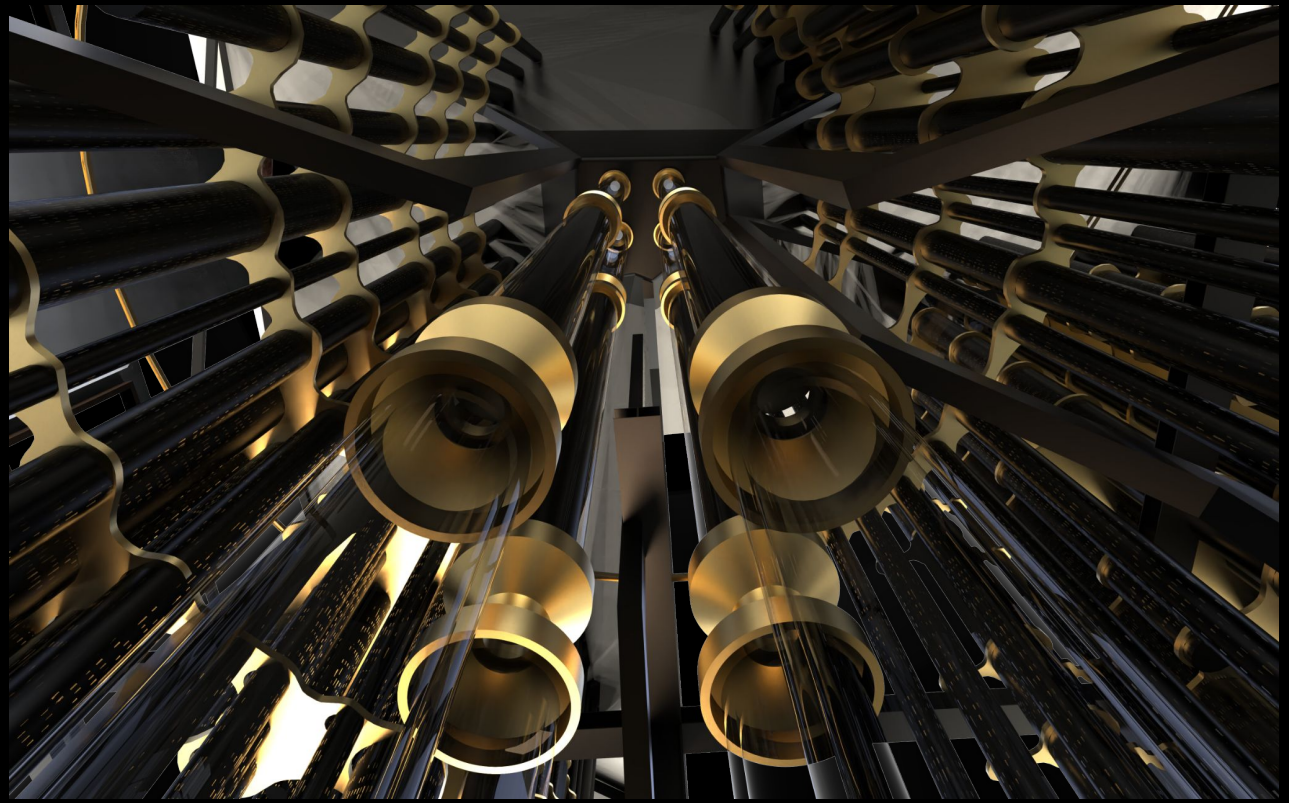
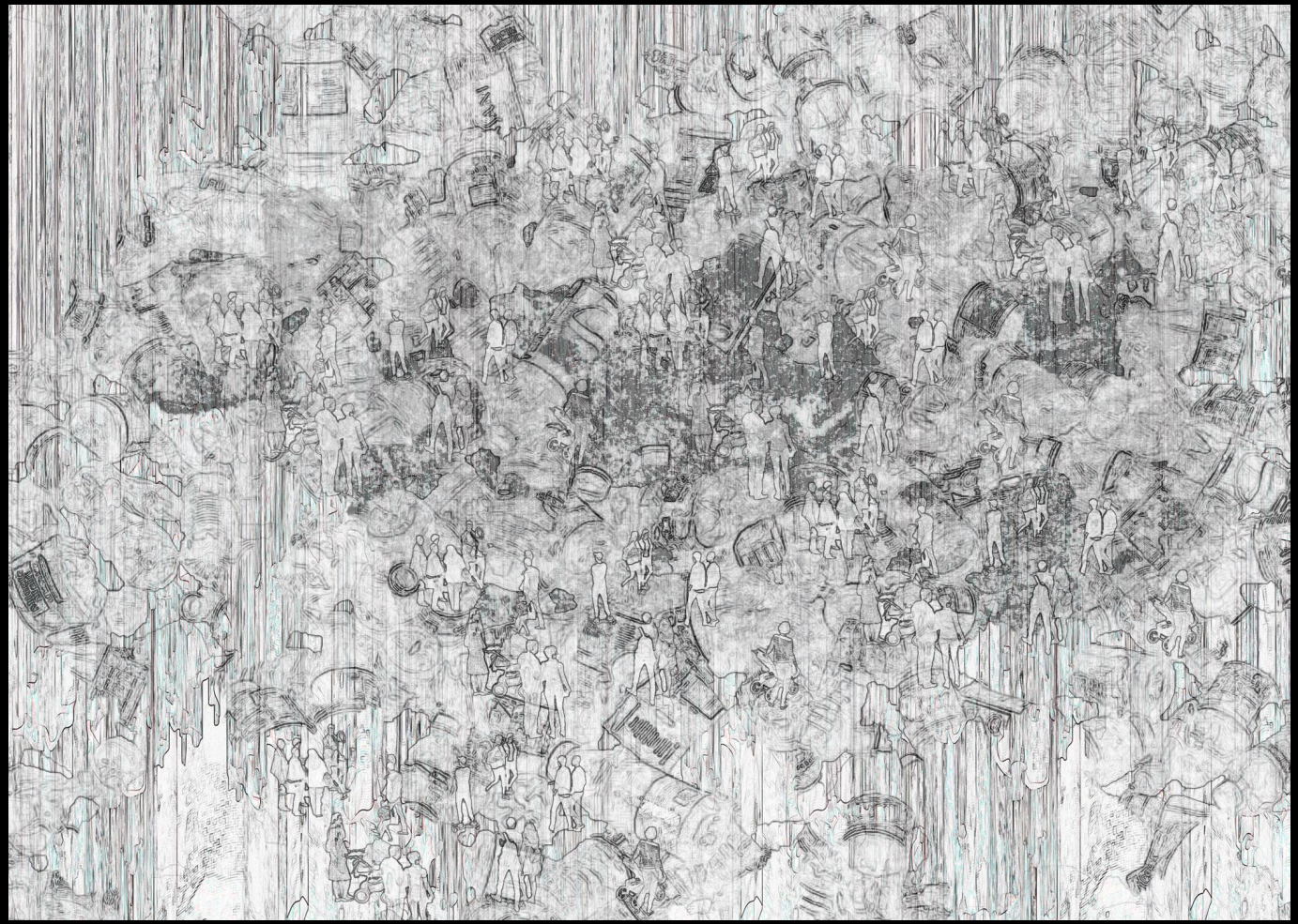
The Carbon Aesthetic

Governors Island, House 14



Kumsal Akdogan
Instructor: Ferda Kolatan, Angela Huang, Dorothy Tang, Alina Gorokhova


