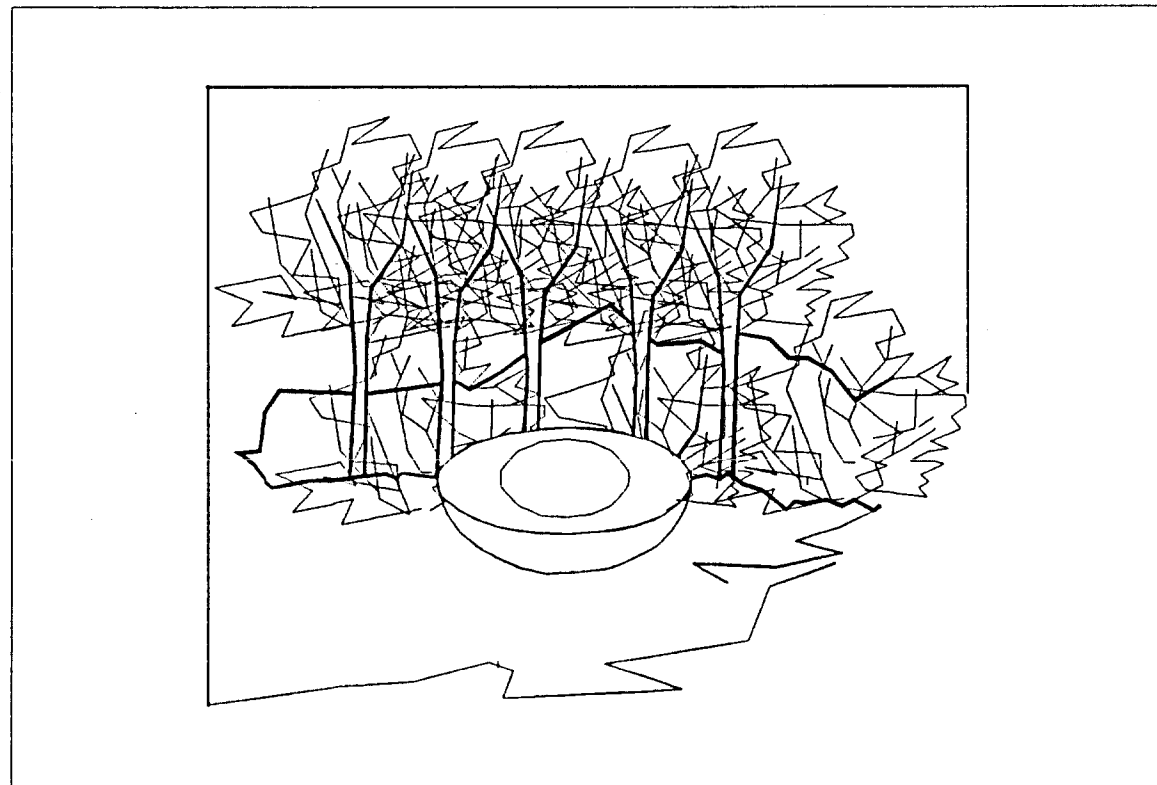

LUNARHOME

Nor Shamsiah Abd.Hamid

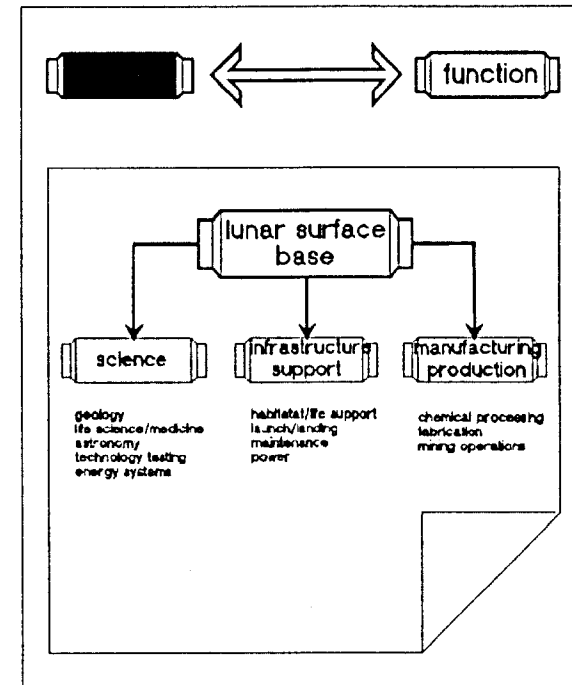


Of primary concern in this design scenario was the creation of a habitable human environment. In order to develop a sensitivity in the design to human factors a conceptual analogy to biological growth was employed. Like a seed, the hard outer shell of the base would provide protection from the environment. Like a seed, the base could also grow or multiply while still remaining self-sufficient.

