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Mana Tohu Mātauranga o Aotearoa  
New Zealand Qualifications Authority

## **Level 3 Design and Visual Communication 2025**

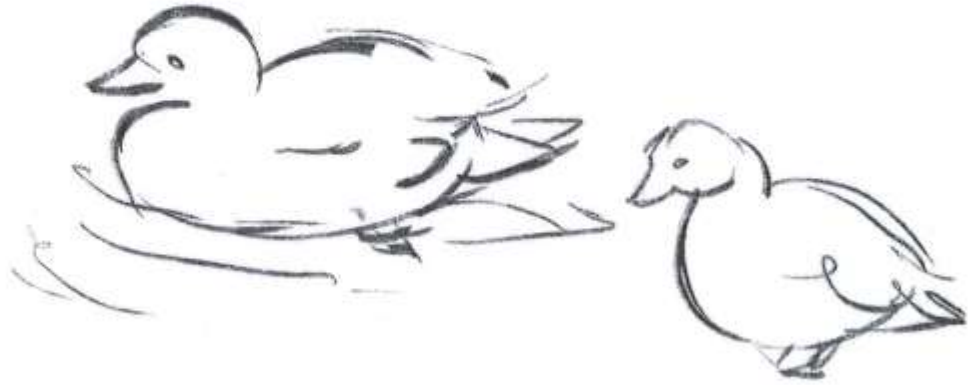
**91627 Initiate design ideas through exploration**

**EXEMPLAR**

**Excellence**

Brown  
Teal

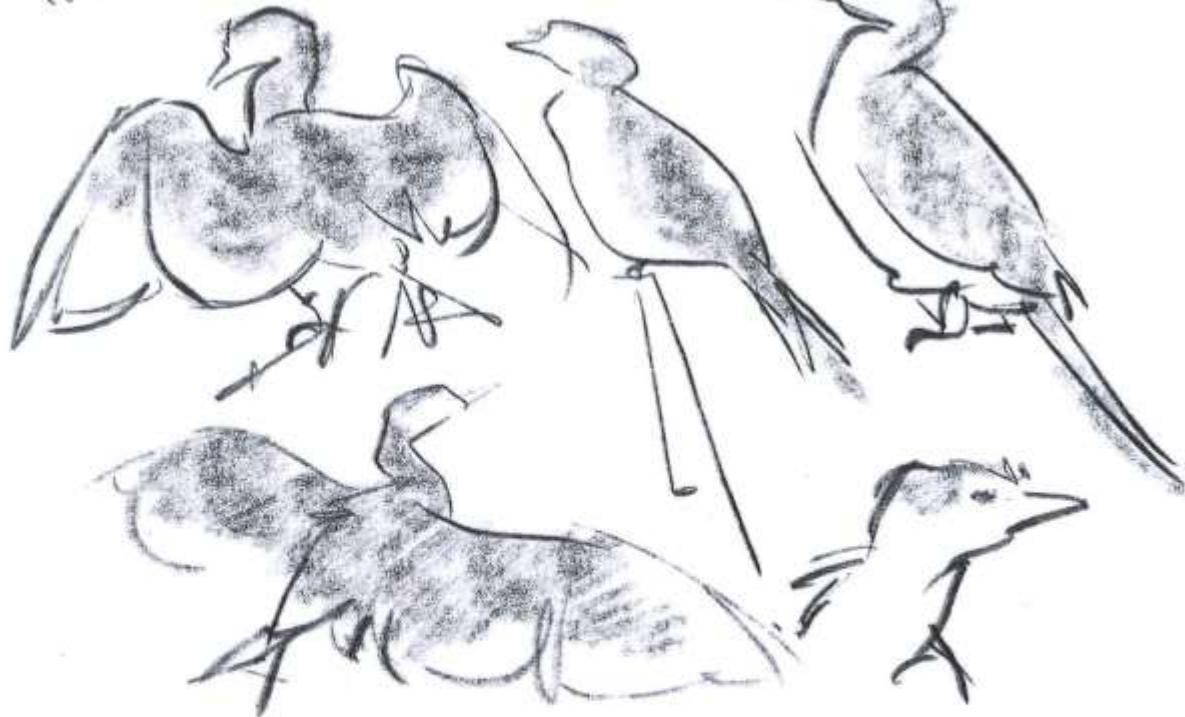
→ near threatened



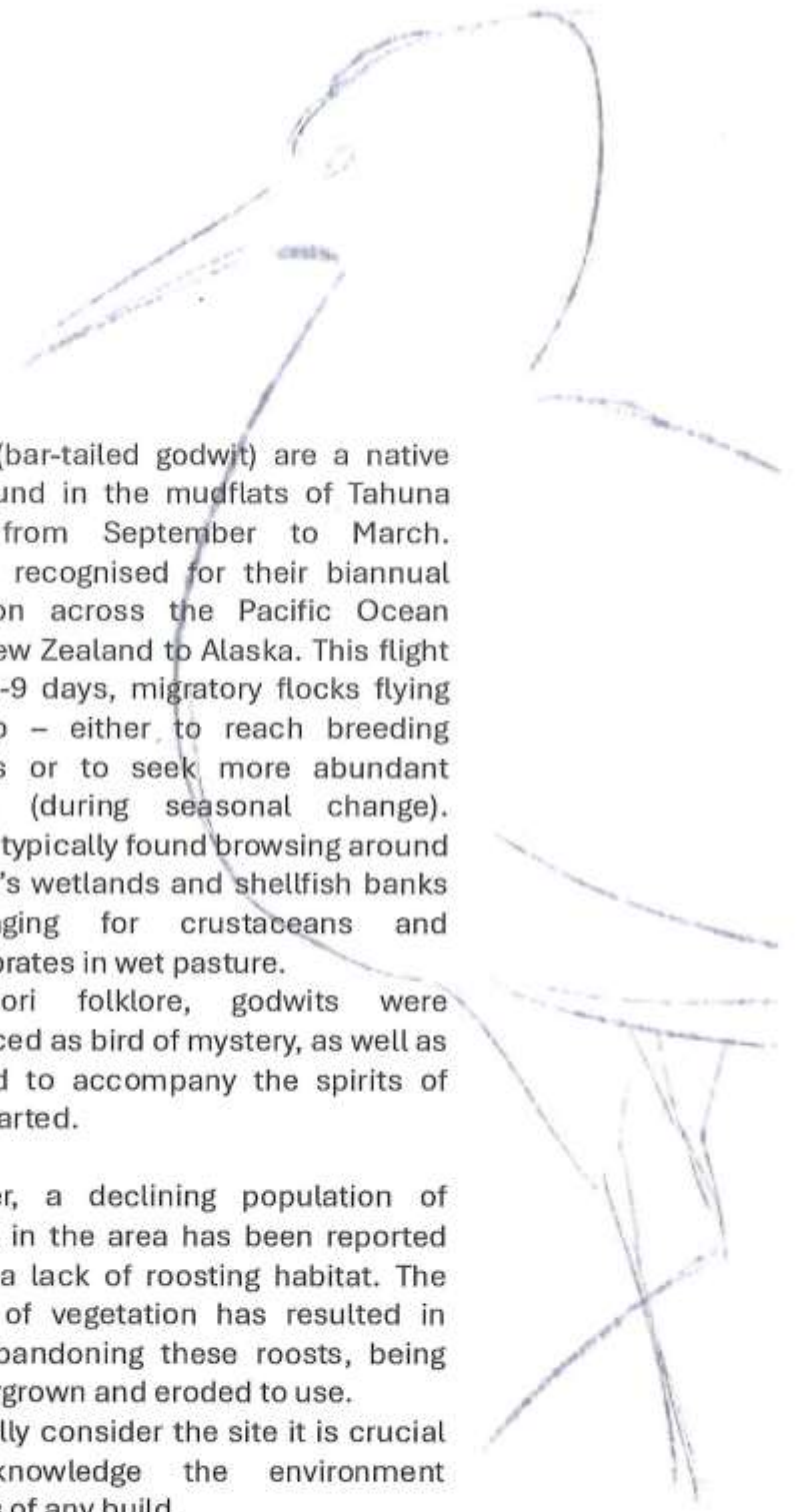
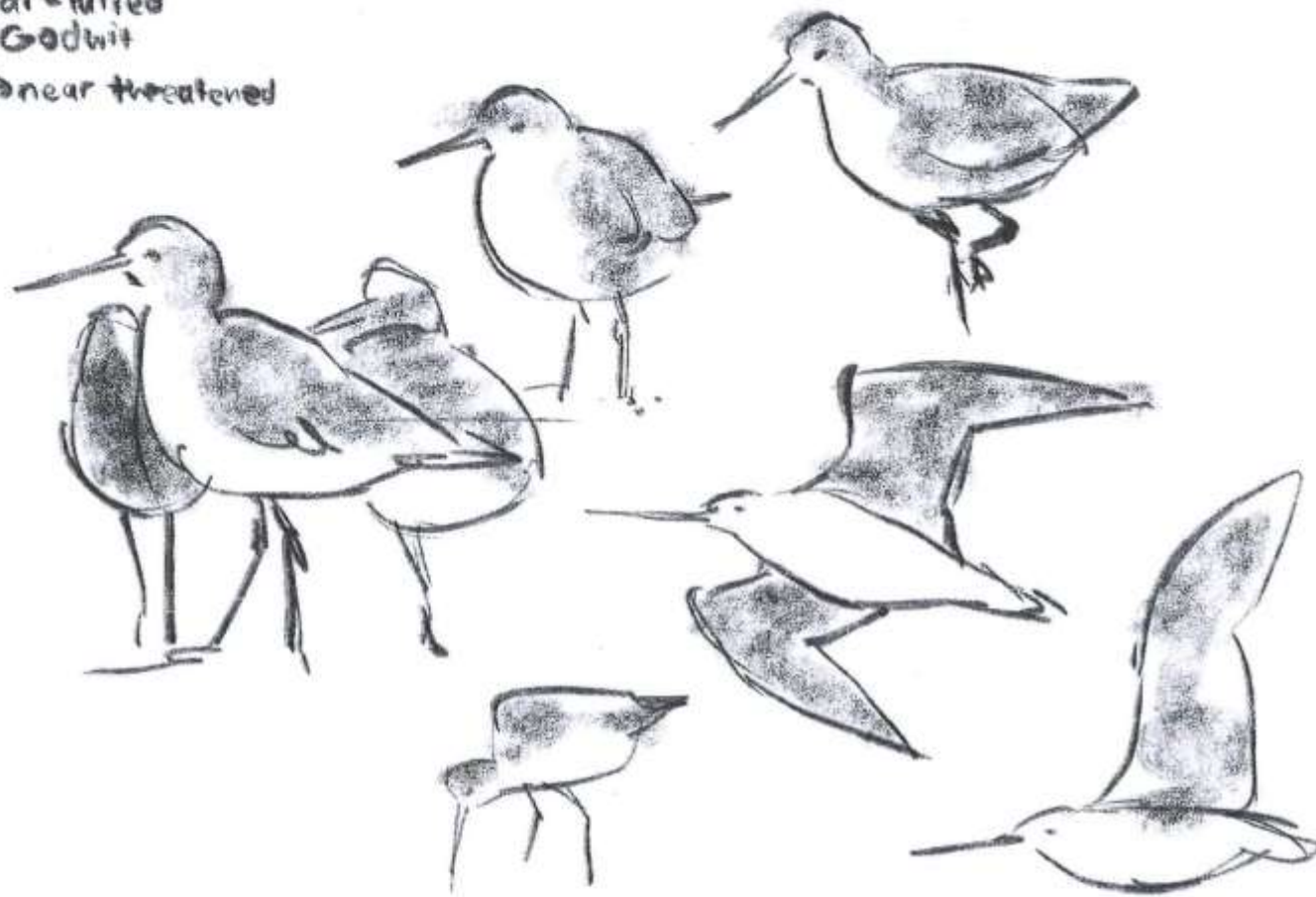
Caspian Tern  
→ nationally  
vulnerable



Little Pied  
Cormorant



Bar-tailed  
Godwit  
→ near threatened



Kuaka (bar-tailed godwit) are a native bird found in the mudflats of Tahuna Torea from September to March. They're recognised for their biannual migration across the Pacific Ocean from New Zealand to Alaska. This flight takes 8-9 days, migratory flocks flying nonstop – either to reach breeding grounds or to seek more abundant regions (during seasonal change). They're typically found browsing around the site's wetlands and shellfish banks – foraging for crustaceans and invertebrates in wet pasture. In Māori folklore, godwits were referenced as bird of mystery, as well as believed to accompany the spirits of the departed.

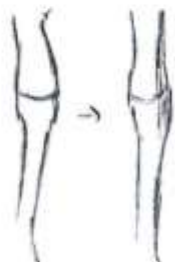
However, a declining population of godwits in the area has been reported due to a lack of roosting habitat. The growth of vegetation has resulted in birds abandoning these roosts, being too overgrown and eroded to use. As to fully consider the site it is crucial to acknowledge the environment impacts of any build.



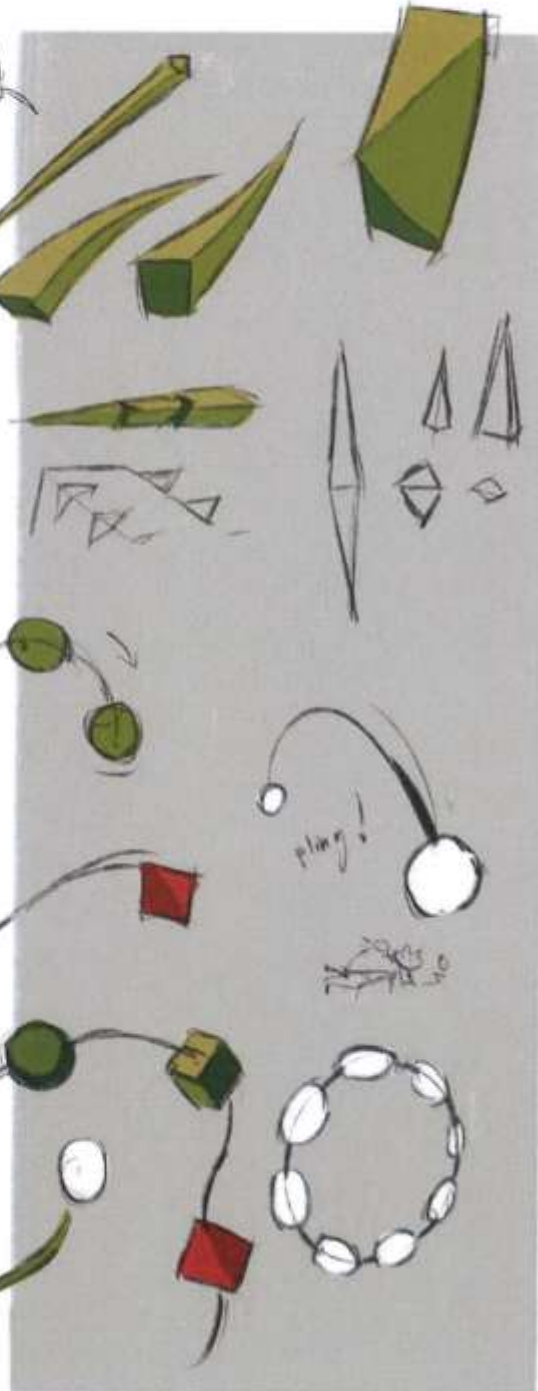
# BAR-TAILED GODWIT



joints of legs  
↳ connection  
↳ stability



RETAYED

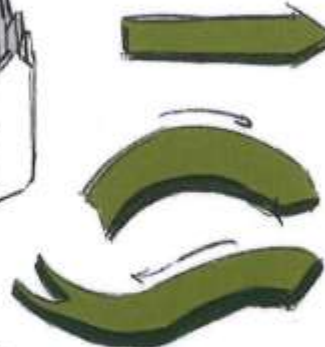
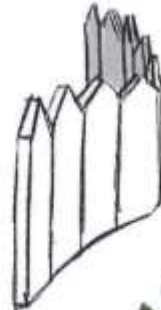


ring!



