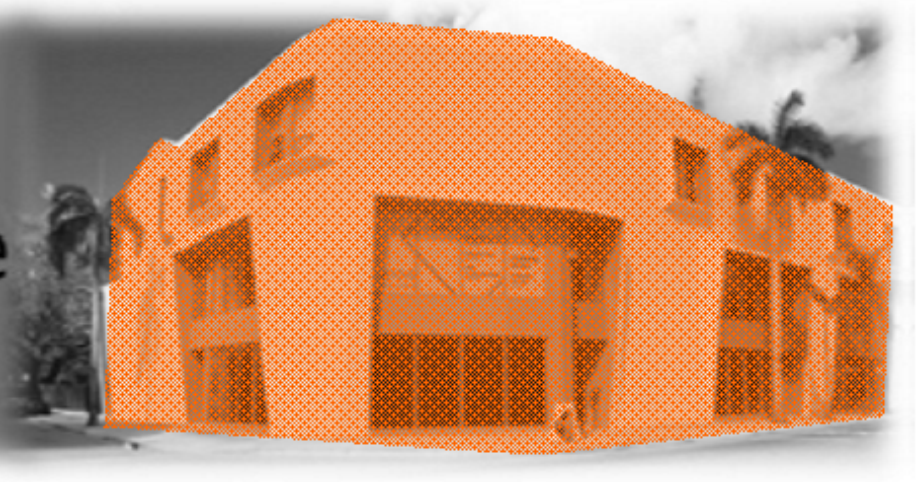
# SITE + BUILDING ANALYSIS

MIAMI DESIGN DISTRICT

## 4100 Building

4100 NE 2nd Avenue



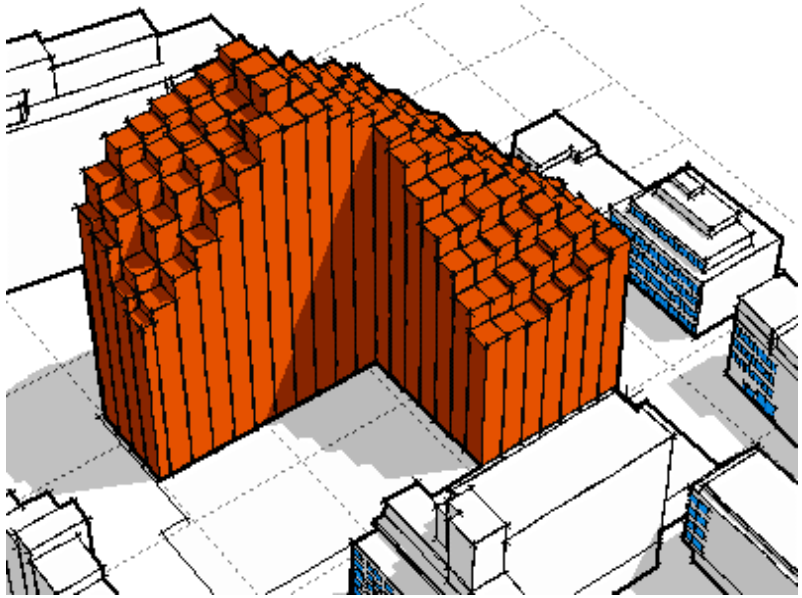
# TYPES OF ANALYSIS


## SITE

1. Location . Surrounding area, amenities and adjacencies
2. Access . airports, highways, roads, parking
3. Light . azimuth, path, angle, penetration
4. Wind . prevailing, seasonal
5. Views . Inside out and outside in
6. Noise . vehicular traffic

## BUILDING

1. Structural System
2. Enclosure
3. Zoning Diagram
4. Square Ft Diagram
5. Spatial Quality
6. Dominant Issues

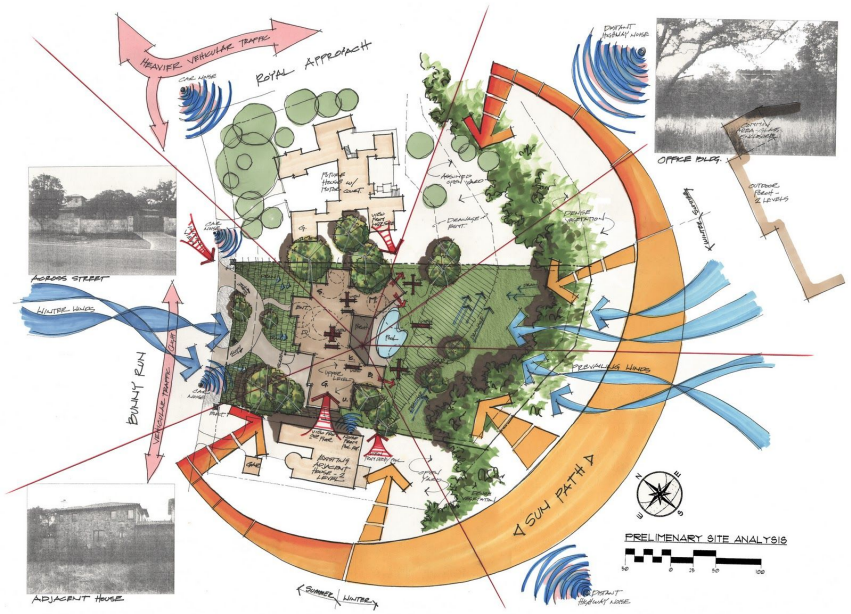


# SITE ANALYSIS

Understanding all the features of a site, using and protecting the best, and minimizing the impact of the worst.

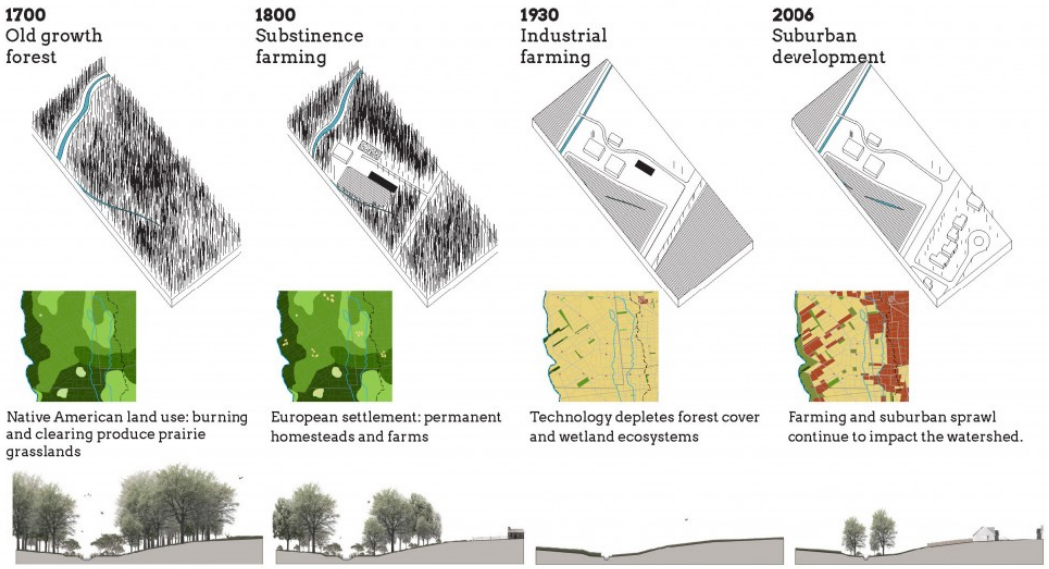
**Good site analysis** allows the designer to improve the project, ensuring that the building makes the best use of the resources, such as light, access, views, on the site as possible. It should also allow the designer to anticipate any potential issues which may cause problems to the project.

