



# Memory and Health

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By Luke Sanders





My reason behind choosing this problem

# The Problem

- “In 2002, the prevalence of dementia among individuals aged 71 and older was 13.9% and comprised 3.4 million individuals in the United States” (Plassmann et al., 2007).

# Why this problem

- The reason for looking into this problem is due to how the increasing amount people with dementia, Alzheimer or other mental or physical ailments due to age are living in retirement homes or long-term care facilities. It would be necessary for these facilities to change to allow these people the ability to move about the facility and continue to live their lives with as much freedom as they had before while still providing them with the care they need.

# Research conducted on the problem

- Interviews with residents and staff of a nursing home and care facilities
- Case Studies
- Quantitative research of articles

# Research findings

- Use of straight or L shaped layouts work the best
- Need for distinct spaces along the path to acting as anchor points
- Use of adequate light to limited shadows as well as the need to prevent glare
- Need for simple patterns and textures within materials to limit scenery hallucinations from forming
- Need for private areas for residents
- Need for personalized attention of private resident spaces

# Case Study

- The Burnham Family Memory Care Residences at Avery Heights



# Case Study

- Scheffau Amwilden Karser





# Case Study

- Parkside Retirement Homes



# Responses to the problem

- Throughout the research conducted there have been several different strategies that have been shown or suggested to work with increasing freedom of the residents within the care facilities that they are located in.

# Forums



# Layout

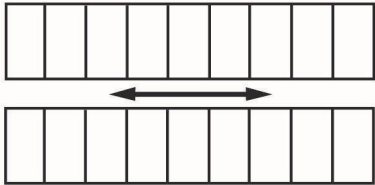
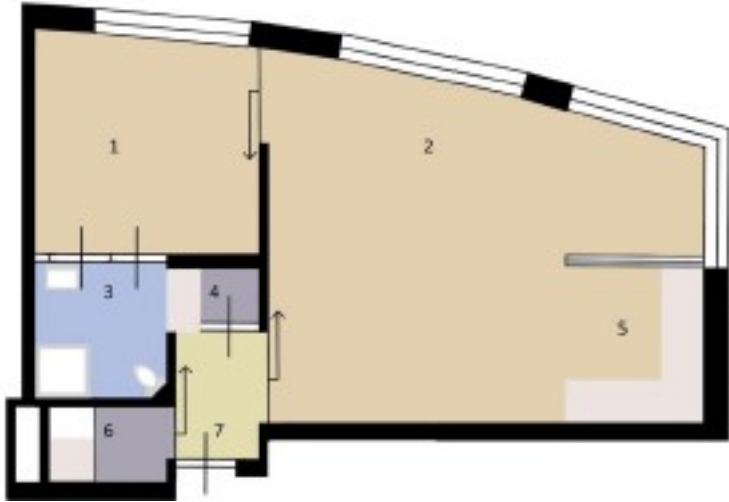


Figure 2. Straight circulation system.

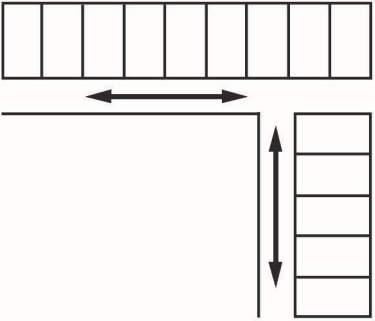


Figure 3. L-shaped circulation system with a change in direction.

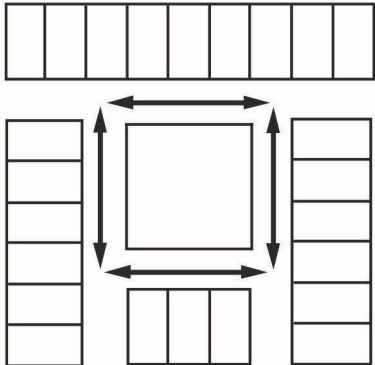


Figure 4. Continuous path around an inside courtyard.

# Material

- Materials utilizing images or regular patterns should be avoided
- Materials with organic textures are fine in smaller amounts
- Uniform materials are preferred
- Color should be distinct and more vibrant
- Warmer colors are preferred

