



Methods for Sustainable Building

1 AIA HSW/SD LU

Steve Mouzon, AIA • CNU • LEED AP

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Methods for Sustainable Building

1. List at least five construction elements designed to improve a building's climate response;
2. Identify at least three ways to improve energy efficiency by including traditional methods in new construction and rehabilitation;
3. Compare and contrast the differences between traditional buildings in warmer and colder climates;
4. Design and construct buildings based on functional lessons learned from studying the performance of historic buildings.

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it's
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time ...



the
Original
GREEN



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The Original Green

**S
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NOURISHABLE LOVABLE

ACCESSIBLE DURABLE

SERVICEABLE FLEXIBLE

SECURABLE FRUGAL

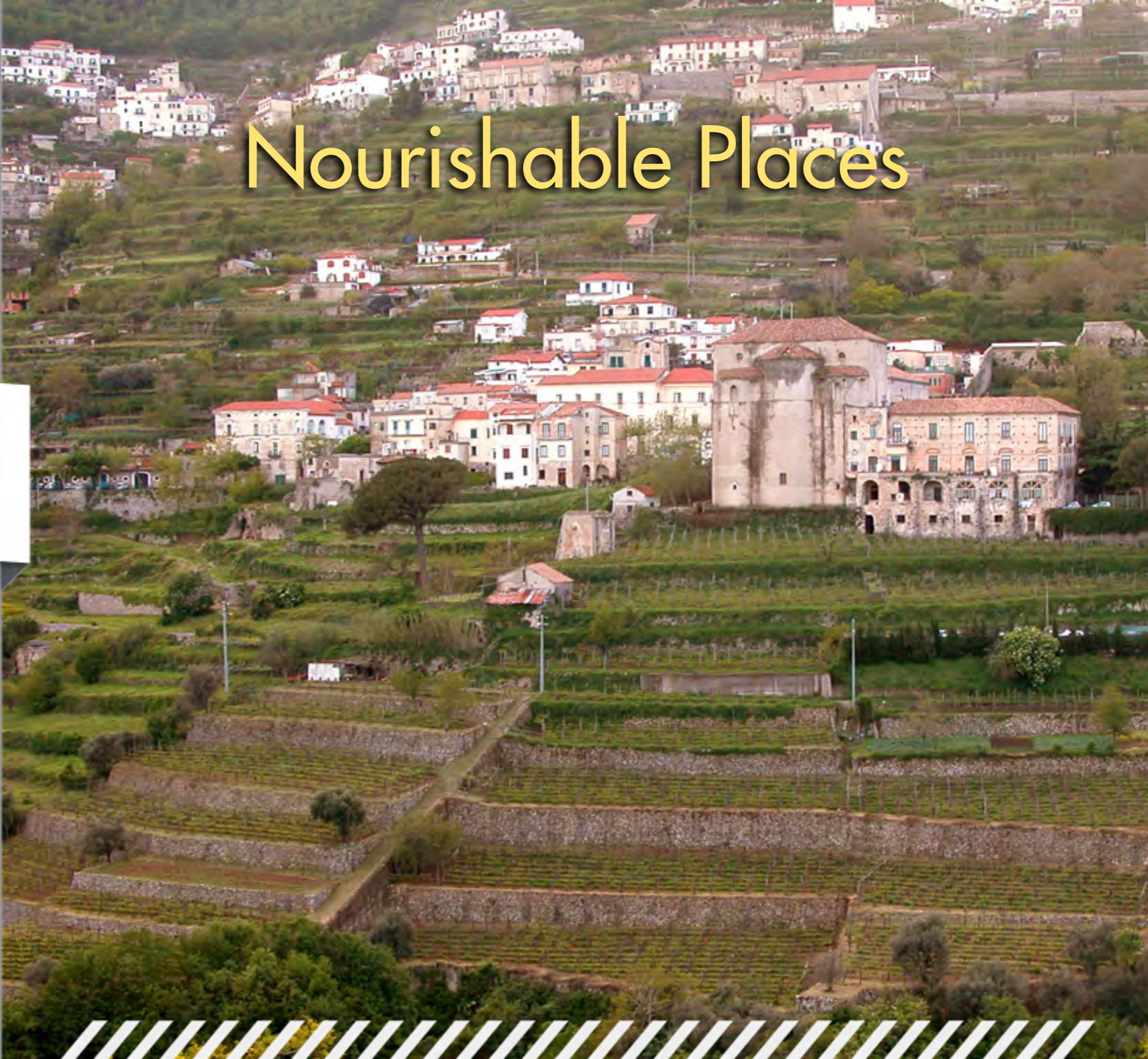
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Nourishable Places



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Accessible Places



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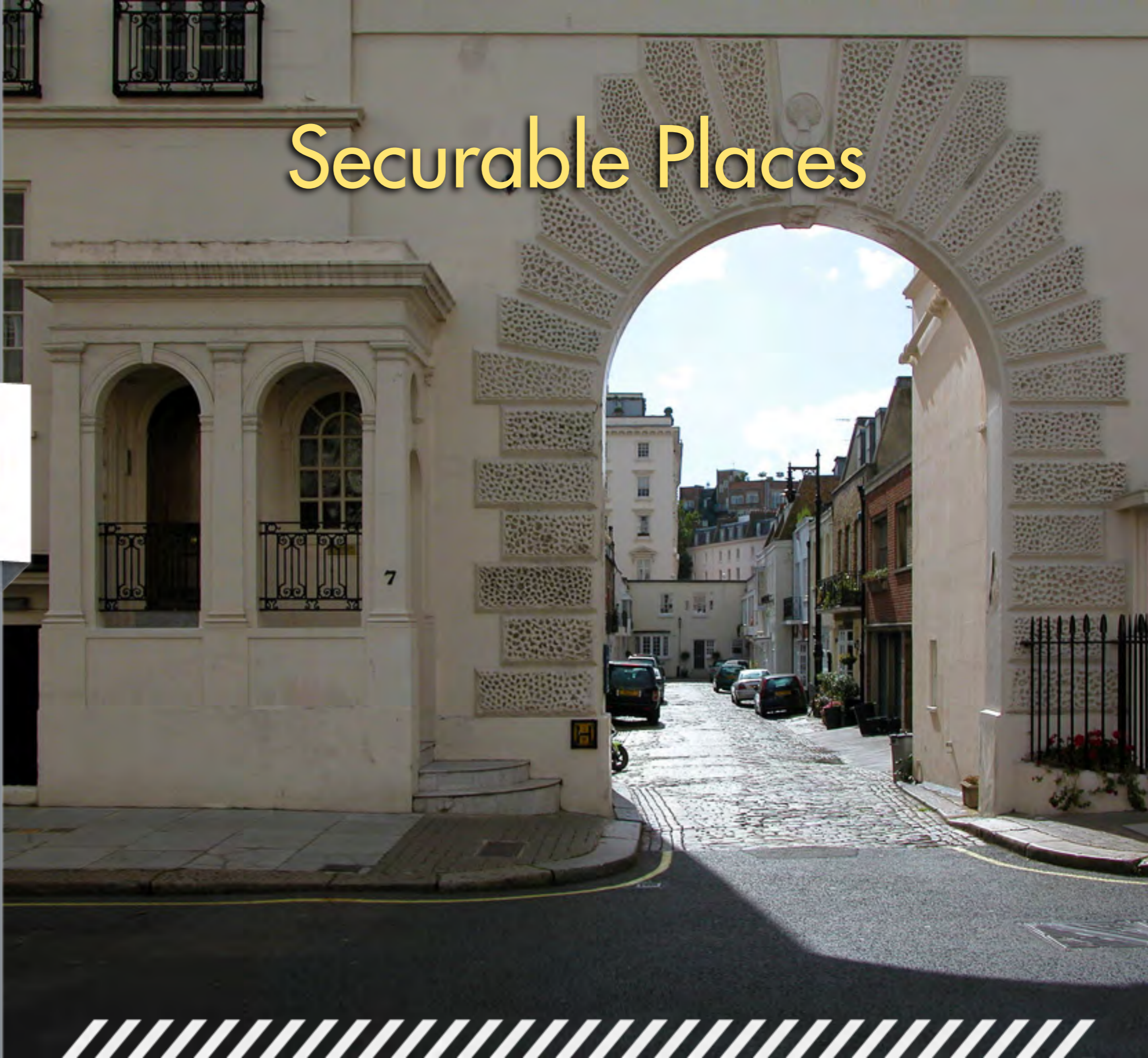
Serviceable Places



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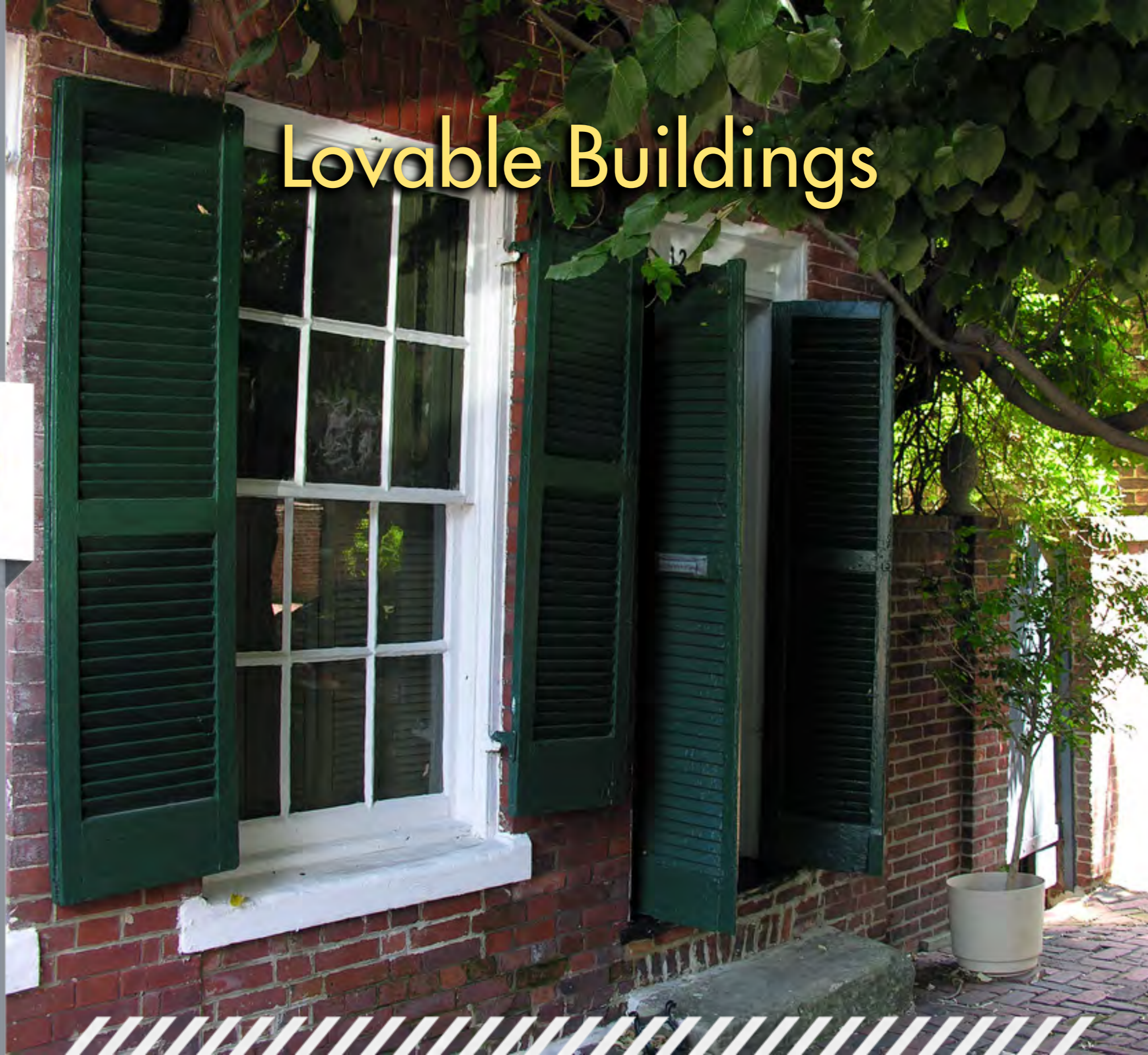
Securable Places



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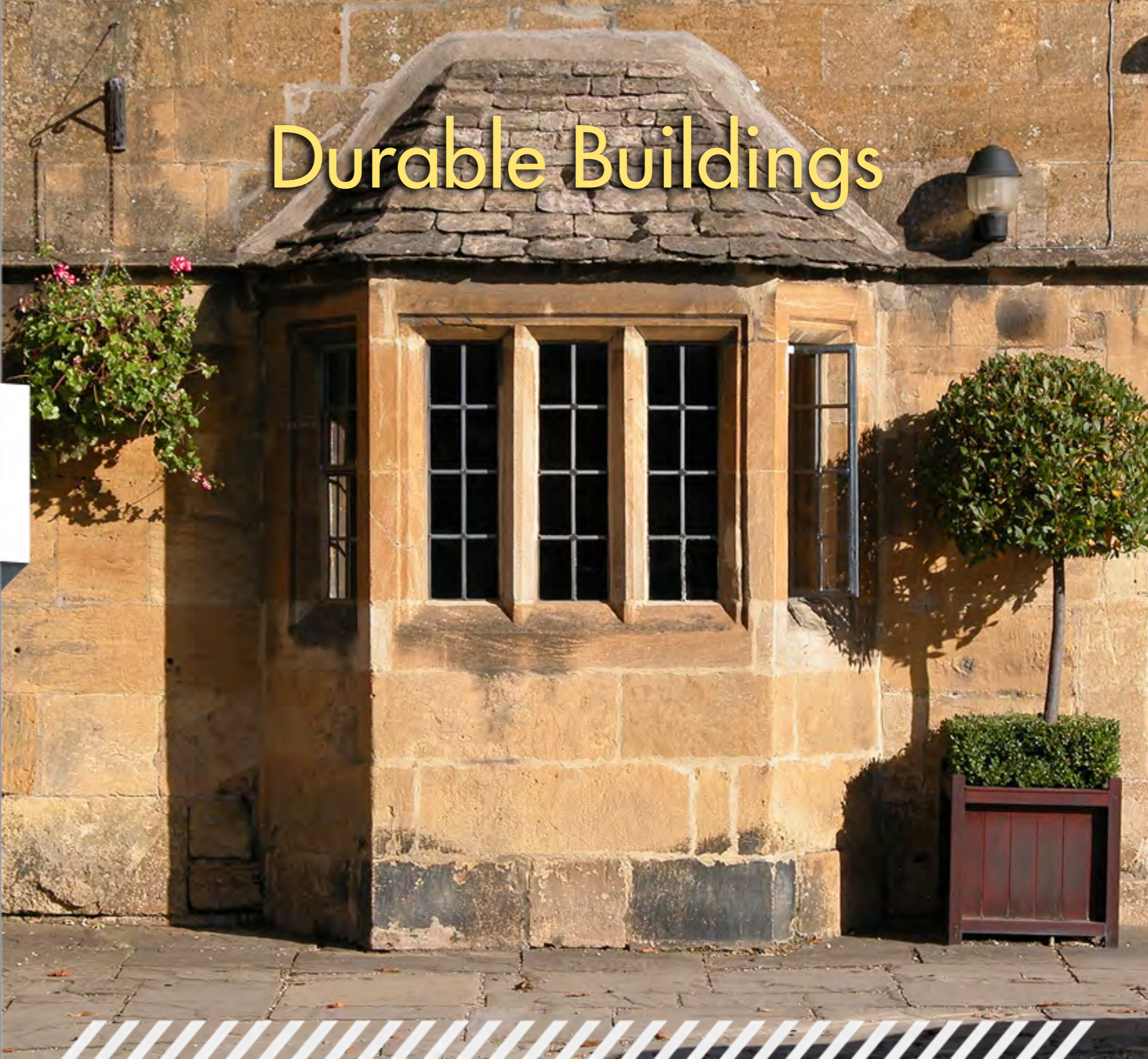
Lovable Buildings



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Durable Buildings



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Flexible Buildings

BANANA REPUBLIC



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Frugal Buildings



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Gizmo Green



Gizmo Green and the Meltdown

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The Original Green

**P
L
A
C
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S**

NOURISHABLE

ORGANIC
FARMING

LOVABLE

NU:
CODES

LIVING
TRADITIONS

ACCESSIBLE

NU:
COMPACT & WALKABLE

DURABLE

LIVING
TRADITIONS

SERVICEABLE

NU:
DIVERSE

FLEXIBLE

LIVING
TRADITIONS

SECURABLE

NU:
IDENTITY

FRUGAL

LIVING
TRADITIONS

GIZMO
GREEN

**B
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Frugal Buildings Checklist



following:



Plans



Game-Changers

- * Condition People First **
- * Smaller & Smarter **
- * Light Wings
- * Less Processing
- * Recycle vs. Reuse
- * Multiple Uses vs. Redundancy
- * Discarding Interior Conventions
- * Putting Buildings Back to Work



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Conditioning Buildings First



Conditioning People First





Condition People First

Most Efficient Equipment

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Condition People First

The Mechanization of Life



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Condition People First

Beyond Heating & Cooling



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Condition People First
Public Realm

- * Streets
- * Plazas
- * Squares
- * Greens
- * Parks
- * Playgrounds



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Condition People First

Private Realm

- * Courtyards
- * Gardens



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Condition People First

Living in Season



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Condition People First

Outdoor Living Rooms



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Condition People First
Walls



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Condition People First
Furnishings



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Condition People First
Floors



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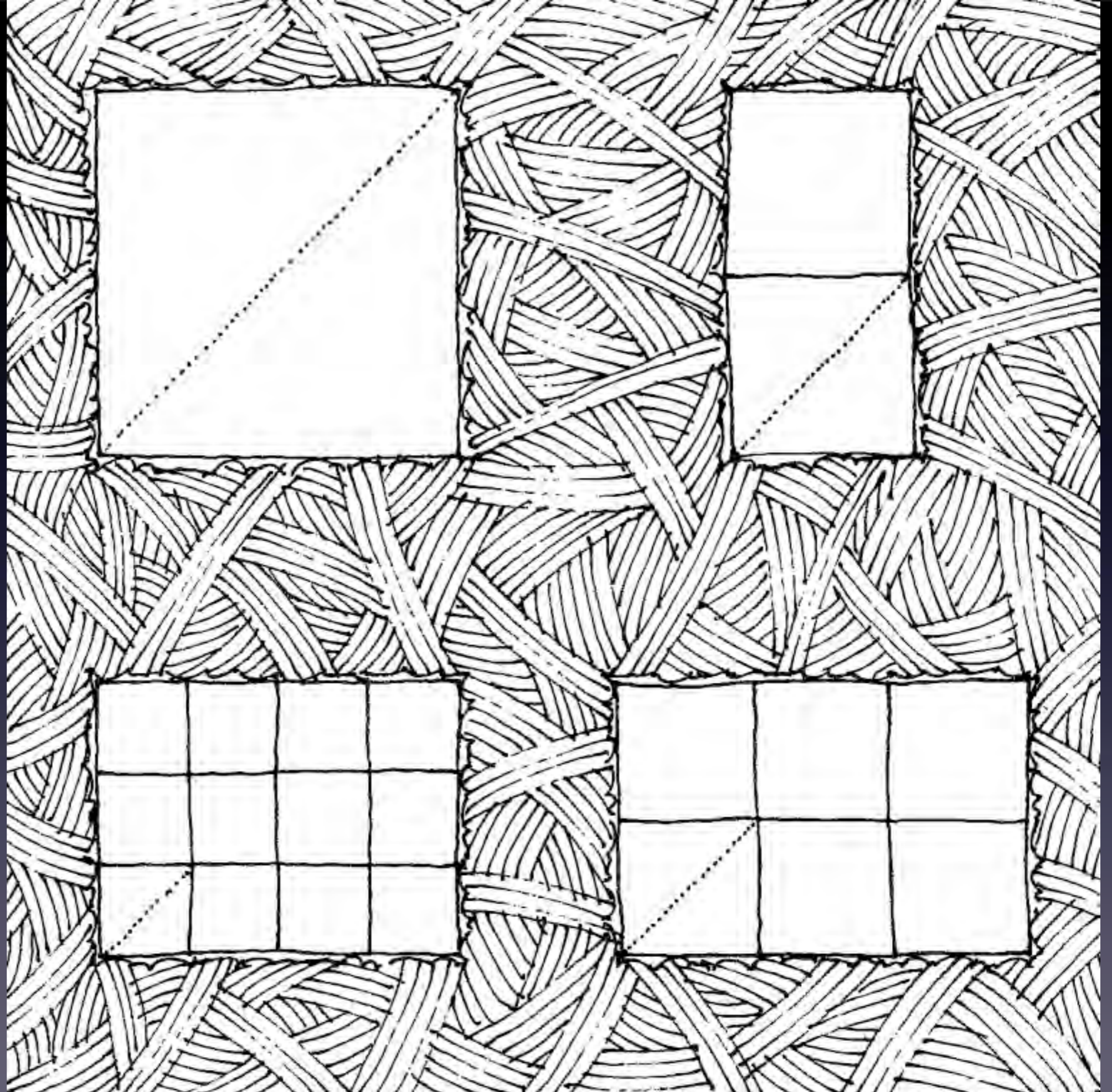
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Condition People First
Fixtures



