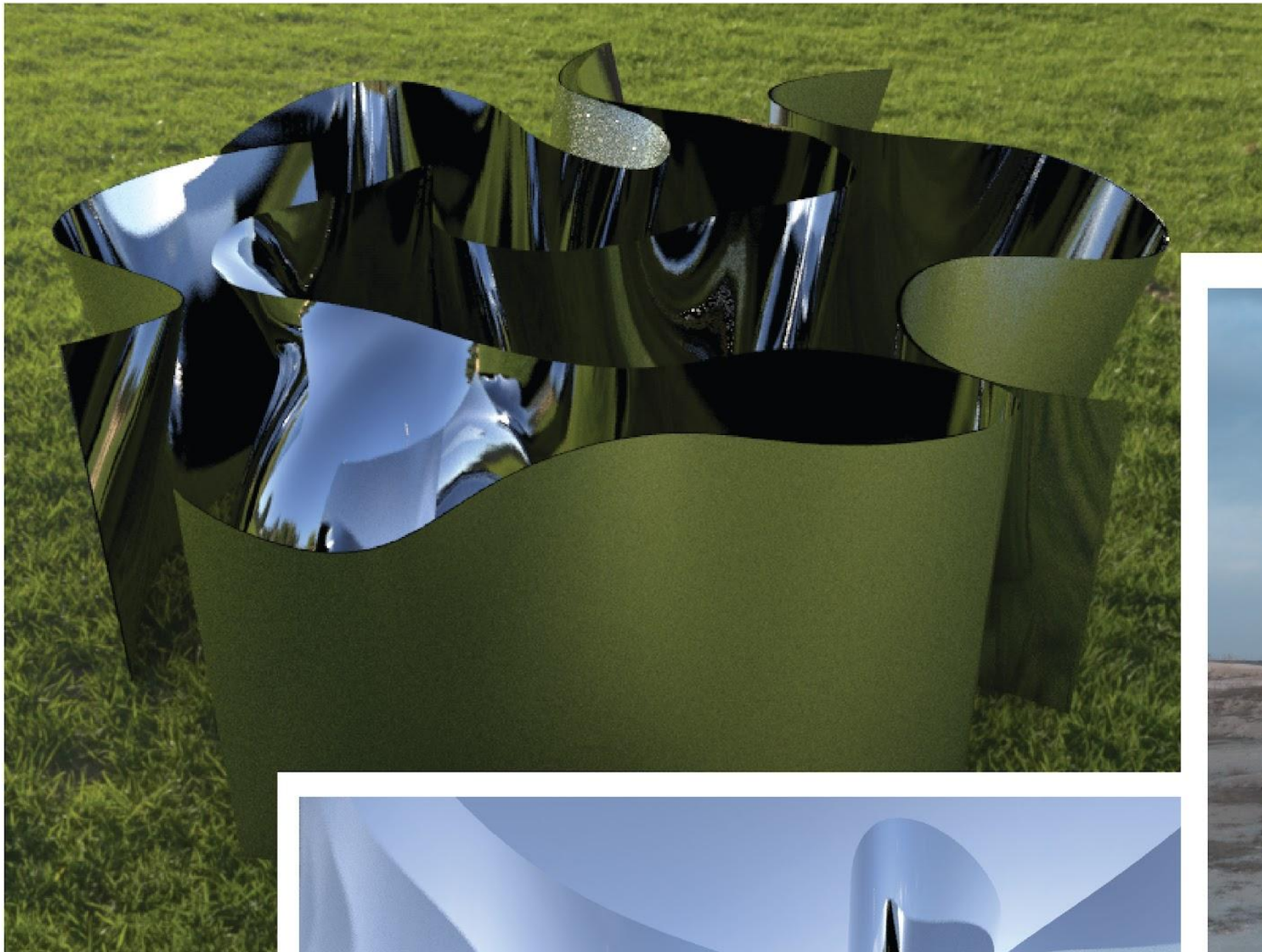
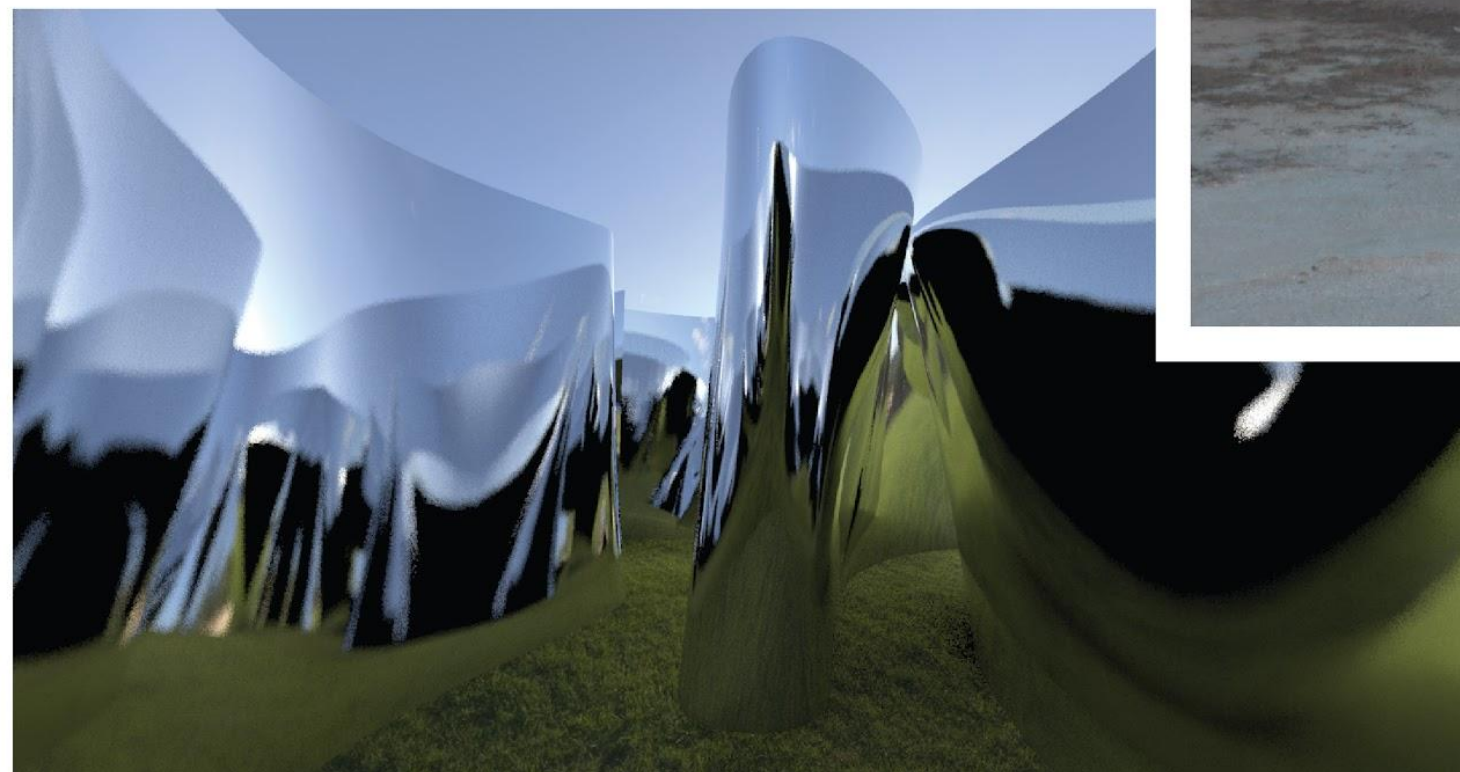


“Mirrored Pavilion”

SPECULATUM PAPILIONEM



Waterloo, ON
43.4677° N, 80.5277° W
Arboretum Area
100 sqm



Designed by:
Frank Hong - 20838701
Jessie Zhuang - 20845100
Vanessa Szymanski - 20850279
Brittney Cheng - 20835825

DESIGN PROBLEM:

WHAT IS THE PURPOSE OF OUR PAVILION?

- Effort to revitalize Waterloo Park
- Attract visitors and increase human interaction of the park's space
- Mesmerizing pavilion that encourages visitors to explore, interact and reflect with nature

- Jessie Zhuang
- SMD M.Eng
- Fun fact: Always down to watch a good basketball game!



PRECEDENTS

Design Inspiration

CLOUD GATE - “CHICAGO BEAN”

Chicago, Illinois
Anish Kapoor



The Chicago bean is an iconic stainless steel sculpture which has been polished to create a seamless, reflective surface that distorts the city's skyline.

We were inspired by its material and ability to reflect all angles of its surroundings.

<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.choosechicago.com%2Farticles%2Ftours-and-attractions%2Fthe-bean-chicago%2F&psig=AOvVaw1ggn0QSrsRU0miEkxC68MK&ust=1594235384318000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCMDTx-Lru-oCFQAAAAAdAAAAABAD>

SEQUENCE

Stanford, California
Richard Serra



“Sequence” is a weatherproof steel sculpture consisting of two twisted metal plates. The plates enclose and expand while winding around the space it occupies to appear like a maze.

We were inspired by the structure’s use of space, circulation and form (twisting of metal plates).

TILTED SPHERES

Toronto
Richard Serra



Tilted spheres is an installation made consisting of 4 angled steel plates supporting itself. The larger plates wraps around the smaller plates as they enclose the occupied space.

We were inspired by the structure's form (tilted plates), enclosure and construction (its ability to support itself).

