

**A PROJECT IN JAPAN DISTINGUISHED FOR ITS COMMITMENT TO SUSTAINABILITY**

THE FRENCH EMBASSY IN TOKYO





- *FROM AIRPORT TO EMBASSY: A TROPISM*
- *A STRONG ALLIANCE BETWEEN FRENCH AND JAPANESE COMPANIES:*



**MITSUI & CO., LTD.**



**NOMURA REAL ESTATE  
DEVELOPMENT**



**TAKENAKA**

**adpi**

DESIGNERS  
& PLANNERS



株式会社 久米設計  
KUME SEKKEI



# Vicinity map

Section B.16 Site with the vicinity (Scale: 1/2,500) 1/1



COMPETITION FOR THE RECONSTRUCTION OF THE FRENCH EMBASSY

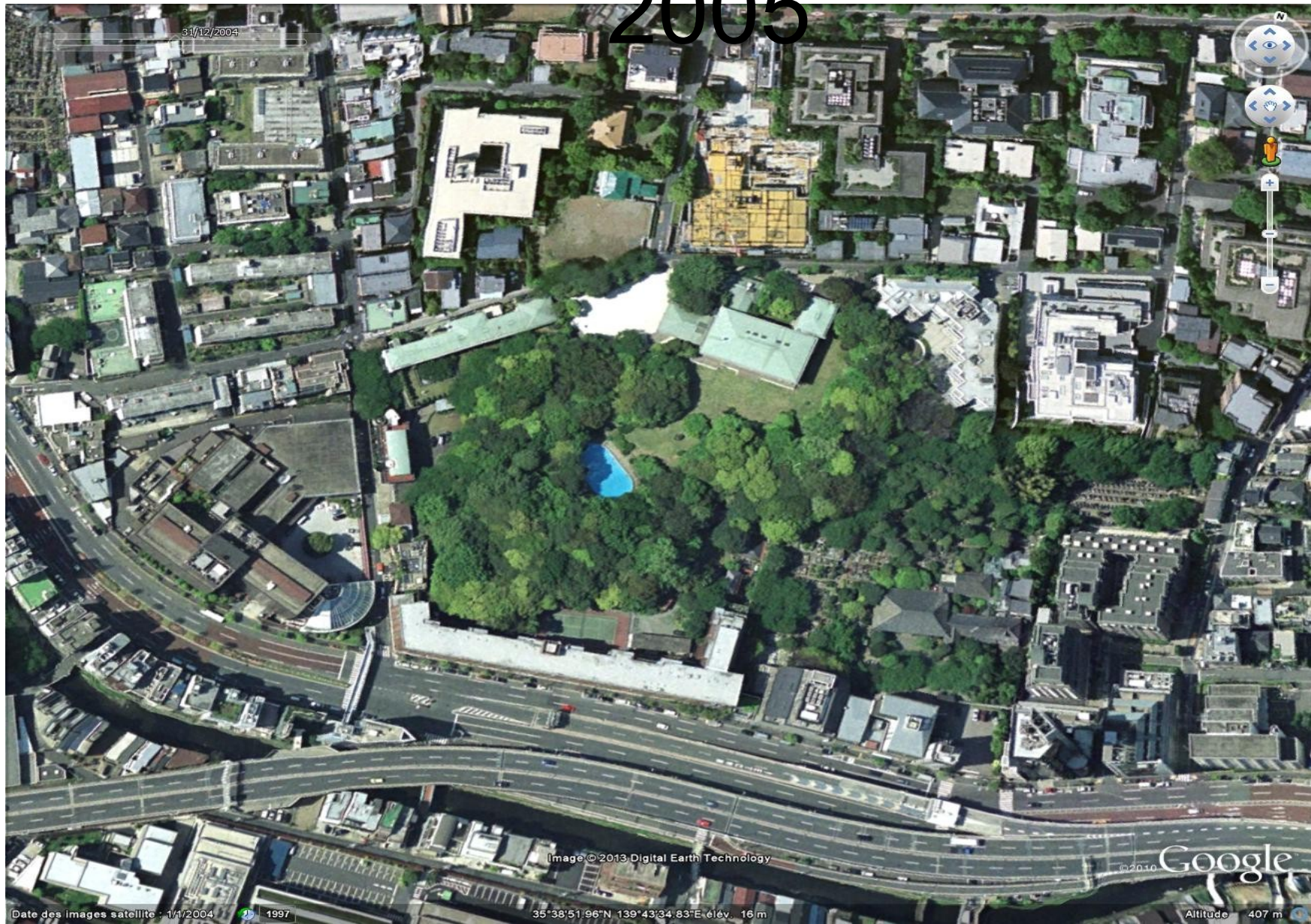
MINTAK Consortium



# Site plan



# 2005



# 2013

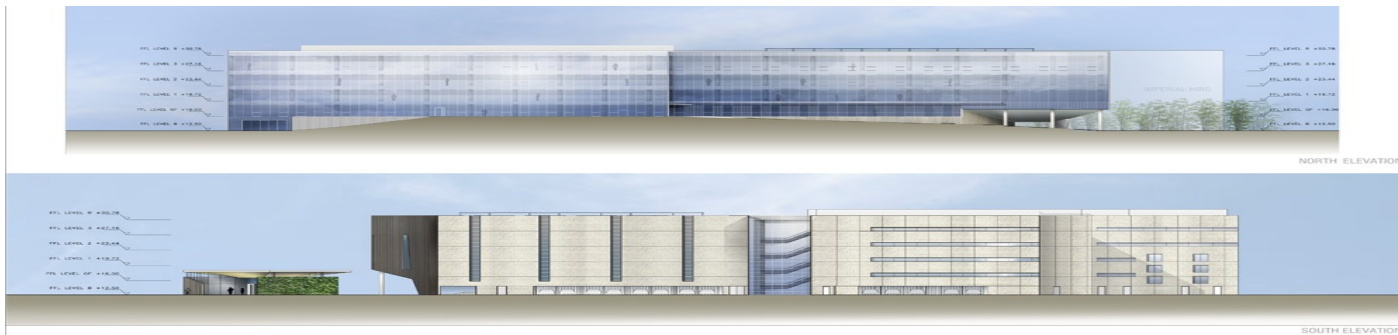




# Site integration

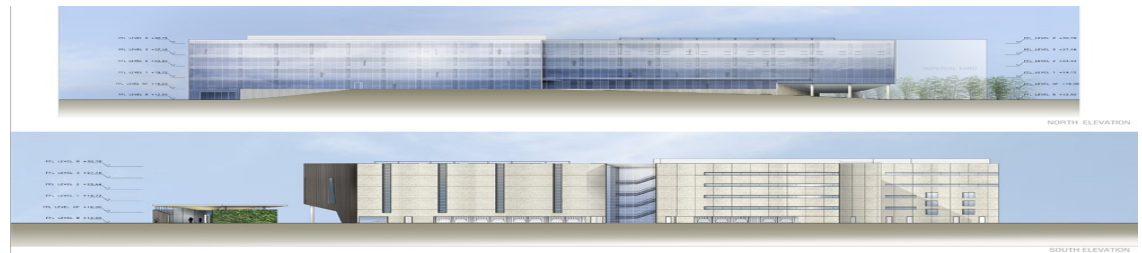


LONGITUDINAL SECTION



NORTH ELEVATION

SOUTH ELEVATION



# Plan – THREE sharp-angled components

The architectural floor plan illustrates a building complex composed of three distinct, sharp-angled components. The plan is set against a background of a landscaped site with trees and a pond.

**Consular Section (Blue-shaded area):** This section is located on the left side of the plan. It includes a long, narrow wing with several offices and a central waiting room. The rooms are labeled with their names and areas in square feet (e.g., Consular Office 27.1, Secretariat 12.9, Legal Affairs 18.0, Visa Office 24.5, Registration 31.7, Waiting room 44.1). A central archive room (60.9) is also part of this section. The area is labeled "CONSULAR SECTION" in two locations.

**Press Service (Red-shaded area):** This section is located on the right side of the plan. It includes a long, narrow wing with several offices and a central meeting room. The rooms are labeled with their names and areas in square feet (e.g., Press Service 27.1, Editor 19.6, Assistant and translator 25.1, Press Advisor 19.2, Real Estate Office 18.6, Press Room 34.0, Archives Storage 13.5, Doc. Room 8.2). The area is labeled "PRESS SERVICE" in two locations.

**Staff Housing (Purple-shaded area):** This section is located on the far right side of the plan. It includes a long, narrow wing with several bedrooms and a central living area. The rooms are labeled with their names and areas in square feet (e.g., ST 10.0, BR 10.0, LD 10.0, BR 10.0, LD 10.0). The area is labeled "STAFF HOUSING" in two locations.

**Common Areas (Orange-shaded area):** These areas are located in the center of the plan, between the Consular and Press Service sections. They include a central archive room (60.9), a meeting room (31.7), and a waiting room (44.1). The area is labeled "COMMON" in two locations.

**Parking and Landscaping:** The plan shows a parking lot with several cars parked. The surrounding landscape includes trees, a pond, and a road labeled "TP-1137".

