
PULAU JEREJAK
MACRO
INTO THE TIMELESS TIME


PULAU JEREJAK
HISTORY OF THE ALCATRAZ
MACRO
INTO THE TIMELESS TIME

PULAU JEREJAK MAP

- 362 Hectare

- Located off South Eastern tip of Penang

- 4,000-year-old coastal forest

View of Pulau Jerejak from Penang hill in 1817

PULAU JEREJAK TIMELINE

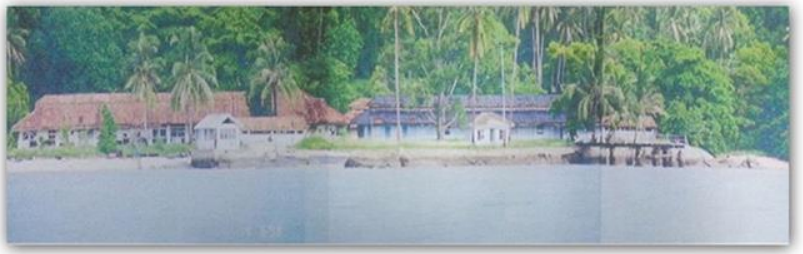
1786

FRANCIS LIGHT ARRIVED

PULAU JEREJAK MAP

LEPER HOSPITAL (1871)

- Success of **LEPER COLONY** in **MALACCA** in **1862** had led to **ESTABLISHMENT** of **LEPER ASYLUM** in Jerejak.



PULAU JEREJAK
TIMELINE

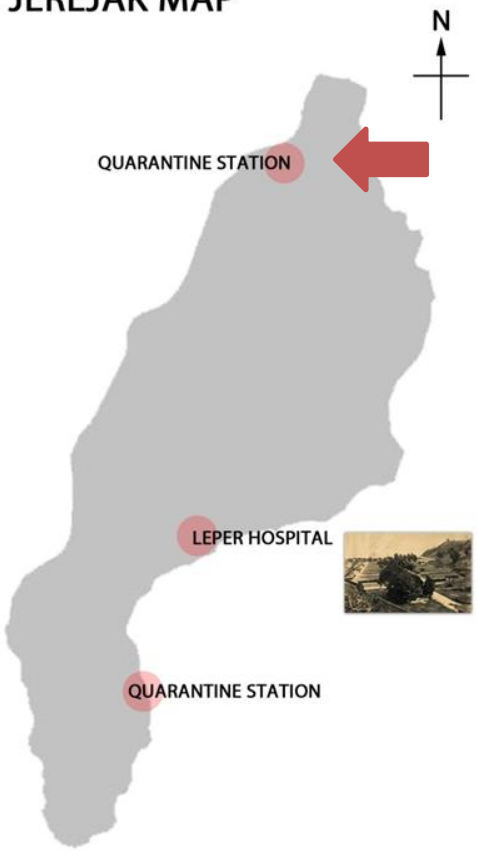
1786

FRANCIS LIGHT ARRIVED

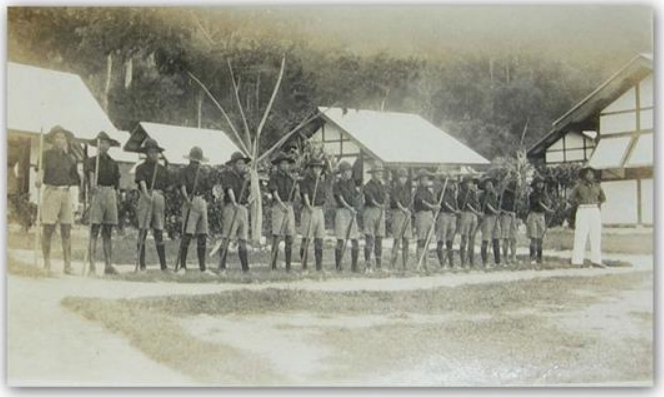
1868

CONSTRUCTION OF LEPER ASYLUM, OPENED ON 1871

PULAU JEREJAK MAP



QUARANTINE STATION (1875)



-HEALTH QUARANTINE CENTER for **IMMIGRANTS**

-Island become **POPULATED** due to long queue

-Immigrants **CLEARED** the jungle and start **FARMING**

PULAU JEREJAK TIMELINE

1786

FRANCIS LIGHT ARRIVED

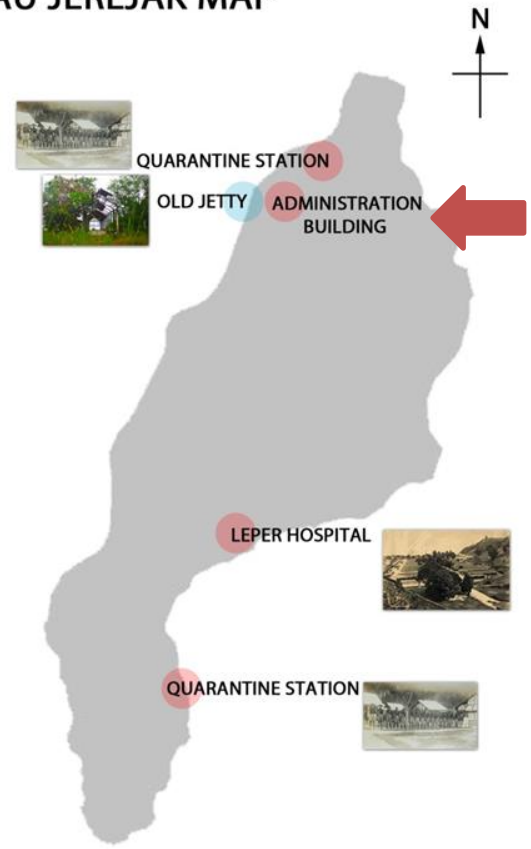
CONSTRUCTION OF LEPER ASYLUM, OPENED ON 1871

1868

1875

QUARANTINE STATION ESTABLISHED

PULAU JEREJAK MAP



QUARANTINE ADMINISTRATION BUILDING (1911)

-Rebuilt to replace the **SOLID STEEL** structure

- Old **JETTY** located opposite of the building.

PULAU JEREJAK TIMELINE

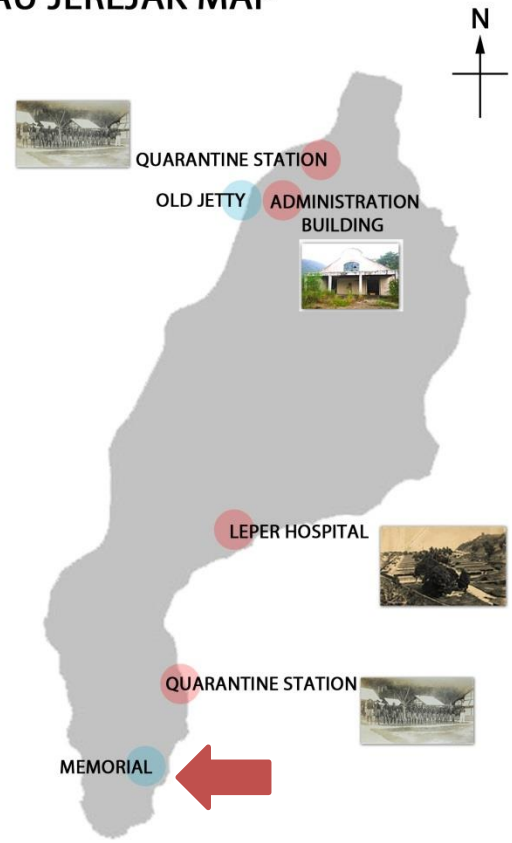
1786 — FRANCIS LIGHT ARRIVED

1868 — CONSTRUCTION OF LEPER ASYLUM, OPENED ON 1871

1875 — QUARANTINE STATION ESTABLISHED

1911 — ADMINI-STRATION BUILDING

PULAU JEREJAK MAP



BATTLE OF PENANG (1914)

- SEA BATTLE between RUSSIANS & GERMANS (28/10/1914)

- MEMORIAL

PULAU JEREJAK TIMELINE

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1914 — WWI BATTLE OF PENANG

PULAU JEREJAK MAP

CLINIC / MORTUARY (1930)

- **TUBERCULOSIS** clinic
- Also served as **MORTUARY**
- As a **TEMPLE** now

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1930 — TUBERCULOSIS/ LEPROSY HOSPITAL BUILT

PULAU JEREJAK MAP

TUBERCULOSIS / LEPROSY HOSPITAL (1930)

