

Bldg A - Area Increase

(Eq 5-3)

$$Aa = [At + (NS \times If)]$$

where:

Aa = Allowable area (square feet).

At = Tabular allowable area factor (NS, S13R or SM value, as applicable) in accordance with Table 506.2. [9500 s.f.]

NS = Tabular allowable area factor in accordance with Table 506.2 for a nonsprinklered building (regardless of whether the building is sprinklered). [9500 s.f.]

If = Area factor increase due to frontage (percent) as calculated in accordance with Section 506.3. [0.32 see calcs below)

(Eq 5-5)

$$If = [F/P - 0.25] \times W/30 \text{ (Equation 5-5)}$$

where:

If = Area factor increase due to frontage.

F = Building perimeter that fronts on a public way or open space having minimum distance of 20 feet (6096 mm).

P = Perimeter of entire building (feet).

W = Width of public way or open space (feet) in accordance with Section 506.3.2.

Bldg A has 162' that has 20ft of open space perpendicular to that side of the building. Bldg A also has two (2) ends that measure 64 ft in length and each of these ends have 30 feet of open space perpendicular to them.

$$F = 162 \text{ ft} + 64 \text{ ft} + 64 \text{ ft} = 290 \text{ ft}$$

$$P = \text{width} = 64 \text{ ft and length} = 162 \text{ ft; perimeter} = (64 \times 2) + (162 \times 2) = 452 \text{ ft}$$

$$W = (162 \times 20) + (64 \times 30) + (64 \times 30) = 7,080 / 290 = 24.4 \text{ ft (Weighted W)}$$

$$\text{Eq 5-5} \quad If = [(290/452) - 0.25] \times (24.4 / 30) = 0.32 \text{ or } 32\%$$

$$\text{Eq 5-3} \quad Aa = 9500 \text{ s.f} + (9500 \text{ s.f} \times 0.32) = \underline{12,540 \text{ s.f}}$$