

FOUR-STOREY STEEL STRUCTURE

This designed building is a four-storey steel structure hospital in Quincy, Massachusetts. The dimension of the proposed hospital is 250 ft x 100 ft. Each storey height is 12 ft and the bay width is 25 ft respectively.

Designed Loads:

Distributed Live Loads:	Operation rooms and Laboratories	60psf
	Private rooms	40 psf
	Wards	40 psf
	Corridors above first floor	80 psf
Concentrated Floor Live Load:	Elevator machine room	300 lb.
Snow Loads:	Snow loads in Quincy, MA	30 psf

Designed Members:

Interior Columns:	W10x49
Exterior Columns:	W8X10
Beams:	W8x10
Bracing:	W8x24
Concrete Slabs:	0.667 ft

Figure 1: The Designed 4-Storey Steel Structure Hospital

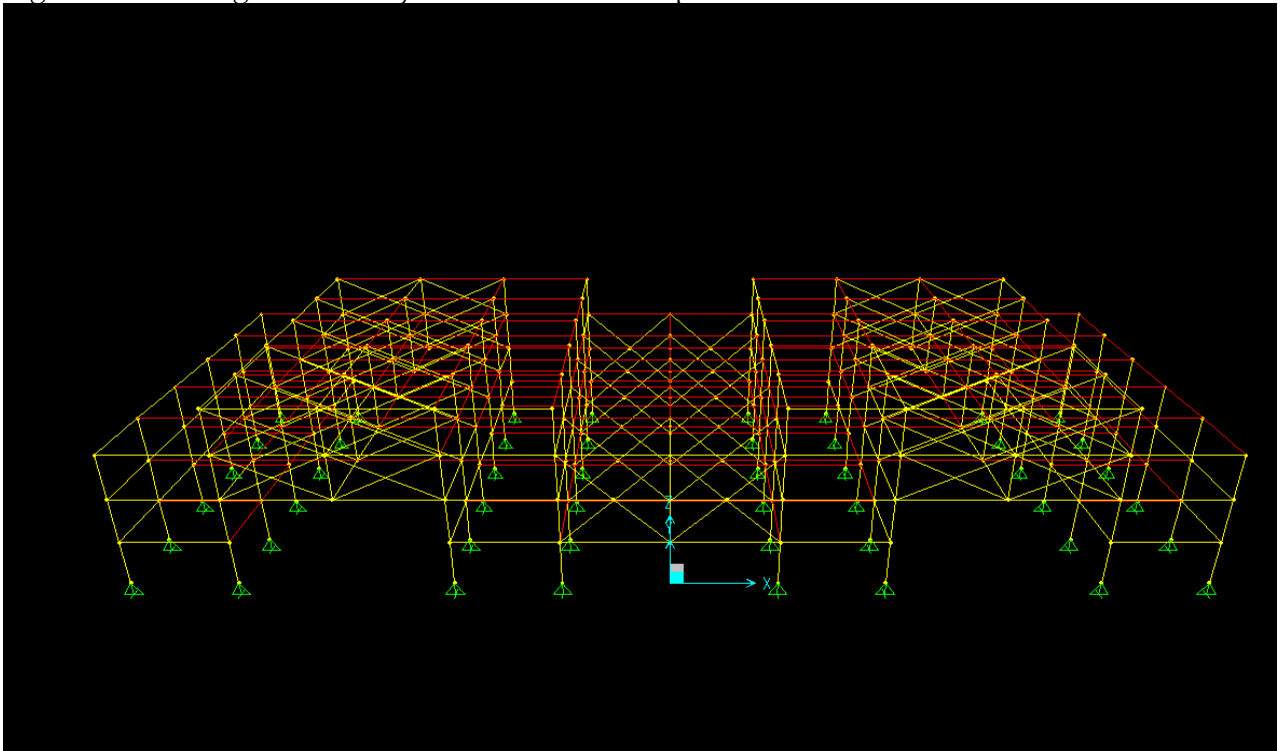


Figure 2: Deformed Shape of the Proposed Hospital

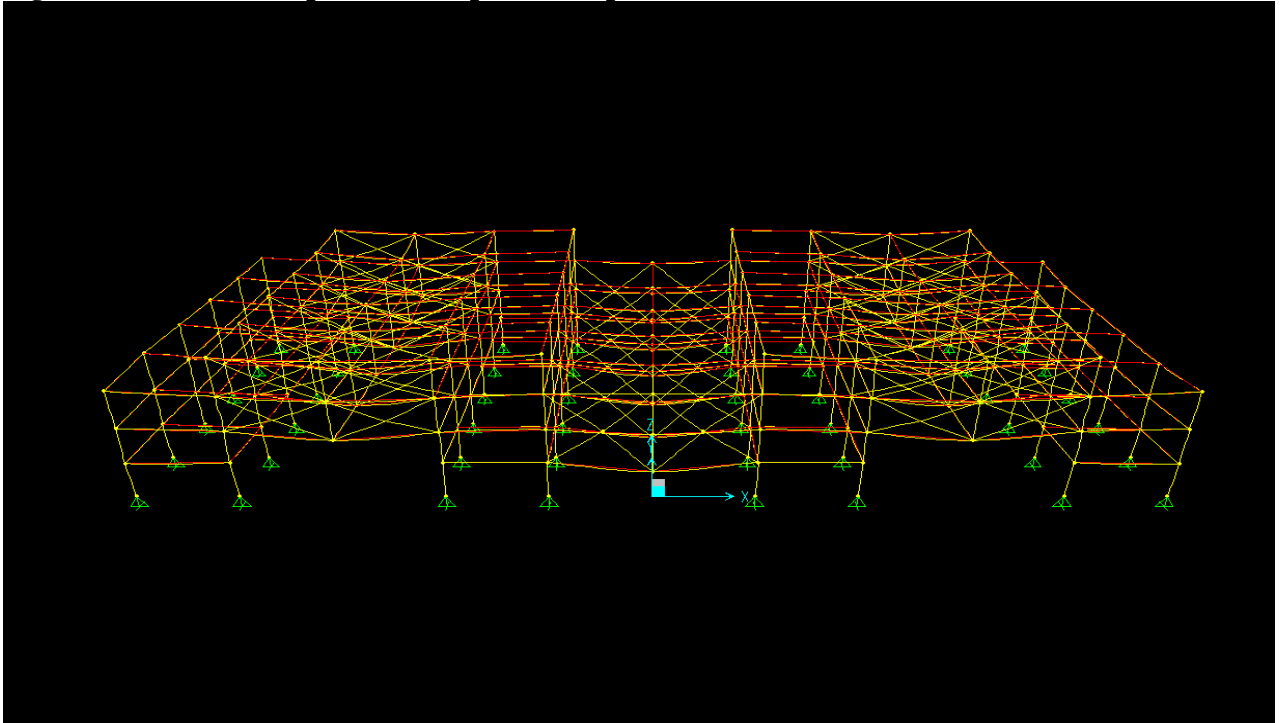
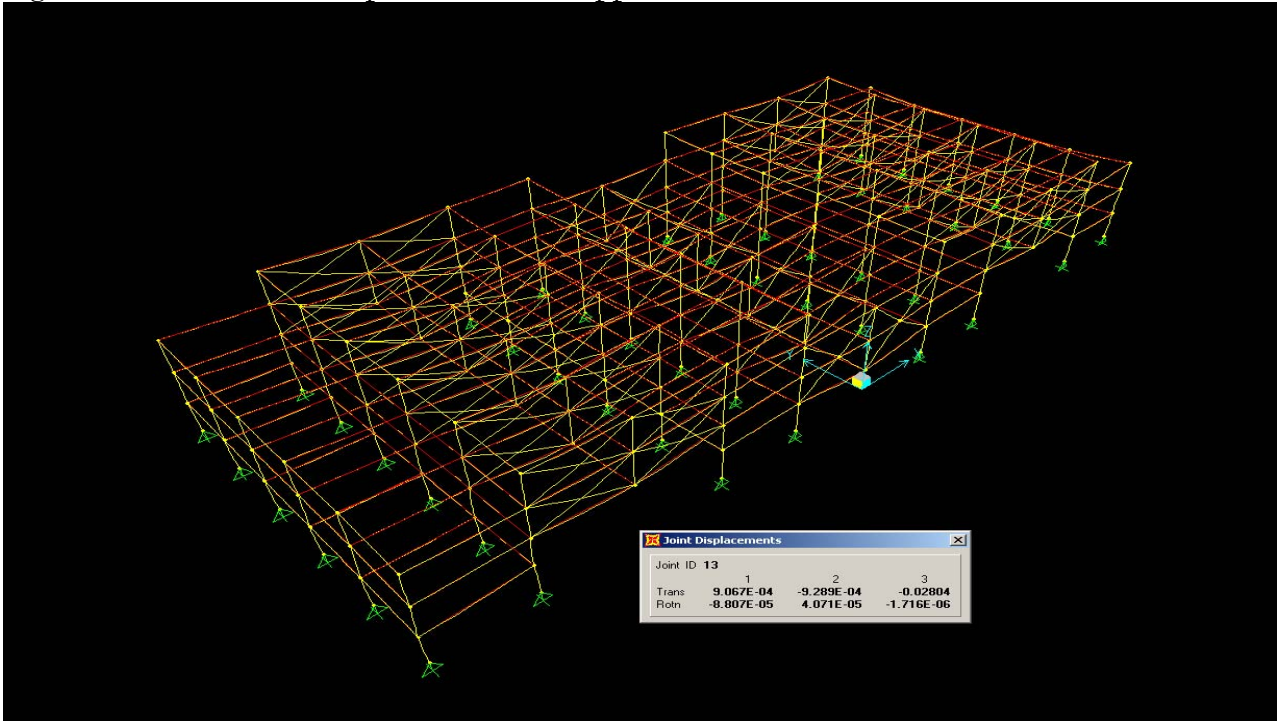


Figure 3: The Maximum Displacement after Applied Loads



Since actual deflection is less than the allowable deflection, the structure is said to be safe.