KEY PLAN



SITE DIAGRAM



WATER CIRCULATION



VEGETATION



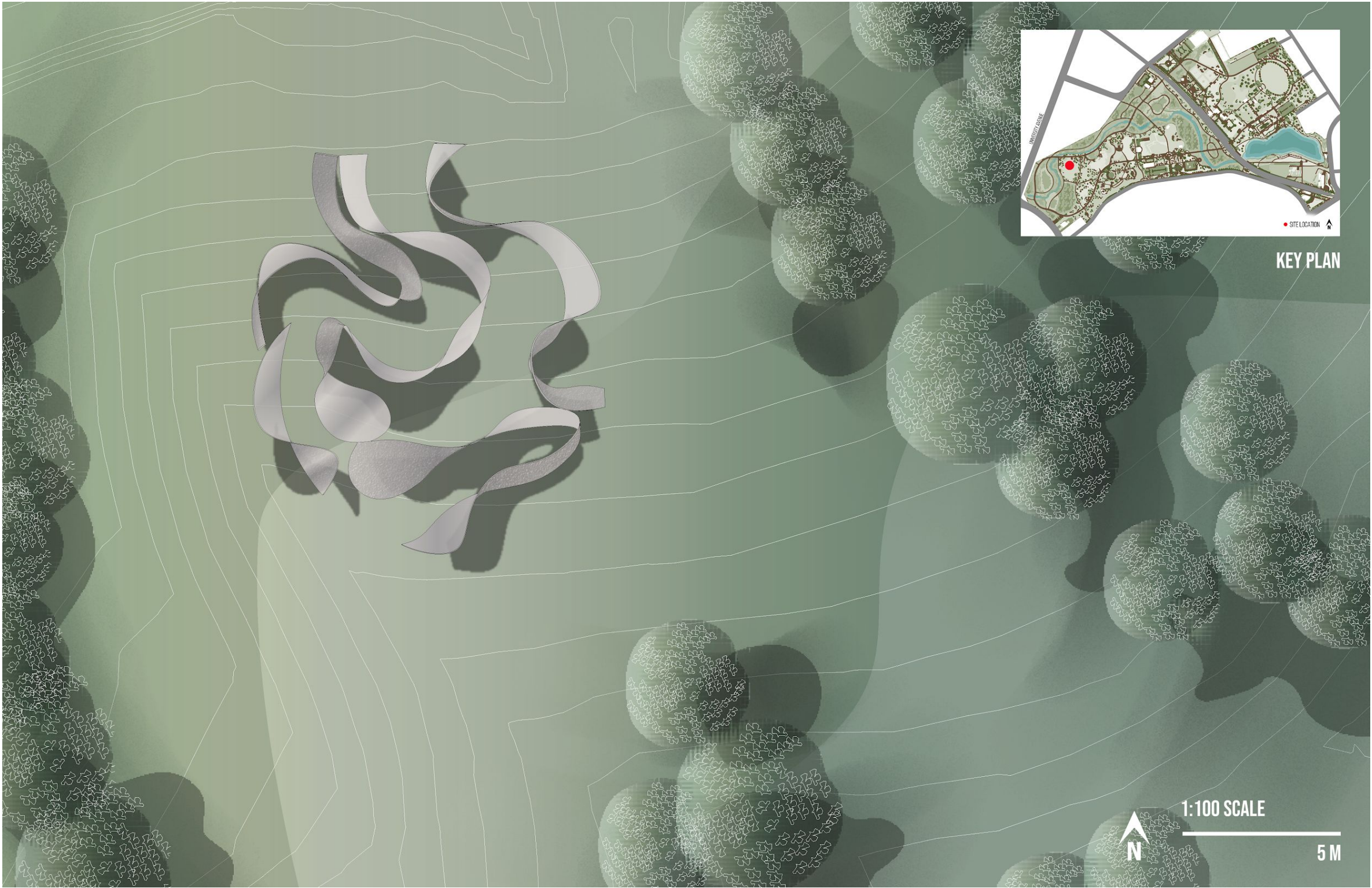
PEDESTRIAN CIRCULATION



SITE RELATION TO PARK ELEMENTS

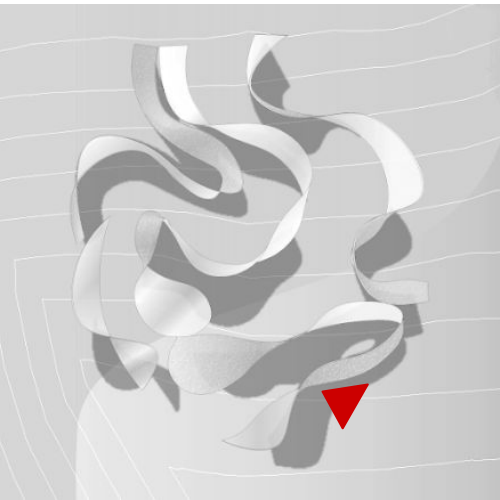
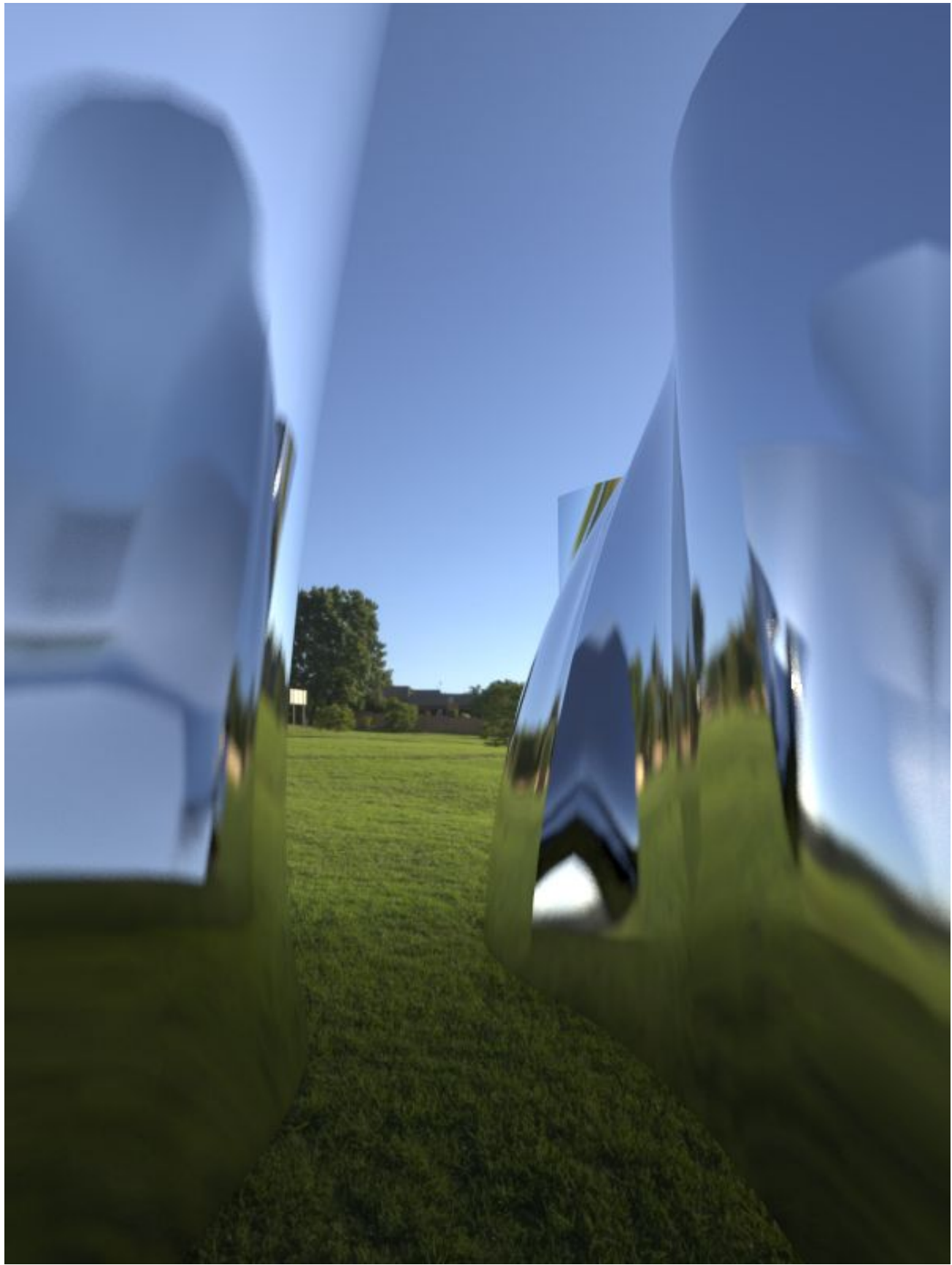
- LEGEND**
- PEDESTRIAN CIRCULATION
 - PATHWAYS
 - WATER
 - VEGETATION
 - PAVILION SITE

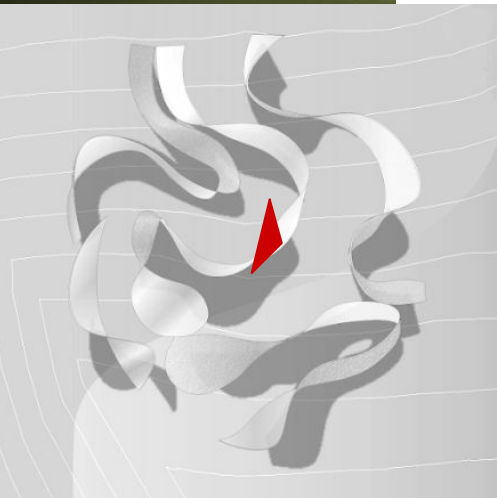
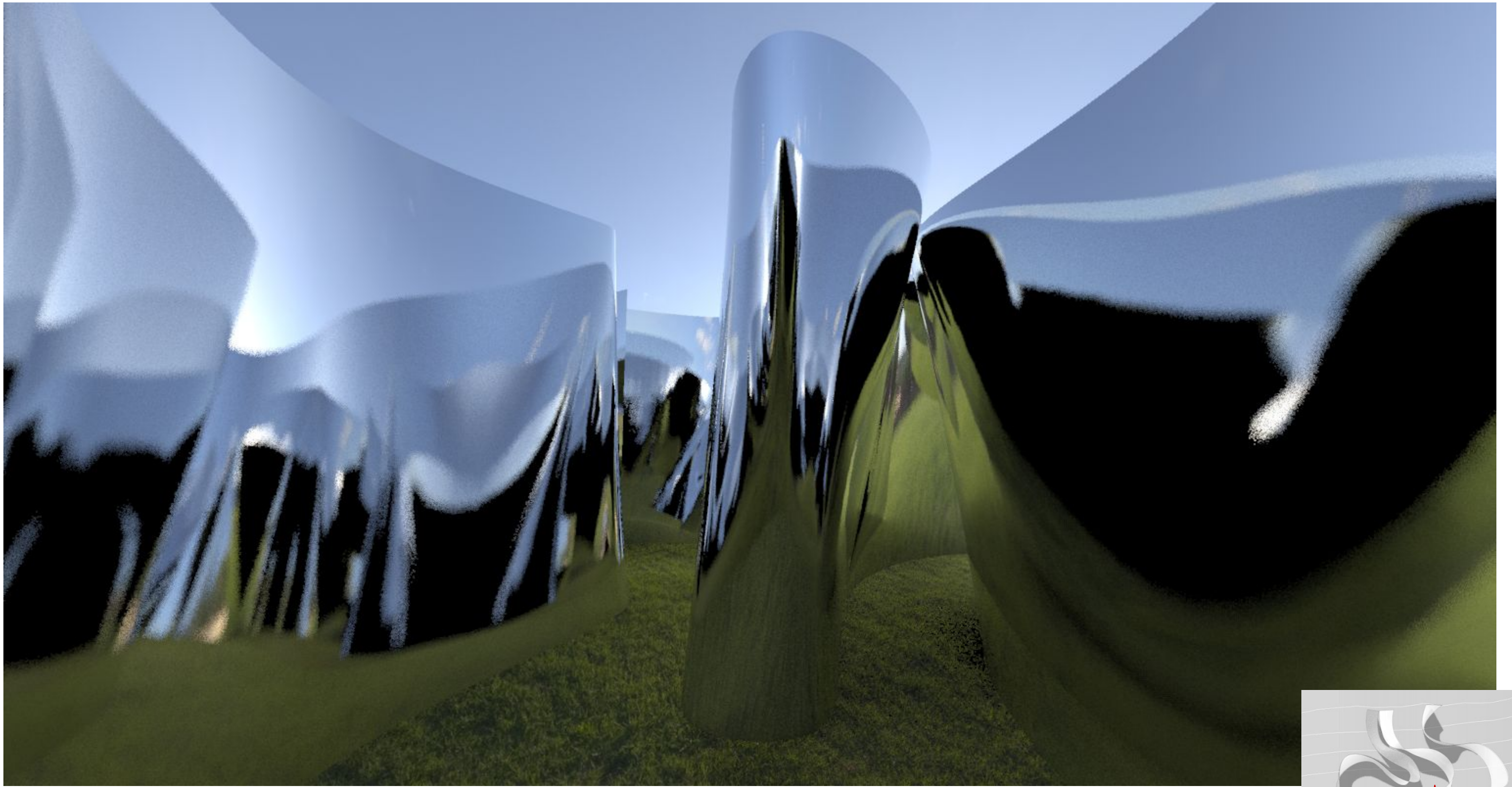
SITE PLAN

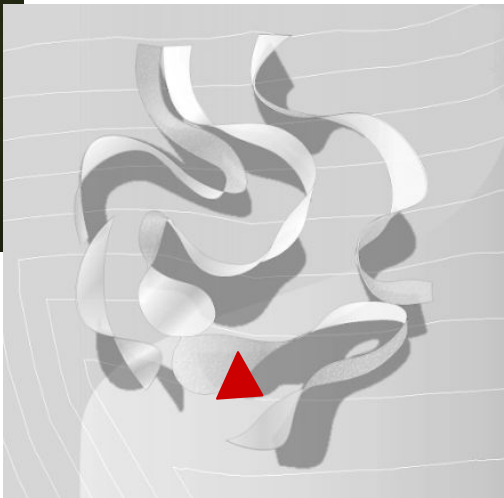
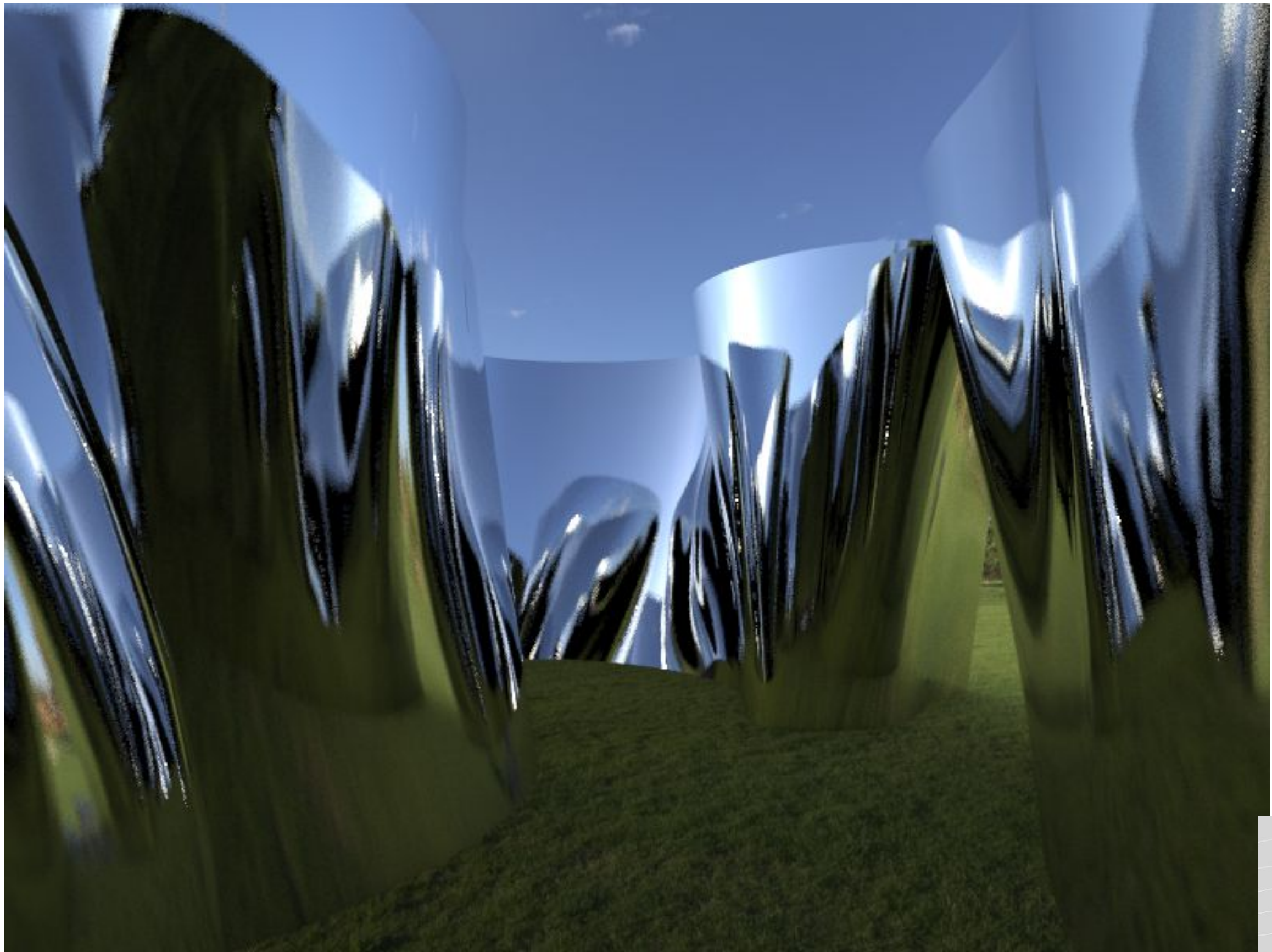