- **Location/Access.** highways, parking
- **Light**. azimuth, path, angle, penetration
- **Wind** . prevailing, seasonal
- **Views** . inside out+ outside in
- **Noise** . air, vehicular, pedestrian



# SITE ANALYSIS

## HISTORY OF THE LAND




Timeline

## LAND USE

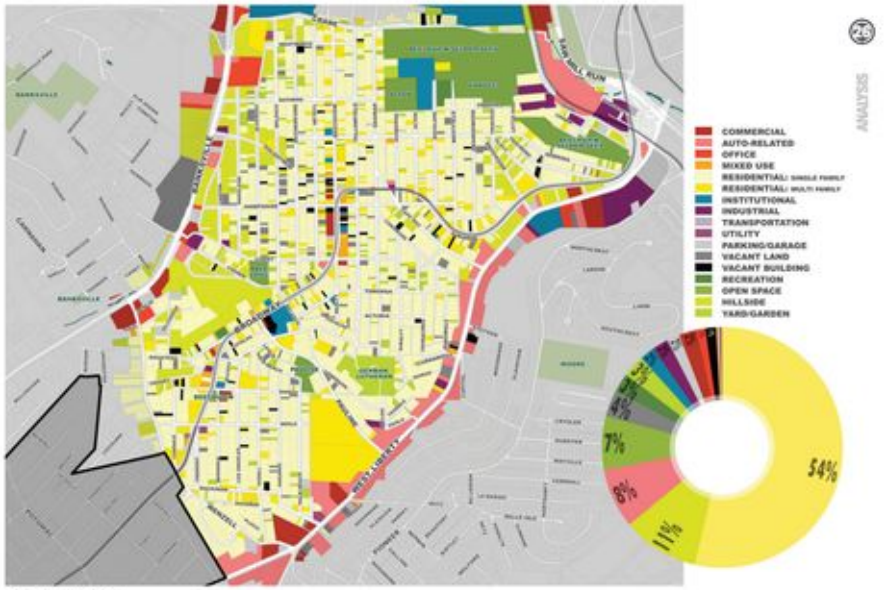



Figure 14. Land Use Map
Source: Field Survey, 2010

## SITE ANALYSIS

# LOCATION Surrounding area, amenities and adjacencies

**Where is it?**

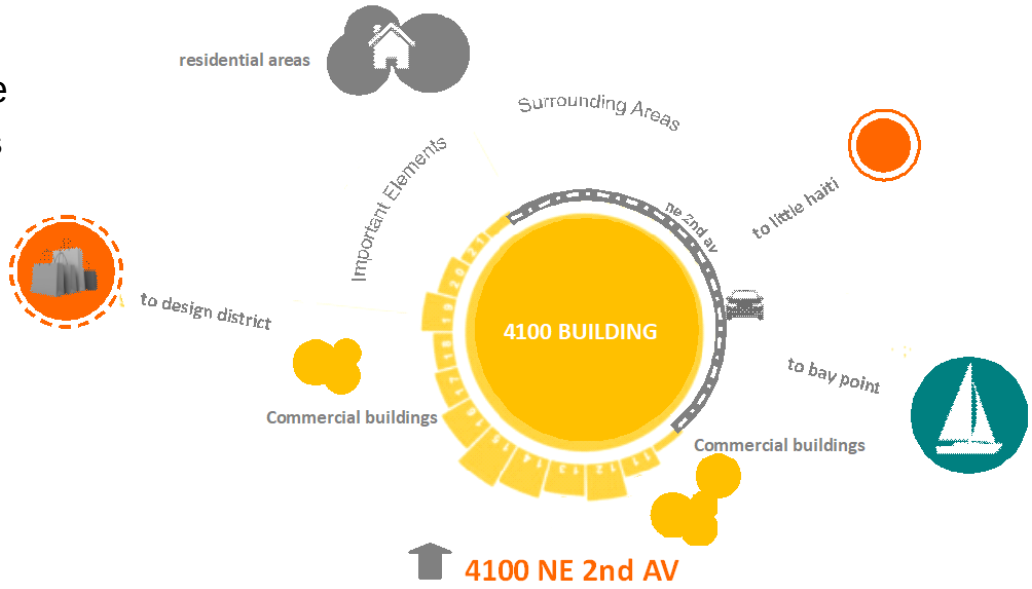
The site should be related to major streets or landmarks previously existing.

**What is the surrounding area like?**

Document distances from/to major places. Are there natural or man-made physical Features nearby?

Look for lakes, landmarks, etc.