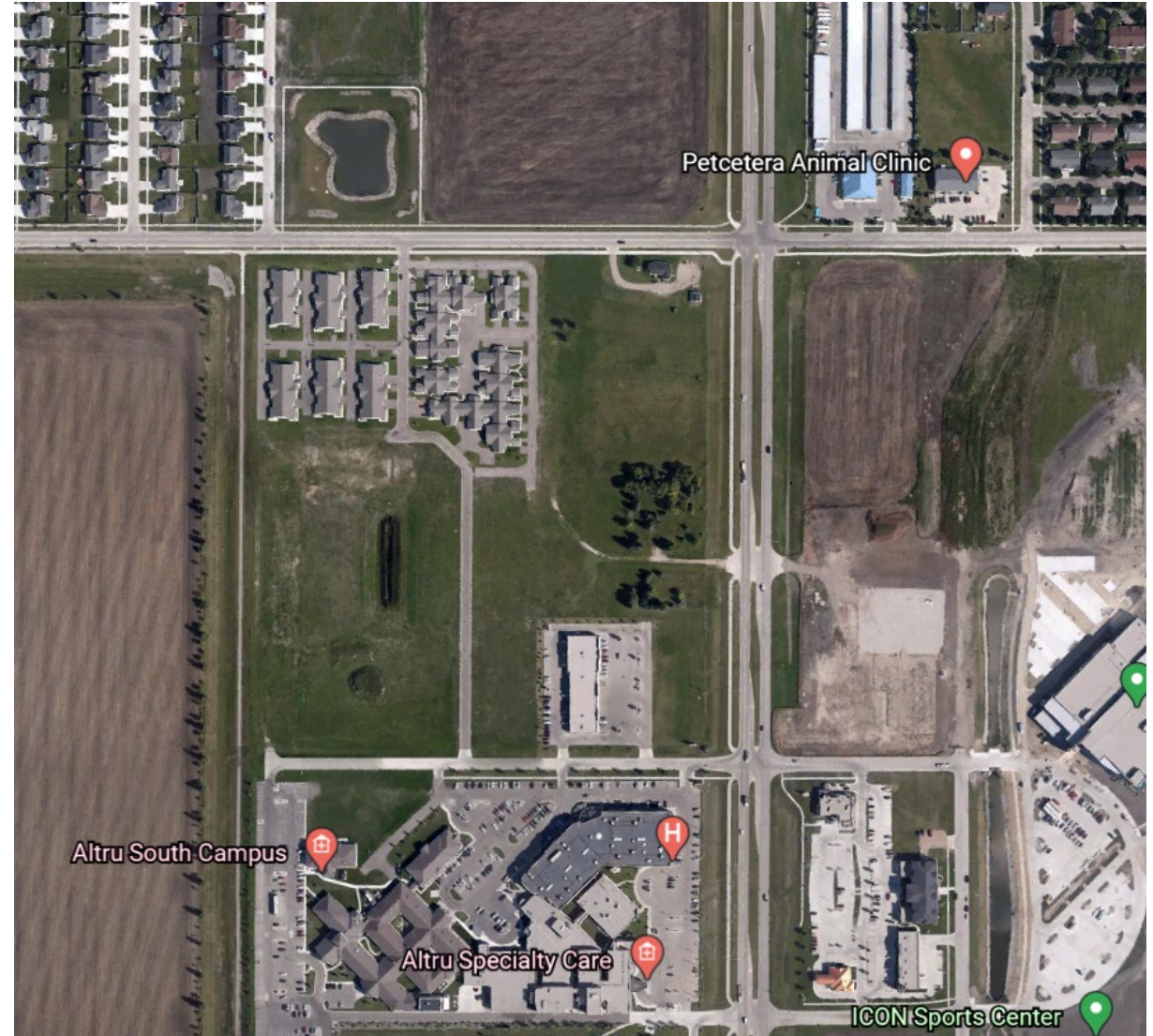
# Light

- Light should be on the upper end of lamination recommended for spaces
- Indirect lighting is preferred where natural light is limited or unable to reach into space
- Lighting should be created to remove shadows located on the ground
- Indirect lighting should be used to reduce glare

# Possible design solution

- For my design solution I gathered the different solutions from my research that had the best results to combine these strategies into one facility to look at what a facility may look like and function like if it were to be designed with these strategies in mind from the beginning.

