Green Building Project

Case Study : Ministry of Agriculture and Fisheries RDTL

Prepared by:

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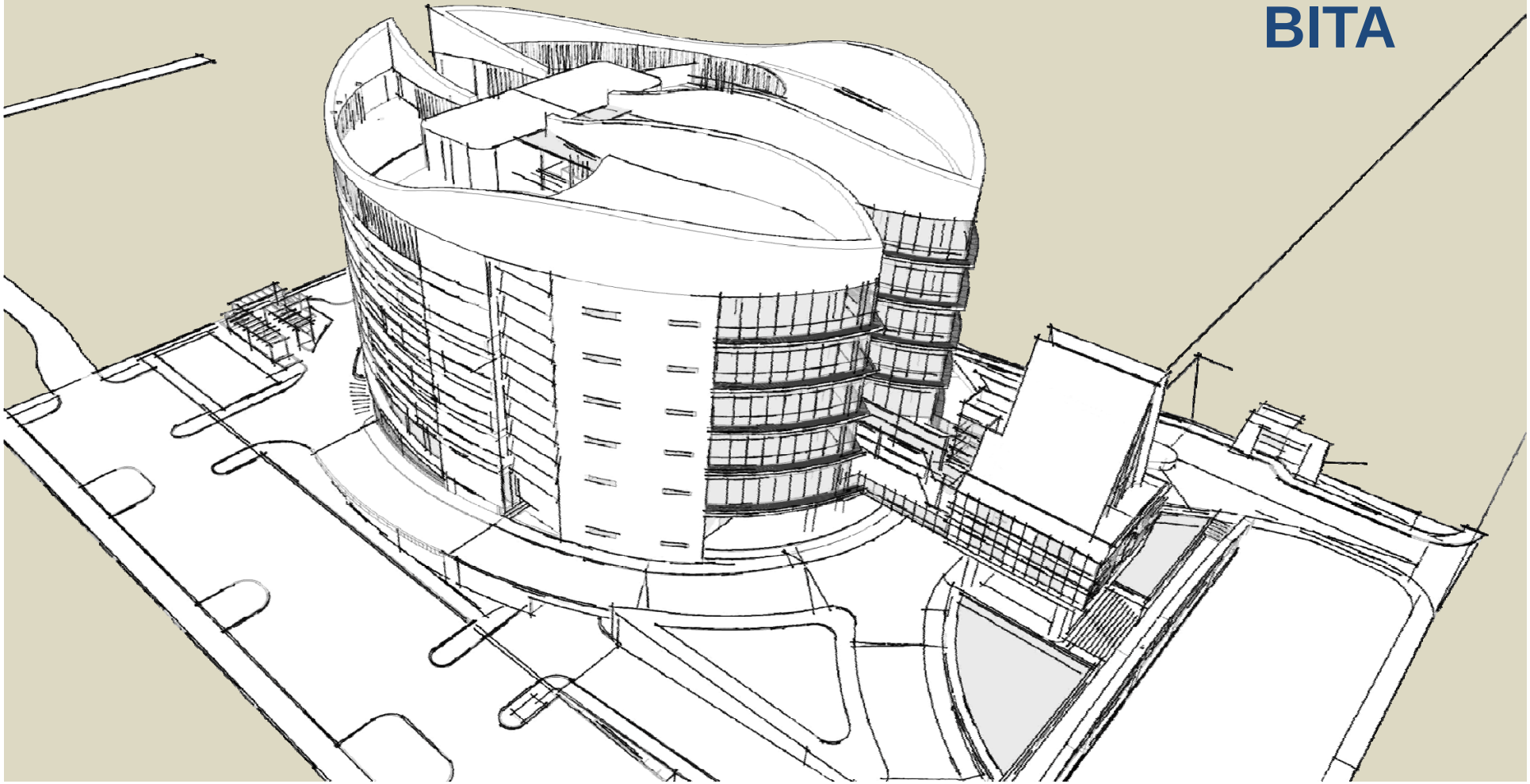
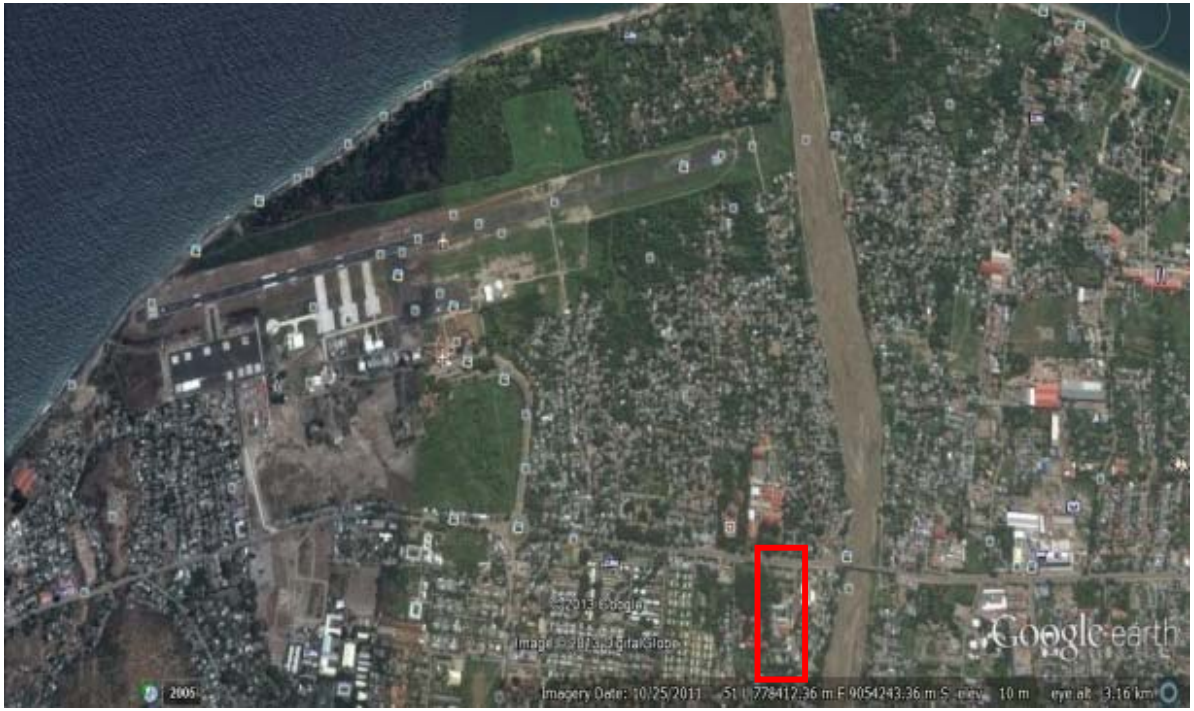