- After **WORLD WAR I** , increase in **TUBERCULOSIS & LEPROSY** patients

- **2** blocks of 12 **INDIVIDUAL CELLS** used to **QUARANTINE** most **CRITICAL** patients

PULAU JEREJAK TIMELINE

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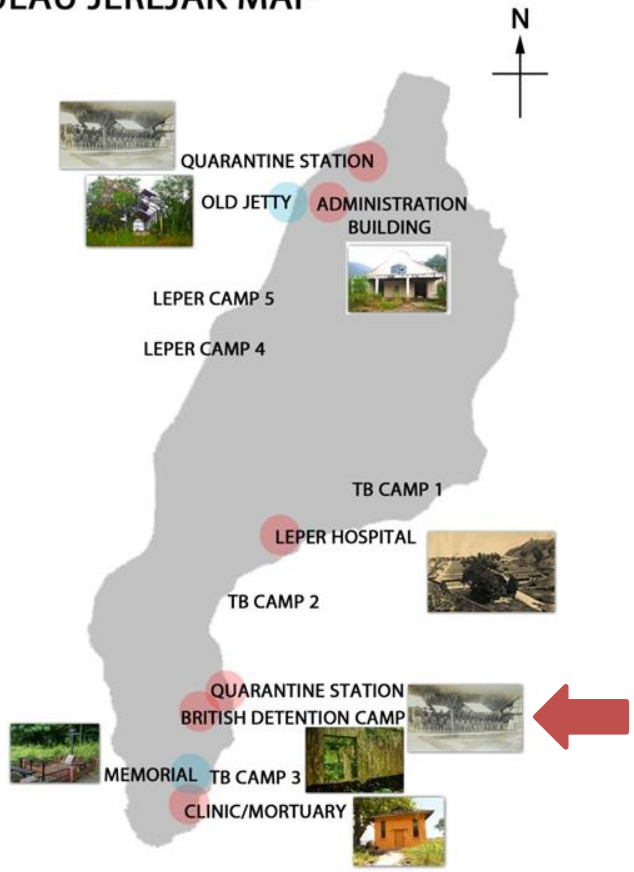

BRITISH DETENTION CAMP (1948)

- **HOSPITAL** transformed to **DETENTION CAMP** for **ANTI-COLONIALIST**
- **NO ELECTRICITY** in cells
- **BUNKERS**
- The inmates **REPATRIATED** or send to other detention camps in year **1949.**

PULAU JEREJAK TIMELINE

PULAU JEREJAK MAP

JEREJAK REHABILITATION CENTER (1969)

-**DETAIN** those who involved in **RACIAL RIOTS**

-**'ALCATRAZ'** Malaysia

-**BARS** used to segregate building into cells.

-**Closed** in 1993 :
(I) Internal RIOT
(II) 7 inmates ESCAPED

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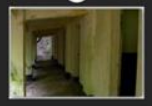

1930 — TUBERCULOSIS/ LEPROSY HOSPITAL BUILT

1948 — MALAYAN EMERGENCY STATE

1969 — JEREJAK REHABILITATION CENTER BUILT

PULAU JEREJAK MAP

JEREJAK RESORT & SPA (2003)

-REDEVELOP

-ECO-TOURISM

PULAU JEREJAK TIMELINE

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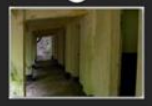


1930 — TUBERCULOSIS/ LEPROSY HOSPITAL BUILT

1948 — MALAYAN EMERGENCY STATE

1969 — JEREJAK REHABILITATION CENTER BUILT

2003 — OPERATION OF JEREJAK RESORT AND SPA


PULAU JEREJAK
CULTURE
MACRO
INTO THE TIMELESS TIME

RELIGION Majority CHRISTIAN and BUDDHIST

CHRISTIAN

CHURCH

-Built in late 18th century by **BRITISH**

-**Gothic** features : Pointed arches , Vaults

BUDDHIST

TEMPLE (PUA JIA EE)

- Only Chinese Temple for Leprosy patients in the island

HINDUISM

HINDU SHRINE
(SRI MACHA MUNEESWARAN TEMPLE)

- Build during British colonial era by labourers from India

- As protection to fisherman's who goes to seas.

PULAU JEREJAK
CULTURE

Tomb of leprosy patients were found

Monk visited the leprosy patients in temple

SOCIAL

Leporosy patients are mainly **CHINESE**

They are allowed to organize :

-CLUBS
(ex: Buddhist Club)

-SOCIETIES
(according hometown,ex: Hokkien,Teo Chew)

-ENTERTAINMENT ORGANIZATIONS
(ex: Brass band,Opera)

EDUCATION

for **YOUNG PATIENTS**

Childcare centre kindergarten

Former community hall for the residents

ECONOMY on ISLAND

Mostly depend on fishermen and the patients.

- **FISHING**

- **FARMING :**

  - **IMMIGRANTS** were allowed to **CLAIM** whatever land they could clear for **FARMING & LIVING**

  - Growing **Tapioca & Banana** for subsistence

- **SHIPYARD INDUSTRY**

ACTIVITIES

TRAINING for INMATES :

-Repair machines

-Sewing

-Carpenter Enterprise

-Boat-making Enterprise

-Coir Industry

-Laundry

FACILITIES :