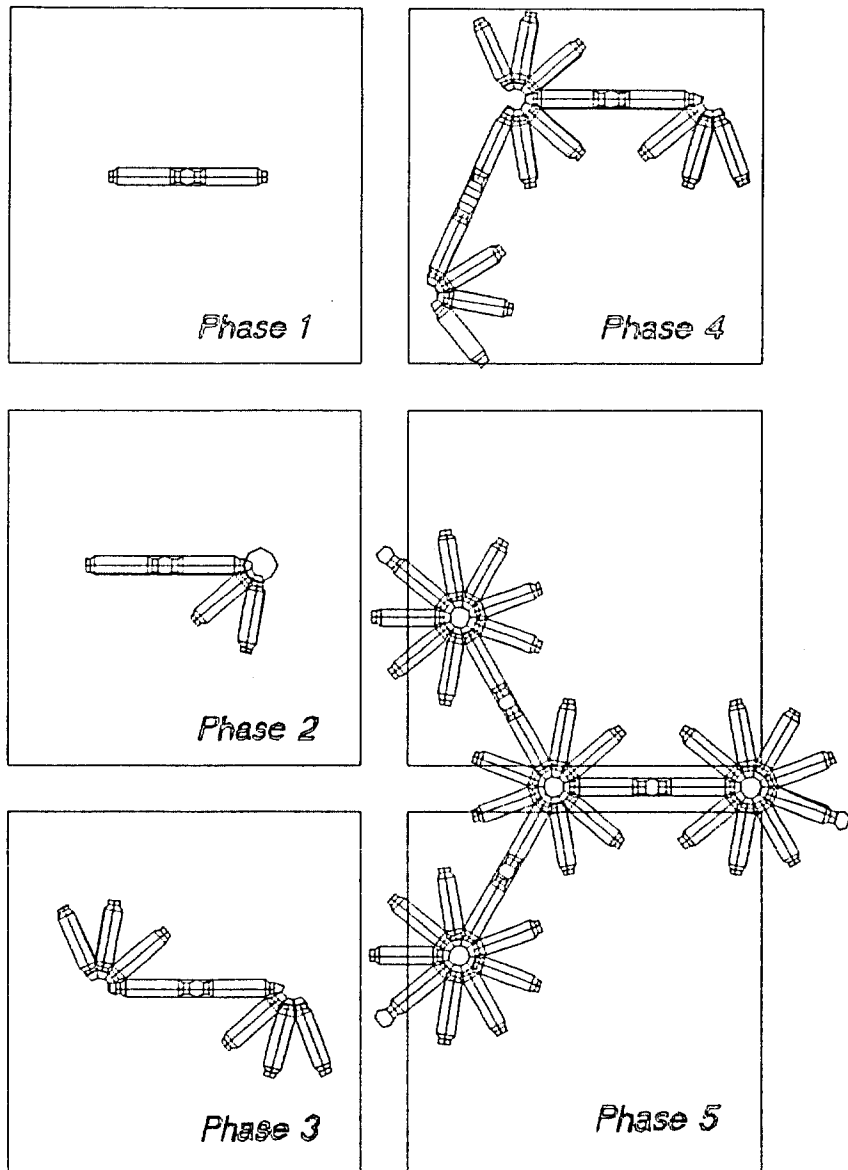
The pressurized enclosures would be protected from the environment by their placement six meters beneath the lunar surface. Limited surface contact would be achieved through the use of ingress and egress modules as well as vertical observation modules. The observation modules would allow the inhabitants limited opportunities for sight contact with the lunar surface and earth while remaining in a pressurized environment.

Prefabricated, modular interior systems of light weight materials, like fabric, would define various areas. All environmental controls and utilities would be supplied by a detached plant. Base sections would also contain emergency back-up systems. The use of elementary geometric shapes throughout the interior would allow familiarity and easier adaption to the surroundings by the astronauts. Other factors of consideration in the design were the use of colors, variation in room volumes and human interface with systems and equipment. Again, the primary concern was with the environmental needs of the inhabitants.