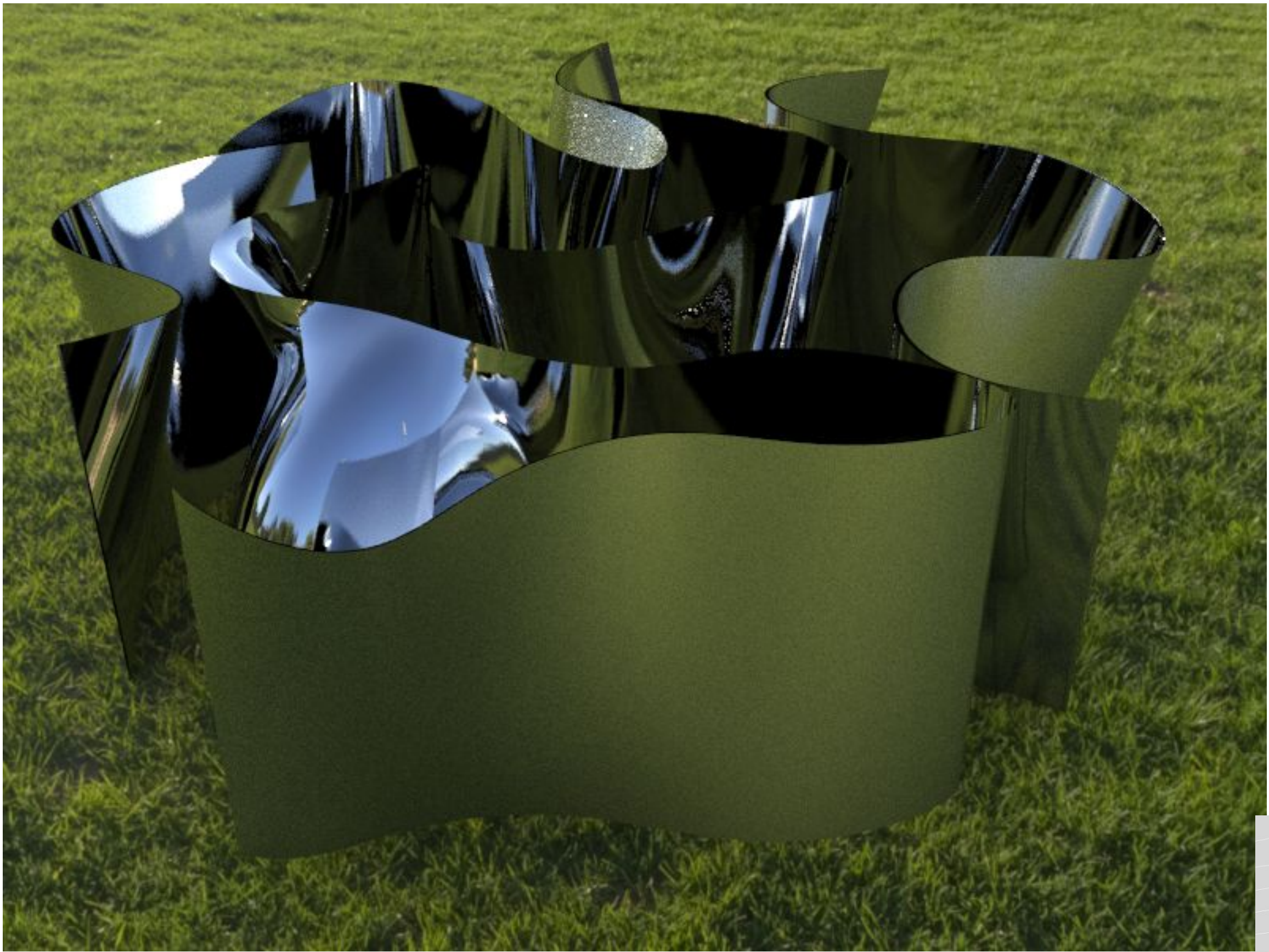
RENDERS

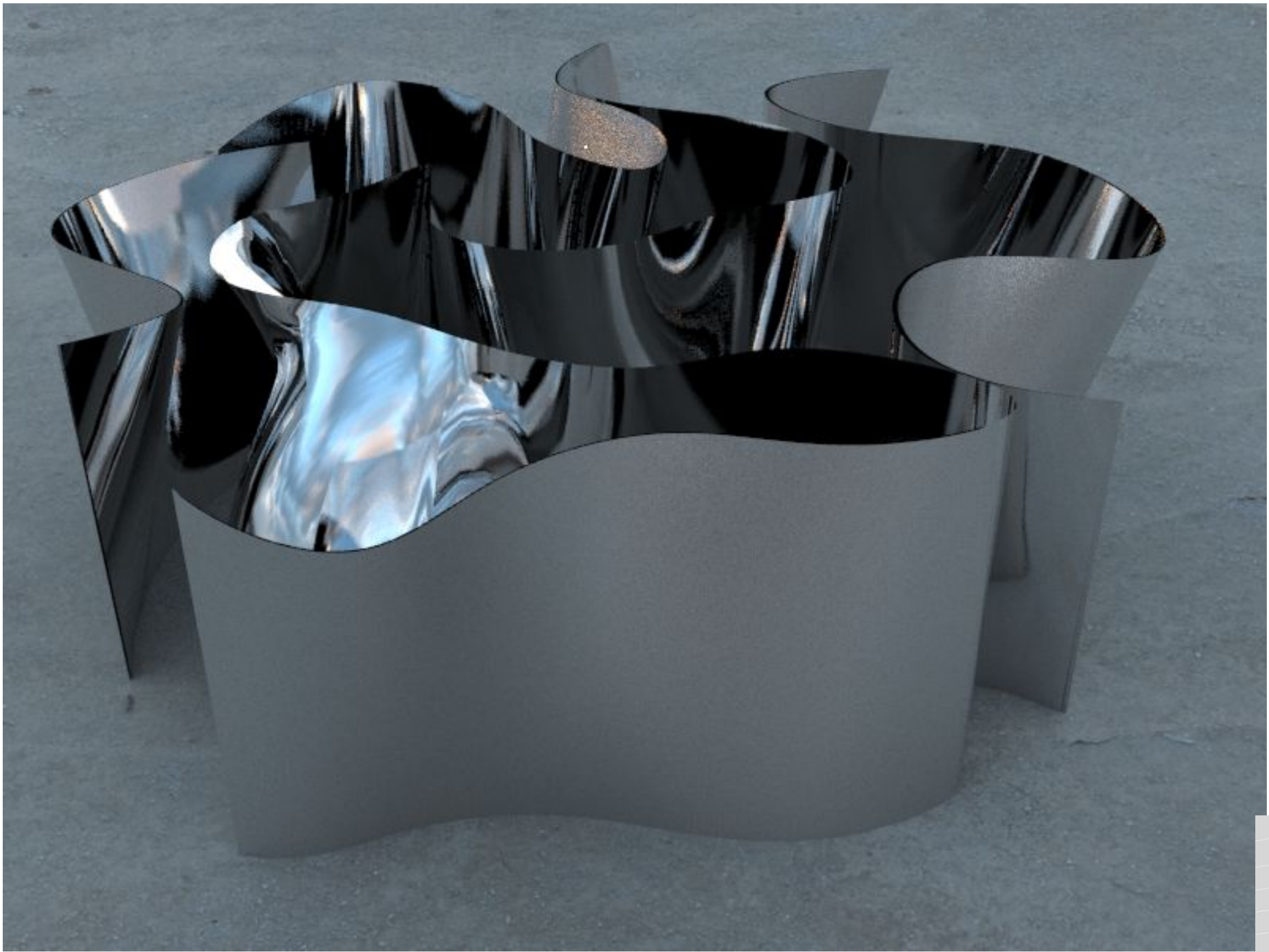
Views of our pavilion



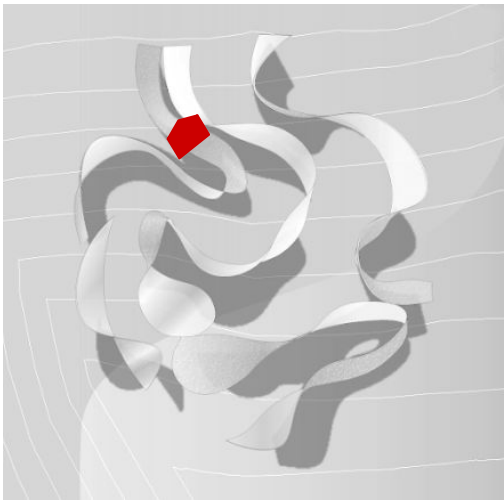
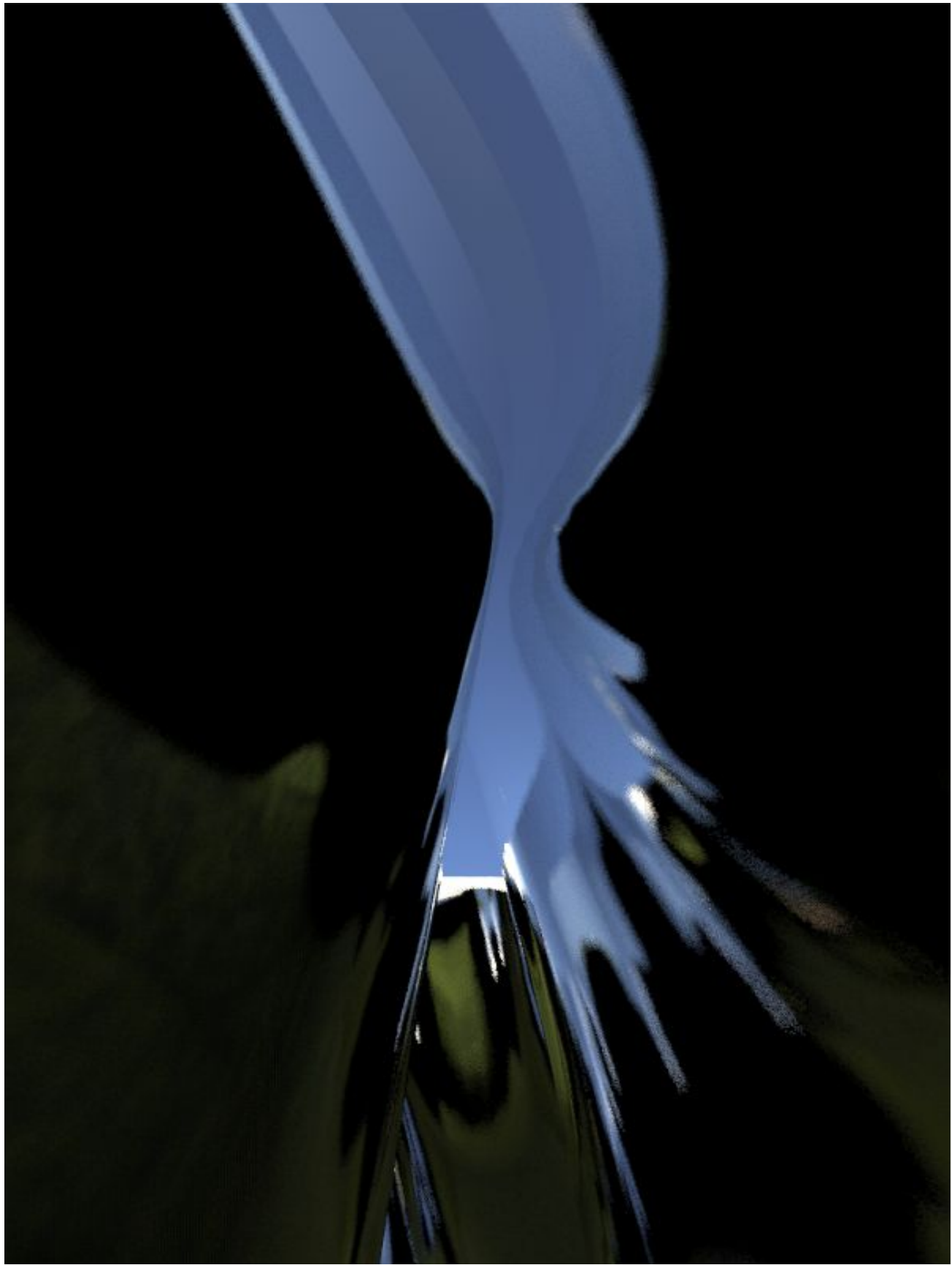


