

Chandanie

Chapter 1 - Important of Sustainability

Sustainability = meeting our need without endangering future.

military Sust = when current generation provide for future generation.

Air, water, Energy, Food

Architect mean being a leader on Sustainability.

↳ Resource manager

Site =

- Climate -

- central Park - water flow

- Desert - Air cooling - Thermomass

* Adobe building mud thick - day - absorb heat

↳ interior of opposite outside - solar energy used

Humidity - how many water is in the air

* Ching introduces to us the way site and building interacts.

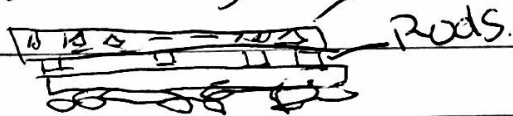
Chapter 2 - Structure And enclosure

- enclosure relate to site.

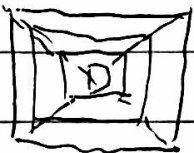
- Structure changes with site.

Building Envelope = Enclosure after structure is made

Drop ceiling



HVAC - Heating, Ventilation, Air Conditioning



- HVAC diffuser

attached to the ducts
Air is being pushed by fan
Grabbed by outside air

- water & energy - healthy environment

gress - stairs that encloses and keep snow

Fire safety

fire sprinkler, Strobe light

Building is a combination of structure and safety as well as art

high rise build on close to surface bedrock because it is cheaper

Structural Typology

Vertical Structural Elements

Point load = ^{columns} Post

Linear load = ^{wall} cross bracing

Lateral Load = ^{shear wall} sheathing

Spanning Structural Elements

Lateral load - wind / Earth quake

Beam - goes between 2 point / Reinforce concrete, steel, wood

Joist - closer points.

Girder - Beam span between column

Decking - put on top of structural element to


Subfloor

Slab - one way, 2 way

Rafter - used on an angle at roof wood frame beam angle

Truss - Triangulated structure small put together spans alot

Space frame - 3D of Truss

Arch - 

membrane - Structure / spanning

Vault - Arch elongated

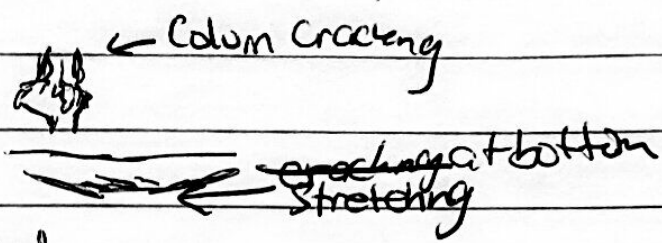
Dome - Arch rotated

Shell -

sloping roof
drain off water
low slope, as

Primary Force

- Compression - Cracking
- Tension - Stretching



Welding - Create strong bond

- Moment Causes rotation of object

Post -

Column - Post office 8th Ave

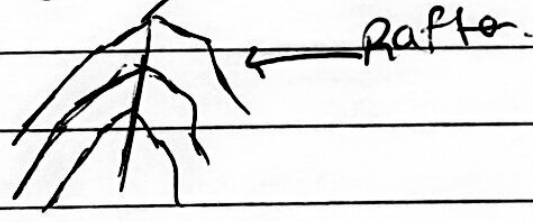
Frank Lloyd Wright - Johnson

City Tech - Steel Column

Sheathing - Lateral load Resistance.

