PRELIMINARY STRUCTURAL ANALYSIS OF APARTMENT BUILDING FOR MRS. KEIKO INOUE, SAPPORO, JAPAN

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SUMMARY

This report reviews the details of the preliminary seismic structural evaluation of a building proposal designed by the Center for Environmental Structure under the direction of Dr. Christopher Alexander. The seismic behavior of two separate structural schemes, a reinforced concrete shear wall system and a reinforced concrete ductile moment resistant frame, were evaluated using the guidelines provided by the New Building Standard Law of Japan and the AIJ Standard for structural calculation of reinforced concrete structures (1979 edition).

From this first study, the following conclusions may be reached:

1. The gross behavior of the building, supported by the shear wall scheme, is acceptable, and within required limits for both moderate earthquake, and extreme earthquake, as provided by the Japanese code.

2. The gross behavior of the building, supported by the moment resisting frame, is acceptable, and within required limits for both moderate earthquake and extreme earthquake, as provided by the Japanese code.

3. Experience with designs of this type, leads us to believe that the shear wall system should be used to resist moderate earthquakes, and that the moment resisting frame should be used to resist extreme earthquakes, thus suggesting

that the optimum design will be arrived at, by a careful combination of the two systems.

4. Detailed cost benefit analysis, to indicate the lowest cost combination of the two systems, has not yet been performed, and can be performed only when the working drawing phase begins to indicate exact sizes of different structural members.

5. The high shear forces which are concentrated in the short coupling girders are very beneficial to the behavior in an extreme earthquake, since it will allow the energy to be absorbed by local failure in these coupling girders, while the remainder of the building then retains its configuration with little damage.

6. Although the building has an assymmetrical configuration, torsional effects appear to be insignificant.

7. The long legs supporting the northern end of the building above the hospital, do not present a structural difficulty. In fact, they contribute to the performance of the building by shifting the center of stiffness closer to the center of mass.

8. The even distribution of member stresses and the elegant nature of the structural grid, should result in an

efficient distribution of material, and will make for an economical building system from the point of view of construction process and construction cost.

ACKNOWLEDGEMENTS

The writers gratefully acknowledge the support of Edward O. Wilson, Professor of Civil Engineering, University of California, Berkeley, for his help with the computer modeling and for the use of his program, "Sap 81" which is not currently made available to the engineering profession. We would also like to thank Professor Yoshimura for his help with interpreting the appropriate Japanese codes. Any opinions, findings, conclusions, or recommendations expressed in this report, however, are the sole responsibility of the authors.

1. INTRODUCTION

A. Building Description

The building, Figs. 1 and 2, is a ten story structure of rectangular shape in plan. The first three floors are shorter in the North-South direction due to the presence of an existing three story hospital. At the fourth floor, the building expands over the top of the hospital occupying the full allowable dimensions of the site.

Two features of the building, are problematic structurally: 1) the three story high legs at the northern half of the site, which support that portion of the building above the hospital, and 2) the assymetry in the North-South plane.

B. Scope of Study

The investigation was limited to a study of the global seismic response behavior of preliminary structural design proposals in an effort to examine the feasibility of the proposals. A detailed evaluation of the proposals was not made.

C. Structural Components Considered

Two types of lateral resisting systems were considered; 1) a shear wall system, and 2) a ductile moment resisting frame.

D. Torsional Considerations

There are two main reasons for concern about possible torsional effects due to seismic loading; 1) the general assymmetry of the building, and 2) the relative flexibility of the long legs supporting the northern end. It might be feared that these factors in combination could cause the building to experience unacceptable torsion under the action of seismic ground motion. To accurately evaluate the importance of these factors, the structure was initially idealized using a complete 3-dimensional Finite Element model.

E. Computer Modeling

This study was performed with the aid of a micro processor, and the most current version of the SAP family of Finite Element programs, SAP 81, developed by Dr. E.O. Wilson, Dept. of Civil Engineering, University of California, Berkeley. Computer modeling of the building proceeded along two routes. First, the shear wall system was idealized as a 3-dimensional assemblage of vertical shear planes connected at the floors by floor diaphragms assumed rigid both in and out of plane. The results of the complete 3-D modeling were then used to evaluate the seismic loads that each of the plane frames could reasonably be expected to resist, and with these loads a 2-D analysis of selected frames was made.

The results of the complete 3-D model indicated that the building exhibited negligible amounts of rotation. This occurs

because the assymmetry of the mass distribution happens to coincide with the assymmetry of the stiffness distribution, so that very little eccentricity between the global CG and CS is present.

F. Design Process

Design of the building followed an iterative process whereby a sequence of computer studies were made to determine the overall structural behavior, and a corresponding sequence of improvements were made in the global structural grid on the basis of these studies. While these iterations made no attempt to examine detailed behavior, they have resulted in a building that is well-behaved on the global level.

2. ANALYSIS

The provisions of the New Building Standard Law in Japan (see flow chart Fig 3), and the AIJ Standard for Structural Calculation of Reinforced Concrete Structures (1979 edition) provided the basis upon which the structural evaluations were made.

A. Loads

The loads were determined in accordance with the design chart shown in Fig. 4.

1. Gravity Loads: Full dead load was estimated to be 580 kgm/m^2. Live loads were estimated to be 240 kgm/m^2 on the second floor (commercial) and 130 kgm/m^2 on the other floors. Snow loads were taken to be 105 kgm/m^2 on the roof areas.

2. For calculating lateral forces, the full dead weight of the building, and the following live loads were used; 130 kgm/m^2 on the second floor, 60 kgm/m^2 on the remaining floors, and 105 kgm/m^2 for snow loads on roof areas.

B. Material and Section Properties

For the analysis, all members were assumed to be of reinforced concrete with a weight density of 2400 kgm/m^2, and a 28 day cylinder

strength of 350 kgm/m^2. By the provisions of the AIJ Standard, the modulus of elasticity was computed to be 296000 kgm/cm^2. Poisson's ratio was taken to be 1/6. Section properties were computed from the gross concrete section as provided for by the AIJ Standard Art. 8 (3).

C. Lateral Seismic Shear

The lateral seismic shear above ground level was determined in accordance with the provisions of chapter 3 of the New Building Standard Law in Japan. The weights of each floor were calculated on the basis of the dead load and live load fractions given above (Section A.2) and the shear of each story was determined from the following formula:

$$Q = Z \cdot R_t \cdot A_i \cdot C_o \cdot W_i$$

Where,

$Z = 0.9$ (for Sapporo)

$R_t = 1.0$ (T = 0.020H, H = 30m, T = 0.6)

C_o = 0.2 for moderate earthquake, and 1.0 for extreme

A_i = 1+(1/sqrt(wi/wn)-wi/wn)(2T/(1+3T)

W_i = weight of the building above the i-th story

D. Member Stress Demands and Allowable Stresses

1. Shear Walls: The stresses induced in the shear walls

by an extreme earthquake were calculated from design procedure 2.5 of the New Building Standard Law in Japan to be 2 1/2 times those occuring from a moderate earthquake. The following equations and assumptions were used:

$$Q_r = D_s \cdot F_{es} \cdot Q \qquad (5)$$

where,

$D_s = 0.5$ (shear walls with poor ductility)

$F_{es} = F_e \cdot F_s$

and,

$F_e = 1.0$ (Based on the building's performance in the 3-D analysis)

$F_s = 1.0$ $(R_s > 0.6)$

Since,

$Q_{extreme} = 5\ Q_{moderate}$ $(C_o = 0.2$ moderate and $= 1.0$ extreme)

Then,

$$Q_r = (0.5)\ (1.0)\ (1.0)\ (5) = 2.5\ Q_{moderate}$$

To calculate the maximum allowable stresses in the shear walls the above criteria and the provisions of Art. 18 of the AIJ Standard for Structural Calculation of Reinforced Concrete Structures were used. The following equation from Art. 18 applies:

$$Q_w = P_s t l' f_t$$

and is determined to be equal to,

$$Q_w = (0.012)\ (3000\ kgm/cm^2) = 36\ kgm/cm^2$$

Therefore,

The allowable stress for a moderate earthquake (the one

considered in the computer run) should be less than or equal to, 36 $kgm/cm^2/2.5 = 14.40\ kgm/cm^2$.

2. Moment Resisting Frame: The demands placed on the structure by an extreme earthquake were calculated from procedure 2.5 of the New Building Standard Law in Japan to be 1 1/2 times those imposed by a moderate earthquake. The equations and assumptions of section D. above apply, except that D_s was taken equal to 0.3 (excellent ductility was assumed). To calculate the maximum allowable forces in the beams the provisions of chapter 4 of the AIJ were used. Taking the smallest spacing between frames of 155 cm, estimating the floor thickness to be 15 cm, and the web of the average beam to be 25 cm the following capacities were determined:

For permanent stresses, $P_{tb} = 0.013$, $M = 5.6 \times 10^6$ kgm-cm, $Q_a = 16 \times 10^3$ kgm, and for temporary stresses, $P_{tb} = 0.019$, $M = 12 \times 10^6$ kgm-cm, $Q_a = 24 \times 10^3$ kgm. To evaluate the column capacities, the interaction diagram of Fig. 6 was used.

E. Story Drift

By the provisions of the New Building Law in Japan the maximum allowable story drift of the building shall not exceed 1/200 of the story height. Assuming an average story heighth of 300 cm, this requirement translates into a maximum displacement

of 1.5 cm per floor, for a total deflection at the top of 15 cm.

F. Computer Model and Structure Idealization

1. Shear Walls: As already stated, a finite element program with complete 3-dimensional capabilities was used to analyze the shear wall scheme. This was accomplished in the following way: first, each shear wall was idealized as an assemblage of 2-dimensional beam-column elements (3 degrees of freedom at each end) with rigid end offsets corresponding to the more rigid zones of the shear wall. Then, the walls were located in the 3-D structure as to their position in plan, and were connected top and bottom to floor diaphragms. For the purpose of calculating force distribution in the members, the floor diaphragms were assumed rigid both in and out of plane, (i.e. no rotations were allowed at the ends of the walls). While this is a correct model for determining force distribution, it results in an idealization that is slightly stiffer than the actual structure. The anticipated story drift, therefore, will be greater than the ones shown, but are expected to be well within the allowable limits set by code.

The lateral forces were applied at the centers of gravity of each floor, and North-South loading was considered separately from East-West loading. Section properties were based on the gross overall dimensions of the wall, and

both flexural and shear deformations were accounted for (elastic theory).

2. Moment Resisting Frame: As a result of the shear wall analysis, we know that the building exhibits very little torsion. A 2-dimensional model could, therefore, be used to analyze the frame configuration. Three typical frames were chosen for study: 1) a pair of longitudinal frames (frame M), 2) a pair of transverse frames at the north end of the building, and supported on the legs (frame E), and 3) a single transverse frame at the southern end of the building (frame B). Fig. 5 shows the frame locations in plan. Each frame was modeled as an assemblage of 2-dimensional beam-column elements using rigid offsets to account for the rigid zones at the joints. For the lateral and vertical analysis, loads were calculated on the basis of supported tributary area, using the appropriate live load in each case as explained in section 2.A. Section properties were determined from the gross concrete dimensions, and flexural, axial, and shear deformations were included (elastic theory).

RESULTS

A. Ductile Moment Resisting Frame

Results of the frame analysis are presented in Figs. 6-9. Computer output, and modeling sketches are given in appendix B.-D. From a study of the figures it is evident that the general behavior of the building is good. The story drift for all frames is within the code allowable, and the critical column demand Fig. 6, can be designed for. As expected, some of the coupling girders suffered high shearing loads, (element 132 of frame M indicated a value of 32×10^3 for example), so that these members will have to be sized accordingly at the appropriate time.

B. Shear Walls

Results of the shear wall analysis for selected shear walls is shown in Figs. 10-14. Computer output and modeling sketches for all walls analyzed is given in appendix E. Again, the global behavior is good. Maximum shearing stresses are very near the code allowable, and story drift is well within code limits.

4. CONCLUSIONS

Based on this preliminary investigation of the global behavior of the building described in this report, several conclusions can be reached.

1. The gross behavior of the building, supported by the shear wall scheme, is acceptable, and within required limits for both moderate earthquake, and extreme earthquake, as provided by the Japanese code.

2. The gross behavior of the building, supported by the moment resisting frame, is acceptable, and within required limits for both moderate earthquake and extreme earthquake, as provided by the Japanese code.

3. Experience with designs of this type, leads us to believe that the shear wall system should be used to resist moderate earthquakes, and that the moment resisting frame should be used to resist extreme earthquakes, thus suggesting that the optimum design will be arrived at, by a careful combination of the two systems.

4. Detailed cost benefit analysis, to indicate the lowest cost combination of the two systems, has not yet been performed, and can be performed only when the working drawing phase begins to indicate exact sizes of different structural members.

5. The high shear forces which are concentrated in the short coupling girders are very beneficial to the behavior in an extreme earthquake, since it will allow the energy to be absorbed by local failure in these coupling girders, while the remainder of the building then retains its configuration with little damage.

6. Although the building has an assymmetrical configuration, torsional effects appear to be insignificant.

7. The long legs supporting the northern end of the building above the hospital, do not present a structural difficulty. In fact, they contribute to the performance of the building by shifting the center of stiffness closer to the center of mass.

8. The even distribution of member stresses and the elegant nature of the structural grid, should result in an efficient distribution of material, and will make for an economical building system from the point of view of construction process and construction cost.

5. NEXT PHASE OF ENGINEERING DESIGN

The next phase of engineering will begin with a detailed cost benefit analysis, to determine the optimum balance of moment resisting frame and shear walls, in order to bring construction cost down as low as possible. This work, together with foundation design, detailed final analysis, and reinforcing design, will begin when the working drawings phase is started.

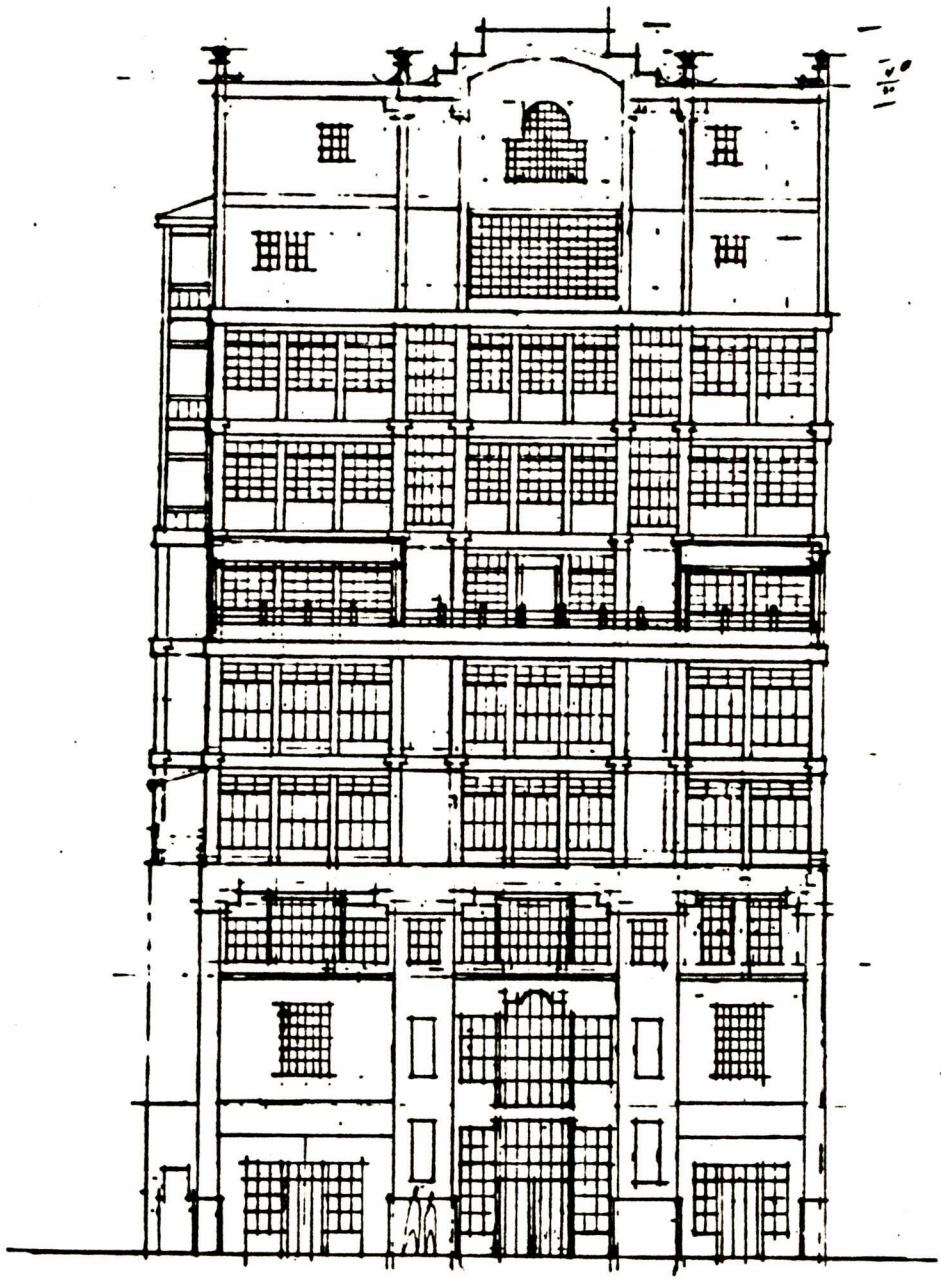
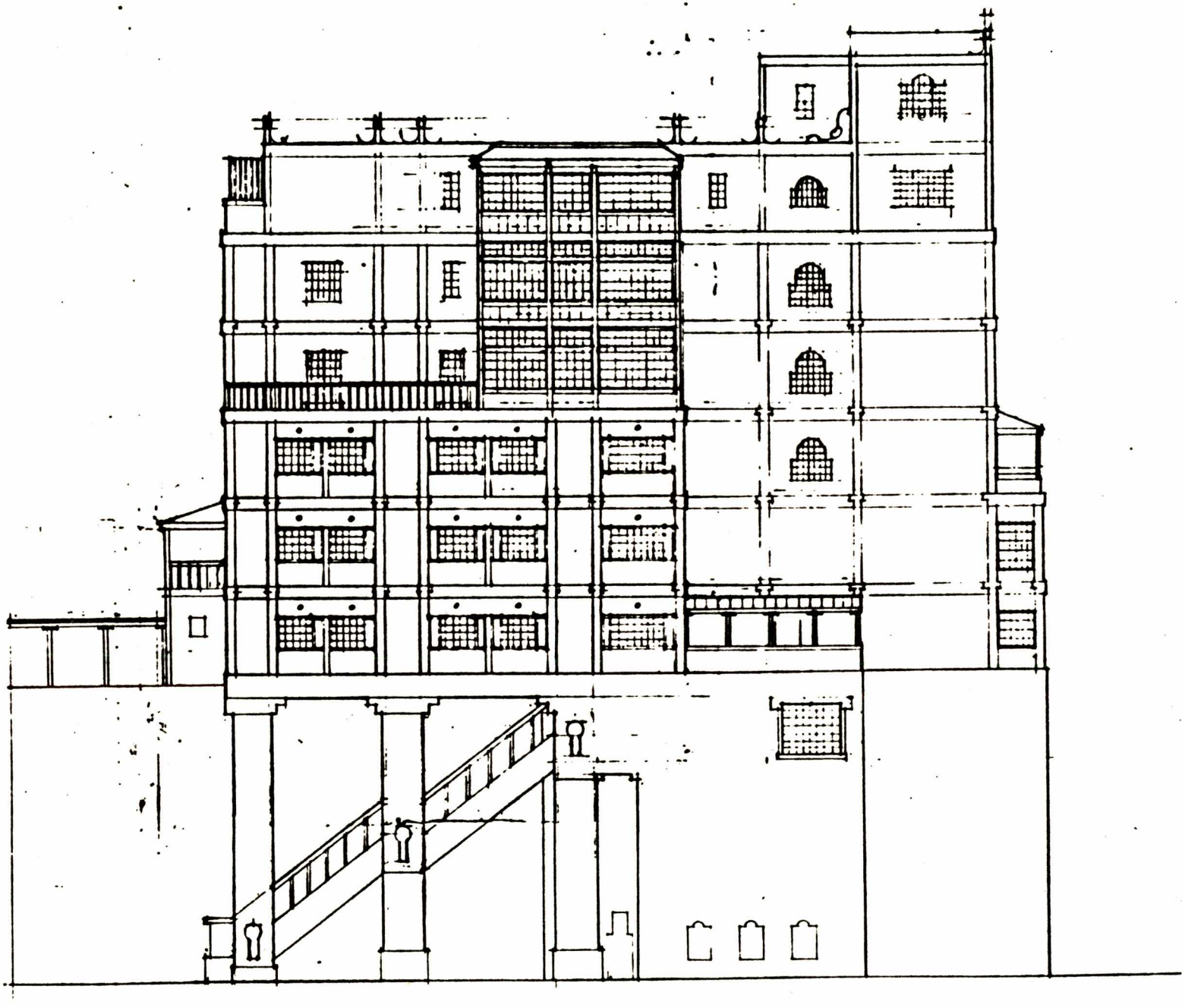


FIG. 1 SOUTH ELEVATION OF PROPOSED BUILDING

FIG. 2



WEST ELEVATION OF PROPOSED BUILDING

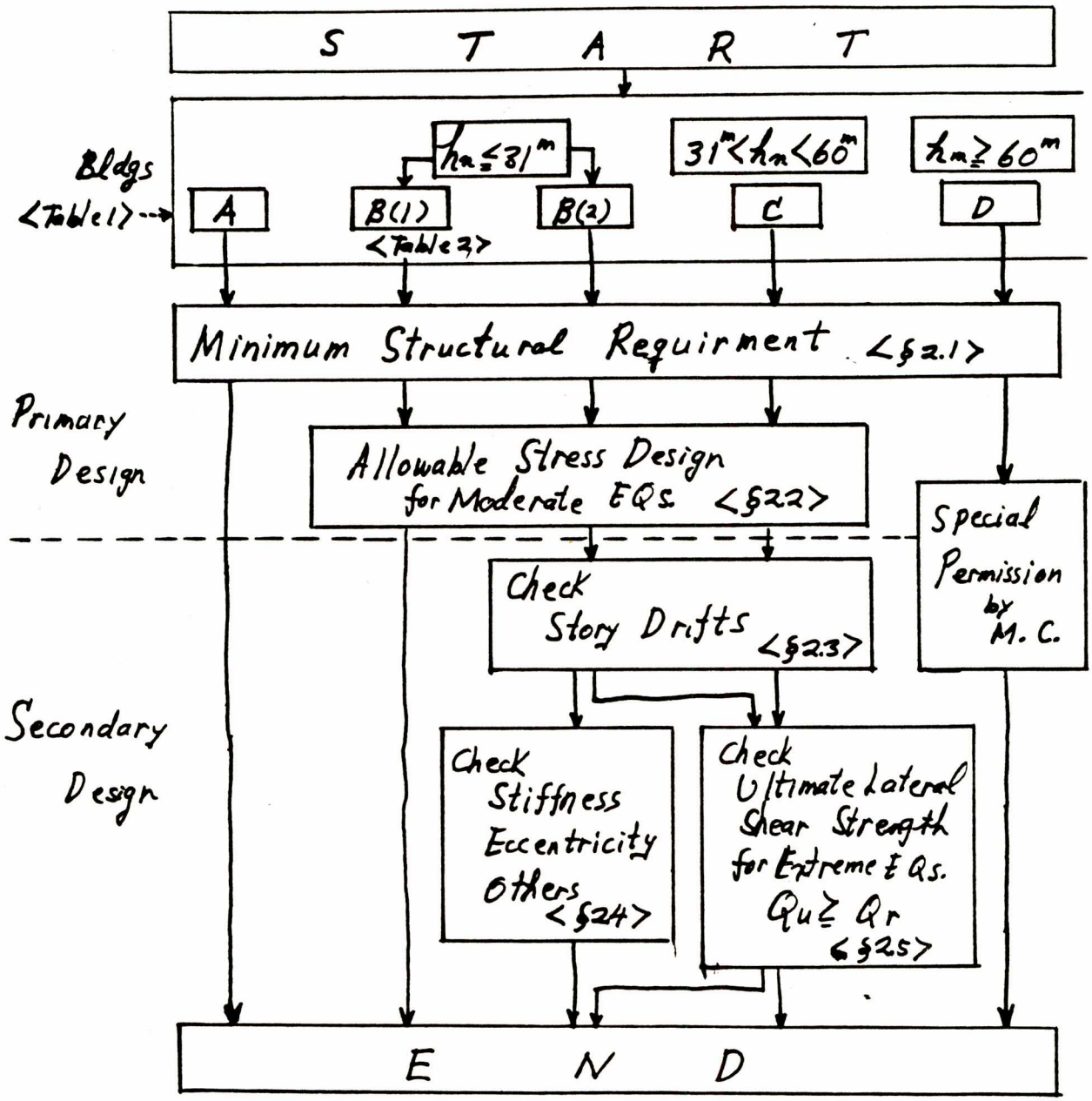


FIG. 3 DESIGN FLOW (NEW BUILDING STANDARD LAW IN JAPAN)

Table 2.6 Live Loads

Classification of rooms	For structural calculation in different cases : kg per sq.m.		
	(a) On calculating floor strength	(b) On calculating strength of girders, columns or footings	(c) On calculating for seismic forces
1) Ordinary room of residential building, sleeping room or patient's room of other than residential buildings	180	130	60
2) Office room	300	180	80
3) Class room	230	210	110
4) Sales room in department store or shop	300	240	130
5) Seatings or assembly room of theatre, cinema, entertainment hall, grand-stand, public hall, assembly hall or building available for other similar use	300	270	160 fixed seats
Do, other than fixed seats	360	330	210
6) Garage or passageway for automobiles	550	400	200
7) Corridor, vestibule or stairways	For room connected to those item (3) to item (5) inclusive, the value of other than fixed seats of item (5) is to be taken		
8) Open space on roof or balcony	Value of item (1) to be used. However, for buildings used as school or department store, take the value in item (4)		

FIG. 4 TABLE OF LIVE LOADS, FROM "DESIGN ESSENTIALS IN EARTHQUAKE RESISTANT STRUCTURES"

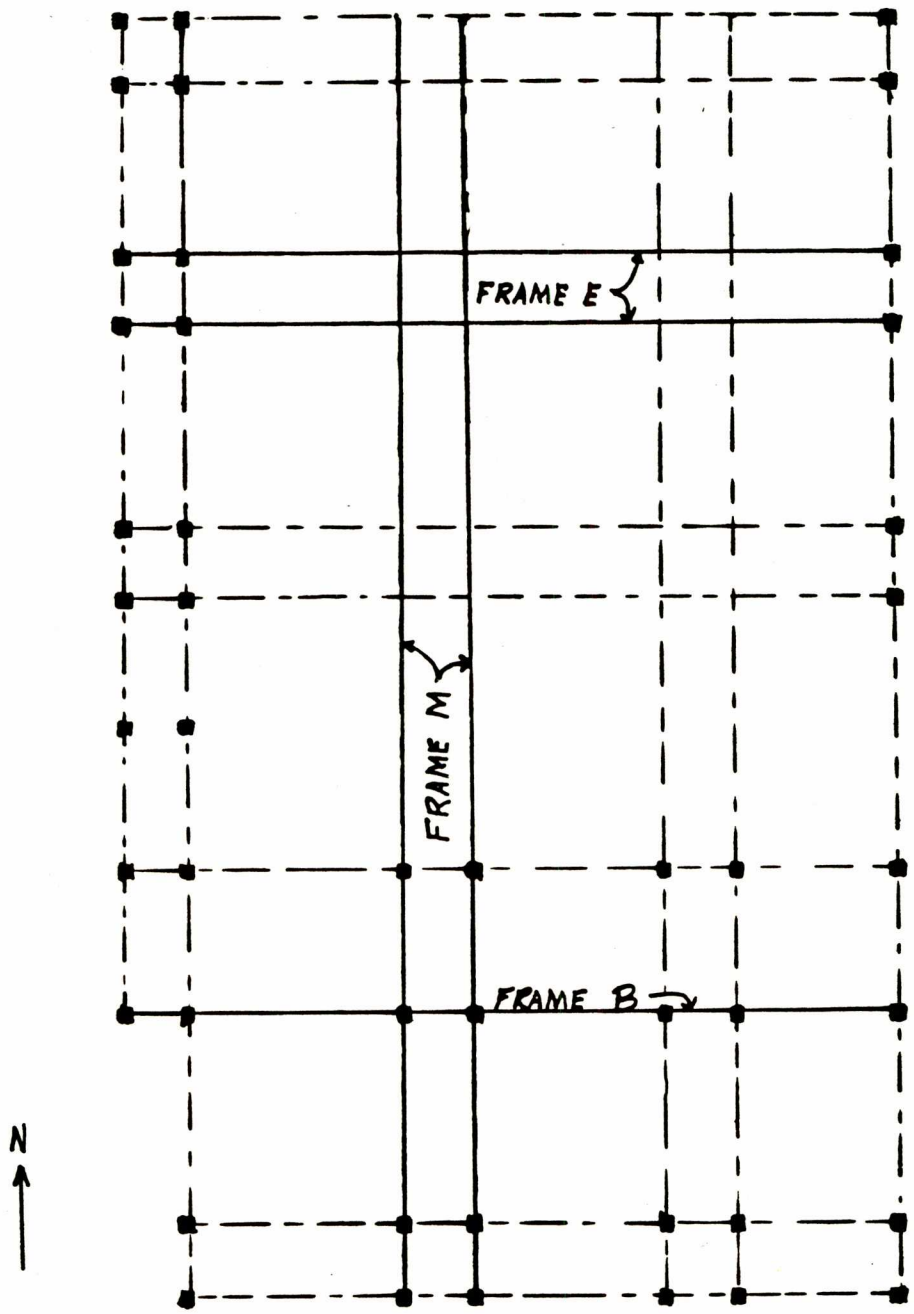


FIG. 5 PLAN OF BUILDING SHOWING SELECTED FRAMES

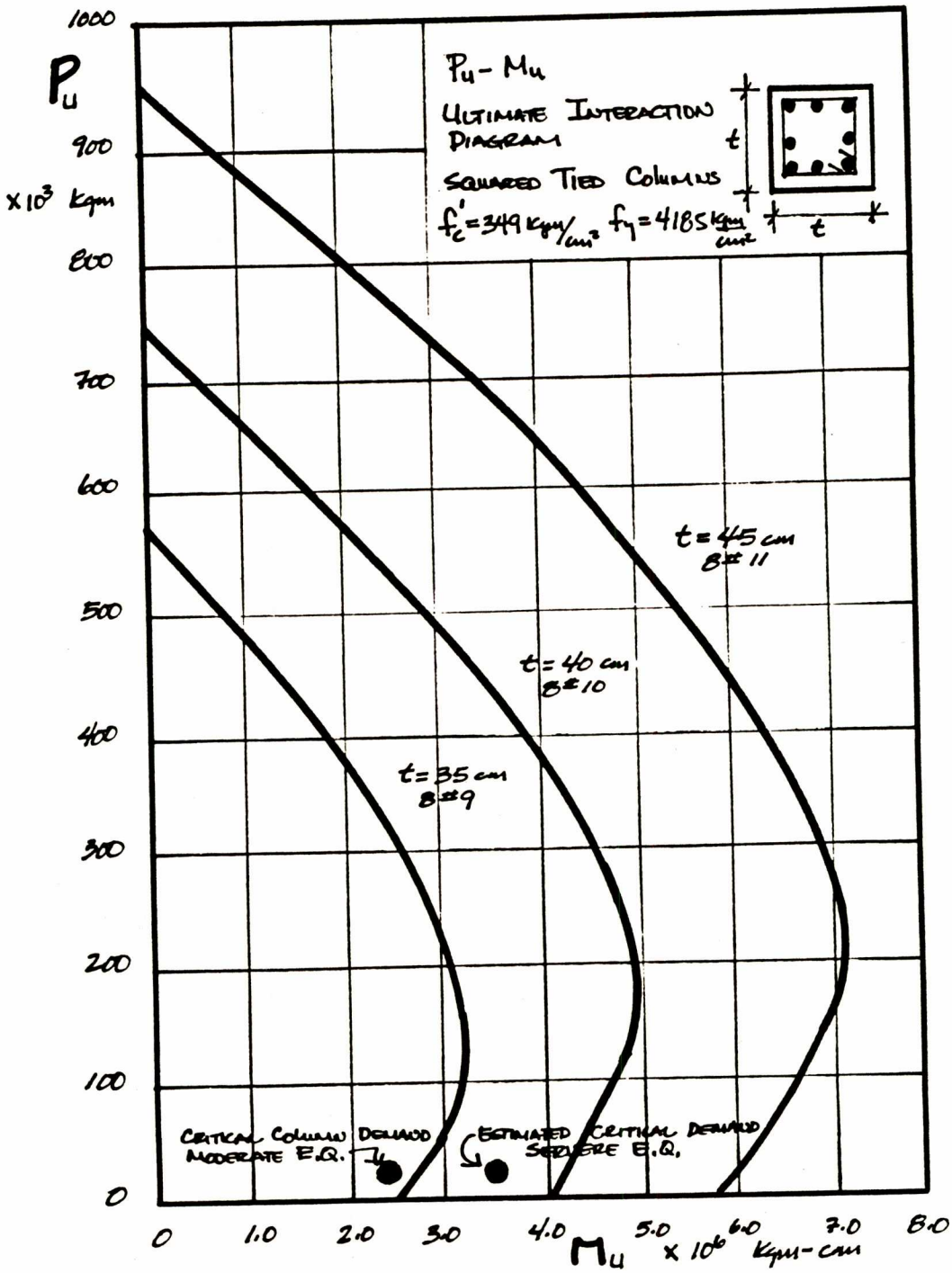


FIG. 6 INTERACTION DIAGRAM FOR DETERMINING COLUMN CAPACITIES

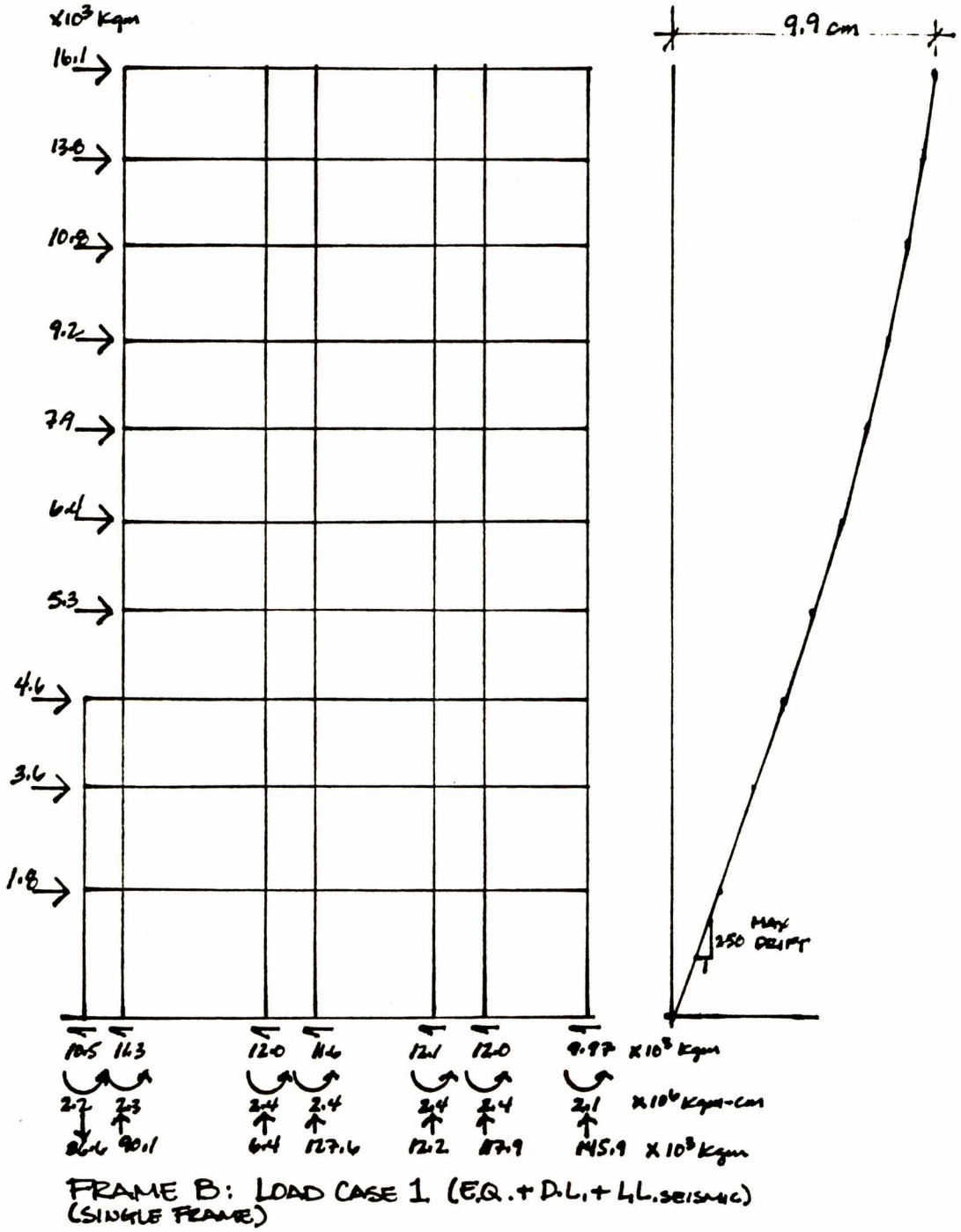


FIG. 7 LOADS, REACTIONS, AND STORY DRIFT FOR SINGLE TRANSVERSE FRAME

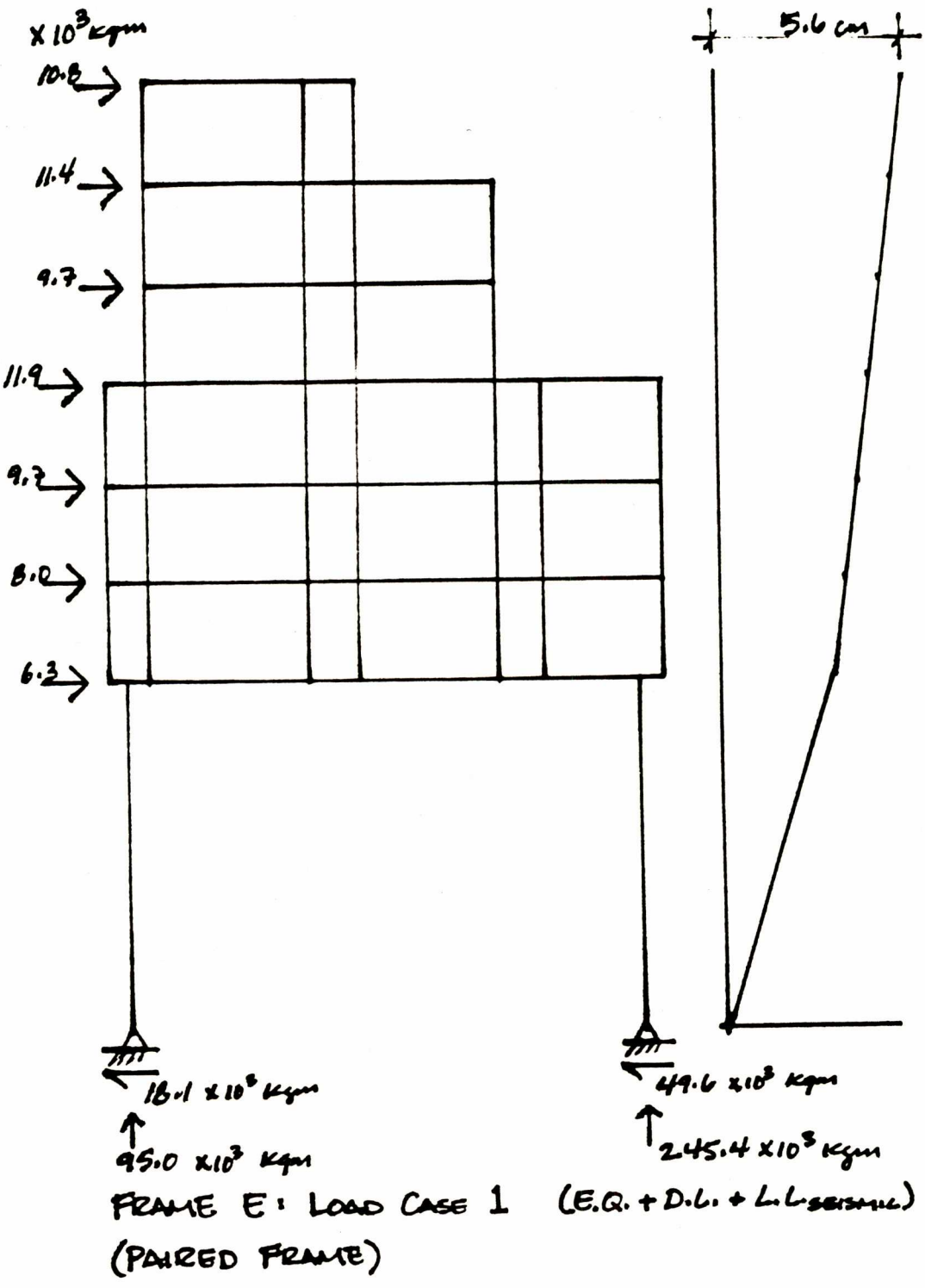
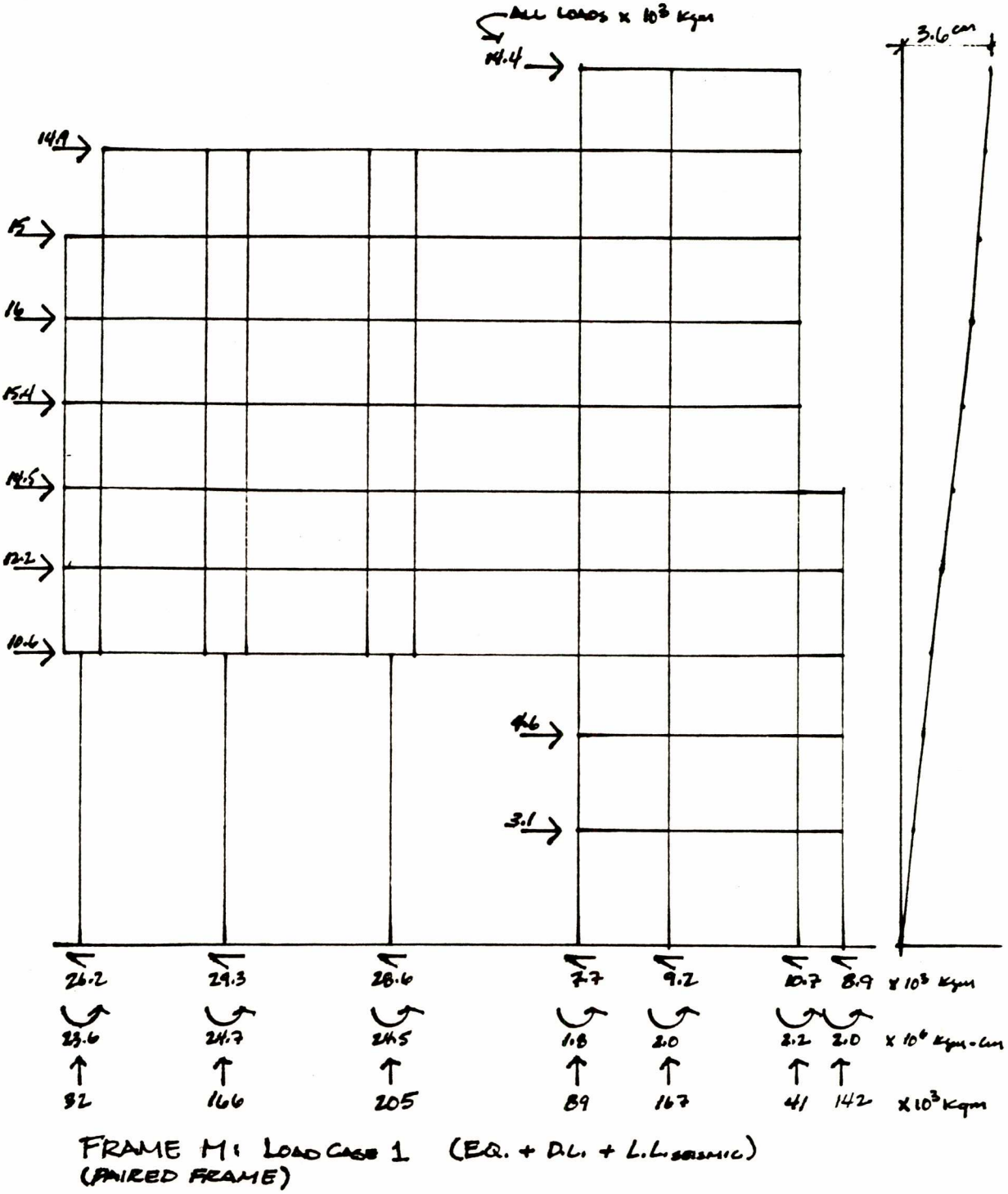
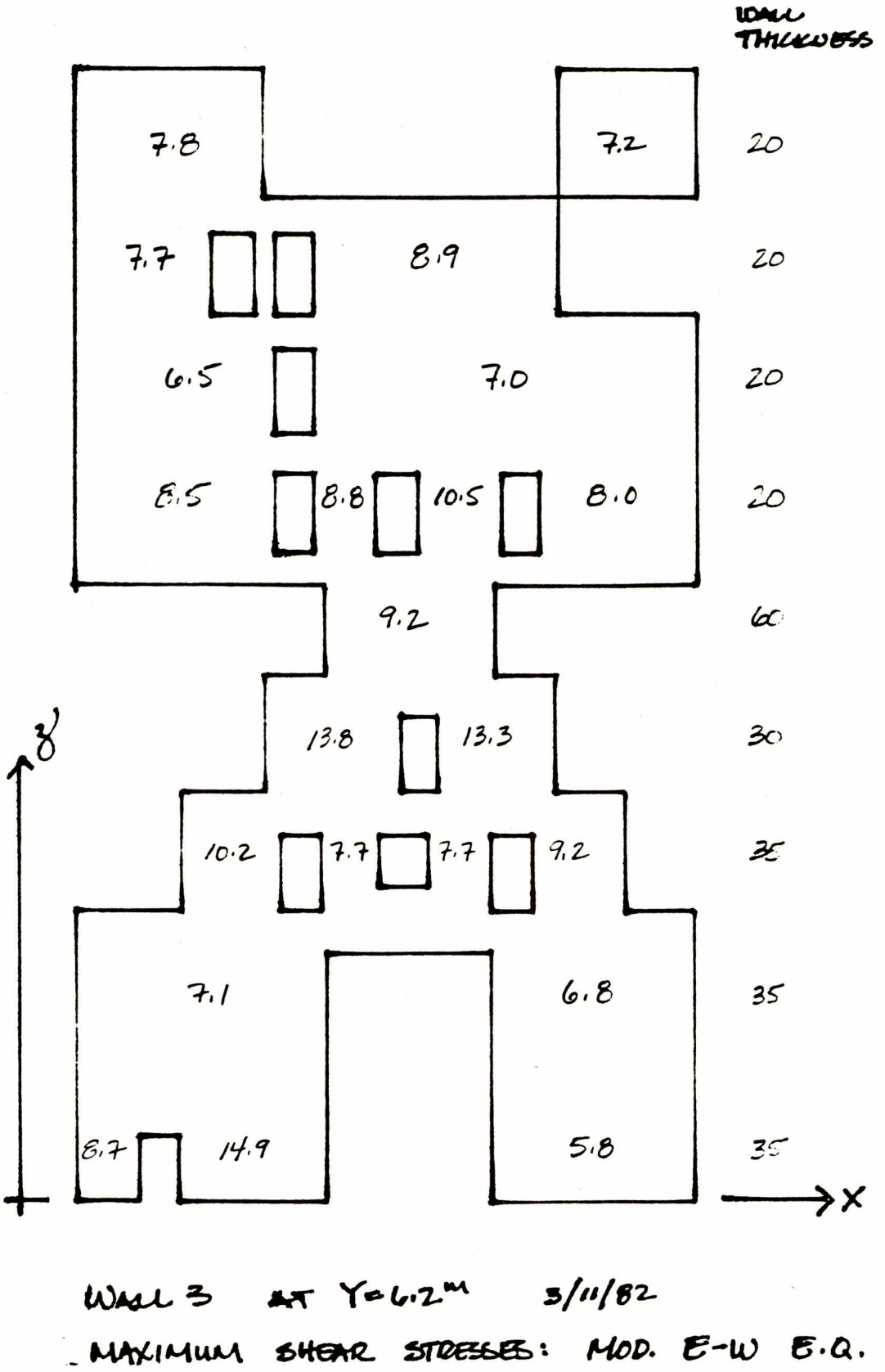


FIG. 8 LOADS, REACTIONS, AND STORY DRIFT FOR PAIR OF TRANSVERSE FRAMES ON LEGS



FRAME M1 LOAD CASE 1 (EQ. + D.L. + L.L. SEISMIC)
(PAIRED FRAME)

FIG. 9 LOADS, REACTIONS, AND STORY DRIFT FOR PAIR OF LONGITUDINAL FRAMES



WALL 3 AT Y=6.2M 3/11/82

MAXIMUM SHEAR STRESSES: MOD. E-W E.Q.