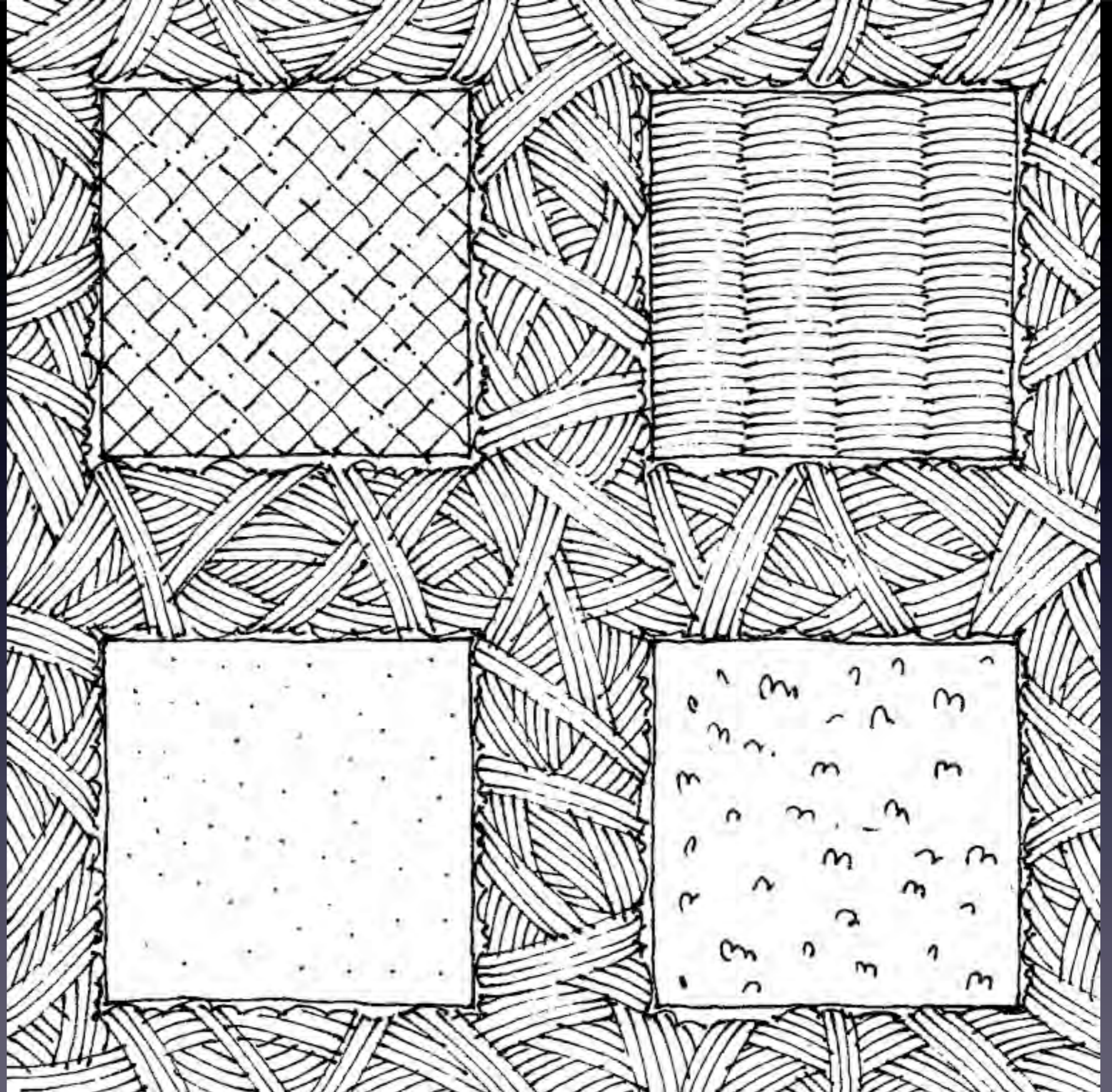
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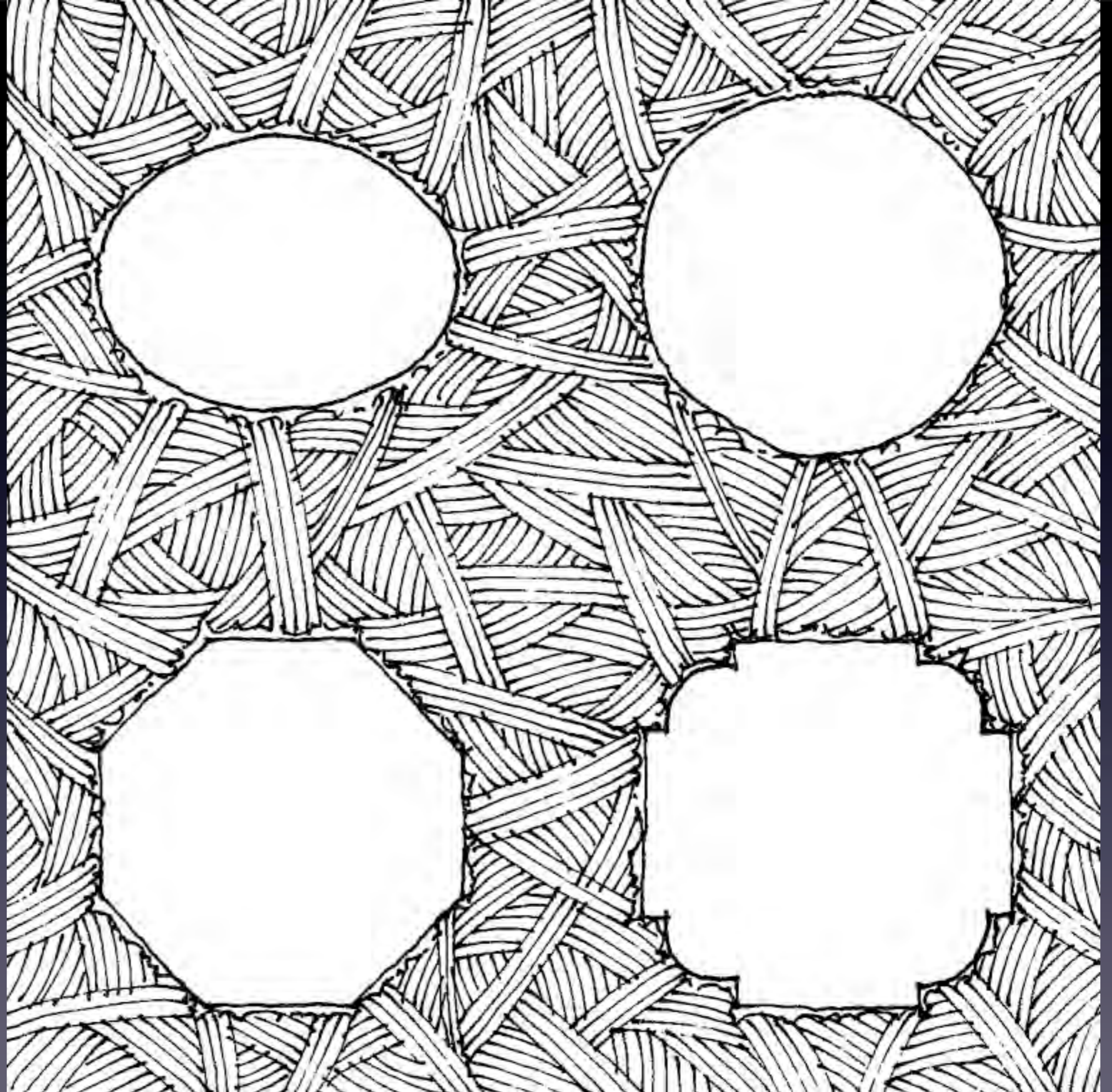
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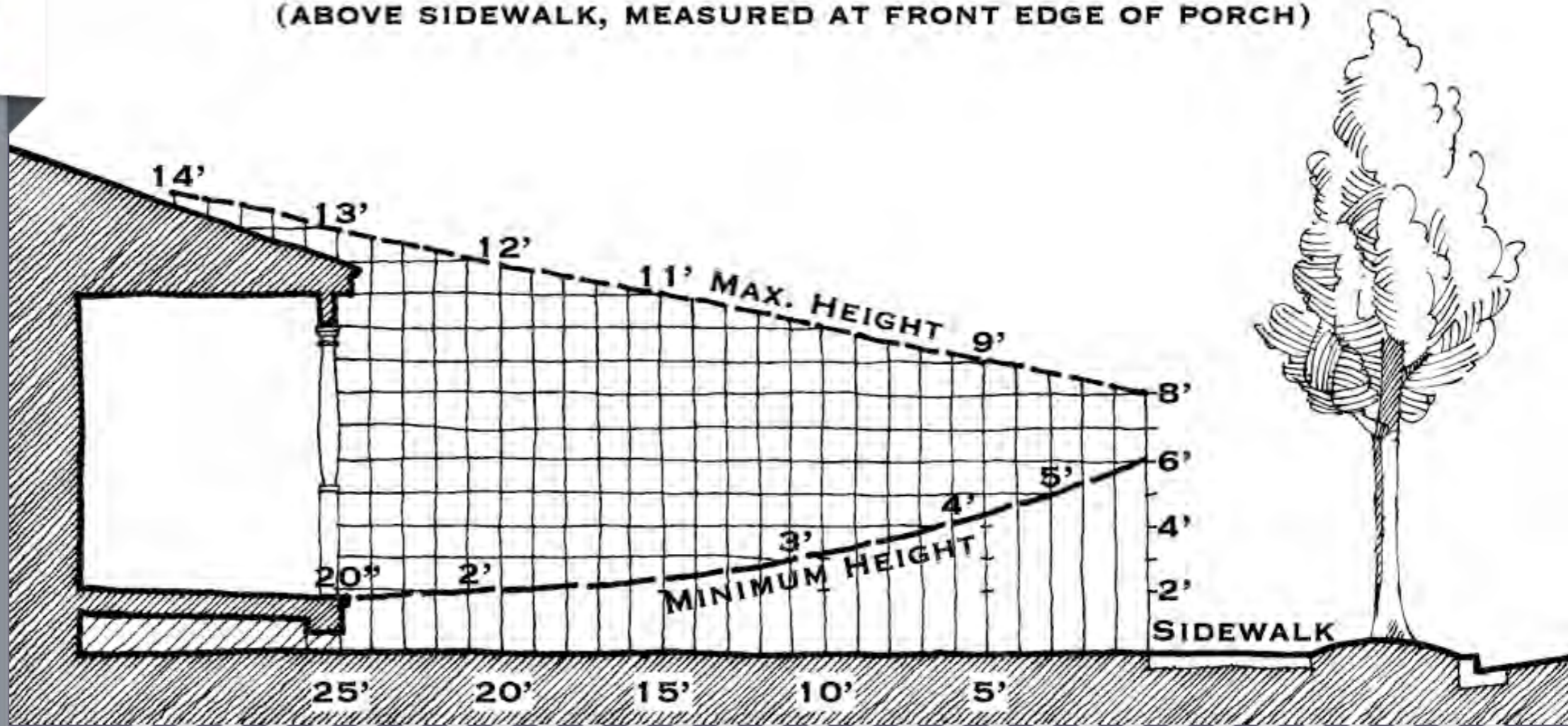
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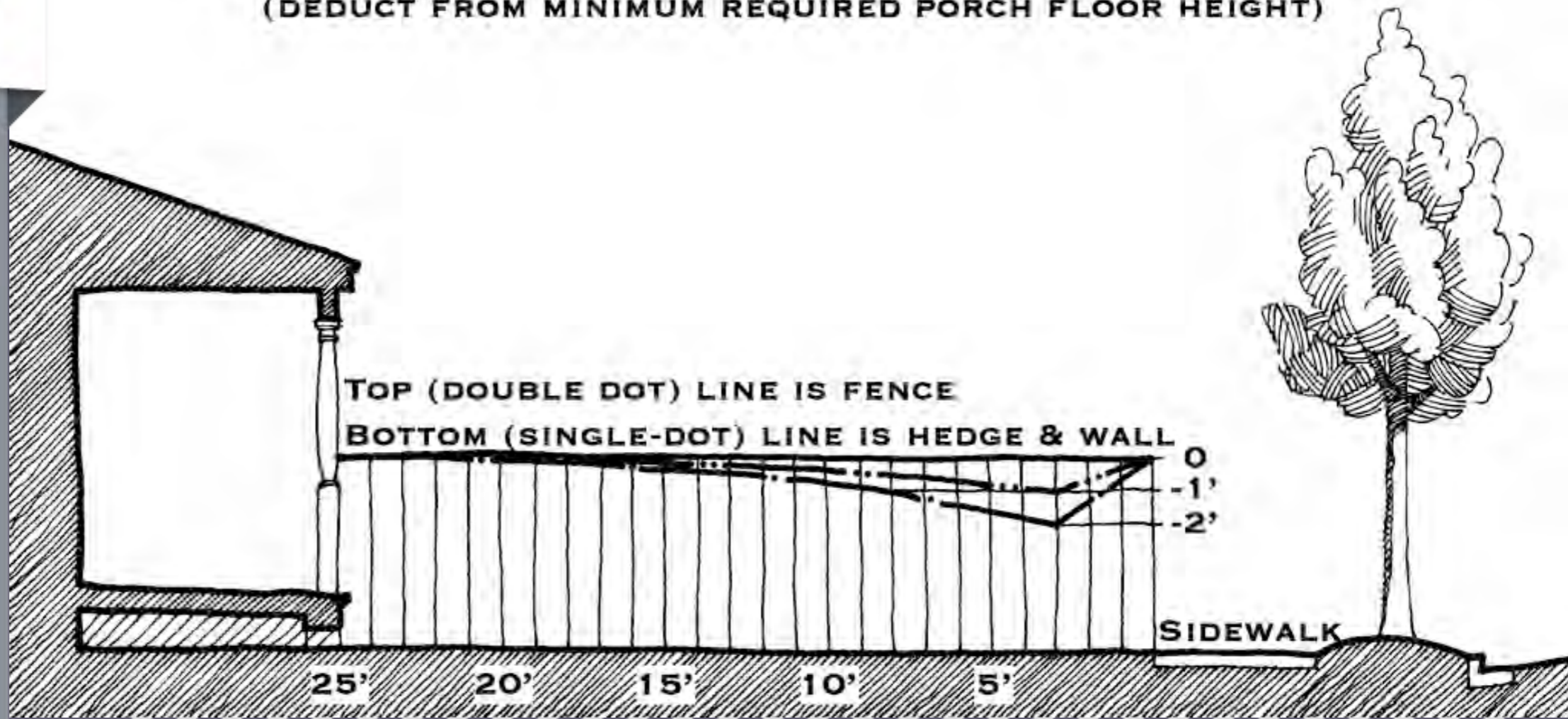


PORCH FLOOR HEIGHT

(ABOVE SIDEWALK, MEASURED AT FRONT EDGE OF PORCH)



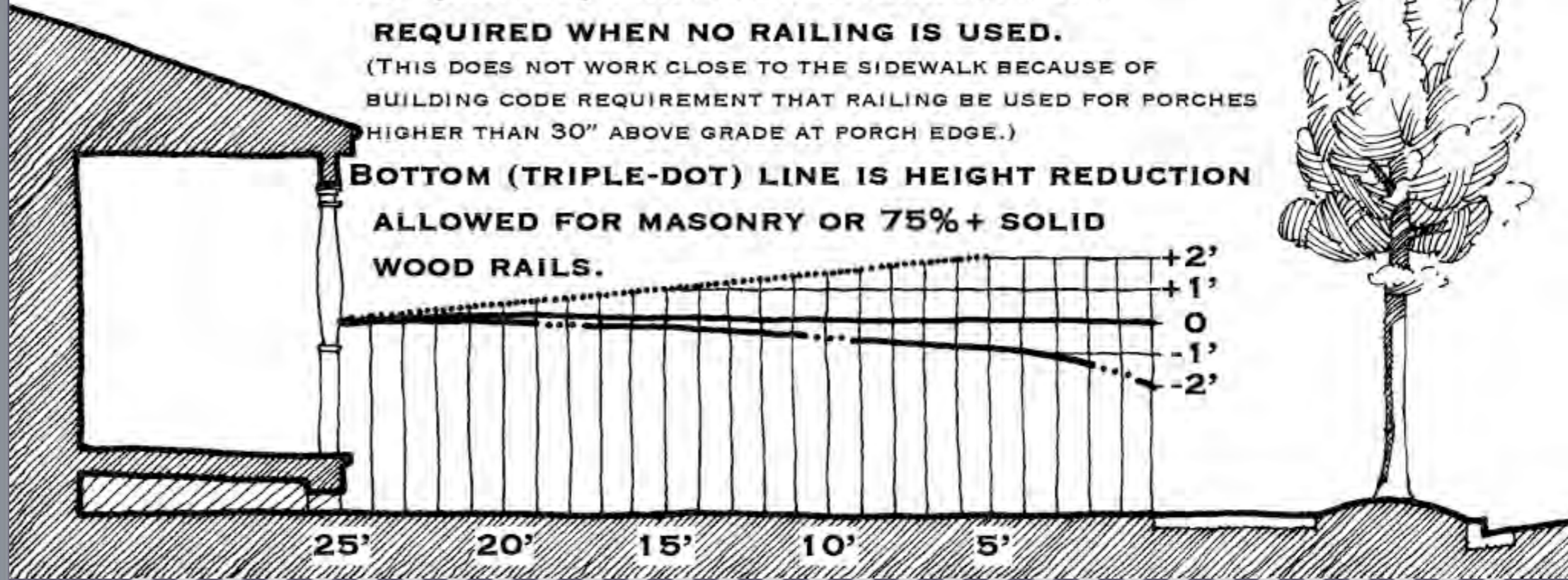
FENCE, HEDGE & WALL REDUCTION FACTORS
(DEDUCT FROM MINIMUM REQUIRED PORCH FLOOR HEIGHT)



PORCH RAILING ADJUSTMENT FACTORS
(ADJUST MINIMUM REQUIRED PORCH FLOOR HEIGHT)

TOP (DOTTED) LINE IS ADDITIONAL HEIGHT REQUIRED WHEN NO RAILING IS USED.
(THIS DOES NOT WORK CLOSE TO THE SIDEWALK BECAUSE OF BUILDING CODE REQUIREMENT THAT RAILING BE USED FOR PORCHES HIGHER THAN 30" ABOVE GRADE AT PORCH EDGE.)

BOTTOM (TRIPLE-DOT) LINE IS HEIGHT REDUCTION ALLOWED FOR MASONRY OR 75%+ SOLID WOOD RAILS.



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Smaller & Smarter



HOUSING INTERNATIONAL, INC.
Representative: [Name]
Address: [Address]
Phone: [Phone]
Fax: [Fax]
Email: [Email]

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Smaller & Smarter
**Double the Size - Half the
Family**