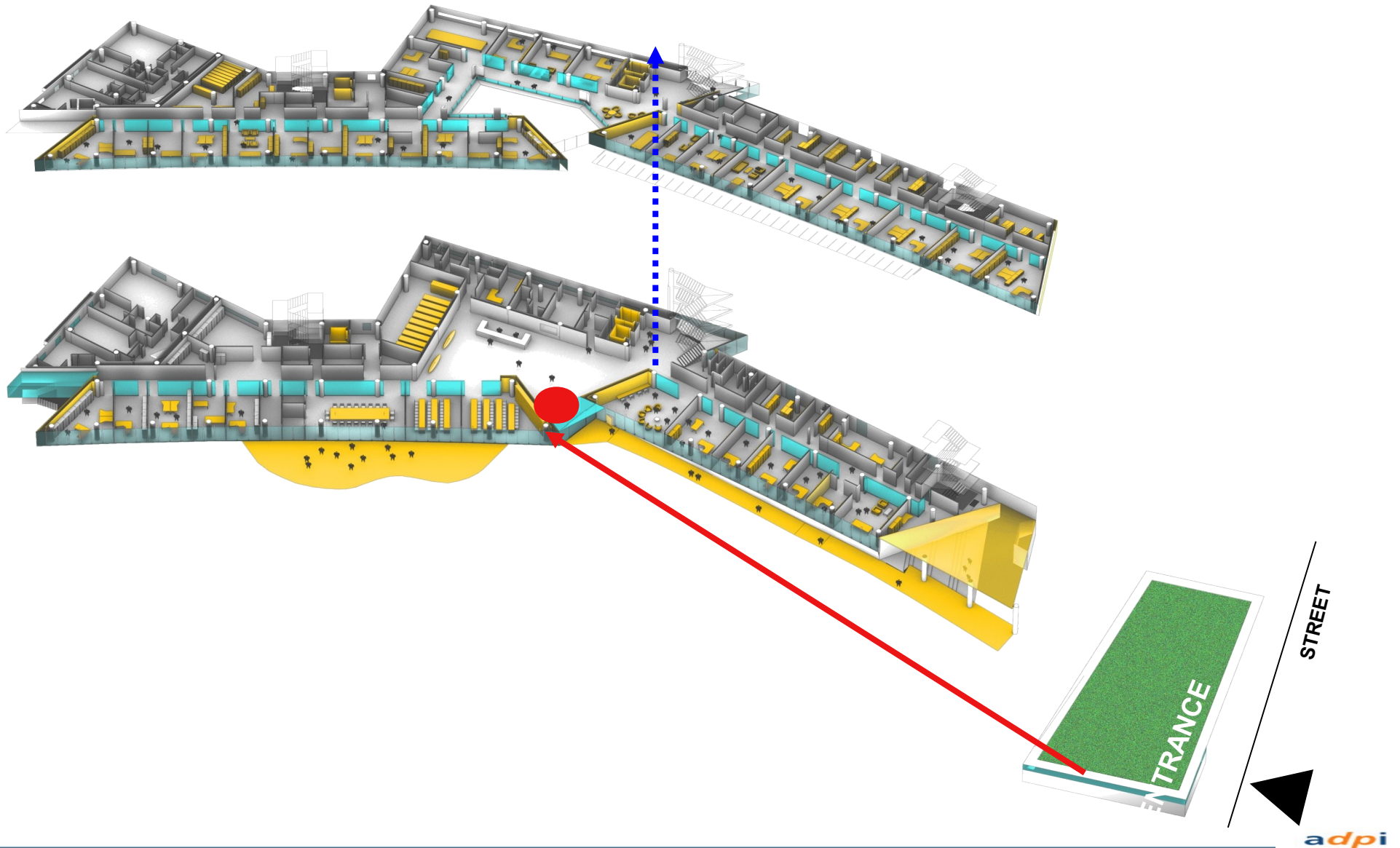
**Legend:** A legend is located in the bottom right corner, showing the color coding for the different sections: Blue for Consular Section, Red for Press Service, and Purple for Staff Housing.

**Other Labels:** The plan includes various other labels such as "PGE - SAFU", "TP-1137", "TP-12.41", "TP-11.06", "TP-11.07", "TP-11.08", "TP-11.09", "TP-11.10", "TP-11.11", "TP-11.12", "TP-11.13", "TP-11.14", "TP-11.15", "TP-11.16", "TP-11.17", "TP-11.18", "TP-11.19", "TP-11.20", "TP-11.21", "TP-11.22", "TP-11.23", "TP-11.24", "TP-11.25", "TP-11.26", "TP-11.27", "TP-11.28", "TP-11.29", "TP-11.30", "TP-11.31", "TP-11.32", "TP-11.33", "TP-11.34", "TP-11.35", "TP-11.36", "TP-11.37", "TP-11.38", "TP-11.39", "TP-11.40", "TP-11.41", "TP-11.42", "TP-11.43", "TP-11.44", "TP-11.45", "TP-11.46", "TP-11.47", "TP-11.48", "TP-11.49", "TP-11.50", "TP-11.51", "TP-11.52", "TP-11.53", "TP-11.54", "TP-11.55", "TP-11.56", "TP-11.57", "TP-11.58", "TP-11.59", "TP-11.60", "TP-11.61", "TP-11.62", "TP-11.63", "TP-11.64", "TP-11.65", "TP-11.66", "TP-11.67", "TP-11.68", "TP-11.69", "TP-11.70", "TP-11.71", "TP-11.72", "TP-11.73", "TP-11.74", "TP-11.75", "TP-11.76", "TP-11.77", "TP-11.78", "TP-11.79", "TP-11.80", "TP-11.81", "TP-11.82", "TP-11.83", "TP-11.84", "TP-11.85", "TP-11.86", "TP-11.87", "TP-11.88", "TP-11.89", "TP-11.90", "TP-11.91", "TP-11.92", "TP-11.93", "TP-11.94", "TP-11.95", "TP-11.96", "TP-11.97", "TP-11.98", "TP-11.99", "TP-12.00", "TP-12.01", "TP-12.02", "TP-12.03", "TP-12.04", "TP-12.05", "TP-12.06", "TP-12.07", "TP-12.08", "TP-12.09", "TP-12.10", "TP-12.11", "TP-12.12", "TP-12.13", "TP-12.14", "TP-12.15", "TP-12.16", "TP-12.17", "TP-12.18", "TP-12.19", "TP-12.20", "TP-12.21", "TP-12.22", "TP-12.23", "TP-12.24", "TP-12.25", "TP-12.26", "TP-12.27", "TP-12.28", "TP-12.29", "TP-12.30", "TP-12.31", "TP-12.32", "TP-12.33", "TP-12.34", "TP-12.35", "TP-12.36", "TP-12.37", "TP-12.38", "TP-12.39", "TP-12.40", "TP-12.41", "TP-12.42", "TP-12.43", "TP-12.44", "TP-12.45", "TP-12.46", "TP-12.47", "TP-12.48", "TP-12.49", "TP-12.50", "TP-12.51", "TP-12.52", "TP-12.53", "TP-12.54", "TP-12.55", "TP-12.56", "TP-12.57", "TP-12.58", "TP-12.59", "TP-12.60", "TP-12.61", "TP-12.62", "TP-12.63", "TP-12.64", "TP-12.65", "TP-12.66", "TP-12.67", "TP-12.68", "TP-12.69", "TP-12.70", "TP-12.71", "TP-12.72", "TP-12.73", "TP-12.74", "TP-12.75", "TP-12.76", "TP-12.77", "TP-12.78", "TP-12.79", "TP-12.80", "TP-12.81", "TP-12.82", "TP-12.83", "TP-12.84", "TP-12.85", "TP-12.86", "TP-12.87", "TP-12.88", "TP-12.89", "TP-12.90", "TP-12.91", "TP-12.92", "TP-12.93", "TP-12.94", "TP-12.95", "TP-12.96", "TP-12.97", "TP-12.98", "TP-12.99", "TP-13.00", "TP-13.01", "TP-13.02", "TP-13.03", "TP-13.04", "TP-13.05", "TP-13.06", "TP-13.07", "TP-13.08", "TP-13.09", "TP-13.10", "TP-13.11", "TP-13.12", "TP-13.13", "TP-13.14", "TP-13.15", "TP-13.16", "TP-13.17", "TP-13.18", "TP-13.19", "TP-13.20", "TP-13.21", "TP-13.22", "TP-13.23", "TP-13.24", "TP-13.25", "TP-13.26", "TP-13.27", "TP-13.28", "TP-13.29", "TP-13.30", "TP-13.31", "TP-13.32", "TP-13.33", "TP-13.34", "TP-13.35", "TP-13.36", "TP-13.37", "TP-13.38", "TP-13.39", "TP-13.40", "TP-13.41", "TP-13.42", "TP-13.43", "TP-13.44", "TP-13.45", "TP-13.46", "TP-13.47", "TP-13.48", "TP-13.49", "TP-13.50", "TP-13.51", "TP-13.52", "TP-13.53", "TP-13.54", "TP-13.55", "TP-13.56", "TP-13.57", "TP-13.58", "TP-13.59", "TP-13.60", "TP-13.61", "TP-13.62", "TP-13.63", "TP-13.64", "TP-13.65", "TP-13.66", "TP-13.67", "TP-13.68", "TP-13.69", "TP-13.70", "TP-13.71", "TP-13.72", "TP-13.73", "TP-13.74", "TP-13.75", "TP-13.76", "TP-13.77", "TP-13.78", "TP-13.79", "TP-13.80", "TP-13.81", "TP-13.82", "TP-13.83", "TP-13.84", "TP-13.85", "TP-13.86", "TP-13.87", "TP-13.88", "TP-13.89", "TP-13.90", "TP-13.91", "TP-13.92", "TP-13.93", "TP-13.94", "TP-13.95", "TP-13.96", "TP-13.97", "TP-13.98", "TP-13.99", "TP-14.00", "TP-14.01", "TP-14.02", "TP-14.03", "TP-14.04", "TP-14.05", "TP-14.06", "TP-14.07", "TP-14.08", "TP-14.09", "TP-14.10", "TP-14.11", "TP-14.12", "TP-14.13", "TP-14.14", "TP-14.15", "TP-14.16", "TP-14.17", "TP-14.18", "TP-14.19", "TP-14.20", "TP-14.21", "TP-14.22", "TP-14.23", "TP-14.24", "TP-14.25", "TP-14.26", "TP-14.27", "TP-14.28", "TP-14.29", "TP-14.30", "TP-14.31", "TP-14.32", "TP-14.33", "TP-14.34", "TP-14.35", "TP-14.36", "TP-14.37", "TP-14.38", "TP-14.39", "TP-14.40", "TP-14.41", "TP-14.42", "TP-14.43", "TP-14.44", "TP-14.45", "TP-14.46", "TP-14.47", "TP-14.48", "TP-14.49", "TP-14.50", "TP-14.51", "TP-14.52", "TP-14.53", "TP-14.54", "TP-14.55", "TP-14.56", "TP-14.57", "TP-14.58", "TP-14.59", "TP-14.60", "TP-14.61", "TP-14.62", "TP-14.63", "TP-14.64", "TP-14.65", "TP-14.66", "TP-14.67", "TP-14.68", "TP-14.69", "TP-14.70", "TP-14.71", "TP-14.72", "TP-14.73", "TP-14.74", "TP-14.75", "TP-14.76", "TP-14.77", "TP-14.78", "TP-14.79", "TP-14.80",

