



Figure 6-5. Computer model of the frame on Line A

3. Frame nodal and member forces.

The longitudinal frame along Line A is designed in this part. First, dead and live loads on the beams are determined using a tributary width of 15 feet. The gravity loads applied to the beams in the frame analysis are summarized below in Table 6-3.

Table 6-3. Beam gravity loads for analysis

Framing Level	Dead Load (plf)	Live Load (plf)
Roof	2,250	300
7 th Floor	2,886	750
6 th Floor	2,886	750
5 th Floor	2,886	750
4 th Floor	2,886	750
3 rd Floor	2,886	750
2 nd Floor	2,879	750

A torsional analysis of the building using a 5 percent accidental torsion (using an eccentricity equivalent to 5 percent of the perpendicular building dimension) gives results such that all frames on the four faces of the building resist torsional shears of approximately 2 percent of the base shear. Thus the seismic forces in the frame analysis were increased by 2 percent to account for accidental torsion (per