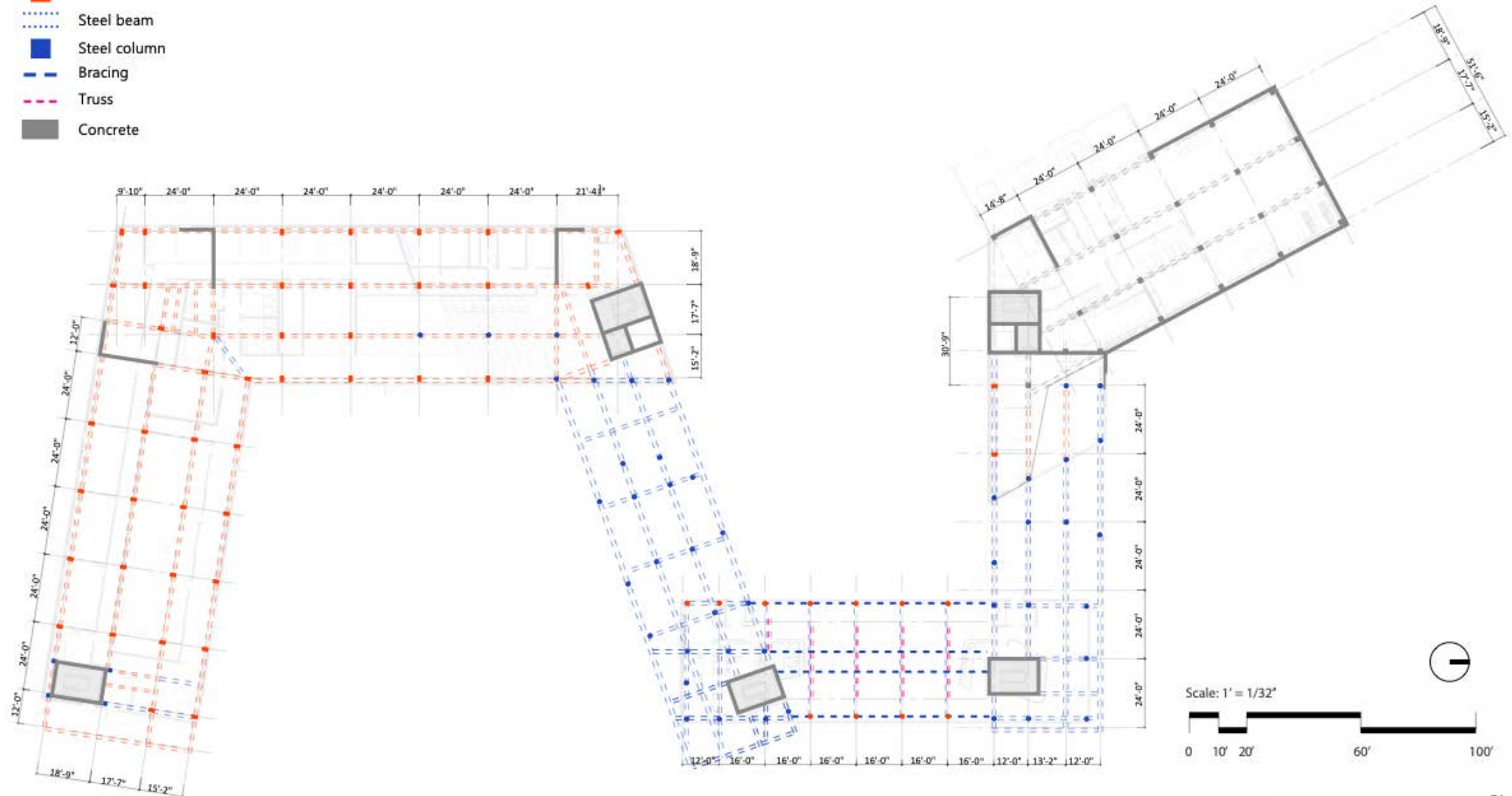
Adohi Hall



Structure - ground floor

Adohi Hall

- GluLAM beam
- GluLAM column
- Steel beam
- Steel column
- - - Bracing
- - - Truss
- Concrete



Mass Timber & Housing Precedents Research

KEY FINDINGS

- REGARDLESS OF SIZE, SCALE AND TYPOLOGIES OF HOUSING, IF IT CAN BE DONE IN STEEL OR CONCRETE, IT CAN BE DONE IN MASS TIMBER.
- RICH VARIETY OF SOLUTIONS – “There is NO ONE SIZE FITS ALL”, that being said:
- EFFICIENCY, EFFICIENCY, EFFICIENCY! FOR BOTH UNIT & BUILDING IS A KEY FACTOR
- SOLUTIONS ARE SITE AND PROGRAM SPECIFIC, BUT MOST MASS TIMBER HOUSING PROJECTS IN GENERAL TEND TO BE:
 - DOUBLE LOADED CORRIDOR TYPE
 - ALMOST ALWAYS, FIRST INCORPORATION OF MASS TIMBER IS FOR FLOOR PANELS
 - COMBINATION OF MASS TIMBER AND LIGHT FRAME
 - COMBINATION OF PREFABRICATED KIT OF PARTS AND SITE BUILT

Mass Timber & Housing Precedents Research

KEY FINDINGS (continued)

- IN MASS TIMBER INTEGRATION, CONSIDER:
 - MEP COORDINATION, ESP. IMPORTANT IN LOAD BEARING WALLS
 - STRATEGIZE WHERE BEAMS MAY NOT BE NEEDED GIVEN PANEL SPAN DIMENSIONS
 - AGGREGATION OF WET WALLS, IN BOTH PLAN AND SECTIONS
 - WHERE TO BEST EXPOSE MASS TIMBER – CEILINGS VS. WALLS
- TO DEGREE POSSIBLE, MAXIMIZE REPETITION & PANEL SIZE, MINIMIZE PANEL TYPES
- FIND THE RIGHT BALANCE OF LEVEL OF PREFABRICATION: FLAT PACK VS. VOLUMETRIC MODULAR – DEPENDS ON PROJECT SITE LOCATION & PROXIMITY TO PRE-FAB FACTORIES
- IMPORTANCE OF DESIGN - WOOD IS GOOD, BUT GOOD DESIGN IS BETTER

Mass Timber & Housing Precedents Research

Final Draft 05/12/2026

THANK YOU!

This concludes The American Institute of Architects Continuing Education Systems Course.

*This work supported by the U.S. Department of Agriculture, as part of the Advancing Markets for Producers project under agreement number NR233A750004G017.
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LEERS WEINZAPFEL ASSOCIATES

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Product of the USDA Advancing
Markets for Producers Program