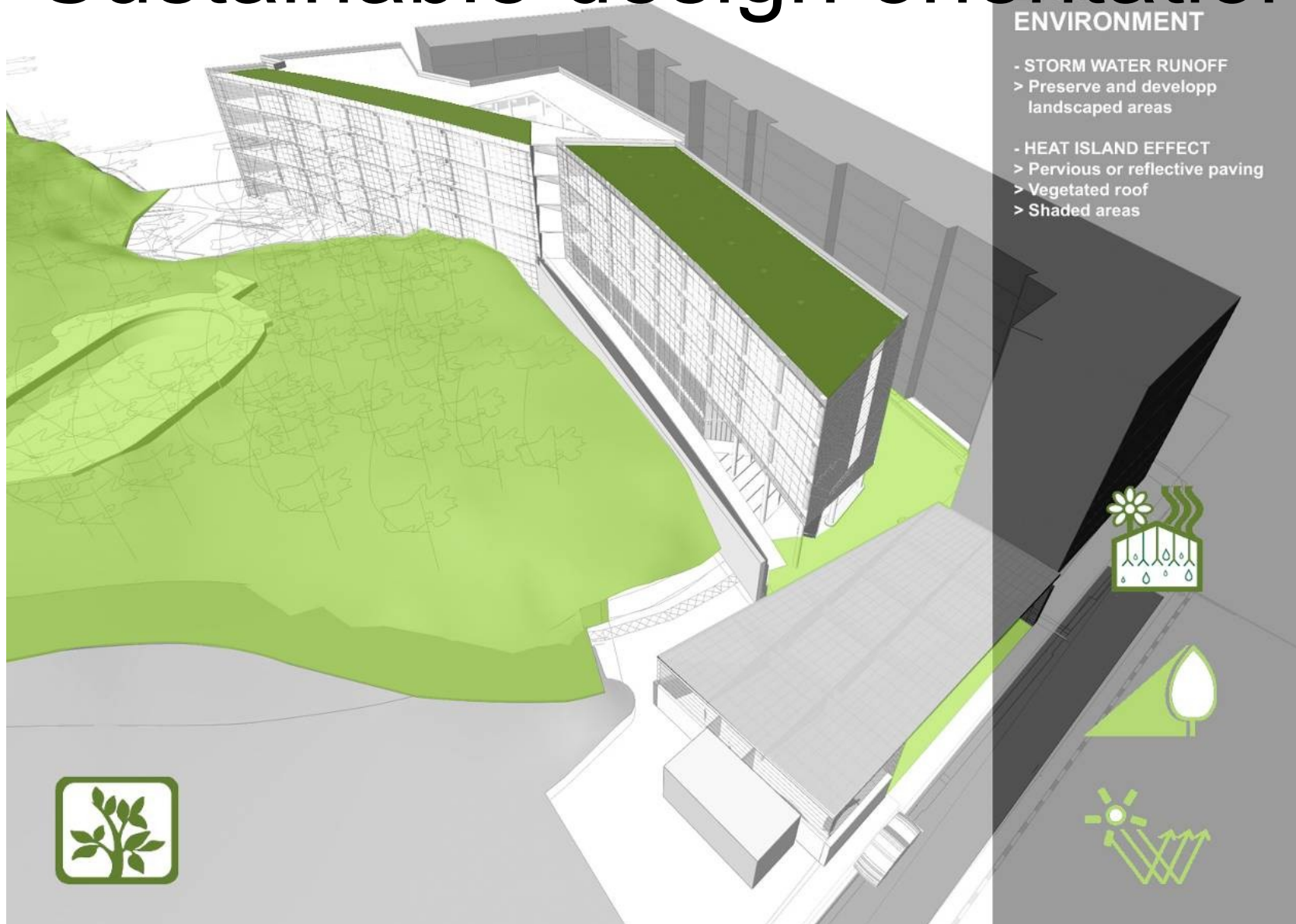
# basement level



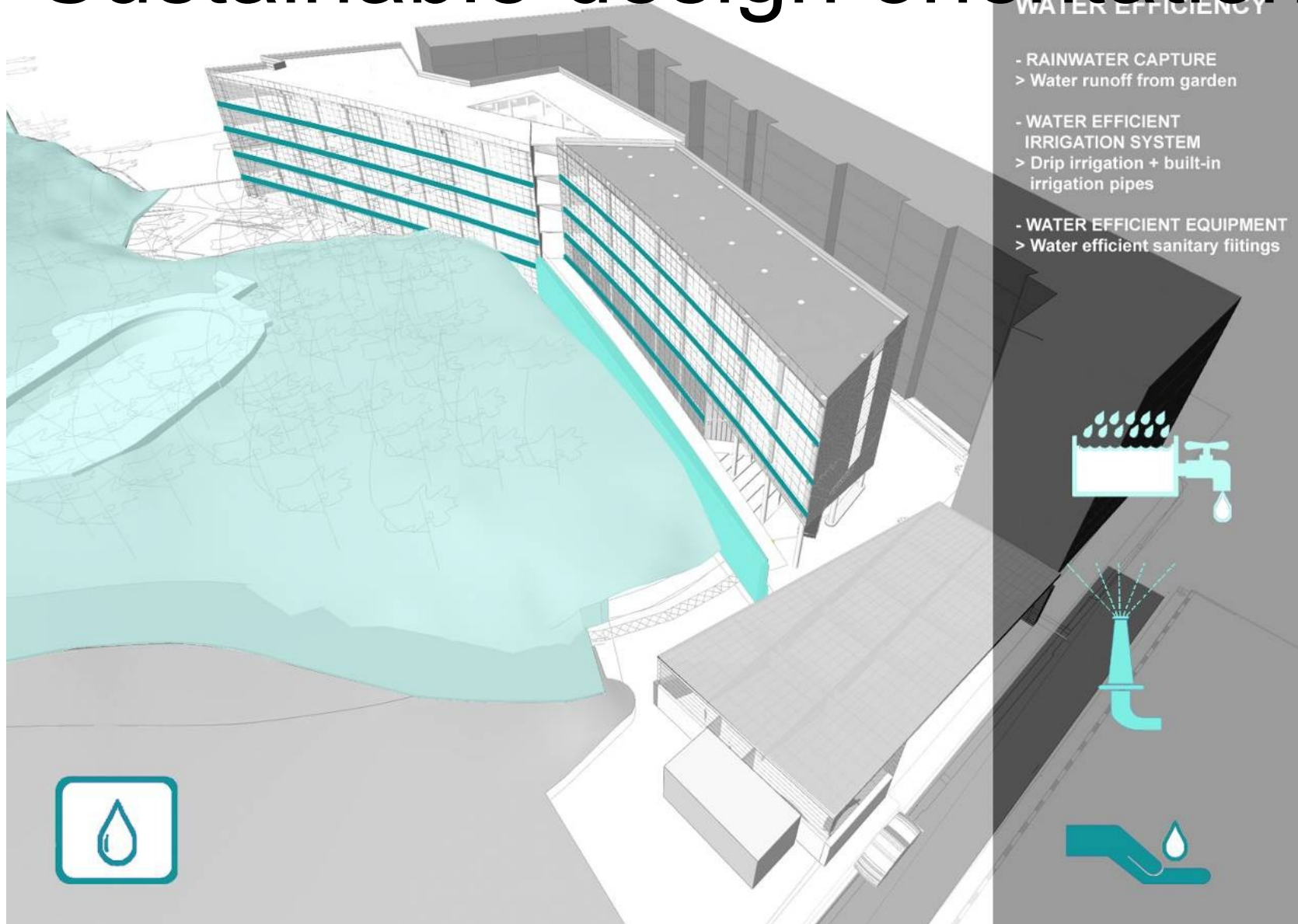
# CURRENT levels



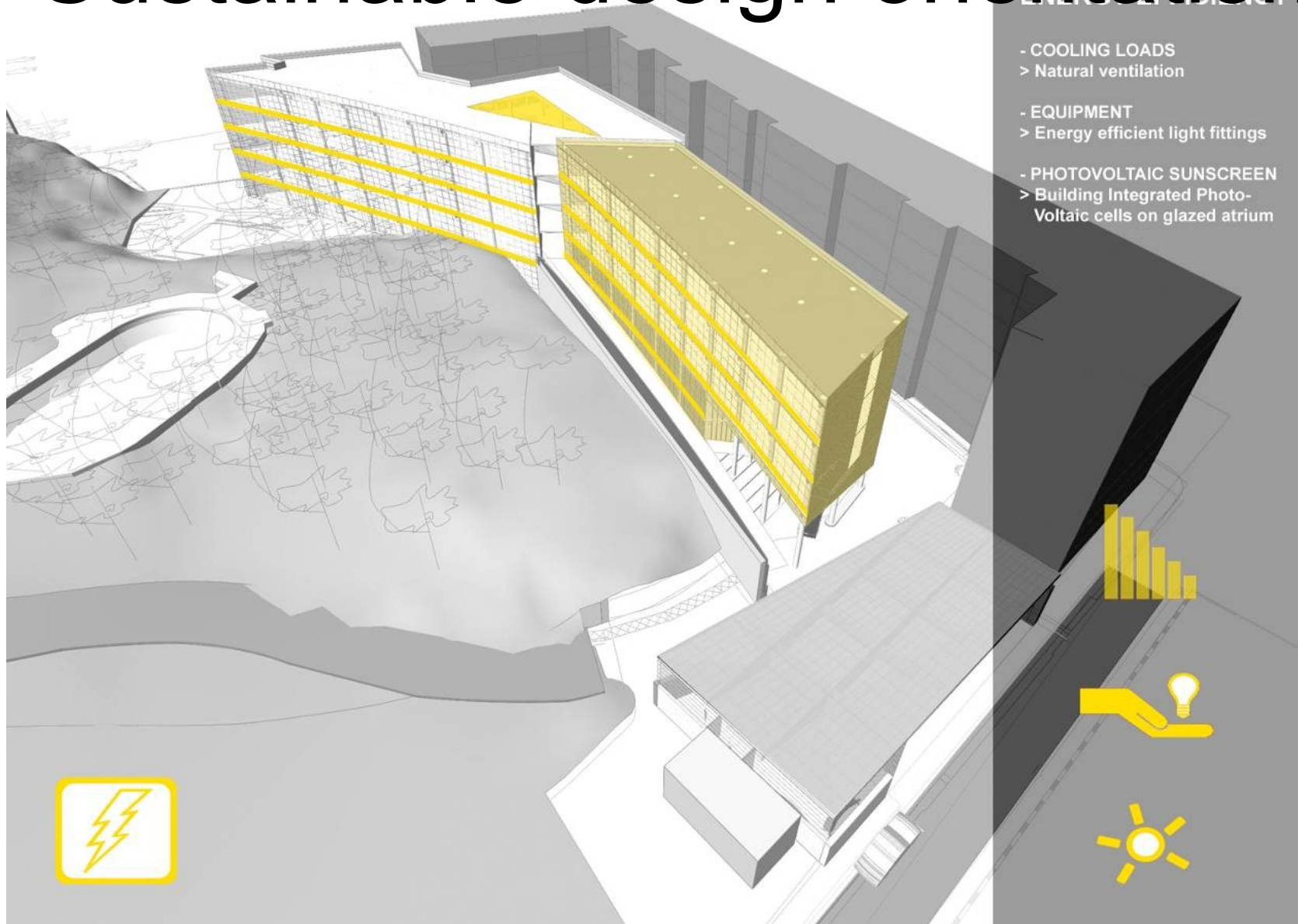
# Sustainable design orientations



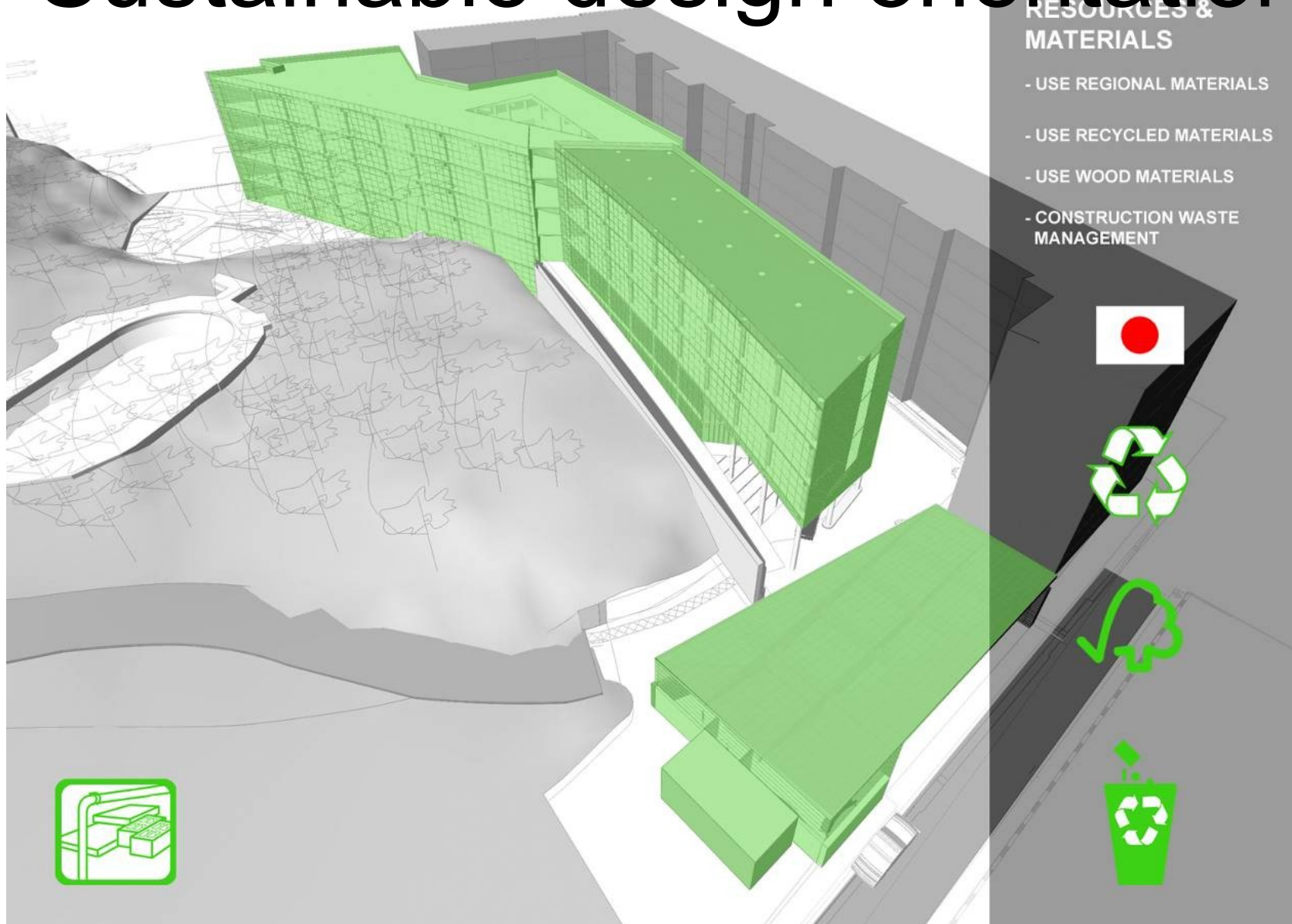
# Sustainable design orientations



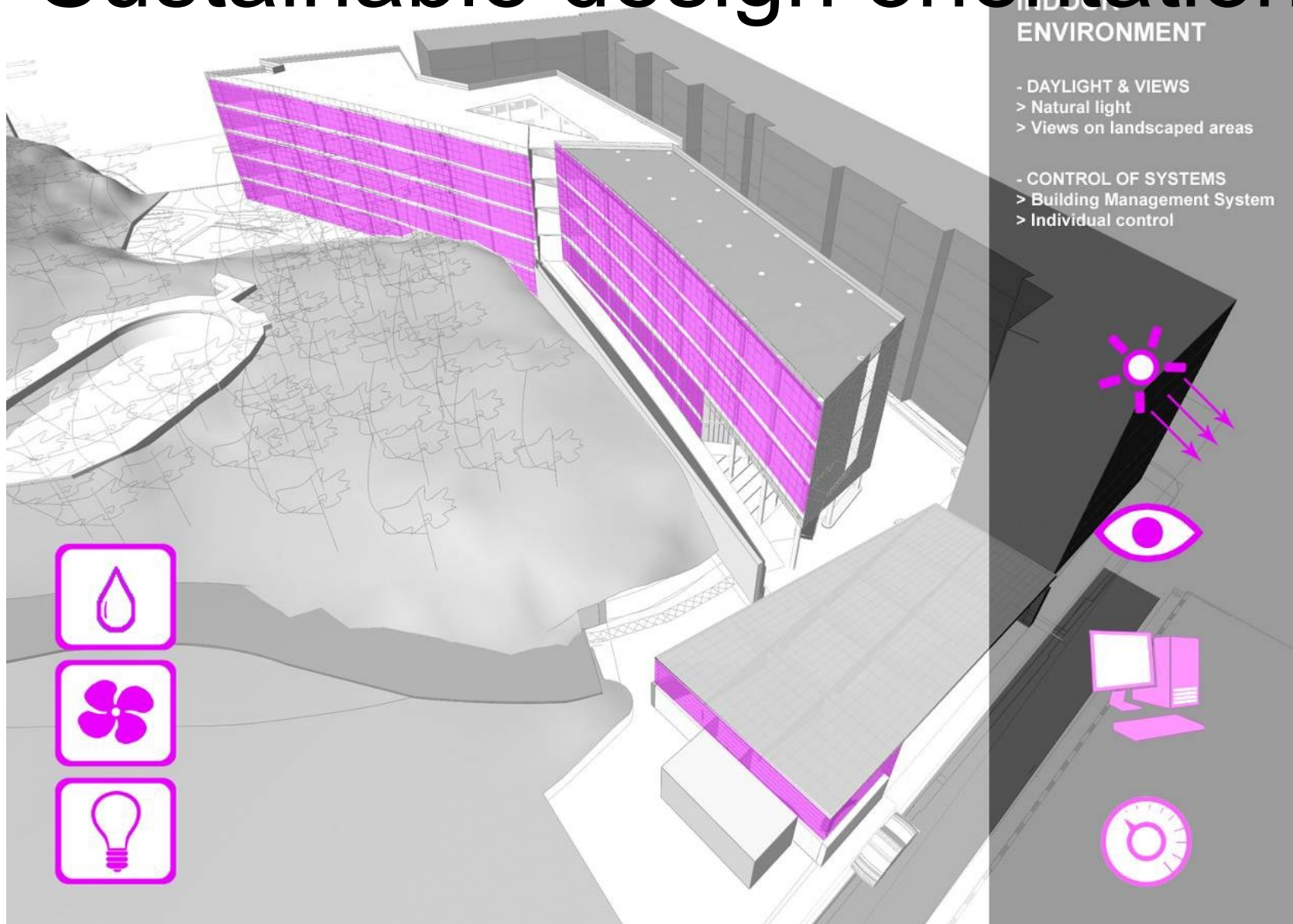
# Sustainable design orientations



# Sustainable design orientations



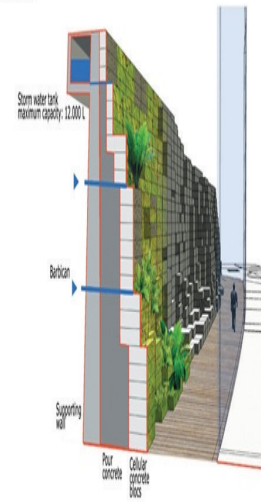
# Sustainable design orientations



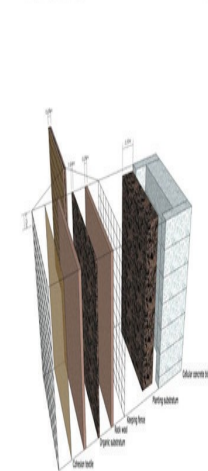
# Prismatic greenwall



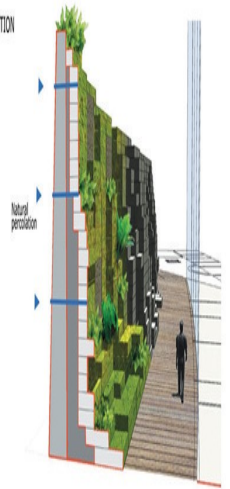
CLIFF SECTION