WING

Layering

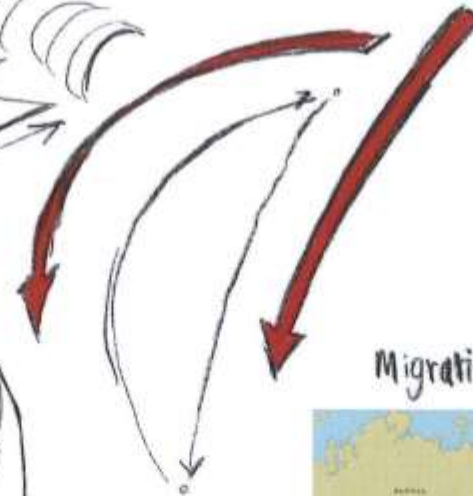


path of godwit wing (during flight)



flow of wing shape  
↳ folds, envelopes

Migration flock



Migration Path





# ENVELOPES

FOLD

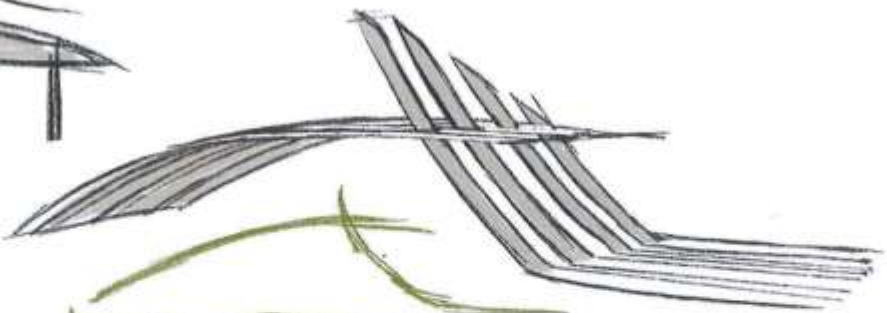
SALZBURG



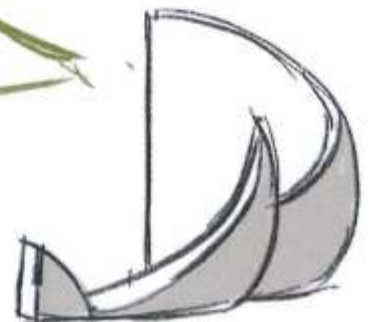
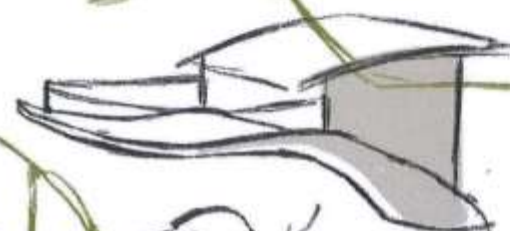
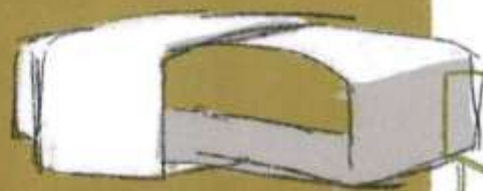
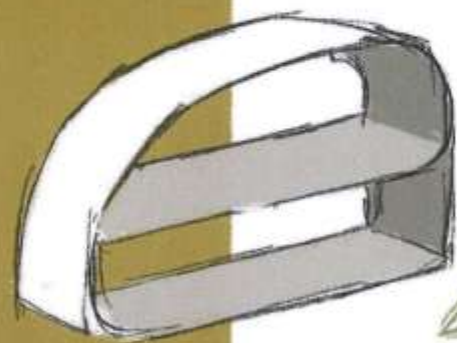
→ shape of wing  
↳ explore movement/flow



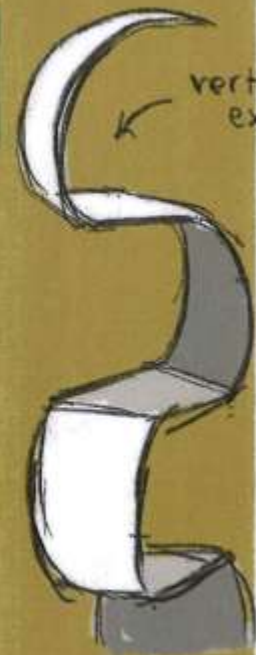
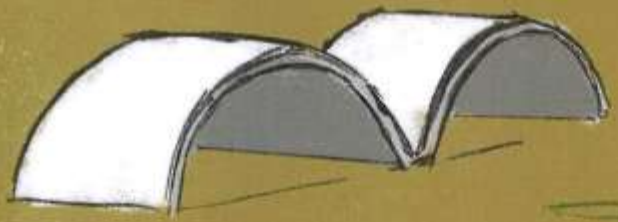
cross-section



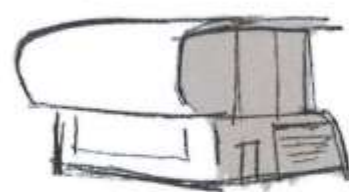
LOOKS LIKE WAVE!



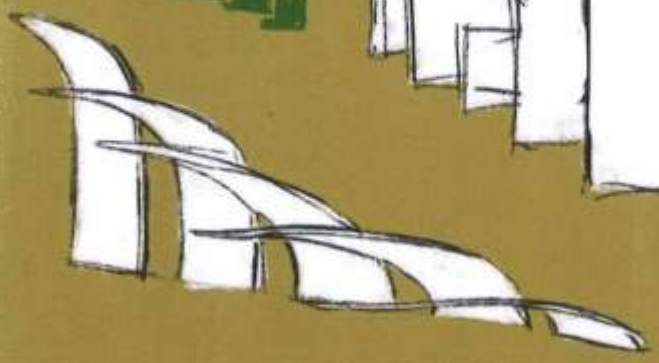
LOOKS LIKE THE HEAD OF A BIRD



vertical extension



GGG



→ repetition

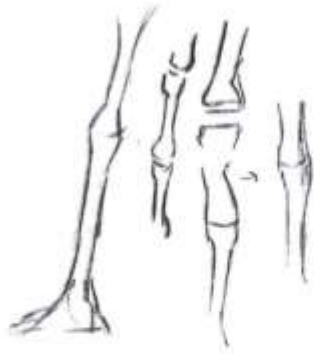
MODERN HOUSE

COOL CHAIR?

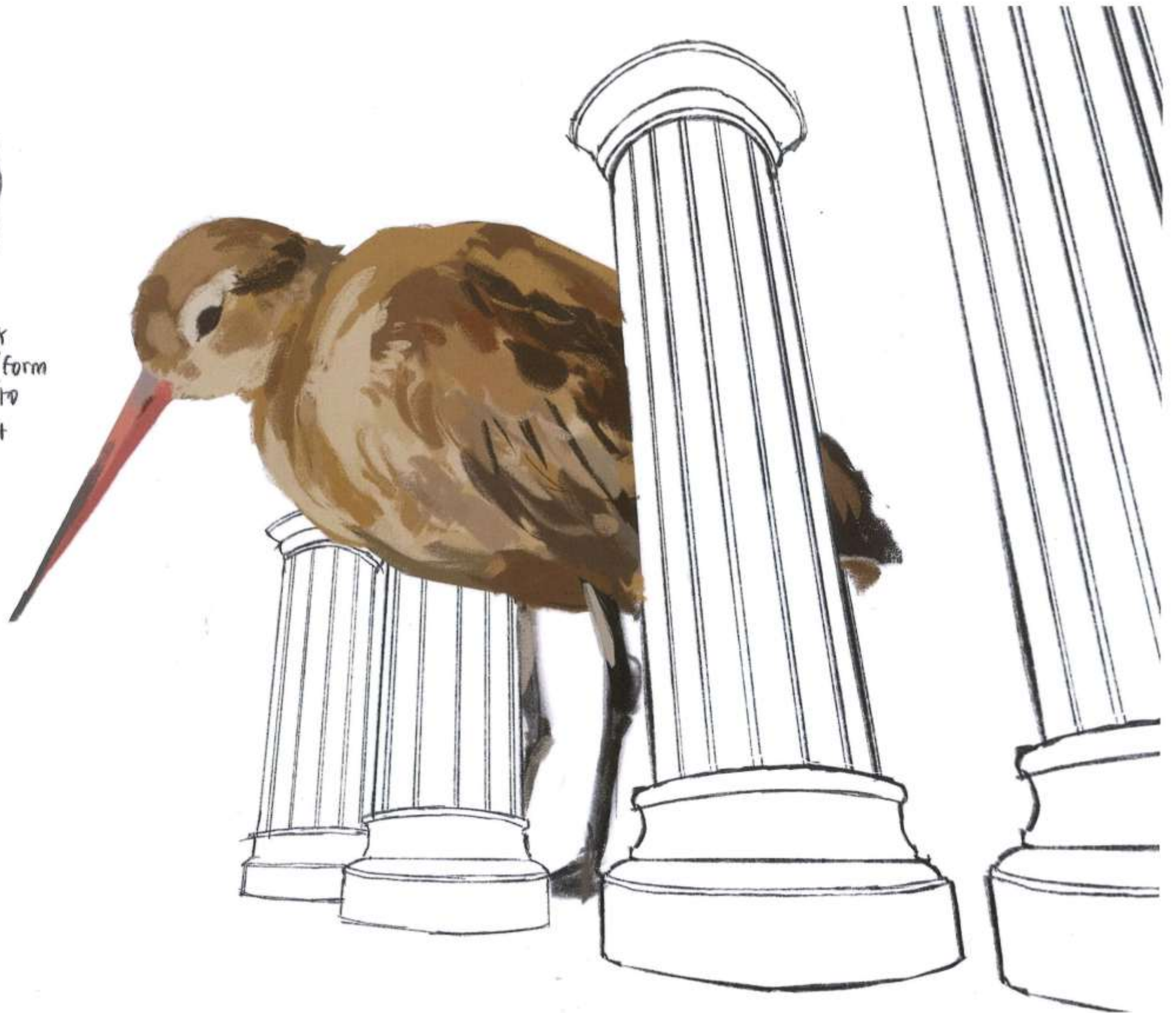


REMINDS ME OF THE OCEAN





→ exploring stability  
↳ pillar forms (form  
is similar to  
jointed godwit  
legs)





# TAHUNA TOREA



Tahuna Torea is an Auckland nature reserve situated in the suburb of Glendowie. The location is both culturally and environmentally rich, home to native wildlife and a prominent history of Māori settlement. Its diverse environmental conditions provide unique constraints to any architectural development on the site. It is important to consider these locational landmarks when establishing the structure of a build.

Tahuna Torea is home to a variety of species – its wetland, coastal, and bush tracks supporting an abundance of native wildlife.

The site was originally used as a food-gathering space, local iwi gathering and harvesting food such as shellfish, kumara, flax, and seafood. The bay was also used as an important trade and travel route. This rich history is still a significant part of Tahuna Torea, decorating the trails through carved patterns across pathways.

Nowadays the space is recognised as a nature reserve, dedicated trails and walkways laid across the site for users to visit the location. There's a variety of people who regularly use the site:

- Walkers/Runners – many walk across the pathways and quiet forestry of Tahuna Torea as to experience a calm and fulfilling trail experience
- Birdwatchers – there's a number of friendly fauna and flora native to the site, and many come to view and photograph these animals.
- Families and children – many families visit the site due to its friendly and accessible trails and natural context.
- Elderly visitors – Tahuna Torea is near an elderly village and many visit the reserve as to exercise and trek amongst its rich vegetation.

# BRIEF

## SITE SPECIFICATIONS

### Accessibility

- The space should be accessible to all users. Due to Tahuna Torea's variety of users, this space should be specifically designed to where anyone can use the site. It should offer universal design and provide structural support for everyone.
- Children and elderly people are frequent users of the site, so the space should be designed as to offer these users aid and support for their own safety while traversing the reserve.

### Community

- The space should be able to perform as a welcoming space to any users and be able to weave communities together through design. It should be able to provide enough space for all visitors/users and give people the opportunity to interact.

### Integrated with Site

- The design should soundly integrate into the environment/site of Tahuna Torea, that be it through material use, shape, or context. It should be able to firmly stand on original foundations without disturbing the pre-existing paths/design of the reserve.

### Sustainability

- Tahuna Torea is a nature reserve and any design based on the site should heavily consider sustainability and work to make the space environmentally friendly.
- Designs should also consider the wildlife and ecosystems of Tahuna Torea. Both plant life and animal life should be considered. Any energy/power developed on the site should also be sustainably sourced. Designs should minimally impact the surrounding environment.

### Shelter

- Shelter is a primary aspect the design should consider. This is due to the openness of the site and its vulnerability to weather conditions. Rain, wind, and light should all be considered while designing, being sure to stabilise the impact of these conditions throughout the day.

### Durability

- The design should firmly stay on the site and provide support for a significant duration without major damage. This should be carried out through using specific materials and construction which aids in providing stability.
- Tahuna Torea has a number of environmental conditions which need to be considered (wind, rain, tide) - if not effectively established, the design may impact the surrounding environment and injure users (if components splinter/fall off).



ROBERTA AVENUE



- northern/upper access point to Tahuna Torea
- Roberta Avenue has a toilet, playground, and several restaurants

UPPER NORTH ACCESS POINT



SOUTHERN ACCESS POINT

car park ←



prevailing south-east winds in Auckland

sun path ●

SITE 1



additional wind blowing from ocean

SITE 2

additional wind blowing from ocean



## SITE 1

The first site considered is the lookout which overlooks the estuary. Accessing the site requires crossing a small walkway which splinters off from the primary trail.

It roughly has a length of 4 meters and a width of 3 meters. Thick shrubbery covers the surroundings of the area.

There's a small bench which sits diagonally on the site.

It's used by any visitors of the area who either want a space to rest or view the coastline. Light comes from the east as the sun rises - during the afternoon it is mostly blocked off by vegetation.

### OPPORTUNITIES

- The site allows for extension towards the estuary and beach
- Offers a great open view

### CHALLENGES

- There are certain weather conditions to consider - wind blows continuously from the beach onto the site
- The estuary is an important ecological space, any construction on the area may impact animal species which use the site to feed or nest





## SITE 2

Tahuna Torea offers a self-guided walk through the tracks and pathways that extend throughout the reserve. Part of walk crosses over a wooden boardwalk.

The second site considered is based on this wooden walkway which stretches across a section of the vegetation.