**What is the cultural/ social climate of the Neighborhood?**

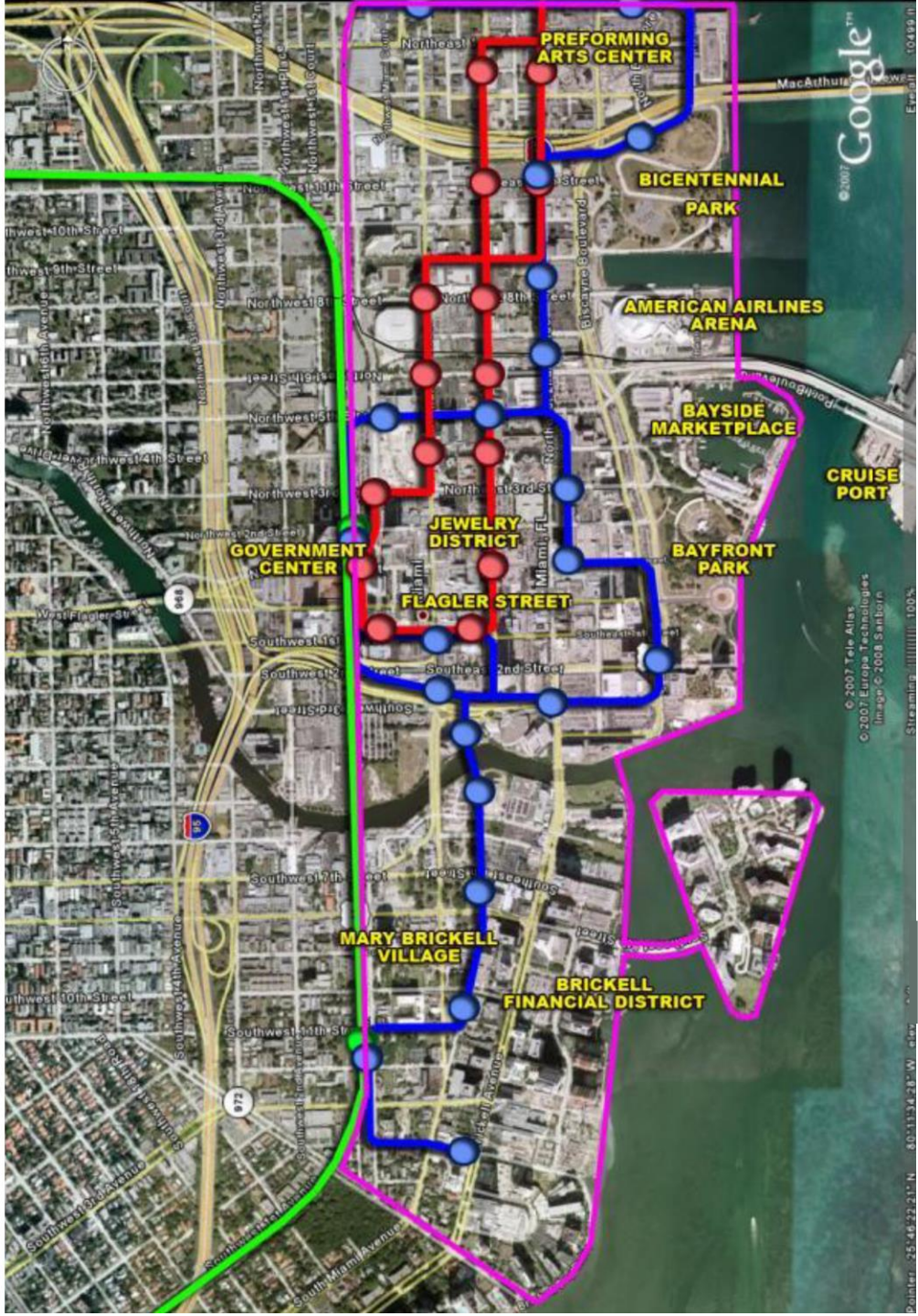


## SITE ANALYSIS

# ACCESS

Review site plans for multi-modal access and connectivity. Consider the implications of access location and configuration, connectivity with the **transportation** network, **circulation** and way finding, traffic management, and safety.


**PROVIDE** a big picture map of main highways, roads, public transport, airport, and parking.



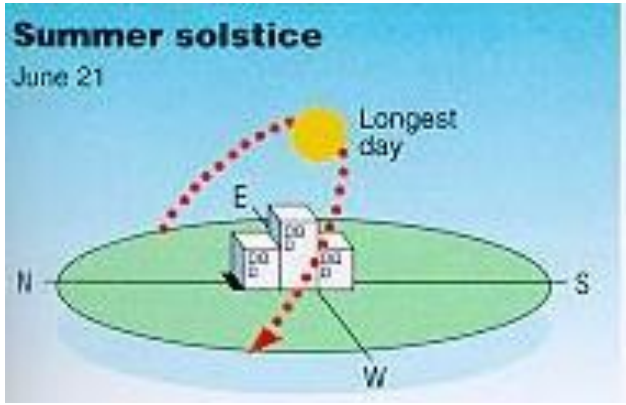
# SUNPATH DIAGRAMS

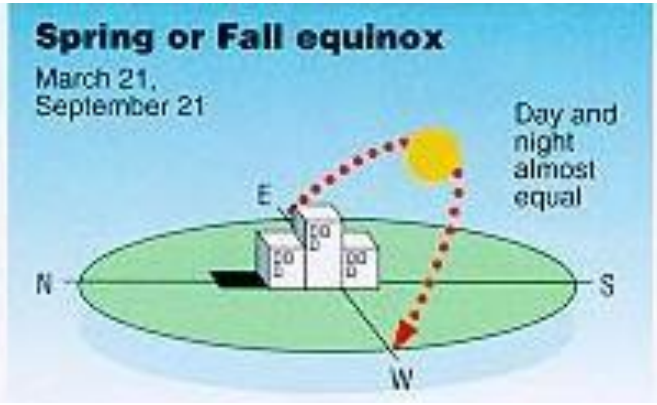
1 What times of day will the direct sunlight enter the building?

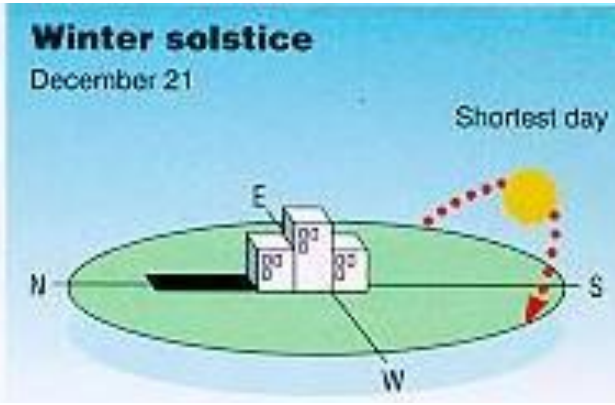
2 How far into the building will direct sunlight penetrate?

