

LODESTAR Modular Building Systems

Safe, Comfortable, Affordable, Enjoyable



PATENT PENDING

www.LodestarStructures.com

Lodestar@LodestarStructures.com

THE PURPOSE BEHIND LODESTAR MODULAR BUILDING UNITS

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Mission:

To develop an affordable *Precast Concrete Modular Building System to be used* as the infrastructure for attainable building structures.

The parameters were to construct a versatile & affordable product that could be manufactured in a climate-controlled factory and efficiently delivered to building sites in the community.

Objectives:

- ✓ **Affordable:**
The structure must add a higher degree of value and provide sufficient benefit, to enhance the overall value of the finished building.
- ✓ **Efficiency:**
The process of manufacturing and delivery must be efficient and should not create challenges resulting in increased construction costs.
- ✓ **Value:**
The finished product must provide building efficiencies, positively impacting the quality and value, making the buildings more attractive and attainable to all.
- ✓ **Resiliency:**
The structures must provide a long-lasting solution with reduced ongoing maintenance requirements
- ✓ **Adoptable:**
Integrating the structures into the building designs should provide efficiencies to the builders and designers, to ensure the structures are easily adoptable by the building community.
- ✓ **Versatility:**
Designed for use in a wide variety of designs and construction applications, with superior efficiency and effectiveness.

DELIVERING A BETTER WAY TO BUILD

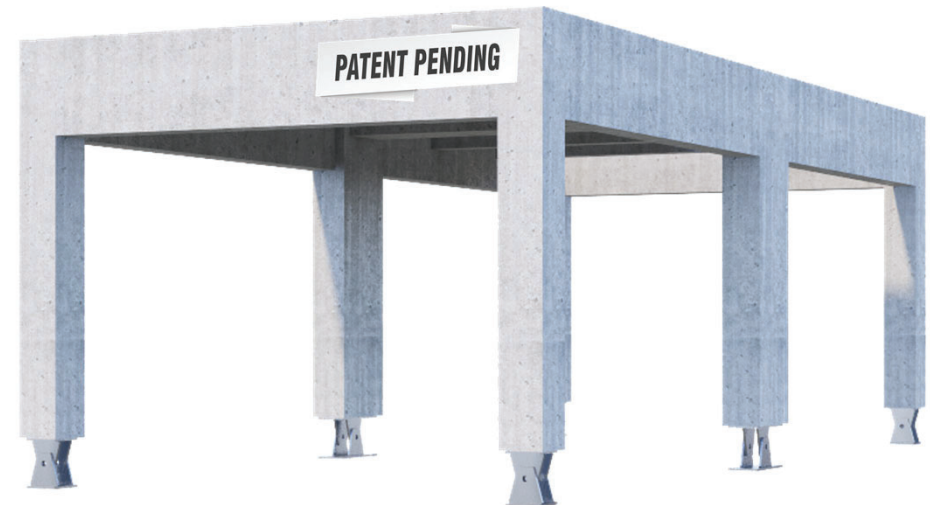
Anchor Concrete Products has developed an innovative **Modular Building Unit** (Patent Pending) infrastructure system which allows builders to **produce highly efficient buildings**, designed to be **more sustainable** and **durable** than structures built using other traditional building materials.

Precast Concrete Modular Building Units combine **the resilience of Precast Concrete** with the **efficiency of Modular Building Technology**, allowing builders to complete the primary infrastructure of a **building in a fraction of the traditional building time**.

The **efficiencies** associated with the Modular Building System **reduces the demand for labor** and **natural resources**, **expands production potential**, and provides a **finished product of superior quality**.

The features of the structure have been crafted to allow the architect to enclose the unit the way traditional building material would be concealed or leave them exposed to create appealing design characteristics.

Lodestar Modular Building Units are engineered to meet the Worst Load Requirements under by the Ontario Building Code, providing a **safe and durable infrastructure**, designed to **solve the challenges** for developing **affordable and attainable "Human Spaces"**.



LODESTAR Modular Building Units



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AN INNOVATION IN ENGINEERING