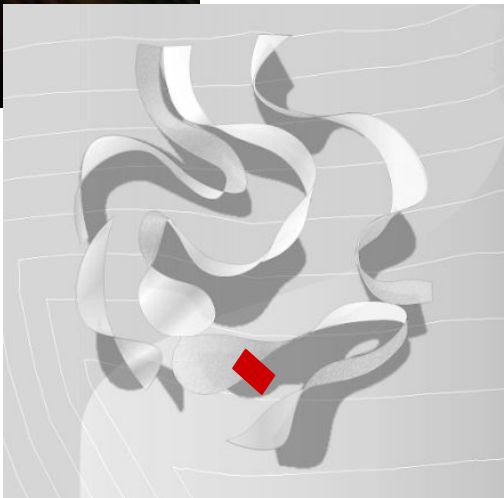












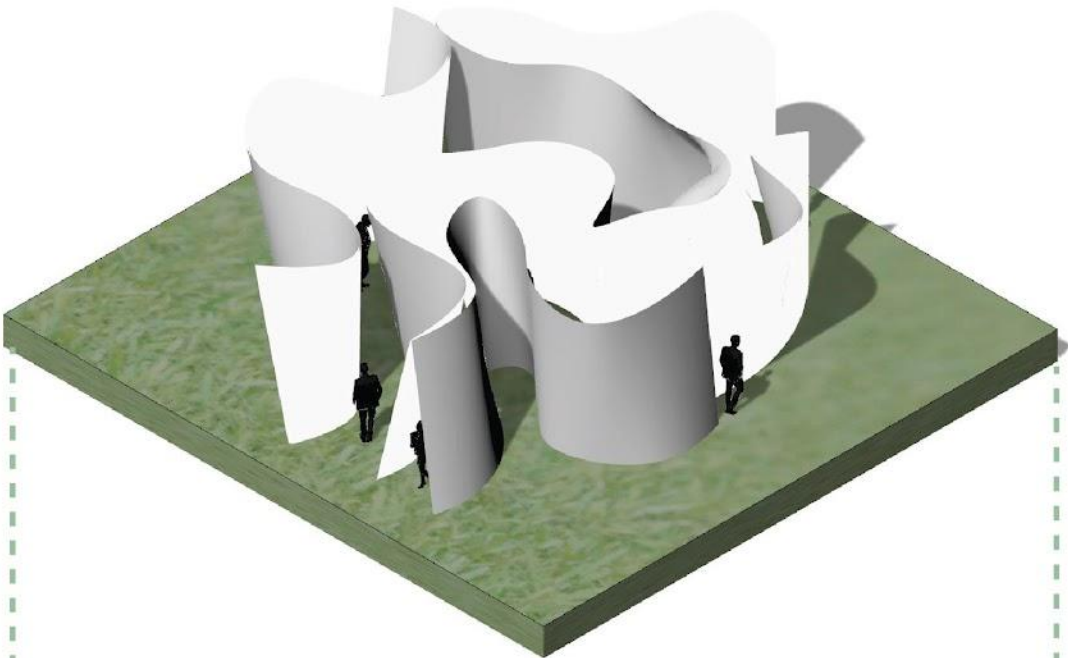
SITE AND PROGRAM DIAGRAMS

Diagrams representing architectural concepts

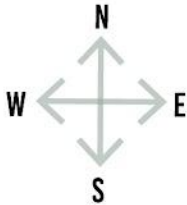
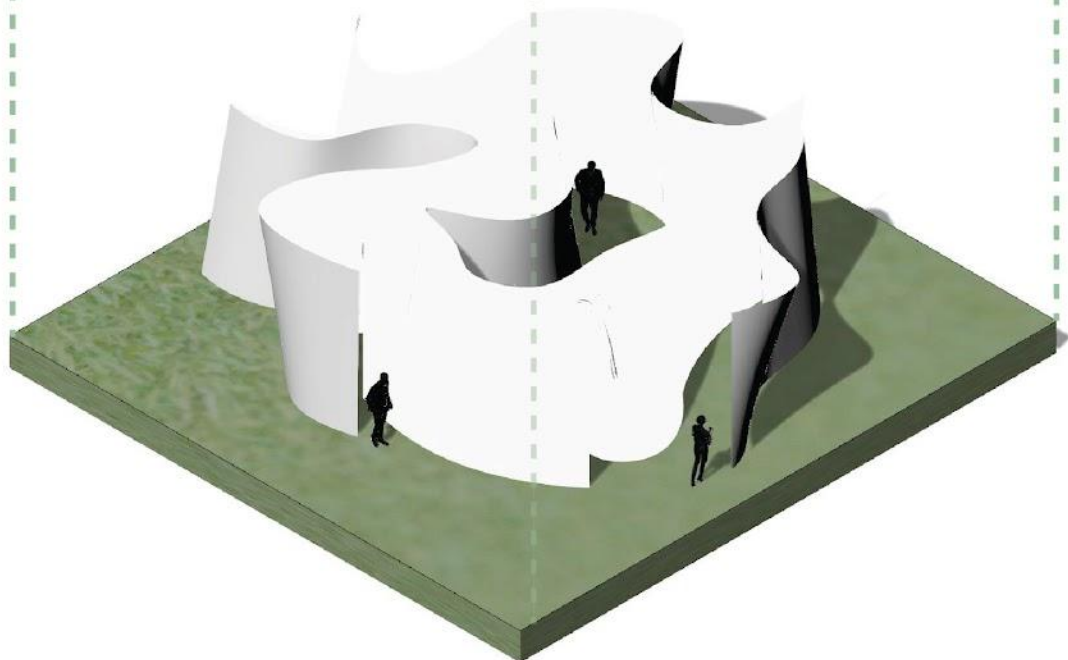
PERSPECTIVE DIAGRAM

Our pavilion intends to reflect nature's beauty from all angles. The varying perspectives provide insight on all accessible entrances into the pavilion as well as the structure's unique form from all directions.

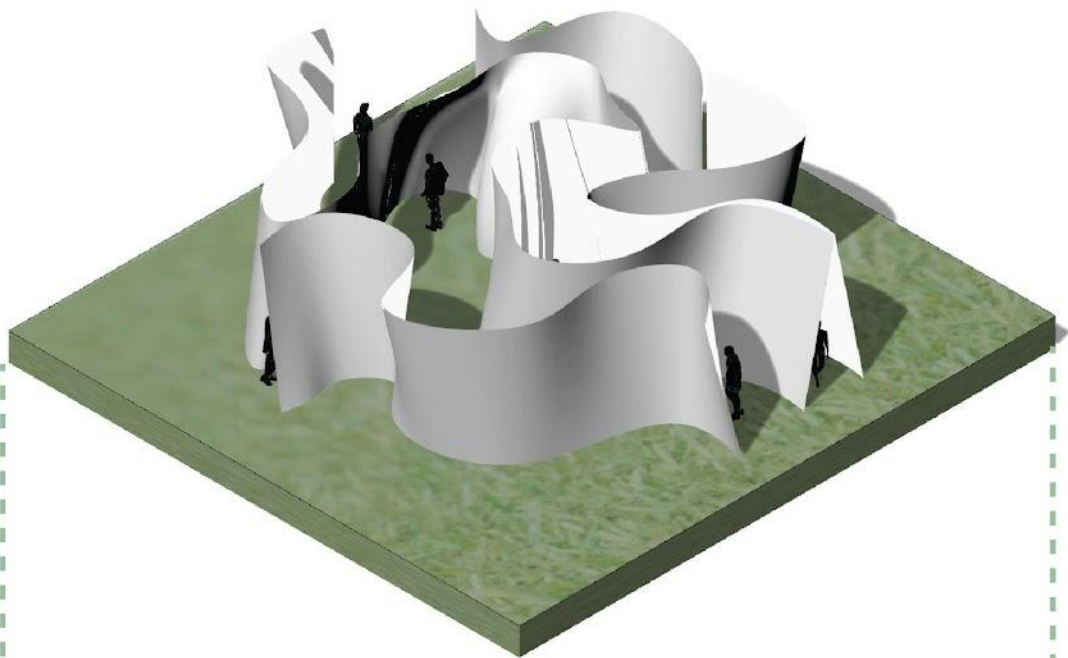
NW



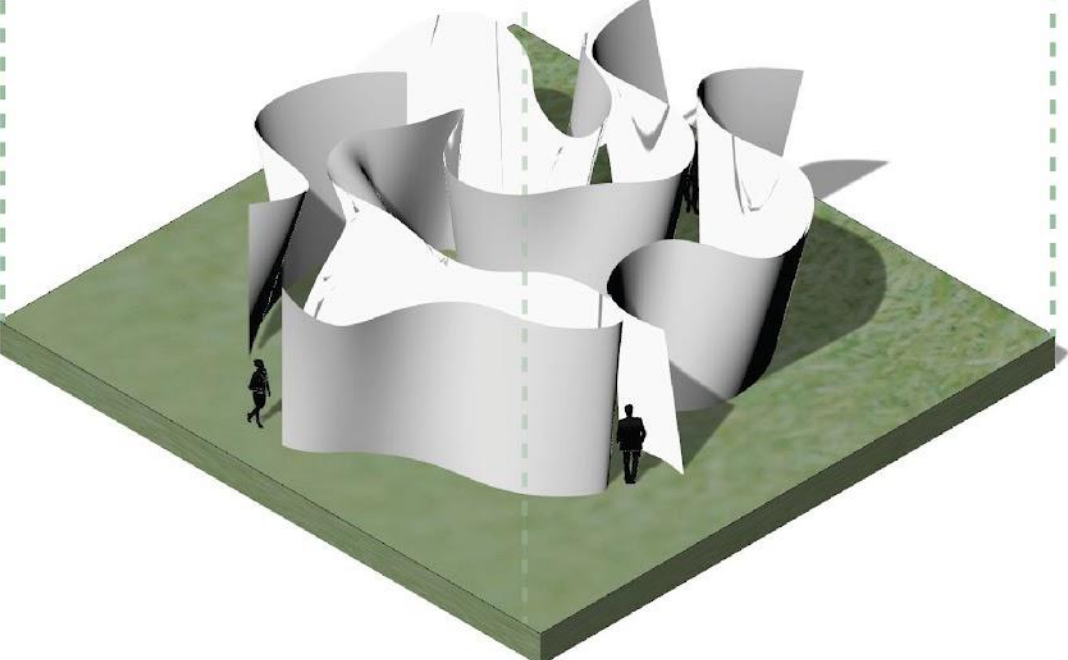
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NE