FIG. 10 MAXIMUM SHEAR STRESSES IN TRANSVERSE SHEAR WALL

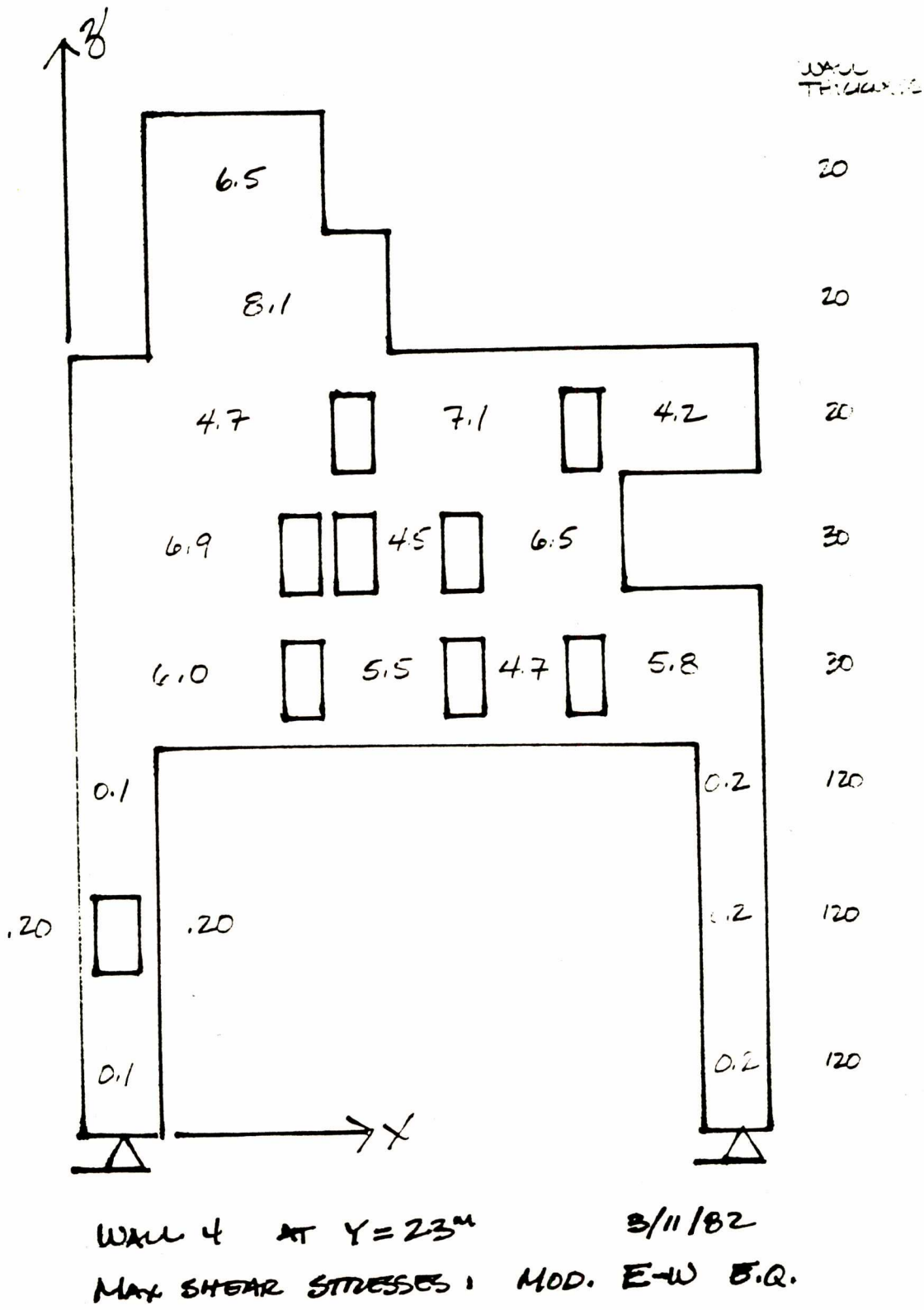


FIG. 11 MAXIMUM SHEAR STRESSES IN TRANSVERSE SHEAR WALL

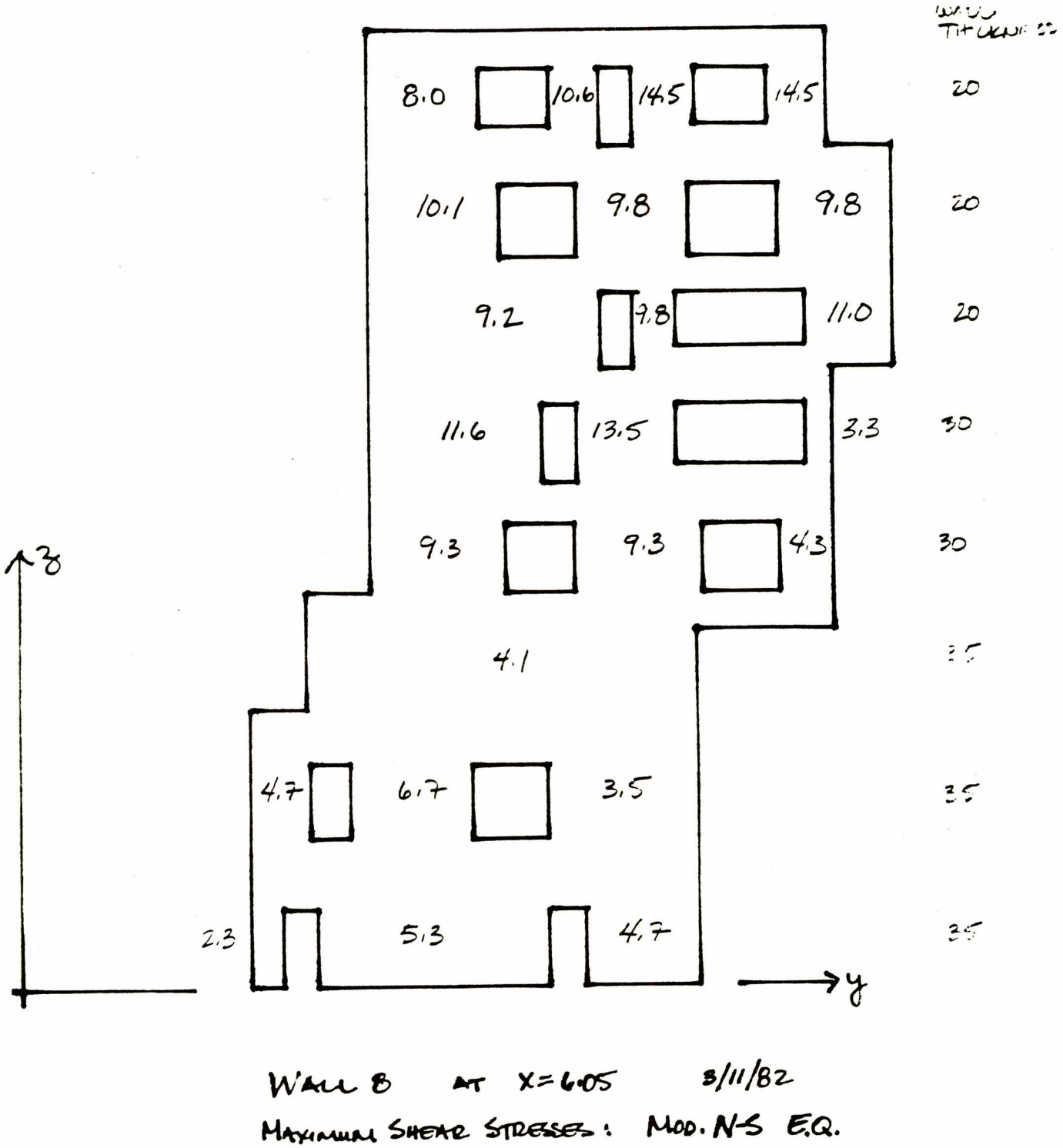


FIG. 12 MAXIMUM SHEAR STRESSES IN LONGITUDINAL SHEAR WALL

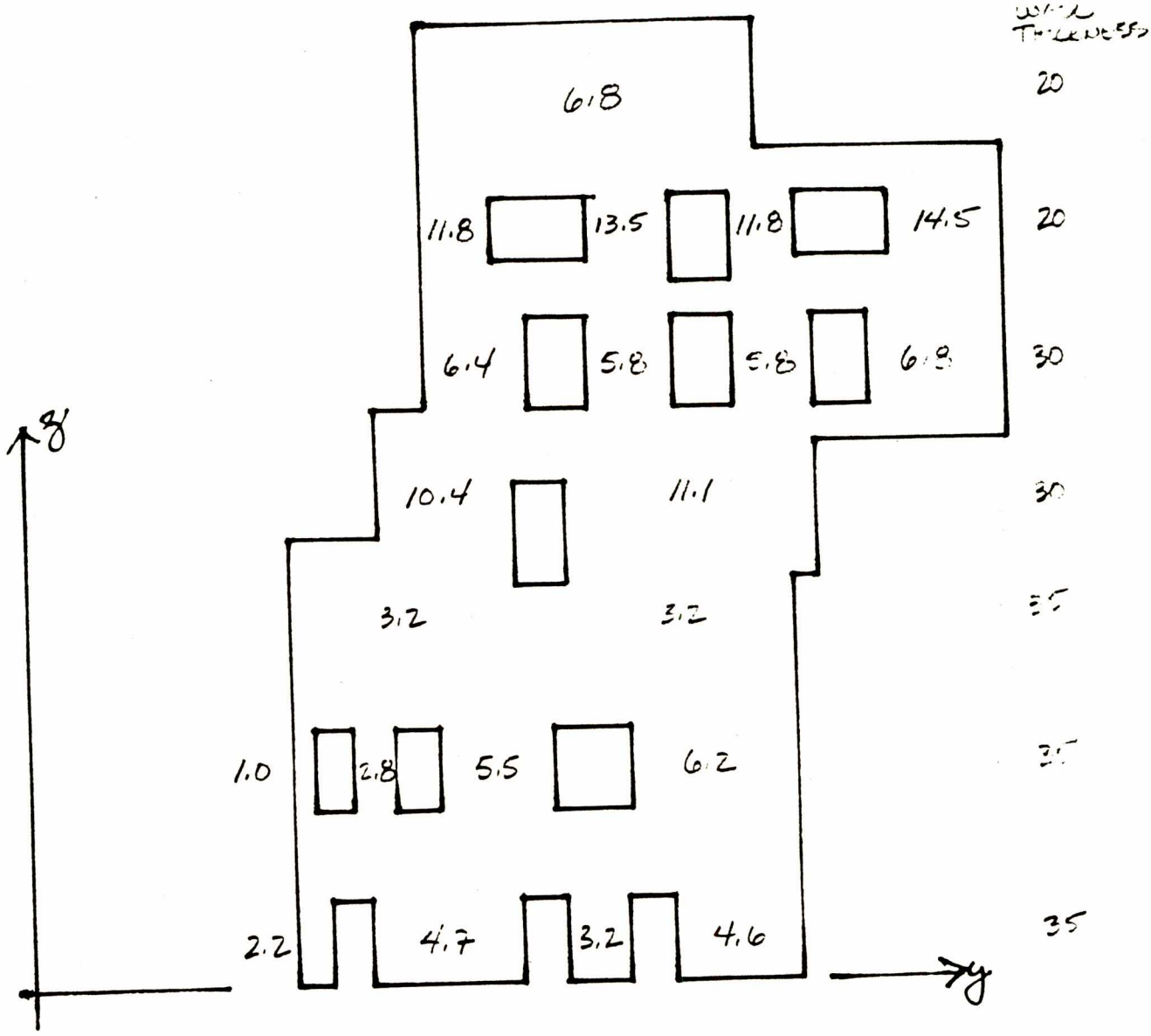


FIG. 13 MAXIMUM SHEAR STRESSES IN LONGITUDINAL SHEAR WALL

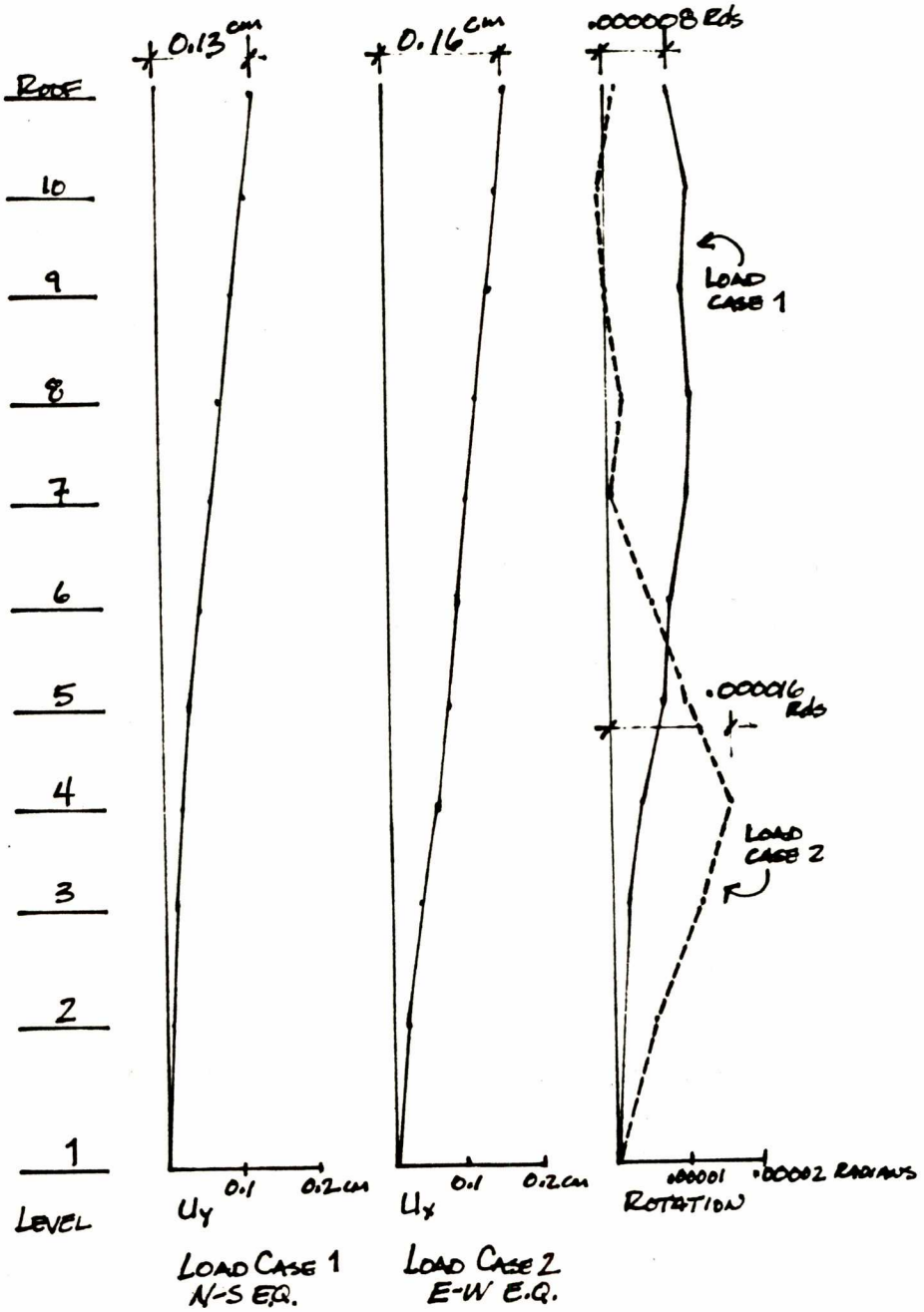


FIG. 14 STORY DRIFT AND ROTATION OF FLOOR DIAPHRAGMS EVALUATED AT THE CGS

A P P E N D I X

A. CGS AND SEISMIC LOADS

Output from the computation of centers of gravity of floors and the computation of seismic loads.

B. FRAME B

Input and output data from the analysis of Frame B (a single frame) and a sketch of the structural idealization used.

C. FRAME E

Input and output data from the analysis of Frame E (a paired frame) and a sketch of the structural idealization used.

D. FRAME M

Input and output data from the analysis of Frame M (a paired frame) and a sketch of the structural idealization used.

E. WALL MODEL

Input and output data from the analysis of the shear wall model (based upon a rigid floor diaphragm modeling assumption) along with sketches of each of twelve wall structural idealizations. The lateral degrees of freedom of each wall were constrained ("slaved") to the two horizontal displacement and one rotational degrees of freedom associated with the rigid body motion of each floor diaphragm.

A. CGS AND SEISMIC LOADS

```
***** PROGRAM CGS OUTPUT *****************************

*** THE NUMBER OF FLOORS TO BE CONSIDERED =   10

*** FLOOR NUMBER    2 ********************************
    NUMBER OF NODES        =  4
    NUMBER OF AREA-MASSES  =  2
    NUMBER OF LINE-MASSES  =  0
    NUMBER OF POINT-MASSES =  0

NODE   X-COORD.   Y-COORD.
   1  .0000E+01  .0000E+01
   2  .1725E+02  .1400E+02
   3  .9000E+01  .0000E+01
   4  .1100E+02  .8600E+01

AREA# I-NODE J-NODE   MASS/AREA        AREA
   1       1      2  .7200E+03   .2415E+03
   2       3      4 -.7200E+03  -.1720E+02

*** RESULTS FOR FLOOR    2
      TOTAL AREA    = .2243E+03
      TOTAL MASS    = .1615E+06
      X-"BAR"       = .8520E+01
      Y-"BAR"       = .7207E+01


*** FLOOR NUMBER    3 ********************************
    NUMBER OF NODES        =  2
    NUMBER OF AREA-MASSES  =  1
    NUMBER OF LINE-MASSES  =  0
    NUMBER OF POINT-MASSES =  0

NODE   X-COORD.   Y-COORD.
   1  .0000E+01  .0000E+01
   2  .1725E+02  .1600E+02

AREA# I-NODE J-NODE   MASS/AREA        AREA
   1       1      2  .6500E+03   .2760E+03

*** RESULTS FOR FLOOR    3
      TOTAL AREA    = .2760E+03
      TOTAL MASS    = .1794E+06
      X-"BAR"       = .8625E+01
      Y-"BAR"       = .8000E+01


*** FLOOR NUMBER    4 ********************************
    NUMBER OF NODES        =  2
    NUMBER OF AREA-MASSES  =  1
    NUMBER OF LINE-MASSES  =  0
    NUMBER OF POINT-MASSES =  0

NODE   X-COORD.   Y-COORD.
   1  .0000E+01  .0000E+01
   2  .1725E+02  .2950E+02

AREA# I-NODE J-NODE   MASS/AREA        AREA
   1       1      2  .6500E+03   .5089E+03

*** RESULTS FOR FLOOR    4
      TOTAL AREA    = .5089E+03
      TOTAL MASS    = .3308E+06
      X-"BAR"       = .8625E+01
      Y-"BAR"       = .1475E+02


*** FLOOR NUMBER    5 ********************************
    NUMBER OF NODES        =  7
    NUMBER OF AREA-MASSES  =  4
    NUMBER OF LINE-MASSES  =  0
```

NUMBER OF POINT-MASSES = 0

NODE	X-COORD.	Y-COORD.
1	.0000E+01	.0000E+01
2	.1725E+02	.2950E+02
3	.2000E+01	.1700E+02
4	.4400E+01	.1000E+02
5	.5600E+01	.2100E+02
6	.4400E+01	.1580E+02
7	.5600E+01	.1700E+02

AREA#	I-NODE	J-NODE	MASS/AREA	AREA
1	1	2	.6500E+03	.5089E+03
2	1	3	-.6500E+03	-.3400E+02
3	4	5	-.6500E+03	-.1320E+02
4	6	7	.6500E+03	.1440E+01

RESULTS FOR FLOOR 5

TOTAL AREA = .4631E+03
TOTAL MASS = .3010E+06
X-"BAR" = .9277E+01
Y-"BAR" = .1519E+02

FLOOR NUMBER 6

NUMBER OF NODES = 7
NUMBER OF AREA-MASSES = 4
NUMBER OF LINE-MASSES = 0
NUMBER OF POINT-MASSES = 0

NODE	X-COORD.	Y-COORD.
1	.0000E+01	.0000E+01
2	.1725E+02	.2950E+02
3	.2000E+01	.1700E+02
4	.7600E+01	.1000E+02
5	.1240E+02	.2100E+02
6	.7600E+01	.1000E+02
7	.1240E+02	.1700E+02

AREA#	I-NODE	J-NODE	MASS/AREA	AREA
1	1	2	.6500E+03	.5089E+03
2	1	3	-.6500E+03	-.3400E+02
3	4	5	-.6500E+03	-.5280E+02
4	6	7	.6500E+03	.3360E+02

RESULTS FOR FLOOR 6

TOTAL AREA = .4557E+03
TOTAL MASS = .2962E+06
X-"BAR" = .9136E+01
Y-"BAR" = .1504E+02

FLOOR NUMBER 7

NUMBER OF NODES = 9
NUMBER OF AREA-MASSES = 5
NUMBER OF LINE-MASSES = 0
NUMBER OF POINT-MASSES = 0

NODE	X-COORD.	Y-COORD.
1	.0000E+01	.2400E+01
2	.1725E+02	.2950E+02
3	.2000E+01	.1300E+02
4	.0000E+01	.1300E+02
5	.1000E+01	.1700E+02
6	.7600E+01	.1000E+02
7	.1240E+02	.2100E+02
8	.7600E+01	.1580E+02
9	.1240E+02	.1700E+02

AREA#	I-NODE	J-NODE	MASS/AREA	AREA
1	1	2	.6650E+03	.4675E+03
2	1	3	-.6650E+03	-.2120E+02
3	4	5	-.6650E+03	-.4000E+01
4	6	7	-.6650E+03	-.5280E+02
5	8	9	.6650E+03	.5760E+01

RESULTS FOR FLOOR 7

TOTAL AREA = .3952E+03
TOTAL MASS = .2628E+06
X-"BAR" = .8953E+01
Y-"BAR" = .1647E+02

FLOOR NUMBER 8

NUMBER OF NODES = 11
NUMBER OF AREA-MASSES = 6
NUMBER OF LINE-MASSES = 0
NUMBER OF POINT-MASSES = 0

NODE	X-COORD.	Y-COORD.
1	.0000E+01	.2400E+01
2	.1725E+02	.1700E+02
3	.2000E+01	.1300E+02
4	.0000E+01	.1300E+02
5	.1000E+01	.1700E+02
6	.7600E+01	.1000E+02
7	.1240E+02	.1580E+02
8	.0000E+01	.1700E+02
9	.1360E+02	.2950E+02
10	.7600E+01	.1700E+02
11	.1240E+02	.2100E+02

AREA#	I-NODE	J-NODE	MASS/AREA	AREA
1	1	2	.6700E+03	.2519E+03
5	8	9	.6700E+03	.1700E+03
2	1	3	-.6700E+03	-.2120E+02
3	4	5	-.6700E+03	-.4000E+01
4	6	7	-.6700E+03	-.2784E+02
6	10	11	-.6700E+03	-.1920E+02

RESULTS FOR FLOOR 8

TOTAL AREA = .3496E+03
TOTAL MASS = .2342E+06
X-"BAR" = .8108E+01
Y-"BAR" = .1558E+02

FLOOR NUMBER 9

NUMBER OF NODES = 11
NUMBER OF AREA-MASSES = 6
NUMBER OF LINE-MASSES = 0
NUMBER OF POINT-MASSES = 0

NODE	X-COORD.	Y-COORD.
1	.2000E+01	.2400E+01
2	.1725E+02	.1000E+02
3	.1240E+02	.1000E+02
4	.1725E+02	.1200E+02
5	.0000E+01	.1000E+02
6	.7600E+01	.2100E+02
7	.2000E+01	.1300E+02
8	.1000E+01	.1700E+02
9	.0000E+01	.2100E+02
10	.1360E+02	.2700E+02
11	.0000E+01	.1300E+02

AREA#	I-NODE	J-NODE	MASS/AREA	AREA
1	1	2	.6750E+03	.1159E+03
2	3	4	.6750E+03	.9700E+01
3	5	6	.6750E+03	.8360E+02
6	9	10	.6750E+03	.8160E+02
4	5	7	-.6750E+03	-.6000E+01
5	11	8	-.6750E+03	-.4000E+01

RESULTS FOR FLOOR 9

TOTAL AREA = .2808E+03
TOTAL MASS = .1895E+06
X-"BAR" = .7564E+01
Y-"BAR" = .1407E+02

FLOOR NUMBER 10

NUMBER OF NODES = 8
NUMBER OF AREA-MASSES = 4
NUMBER OF LINE-MASSES = 0
NUMBER OF POINT-MASSES = 0

NODE	X-COORD.	Y-COORD.
1	.2000E+01	.2400E+01
2	.1725E+02	.1000E+02
3	.1240E+02	.1000E+02
4	.1725E+02	.1200E+02
5	.2000E+01	.1000E+02
6	.7600E+01	.2270E+02
7	.2000E+01	.2270E+02
8	.6400E+01	.2770E+02

AREA#	I-NODE	J-NODE	MASS/AREA	AREA
1	1	2	.7050E+03	.1159E+03
2	3	4	.7050E+03	.9700E+01
3	5	6	.7050E+03	.7112E+02
4	7	8	.7050E+03	.2200E+02

RESULTS FOR FLOOR 10

TOTAL AREA = .2187E+03
TOTAL MASS = .1542E+06
X-"BAR" = .7741E+01
Y-"BAR" = .1162E+02

FLOOR NUMBER 11

NUMBER OF NODES = 2
NUMBER OF AREA-MASSES = 1
NUMBER OF LINE-MASSES = 0
NUMBER OF POINT-MASSES = 0

NODE	X-COORD.	Y-COORD.
1	.2000E+01	.2400E+01
2	.1725E+02	.1000E+02

AREA#	I-NODE	J-NODE	MASS/AREA	AREA
1	1	2	.7550E+03	.1159E+03

RESULTS FOR FLOOR 11

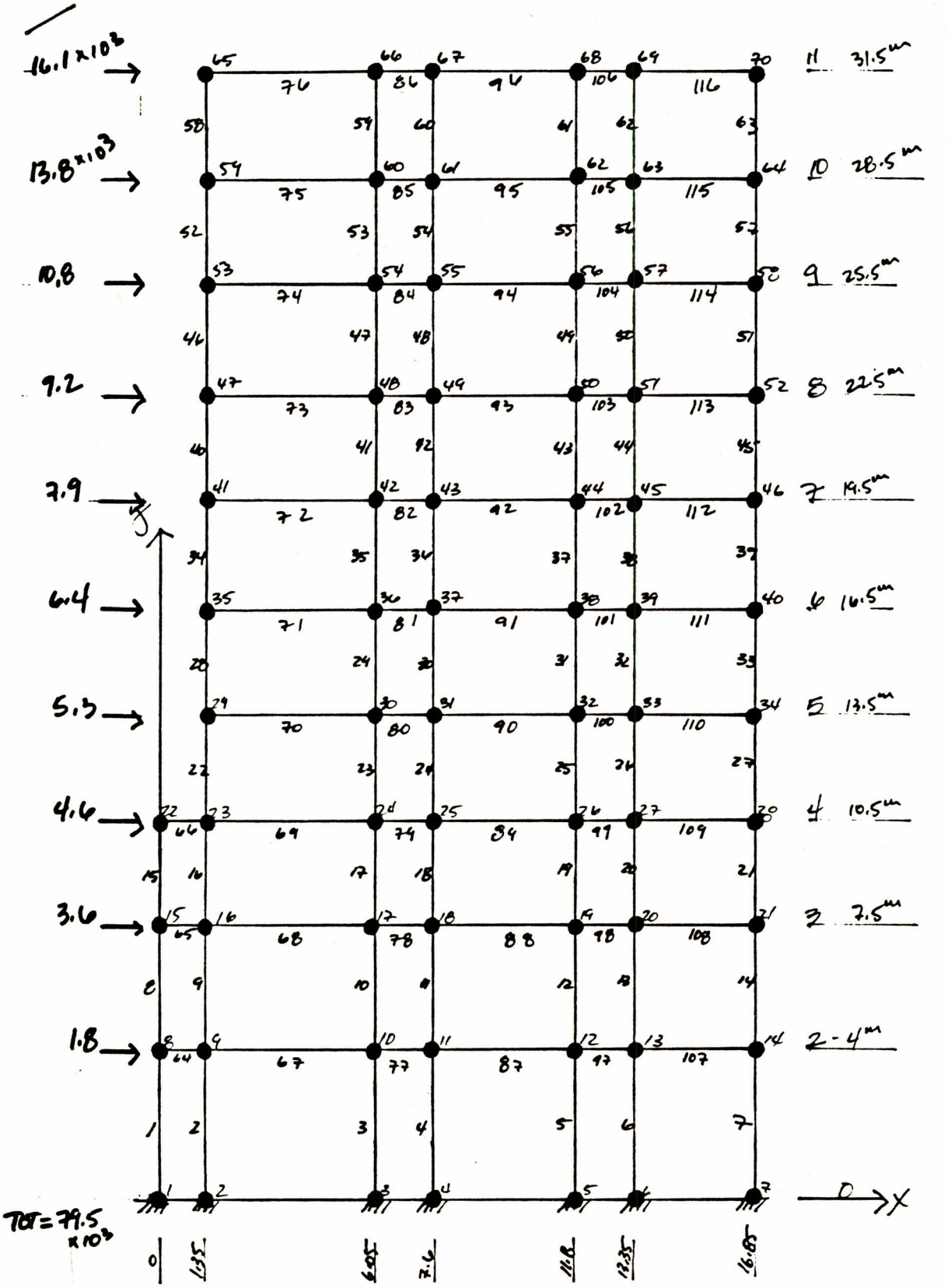
TOTAL AREA = .1159E+03
TOTAL MASS = .8750E+05
X-"BAR" = .9625E+01
Y-"BAR" = .6200E+01

SESIMIC FORCES BY JAPANESE CODE

SEISMIC COEF. (ZRtCo) = .1800E+00
FUNDAMENTAL PERIOD = .6000E+00

FLOOR	FLOOR MASS	Wi/Wn	COEF. Ai	FLOOR SHEAR	FLOOR FORCE
11	.8750E+05	.3983E-01	.3130E+01	.4931E+05	.4931E+05
10	.1542E+06	.1100E+00	.2245E+01	.9767E+05	.4837E+05
9	.1895E+06	.1963E+00	.1883E+01	.1462E+06	.4851E+05
8	.2342E+06	.3029E+00	.1649E+01	.1975E+06	.5133E+05
7	.2628E+06	.4225E+00	.1478E+01	.2470E+06	.4949E+05
6	.2962E+06	.5573E+00	.1335E+01	.2943E+06	.4729E+05
5	.3010E+06	.6943E+00	.1217E+01	.3341E+06	.3982E+05
4	.3308E+06	.8448E+00	.1104E+01	.3689E+06	.3483E+05
3	.1794E+06	.9265E+00	.1048E+01	.3841E+06	.1513E+05
2	.1615E+06	.1000E+01	.1000E+01	.3955E+06	.1142E+05

B. FRAME B



FRAME B: 70 NODES 116 MEMBERS

```
SYSTEM:SAPORO PROJECT: FRAMEB 2/16/82
N=70 L=3:Load cases:1=EQ+(DL+LLseis),2=-EQ+(DL+LLseis),3=(DL+LLgirder)
RESTRAINTS:
1,70  R=0,0,1,1,1,0: Set dof to Ux, Uy, Rz
1,7   R=1,1,1,1,1,1: Fixed base
:
CONSTRAINTS: Set floor dofs = S floor dof at each level
9,14,1     C=8:  2nd level
16,21,1    C=15: 3rd level
23,28,1    C=22: 4th level
30,34,1    C=29: 5th level
36,40,1    C=35: 6th level
42,46,1    C=41: 7th level
48,52,1    C=47: 8th level
54,58,1    C=53: 9th level
60,64,1    C=59:10th level
66,70,1    C=65:11th level
:
LOADS: For 2-D analysis of frame
 65 L=1  F=16100:
 59 L=1  F=13800:
 53 L=1  F=10800:
 47 L=1  F=9200:
 41 L=1  F=7900:
 35 L=1  F=6400:
 29 L=1  F=5300:
 22 L=1  F=4600:
 15 L=1  F=3600:
 8  L=1  F=1800:
 65 L=2  F=-16100:
 59 L=2  F=-13800:
 53 L=2  F=-10800:
 47 L=2  F=-9200:
 41 L=2  F=-7900:
 35 L=2  F=-6400:
 29 L=2  F=-5300:
 22 L=2  F=-4600:
 15 L=2  F=-3600:
 8  L=2  F=-1800:
 :
 JOINTS: Units in meters-scaled-to-cm.
 1    C=0,0,0  S=100:
 2    C=1.35,0,0:
 3    C=6.05,0,0:
 4    C=7.6,0,0:
 5    C=11.8,0,0:
 6    C=13.35,,0,0:
 7    C=16.85,0,0:
 8    C=0,4,0:
 9    C=1.35,4,0:
 10   C=6.05,4,0:
 11   C=7.6,4,0:
 12   C=11.8,4,0:
 13   C=13.35,4,0:
 14   C=16.85,4,0:
 22   C=0,10.5,0 G=8,22,7:
 23   C=1.35,10.5,0 G=9,23,7:
 24   C=6.05,10.5,0 G=10,24,7:
 25   C=7.6,10.5,0  G=11,25,7:
 26   C=11.8,10.5,0 G=12,26,7:
 27   C=13.35,10.5,0 G=13,27,7:
 28   C=16.85,10.5,0 G=14,28,7:
 65   C=1.35,31.5,0 G=23,65,6:
 66   C=6.05,31.5,0 G=24,66,6:
 67   C=7.6,31.5,0  G=25,67,6:
 68   C=11.8,31.5,0 G=26,68,6:
 69   C=13.35,31.5,0 G=27,69,6:
 70   C=16.85,31.5,0 G=28,70,6:
 :
 FRAME: Columns = 35 x 35 cm.; Beams = 25 x 45 cm.
 M=2 L=2:
 1 A=1225  I=125052    S=817  E=296000 G=127000: single col. section
 2 A=1125  I=189844    S=750: single beam section
 1 G=0,-26,0: 580 kgm/m**2 DL + 70 kgm/m**2 LLseismic-design
 2 G=0,-28,0: 580 kgm/m**2 DL + 130kgm/m**2 LLgirder-design
 1,1,8  M=1 E=0,22.5 G=6,1,1,1:     1st floor columns
 8,8,15     E=22.5,22.5 G=13,1,1,1: 2nd & 3rd floor columns
 22,23,29   E=22.5,22.5 G=41,1,1,1: 4th to 10th floor columns
```

```
64,8,9 M=2 E=17.5,17.5 L=1,1,2 G=2,1,7,7: Beams
67,9,10  G=2,1,7,7:
77,10,11 G=2,1,7,7:
87,11,12 G=2,1,7,7:
97,12,13 G=2,1,7,7:
107,13,14 G=2,1,7,7:
70,29,30  G=6,1,6,6:
80,30,31  G=6,1,6,6:
90,31,32  G=6,1,6,6:
100,32,33 G=6,1,6,6:
110,33,34 G=6,1,6,6:
:
```

ECHO OF SAP INPUT DATA

TOTAL NUMBER OF JOINTS = 70
TOTAL NUMBER OF LOAD CONDITIONS = 3

RESTRAINT INFORMATION

```
1,70  R=0,0,1,1,1,0:
1,7   R=1,1,1,1,1,1:
:
```

CONSTRAINT INFORMATION

```
9,14,1    C=8:
16,21,1   C=15:
23,28,1   C=22:
30,34,1   C=29:
36,40,1   C=35:
42,46,1   C=41:
48,52,1   C=47:
54,58,1   C=53:
60,64,1   C=59:
66,70,1   C=65:
:
```

EQUILIBRIUM EQUATION NUMBERS

JOINT #	U(X)	U(Y)	U(Z)	R(X)	R(Y)	R(Z)
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	7	8	0	0	0	9
9	7	3	0	0	0	4
10	7	5	0	0	0	6
11	7	16	0	0	0	17
12	7	20	0	0	0	21
13	7	10	0	0	0	11
14	7	1	0	0	0	2
15	22	23	0	0	0	24
16	22	14	0	0	0	15
17	22	18	0	0	0	19
18	22	31	0	0	0	32
19	22	35	0	0	0	36
20	22	25	0	0	0	26
21	22	12	0	0	0	13

22	37	38	0	0	0	39
23	37	29	0	0	0	30
24	37	33	0	0	0	34
25	37	44	0	0	0	45
26	37	48	0	0	0	49
27	37	40	0	0	0	41
28	37	27	0	0	0	28
29	50	51	0	0	0	52
30	50	46	0	0	0	47
31	50	57	0	0	0	58
32	50	61	0	0	0	62
33	50	53	0	0	0	54
34	50	42	0	0	0	43
35	63	64	0	0	0	65
36	63	59	0	0	0	60
37	63	70	0	0	0	71
38	63	74	0	0	0	75
39	63	66	0	0	0	67
40	63	55	0	0	0	56
41	76	77	0	0	0	78
42	76	72	0	0	0	73
43	76	83	0	0	0	84
44	76	87	0	0	0	88
45	76	79	0	0	0	80
46	76	68	0	0	0	69
47	89	90	0	0	0	91
48	89	85	0	0	0	86
49	89	96	0	0	0	97
50	89	100	0	0	0	101
51	89	92	0	0	0	93
52	89	81	0	0	0	82
53	102	103	0	0	0	104
54	102	98	0	0	0	99
55	102	109	0	0	0	110
56	102	113	0	0	0	114
57	102	105	0	0	0	106
58	102	94	0	0	0	95
59	115	116	0	0	0	117
60	115	111	0	0	0	112
61	115	122	0	0	0	123
62	115	126	0	0	0	127
63	115	118	0	0	0	119
64	115	107	0	0	0	108
65	130	131	0	0	0	132
66	130	124	0	0	0	125
67	130	128	0	0	0	129
68	130	133	0	0	0	134
69	130	135	0	0	0	136
70	130	120	0	0	0	121

J O I N T L O A D S A N D D I S P L A C E M E N T S

NODE	L#	F/U	X-DIR	Y-DIR	Z-DIR	XX	YY	ZZ
65	1	F	.161E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
59	1	F	.138E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
53	1	F	.108E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
47	1	F	.920E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
41	1	F	.790E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
35	1	F	.640E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
29	1	F	.530E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
22	1	F	.460E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
15	1	F	.360E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
8	1	F	.180E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
65	2	F	-.161E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
59	2	F	-.138E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
53	2	F	-.108E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
47	2	F	-.920E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
41	2	F	-.790E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
35	2	F	-.640E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
29	2	F	-.530E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
22	2	F	-.460E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
15	2	F	-.360E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
8	2	F	-.180E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01

I N P U T J O I N T D A T A

```
1   C=0,0,0  S=100:
2   C=1.35,0,0:
3   C=6.05,0,0:
4   C=7.6,0,0:
5   C=11.8,0,0:
6   C=13.35,,0,0:
7   C=16.85,0,0:
8   C=0,4,0:
9   C=1.35,4,0:
10  C=6.05,4,0:
11  C=7.6,4,0:
12  C=11.8,4,0:
13  C=13.35,4,0:
14  C=16.85,4,0:
22  C=0,10.5,0 G=8,22,7:
23  C=1.35,10.5,0 G=9,23,7:
24  C=6.05,10.5,0 G=10,24,7:
25  C=7.6,10.5,0  G=11,25,7:
26  C=11.8,10.5,0 G=12,26,7:
27  C=13.35,10.5,0 G=13,27,7:
28  C=16.85,10.5,0 G=14,28,7:
65  C=1.35,31.5,0 G=23,65,6:
66  C=6.05,31.5,0 G=24,66,6:
67  C=7.6,31.5,0  G=25,67,6:
68  C=11.8,31.5,0 G=26,68,6:
69  C=13.35,31.5,0 G=27,69,6:
70  C=16.85,31.5,0 G=28,70,6:
:
```

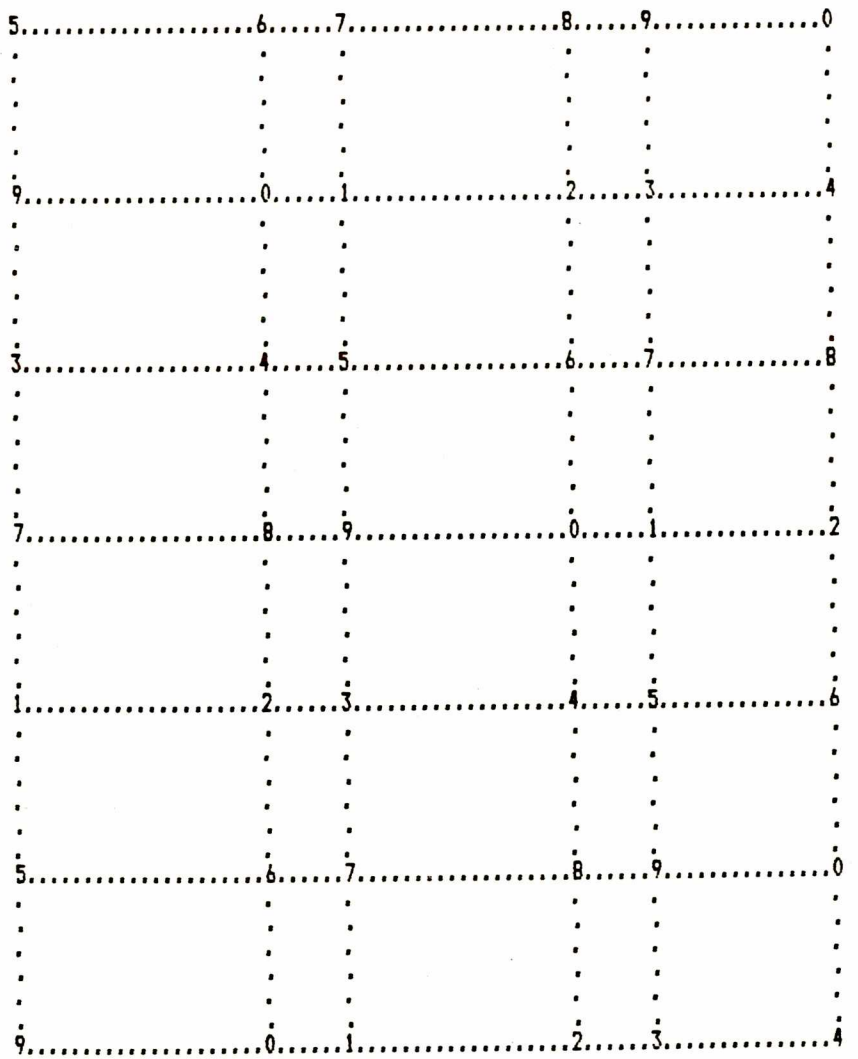
G E N E R A T E D J O I N T C O O R D I N A T E S

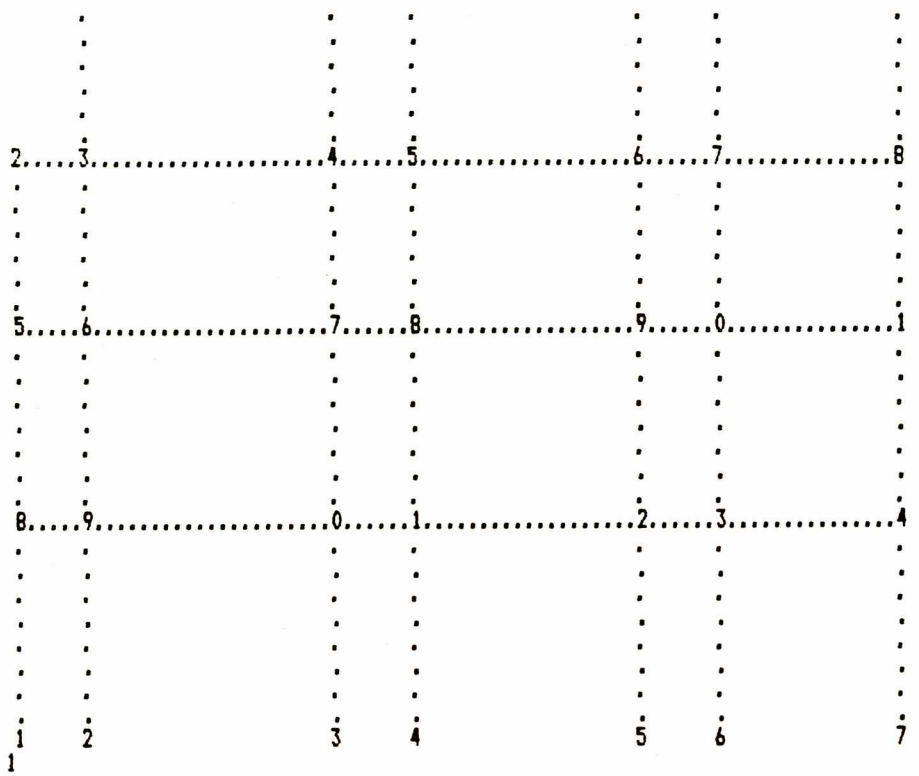
JOINT #	X	Y	Z
1	0.000	0.000	0.000
2	135.000	0.000	0.000
3	605.000	0.000	0.000
4	760.000	0.000	0.000
5	1180.000	0.000	0.000
6	1335.000	0.000	0.000
7	1685.000	0.000	0.000
8	0.000	400.000	0.000
9	135.000	400.000	0.000
10	605.000	400.000	0.000
11	760.000	400.000	0.000
12	1180.000	400.000	0.000
13	1335.000	400.000	0.000
14	1685.000	400.000	0.000
15	0.000	725.000	0.000
16	135.000	725.000	0.000
17	605.000	725.000	0.000
18	760.000	725.000	0.000
19	1180.000	725.000	0.000
20	1335.000	725.000	0.000
21	1685.000	725.000	0.000
22	0.000	1050.000	0.000
23	135.000	1050.000	0.000
24	605.000	1050.000	0.000
25	760.000	1050.000	0.000
26	1180.000	1050.000	0.000
27	1335.000	1050.000	0.000
28	1685.000	1050.000	0.000
29	135.000	1350.000	0.000
30	605.000	1350.000	0.000
31	760.000	1350.000	0.000
32	1180.000	1350.000	0.000
33	1335.000	1350.000	0.000
34	1685.000	1350.000	0.000
35	135.000	1650.000	0.000
36	605.000	1650.000	0.000
37	760.000	1650.000	0.000
38	1180.000	1650.000	0.000
39	1335.000	1650.000	0.000
40	1685.000	1650.000	0.000
41	135.000	1950.000	0.000
42	605.000	1950.000	0.000
43	760.000	1950.000	0.000
44	1180.000	1950.000	0.000
45	1335.000	1950.000	0.000
46	1685.000	1950.000	0.000