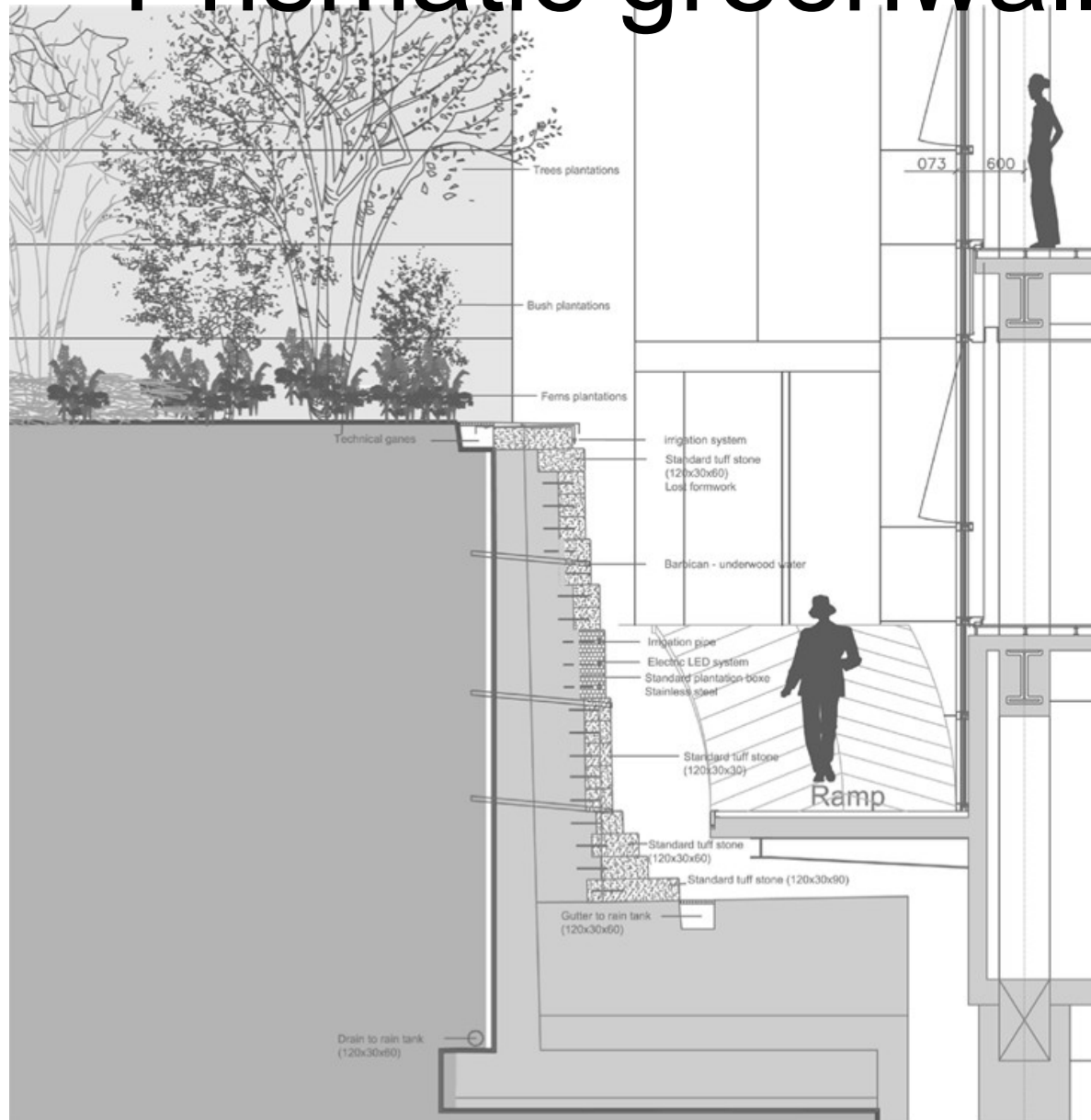
FACING DETAIL



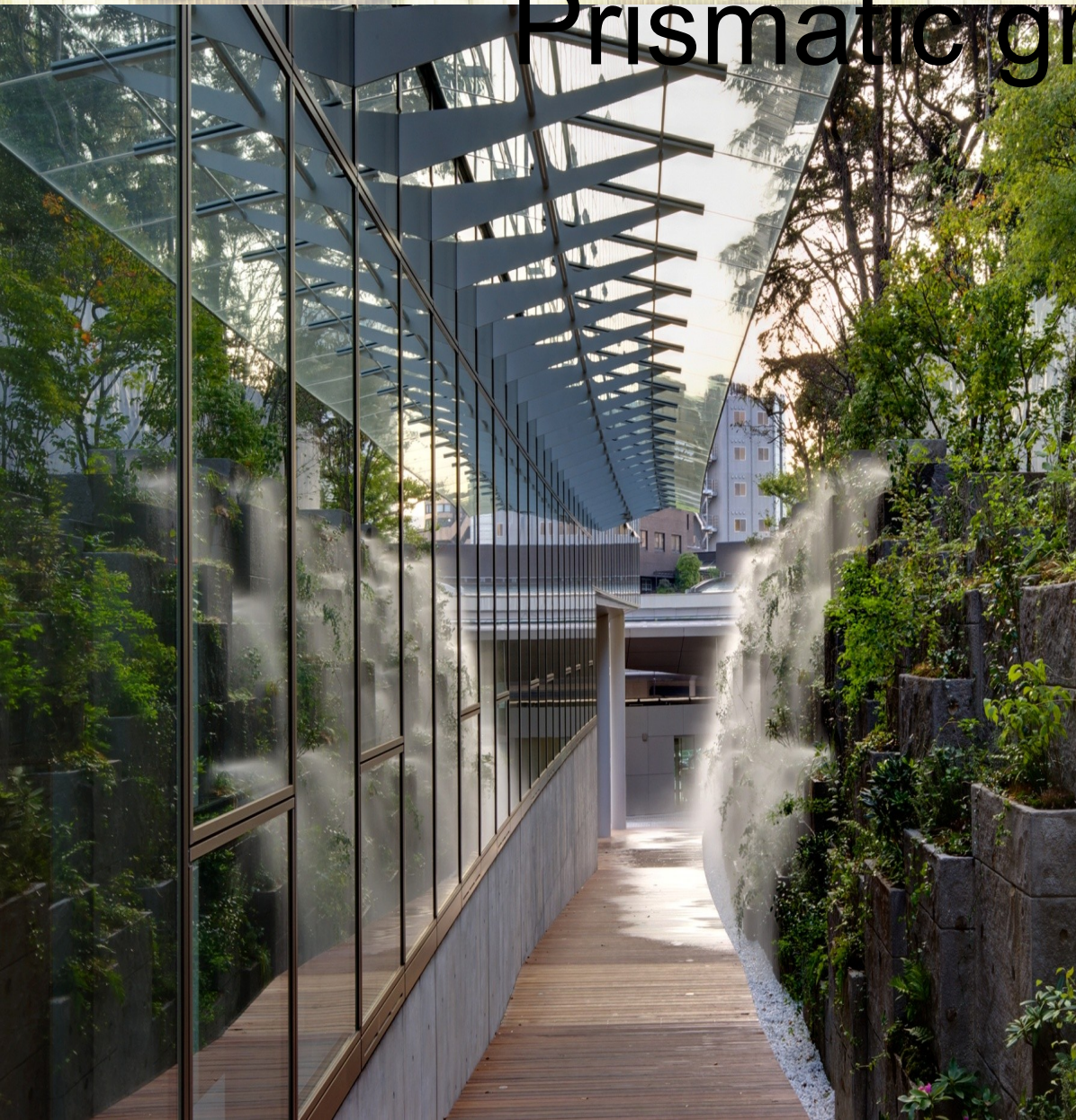
ALVEOLUS SECTION



# Prismatic greenwall

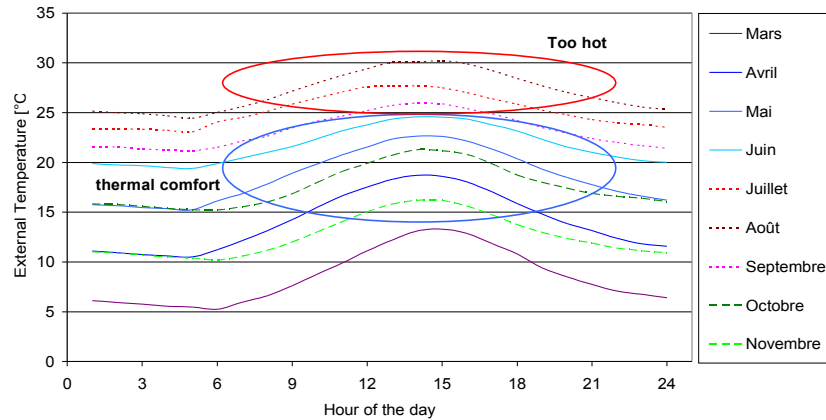


# Prismatic greenwall

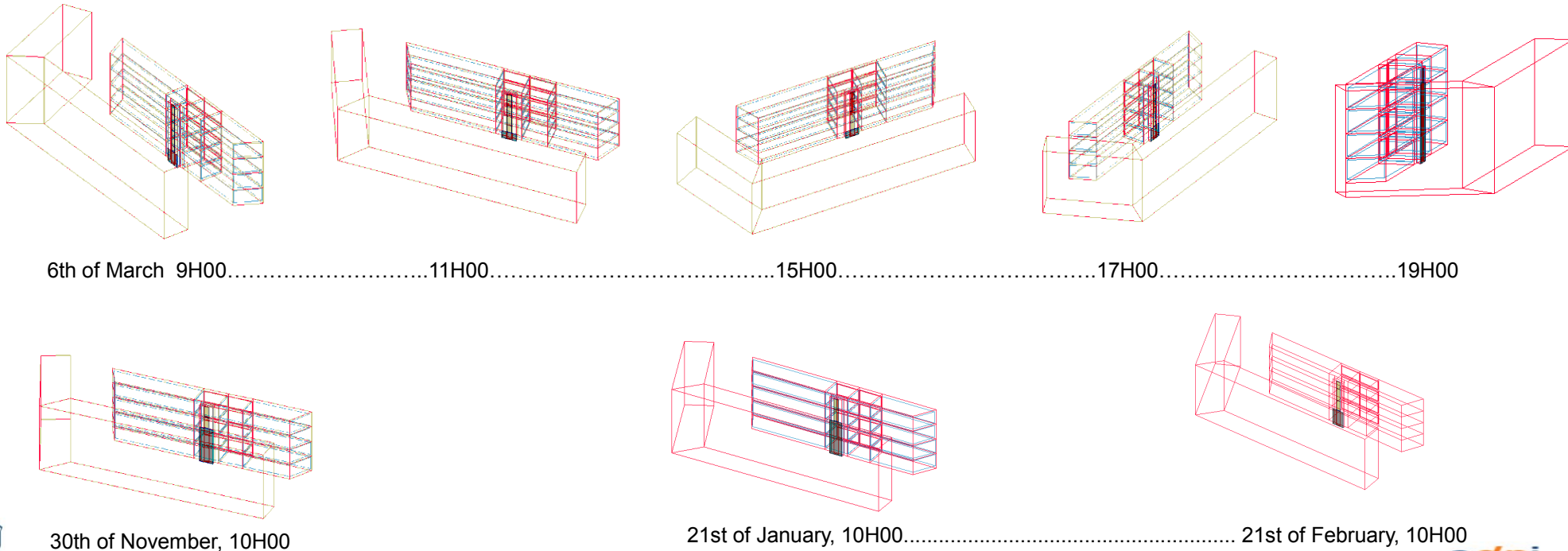
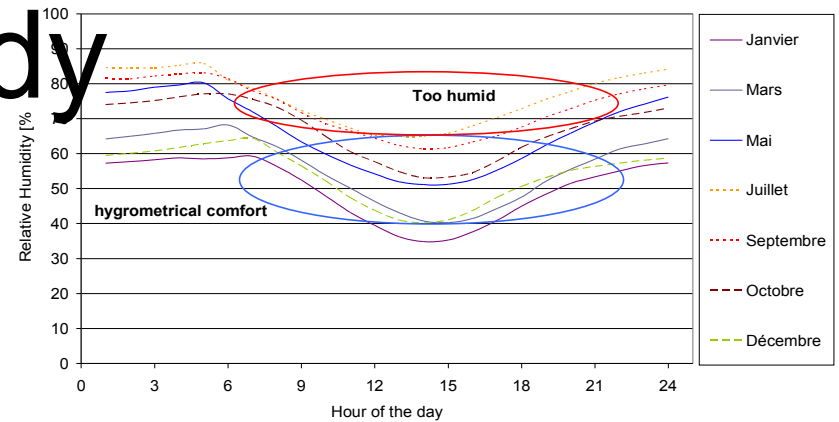


# Natural ventilation: feasibility study

Evolution of the External Temperature  
throughout the year, Tokyo



Evolution of the External Humidity  
throughout the year, Tokyo



# Natural ventilation through solar chimney and heat recovery



## WINTER MODE:

If  $T_{ext} < T_{min} = 15^{\circ}\text{C}$ , then

