

DYNAMIC ANALYSIS RESULTS

FRAME ANALYSIS RESULTS - DESIGN CYCLE 1

NUMBER OF MODES CONTRIBUTING TO X-DIRECTION FORCES = 4

MODES ARE 1 3 6 9

ASSOCIATED WEIGHT = 5139.38 (TONNES, TONS)

NUMBER OF MODES CONTRIBUTING TO Y-DIRECTION FORCES = 4

MODES ARE 5 2 8 10

ASSOCIATED WEIGHT = 5693.90 (TONNES, TONS)

SUM OF ALL X-MODE WEIGHTS (SUM OF M_{nx} s) = 5926.71 (TONNES, TONS)

SUM OF ALL Y-MODE WEIGHTS (SUM OF M_{ny} s) = 5981.33 (TONNES, TONS)

SUM OF ALL R-MODE MASS MOMENTS OF INERTIA (SUM OF M_{nr} 'S) = 16635327.00 (TONNES-M, TONS-M)

SUM OF DESIGN X-MODE WEIGHTS = 5139.38 (TONNES, TONS)

SUM OF DESIGN Y-MODE WEIGHTS = 5693.90 (TONNES, TONS)

X-SCALE FACTOR = 1.153

Y-SCALE FACTOR = 1.040

PARTICIPATION FACTOR = L_{nx}/M_n OR L_{ny}/M_n [CODE EQS. 6-5 & 6-6]

DIRECTION MODE PARTICIPATION FACTOR

X	1	113.0598
X	3	95.4220
X	6	74.9796
X	9	45.2521
Y	5	107.4379
Y	2	104.4281
Y	8	89.5736
Y	10	32.3088

GROUND ACCELERATION FACTOR A_0/g = 0.30

SOIL PARAMETER T_0 = 0.30 SECONDS

SOIL PARAMETER p = 1.50

IMPORTANCE FACTOR I = 1.00

STRUCTURE/MATERIAL FACTOR R_0 = 11.00

FRACTION OF LIVE LOAD INCLUDED IN MASS = 0.25

FIRST UPPER LIMIT ON BASE SHEAR = 10534.73 (KN, KIP)

[CODE PARA. 6.3.7]

SECOND UPPER LIMIT ON BASE SHEAR = 4788.51 (KN, KIP)

LOWER LIMIT ON BASE SHEAR = 2926.90 (KN, KIP)

DIRECTLY COMPUTED VALUES OF DESIGN BASE SHEAR,
USING CODE EQ. 6-11, 6-12 AND CODE PARA. 6.3.7:

IN X-DIRECTION = 2340.11 (KN, KIPS) - BELOW LOWER SHEAR LIMIT

IN Y-DIRECTION = 3530.82 (KN, KIPS) - OK

CORRECTION FACTORS FOR HORIZONTAL FORCES AND TORQUES FROM CODE PARA. 6.3.7:

FOR X-DIRECTION = 1.251

FOR Y-DIRECTION = 1.000