Cross Bracing ~~XXXX~~

Decking - Corrugated - Ridgebeam

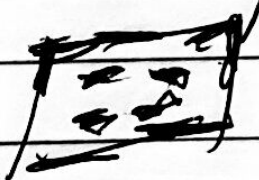


Le Corbusier - 5 points

tree plan

- Cantilever
- Ribbon window

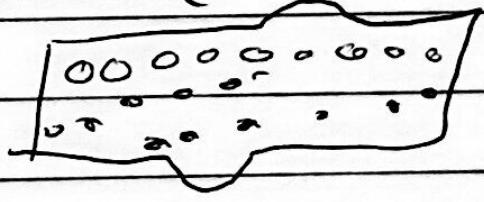
Load bearing



Hybrid

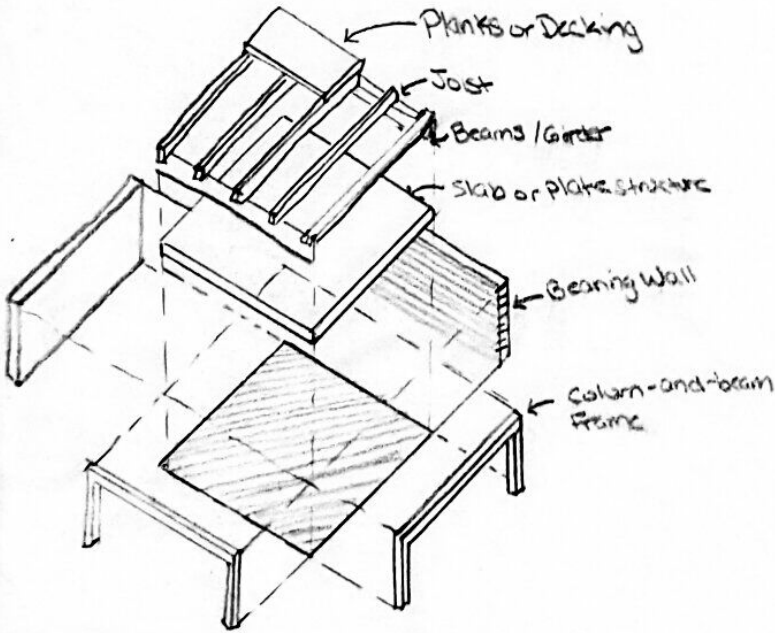


Pont base

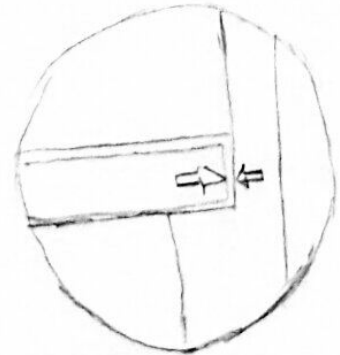


Architecture is the Art of Building

STRUCTURAL UNITS 2.19



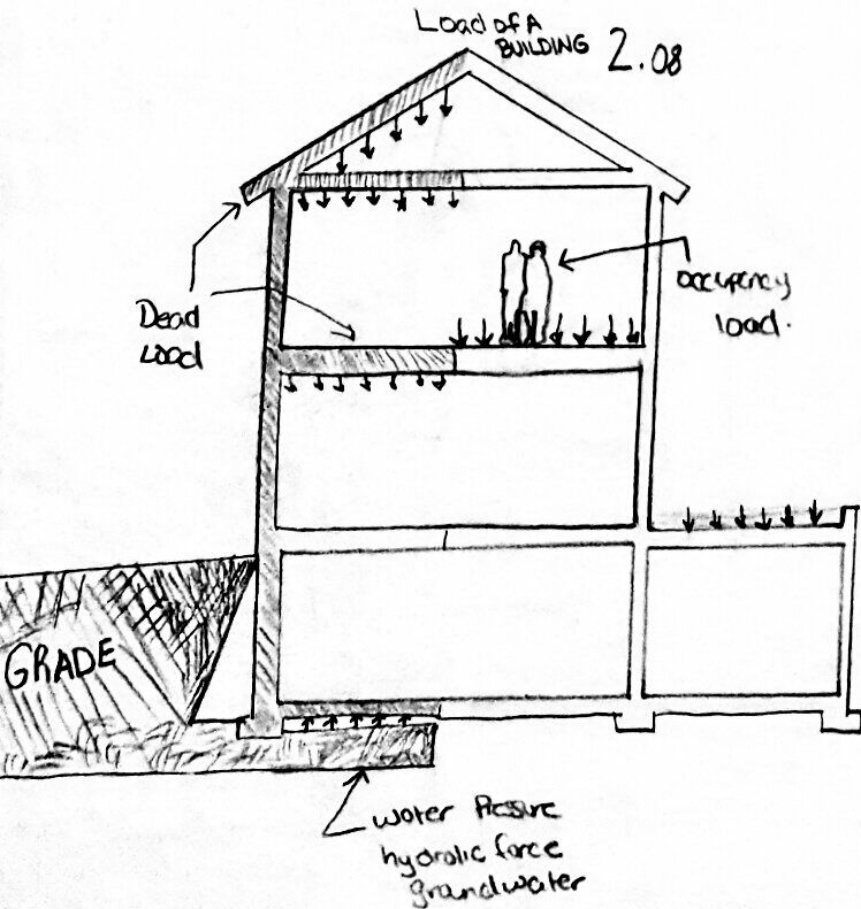
- Vertical support for structural units may be provided by load bearing wall or by framework of columns and beams.



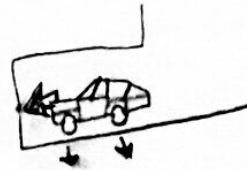
Thermal stress

- Compressive or Tensile stresses develop in a material constrained against thermal expansion or contraction.

