-Goal new buildings designed to use half the fossil fuel energy and equal amount of buildings areas be renovated annually to meet similar standards

Two Appraaches:

1. work with climate designing, siting, + orienting a building and employ passive cooling, heating techniques to reduce its overall energy requirements
2. To increase ability of a building capture / generate own energy from renewable sources that are available locally and in abundance

Chapter 2: 2.02-2.30

vertical and lateral forces - winds, earthquake

Equilibrium → everything has an equal and opposite reaction

A- Structural System

> is the building is designed + constructed to support + applied gravity + lateral loads safely to ground

↳ vertical extensions above foundations

↳ columns, beams, + load bearing walls support floor + roof

↳ substructure = underlying structure of foundation of a building

→ dead loads - furniture, objects, etc that are being supported by the building = force - mass X gravity

B- Enclosure System

envelop

> shell of a building. (roof, exterior walls, windows, + doors)

↳ exterior walls dampen noises and security + privacy

↳ doors physical access

↳ windows = light, air and views

↳ interior walls divide the interior of building

ducts → metal box / tube connects all over the building to the fan

C- Mechanical Systems

> essential services of a building

↳ water supply human consumption and sanitation

↳ sewage disposals remove fluid waste and organic matter

hva ⇒ ↳ heating, ventilating, and air-conditioning (diffuser = ventilation)

↳ electrical system controls meters, and protects power supply.

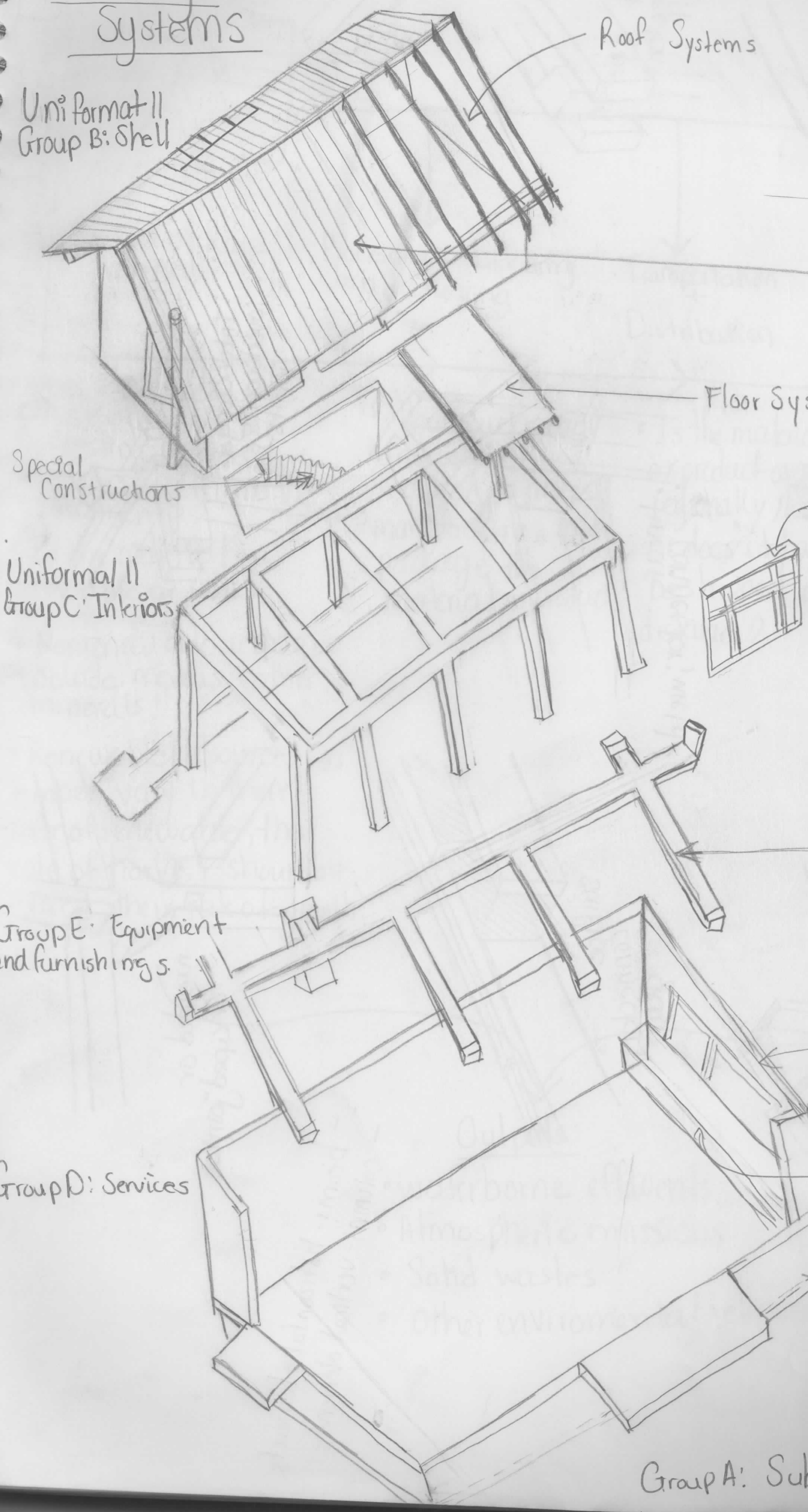
egress = the whole pathway for emergencies exits (at least two)

↳ Vertical transportation systems carry people / goods from one level to another

↳ detect and extinguish fires = safety

↳ waste disposals and recycling systems.

Building Systems



Uniformat II
Group B: Shell

Uniformat II
Group C: Interiors

Group E: Equipment and furnishings

Group D: Services

Group A: Substructure