summer

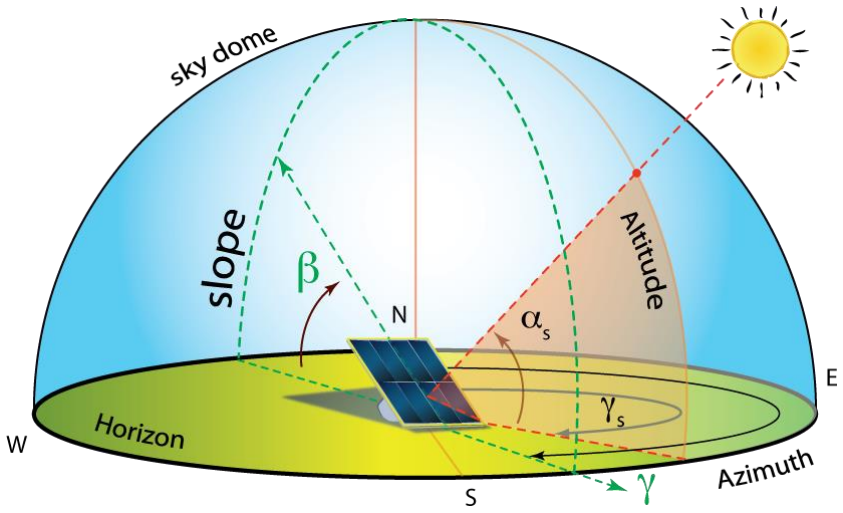
winter

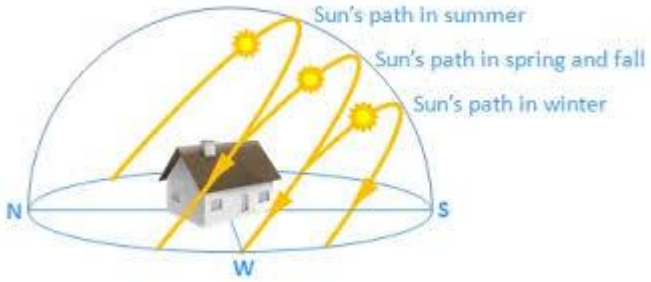


# SUNPATH DIAGRAMS



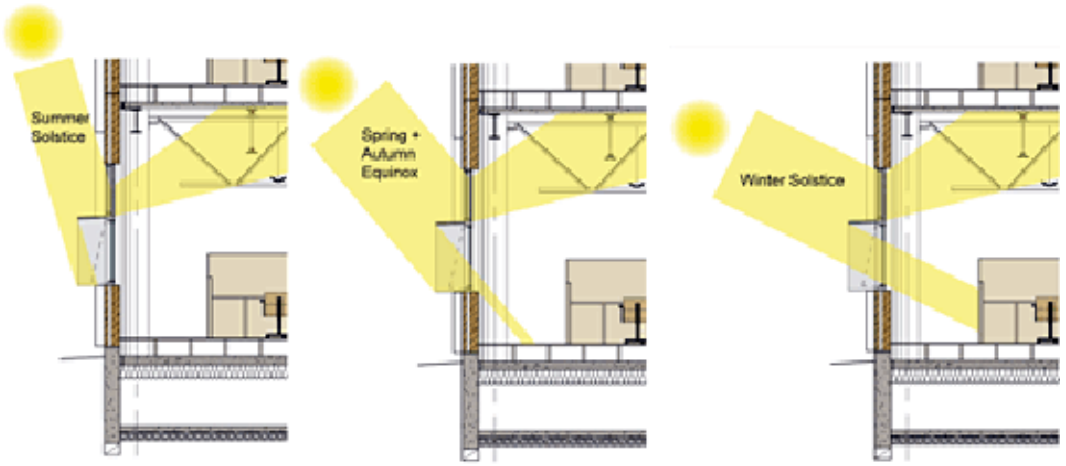




1 What times of day will the direct sunlight enter the building? → Azimuth

2 How far into the building will direct sunlight penetrate? → Altitude

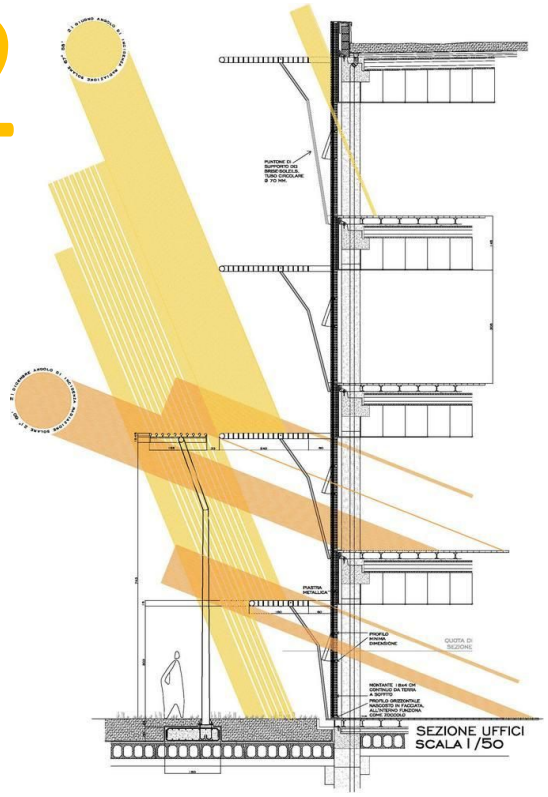
# SUNPATH DIAGRAMS

1




Times of Day

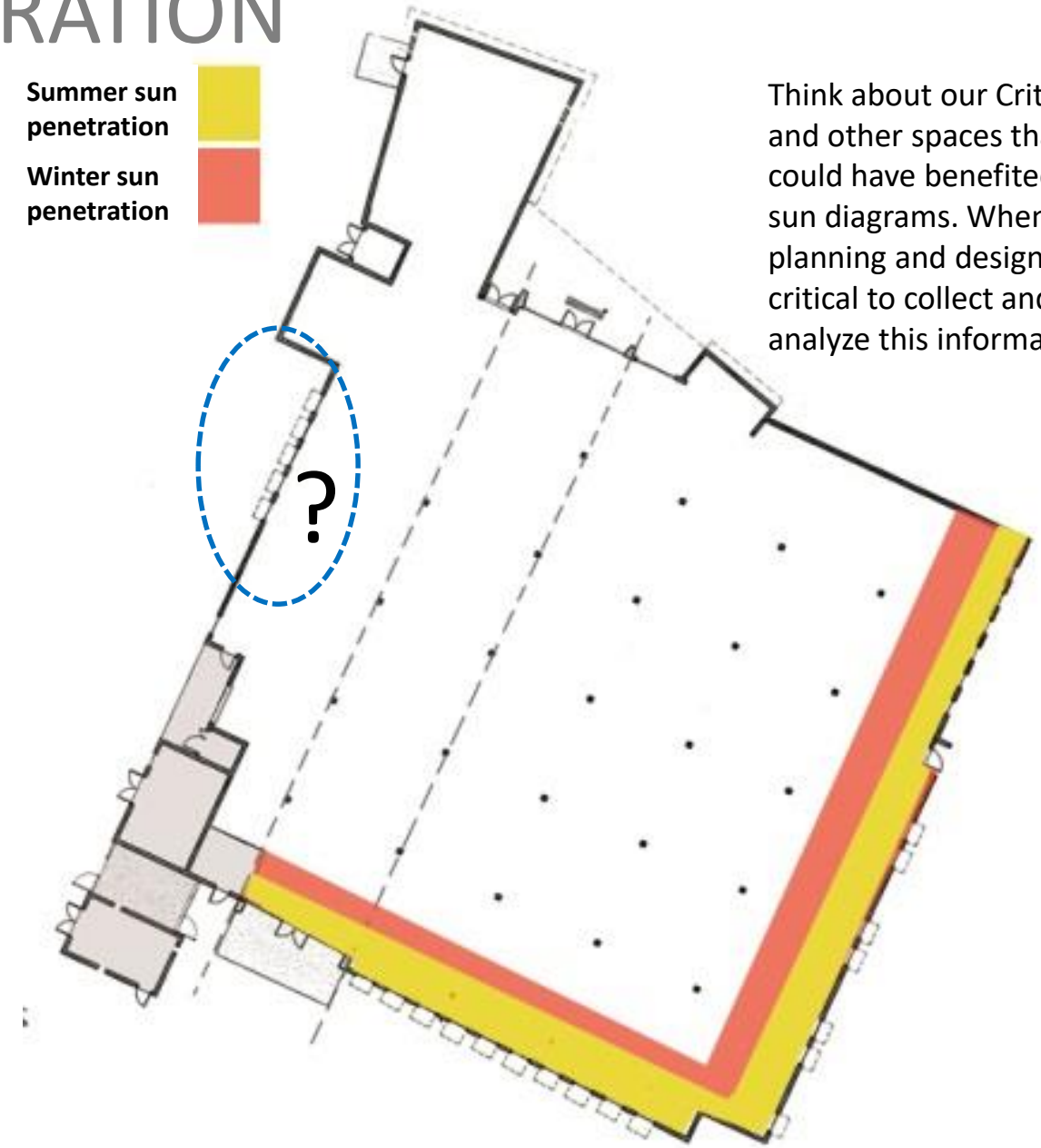
2




How Far

# SUN PENETRATION

- What is missing from this diagram?
- Would you put a group of workstations in an area that will be in full light for 3 hours a day?
- Would this type of light condition make the workstations unusable?
- Are there overhangs that would mitigate these conditions?
- Do interior shading devices need to be specified? Etc.