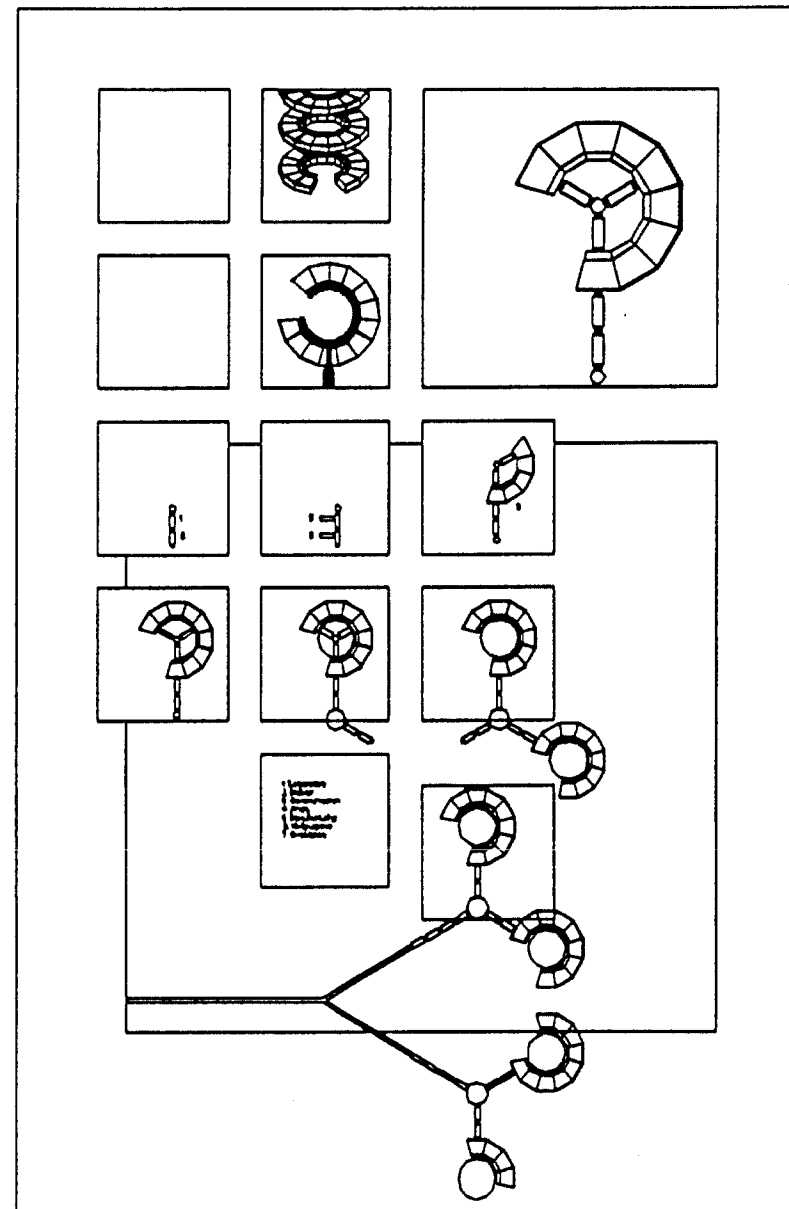
The first phase habitation modules would be earth constructed using aluminum balloon technology. Later phases would utilize lunar resources in the construction of tensioned concrete domes. These large lunar material domes would be initially supported with inflatable form-giving membranes. These membranes would then serve as hermetic seals under the porous lunar concrete. The larger interior spaces would also serve varying purposes, including processing plants, non-pressurized storage areas and recreation centers.



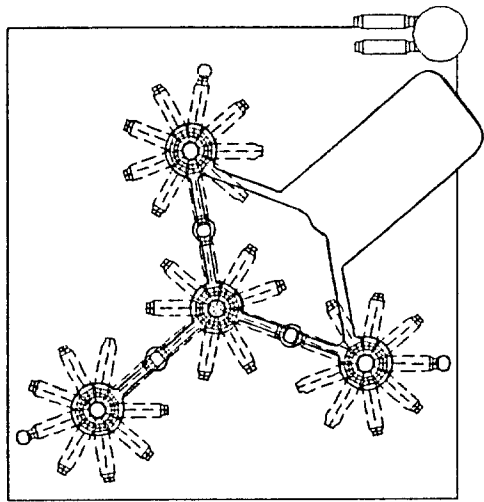
Lunar base functions and facilities integration.