47	135.000	2250.000	0.000
48	605.000	2250.000	0.000
49	760.000	2250.000	0.000
50	1180.000	2250.000	0.000
51	1335.000	2250.000	0.000
52	1685.000	2250.000	0.000
53	135.000	2550.000	0.000
54	605.000	2550.000	0.000
55	760.000	2550.000	0.000
56	1180.000	2550.000	0.000
57	1335.000	2550.000	0.000
58	1685.000	2550.000	0.000
59	135.000	2850.000	0.000
60	605.000	2850.000	0.000
61	760.000	2850.000	0.000
62	1180.000	2850.000	0.000
63	1335.000	2850.000	0.000
64	1685.000	2850.000	0.000
65	135.000	3150.000	0.000
66	605.000	3150.000	0.000
67	760.000	3150.000	0.000
68	1180.000	3150.000	0.000
69	1335.000	3150.000	0.000
70	1685.000	3150.000	0.000

OUTPUT OF PLOT PROGRAM

HORIZONTAL AND VIEW DIRECTIONS DEFINED BY:
I = 1
J = 7
K = 1
L = 0





1

ECHO OF FRAME INPUT DATA

NUMBER OF MEMBER PROPERTIES = 2
NUMBER OF DIFF. LOAD PATTERNS = 2

LOAD CONDITION ---------- = 1
GRAVITY MULTIPIER X-DIRECTION --- = 0.000
GRAVITY MULTIPIER Y-DIRECTION --- = 0.000
GRAVITY MULTIPIER Z-DIRECTION --- = 0.000

LOAD CONDITION ---------- = 2
GRAVITY MULTIPIER X-DIRECTION --- = 0.000
GRAVITY MULTIPIER Y-DIRECTION --- = 0.000
GRAVITY MULTIPIER Z-DIRECTION --- = 0.000

LOAD CONDITION ---------- = 3
GRAVITY MULTIPIER X-DIRECTION --- = 0.000
GRAVITY MULTIPIER Y-DIRECTION --- = 0.000
GRAVITY MULTIPIER Z-DIRECTION --- = 0.000

MEMBER PROPERTY NUMBER ------- = 1
AXIAL AREA, A ---------- = 1225.000
MOMENT OF INERTIA, I33 ------ = 125052.000
SHEAR AREA, A2 ---------- = 817.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 2
AXIAL AREA, A ---------- = 1125.000
MOMENT OF INERTIA, I33 ------ = 189844.000
SHEAR AREA, A2 ---------- = 750.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

LOAD PATTERN NUMBER---------- = 1
UNIFORM LOAD Y-DIRECTION ----- = -26.000000

LOAD PATTERN NUMBER---------- = 2
UNIFORM LOAD Y-DIRECTION ----- = -28.000000

EL.	I	J	P1	P2	MAT	EI	EJ	RELEASES	MI	MJ	LOAD PATTERN NUMBER 1 2 3
1	1	8	1	0	1	0.0	22.5	000000	0	0	0 0 0
2	2	9	1	0	1	0.0	22.5	000000	0	0	0 0 0
3	3	10	1	0	1	0.0	22.5	000000	0	0	0 0 0
4	4	11	1	0	1	0.0	22.5	000000	0	0	0 0 0
5	5	12	1	0	1	0.0	22.5	000000	0	0	0 0 0
6	6	13	1	0	1	0.0	22.5	000000	0	0	0 0 0
7	7	14	1	0	1	0.0	22.5	000000	0	0	0 0 0
8	8	15	1	0	1	22.5	22.5	000000	0	0	0 0 0
9	9	16	1	0	1	22.5	22.5	000000	0	0	0 0 0
10	10	17	1	0	1	22.5	22.5	000000	0	0	0 0 0
11	11	18	1	0	1	22.5	22.5	000000	0	0	0 0 0
12	12	19	1	0	1	22.5	22.5	000000	0	0	0 0 0
13	13	20	1	0	1	22.5	22.5	000000	0	0	0 0 0
14	14	21	1	0	1	22.5	22.5	000000	0	0	0 0 0
15	15	22	1	0	1	22.5	22.5	000000	0	0	0 0 0
16	16	23	1	0	1	22.5	22.5	000000	0	0	0 0 0
17	17	24	1	0	1	22.5	22.5	000000	0	0	0 0 0
18	18	25	1	0	1	22.5	22.5	000000	0	0	0 0 0
19	19	26	1	0	1	22.5	22.5	000000	0	0	0 0 0
20	20	27	1	0	1	22.5	22.5	000000	0	0	0 0 0
21	21	28	1	0	1	22.5	22.5	000000	0	0	0 0 0
22	23	29	1	0	1	22.5	22.5	000000	0	0	0 0 0
23	24	30	1	0	1	22.5	22.5	000000	0	0	0 0 0
24	25	31	1	0	1	22.5	22.5	000000	0	0	0 0 0
25	26	32	1	0	1	22.5	22.5	000000	0	0	0 0 0
26	27	33	1	0	1	22.5	22.5	000000	0	0	0 0 0
27	28	34	1	0	1	22.5	22.5	000000	0	0	0 0 0
28	29	35	1	0	1	22.5	22.5	000000	0	0	0 0 0
29	30	36	1	0	1	22.5	22.5	000000	0	0	0 0 0
30	31	37	1	0	1	22.5	22.5	000000	0	0	0 0 0
31	32	38	1	0	1	22.5	22.5	000000	0	0	0 0 0
32	33	39	1	0	1	22.5	22.5	000000	0	0	0 0 0
33	34	40	1	0	1	22.5	22.5	000000	0	0	0 0 0
34	35	41	1	0	1	22.5	22.5	000000	0	0	0 0 0
35	36	42	1	0	1	22.5	22.5	000000	0	0	0 0 0
36	37	43	1	0	1	22.5	22.5	000000	0	0	0 0 0
37	38	44	1	0	1	22.5	22.5	000000	0	0	0 0 0
38	39	45	1	0	1	22.5	22.5	000000	0	0	0 0 0
39	40	46	1	0	1	22.5	22.5	000000	0	0	0 0 0
40	41	47	1	0	1	22.5	22.5	000000	0	0	0 0 0
41	42	48	1	0	1	22.5	22.5	000000	0	0	0 0 0
42	43	49	1	0	1	22.5	22.5	000000	0	0	0 0 0
43	44	50	1	0	1	22.5	22.5	000000	0	0	0 0 0
44	45	51	1	0	1	22.5	22.5	000000	0	0	0 0 0
45	46	52	1	0	1	22.5	22.5	000000	0	0	0 0 0
46	47	53	1	0	1	22.5	22.5	000000	0	0	0 0 0
47	48	54	1	0	1	22.5	22.5	000000	0	0	0 0 0
48	49	55	1	0	1	22.5	22.5	000000	0	0	0 0 0
49	50	56	1	0	1	22.5	22.5	000000	0	0	0 0 0
50	51	57	1	0	1	22.5	22.5	000000	0	0	0 0 0
51	52	58	1	0	1	22.5	22.5	000000	0	0	0 0 0
52	53	59	1	0	1	22.5	22.5	000000	0	0	0 0 0
53	54	60	1	0	1	22.5	22.5	000000	0	0	0 0 0
54	55	61	1	0	1	22.5	22.5	000000	0	0	0 0 0
55	56	62	1	0	1	22.5	22.5	000000	0	0	0 0 0
56	57	63	1	0	1	22.5	22.5	000000	0	0	0 0 0
57	58	64	1	0	1	22.5	22.5	000000	0	0	0 0 0
58	59	65	1	0	1	22.5	22.5	000000	0	0	0 0 0
59	60	66	1	0	1	22.5	22.5	000000	0	0	0 0 0
60	61	67	1	0	1	22.5	22.5	000000	0	0	0 0 0
61	62	68	1	0	1	22.5	22.5	000000	0	0	0 0 0
62	63	69	1	0	1	22.5	22.5	000000	0	0	0 0 0
63	64	70	1	0	1	22.5	22.5	000000	0	0	0 0 0
64	8	9	1	0	2	17.5	17.5	000000	0	0	1 1 2
65	15	16	1	0	2	17.5	17.5	000000	0	0	1 1 2
66	22	23	1	0	2	17.5	17.5	000000	0	0	1 1 2
67	9	10	1	0	2	17.5	17.5	000000	0	0	1 1 2

68	16	17	1	0	2	17.5	17.5	000000	0	0	1	1 2
69	23	24	1	0	2	17.5	17.5	000000	0	0	1	1 2
77	10	11	1	0	2	17.5	17.5	000000	0	0	1	1 2
78	17	18	1	0	2	17.5	17.5	000000	0	0	1	1 2
79	24	25	1	0	2	17.5	17.5	000000	0	0	1	1 2
87	11	12	1	0	2	17.5	17.5	000000	0	0	1	1 2
88	18	19	1	0	2	17.5	17.5	000000	0	0	1	1 2
89	25	26	1	0	2	17.5	17.5	000000	0	0	1	1 2
97	12	13	1	0	2	17.5	17.5	000000	0	0	1	1 2
98	19	20	1	0	2	17.5	17.5	000000	0	0	1	1 2
99	26	27	1	0	2	17.5	17.5	000000	0	0	1	1 2
107	13	14	1	0	2	17.5	17.5	000000	0	0	1	1 2
108	20	21	1	0	2	17.5	17.5	000000	0	0	1	1 2
109	27	28	1	0	2	17.5	17.5	000000	0	0	1	1 2
70	29	30	1	0	2	17.5	17.5	000000	0	0	1	1 2
71	35	36	1	0	2	17.5	17.5	000000	0	0	1	1 2
72	41	42	1	0	2	17.5	17.5	000000	0	0	1	1 2
73	47	48	1	0	2	17.5	17.5	000000	0	0	1	1 2
74	53	54	1	0	2	17.5	17.5	000000	0	0	1	1 2
75	59	60	1	0	2	17.5	17.5	000000	0	0	1	1 2
76	65	66	1	0	2	17.5	17.5	000000	0	0	1	1 2
80	30	31	1	0	2	17.5	17.5	000000	0	0	1	1 2
81	36	37	1	0	2	17.5	17.5	000000	0	0	1	1 2
82	42	43	1	0	2	17.5	17.5	000000	0	0	1	1 2
83	48	49	1	0	2	17.5	17.5	000000	0	0	1	1 2
84	54	55	1	0	2	17.5	17.5	000000	0	0	1	1 2
85	60	61	1	0	2	17.5	17.5	000000	0	0	1	1 2
86	66	67	1	0	2	17.5	17.5	000000	0	0	1	1 2
90	31	32	1	0	2	17.5	17.5	000000	0	0	1	1 2
91	37	38	1	0	2	17.5	17.5	000000	0	0	1	1 2
92	43	44	1	0	2	17.5	17.5	000000	0	0	1	1 2
93	49	50	1	0	2	17.5	17.5	000000	0	0	1	1 2
94	55	56	1	0	2	17.5	17.5	000000	0	0	1	1 2
95	61	62	1	0	2	17.5	17.5	000000	0	0	1	1 2
96	67	68	1	0	2	17.5	17.5	000000	0	0	1	1 2
100	32	33	1	0	2	17.5	17.5	000000	0	0	1	1 2
101	38	39	1	0	2	17.5	17.5	000000	0	0	1	1 2
102	44	45	1	0	2	17.5	17.5	000000	0	0	1	1 2
103	50	51	1	0	2	17.5	17.5	000000	0	0	1	1 2
104	56	57	1	0	2	17.5	17.5	000000	0	0	1	1 2
105	62	63	1	0	2	17.5	17.5	000000	0	0	1	1 2
106	68	69	1	0	2	17.5	17.5	000000	0	0	1	1 2
110	33	34	1	0	2	17.5	17.5	000000	0	0	1	1 2
111	39	40	1	0	2	17.5	17.5	000000	0	0	1	1 2
112	45	46	1	0	2	17.5	17.5	000000	0	0	1	1 2
113	51	52	1	0	2	17.5	17.5	000000	0	0	1	1 2
114	57	58	1	0	2	17.5	17.5	000000	0	0	1	1 2
115	63	64	1	0	2	17.5	17.5	000000	0	0	1	1 2
116	69	70	1	0	2	17.5	17.5	000000	0	0	1	1 2

TOTAL WEIGHT OF MATERIALS= 0.00000
TOTAL MASS OF SYSTEM = 0.00000

JOINT DISPLACEMENTS

DISPLACEMENTS "U" AND ROTATIONS "R"

LOAD CASE 1

JOINT	U(X)	U(Y)	R(Z)
8	.1820E+01	.9011E-01	-.2435E-02
9	.1820E+01	-.9377E-01	-.1936E-02
10	.1820E+01	-.6647E-02	-.1531E-02
11	.1820E+01	-.1328E+00	-.1746E-02
12	.1820E+01	-.1271E-01	-.1480E-02
13	.1820E+01	-.1227E+00	-.1514E-02
14	.1820E+01	-.1519E+00	-.2730E-02
15	.3037E+01	.1244E+00	-.2713E-02
16	.3037E+01	-.1289E+00	-.2174E-02
17	.3037E+01	-.2561E-01	-.1710E-02
18	.3037E+01	-.2067E+00	-.1861E-02
19	.3037E+01	-.3408E-01	-.1594E-02

20	.3037E+01	-.1951E+00	-.1759E-02
21	.3037E+01	-.2500E+00	-.2313E-02
22	.4255E+01	.1367E+00	-.2449E-02
23	.4255E+01	-.1407E+00	-.2325E-02
24	.4255E+01	-.5143E-01	-.1840E-02
25	.4255E+01	-.2633E+00	-.1957E-02
26	.4255E+01	-.6182E-01	-.1697E-02
27	.4255E+01	-.2527E+00	-.1880E-02
28	.4255E+01	-.3344E+00	-.2417E-02
29	.5339E+01	-.1395E+00	-.2916E-02
30	.5339E+01	-.7846E-01	-.1838E-02
31	.5339E+01	-.3022E+00	-.1991E-02
32	.5339E+01	-.9001E-01	-.1727E-02
33	.5339E+01	-.2942E+00	-.1937E-02
34	.5339E+01	-.3985E+00	-.2391E-02
35	.6389E+01	-.1405E+00	-.2647E-02
36	.6389E+01	-.1066E+00	-.1799E-02
37	.6389E+01	-.3302E+00	-.1913E-02
38	.6389E+01	-.1197E+00	-.1660E-02
39	.6389E+01	-.3256E+00	-.1895E-02
40	.6389E+01	-.4502E+00	-.2282E-02
41	.7360E+01	-.1432E+00	-.2457E-02
42	.7360E+01	-.1349E+00	-.1663E-02
43	.7360E+01	-.3488E+00	-.1776E-02
44	.7360E+01	-.1494E+00	-.1527E-02
45	.7360E+01	-.3482E+00	-.1785E-02
46	.7360E+01	-.4901E+00	-.2082E-02
47	.8224E+01	-.1470E+00	-.2170E-02
48	.8224E+01	-.1618E+00	-.1482E-02
49	.8224E+01	-.3595E+00	-.1590E-02
50	.8224E+01	-.1774E+00	-.1350E-02
51	.8224E+01	-.3630E+00	-.1627E-02
52	.8224E+01	-.5192E+00	-.1833E-02
53	.8959E+01	-.1512E+00	-.1841E-02
54	.8959E+01	-.1857E+00	-.1259E-02
55	.8959E+01	-.3639E+00	-.1371E-02
56	.8959E+01	-.2021E+00	-.1133E-02
57	.8959E+01	-.3714E+00	-.1437E-02
58	.8959E+01	-.5387E+00	-.1520E-02
59	.9542E+01	-.1550E+00	-.1401E-02
60	.9542E+01	-.2047E+00	-.1013E-02
61	.9542E+01	-.3637E+00	-.1107E-02
62	.9542E+01	-.2216E+00	-.9035E-03
63	.9542E+01	-.3745E+00	-.1189E-02
64	.9542E+01	-.5501E+00	-.1183E-02
65	.9940E+01	-.1573E+00	-.1030E-02
66	.9940E+01	-.2161E+00	-.7175E-03
67	.9940E+01	-.3618E+00	-.9008E-03
68	.9940E+01	-.2331E+00	-.5333E-03
69	.9940E+01	-.3747E+00	-.1099E-02
70	.9940E+01	-.5549E+00	-.5752E-03

LOAD CASE 2

JOINT	U(X)	U(Y)	R(Z)
8	-.1802E+01	-.1292E+00	.2068E-02
9	-.1802E+01	-.2035E-01	.1311E-02
10	-.1802E+01	-.1544E+00	.1836E-02
11	-.1802E+01	-.2608E-01	.1448E-02
12	-.1802E+01	-.1334E+00	.1732E-02
13	-.1802E+01	-.1575E-01	.1333E-02
14	-.1802E+01	.4856E-01	.3027E-02
15	-.2973E+01	-.1873E+00	.2109E-02
16	-.2973E+01	-.6039E-01	.1337E-02
17	-.2973E+01	-.2424E+00	.1910E-02
18	-.2973E+01	-.5840E-01	.1597E-02
19	-.2973E+01	-.2090E+00	.1766E-02
20	-.2973E+01	-.3573E-01	.1630E-02
21	-.2973E+01	.7723E-01	.2446E-02
22	-.4115E+01	-.2118E+00	.1182E-02
23	-.4115E+01	-.1208E+00	.1292E-02
24	-.4115E+01	-.3123E+00	.2082E-02
25	-.4115E+01	-.9521E-01	.1714E-02
26	-.4115E+01	-.2682E+00	.1909E-02
27	-.4115E+01	-.5947E-01	.1792E-02
28	-.4115E+01	.1001E+00	.2621E-02
29	-.5189E+01	-.1860E+00	.2586E-02
30	-.5189E+01	-.3614E+00	.2068E-02
31	-.5189E+01	-.1303E+00	.1837E-02

32	-.5189E+01	-.3098E+00	.2002E-02
33	-.5189E+01	-.8217E-01	.1928E-02
34	-.5189E+01	.1154E+00	.2711E-02
35	-.6258E+01	-.2398E+00	.2206E-02
36	-.6258E+01	-.3987E+00	.2071E-02
37	-.6258E+01	-.1654E+00	.1778E-02
38	-.6258E+01	-.3399E+00	.1971E-02
39	-.6258E+01	-.1057E+00	.1925E-02
40	-.6258E+01	.1252E+00	.2644E-02
41	-.7251E+01	-.2828E+00	.2045E-02
42	-.7251E+01	-.4249E+00	.1936E-02
43	-.7251E+01	-.1996E+00	.1653E-02
44	-.7251E+01	-.3599E+00	.1853E-02
45	-.7251E+01	-.1290E+00	.1838E-02
46	-.7251E+01	.1302E+00	.2461E-02
47	-.8142E+01	-.3156E+00	.1763E-02
48	-.8142E+01	-.4416E+00	.1760E-02
49	-.8142E+01	-.2311E+00	.1478E-02
50	-.8142E+01	-.3716E+00	.1689E-02
51	-.8142E+01	-.1509E+00	.1699E-02
52	-.8142E+01	.1314E+00	.2225E-02
53	-.8906E+01	-.3387E+00	.1405E-02
54	-.8906E+01	-.4504E+00	.1550E-02
55	-.8906E+01	-.2585E+00	.1260E-02
56	-.8906E+01	-.3767E+00	.1488E-02
57	-.8906E+01	-.1702E+00	.1518E-02
58	-.8906E+01	.1301E+00	.1940E-02
59	-.9520E+01	-.3531E+00	.1115E-02
60	-.9520E+01	-.4532E+00	.1263E-02
61	-.9520E+01	-.2798E+00	.1029E-02
62	-.9520E+01	-.3772E+00	.1238E-02
63	-.9520E+01	-.1854E+00	.1301E-02
64	-.9520E+01	.1276E+00	.1535E-02
65	-.9946E+01	-.3596E+00	.7310E-04
66	-.9946E+01	-.4532E+00	.1166E-02
67	-.9946E+01	-.2921E+00	.6626E-03
68	-.9946E+01	-.3760E+00	.1018E-02
69	-.9946E+01	-.1943E+00	.1120E-02
70	-.9946E+01	.1258E+00	.1254E-02

LOAD CASE 3

JOINT	U(X)	U(Y)	R(Z)
8	.1003E-01	-.2104E-01	-.1978E-03
9	.1003E-01	-.6145E-01	-.3368E-03
10	.1003E-01	-.8670E-01	.1645E-03
11	.1003E-01	-.8557E-01	-.1605E-03
12	.1003E-01	-.7865E-01	.1357E-03
13	.1003E-01	-.7456E-01	-.9746E-04
14	.1003E-01	-.5567E-01	.1602E-03
15	.3435E-01	-.3386E-01	-.3252E-03
16	.3435E-01	-.1019E+00	-.4504E-03
17	.3435E-01	-.1443E+00	.1079E-03
18	.3435E-01	-.1428E+00	-.1424E-03
19	.3435E-01	-.1309E+00	.9276E-04
20	.3435E-01	-.1243E+00	-.6956E-04
21	.3435E-01	-.9305E-01	.7148E-04
22	.7563E-01	-.4044E-01	-.6822E-03
23	.7563E-01	-.1408E+00	-.5562E-03
24	.7563E-01	-.1958E+00	.1300E-03
25	.7563E-01	-.1931E+00	-.1309E-03
26	.7563E-01	-.1777E+00	.1144E-03
27	.7563E-01	-.1681E+00	-.4713E-04
28	.7563E-01	-.1262E+00	.1094E-03
29	.8064E-01	-.1752E+00	-.1777E-03
30	.8064E-01	-.2368E+00	.1241E-03
31	.8064E-01	-.2328E+00	-.8278E-04
32	.8064E-01	-.2153E+00	.1485E-03
33	.8064E-01	-.2027E+00	-.4781E-05
34	.8064E-01	-.1524E+00	.1725E-03
35	.7080E-01	-.2048E+00	-.2376E-03
36	.7080E-01	-.2721E+00	.1463E-03
37	.7080E-01	-.2669E+00	-.7296E-04
38	.7080E-01	-.2475E+00	.1673E-03
39	.7080E-01	-.2323E+00	.1601E-04
40	.7080E-01	-.1750E+00	.1950E-03
41	.5877E-01	-.2294E+00	-.2217E-03
42	.5877E-01	-.3014E+00	.1471E-03
43	.5877E-01	-.2953E+00	-.6603E-04

44	.5877E-01	-.2742E+00	.1757E-03
45	.5877E-01	-.2570E+00	.2824E-04
46	.5877E-01	-.1938E+00	.2038E-03
47	.4453E-01	-.2491E+00	-.2188E-03
48	.4453E-01	-.3249E+00	.1496E-03
49	.4453E-01	-.3180E+00	-.6062E-04
50	.4453E-01	-.2956E+00	.1826E-03
51	.4453E-01	-.2768E+00	.3866E-04
52	.4453E-01	-.2088E+00	.2109E-03
53	.2887E-01	-.2638E+00	-.2343E-03
54	.2887E-01	-.3425E+00	.1568E-03
55	.2887E-01	-.3351E+00	-.5955E-04
56	.2887E-01	-.3116E+00	.1909E-03
57	.2887E-01	-.2916E+00	.4358E-04
58	.2887E-01	-.2200E+00	.2265E-03
59	.1158E-01	-.2736E+00	-.1541E-03
60	.1158E-01	-.3543E+00	.1344E-03
61	.1158E-01	-.3465E+00	-.4227E-04
62	.1158E-01	-.3224E+00	.1800E-03
63	.1158E-01	-.3015E+00	.6018E-04
64	.1158E-01	-.2275E+00	.1898E-03
65	-.3517E-02	-.2783E+00	-.5150E-03
66	-.3517E-02	-.3604E+00	.2415E-03
67	-.3517E-02	-.3521E+00	-.1283E-03
68	-.3517E-02	-.3280E+00	.2607E-03
69	-.3517E-02	-.3064E+00	.1128E-04
70	-.3517E-02	-.2311E+00	.3657E-03

END OF ADDK - DISPLACEMENT PRINT FILE = name.ADD
EXECUTE PROGRAM SEGMENT "FORCES" OR "REACT"

FRAME MEMBER FORCES

LOAD COMBINATION MULTIPLIERS

NEW LOAD COMB.	OLD LOAD CONDITION 1	2	3
1	1.0	0.0	0.0
2	0.0	1.0	0.0
3	0.0	0.0	1.0

MEM #	LOAD #	AXIAL FORCE	DIST I	1-2 PLANE SHEAR	1-2 PLANE MOMENT	1-3 PLANE SHEAR	1-3 PLANE MOMENT	AXIAL TORQUE
1								
	1	86556.85						
			0.0	10468.42	-2214703.75			
			377.5	10468.42	1737126.00			
	2	-124080.74						
			0.0	-10941.38	2267946.00			
			377.5	-10941.38	-1862425.00			
	3	-20205.19						
			0.0	-254.67	28669.34			
			377.5	-254.67	-67468.99			
2								
	1	-90071.86						
			0.0	11313.94	-2325336.00			
			377.5	11313.94	1945676.50			
	2	-19548.74						
			0.0	-12223.85	2435751.75			
			377.5	-12223.85	-2178751.25			
	3	-59026.45						
			0.0	-489.95	59455.04			
			377.5	-489.95	-125502.38			
3								
	1	-6385.09						
			0.0	12000.34	-2415149.00			
			377.5	12000.34	2114980.50			
	2	-148281.19						
			0.0	-11333.83	2319296.50			
			377.5	-11333.83	-1959224.50			

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  3   -83281.84
                0.0      358.89   -51612.46
              377.5      358.89    83868.24
4 ----------------------------------------
  1  -127589.27
                0.0    11635.78 -2367447.50
              377.5    11635.78  2025059.50
  2   -25050.33
                0.0   -11991.34  2405328.75
              377.5   -11991.34 -2121401.75
  3   -82190.51
                0.0     -191.46    20398.04
              377.5     -191.46   -51876.99
5 ----------------------------------------
  1   -12211.64
                0.0    12085.62 -2426306.75
              377.5    12085.62  2136013.75
  2  -128089.83
                0.0   -11509.46  2342277.50
              377.5   -11509.46 -2002545.00
  3   -75546.94
                0.0      310.23   -45246.09
              377.5      310.23    71867.17
6 ----------------------------------------
  1  -117886.70
                0.0    12028.04 -2418772.75
              377.5    12028.04  2121811.75
  2   -15124.40
                0.0   -12185.29  2430705.75
              377.5   -12185.29 -2169239.25
  3   -71621.37
                0.0      -84.67     6426.01
              377.5      -84.67   -25538.64
7 ----------------------------------------
  1  -145943.89
                0.0     9969.42 -2149411.00
              377.5     9969.42  1614044.25
  2    46643.95
                0.0    -9316.37  2055320.75
              377.5    -9316.37 -1461610.50
  3   -53469.16
                0.0      351.64   -50663.55
              377.5      351.64    82079.47
8 ----------------------------------------
  1    44419.24
               22.5     7295.74 -1058112.25
              302.5     7295.74   984694.37
  2   -75259.45
               22.5    -9457.94  1329543.12
              302.5    -9457.94 -1318679.12
  3   -16606.27
               22.5    -1164.26   146154.30
              302.5    -1164.26  -179837.23
9 ----------------------------------------
  1   -45435.36
               22.5    10534.26 -1506204.87
              302.5    10534.26  1443386.87
  2   -51852.41
               22.5   -14225.64  1995107.00
              302.5   -14225.64 -1988073.25
  3   -52385.70
               22.5    -1987.66   263254.34
              302.5    -1987.66  -293291.78
10 ----------------------------------------
  1   -24559.63
               22.5    13244.14 -1877859.00
              302.5    13244.14  1830499.25
  2  -114035.97
               22.5   -10800.44  1521846.25
              302.5   -10800.44 -1502278.00
  3   -74628.38
               22.5     1315.84  -191699.83
              302.5     1315.84   176735.33
11 ----------------------------------------
  1   -95688.95
               22.5    12100.77 -1709345.75
              302.5    12100.77  1678869.00
  2   -41851.58
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             302.5     -477.93   -64521.50
12 ------------------------------------
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              22.5    13762.48 -1941763.50
             302.5    13762.48  1911731.00
   2   -97967.66
              22.5   -11572.70  1624640.87
             302.5   -11572.70 -1615715.37
   3   -67653.17
              22.5     1179.11  -170758.67
             302.5     1179.11   159393.36
13 ------------------------------------
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              22.5    13140.93 -1872110.12
             302.5    13140.93  1807349.62
   2   -25875.48
              22.5   -13241.38  1893022.25
             302.5   -13241.38 -1814564.00
   3   -64417.86
              22.5      -54.09    11260.09
             302.5      -54.09    -3884.42
14 ------------------------------------
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             302.5     7623.18  1122331.75
   2    37121.32
              22.5    -5415.06   681241.37
             302.5    -5415.06  -834976.75
   3   -48409.67
              22.5     1188.99  -178187.02
             302.5     1188.99   154730.08
15 ------------------------------------
   1    15944.11
              22.5     7269.23  -982841.31
             302.5     7269.23  1052542.00
   2   -31770.34
              22.5   -11631.92  1505971.00
             302.5   -11631.92 -1750967.25
   3    -8521.83
              22.5    -2349.15   281686.25
             302.5    -2349.15  -376076.75
16 ------------------------------------
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             302.5     9338.30  1287327.00
   2   -78257.98
              22.5   -13695.76  1911468.87
             302.5   -13695.76 -1923344.62
   3   -50410.72
              22.5    -2346.34   314501.62
             302.5    -2346.34  -342473.00
17 ------------------------------------
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             302.5    12295.51  1704094.87
   2   -90421.09
              22.5    -9447.29  1345321.87
             302.5    -9447.29 -1299917.87
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              22.5     1533.65  -211790.11
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18 ------------------------------------
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             302.5    11459.48  1591640.00
   2   -47667.23
              22.5   -11571.11  1635484.12
             302.5   -11571.11 -1604427.37
   3   -65148.81
              22.5      -60.12     9946.72
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19 ------------------------------------
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              22.5    13104.96 -1848292.37
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21 ---------------------------------------
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  2     29581.65
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  3    -42886.91
               22.5     1355.90  -184817.09
              302.5     1355.90   194835.41
22 ---------------------------------------
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              277.5   -12384.75 -1391297.12
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               22.5    -2640.60   391624.44
              277.5    -2640.60  -281729.56
23 ---------------------------------------
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  2    -69889.37
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              277.5   -11359.03 -1450270.25
  3    -58325.69
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              277.5     1084.05   137368.94
24 ---------------------------------------
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25 ---------------------------------------
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              277.5    14332.22  1823013.62
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26 ---------------------------------------
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  2    -32286.23
               22.5   -12979.79  1674619.50
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27 ---------------------------------------
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             277.5     9110.60  1165441.62
  2     21793.66
              22.5    -6903.05   893319.19
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  3    -37361.70
              22.5     1188.70  -142394.39
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28 ---------------------------------------
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              22.5     5433.11  -653779.50
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              22.5     -834.63   107839.24
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31 ---------------------------------------
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  3    -45789.87
              22.5      942.91  -117494.31
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32 ---------------------------------------
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              22.5     -205.14    29173.64
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33 ---------------------------------------
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  3    -32041.58
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34 ---------------------------------------
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              22.5    -8926.10  1114673.00
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  3    -35019.25
              22.5    -2033.77   261613.61
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35 ------------------------------------
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                22.5    -9845.55  1235726.50
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36 ------------------------------------
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                22.5   -12017.83  1514175.75
               277.5   -12017.83 -1550372.00
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37 ------------------------------------
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               277.5   -10534.83 -1360298.50
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                22.5      990.85  -125104.05
               277.5      990.85   127563.85
38 ------------------------------------
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                22.5    10516.69 -1324990.62
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   2    -33177.86
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   3    -35147.34
                22.5     -135.47    19046.65
               277.5     -135.47   -15497.64
39 ------------------------------------
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                22.5     7939.51  -983329.44
               277.5     7939.51  1041245.19
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                22.5    -5708.87   701314.00
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   3    -26731.55
                22.5     1201.10  -151852.53
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40 ------------------------------------
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               277.5    -8035.09 -1065352.25
   3    -28008.72
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               277.5    -2018.36  -256916.62
41 ------------------------------------
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42 ------------------------------------
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44 ----------------------------------------
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45 ----------------------------------------
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   3    -21376.81
                22.5     1205.52  -152680.50
               277.5     1205.52   154726.22
46 ----------------------------------------
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47 ----------------------------------------
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48 ----------------------------------------
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49 ----------------------------------------
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50 ----------------------------------------
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   2    -27397.53
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51 ----------------------------------------
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  3   -15987.59
              22.5     1255.20  -157775.44
             277.5     1255.20   162300.91
52 ----------------------------------------
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              22.5     2411.94  -243733.58
             277.5     2411.94   371312.06
  2   -20462.31
              22.5    -5939.18   715076.31
             277.5    -5939.18  -799413.94
  3   -13901.00
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53 ----------------------------------------
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  2    -4019.19
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             277.5    -4836.23  -658241.06
  3   -16728.84
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             277.5      663.14    81291.81
54 ----------------------------------------
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	3	0.00		
		17.5	1193.83	-73414.62
		60.1	-.12	-47964.08

```
              137.5    -2166.17  -131755.02
105 ----------------------------------------
    1         0.00
                17.5     -864.72   -19629.95
              137.5    -3984.72  -310596.16
    2         0.00
                17.5     2874.92   -80384.08
              128.1        -.29    78561.87
              137.5     -245.08    77406.84
    3         0.00
                17.5     1082.41   -53853.17
                56.2        -.11   -32931.68
              137.5    -2277.59  -125564.41
106 ----------------------------------------
    1         0.00
                17.5     5533.82  -534526.87
              137.5     2413.82   -57668.31
    2         0.00
                17.5    -2630.98   268242.09
              137.5    -5750.98  -234675.56
    3         0.00
                17.5     1563.06  -143383.58
                73.3        -.16   -99755.82
              137.5    -1796.94  -157416.45
110 ----------------------------------------
    1         0.00
                17.5    -9055.57  1775191.87
              332.5   -17245.56 -2367234.25
    2         0.00
                17.5    16465.26 -2023535.62
              332.5     8275.27  1873096.37
    3         0.00
                17.5     3989.85  -133724.95
              160.0        -.40   150541.17
              332.5    -4830.15  -266071.66
111 ----------------------------------------
    1         0.00
                17.5    -8114.48  1638997.87
              332.5   -16304.47 -2206985.50
    2         0.00
                17.5    15543.09 -1889771.25
              332.5     7353.09  1716375.75
    3         0.00
                17.5     4000.02  -135032.30
              160.4        -.40   150685.45
              332.5    -4819.97  -264174.06
112 ----------------------------------------
    1         0.00
                17.5    -6677.04  1428665.62
              332.5   -14867.04 -1964525.37
    2         0.00
                17.5    14022.37 -1667434.00
              332.5     5832.38  1459688.00
    3         0.00
                17.5     3955.18  -128567.94
              158.8        -.40   150779.53
              332.5    -4864.82  -271835.28
113 ----------------------------------------
    1         0.00
                17.5    -4955.99  1173804.75
              332.5   -13145.99 -1677255.50
    2         0.00
                17.5    12237.57 -1403648.62
              332.5     4047.57  1161260.87
    3         0.00
                17.5     3920.84  -123761.54
              157.5        -.39   150756.66
              332.5    -4899.15  -277845.06
114 ----------------------------------------
    1         0.00
                17.5    -2954.83   880648.56
              332.5   -11144.83 -1340047.00
    2         0.00
                17.5    10235.59 -1106832.37
              332.5     2045.60   827454.12
    3         0.00
                17.5     3920.41  -121791.78
              157.5        -.39   152666.00
```

```
                332.5    -4899.58  -276011.22
115 ----------------------------------------
    1         0.00
                17.5     -729.80   546063.25
                332.5    -8919.79  -973747.00
    2         0.00
                17.5     7788.02  -754855.37
                317.1       -.78   411554.12
                332.5    -401.97   408446.75
    3         0.00
                17.5     3800.59  -112427.74
                153.2       -.38   145509.92
                332.5    -5019.40  -304390.28
116 ----------------------------------------
    1         0.00
                17.5     1823.05   236291.77
                87.6        -.18   300205.37
                332.5    -6366.95  -479372.12
    2         0.00
                17.5     6016.68  -493669.34
                248.9       -.60   202492.97
                332.5    -2173.32   111660.19
    3         0.00
                17.5     4221.39  -138587.91
                168.3       -.42   179629.06
                332.5    -4598.60  -197998.84
```

REACTIONS AND APPLIED FORCES

REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 1

FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Z)
1	-.1047E+05	-.8656E+05	.2215E+07
2	-.1131E+05	.9007E+05	.2325E+07
3	-.1200E+05	.6385E+04	.2415E+07
4	-.1164E+05	.1276E+06	.2367E+07
5	-.1209E+05	.1221E+05	.2426E+07
6	-.1203E+05	.1179E+06	.2419E+07
7	-.9969E+04	.1459E+06	.2149E+07
8	.1800E+04	-.1172E-01	-.7500E+00
9	.1800E+04	-.1196E-01	-.1969E+01
10	.1800E+04	.0000E+01	-.1250E+01
11	.1800E+04	-.1416E-01	-.9375E-01
12	.1800E+04	.3906E-02	-.8750E+00
13	.1800E+04	.1563E-01	.1250E+00
14	.1800E+04	-.2832E-01	-.1250E+01
15	.3600E+04	.3906E-02	.2250E+01
16	.3600E+04	-.3369E-01	-.7500E+00
17	.3600E+04	-.7813E-02	.1375E+01
18	.3600E+04	-.7568E-01	.4375E+00
19	.3600E+04	-.3906E-02	.1250E+01
20	.3600E+04	-.1597E+00	.1562E+01
21	.3600E+04	-.4248E-01	.6250E+00
22	.4600E+04	-.3906E-02	.2500E+01
23	.4600E+04	-.6396E-01	.1187E+01
24	.4600E+04	-.2344E-01	.2500E+00
25	.4600E+04	-.4614E-01	.3125E+01
26	.4600E+04	-.3516E-01	-.1000E+01
27	.4600E+04	.9961E-01	.8750E+00
28	.4600E+04	.2930E-02	-.3750E+00
29	.5300E+04	.6787E-01	.4125E+01
30	.5300E+04	-.1172E-01	-.5500E+01
31	.5300E+04	-.2073E+00	-.1937E+01
32	.5300E+04	-.1172E-01	-.1500E+01
33	.5300E+04	-.1016E+00	-.1062E+01
34	.5300E+04	-.1279E+00	-.1375E+01
35	.6400E+04	-.5054E-01	.4687E+01
36	.6400E+04	.0000E+01	.2500E+00
37	.6400E+04	-.5396E-01	.1437E+01

38	.6400E+04	-.3516E-01	.5000E+01
39	.6400E+04	.4004E-01	.3062E+01
40	.6400E+04	-.2734E-01	.3500E+01
41	.7900E+04	.1001E-01	-.8125E+00
42	.7900E+04	-.4688E-01	.1625E+01
43	.7900E+04	-.8228E-01	.6875E+00
44	.7900E+04	-.3125E-01	.2500E+01
45	.7900E+04	-.1533E+00	-.8437E+01
46	.7900E+04	-.2539E-01	-.6125E+01
47	.9200E+04	-.3516E-01	-.5312E+01
48	.9200E+04	-.2344E-01	-.8250E+01
49	.9200E+04	.5322E-01	-.1906E+01
50	.9200E+04	-.4297E-01	-.1875E+01
51	.9200E+04	.2734E-01	-.3750E+01
52	.9200E+04	-.7715E-01	-.8750E+00
53	.1080E+05	.3931E-01	-.2531E+01
54	.1080E+05	-.3906E-01	-.1500E+01
55	.1080E+05	-.6836E-02	.5625E+00
56	.1080E+05	-.4297E-01	-.8875E+01
57	.1080E+05	-.2500E+00	-.7875E+01
58	.1080E+05	.7910E-01	-.9750E+01
59	.1380E+05	-.1538E-01	-.5812E+01
60	.1380E+05	-.2148E-01	-.9875E+01
61	.1380E+05	-.1404E+00	-.2937E+01
62	.1380E+05	-.5859E-02	.1375E+01
63	.1380E+05	-.8936E-01	.3812E+01
64	.1380E+05	-.1421E+00	-.1769E+02
65	.1610E+05	-.3784E-02	-.3438E+00
66	.1610E+05	-.3516E-01	-.3187E+01
67	.1610E+05	.9326E-01	.4719E+01
68	.1610E+05	.1758E-01	.2500E+00
69	.1610E+05	-.1526E-01	.2453E+01
70	.1610E+05	.1354E+00	.1687E+01

REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 2

FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Z)
1	.1094E+05	.1241E+06	-.2268E+07
2	.1222E+05	.1955E+05	-.2436E+07
3	.1133E+05	.1483E+06	-.2319E+07
4	.1199E+05	.2505E+05	-.2405E+07
5	.1151E+05	.1281E+06	-.2342E+07
6	.1219E+05	.1512E+05	-.2431E+07
7	.9316E+04	-.4664E+05	-.2055E+07
8	-.1800E+04	.0000E+01	-.1875E+01
9	-.1800E+04	-.2686E-02	.1250E+00
10	-.1800E+04	-.1172E-01	.2500E+00
11	-.1800E+04	-.1123E-01	-.8125E+00
12	-.1800E+04	-.4102E-01	-.7500E+00
13	-.1800E+04	.1953E-02	-.2500E+00
14	-.1800E+04	.8789E-02	.2500E+00
15	-.3600E+04	-.7813E-02	-.1000E+01
16	-.3600E+04	-.3320E-01	.6250E+00
17	-.3600E+04	-.3320E-01	-.1875E+01
18	-.3600E+04	-.2148E-01	-.8750E+00
19	-.3600E+04	-.1563E-01	.5000E+00
20	-.3600E+04	-.3320E-01	-.1750E+01
21	-.3600E+04	.2832E-01	-.8750E+00
22	-.4600E+04	.3516E-01	.2375E+01
23	-.4600E+04	-.7715E-01	.1687E+01
24	-.4600E+04	-.6641E-01	-.3750E+00
25	-.4600E+04	-.7324E-02	-.2812E+01
26	-.4600E+04	-.1289E+00	.3750E+00
27	-.4600E+04	.4883E-02	-.2250E+01
28	-.4600E+04	.3906E-02	-.4500E+01
29	-.5300E+04	.2368E-01	-.9375E+00
30	-.5300E+04	.1172E-01	.3875E+01
31	-.5300E+04	-.1094E+00	.3312E+01
32	-.5300E+04	-.1055E+00	.3250E+01
33	-.5300E+04	-.6250E-01	.2000E+01
34	-.5300E+04	-.9766E-03	-.4250E+01
35	-.6400E+04	-.6812E-01	.3750E+01
36	-.6400E+04	.3906E-01	-.2125E+01
37	-.6400E+04	.6250E-01	.4750E+01

38	-.6400E+04	-.9375E-01	.4500E+01
39	-.6400E+04	-.1563E-01	.4000E+01
40	-.6400E+04	.3418E-01	.5500E+01
41	-.7900E+04	-.5396E-01	-.2312E+01
42	-.7900E+04	-.1016E+00	-.1750E+01
43	-.7900E+04	-.4346E-01	-.5750E+01
44	-.7900E+04	.5859E-01	-.4625E+01
45	-.7900E+04	-.3906E-01	.2250E+01
46	-.7900E+04	.9766E-03	.3000E+01
47	-.9200E+04	-.1709E-01	-.4562E+01
48	-.9200E+04	-.1484E+00	.3625E+01
49	-.9200E+04	-.1086E+00	-.1044E+02
50	-.9200E+04	-.1758E+00	-.9875E+01
51	-.9200E+04	-.7324E-01	-.5875E+01
52	-.9200E+04	.3906E-02	-.2500E+00
53	-.1080E+05	.1040E+00	-.9812E+01
54	-.1080E+05	.6836E-01	-.3750E+00
55	-.1080E+05	.1392E-01	-.1375E+02
56	-.1080E+05	.3906E-01	-.3750E+01
57	-.1080E+05	.2100E-01	-.7625E+01
58	-.1080E+05	-.4883E-03	-.4250E+01
59	-.1380E+05	-.1602E+00	.1531E+01
60	-.1380E+05	-.2324E+00	-.3625E+01
61	-.1380E+05	.2783E-01	-.2437E+01
62	-.1380E+05	-.8398E-01	-.5250E+01
63	-.1380E+05	-.1592E+00	-.2125E+01
64	-.1380E+05	.2148E-01	-.4875E+01
65	-.1610E+05	.1133E+00	.4906E+01
66	-.1610E+05	.1143E+00	.5375E+01
67	-.1610E+05	-.1270E-01	.1437E+01
68	-.1610E+05	-.3320E-01	.4750E+01
69	-.1610E+05	.3320E-01	.3187E+01
70	-.1610E+05	-.1074E-01	-.2812E+01