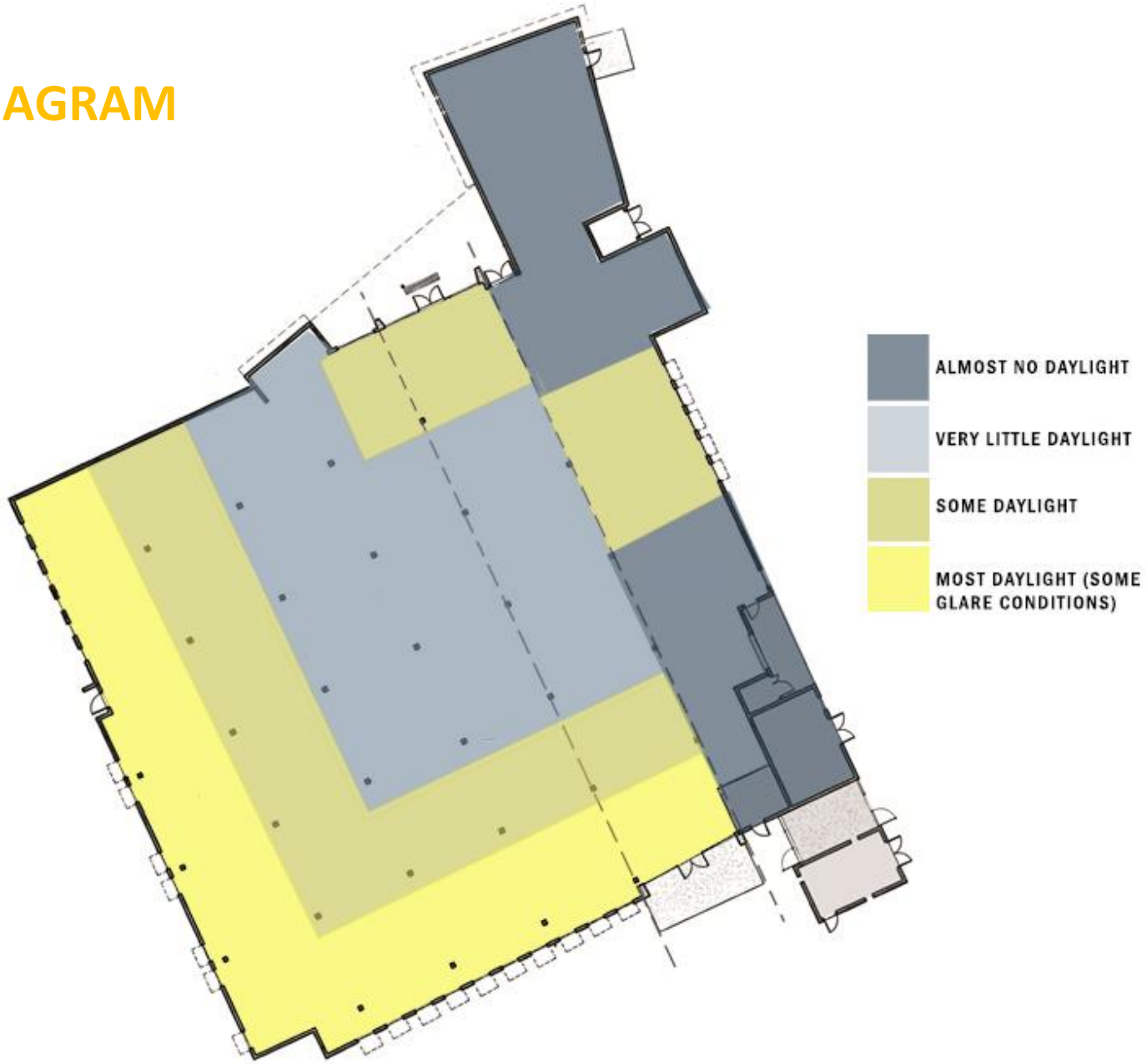

Think about our Crit Rooms and other spaces that could have benefited from sun diagrams. When planning and designing it is critical to collect and analyze this information.

LIGHT ANALYSIS

# DAYLIGHT DIAGRAM

**PROVIDE** diagrams of the areas of the building that will have the most and least access to daylight.

**PROVIDE** written conclusions you draw from your findings



## SITEANALYSIS

# WIND

### WIND direction, speed and frequency

will influence the building design including bracing requirements, roof and wall cladding selection, weather tightness, detailing, building entry locations, window size and placement and provision of shelter for outdoor spaces.

Generally, designing for wind will require providing shelter, **but** in hot or humid climates, the building design may deliberately incorporate features or shapes to provide cooling breezes for a passive cooling effect.

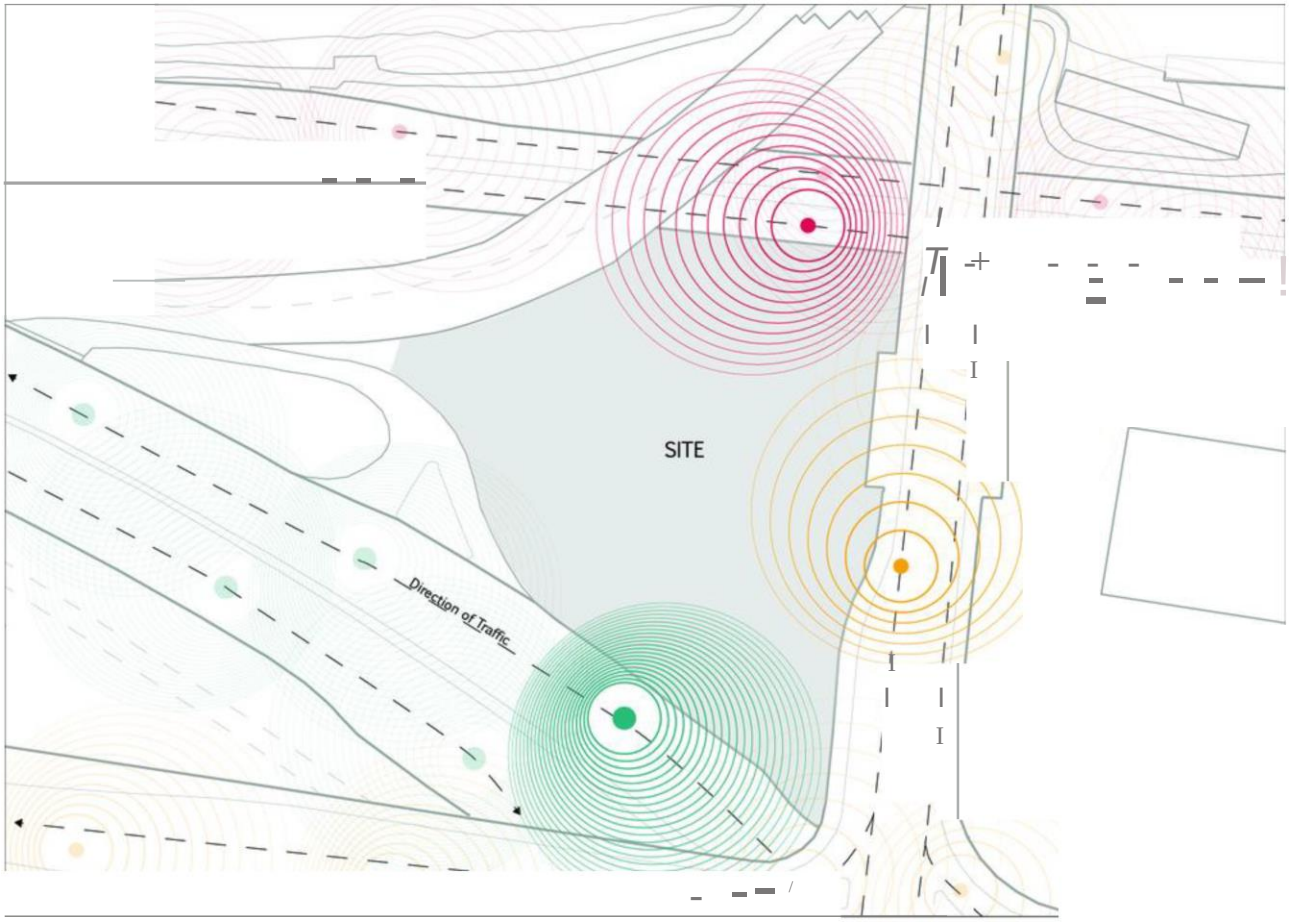
## SITE ANALYSIS

# NOISE

The most pervasive sources of **NOISE** in the environment come from transportation systems. Highway traffic noise is a dominant noise source in urban environments.

**PROVIDE** a diagram of the areas around the building that will cause noise pollution.

**PROVIDE** written conclusions you draw from your findings.



## SITEANALYSIS

# VIEWS

Analyze views into and from the building.

**PROVIDE** written conclusions you draw from your findings

# BUILDING ANALYSIS

1. Structural System
2. Enclosure
3. Zoning Diagram
4. Square Ft. Diagram
5. Spatial Quality

**Space is captured, enclosed, molded, and organized by the elements of mass...creating the building, making the architecture.**

## BUILDING ANALYSIS
## BUILDING OWNERSHIP

- Who owns the building?
- How long have they owned it?
- Could there be a better ownership model?