-Recreational area for **INMATES**

-Football field for **PRISON OFFICERS & WARDENS**

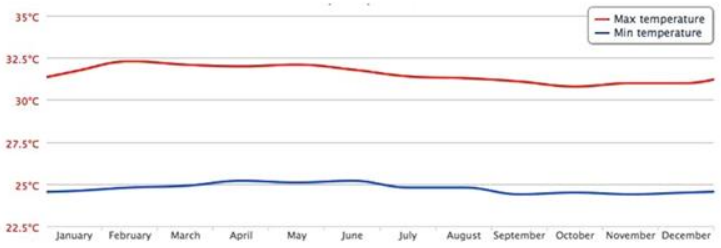
PULAU JEREJAK CULTURE

Shipyard

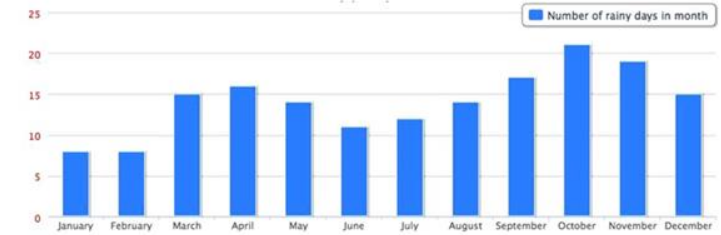
Monk was giving speech to the inmates

Recreational area for inmates


PULAU JEREJAK
CLIMATE &
ITS EFFECT
MACRO
INTO THE TIMELESS TIME

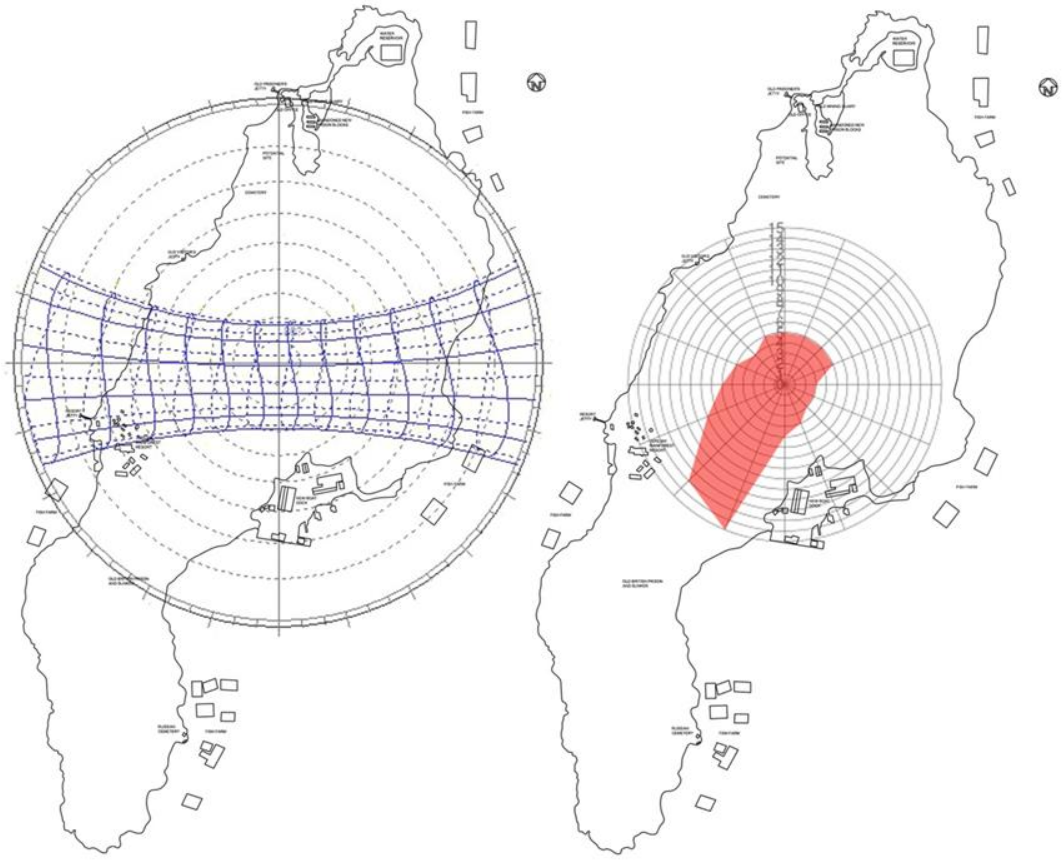


YEARLY TEMPERATURE



YEARLY PRECIPITATION

RELATIVE HUMIDITY



PULAU JEREJAK

CLIMATE

Average temperature: 24°C~34°C
Annual precipitation: >150cm
Humidity: 77%~ 88%

- Daytime: Hot & humid
- Nighttime: Cold & chilling
- Raining season during September to November
- High humidity and warm temperature is the main cause of tropical climate disease: Leprosy, Toberculosis, Dengue
- Mold destroyed building materials

TROPICAL DISEASE (Leprosy)

- Common in TROPICAL climate
- Caused by Mycobacterium leprae
- Spread from person to person in NASAL DROPLETS.
- Transmitted to human by armadillos.

DAMAGED BUILDING MATERIALS

1. Magnesium Sulphate of seawater may attack the constituents of hardened portland cement paste.

2. Both VENTILATION and INFILTRATION can cause moisture mold problems and damage to the furnishings.

3. Timber structure also being damaged by mold and fungi. High humidity and chloride cause the steel and iron structure to corrode.

PULAU JEREJAK
CLIMATE & EFFECTS

It may take 2-10 years before signs and symptoms appear.
- Disfiguring skin sores, lumps that do not go away
- Muscle weakness
- Numbness or lack of feeling in the arms and legs
- Severe pain
- Eye problems that may lead to blindness


PULAU JEREJAK
NEIGHBOURHOOD
& CONTEXT
MACRO
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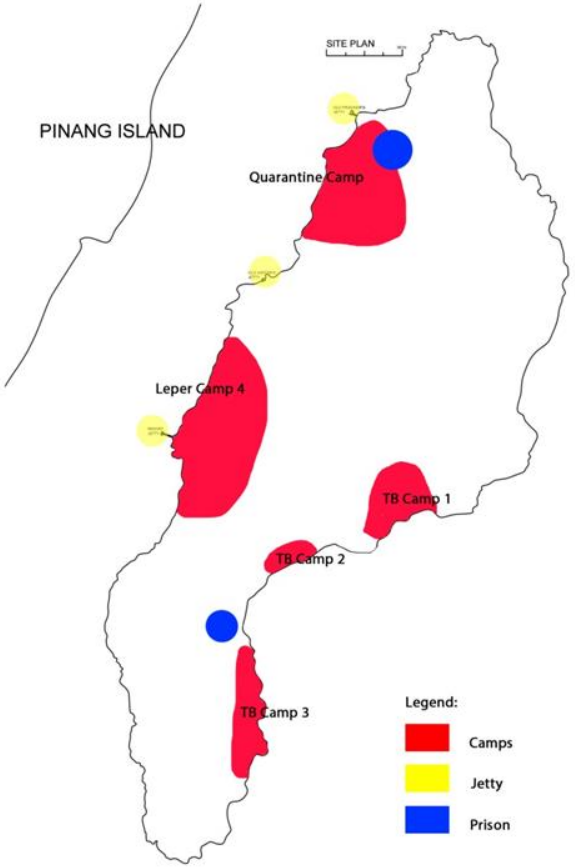
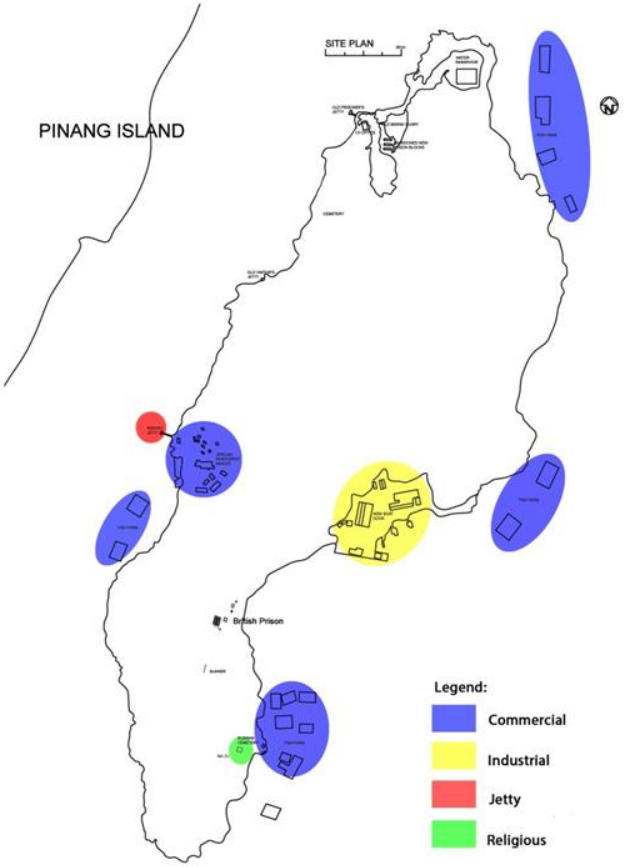
ZONING





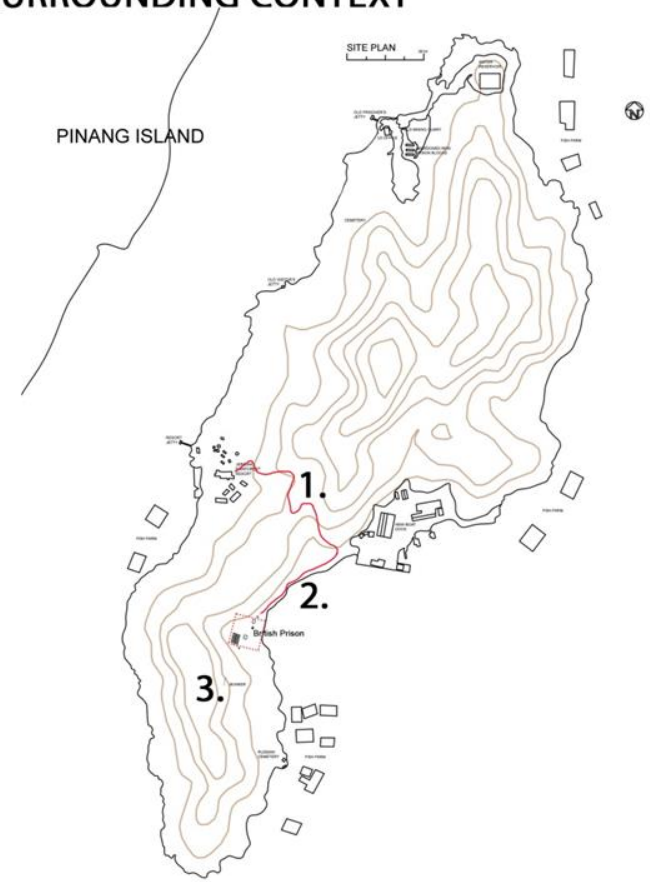
PULAU JEREJAK
NEIGHBOURHOOD & CONTEXT

The island use to house 5 camps. Schools, churches and housing were mostly located on the northern part of the island.

Jetties were located on the western side to facilitate transport to Penang island.

Today, the island is a tourism spot with surrounding fish farms and a ship dock.