# Site

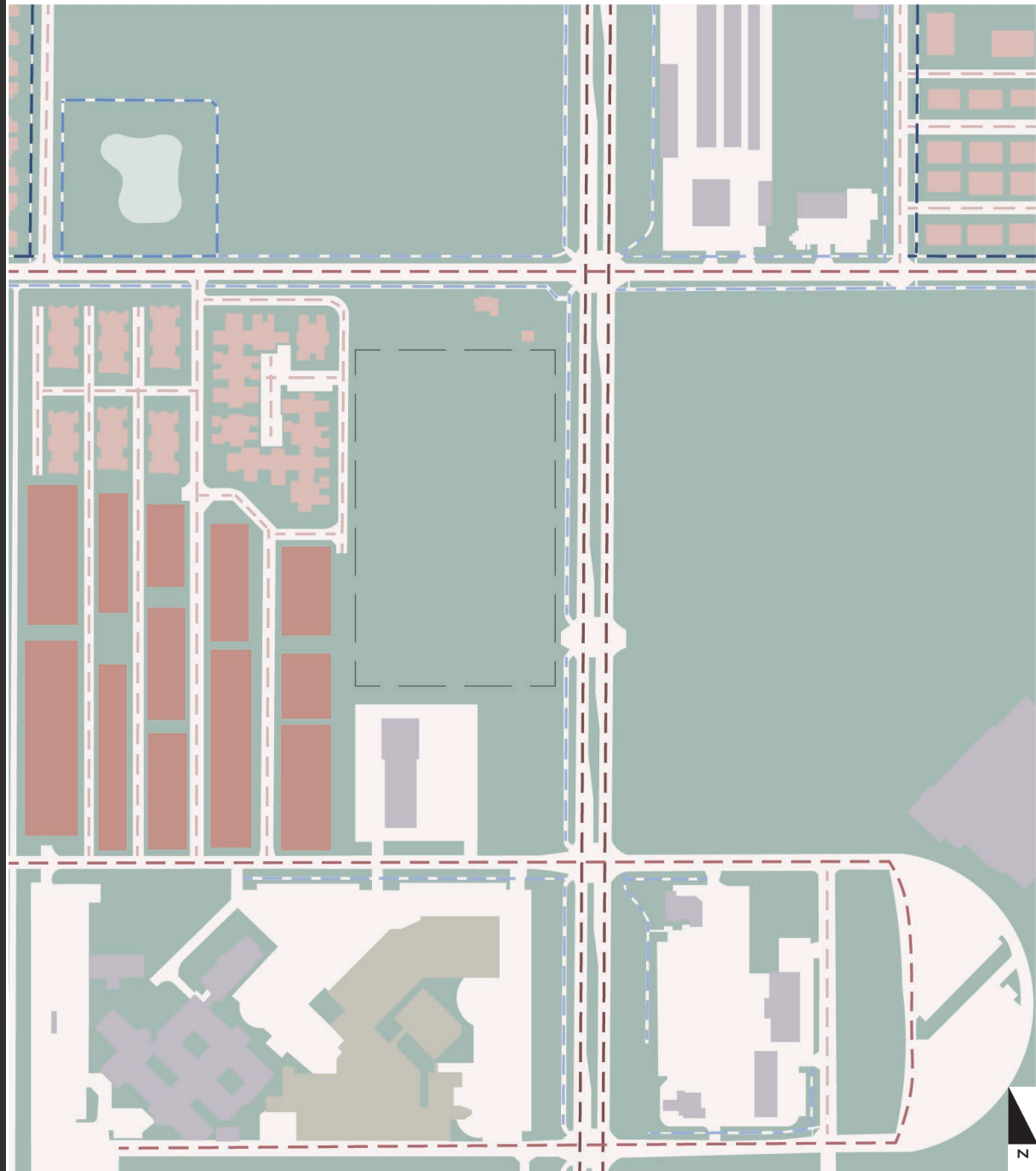






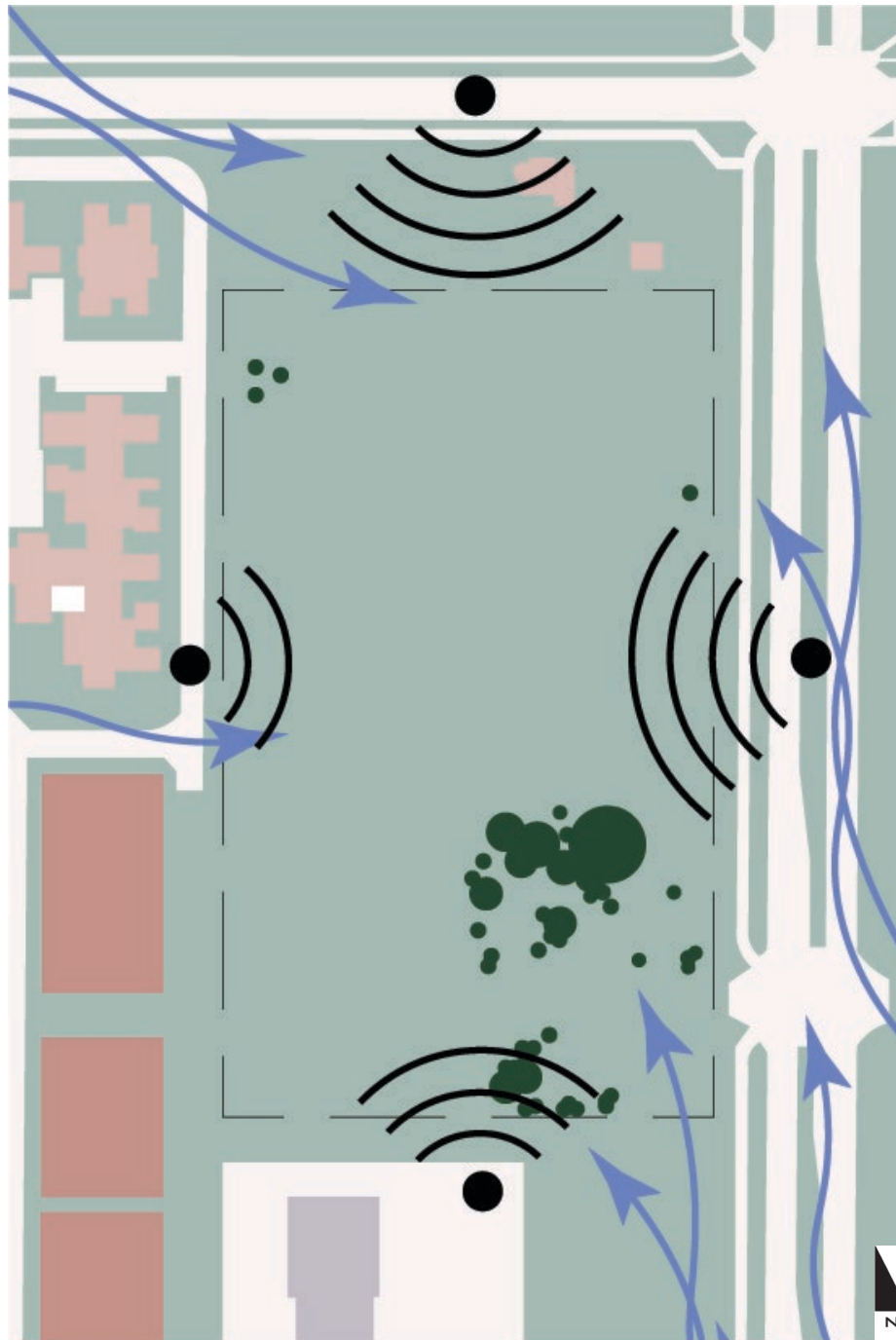
Site






# Site



- SINGLE FAMILY HOMES
- MULTI FAMILY HOMES
- 1-2 STORY BUSINESS
- 2-3 STORY BUSINESS
- ROADWAYS
- WATER
- SITE LOCATION
- HEAVY VEHICLE TRAFFIC
- MEDIUM VEHICLE TRAFFIC
- LIGHT VEHICLE TRAFFIC
- HEAVY PEDESTRIAN TRAFFIC
- MEDIUM PEDESTRIAN TRAFFIC
- LIGHT PEDESTRIAN TRAFFIC

# Site



-  SINGLE FAMILY HOMES
-  MULTI FAMILY HOMES
-  1-2 STORY BUSINESS
-  ROADWAYS
-  SITE LOCATION
-  NOISE STRENGTH
-  WIND STRENGTH
-  VEGETATION

# Site

## AVERAGE RANGE OF WIND SPEEDS IN MILES PER HOUR

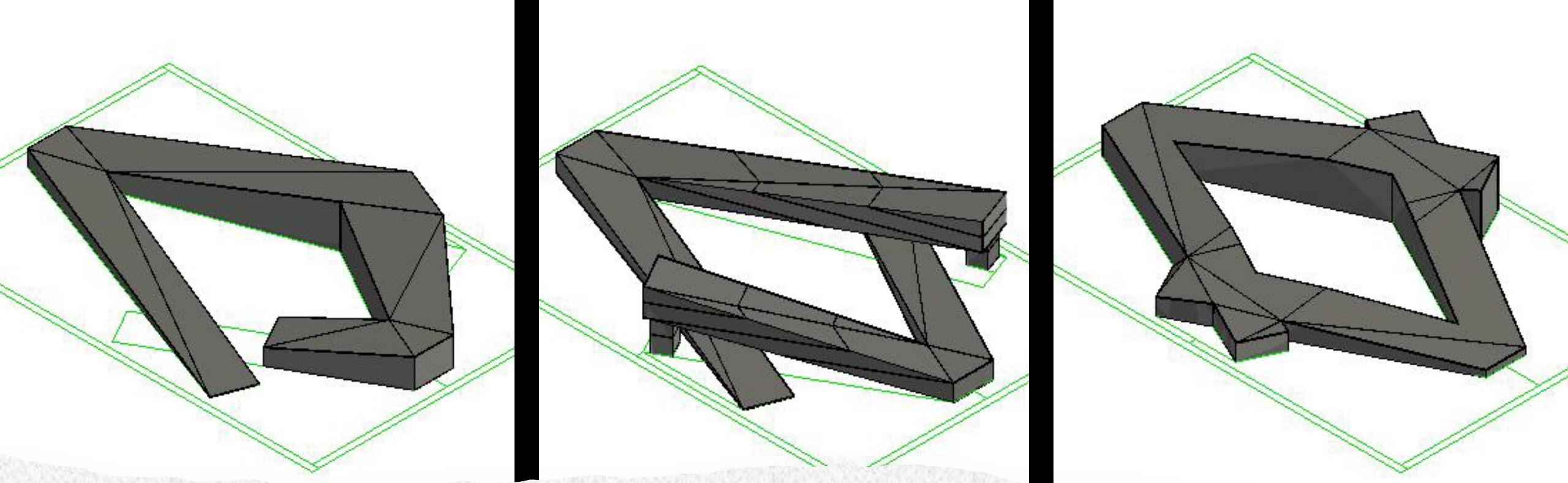
JAN	FEB	MAR	APR	MAY	JUNE
11.9-20.9	10.9-19.5	10.9-19.1	11.3-20.2	11-19.9	9.3-17.8
JULY	AUG	SEPT	OCT	NOV	DEC
8.1-16.6	8-15.9	9.5-17.8	10.5-18.8	10.7-18.5	10.4-17.8