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Smaller & Smarter

Small is the New Luxury

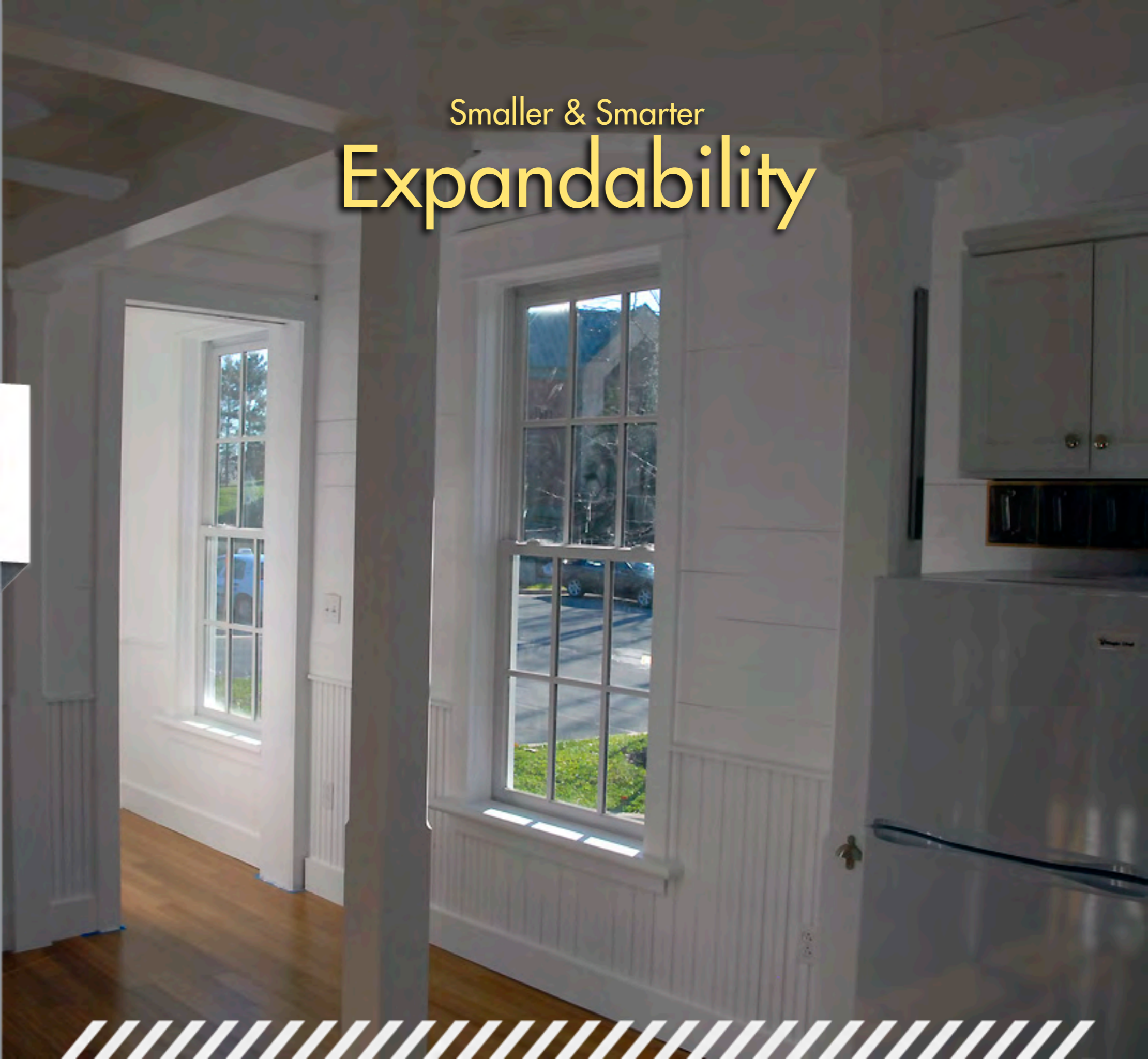


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Smaller & Smarter

Expandability

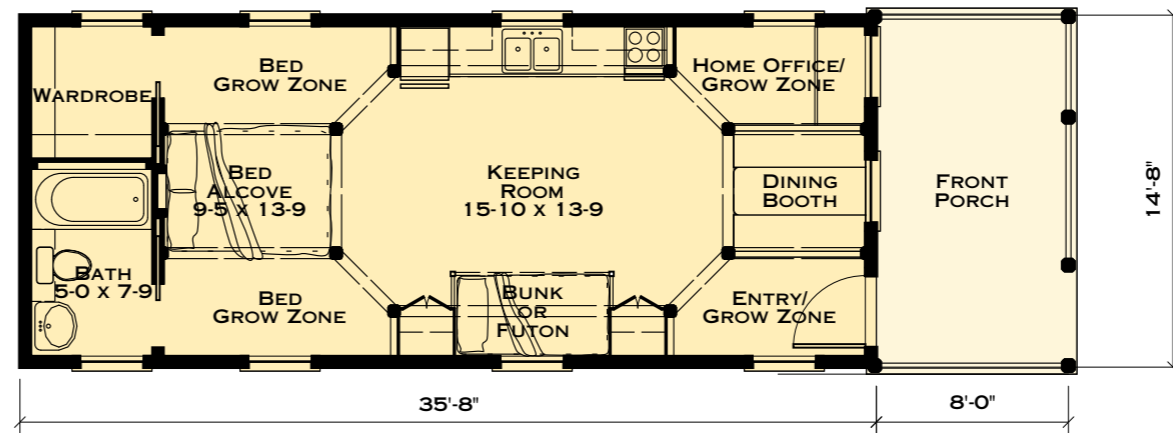


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Smaller & Smarter

Katrina Cottage VIII

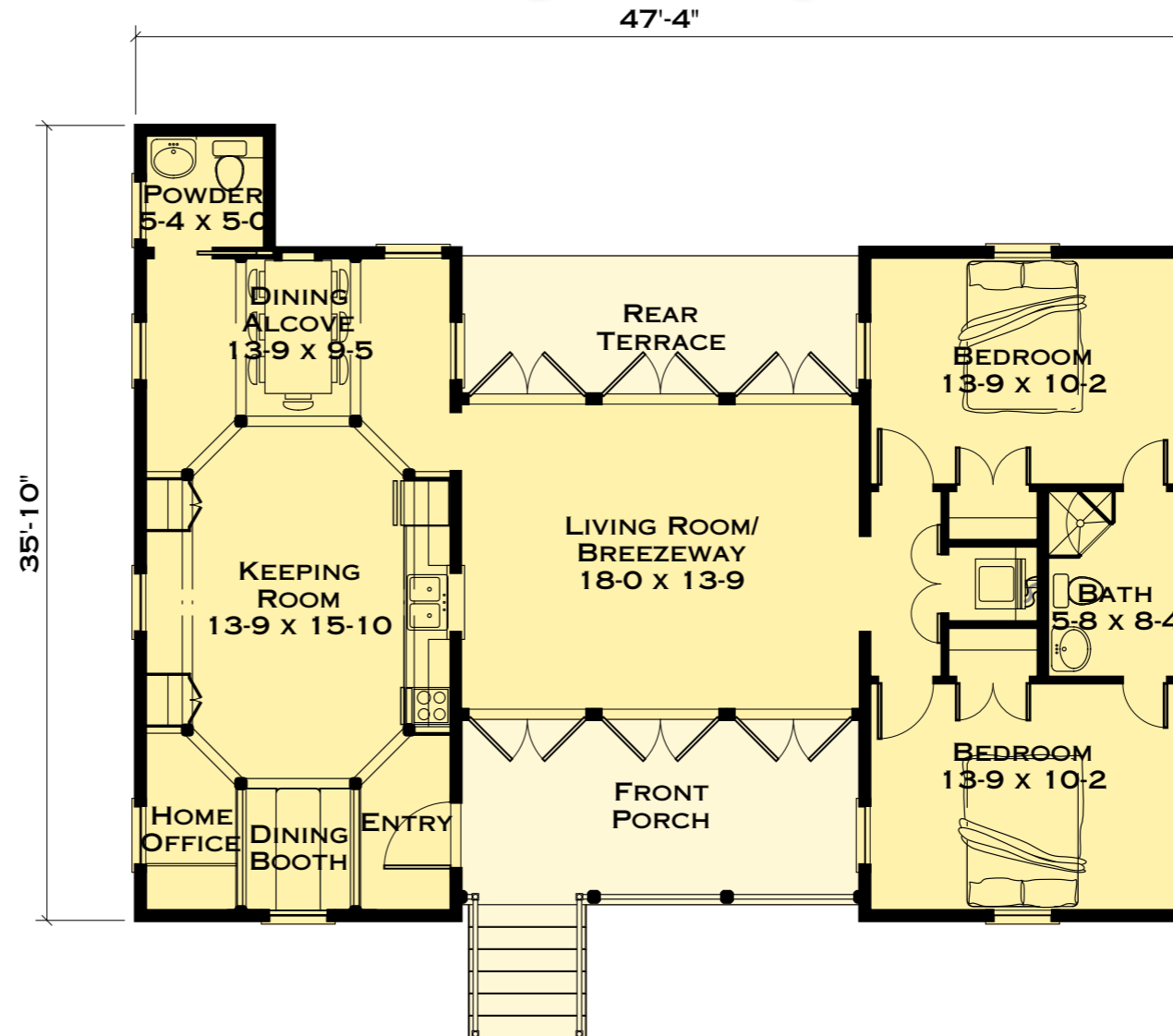




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Smaller & Smarter

Breezeway Expansion

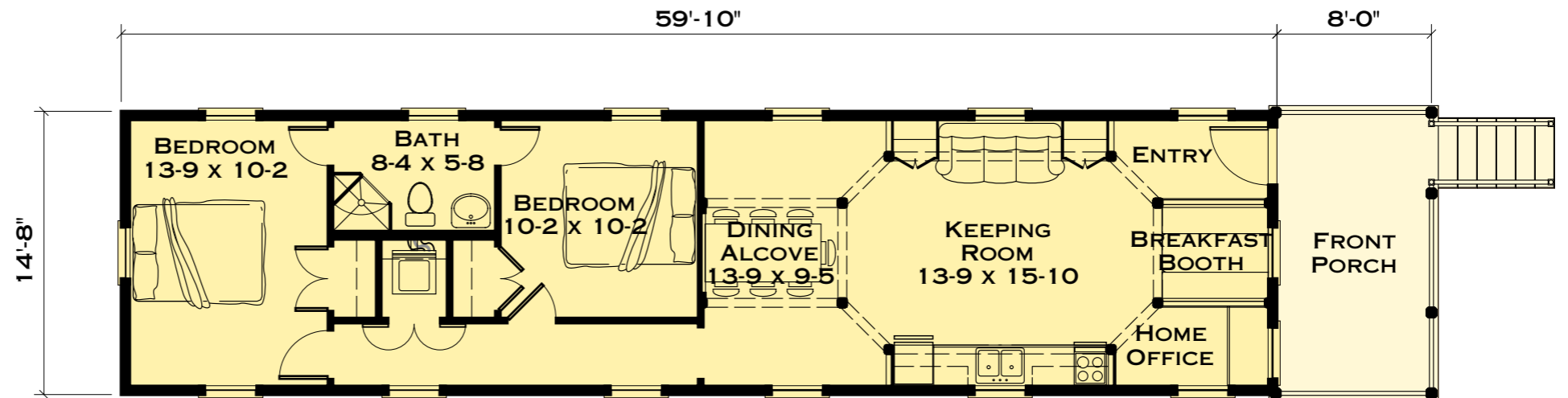




it's
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time ...

Smaller & Smarter

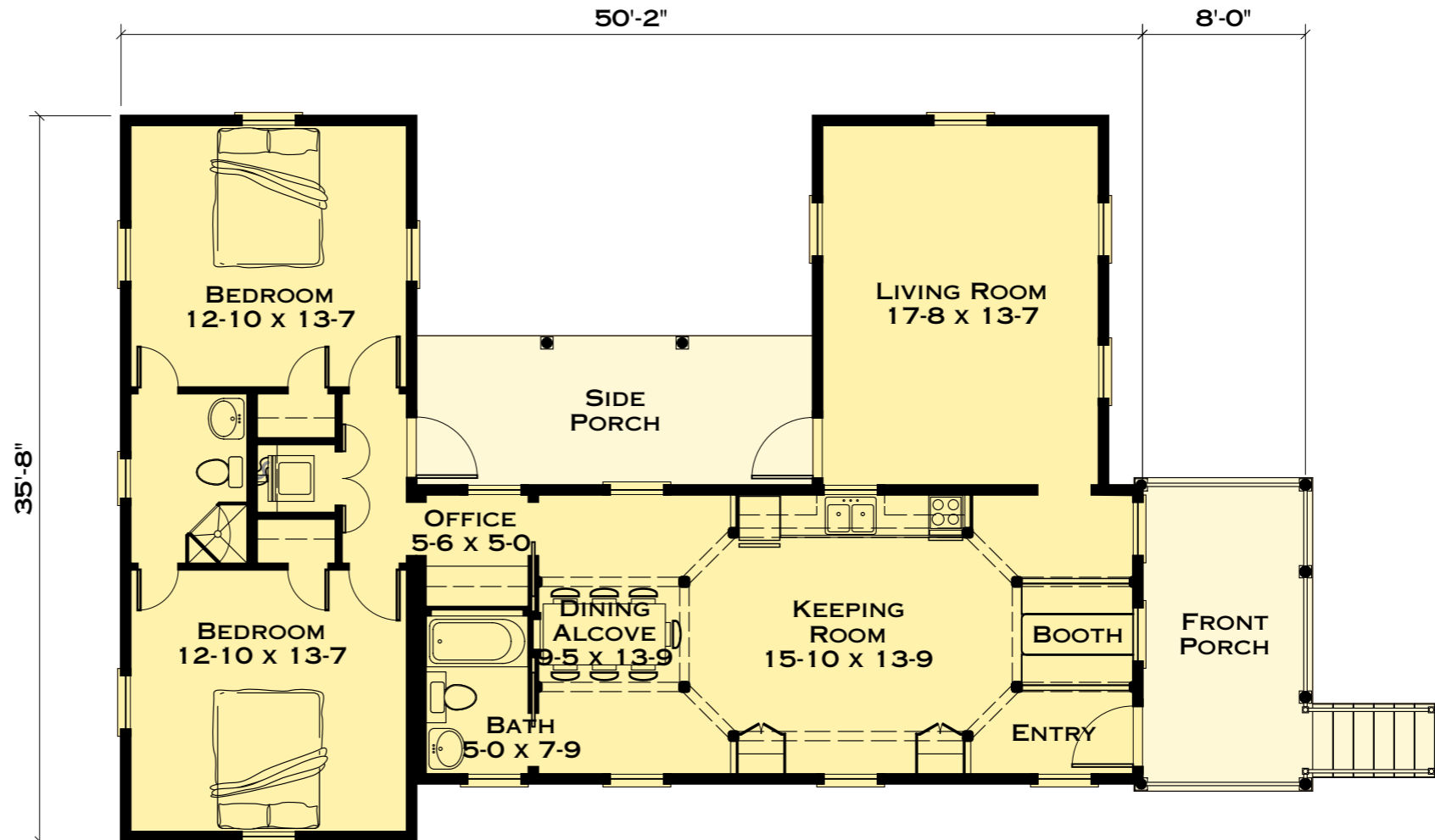
Shotgun Expansion





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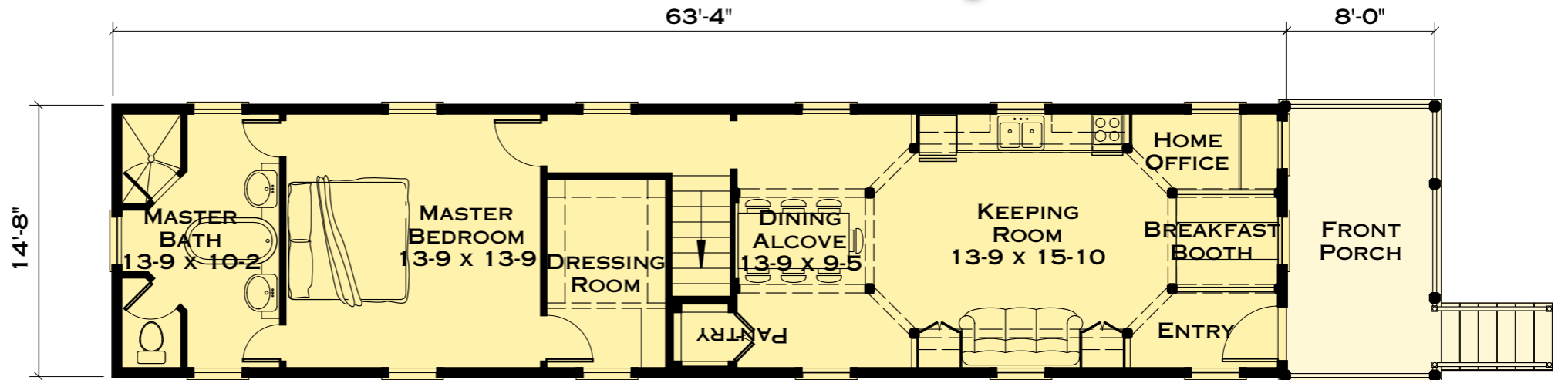
Smaller & Smarter Side Court Expansion



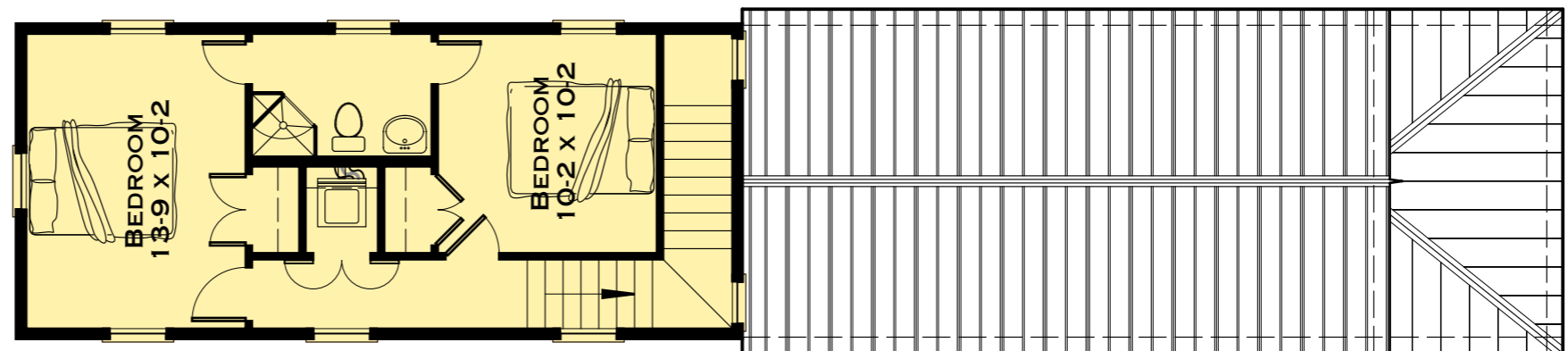
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Smaller & Smarter
Camel-Back Expansion



FIRST LEVEL FLOOR PLAN



SECOND LEVEL FLOOR PLAN

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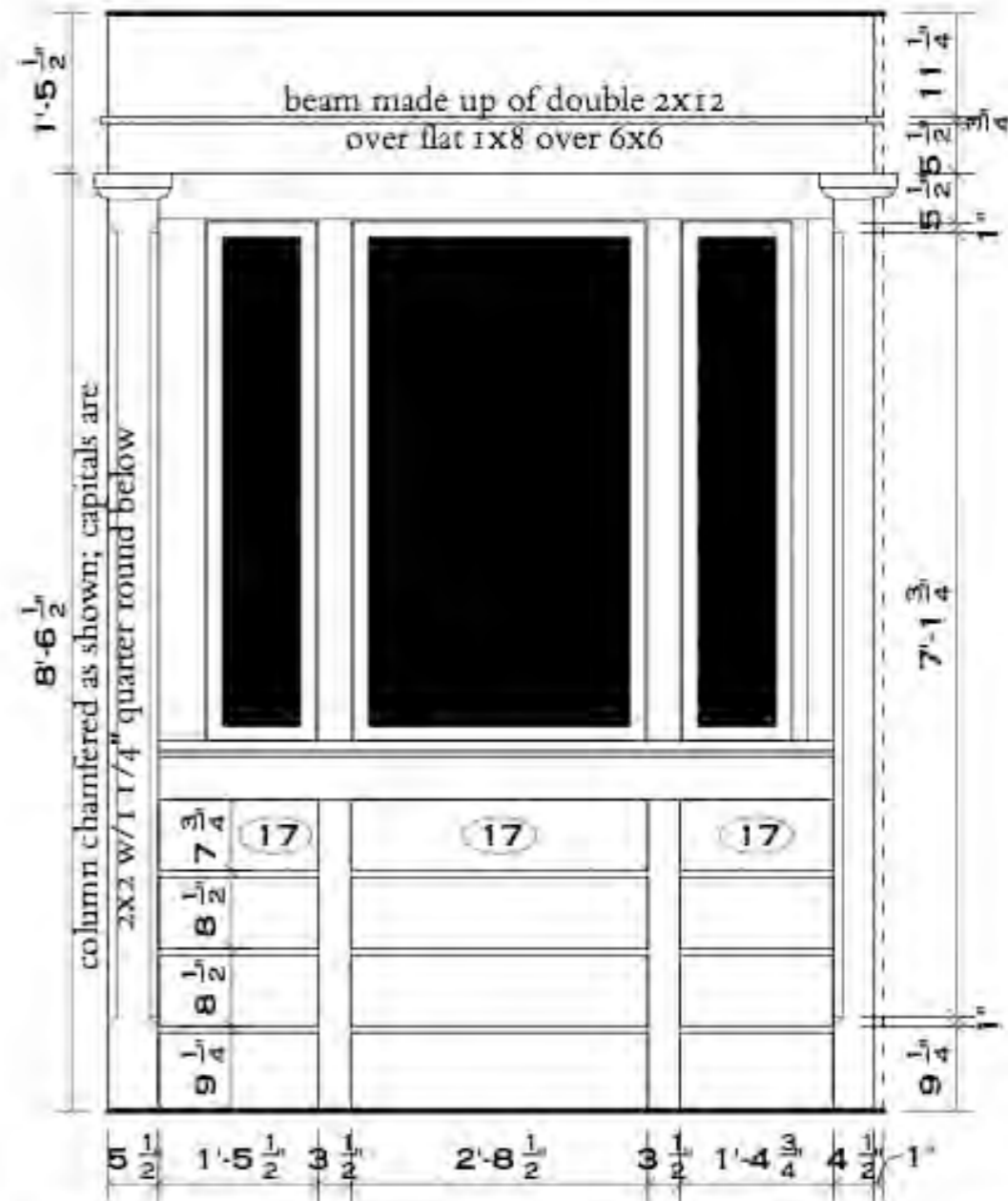
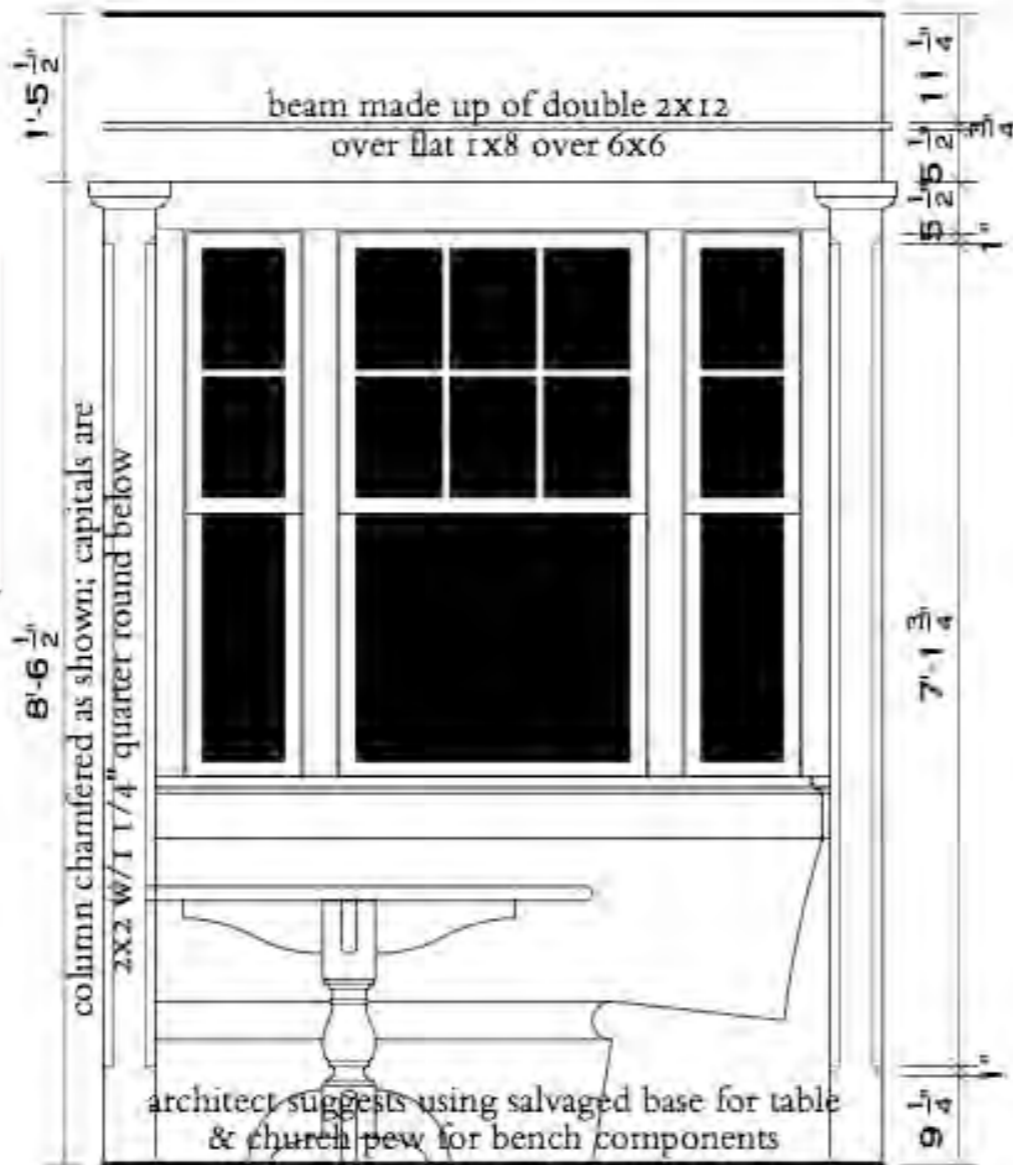
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Smaller & Smarter
Booth/Table & Bed Alcove



Smaller & Smarter

Dining/Office/Homework Booth



DRAWING #
9
A8

BOOTH

SCALE
3/8"
1'-0"

DRAWING #
10
A8

BOOTH FROM KEEP.R.M.