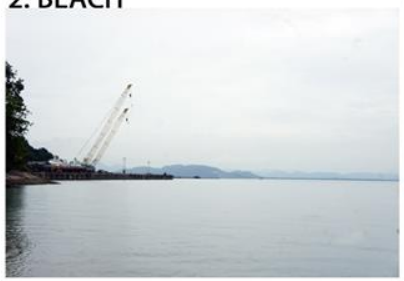
SURROUNDING CONTEXT



1. BALQIS TRAIL

-2.4km long
- moderately difficult

2. BEACH



Located on the south-western side

Shipyard can be viewed from here

3. BUNKER

Function:
Store ammunition
Prison
Store water

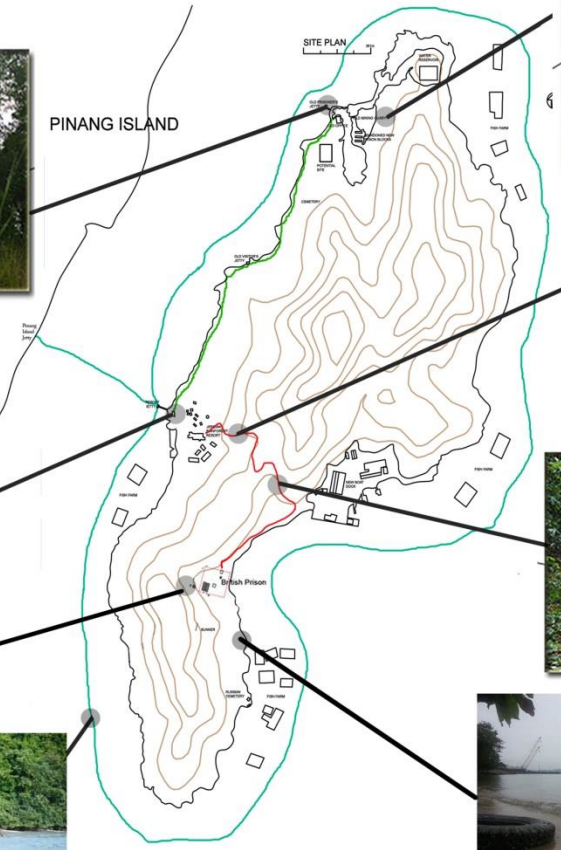
PULAU JEREJAK
NEIGHBOURHOOD & CONTEXT

The surrounding context provides a sense of challenge and tranquility.

The bunkers could be another attraction as it is only 500m from the prison.


PULAU JEREJAK
CIRCULATION
AROUND THE ISLAND
MACRO
INTO THE TIMELESS TIME

MACRO CIRCULATION



Boat Circulation
Pedestrain Circulation - Razak Trail
Pedestrian Circulation - Balqis Trail

PULAU JEREJAK, PENANG

VEHICLE CIRCULATION

- BOAT & FERRYis the only way to excess and circulate around the island
- Tts only a SHORT distance which is 10 to 15 mins

PEDESTRIAN CIRCULATION

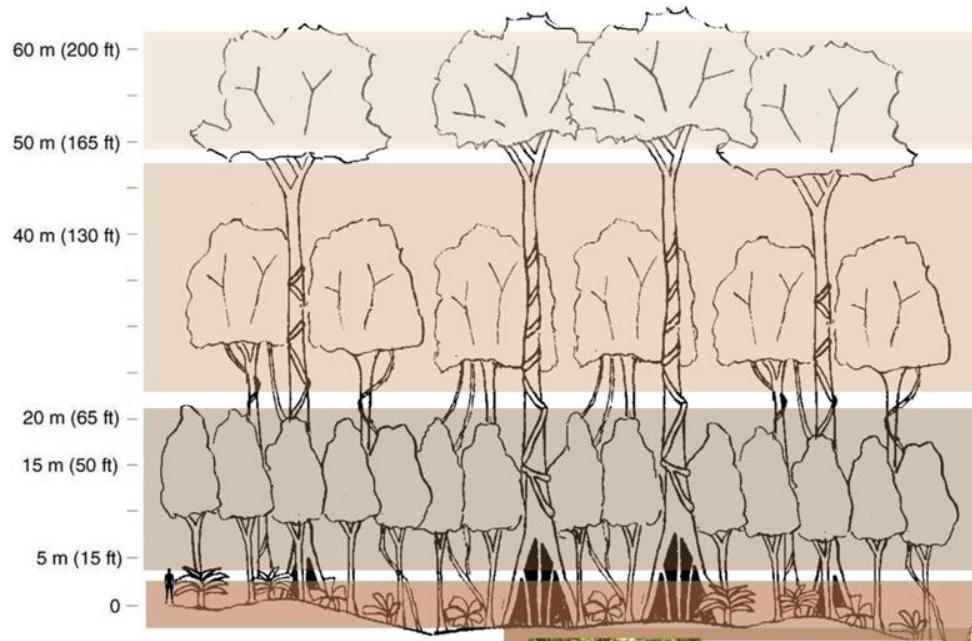
- TWO PRIMARY circulation the Balqis trail & the Razak trail
- Trekkers can eaither WALK or CYCLE through the trails
- The BRITISH PRISON SITE area is the SECONDARY circulation

PULAU JEREJAK
CIRCULATION


PULAU JEREJAK
VEGETATION
MACRO
INTO THE TIMELESS TIME

PULAU JEREJAK
VEGETATION

FLORA



EMERGENT
- 100 - 240 feet tall
- canopies
- buttresses root

eg. Dipterocarps

UPPER CANOPY
- 60 -130 feet
- reduced any light below
- eg. epiphytes, lianas

LOWER CANOPY
- ~60 feet
- tree trunks, small trees

FOREST FLOOR
- low light
- few bushes or herbs can grow

SEA

FAUNA

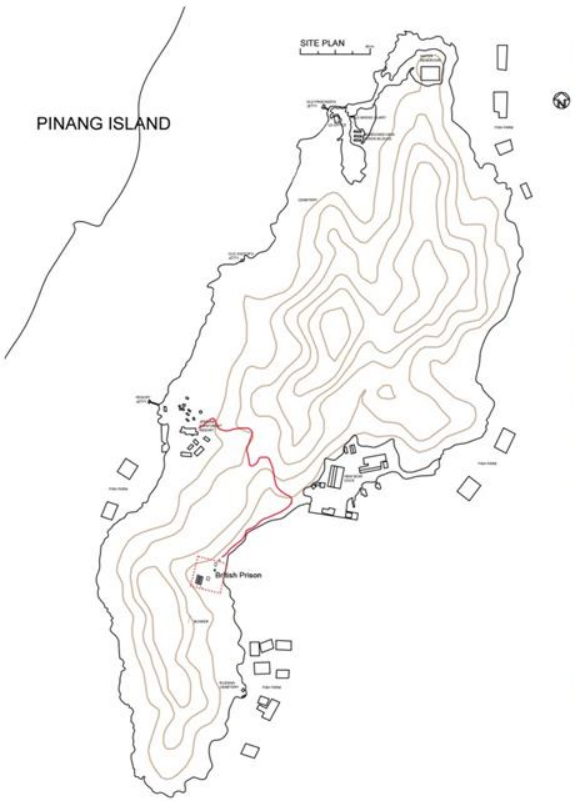
White-bellied Sea Eagle (Haliaeetus leucogaster)
- breeds and hunts near water

Long-tailed macaque (Macaca fascicularis)
- prefer forested areas near water

Mangrove snake (Boiga)
- venomous

Monitor Lizard
- large reptile


PULAU JEREJAK
MATERIALS &
EXISTING BUILDING
MACRO
INTO THE TIMELESS TIME



Materials:

Zinc roofing

Steel skeletal structure

Clay roof tiles

Reinforced concrete

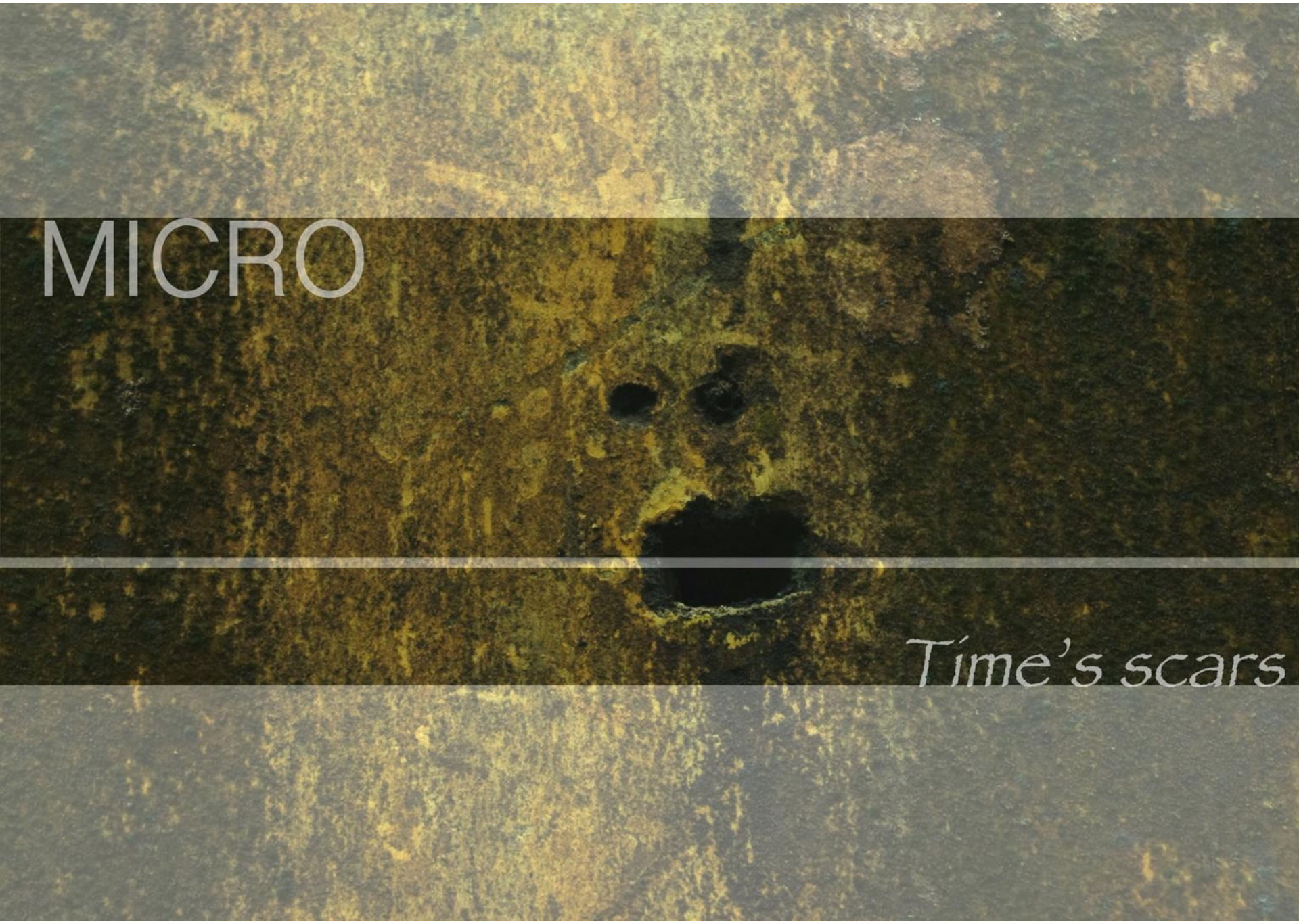
Bricks

Glass

Stainless steel

Timber (doors only)

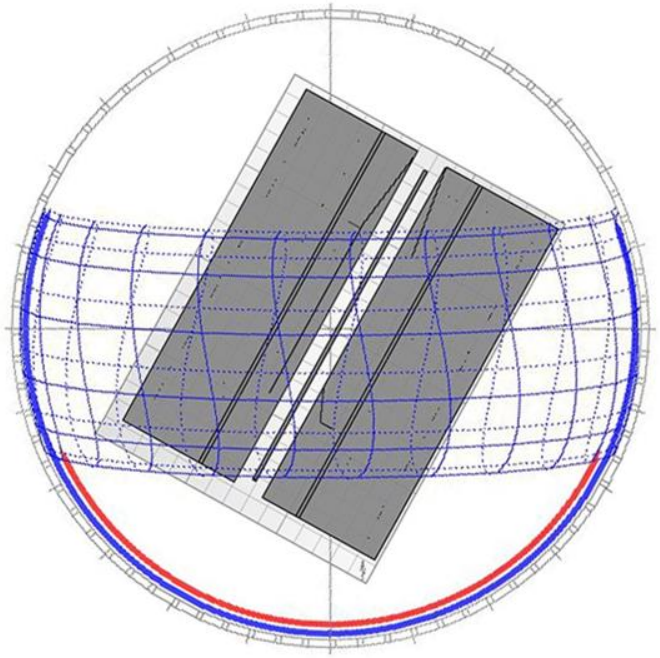
PULAU JEREJAK
MATERIALS


MICRO
Time's scars

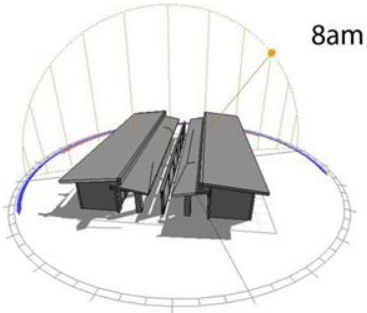

MICRO
CLIMATE & ORIENTATION
OF BUILDING
Time's scars

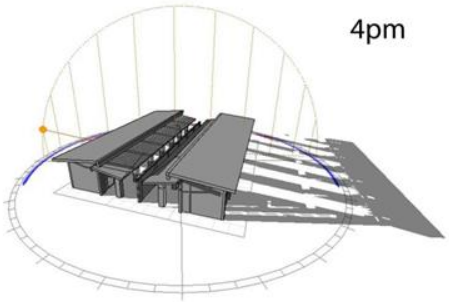
SUN PATH DIAGRAMS

SUN PATH DIAGRAM OF THE DETENTION CENTER



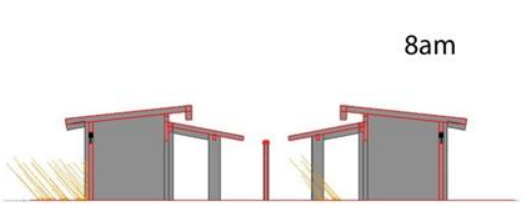
SUN POSITION DURING SITE VISIT DAY, 29TH SEPTEMBER 2013

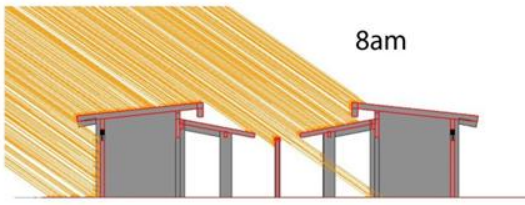


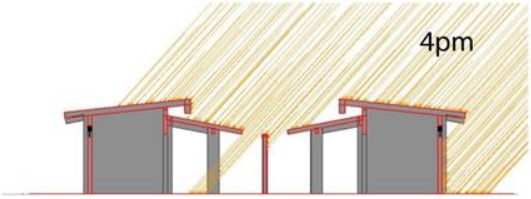


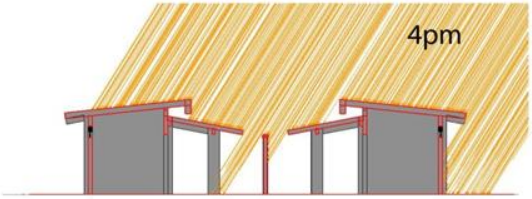
SUMMER SOLSTICE

WINTER SOLSTICE

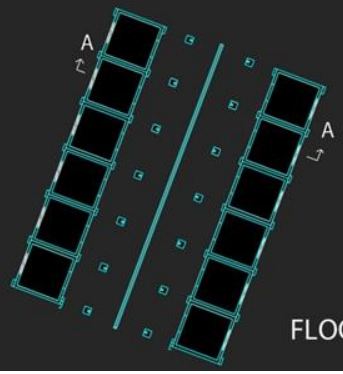








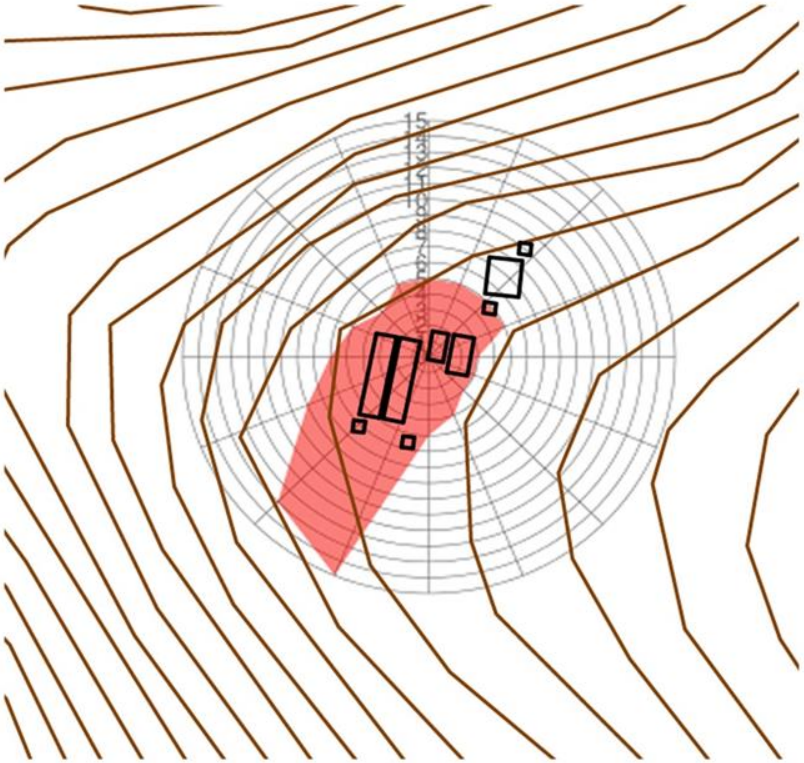
Each opening of the cell blocks is being shaded by roof as well as the middle additional wall. Due to the average temperature in forest is lower and the cells receive no direct sunlight all year long, there was no electricity needed to provide thermal comfort.