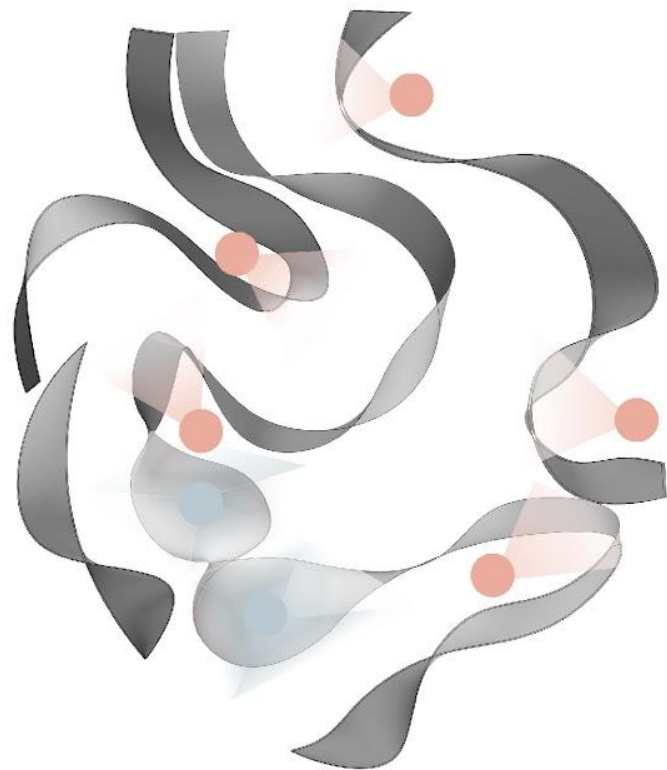
SE



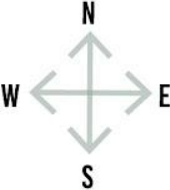
CIRCULATION DIAGRAM



WALKING CIRCULATION - PLAN VIEW



AREAS OF PAUSE/INTEREST - PLAN VIEW

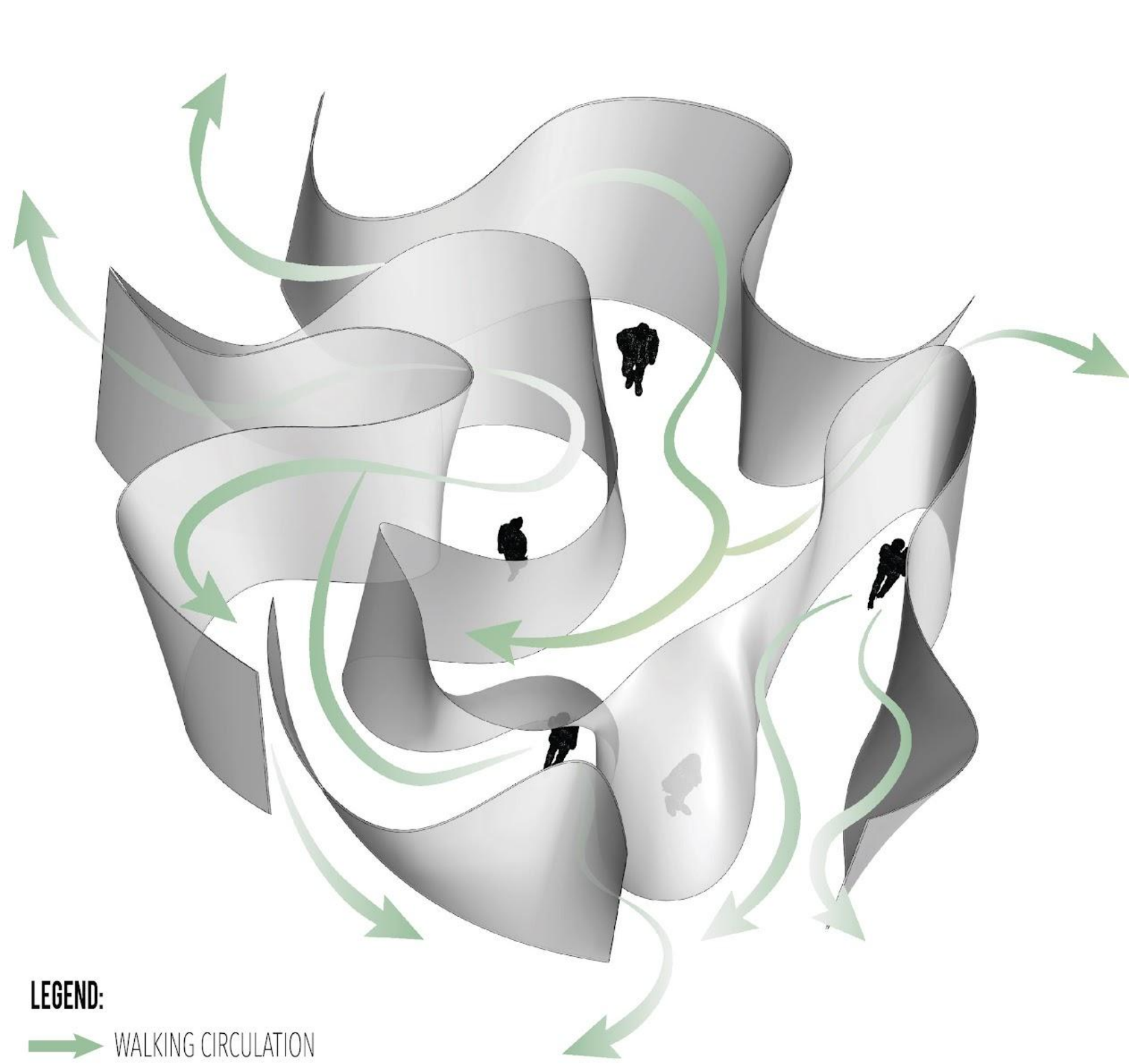


HYBRID - PLAN VIEW

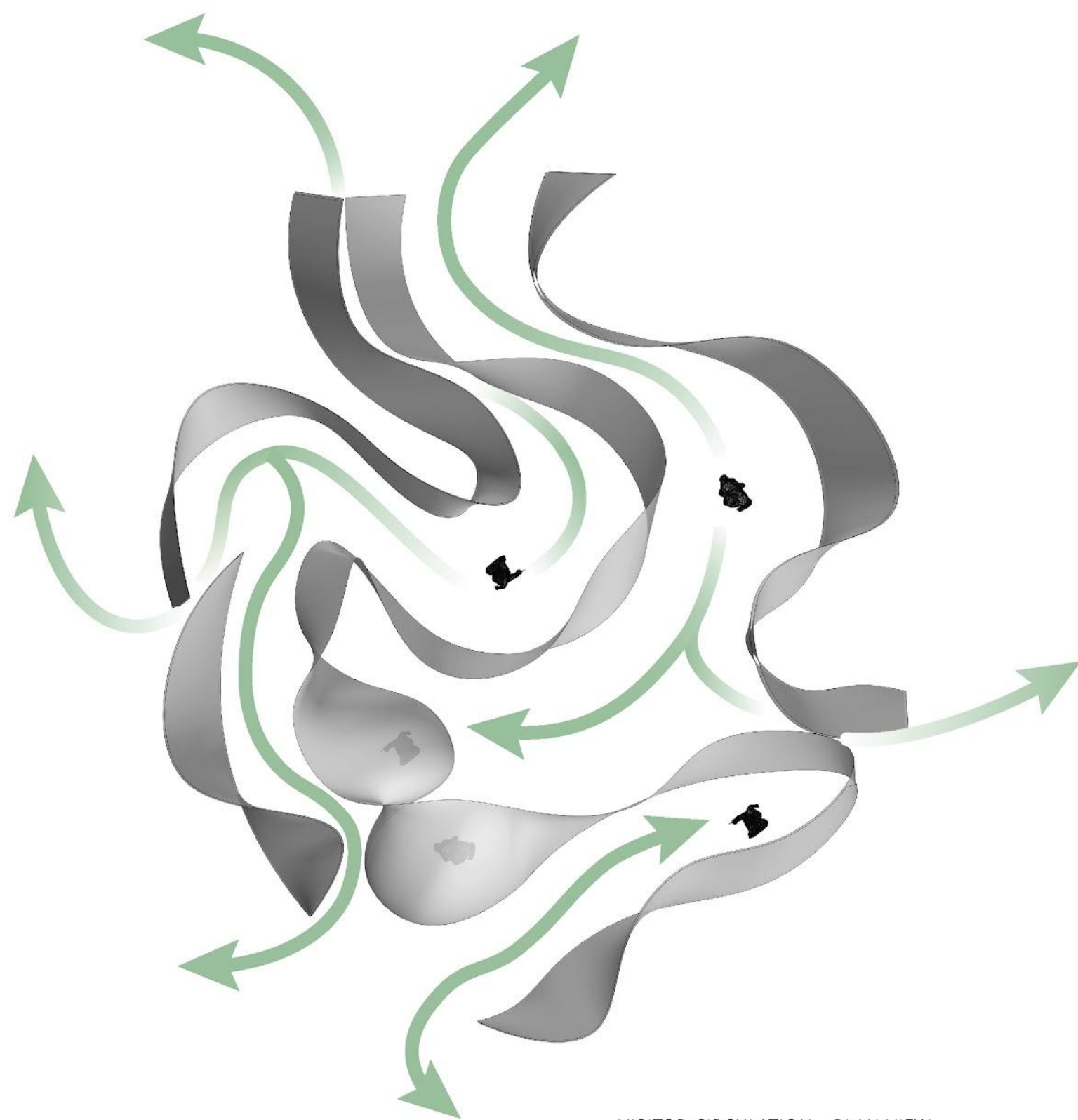
LEGEND:

- WALKING CIRCULATION →
- AREAS OF PAUSE/INTEREST - OPEN AREA ●
- PERSPECTIVE/LINE OF VISION - OPEN AREA ▲
- AREAS OF PAUSE/INTEREST - ENCLOSED AREA ●
- PERSPECTIVE/LINE OF VISION - ENCLOSED AREA ▲

CIRCULATION DIAGRAM



VISITOR CIRCULATION - PERSPECTIVE VIEW



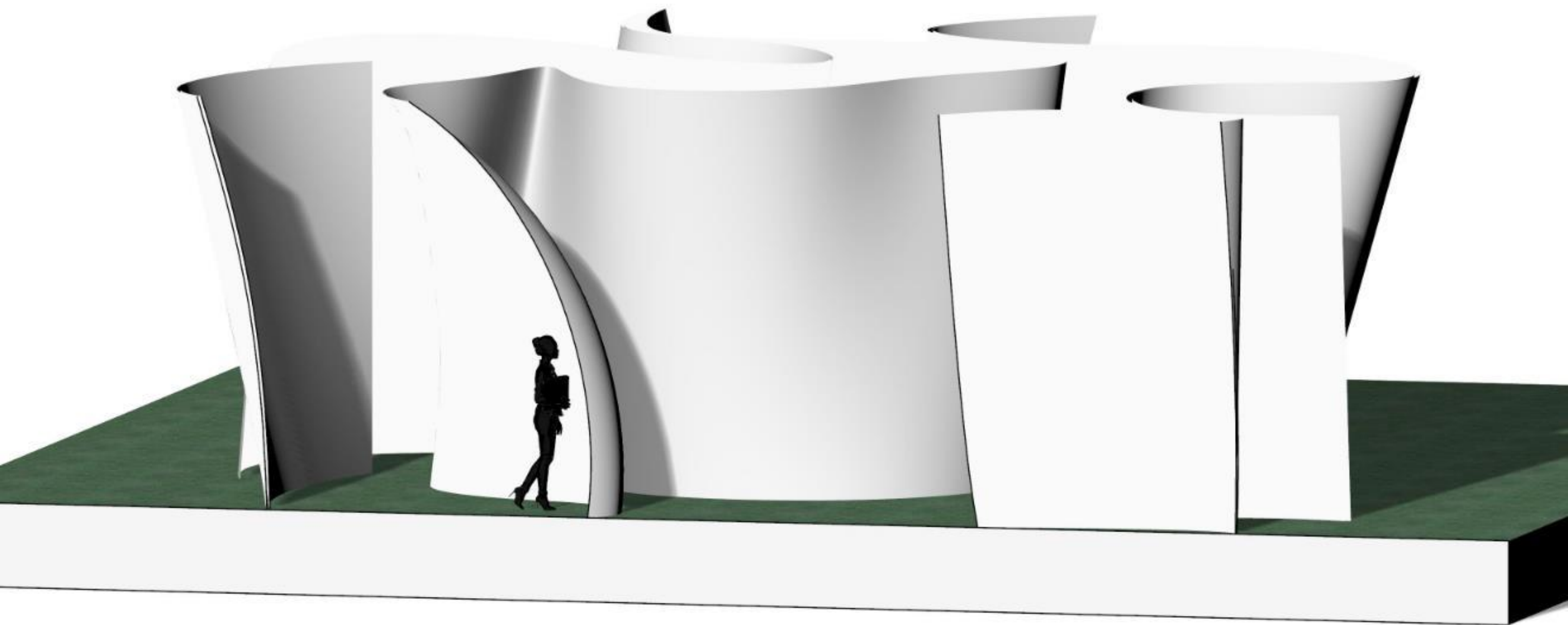
VISITOR CIRCULATION - PLAN VIEW

LEGEND:

 WALKING CIRCULATION

 VISITOR

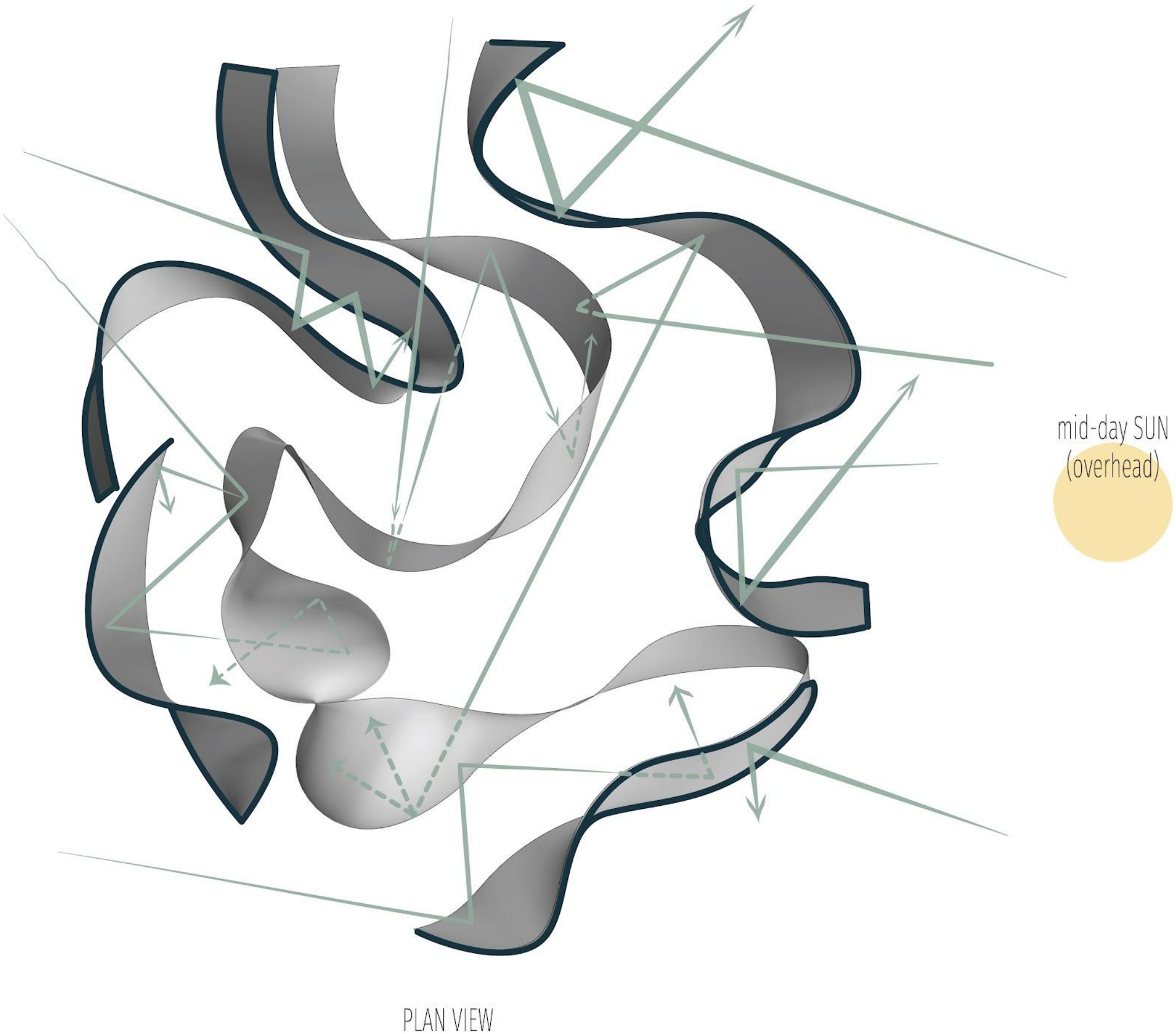
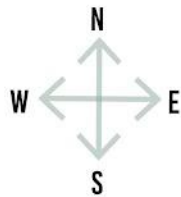
SECTION CUT



REFLECTION DIAGRAM

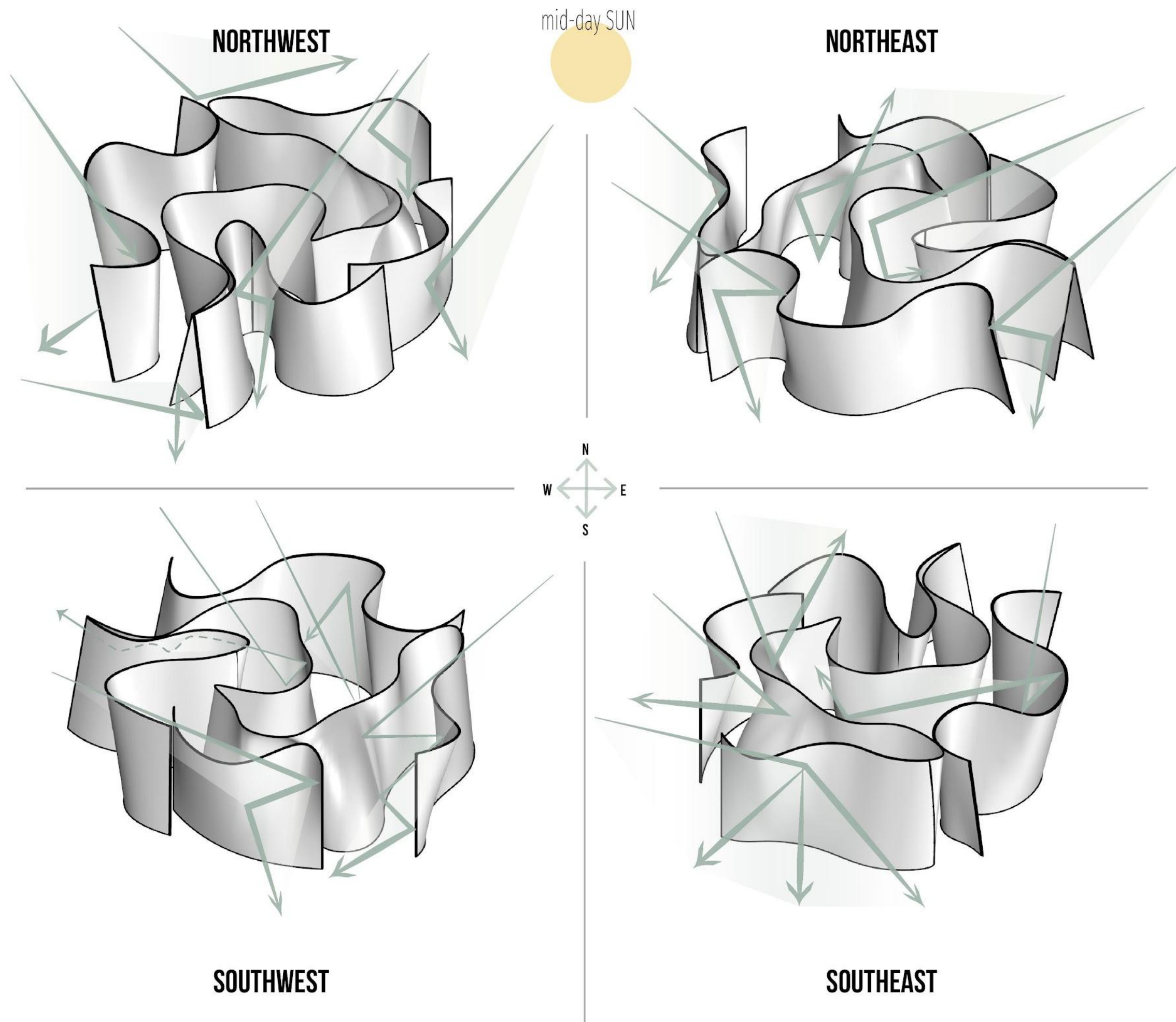
LEGEND:

- BRUSHED STAINLESS STEEL
- HIGHLY POLISHED STAINLESS STEEL

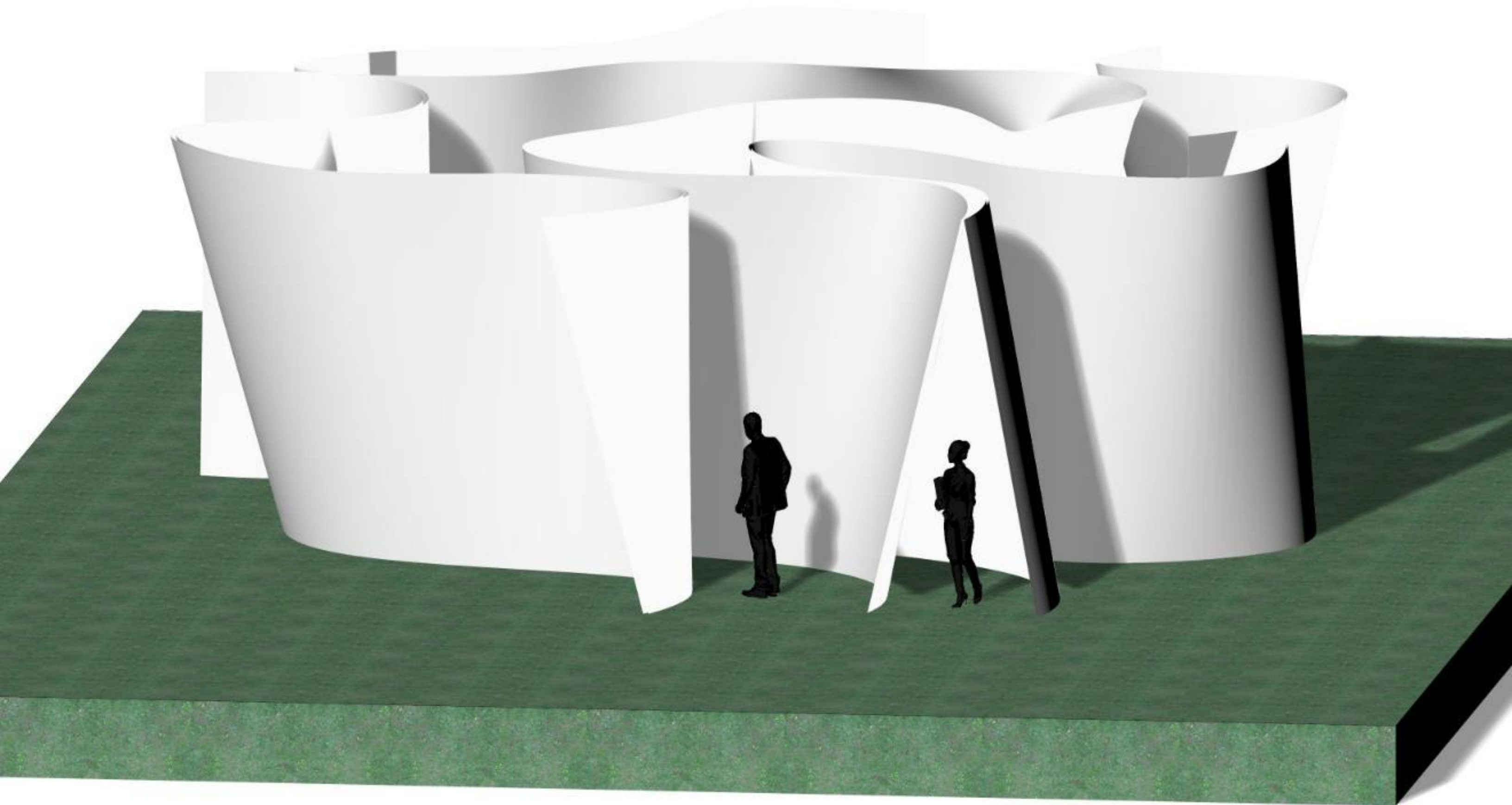


REFLECTION
REFLECTION

DIAGRAMS
DIAGRAMS



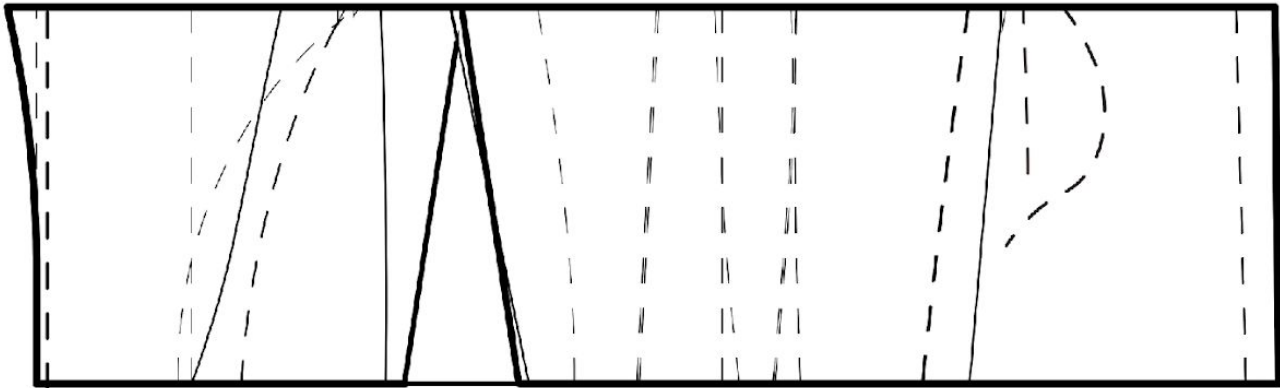
NORTH WEST ELEVATION



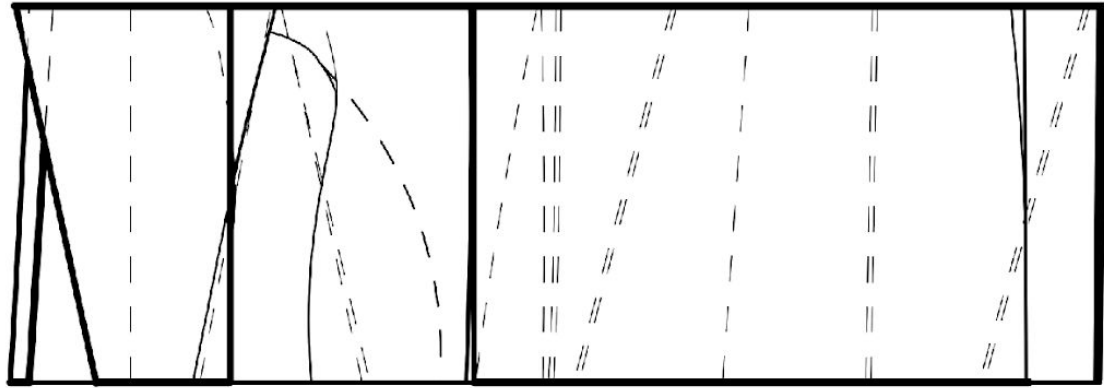
SCHEMATIC DRAWINGS

Conveys proposed structural scheme

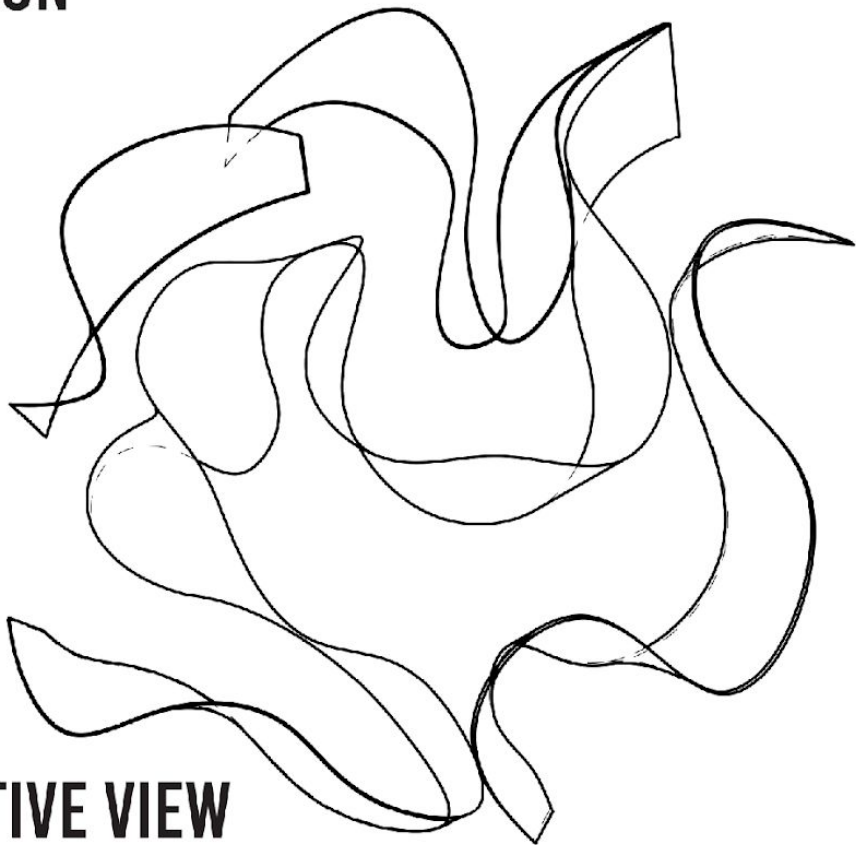
ORTHOGRAPHIC PROJECTION



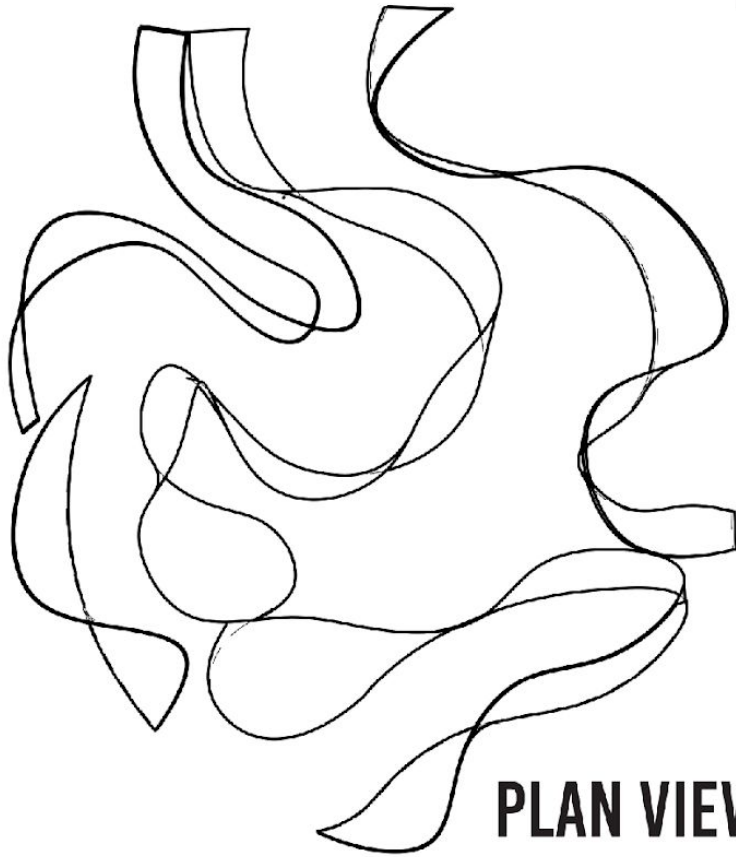
EAST ELEVATION



FRONT ELEVATION



PERSPECTIVE VIEW



PLAN VIEW



UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING

www.autodesk.com/revit

Pavilion Project
University of Waterloo

TEAM

Brittney Cheng	20835825
Frank Hong	20838701
Vanessa Szymanski	20850279
Jessie Zhuang	20845100

Orthographic Projection

Drawing number B-1

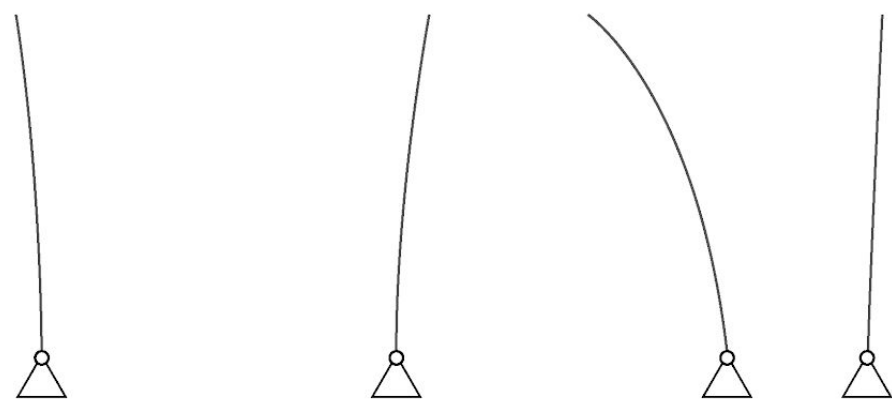
Date 28 July, 2020

AE 125

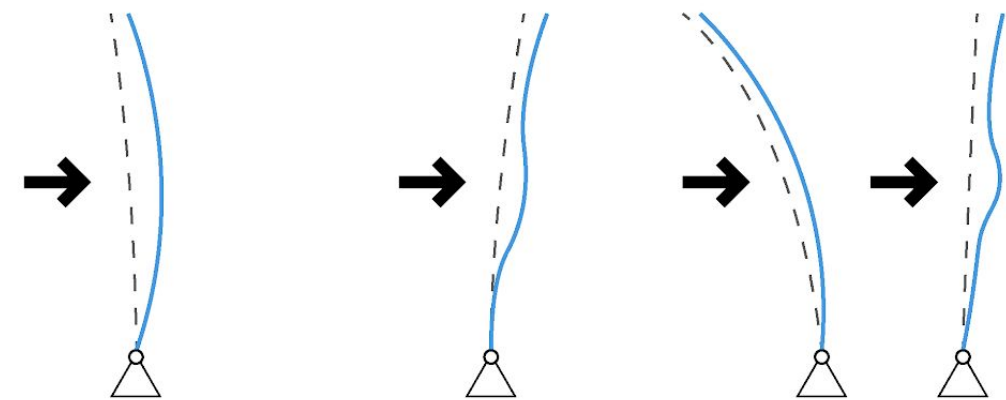
Scale: 1:50 (elevations),
1:75 (perspective / plan)