SCALE
3/8"
1'-0"

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Smaller & Smarter
Insulating Bed Alcove



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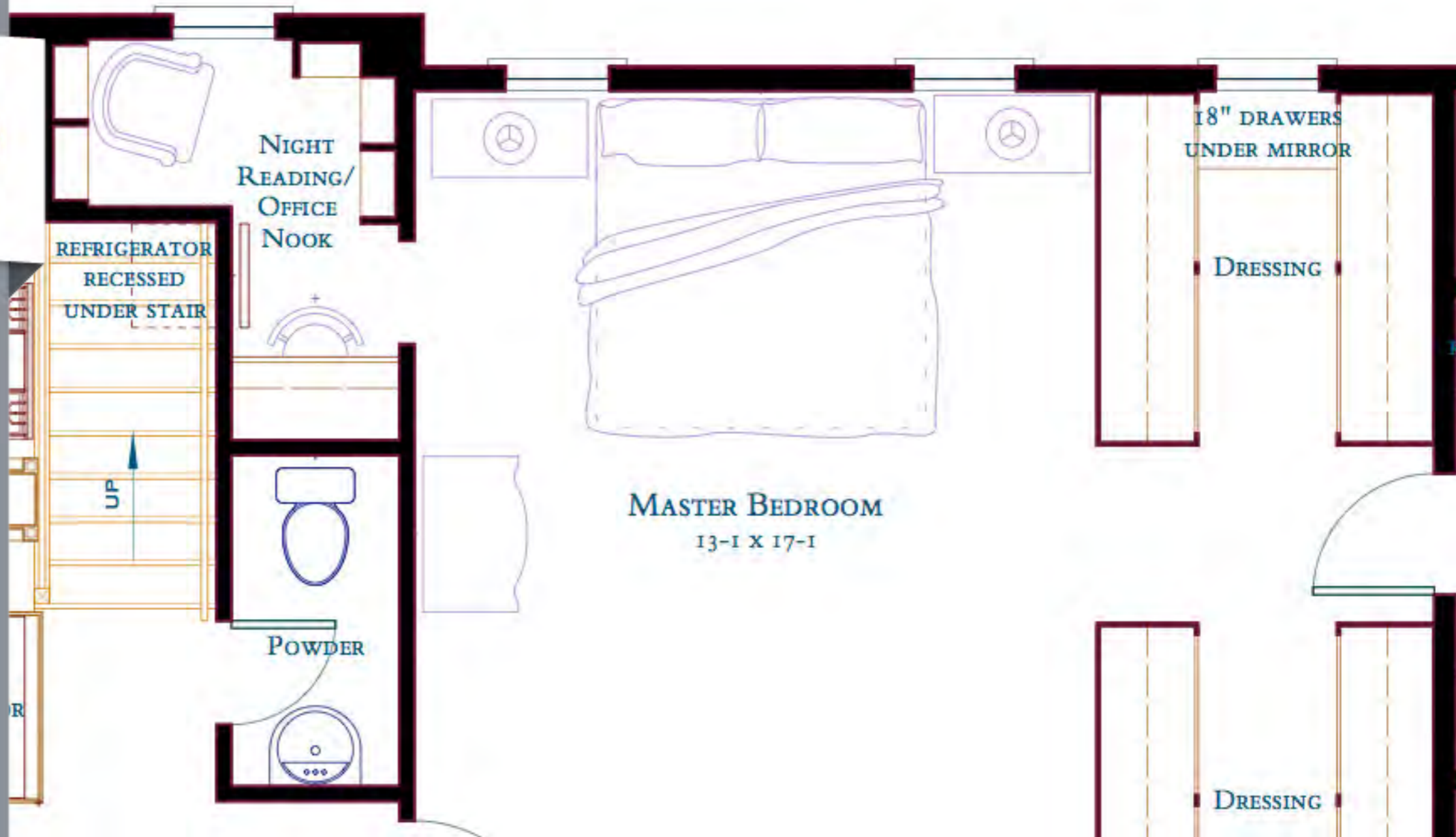
Smaller & Smarter

Insulating Bed Alcove



Smaller & Smarter
Nooks & Armoires

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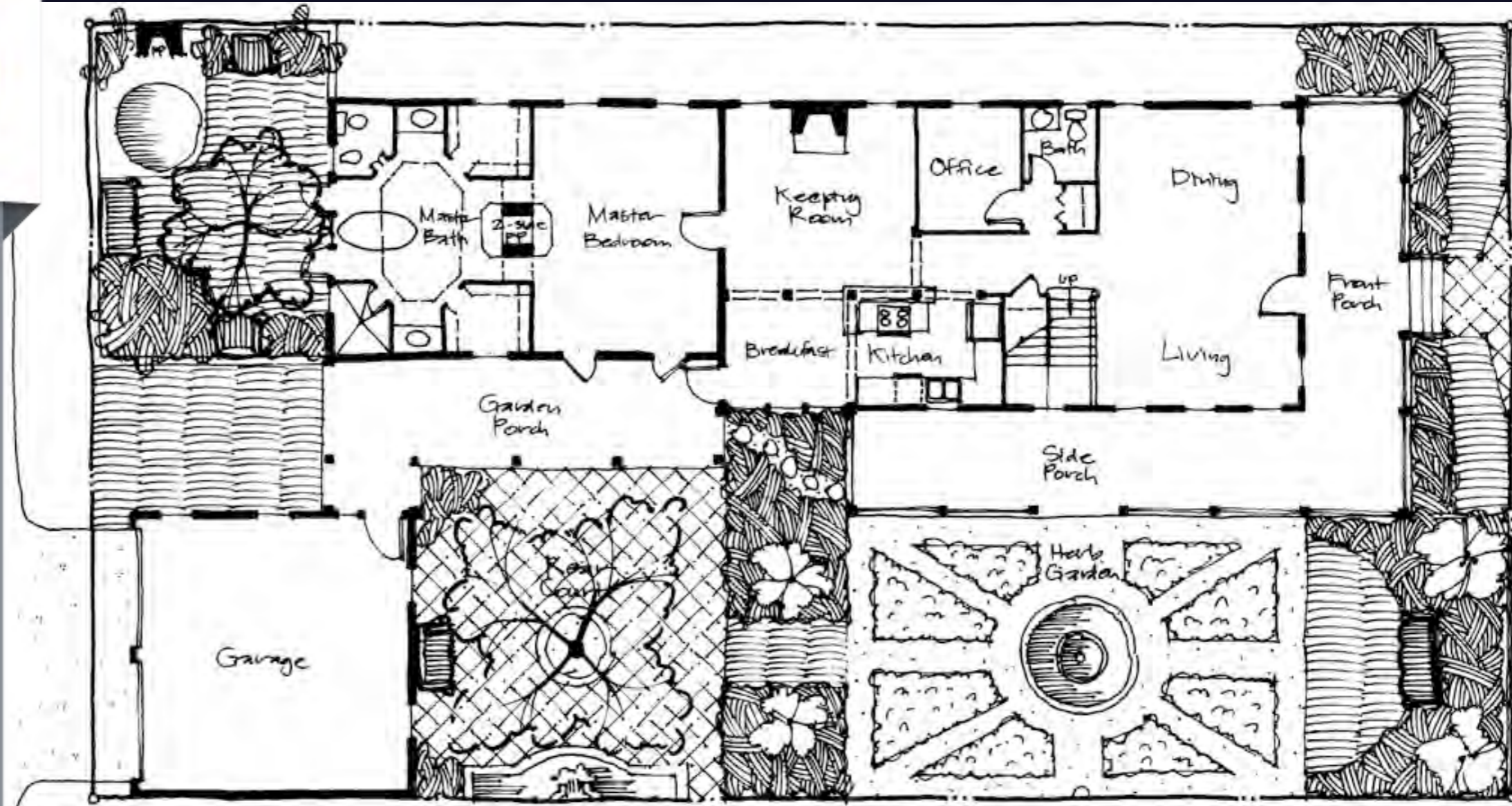




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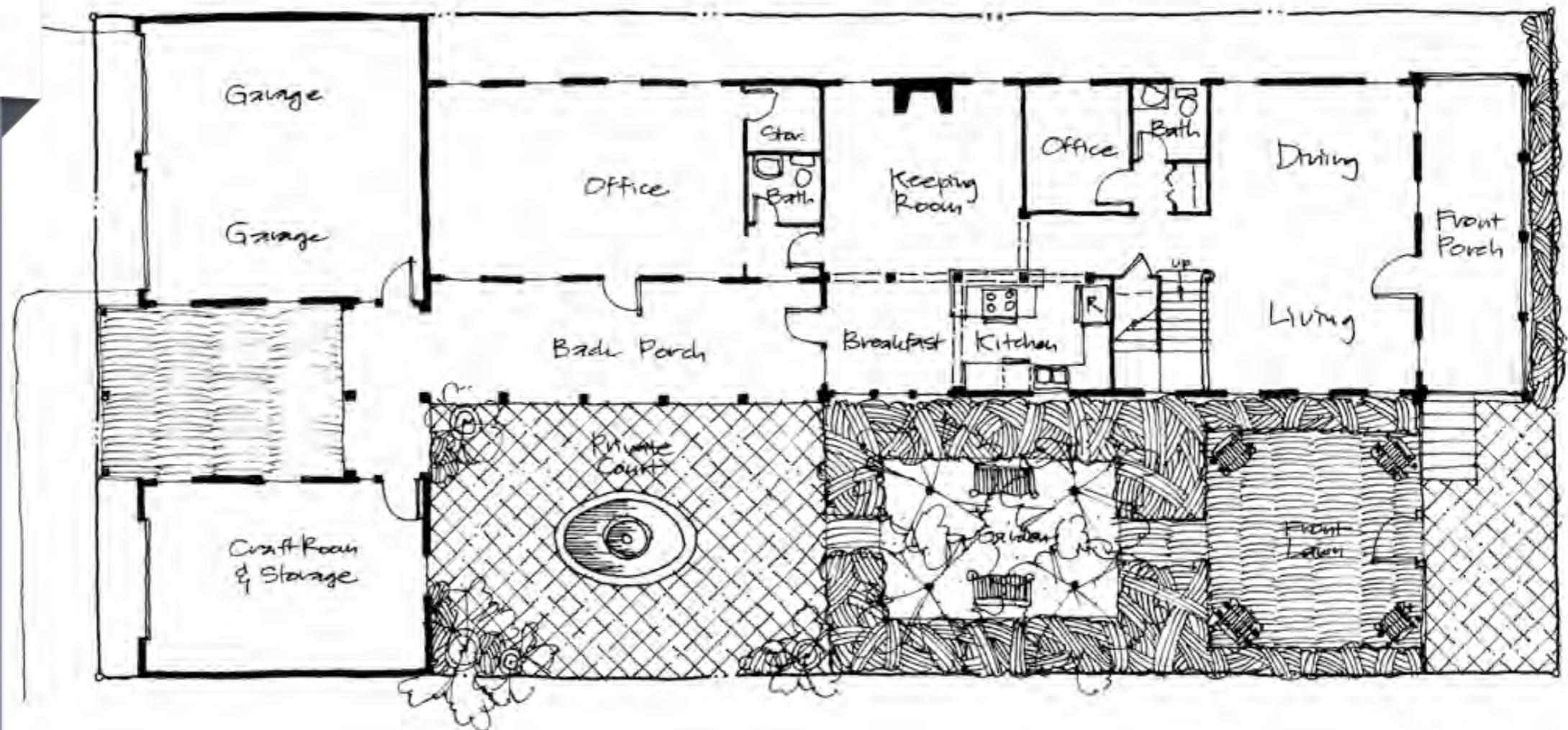
Smaller & Smarter

Outdoor Living Rooms Condition You & Save Space



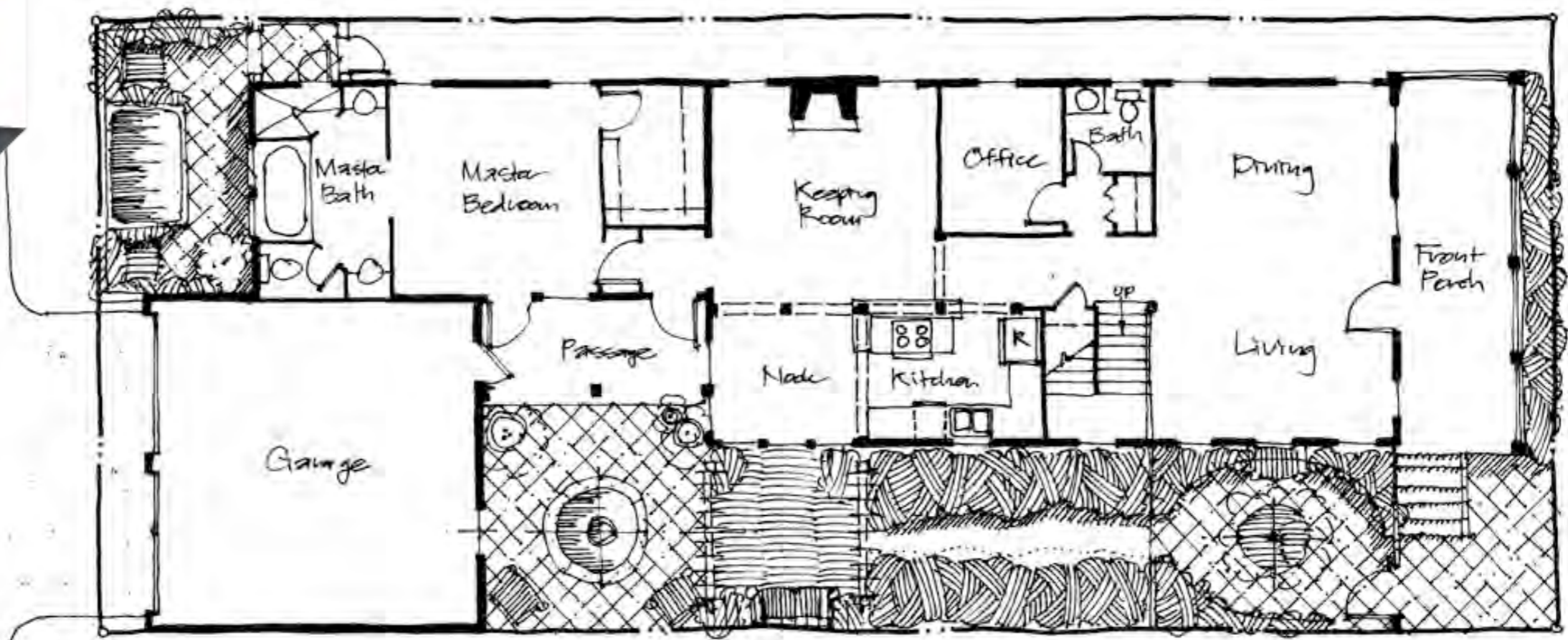
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Smaller & Smarter
Reduced Footprint

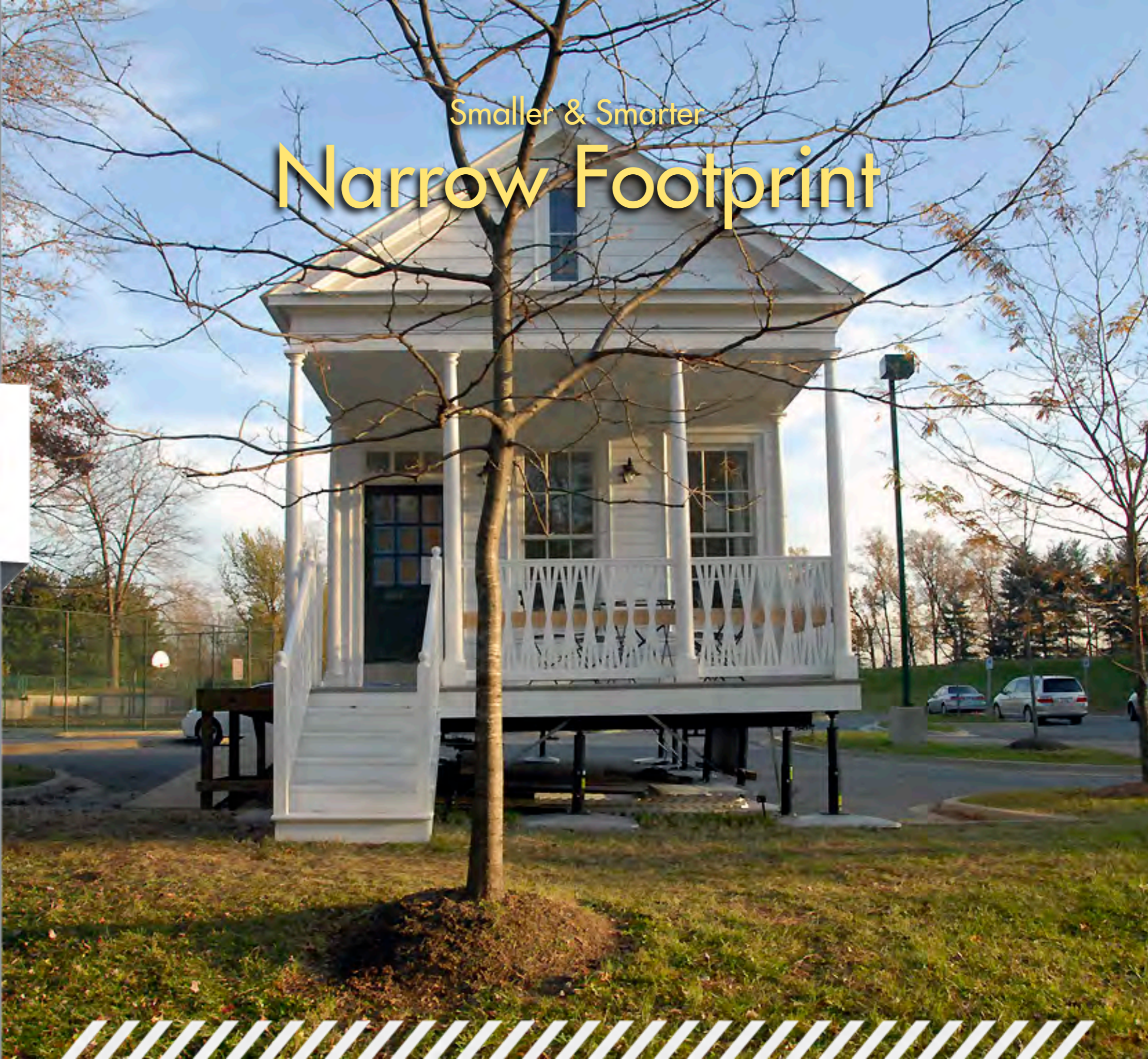


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Smaller & Smarter

Narrow Footprint



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Smaller & Smarter
Under-Bed Storage