MANHATTAN
HOUSE 14
0.19 KM
0.40 KM
HOUSES
HOUSE 14
BROOKLYN

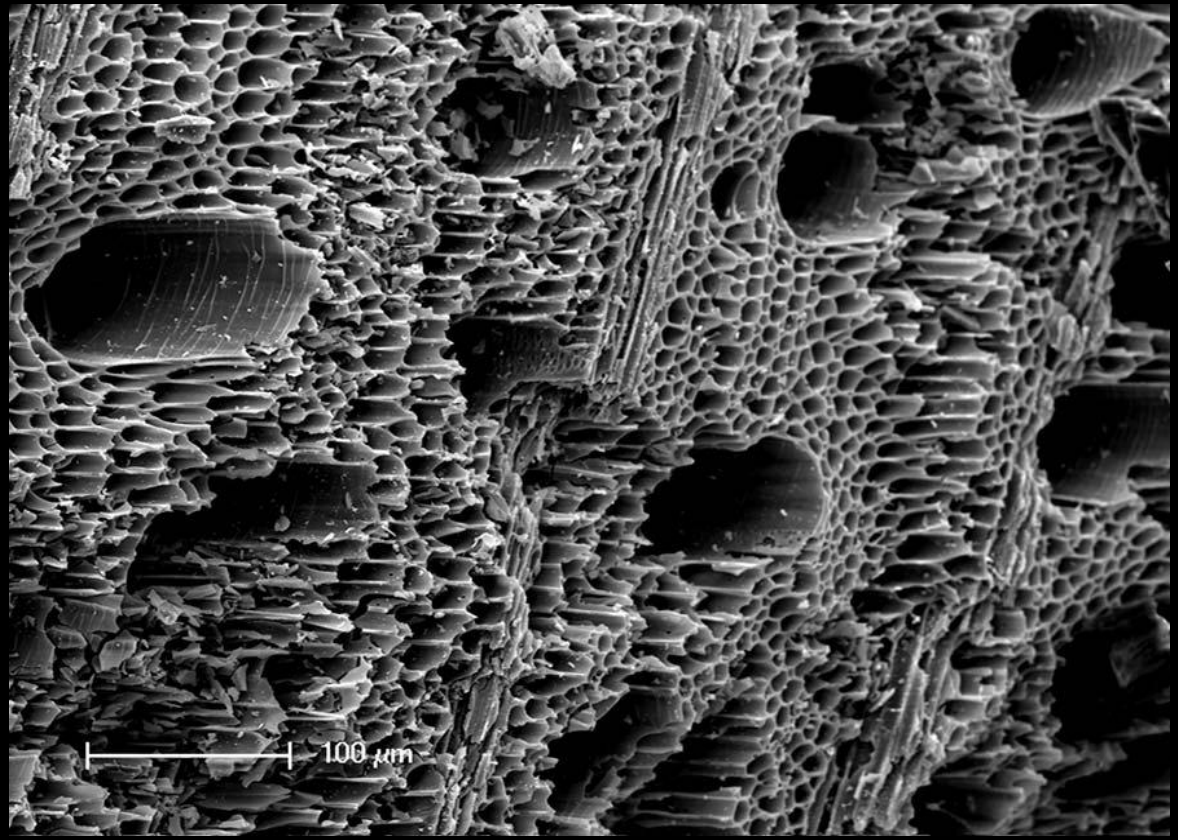


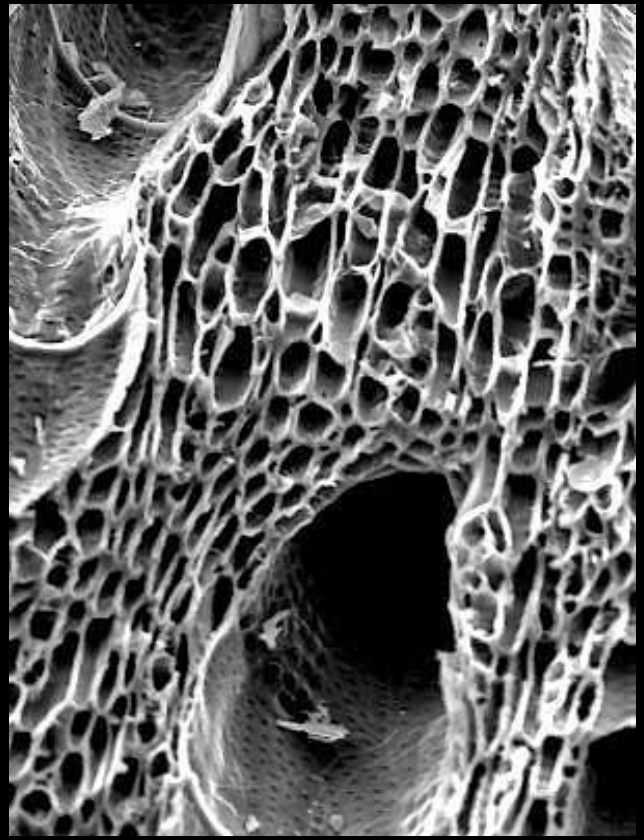
2019 Precipitation Data, Monthly

Annual Precipitation in NYC, NOAA records

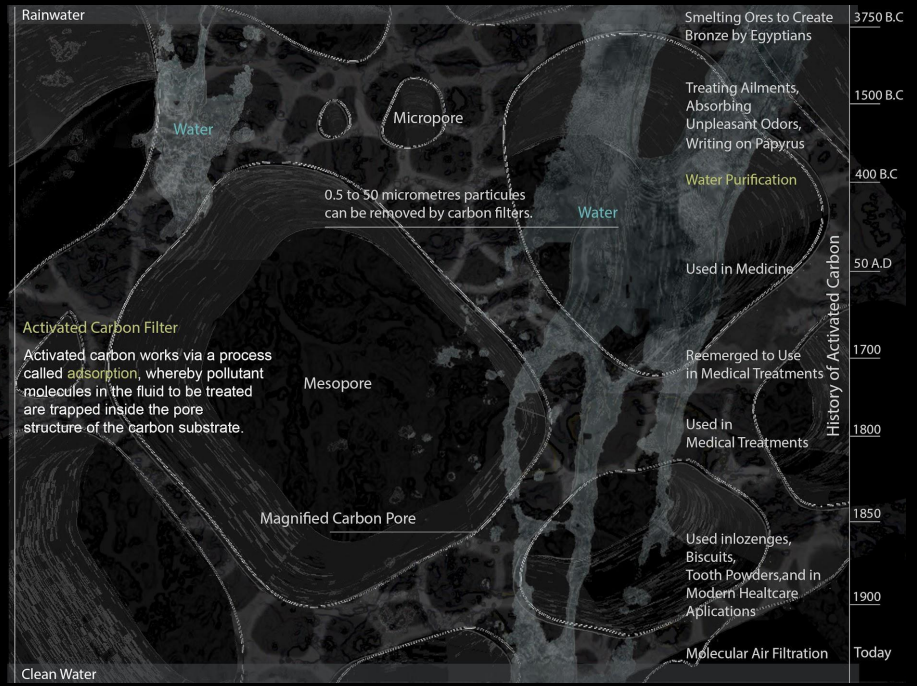
2019	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
PRECIPITATION (IN)	3.58	3.14	3.87	4.55	6.82	5.46	5.77	3.70	0.95	6.15	1.95	7.09
NYC precipitation **53.03" (1346.962 mm)** in 2019, NOAA records												