28 July, 2020

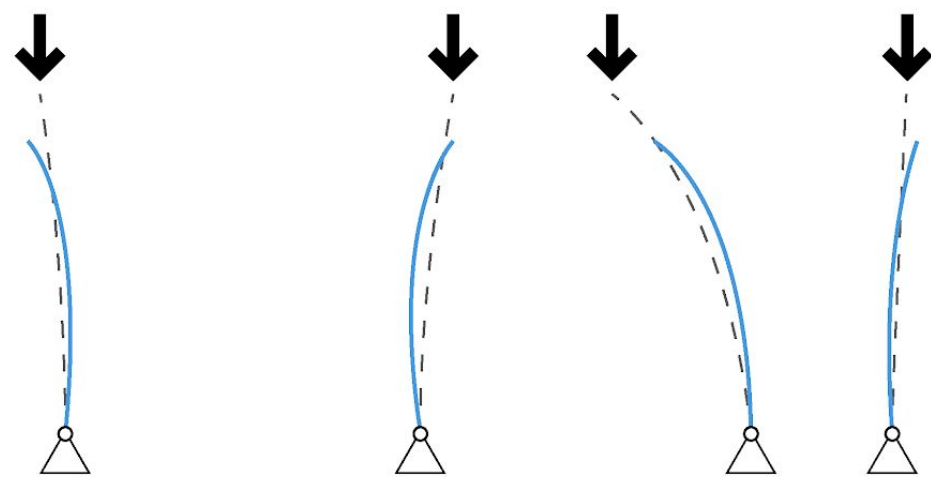
DEFLECTION DIAGRAMS



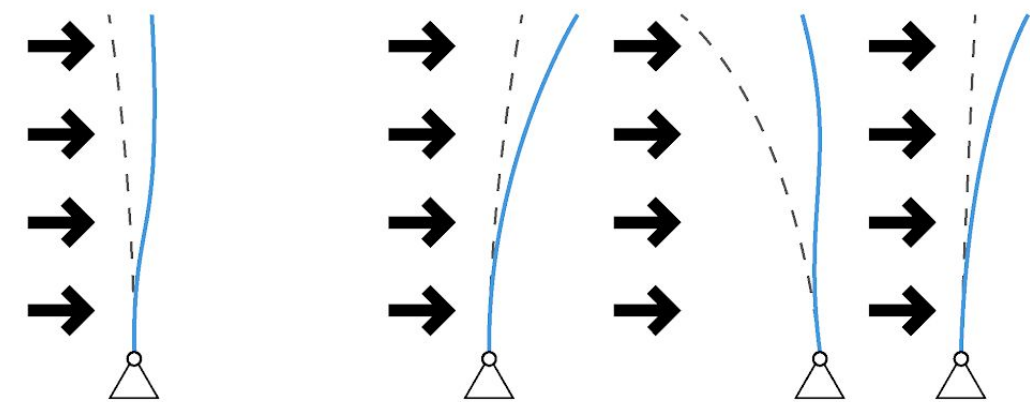
ORIGINAL WIREFRAME DIAGRAM



HORIZONTAL POINT LOAD DEFLECTION DIAGRAM



VERTICAL LOAD DEFLECTION DIAGRAM

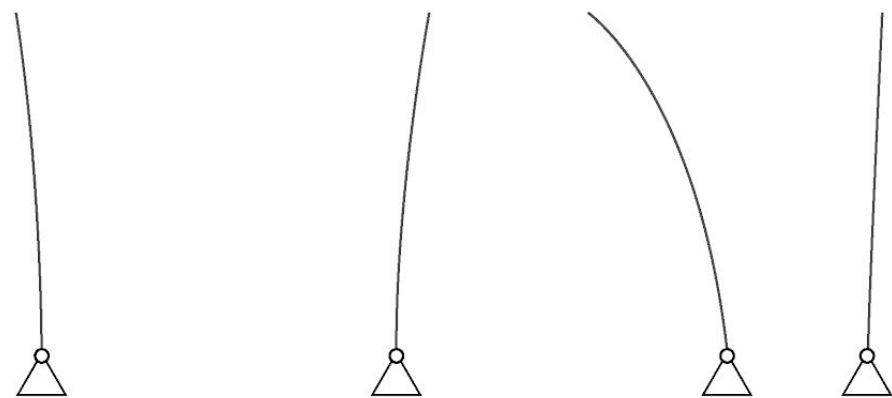


HORIZONTAL DISTRIBUTED LOAD DEFLECTION DIAGRAM

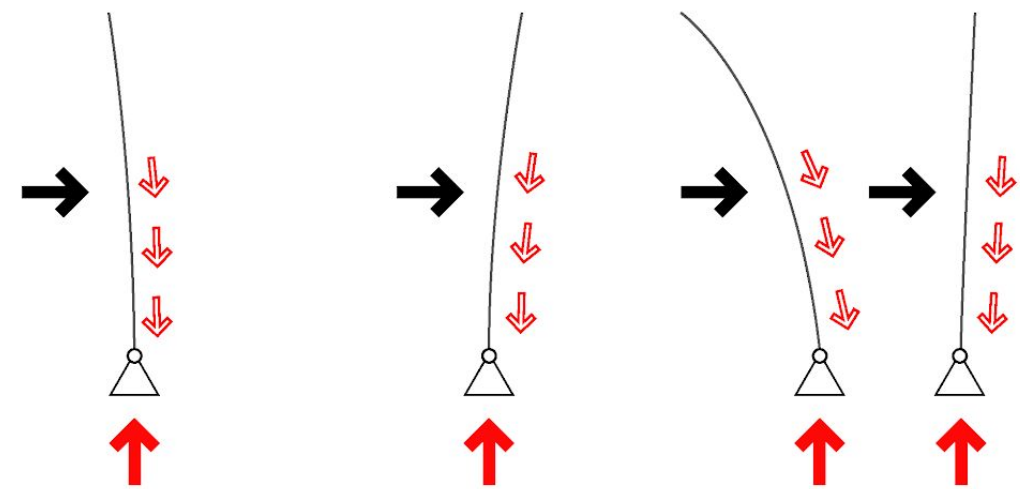
LEGEND

- DEFLECTED SHAPE
- ORIGINAL SHAPE
- APPLIED LOAD
- PINNED SUPPORT

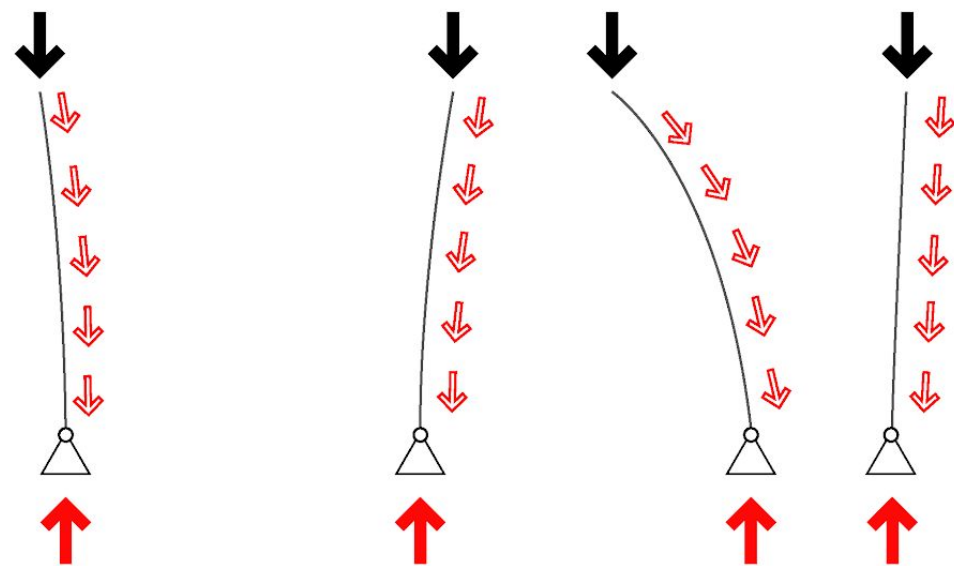
DEFLECTION DIAGRAMS



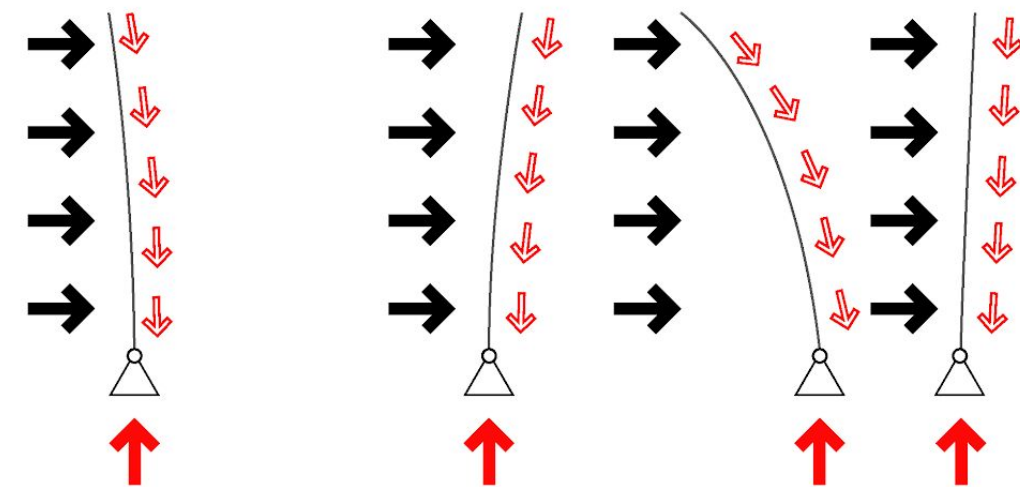
ORIGINAL WIREFRAME DIAGRAM



HORIZONTAL POINT LOAD PATH DIAGRAM



VERTICAL LOAD PATH DIAGRAM

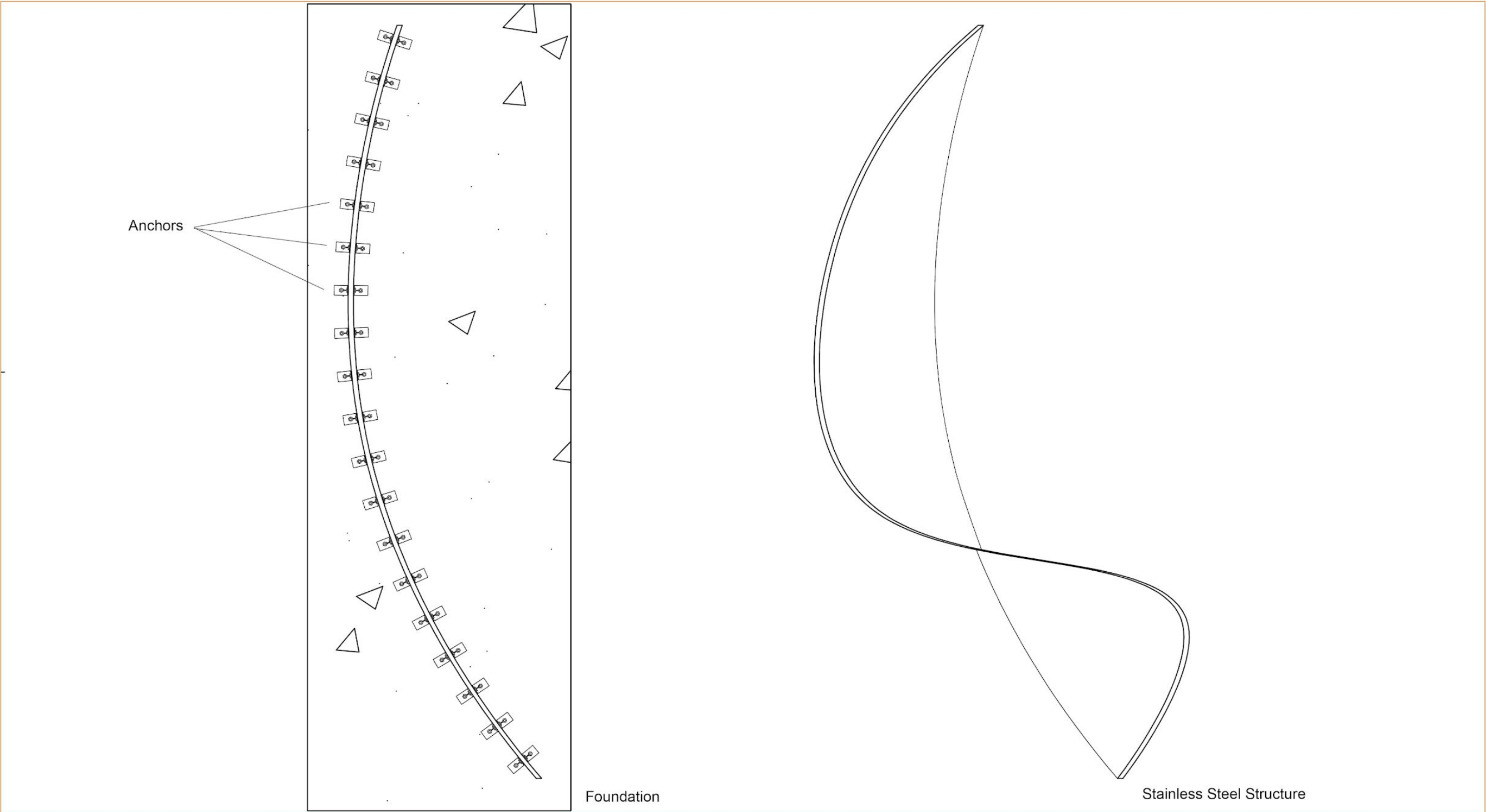


HORIZONTAL DISTRIBUTED LOAD PATH DIAGRAM

LEGEND

—	REACTION FORCE	—	LOAD PATH
—	ORIGINAL SHAPE		
→	APPLIED LOAD		
△	PINNED SUPPORT		

FOUNDATION DETAIL





UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING

Pavilion Project

University of Waterloo

TEAM

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Frank Hong

Vanessa Szymanski

Jessie Zhuang

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Structural Plan

Drawing number

D-2

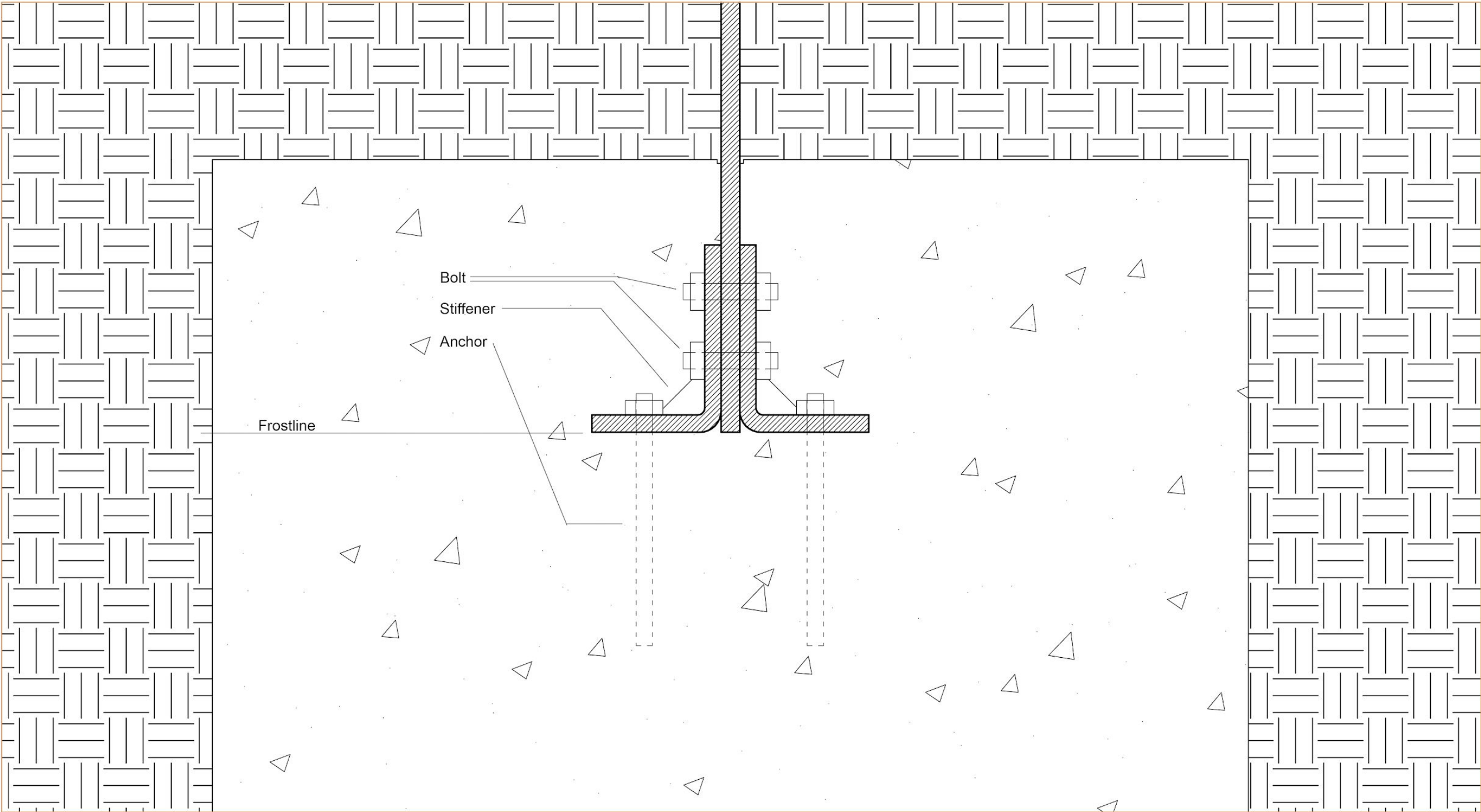
Date

27 July, 2020

AE 125

Scale: 1:2

FOUNDATION DETAIL



UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING

Pavilion Project
University of Waterloo

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Frank Hong	20838701
Vanessa Szymanski	20850279
Jessie Zhuang	20845100

Foundation Detail

Drawing number D-1

Date 27 July, 2020

AE 125

Scale: 1:2

7 July, 2020

