Chapter 1
research
United Nations Environmental Council
Need for Environmental Council
Design target

- Sustainable goals of UN
- Architectural icon of sustainability
- Necessity for sustainable environments
New York
Manhattan
United Nations
Chapter 2
urban design
Master plan

Green stage for the city
Large built area

Very few large scale recreation areas

Distances from the existing parks to our site is quite extensive

Green area is limited to private courtyards
Chapter 3
site design
Site analysis
P2 → P5
Site design
Chapter 4

building design
Composition
Traffic
Function
Public space
Lobby
Restaurant
Exhibition gallery
Vertical transport system
Roof
Public-private connection
Private space
Pure shape
Panel light

- LED panel light
- 60W
- Pure white
- 300mm × 1200mm
- Beam angle 113.4°
Illumination standards

- Auditorium – 100lux
- Bar/cafeteria/dining – 100lux
- Kitchen – 500lux
- Library – 500lux
- Lobby – 200lux
- Office – 500lux
- Meeting room – 500lux
- Corridor – 100lux
- Leisure – 100lux
Overall composition
Façade
Temperature

DRY BULB X DEW POINT

[Graphs showing temperature changes from January to December]
Altitude of the sun

SUN SHADING CHART

LEGEND
- WARM/HOT > 24°C
  (SHADE NEEDED)
  851 Hours Exposed
  0 Hours Shaded
- COMFORT > 21°C
  (SHADE HELPS)
  427 Hours Exposed
  0 Hours Shaded
- COOL/COLD < 21°C
  (SUN NEEDED)
  1322 Hours Exposed
  0 Hours Shaded
Sun path (summer)
Sun shading system - combination
Outside sun shading
Vertical sun shading
Self load bearing
“Visible” structure
In between column
Buffer zone

Façade – structure – interior
Self-supporting façade

Steel structure

Fiber cement board (EPS board in between)

Size 1500mmx200mm (max: 3000mm)
Fireproof Grade-A

Light weight and easy to install

Moisture-proof

Sound insulation

Environmental 100% no asbestos

Heat preservation

exterior wall, interior wall
800x300 I steel column

Fiber cement board
Lighting system
Corner column

300mm x 300mm
Sliding door
Thermal glazing
Insulation layer
Ventilation louver
Operable window
Floor system
Suspended ceiling
Elevation divided 4
Board size
Climate
Ventilation
Natural ventilation
Mechanical ventilation
Cooling
Heating
Sustainable design
Green roof  
Reclaimed water system  
Sun collector  
facade

Reduces Energy Costs  
Improves Noise Protection  
Provides Rainwater Management  
Supports Recycling
Structure
Overall structure
Details & Materials
Solar collection
Refractory ceramic fiber board

Low thermal conductivity

Low heat storage

Light weight, less steel required

Low sound transmission
Thermal glazing

Laminated safety glass
+
Argon-filled cavity
+
Toughened glass
Insulation
+
Plasterboard
+
Soundproof mat
+
plasterboard
Soundproof glazing
Laminate

Wear layer
Pattern layer
Substrate layer
Fiber cement sandwich board

Gap

Plaster soundproof board

Wooden framing wall
Glass fiber insulation
Wall

Easy to install

Decoration

Same line with outside
conclusion
- City – green slope – floating roof
- Sustainable
- Material
- Structure – façade – interior
Thank you ALL