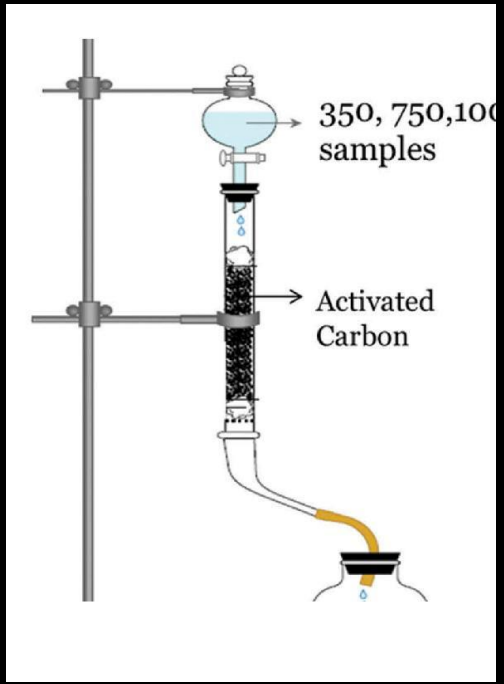
https://www.ncdc.noaa.gov/cdo-web/datasets/GHCND/stations/GHCND:USW00094728/detail


100 µm

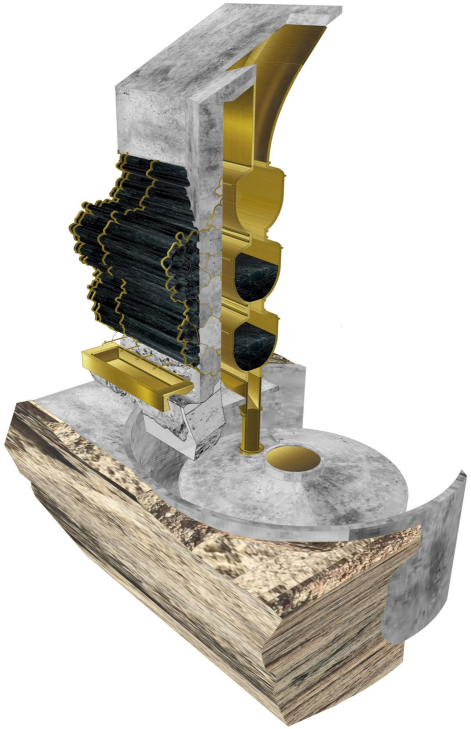


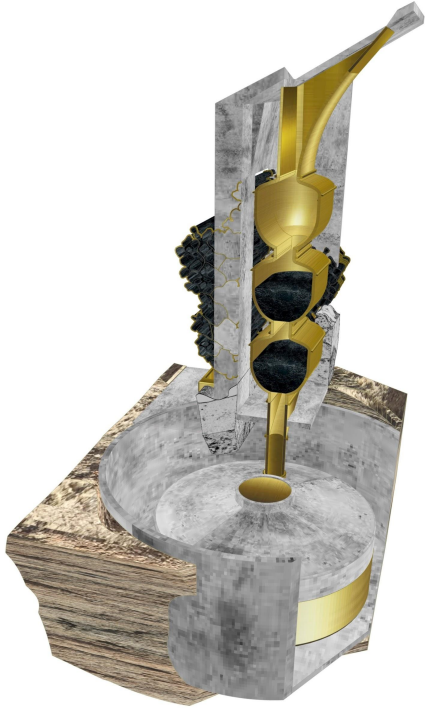
"Biochar—plant and animal material turned into charcoal to store carbon—has been proposed as a climate mitigation strategy. But the data so far are inconclusive. To avoid the worst consequences of climate change, we need to significantly reduce global warming emissions and if possible remove existing carbon dioxide from the atmosphere."