## AVERAGE PRECIPITATION PER MONTH IN INCHES

JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
0.66	0.51	0.86	1.41	2.24	3.38	2.99	2.55	2.20	1.41	0.78	0.59

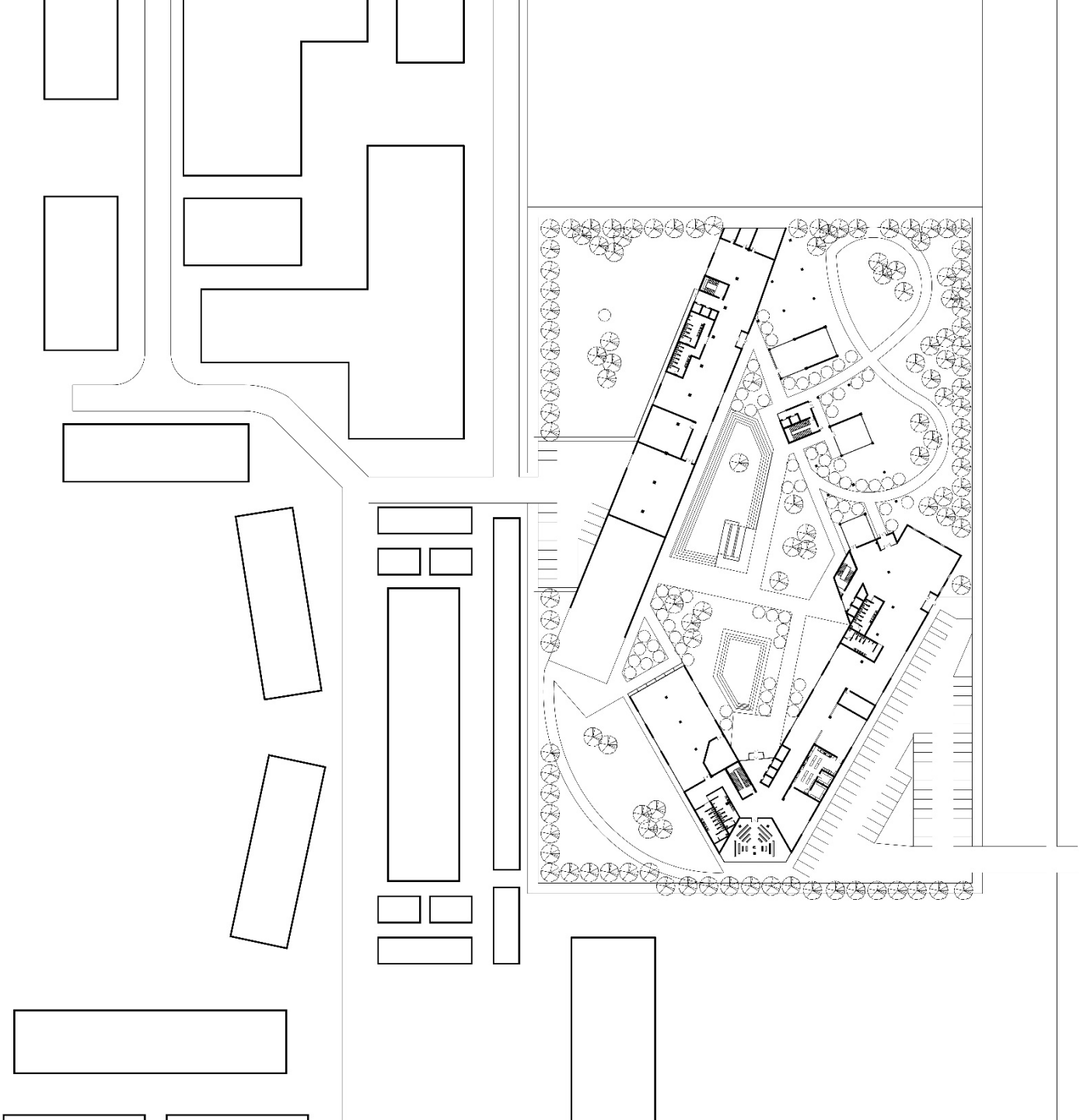
## AVERAGE TEMPERATURE IN DEGREES FAHRENHEIT

JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
37	20.7	32.7	52	68	76.5	81.3	80.2	68.9	55.8	34.3	19.6