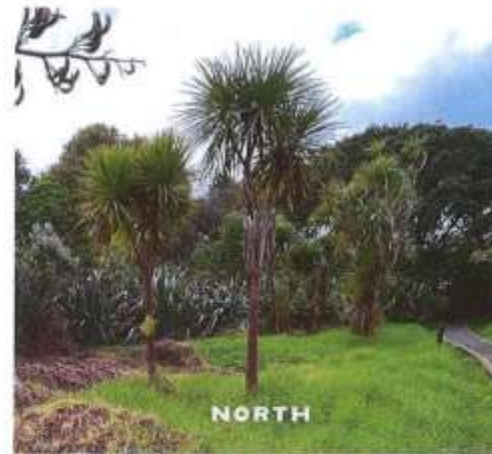
The space is primarily used by walkers and runners, as well as any visitors who visit the site due to its centrality in location. Its construction was to allow trail walkers to cross this large patch of vegetation without getting messy or trampling the smaller flora that grow in the area.

The path is around 39.2 meters in length, with a width of around 0.8 meters. This offers a basic level of structural support for any builds constructed on the site. The path arcs slightly, bending around to reach the other side of the trail path. This factor should be considered as to construct a more dynamic and stable build that builds on/for the site.

The site itself extends another 10 meters in width, giving space to extend the width of path/structure. There are a couple of small trees and bushes near the pathway which need to be considered if any further construction in width is offered. The site is flat, offering opportunities to freely extend without having to identify changes in height.

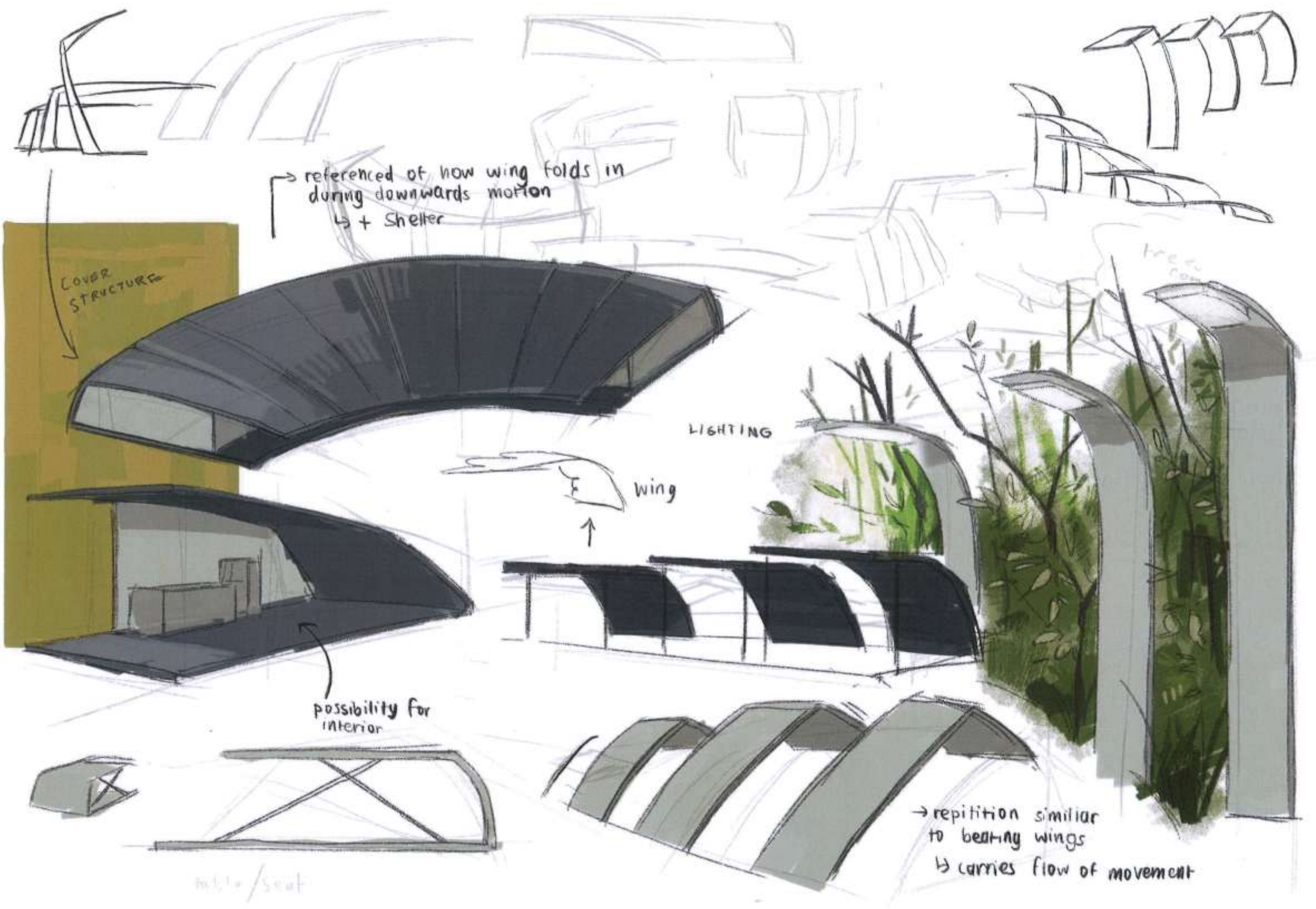
The site is exposed to sunlight throughout the day from the north and the south, the east and west sides of the area being blocked by surrounding vegetation.

On the south side it borders the beach and ocean, while the north is it blocked by small vegetation. Due to this, sea breezes blow across the area from the ocean in the afternoon, whereas a land breeze blows at night - airflow towards the body of water from the land.



## CONSIDERATIONS

- Site size, short width restricts movement and may make it difficult for people to move along
- Lack of stability - the walkway doesn't have any handrails nor banisters, meaning it may pose a certain risk to both the vegetation underneath, as well as any users - especially for anyone who is less physically able (elderly, children, disabled)
- Shelter, pathway is open to elements (especially rain) and may make it difficult to use in certain conditions - possibly slippery
- Location, it is under wetland/vegetation, so constructing support may be challenging



→ referenced of how wing folds in during downwards motion  
↳ + Shelter

COVER STRUCTURE

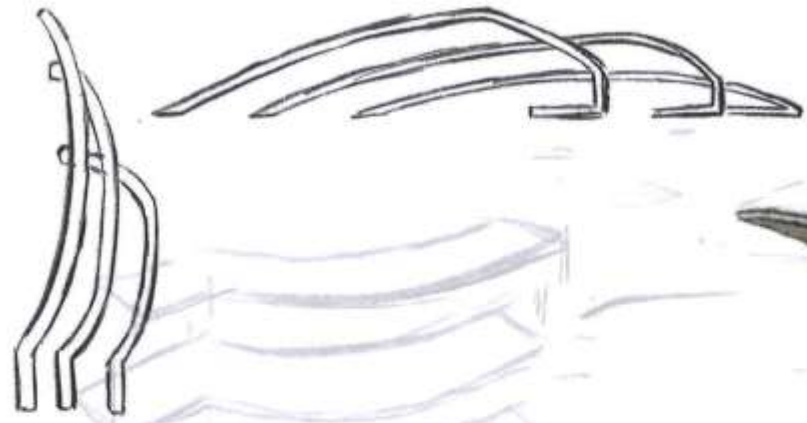
LIGHTING

wing

possibility for interior

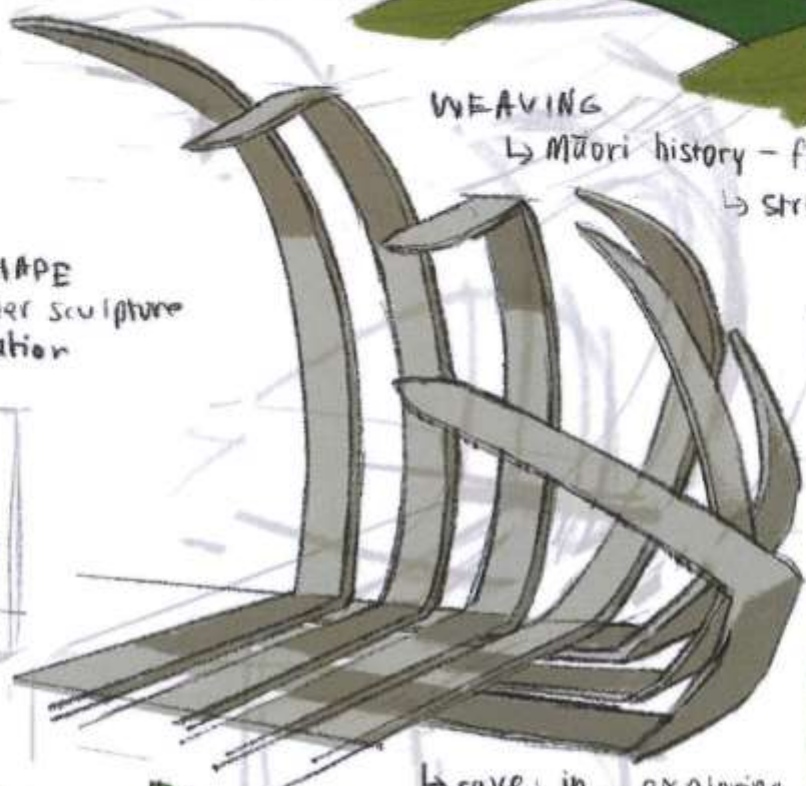
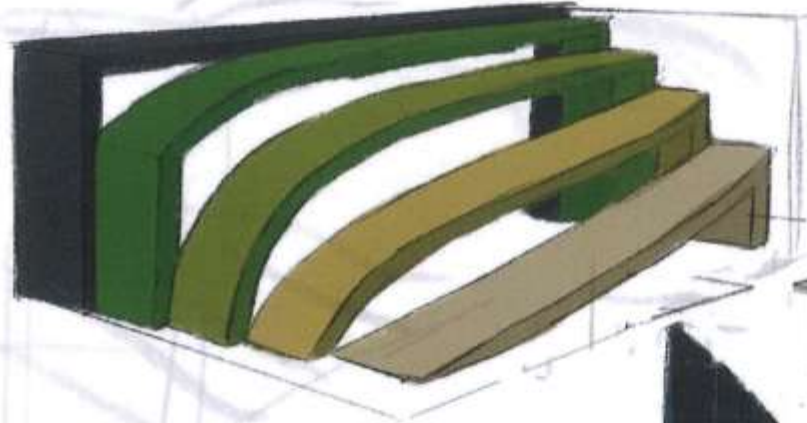
table / seat

→ repetition similar to beating wings  
↳ carries flow of movement



WING SHAPE  
↳ paper sculpture  
↳ ideation

WEAVING  
↳ Māori history - flax  
↳ stronger structural support

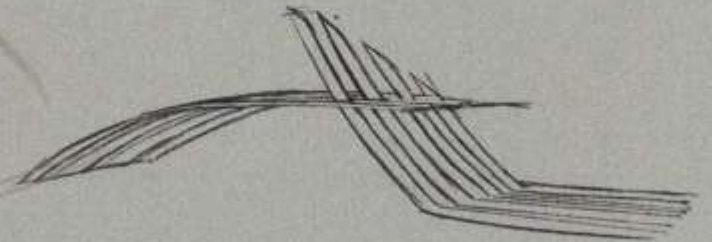
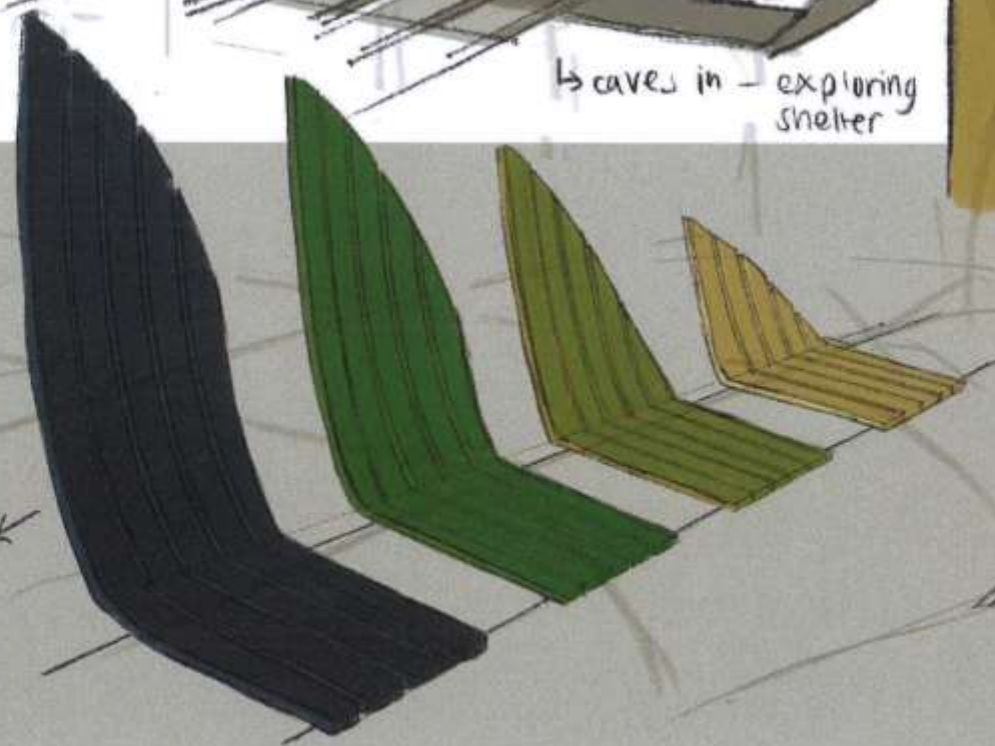