Site Planning



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Project Name :
The New Office of Ministry of Agriculture and Fisheries
Location :
Aldeia Moris Foun, Suku Comoro, Sub-Distritu Dom Aleixo, Distritu Dili. the capital city of RDTL
Total land area :
1.12 Ha from 4.56 Hectares.

Code	Rating
Appropriate Site Development	
PR 1	Basic Green Area
ASD 1	Site Selection
ASD 2	Community Accessibility Proximity to public facilities : Art school, hotels, supermarket, airport
ASD 3	Public Transportation
ASD 4	Bicycle Bicycle parking and shower stalls
ASD 5	Site Landscaping
ASD 6	Micro Climate
ASD 7	Storm Water Management Collecting water in rain water tank and absorption pit

Site Planning

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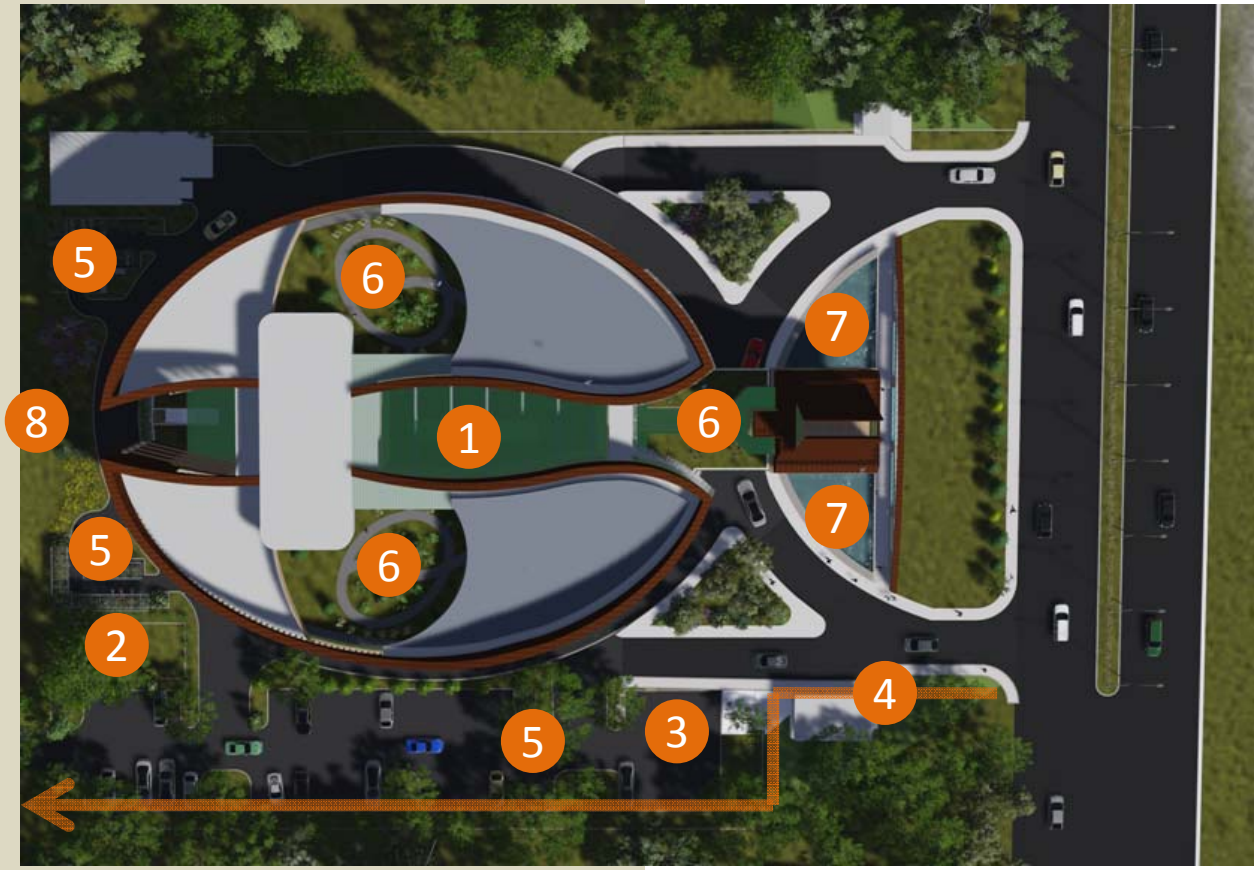
Legend

1. Atrium with transparent roof and jack roof
2. Rain water tank
3. Bicycle parking
4. Covered pedestrian access to existing office
5. Covered parking
6. Roof garden
7. Fish pond
8. Absorption pit to reduce the volume of runoff water to city drainage

Covered pedestrian access to existing office

Covered parking with trees and green pergolas to reduce ground surfaces' temperatures and absorb pollutant as well as bring back bio-diversity to the MAF office's site.