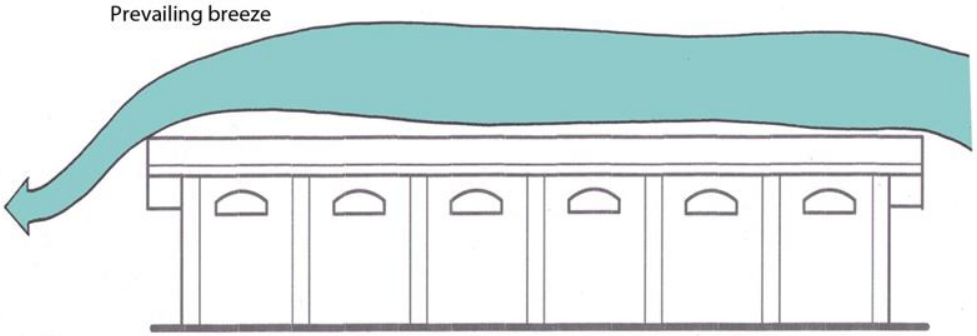
FLOOR PLAN NTS

PULAU JEREJAK
MICROCLIMATE & BUILDING

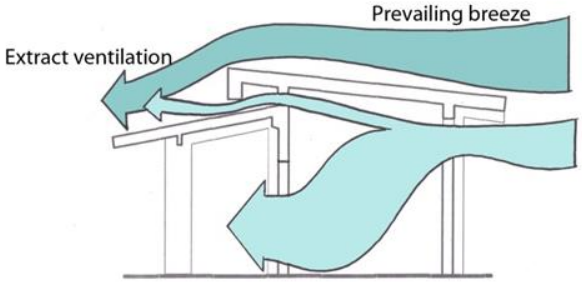
WIND & VENTILATION



WIND DIRECTION DISTRIBUTION OF DETENTION CENTER IN SEPTEMBER



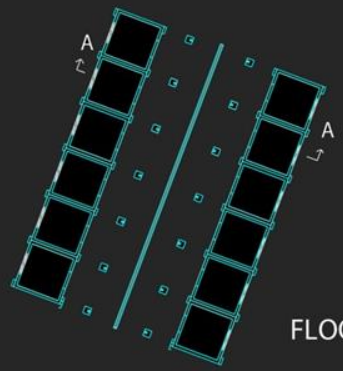
EAST ELEVATION



CROSS SECTION A-A

PULAU JEREJAK
MICROCLIMATE & BUILDING

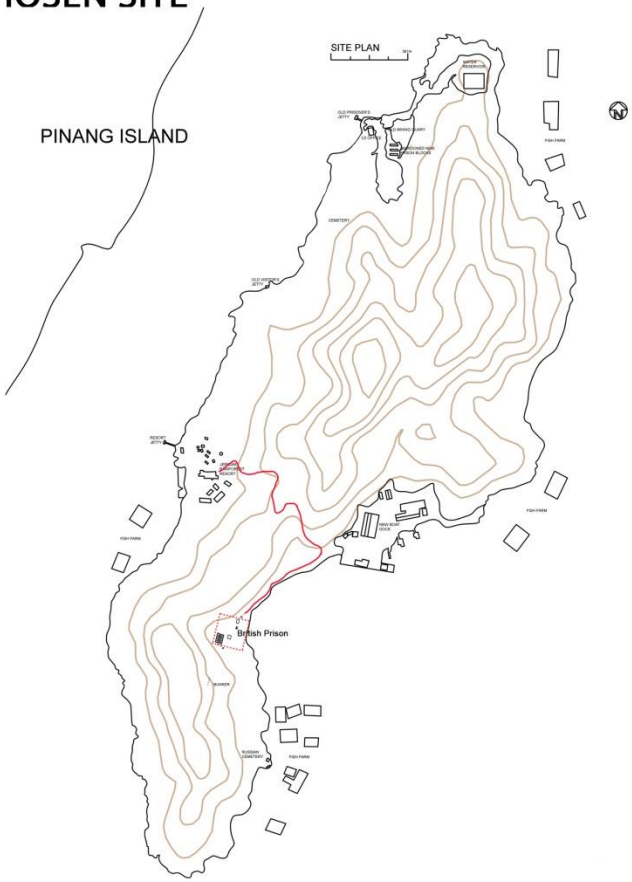
The building orientated in a way that the shorter facade facing the most wind. This helps the two prison building blocks to get equal ventilation. For each cell block, the outlet is larger than inlet to create suction of the air.

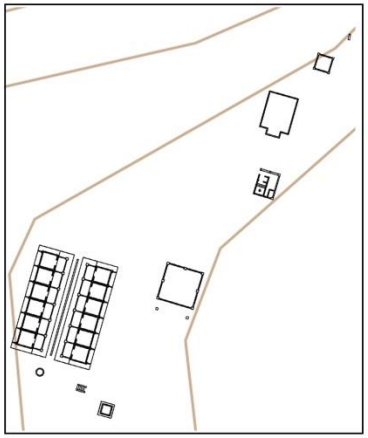


FLOOR PLAN NTS


MICRO
NEIGHBOURHOOD &
CONTEXT
Time's scars

CHOSEN SITE



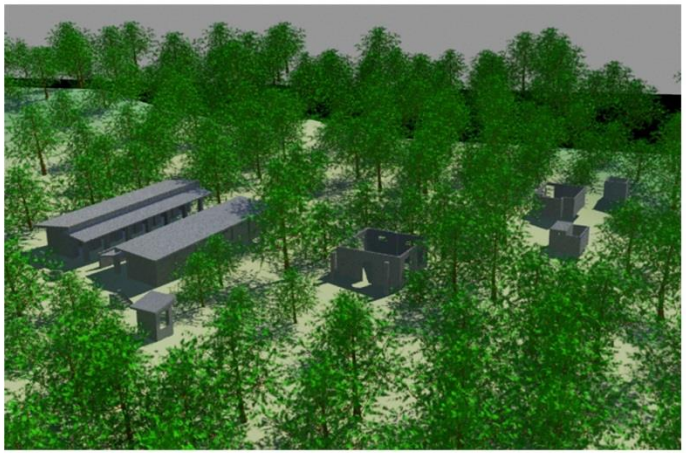


HISTORY

Used to be a tuberculosis ward for chronic patients in 1930.

It was then converted into a prison during the Malayan emergency in 1948.

The prisoners there were anti-colonialists from radical groups such as API.