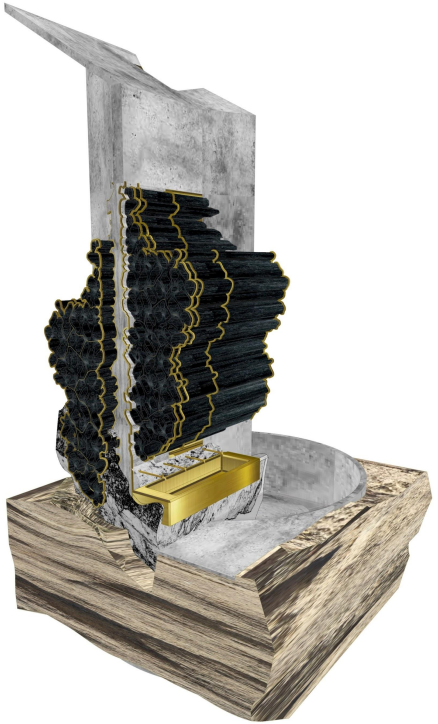




HYBRID MODEL

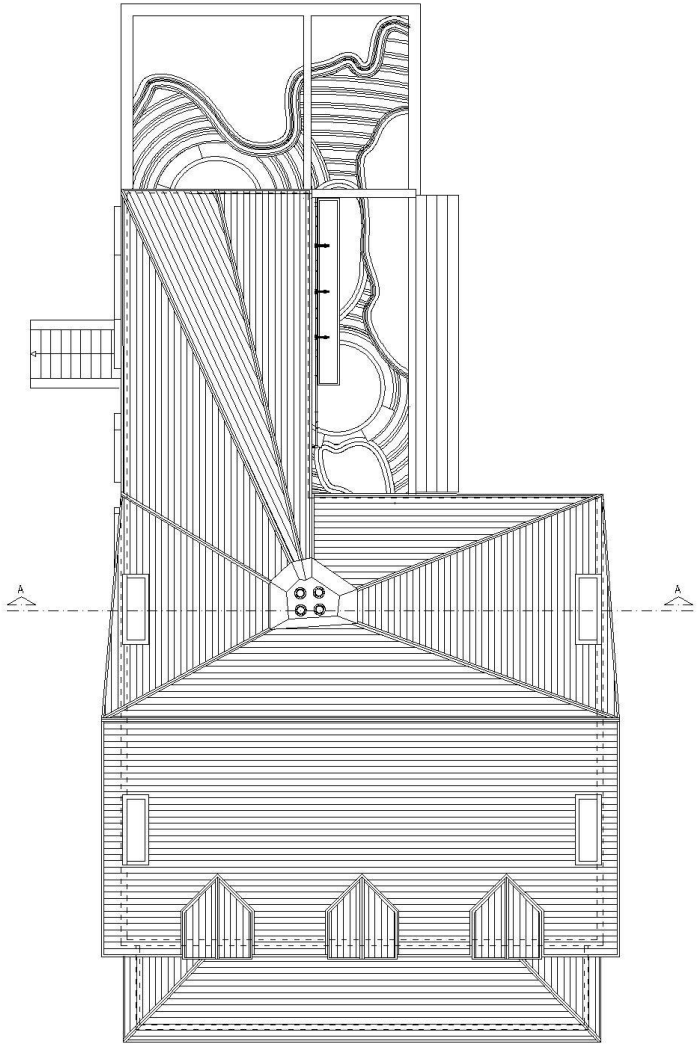


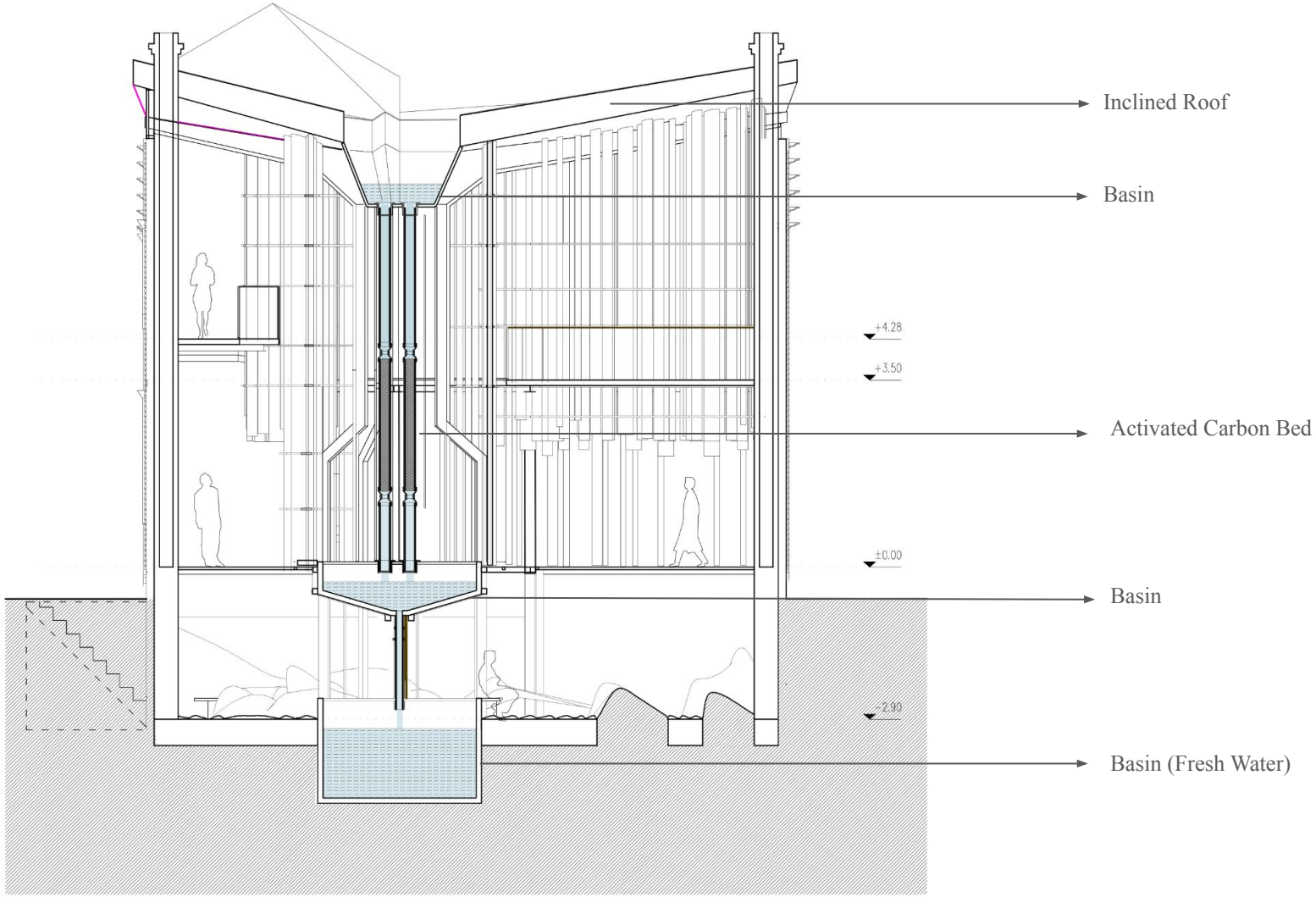


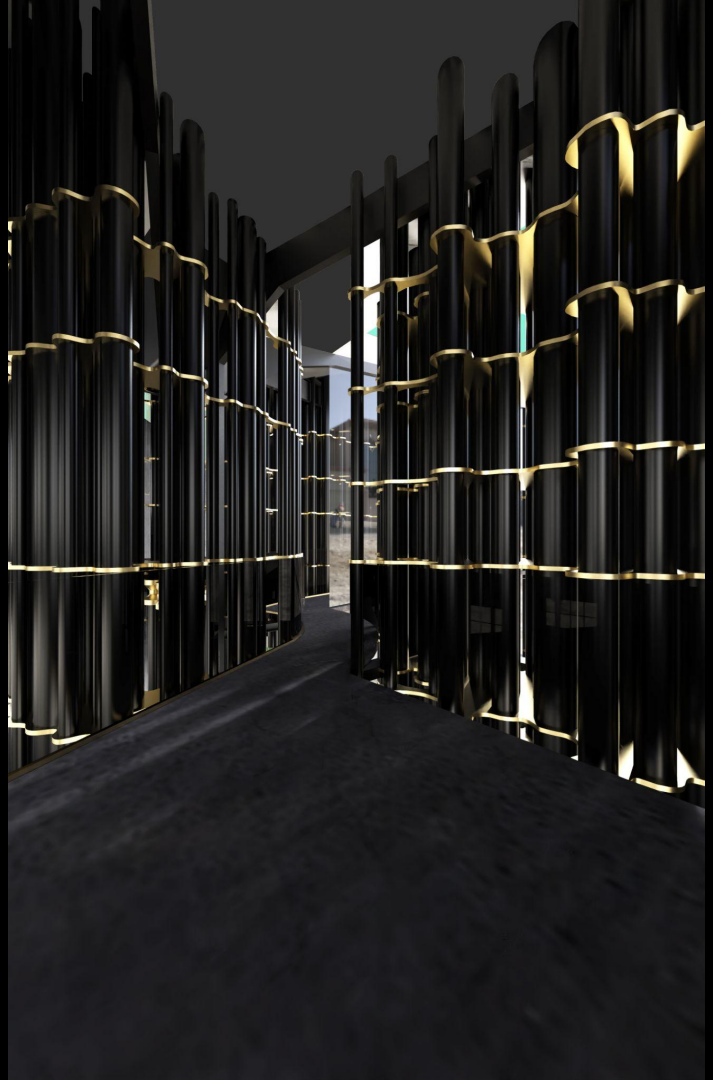


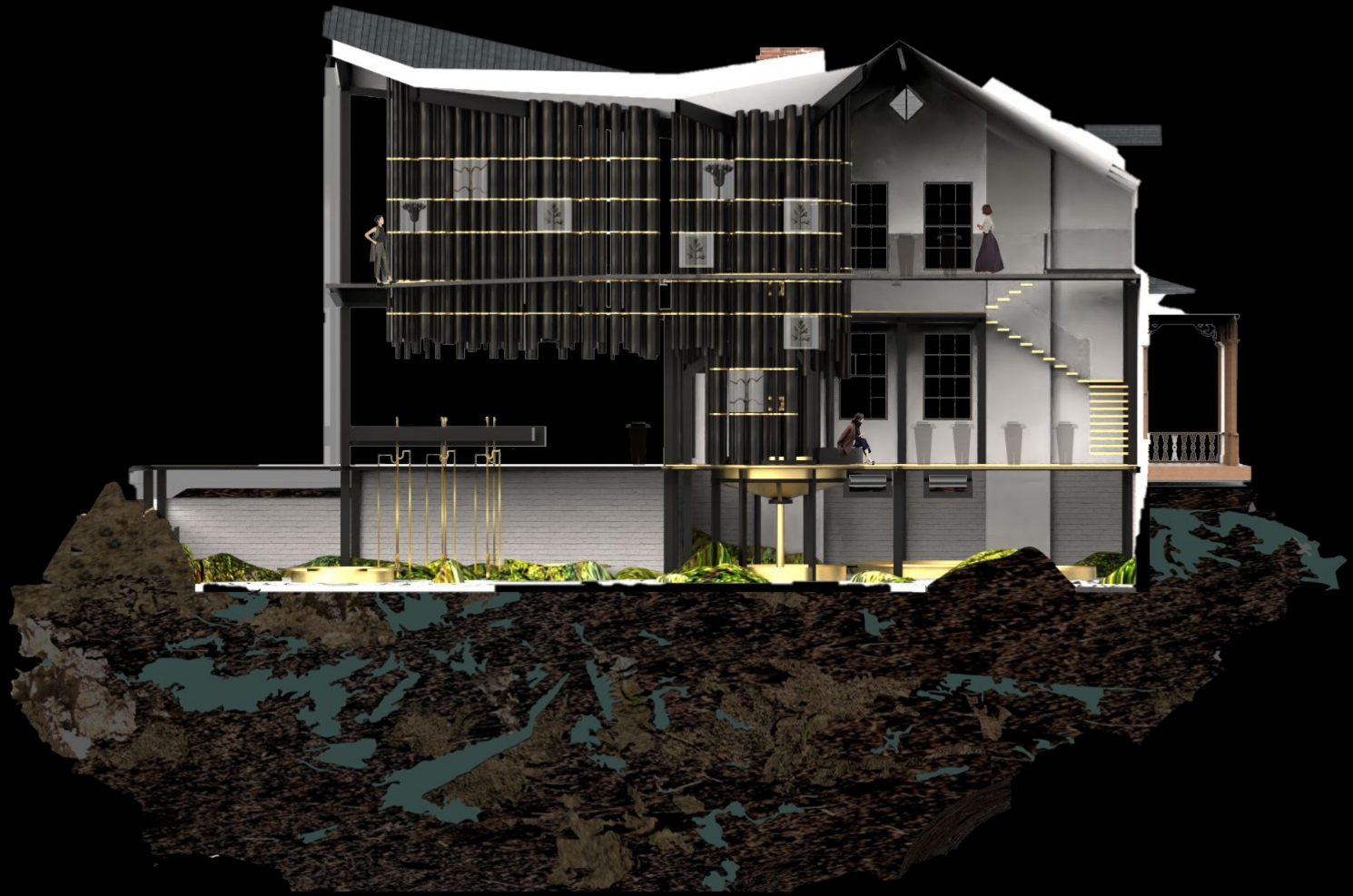
THE CARBON RAINWATER FILTERING//PROJE

Description




Inclined Roof
Basin
+4.28
+3.50
Activated Carbon Bed
±0.00
Basin
-2.90
Basin (Fresh Water)





SOIL WORKSHOP//SOIL BORINGS-LUA

Description

PHYSICAL PROPERTIES

LUA

***PAST**/PRESENT/FUTURE*

Kumsal Akdogan

LUA - Laguardia-Urban Land Complex, 0 to 3 percent slopes

60% Laguardian (High amount of carbon)
35% Urban Land
Minor Components:
7% Ebbets
7% Greenbelt
1% Sesaucus

Laguardia

- Drainage class: Well drained
- Runoff class: Low
- Depth to water table: more than 80 inches
- Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
- Available water capacity Low (about 3.1 inches)

Urban Land

- Runoff class: Very high
- Capacity of the most limiting layer to transmit water: Very Low
- Available water capacity: Very Low

REFERENCES

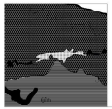
Use Chicago Manual Style
Surname, First name. Year. Title. Publisher. Website.

SCALE: AS NOTED

LEGEND

SAND
SILT
CLAY
WATER

SOIL PROPERTIES
SCALE=10:1



26 - 79 inches(%): sand 17, 76, 78
silt 13, 17, 62
clay 3, 8, 27

SOIL BORING
SCALE=1:100

NOTES

SOIL

45% Minerals (clay, silt, sand, gravel, stones).

25% Water (the amount varies depending upon precipitation and the water-holding capacity of the soil).

25% Air (an essential ingredient for living organisms).
5% Organic matter or humus (both living and dead organisms).

Laguardia

*Au - 0 to 8 inches: cobbly-artifactual coarse sandy loam
*SCu - 8 to 26 inches: Gravelly-artifactual silt loam, extremely stony-artifactual coarse sandy loam, very cobbly-artifactual coarse sandy loam
*Cu - 26 to 79 inches: Very cobbly-artifactual coarse sandy loam, very gravelly-artifactual silt loam, extremely stony-artifactual coarse sandy loam

Available water capacity

0 - 8 inches: 0.85 - 6.08 - 0.13
8 - 26 inches: 0.62 - 8.06 - 0.17
26 - 79 inches: 0.02 - 0.04 - 0.14

Soil susceptibility to surface sealing

Low

Soil susceptibility to compaction

Rock Fragments, 0 - 12 inches
Value: 1.00
Soil structure grade, 0 - 12 inches
Value: 1.00
Subsetal
Value: 1.00
Soil Texture, 0 - 12 inches
Value: 0.50

Urban Land

M - 0 to 15 inches: cemented material
2*C - 15 to 79 inches: gravelly sandy loam, silt loam

Ebbets

0 - 7 inches: Sandy Loam
7 - 27 inches: Stony sandy loam, silt loam, gravelly-artifactual sandy loam
27 - 72 inches: Artifactual silt loam, very gravelly-artifactual loamy coarse sand

- Runoff class: Low

Greenbelt

0 - 5 inches: Loam
5 - 16 inches: Loam,silt loam,cobbly sandy loam