“Heating” ☐ Mechanical extraction with heat recovery

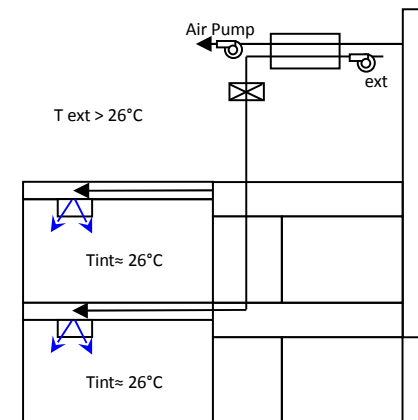
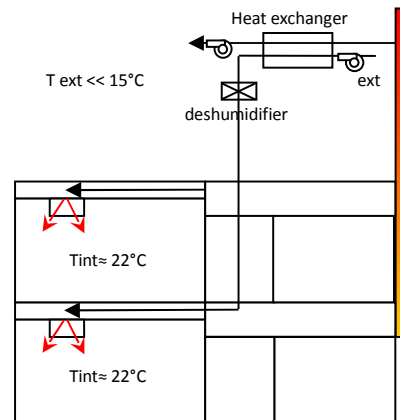
The chimney is closed

## SUMMER MODE:

If  $T_{ext} > T_{max} = 26^{\circ}\text{C}$ , then

“Cooling” ☐ Mechanical extraction

The chimney is closed



# Natural ventilation through solar chimney and heat recovery

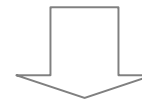
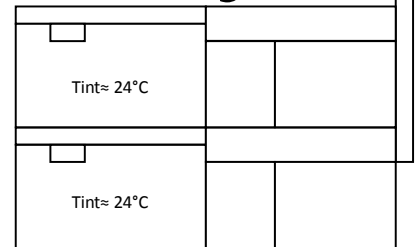
MID-SEASON.

If  $T_{min} < T_{ext} < T_{max} \approx 26^{\circ}\text{C}$ , then

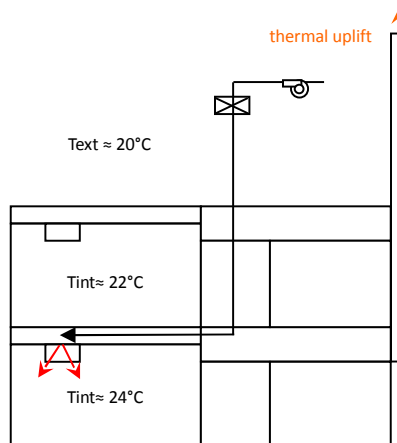
"Natural Ventilation" □ stack effect natural extraction