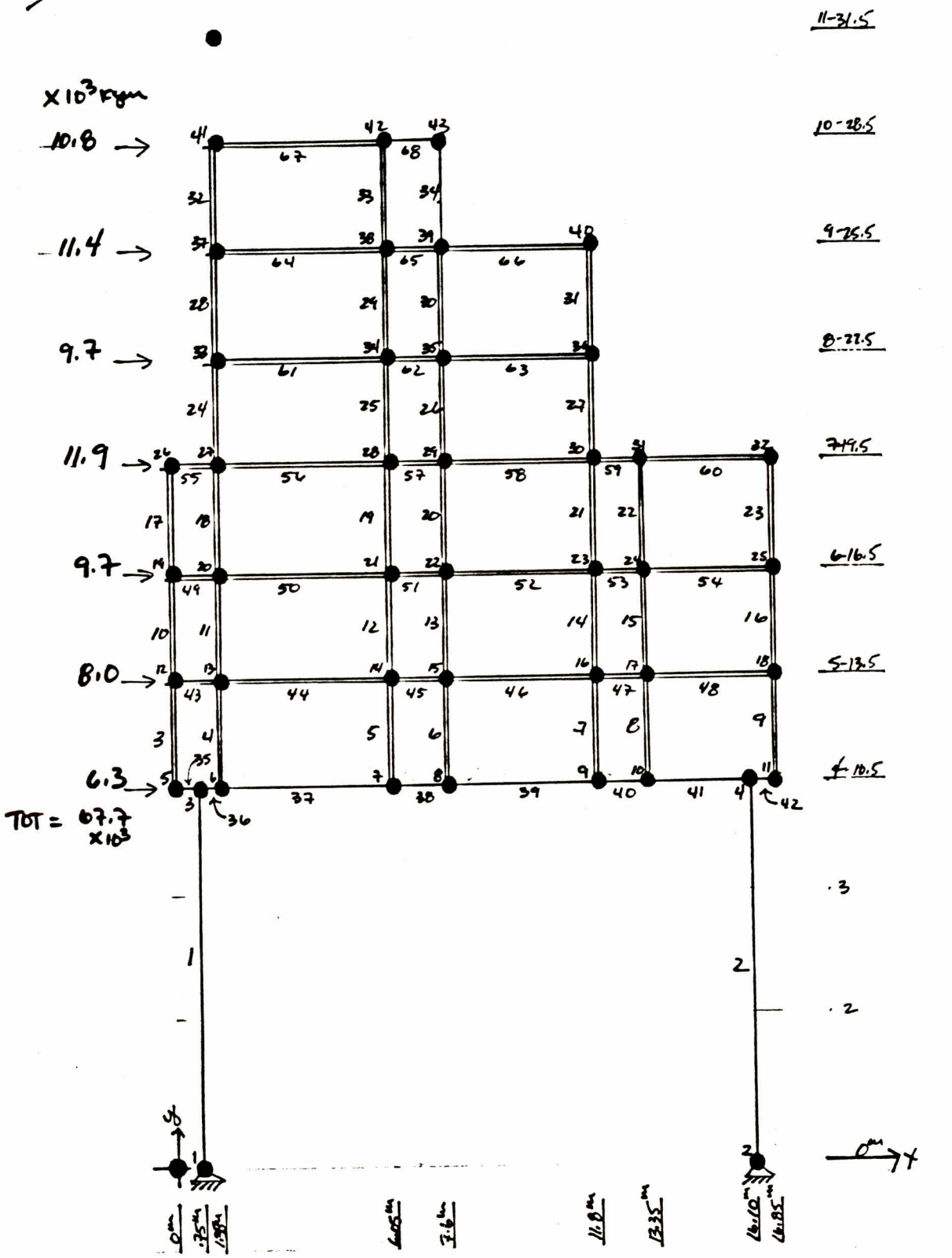
REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 3

FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Z)
1	.2547E+03	.2021E+05	-.2867E+05
2	.4900E+03	.5903E+05	-.5946E+05
3	-.3589E+03	.8328E+05	.5161E+05
4	.1915E+03	.8219E+05	-.2040E+05
5	-.3102E+03	.7555E+05	.4525E+05
6	.8467E+02	.7162E+05	-.6426E+04
7	-.3516E+03	.5347E+05	.5066E+05
8	.0000E+01	-.9766E-02	-.3438E+00
9	.0000E+01	-.8911E-02	-.2852E+00
10	.0000E+01	-.2075E-01	.1875E+00
11	.0000E+01	.0000E+01	.8203E-01
12	.0000E+01	-.2930E-02	.3438E+00
13	.0000E+01	-.8130E-01	.2578E+00
14	.0000E+01	-.1440E-01	.7813E-02
15	.7813E-02	.1172E-01	.3750E+00
16	.7813E-02	-.2431E-01	-.2539E+00
17	.7813E-02	-.6348E-02	.1875E+00
18	.7813E-02	-.8911E-01	-.3926E+00
19	.7813E-02	-.2368E-01	.5625E+00
20	.7813E-02	-.1839E-01	-.2930E+00
21	.7813E-02	-.1970E-01	.1953E-01
22	-.1563E-01	-.1270E-01	-.3750E+00
23	-.1563E-01	-.5737E-02	-.4883E+00
24	-.1563E-01	.2441E-03	.3594E+00
25	-.1563E-01	-.4282E-01	-.1914E+00
26	-.1563E-01	-.2966E-01	.5664E+00
27	-.1563E-01	-.5127E-01	.4023E+00
28	-.1563E-01	.0000E+01	.8594E-01
29	.0000E+01	.5870E-01	.6250E-01
30	.0000E+01	-.3931E-01	.3906E-01
31	.0000E+01	-.8063E-01	.2539E+00
32	.0000E+01	-.1551E-01	.5327E+00
33	.0000E+01	-.4022E-01	.1094E+00
34	.0000E+01	.2167E-01	-.1406E+00
35	.0000E+01	-.1432E+00	-.2109E+00
36	.0000E+01	-.1880E-01	.3203E+00
37	.0000E+01	.7629E-01	-.7305E+00

38	.0000E+01	-.9354E-01	.2441E+00
39	.0000E+01	-.1825E-01	.6250E-01
40	.0000E+01	-.5890E-01	.4688E-01
41	.0000E+01	.2979E-01	-.2305E+00
42	.0000E+01	-.1221E-03	-.2656E+00
43	.0000E+01	-.6113E-01	-.6641E+00
44	.0000E+01	-.1733E-01	-.3867E+00
45	.0000E+01	-.2032E-01	-.4922E+00
46	.0000E+01	.6573E-01	-.6250E-01
47	.7813E-02	.2274E-01	-.3906E-01
48	.7813E-02	-.2515E-01	-.3672E+00
49	.7813E-02	-.1897E+00	-.5977E+00
50	.7813E-02	-.1183E+00	-.5664E+00
51	.7813E-02	-.1317E+00	.2109E+00
52	.7813E-02	-.6561E-01	.6250E-01
53	.0000E+01	.1590E-01	.5078E-01
54	.0000E+01	-.1005E+00	-.3047E+00
55	.0000E+01	.1744E+00	-.8750E+00
56	.0000E+01	-.2197E-02	-.8555E+00
57	.0000E+01	.1624E-01	-.4688E+00
58	.0000E+01	-.9399E-02	-.7813E-01
59	.1953E-02	-.9644E-01	.7031E-01
60	.1953E-02	-.7581E-01	-.1266E+01
61	.1953E-02	-.9714E-01	-.6445E+00
62	.1953E-02	-.5164E-01	.7813E+00
63	.1953E-02	-.5762E-01	-.1641E+00
64	.1953E-02	-.6543E-01	.9375E-01
65	-.9766E-03	.7135E-01	.3125E-01
66	-.9766E-03	-.9521E-02	-.5625E+00
67	-.9766E-03	.1215E-01	-.3750E+00
68	-.9766E-03	-.5386E-02	-.8906E+00
69	-.9766E-03	-.4822E-01	-.1406E+00
70	-.9766E-03	.7410E-01	.0000E+01

C. FRAME E


11-31.5
10-28.5
9-25.5
8-22.5
7-19.5
6-16.5
5-13.5
4-10.5
X10³ Kgm
10.8
11.4
9.7
11.9
9.7
8.0
6.3
TOT = 67.7 X10³
3
2
1
Y
0mm
FRAME E: 43 NODES 68 MEMBERS

```
SYSTEM:SAPORO PROJECT: FRAMEE 2/16/82
N=43 L=3:Load cases:1=EQ+(DL+LLseis),2=-EQ+(DL+LLseis),3=(DL+LLgirder)
RESTRAINTS:
1,43  R=0,0,1,1,1,0: Set dof to Ux, Uy, Rz
1,2   R=1,1,1,1,1,0: Pinned base
:
CONSTRAINTS: Set floor dofs = S floor dof at each level
3,4,1     C=5:  4th level
6,11,1    C=5:  4th level
13,18,1   C=12: 5th level
20,25,1   C=19: 6th level
27,32,1   C=26: 7th level
34,36,1   C=33: 8th level
38,40,1   C=37: 9th level
42,43,1   C=41:10th level
:
LOADS: For 2-D analysis of frame
41 L=1  F=10800: 10th floor
37 L=1  F=11400:  9th floor
33 L=1  F=9700:   8th floor
26 L=1  F=11900:  7th floor
19 L=1  F=9700:   6th floor
12 L=1  F=8000:   5th floor
5  L=1  F=6300:   4th floor
41 L=2  F=-10800: 10th floor
37 L=2  F=-11400:  9th floor
33 L=2  F=-9700:   8th floor
26 L=2  F=-11900:  7th floor
19 L=2  F=-9700:   6th floor
12 L=2  F=-8000:   5th floor
5  L=2  F=-6300:   4th floor
:
JOINTS: Units in meters-scaled-to-cm.
1   C=.75,0,0  S=100:
2  C=16.1,0:
3  C=.75,10.5:
4  C=16.1,10.5:
5  C=0,10.5:
6  C=1.35,10.5:
7  C=6.05,10.5:
8  C=7.6,10.5:
9  C=11.8,10.5:
10 C=13.35,10.5:
11 C=16.85,10.5:
26 C=0,19.5  G=5,26,7:
27 C=1.35,19.5 G=6,27,7:
28 C=6.05,19.5  G=7,28,7:
29 C=7.6,19.5  G=8,29,7:
30 C=11.8,19.5  G=9,30,7:
31 C=13.35,19.5  G=10,31,7:
32 C=16.85,19.5  G=11,32,7:
33 C=1.35,22.5:
34 C=6.05,22.5:
35 C=7.6,22.5:
36 C=11.8,22.5:
37 C=1.35,25.5:
38 C=6.05,25.5:
39 C=7.6,25.5:
40 C=11.8,25.5:
41 C=1.35,28.5:
42 C=6.05,28.5:
43 C=7.6,28.5:
:
FRAME: Columns = 35 x 35 cm.; Beams = 25 x 45 cm.
M=6 L=2:
1 A=1225  I=125052    S=817  E=296000 G=127000: single col. section
2 A=1125  I=189844    S=750: single beam section
3 A=2450  I=250104    S=1634: double col section
4 A=2250  I=379688    S=1500: double beam section
5 A=9600  I=5120000   S=6400: girder (120 x 80 deep)
6 A=18000 I=33700000  S=12000: legs (120 x 150 deep)
1 G=0,-36,0: 580 kgm/m**2 DL + 70 kgm/m**2 LLseismic-design
2 G=0,-39,0: 580 kgm/m**2 DL + 130kgm/m**2 LLgirder-design
1,1,3 M=6 E=0,57.5 G=1,1,1,1: legs
3,5,12 M=3 E=22.5,22.5 G=20,1,1,1: double columns
24,27,33  G=3,1,1,1:
28,33,37  G=5,1,1,1:
34,39,43 M=1: single column
```

```
35,5,3 M=5 E=0,70 L=1,1,2: girder
36,3,6 E=55,0:
37,6,7 E=0,0:
38,7,8:
39,8,9:
40,9,10:
41,10,4 E=0,55:
42,4,11 E=70,0:
43,12,13 M=4 E=17.5,17.5 G=5,1,1,1: double beams
49,19,20 G=5,1,1,1:
55,26,27 G=5,1,1,1:
61,33,34 G=2,1,1,1:
64,37,38 G=2,1,1,1:
67,41,42:
68,42,43 M=2: single beams
:
```

****
******ECHO OF SAP INPUT DATA******
****

TOTAL NUMBER OF JOINTS = 43
TOTAL NUMBER OF LOAD CONDITIONS = 3

RESTRAINT INFORMATION

```
1,43  R=0,0,1,1,1,0:
1,2   R=1,1,1,1,1,0:
:
```

CONSTRAINT INFORMATION

```
3,4,1     C=5:
6,11,1    C=5:
13,18,1   C=12:
20,25,1   C=19:
27,32,1   C=26:
34,36,1   C=33:
38,40,1   C=37:
42,43,1   C=41:
:
```

EQUILIBRIUM EQUATION NUMBERS

JOINT #	U(X)	U(Y)	U(Z)	R(X)	R(Y)	R(Z)
1	0	0	0	0	0	6
2	0	0	0	0	0	1
3	13	7	0	0	0	8
4	13	2	0	0	0	3
5	13	14	0	0	0	15
6	13	9	0	0	0	10
7	13	11	0	0	0	12
8	13	22	0	0	0	23
9	13	26	0	0	0	27
10	13	16	0	0	0	17
11	13	4	0	0	0	5
12	28	29	0	0	0	30
13	28	20	0	0	0	21
14	28	24	0	0	0	25
15	28	37	0	0	0	38
16	28	41	0	0	0	42
17	28	31	0	0	0	32
18	28	18	0	0	0	19
19	43	44	0	0	0	45
20	43	35	0	0	0	36
21	43	39	0	0	0	40
22	43	52	0	0	0	53
23	43	56	0	0	0	57

24	43	46	0	0	0	47
25	43	33	0	0	0	34
26	58	59	0	0	0	60
27	58	50	0	0	0	51
28	58	54	0	0	0	55
29	58	63	0	0	0	64
30	58	67	0	0	0	68
31	58	61	0	0	0	62
32	58	48	0	0	0	49
33	69	70	0	0	0	71
34	69	65	0	0	0	66
35	69	72	0	0	0	73
36	69	76	0	0	0	77
37	80	81	0	0	0	82
38	80	74	0	0	0	75
39	80	83	0	0	0	84
40	80	78	0	0	0	79
41	89	90	0	0	0	91
42	89	85	0	0	0	86
43	89	87	0	0	0	88

JOINT LOADS AND DISPLACEMENTS

NODE	L#	F/U	X-DIR	Y-DIR	Z-DIR	XX	YY	ZZ
41	1	F	.108E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
37	1	F	.114E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
33	1	F	.970E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
26	1	F	.119E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
19	1	F	.970E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
12	1	F	.800E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
5	1	F	.630E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
41	2	F	-.108E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
37	2	F	-.114E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
33	2	F	-.970E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
26	2	F	-.119E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
19	2	F	-.970E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
12	2	F	-.800E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
5	2	F	-.630E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01

INPUT JOINT DATA

```
1  C=.75,0,0  S=100:
2  C=16.1,0:
3  C=.75,10.5:
4  C=16.1,10.5:
5  C=0,10.5:
6  C=1.35,10.5:
7  C=6.05,10.5:
8  C=7.6,10.5:
9  C=11.8,10.5:
10 C=13.35,10.5:
11 C=16.85,10.5:
26 C=0,19.5  G=5,26,7:
27 C=1.35,19.5 G=6,27,7:
28 C=6.05,19.5  G=7,28,7:
29 C=7.6,19.5  G=8,29,7:
30 C=11.8,19.5  G=9,30,7:
31 C=13.35,19.5  G=10,31,7:
32 C=16.85,19.5  G=11,32,7:
33 C=1.35,22.5:
34 C=6.05,22.5:
35 C=7.6,22.5:
36 C=11.8,22.5:
37 C=1.35,25.5:
38 C=6.05,25.5:
39 C=7.6,25.5:
40 C=11.8,25.5:
41 C=1.35,28.5:
42 C=6.05,28.5:
43 C=7.6,28.5:
:
```

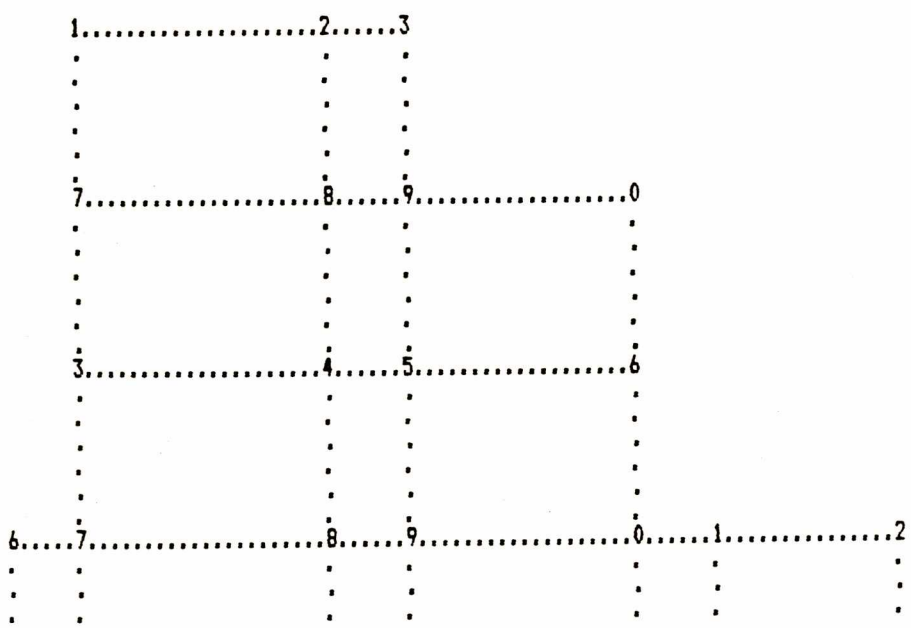
GENERATED JOINT COORDINATES

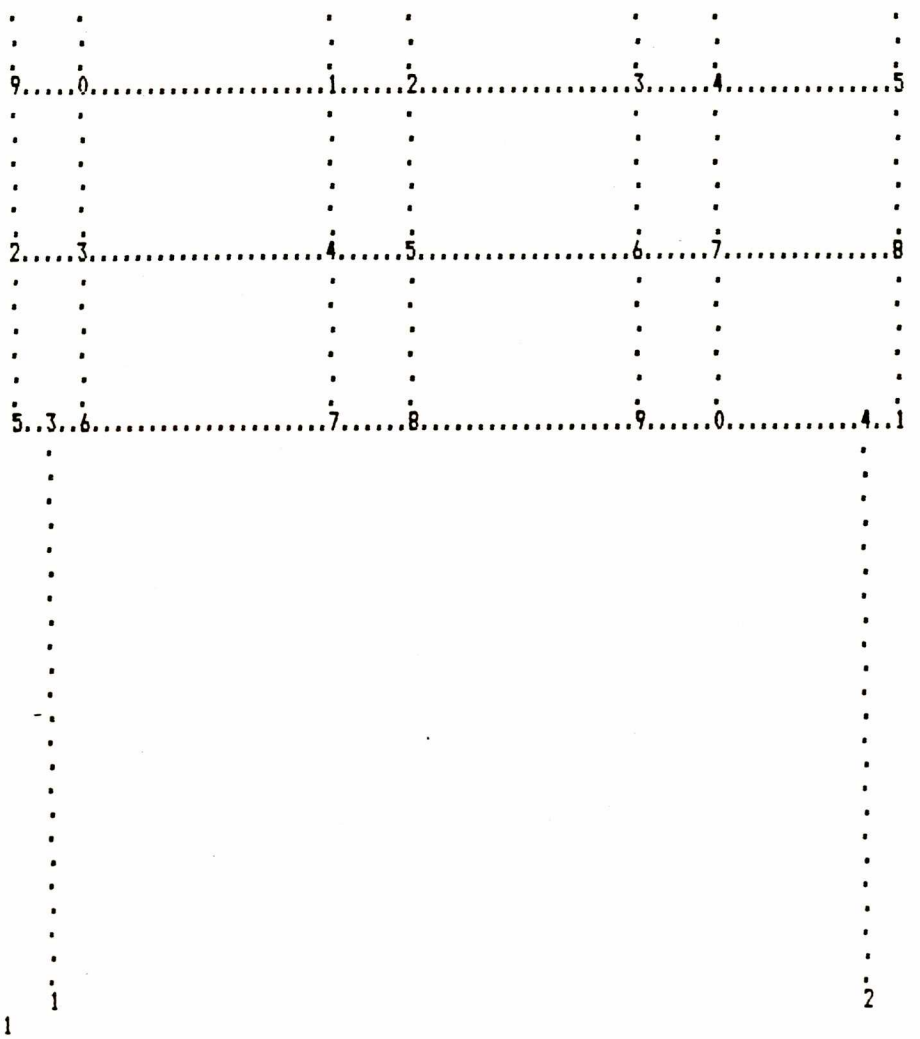
JOINT #	X	Y	Z
1	75.000	0.000	0.000

2	1610.000	0.000	0.000
3	75.000	1050.000	0.000
4	1610.000	1050.000	0.000
5	0.000	1050.000	0.000
6	135.000	1050.000	0.000
7	605.000	1050.000	0.000
8	760.000	1050.000	0.000
9	1180.000	1050.000	0.000
10	1335.000	1050.000	0.000
11	1685.000	1050.000	0.000
12	0.000	1350.000	0.000
13	135.000	1350.000	0.000
14	605.000	1350.000	0.000
15	760.000	1350.000	0.000
16	1180.000	1350.000	0.000
17	1335.000	1350.000	0.000
18	1685.000	1350.000	0.000
19	0.000	1650.000	0.000
20	135.000	1650.000	0.000
21	605.000	1650.000	0.000
22	760.000	1650.000	0.000
23	1180.000	1650.000	0.000
24	1335.000	1650.000	0.000
25	1685.000	1650.000	0.000
26	0.000	1950.000	0.000
27	135.000	1950.000	0.000
28	605.000	1950.000	0.000
29	760.000	1950.000	0.000
30	1180.000	1950.000	0.000
31	1335.000	1950.000	0.000
32	1685.000	1950.000	0.000
33	135.000	2250.000	0.000
34	605.000	2250.000	0.000
35	760.000	2250.000	0.000
36	1180.000	2250.000	0.000
37	135.000	2550.000	0.000
38	605.000	2550.000	0.000
39	760.000	2550.000	0.000
40	1180.000	2550.000	0.000
41	135.000	2850.000	0.000
42	605.000	2850.000	0.000
43	760.000	2850.000	0.000

OUTPUT OF PLOT PROGRAM

HORIZONTAL AND VIEW DIRECTIONS DEFINED BY:
I = 1
J = 2
K = 1
L = 0





ECHO OF FRAME INPUT DATA

NUMBER OF MEMBER PROPERTIES = 6
NUMBER OF DIFF. LOAD PATTERNS = 2

LOAD CONDITION ------------------- = 1
GRAVITY MULTIPIER X-DIRECTION --- = 0.000
GRAVITY MULTIPIER Y-DIRECTION --- = 0.000
GRAVITY MULTIPIER Z-DIRECTION --- = 0.000

LOAD CONDITION ------------------- = 2
GRAVITY MULTIPIER X-DIRECTION --- = 0.000
GRAVITY MULTIPIER Y-DIRECTION --- = 0.000
GRAVITY MULTIPIER Z-DIRECTION --- = 0.000

LOAD CONDITION ------------------- = 3
GRAVITY MULTIPIER X-DIRECTION --- = 0.000
GRAVITY MULTIPIER Y-DIRECTION --- = 0.000
GRAVITY MULTIPIER Z-DIRECTION --- = 0.000

MEMBER PROPERTY NUMBER ------- = 1
AXIAL AREA, A ---------------- = 1225.000
MOMENT OF INERTIA, I33 ------ = 125052.000
SHEAR AREA, A2 --------------- = 817.000(USED FOR SHEAR DEF.)

MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 2
AXIAL AREA, A ---------------- = 1125.000
MOMENT OF INERTIA, I33 ------ = 189844.000
SHEAR AREA, A2 --------------- = 750.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 3
AXIAL AREA, A ---------------- = 2450.000
MOMENT OF INERTIA, I33 ------ = 250104.000
SHEAR AREA, A2 --------------- = 1634.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 4
AXIAL AREA, A ---------------- = 2250.000
MOMENT OF INERTIA, I33 ------ = 379688.000
SHEAR AREA, A2 --------------- = 1500.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 5
AXIAL AREA, A ---------------- = 9600.000
MOMENT OF INERTIA, I33 ------ = 5120000.000
SHEAR AREA, A2 --------------- = 6400.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 6
AXIAL AREA, A ---------------- = 18000.000
MOMENT OF INERTIA, I33 ------ = 33700000.000
SHEAR AREA, A2 --------------- = 12000.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

LOAD PATTERN NUMBER---------- = 1
UNIFORM LOAD Y-DIRECTION ----- = -36.000000

LOAD PATTERN NUMBER---------- = 2
UNIFORM LOAD Y-DIRECTION ----- = -39.000000

EL.	I	J	P1	P2	MAT	EI	EJ	RELEASES	MI	MJ	LOAD PATTERN NUMBER 1 2 3
1	1	3	1	0	6	0.0	57.5	000000	0	0	0 0 0
2	2	4	1	0	6	0.0	57.5	000000	0	0	0 0 0
3	5	12	1	0	3	22.5	22.5	000000	0	0	0 0 0
4	6	13	1	0	3	22.5	22.5	000000	0	0	0 0 0
5	7	14	1	0	3	22.5	22.5	000000	0	0	0 0 0
6	8	15	1	0	3	22.5	22.5	000000	0	0	0 0 0
7	9	16	1	0	3	22.5	22.5	000000	0	0	0 0 0
8	10	17	1	0	3	22.5	22.5	000000	0	0	0 0 0
9	11	18	1	0	3	22.5	22.5	000000	0	0	0 0 0
10	12	19	1	0	3	22.5	22.5	000000	0	0	0 0 0
11	13	20	1	0	3	22.5	22.5	000000	0	0	0 0 0
12	14	21	1	0	3	22.5	22.5	000000	0	0	0 0 0
13	15	22	1	0	3	22.5	22.5	000000	0	0	0 0 0
14	16	23	1	0	3	22.5	22.5	000000	0	0	0 0 0
15	17	24	1	0	3	22.5	22.5	000000	0	0	0 0 0
16	18	25	1	0	3	22.5	22.5	000000	0	0	0 0 0
17	19	26	1	0	3	22.5	22.5	000000	0	0	0 0 0
18	20	27	1	0	3	22.5	22.5	000000	0	0	0 0 0
19	21	28	1	0	3	22.5	22.5	000000	0	0	0 0 0
20	22	29	1	0	3	22.5	22.5	000000	0	0	0 0 0
21	23	30	1	0	3	22.5	22.5	000000	0	0	0 0 0
22	24	31	1	0	3	22.5	22.5	000000	0	0	0 0 0
23	25	32	1	0	3	22.5	22.5	000000	0	0	0 0 0
24	27	33	1	0	3	22.5	22.5	000000	0	0	0 0 0

25	28	34	1	0	3	22.5	22.5	000000	0	0	0	0 0
26	29	35	1	0	3	22.5	22.5	000000	0	0	0	0 0
27	30	36	1	0	3	22.5	22.5	000000	0	0	0	0 0
28	33	37	1	0	3	22.5	22.5	000000	0	0	0	0 0
29	34	38	1	0	3	22.5	22.5	000000	0	0	0	0 0
30	35	39	1	0	3	22.5	22.5	000000	0	0	0	0 0
31	36	40	1	0	3	22.5	22.5	000000	0	0	0	0 0
32	37	41	1	0	3	22.5	22.5	000000	0	0	0	0 0
33	38	42	1	0	3	22.5	22.5	000000	0	0	0	0 0
34	39	43	1	0	1	22.5	22.5	000000	0	0	0	0 0
35	5	3	1	0	5	0.0	70.0	000000	0	0	1	1 2
36	3	6	1	0	5	55.0	0.0	000000	0	0	1	1 2
37	6	7	1	0	5	0.0	0.0	000000	0	0	1	1 2
38	7	8	1	0	5	0.0	0.0	000000	0	0	1	1 2
39	8	9	1	0	5	0.0	0.0	000000	0	0	1	1 2
40	9	10	1	0	5	0.0	0.0	000000	0	0	1	1 2
41	10	4	1	0	5	0.0	55.0	000000	0	0	1	1 2
42	4	11	1	0	5	70.0	0.0	000000	0	0	1	1 2
43	12	13	1	0	4	17.5	17.5	000000	0	0	1	1 2
44	13	14	1	0	4	17.5	17.5	000000	0	0	1	1 2
45	14	15	1	0	4	17.5	17.5	000000	0	0	1	1 2
46	15	16	1	0	4	17.5	17.5	000000	0	0	1	1 2
47	16	17	1	0	4	17.5	17.5	000000	0	0	1	1 2
48	17	18	1	0	4	17.5	17.5	000000	0	0	1	1 2
49	19	20	1	0	4	17.5	17.5	000000	0	0	1	1 2
50	20	21	1	0	4	17.5	17.5	000000	0	0	1	1 2
51	21	22	1	0	4	17.5	17.5	000000	0	0	1	1 2
52	22	23	1	0	4	17.5	17.5	000000	0	0	1	1 2
53	23	24	1	0	4	17.5	17.5	000000	0	0	1	1 2
54	24	25	1	0	4	17.5	17.5	000000	0	0	1	1 2
55	26	27	1	0	4	17.5	17.5	000000	0	0	1	1 2
56	27	28	1	0	4	17.5	17.5	000000	0	0	1	1 2
57	28	29	1	0	4	17.5	17.5	000000	0	0	1	1 2
58	29	30	1	0	4	17.5	17.5	000000	0	0	1	1 2
59	30	31	1	0	4	17.5	17.5	000000	0	0	1	1 2
60	31	32	1	0	4	17.5	17.5	000000	0	0	1	1 2
61	33	34	1	0	4	17.5	17.5	000000	0	0	1	1 2
62	34	35	1	0	4	17.5	17.5	000000	0	0	1	1 2
63	35	36	1	0	4	17.5	17.5	000000	0	0	1	1 2
64	37	38	1	0	4	17.5	17.5	000000	0	0	1	1 2
65	38	39	1	0	4	17.5	17.5	000000	0	0	1	1 2
66	39	40	1	0	4	17.5	17.5	000000	0	0	1	1 2
67	41	42	1	0	4	17.5	17.5	000000	0	0	1	1 2
68	42	43	1	0	2	17.5	17.5	000000	0	0	1	1 2

TOTAL WEIGHT OF MATERIALS= 0.00000
TOTAL MASS OF SYSTEM = 0.00000

JOINT DISPLACEMENTS

DISPLACEMENTS "U" AND ROTATIONS "R"

LOAD CASE 1

JOINT	U(X)	U(Y)	R(Z)
1	.0000E+01	.0000E+01	-.3538E-02
2	.0000E+01	.0000E+01	-.4095E-02
3	.3381E+01	-.1770E-01	-.2647E-02
4	.3381E+01	-.4571E-01	-.1644E-02
5	.3381E+01	.1801E+00	-.2638E-02
6	.3381E+01	-.1763E+00	-.2622E-02
7	.3381E+01	-.9554E+00	-.5925E-03
8	.3381E+01	-.9785E+00	.3884E-03
9	.3381E+01	-.3388E+00	.1601E-02
10	.3381E+01	-.1004E+00	.1387E-02
11	.3381E+01	-.1692E+00	-.1644E-02
12	.3762E+01	.1425E+00	-.1826E-02
13	.3762E+01	-.1661E+00	-.1952E-02
14	.3762E+01	-.9463E+00	-.8399E-03
15	.3762E+01	-.9983E+00	-.4430E-03
16	.3762E+01	-.3242E+00	.4046E-03
17	.3762E+01	-.1631E+00	-.1215E-03

18	.3762E+01	-.1813E+00	-.7421E-03
19	.4150E+01	.1207E+00	-.1734E-02
20	.4150E+01	-.1663E+00	-.1879E-02
21	.4150E+01	-.9427E+00	-.8851E-03
22	.4150E+01	-.1011E+01	-.3842E-03
23	.4150E+01	-.3263E+00	.3865E-03
24	.4150E+01	-.1989E+00	-.9946E-04
25	.4150E+01	-.1892E+00	-.8889E-03
26	.4499E+01	.1116E+00	-.1930E-02
27	.4499E+01	-.1739E+00	-.1863E-02
28	.4499E+01	-.9413E+00	-.9068E-03
29	.4499E+01	-.1020E+01	-.4435E-03
30	.4499E+01	-.3385E+00	.3684E-03
31	.4499E+01	-.2148E+00	.2754E-03
32	.4499E+01	-.1924E+00	-.5212E-03
33	.4884E+01	-.1852E+00	-.1347E-02
34	.4884E+01	-.9412E+00	-.9483E-03
35	.4884E+01	-.1027E+01	-.3460E-03
36	.4884E+01	-.3552E+00	-.5287E-03
37	.5190E+01	-.1923E+00	-.1452E-02
38	.5190E+01	-.9412E+00	-.1030E-02
39	.5190E+01	-.1034E+01	-.3566E-03
40	.5190E+01	-.3625E+00	.7890E-03
41	.5640E+01	-.1956E+00	-.1976E-02
42	.5640E+01	-.9409E+00	-.9926E-03
43	.5640E+01	-.1043E+01	-.8891E-03

LOAD CASE 2

JOINT	U(X)	U(Y)	R(Z)
1	.0000E+01	.0000E+01	.4508E-02
2	.0000E+01	.0000E+01	.3753E-02
3	-.3710E+01	-.5124E-01	.1780E-02
4	-.3710E+01	-.1217E-01	.3139E-02
5	-.3710E+01	-.1847E+00	.1780E-02
6	-.3710E+01	.5352E-01	.1645E-02
7	-.3710E+01	-.7493E+00	-.1706E-02
8	-.3710E+01	-.9265E+00	-.7744E-03
9	-.3710E+01	-.9755E+00	.1007E-02
10	-.3710E+01	-.7469E+00	.1918E-02
11	-.3710E+01	.2229E+00	.3131E-02
12	-.4205E+01	-.1810E+00	.1628E-02
13	-.4205E+01	.1908E-02	.8474E-03
14	-.4205E+01	-.8028E+00	.1714E-03
15	-.4205E+01	-.9019E+00	.1973E-03
16	-.4205E+01	-.9810E+00	.1336E-02
17	-.4205E+01	-.7452E+00	.1829E-02
18	-.4205E+01	.2054E+00	.1935E-02
19	-.4690E+01	-.1809E+00	.1385E-02
20	-.4690E+01	-.3567E-01	.7439E-03
21	-.4690E+01	-.8347E+00	.1253E-03
22	-.4690E+01	-.8941E+00	.2674E-03
23	-.4690E+01	-.9843E+00	.1277E-02
24	-.4690E+01	-.7462E+00	.1793E-02
25	-.4690E+01	.1941E+00	.1997E-02
26	-.5131E+01	-.1804E+00	.1151E-02
27	-.5131E+01	-.6342E-01	.5075E-03
28	-.5131E+01	-.8517E+00	.3307E-04
29	-.5131E+01	-.8958E+00	.1454E-03
30	-.5131E+01	-.9873E+00	.1116E-02
31	-.5131E+01	-.7479E+00	.1877E-02
32	-.5131E+01	.1891E+00	.2325E-02
33	-.5348E+01	-.8086E-01	-.3348E-03
34	-.5348E+01	-.8591E+00	-.1629E-03
35	-.5348E+01	-.9017E+00	-.2975E-04
36	-.5348E+01	-.9909E+00	.2864E-03
37	-.5415E+01	-.9164E-01	-.5412E-03
38	-.5415E+01	-.8612E+00	-.3542E-03
39	-.5415E+01	-.9080E+00	-.2557E-03
40	-.5415E+01	-.9929E+00	.2256E-03
41	-.5317E+01	-.9635E-01	-.1366E-02
42	-.5317E+01	-.8625E+00	-.5656E-03
43	-.5317E+01	-.9118E+00	-.1994E-03

LOAD CASE 3

JOINT	U(X)	U(Y)	R(Z)
1	.0000E+01	.0000E+01	.5254E-03
2	.0000E+01	.0000E+01	-.1854E-03
3	-.1786E+00	-.3734E-01	-.4692E-03

4	-.1786E+00	-.3135E-01	.8095E-03
5	-.1786E+00	-.2484E-02	-.4648E-03
6	-.1786E+00	-.6653E-01	-.5290E-03
7	-.1786E+00	-.9234E+00	-.1245E-02
8	-.1786E+00	-.1032E+01	-.2091E-03
9	-.1786E+00	-.7119E+00	.1413E-02
10	-.1786E+00	-.4589E+00	.1791E-02
11	-.1786E+00	.2907E-01	.8051E-03
12	-.2401E+00	-.2087E-01	-.1072E-03
13	-.2401E+00	-.8896E-01	-.5983E-03
14	-.2401E+00	-.9474E+00	-.3621E-03
15	-.2401E+00	-.1029E+01	-.1331E-03
16	-.2401E+00	-.7070E+00	.9428E-03
17	-.2401E+00	-.4920E+00	.9251E-03
18	-.2401E+00	.1304E-01	.6460E-03
19	-.2927E+00	-.3264E-01	-.1891E-03
20	-.2927E+00	-.1094E+00	-.6150E-03
21	-.2927E+00	-.9627E+00	-.4116E-03
22	-.2927E+00	-.1032E+01	-.6328E-04
23	-.2927E+00	-.7099E+00	.9013E-03
24	-.2927E+00	-.5119E+00	.9171E-03
25	-.2927E+00	.2664E-02	.6004E-03
26	-.3419E+00	-.3725E-01	-.4221E-03
27	-.3419E+00	-.1285E+00	-.7343E-03
28	-.3419E+00	-.9712E+00	-.4732E-03
29	-.3419E+00	-.1038E+01	-.1615E-03
30	-.3419E+00	-.7182E+00	.8040E-03
31	-.3419E+00	-.5215E+00	.1166E-02
32	-.3419E+00	-.1784E-02	.9772E-03
33	-.2514E+00	-.1441E+00	-.9111E-03
34	-.2514E+00	-.9752E+00	-.6019E-03
35	-.2514E+00	-.1045E+01	-.2035E-03
36	-.2514E+00	-.7291E+00	-.1312E-03
37	-.1217E+00	-.1538E+00	-.1079E-02
38	-.1217E+00	-.9763E+00	-.7498E-03
39	-.1217E+00	-.1052E+01	-.3317E-03
40	-.1217E+00	-.7342E+00	.5496E-03
41	.1749E+00	-.1581E+00	-.1810E-02
42	.1749E+00	-.9768E+00	-.8440E-03
43	.1749E+00	-.1059E+01	-.5897E-03

END OF ADDK - DISPLACEMENT PRINT FILE = name.ADD
EXECUTE PROGRAM SEGMENT "FORCES" OR "REACT"

FRAME MEMBER FORCES

LOAD COMBINATION MULTIPLIERS

NEW LOAD COMB.	OLD LOAD CONDITION 1	2	3
1	1.0	0.0	0.0
2	0.0	1.0	0.0
3	0.0	0.0	1.0

MEM #	LOAD #	AXIAL FORCE	DIST I	1-2 PLANE SHEAR	1-2 PLANE MOMENT	1-3 PLANE SHEAR	1-3 PLANE MOMENT	AXIAL TORQUE
1								
	1	-95016.59						
			0.0		18057.29		16.00	
			992.5		18057.29		17921882.00	
	2	-275075.72						
			0.0		-55247.57		12.00	
			992.5		-55247.57		-54833200.00	
	3	-200466.83						
			0.0		-20144.73		1.00	
			992.5		-20144.73		-19993646.00	
2								
	1	-245364.28						
			0.0		49644.24			
			992.5		49644.24		49271912.00	

```
 2   -65311.20
              0.0   -12444.41       20.00
            992.5   -12444.41-12351054.00
 3  -168282.56
              0.0    20149.92
            992.5    20149.92 19998800.00
3 ----------------------------------------
 1  -106940.25
             22.5   -14489.51  2083055.00
            277.5   -14489.51 -1611770.00
 2    10428.25
             22.5      812.02  -147540.19
            277.5      812.02    59524.81
 3   -52277.35
             22.5    -7408.64  1048403.37
            277.5    -7408.64  -840799.87
4 ----------------------------------------
 1    29008.78
             22.5   -15317.66  2147461.00
            277.5   -15317.66 -1758541.00
 2  -146767.61
             22.5    -6089.02   544730.12
            277.5    -6089.02 -1007971.00
 3   -63786.03
             22.5   -11595.29  1458270.50
            277.5   -11595.29 -1498528.50
5 ----------------------------------------
 1    25870.75
             22.5     8369.00 -1138870.37
            277.5     8369.00   995225.87
 2  -152246.25
             22.5   -36455.99  5193219.00
            277.5   -36455.99 -4103059.00
 3   -68453.75
             22.5   -15213.78  2196104.75
            277.5   -15213.78 -1683409.25
6 ----------------------------------------
 1   -56388.75
             22.5    18757.91 -2632997.25
            277.5    18757.91  2150269.75
 2    69766.25
             22.5   -29235.18  4009572.00
            277.5   -29235.18 -3445399.00
 3     7246.25
             22.5    -5675.18   745643.37
            277.5    -5675.18  -701526.75
7 ----------------------------------------
 1    41379.12
             22.5    34290.22 -4719282.50
            277.5    34290.22  4024723.50
 2   -15712.25
             22.5    -7215.01  1015312.44
            277.5    -7215.01  -824514.94
 3    13902.62
             22.5    14665.75 -2006317.62
            277.5    14665.75  1733448.12
8 ----------------------------------------
 1  -178409.09
             22.5    28714.00 -4099069.50
            277.5    28714.00  3222999.50
 2     4740.25
             22.5     3374.83  -456163.06
            277.5     3374.83   404417.44
 3   -94070.87
             22.5    17381.45 -2467419.00
            277.5    17381.45  1964851.00
9 ----------------------------------------
 1   -34245.03
             22.5     1176.23   111959.74
            277.5     1176.23   411897.78
 2   -49933.19
             22.5    13308.12 -2043988.62
            277.5    13308.12  1349581.62
 3   -45596.55
             22.5     7845.69 -1046515.31
            277.5     7845.69   954134.69
10 ----------------------------------------
 1   -62167.06
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                22.5    -7346.99   963523.75
               277.5    -7346.99  -909958.25
   2       347.75
                22.5    -1656.35   140533.78
               277.5    -1656.35  -281835.16
   3    -33485.47
                22.5    -4876.79   598030.00
               277.5    -4876.79  -645552.50
11 ----------------------------------------
   1      -484.97
                22.5    -9391.79  1218573.87
               277.5    -9391.79 -1176333.37
   2   -106876.08
                22.5   -12376.09  1547881.12
               277.5   -12376.09 -1608021.12
   3    -58153.91
                22.5   -11790.93  1498495.75
               277.5   -11790.93 -1508190.50
12 ----------------------------------------
   1     10355.25
                22.5     6489.40  -840532.00
               277.5     6489.40   814266.25
   2    -90677.25
                22.5   -22137.12  2809107.75
               277.5   -22137.12 -2835859.25
   3    -43507.75
                22.5    -8475.83  1066309.87
               277.5    -8475.83 -1095026.12
13 ----------------------------------------
   1    -36618.00
                22.5    13259.40 -1673505.50
               277.5    13259.40  1707640.75
   2     22353.50
                22.5   -20870.96  2681392.75
               277.5   -20870.96 -2640702.25
   3     -7726.50
                22.5    -4122.91   545936.12
               277.5    -4122.91  -505405.50
14 ----------------------------------------
   1     -5721.75
                22.5    25461.19 -3251554.00
               277.5    25461.19  3241048.50
   2     -9437.50
                22.5    -4668.94   578305.12
               277.5    -4668.94  -612274.37
   3     -8211.37
                22.5    11262.49 -1448012.62
               277.5    11262.49  1423921.37
15 ----------------------------------------
   1   -101836.25
                22.5    17830.29 -2266969.75
               277.5    17830.29  2279753.75
   2     -2894.25
                22.5     2935.65  -384950.03
               277.5     2935.65   363641.78
   3    -56729.00
                22.5    11248.24 -1436459.12
               277.5    11248.24  1431842.37
16 ----------------------------------------
   1    -22590.91
                22.5     7198.62  -960455.31
               277.5     7198.62   875193.81
   2    -31879.31
                22.5     5273.50  -654145.69
               277.5     5273.50   690597.69
   3    -29504.63
                22.5     6755.75  -874577.37
               277.5     6755.75   848137.87
17 ----------------------------------------
   1    -25725.50
                22.5   -10051.50  1224725.37
               277.5   -10051.50 -1338406.37
   2      1547.12
                22.5    -3021.51   317224.91
               277.5    -3021.51  -453260.16
   3    -13096.64
                22.5    -7081.22   835223.00
               277.5    -7081.22  -970487.37
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18 ---------------------------------------
   1    -21605.16
                22.5   -10644.99  1361938.25
               277.5   -10644.99 -1352533.75
   2    -78909.78
                22.5   -12702.88  1550998.87
               277.5   -12702.88 -1688234.37
   3    -54445.59
                22.5   -12646.77  1577841.62
               277.5   -12646.77 -1647083.87
19 ---------------------------------------
   1     3990.75
                22.5     4061.34  -524101.59
               277.5     4061.34   511540.16
   2    -48286.00
                22.5   -20943.78  2643549.50
               277.5   -20943.78 -2697114.50
   3    -23993.00
                22.5    -9144.65  1148033.50
               277.5    -9144.65 -1183852.75
20 ---------------------------------------
   1    -26092.50
                22.5    11331.24 -1461966.00
               277.5    11331.24  1427499.00
   2     -4930.75
                22.5   -19025.70  2390374.00
               277.5   -19025.70 -2461179.50
   3    -16804.75
                22.5    -4167.84   502888.66
               277.5    -4167.84  -559911.37
21 ---------------------------------------
   1    -34927.87
                22.5    23264.64 -2971488.25
               277.5    23264.64  2960996.25
   2     -8534.25
                22.5    -4091.98   474822.62
               277.5    -4091.98  -568633.19
   3    -23541.87
                22.5    10385.19 -1352361.12
               277.5    10385.19  1295862.87
22 ---------------------------------------
   1    -45108.06
                22.5    18899.00 -2300791.00
               277.5    18899.00  2518454.50
   2     -4869.75
                22.5     5531.46  -680765.44
               277.5     5531.46   729757.81
   3    -27071.12
                22.5    13233.17 -1615009.87
               277.5    13233.17  1759447.37
23 ---------------------------------------
   1     -8934.75
                22.5     6939.87  -778089.62
               277.5     6939.87   991578.12
   2    -14419.37
                22.5    10454.87 -1237827.50
               277.5    10454.87  1428165.00
   3    -12650.17
                22.5     9422.15 -1091955.37
               277.5     9422.15  1310693.37
24 ---------------------------------------
   1    -32171.50
                22.5    -4892.34   773527.50
               277.5    -4892.34  -474019.00
   2    -49586.83
                22.5    -9614.97   981377.25
               277.5    -9614.97 -1470440.50
   3    -44285.75
                22.5    -7858.13   950574.00
               277.5    -7858.13 -1053250.25
25 ---------------------------------------
   1        38.75
                22.5     5326.45  -691170.69
               277.5     5326.45   667073.31
   2    -21166.25
                22.5   -11895.76  1459824.87
               277.5   -11895.76 -1573594.12
   3    -11444.00
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              22.5    -3558.39   416356.69
             277.5    -3558.39  -491033.12
26 ------------------------------------
   1    -18112.25
              22.5    13360.30 -1675118.00
             277.5    13360.30  1731757.50
   2    -16867.00
              22.5   -10044.93  1229875.62
             277.5   -10044.93 -1331582.62
   3    -18946.75
              22.5     1795.81  -241171.22
             277.5     1795.81   216759.53
27 ------------------------------------
   1    -47496.06
              22.5    18105.14 -2568855.75
             277.5    18105.14  2047955.75
   2    -10121.25
              22.5     -343.73  -196992.75
             277.5     -343.73  -284644.00
   3    -31208.87
              22.5     9620.76 -1498168.00
             277.5     9620.76   955125.50
28 ------------------------------------
   1    -20290.94
              22.5    -5714.44   698311.19
             277.5    -5714.44  -758871.44
   2    -30682.16
              22.5    -9956.36  1209499.25
             277.5    -9956.36 -1329373.75
   3    -27610.41
              22.5    -8488.34  1033396.12
             277.5    -8488.34 -1131130.12
29 ------------------------------------
   1       117.75
              22.5      472.68   -83977.05
             277.5      472.68    36555.18
   2     -5875.00
              22.5    -7250.00   868812.75
             277.5    -7250.00  -979937.50
   3     -3118.75
              22.5    -3671.04   425117.91
             277.5    -3671.04  -510996.53
30 ------------------------------------
   1    -19300.25
              22.5    10090.64 -1289640.25
             277.5    10090.64  1283472.75
   2    -17776.25
              22.5    -5503.33   636069.31
             277.5    -5503.33  -767278.56
   3    -20083.50
              22.5     2484.82  -354019.50
             277.5     2484.82   279609.12
31 ------------------------------------
   1    -20646.94
              22.5    17351.46 -1829750.75
             277.5    17351.46  2594872.75
   2     -5787.25
              22.5      509.23   -82589.70
             277.5      509.23    47263.34
   3    -14318.50
              22.5     9674.56 -1035853.31
             277.5     9674.56  1431159.25
32 ------------------------------------
   1     -9213.81
              22.5    -3207.21   256689.56
             277.5    -3207.21  -561148.56
   2    -13391.69
              22.5    -9486.92   970197.00
             277.5    -9486.92 -1448967.00
   3    -12244.62
              22.5    -6875.99   664563.12
             277.5    -6875.99 -1088813.12
33 ------------------------------------
   1       829.75
              22.5     7385.95  -930862.75
             277.5     7385.95   952554.87
   2     -3703.75
              22.5    -2043.35   199167.62
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            277.5    -2043.35  -321887.66
  3    -1556.50
             22.5     2893.90  -396334.09
            277.5     2893.90   341610.16
34 ---------------------------------------
  1   -14116.50
             22.5     6621.30  -921516.94
            277.5     6621.30   766914.06
  2    -5404.87
             22.5      730.25   -84938.82
            277.5      730.25   101275.52
  3   -10574.00
             22.5     3982.09  -545163.69
            277.5     3982.09   470269.69
35 ---------------------------------------
  1        0.00
               0.0 -106941.04 -2409099.00
               5.0 -107121.04 -2944254.25
  2        0.00
               0.0   10425.57   165813.00
               5.0   10245.57   217490.87
  3        0.00
               0.0  -52277.86 -1215097.25
               5.0  -52472.86 -1476974.00
36 ---------------------------------------
  1        0.00
              55.0  -16600.13  7570863.50
              60.0  -16780.13  7487413.00
  2        0.00
              55.0  280824.41-41663716.00
              60.0  280644.41-40260044.00
  3        0.00
              55.0  143120.17-18466956.00
              60.0  142925.17-17751842.00
37 ---------------------------------------
  1        0.00
               0.0   12228.44  4995311.00
             339.7      -1.22  7072183.50
             470.0   -4691.56  6766479.00
  2        0.00
               0.0  133874.86-40941788.00
             470.0  116954.86 18003196.00
  3        0.00
               0.0   79139.30-19471006.00
             470.0   60809.30 13416916.00
38 ---------------------------------------
  1        0.00
               0.0   21178.83  8093660.00
             155.0   15598.83 10943928.00
  2        0.00
               0.0  -35291.74 11989717.00
             155.0  -40871.74  6087047.00
  3        0.00
               0.0   -7644.44 10878502.00
             155.0  -13689.44  9225126.00
39 ---------------------------------------
  1        0.00
               0.0  -40789.48 13999000.00
             420.0  -55909.48 -6307780.00
  2        0.00
               0.0   28894.64  1419711.12
             420.0   13774.64 10380259.00
  3        0.00
               0.0   -6442.97  8351784.00
             420.0  -22822.97  2205936.00
40 ---------------------------------------
  1        0.00
               0.0  -14530.20  -816960.00
             155.0  -20110.20 -3501591.00
  2        0.00
               0.0   -1937.41  9202638.00
             155.0   -7517.41  8469889.00
  3        0.00
               0.0   -8919.88  4542244.00
             155.0  -14964.88  2691175.00
41 ---------------------------------------
  1        0.00
               0.0 -198519.39  1243548.00
```