Roof garden

Fish pond

Energy Efficiency

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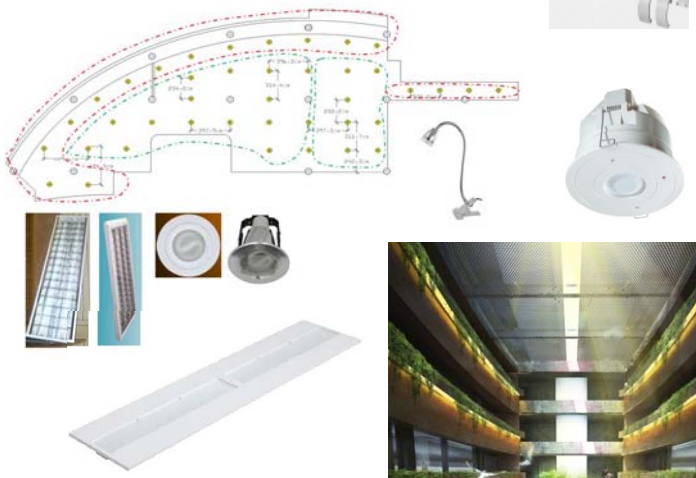
Code	Rating
Energy Efficiency & Refrigant	
PR1	Electrical Sub Metering
PR2	OTTV Calculation
EEC 1	Energy Efficiency Measure
EEC 2	Natural Lighting
EEC 3	Ventilation
EEC 4	Climate Change Impact
EEC 5	On Site Renewable Energy

Utilizing occupancy sensor and efficient lighting group.

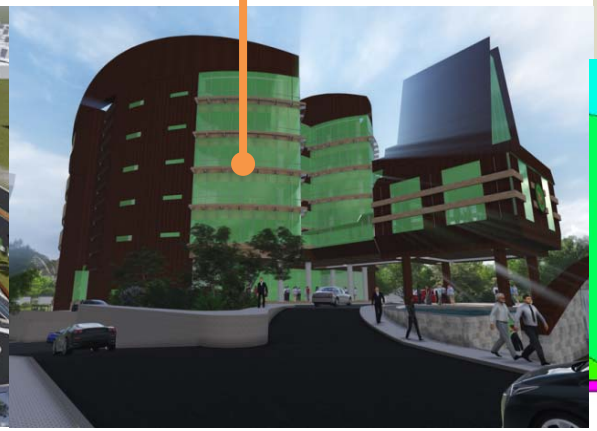


Natural Lighting

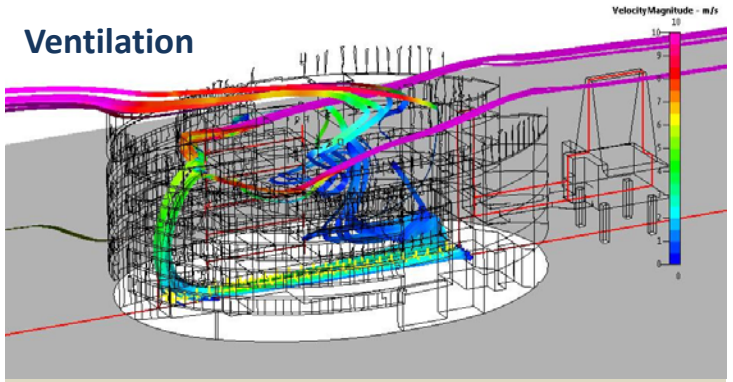
Introducing natural lighting via atrium

Optimizing the use of daylights, while reducing the glare with perforated skin on façade.