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Smaller & Smarter

In-Bed Storage



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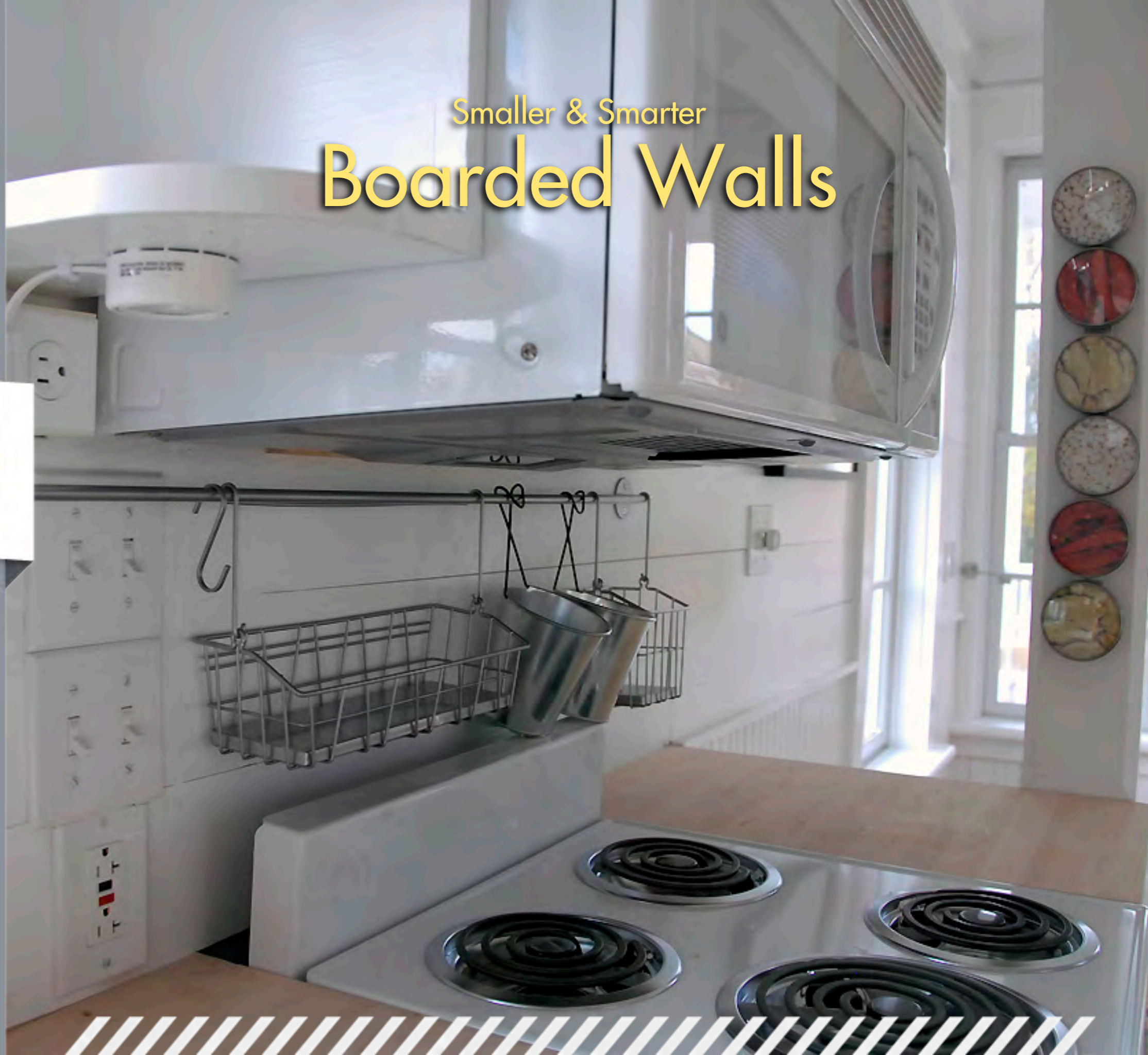
Smaller & Smarter
Thick Walls



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Smaller & Smarter
Boarded Walls



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Smaller & Smarter
Boarded Walls



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Smaller & Smarter

Boarded Walls



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Smaller & Smarter

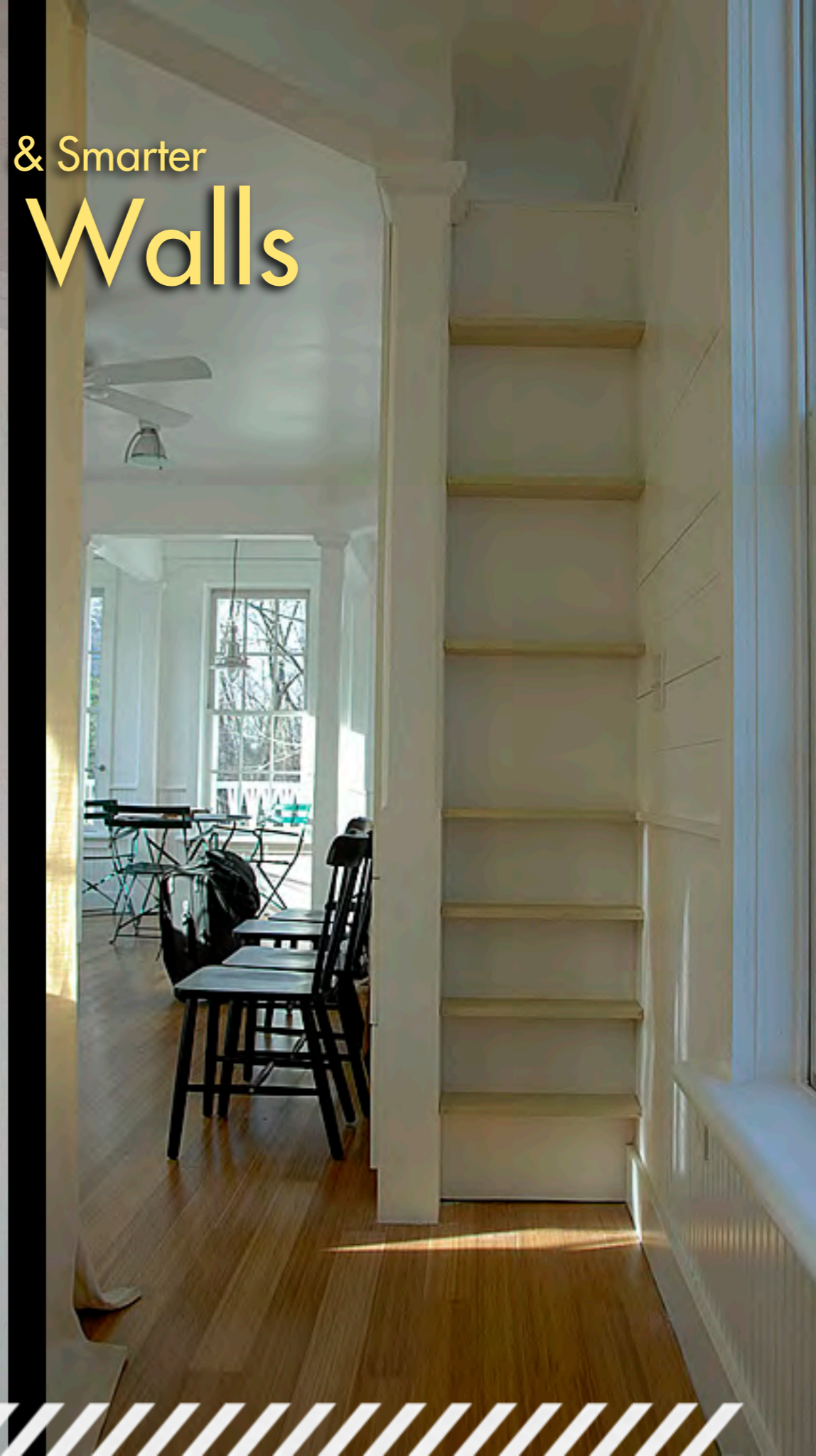
Carve Into Walls/Pocket Doors



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Smaller & Smarter
Shelf Walls

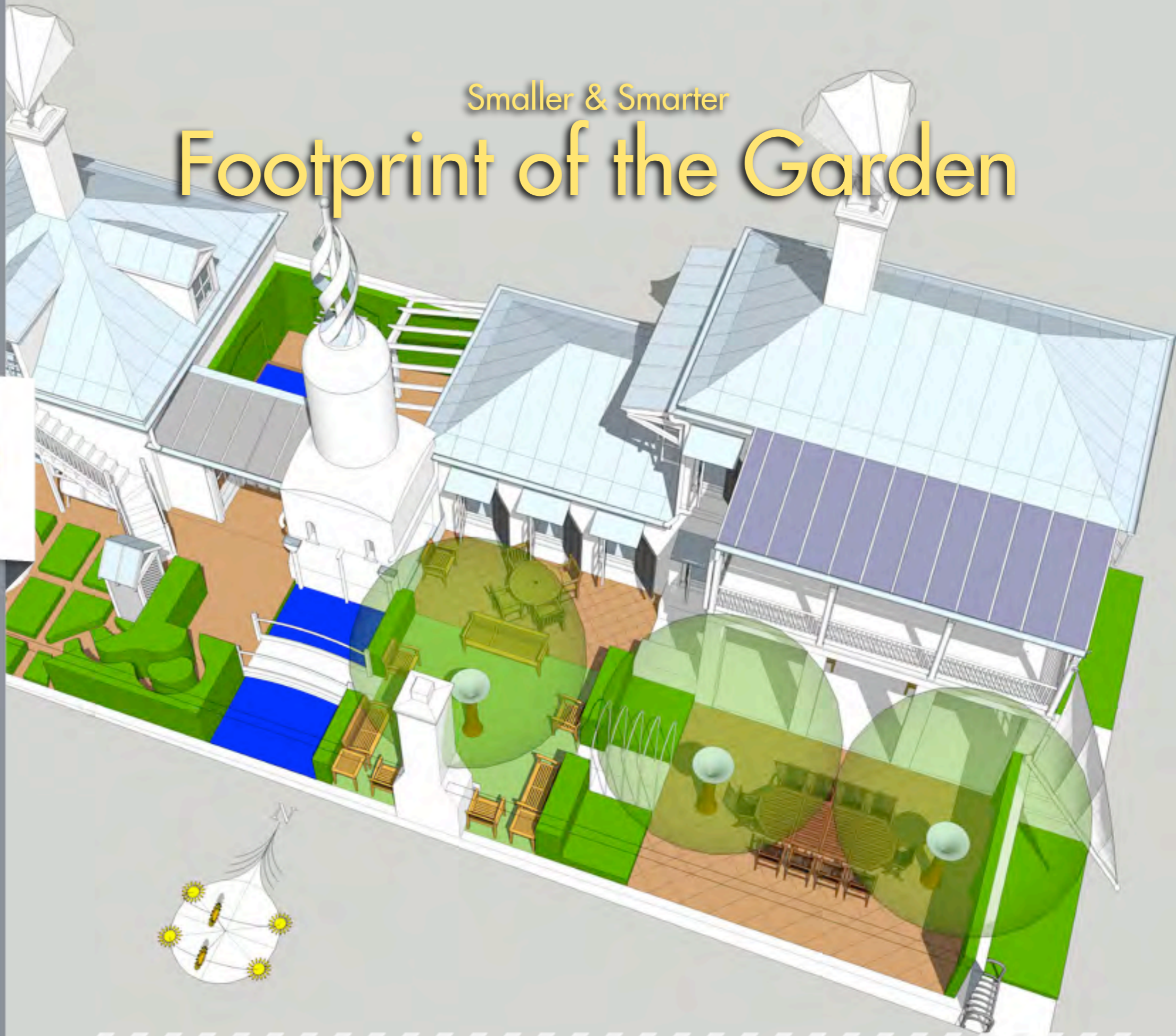


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Smaller & Smarter

Footprint of the Garden



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Light Wings

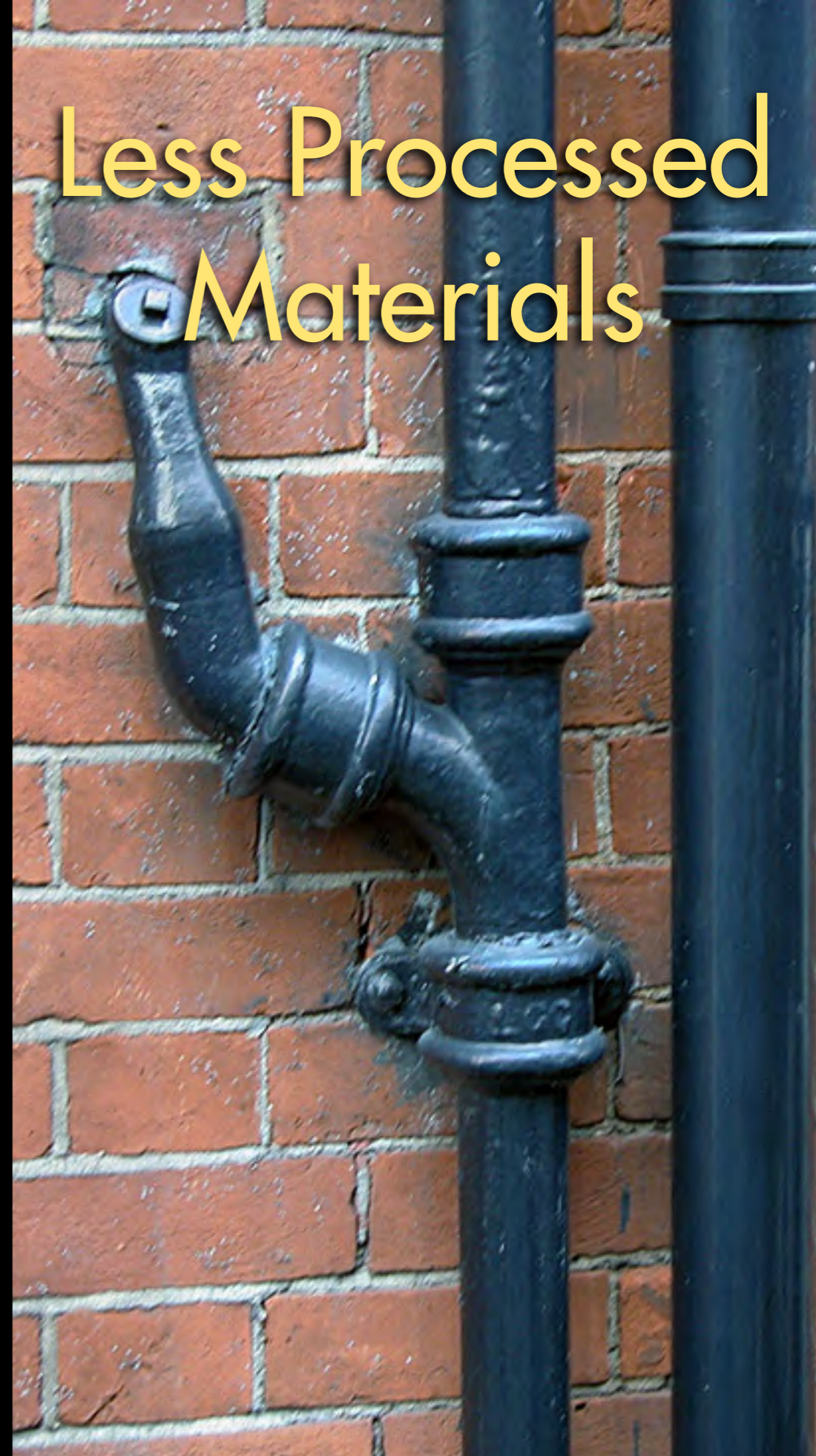


Highly Processed
Materials

Less Processed
Materials

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Recycle vs. Reuse



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Multiple Uses vs. Redundancy



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Discarding Interior Conventions



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Putting Buildings Back to Work





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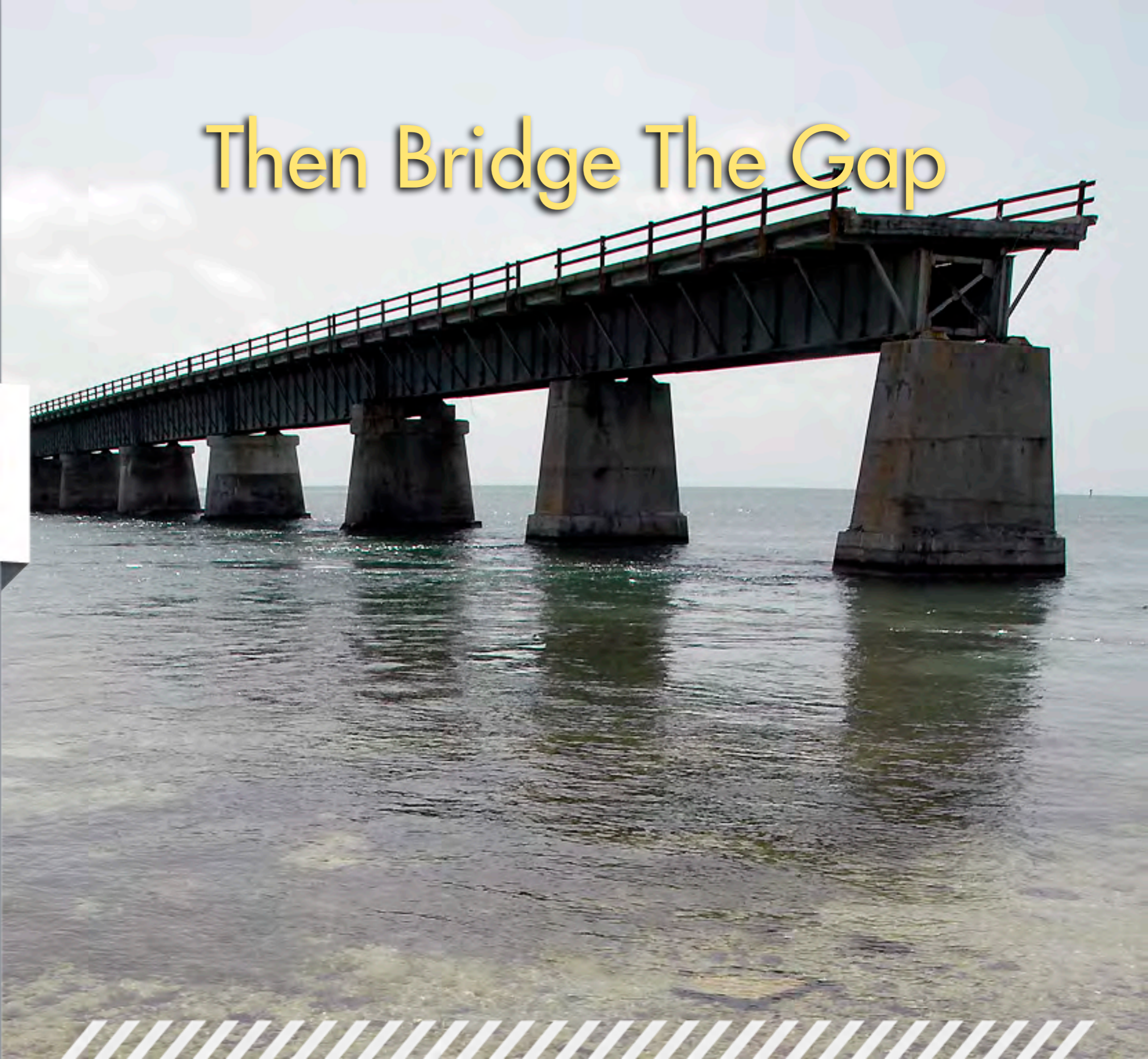


Be Frugal Naturally First

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Then Bridge The Gap



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Four Quarters

- * Earth
- * Wind
- * Fire
- * Water





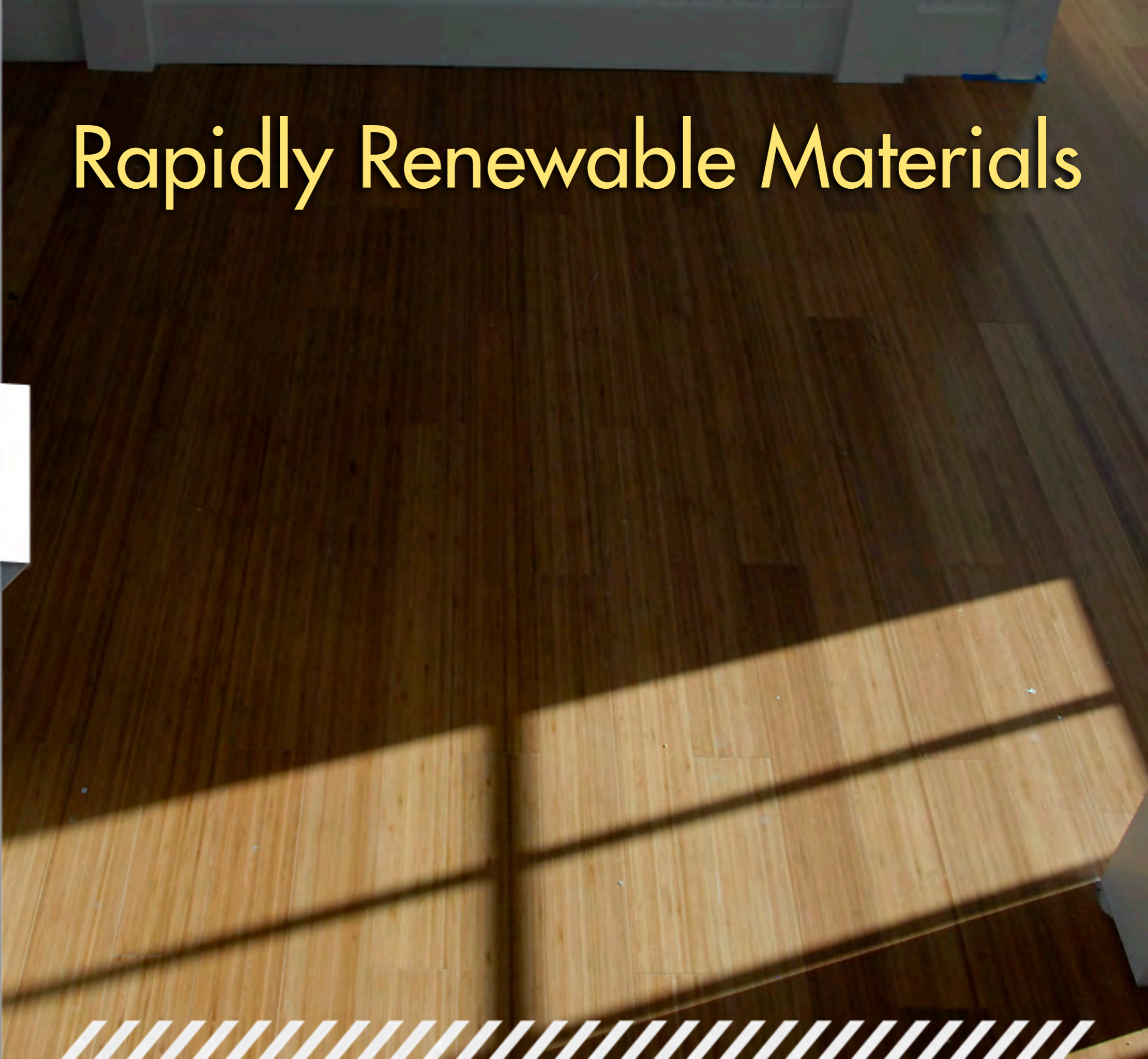
Earth

- * Rapidly Renewable Materials
- * Eliminate Lawns
- * Energy Efficiency of Durable Materials