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              220.0  -206439.39-43301916.00
  2         0.00
                0.0    -2777.85  9001988.00
              220.0   -10697.85  7519661.50
  3         0.00
                0.0  -109036.01  5549662.00
              220.0  -117616.01-19382060.00
42 ------------------------------------
  1         0.00
               70.0    34423.07   -86200.00
               75.0    34243.07    85461.14
  2         0.00
               70.0    50112.48 -2593477.75
               75.0    49932.48 -2343371.50
  3         0.00
               70.0    45791.86 -1451491.50
               75.0    45596.87 -1223025.25
43 ------------------------------------
  1         0.00
               17.5    44143.26 -2288595.00
              117.5    40543.26  1945731.00
  2         0.00
               17.5   -10710.60  -281928.94
              117.5   -14310.60 -1532989.25
  3         0.00
               17.5    18109.35 -1392367.50
              117.5    14209.35   223567.87
44 ------------------------------------
  1         0.00
               17.5     9789.45  -706526.00
              289.5        -.98   624491.75
              452.5    -5870.55   145833.53
  2         0.00
               17.5    24320.98 -4329124.00
              452.5     8660.98  2844452.00
  3         0.00
               17.5    18476.48 -2727644.25
              452.5     1511.48  1619738.75
45 ------------------------------------
  1         0.00
               17.5   -22645.42  1816868.87
              137.5   -26965.42 -1159781.87
  2         0.00
               17.5    68969.55 -4027527.25
              137.5    64649.55  3989619.25
  3         0.00
               17.5    25092.15 -1197434.62
              137.5    20412.15  1532822.87
46 ------------------------------------
  1         0.00
               17.5    -8455.72  2764496.25
              402.5   -22315.72 -3159007.25
  2         0.00
               17.5    15975.90 -1853609.25
              402.5     2115.90  1629063.25
  3         0.00
               17.5     4073.44   493395.50
              122.0        -.41   706125.00
              402.5   -10941.56  -828718.12
47 ------------------------------------
  1         0.00
               17.5   -70676.83  3834302.50
              137.5   -74996.83 -4906116.50
  2         0.00
               17.5     7130.11   120671.20
              137.5     2810.11   717084.56
  3         0.00
               17.5   -34421.13  2142277.25
              137.5   -39101.13 -2269058.75
48 ------------------------------------
  1         0.00
               17.5      315.91   324179.16
               26.3        -.03   325565.25
              332.5   -11024.09 -1362358.25
  2         0.00
               17.5    -6084.07  1591157.00
              332.5   -17424.07 -2111374.50
  3         0.00
```

```
              17.5    -3124.43  1037474.50
             332.5   -15409.43 -1881606.75
49 ---------------------------------------
   1        0.00
              17.5    35811.59 -1893935.12
             117.5    32211.59  1507224.37
   2        0.00
              17.5      569.32  -688828.87
              33.3        -.06  -684327.12
             117.5    -3030.68  -811896.69
   3        0.00
              17.5    19706.35 -1398998.50
             117.5    15806.35   376636.87
50 ---------------------------------------
   1        0.00
              17.5     9831.36  -746124.81
             290.6        -.98   596314.81
             452.5    -5828.64   124467.06
   2        0.00
              17.5    23675.62 -4173901.25
             452.5     8015.62  2718942.75
   3        0.00
              17.5    18149.62 -2665015.25
             452.5     1184.62  1540182.25
51 ---------------------------------------
   1        0.00
              17.5   -13453.57  1362783.50
             137.5   -17773.57  -510845.00
   2        0.00
              17.5    49147.53 -2729423.00
             137.5    44827.53  2909080.50
   3        0.00
              17.5    19334.12  -740258.94
             137.5    14654.12  1299035.37
52 ---------------------------------------
   1        0.00
              17.5    -8508.00  2752116.25
             402.5   -22368.00 -3191513.25
   2        0.00
              17.5    16282.86 -1950235.62
             402.5     2422.86  1650616.87
   3        0.00
              17.5     4211.39   434350.03
             125.5        -.42   661732.62
             402.5   -10803.61  -834650.62
53 ---------------------------------------
   1        0.00
              17.5   -52834.22  2801312.75
             137.5   -57154.22 -3797993.75
   2        0.00
              17.5     2065.70   444961.03
              74.9        -.21   504226.62
             137.5    -2254.30   433645.22
   3        0.00
              17.5   -27499.63  1758399.37
             137.5   -32179.63 -1822356.62
54 ---------------------------------------
   1        0.00
              17.5    -1686.15   579254.50
             332.5   -13026.14 -1737930.00
   2        0.00
              17.5    -5489.79  1533048.25
             332.5   -16829.78 -1982282.50
   3        0.00
              17.5    -3886.96  1144163.75
             332.5   -16171.96 -2015114.75
55 ---------------------------------------
   1        0.00
              17.5    25095.48 -1119882.12
             117.5    21495.48  1209666.12
   2        0.00
              17.5    -2177.08  -553831.06
             117.5    -5777.08  -951539.31
   3        0.00
              17.5    12414.14  -906594.75
             117.5     8514.14   139819.50
56 ---------------------------------------
   1        0.00
```

```
              17.5     9669.04  -720595.87
             286.1       -.97   577882.00
             452.5    -5990.96    79388.25
   2         0.00
              17.5    22285.91 -3834407.75
             452.5     6625.91  2453911.25
   3         0.00
              17.5    17308.94 -2467294.25
             452.5      343.94  1372205.25
57 ---------------------------------------
   1         0.00
              17.5   -11203.16  1192426.87
             137.5   -15523.16  -411152.37
   2         0.00
              17.5    32485.09 -1757485.50
             137.5    28165.09  1881525.25
   3         0.00
              17.5    11527.70  -306071.66
             137.5     6847.70   796452.62
58 ---------------------------------------
   1         0.00
              17.5    -8804.69  2821282.00
             402.5   -22664.69 -3236572.50
   2         0.00
              17.5    14968.53 -1708792.62
             402.5     1108.53  1386041.37
   3         0.00
              17.5     3338.75   602597.94
             103.1        -.33   745511.44
             402.5   -11676.25 -1002370.94
59 ---------------------------------------
   1         0.00
              17.5   -36492.83  2188844.75
             137.5   -40812.83 -2449494.75
   2         0.00
              17.5    -1738.70   903565.50
             137.5    -6058.70   435721.69
   3         0.00
              17.5   -20708.76  1675057.00
             137.5   -25388.76 -1090794.25
60 ---------------------------------------
   1         0.00
              17.5     3035.21  -166923.41
             101.8        -.30   -38972.44
             332.5    -8304.79  -996882.81
   2         0.00
              17.5    -2449.40  1141042.12
             332.5   -13789.40 -1416567.37
   3         0.00
              17.5      317.31   527647.44
              25.6        -.03   528938.31
             332.5   -11967.68 -1307285.62
61 ---------------------------------------
   1         0.00
              17.5    11250.64 -1208585.50
             330.0       -1.12   549426.25
             452.5    -4409.36   279391.81
   2         0.00
              17.5    18274.69 -2794974.25
             452.5     2614.69  1748466.75
   3         0.00
              17.5    15992.89 -2168595.00
             427.6       -1.60  1110539.75
             452.5     -972.11  1098424.37
62 ---------------------------------------
   1         0.00
              17.5    -5590.97   985920.94
             137.5    -9910.97    55805.00
   2         0.00
              17.5    16645.71  -787667.19
             137.5    12325.71   950618.31
   3         0.00
              17.5     5987.98   107385.85
             137.5     1307.98   545143.37
63 ---------------------------------------
   1         0.00
              17.5   -12359.00  3215126.75
             402.5   -26219.00 -4211140.00
```

```
  2        0.00
              17.5    10156.24  -973438.50
             299.6       -1.02   459188.37
             402.5    -3703.76   268662.44
  3        0.00
              17.5    -1193.16  1214247.75
             402.5   -16208.16 -2135508.00
64 ------------------------------------
  1        0.00
              17.5    10447.07 -1027962.06
             307.7       -1.04   487888.44
             452.5    -5212.93   110462.69
  2        0.00
              17.5    16660.38 -2439969.25
             452.5     1000.38  1401245.75
  3        0.00
              17.5    14683.20 -1878462.37
             394.0       -1.47   885593.12
             452.5    -2281.80   818841.69
65 ------------------------------------
  1        0.00
              17.5    -5760.91  1062658.00
             137.5   -10080.91   112149.31
  2        0.00
              17.5     1911.43    63995.64
              70.6        -.19   114739.76
             137.5    -2408.57    34167.61
  3        0.00
              17.5    -2085.15   610273.25
             137.5    -6765.15    79255.69
66 ------------------------------------
  1        0.00
              17.5    -6156.94  2408998.00
             402.5   -20016.94 -2629475.00
  2        0.00
              17.5     8702.62  -645412.87
             259.3        -.87   406469.75
             402.5    -5157.38    37044.87
  3        0.00
              17.5     1378.91   955275.94
              52.9        -.14   979652.62
             402.5   -13636.09 -1404233.12
67 ------------------------------------
  1        0.00
              17.5     8583.82  -477578.47
             256.0        -.86   545782.25
             452.5    -7076.18  -149666.56
  2        0.00
              17.5    12761.74 -1433584.37
             372.0       -1.27   828386.87
             452.5    -2898.26   711721.19
  3        0.00
              17.5    11562.18 -1035213.06
             314.0       -1.16   678683.19
             452.5    -5402.82   304445.91
68 ------------------------------------
  1        0.00
              17.5    -9166.59   684826.06
             137.5   -13486.59  -674365.19
  2        0.00
               4.9        -.02   288044.66
              17.5     -454.99   285169.41
             137.5    -4774.99   -28629.53
  3        0.00
              17.5    -5211.71   525415.06
             137.5    -9891.71  -380789.75
```

```
**********************************
**  REACTIONS AND APPLIED FORCES **
**********************************
```

REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 1

FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Z)
1	-.1806E+05	.9502E+05	-.1600E+02
2	-.4964E+05	.2454E+06	.0000E+01
3	.6144E+04	.1750E+01	-.1920E+03
4	.6144E+04	.1187E+01	.9600E+02
5	.6144E+04	.2000E+01	.0000E+01
6	.6144E+04	.6934E+00	-.4900E+02
7	.6144E+04	-.4531E+00	-.6750E+01
8	.6144E+04	.4844E+00	-.2200E+02
9	.6144E+04	.9375E-01	-.1100E+02
10	.6144E+04	.0000E+01	-.4000E+01
11	.6144E+04	-.1187E+01	-.3200E+02
12	.8000E+04	.4688E-01	-.5000E+00
13	.8000E+04	-.3638E-01	.1781E+01
14	.8000E+04	.5898E+00	.8375E+01
15	.8000E+04	-.1001E+01	.1634E+02
16	.8000E+04	-.2222E+00	.7000E+01
17	.8000E+04	-.1416E+00	.4437E+01
18	.8000E+04	-.3857E-01	-.5750E+01
19	.9700E+04	.1563E-01	.2500E+01
20	.9700E+04	-.3003E-01	.2125E+01
21	.9700E+04	-.4805E+00	.3062E+01
22	.9700E+04	.1093E+00	.8219E+01
23	.9700E+04	-.1072E+00	.3594E+01
24	.9700E+04	-.1006E+00	-.1250E+00
25	.9700E+04	-.4590E-01	-.1125E+01
26	.1190E+05	-.3125E-01	.5000E+00
27	.1190E+05	-.8154E-01	-.1187E+02
28	.1190E+05	-.1973E+00	.1937E+01
29	.1190E+05	-.1769E+01	.5203E+01
30	.1190E+05	.5176E-01	-.2125E+01
31	.1190E+05	-.3369E-01	.1812E+01
32	.1190E+05	.4053E-01	-.3812E+01
33	.9700E+04	.7422E-01	.1875E+01
34	.9700E+04	-.5498E+00	-.2875E+01
35	.9700E+04	-.4541E-01	-.1406E+01
36	.9700E+04	-.1851E+00	-.5125E+01
37	.1140E+05	-.5713E-01	-.1500E+01
38	.1140E+05	.1064E+00	.2125E+01
39	.1140E+05	.1394E+00	-.2562E+01
40	.1140E+05	.4150E-02	-.3312E+01
41	.1080E+05	.8301E-02	-.2937E+01
42	.1080E+05	-.6582E+00	-.3437E+01
43	.1080E+05	.9570E-01	-.5000E+00

REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 2

FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Z)
1	.5525E+05	.2751E+06	-.1200E+02
2	.1244E+05	.6531E+05	-.2000E+02
3	-.6144E+04	.3625E+01	-.3200E+02
4	-.6144E+04	-.4625E+01	-.3840E+03
5	-.6144E+04	-.4000E+01	.0000E+01
6	-.6144E+04	-.1766E+01	.2600E+02
7	-.6144E+04	-.3750E+00	.0000E+01
8	-.6144E+04	.2344E-01	-.3100E+02
9	-.6144E+04	.6250E-01	-.2500E+02
10	-.6144E+04	-.6250E+00	-.1200E+02
11	-.6144E+04	.4625E+01	.0000E+01
12	-.8000E+04	-.9375E-01	.3750E+00
13	-.8000E+04	.3809E-01	-.2305E+01
14	-.8000E+04	-.4385E+00	-.1656E+01
15	-.8000E+04	-.8804E+00	-.8500E+01
16	-.8000E+04	-.4844E+00	-.1025E+02
17	-.8000E+04	.2549E+00	-.1400E+02
18	-.8000E+04	.1943E+00	.7500E+01
19	-.9700E+04	-.2734E-01	-.8000E+01
20	-.9700E+04	-.2875E-01	-.2375E+01
21	-.9700E+04	.6416E+00	-.5250E+01
22	-.9700E+04	-.4067E+00	-.3812E+01
23	-.9700E+04	-.4531E+00	-.1125E+02
24	-.9700E+04	.4395E-01	-.3875E+01

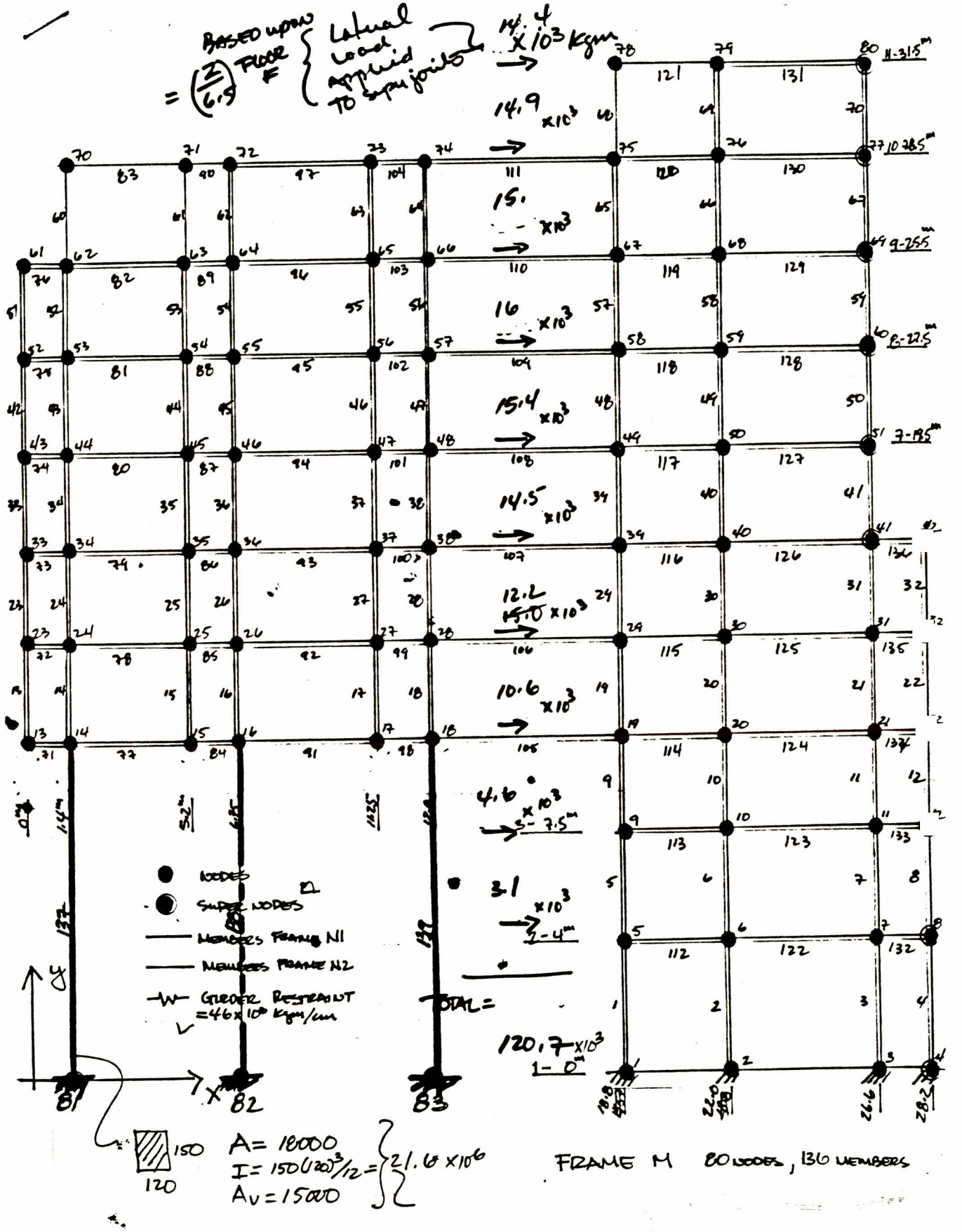
25	-.9700E+04	-.1572E+00	-.1750E+01
26	-.1190E+05	.5469E-01	.1250E+00
27	-.1190E+05	.2129E-01	.9668E+01
28	-.1190E+05	-.6006E+00	.1050E+02
29	-.1190E+05	-.2769E+00	.1187E+02
30	-.1190E+05	-.2422E+00	.3250E+01
31	-.1190E+05	-.4375E+00	.4625E+01
32	-.1190E+05	.1953E-01	.4750E+01
33	-.9700E+04	.2380E-02	.3438E+00
34	-.9700E+04	-.2148E+00	.3125E+01
35	-.9700E+04	-.2384E+00	.3703E+01
36	-.9700E+04	-.2343E+00	.5437E+01
37	-.1140E+05	-.9192E-01	-.6641E+01
38	-.1140E+05	-.2051E+00	-.1562E+01
39	-.1140E+05	-.1771E+00	-.9266E+01
40	-.1140E+05	.1322E+00	-.7500E+00
41	-.1080E+05	.4736E-01	.4500E+01
42	-.1080E+05	-.4768E+00	.6219E+01
43	-.1080E+05	.1174E+00	.2125E+01

REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 3

FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Z)
1	.2014E+05	.2005E+06	-.1000E+01
2	-.2015E+05	.1683E+06	.0000E+01
3	.8000E+01	.1641E+01	-.6400E+02
4	.8000E+01	-.4688E+00	-.3200E+02
5	.8000E+01	.0000E+01	-.8000E+01
6	.8000E+01	-.3398E+00	-.2500E+01
7	.8000E+01	.3125E-01	-.7125E+01
8	.8000E+01	.2344E+00	.0000E+01
9	.8000E+01	.4063E+00	-.5000E+01
10	.8000E+01	-.1563E+00	.1000E+02
11	.8000E+01	.4688E+00	.1600E+02
12	.0000E+01	-.3516E-01	.6250E+00
13	.0000E+01	.1013E-01	-.4375E+00
14	.0000E+01	-.3853E+00	.1156E+01
15	.0000E+01	-.9258E+00	.6750E+01
16	.0000E+01	-.5586E+00	.3000E+01
17	.0000E+01	-.1821E+00	-.2312E+01
18	.0000E+01	.5371E-02	.7500E+00
19	.0000E+01	.7813E-02	.1125E+01
20	.0000E+01	-.4150E-01	.5156E+00
21	.0000E+01	-.2307E+00	-.4094E+01
22	.0000E+01	.5000E+00	-.2562E+01
23	.0000E+01	-.5117E+00	-.7500E+00
24	.0000E+01	-.2290E+00	-.1937E+01
25	.0000E+01	.1465E-02	.3750E+00
26	.0000E+01	.0000E+01	-.1000E+01
27	.0000E+01	-.5518E-01	-.8125E+00
28	.0000E+01	-.2827E+00	.4375E+00
29	.0000E+01	-.1903E+01	.7500E+01
30	.0000E+01	-.5039E+00	-.2500E+00
31	.0000E+01	-.5908E-01	.1937E+01
32	.0000E+01	.8301E-02	.1250E+00
33	.0000E+01	.4395E-01	.5938E+00
34	.0000E+01	-.1416E+00	.1781E+01
35	.0000E+01	.6010E+00	-.1016E+01
36	.0000E+01	.2906E+00	.7188E+00
37	.0000E+01	-.8301E-01	-.4375E+00
38	.0000E+01	-.5781E+00	-.1312E+01
39	.0000E+01	-.4543E+00	-.1219E+01
40	.0000E+01	.9497E-01	-.6250E-01
41	.0000E+01	.5054E-01	.4063E+00
42	.0000E+01	-.3877E+00	.6250E-01
43	.0000E+01	.2314E+00	-.5000E+00

D. FRAME M


BASED upon
= (2/6.5) FLOOR =
Lateral load applied TO topjoists
14.4 x10³ kgm
14.9 x10³
15. x10³
16 x10³
15.4 x10³
14.5 x10³
12.2
15.0 x10³
10.6 x10³
4.6 x10³
3.1 x10³
TOTAL =
120.7 x10³
NODES
SUPER NODES
MEMBERS FRAME N1
MEMBERS FRAME N2
GIRDER RESTRAINT
=46x10⁶ kgm/cm
B1
B2
B3
150
120
A= 18000
I= 150(20)³/12 = 21.6 x10⁶
Av = 15000
FRAME M 80 NODES, 136 MEMBERS

ECHO OF SAP INPUT DATA

TOTAL NUMBER OF JOINTS = 83
TOTAL NUMBER OF LOAD CONDITIONS = 3

RESTRAINT INFORMATION

```
1,80  R=0,0,1,1,1,0:
1,4   R=1,1,1,1,1,1:
81,83 R=1,1,1,1,1,1:
:
```

CONSTRAINT INFORMATION

```
5,6,1     C=8:
9,11,1    C=12:
13,21,1   C=22:
23,31,1   C=32:
33,41,1   C=42:
43,50,1   C=51:
52,59,1   C=60:
61,68,1   C=69:
70,76,1   C=77:
78,79,1   C=80:
:
```

EQUILIBRIUM EQUATION NUMBERS

JOINT #	U(X)	U(Y)	U(Z)	R(X)	R(Y)	R(Z)
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	3	1	0	0	0	2
6	3	6	0	0	0	7
7	10	11	0	0	0	12
8	3	4	0	0	0	5
9	13	8	0	0	0	9
10	13	16	0	0	0	17
11	13	18	0	0	0	19
12	13	14	0	0	0	15
13	32	26	0	0	0	27
14	32	28	0	0	0	29
15	32	30	0	0	0	31
16	32	47	0	0	0	48
17	32	51	0	0	0	52
18	32	39	0	0	0	40
19	32	24	0	0	0	25
20	32	20	0	0	0	21

21	32	22	0	0	0	23
22	32	33	0	0	0	34
23	53	43	0	0	0	44
24	53	45	0	0	0	46
25	53	49	0	0	0	50
26	53	68	0	0	0	69
27	53	72	0	0	0	73
28	53	60	0	0	0	61
29	53	41	0	0	0	42
30	53	35	0	0	0	36
31	53	37	0	0	0	38
32	53	54	0	0	0	55
33	74	64	0	0	0	65
34	74	66	0	0	0	67
35	74	70	0	0	0	71
36	74	87	0	0	0	88
37	74	91	0	0	0	92
38	74	79	0	0	0	80
39	74	62	0	0	0	63
40	74	56	0	0	0	57
41	74	58	0	0	0	59
42	74	75	0	0	0	76
43	93	83	0	0	0	84
44	93	85	0	0	0	86
45	93	89	0	0	0	90
46	93	106	0	0	0	107
47	93	110	0	0	0	111
48	93	98	0	0	0	99
49	93	81	0	0	0	82
50	93	77	0	0	0	78
51	93	94	0	0	0	95
52	112	102	0	0	0	103
53	112	104	0	0	0	105
54	112	108	0	0	0	109
55	112	125	0	0	0	126
56	112	129	0	0	0	130
57	112	117	0	0	0	118
58	112	100	0	0	0	101
59	112	96	0	0	0	97
60	112	113	0	0	0	114
61	131	121	0	0	0	122
62	131	123	0	0	0	124
63	131	127	0	0	0	128
64	131	142	0	0	0	143
65	131	146	0	0	0	147
66	131	136	0	0	0	137
67	131	119	0	0	0	120
68	131	115	0	0	0	116
69	131	132	0	0	0	133
70	154	140	0	0	0	141
71	154	144	0	0	0	145
72	154	148	0	0	0	149
73	154	150	0	0	0	151
74	154	152	0	0	0	153
75	154	138	0	0	0	139
76	154	134	0	0	0	135
77	154	155	0	0	0	156
78	161	159	0	0	0	160
79	161	157	0	0	0	158
80	161	162	0	0	0	163
81	0	0	0	0	0	0
82	0	0	0	0	0	0
83	0	0	0	0	0	0

JOINT LOADS AND DISPLACEMENTS

NODE	L#	F/U	X-DIR	Y-DIR	Z-DIR	XX	YY	ZZ
80	1	F	.144E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
77	1	F	.149E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
69	1	F	.150E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
60	1	F	.160E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
51	1	F	.154E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
42	1	F	.145E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
32	1	F	.122E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
22	1	F	.106E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
12	1	F	.460E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
8	1	F	.310E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01

80	2	F	-.144E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
77	2	F	-.149E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
69	2	F	-.150E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
60	2	F	-.160E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
51	2	F	-.154E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
42	2	F	-.145E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
32	2	F	-.122E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
22	2	F	-.106E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
12	2	F	-.460E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
8	2	F	-.310E+04	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01

INPUT JOINT DATA

```
1   C=18.8,0,0  S=100:
2   C=22.0,0:
3   C=26.6,0:
4   C=28.2,0:
5   C=18.8,4.0:
6   C=22,4.0:
7   C=26.6,4:
8   C=28.2,4:
9   C=18.8,7.5:
10  C=22,7.5:
11  C=26.6,7.5:
12  C=28.2,7.5:
13  C=0,10.5:
14  C=1.4,10.5:
15  C=5.2,10.5:
16  C=6.75,10.5:
17  C=11.25,10.5:
18  C=12.8,10.5:
19  C=18.8,10.5:
20  C=22,10.5:
21  C=26.6,10.5:
22  C=28.2,10.5:
33  C=0,16.5 G=13,33,10:
34  C=1.4,16.5 G=14,34,10:
35  C=5.2,16.5 G=15,35,10:
36  C=6.75,16.5 G=16,36,10:
37  C=11.25,16.5 G=17,37,10:
38  C=12.8,16.5  G=18,38,10:
39  C=18.8,16.5  G=19,39,10:
40  C=22,16.5  G=20,40,10:
41  C=26.6,16.5 G=21,41,10:
42  C=28.2,16.5 G=22,42,10:
43  C=0,19.5:
44  C=1.4,19.5:
45  C=5.2,19.5:
46  C=6.75,19.5:
47  C=11.25,19.5:
48  C=12.8,19.5:
49  C=18.8,19.5:
50  C=22,19.5:
51  C=26.6,19.5:
61  C=0,25.5 G=43,61,9:
62  C=1.4,25.5 G=44,62,9:
63  C=5.2,25.5  G=45,63,9:
64  C=6.75,25.5  G=46,64,9:
65  C=11.25,25.5 G=47,65,9:
66  C=12.8,25.5  G=48,66,9:
67  C=18.8,25.5  G=49,67,9:
68  C=22,25.5  G=50,68,9:
69  C=26.6,25.5 G=51,69,9:
70  C=1.4,28.5:
71  C=5.2,28.5:
72  C=6.75,28.5:
73  C=11.25,28.5:
74  C=12.8,28.5:
75  C=18.8,28.5:
76  C=22,28.5:
77  C=26.6,28.5:
78  C=18.8,31.5:
79  C=22,31.5:
80  C=26.6,31.5:
81  C=1.4,0:
82  C=6.75,0:
83  C=12.8,0:
```

:

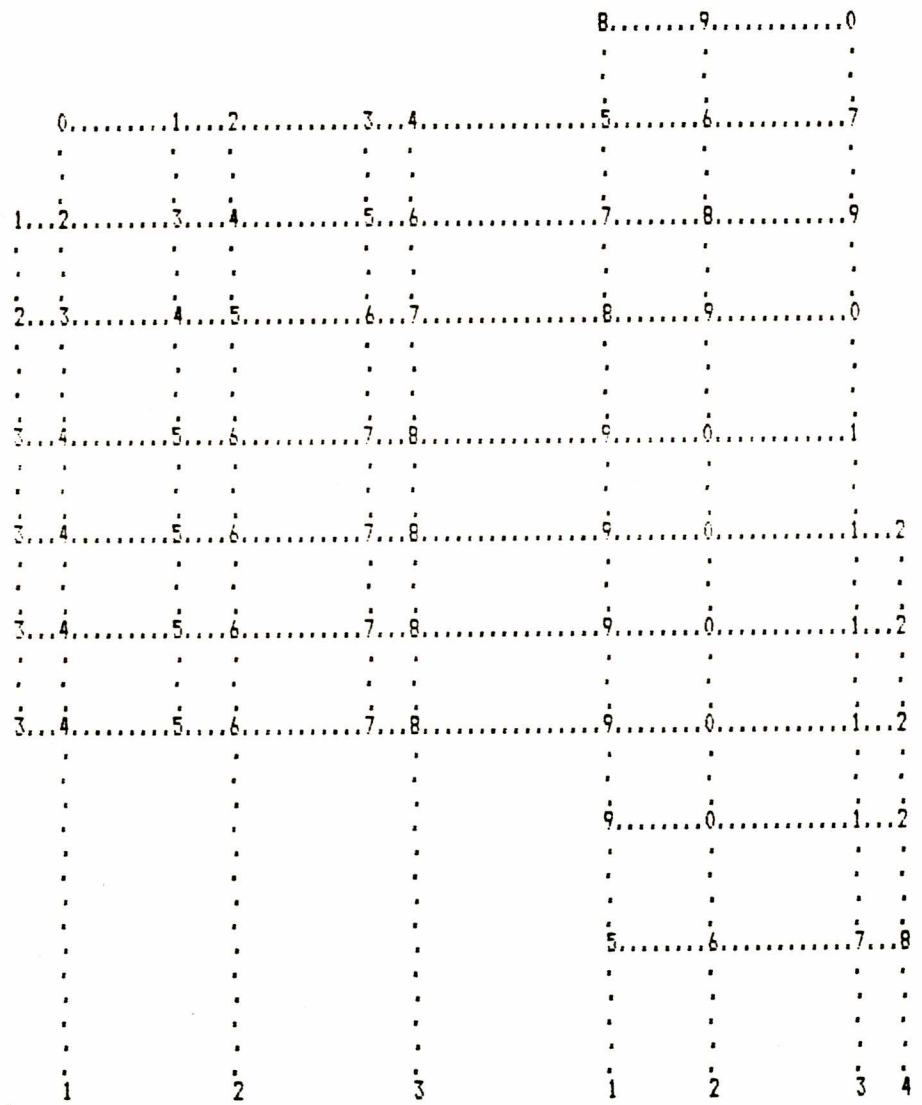
GENERATED JOINT COORDINATES

JOINT #	X	Y	Z
1	1880.000	0.000	0.000
2	2200.000	0.000	0.000
3	2660.000	0.000	0.000
4	2820.000	0.000	0.000
5	1880.000	400.000	0.000
6	2200.000	400.000	0.000
7	2660.000	400.000	0.000
8	2820.000	400.000	0.000
9	1880.000	750.000	0.000
10	2200.000	750.000	0.000
11	2660.000	750.000	0.000
12	2820.000	750.000	0.000
13	0.000	1050.000	0.000
14	140.000	1050.000	0.000
15	520.000	1050.000	0.000
16	675.000	1050.000	0.000
17	1125.000	1050.000	0.000
18	1280.000	1050.000	0.000
19	1880.000	1050.000	0.000
20	2200.000	1050.000	0.000
21	2660.000	1050.000	0.000
22	2820.000	1050.000	0.000
23	0.000	1350.000	0.000
24	140.000	1350.000	0.000
25	520.000	1350.000	0.000
26	675.000	1350.000	0.000
27	1125.000	1350.000	0.000
28	1280.000	1350.000	0.000
29	1880.000	1350.000	0.000
30	2200.000	1350.000	0.000
31	2660.000	1350.000	0.000
32	2820.000	1350.000	0.000
33	0.000	1650.000	0.000
34	140.000	1650.000	0.000
35	520.000	1650.000	0.000
36	675.000	1650.000	0.000
37	1125.000	1650.000	0.000
38	1280.000	1650.000	0.000
39	1880.000	1650.000	0.000
40	2200.000	1650.000	0.000
41	2660.000	1650.000	0.000
42	2820.000	1650.000	0.000
43	0.000	1950.000	0.000
44	140.000	1950.000	0.000
45	520.000	1950.000	0.000
46	675.000	1950.000	0.000
47	1125.000	1950.000	0.000
48	1280.000	1950.000	0.000
49	1880.000	1950.000	0.000
50	2200.000	1950.000	0.000
51	2660.000	1950.000	0.000
52	0.000	2250.000	0.000
53	140.000	2250.000	0.000
54	520.000	2250.000	0.000
55	675.000	2250.000	0.000
56	1125.000	2250.000	0.000
57	1280.000	2250.000	0.000
58	1880.000	2250.000	0.000
59	2200.000	2250.000	0.000
60	2660.000	2250.000	0.000
61	0.000	2550.000	0.000
62	140.000	2550.000	0.000
63	520.000	2550.000	0.000
64	675.000	2550.000	0.000
65	1125.000	2550.000	0.000
66	1280.000	2550.000	0.000
67	1880.000	2550.000	0.000
68	2200.000	2550.000	0.000
69	2660.000	2550.000	0.000
70	140.000	2850.000	0.000
71	520.000	2850.000	0.000
72	675.000	2850.000	0.000
73	1125.000	2850.000	0.000

74	1280.000	2850.000	0.000
75	1880.000	2850.000	0.000
76	2200.000	2850.000	0.000
77	2660.000	2850.000	0.000
78	1880.000	3150.000	0.000
79	2200.000	3150.000	0.000
80	2660.000	3150.000	0.000
81	140.000	0.000	0.000
82	675.000	0.000	0.000
83	1280.000	0.000	0.000

OUTPUT OF PLOT PROGRAM

HORIZONTAL AND VIEW DIRECTIONS DEFINED BY:
I = 1
J = 4
K = 1
L = 0



1

ECHO OF FRAME INPUT DATA

NUMBER OF MEMBER PROPERTIES = 6
NUMBER OF DIFF. LOAD PATTERNS = 2

```
LOAD CONDITION ------------------- =    1
GRAVITY MULTIPIER  X-DIRECTION --- =   0.000
GRAVITY MULTIPIER  Y-DIRECTION --- =   0.000
GRAVITY MULTIPIER  Z-DIRECTION --- =   0.000


LOAD CONDITION ------------------- =    2
GRAVITY MULTIPIER  X-DIRECTION --- =   0.000
GRAVITY MULTIPIER  Y-DIRECTION --- =   0.000
GRAVITY MULTIPIER  Z-DIRECTION --- =   0.000


LOAD CONDITION ------------------- =    3
GRAVITY MULTIPIER  X-DIRECTION --- =   0.000
GRAVITY MULTIPIER  Y-DIRECTION --- =   0.000
GRAVITY MULTIPIER  Z-DIRECTION --- =   0.000


MEMBER PROPERTY NUMBER ------- =   1
AXIAL AREA, A ---------------- =      1225.000
MOMENT OF INERTIA, I33 ------ =    125052.000
SHEAR AREA, A2 --------------- =       817.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =    296000.000
SHEAR MODULUS, G ------------- =    127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =   2
AXIAL AREA, A ---------------- =      1125.000
MOMENT OF INERTIA, I33 ------ =    189844.000
SHEAR AREA, A2 --------------- =       750.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =    296000.000
SHEAR MODULUS, G ------------- =    127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =   3
AXIAL AREA, A ---------------- =      2450.000
MOMENT OF INERTIA, I33 ------ =    250104.000
SHEAR AREA, A2 --------------- =      1634.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =    296000.000
SHEAR MODULUS, G ------------- =    127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =   4
AXIAL AREA, A ---------------- =      2250.000
MOMENT OF INERTIA, I33 ------ =    379688.000
SHEAR AREA, A2 --------------- =      1500.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =    296000.000
SHEAR MODULUS, G ------------- =    127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =   5
AXIAL AREA, A ---------------- =      3200.000
MOMENT OF INERTIA, I33 ------ =    426667.000
SHEAR AREA, A2 --------------- =      2133.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =    296000.000
SHEAR MODULUS, G ------------- =    127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =   6
AXIAL AREA, A ---------------- =     18000.000
MOMENT OF INERTIA, I33 ------ =  21600000.000
SHEAR AREA, A2 --------------- =     15000.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =    296000.000
SHEAR MODULUS, G ------------- =    127000.000(USED FOR TOR & SHEAR)