# BUILDING ANALYSIS

## STRUCTURE

**Structural Components Diagram**

Evaluate and label the parts of the structural system (columns, bearing walls, beams, slabs...).

Where are the columns?

Where are the beams?

What does their location mean in terms of ceiling heights?

Reception areas? Office areas?

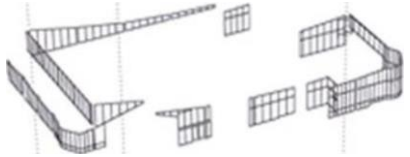
Large spaces like conference rooms?

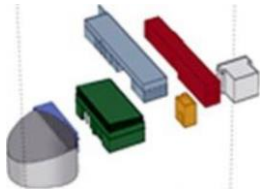
Training rooms, etc.?

**Structural Organization Diagram**

How are the structural parts organized in the building?

(geometric patterns, proportions of grid patterns, scales, or modular patterns, special joints)?



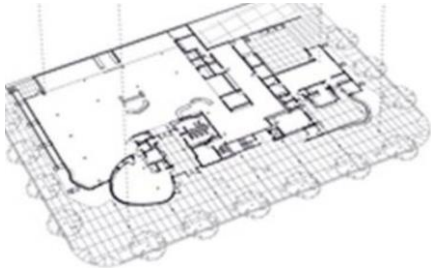


**Structural Bay System**

What is the building bay system as defined by the structure?

What size and shape are the bays?

Is there a proportional system apparent in the bay system?

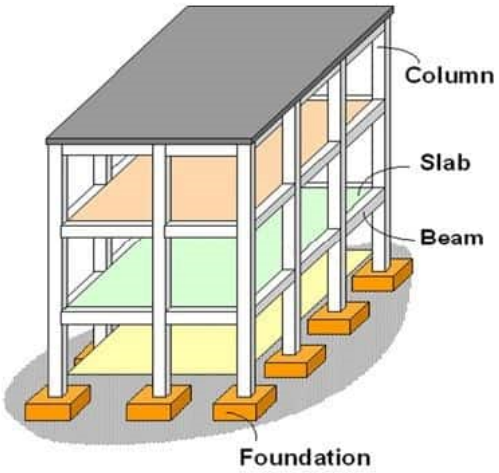


**Structural Conclusions**

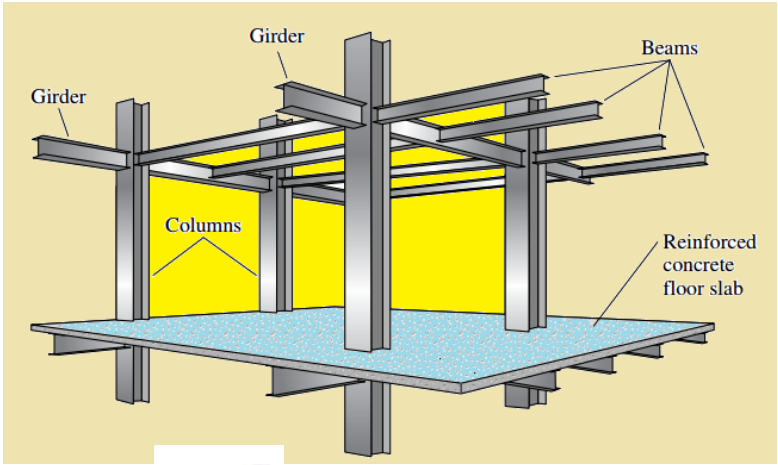
Are the structural features related to other features of the building?