Final base growth/phasing scheme

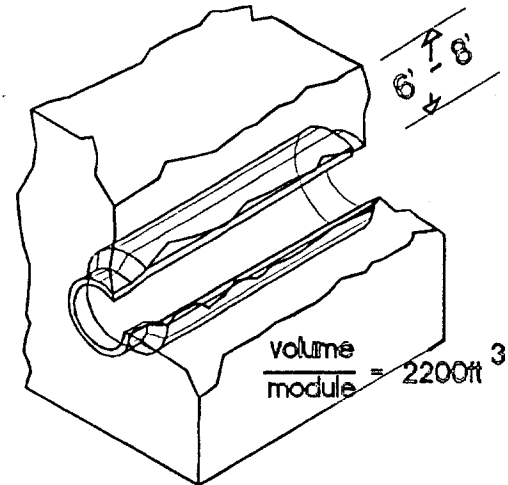


Preliminary base phasing scheme

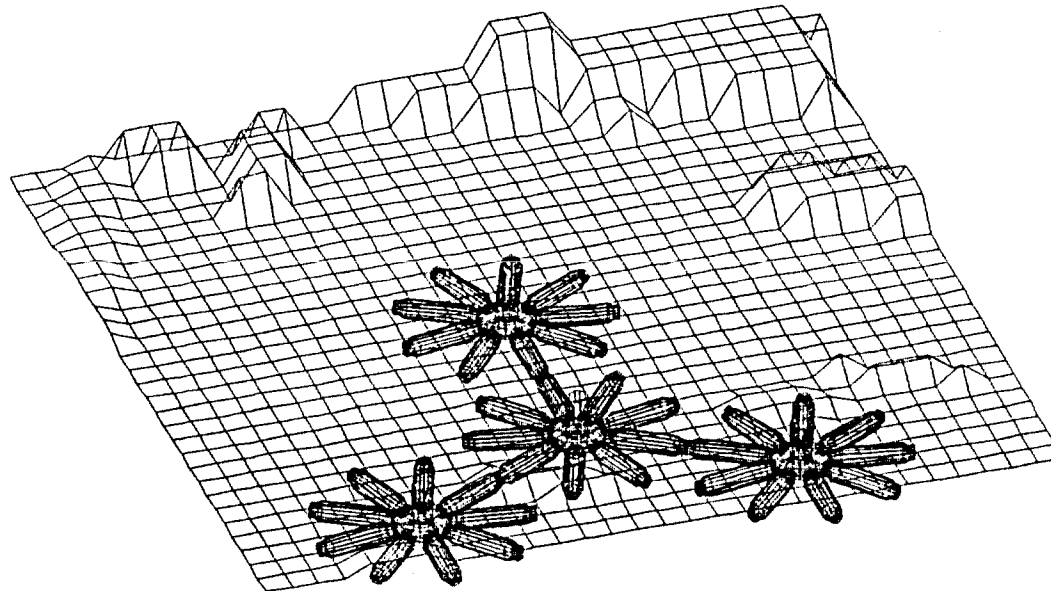


Lunar Base Plan
Surface Plan

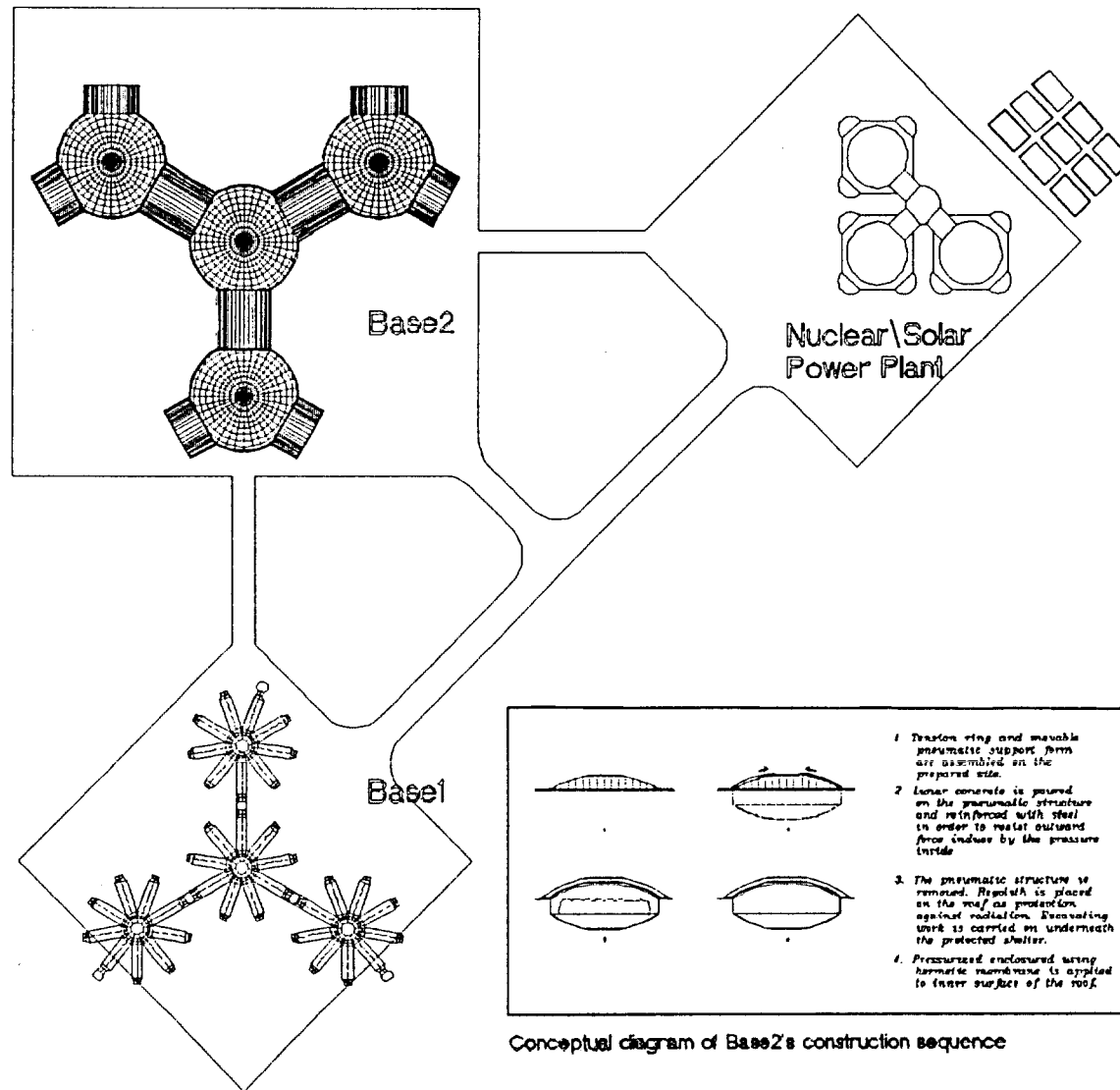
Site showing placement of cross-over point concrete dome structure.