**Non-Combustible
Building Material**



**Weather Resistant
Exterior & Roof**



**Roof, and Floor
to Upper Level**



**Support
Columns**

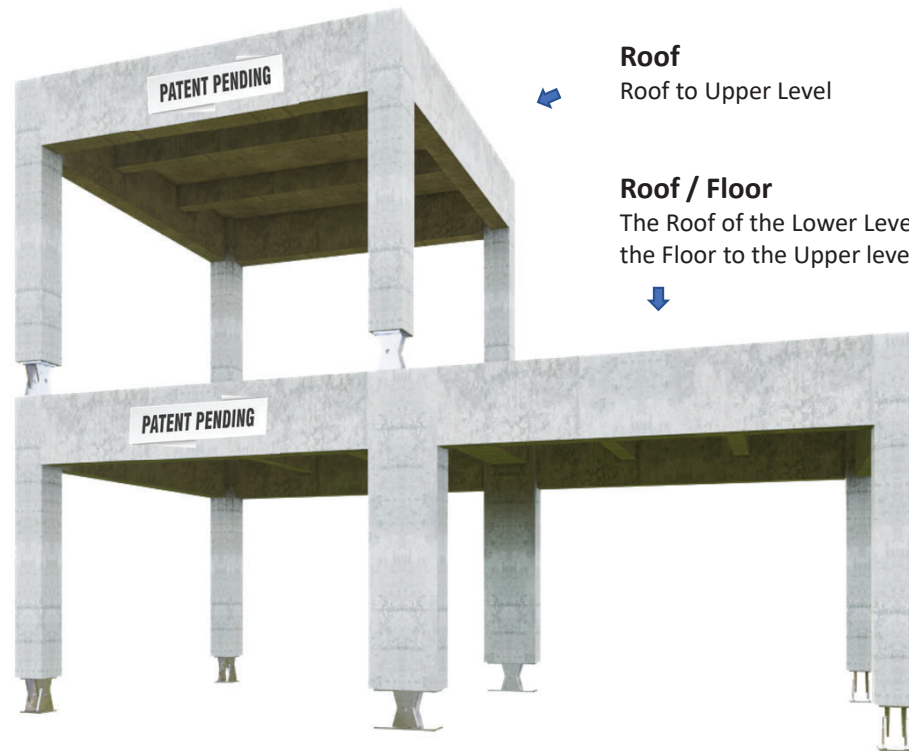


**Modular
Connectivity**

MBU-218
218 Sq ft



MBU-436
436 Sq ft



Roof
Roof to Upper Level



Roof / Floor
The Roof of the Lower Level is
the Floor to the Upper level



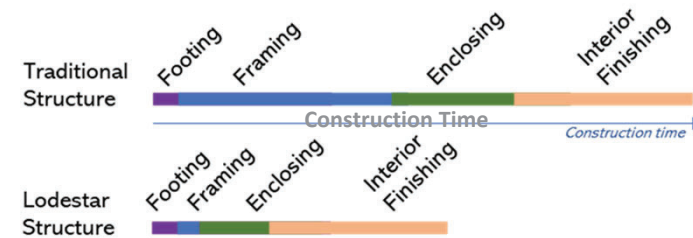
Integrated Support Columns
Engineered to support multiple levels,
at "Worse Load Ratings" set by the
Ontario Building Code



DELIVERING CONSTRUCTION EFFICIENCIES

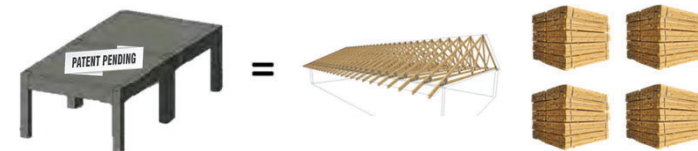
• Construction Time

- Assemble the structure within 24 hours
- Enclose the structure within 48 hours
- Maximize usable space in building designs



• Material Costs

- Remove the uncertainty of material costs
- Reduce material waste & material loss (theft)
- Lodestar MBU's arrive ready to install
- Remove unnecessary components from the building process

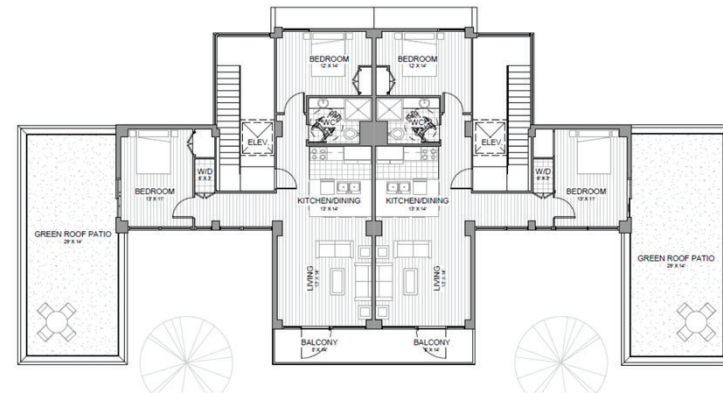


• Skilled Labour & Trades

- Maximize Skilled Labor & Trades, specializing on essential tasks
- Minimize the demand for framing & roofing labor

• Project Management

- Control costs by reducing risks of cost overrun
- Less laborer's to manage and train
- Reduced material requirements
- Quicker building process
- Standardized "Modular" building material
- Simplified building process



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LODESTAR Modular Building Units
Assembled, ready for enclosing



LODESTAR Modular Building Units
shadowed over finished building



**TWO STORY WITH ROOFTOP GARDEN
& 2nd Level Green Space Patio**



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HOSPITALITY OASIS INCORPORATING HISTORICAL FEATURES
aligned to the beauty of the surrounding countryside