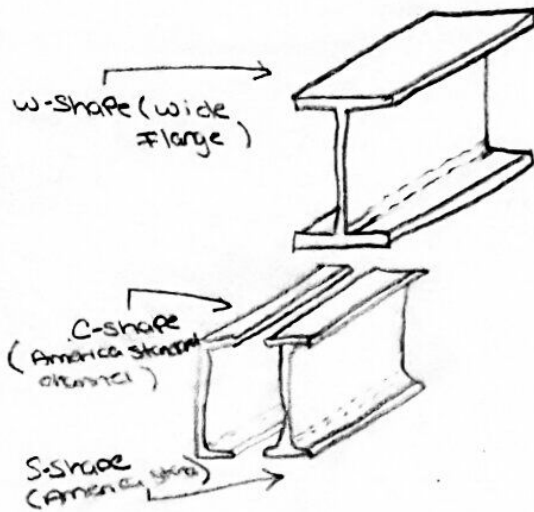
Load of a BUILDING 2.08



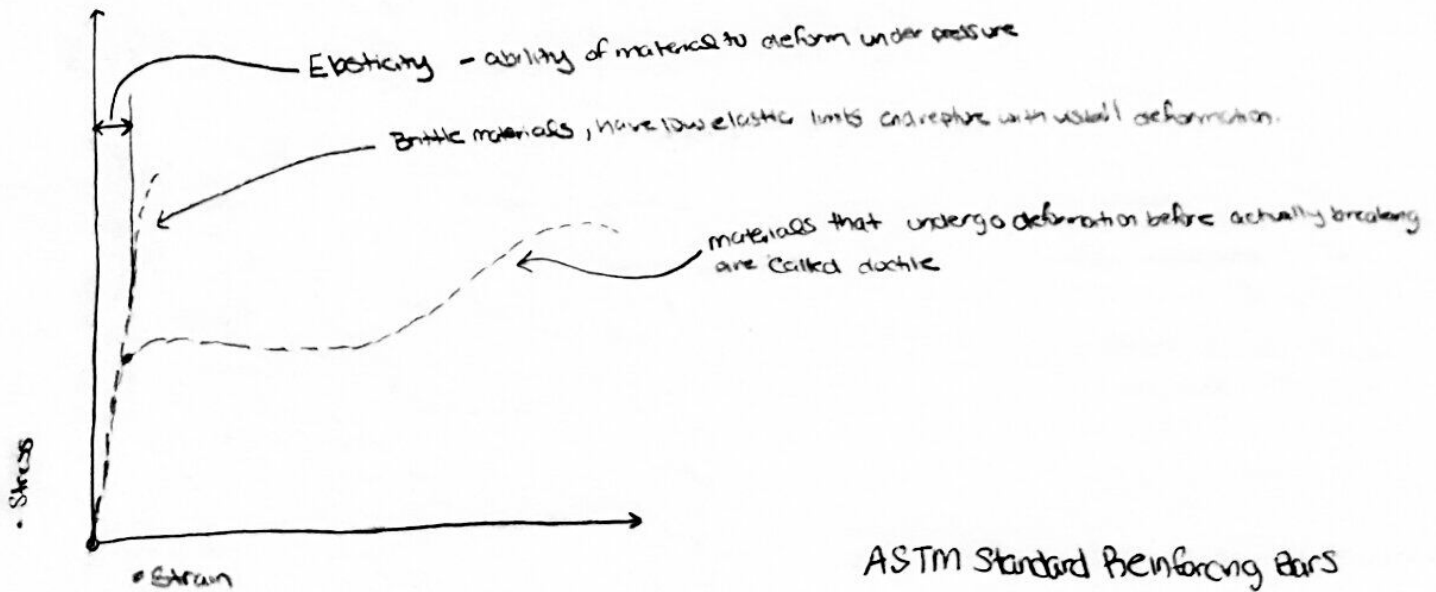
- Impact load - kinetic loads short duration due to moving vehicles, equipments and machinery



12.08 STEEL



12.02 BUILDING MATERIALS



ASTM Standard Reinforcing Bars

Bars Size Nominal Dimensions

	Diameter	Cross-sectional Area	Weight
#3	0.375 (10)	0.11 (71)	0.38 (5.5)
#4	0.50 (13)	0.20 (29)	0.67 (9.7)
#5	0.625 (16)	0.31 (200)	1.04 (15.2)
#6	0.75 (19)	0.44 (284)	1.50 (21.9)
#7	0.875 (22)	0.60 (357)	2.04 (29.8)
#8	1.00 (25)	0.79 (510)	2.67 (39.0)
#9	1.25 (29)	1.00 (645)	3.40 (49.6)
#10	1.25 (32)	1.27 (819)	4.30 (62.4)

12.05 CONCRETE