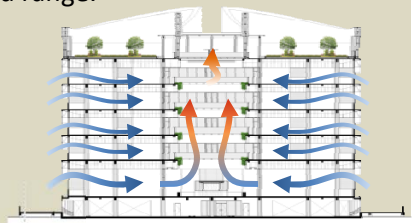
Double glass

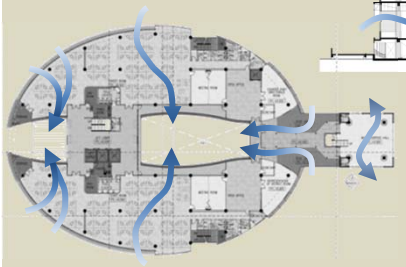


Ventilation

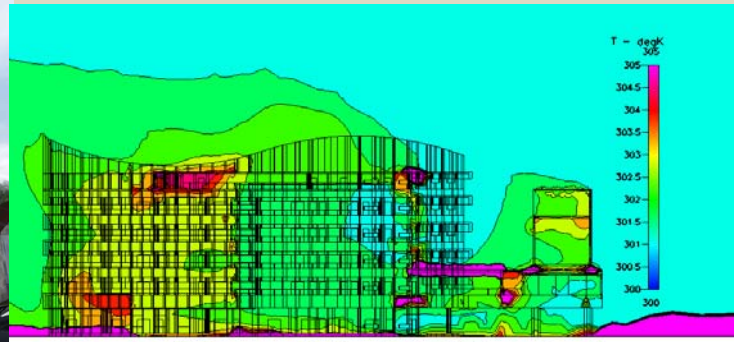


Virtual wind tunnel study shows the potency of outdoor air flow to induce indoor air movement within comfortable speed range.





Utilizing cross ventilation by placing windows at points with different wind pressure.



Air Temperature Profile on Section (Windows are Opened)

Water Conservation

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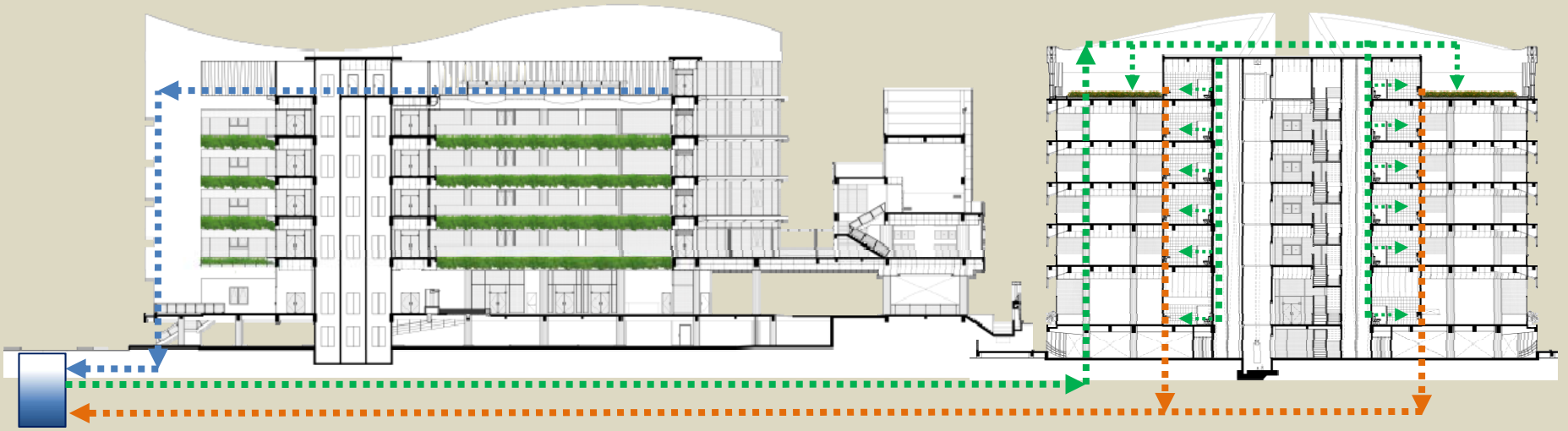
Code	Rating
Water Conservation	
PR1	Water Metering
WAC 1	Water Use Reduction
WAC 2	Water Fixtures Installing high-efficiency water fixtures, i.e. self-closing faucet & dual-flush toilet
WAC 3	Water Recycling Recycle grey water for flushing, landscape irrigation and fire fighting water reserve
WAC 4	Alternative Water Resource
WAC 5	Rainwater Harvesting Collecting all rain water from roof to underground tank
WAC 6	Water Efficiency Landscaping Using collected rain water for landscape irrigation