# BUILDING ANALYSIS

## STRUCTURE

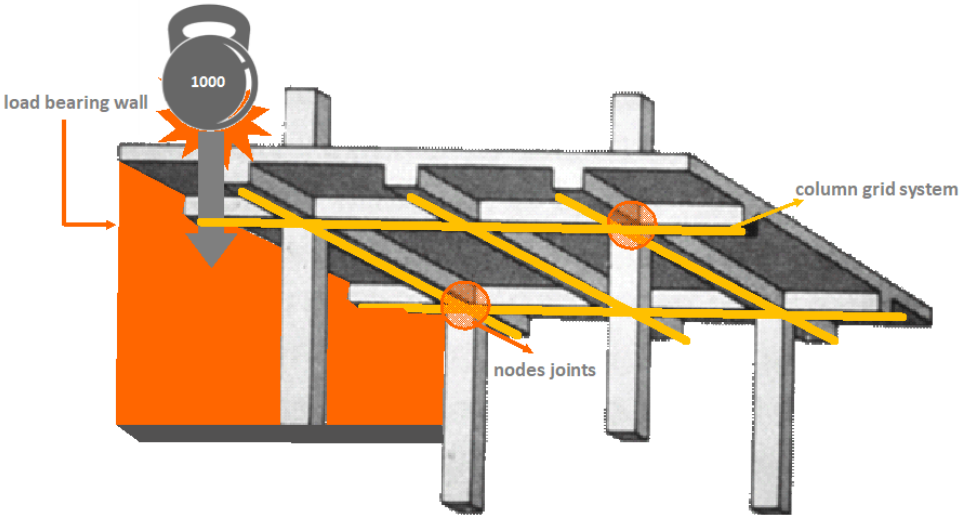


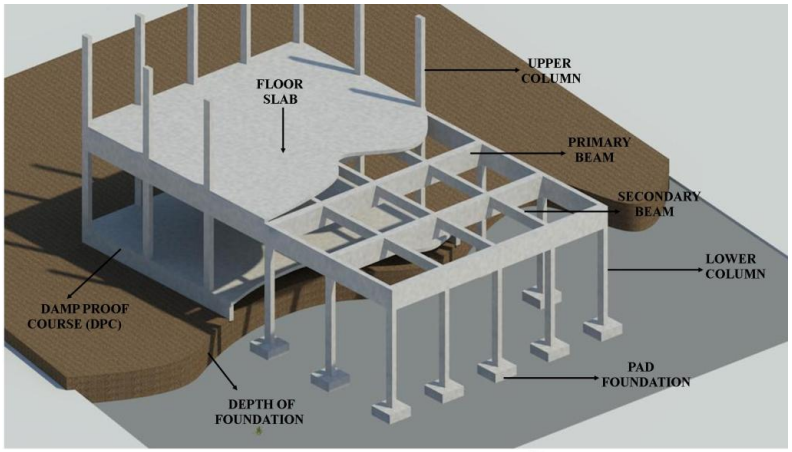

- Columns
- Slab
- Beans
- Foundation



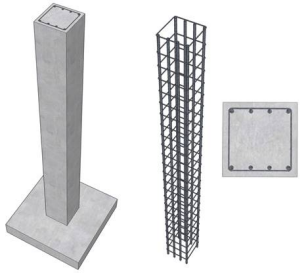

**Metal**

### Basic Components




**Concrete**



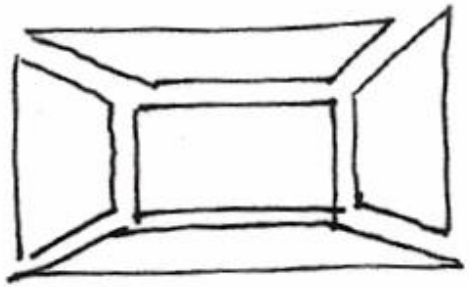
BUILDING ANALYSIS

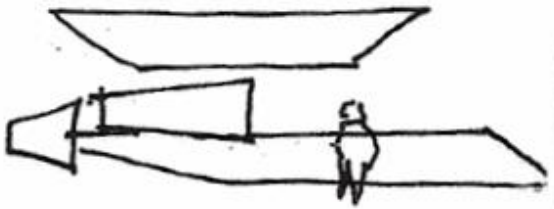
# ENCLOSURE

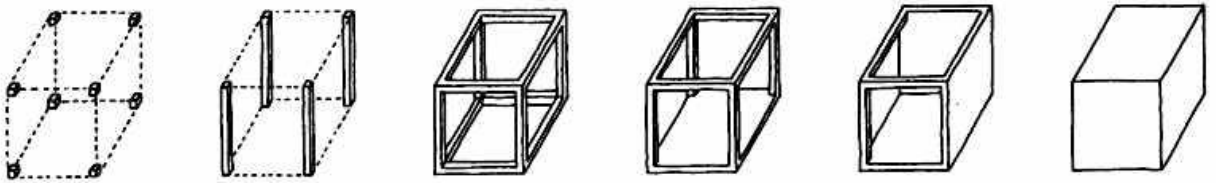
**PROVIDE** section and plan diagrams that explore the enclosing edges of the building.

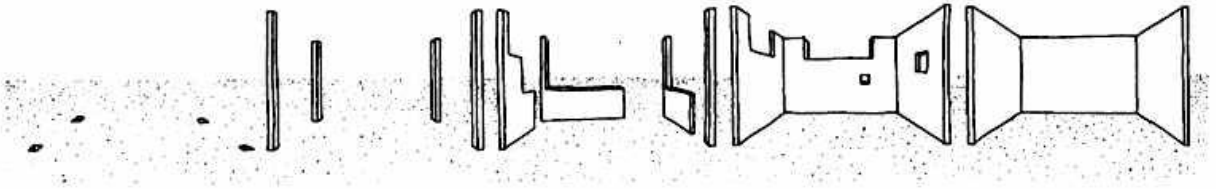
**For example:** you could provide a solid void diagram of the elevation.
What do you do if the building is a curtain wall and is transparent? Perhaps then, you would study the proportional system of the curtain wall? Perhaps you could explore the corner conditions. What are they like?

**PROVIDE** written conclusions you draw from your findings.









## ARCHITECTURAL DESIGN

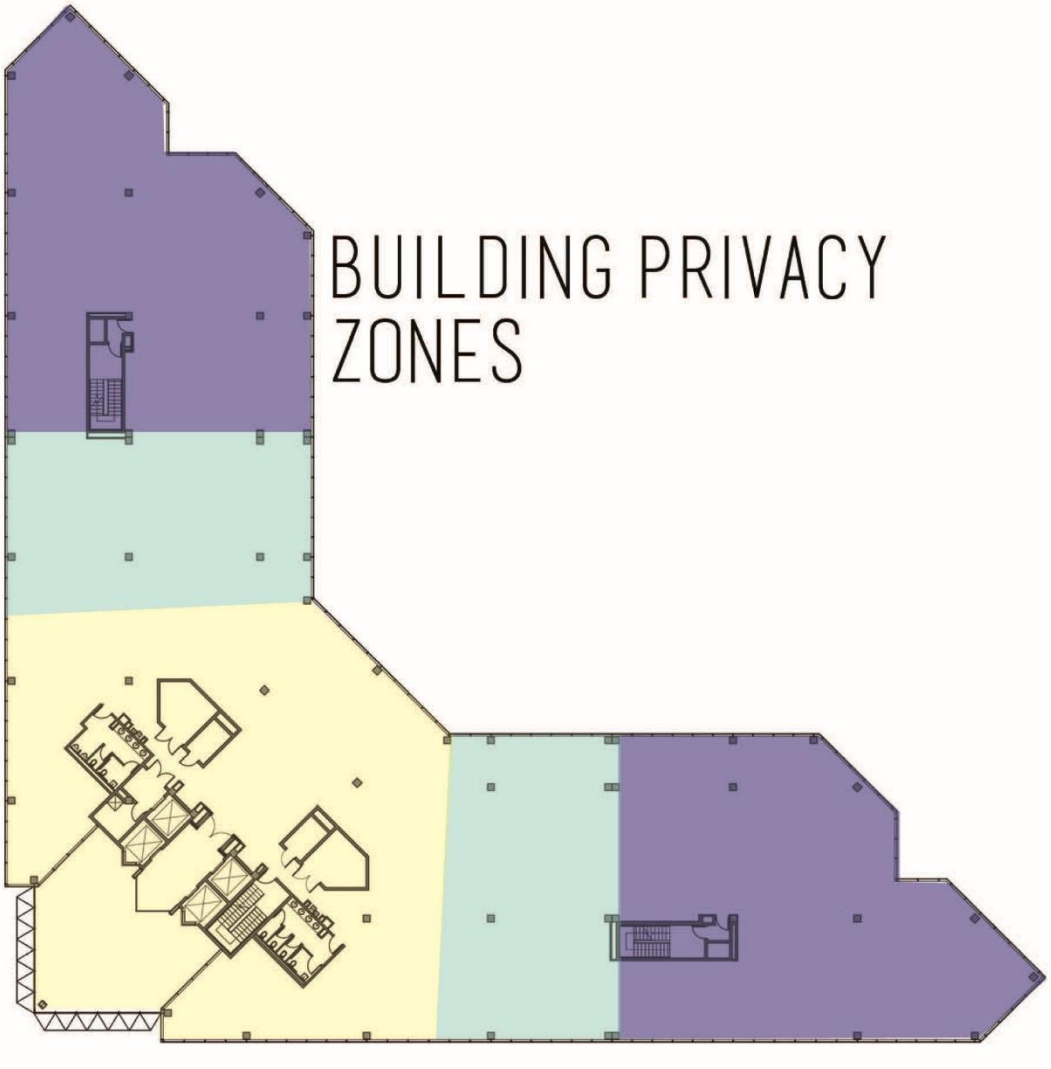
is concerned with the practical and aesthetic requirements such as form, proportion, axis, entry, openings, and appearance.

The design should be studied logically and consideration should be given to what gives character to the plans, elevations, sections, and details.

*[Ching chapter 2 to explore the form surface articulation of the building]

# BUILDING ANALYSIS

## ZONING




**PROVIDE** Diagrams of important zone relationships.
Ex. Public/semi public/ semi private/private

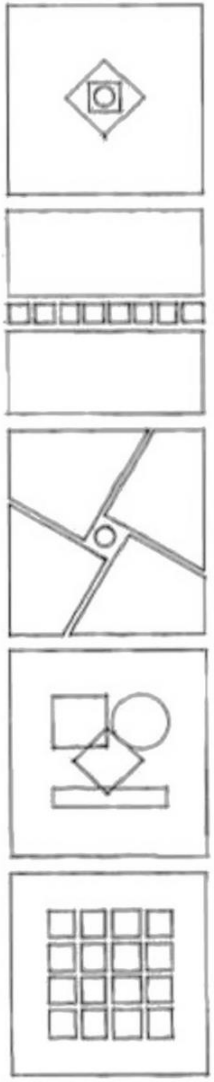
**PROVIDE** written conclusions you draw from your findings.