Rapidly Renewable Materials



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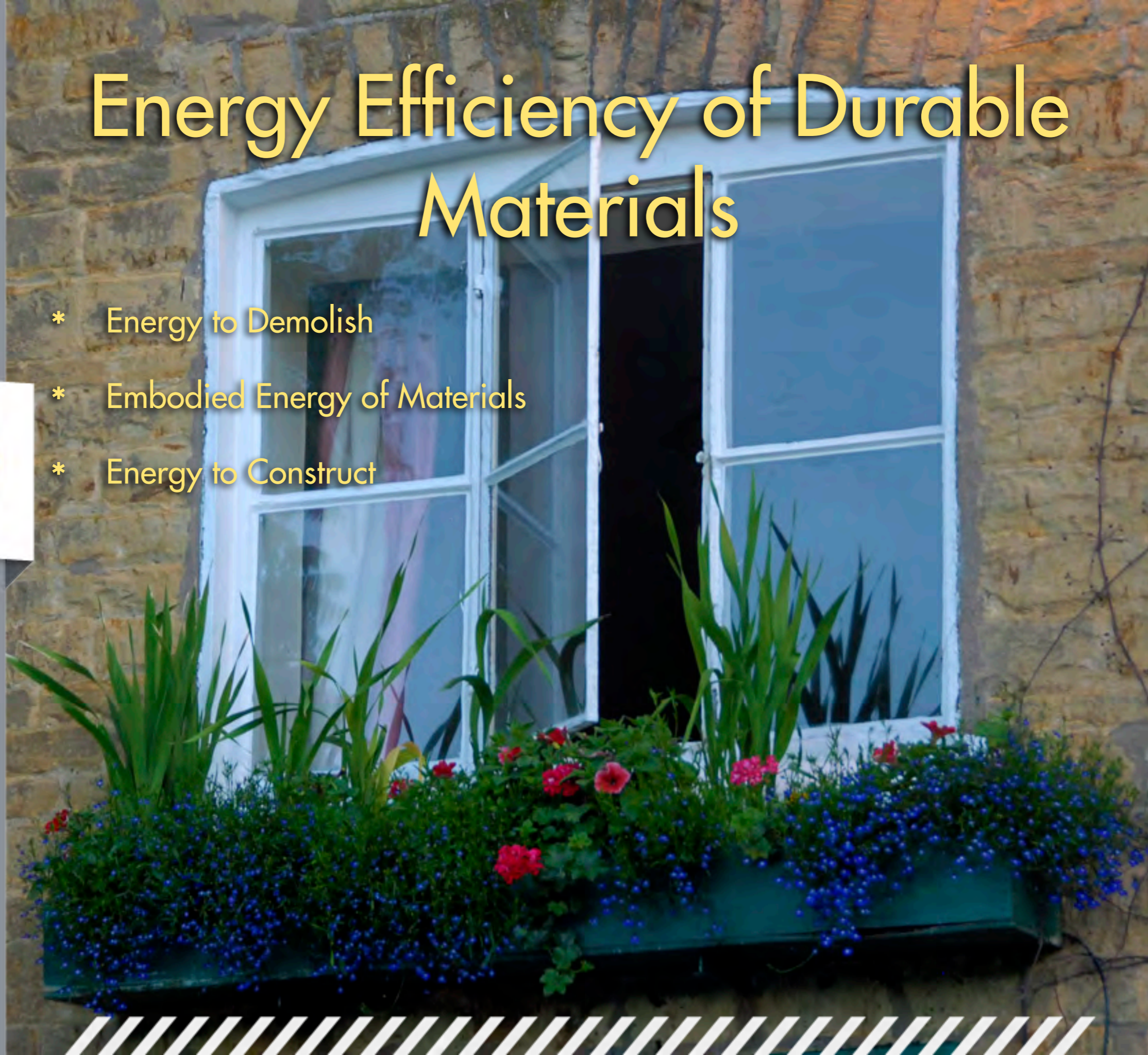
Eliminate Lawns





Energy Efficiency of Durable Materials

- * Energy to Demolish
- * Embodied Energy of Materials
- * Energy to Construct





Wind

- * Cross-Ventilation
- * Ventilating Windows
- * Interior Breezes
- * Breeze Chimneys
- * Sideyard Sail



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Cross-Ventilation



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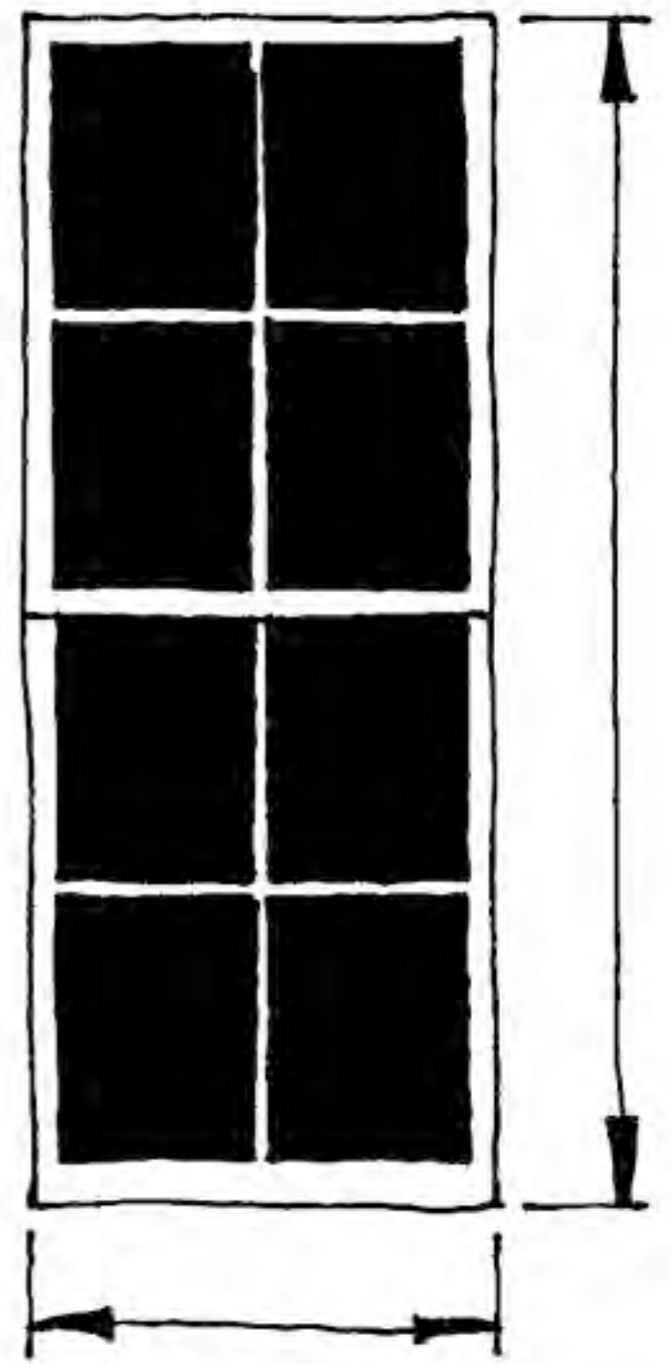
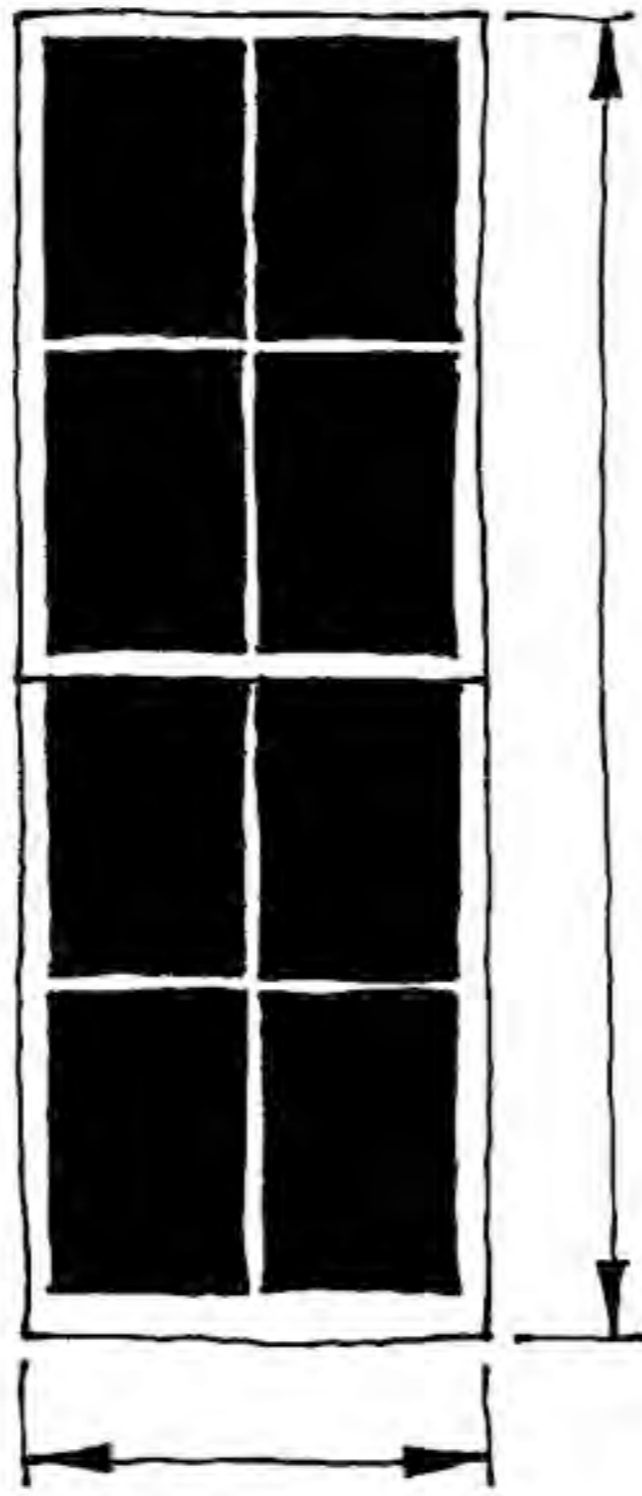
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Ventilating Windows



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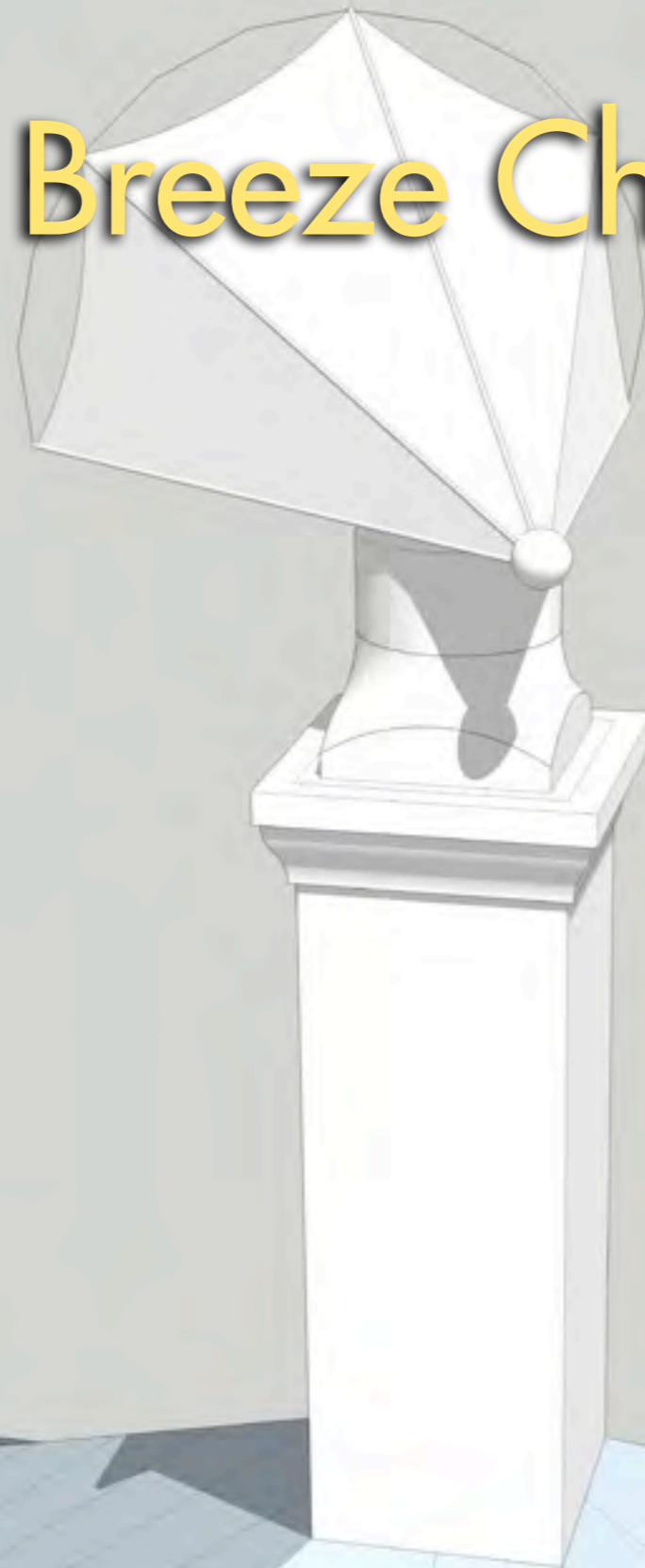
Interior Breezes



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Breeze Chimney



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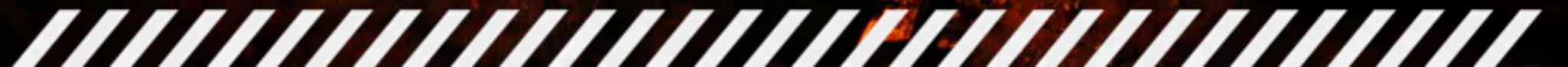
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Sideyard Sail

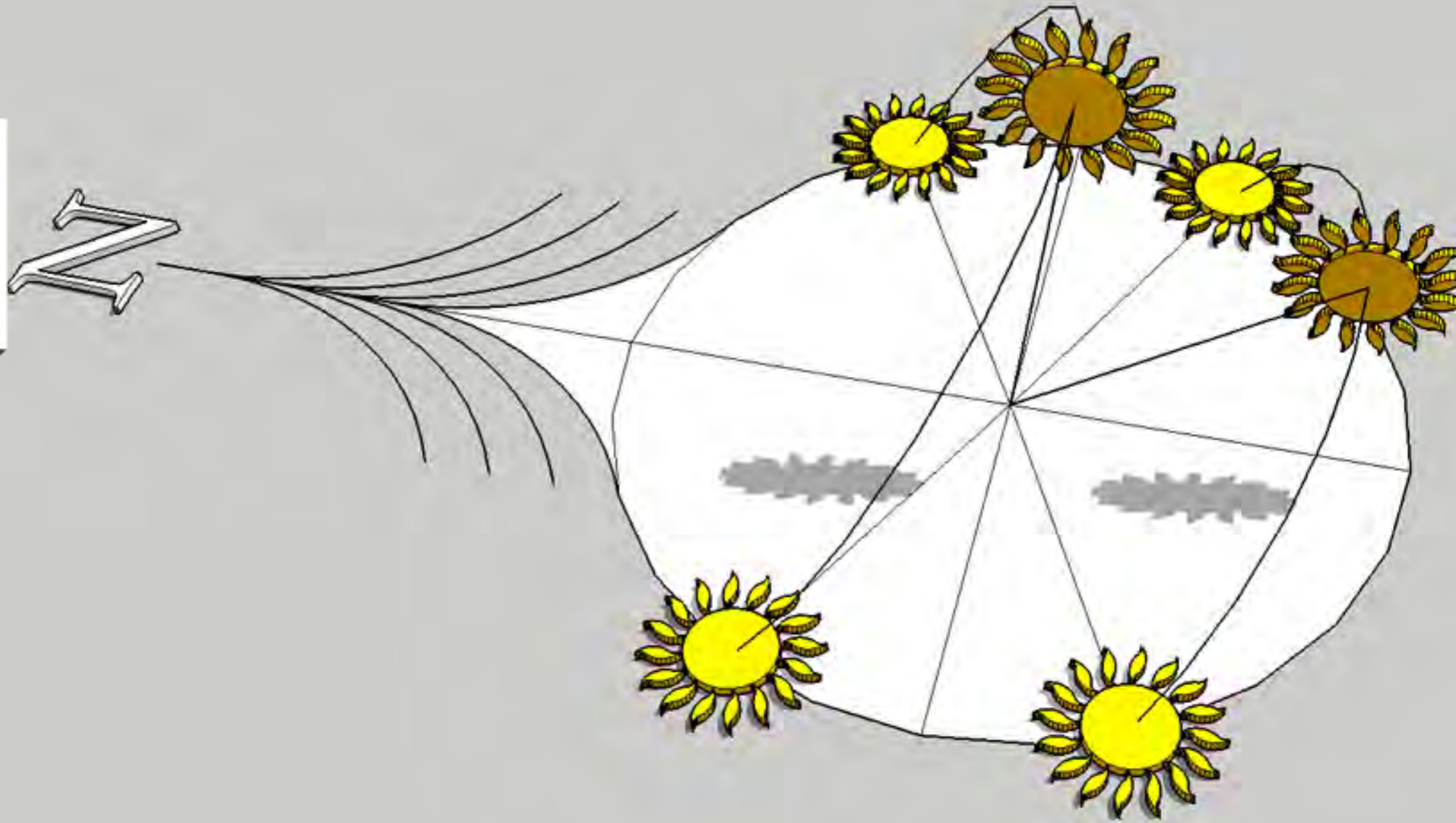


Fire

- * Orientation
- * Reflective Roofing
- * Ceiling Height
- * Daylighting
- * Green Envelope
- * Clothes Drying
- * Exterior Lighting
- * Efficient Equipment
- * Solar Panels