URBAN THREE-STORY MIXED-USE
Residential, Commercial, Offices



HYBRID DESIGN INCORPORATING LODESTAR STRUCTURES

Traditional Façade, and Pitch Roof



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LODESTAR Hybrid

Lodestar Modules combined with Traditional Building Material



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LODESTAR

Minimal Skyline Impact

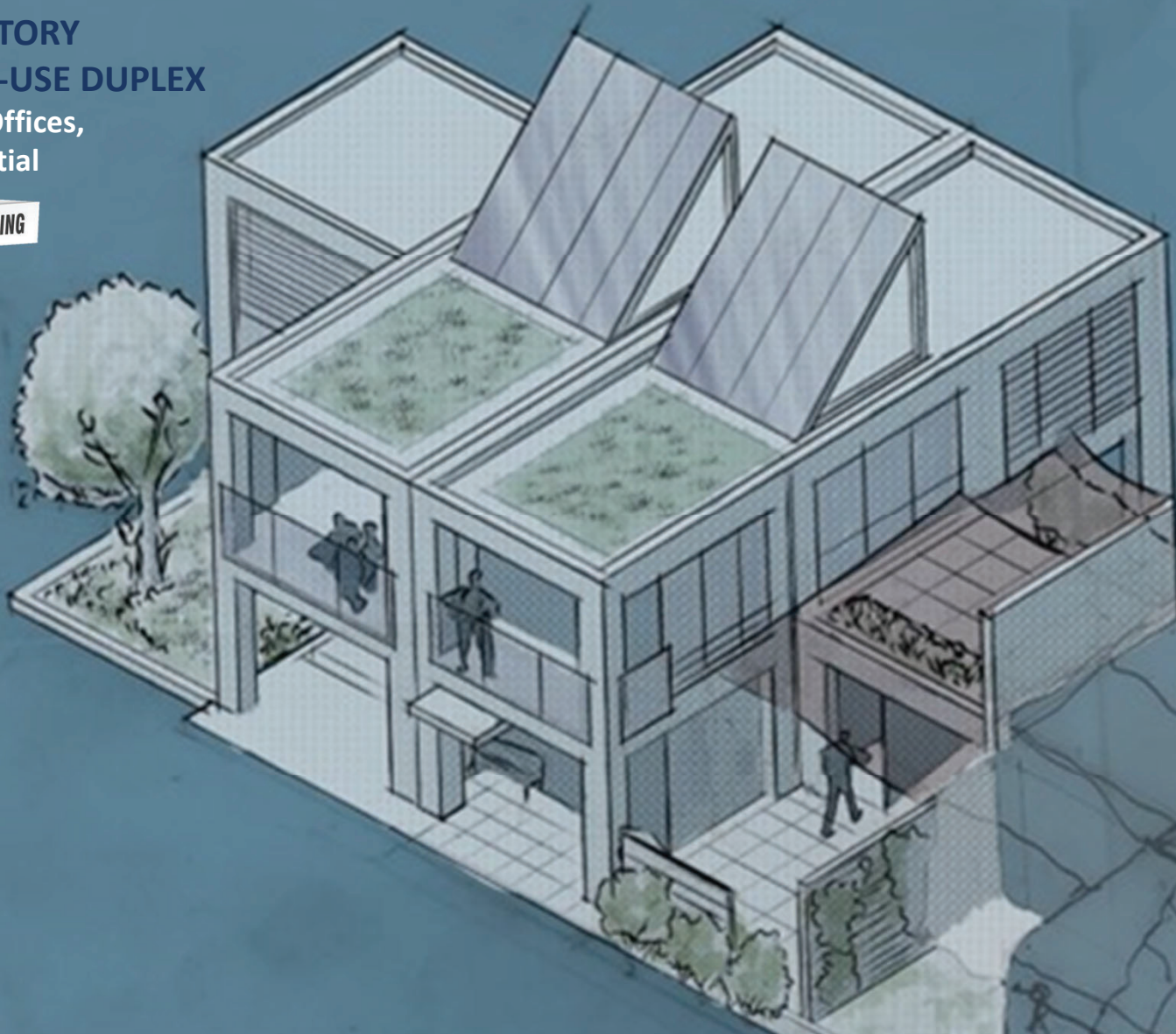


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**TWO STORY
MIXED-USE DUPLEX**
Retail, Offices,
Residential

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**THREE STORY WITH ROOFTOP GARDENS
& Green Space Patios**

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GREEN SPACE COMMUNITY WITH ROOFTOP GARDENS
and spacious outdoor spaces

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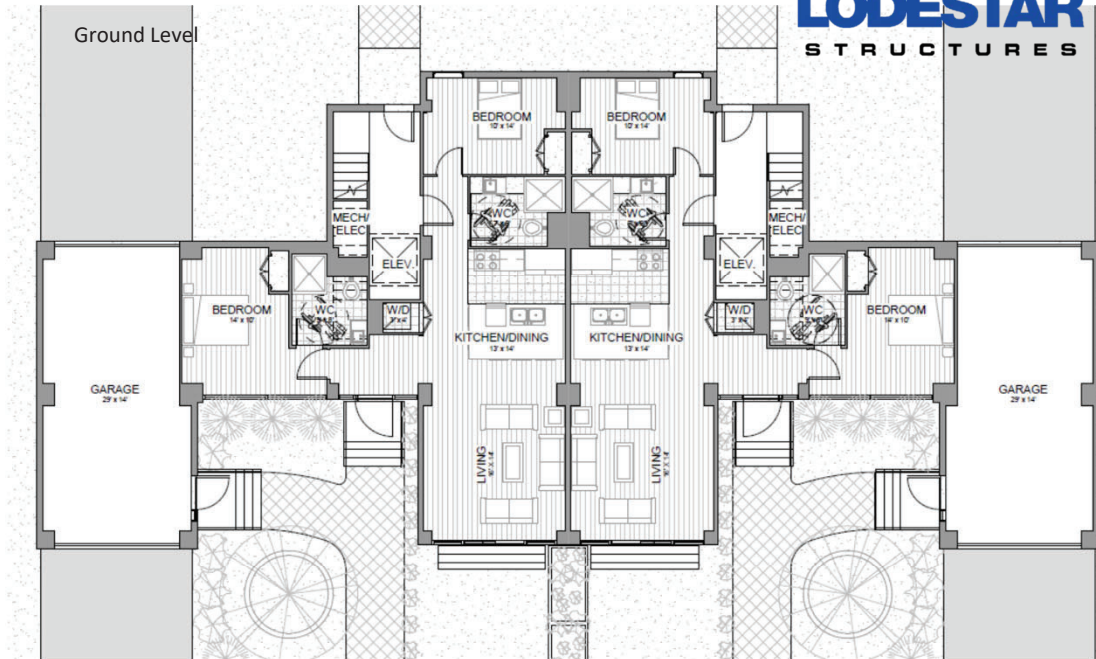
MULTI-RESIDENCE LIVING SPACES
integrated into Nature