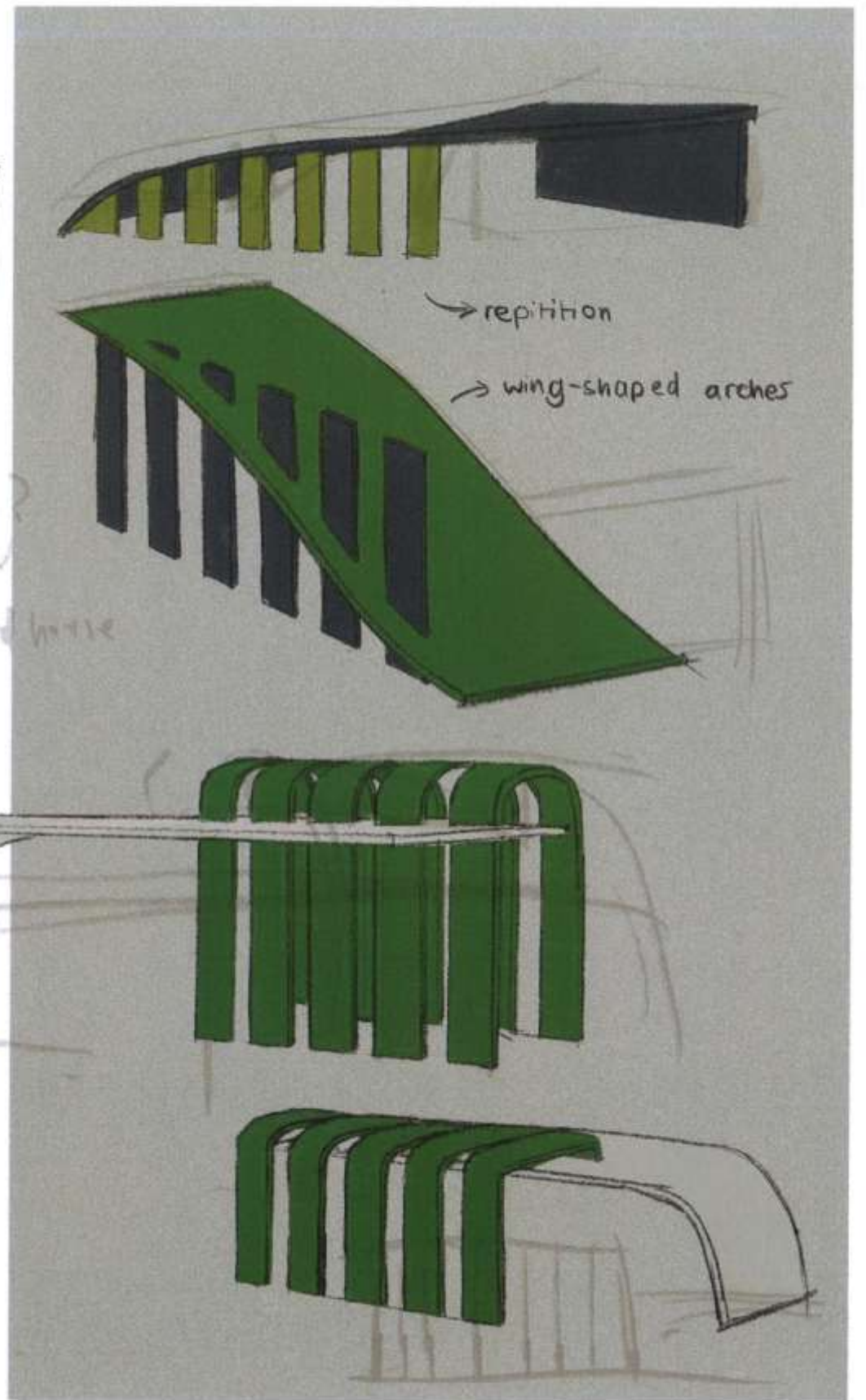
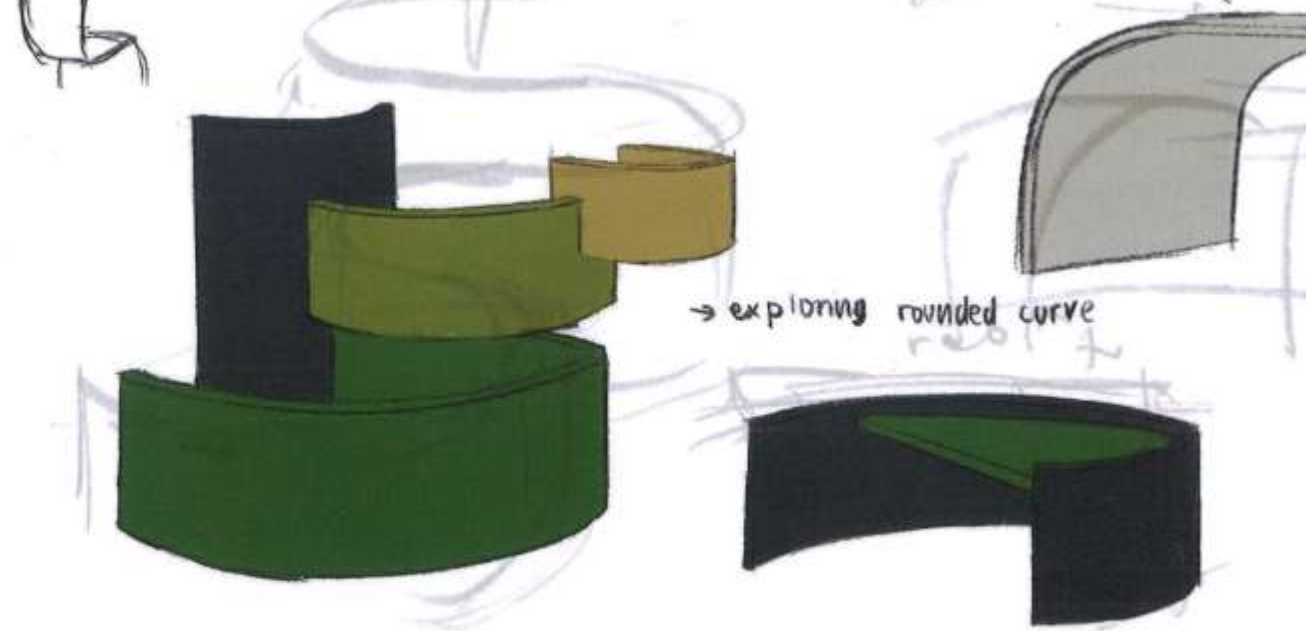
↳ caves in - exploring shelter



repetition  
↳ imitation of flapping

provides shelter from wind





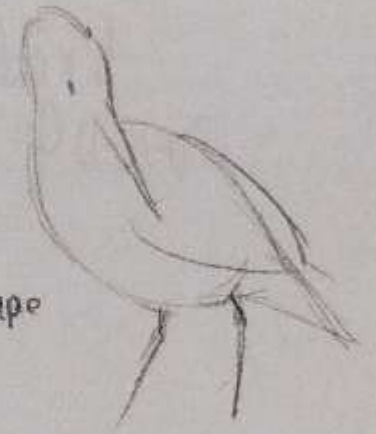


EXTENSION OF HEIGHT TO ALLOW ACCESSIBILITY

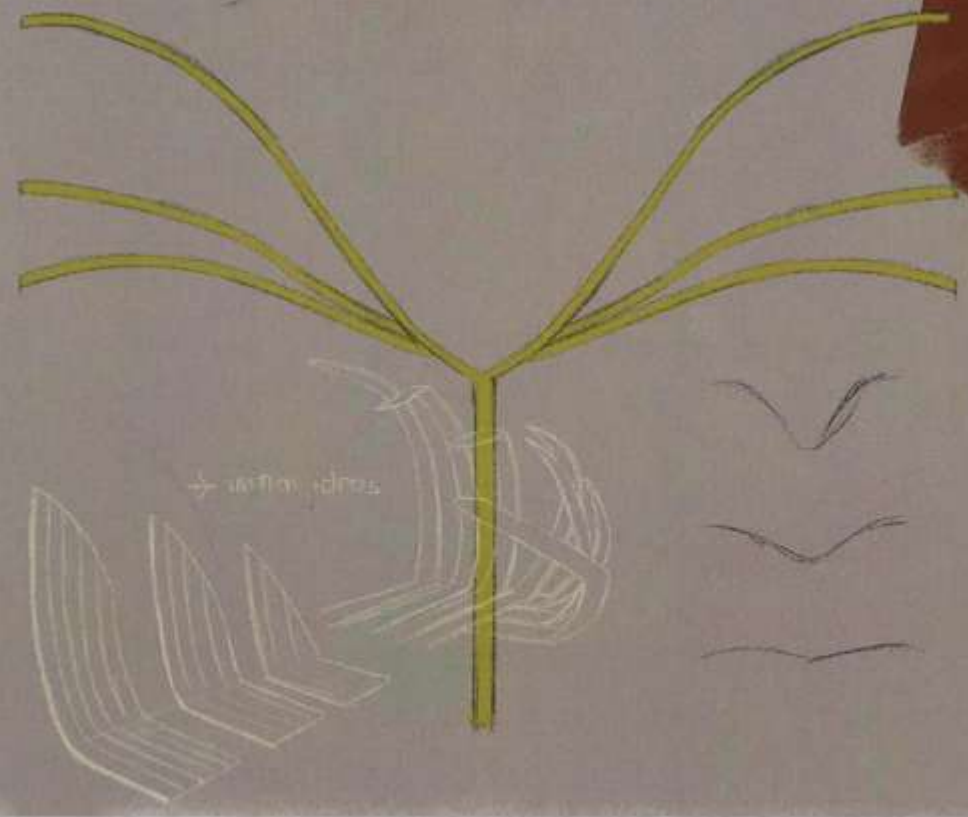


EXPLORING WING PATTERN  
↳ provides both shelter and a flow of movement

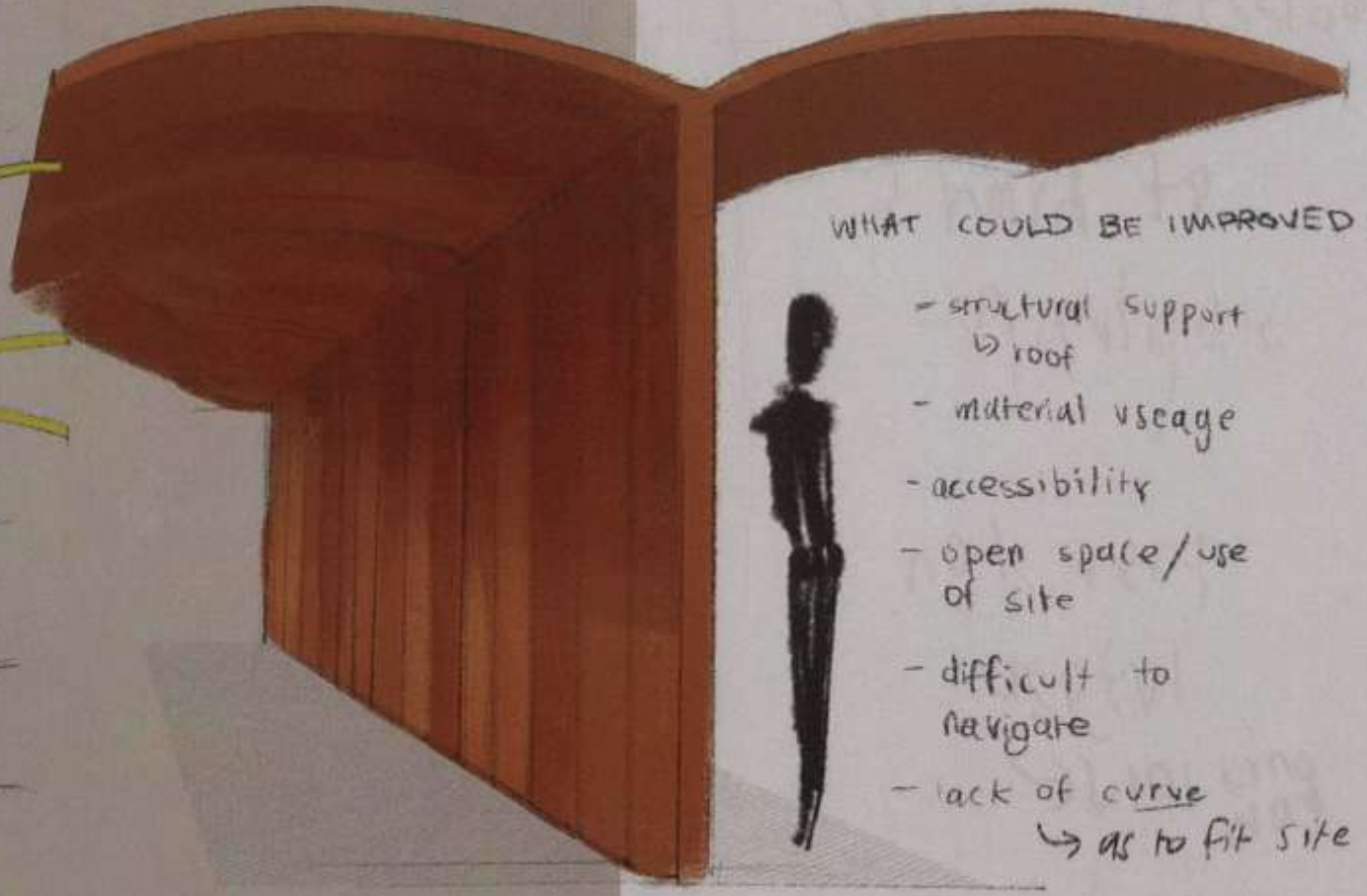
USING WOOD AS BASE MATERIAL  
↳ environment - plenty of wood species found on site, Sustainability



STRENGTHS:  
+ wing shape  
+ shelter  
+ vertical wood pattern

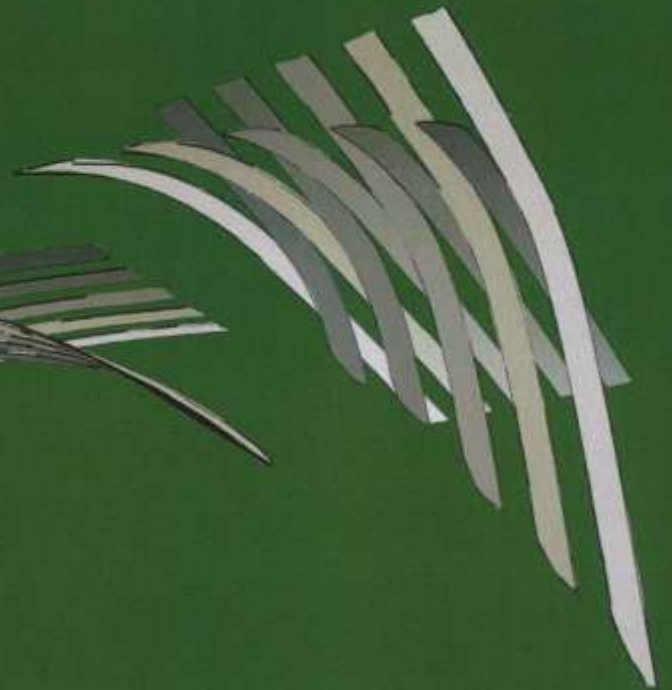
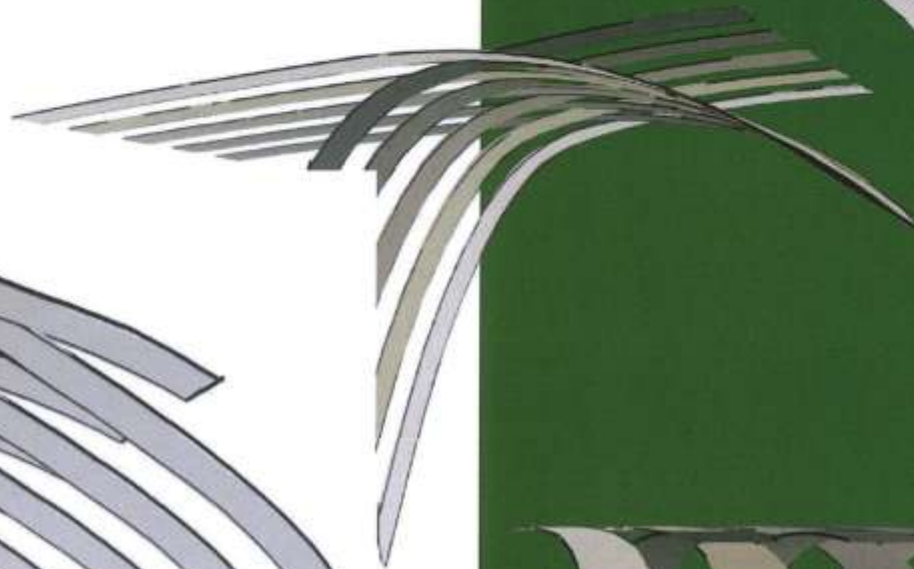


↳ similar ideas



WHAT COULD BE IMPROVED:

- structural support  
↳ roof
- material usage
- accessibility
- open space/use of site
- difficult to navigate
- lack of curve  
↳ as to fit site



- - TO BE IMPROVED  
 + = STRENGTHS

- stability of 2nd material  
 ↳ weak support structures holding metal up

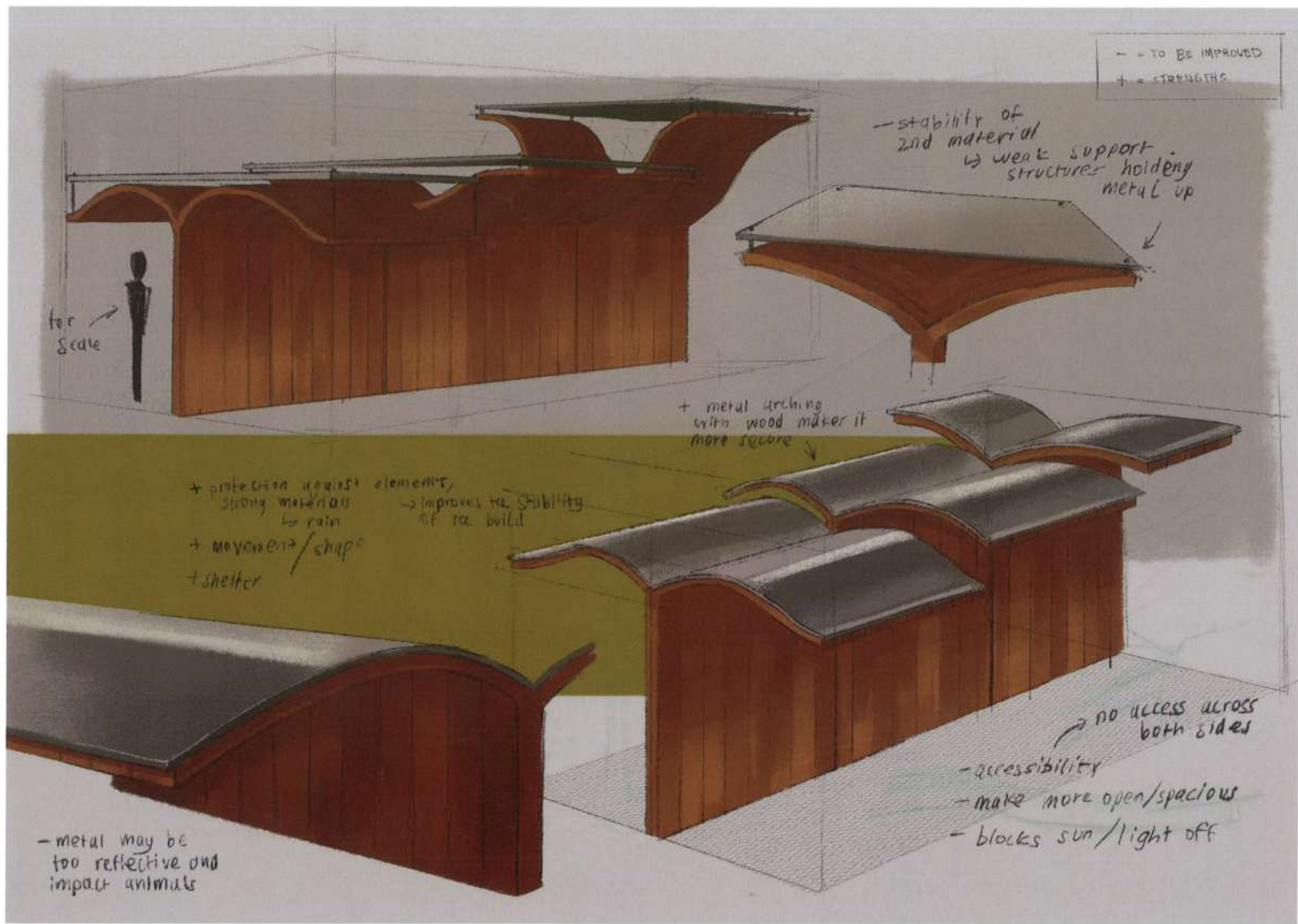
for scale

+ metal arching with wood makes it more secure

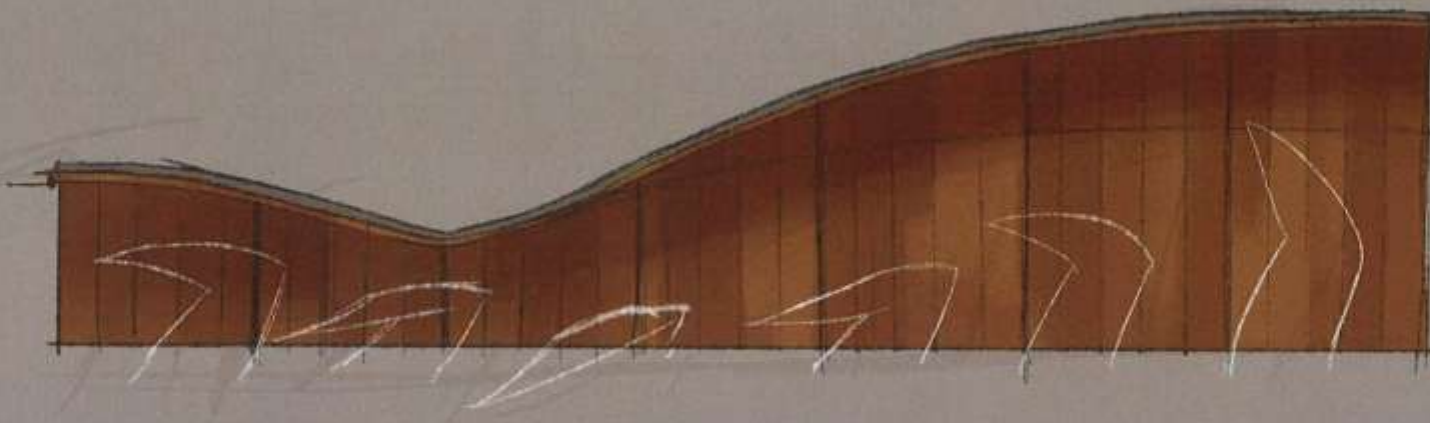
+ protection against elements, strong materials ↳ improves the stability of the build  
 ↳ rain  
 + movement/change  
 + shelter

no access across both sides  
 - accessibility  
 - make more open/spacious  
 - blocks sun/light off

- metal may be too reflective and impact animals

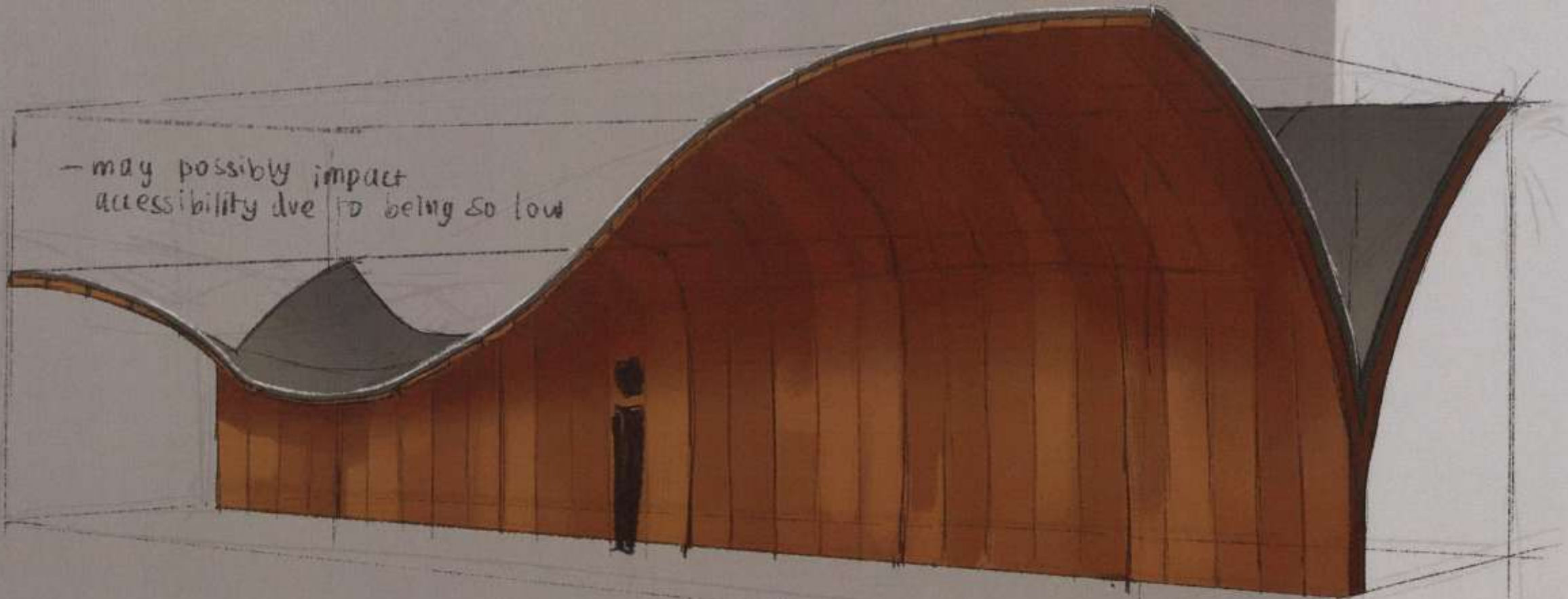


→ shape of flow allows for more fluid arch form  
↳ resembles path of godwit wing



- still lacks accessibility across sides of walkway

- may possibly impact accessibility due to being so low



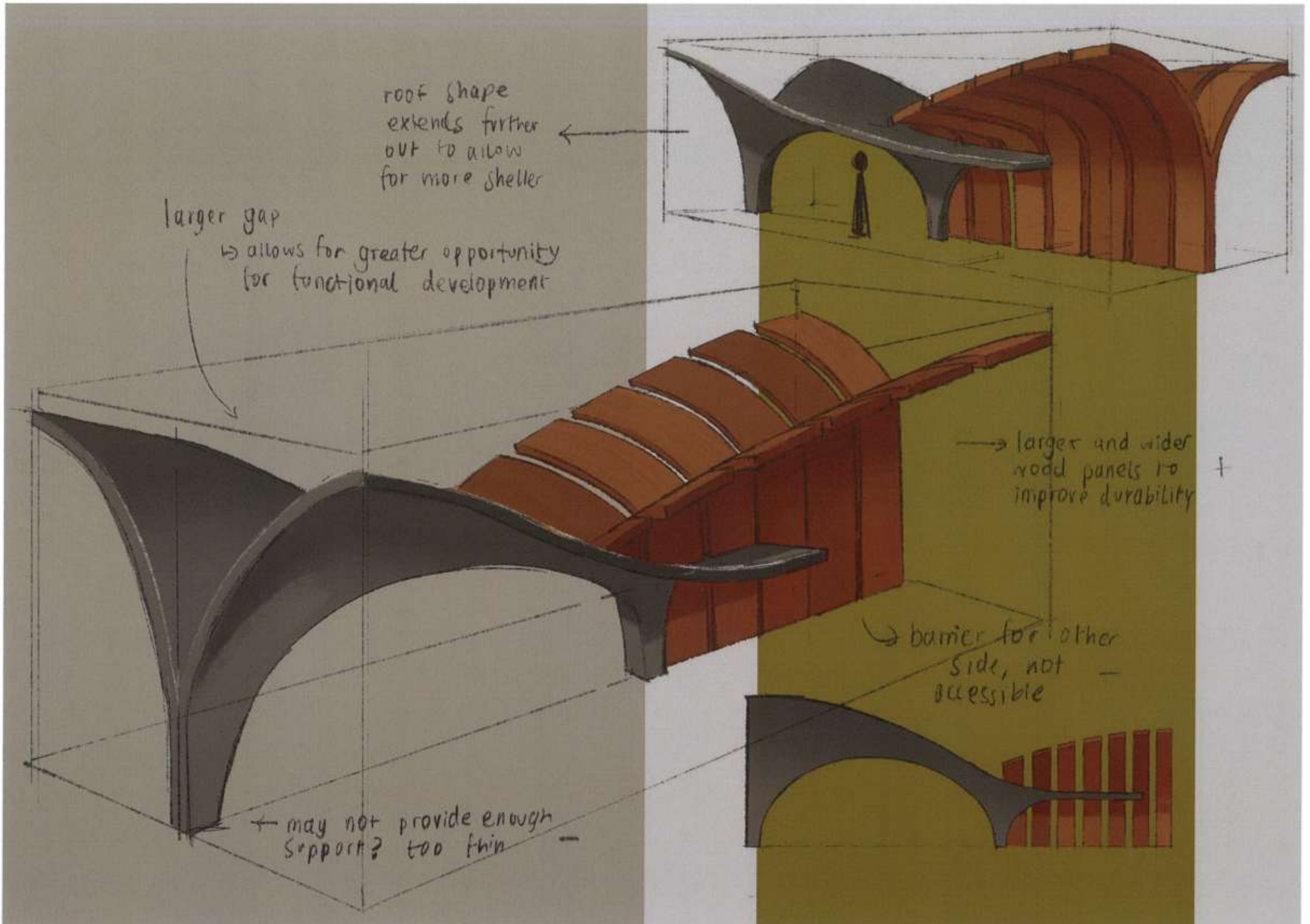
roof shape extends further out to allow for more shelter