## BUILDING ANALYSIS

# AREA . SQUARE FEET

BUILDING ANALYSIS

# SPATIAL QUALITIES

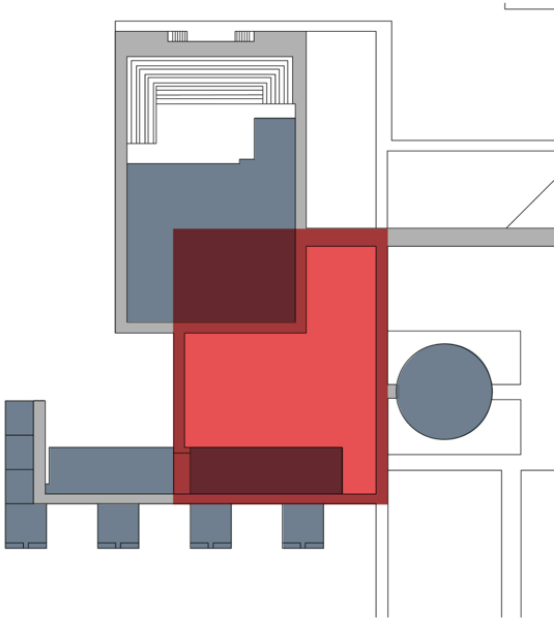


[Ching chapter 3: Rengel chapter 4]
[use the information to explore the spatial qualities of the building]

## CONNECTIONS, THRESHOLDS AND LINKAGES:

Use section
and plan diagrams to explore
the connections, thresholds,
linkages between the spaces
inside the building.

Are they open or closed?
Are they clearly defined?
What is the scale of these thresholds and linkages?
What are they telling you about design possibilities?



BUILDING ANALYSIS

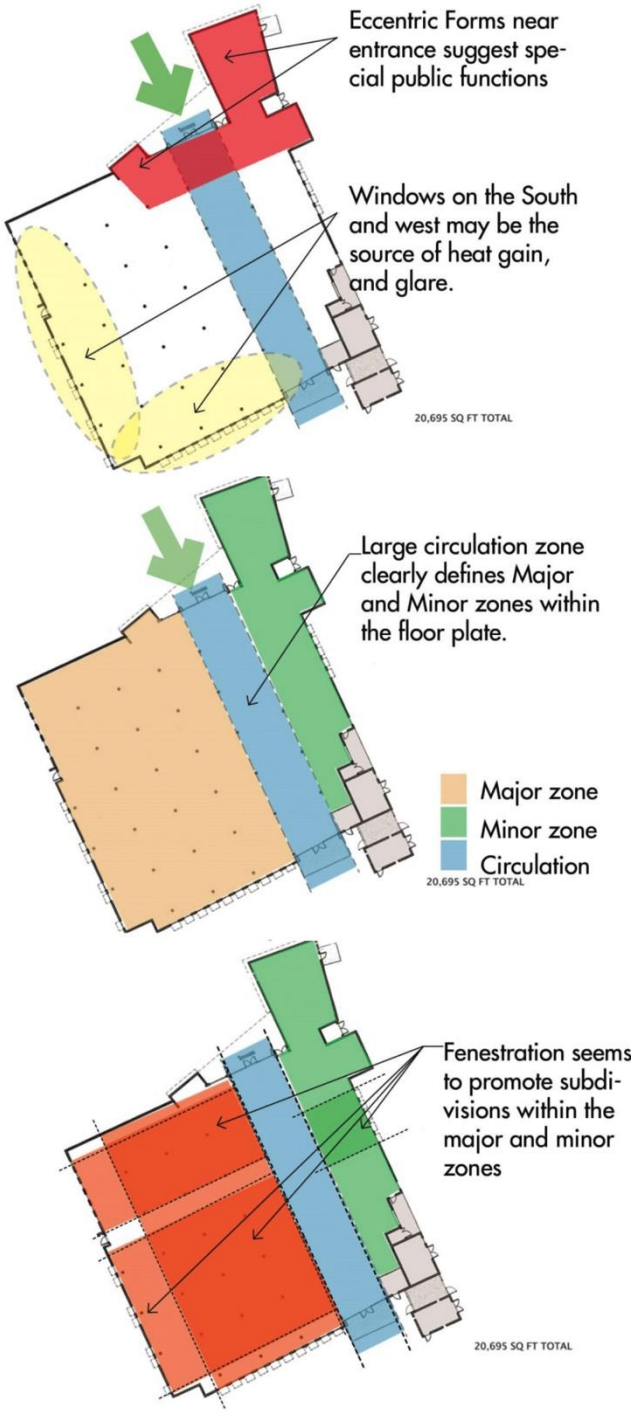
# DOMINANT ISSUES

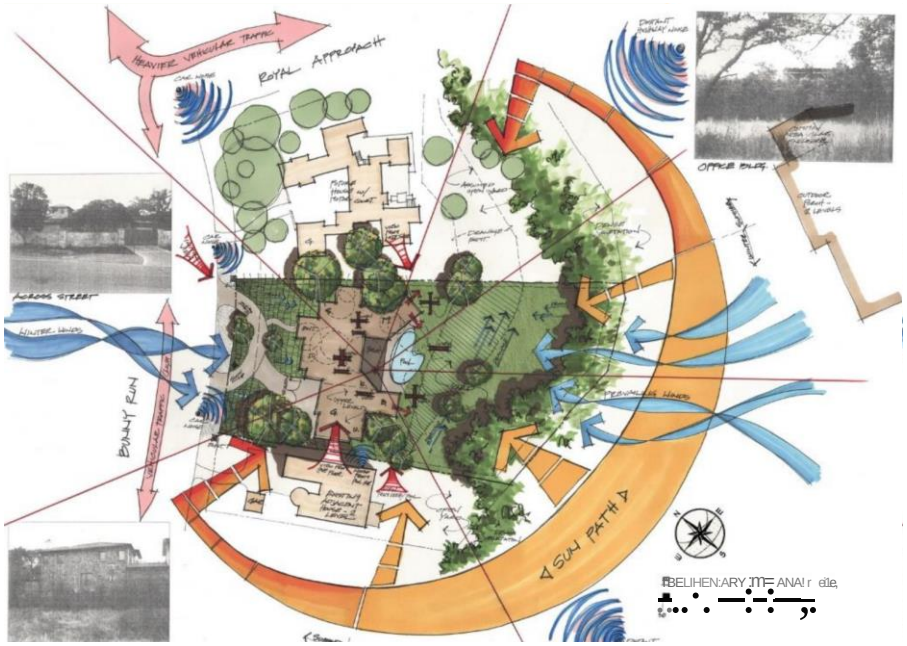
**PROVIDE**

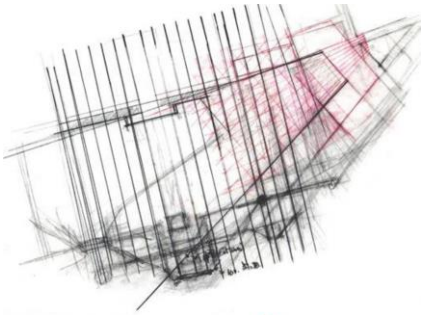
Diagrams of the  important issues that were discovered during the analysis. Compile the information to give the big picture. Consolidate to a concluding document

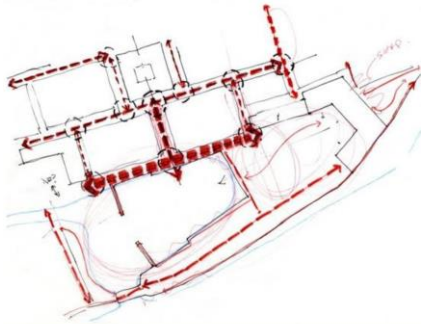
**PROVIDE**

written conclusions that can be used for design directives and guidelines.







# LET'S MAKE SOME BEAUTIFUL DIAGRAMS!!