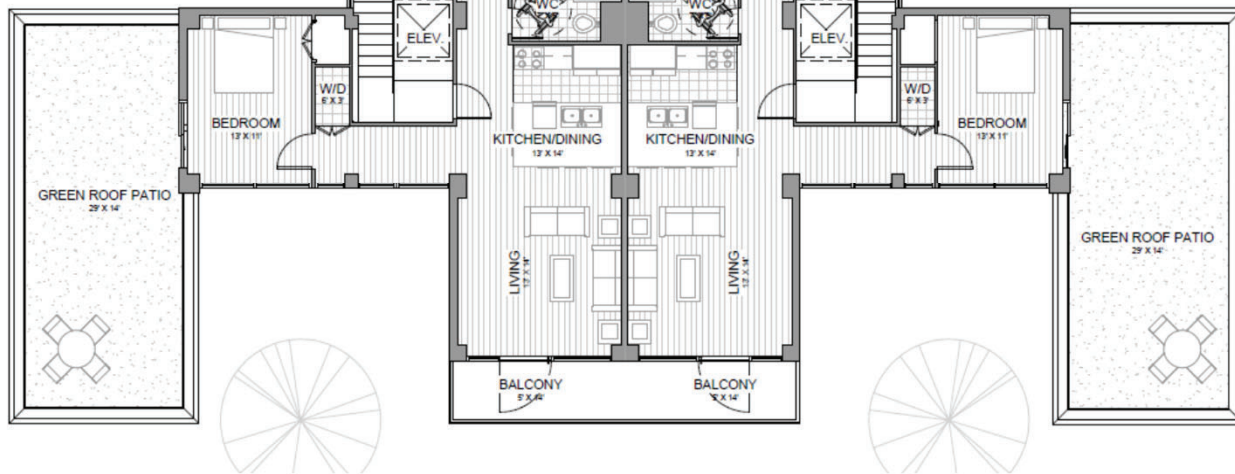
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MULTI-RESIDENCE LIVING SPACES Floorplans



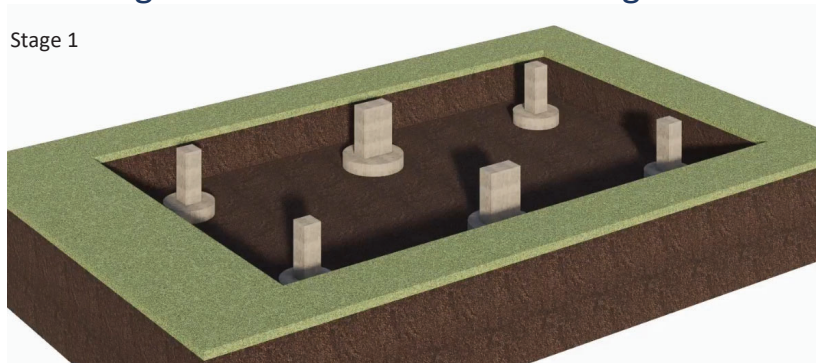
Second Level



CONSTRUCTION PROCESS

installing a LODESTAR Modular Building Unit

Stage 1



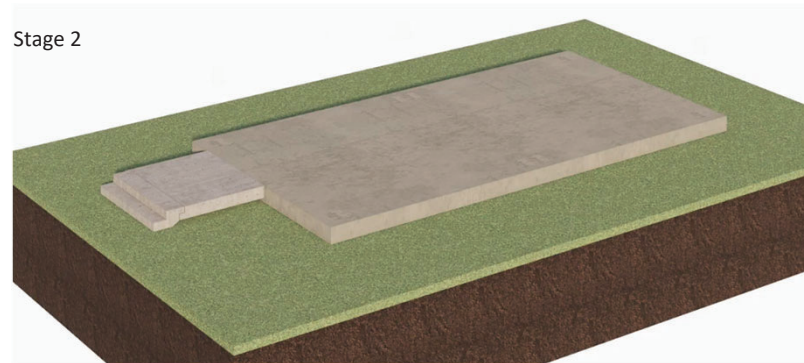
Prepare the foundation & footings using drilling or excavating techniques

Stage 3



Position the Lodestar Modular Building Unit into place. Units can be connected vertically or positioned horizontally beside or near other structures, to meet the layout floorplan requirements