16 - 30 inches: Loam, silt loam, cobbly sandy loam
30 - 79 inches: Sandy loam, silt loam, cobbly sandy loam

- Runoff class: Low

Sesaucus

0 - 6 inches: Gravelly-artifactual fine sandy loam
6 - 17 inches: Very artifactual fine sandy loam, extremely artifactual loamy coarse sand, very artifactual silt loam
17 - 35 inches: Extremely cobbly-artifactual fine sandy loam, very gravelly-artifactual silt loam, extremely stony-artifactual loamy coarse sand
35 - 65 inches: Extremely cobbly-artifactual fine sandy loam, very gravelly-artifactual silt loam, extremely stony-artifactual loamy coarse sand

- Runoff class: Medium

PHYSICAL PROPERTIES

LUA

*PRESENT/**FUTURE***

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- Capacity of the most limiting layer to transmit water: Very Low
- Available water capacity: Very Low

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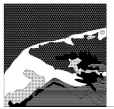
SAND
SILT
CLAY
WATER

SOIL PROPERTIES
SCALE=10:1



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SCALE=1:100

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Available water capacity

0 - 8 inches: 0.85 - 6.08 - 0.13
8 - 26 inches: 0.62 - 8.06 - 0.17
26 - 79 inches: 0.02 - 0.04 - 0.14

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Soil susceptibility to compaction

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Soil structure grade, 0 - 12 inches
Value: 1.00
Subsetal
Value: 1.00
Soil Texture, 0 - 12 inches
Value: 0.50

Urban Land

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2*C - 15 to 79 inches: gravelly sandy loam, silt loam

Ebbets

0 - 7 inches: Sandy Loam
7 - 27 inches: Stony sandy loam, silt loam, gravelly-artifactual sandy loam
27 - 72 inches: Artifactual silt loam, very gravelly-artifactual loamy coarse sand

- Runoff class: Low

Greenbelt

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5 - 16 inches: Loam,silt loam,cobbly sandy loam
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30 - 79 inches: Sandy loam, silt loam, cobbly sandy loam

- Runoff class: Low

Sesaucus

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- Runoff class: Medium

PHYSICAL PROPERTIES

LUA

*PRESENT/**FUTURE***

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- Runoff class: Very high
- Capacity of the most limiting layer to transmit water: Very Low
- Available water capacity: Very Low

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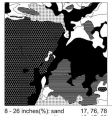
SCALE: AS NOTED

LEGEND

SAND
SILT
CLAY
WATER

SOIL PROPERTIES
SCALE=10:1



8 - 26 inches(%): sand 17, 76, 78
silt 13, 17, 62
clay 3, 8, 27

SOIL BORING
SCALE=1:100

NOTES

Frequency of flooding: none

SOIL

45% Minerals (clay, silt, sand, gravel, stones).