The chimney is open

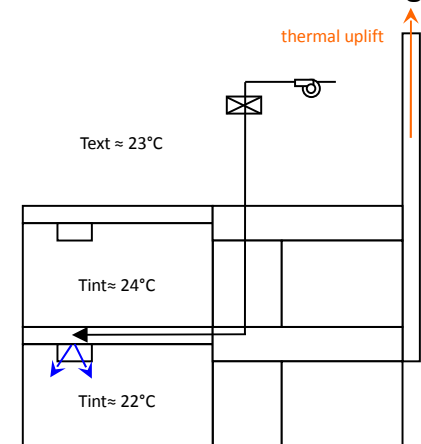
thermal uplift



Natural ventilation + Heating



Natural ventilation + Cooling

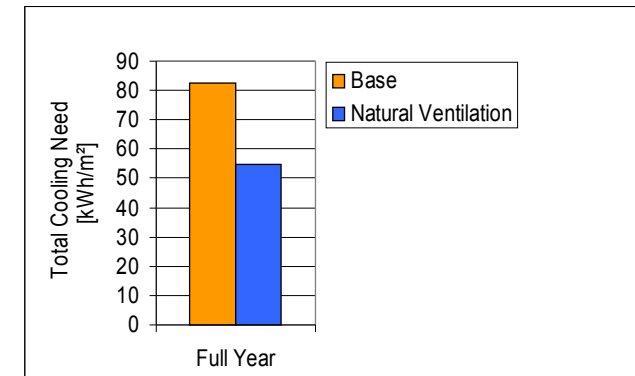
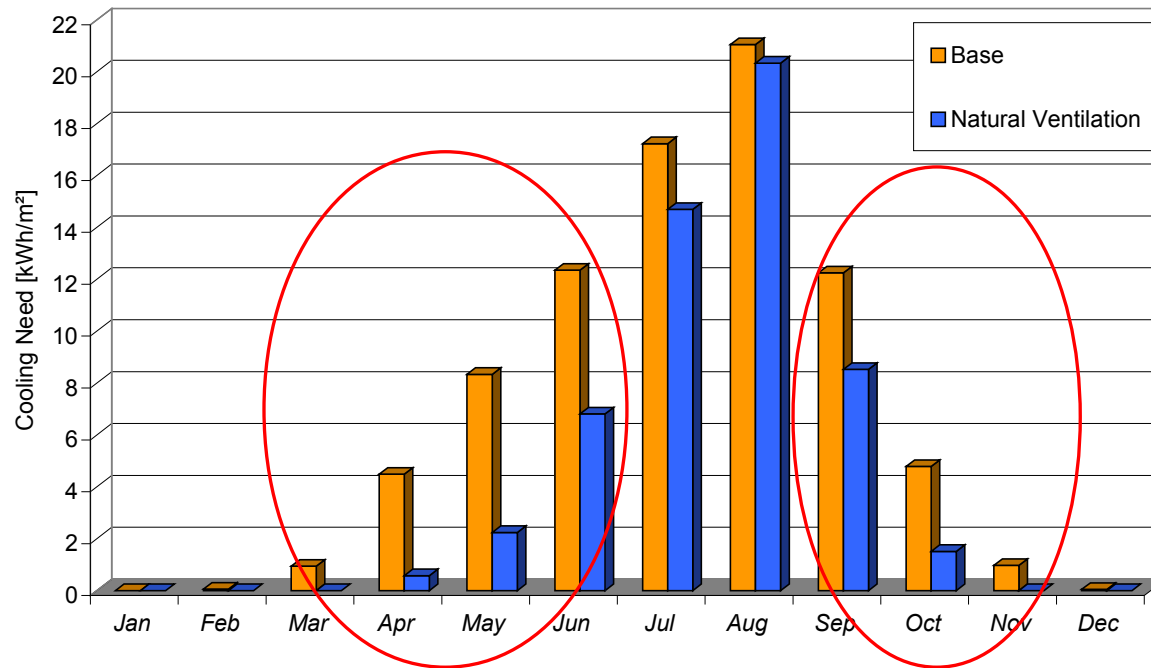


# Natural ventilation through solar chimney and heat recovery

## Impact of structural modifications:

The efficiency of the system relies on the previous recommendations. The most important one is the maximization of the smallest duct section for each floor. For example, a 20% reduction of these discriminating sections affects the system performances by 15%.