Stage 2



Prepare the first level base

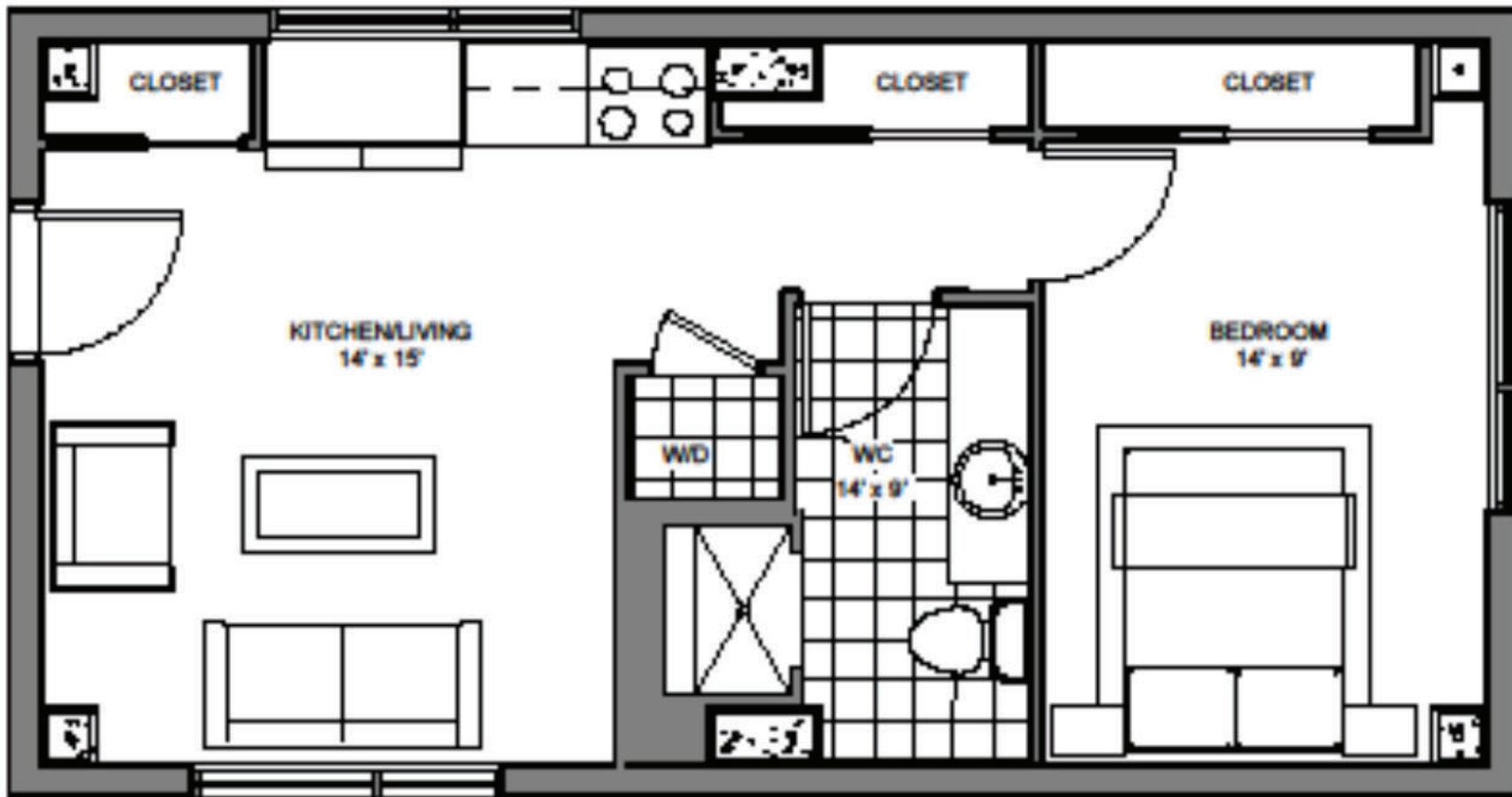
Stage 4



Enclosing the structure can be achieved using a variety of building materials. Prefabricated SIPs panels would allow the structure to be enclosed in a fraction of the time it would take to enclose a structure using traditional building materials.

Studio
unit
layout

LODESTAR - STUDIO UNIT FLOOR PLAN



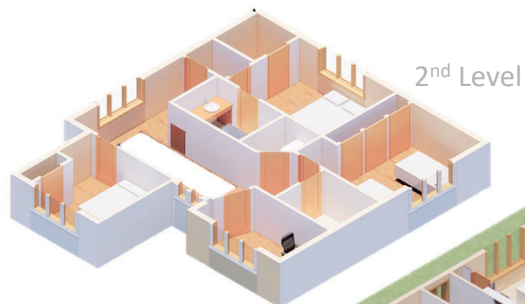
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USABLE SPACE COMPARISON

TRADITIONAL building materials vs. LODESTAR infrastructure



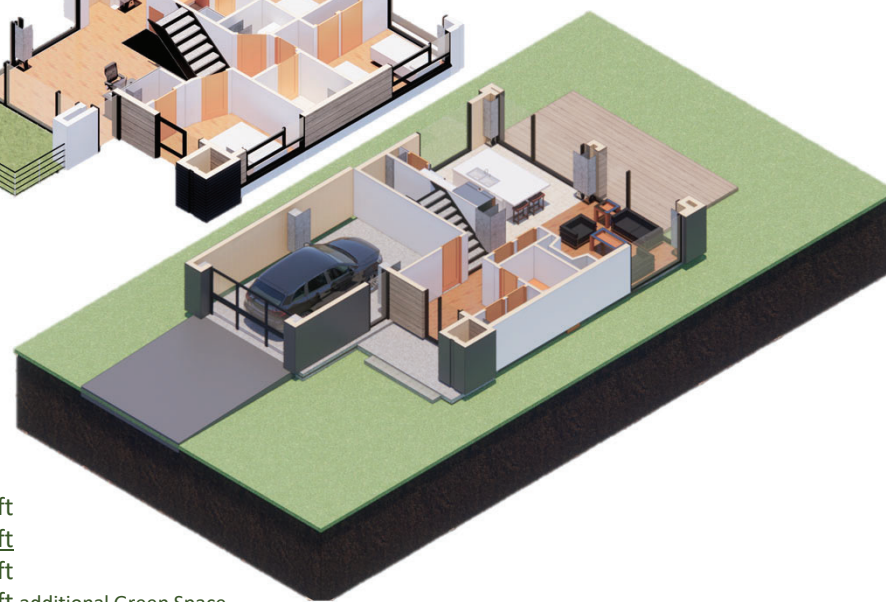
TRADITIONAL



	TRADITIONAL	LODESTAR
Interior Main Level	1, 000 sq ft	1, 000 sq ft
Interior Second Level	846 sq ft	954 sq ft
Interior Total Usable Space	1, 846 sq ft	1, 954 sq ft
		108 sq ft additional space



LODESTAR



	TRADITIONAL	LODESTAR
Ground Level Green Space	2, 131 sq ft	2, 131 sq ft
Rooftop Level Green Space	0 sq ft	1, 019 sq ft
Total Usable Green Space	2, 131 sq ft	3, 150 sq ft
		1, 019 sq ft additional Green Space

USABLE SPACE COMPARISON

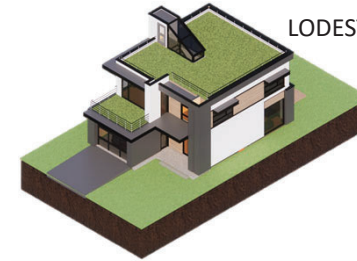
TRADITIONAL building materials vs. LODESTAR infrastructure