25% Water (the amount varies depending upon precipitation and the water-holding capacity of the soil).

25% Air (an essential ingredient for living organisms).
5% Organic matter or humus (both living and dead organisms).

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*Cu - 26 to 79 inches: Very cobbly-artifactual coarse sandy loam, very gravelly-artifactual silt loam, extremely stony-artifactual coarse sandy loam

Urban Land

M - 0 to 15 inches: cemented material
2*C - 15 to 79 inches: gravelly sandy loam, silt loam

Ebbets

0 - 7 inches: Sandy Loam
7 - 27 inches: Stony sandy loam, silt loam, gravelly-artifactual sandy loam
27 - 72 inches: Artifactual silt loam, very gravelly-artifactual loamy coarse sand

- Runoff class: Low

Greenbelt

0 - 5 inches: Loam
5 - 16 inches: Loam,silt loam,cobbly sandy loam
16 - 30 inches: Loam, silt loam, cobbly sandy loam
30 - 79 inches: Sandy loam, silt loam, cobbly sandy loam

- Runoff class: Low

Sesaucus

0 - 6 inches: Gravelly-artifactual fine sandy loam
6 - 17 inches: Very artifactual fine sandy loam, extremely artifactual loamy coarse sand, very artifactual silt loam
17 - 35 inches: Extremely cobbly-artifactual fine sandy loam, very gravelly-artifactual silt loam, extremely stony-artifactual loamy coarse sand
35 - 65 inches: Extremely cobbly-artifactual fine sandy loam, very gravelly-artifactual silt loam, extremely stony-artifactual loamy coarse sand

- Runoff class: Medium

SOIL WORKSHOP//SOIL BORINGS-LUB-HOUSE 14

Description

PHYSICAL PROPERTIES

LUB - HOUSE 14

***PAST**/PRESENT/FUTURE*

Kumsal Akdogan

LUB - Laguardia-Urban Land Complex,
3 to 8 percent slopes

60% Laguardian (High amount of carbon)
25% Urban Land
Minor Components:
7% Elbets
7% Greenbelt
1% Secaucus

Laguardia

- Drainage class: Well drained
- Runoff class: Medium
- Depth to water table: more than 80 inches
- Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
- Available water capacity Low (about 3.1 inches)

Urban Land

- Runoff class: Very high
- Capacity of the most limiting layer to transmit water: Very Low
- Available water capacity: Very Low

REFERENCES

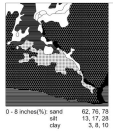
Use Chicago Manual Style

SCALE: AS NOTED

LEGEND

SAND
SILT
CLAY
WATER

SOIL PROPERTIES
SCALE=10:1



0 - 8 inches(%): sand 62, 76, 78
silt 13, 17, 28
clay 3, 8, 10

SOIL BORING
SCALE=1:100

NOTES

SOIL

40% Minerals (clay, silt, sand, gravel, stones).

25% Water (the amount varies depending upon precipitation and the water-holding capacity of the soil).

25% Air (an essential ingredient for living organisms).
5% Organic matter or humus (both living and dead organisms).

Laguardia
*Au - 0 to 8 inches: cobbly-artifactual coarse sandy loam
*BCu - 8 to 26 inches: very cobbly-artifactual coarse sandy loam
*Cu - 26 to 79 inches: very cobbly-artifactual coarse sandy loam

Available water capacity
0 - 8 inches: 0.05 - 0.09 - 0.13
8 - 26 inches: 0.02 - 0.06 - 0.17
26 - 79 inches: 0.02 - 0.04 - 0.14

Soil susceptibility to surface sealing
Low

Soil susceptibility to compaction
Rock Fragments, 0 - 12 inches
Value: 1.00
Soil structure grade, 0 - 12 inches
Value: 1.00
Subaerial
Value: 1.00
Soil Texture, 0 - 12 inches
Value: 0.50

Urban Land
M - 0 to 15 inches: cemented material
2*C - 15 to 79 inches: gravelly sandy loam

Elbetts
*A - 0 to 7 inches: sandy loam
*Bwu - 7 to 27 inches: gravelly-artifactual sandy loam, silt loam, stony sandy loam
2*Cu - 27 to 72 inches: very gravelly- artifactual loamy coarse sand, artifactual silt loam
- Runoff class: Medium

Greenbelt
*A - 0 to 5 inches: loam
*Bw1 - 5 to 16 inches: cobbly sandy loam, silt loam, loam
*Bw2 - 16 to 30 inches: cobbly sandy loam, silt loam, loam
*C - 30 to 79 inches: cobbly sandy loam, silt loam, sandy loam
- Runoff class: Medium

Secaucus
*Au - 0 to 6 inches: gravelly-artifactual fine sandy loam
*Cu1 - 6 to 17 inches: very artifactual silt loam, extremely artifactual loamy coarse sand, very artifactual fine sandy loam
*Cu2 - 17 to 35 inches: extremely stony-artifactual loamy coarse sand, very gravelly-artifactual silt loam, extremely cobbly-artifactual fine sandy loam
*Cu3 - 35 to 65 inches: extremely stony-artifactual loamy coarse sand, very gravelly-artifactual silt loam, extremely cobbly-artifactual fine sandy loam
- Runoff class: High

PHYSICAL PROPERTIES

LUB - HOUSE 14

***PRESENT**/FUTURE*

Kumsal Akdogan

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3 to 8 percent slopes

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7% Greenbelt
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- Available water capacity Low (about 3.1 inches)

Urban Land

- Runoff class: Very high
- Capacity of the most limiting layer to transmit water: Very Low
- Available water capacity: Very Low

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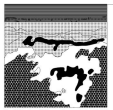

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0 - 8 inches: 0.05 - 0.09 - 0.13
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Value: 1.00
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2*C - 15 to 79 inches: gravelly sandy loam

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*A - 0 to 7 inches: sandy loam
*Bwu - 7 to 27 inches: gravelly-artifactual sandy loam, silt loam, stony sandy loam
2*Cu - 27 to 72 inches: very gravelly- artifactual loamy coarse sand, artifactual silt loam
- Runoff class: Medium

Greenbelt
*A - 0 to 5 inches: loam
*Bw1 - 5 to 16 inches: cobbly sandy loam, silt loam, loam
*Bw2 - 16 to 30 inches: cobbly sandy loam, silt loam, loam
*C - 30 to 79 inches: cobbly sandy loam, silt loam, sandy loam
- Runoff class: Medium

Secaucus
*Au - 0 to 6 inches: gravelly-artifactual fine sandy loam
*Cu1 - 6 to 17 inches: very artifactual silt loam, extremely artifactual loamy coarse sand, very artifactual fine sandy loam
*Cu2 - 17 to 35 inches: extremely stony-artifactual loamy coarse sand, very gravelly-artifactual silt loam, extremely cobbly-artifactual fine sandy loam
*Cu3 - 35 to 65 inches: extremely stony-artifactual loamy coarse sand, very gravelly-artifactual silt loam, extremely cobbly-artifactual fine sandy loam
- Runoff class: High

PHYSICAL PROPERTIES

LUB - HOUSE 14

*PRESENT/**FUTURE***

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SAND
SILT
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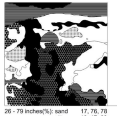


26 - 79 inches(%): sand 17, 76, 78
silt 13, 17, 62
clay 3, 8, 27

SOIL BORING
SCALE=1:100

NOTES

Frequency of flooding: none

SOIL

40% Minerals (clay, silt, sand, gravel, stones).