Water fixtures

Self-closing faucet

Dual-flush toilet



Rain water from roof being collected in rain water tank
Water from rain water tank are used for toilet flushing, landscape irrigation and fire fighting water reserves
Grey water are filtered and collected in rain water tank

Indoor Air Health & Comfort

Code	Rating
Indoor Air Health & Comfort	
Prerequisite 1	Outdoor Air Introduction
IHC 1	CO_2 Monitoring CO2 sensor on meeting rooms
IHC 2	Environmental Tobacco Smoke Control Place “No Smoking at All Building Areas” signage and provide smoking area outside the building.
IHC 3	Chemical Pollutants Using low-VOC paints and coatings, use low-mercury lamp
IHC 4	Outside View
IHC 5	Visual Comfort
IHC 6	Thermal Comfort
IHC 7	Acoustic Level Interior surfaces on atrium (ceiling and balustrade) covered with sound-absorbing material, acoustic tiles on open-office ceiling

CO2 sensor & Low-VOC paints, coating & sealant

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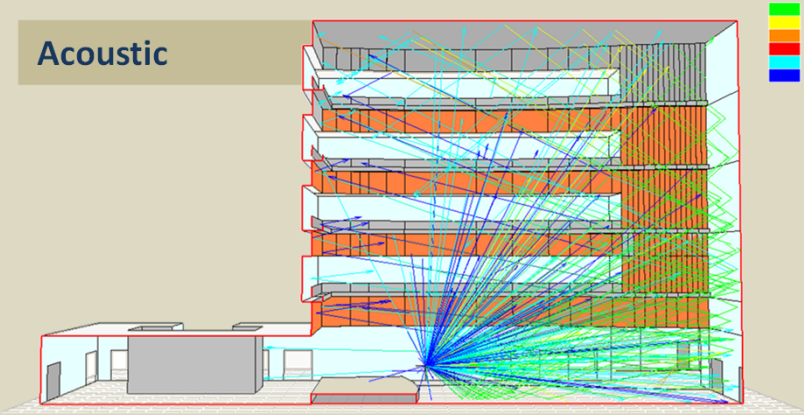
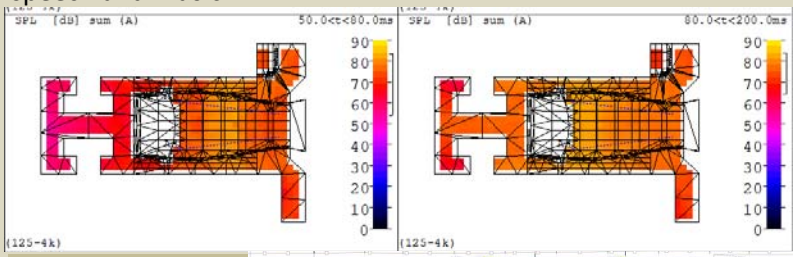
Acoustic



1.0 – 1.2 second reverberation time at atrium, excellent for speech and music



Smoking Control

Code	Rating
Material Resource & Cycle	
PR 1	Fundamental Refrigerant
MRC 1	Building and Material Reuse
MRC 2	Environmentally Processed Product
MRC 3	Non ODS Usage Not using ozone depleting substances in the entire building cooling system.
MRC 4	Certified Wood
MRC 5	Modular Design
MRC 6	Regional Material

Code	Rating
Building Environment Management	
PR1	Basic Waste Management
BEM 1	GP as a Member of The Project Team
BEM 2	Pollution of Construction Activity
BEM 3	Advance Waste Management
BEM 4	Proper Commissioning Conduct a testing-commissioning in accordance with GBCI guidelines
BEM 5	Submission Implementation Green Building Data for Database
BEM 6	Fit Out Agreement
BEM 7	Occupant Survey Make a statement that building owner will conduct a survey on temperature and humidity

GREEN BUILDING COUNCIL INDONESIA

The new MAF building design targets 49 points, aiming for Gold predicate on Design Recognition stage from Green Building Council Indonesia. Additional 9 points is expected to be added on construction period for Final Assessment stage, with total 58 points to achieve Gold predicate.

Obrigado!

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