LOAD PATTERN NUMBER---------- =   1
UNIFORM LOAD Y-DIRECTION ----- =    -39.000000


LOAD PATTERN NUMBER---------- =   2
UNIFORM LOAD Y-DIRECTION ----- =    -42.000000

 EL.    I    J   P1   P2  MAT    EI    EJ RELEASES  MI MJ  LOAD PATTERN NUMBER
                                                          1 2 3
```

1	1	5	1	0	5	0.0	22.5	000000	0	0	0	0 0
2	2	6	1	0	5	0.0	22.5	000000	0	0	0	0 0
3	3	7	1	0	5	0.0	22.5	000000	0	0	0	0 0
4	4	8	1	0	5	0.0	22.5	000000	0	0	0	0 0
5	5	9	1	0	5	22.5	22.5	000000	0	0	0	0 0
6	6	10	1	0	5	22.5	22.5	000000	0	0	0	0 0
7	7	11	1	0	5	22.5	22.5	000000	0	0	0	0 0
8	8	12	1	0	5	22.5	22.5	000000	0	0	0	0 0
9	9	19	1	0	5	22.5	22.5	000000	0	0	0	0 0
10	10	20	1	0	5	22.5	22.5	000000	0	0	0	0 0
11	11	21	1	0	5	22.5	22.5	000000	0	0	0	0 0
12	12	22	1	0	5	22.5	22.5	000000	0	0	0	0 0
13	13	23	1	0	3	22.5	22.5	000000	0	0	0	0 0
14	14	24	1	0	3	22.5	22.5	000000	0	0	0	0 0
15	15	25	1	0	3	22.5	22.5	000000	0	0	0	0 0
16	16	26	1	0	3	22.5	22.5	000000	0	0	0	0 0
17	17	27	1	0	3	22.5	22.5	000000	0	0	0	0 0
18	18	28	1	0	3	22.5	22.5	000000	0	0	0	0 0
19	19	29	1	0	3	22.5	22.5	000000	0	0	0	0 0
20	20	30	1	0	3	22.5	22.5	000000	0	0	0	0 0
21	21	31	1	0	3	22.5	22.5	000000	0	0	0	0 0
22	22	32	1	0	3	22.5	22.5	000000	0	0	0	0 0
23	23	33	1	0	3	22.5	22.5	000000	0	0	0	0 0
24	24	34	1	0	3	22.5	22.5	000000	0	0	0	0 0
25	25	35	1	0	3	22.5	22.5	000000	0	0	0	0 0
26	26	36	1	0	3	22.5	22.5	000000	0	0	0	0 0
27	27	37	1	0	3	22.5	22.5	000000	0	0	0	0 0
28	28	38	1	0	3	22.5	22.5	000000	0	0	0	0 0
29	29	39	1	0	3	22.5	22.5	000000	0	0	0	0 0
30	30	40	1	0	3	22.5	22.5	000000	0	0	0	0 0
31	31	41	1	0	3	22.5	22.5	000000	0	0	0	0 0
32	32	42	1	0	3	22.5	22.5	000000	0	0	0	0 0
33	33	43	1	0	3	22.5	22.5	000000	0	0	0	0 0
34	34	44	1	0	3	22.5	22.5	000000	0	0	0	0 0
35	35	45	1	0	3	22.5	22.5	000000	0	0	0	0 0
36	36	46	1	0	3	22.5	22.5	000000	0	0	0	0 0
37	37	47	1	0	3	22.5	22.5	000000	0	0	0	0 0
38	38	48	1	0	3	22.5	22.5	000000	0	0	0	0 0
39	39	49	1	0	3	22.5	22.5	000000	0	0	0	0 0
40	40	50	1	0	3	22.5	22.5	000000	0	0	0	0 0
41	41	51	1	0	3	22.5	22.5	000000	0	0	0	0 0
42	43	52	1	0	3	22.5	22.5	000000	0	0	0	0 0
43	44	53	1	0	3	22.5	22.5	000000	0	0	0	0 0
44	45	54	1	0	3	22.5	22.5	000000	0	0	0	0 0
45	46	55	1	0	3	22.5	22.5	000000	0	0	0	0 0
46	47	56	1	0	3	22.5	22.5	000000	0	0	0	0 0
47	48	57	1	0	3	22.5	22.5	000000	0	0	0	0 0
48	49	58	1	0	3	22.5	22.5	000000	0	0	0	0 0
49	50	59	1	0	3	22.5	22.5	000000	0	0	0	0 0
50	51	60	1	0	3	22.5	22.5	000000	0	0	0	0 0
51	52	61	1	0	3	22.5	22.5	000000	0	0	0	0 0
52	53	62	1	0	3	22.5	22.5	000000	0	0	0	0 0
53	54	63	1	0	3	22.5	22.5	000000	0	0	0	0 0
54	55	64	1	0	3	22.5	22.5	000000	0	0	0	0 0
55	56	65	1	0	3	22.5	22.5	000000	0	0	0	0 0
56	57	66	1	0	3	22.5	22.5	000000	0	0	0	0 0
57	58	67	1	0	3	22.5	22.5	000000	0	0	0	0 0
58	59	68	1	0	3	22.5	22.5	000000	0	0	0	0 0
59	60	69	1	0	3	22.5	22.5	000000	0	0	0	0 0
60	62	70	1	0	1	22.5	22.5	000000	0	0	0	0 0
61	63	71	1	0	1	22.5	22.5	000000	0	0	0	0 0
62	64	72	1	0	3	22.5	22.5	000000	0	0	0	0 0
63	65	73	1	0	3	22.5	22.5	000000	0	0	0	0 0
64	66	74	1	0	3	22.5	22.5	000000	0	0	0	0 0
65	67	75	1	0	3	22.5	22.5	000000	0	0	0	0 0
66	68	76	1	0	3	22.5	22.5	000000	0	0	0	0 0
67	69	77	1	0	3	22.5	22.5	000000	0	0	0	0 0
68	75	78	1	0	1	22.5	22.5	000000	0	0	0	0 0
69	76	79	1	0	3	22.5	22.5	000000	0	0	0	0 0
70	77	80	1	0	3	22.5	22.5	000000	0	0	0	0 0
71	13	14	1	0	4	17.5	17.5	000000	0	0	1	1 2
72	23	24	1	0	4	17.5	17.5	000000	0	0	1	1 2
73	33	34	1	0	4	17.5	17.5	000000	0	0	1	1 2
74	43	44	1	0	4	17.5	17.5	000000	0	0	1	1 2
75	52	53	1	0	4	17.5	17.5	000000	0	0	1	1 2
76	61	62	1	0	4	17.5	17.5	000000	0	0	1	1 2
77	14	15	1	0	4	17.5	17.5	000000	0	0	1	1 2
78	24	25	1	0	4	17.5	17.5	000000	0	0	1	1 2

79	34	35	1	0	4	17.5	17.5	000000	0	0	1	1 2
80	44	45	1	0	4	17.5	17.5	000000	0	0	1	1 2
81	53	54	1	0	4	17.5	17.5	000000	0	0	1	1 2
82	62	63	1	0	4	17.5	17.5	000000	0	0	1	1 2
83	70	71	1	0	2	17.5	17.5	000000	0	0	1	1 2
84	15	16	1	0	4	17.5	17.5	000000	0	0	1	1 2
85	25	26	1	0	4	17.5	17.5	000000	0	0	1	1 2
86	35	36	1	0	4	17.5	17.5	000000	0	0	1	1 2
87	45	46	1	0	4	17.5	17.5	000000	0	0	1	1 2
88	54	55	1	0	4	17.5	17.5	000000	0	0	1	1 2
89	63	64	1	0	4	17.5	17.5	000000	0	0	1	1 2
90	71	72	1	0	2	17.5	17.5	000000	0	0	1	1 2
91	16	17	1	0	4	17.5	17.5	000000	0	0	1	1 2
92	26	27	1	0	4	17.5	17.5	000000	0	0	1	1 2
93	36	37	1	0	4	17.5	17.5	000000	0	0	1	1 2
94	46	47	1	0	4	17.5	17.5	000000	0	0	1	1 2
95	55	56	1	0	4	17.5	17.5	000000	0	0	1	1 2
96	64	65	1	0	4	17.5	17.5	000000	0	0	1	1 2
97	72	73	1	0	4	17.5	17.5	000000	0	0	1	1 2
98	17	18	1	0	4	17.5	17.5	000000	0	0	1	1 2
99	27	28	1	0	4	17.5	17.5	000000	0	0	1	1 2
100	37	38	1	0	4	17.5	17.5	000000	0	0	1	1 2
101	47	48	1	0	4	17.5	17.5	000000	0	0	1	1 2
102	56	57	1	0	4	17.5	17.5	000000	0	0	1	1 2
103	65	66	1	0	4	17.5	17.5	000000	0	0	1	1 2
104	73	74	1	0	4	17.5	17.5	000000	0	0	1	1 2
105	18	19	1	0	4	17.5	17.5	000000	0	0	1	1 2
106	28	29	1	0	4	17.5	17.5	000000	0	0	1	1 2
107	38	39	1	0	4	17.5	17.5	000000	0	0	1	1 2
108	48	49	1	0	4	17.5	17.5	000000	0	0	1	1 2
109	57	58	1	0	4	17.5	17.5	000000	0	0	1	1 2
110	66	67	1	0	4	17.5	17.5	000000	0	0	1	1 2
111	74	75	1	0	4	17.5	17.5	000000	0	0	1	1 2
112	5	6	1	0	4	17.5	17.5	000000	0	0	1	1 2
113	9	10	1	0	4	17.5	17.5	000000	0	0	1	1 2
114	19	20	1	0	4	17.5	17.5	000000	0	0	1	1 2
115	29	30	1	0	4	17.5	17.5	000000	0	0	1	1 2
116	39	40	1	0	4	17.5	17.5	000000	0	0	1	1 2
117	49	50	1	0	4	17.5	17.5	000000	0	0	1	1 2
118	58	59	1	0	4	17.5	17.5	000000	0	0	1	1 2
119	67	68	1	0	4	17.5	17.5	000000	0	0	1	1 2
120	75	76	1	0	4	17.5	17.5	000000	0	0	1	1 2
121	78	79	1	0	2	17.5	17.5	000000	0	0	1	1 2
122	6	7	1	0	4	17.5	17.5	000000	0	0	1	1 2
123	10	11	1	0	4	17.5	17.5	000000	0	0	1	1 2
124	20	21	1	0	4	17.5	17.5	000000	0	0	1	1 2
125	30	31	1	0	4	17.5	17.5	000000	0	0	1	1 2
126	40	41	1	0	4	17.5	17.5	000000	0	0	1	1 2
127	50	51	1	0	4	17.5	17.5	000000	0	0	1	1 2
128	59	60	1	0	4	17.5	17.5	000000	0	0	1	1 2
129	68	69	1	0	4	17.5	17.5	000000	0	0	1	1 2
130	76	77	1	0	4	17.5	17.5	000000	0	0	1	1 2
131	79	80	1	0	4	17.5	17.5	000000	0	0	1	1 2
132	7	8	1	0	4	17.5	17.5	000000	0	0	1	1 2
133	11	12	1	0	4	17.5	17.5	000000	0	0	1	1 2
134	21	22	1	0	4	17.5	17.5	000000	0	0	1	1 2
135	31	32	1	0	4	17.5	17.5	000000	0	0	1	1 2
136	41	42	1	0	4	17.5	17.5	000000	0	0	1	1 2
137	81	14	1	0	6	17.5	17.5	000000	0	0	1	1 2
138	82	16	1	0	6	17.5	17.5	000000	0	0	1	1 2
139	83	18	1	0	6	17.5	17.5	000000	0	0	1	1 2

TOTAL WEIGHT OF MATERIALS= 0.00000
TOTAL MASS OF SYSTEM = 0.00000

JOINT DISPLACEMENTS

DISPLACEMENTS "U" AND ROTATIONS "R"

LOAD CASE 1

JOINT	U(X)	U(Y)	R(Z)

5	.5054E+00	-.3565E-01	-.1048E-02
6	.5054E+00	-.6664E-01	-.7874E-03
7	.5056E+00	-.1619E-01	-.5241E-03
8	.5054E+00	-.5657E-01	-.8288E-03
9	.9390E+00	-.6697E-01	-.9404E-03
10	.9390E+00	-.1130E+00	-.6585E-03
11	.9390E+00	-.3385E-01	-.5656E-03
12	.9390E+00	-.9089E-01	-.7643E-03
13	.1234E+01	.1605E+00	-.1107E-02
14	.1234E+01	-.6144E-02	-.1644E-02
15	.1234E+01	-.1268E-01	.2224E-03
16	.1234E+01	-.3165E-01	-.1560E-02
17	.1234E+01	-.2269E-01	.2518E-03
18	.1234E+01	-.3916E-01	-.1579E-02
19	.1234E+01	-.9451E-01	-.5280E-03
20	.1234E+01	-.1462E+00	-.7556E-03
21	.1234E+01	-.5002E-01	-.5618E-03
22	.1234E+01	-.1124E+00	-.8152E-03
23	.1683E+01	.1550E+00	-.1403E-02
24	.1683E+01	-.1033E-01	-.1026E-02
25	.1683E+01	-.2171E-01	-.6870E-03
26	.1683E+01	-.7228E-01	-.6294E-03
27	.1683E+01	-.3250E-01	-.7091E-03
28	.1683E+01	-.9185E-01	-.7862E-03
29	.1683E+01	-.1256E+00	-.7546E-03
30	.1683E+01	-.1838E+00	-.8030E-03
31	.1683E+01	-.7251E-01	-.5419E-03
32	.1683E+01	-.1315E+00	-.9482E-03
33	.2105E+01	.1493E+00	-.1300E-02
34	.2105E+01	-.1321E-01	-.1086E-02
35	.2105E+01	-.3312E-01	-.6013E-03
36	.2105E+01	-.1015E+00	-.8094E-03
37	.2105E+01	-.4640E-01	-.6173E-03
38	.2105E+01	-.1301E+00	-.9957E-03
39	.2105E+01	-.1528E+00	-.6634E-03
40	.2105E+01	-.2149E+00	-.7854E-03
41	.2105E+01	-.9831E-01	-.5067E-03
42	.2105E+01	-.1394E+00	-.5149E-03
43	.2521E+01	.1434E+00	-.1260E-02
44	.2521E+01	-.1467E-01	-.1033E-02
45	.2521E+01	-.4513E-01	-.6275E-03
46	.2521E+01	-.1214E+00	-.7763E-03
47	.2521E+01	-.6136E-01	-.6474E-03
48	.2521E+01	-.1567E+00	-.9807E-03
49	.2521E+01	-.1758E+00	-.6412E-03
50	.2521E+01	-.2399E+00	-.7005E-03
51	.2521E+01	-.1242E+00	-.8374E-03
52	.2890E+01	.1379E+00	-.1141E-02
53	.2890E+01	-.1508E-01	-.9689E-03
54	.2890E+01	-.5635E-01	-.5756E-03
55	.2890E+01	-.1335E+00	-.7115E-03
56	.2890E+01	-.7541E-01	-.5852E-03
57	.2890E+01	-.1737E+00	-.9288E-03
58	.2890E+01	-.1940E+00	-.5268E-03
59	.2890E+01	-.2595E+00	-.6353E-03
60	.2890E+01	-.1441E+00	-.6092E-03
61	.3197E+01	.1347E+00	-.1136E-02
62	.3197E+01	-.1599E-01	-.8863E-03
63	.3197E+01	-.6532E-01	-.4447E-03
64	.3197E+01	-.1396E+00	-.6360E-03
65	.3197E+01	-.8658E-01	-.5204E-03
66	.3197E+01	-.1832E+00	-.8224E-03
67	.3197E+01	-.2072E+00	-.4409E-03
68	.3197E+01	-.2739E+00	-.5141E-03
69	.3197E+01	-.1585E+00	-.4420E-03
70	.3437E+01	-.1967E-01	-.7692E-03
71	.3437E+01	-.7494E-01	-.2624E-03
72	.3437E+01	-.1418E+00	-.5483E-03
73	.3437E+01	-.9299E-01	-.3234E-03
74	.3437E+01	-.1869E+00	-.8398E-03
75	.3437E+01	-.2147E+00	-.1741E-03
76	.3437E+01	-.2834E+00	-.4873E-03
77	.3437E+01	-.1678E+00	-.3952E-03
78	.3649E+01	-.2172E+00	-.7842E-03
79	.3649E+01	-.2886E+00	-.3052E-03
80	.3649E+01	-.1720E+00	.4605E-04

LOAD CASE 2

JOINT	U(X)	U(Y)	R(Z)
5	-.5032E+00	-.7935E-01	.9843E-03
6	-.5032E+00	-.4880E-01	.7168E-03
7	-.5031E+00	-.5406E-01	.8405E-03
8	-.5032E+00	.3044E-01	.9879E-03
9	-.9800E+00	-.1373E+00	.9696E-03
10	-.9800E+00	-.8551E-01	.7603E-03
11	-.9800E+00	-.8637E-01	.9925E-03
12	-.9800E+00	.4659E-01	.1103E-02
13	-.1369E+01	-.3066E+00	.2023E-02
14	-.1369E+01	-.3354E-01	.1833E-02
15	-.1369E+01	-.2241E+00	.7823E-03
16	-.1369E+01	-.2609E-01	.1802E-02
17	-.1369E+01	-.2678E+00	.1115E-02
18	-.1369E+01	-.2845E-01	.1856E-02
19	-.1369E+01	-.1808E+00	.1004E-02
20	-.1369E+01	-.1135E+00	.9068E-03
21	-.1369E+01	-.1075E+00	.1169E-02
22	-.1369E+01	.5650E-01	.1344E-02
23	-.1974E+01	-.3064E+00	.1865E-02
24	-.1974E+01	-.8360E-01	.1196E-02
25	-.1974E+01	-.2275E+00	.1226E-02
26	-.1974E+01	-.6480E-01	.9779E-03
27	-.1974E+01	-.2710E+00	.1406E-02
28	-.1974E+01	-.7153E-01	.1180E-02
29	-.1974E+01	-.2294E+00	.1224E-02
30	-.1974E+01	-.1465E+00	.9679E-03
31	-.1974E+01	-.1275E+00	.1331E-02
32	-.1974E+01	.6435E-01	.1603E-02
33	-.2522E+01	-.3074E+00	.1572E-02
34	-.2522E+01	-.1214E+00	.1082E-02
35	-.2522E+01	-.2324E+00	.1001E-02
36	-.2522E+01	-.9610E-01	.9267E-03
37	-.2522E+01	-.2747E+00	.1165E-02
38	-.2522E+01	-.1073E+00	.1062E-02
39	-.2522E+01	-.2689E+00	.1077E-02
40	-.2522E+01	-.1761E+00	.8664E-03
41	-.2522E+01	-.1392E+00	.1317E-02
42	-.2522E+01	.6615E-01	.1466E-02
43	-.3003E+01	-.3075E+00	.1345E-02
44	-.3003E+01	-.1500E+00	.9112E-03
45	-.3003E+01	-.2367E+00	.8791E-03
46	-.3003E+01	-.1215E+00	.7631E-03
47	-.3003E+01	-.2774E+00	.1016E-02
48	-.3003E+01	-.1369E+00	.8619E-03
49	-.3003E+01	-.3001E+00	.9668E-03
50	-.3003E+01	-.2016E+00	.7502E-03
51	-.3003E+01	-.1464E+00	.1284E-02
52	-.3404E+01	-.3066E+00	.1126E-02
53	-.3404E+01	-.1705E+00	.7627E-03
54	-.3404E+01	-.2398E+00	.7497E-03
55	-.3404E+01	-.1415E+00	.6110E-03
56	-.3404E+01	-.2785E+00	.8570E-03
57	-.3404E+01	-.1603E+00	.6794E-03
58	-.3404E+01	-.3235E+00	.8224E-03
59	-.3404E+01	-.2228E+00	.6373E-03
60	-.3404E+01	-.1530E+00	.1062E-02
61	-.3725E+01	-.3056E+00	.9931E-03
62	-.3725E+01	-.1826E+00	.6521E-03
63	-.3725E+01	-.2417E+00	.5607E-03
64	-.3725E+01	-.1556E+00	.5351E-03
65	-.3725E+01	-.2784E+00	.7052E-03
66	-.3725E+01	-.1771E+00	.5440E-03
67	-.3725E+01	-.3397E+00	.6808E-03
68	-.3725E+01	-.2391E+00	.5066E-03
69	-.3725E+01	-.1583E+00	.8545E-03
70	-.3977E+01	-.1896E+00	-.1996E-03
71	-.3977E+01	-.2451E+00	.7262E-03
72	-.3977E+01	-.1628E+00	.1752E-03
73	-.3977E+01	-.2775E+00	.6529E-03
74	-.3977E+01	-.1866E+00	.2985E-03
75	-.3977E+01	-.3492E+00	.6325E-03
76	-.3977E+01	-.2504E+00	.5465E-03
77	-.3977E+01	-.1618E+00	.8753E-03
78	-.4294E+01	-.3545E+00	.4831E-03
79	-.4294E+01	-.2567E+00	.4330E-03
80	-.4294E+01	-.1636E+00	.9619E-03

LOAD CASE 3

JOINT	U(X)	U(Y)	R(Z)
5	.1169E-02	-.6192E-01	-.3413E-04
6	.1169E-02	-.6216E-01	-.3802E-04
7	.1363E-02	-.3783E-01	.1704E-03
8	.1169E-02	-.1407E-01	.8566E-04
9	-.2208E-01	-.1100E+00	.1573E-04
10	-.2208E-01	-.1069E+00	.5483E-04
11	-.2208E-01	-.6473E-01	.2298E-03
12	-.2208E-01	-.2385E-01	.1826E-03
13	-.7227E-01	-.7866E-01	.4932E-03
14	-.7227E-01	-.2137E-01	.1018E-03
15	-.7227E-01	-.1275E+00	.5410E-03
16	-.7227E-01	-.3109E-01	.1302E-03
17	-.7227E-01	-.1564E+00	.7361E-03
18	-.7227E-01	-.3641E-01	.1490E-03
19	-.7227E-01	-.1482E+00	.2564E-03
20	-.7227E-01	-.1399E+00	.8140E-04
21	-.7227E-01	-.8484E-01	.3269E-03
22	-.7227E-01	-.3011E-01	.2845E-03
23	-.1566E+00	-.8153E-01	.2490E-03
24	-.1566E+00	-.5058E-01	.9164E-04
25	-.1566E+00	-.1342E+00	.2902E-03
26	-.1566E+00	-.7381E-01	.1877E-03
27	-.1566E+00	-.1634E+00	.3754E-03
28	-.1566E+00	-.8797E-01	.2119E-03
29	-.1566E+00	-.1911E+00	.2526E-03
30	-.1566E+00	-.1778E+00	.8883E-04
31	-.1566E+00	-.1077E+00	.4246E-03
32	-.1566E+00	-.3615E-01	.3528E-03
33	-.2240E+00	-.8513E-01	.1461E-03
34	-.2240E+00	-.7248E-01	-.2224E-05
35	-.2240E+00	-.1430E+00	.2151E-03
36	-.2240E+00	-.1064E+00	.6315E-04
37	-.2240E+00	-.1729E+00	.2949E-03
38	-.2240E+00	-.1278E+00	.3586E-04
39	-.2240E+00	-.2271E+00	.2230E-03
40	-.2240E+00	-.2105E+00	.4363E-04
41	-.2240E+00	-.1279E+00	.4363E-03
42	-.2240E+00	-.3943E-01	.5123E-03
43	-.2597E+00	-.8835E-01	.4597E-04
44	-.2597E+00	-.6868E-01	-.6556E-04
45	-.2597E+00	-.1518E+00	.1355E-03
46	-.2597E+00	-.1308E+00	-.7121E-05
47	-.2597E+00	-.1824E+00	.1983E-03
48	-.2597E+00	-.1581E+00	-.6397E-04
49	-.2597E+00	-.2562E+00	.1754E-03
50	-.2597E+00	-.2378E+00	.2675E-04
51	-.2597E+00	-.1457E+00	.2403E-03
52	-.2768E+00	-.9080E-01	-.8254E-05
53	-.2768E+00	-.9995E-01	-.1110E-03
54	-.2768E+00	-.1595E+00	.9375E-04
55	-.2768E+00	-.1481E+00	-.5414E-04
56	-.2768E+00	-.1906E+00	.1464E-03
57	-.2768E+00	-.1799E+00	-.1343E-03
58	-.2768E+00	-.2787E+00	.1591E-03
59	-.2768E+00	-.2597E+00	.1066E-05
60	-.2768E+00	-.1600E+00	.2441E-03
61	-.2841E+00	-.9201E-01	-.7716E-04
62	-.2841E+00	-.1070E+00	-.1261E-03
63	-.2841E+00	-.1653E+00	.6247E-04
64	-.2841E+00	-.1590E+00	-.5432E-04
65	-.2841E+00	-.1965E+00	.9951E-04
66	-.2841E+00	-.1940E+00	-.1499E-03
67	-.2841E+00	-.2944E+00	.1291E-03
68	-.2841E+00	-.2763E+00	-.4053E-05
69	-.2841E+00	-.1706E+00	.2221E-03
70	-.2904E+00	-.1127E+00	-.5216E-03
71	-.2904E+00	-.1723E+00	.2497E-03
72	-.2904E+00	-.1640E+00	-.2009E-03
73	-.2904E+00	-.1995E+00	.1774E-03
74	-.2904E+00	-.2011E+00	-.2914E-03
75	-.2904E+00	-.3036E+00	.2468E-03
76	-.2904E+00	-.2874E+00	.3185E-04
77	-.2904E+00	-.1775E+00	.2585E-03
78	-.3471E+00	-.3078E+00	-.1622E-03
79	-.3471E+00	-.2936E+00	.6880E-04
80	-.3471E+00	-.1807E+00	.5428E-03

END OF ADDK - DISPLACEMENT PRINT FILE = name.ADD
EXECUTE PROGRAM SEGMENT "FORCES" OR "REACT"

FRAME MEMBER FORCES

LOAD COMBINATION MULTIPLIERS

NEW LOAD COMB.	OLD LOAD CONDITION 1	2	3
1	1.0	0.0	0.0
2	0.0	1.0	0.0
3	0.0	0.0	1.0

MEM #	LOAD #	AXIAL FORCE	DIST I	1-2 PLANE SHEAR	1-2 PLANE MOMENT	1-3 PLANE SHEAR	1-3 PLANE MOMENT	AXIAL TORQUE
1								
	1	-89447.82						
			0.0	7699.89	-1803874.00			
			377.5	7699.89	1102833.25			
	2	-199097.12						
			0.0	-8003.97	1840065.87			
			377.5	-8003.97	-1181433.12			
	3	-155370.39						
			0.0	-163.74	19488.13			
			377.5	-163.74	-42323.23			
2								
	1	-167201.02						
			0.0	9190.53	-1998146.37			
			377.5	9190.53	1471280.37			
	2	-122436.92						
			0.0	-9536.03	2039735.37			
			377.5	-9536.03	-1560116.12			
	3	-155958.89						
			0.0	-186.04	22394.38			
			377.5	-186.04	-47835.08			
3								
	1	-40625.67						
			0.0	10704.70	-2195833.50			
			377.5	10704.70	1845189.00			
	2	-135646.39						
			0.0	-8823.98	1946716.25			
			377.5	-8823.98	-1384336.50			
	3	-94915.70						
			0.0	1012.69	-134140.02			
			377.5	1012.69	248151.45			
4								
	1	-141938.39						
			0.0	8953.64	-1967273.25			
			377.5	8953.64	1412727.50			
	2	76386.92						
			0.0	-7983.77	1837433.37			
			377.5	-7983.77	-1176440.62			
	3	-35296.95						
			0.0	522.24	-69913.52			
			377.5	522.24	127231.20			
5								
	1	-97282.09						
			22.5	4318.17	-614087.00			
			327.5	4318.17	702953.87			
	2	-179908.39						
			22.5	-6794.76	1030108.56			
			327.5	-6794.76	-1042293.06			
	3	-149256.48						
			22.5	-1333.55	224010.94			
			327.5	-1333.55	-182720.81			
6								
	1	-143869.02						
			22.5	9099.44	-1334271.50			
			327.5	9099.44	1441058.75			

```
  2   -114031.34
                22.5   -10999.56  1695441.37
               327.5   -10999.56 -1659424.37
  3   -138869.45
                22.5    -1023.14   194475.62
               327.5    -1023.14  -117580.72
7 ---------------------------------------
  1    -54825.59
                22.5    12229.31 -1882179.75
               327.5    12229.31  1847759.75
  2   -100349.70
                22.5    -7868.84  1262925.25
               327.5    -7868.84 -1137071.25
  3    -83555.92
                22.5     2347.95  -333445.09
               327.5     2347.95   382678.59
8 ---------------------------------------
  1   -106576.23
                22.5     7801.69 -1163049.50
               327.5     7801.69  1216464.50
  2     50155.92
                22.5    -5584.47   899455.12
               327.5    -5584.47  -803807.25
  3    -30380.18
                22.5     1193.89  -141935.91
               327.5     1193.89   222200.37
9 ---------------------------------------
  1   -102286.87
                22.5     6315.32  -600924.06
               277.5     6315.32  1009481.69
  2   -161609.66
                22.5    -7779.27  1008951.19
               277.5    -7779.27  -974761.44
  3   -142098.22
                22.5     -788.28   219707.33
               277.5     -788.28    18695.30
10 ---------------------------------------
  1   -123511.62
                22.5     7001.13  -940740.00
               277.5     7001.13   844547.50
  2   -104050.28
                22.5   -11651.29  1558079.62
               277.5   -11651.29 -1412999.12
  3   -122533.28
                22.5    -2503.94   332413.84
               277.5    -2503.94  -306089.59
11 ---------------------------------------
  1    -60089.92
                22.5    10619.15 -1352073.75
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               282.9       -1.03   357821.37
               302.5     -764.42   350329.78
   3         0.00
                17.5     6087.35  -350828.59
               162.4       -.61    89732.31
               302.5    -5886.66  -322800.28
120 ---------------------------------------
   1         0.00
                17.5     3564.96  -103560.58
               108.9       -.36    59374.86
               302.5    -7550.04  -671434.50
   2         0.00
                17.5    10375.14  -984420.37
               283.6       -1.04   395624.00
               302.5     -739.87   388606.00
   3         0.00
                17.5     7506.21  -585835.75
               196.2       -.75    84916.06
               302.5    -4463.80  -152292.11
121 ---------------------------------------
   1         0.00
                17.5     2802.08   223123.37
                89.4        -.28   323785.75
               302.5    -8312.92  -562171.75
   2         0.00
                17.5     6863.97  -460034.62
               193.5       -.69   143991.31
               302.5    -4251.04   -87692.45
   3         0.00
                17.5     5204.79  -127567.26
               141.4       -.52   194931.03
               302.5    -6765.21  -349927.47
122 ---------------------------------------
   1       346.44
                17.5     2335.23   747471.50
                77.4        -.23   817385.75
               442.5   -14239.77 -1782242.25
   2       217.12
                17.5    14431.83 -1859992.37
               387.6       -1.44   810234.37
               442.5    -2143.17   751347.37
   3       303.47
                17.5     9028.42  -599049.75
```

```
              232.5       -.90   371334.94
              442.5    -8821.58  -555097.50
123 ---------------------------------------
    1         0.00
                17.5     2190.28   733183.50
                73.7        -.22   794687.87
               442.5   -14384.72 -1858133.62
    2         0.00
                17.5    15117.37 -1976982.75
               405.2       -1.51   952949.50
               442.5    -1457.64   925709.81
    3         0.00
                17.5     9319.50  -669738.25
               239.4        -.93   364227.62
               442.5    -8530.50  -502074.50
124 ---------------------------------------
    1         0.00
                17.5     1538.70   898322.44
                57.0        -.15   928676.31
               442.5   -15036.30 -1969917.00
    2         0.00
                17.5    16257.48 -2211305.50
               434.4       -1.62  1177228.75
               442.5     -317.52  1175936.25
    3         0.00
                17.5     9582.56  -706990.69
               245.7        -.96   386169.06
               442.5    -8267.44  -427528.44
125 ---------------------------------------
    1         0.00
                17.5     1177.08   992965.75
                47.7        -.12  1010728.69
               442.5   -15397.92 -2028964.62
    2         0.00
                17.5    16904.95 -2322355.75
               442.5      329.95  1340060.25
    3         0.00
                17.5     9736.47  -715825.25
               249.3        -.97   412733.37
               442.5    -8113.53  -370948.87
126 ---------------------------------------
    1         0.00
                17.5     1292.61   973092.81
                50.6        -.13   994513.94
               442.5   -15282.39 -1999734.37
    2         0.00
                17.5    16153.90 -2139504.25
               431.7       -1.61  1205989.25
               442.5     -421.10  1203715.87
    3         0.00
                17.5     9394.28  -628068.12
               241.2        -.94   422556.37
               442.5    -8455.72  -428624.94
127 ---------------------------------------
    1         0.00
                17.5      351.29  1063215.75
                26.5        -.04  1064797.87
               442.5   -16223.71 -2309672.25
    2         0.00
                17.5    15262.20 -1928099.62
               408.9       -1.53  1058243.62
               442.5    -1312.80  1036148.25
    3         0.00
                17.5     8407.26  -465706.37
               217.7        -.84   375747.19
               442.5    -9442.74  -685743.81
128 ---------------------------------------
    1         0.00
                17.5     1497.49   862751.44
                55.9        -.15   891501.25
               442.5   -15077.51 -2023001.50
    2         0.00
                17.5    13717.25 -1628412.00
               369.3       -1.37   783931.75
               442.5    -2857.75   679229.69
    3         0.00
                17.5     8192.55  -412278.16
               212.6        -.82   386743.97
```

		442.5	-9657.45	-723569.94
129				
	1	0.00		
		17.5	2618.52	636679.56
		84.6	-.26	724585.50
		442.5	-13956.48	-1772635.75
	2	0.00		
		17.5	12213.76	-1329345.87
		330.7	-1.22	583167.00
		442.5	-4361.24	339315.87
	3	0.00		
		17.5	7986.61	-372973.22
		207.7	-.80	386383.41
		442.5	-9863.39	-771788.50
130				
	1	0.00		
		17.5	2901.75	581808.69
		91.9	-.29	689759.37
		442.5	-13673.25	-1707135.12
	2	0.00		
		17.5	12318.14	-1356595.37
		333.4	-1.23	588744.12
		442.5	-4256.86	356425.06
	3	0.00		
		17.5	8195.32	-417192.81
		212.6	-.82	382370.44
		442.5	-9654.68	-727305.81
131				
	1	0.00		
		17.5	5307.74	139049.56
		153.6	-.53	500229.81
		442.5	-11267.26	-1127350.50
	2	0.00		
		17.5	12138.45	-1265477.50
		328.8	-1.21	623523.37
		442.5	-4436.55	371178.06
	3	0.00		
		17.5	9394.10	-606538.06
		241.2	-.94	444046.94
		442.5	-8455.90	-407169.94
132				
	1	-1178.00		
		17.5	-29804.68	1690385.12
		142.5	-34679.68	-2339907.00
	2	-738.00		
		17.5	31788.51	-1752709.50
		142.5	26913.51	1916166.25
	3	-1031.79		
		17.5	1068.22	-33570.43
		42.9	-.11	-19985.95
		142.5	-4181.78	-228167.78
133				
	1	0.00		
		17.5	-21014.09	1236313.25
		142.5	-25889.09	-1695135.00
	2	0.00		
		17.5	18926.76	-981644.44
		142.5	14051.76	1079513.37
	3	0.00		
		17.5	-1123.94	137129.11
		142.5	-6373.94	-331488.66
134				
	1	0.00		
		17.5	-20257.59	1139885.12
		142.5	-25132.59	-1697001.12
	2	0.00		
		17.5	20005.68	-991888.37
		142.5	15130.68	1204133.87
	3	0.00		
		14.3	-.06	79909.03
		17.5	-135.63	79690.02
		142.5	-5385.63	-265389.25
135				
	1	0.00		
		17.5	-26189.01	1373053.75
		142.5	-31064.01	-2205259.50
	2	0.00		
		17.5	22783.89	-1077071.37