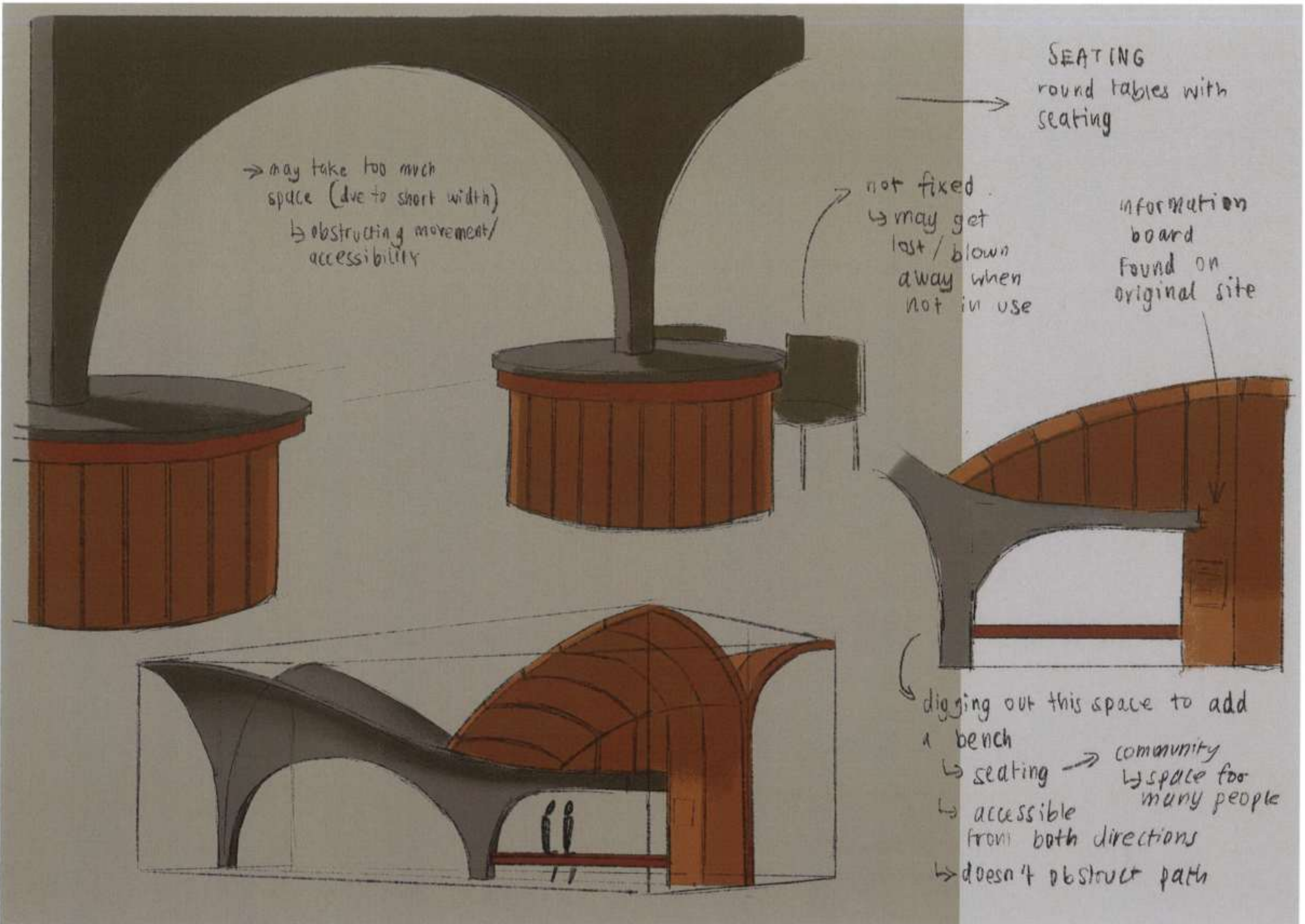
larger gap  
↳ allows for greater opportunity for functional development

↳ larger and wider wood panels to improve durability

↳ barrier for other side, not accessible

↳ may not provide enough support? too thin





→ may take too much space (due to short width)  
↳ obstructing movement/ accessibility

not fixed  
↳ may get lost / blown away when not in use

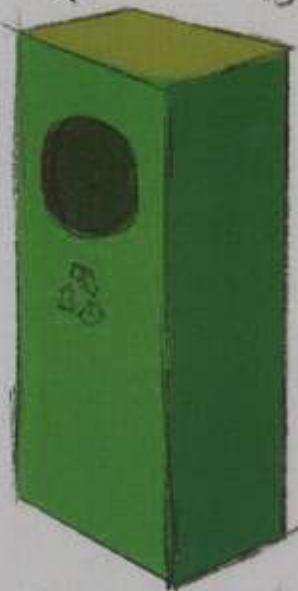
SEATING  
round tables with seating

information board  
found on original site

digging out this space to add a bench  
↳ seating → community  
↳ accessible ↳ space for many people  
↳ doesn't obstruct path



TRASH CAN

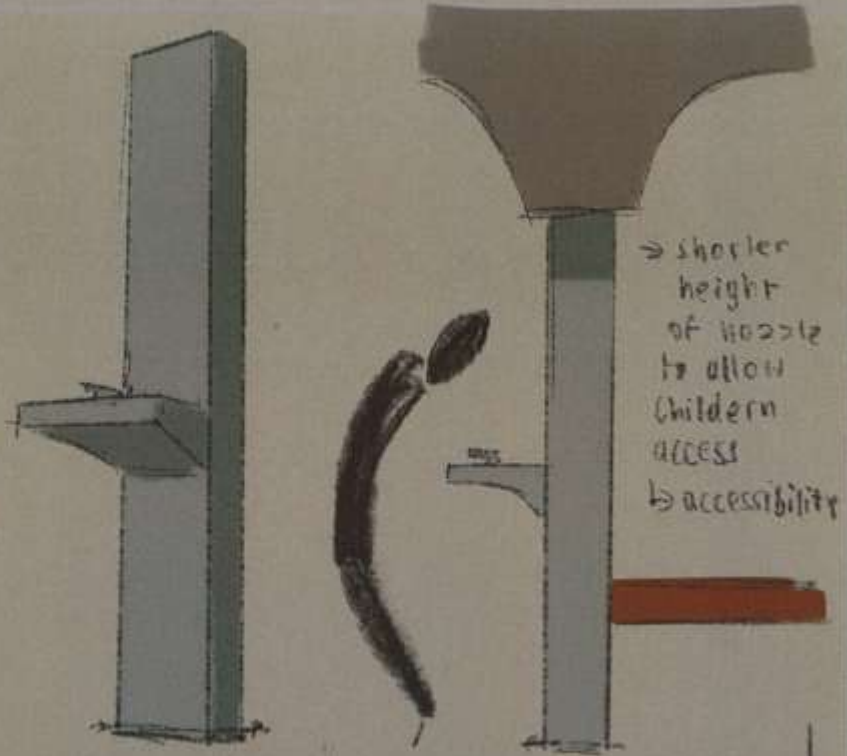


using a slimmer, cleaner design → fits build better  
↳ decreases space taken up

→ easy access from sides  
↳ makes disposing of trash easier  
↳ makes removing/cleaning up easier

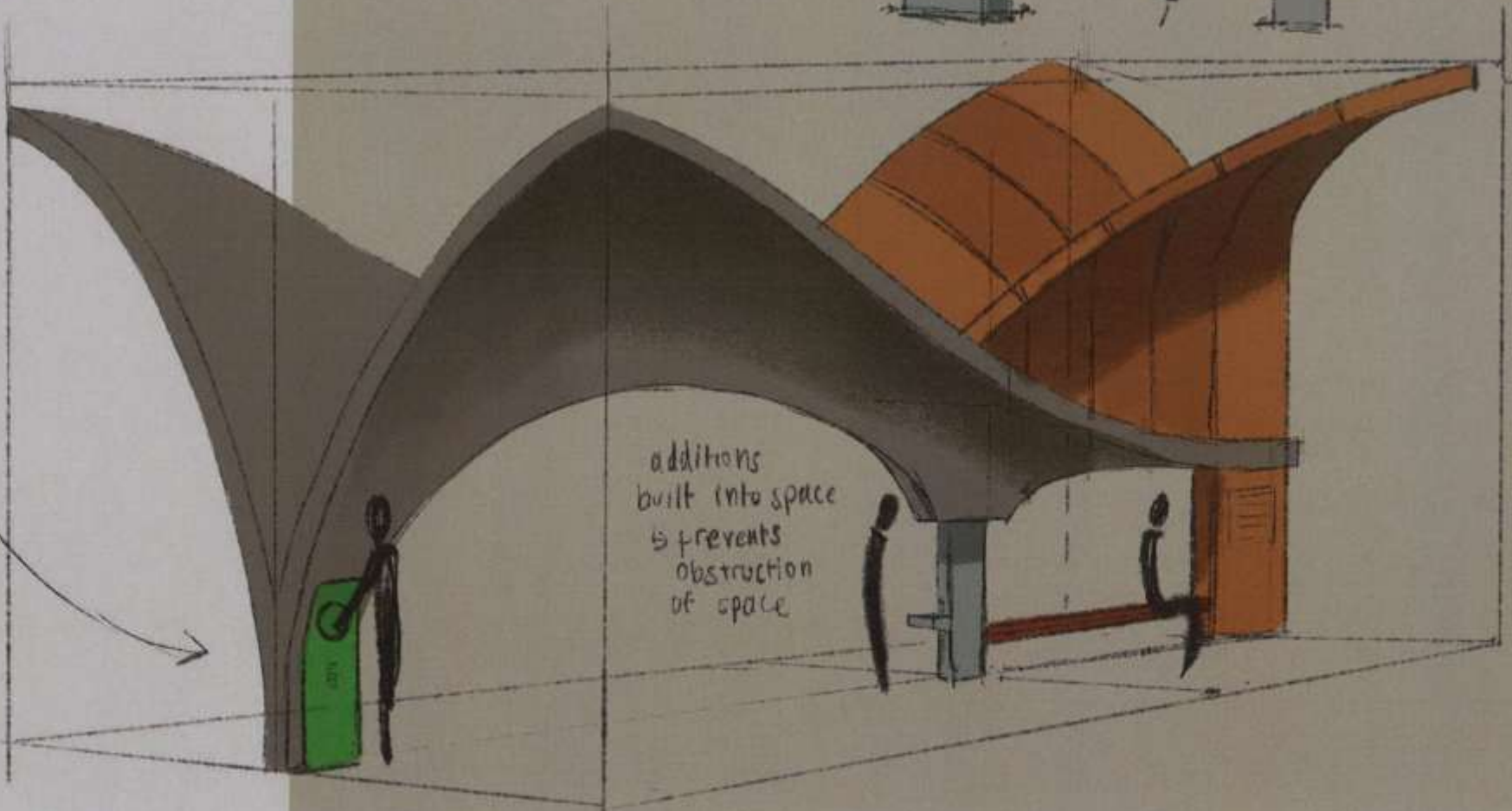
### WATER FOUNTAINS

→ primarily for runners/joggers  
→ for cooling off during the summer or during extensive exercise



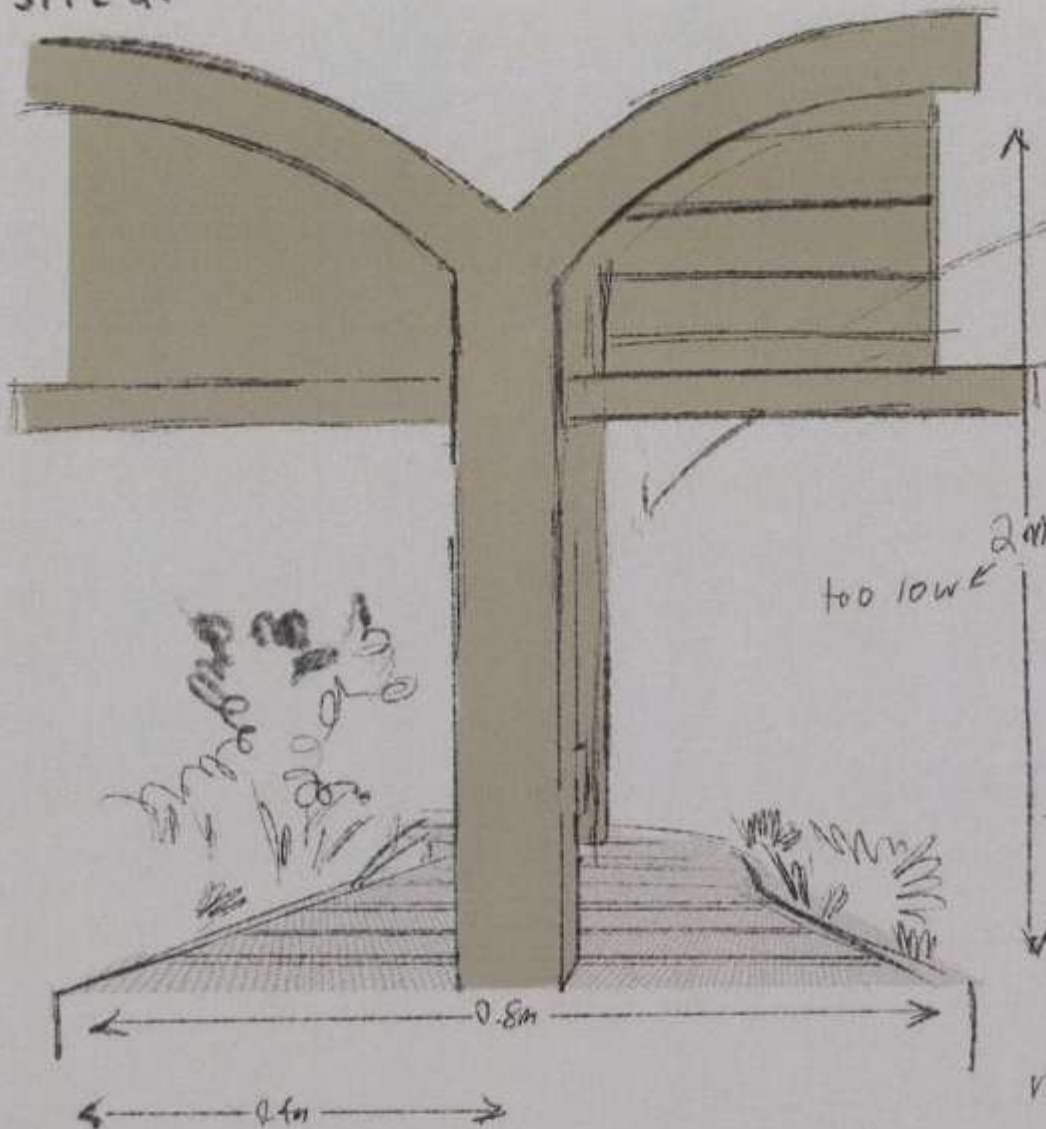
→ shorter height of nozzle to allow children access  
↳ accessibility

for any visitors who may have trash to dispose  
↳ sustainability, prevents litter from entering reserve's ecosystem and harming any animals



additions built into space  
↳ prevents obstruction of space

SITE 2:



too low ← 2m

← 0.4m →

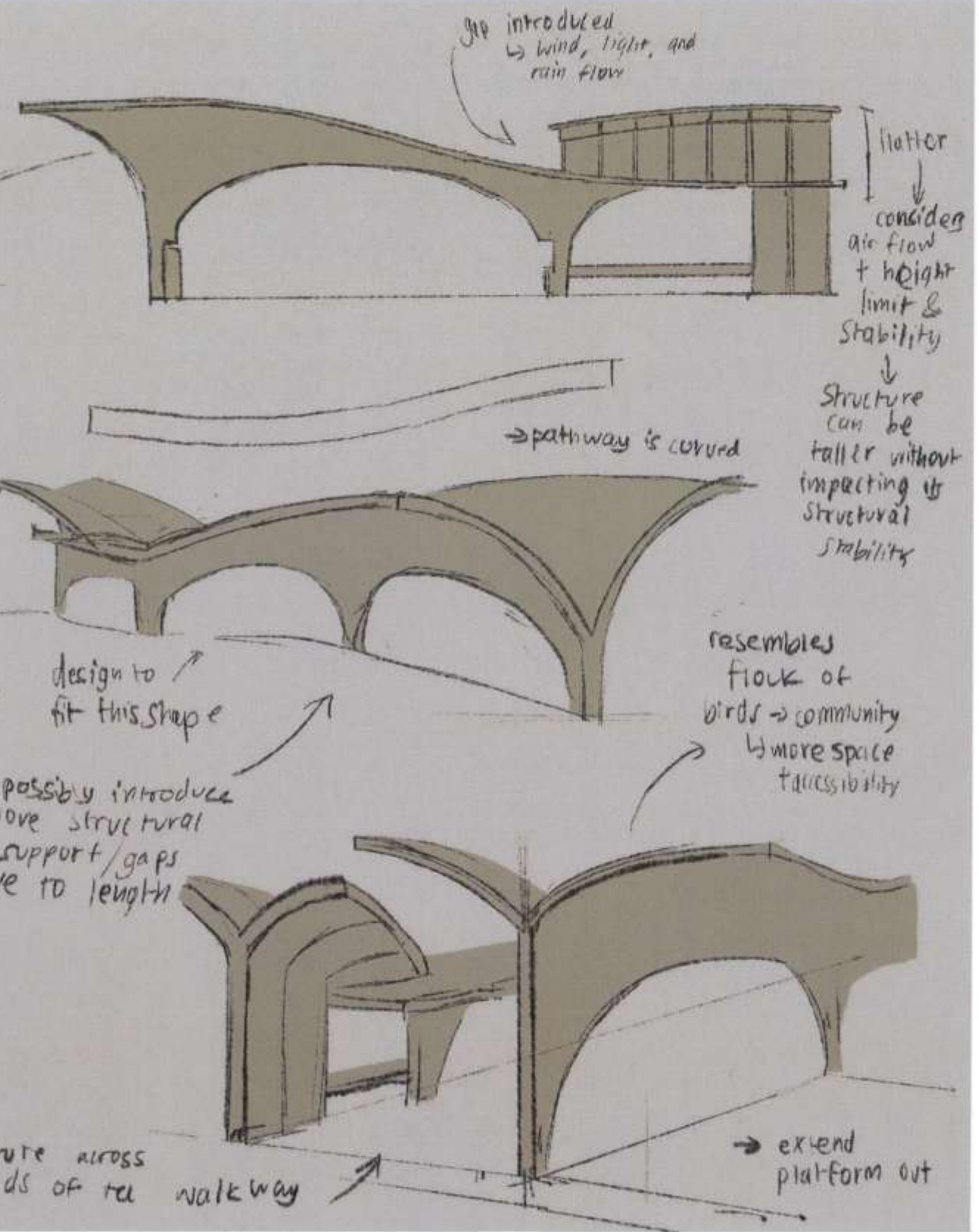
area is way too narrow to traverse

↳ extend width of platform

→ extend shelter form across

↳ however may not be stable enough

↳ double structure across the two ends of the walkway



gap introduced  
↳ wind, light, and rain flow

flatter  
↓  
consider air flow + height limit & stability

↓  
structure can be taller without impacting its structural stability

→ pathway is curved

design to fit this shape

possibly introduce more structural support/gaps due to length

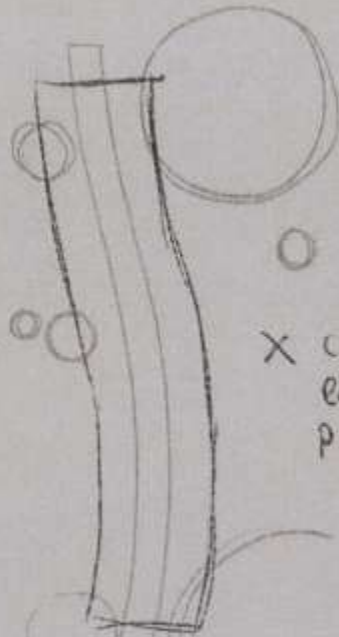
resembles flock of birds -> community  
↳ more space + accessibility

→ extend platform out

← NORTH



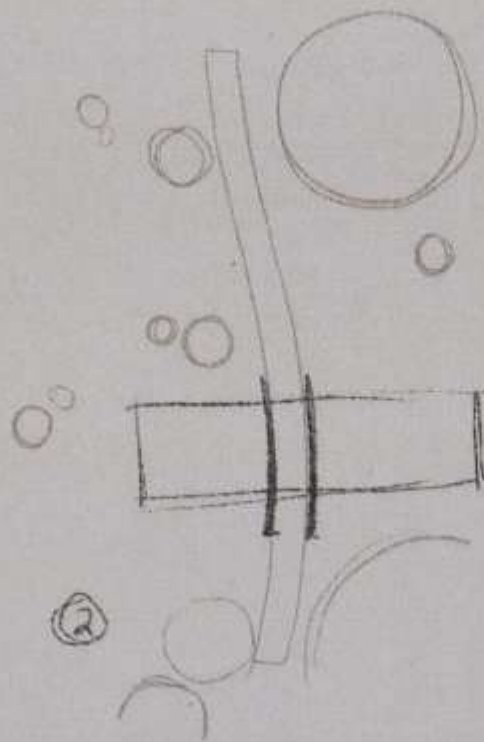
→ poor use of resource  
↳ entire space wouldn't be used  
→ doesn't support community



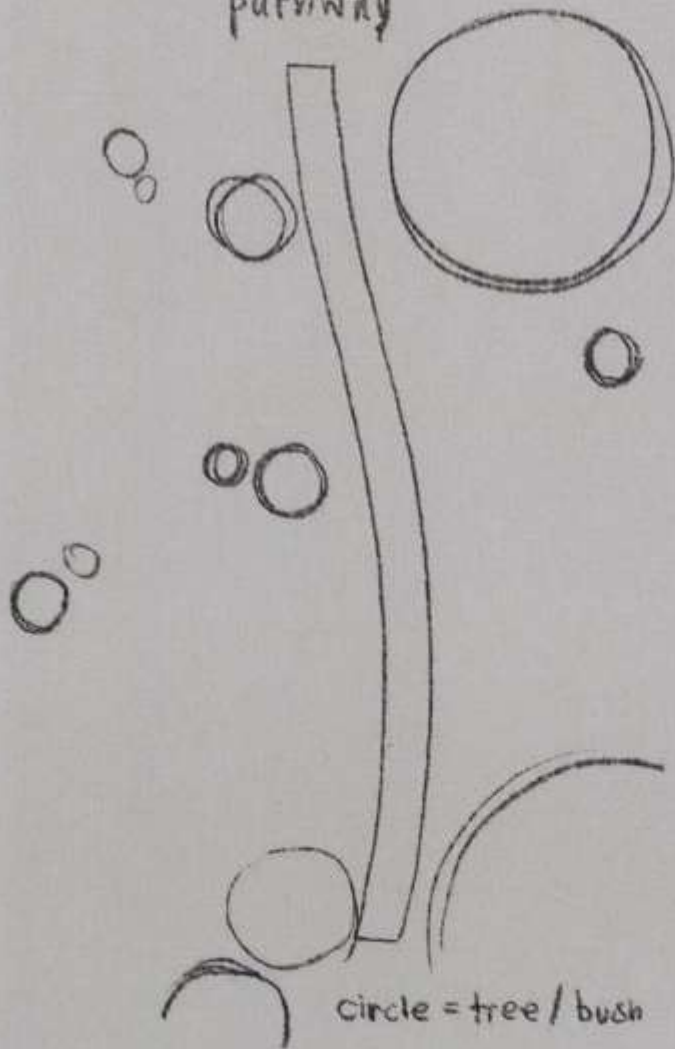
X cannot extend entire path

→ poor use of space

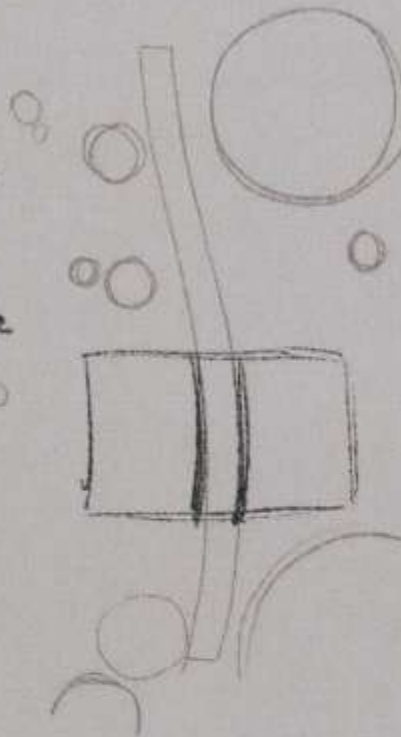
↳ too wide, shelter doesn't extend across



pathway

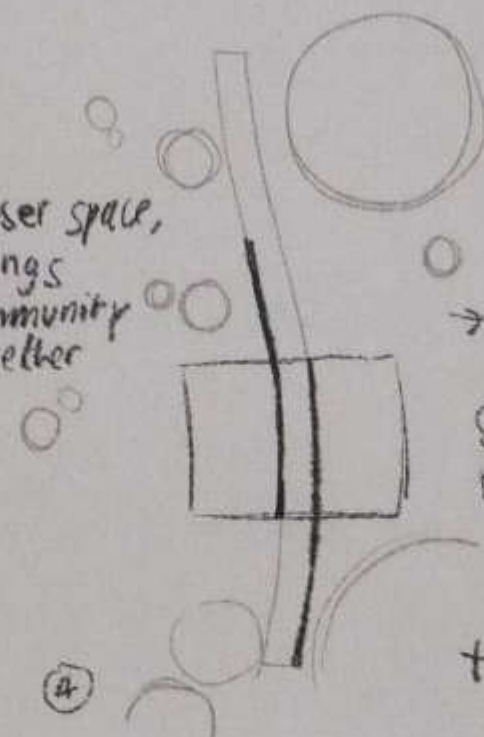


→ poor use of shelter  
↳ only covers one area



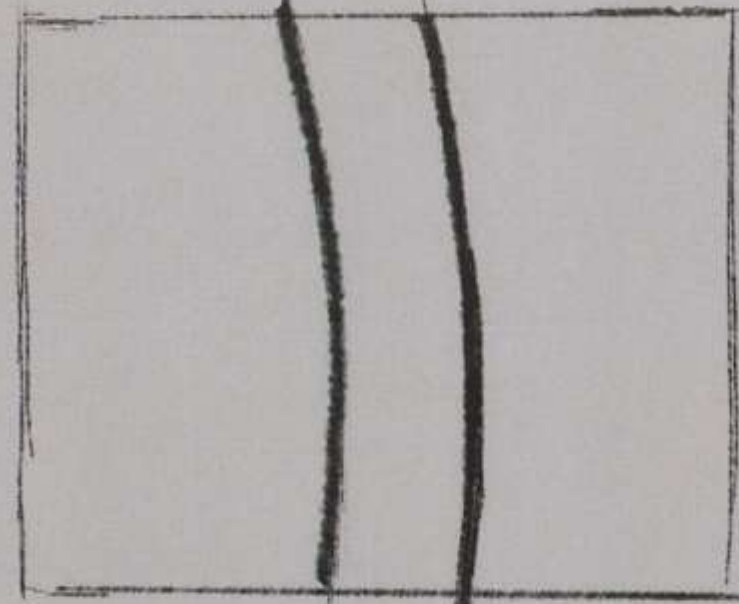
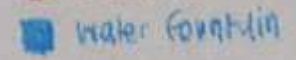
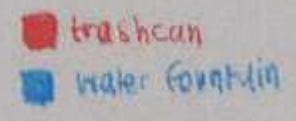
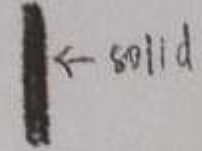
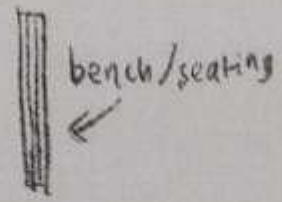
→ closer space, brings community together

→ effective use of shelter  
↳ covers a certain extent of boardwalk + extended area