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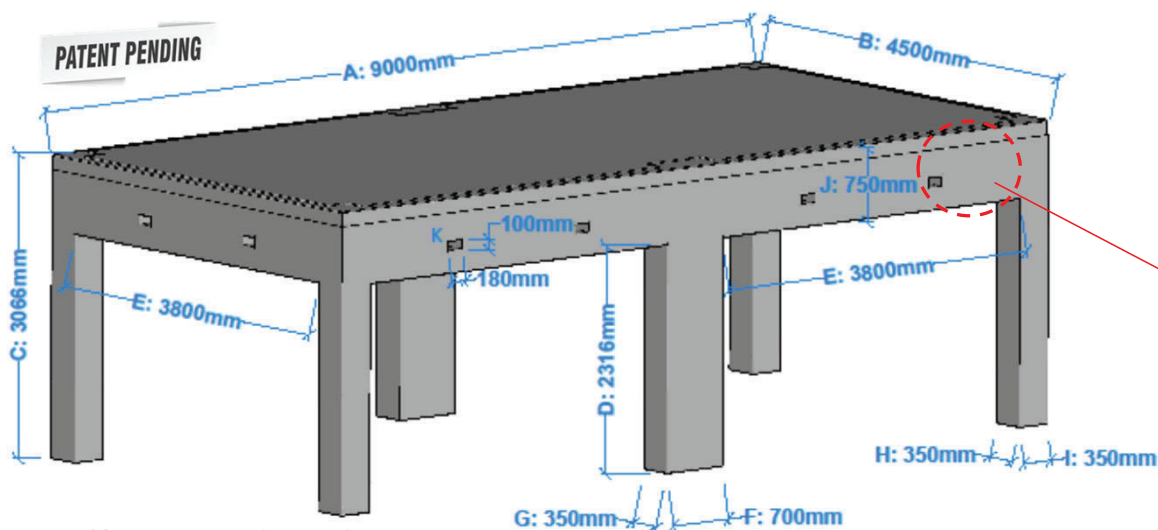
LODESTAR



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LODESTAR MODULE SPECIFICATIONS

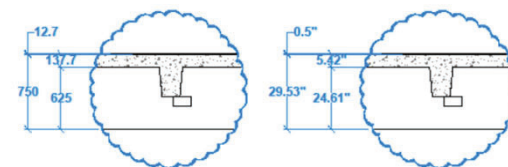
MBU-436: 436 Square Feet



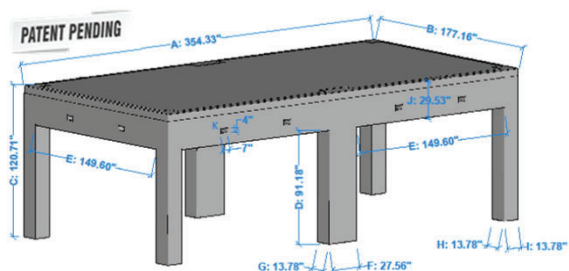
MBU-436: Measurements in METRIC

Measurement Legend:

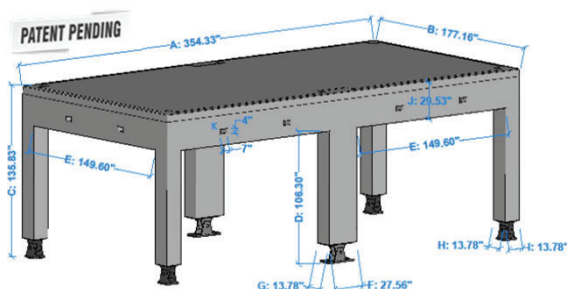
- A Length - outside to outside
- B Width - outside to outside
- C Support Column outside height
- D Support column inside height
- E Inside width between columns
- F Center pillar length
- G Center pillar(S) width
- H Corner pillar(s) length
- I Corner Pillar(s) width
- J Thickness of surface bulkhead
- K Utility Transfer Ports Height / Width



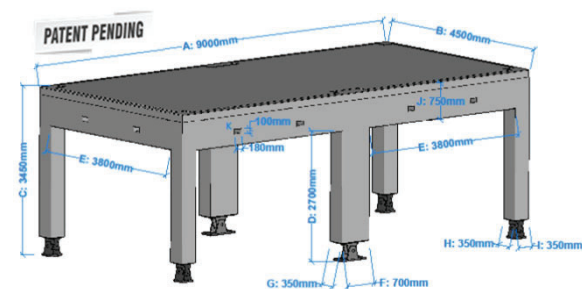
MBU-436 & MBU-218: Side Profile of Surface SLAB