Prototypical module volume

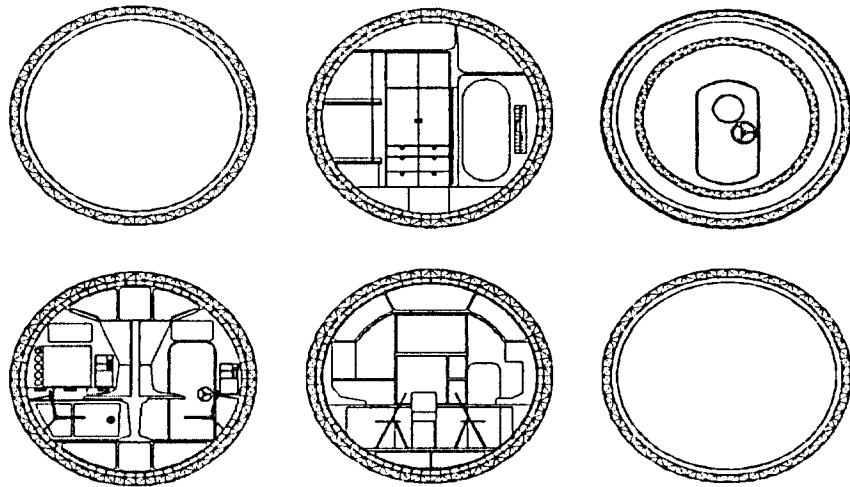


Site Isometric showing vertical modules

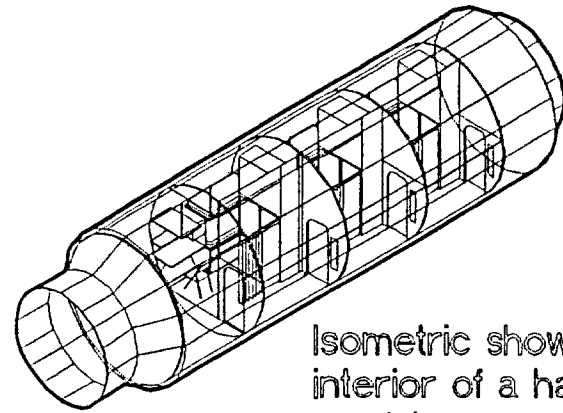


Conceptual diagram of Base2's construction sequence

Base master plan



Module sections



Isometric showing the interior of a habitat module