```
                142.5    17908.89  1466227.37
    3         0.00
                 17.5    -1833.53   159375.36
                142.5    -7083.53  -397940.47
136 ------------------------------------
    1         0.00
                 17.5   -16885.65  1149499.00
                142.5   -21760.65 -1265895.00
    2         0.00
                 17.5    10669.60  -431061.56
                142.5     5794.60   597950.56
    3         0.00
                 17.5    -3347.11   386850.91
                142.5    -8597.11  -359663.09
137 ------------------------------------
    1    -32253.25
                 17.5    26206.62-23656896.00
               1032.5    26206.62  2943224.00
    2   -176055.67
                 17.5   -28677.05 26100740.00
               1032.5   -28677.05 -3006462.00
    3   -112166.39
                 17.5    -1330.23  1316131.62
               1032.5    -1330.23   -34052.37
138 ------------------------------------
    1   -166144.23
                 17.5    29334.36-24712354.00
               1032.5    29334.36  5062016.00
    2   -136975.12
                 17.5   -29845.80 26495288.00
               1032.5   -29845.80 -3798204.00
    3   -163218.19
                 17.5     -275.40   960042.37
               1032.5     -275.40   680511.50
139 ------------------------------------
    1   -205569.30
                 17.5    28607.82-24467092.00
               1032.5    28607.82  4569846.00
    2   -149356.44
                 17.5   -27826.46 25813600.00
               1032.5   -27826.46 -2430262.00
    3   -191113.84
                 17.5      420.72   725045.62
               1032.5      420.72  1152079.62
```

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        ********************************
        **  REACTIONS AND APPLIED FORCES **
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```
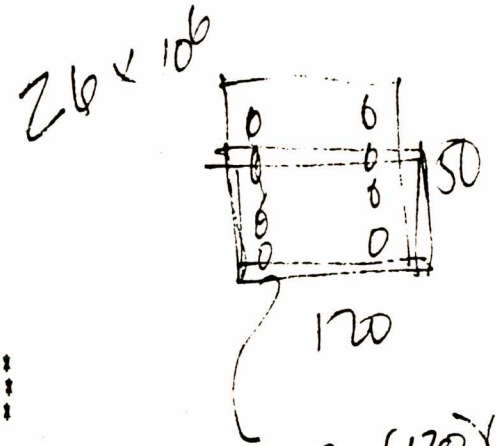

REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 1

FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Z)
1	-.7700E+04	.8945E+05	.1804E+07
2	-.9191E+04	.1672E+06	.1998E+07
3	-.1070E+05	.4063E+05	.2196E+07
4	-.8954E+04	.1419E+06	.1967E+07
5	.3100E+04	-.6348E-02	.6250E-01
6	.3100E+04	.1025E-01	-.3125E-01
7	-.2500E+00	.7813E-02	-.8750E+00
8	.3100E+04	.1758E-01	-.5000E+00
9	.4600E+04	.6787E-01	.1812E+01
10	.4600E+04	.1277E+00	-.2188E+00
11	.4600E+04	-.4102E-01	-.1750E+01
12	.4600E+04	-.4102E-01	-.3000E+01
13	.1060E+05	.3125E-01	-.1500E+01
14	.1060E+05	-.9766E-02	.0000E+01
15	.1060E+05	.3906E-02	-.5000E+00
16	.1060E+05	-.1563E-01	.0000E+01
17	.1060E+05	.0000E+01	.3250E+01
18	.1060E+05	.3125E-01	.0000E+01
19	.1060E+05	-.4688E-01	.1875E+00

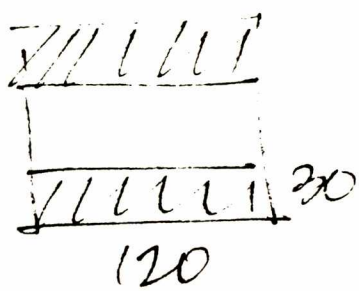


$A_g = 1020\,(120)(150)$

$= 3600\ cm^2$

$M_w = (4185)3600 * 1.10$

$= 166 \times 10^6$



$\frac{V}{A} = \frac{24 \times 10^3 kg}{(20)(120)/2}$

$= 4.03 \frac{kg}{cm^2}$

20	.1060E+05	-.1416E-01	.4688E+00
21	.1060E+05	.4883E-01	-.2125E+01
22	.1060E+05	.1855E+00	-.4500E+01
23	.1220E+05	.1328E+00	.5000E+00
24	.1220E+05	-.3174E-01	.1625E+01
25	.1220E+05	-.1563E-01	.1250E+01
26	.1220E+05	-.1953E-01	.5094E+01
27	.1220E+05	.9766E-02	.3250E+01
28	.1220E+05	-.1245E+00	.1406E+01
29	.1220E+05	-.2979E-01	-.2062E+01
30	.1220E+05	.1941E+00	.1500E+01
31	.1220E+05	-.1953E-01	-.8750E+00
32	.1220E+05	-.1484E+00	-.2500E+00
33	.1450E+05	.3125E-01	.4500E+01
34	.1450E+05	-.4736E-01	-.2594E+01
35	.1450E+05	-.2734E-01	.1250E+01
36	.1450E+05	-.8545E-02	.3000E+01
37	.1450E+05	-.7813E-02	.1500E+01
38	.1450E+05	-.2551E-01	.3687E+01
39	.1450E+05	.1050E+00	.2500E+01
40	.1450E+05	-.1566E+00	-.1062E+01
41	.1450E+05	.1953E-01	-.3750E+00
42	.1450E+05	.8594E-01	-.3000E+01
43	.1540E+05	-.7422E-01	.5750E+01
44	.1540E+05	.9521E-02	.1594E+01
45	.1540E+05	.3906E-01	.1250E+01
46	.1540E+05	.1638E+00	.3687E+01
47	.1540E+05	.5469E-01	.3250E+01
48	.1540E+05	-.1354E+00	.8438E+00
49	.1540E+05	-.1528E+00	.0000E+01
50	.1540E+05	.3064E+00	.2875E+01
51	.1540E+05	.1733E-01	.5000E+00
52	.1600E+05	-.6250E-01	-.7500E+00
53	.1600E+05	.3613E-01	.3937E+01
54	.1600E+05	-.1113E+00	.3125E+01
55	.1600E+05	-.1104E+00	.4281E+01
56	.1600E+05	-.9375E-01	.4750E+01
57	.1600E+05	-.1870E+00	.4719E+01
58	.1600E+05	-.1431E+00	.3625E+01
59	.1600E+05	.1484E+00	.1187E+01
60	.1600E+05	.6885E-01	.3312E+01
61	.1500E+05	.5859E-01	.3750E+01
62	.1500E+05	-.1245E-01	-.6250E-01
63	.1500E+05	-.1367E-01	.1000E+01
64	.1500E+05	.8154E-01	.2125E+01
65	.1500E+05	.9766E-01	-.8750E+00
66	.1500E+05	-.4022E-01	.4500E+01
67	.1500E+05	-.5811E-01	.2719E+01
68	.1500E+05	-.2362E+00	-.3125E+00
69	.1500E+05	.7690E-02	.8438E+00
70	.1490E+05	-.3845E-02	-.7969E+00
71	.1490E+05	.1172E-01	.1437E+01
72	.1490E+05	-.8496E-01	-.1469E+01
73	.1490E+05	-.3516E-01	.7500E+00
74	.1490E+05	-.8017E-01	.2812E+01
75	.1490E+05	.5420E-01	-.2875E+01
76	.1490E+05	.4183E+00	.4531E+00
77	.1490E+05	-.3259E-01	-.7188E+00
78	.1440E+05	-.1147E-01	.9063E+00
79	.1440E+05	-.2943E-01	.2389E+01
80	.1440E+05	.1381E-01	.3281E+00
81	-.2621E+05	.3225E+05	.2412E+08
82	-.2933E+05	.1661E+06	.2523E+08
83	-.2861E+05	.2056E+06	.2497E+08

REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 2

FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Z)
1	.8004E+04	.1991E+06	-.1840E+07
2	.9536E+04	.1224E+06	-.2040E+07
3	.8824E+04	.1356E+06	-.1947E+07
4	.7984E+04	-.7639E+05	-.1837E+07
5	-.3100E+04	-.5859E-02	-.1125E+01
6	-.3100E+04	-.6592E-02	-.3125E+00

7	.0000E+01	-.7813E-02	-.5000E+00
8	-.3100E+04	-.7813E-02	-.2500E+00
9	-.4600E+04	-.6348E-02	-.1875E+00
10	-.4600E+04	.6177E-01	-.8125E+00
11	-.4600E+04	.2734E-01	.5000E+00
12	-.4600E+04	-.3125E-01	.1000E+01
13	-.1060E+05	-.7031E-01	.0000E+01
14	-.1060E+05	.3125E-01	.4000E+01
15	-.1060E+05	.0000E+01	-.2000E+01
16	-.1060E+05	.3125E-01	.8000E+01
17	-.1060E+05	-.9375E-01	-.5750E+01
18	-.1060E+05	-.3125E-01	.8000E+01
19	-.1060E+05	-.3711E-01	-.5000E+00
20	-.1060E+05	.1006E+00	-.1875E+00
21	-.1060E+05	.1328E+00	.5000E+00
22	-.1060E+05	-.7813E-02	-.2000E+01
23	-.1220E+05	.1563E-01	-.4000E+01
24	-.1220E+05	-.9326E-01	-.1812E+01
25	-.1220E+05	-.1211E+00	-.3000E+01
26	-.1220E+05	-.1855E-01	-.1044E+02
27	-.1220E+05	.2891E+00	-.6250E+01
28	-.1220E+05	-.4639E-01	-.9750E+01
29	-.1220E+05	.3027E-01	-.1375E+01
30	-.1220E+05	.1807E-01	-.3937E+01
31	-.1220E+05	-.5859E-01	-.3000E+01
32	-.1220E+05	.3516E-01	-.7000E+01
33	-.1450E+05	-.8594E-01	-.1000E+01
34	-.1450E+05	-.1953E-01	.5000E+00
35	-.1450E+05	-.3125E-01	-.2250E+01
36	-.1450E+05	.4834E-01	-.6875E+01
37	-.1450E+05	-.1914E+00	-.5000E+01
38	-.1450E+05	-.7397E-01	-.4687E+01
39	-.1450E+05	.1187E+00	-.7187E+01
40	-.1450E+05	.9424E-01	-.4812E+01
41	-.1450E+05	.1445E+00	-.6000E+01
42	-.1450E+05	-.1172E-01	-.2500E+01
43	-.1540E+05	-.5469E-01	.2500E+00
44	-.1540E+05	-.4785E-01	.1250E+00
45	-.1540E+05	-.1367E+00	-.2500E+01
46	-.1540E+05	.2686E-01	.1500E+01
47	-.1540E+05	.2344E-01	.3875E+01
48	-.1540E+05	-.1541E+00	.1469E+01
49	-.1540E+05	-.1660E+00	.2125E+01
50	-.1540E+05	.1318E-01	-.1250E+00
51	-.1540E+05	.8154E-01	.4125E+01
52	-.1600E+05	.3477E+00	.1187E+02
53	-.1600E+05	-.2124E+00	.4000E+01
54	-.1600E+05	-.1211E+00	.5500E+01
55	-.1600E+05	.1538E-01	-.1250E+01
56	-.1600E+05	.9766E-02	-.4500E+01
57	-.1600E+05	.3882E-01	-.4063E+00
58	-.1600E+05	-.1938E+00	-.4250E+01
59	-.1600E+05	.1401E+00	-.3125E+00
60	-.1600E+05	-.1509E+00	.3625E+01
61	-.1500E+05	-.2227E+00	-.6875E+01
62	-.1500E+05	-.8667E-01	-.2531E+01
63	-.1500E+05	-.1133E+00	.5500E+01
64	-.1500E+05	-.8960E-01	-.3906E+01
65	-.1500E+05	-.1094E+00	-.4875E+01
66	-.1500E+05	-.2025E+00	-.6406E+01
67	-.1500E+05	-.1919E+00	-.4000E+01
68	-.1500E+05	.6250E-01	.5000E+00
69	-.1500E+05	-.7520E-01	-.5000E+01
70	-.1490E+05	-.4883E-02	-.1500E+01
71	-.1490E+05	-.3662E-02	-.2875E+01
72	-.1490E+05	-.1563E-01	-.1844E+01
73	-.1490E+05	.8594E-01	-.6000E+01
74	-.1490E+05	-.5615E-02	-.5969E+01
75	-.1490E+05	.1602E+00	-.1937E+01
76	-.1490E+05	.2544E+00	-.8750E+01
77	-.1490E+05	.1460E+00	-.5937E+01
78	-.1440E+05	-.3528E-01	-.2672E+01
79	-.1440E+05	-.6958E-01	-.2125E+01
80	-.1440E+05	-.1636E-01	-.4000E+01
81	.2868E+05	.1761E+06	-.2660E+08
82	.2985E+05	.1370E+06	-.2702E+08
83	.2783E+05	.1494E+06	-.2630E+08

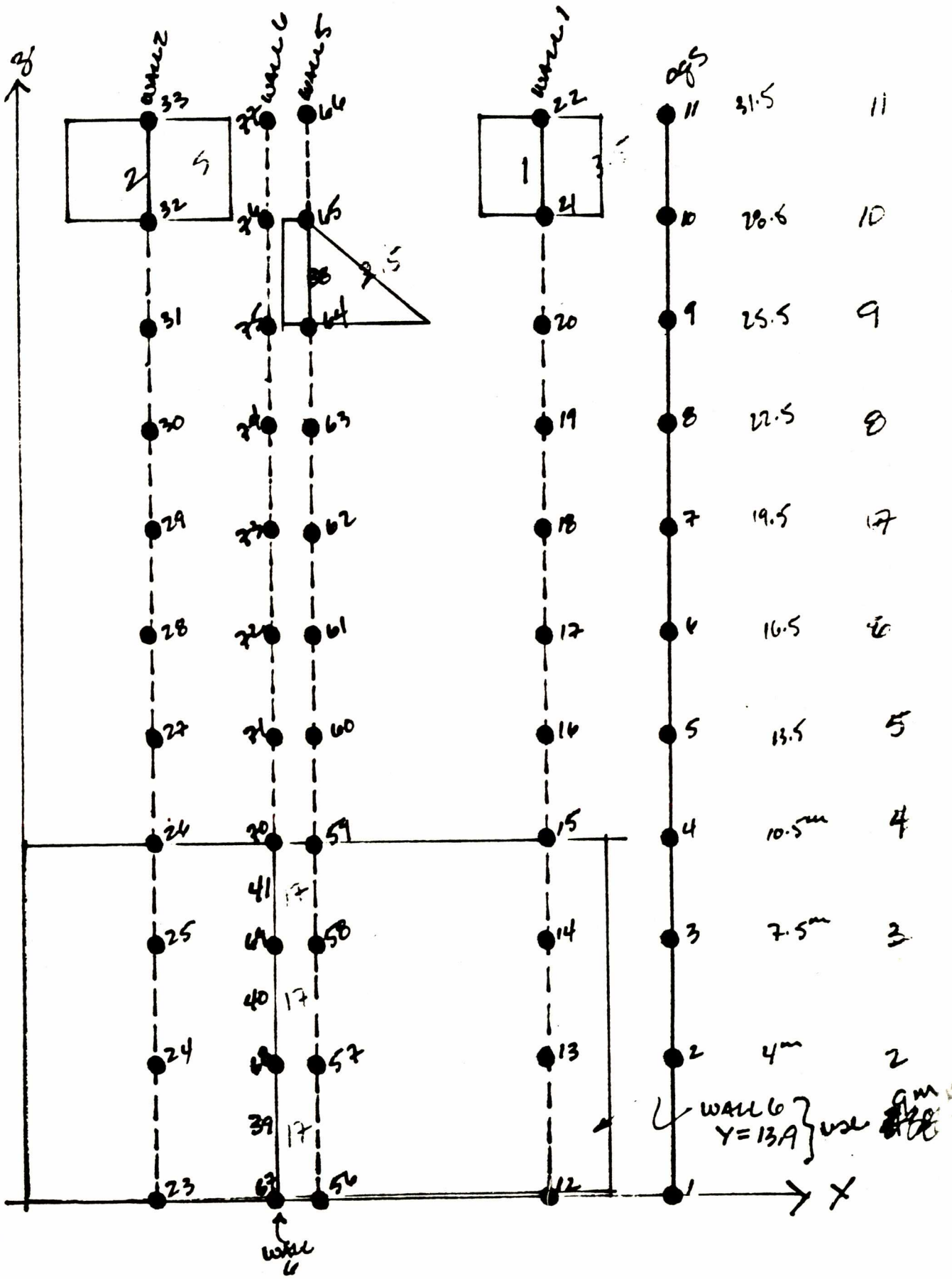
REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 3

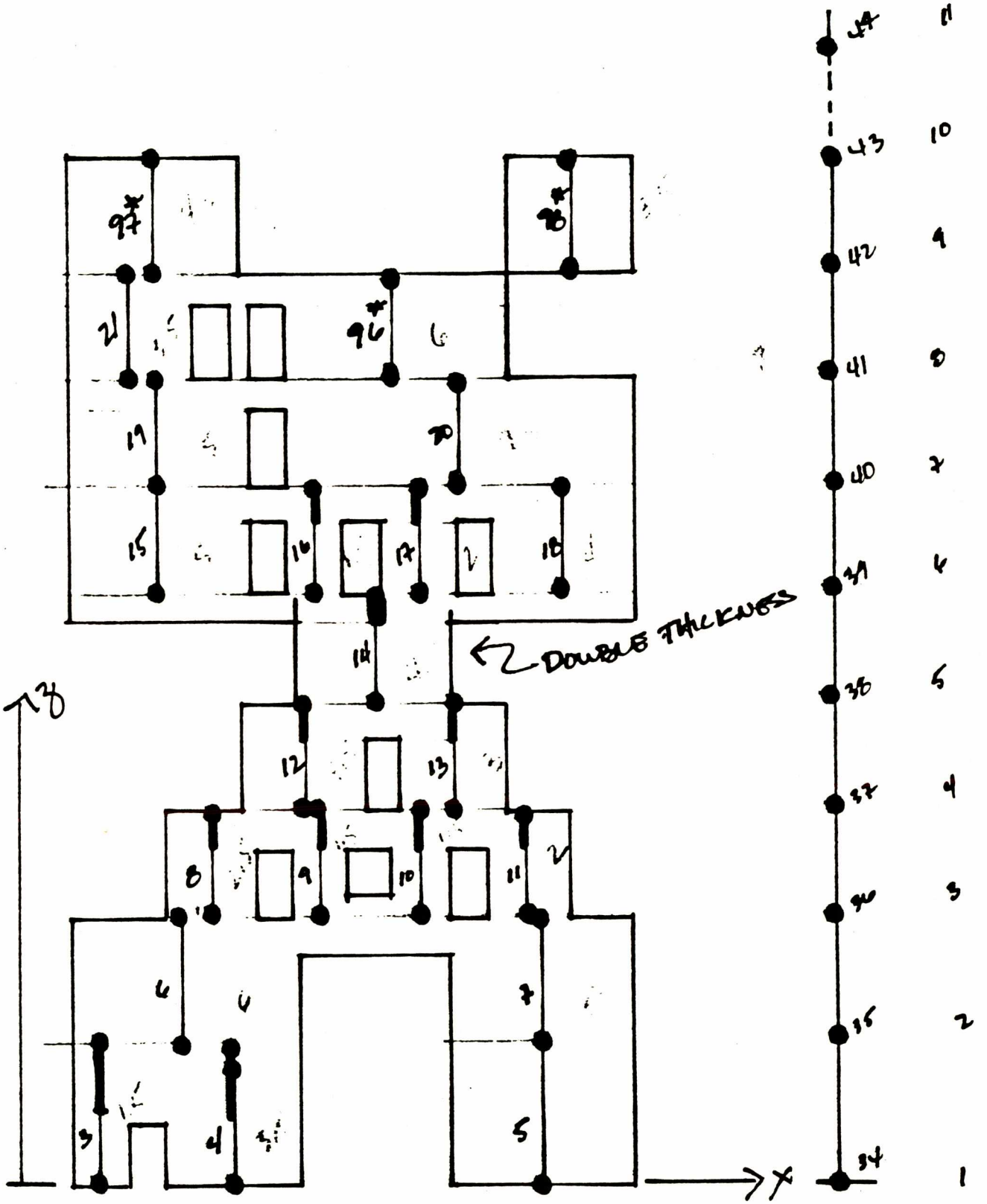
FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Z)
1	.1637E+03	.1554E+06	-.1949E+05
2	.1860E+03	.1560E+06	-.2239E+05
3	-.1013E+04	.9492E+05	.1341E+06
4	-.5222E+03	.3530E+05	.6991E+05
5	.1465E-02	.3986E-01	.9766E-01
6	.1465E-02	.3729E-01	-.1563E-01
7	-.1465E-02	.2051E-01	.4688E-01
8	.1465E-02	.6836E-02	-.1563E+00
9	.0000E+01	.7120E-01	-.3516E-01
10	.0000E+01	.2966E-01	-.7813E-01
11	.0000E+01	.2295E-01	.1563E+00
12	.0000E+01	-.3418E-02	.0000E+01
13	.0000E+01	.3027E-01	.6719E+00
14	.0000E+01	.7813E-02	.7500E+00
15	.0000E+01	.2295E-01	.8438E+00
16	.0000E+01	.0000E+01	-.5000E+00
17	.0000E+01	-.4980E-01	-.1812E+01
18	.0000E+01	.1563E-01	-.1000E+01
19	.0000E+01	-.1437E+00	.6250E-01
20	.0000E+01	.1598E+00	-.3125E+00
21	.0000E+01	.5664E-01	.3750E+00
22	.0000E+01	.1953E-02	.1250E+00
23	.1250E+00	-.1006E+00	-.9844E+00
24	.1250E+00	-.2795E-01	-.4219E+00
25	.1250E+00	-.1494E+00	-.1563E+00
26	.1250E+00	-.3577E-01	-.1141E+01
27	.1250E+00	.1807E+00	.8125E+00
28	.1250E+00	-.1771E+00	-.9453E+00
29	.1250E+00	-.3430E-01	.0000E+01
30	.1250E+00	.1111E+00	.1250E+00
31	.1250E+00	.3418E-01	.1187E+01
32	.1250E+00	-.6836E-02	.8750E+00
33	.1250E+00	-.5109E-01	-.9399E+00
34	.1250E+00	-.1061E+00	.3750E+00
35	.1250E+00	.1221E-01	.3750E+00
36	.1250E+00	.8240E-01	-.6250E+00
37	.1250E+00	-.5298E-01	-.1516E+01
38	.1250E+00	.3201E-01	-.1820E+01
39	.1250E+00	.1534E+00	.1875E+00
40	.1250E+00	.4651E-01	-.5000E+00
41	.1250E+00	-.1367E-01	-.8750E+00
42	.1250E+00	.4102E-01	-.1000E+01
43	.1250E+00	.4346E-01	.1406E+00
44	.1250E+00	.1746E-01	-.3750E+00
45	.1250E+00	-.1743E-01	.5518E+00
46	.1250E+00	-.3052E-03	.9453E+00
47	.1250E+00	.3418E-02	.1469E+01
48	.1250E+00	-.1572E+00	.3047E+00
49	.1250E+00	-.3425E+00	.2539E+00
50	.1250E+00	.1023E+00	-.2969E+00
51	.1250E+00	.1685E-01	.4375E+00
52	.0000E+01	.4102E-01	.2188E+00
53	.0000E+01	-.1346E+00	.7813E-02
54	.0000E+01	-.2957E+00	-.2734E+00
55	.0000E+01	-.2991E-02	-.1352E+01
56	.0000E+01	-.9375E-01	.2813E+00
57	.0000E+01	-.2428E+00	.4844E+00
58	.0000E+01	.7529E-01	-.1342E+00
59	.0000E+01	.1207E+00	-.5938E+00
60	.0000E+01	.7654E-01	.1250E+00
61	.0000E+01	-.2051E-01	-.6563E+00
62	.0000E+01	.1181E-01	-.6250E-01
63	.0000E+01	.2686E-01	.7813E+00
64	.0000E+01	-.7977E-01	-.1484E+00
65	.0000E+01	.4980E-01	.3750E+00
66	.0000E+01	-.8240E-02	.1105E+01
67	.0000E+01	.6553E-01	.1187E+00
68	.0000E+01	-.1074E+00	-.8281E+00
69	.0000E+01	-.1764E-01	-.1406E+00
70	.0000E+01	-.8484E-02	.4688E-01
71	.0000E+01	.2612E-01	-.4688E-01

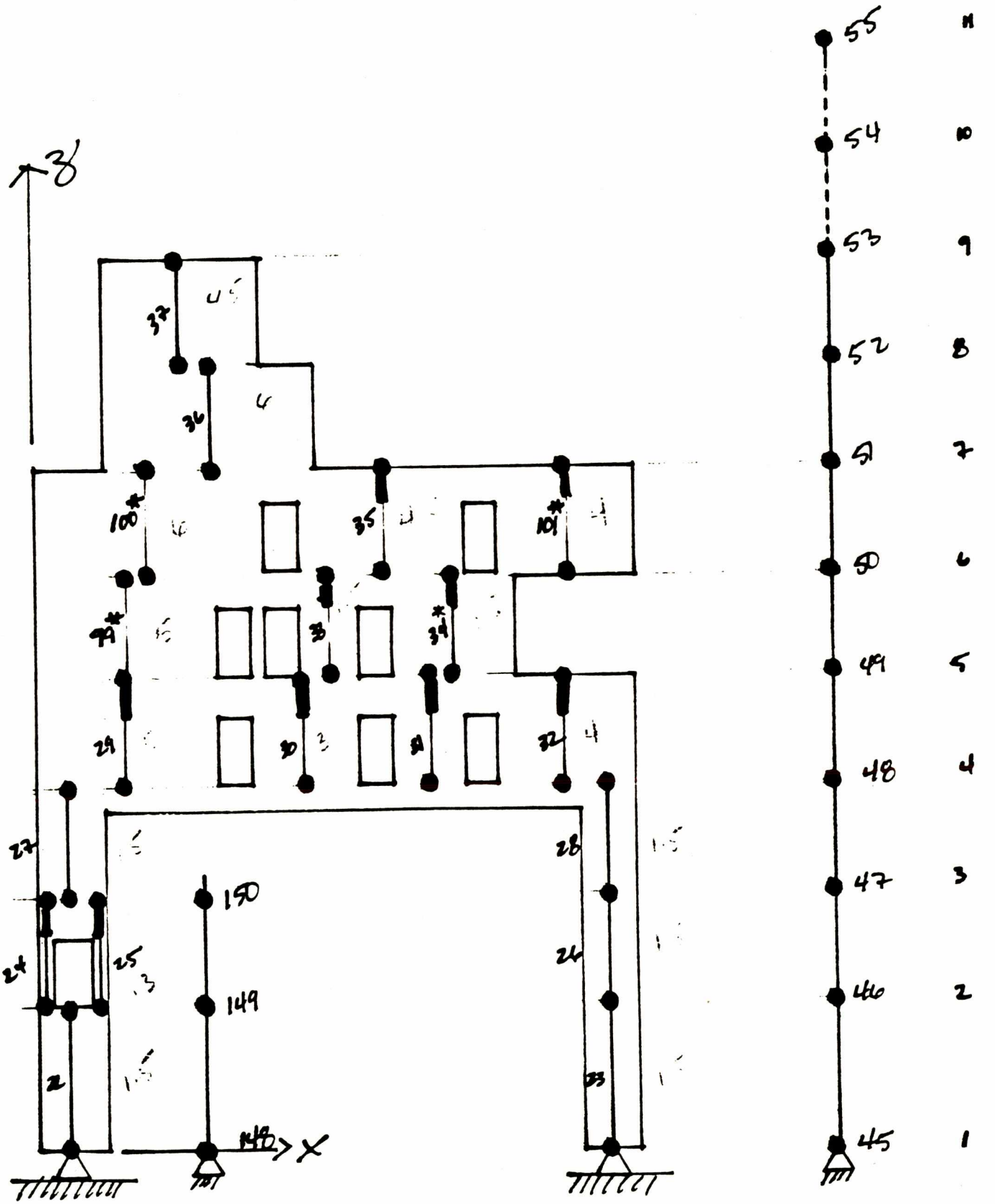
72	.0000E+01	.9033E-02	.3594E+00
73	.0000E+01	.2930E-01	.6250E-01
74	.0000E+01	-.6775E-01	.6016E+00
75	.0000E+01	-.1662E+00	.3125E+00
76	.0000E+01	.1206E+00	.0000E+01
77	.0000E+01	-.4150E-01	-.9375E-01
78	.0000E+01	-.2109E-01	-.1953E+00
79	.0000E+01	.1899E+00	-.3125E+00
80	.0000E+01	.5420E-01	-.1875E+00
81	.1330E+04	.1122E+06	-.1339E+07
82	.2754E+03	.1632E+06	-.9649E+06
83	-.4207E+03	.1911E+06	-.7177E+06

E. WALL MODEL

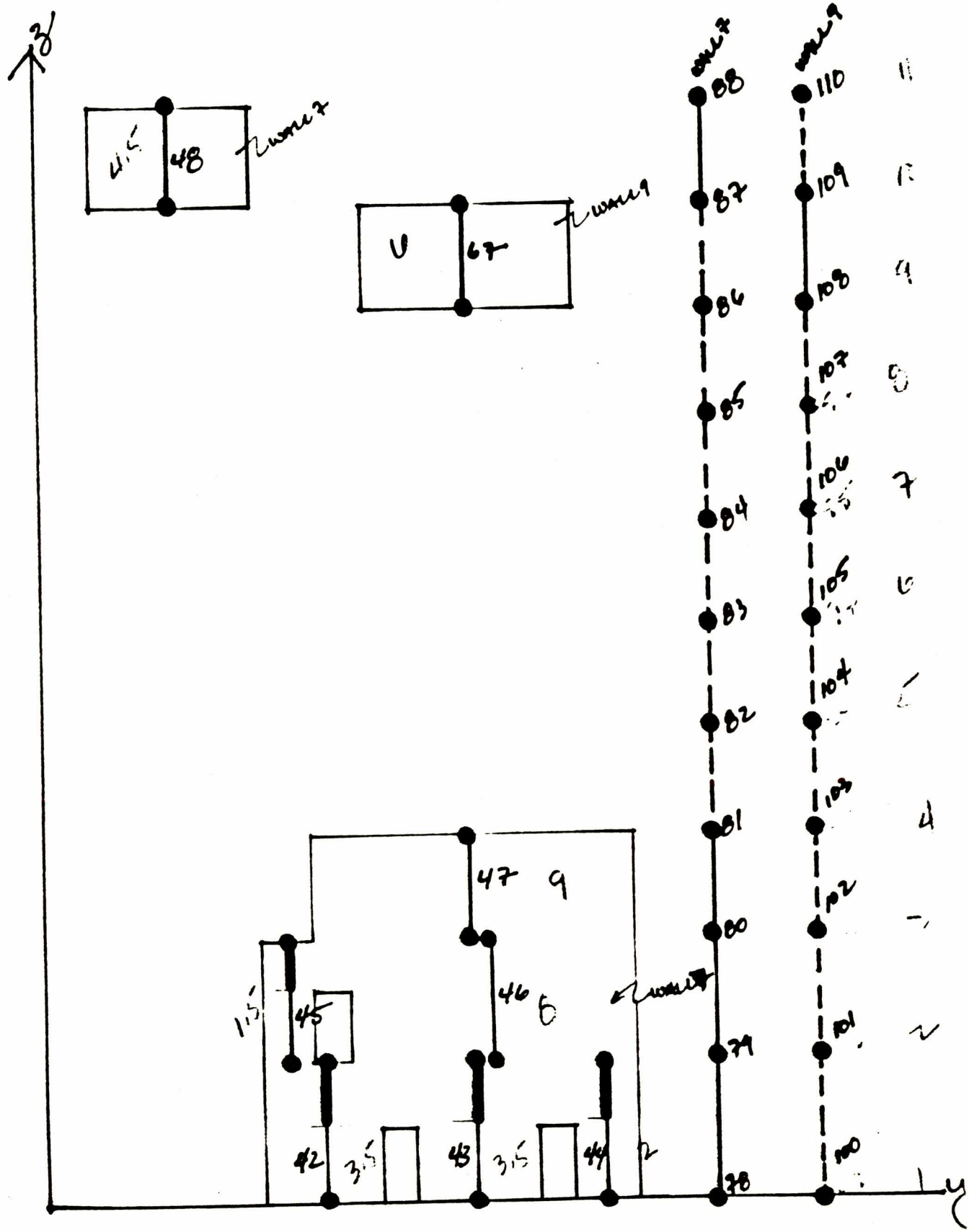

Z
wall 2
wall 6
wall 5
wall 1
dgs
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
12
66
65
64
63
62
61
60
59
58
57
56
41
40
39
17
2
5
3
1
3.5
11
10
9
8
7
6
5
4
3
2
1
31.5
28.6
25.5
22.5
19.5
16.5
13.5
10.5m
7.5m
4m
wall 6
Y=13.9
X
wall 6
wall 2
Y=6.2
wall 5
Y=21.45
wall 1
Y=1.6



WALL 3 QT=6.2

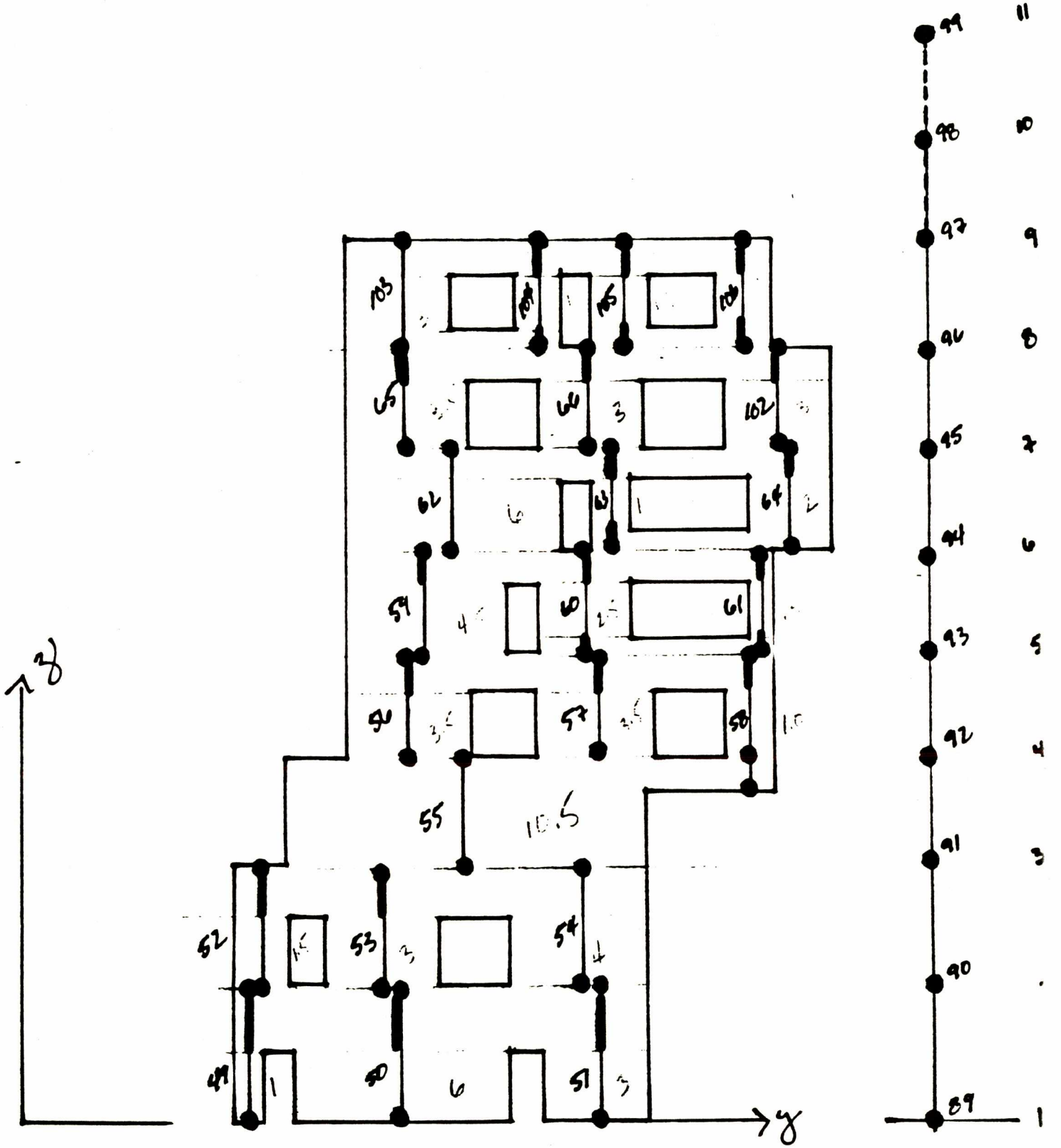

Z
X
55
54
53
52
51
50
49
48
47
46
45
11
10
9
8
7
6
5
4
3
2
1
37
36
100*
35
101*
79*
33
34*
29
30
31
32
27
28
150
149
24
25
26
2
23
148

Wall 4 @ Y = 23 m

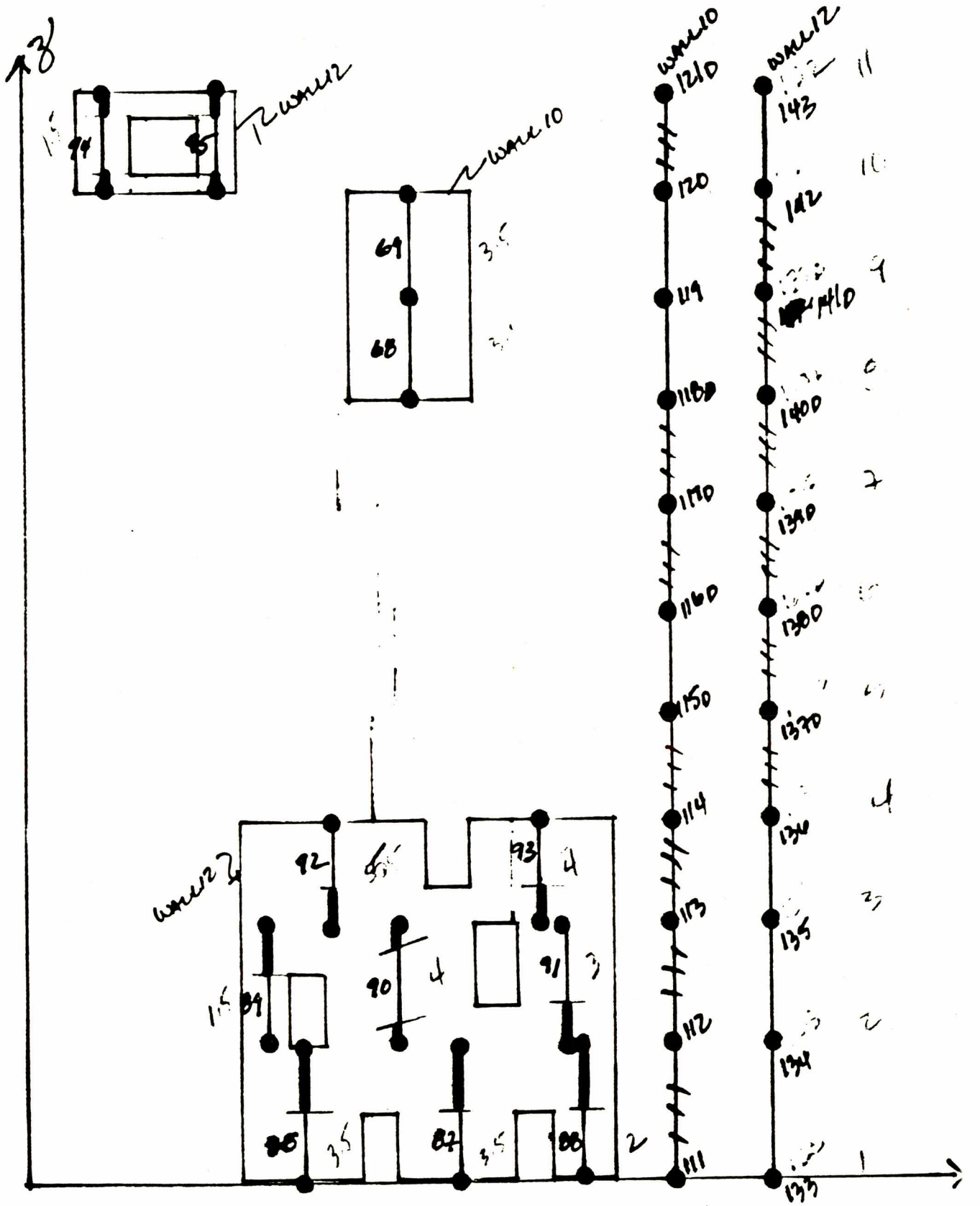


WALL 7
X=0

WALL 9
X= 7.6

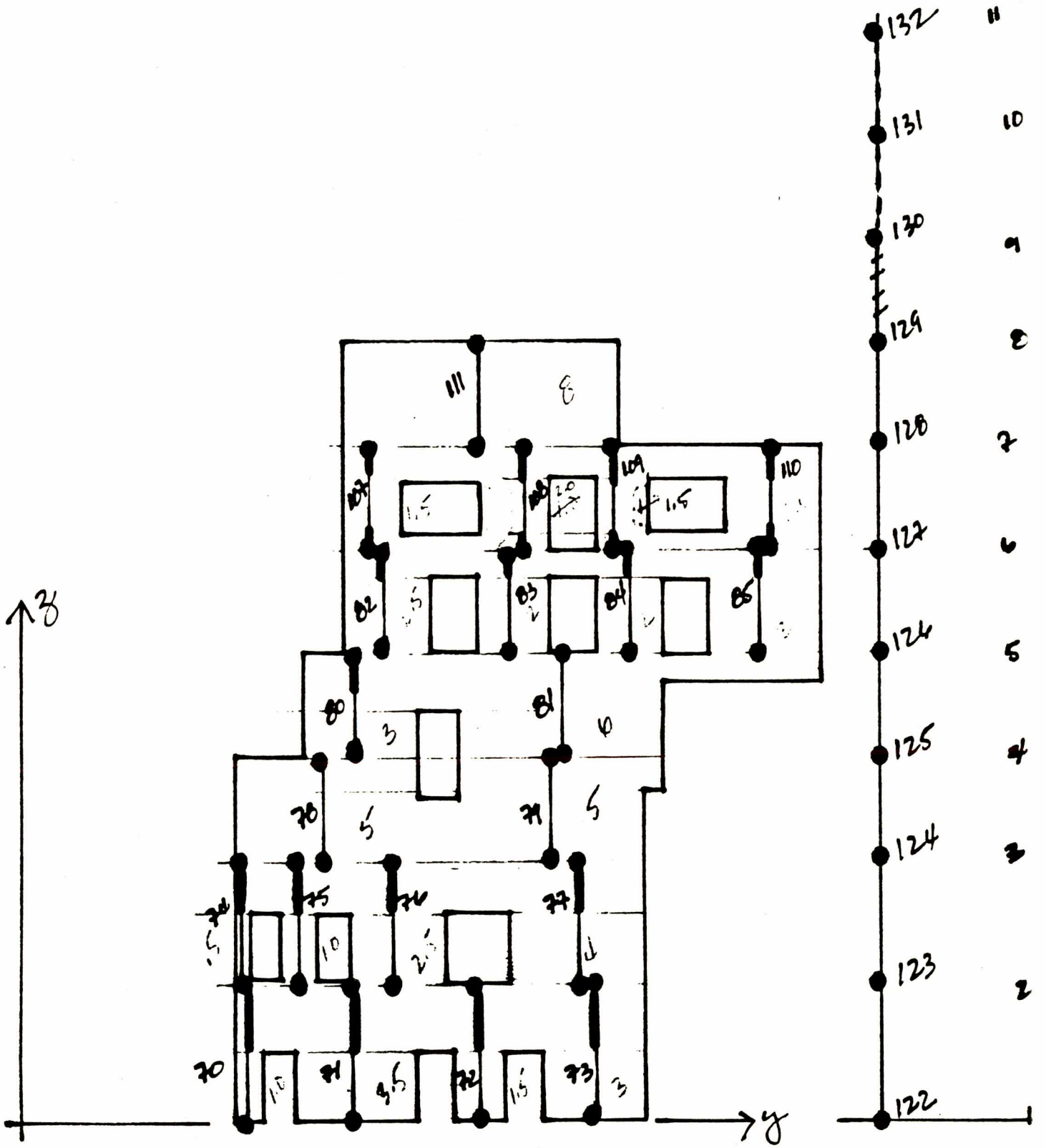

z
y
103
104
105
106
65
66
102
62
63
64
59
60
61
50
57
58
55
10.5
52
53
54
49
1
50
6
51
3
99
11
98
10
97
9
96
8
95
7
94
6
93
5
92
4
91
3
90
89
1

WALL B @ X = 6.05



wall 10
X = 11.8

wall 12
X = 16.85



WALL 11 @ X = 13.35

```
SYSTEM:SAPORO PROJECT: WALL MODEL 3/11/82
N=150 L=2: Load case 1 = N-S EQ, Load case 2 = E-W EQ
RESTRAINTS:
1          R=1,1,1,1,1,1:
2,11,1     R=0,0,1,1,1,0: CGS nodes have DOF Ux, Uy, Rz
12,20,1    R=1,1,1,1,1,1: WALL 1:
21,22,1    R=1,1,1,1,1,1:
23,31,1    R=1,1,1,1,1,1: WALL 2
32,33,1    R=1,1,1,1,1,1:
34         R=1,1,1,1,1,1: WALL 3
35,43,1    R=1,1,1,1,1,1:
44         R=1,1,1,1,1,1:
45         R=1,1,1,1,0,1: WALL 4
46,47,1    R=0,1,1,1,0,1:
48,53,1    R=1,1,1,1,1,1:
54,55,1    R=1,1,1,1,1,1:
148        R=1,1,1,1,0,1:
149,150    R=0,1,1,1,0,1:
56,63,1    R=1,1,1,1,1,1: WALL 5
64,65,1    R=1,1,1,1,1,1:
66         R=1,1,1,1,1,1:
67         R=1,1,1,1,1,1: WALL 6
68,70,1    R=1,1,1,1,1,1:
71,77,1    R=1,1,1,1,1,1:
78         R=1,1,1,1,1,1: WALL 7
79,81,1    R=1,1,1,1,1,1:
82,86,1    R=1,1,1,1,1,1:
87,88,1    R=1,1,1,1,1,1:
89         R=1,1,1,1,1,1: WALL 8
90,97,1    R=1,1,1,1,1,1:
98,99,1    R=1,1,1,1,1,1:
100,107,1  R=1,1,1,1,1,1: WALL 9
108,109,1  R=1,1,1,1,1,1:
110        R=1,1,1,1,1,1:
111,117,1  R=1,1,1,1,1,1: WALL 10
118,120,1  R=1,1,1,1,1,1:
121        R=1,1,1,1,1,1:
122        R=1,1,1,1,1,1: WALL 11
123,129,1  R=1,1,1,1,1,1:
130,132,1  R=1,1,1,1,1,1:
133        R=1,1,1,1,1,1: WALL 12
134,136,1  R=1,1,1,1,1,1:
137,141,1  R=1,1,1,1,1,1:
142,143,1  R=1,1,1,1,1,1:
144,147,1  R=1,1,1,1,1,1: Dummy nodes
:
JOINTS: Units in meters-scaled-to-cm.
1   C=8.625,7.0,0 G=100: CGS Nodes
2   C=8.5,7.2,4:
3   C=8.625,8,7.5:
4   C=8.625,14.75,10.5:
5   C=9.277,15.19,13.5:
6   C=9.136,15.04,16.5:
7   C=8.953,16.47,19.5:
8   C=8.106,15.58,22.5:
9   C=7.564,14.07,25.5:
10  C=7.741,11.62,28.5:
11  C=9.625,6.2,31.5:
12  C=15,1.6,0: wall 1
13  C=15,1.6,4:
14  C=15,1.6,7.5:
22  C=15,1.6,31.5 G=14,22,1:
23  C=4,6.2,0: wall 2
24  C=4,6.2,4:
25  C=4,6.2,7.5:
33  C=4,6.2,31.5 G=25,33,1:
34  C=10,6.2,0: wall 3
35  C=10,6.2,4:
36  C=10,6.2,7.5:
44  C=10,6.2,31.5 G=36,44,1:
45  C=10,23,0: wall 4
46  C=10,23,4:
47  C=10,23,7.5:
148 C=10,23,0:
149 C=10,23,4:
150 C=10,23,7.5:
55  C=10,23,31.5 G=47,55,1:
56  C=9,21.45,0: wall 5
```

```
57  C=9,21,45,4:
58  C=9,21,45,7.5:
66  C=9,21,45,31.5 G=58,66,1:
67  C=7,13,9,0: wall 6
68  C=7,13,9,4:
69  C=7,13,9,7.5:
77  C=7,13,9,31.5 G=69,77,1:
78  C=0,12,0: wall 7
79  C=0,12,4:
80  C=0,12,7.5:
88  C=0,12,31.5 G=80,88,1:
89  C=6.05,12,0: wall 8
90  C=6.05,12,4:
91  C=6.05,12,7.5:
99  C=6.05,12,31.5 G=91,99,1:
100 C=7.6,12,0: wall 9
101 C=7.6,12,4:
102 C=7.6,12,7.5:
110 C=7.6,12,31.5 G=102,110,1:
111 C=11.8,11,0: wall 10
112 C=11.8,11,4:
113 C=11.8,11,7.5:
121 C=11.8,11,31.5 G=113,121,1:
122 C=13.35,12,0: wall 11
123 C=13.35,12,4:
124 C=13.35,12,7.5:
132 C=13.35,12,31.5 G=124,132,1:
133 C=16.85,12,0: wall 12
134 C=16.85,12,4:
135 C=16.85,12,7.5:
143 C=16.85,12,31.5 G=135,143,1:
144 C=0,0,0: COORDINATE NODES FOR PLOTTING
145 C=10,0,0: X
146 C=0,10,0: Y
147 C=0,0,10: Z
:
LOADS: Load case 1 = N-S EQ, Load case 2 = E-W EQ
11 L=1 F=0,49310:
10 L=1 F=0,48370:
9  L=1 F=0,48510:
8  L=1 F=0,51330:
7  L=1 F=0,49490:
6  L=1 F=0,47290:
5  L=1 F=0,39820:
4  L=1 F=0,34830:
3  L=1 F=0,15130:
2  L=1 F=0,11420:
11 L=2 F=49310:
10 L=2 F=49370:
9  L=2 F=48510:
8  L=2 F=51330:
7  L=2 F=49490:
6  L=2 F=47290:
5  L=2 F=39820:
4  L=2 F=34830:
3  L=2 F=15130:
2  L=2 F=11420:
:
FRAME:
M=42:
1 A=1750  I=365000    S=1458 E=296000 G=127000: 50X35
2 A=3500  I=2920000   S=2917: 100X35
3 A=5250  I=9840000   S=4375: 150X35
4 A=7000  I=23300000  S=5833: 200X35
5 A=8750  I=45600000  S=7292: 250X35
6 A=10500 I=78800000  S=8750: 300X35
7 A=12300 I=125000000 S=10250: 350X35
8 A=14000 I=187000000 S=11667: 400X35
9 A=15800 I=266000000 S=13167: 450X35
10 A=17500 I=365000000 S=14583: 500X35
11 A=21000 I=630000000 S=17500: 600X35
12 A=24500 I=1000000000 S=20417: 700X35
13 A=28000 I=1490000000 S=23333: 800X35
14 A=31500 I=2130000000 S=26250: 900X35
15 A=1500  I=313000     S=1250:   50X30
16 A=3000  I=2500000    S=2500:  100X30
17 A=4500  I=8440000    S=3750:  150X30
18 A=6000  I=20000000   S=5000:  200X30
```

```
19 A=7500  I=39100000   S=6250:  250X30
20 A=9000  I=67500000   S=7500:  300X30
21 A=10500 I=107000000  S=8750:  350X30
22 A=12000 I=160000000  S=10000:  400X30
23 A=13500 I=228000000  S=11250:  450X30
24 A=15000 I=312000000  S=12500: 500X30
25 A=1000  I=208000     S=833:    50X20
26 A=2000  I=1670000    S=1667:  100X20
27 A=3000  I=5620000    S=2500:  150X20
28 A=4000  I=13300000   S=3333:  200X20
29 A=5000  I=26000000   S=4167:  250X20
30 A=6000  I=45000000   S=5000:  300X20
31 A=7000  I=71500000   S=5833:  350X20
32 A=8000  I=107000000  S=6667:  400X20
33 A=9000  I=152000000  S=7500:  450X20
34 A=10000 I=208000000  S=8333:  500X20
35 A=12000 I=360000000  S=10000:  600X20
36 A=6000  I=1250000    S=5000:   50X120
37 A=18000 I=33750000   S=15000: 150X120
38 A=27000 I=456000000  S=22500: 450X60
39 A=19000 I=1429000000 S=15833: 950X20
40 A=36750 I=3376000000 S=30630: 1050X35
41 A=18000 I=540000000  S=15000: 600X30
42 A=16000 I=853300000  S=13330: 800X20
1,21,22 M=31 P=2,0 S=10,11: East-West Walls
2,32,33 M=34 S=10,11:
3,34,35 M=3 E=0,200 S=1,2:
4,34,35 M=8:
5,34,35 M=10 E=0,0:
6,35,36 M=11 E=0,0 S=2,3:
7,35,36 M=10:
8,36,37 M=5 E=0,100 S=3,4:
9,36,37 M=3:
10,36,37 M=3:
11,36,37 M=4:
12,37,38 M=21 E=0,100 S=4,5:
13,37,38 M=20:
14,38,39 M=38 E=0,50 S=5,6:
15,39,40 M=34 E=0,0 S=6,7:
16,39,40 M=27 E=0,100:
17,39,40 M=28 E=0,100:
18,39,40 M=32 E=0,0:
19,40,41 M=34 S=7,8:
20,40,41 M=39:
21,41,42 M=31 S=8,9:
96,41,42 M=35:
97,42,43 M=33 S=9,10:
98,42,43 M=31:
22,149,149 M=37 E=0,0 S=0,0: LEGS turn-off slaving
23,45,46 M=37:
24,149,150 M=36 E=0,150:
25,149,150 M=36:
26,46,47 M=37 E=0,0:
27,150,48 M=37 E=0,80 S=0,4: Slave top of leg to floor 4
28,47,48 M=37:
29,48,49 M=24 E=0,100 S=4,5:
30,48,49 M=20:
31,48,49 M=18:
32,48,49 M=22:
33,49,50 M=17 S=5,6:
34,49,50 M=21:
99,49,50 M=24:
35,50,51 M=33 S=6,7:
100,50,51 M=35 E=0,0:
101,50,51 M=32:
36,51,52 M=35 E=0,0 S=7,8:
37,52,53 M=33 S=8,9:
38,64,65 M=29 S=9,10:
39,67,68 M=14 E=0,0 S=1,2:
40,68,69 M=14 S=2,3:
41,69,70 M=14 S=3,4:
42,78,79 M=7 E=0,200 P=3,0 S=1,2: North-South Walls
43,78,79:
44,78,79 M=4:
45,79,80 M=3 E=0,150 S=2,3:
46,79,80 M=13 E=0,0:
47,80,81 M=14 S=3,4:
48,87,88 M=33 S=10,11:
```

```
49,89,90 M=2 E=0,200 S=1,2:
50,89,90 M=11:
51,89,90 M=6:
52,90,91 M=3 E=0,150 S=2,3:
53,90,91 M=6 E=0,150:
54,90,91 M=8 E=0,0:
55,91,92 M=40 E=0,0 S=3,4:
56,92,93 M=21 E=0,100 S=4,5:
57,92,93 M=21:
58,92,93 M=16:
59,93,94 M=23 E=0,100 S=5,6:
60,93,94 M=19 E=40,100:
61,93,94 M=15:
62,94,95 M=35 E=0,0 S=6,7:
63,94,95 M=26 E=40,100:
64,94,95 M=28 E=0,100:
65,95,96 M=31 E=0,100 S=7,8:
66,95,96 M=30:
102,95,96 M=30:
103,96,97 M=30 E=0,0 S=8,9:
104,96,97 M=26 E=40,100:
105,96,97 M=27:
106,96,97 M=27:
67,108,109 M=35 E=0,0 S=9,10:
68,118,119 M=31 E=0,0 S=8,9:
69,119,120 M=31 S=9,10:
70,122,123 M=2  E=0,200 S=1,2:
71,122,123 M=7:
72,122,123 M=3:
73,122,123 M=6:
74,123,124 M=1 E=0,150 S=2,3:
75,123,124 M=2:
76,123,124 M=5:
77,123,124 M=8:
78,124,125 M=10 E=0,0 S=3,4:
79,124,125 M=10:
80,125,126 M=20 E=0,150 S=4,5:
81,125,126 M=41:
82,126,127 M=29 E=0,100 S=5,6:
83,126,127 M=28:
84,126,127 M=28:
85,126,127 M=30:
107,127,128 M=27 E=40,100 S=6,7:
108,127,128 M=28:
109,127,128 M=27:
110,127,128 M=29:
111,128,129 M=42 E=0,0 S=7,8:
86,133,134 M=7 E=0,200 S=1,2:
87,133,134 M=7:
88,133,134 M=4:
89,134,135 M=3 E=0,150 S=2,3:
90,134,135 M=8 E=50,75 S=2,3:
91,134,135 M=6 E=100,0:
92,135,136 M=10 E=100,0 S=3,4:
93,135,136 M=8:
94,142,143 M=27 E=40,100 S=10,11:
95,142,143 M=26:
:
```

* *
* * * * * * E C H O O F S A P I N P U T D A T A * * * * * *
* *

TOTAL NUMBER OF JOINTS = 150
TOTAL NUMBER OF LOAD CONDITIONS = 2

R E S T R A I N T I N F O R M A T I O N

```
1          R=1,1,1,1,1,1:
2,11,1     R=0,0,1,1,1,0:
12,20,1    R=1,1,1,1,1,1:
21,22,1    R=1,1,1,1,1,1:
23,31,1    R=1,1,1,1,1,1:
32,33,1    R=1,1,1,1,1,1:
34         R=1,1,1,1,1,1:
35,43,1    R=1,1,1,1,1,1:
44         R=1,1,1,1,1,1:
45         R=1,1,1,1,0,1:
46,47,1    R=0,1,1,1,0,1:
48,53,1    R=1,1,1,1,1,1:
54,55,1    R=1,1,1,1,1,1:
148        R=1,1,1,1,0,1:
149,150    R=0,1,1,1,0,1:
56,63,1    R=1,1,1,1,1,1:
64,65,1    R=1,1,1,1,1,1:
66         R=1,1,1,1,1,1:
67         R=1,1,1,1,1,1:
68,70,1    R=1,1,1,1,1,1:
71,77,1    R=1,1,1,1,1,1:
78         R=1,1,1,1,1,1:
79,81,1    R=1,1,1,1,1,1:
82,86,1    R=1,1,1,1,1,1:
87,88,1    R=1,1,1,1,1,1:
89         R=1,1,1,1,1,1:
90,97,1    R=1,1,1,1,1,1:
98,99,1    R=1,1,1,1,1,1:
100,107,1  R=1,1,1,1,1,1:
108,109,1  R=1,1,1,1,1,1:
110        R=1,1,1,1,1,1:
111,117,1  R=1,1,1,1,1,1:
118,120,1  R=1,1,1,1,1,1:
121        R=1,1,1,1,1,1:
122        R=1,1,1,1,1,1:
123,129,1  R=1,1,1,1,1,1:
130,132,1  R=1,1,1,1,1,1:
133        R=1,1,1,1,1,1:
134,136,1  R=1,1,1,1,1,1:
137,141,1  R=1,1,1,1,1,1:
142,143,1  R=1,1,1,1,1,1:
144,147,1  R=1,1,1,1,1,1:
:
```

EQUILIBRIUM EQUATION NUMBERS

JOINT #	U(X)	U(Y)	U(Z)	R(X)	R(Y)	R(Z)
1	0	0	0	0	0	0
2	4	5	0	0	0	6
3	1	2	0	0	0	3
4	12	13	0	0	0	14
5	15	16	0	0	0	17
6	23	24	0	0	0	25
7	26	27	0	0	0	28
8	29	30	0	0	0	31
9	32	33	0	0	0	34
10	35	36	0	0	0	37
11	38	39	0	0	0	40
12	0	0	0	0	0	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	0
19	0	0	0	0	0	0
20	0	0	0	0	0	0
21	0	0	0	0	0	0
22	0	0	0	0	0	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0
25	0	0	0	0	0	0
26	0	0	0	0	0	0
27	0	0	0	0	0	0
28	0	0	0	0	0	0
29	0	0	0	0	0	0
30	0	0	0	0	0	0
31	0	0	0	0	0	0
32	0	0	0	0	0	0
33	0	0	0	0	0	0
34	0	0	0	0	0	0
35	0	0	0	0	0	0
36	0	0	0	0	0	0
37	0	0	0	0	0	0
38	0	0	0	0	0	0
39	0	0	0	0	0	0
40	0	0	0	0	0	0
41	0	0	0	0	0	0
42	0	0	0	0	0	0
43	0	0	0	0	0	0
44	0	0	0	0	0	0
45	0	0	0	0	9	0
46	10	0	0	0	11	0
47	7	0	0	0	8	0
48	0	0	0	0	0	0
49	0	0	0	0	0	0
50	0	0	0	0	0	0
51	0	0	0	0	0	0
52	0	0	0	0	0	0
53	0	0	0	0	0	0
54	0	0	0	0	0	0
55	0	0	0	0	0	0
56	0	0	0	0	0	0
57	0	0	0	0	0	0
58	0	0	0	0	0	0
59	0	0	0	0	0	0
60	0	0	0	0	0	0
61	0	0	0	0	0	0
62	0	0	0	0	0	0
63	0	0	0	0	0	0
64	0	0	0	0	0	0
65	0	0	0	0	0	0
66	0	0	0	0	0	0
67	0	0	0	0	0	0
68	0	0	0	0	0	0
69	0	0	0	0	0	0
70	0	0	0	0	0	0
71	0	0	0	0	0	0
72	0	0	0	0	0	0
73	0	0	0	0	0	0
74	0	0	0	0	0	0

75	0	0	0	0	0	0
76	0	0	0	0	0	0
77	0	0	0	0	0	0
78	0	0	0	0	0	0
79	0	0	0	0	0	0
80	0	0	0	0	0	0
81	0	0	0	0	0	0
82	0	0	0	0	0	0
83	0	0	0	0	0	0
84	0	0	0	0	0	0
85	0	0	0	0	0	0
86	0	0	0	0	0	0
87	0	0	0	0	0	0
88	0	0	0	0	0	0
89	0	0	0	0	0	0
90	0	0	0	0	0	0
91	0	0	0	0	0	0
92	0	0	0	0	0	0
93	0	0	0	0	0	0
94	0	0	0	0	0	0
95	0	0	0	0	0	0
96	0	0	0	0	0	0
97	0	0	0	0	0	0
98	0	0	0	0	0	0
99	0	0	0	0	0	0
100	0	0	0	0	0	0
101	0	0	0	0	0	0
102	0	0	0	0	0	0
103	0	0	0	0	0	0
104	0	0	0	0	0	0
105	0	0	0	0	0	0
106	0	0	0	0	0	0
107	0	0	0	0	0	0
108	0	0	0	0	0	0
109	0	0	0	0	0	0
110	0	0	0	0	0	0
111	0	0	0	0	0	0
112	0	0	0	0	0	0
113	0	0	0	0	0	0
114	0	0	0	0	0	0
115	0	0	0	0	0	0
116	0	0	0	0	0	0
117	0	0	0	0	0	0
118	0	0	0	0	0	0
119	0	0	0	0	0	0
120	0	0	0	0	0	0
121	0	0	0	0	0	0
122	0	0	0	0	0	0
123	0	0	0	0	0	0
124	0	0	0	0	0	0
125	0	0	0	0	0	0
126	0	0	0	0	0	0
127	0	0	0	0	0	0
128	0	0	0	0	0	0
129	0	0	0	0	0	0
130	0	0	0	0	0	0
131	0	0	0	0	0	0
132	0	0	0	0	0	0
133	0	0	0	0	0	0
134	0	0	0	0	0	0
135	0	0	0	0	0	0
136	0	0	0	0	0	0
137	0	0	0	0	0	0
138	0	0	0	0	0	0
139	0	0	0	0	0	0
140	0	0	0	0	0	0
141	0	0	0	0	0	0
142	0	0	0	0	0	0
143	0	0	0	0	0	0
144	0	0	0	0	0	0
145	0	0	0	0	0	0
146	0	0	0	0	0	0
147	0	0	0	0	0	0
148	0	0	0	0	20	0
149	21	0	0	0	22	0
150	18	0	0	0	19	0

JOINT LOADS AND DISPLACEMENTS

NODE	L#	F/U	X-DIR	Y-DIR	Z-DIR	XX	YY	ZZ
11	1	F	.000E+01	.493E+05	.000E+01	.000E+01	.000E+01	.000E+01
10	1	F	.000E+01	.484E+05	.000E+01	.000E+01	.000E+01	.000E+01
9	1	F	.000E+01	.485E+05	.000E+01	.000E+01	.000E+01	.000E+01
8	1	F	.000E+01	.513E+05	.000E+01	.000E+01	.000E+01	.000E+01
7	1	F	.000E+01	.495E+05	.000E+01	.000E+01	.000E+01	.000E+01
6	1	F	.000E+01	.473E+05	.000E+01	.000E+01	.000E+01	.000E+01
5	1	F	.000E+01	.398E+05	.000E+01	.000E+01	.000E+01	.000E+01
4	1	F	.000E+01	.348E+05	.000E+01	.000E+01	.000E+01	.000E+01
3	1	F	.000E+01	.151E+05	.000E+01	.000E+01	.000E+01	.000E+01
2	1	F	.000E+01	.114E+05	.000E+01	.000E+01	.000E+01	.000E+01
11	2	F	.493E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
10	2	F	.484E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
9	2	F	.485E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
8	2	F	.513E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
7	2	F	.495E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
6	2	F	.473E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
5	2	F	.398E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
4	2	F	.348E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
3	2	F	.151E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01
2	2	F	.114E+05	.000E+01	.000E+01	.000E+01	.000E+01	.000E+01

INPUT JOINT DATA