← N

E

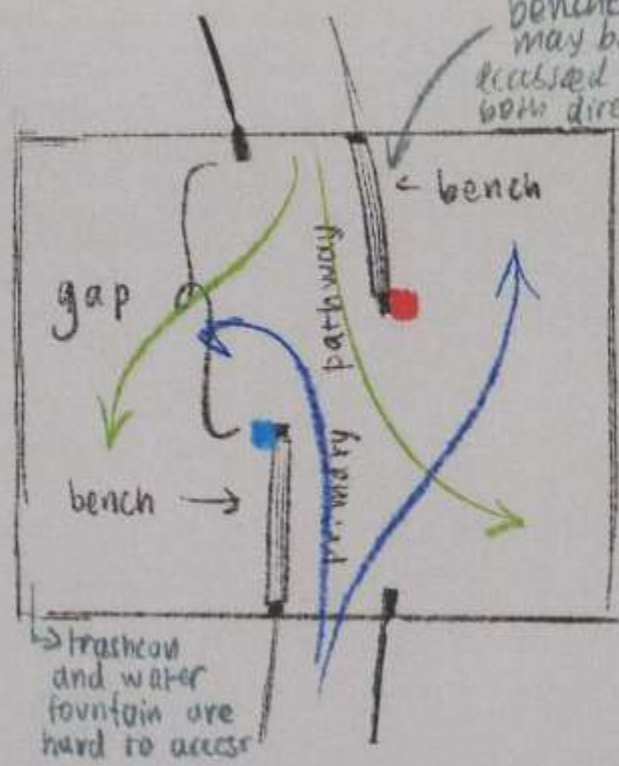


↑ eastern user flow

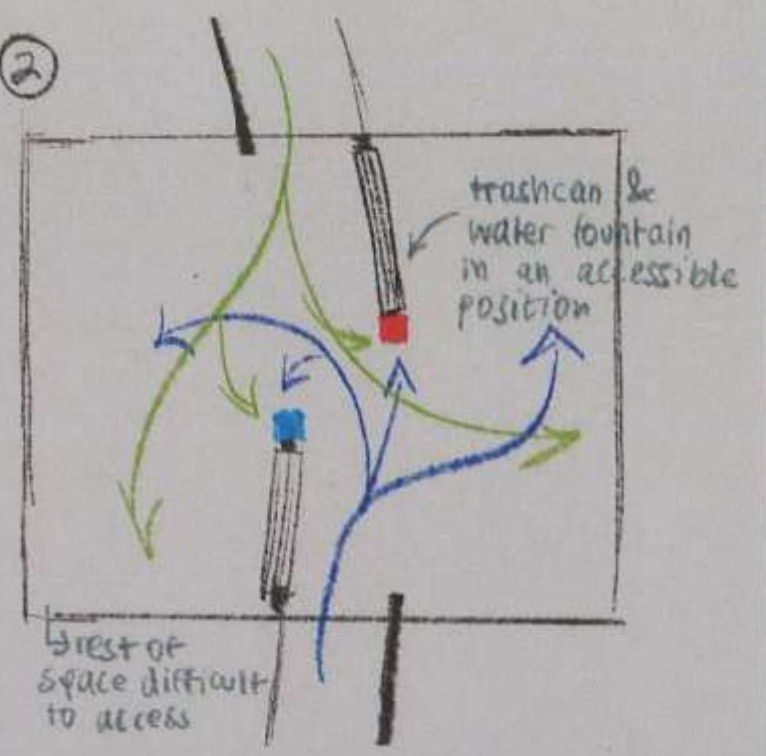
↑ western user flow

W

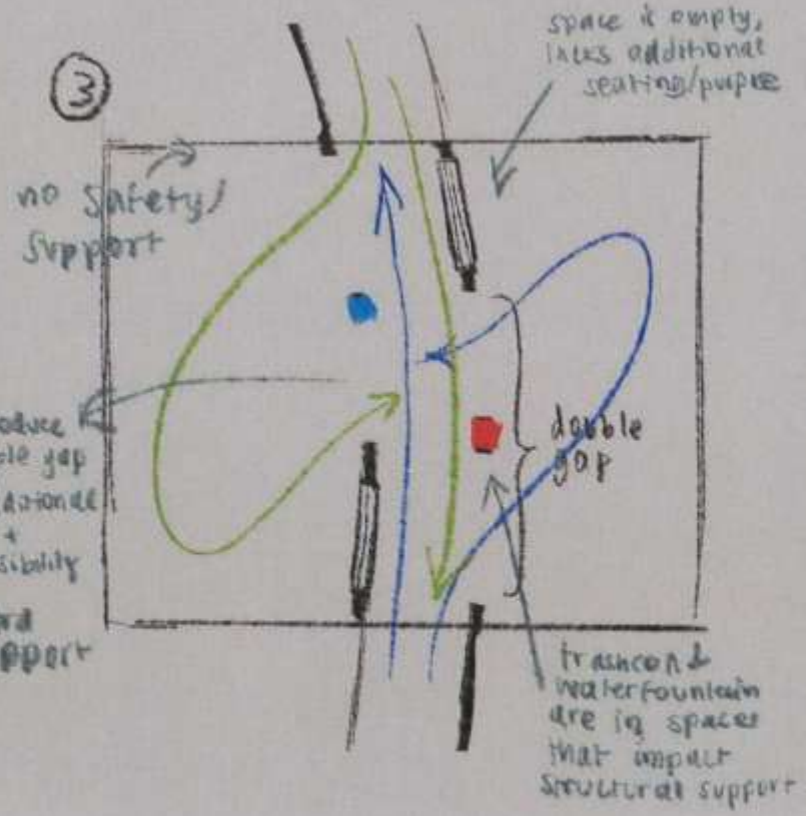
①



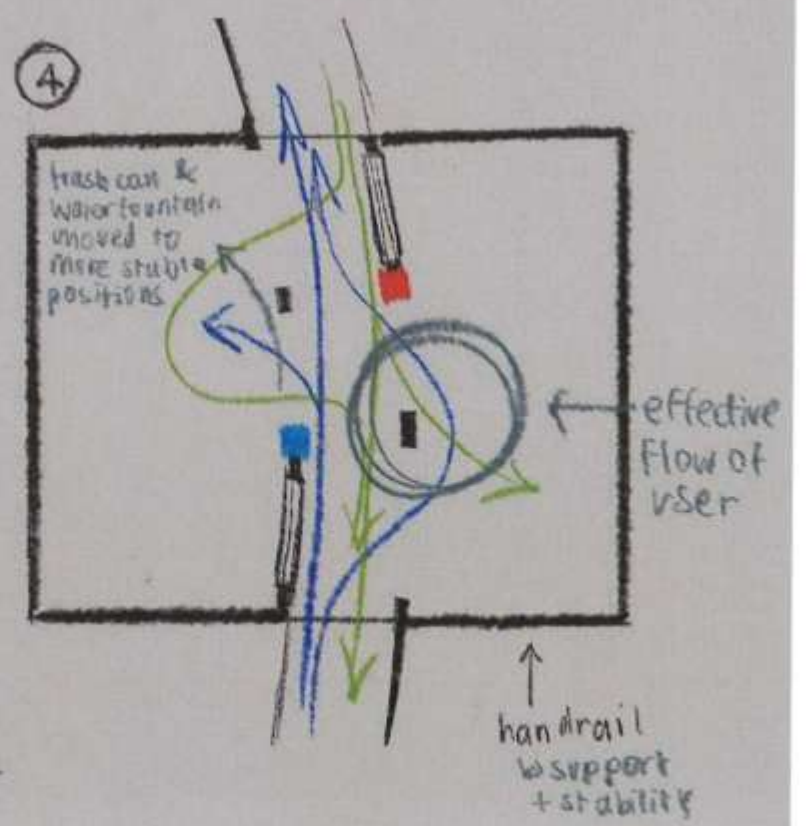
②



③



④





Vitex decking  
 → for colour  
 → resistant to rot and insect damage

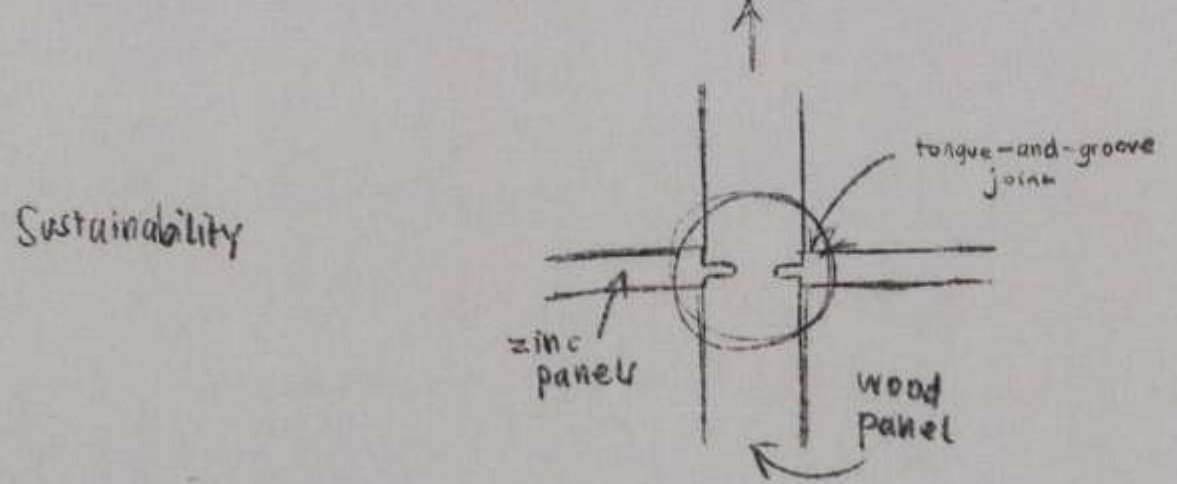
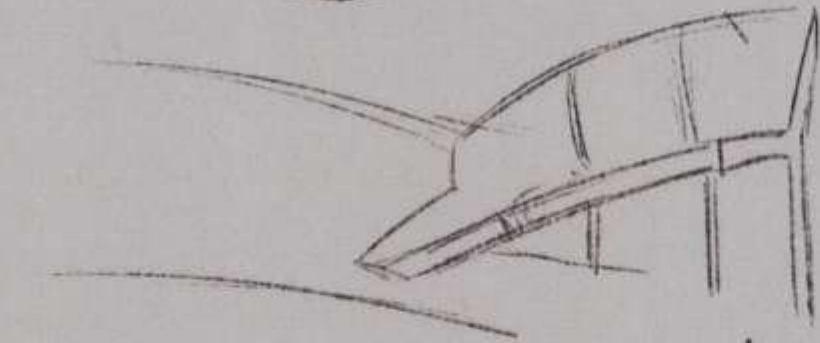
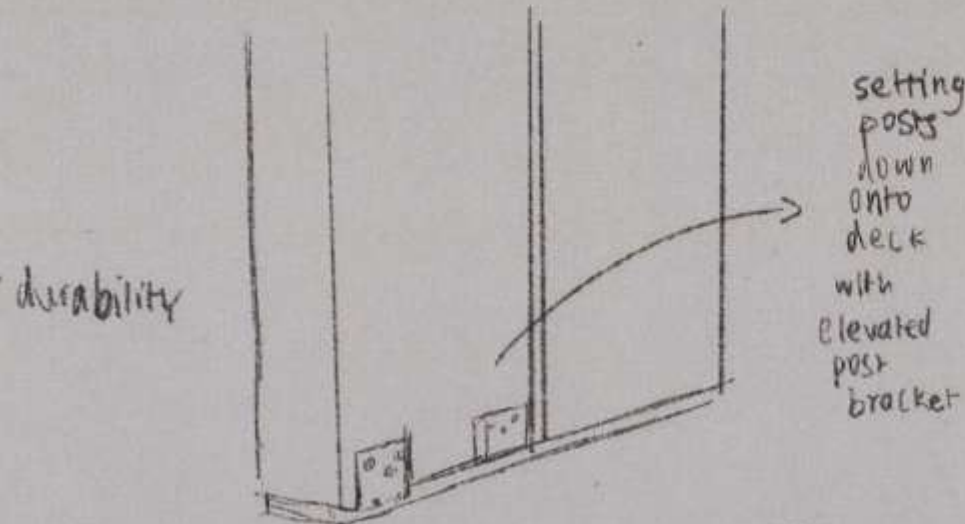
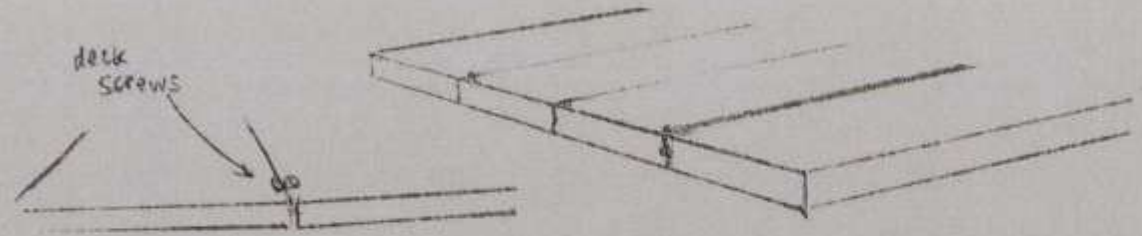
Ironbark wood  
 ↳ feed wood panels  
 → for darker purple colour  
 → resistant to insect damage, rot, decay, & infestation



↳ anthra-zinc  
 zinc panels  
 ↳ for to target metal/steel sections  
 → for to colour (darker grey)  
 → also generally rusts slower compared to other steels



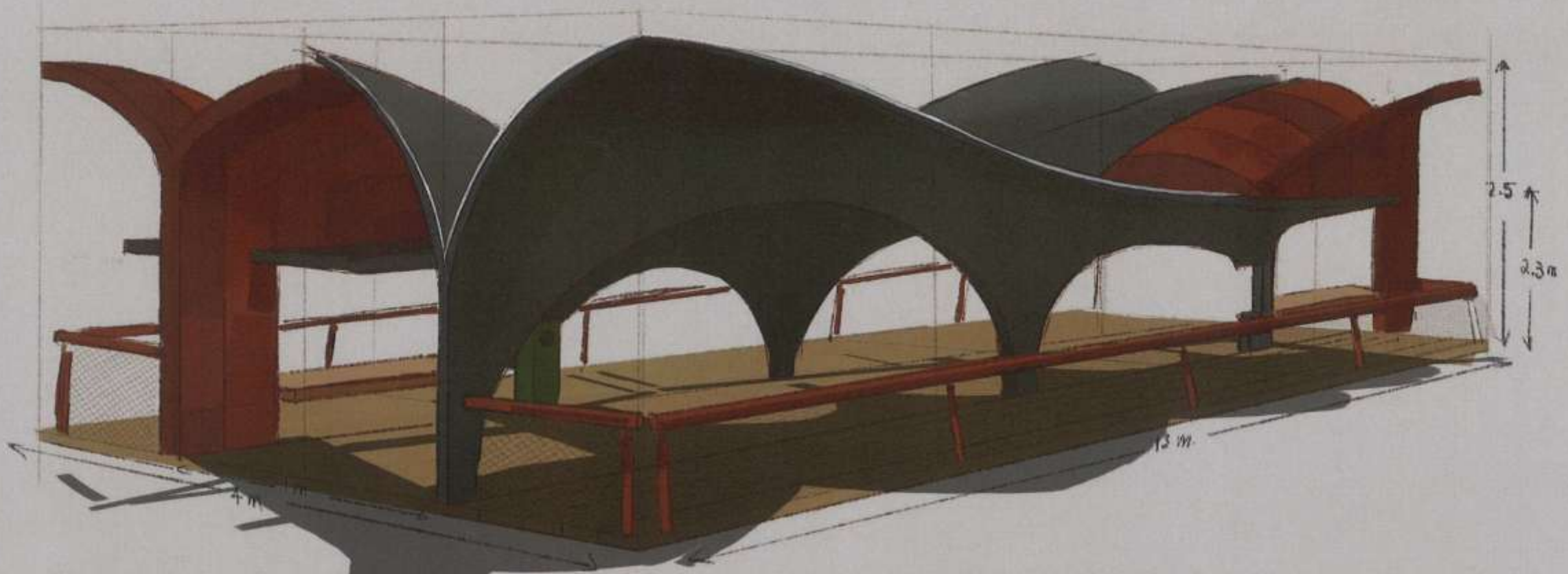
wire rope mesh  
 ↳ used for handrail support (instead of glass)  
 ↳ this is due to concerns with using glass as birds could smash into it (they cannot see glass)



durability

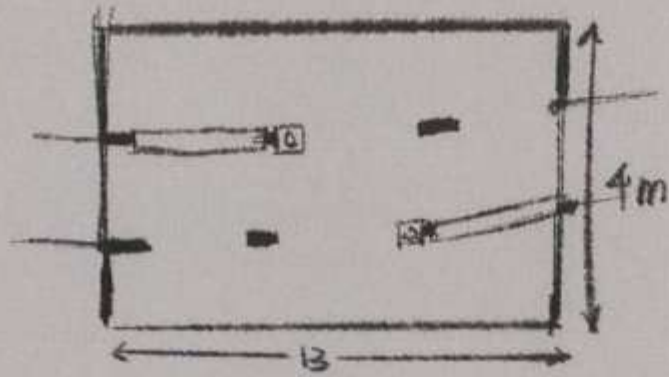
Sustainability

FINAL





↑ N

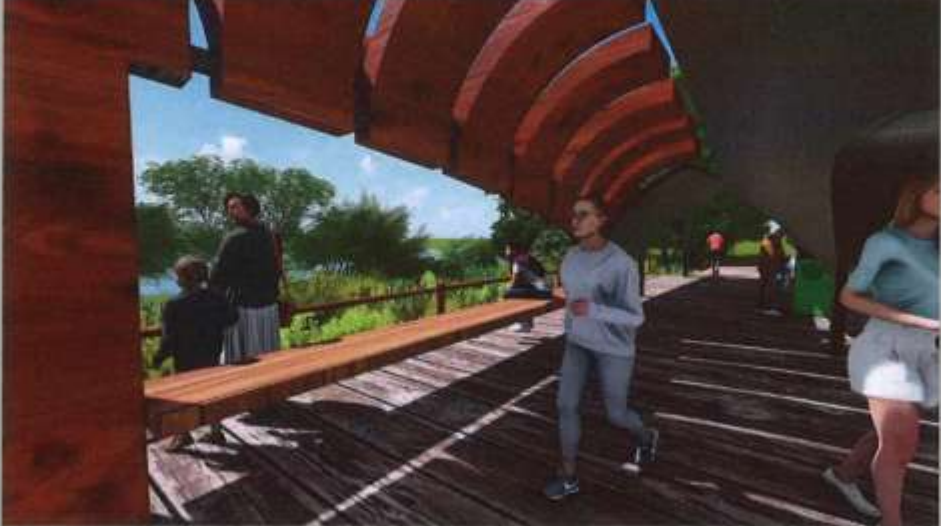


△ = water fountain

♻️ = trash bin

▭ = benches/seating







## Excellence

**Subject:** Design and Visual Communication

**Standard:** 91627

**Total score:** E7

### Marker commentary

The folio utilises the starting point of a godwit in multiple ways to interrogate forms with a range of 3D sketches that lead to a range of potential spatial design ideas before settling into a shade structure design. This is then further reinterpreted and extended, utilising the wing action of the bird in exploring further ideas on the roof form, as well as implementing some functional details and site consideration that continues to demonstrate a clear train of thought into a clearly articulated outcome.