25% Water (the amount varies depending upon precipitation and the water-holding capacity of the soil).

25% Air (an essential ingredient for living organisms).
5% Organic matter or humus (both living and dead organisms).

Laguardia
*Au - 0 to 8 inches: cobbly-artifactual coarse sandy loam
*BCu - 8 to 26 inches: very cobbly-artifactual coarse sandy loam
*Cu - 26 to 79 inches: very cobbly-artifactual coarse sandy loam

Available water capacity
0 - 8 inches: 0.05 - 0.09 - 0.13
8 - 26 inches: 0.02 - 0.06 - 0.17
26 - 79 inches: 0.02 - 0.04 - 0.14

Soil susceptibility to surface sealing
Low

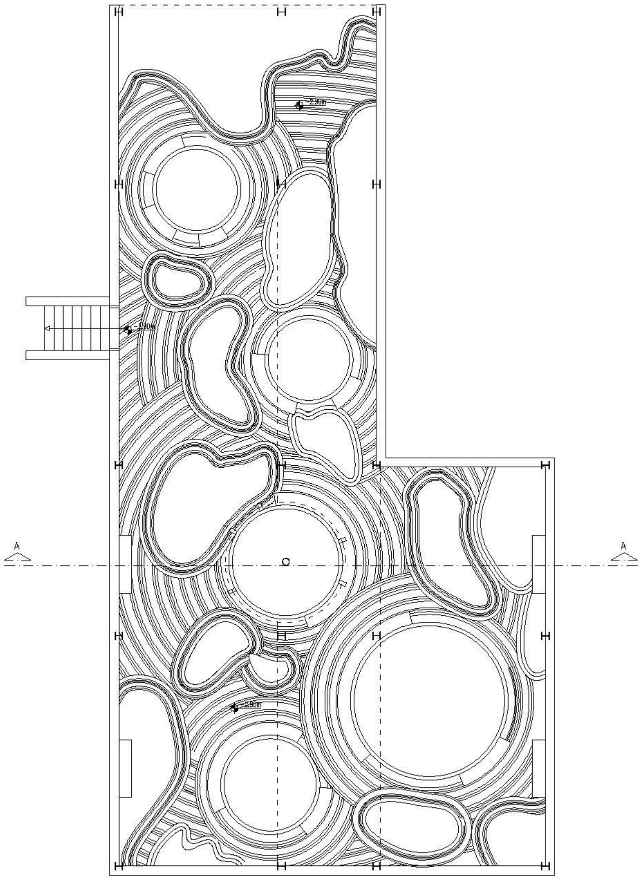
Soil susceptibility to compaction
Rock Fragments, 0 - 12 inches
Value: 1.00
Soil structure grade, 0 - 12 inches
Value: 1.00
Subaerial
Value: 1.00
Soil Texture, 0 - 12 inches
Value: 0.50

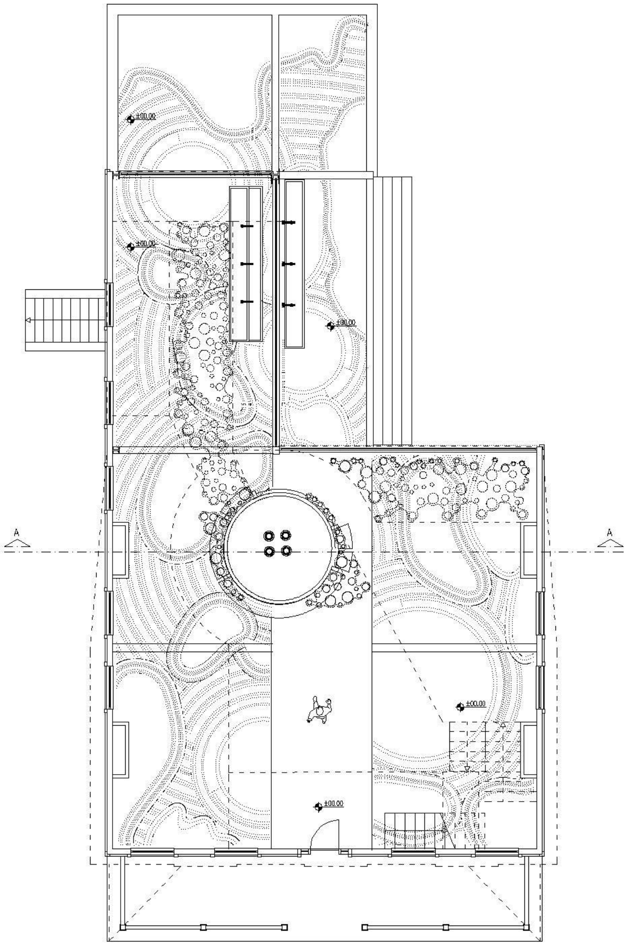
Urban Land
M - 0 to 15 inches: cemented material
2*C - 15 to 79 inches: gravelly sandy loam

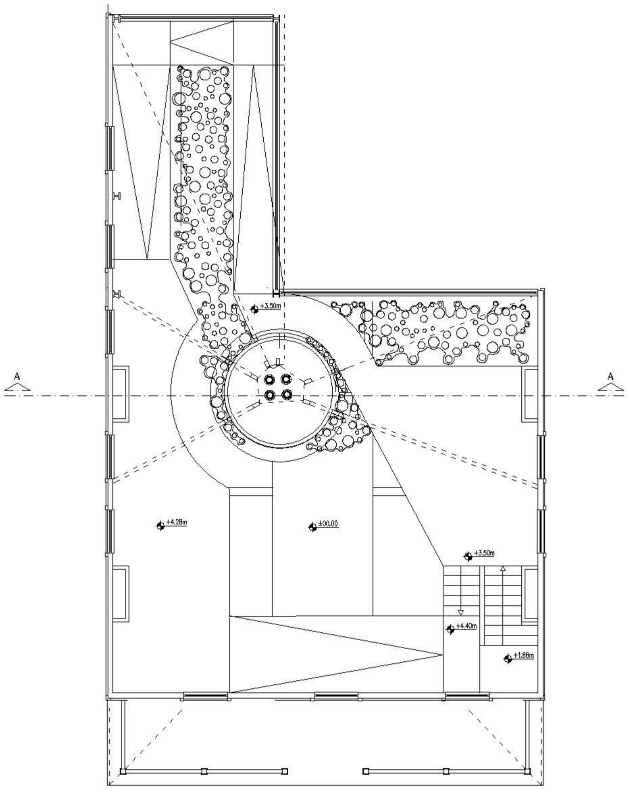
Elbetts
*A - 0 to 7 inches: sandy loam
*Bwu - 7 to 27 inches: gravelly-artifactual sandy loam, silt loam, stony sandy loam
2*Cu - 27 to 72 inches: very gravelly- artifactual loamy coarse sand, artifactual silt loam
- Runoff class: Medium