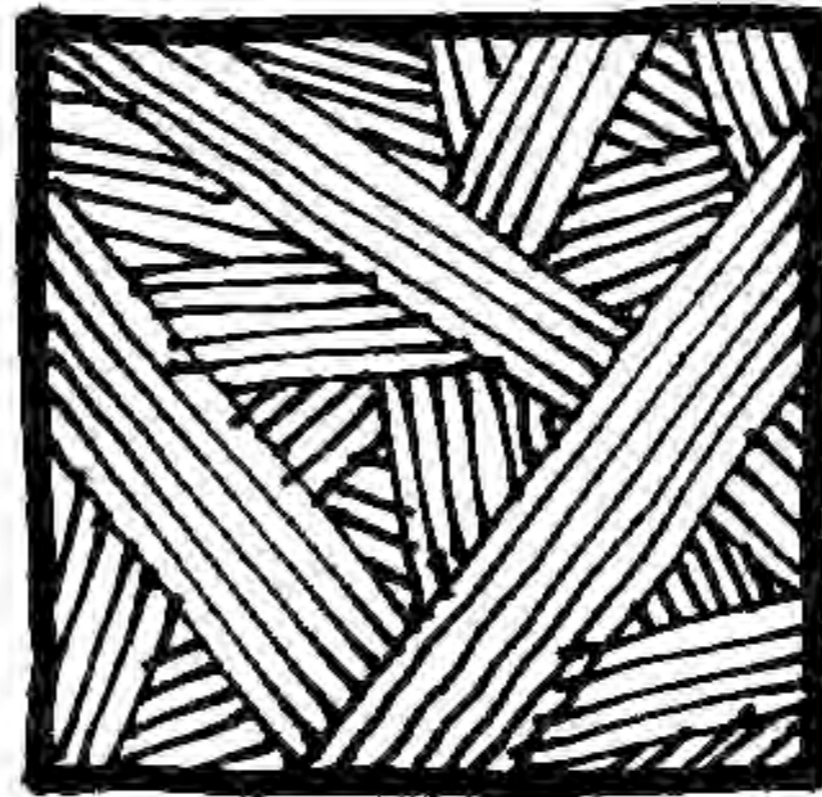


Orientation



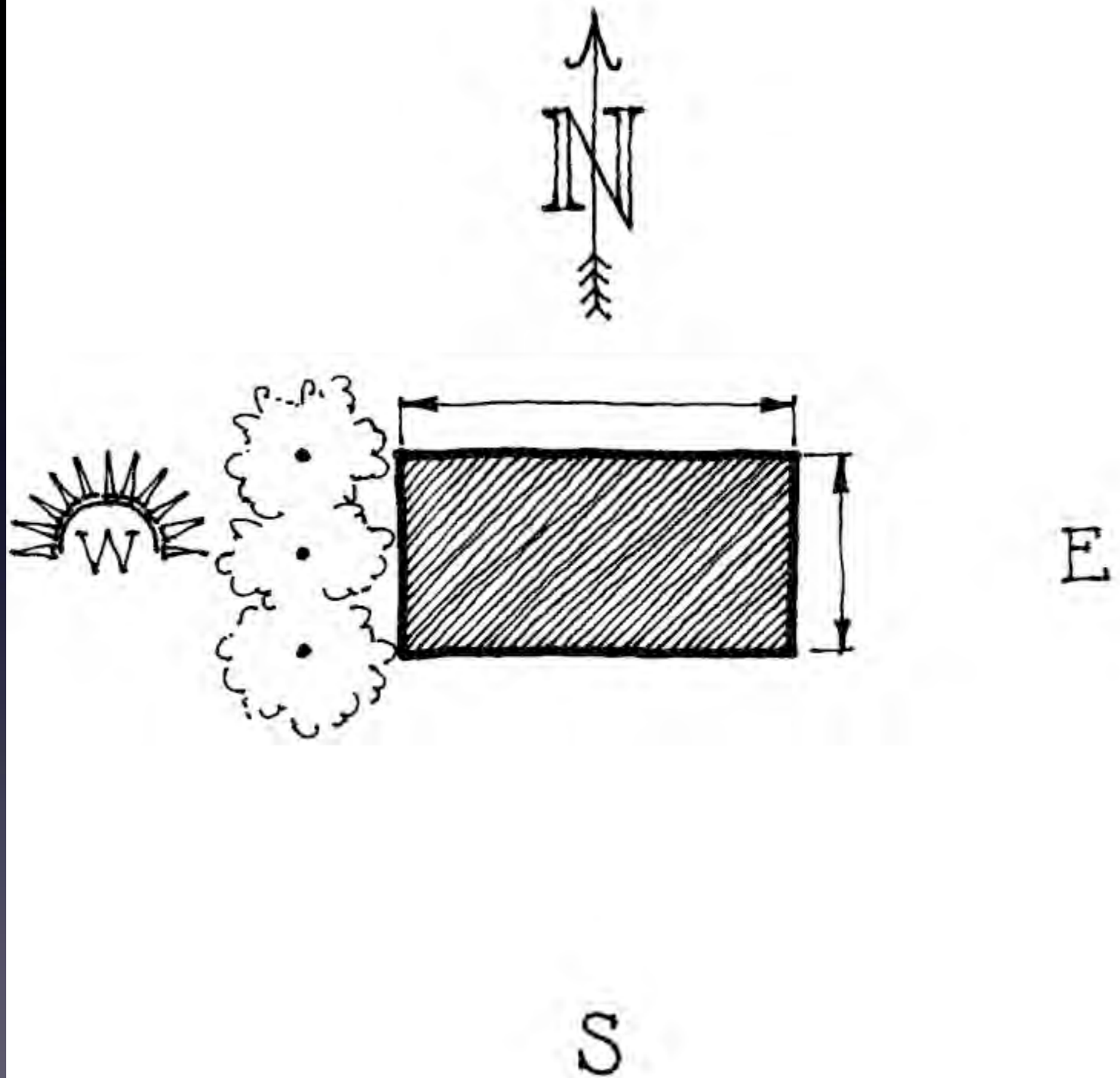
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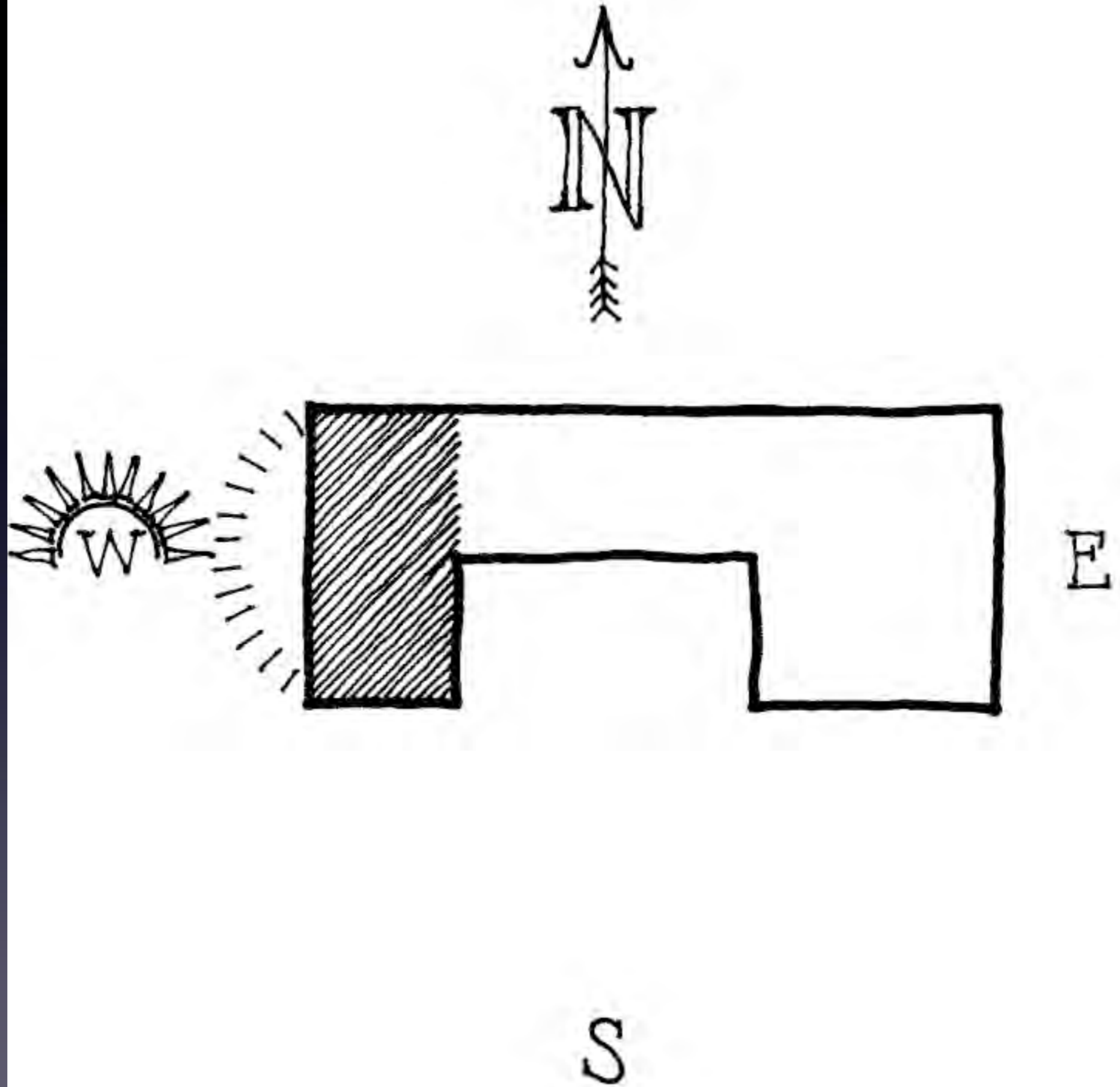
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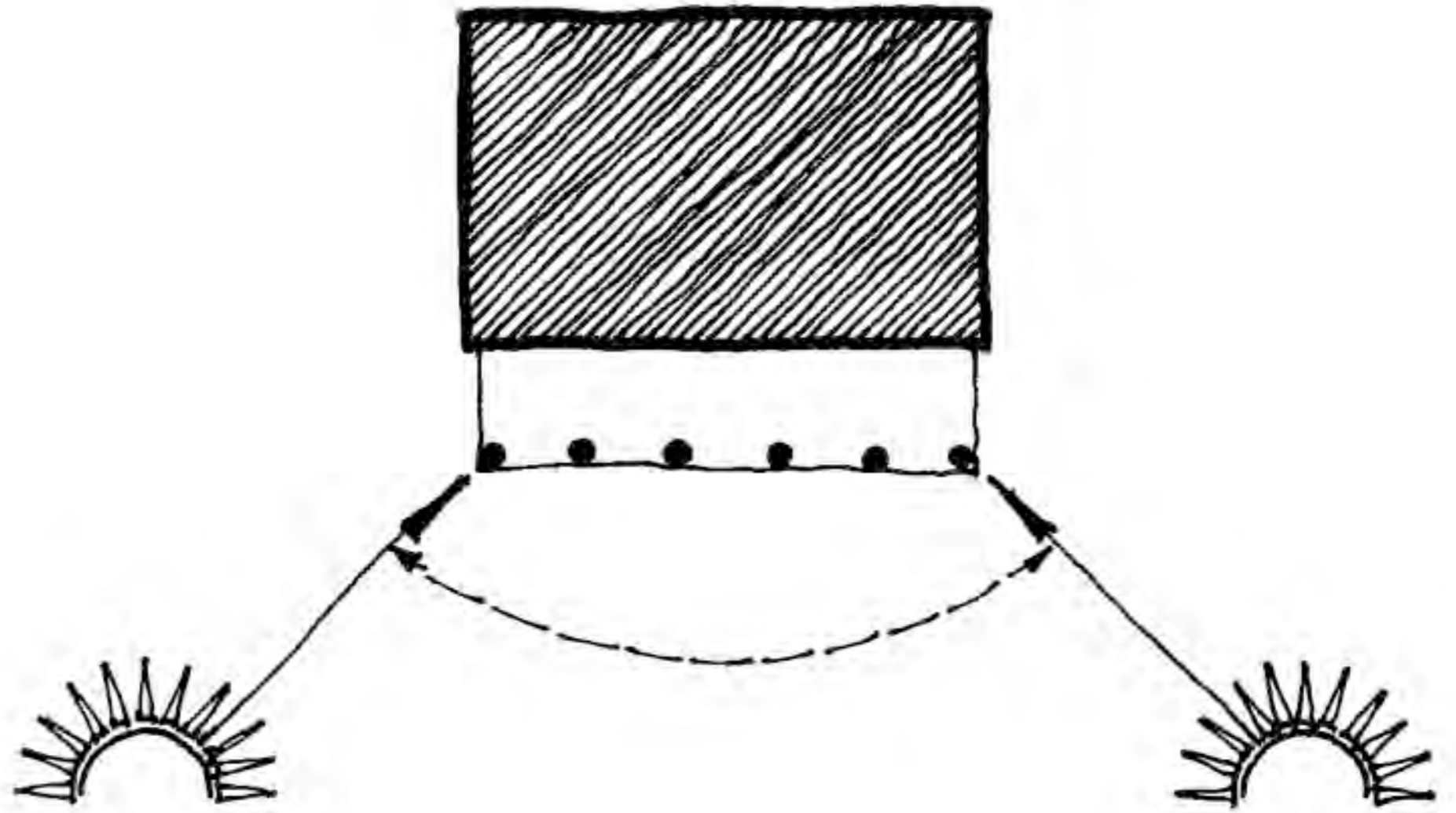
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Outdoor Space to the South



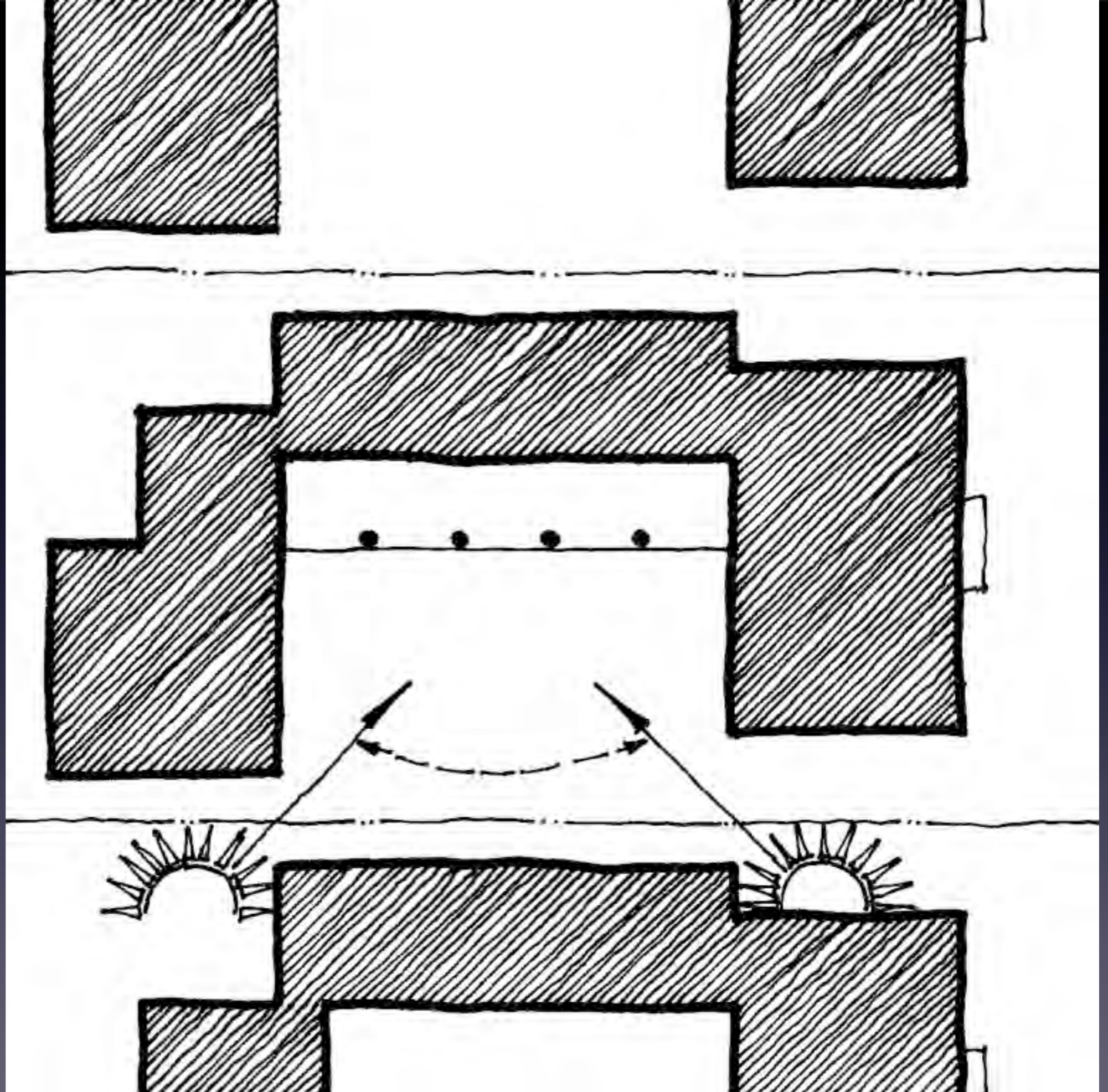
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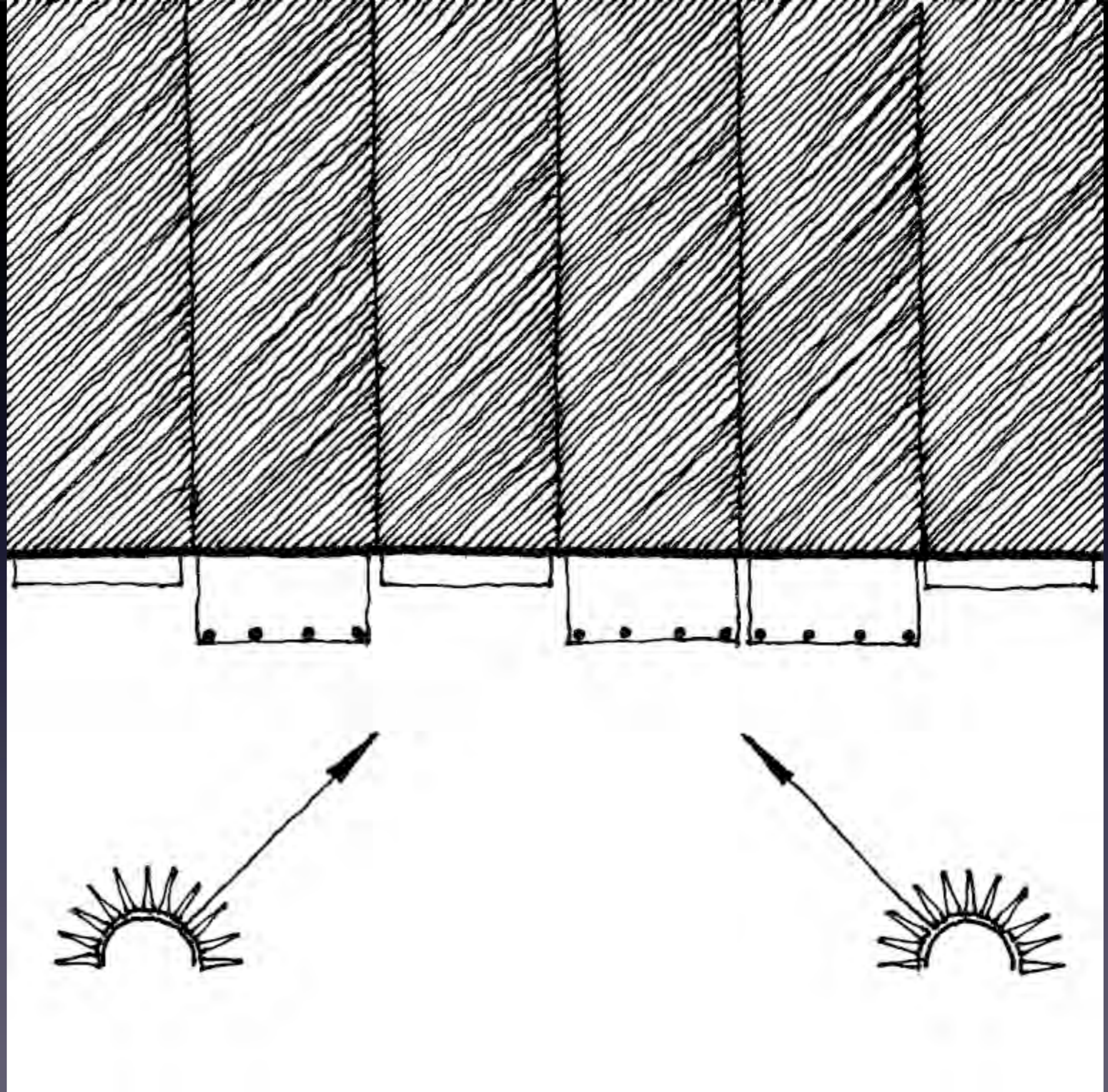
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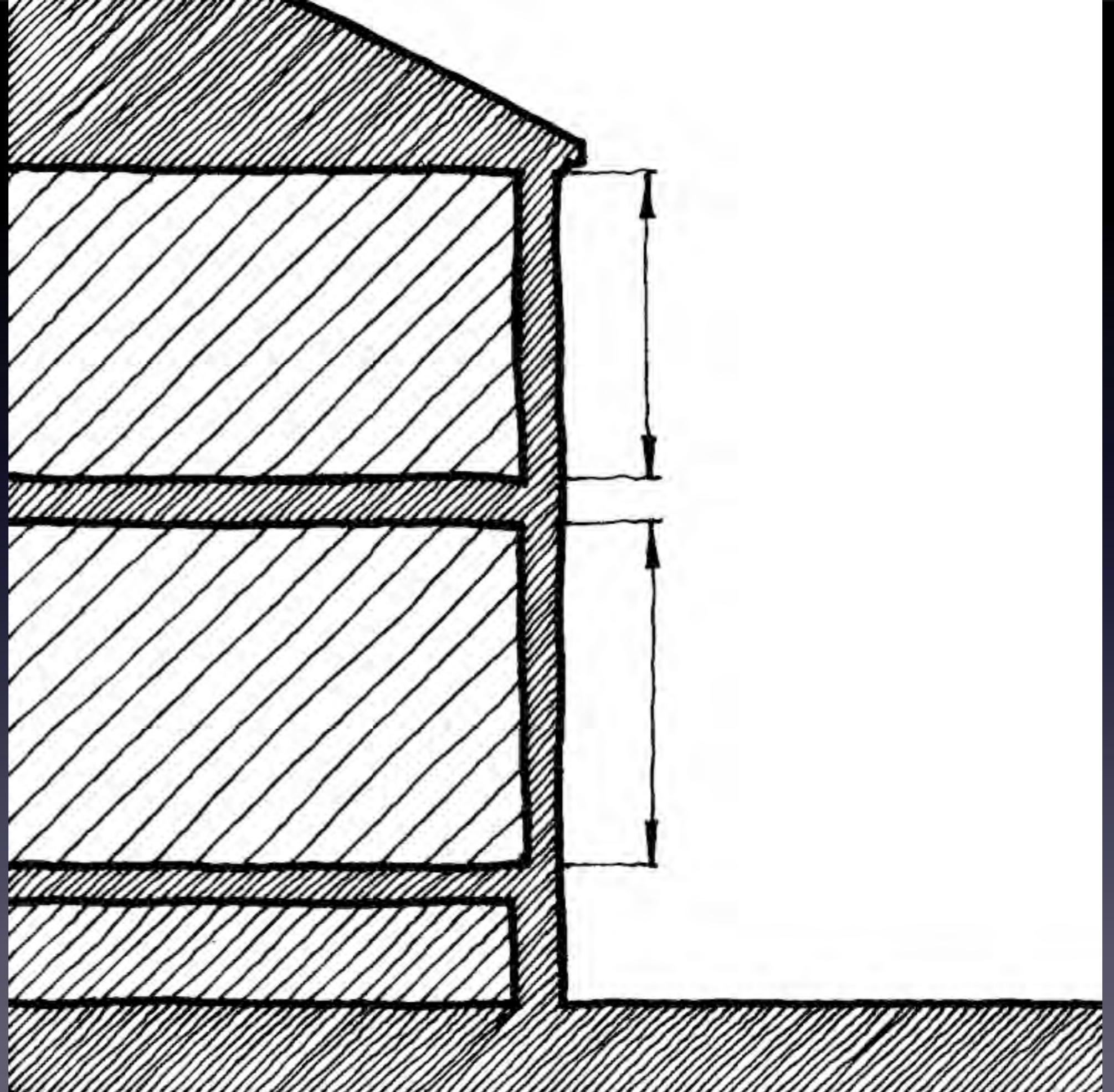
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Reflective Roofing