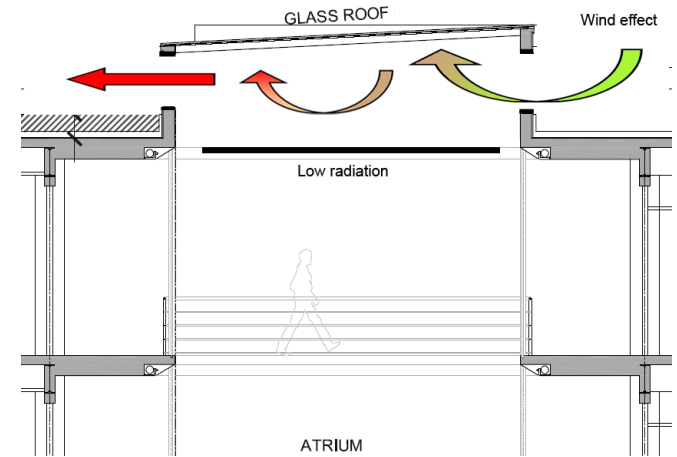
Cooling Need,  
with and without Natural Ventilation



Base [kWh/m²]	82
Natural Ventilation [kWh/m²]	53
Energy Savings	≈ 34%



## Heat dissipation during summer





Comprehensive Assessment System for Built Environment Efficiency

# Japanese sustainable certification: CASBEE

**Environmental quality and performance**

Positive impact inside the boundary.

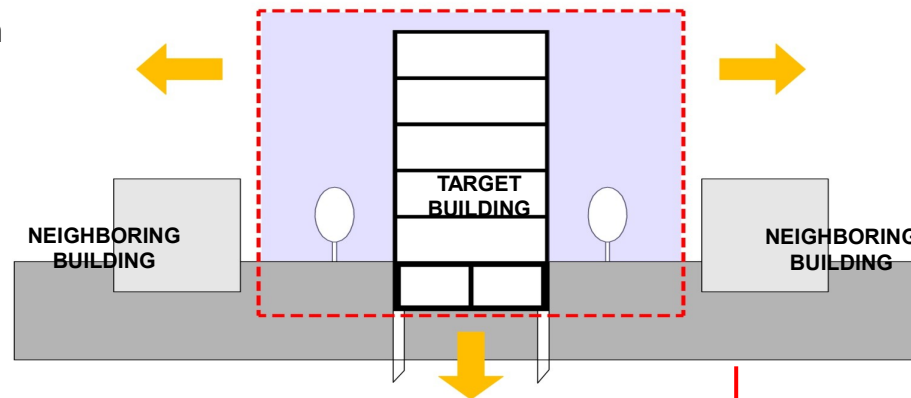
Assessment category « Q »

**BUILDINGS ENVIRONMENTAL LOADINGS**

Outside the boundary Built Environment Load.  
Assessment category « L »

Resource consumption,  
embodied CO2 emission  
...

Emission of air pollutant,  
noise, heat ...



Soil, water- pollutant

SITE BOUNDARY



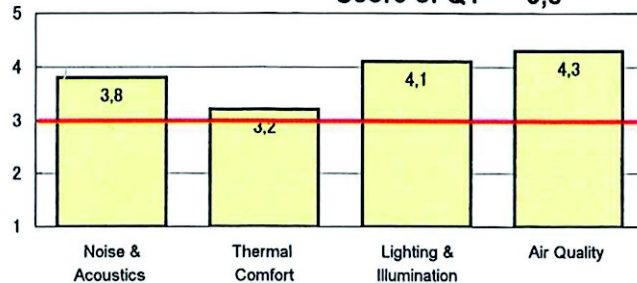
# ASSESSMENT RESULT BY BAR

## ENVIRONMENTAL QUALITY

## CHARTS

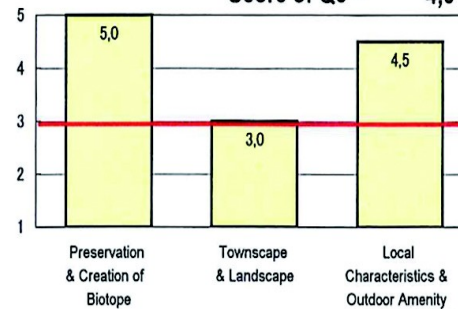
Q1 Indoor Environment

Score of Q1 = 3,8



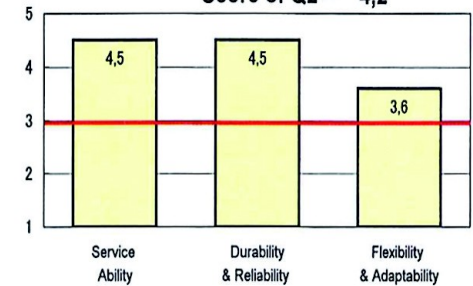
Q3 Outdoor Environment on Site

Score of Q3 = 4,0



Q2 Quality of Service

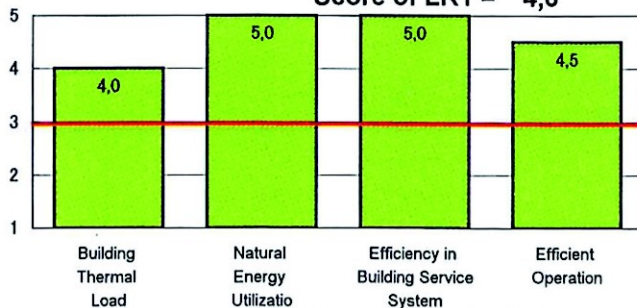
Score of Q2 = 4,2



## ENVIRONMENTAL LOAD REDUCTION

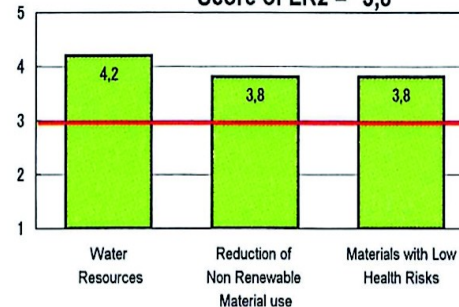
LR1 Energy

Score of LR1 = 4,6



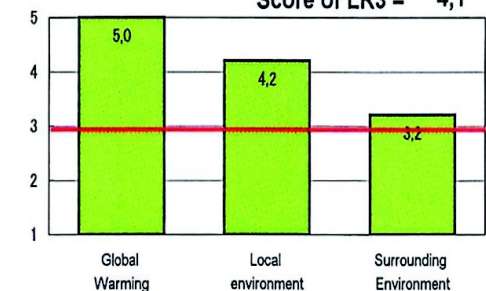
LR2 Resources & Materials

Score of LR2 = 3,8



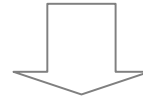
LR3 Off-site Environment

Score of LR3 = 4,1



# INDICATOR BEE BASED ON ECO-EFFICIENCY

$$\text{ECO-EFFICIENCY} = \frac{\text{QUALITY OF LIFE}}{\text{ENVIRONMENTAL LOAD}}$$



**B**UILDING **E**NVIRONMENTAL **E**FFICIENCY

$$\text{BEE} = \frac{Q \text{ ( Quality of Building )}}{L \text{ ( Building environmental Load )}}$$



# CASBEE ASSESSMENT

CASBEE

for New Construction | Assessment result

Manual: CASBEE for New Construction (2008 Edition)

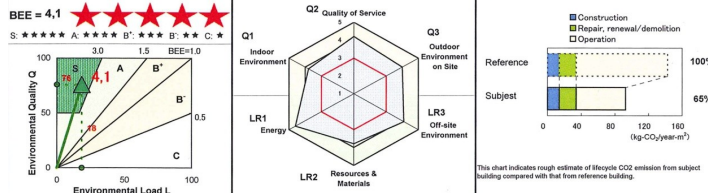
software: CASBEE-NCE\_2008(v.2.0)

## RESULT

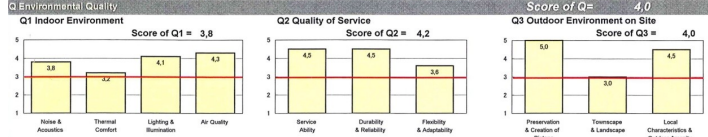
### CASBEE<sup>®</sup> for New Construction | Assessment result

1-1 Building Outline		1-2 Appearance	
Building Name	New French Embassy Building	Number of Floors	5F+B1F
Location	Minato-ku, Tokyo	Structure	S
Area / Zone	Commercial Area	Occupancy	192 persons
Building Type	Offices	Annual Occupancy	8 760 hrs/yr
Completion	1-Oct-09 Scheduled	Assessment phase	Completion stage
Site Area	6 015 m <sup>2</sup>	Assessment date	Jul,30,2009
Construction Area	1 994 m <sup>2</sup>	Assessor	Izumi system design, K. Fukahori
Gross Floor Area	8 157 m <sup>2</sup>	Date of approval	Jul,30,2009
		Approved by	Izumi system design, Y.Koike

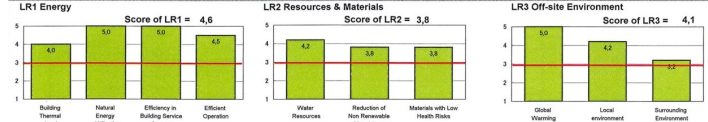
### 2-1 Building Environmental Efficiency (tank & chart) 2-2 Assessment results of Major categories (rader chart) 2-3 Lifecycle CO2 (Global warming impact chart)