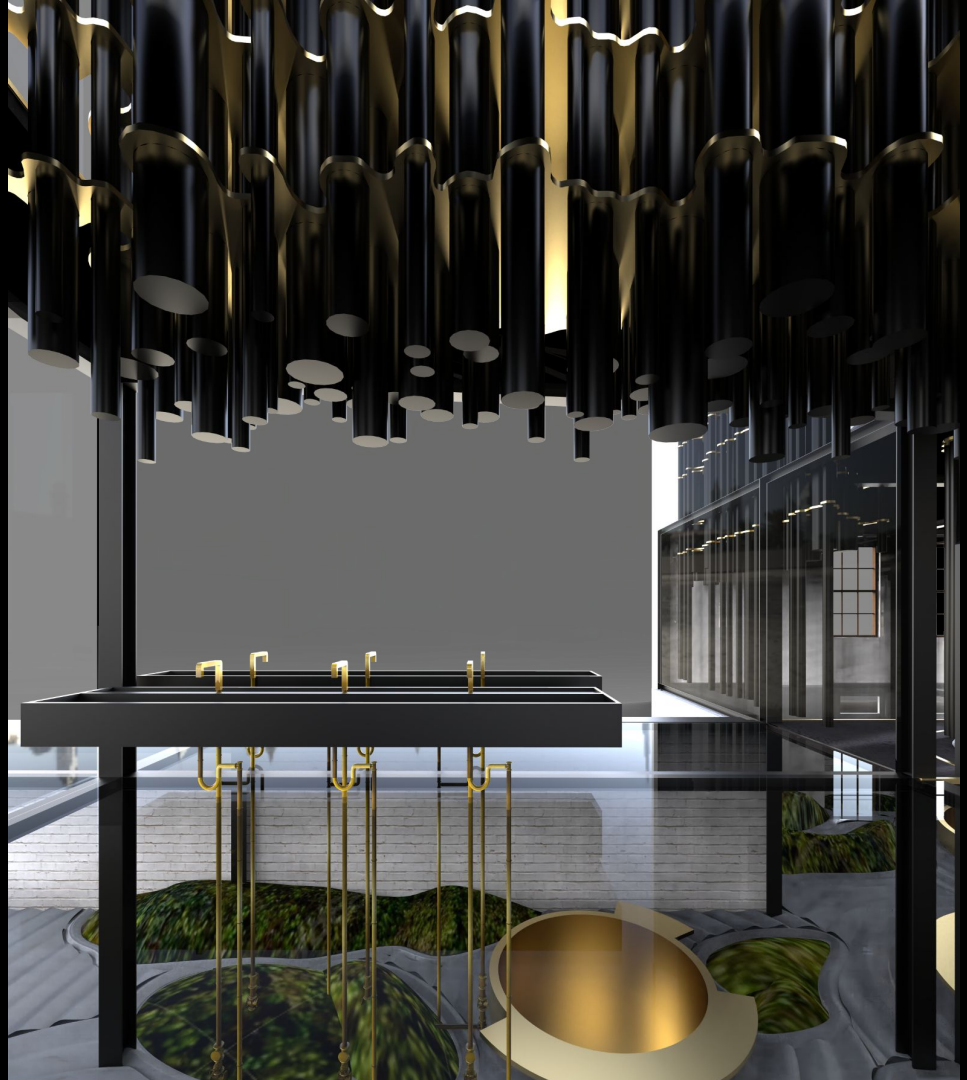
Greenbelt
*A - 0 to 5 inches: loam
*Bw1 - 5 to 16 inches: cobbly sandy loam, silt loam, loam
*Bw2 - 16 to 30 inches: cobbly sandy loam, silt loam, loam
*C - 30 to 79 inches: cobbly sandy loam, silt loam, sandy loam
- Runoff class: Medium

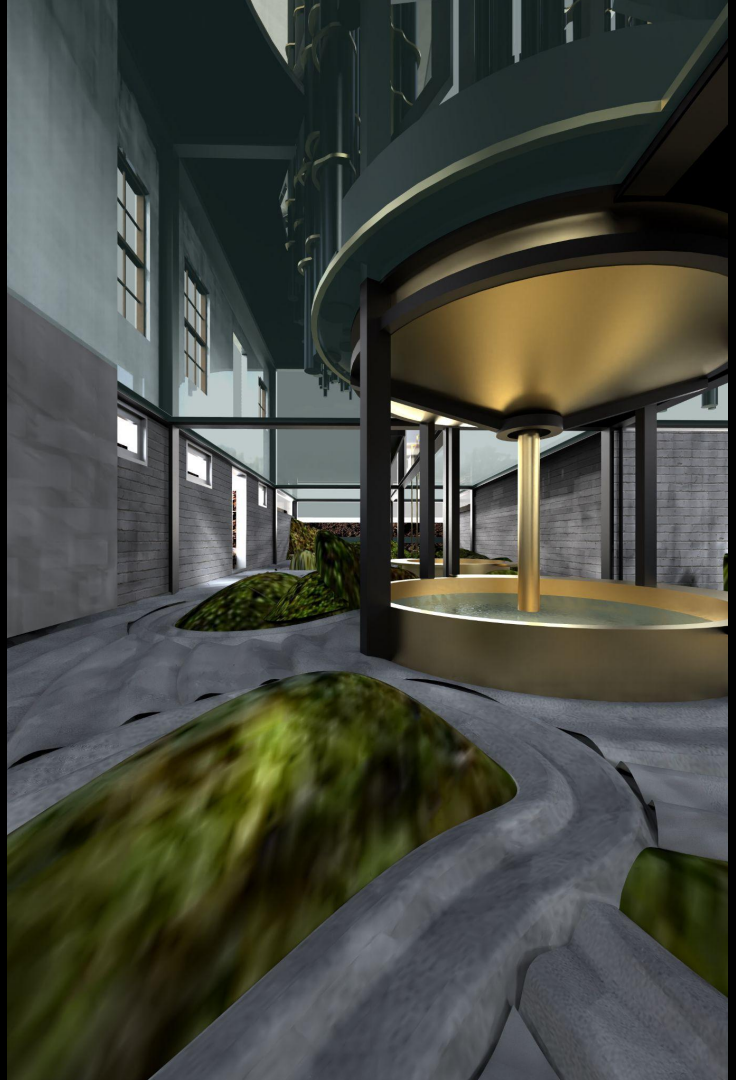
Secaucus
*Au - 0 to 6 inches: gravelly-artifactual fine sandy loam
*Cu1 - 6 to 17 inches: very artifactual silt loam, extremely artifactual loamy coarse sand, very artifactual fine sandy loam
*Cu2 - 17 to 35 inches: extremely stony-artifactual loamy coarse sand, very gravelly-artifactual silt loam, extremely cobbly-artifactual fine sandy loam
*Cu3 - 35 to 65 inches: extremely stony-artifactual loamy coarse sand, very gravelly-artifactual silt loam, extremely cobbly-artifactual fine sandy loam
- Runoff class: High

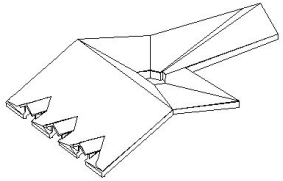

A
-2.90m
A


A
±00.00
A

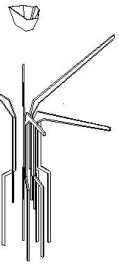

A
+3.50m
+4.28m
±00.00
+4.40m
+1.88m
A





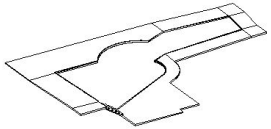


Inclined Roof



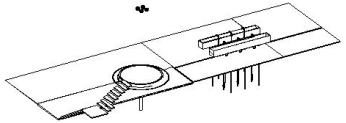
Basin on the roof

Structure

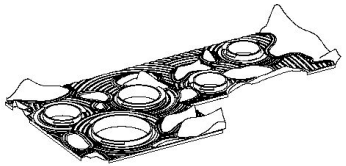


Second Floor, Ramp

Glass Tubes (Embedded Activated Cabon Bed)



First Floor (Faucets, Pool)



Zen Garden

Thank you.