MBU-436: Measurements in IMPERIAL



MBU-436 with FEET: Measurements in IMPERIAL

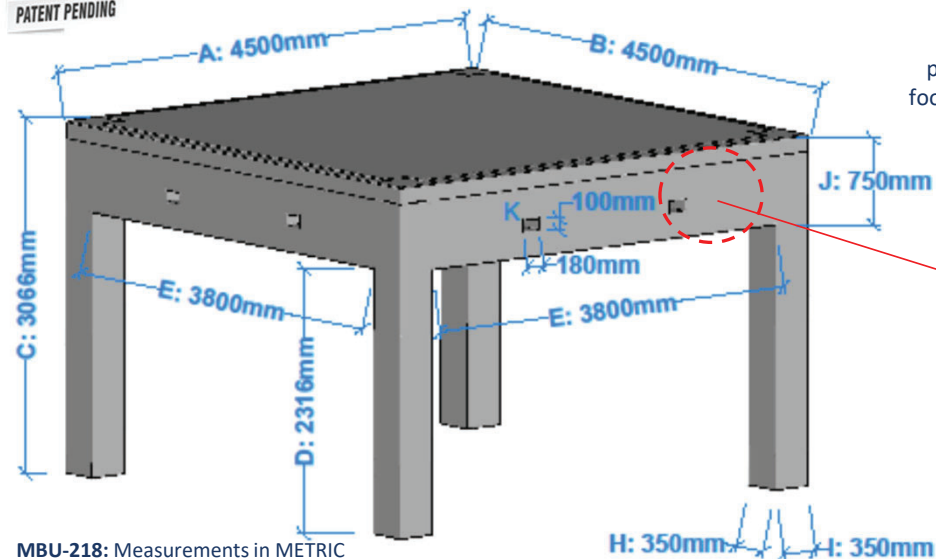


MBU-436 with FEET: Measurements in METRIC

LODESTAR MODULE SPECIFICATIONS

MBU-218: 218 Square Feet

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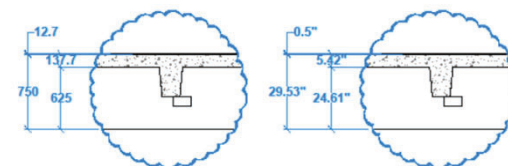


MBU-218: Measurements in METRIC

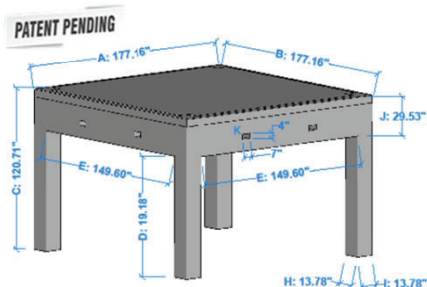
Two MBU-218 units provide the equivalent footprint of one MBU-436

Measurement Legend:

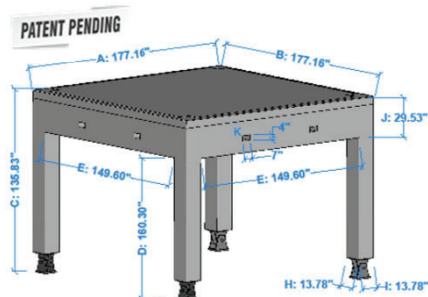
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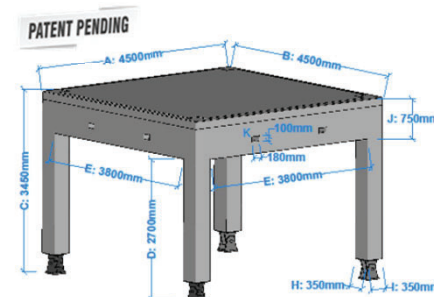
MBU-436 & MBU-218: Side Profile of Surface SLAB



MBU-218: Measurements in IMPERIAL



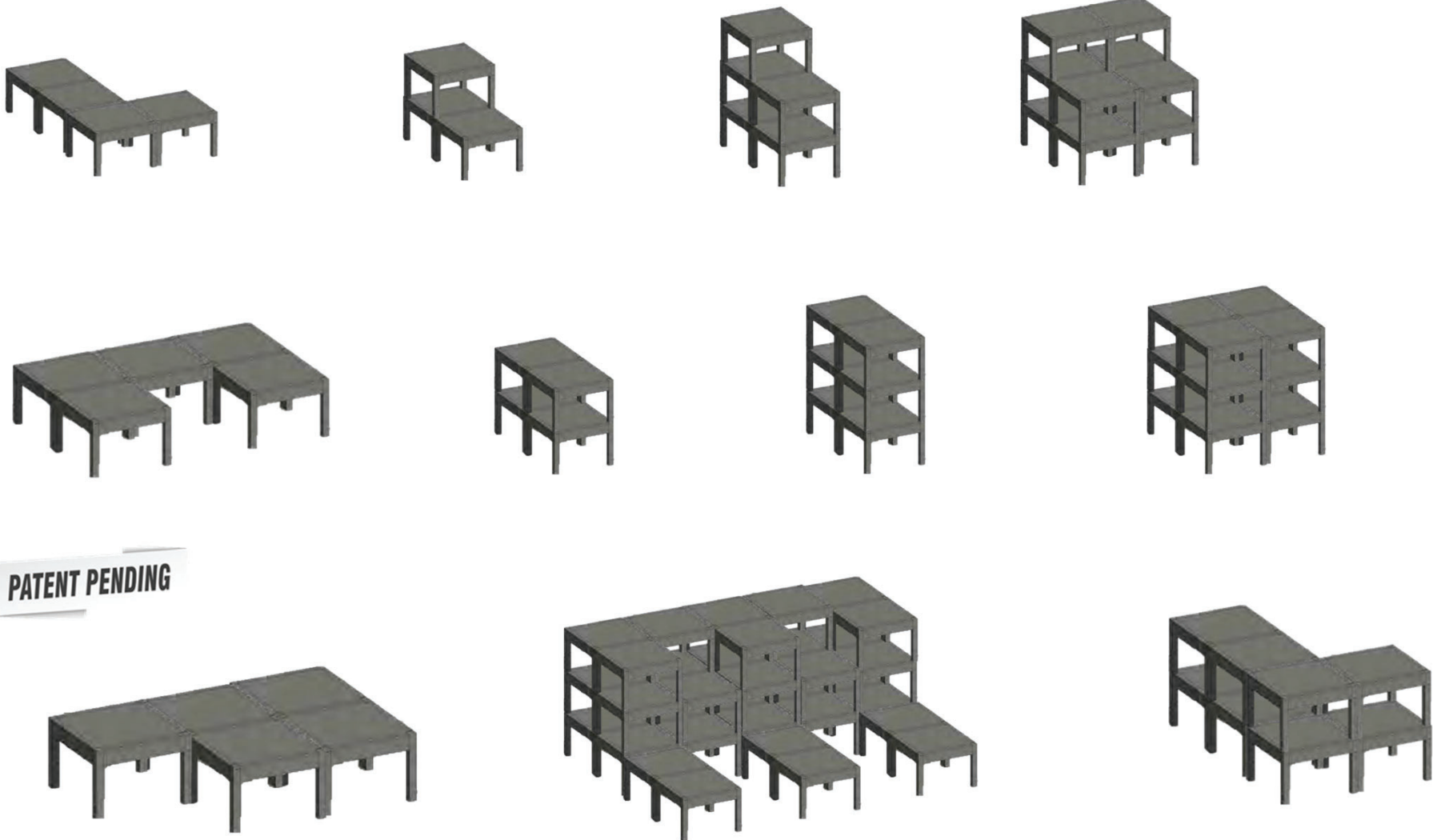
MBU-218 with FEET: Measurements in IMPERIAL