REASONS

Secluded site , not directly exposed

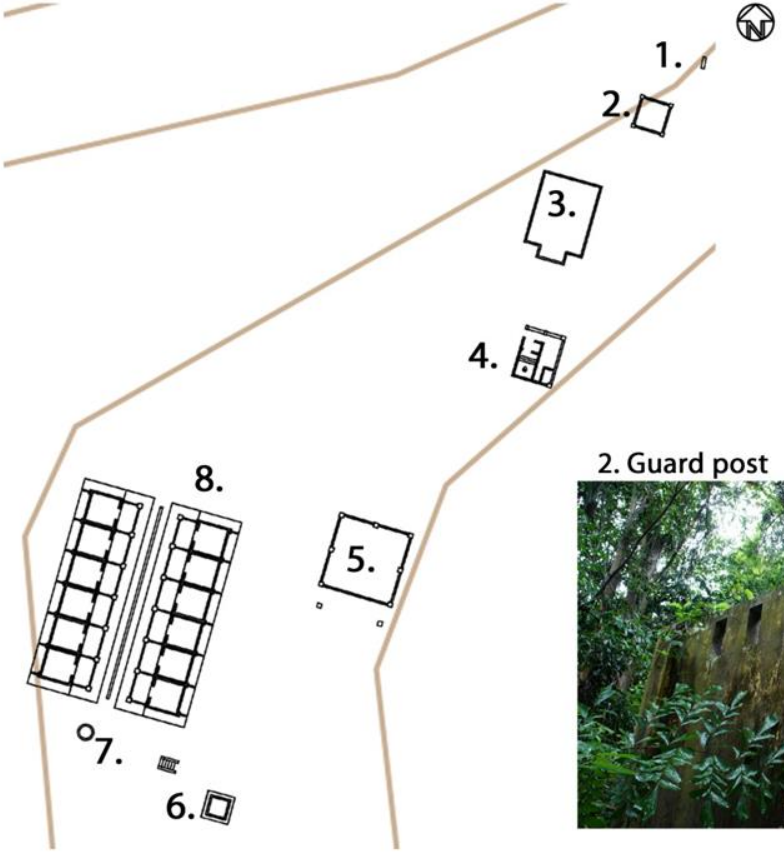
No distractions to site

Original environment, no development

Stronger poetic experience

PULAU JEREJAK
NEIGHBOURHOOD & CONTEXT

CHOSEN SITE



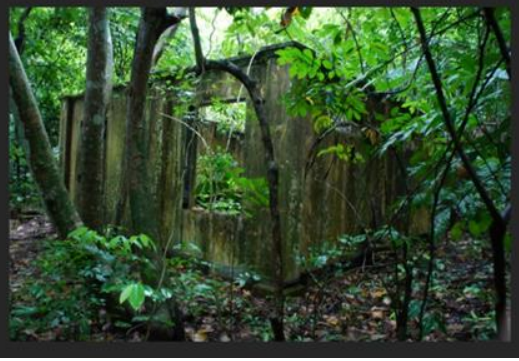
1. Leprosy patient tombstone

2. Guard post

3. Unknown

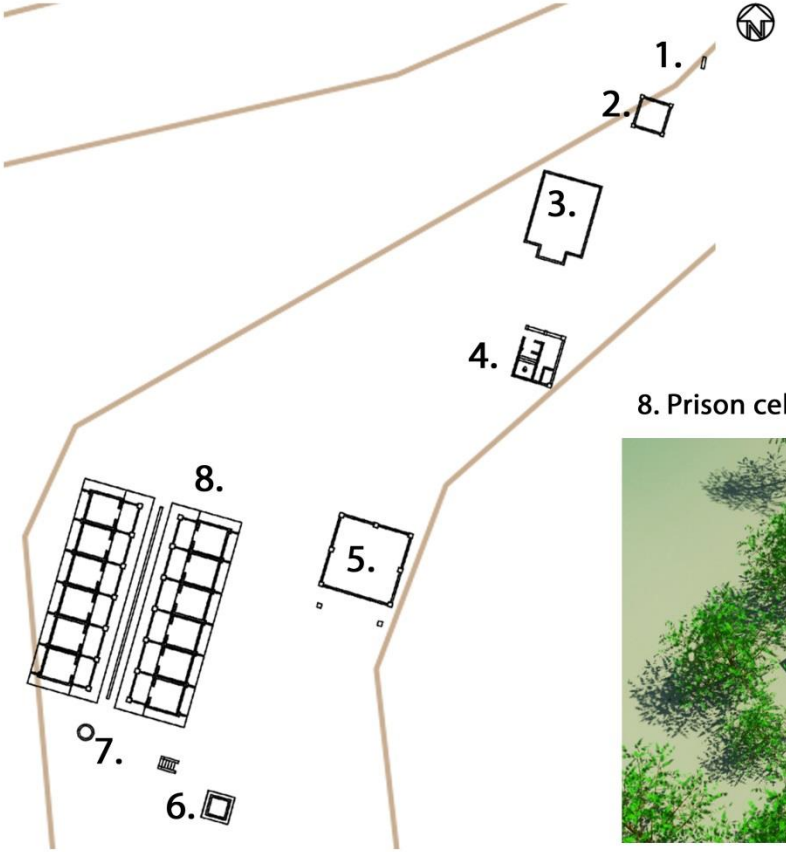
4. Toilet

5. Office



PULAU JEREJAK
NEIGHBOURHOOD & CONTEXT

MICRO ANALYSIS

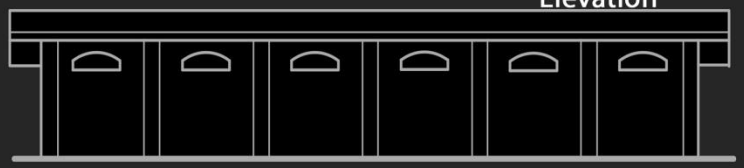


6. Toilet

7. Well

8. Prison cells

Elevation



Section

PULAU JEREJAK
NEIGHBOURHOOD & CONTEXT

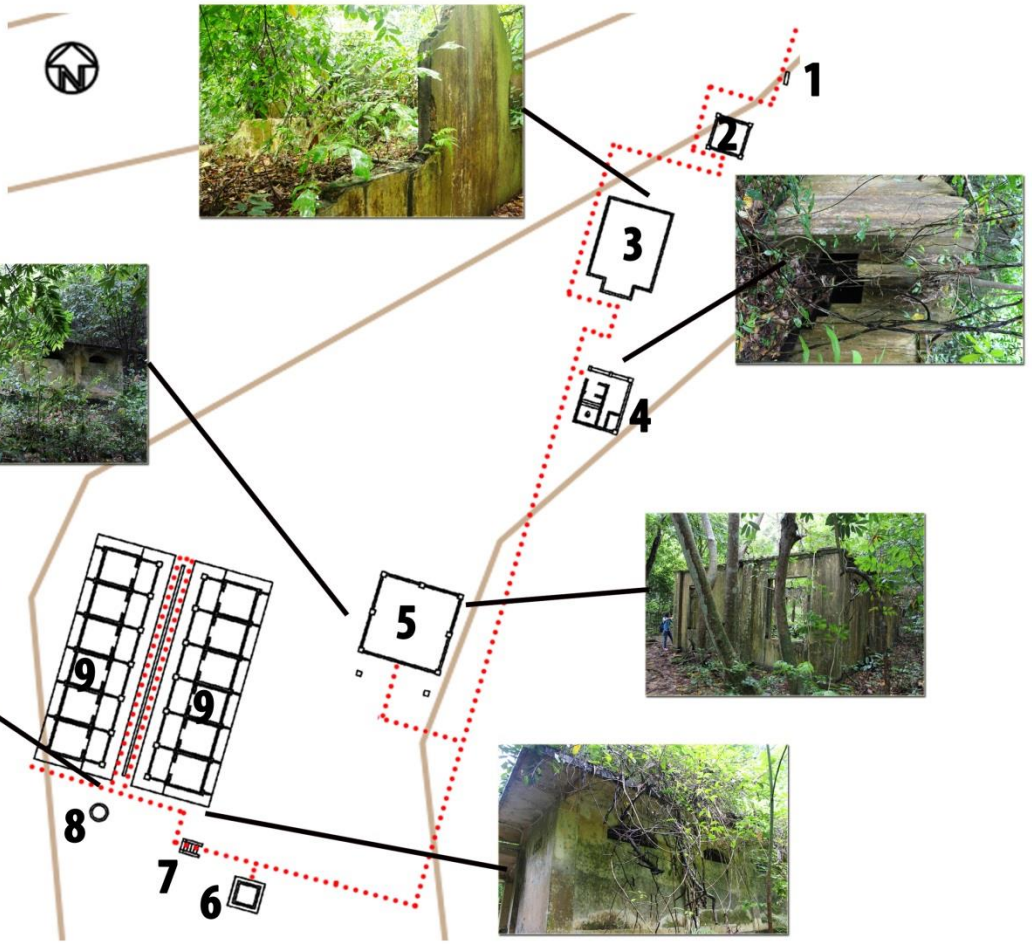
2 blocks of prison cells, each containing 6 cells, measuring 8ftx8ft