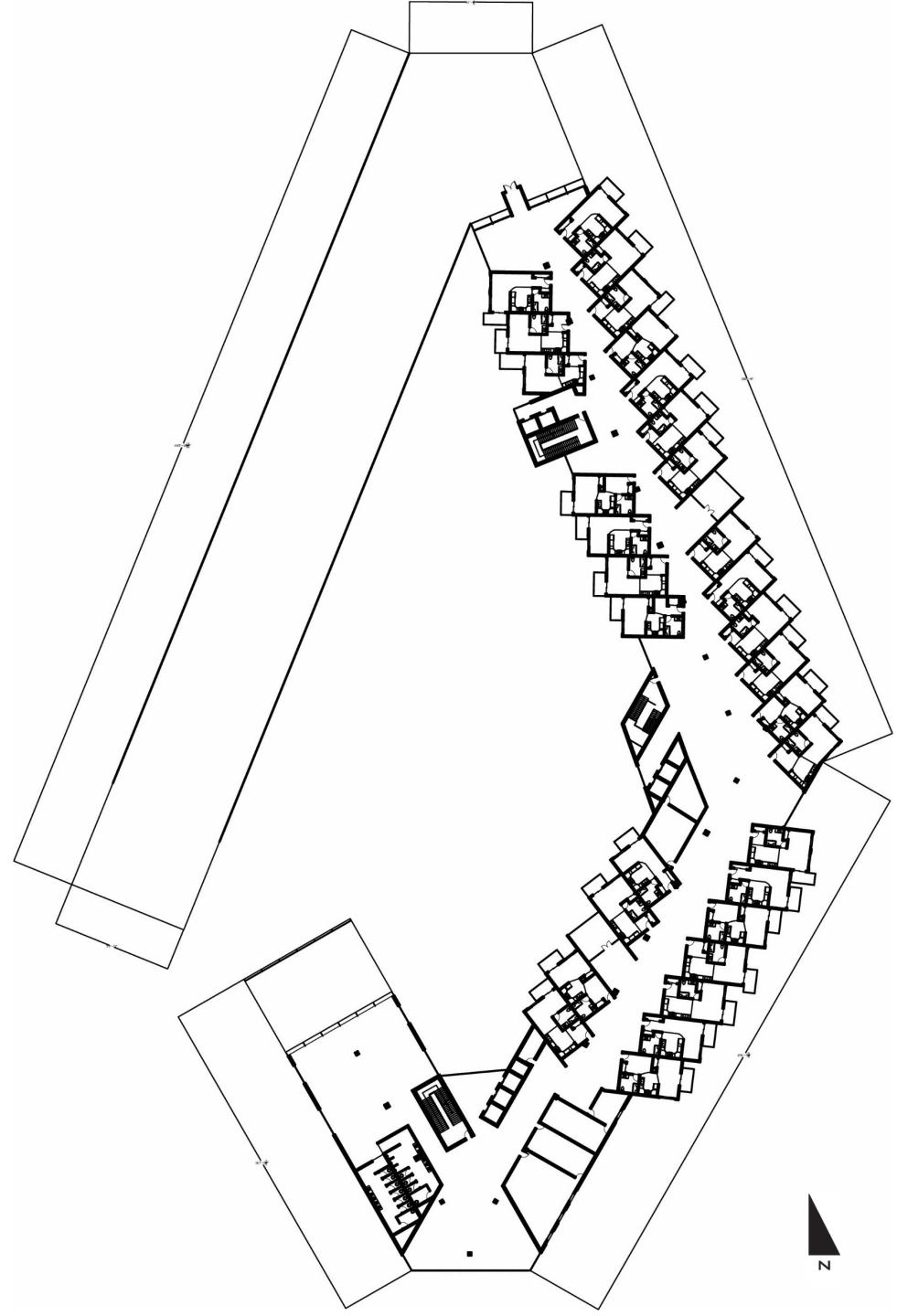


Forum

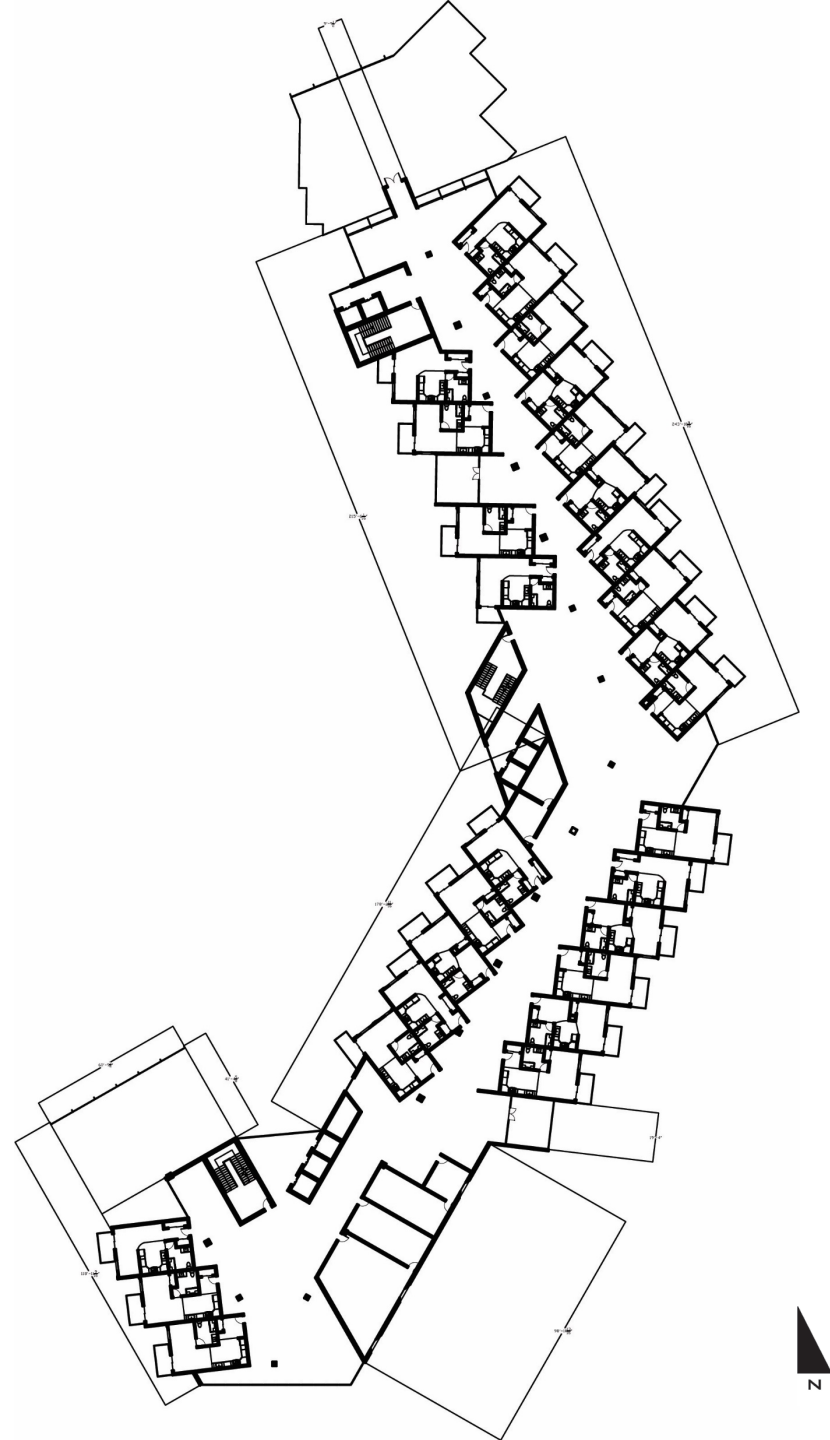
# Layout



# Layout

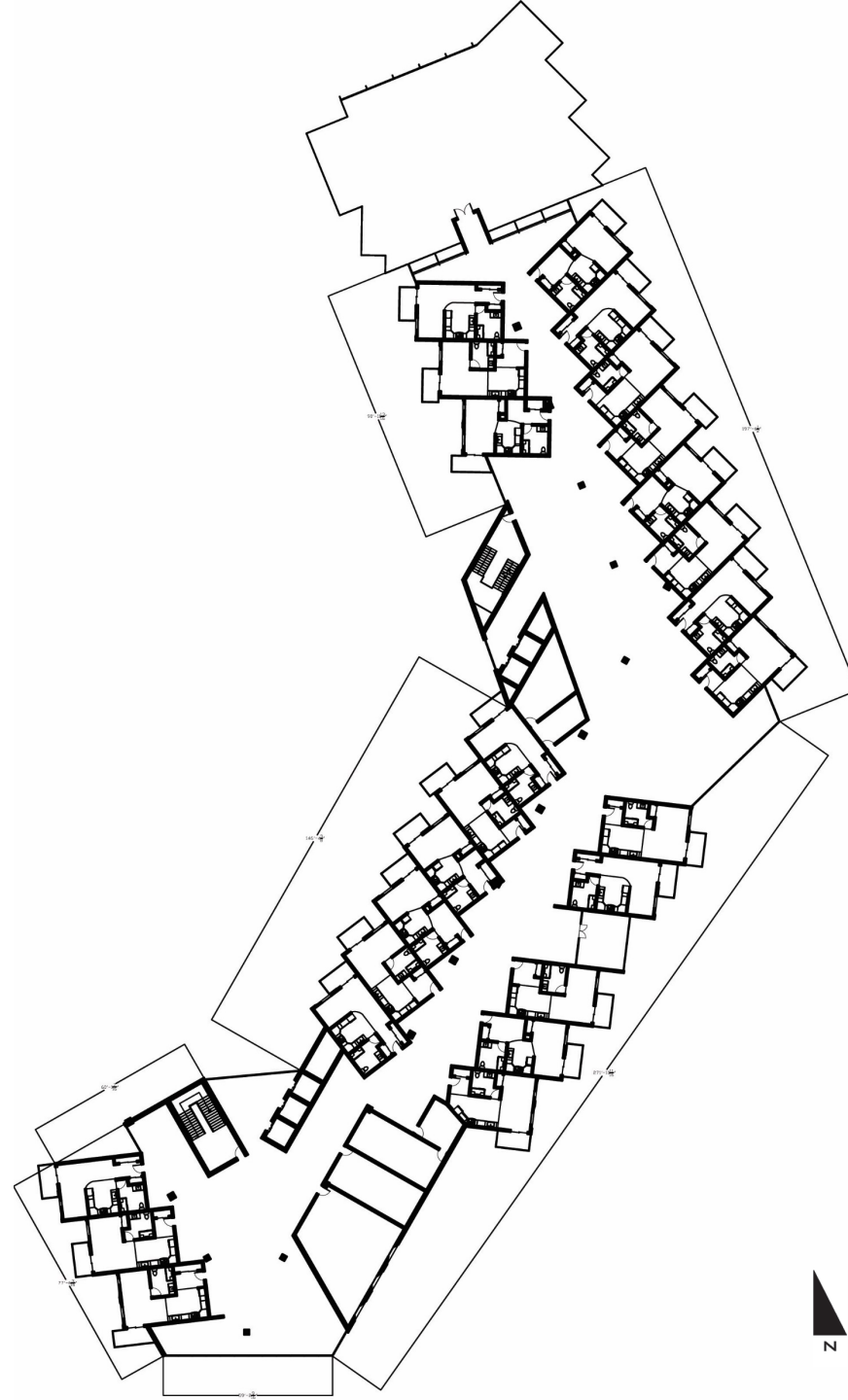


# Layout





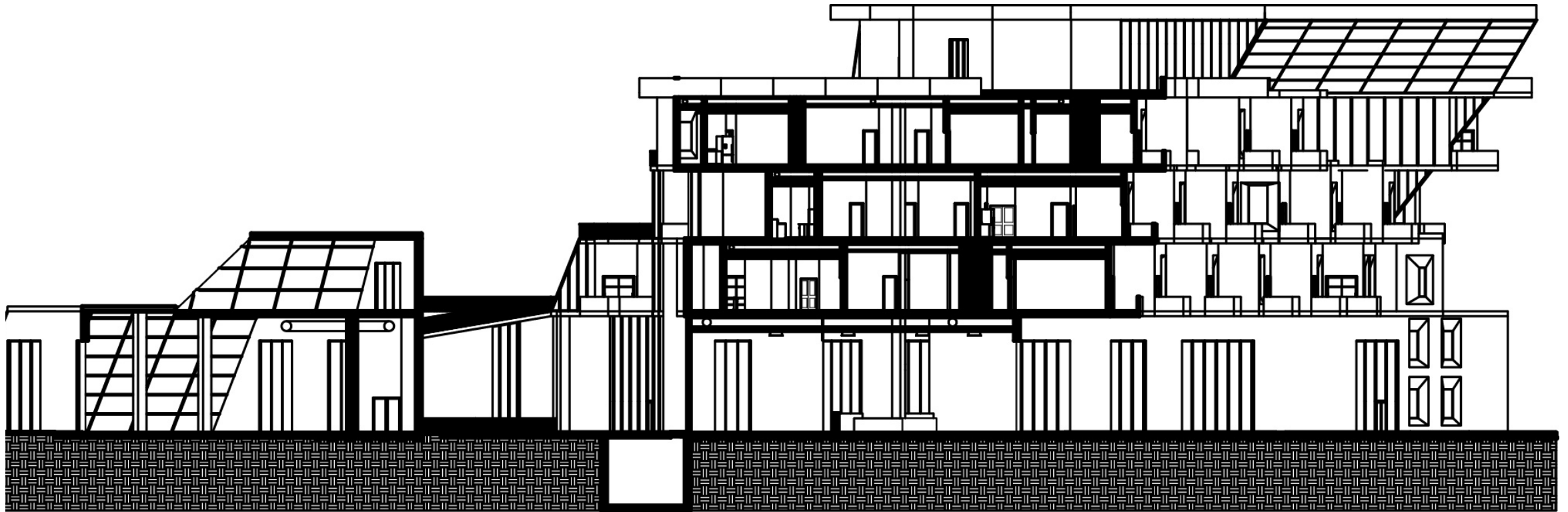