MBU-218 with FEET: Measurements in METRIC

STACKABLE AND CONNECTABLE

Examples of Lodestar Modular Structures layout configurations



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LODESTAR Modular Building Units

EXPAND with Ease



Year 1



Year 3



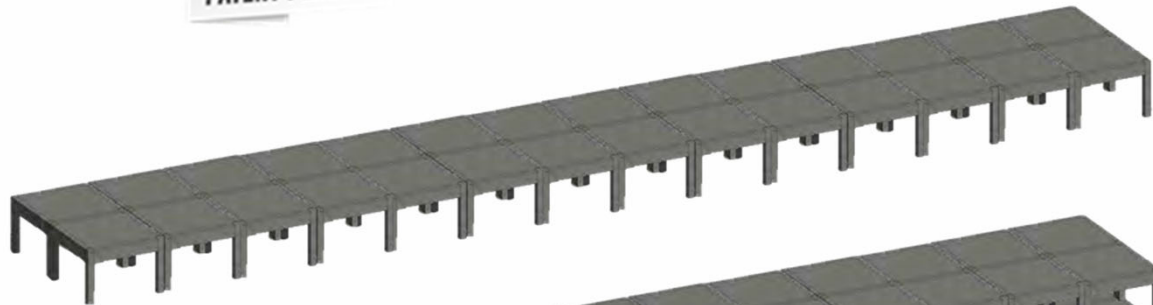
Year 6



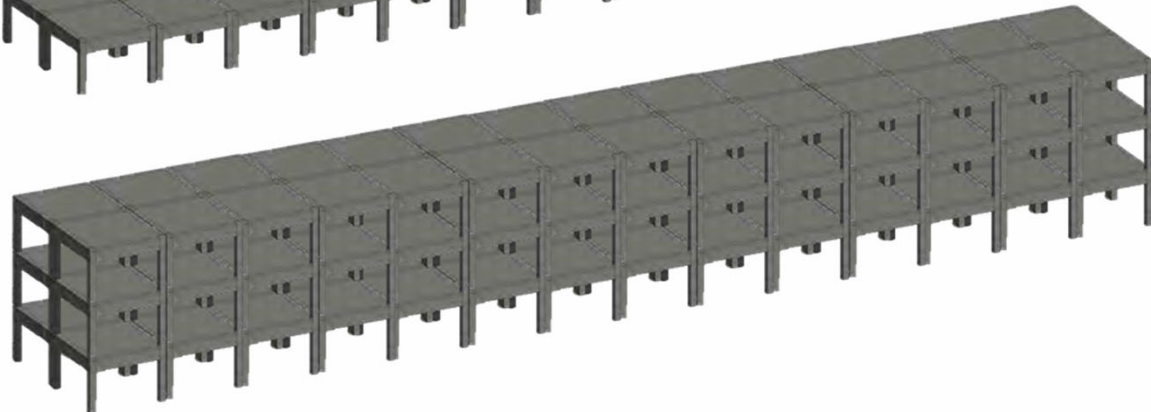
Year 10

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**Phase 1
14 Units**



**Phase 2
42 Units**



MODULAR EXTERAL STAIRCASE for LODESTAR MODULAR BUILDING UNITS

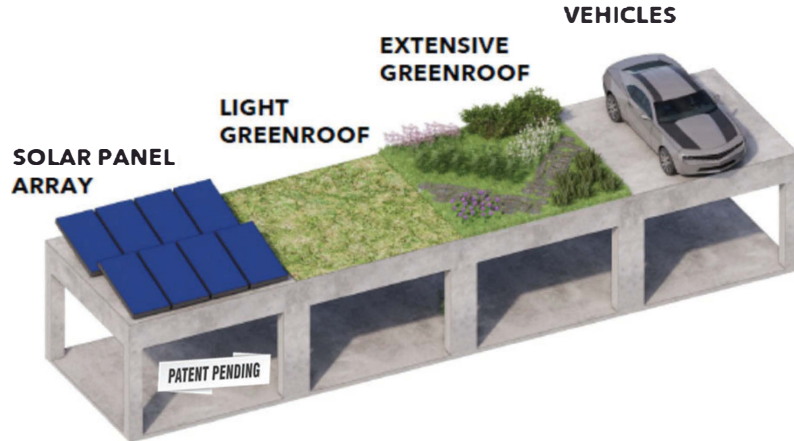


LODESTAR Stair module - enclosed



LODESTAR SYSTEM: CONFIGURATIONS

The structure is designed to the highest standards,
capable of supporting:



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