One cell fits 5 people

Barricade located in the middle to prevent communication


MICRO
CIRCULATION
Time's scars

THE BRITISH PRISON SITE

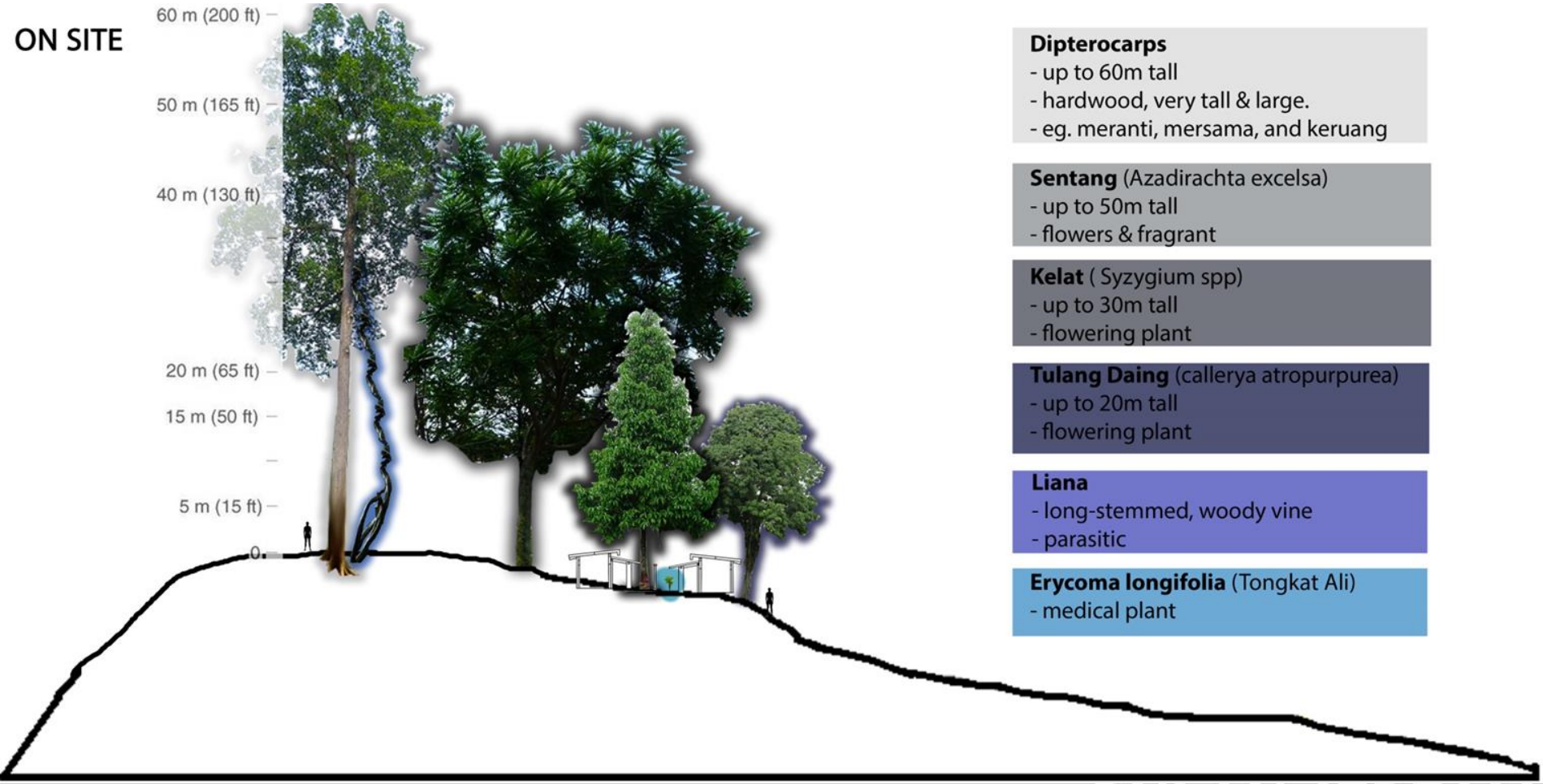


PULAU JEREJAK
CIRCULATION

1.Leprosy patient tombstone
2. Guard post
3. Unknown
4. Toilet
5. Office
6. Toilet
7. Stairway to British Prison
8. Well
9. Prison cells


MICRO
VEGETATION
Time's scars

ON SITE



Dipterocarps
- up to 60m tall
- hardwood, very tall & large.
- eg. meranti, mersama, and keruang

Sentang (Azadirachta excelsa)
- up to 50m tall
- flowers & fragrant

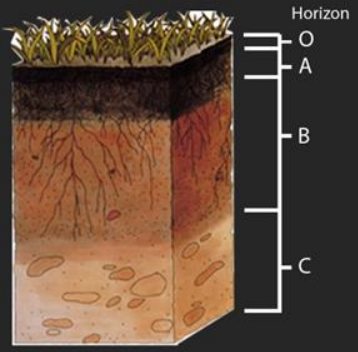
Kelat (Syzygium spp)
- up to 30m tall
- flowering plant

Tulang Daing (callerya atropurpurea)
- up to 20m tall
- flowering plant

Liana
- long-stemmed, woody vine
- parasitic

Erycoma longifolia (Tongkat Ali)
- medical plant

SOIL TYPE



O - **Humus** - litter layer

A - **Top Soil** - decomposed organice matter

B - **Sub Soil** - iron & aluminium compound + clay
- acidic & depleted

C - **Regolith** - weathering soil

PULAU JEREJAK
VEGETATION


MICRO
NOISE
Time's scars

CICADA

The insects manage to produce their incredibly large sound because they have a unique anatomy that combines a ribbed membrane on the torso that vibrates when they deform their bodies.

STEPPING ON LEAVES

The ground covered with branches and leaves. Every step on the ground produces noise

RAINDROPS

The 1st layer is when the raindrops 1st reach the plant leaves since most part of the jungle is covered with branches and leaves of plants. The 2nd stage is when the raindrops reach the ground.

DROPPING OF FRUITS

Dropping of fruits increases especially when it 's raining. The sound is recorded.

PULAU JEREJAK
NOISE

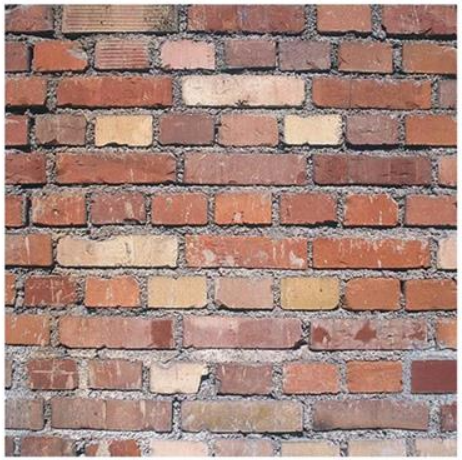

MICRO
MATERIALS &
EXISTING BUILDING
Time's scars

SOLID CONSTRUCTION -Brics walls, plastered then painted in peach/orange

Steel bars for windows

Timber doors

Concrete slab roof



Condition of materials as of today:

Corrosion

Fungi growth

Water runoff marks

Cracks

Plants growing rampant

COLOUR SCHEME

Use of warm tones in a natural context

PULAU JEREJAK
MATERIALS


MICRO
S.W.O.T
Time's scars

. Rich of **FLORA** and **FAUNA** species

. HIDING away from cities' **BUSTLE**

. **HISTORICAL** traces

. Difficulties in **ACCESSING** to the site

. OBSTRUCTIONS

STRENGTHS

WEAKNESSES

OPPORTUNITIES

THREATS

. Fully ENGAGE with **NATURE**

. Provide users different **EXPERIENCES** while EXPLORING the space

. **NOSTALGIA** senses towards the space

. **ECO-** tourism

. High humidity , **MOISTURE**

. TERMITES , Bats

. **RUIN** MATERIALS

PULAU JEREJAK
S.W.O.T ANALYSIS


MICRO
CONCLUSION
Time's scars

GENIUS LOCI

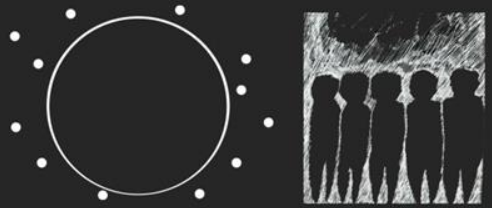
V.I.C

CONTEXT CONTENT

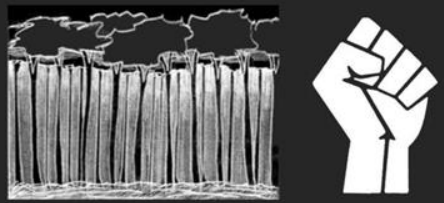
PULAU JEREJAK

CONCLUSION

CHALLENGING | UNEASY



MARGINALIZATION | ISOLATED



PROTECTED | KEEP HOLDING ON