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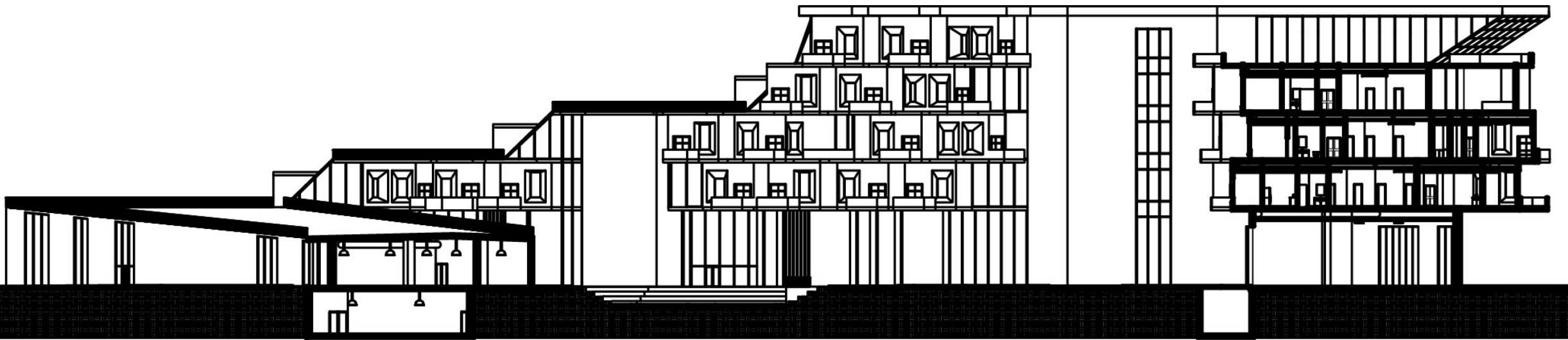
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# Section