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Daylighting



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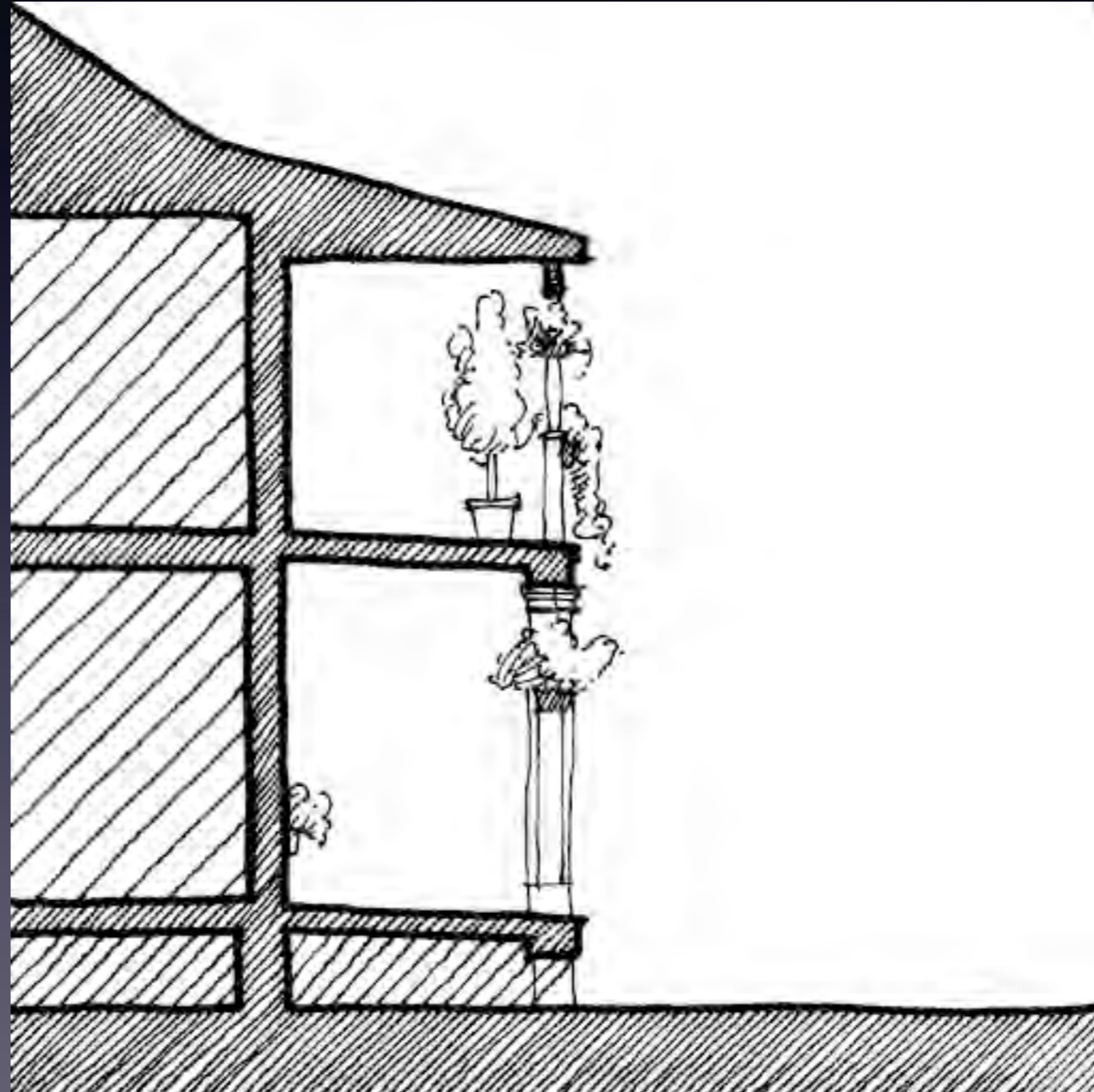
Daylighting



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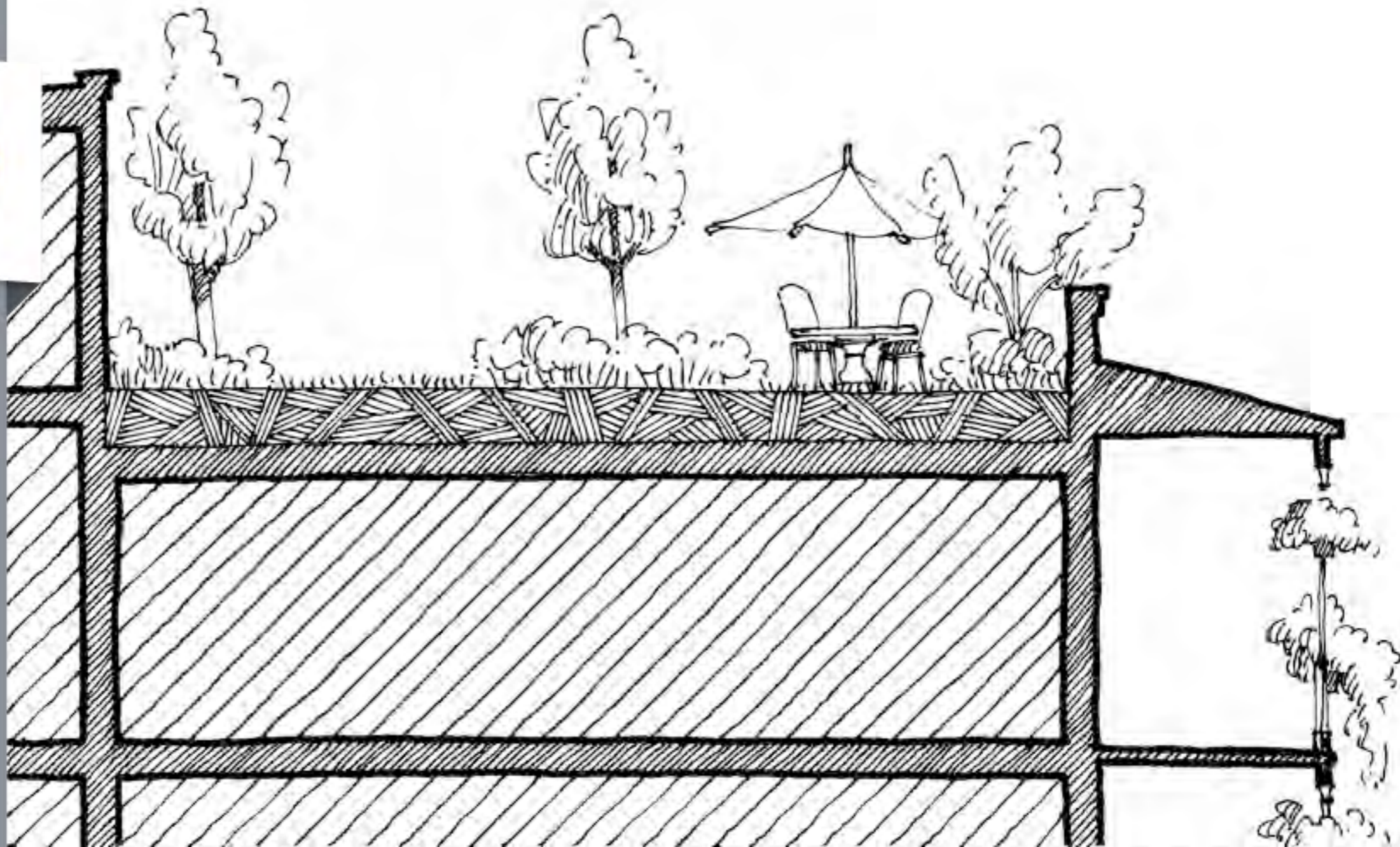
Green Envelope - Rural



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Green Envelope - Urban

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Clothes Drying



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Exterior Lighting



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Efficient Equipment

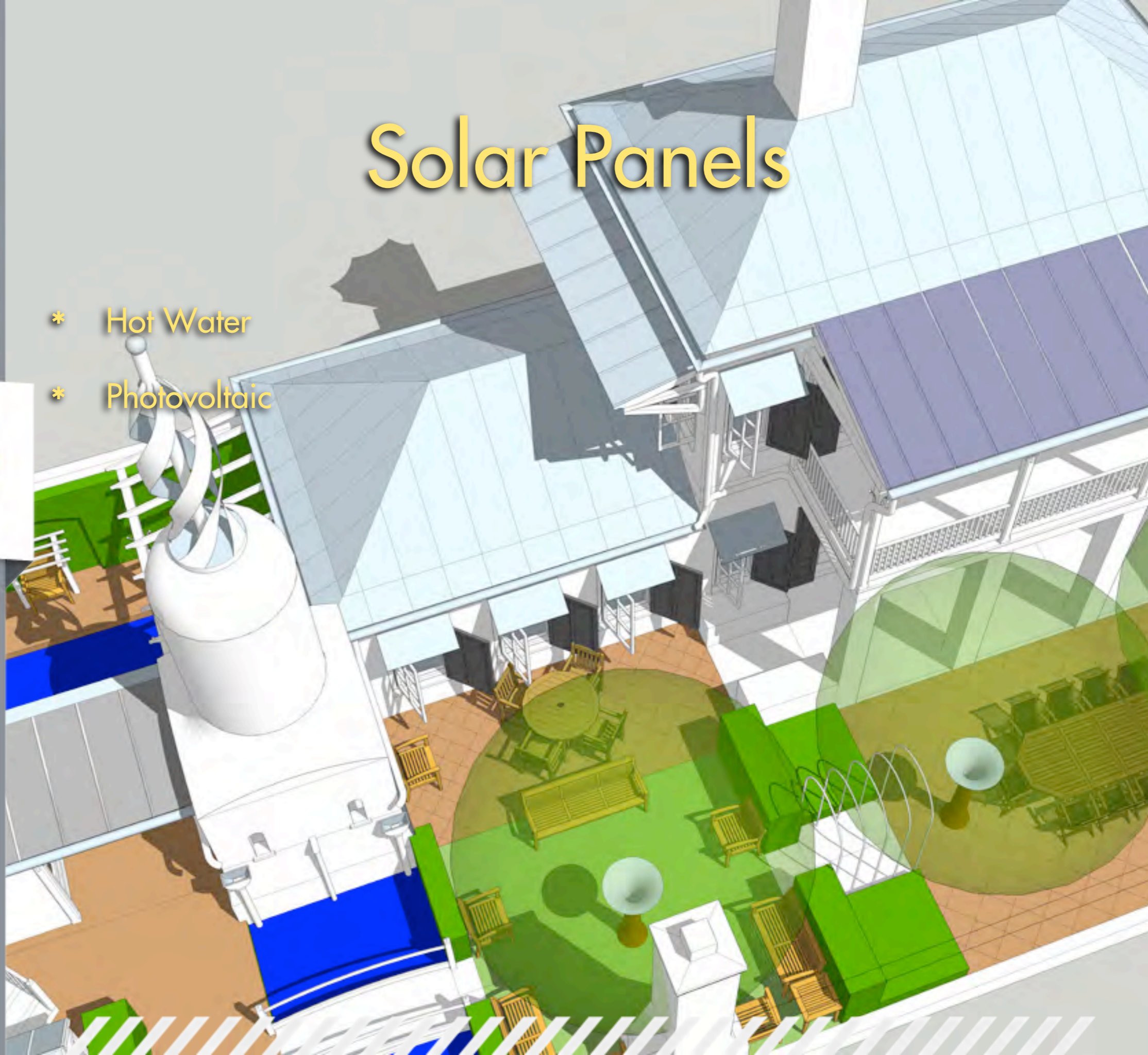


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Solar Panels

- * Hot Water
- * Photovoltaic





Water

- * Site Irrigation
- * Rainwater Reuse
- * Greywater Reuse
- * Cool Dip



THE
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it's
YOUR
time ...

Site Irrigation



THE
PRO
EXPO

it's
YOUR
time ...

Rainwater Reuse



THE
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it's
YOUR
time ...

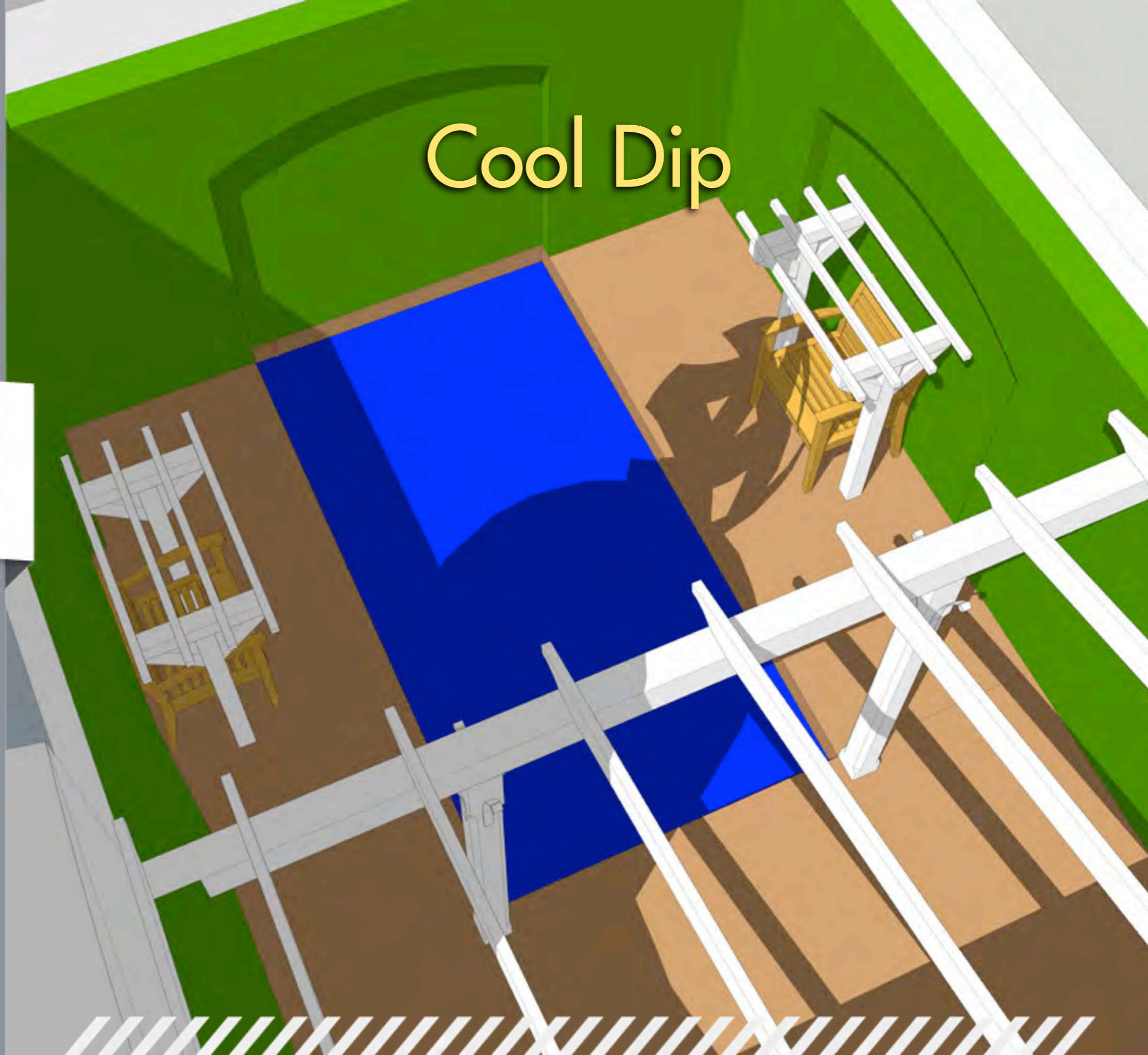
Greywater Reuse



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time ...

Cool Dip



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Winners

- * Operating Costs
- * Human Wellness
- * Earth Wellness



Operating Costs

- * Direct Costs
- * Systems Financing



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Human Wellness

- * Body
- * Mind
- * Spirit

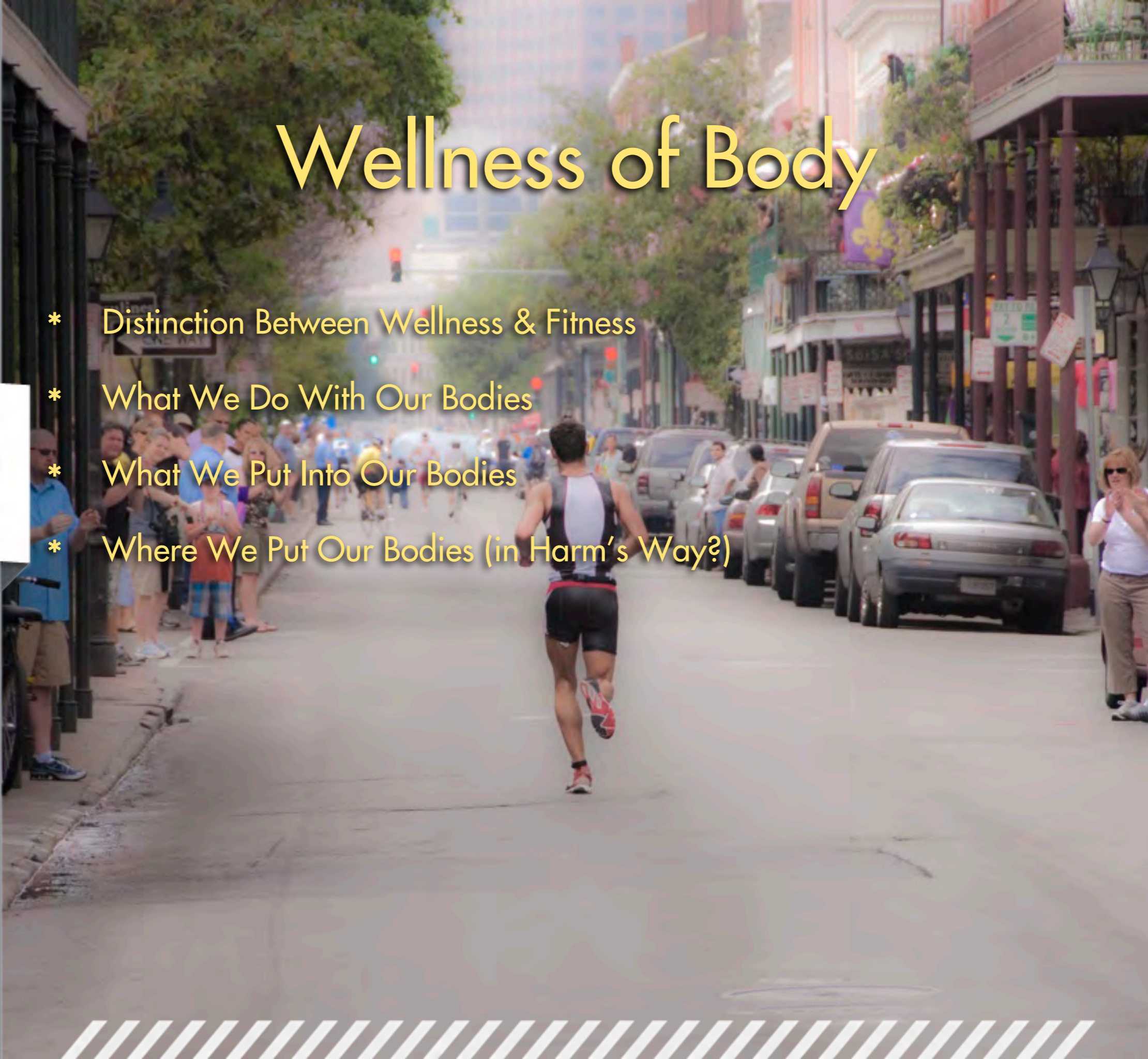


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Wellness of Body

- * Distinction Between Wellness & Fitness
- * What We Do With Our Bodies
- * What We Put Into Our Bodies
- * Where We Put Our Bodies (in Harm's Way?)



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time ...

Earth Wellness

- * Air
- * Water
- * Soil
- * Creatures





Evaluations

Methods for Sustainable Building
TBPESD1

Please complete our form or submit your comments to the AIA CES system.
Thanks.



Thank you for your time!

QUESTIONS??

This concludes The American Institute of Architects
Continuing Education Systems Program

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Resources

- * Links (lots of useful organizations): <http://bit.ly/GFLinks>
- * Reading List: <http://bit.ly/GFReadingList>
- * Original Green: <http://www.originalgreen.org>
- * New Urban Guild: <http://bit.ly/NUGHome>
- * Mouzon Design: <http://bit.ly/MDZHome>
- * Useful Stuff: <http://bit.ly/UsefulStuff>

If you want live links rather than having to write all these down, please email me at steve@mouzon.com and I'll be happy to send them, as well as a few other resources you might find helpful.



What Next?

1. Subscribe to Original Green Blog.
2. Join your local ICAA chapter.
3. Join your local CNU chapter.
4. Get listed on TradWeb.

If you'd like direct links rather than having to write all these down, please email me at steve@mouzon.com and I'll be happy to send them, as well as a few other resources you might find helpful.

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