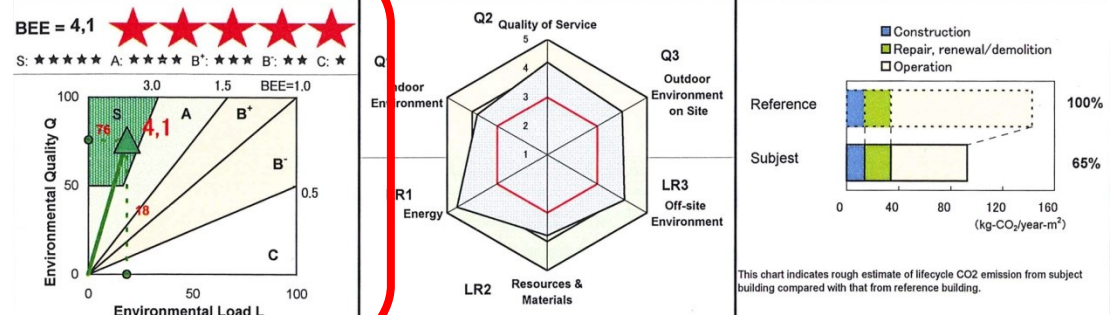
### 2-4 Assessment results of Medium-level categories (bar chart)



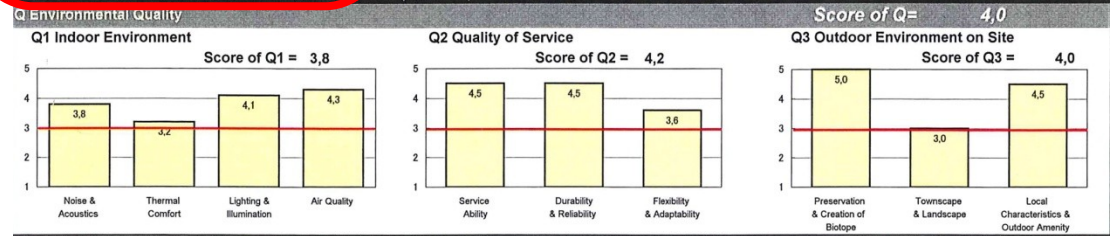
### LR Environmental Load Reduction



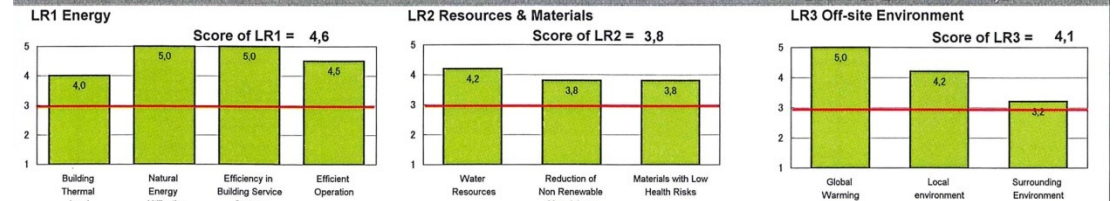
### 2-1 Building Environmental Efficiency (tank & chart) 2-2 Assessment results of Major categories (rader chart) 2-3 Lifecycle CO2 (Global warming impact chart)



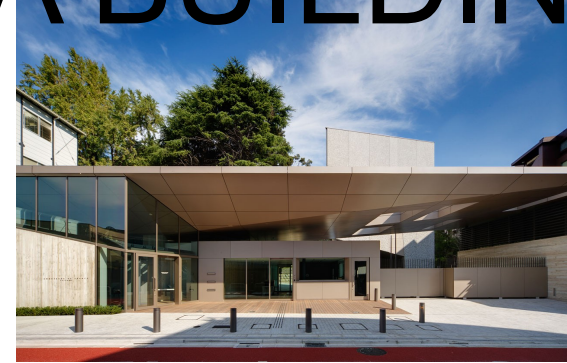
### 2-4 Assessment results of Medium-level categories (bar chart)



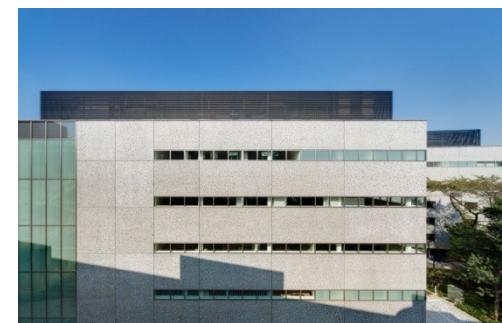
### LR Environmental Load Reduction



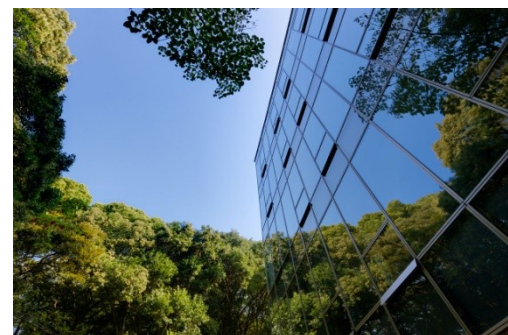
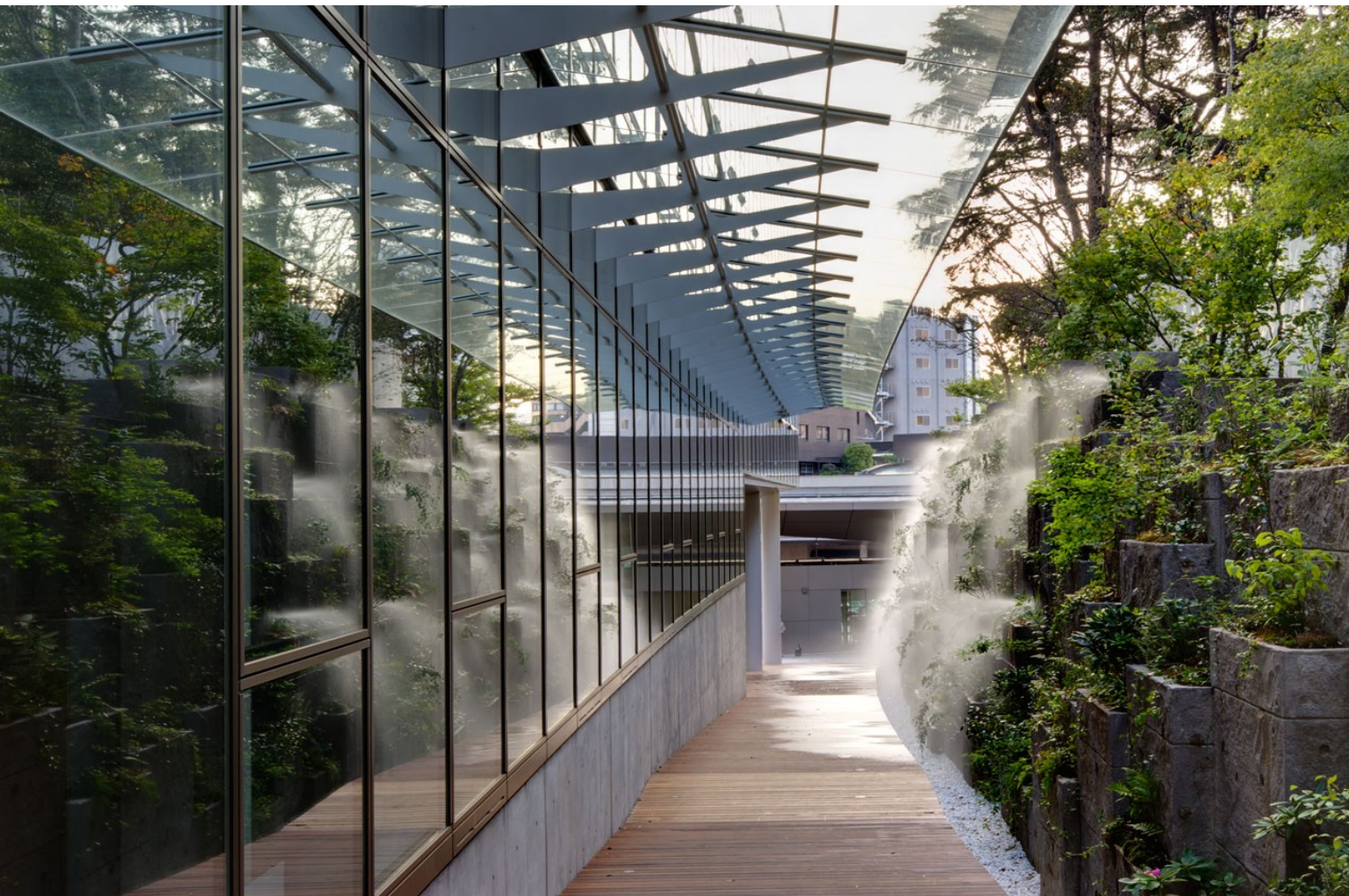
# ENTRANCE – VISA BUILDING



# SOUTH FACADE



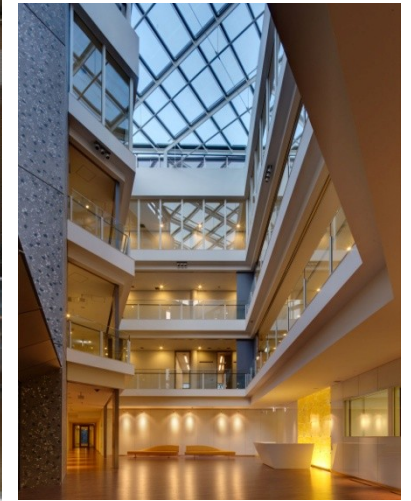
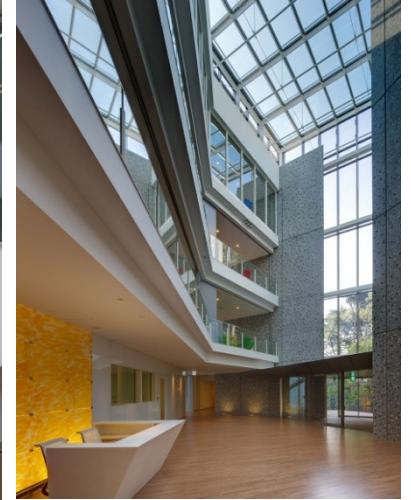
# PRISMATIC GREENWALL



# NORTH FACADE



# THE ATRIUM



# aMBASSADOR OFFICE