# Section





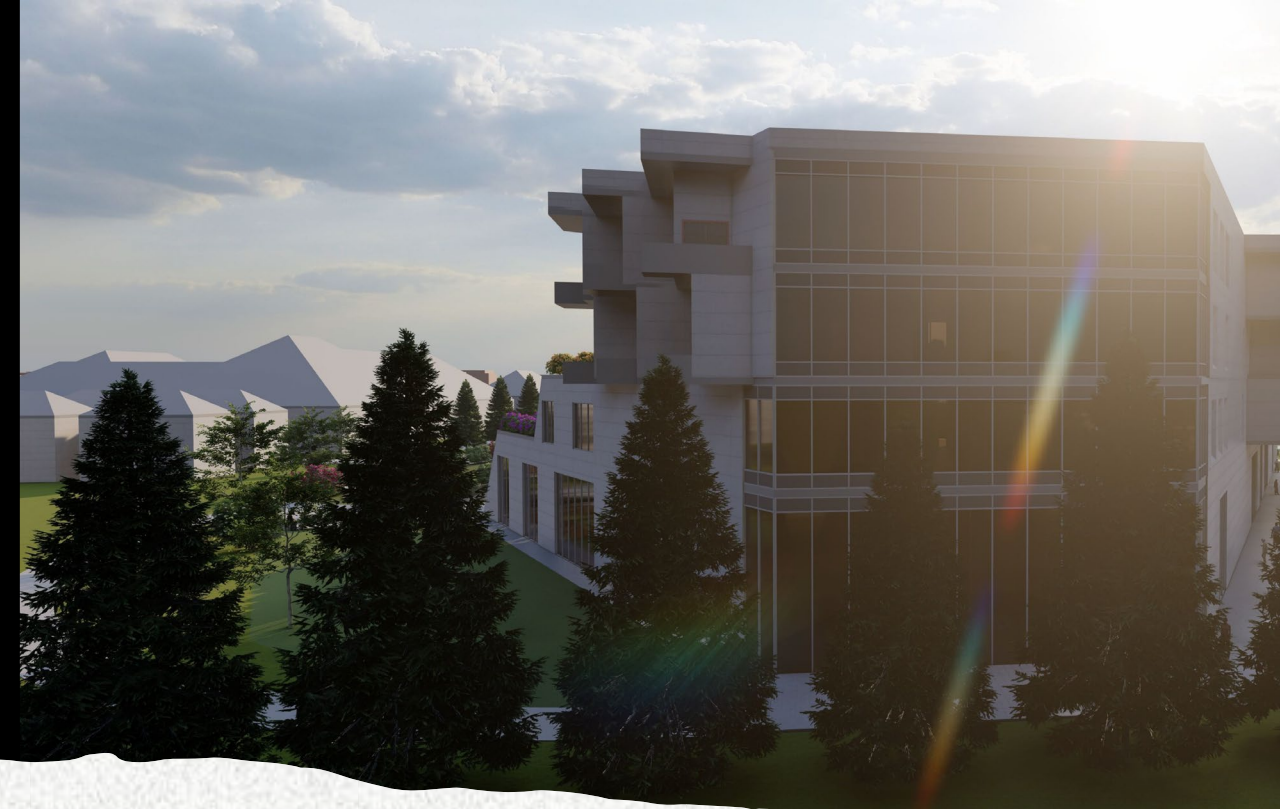
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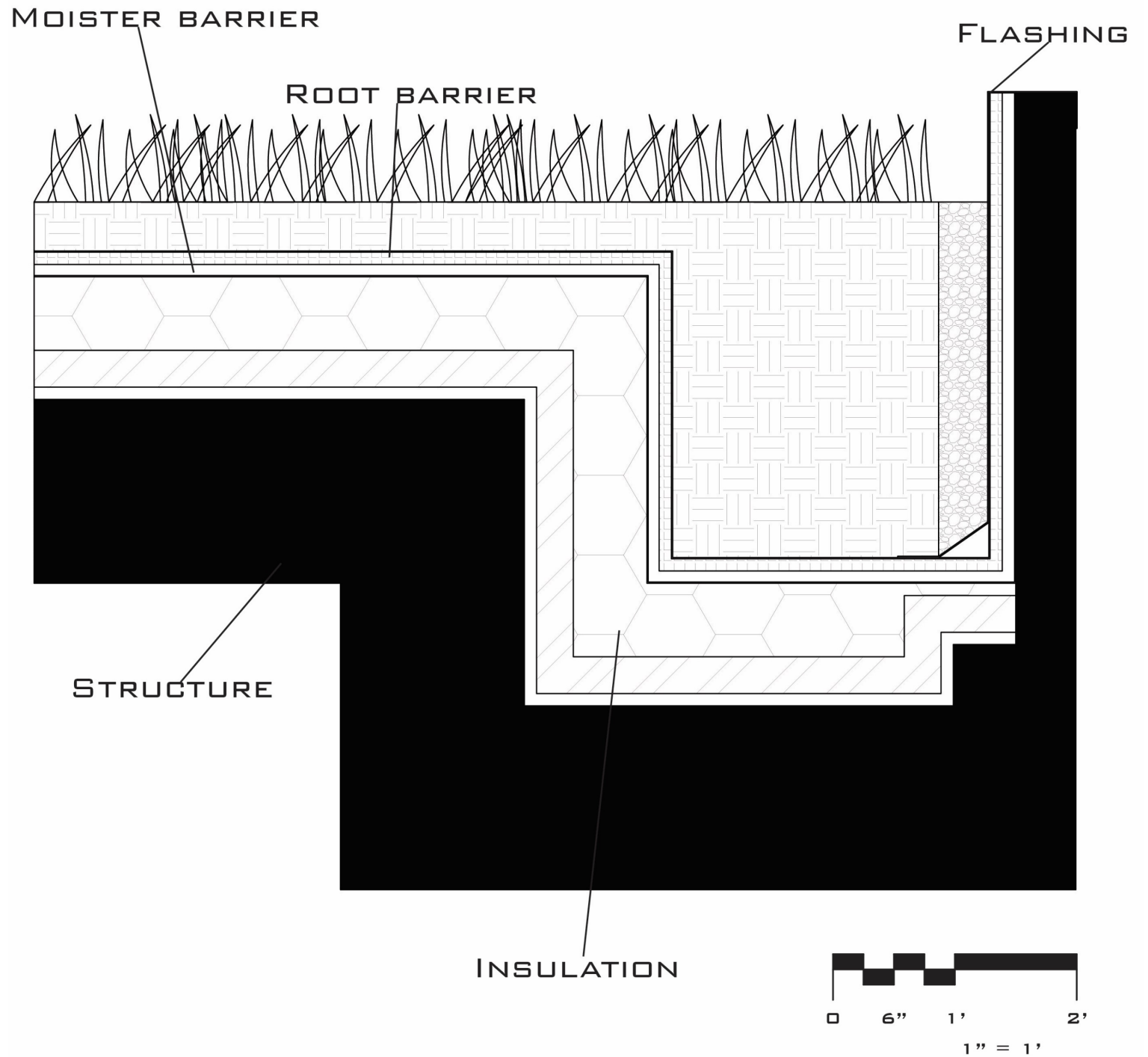
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# Green Strategy

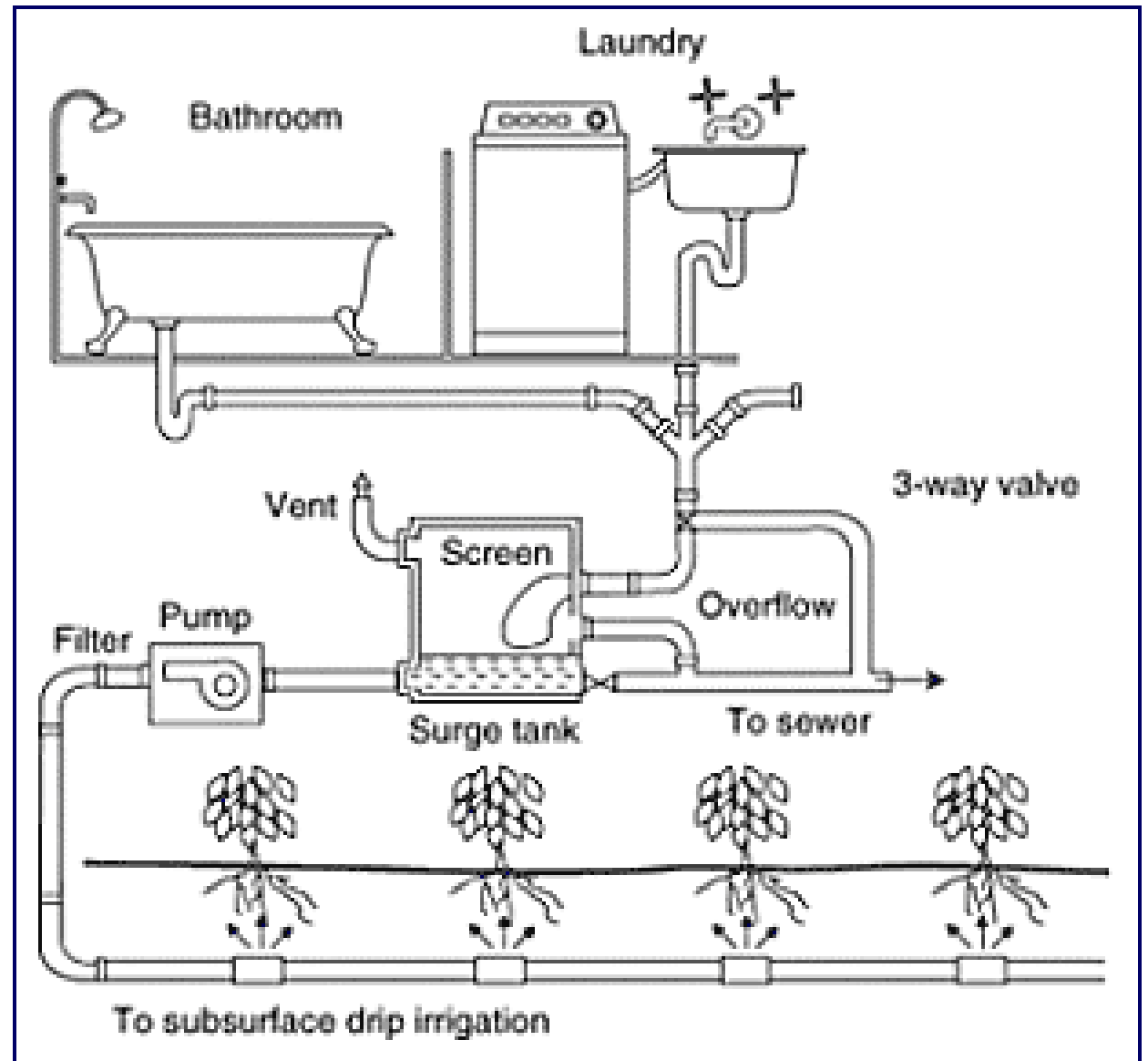
- Leed Silver
- Recycled materials
- Sourcing building material from near by
- Use of green roofs and space
- Recycling of grey water



# Green Strategy



# Green Strategy





Conclustion



Any Questions

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