```
1   C=8.625,7.0,0 S=100:
2   C=8.5,7.2,4:
3   C=8.625,8,7.5:
4   C=8.625,14.75,10.5:
5   C=9.277,15.19,13.5:
6   C=9.136,15.04,16.5:
7   C=8.953,16.47,19.5:
8   C=8.108,15.58,22.5:
9   C=7.564,14.07,25.5:
10  C=7.741,11.62,28.5:
11  C=9.625,6.2,31.5:
12  C=15,1,6,0:
13  C=15,1,6,4:
14  C=15,1,6,7.5:
22  C=15,1,6,31.5 G=14,22,1:
23  C=4,6,2,0:
24  C=4,6,2,4:
25  C=4,6,2,7.5:
33  C=4,6,2,31.5 G=25,33,1:
34  C=10,6,2,0:
35  C=10,6,2,4:
36  C=10,6,2,7.5:
44  C=10,6,2,31.5 G=36,44,1:
45  C=10,23,0:
46  C=10,23,4:
47  C=10,23,7.5:
148 C=10,23,0:
149 C=10,23,4:
150 C=10,23,7.5:
55  C=10,23,31.5 G=47,55,1:
56  C=9,21.45,0:
57  C=9,21.45,4:
58  C=9,21.45,7.5:
66  C=9,21.45,31.5 G=58,66,1:
67  C=7,13.9,0:
68  C=7,13.9,4:
69  C=7,13.9,7.5:
77  C=7,13.9,31.5 G=69,77,1:
78  C=0,12,0:
79  C=0,12,4:
80  C=0,12,7.5:
88  C=0,12,31.5 G=80,88,1:
89  C=6.05,12,0:
90  C=6.05,12,4:
91  C=6.05,12,7.5:
99  C=6.05,12,31.5 G=91,99,1:
100 C=7.6,12,0:
101 C=7.6,12,4:
102 C=7.6,12,7.5:
110 C=7.6,12,31.5 G=102,110,1:
111 C=11.8,11,0:
```

```
112 C=11.8,11,4:
113 C=11.8,11,7.5:
121 C=11.8,11,31.5 G=113,121,1:
122 C=13.35,12,0:
123 C=13.35,12,4:
124 C=13.35,12,7.5:
132 C=13.35,12,31.5 G=124,132,1:
133 C=16.85,12,0:
134 C=16.85,12,4:
135 C=16.85,12,7.5:
143 C=16.85,12,31.5 G=135,143,1:
144 C=0,0,0:
145 C=10,0,0:
146 C=0,10,0:
147 C=0,0,10:
:
```

G E N E R A T E D J O I N T C O O R D I N A T E S

JOINT #	X	Y	Z
1	862.500	700.000	0.000
2	850.000	720.000	400.000
3	862.500	800.000	750.000
4	862.500	1475.000	1050.000
5	927.700	1519.000	1350.000
6	913.600	1504.000	1650.000
7	895.300	1647.000	1950.000
8	810.800	1558.000	2250.000
9	756.400	1407.000	2550.000
10	774.100	1162.000	2850.000
11	962.500	620.000	3150.000
12	1500.000	160.000	0.000
13	1500.000	160.000	400.000
14	1500.000	160.000	750.000
15	1500.000	160.000	1050.000
16	1500.000	160.000	1350.000
17	1500.000	160.000	1650.000
18	1500.000	160.000	1950.000
19	1500.000	160.000	2250.000
20	1500.000	160.000	2550.000
21	1500.000	160.000	2850.000
22	1500.000	160.000	3150.000
23	400.000	620.000	0.000
24	400.000	620.000	400.000
25	400.000	620.000	750.000
26	400.000	620.000	1050.000
27	400.000	620.000	1350.000
28	400.000	620.000	1650.000
29	400.000	620.000	1950.000
30	400.000	620.000	2250.000
31	400.000	620.000	2550.000
32	400.000	620.000	2850.000
33	400.000	620.000	3150.000
34	1000.000	620.000	0.000
35	1000.000	620.000	400.000
36	1000.000	620.000	750.000
37	1000.000	620.000	1050.000
38	1000.000	620.000	1350.000
39	1000.000	620.000	1650.000
40	1000.000	620.000	1950.000
41	1000.000	620.000	2250.000
42	1000.000	620.000	2550.000
43	1000.000	620.000	2850.000
44	1000.000	620.000	3150.000
45	1000.000	2300.000	0.000
46	1000.000	2300.000	400.000
47	1000.000	2300.000	750.000
48	1000.000	2300.000	1050.000
49	1000.000	2300.000	1350.000
50	1000.000	2300.000	1650.000
51	1000.000	2300.000	1950.000
52	1000.000	2300.000	2250.000
53	1000.000	2300.000	2550.000
54	1000.000	2300.000	2850.000
55	1000.000	2300.000	3150.000
56	900.000	2145.000	0.000
57	900.000	2145.000	400.000
58	900.000	2145.000	750.000

59	900.000	2145.000	1050.000
60	900.000	2145.000	1350.000
61	900.000	2145.000	1650.000
62	900.000	2145.000	1950.000
63	900.000	2145.000	2250.000
64	900.000	2145.000	2550.000
65	900.000	2145.000	2850.000
66	900.000	2145.000	3150.000
67	700.000	1390.000	0.000
68	700.000	1390.000	400.000
69	700.000	1390.000	750.000
70	700.000	1390.000	1050.000
71	700.000	1390.000	1350.000
72	700.000	1390.000	1650.000
73	700.000	1390.000	1950.000
74	700.000	1390.000	2250.000
75	700.000	1390.000	2550.000
76	700.000	1390.000	2850.000
77	700.000	1390.000	3150.000
78	0.000	1200.000	0.000
79	0.000	1200.000	400.000
80	0.000	1200.000	750.000
81	0.000	1200.000	1050.000
82	0.000	1200.000	1350.000
83	0.000	1200.000	1650.000
84	0.000	1200.000	1950.000
85	0.000	1200.000	2250.000
86	0.000	1200.000	2550.000
87	0.000	1200.000	2850.000
88	0.000	1200.000	3150.000
89	605.000	1200.000	0.000
90	605.000	1200.000	400.000
91	605.000	1200.000	750.000
92	605.000	1200.000	1050.000
93	605.000	1200.000	1350.000
94	605.000	1200.000	1650.000
95	605.000	1200.000	1950.000
96	605.000	1200.000	2250.000
97	605.000	1200.000	2550.000
98	605.000	1200.000	2850.000
99	605.000	1200.000	3150.000
100	760.000	1200.000	0.000
101	760.000	1200.000	400.000
102	760.000	1200.000	750.000
103	760.000	1200.000	1050.000
104	760.000	1200.000	1350.000
105	760.000	1200.000	1650.000
106	760.000	1200.000	1950.000
107	760.000	1200.000	2250.000
108	760.000	1200.000	2550.000
109	760.000	1200.000	2850.000
110	760.000	1200.000	3150.000
111	1180.000	1100.000	0.000
112	1180.000	1100.000	400.000
113	1180.000	1100.000	750.000
114	1180.000	1100.000	1050.000
115	1180.000	1100.000	1350.000
116	1180.000	1100.000	1650.000
117	1180.000	1100.000	1950.000
118	1180.000	1100.000	2250.000
119	1180.000	1100.000	2550.000
120	1180.000	1100.000	2850.000
121	1180.000	1100.000	3150.000
122	1335.000	1200.000	0.000
123	1335.000	1200.000	400.000
124	1335.000	1200.000	750.000
125	1335.000	1200.000	1050.000
126	1335.000	1200.000	1350.000
127	1335.000	1200.000	1650.000
128	1335.000	1200.000	1950.000
129	1335.000	1200.000	2250.000
130	1335.000	1200.000	2550.000
131	1335.000	1200.000	2850.000
132	1335.000	1200.000	3150.000
133	1685.000	1200.000	0.000
134	1685.000	1200.000	400.000
135	1685.000	1200.000	750.000
136	1685.000	1200.000	1050.000

137	1685.000	1200.000	1350.000
138	1685.000	1200.000	1650.000
139	1685.000	1200.000	1950.000
140	1685.000	1200.000	2250.000
141	1685.000	1200.000	2550.000
142	1685.000	1200.000	2850.000
143	1685.000	1200.000	3150.000
144	0.000	0.000	0.000
145	1000.000	0.000	0.000
146	0.000	1000.000	0.000
147	0.000	0.000	1000.000
148	1000.000	2300.000	0.000
149	1000.000	2300.000	400.000
150	1000.000	2300.000	750.000

1

ECHO OF FRAME INPUT DATA

NUMBER OF MEMBER PROPERTIES = 42
NUMBER OF DIFF. LOAD PATTERNS = 0

LOAD CONDITION ---------- = 1
GRAVITY MULTIPIER X-DIRECTION --- = 0.000
GRAVITY MULTIPIER Y-DIRECTION --- = 0.000
GRAVITY MULTIPIER Z-DIRECTION --- = 0.000

LOAD CONDITION ---------- = 2
GRAVITY MULTIPIER X-DIRECTION --- = 0.000
GRAVITY MULTIPIER Y-DIRECTION --- = 0.000
GRAVITY MULTIPIER Z-DIRECTION --- = 0.000

MEMBER PROPERTY NUMBER ------- = 1
AXIAL AREA, A ---------- = 1750.000
MOMENT OF INERTIA, I33 ------ = 365000.000
SHEAR AREA, A2 ---------- = 1458.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 2
AXIAL AREA, A ---------- = 3500.000
MOMENT OF INERTIA, I33 ------ = 2920000.000
SHEAR AREA, A2 ---------- = 2917.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 3
AXIAL AREA, A ---------- = 5250.000
MOMENT OF INERTIA, I33 ------ = 9840000.000
SHEAR AREA, A2 ---------- = 4375.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 4
AXIAL AREA, A ---------- = 7000.000
MOMENT OF INERTIA, I33 ------ = 23300000.000
SHEAR AREA, A2 ---------- = 5833.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 5
AXIAL AREA, A ---------- = 8750.000
MOMENT OF INERTIA, I33 ------ = 45600000.000
SHEAR AREA, A2 ---------- = 7292.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 6
AXIAL AREA, A ---------- = 10500.000
MOMENT OF INERTIA, I33 ------ = 78800000.000
SHEAR AREA, A2 ---------- = 8750.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 7
AXIAL AREA, A ---------- = 12300.000
MOMENT OF INERTIA, I33 ------ = 125000000.000
SHEAR AREA, A2 ---------- = 10250.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 8
AXIAL AREA, A ---------- = 14000.000
MOMENT OF INERTIA, I33 ------ = 187000000.000
SHEAR AREA, A2 ---------- = 11667.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 9
AXIAL AREA, A ---------- = 15800.000
MOMENT OF INERTIA, I33 ------ = 266000000.000
SHEAR AREA, A2 ---------- = 13167.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 10
AXIAL AREA, A ---------- = 17500.000
MOMENT OF INERTIA, I33 ------ = 365000000.000
SHEAR AREA, A2 ---------- = 14583.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 11
AXIAL AREA, A ---------- = 21000.000
MOMENT OF INERTIA, I33 ------ = 630000000.000
SHEAR AREA, A2 ---------- = 17500.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 12
AXIAL AREA, A ---------- = 24500.000
MOMENT OF INERTIA, I33 ------ = 1000000000.000
SHEAR AREA, A2 ---------- = 20417.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 13
AXIAL AREA, A ---------- = 28000.000
MOMENT OF INERTIA, I33 ------ = 1490000000.000
SHEAR AREA, A2 ---------- = 23333.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 14
AXIAL AREA, A ---------- = 31500.000
MOMENT OF INERTIA, I33 ------ = 2130000000.000
SHEAR AREA, A2 ---------- = 26250.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 15
AXIAL AREA, A ---------- = 1500.000
MOMENT OF INERTIA, I33 ------ = 313000.000
SHEAR AREA, A2 ---------- = 1250.000(USED FOR SHEAR DEF.)

MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 16
AXIAL AREA, A ---------------- = 3000.000
MOMENT OF INERTIA, I33 ------ = 2500000.000
SHEAR AREA, A2 --------------- = 2500.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 17
AXIAL AREA, A ---------------- = 4500.000
MOMENT OF INERTIA, I33 ------ = 8440000.000
SHEAR AREA, A2 --------------- = 3750.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 18
AXIAL AREA, A ---------------- = 6000.000
MOMENT OF INERTIA, I33 ------ = 20000000.000
SHEAR AREA, A2 --------------- = 5000.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 19
AXIAL AREA, A ---------------- = 7500.000
MOMENT OF INERTIA, I33 ------ = 39100000.000
SHEAR AREA, A2 --------------- = 6250.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 20
AXIAL AREA, A ---------------- = 9000.000
MOMENT OF INERTIA, I33 ------ = 67500000.000
SHEAR AREA, A2 --------------- = 7500.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 21
AXIAL AREA, A ---------------- = 10500.000
MOMENT OF INERTIA, I33 ------ = 107000000.000
SHEAR AREA, A2 --------------- = 8750.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 22
AXIAL AREA, A ---------------- = 12000.000
MOMENT OF INERTIA, I33 ------ = 160000000.000
SHEAR AREA, A2 --------------- = 10000.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 23
AXIAL AREA, A ---------------- = 13500.000
MOMENT OF INERTIA, I33 ------ = 228000000.000
SHEAR AREA, A2 --------------- = 11250.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 24
AXIAL AREA, A ---------------- = 15000.000
MOMENT OF INERTIA, I33 ------ = 312000000.000
SHEAR AREA, A2 --------------- = 12500.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ------------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 25
AXIAL AREA, A ---------------- = 1000.000

MOMENT OF INERTIA, I33 ------ = 208000.000
SHEAR AREA, A2 ---------- = 833.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 26
AXIAL AREA, A ---------- = 2000.000
MOMENT OF INERTIA, I33 ------ = 1670000.000
SHEAR AREA, A2 ---------- = 1667.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 27
AXIAL AREA, A ---------- = 3000.000
MOMENT OF INERTIA, I33 ------ = 5620000.000
SHEAR AREA, A2 ---------- = 2500.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 28
AXIAL AREA, A ---------- = 4000.000
MOMENT OF INERTIA, I33 ------ = 13300000.000
SHEAR AREA, A2 ---------- = 3333.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 29
AXIAL AREA, A ---------- = 5000.000
MOMENT OF INERTIA, I33 ------ = 26000000.000
SHEAR AREA, A2 ---------- = 4167.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 30
AXIAL AREA, A ---------- = 6000.000
MOMENT OF INERTIA, I33 ------ = 45000000.000
SHEAR AREA, A2 ---------- = 5000.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 31
AXIAL AREA, A ---------- = 7000.000
MOMENT OF INERTIA, I33 ------ = 71500000.000
SHEAR AREA, A2 ---------- = 5833.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 32
AXIAL AREA, A ---------- = 8000.000
MOMENT OF INERTIA, I33 ------ = 107000000.000
SHEAR AREA, A2 ---------- = 6667.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 33
AXIAL AREA, A ---------- = 9000.000
MOMENT OF INERTIA, I33 ------ = 152000000.000
SHEAR AREA, A2 ---------- = 7500.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

MEMBER PROPERTY NUMBER ------- = 34
AXIAL AREA, A ---------- = 10000.000
MOMENT OF INERTIA, I33 ------ = 208000000.000
SHEAR AREA, A2 ---------- = 8333.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- = 296000.000
SHEAR MODULUS, G ---------- = 127000.000(USED FOR TOR & SHEAR)

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MEMBER PROPERTY NUMBER ------- =  35
AXIAL AREA, A ---------------- =      12000.000
MOMENT OF INERTIA, I33 ------ =  360000000.000
SHEAR AREA, A2 --------------- =      10000.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =     296000.000
SHEAR MODULUS, G ------------- =     127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =  36
AXIAL AREA, A ---------------- =       6000.000
MOMENT OF INERTIA, I33 ------ =    1250000.000
SHEAR AREA, A2 --------------- =       5000.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =     296000.000
SHEAR MODULUS, G ------------- =     127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =  37
AXIAL AREA, A ---------------- =      18000.000
MOMENT OF INERTIA, I33 ------ =    33700000.000
SHEAR AREA, A2 --------------- =      15000.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =     296000.000
SHEAR MODULUS, G ------------- =     127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =  38
AXIAL AREA, A ---------------- =      27000.000
MOMENT OF INERTIA, I33 ------ =   456000000.000
SHEAR AREA, A2 --------------- =      22500.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =     296000.000
SHEAR MODULUS, G ------------- =     127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =  39
AXIAL AREA, A ---------------- =      19000.000
MOMENT OF INERTIA, I33 ------ = 1429000064.000
SHEAR AREA, A2 --------------- =      15833.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =     296000.000
SHEAR MODULUS, G ------------- =     127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =  40
AXIAL AREA, A ---------------- =      36750.000
MOMENT OF INERTIA, I33 ------ = 3376000000.000
SHEAR AREA, A2 --------------- =      30630.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =     296000.000
SHEAR MODULUS, G ------------- =     127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =  41
AXIAL AREA, A ---------------- =      18000.000
MOMENT OF INERTIA, I33 ------ =   540000000.000
SHEAR AREA, A2 --------------- =      15000.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =     296000.000
SHEAR MODULUS, G ------------- =     127000.000(USED FOR TOR & SHEAR)


MEMBER PROPERTY NUMBER ------- =  42
AXIAL AREA, A ---------------- =      16000.000
MOMENT OF INERTIA, I33 ------ =   853300032.000
SHEAR AREA, A2 --------------- =      13330.000(USED FOR SHEAR DEF.)
MODULUS OF ELASTICITY, E ----- =     296000.000
SHEAR MODULUS, G ------------- =     127000.000(USED FOR TOR & SHEAR)
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EL.	I	J	P1	P2	MAT	EI	EJ	RELEASES	MI	MJ	LOAD PATTERN NUMBER 1	2
1	21	22	2	0	31	0.0	0.0	000000	10	11	0	0
2	32	33	2	0	34	0.0	0.0	000000	10	11	0	0
3	34	35	2	0	3	0.0	200.0	000000	1	2	0	0
4	34	35	2	0	8	0.0	200.0	000000	1	2	0	0
5	34	35	2	0	10	0.0	0.0	000000	1	2	0	0
6	35	36	2	0	11	0.0	0.0	000000	2	3	0	0
7	35	36	2	0	10	0.0	0.0	000000	2	3	0	0
8	36	37	2	0	5	0.0	100.0	000000	3	4	0	0
9	36	37	2	0	3	0.0	100.0	000000	3	4	0	0
10	36	37	2	0	3	0.0	100.0	000000	3	4	0	0
11	36	37	2	0	4	0.0	100.0	000000	3	4	0	0
12	37	38	2	0	21	0.0	100.0	000000	4	5	0	0

13	37	38	2	0	20	0.0	100.0	000000	4	5	0	0
14	38	39	2	0	38	0.0	50.0	000000	5	6	0	0
15	39	40	2	0	34	0.0	0.0	000000	6	7	0	0
16	39	40	2	0	27	0.0	100.0	000000	6	7	0	0
17	39	40	2	0	28	0.0	100.0	000000	6	7	0	0
18	39	40	2	0	32	0.0	0.0	000000	6	7	0	0
19	40	41	2	0	34	0.0	0.0	000000	7	8	0	0
20	40	41	2	0	39	0.0	0.0	000000	7	8	0	0
21	41	42	2	0	31	0.0	0.0	000000	8	9	0	0
96	41	42	2	0	35	0.0	0.0	000000	8	9	0	0
97	42	43	2	0	33	0.0	0.0	000000	9	10	0	0
98	42	43	2	0	31	0.0	0.0	000000	9	10	0	0
22	148	149	2	0	37	0.0	0.0	000000	0	0	0	0
23	45	46	2	0	37	0.0	0.0	000000	0	0	0	0
24	149	150	2	0	36	0.0	150.0	000000	0	0	0	0
25	149	150	2	0	36	0.0	150.0	000000	0	0	0	0
26	46	47	2	0	37	0.0	0.0	000000	0	0	0	0
27	150	48	2	0	37	0.0	80.0	000000	0	4	0	0
28	47	48	2	0	37	0.0	80.0	000000	0	4	0	0
29	48	49	2	0	24	0.0	100.0	000000	4	5	0	0
30	48	49	2	0	20	0.0	100.0	000000	4	5	0	0
31	48	49	2	0	18	0.0	100.0	000000	4	5	0	0
32	48	49	2	0	22	0.0	100.0	000000	4	5	0	0
33	49	50	2	0	17	0.0	100.0	000000	5	6	0	0
34	49	50	2	0	21	0.0	100.0	000000	5	6	0	0
99	49	50	2	0	24	0.0	100.0	000000	5	6	0	0
35	50	51	2	0	33	0.0	100.0	000000	6	7	0	0
100	50	51	2	0	35	0.0	0.0	000000	6	7	0	0
101	50	51	2	0	32	0.0	0.0	000000	6	7	0	0
36	51	52	2	0	35	0.0	0.0	000000	7	8	0	0
37	52	53	2	0	33	0.0	0.0	000000	8	9	0	0
38	64	65	2	0	29	0.0	0.0	000000	9	10	0	0
39	67	68	2	0	14	0.0	0.0	000000	1	2	0	0
40	68	69	2	0	14	0.0	0.0	000000	2	3	0	0
41	69	70	2	0	14	0.0	0.0	000000	3	4	0	0
42	78	79	3	0	7	0.0	200.0	000000	1	2	0	0
43	78	79	3	0	7	0.0	200.0	000000	1	2	0	0
44	78	79	3	0	4	0.0	200.0	000000	1	2	0	0
45	79	80	3	0	3	0.0	150.0	000000	2	3	0	0
46	79	80	3	0	13	0.0	0.0	000000	2	3	0	0
47	80	81	3	0	14	0.0	0.0	000000	3	4	0	0
48	87	88	3	0	33	0.0	0.0	000000	10	11	0	0
49	89	90	3	0	2	0.0	200.0	000000	1	2	0	0
50	89	90	3	0	11	0.0	200.0	000000	1	2	0	0
51	89	90	3	0	6	0.0	200.0	000000	1	2	0	0
52	90	91	3	0	3	0.0	150.0	000000	2	3	0	0
53	90	91	3	0	6	0.0	150.0	000000	2	3	0	0
54	90	91	3	0	8	0.0	0.0	000000	2	3	0	0
55	91	92	3	0	40	0.0	0.0	000000	3	4	0	0
56	92	93	3	0	21	0.0	100.0	000000	4	5	0	0
57	92	93	3	0	21	0.0	100.0	000000	4	5	0	0
58	92	93	3	0	16	0.0	100.0	000000	4	5	0	0
59	93	94	3	0	23	0.0	100.0	000000	5	6	0	0
60	93	94	3	0	19	40.0	100.0	000000	5	6	0	0
61	93	94	3	0	15	40.0	100.0	000000	5	6	0	0
62	94	95	3	0	35	0.0	0.0	000000	6	7	0	0
63	94	95	3	0	26	40.0	100.0	000000	6	7	0	0
64	94	95	3	0	28	0.0	100.0	000000	6	7	0	0
65	95	96	3	0	31	0.0	100.0	000000	7	8	0	0
66	95	96	3	0	30	0.0	100.0	000000	7	8	0	0
102	95	96	3	0	30	0.0	100.0	000000	7	8	0	0
103	96	97	3	0	30	0.0	0.0	000000	8	9	0	0
104	96	97	3	0	26	40.0	100.0	000000	8	9	0	0
105	96	97	3	0	27	40.0	100.0	000000	8	9	0	0
106	96	97	3	0	27	40.0	100.0	000000	8	9	0	0
67	108	109	3	0	35	0.0	0.0	000000	9	10	0	0
68	118	119	3	0	31	0.0	0.0	000000	8	9	0	0
69	119	120	3	0	31	0.0	0.0	000000	9	10	0	0
70	122	123	3	0	2	0.0	200.0	000000	1	2	0	0
71	122	123	3	0	7	0.0	200.0	000000	1	2	0	0
72	122	123	3	0	3	0.0	200.0	000000	1	2	0	0
73	122	123	3	0	6	0.0	200.0	000000	1	2	0	0
74	123	124	3	0	1	0.0	150.0	000000	2	3	0	0
75	123	124	3	0	2	0.0	150.0	000000	2	3	0	0
76	123	124	3	0	5	0.0	150.0	000000	2	3	0	0
77	123	124	3	0	8	0.0	150.0	000000	2	3	0	0
78	124	125	3	0	10	0.0	0.0	000000	3	4	0	0
79	124	125	3	0	10	0.0	0.0	000000	3	4	0	0

80	125	126	3	0	20	0.0	150.0	000000	4	5	0	0
81	125	126	3	0	41	0.0	150.0	000000	4	5	0	0
82	126	127	3	0	29	0.0	100.0	000000	5	6	0	0
83	126	127	3	0	28	0.0	100.0	000000	5	6	0	0
84	126	127	3	0	28	0.0	100.0	000000	5	6	0	0
85	126	127	3	0	30	0.0	100.0	000000	5	6	0	0
107	127	128	3	0	27	40.0	100.0	000000	6	7	0	0
108	127	128	3	0	28	40.0	100.0	000000	6	7	0	0
109	127	128	3	0	27	40.0	100.0	000000	6	7	0	0
110	127	128	3	0	29	40.0	100.0	000000	6	7	0	0
111	128	129	3	0	42	0.0	0.0	000000	7	8	0	0
86	133	134	3	0	7	0.0	200.0	000000	1	2	0	0
87	133	134	3	0	7	0.0	200.0	000000	1	2	0	0
88	133	134	3	0	4	0.0	200.0	000000	1	2	0	0
89	134	135	3	0	3	0.0	150.0	000000	2	3	0	0
90	134	135	3	0	8	50.0	75.0	000000	2	3	0	0
91	134	135	3	0	6	100.0	0.0	000000	2	3	0	0
92	135	136	3	0	10	100.0	0.0	000000	3	4	0	0
93	135	136	3	0	8	100.0	0.0	000000	3	4	0	0
94	142	143	3	0	27	40.0	100.0	000000	10	11	0	0
95	142	143	3	0	26	40.0	100.0	000000	10	11	0	0

TOTAL WEIGHT OF MATERIALS= 0.00000
TOTAL MASS OF SYSTEM = 0.00000

JOINT DISPLACEMENTS

DISPLACEMENTS "U" AND ROTATIONS "R"

LOAD CASE 1

JOINT	U(X)	U(Y)	R(Y)	R(Z)
2	-.8408E-04	.6823E-02	.0000E+01	-.3691E-06
3	-.3763E-03	.1610E-01	.0000E+01	-.2072E-05
4	.1784E-02	.2370E-01	.0000E+01	-.3768E-05
5	.1129E-02	.3548E-01	.0000E+01	-.7020E-05
6	.9515E-03	.5089E-01	.0000E+01	-.7896E-05
7	.2275E-02	.6903E-01	.0000E+01	-.1082E-04
8	.1831E-02	.8397E-01	.0000E+01	-.1197E-04
9	-.4025E-03	.1054E+00	.0000E+01	-.1026E-04
10	-.2611E-02	.1221E+00	.0000E+01	-.1154E-04
11	-.9423E-02	.1308E+00	.0000E+01	-.8405E-05
45	.0000E+01	.0000E+01	.7441E-05	.0000E+01
46	.2841E-02	.0000E+01	.6176E-05	.0000E+01
47	.4531E-02	.0000E+01	.2993E-05	.0000E+01
148	.0000E+01	.0000E+01	.9065E-05	.0000E+01
149	.3578E-02	.0000E+01	.8617E-05	.0000E+01
150	.4764E-02	.0000E+01	.1061E-05	.0000E+01

LOAD CASE 2

JOINT	U(X)	U(Y)	R(Y)	R(Z)
2	.1844E-01	.2061E-03	.0000E+01	-.5571E-05
3	.3755E-01	.7077E-03	.0000E+01	-.1192E-04
4	.6559E-01	.1251E-02	.0000E+01	-.1683E-04
5	.7962E-01	-.7920E-03	.0000E+01	-.1003E-04
6	.9195E-01	-.6321E-03	.0000E+01	-.5909E-05
7	.1057E+00	-.1123E-02	.0000E+01	-.8997E-06
8	.1210E+00	-.9218E-03	.0000E+01	-.2663E-05
9	.1371E+00	-.7981E-03	.0000E+01	-.2167E-06
10	.1534E+00	-.9797E-03	.0000E+01	.1188E-05
11	.1641E+00	-.1311E-02	.0000E+01	-.1216E-05
45	.0000E+01	.0000E+01	.1209E-03	.0000E+01
46	.4615E-01	.0000E+01	.1003E-03	.0000E+01
47	.7360E-01	.0000E+01	.4861E-04	.0000E+01
148	.0000E+01	.0000E+01	.1473E-03	.0000E+01
149	.5813E-01	.0000E+01	.1400E-03	.0000E+01
150	.7739E-01	.0000E+01	.1723E-04	.0000E+01

END OF ADDK - DISPLACEMENT PRINT FILE = name.ADD
EXECUTE PROGRAM SEGMENT "FORCES" OR "REACT"

FRAME MEMBER FORCES

LOAD COMBINATION MULTIPLIERS

NEW LOAD COMB.	OLD LOAD CONDITION 1	2
1	1.0	0.0
2	0.0	1.0

MEM #	LOAD #	AXIAL FORCE	DIST I	1-2 PLANE SHEAR	1-2 PLANE MOMENT	1-3 PLANE SHEAR	1-3 PLANE MOMENT	AXIAL TORQUE
1								
	1	0.00						
			0.0	-1736.28	260441.37			
			300.0	-1736.28	-260441.37			
	2	0.00						
			0.0	-17651.89	2647783.00			
			300.0	-17651.89	-2647783.00			
2								
	1	0.00						
			0.0	1736.27	-260440.75			
			300.0	1736.27	260440.72			
	2	0.00						
			0.0	-31658.08	4748712.00			
			300.0	-31658.08	-4748712.00			
3								
	1	0.00						
			0.0	205.48	-20547.89			
			200.0	205.48	20547.89			
	2	0.00						
			0.0	-30370.03	3037002.25			
			200.0	-30370.03	-3037002.75			
4								
	1	0.00						
			0.0	822.96	-82296.24			
			200.0	822.96	82296.24			
	2	0.00						
			0.0	-121634.81	12163480.00			
			200.0	-121634.81	-12163482.00			
5								
	1	0.00						
			0.0	455.99	-91198.93			
			400.0	455.99	91198.93			
	2	0.00						
			0.0	-67396.54	13479308.00			
			400.0	-67396.54	-13479308.00			
6								
	1	0.00						
			0.0	3556.35	-622360.69			
			350.0	3556.35	622360.69			
	2	0.00						
			0.0	-99185.44	17357452.00			
			350.0	-99185.44	-17357452.00			
7								
	1	0.00						
			0.0	2829.05	-495083.84			
			350.0	2829.05	495083.84			
	2	0.00						
			0.0	-78901.36	13807738.00			
			350.0	-78901.36	-13807738.00			
8								
	1	0.00						
			0.0	2594.97	-259496.94			
			200.0	2594.97	259496.97			
	2	0.00						
			0.0	-59523.88	5952387.50			
			200.0	-59523.88	-5952388.50			
9								
	1	0.00						
			0.0	1169.39	-116939.16			
			200.0	1169.39	116939.06			

```
  2        0.00
               0.0   -26823.70  2682370.00
             200.0   -26823.70 -2682370.00
10 ---------------------------------------
  1        0.00
               0.0     1169.39  -116939.16
             200.0     1169.39   116939.06
  2        0.00
               0.0   -26823.70  2682370.00
             200.0   -26823.70 -2682370.00
11 ---------------------------------------
  1        0.00
               0.0     1878.08  -187807.69
             200.0     1878.08   187807.69
  2        0.00
               0.0   -43079.66  4307965.50
             200.0   -43079.66 -4307967.50
12 ---------------------------------------
  1        0.00
               0.0    18624.14 -1862413.62
             200.0    18624.14  1862413.62
  2        0.00
               0.0   -96503.31  9650332.00
             200.0   -96503.31 -9650330.00
13 ---------------------------------------
  1        0.00
               0.0    15385.63 -1538563.50
             200.0    15385.63  1538563.50
  2        0.00
               0.0   -79722.59  7972259.00
             200.0   -79722.59 -7972260.00
14 ---------------------------------------
  1        0.00
               0.0     8719.14 -1089892.50
             250.0     8719.14  1089892.25
  2        0.00
               0.0  -166060.98 20757626.00
             250.0  -166060.98-20757622.00
15 ---------------------------------------
  1        0.00
               0.0     8782.80 -1317420.25
             300.0     8782.80  1317420.25
  2        0.00
               0.0   -56332.31  8449847.00
             300.0   -56332.31 -8449847.00
16 ---------------------------------------
  1        0.00
               0.0     2727.02  -272702.12
             200.0     2727.02   272702.12
  2        0.00
               0.0   -17490.93  1749092.75
             200.0   -17490.93 -1749092.75
17 ---------------------------------------
  1        0.00
               0.0     4379.16  -437916.37
             200.0     4379.16   437916.31
  2        0.00
               0.0   -28087.66  2808766.75
             200.0   -28087.66 -2808765.25
18 ---------------------------------------
  1        0.00
               0.0     6607.87  -991180.00
             300.0     6607.87   991180.00
  2        0.00
               0.0   -42382.43  6357364.50
             300.0   -42382.43 -6357364.50
19 ---------------------------------------
  1        0.00
               0.0     1730.37  -259555.00
             300.0     1730.37   259555.00
  2        0.00
               0.0   -43109.89  6466483.50
             300.0   -43109.89 -6466483.50
20 ---------------------------------------
  1        0.00
               0.0     3583.85  -537578.00
             300.0     3583.85   537578.00
  2        0.00
```

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                0.0   -89286.57 13392985.00
              300.0   -89286.57-13392987.00
21 ----------------------------------------
  1        0.00
                0.0    -1785.76   267863.25
              300.0    -1785.76  -267863.25
  2        0.00
                0.0   -35884.22  5382633.50
              300.0   -35884.22 -5382633.50
96 ----------------------------------------
  1        0.00
                0.0    -3548.00   532200.50
              300.0    -3548.00  -532200.50
  2        0.00
                0.0   -71296.35 10694453.00
              300.0   -71296.35-10694453.00
97 ----------------------------------------
  1        0.00
                0.0     1061.59  -159238.50
              300.0     1061.59   159238.50
  2        0.00
                0.0   -46840.91  7026137.00
              300.0   -46840.91 -7026137.00
98 ----------------------------------------
  1        0.00
                0.0      757.79  -113668.75
              300.0      757.79   113668.75
  2        0.00
                0.0   -33436.34  5015450.50
              300.0   -33436.34 -5015450.50
22 ----------------------------------------
  1        0.00
                0.0      -55.92         .03
              400.0      -55.92   -22366.56
  2        0.00
                0.0     -908.36
              400.0     -908.36  -363343.00
23 ----------------------------------------
  1        0.00
                0.0     -157.78        -.03
              400.0     -157.78   -63110.16
  2        0.00
                0.0    -2563.06         .25
              400.0    -2563.06 -1025222.00
24 ----------------------------------------
  1        0.00
                0.0      -27.96   -11183.35
              200.0      -27.96   -16775.01
  2        0.00
                0.0     -454.18  -181672.86
              200.0     -454.18  -272508.84
25 ----------------------------------------
  1        0.00
                0.0      -27.96   -11183.35
              200.0      -27.96   -16775.01
  2        0.00
                0.0     -454.18  -181672.86
              200.0     -454.18  -272508.84
26 ----------------------------------------
  1        0.00
                0.0     -157.78   -63110.17
              350.0     -157.78  -118331.64
  2        0.00
                0.0    -2563.05 -1025222.12
              350.0    -2563.05 -1922290.75
27 ----------------------------------------
  1        0.00
                0.0      -55.92   -41937.25
              220.0      -55.92   -54239.10
  2        0.00
                0.0     -908.32  -681277.50
              220.0     -908.32  -881108.25
28 ----------------------------------------
  1        0.00
                0.0     -157.77  -118331.75
              220.0     -157.77  -153042.06
  2        0.00
                0.0    -2563.05 -1922289.50
```

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              220.0    -2563.05 -2486161.50
29 ---------------------------------------
   1         0.00
                0.0   -12905.17  1290516.50
              200.0   -12905.17 -1290517.00
   2         0.00
                0.0   -59913.63  5991364.00
              200.0   -59913.63 -5991363.00
30 ---------------------------------------
   1         0.00
                0.0    -7064.20   706420.37
              200.0    -7064.20  -706420.50
   2         0.00
                0.0   -32796.32  3279632.00
              200.0   -32796.32 -3279632.00
31 ---------------------------------------
   1         0.00
                0.0    -4020.38   402037.94
              200.0    -4020.38  -402038.00
   2         0.00
                0.0   -18665.03  1866503.25
              200.0   -18665.03 -1866503.50
32 ---------------------------------------
   1         0.00
                0.0   -10020.04  1002003.75
              200.0   -10020.04 -1002003.62
   2         0.00
                0.0   -46519.14  4651914.00
              200.0   -46519.14 -4651914.00
33 ---------------------------------------
   1         0.00
                0.0     -910.85    91085.12
              200.0     -910.85   -91085.22
   2         0.00
                0.0   -13396.59  1339658.87
              200.0   -13396.59 -1339658.87
34 ---------------------------------------
   1         0.00
                0.0    -3111.90   311190.25
              200.0    -3111.90  -311189.94
   2         0.00
                0.0   -45769.08  4576907.50
              200.0   -45769.08 -4576908.50
99 ---------------------------------------
   1         0.00
                0.0    -4696.40   469640.50
              200.0    -4696.40  -469639.87
   2         0.00
                0.0   -69073.53  6907352.50
              200.0   -69073.53 -6907353.50
35 ---------------------------------------
   1         0.00
                0.0    -9365.84   936584.00
              200.0    -9365.84  -936585.00
   2         0.00
                0.0   -42762.67  4276266.50
              200.0   -42762.67 -4276267.50
100 --------------------------------------
   1         0.00
                0.0    -8181.37  1227206.25
              300.0    -8181.37 -1227206.25
   2         0.00
                0.0   -37354.64  5603196.00
              300.0   -37354.64 -5603196.00
101 --------------------------------------
   1         0.00
                0.0    -4949.67   742450.00
              300.0    -4949.67  -742450.00
   2         0.00
                0.0   -22599.24  3389886.25
              300.0   -22599.24 -3389886.25
36 ---------------------------------------
   1         0.00
                0.0    -5314.26   797139.00
              300.0    -5314.26  -797138.87
   2         0.00
                0.0   -65123.29  9768494.00
              300.0   -65123.29 -9768494.00
```

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37 ----------------------------------------
   1        0.00
                0.0     5333.75  -800063.00
              300.0     5333.75   800063.00
   2        0.00
                0.0   -39009.15  5851373.00
              300.0   -39009.15 -5851373.00
38 ----------------------------------------
   1        0.00
                0.0    -1819.38   272907.50
              300.0    -1819.38  -272907.50
   2        0.00
                0.0   -17402.56  2610384.00
              300.0   -17402.56 -2610384.00
39 ----------------------------------------
   1        0.00
                0.0    -1270.77   254153.53
              400.0    -1270.77  -254153.56
   2        0.00
                0.0  -172627.36 34525472.00
              400.0  -172627.36-34525472.00
40 ----------------------------------------
   1        0.00
                0.0    -6171.73  1080052.87
              350.0    -6171.73 -1080052.87
   2        0.00
                0.0  -202521.92 35441336.00
              350.0  -202521.92-35441336.00
41 ----------------------------------------
   1        0.00
                0.0    -6598.16   989724.25
              300.0    -6598.16  -989724.25
   2        0.00
                0.0  -209227.56 31384134.00
              300.0  -209227.56-31384134.00
42 ----------------------------------------
   1        0.00
                0.0    41574.25 -4157424.50
              200.0    41574.25  4157424.50
   2        0.00
                0.0    28787.61 -2878761.00
              200.0    28787.61  2878761.00
43 ----------------------------------------
   1        0.00
                0.0    41574.25 -4157424.50
              200.0    41574.25  4157424.50
   2        0.00
                0.0    28787.61 -2878761.00
              200.0    28787.61  2878761.00
44 ----------------------------------------
   1        0.00
                0.0    19464.41 -1946440.75
              200.0    19464.41  1946441.00
   2        0.00
                0.0    13477.91 -1347790.75
              200.0    13477.91  1347790.50
45 ----------------------------------------
   1        0.00
                0.0    18252.26 -1825226.12
              200.0    18252.26  1825226.12
   2        0.00
                0.0    10271.66 -1027165.94
              200.0    10271.66  1027165.94
46 ----------------------------------------
   1        0.00
                0.0    85155.29-14902175.00
              350.0    85155.29 14902177.00
   2        0.00
                0.0    47922.06 -8386361.00
              350.0    47922.06  8386361.00
47 ----------------------------------------
   1        0.00
                0.0    96844.57-14526685.00
              300.0    96844.57 14526687.00
   2        0.00
                0.0    51056.80 -7658520.00
              300.0    51056.80  7658520.00
48 ----------------------------------------
```

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  1        0.00
               0.0    21617.31 -3242596.50
             300.0    21617.31  3242596.50
  2        0.00
               0.0     4818.90  -722835.12
             300.0     4818.90   722835.12
49 ---------------------------------------
  1        0.00
               0.0     5272.47  -527247.06
             200.0     5272.47   527247.06
  2        0.00
               0.0     1198.17  -119817.26
             200.0     1198.17   119817.26
50 ---------------------------------------
  1        0.00
               0.0    73887.72 -7388771.00
             200.0    73887.72  7388773.00
  2        0.00
               0.0    16791.03 -1679103.00
             200.0    16791.03  1679103.75
51 ---------------------------------------
  1        0.00
               0.0    33147.45 -3314744.75
             200.0    33147.45  3314745.25
  2        0.00
               0.0     7532.78  -753278.00
             200.0     7532.78   753278.00
52 ---------------------------------------
  1-       0.00
               0.0    16502.79 -1650278.62
             200.0    16502.79  1650278.87
  2        0.00
               0.0     3747.15  -374714.66
             200.0     3747.15   374714.66
53 ---------------------------------------
  1        0.00
               0.0    46593.64 -4659364.00
             200.0    46593.64  4659363.00
  2        0.00
               0.0    10579.62 -1057961.75
             200.0    10579.62  1057962.00
54 ---------------------------------------
  1        0.00
               0.0    32309.66 -5654190.00
             350.0    32309.66  5654190.00
  2        0.00
               0.0     7336.28 -1283848.62
             350.0     7336.28  1283848.62
55 ---------------------------------------
  1        0.00
               0.0   101225.30-15183796.00
             300.0   101225.30 15183796.00
  2        0.00
               0.0    22764.21 -3414632.00
             300.0    22764.21  3414632.00
56 ---------------------------------------
  1        0.00
               0.0    65072.91 -6507290.00
             200.0    65072.91  6507291.00
  2        0.00
               0.0   -15613.00  1561300.25
             200.0   -15613.00 -1561300.75
57 ---------------------------------------
  1        0.00
               0.0    65072.91 -6507290.00
             200.0    65072.91  6507291.00
  2        0.00
               0.0   -15613.00  1561300.25
             200.0   -15613.00 -1561300.75
58 ---------------------------------------
  1        0.00
               0.0     8545.33  -854533.25
             200.0     8545.33   854533.37
  2        0.00
               0.0    -2050.29   205028.98
             200.0    -2050.29  -205029.02
59 ---------------------------------------
  1        0.00
```

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                0.0   103943.56-10394355.00
              200.0   103943.56 10394357.00
   2        0.00
                0.0    -8371.08   837107.37
              200.0    -8371.08  -837107.62
60 ---------------------------------------
   1        0.00
               40.0    67413.55 -5393085.50
              200.0    67413.55  5393082.50
   2        0.00
               40.0    -5429.14   434331.09
              200.0    -5429.14  -434331.09
61 ---------------------------------------
   1        0.00
               40.0     3319.87  -265589.69
              200.0     3319.87   265589.62
   2        0.00
               40.0     -267.37    21389.21
              200.0     -267.37   -21389.21
62 ---------------------------------------
   1        0.00
                0.0    73261.73-10989260.00
              300.0    73261.73 10989260.00
   2        0.00
                0.0    -7978.43  1196764.37
              300.0    -7978.43 -1196764.37
63 ---------------------------------------
   1        0.00
               40.0    13035.53 -1042842.25
              200.0    13035.53  1042842.25
   2        0.00
               40.0    -1419.61   113568.75
              200.0    -1419.61  -113568.75
64 ---------------------------------------
   1        0.00
                0.0    29373.54 -2937354.00
              200.0    29373.54  2937353.50
   2        0.00
                0.0    -3198.87   319886.91
              200.0    -3198.87  -319886.91
65 ---------------------------------------
   1        0.00
                0.0    47288.67 -4728867.00
              200.0    47288.67  4728867.00
   2        0.00
                0.0     1619.09  -161909.22
              200.0     1619.09   161909.31
66 ---------------------------------------
   1        0.00
                0.0    39058.23 -3905822.50
              200.0    39058.23  3905823.00
   2        0.00
                0.0     1337.29  -133729.42
              200.0     1337.29   133729.45
102 --------------------------------------
   1        0.00
                0.0    39058.23 -3905822.50
              200.0    39058.23  3905823.00
   2        0.00
                0.0     1337.29  -133729.42
              200.0     1337.29   133729.45
103 --------------------------------------
   1        0.00
                0.0    32013.28 -4801992.50
              300.0    32013.28  4801992.50
   2        0.00
                0.0     -610.47    91570.77
              300.0     -610.47   -91570.77
104 --------------------------------------
   1        0.00
               40.0    14196.59 -1135726.62
              200.0    14196.59  1135728.12
   2        0.00
               40.0     -270.72    21657.55
              200.0     -270.72   -21657.56
105 --------------------------------------
   1        0.00
               40.0    28954.06 -2316325.25
```

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              200.0    28954.06  2316324.25
   2        0.00
               40.0     -552.13    44170.77
              200.0     -552.13   -44170.75
106 ---------------------------------------
   1        0.00
               40.0    28954.06 -2316325.25
              200.0    28954.06  2316324.25
   2        0.00
               40.0     -552.13    44170.77
              200.0     -552.13   -44170.75
 67 ---------------------------------------
   1        0.00
                0.0    65675.61 -9851341.00
              300.0    65675.61  9851341.00
   2        0.00
                0.0     -767.69   115152.95
              300.0     -767.69  -115152.95
 68 ---------------------------------------
   1        0.00
                0.0    42072.02 -6310803.00
              300.0    42072.02  6310803.00
   2        0.00
                0.0     1985.46  -297818.97
              300.0     1985.46   297818.97
 69 ---------------------------------------
   1        0.00
                0.0    32004.45 -4800667.00
              300.0    32004.45  4800667.00
   2        0.00
                0.0      767.69  -115152.80
              300.0      767.69   115152.80
 70 ---------------------------------------
   1        0.00
                0.0     5066.97  -506696.81
              200.0     5066.97   506696.81
   2        0.00
                0.0    -1903.57   190356.87
              200.0    -1903.57  -190356.91
 71 ---------------------------------------
   1        0.00
                0.0    38703.60 -3870360.25
              200.0    38703.60  3870360.25
   2        0.00
                0.0   -14540.25  1454024.87
              200.0   -14540.25 -1454024.87
 72 ---------------------------------------
   1        0.00
                0.0    11282.75 -1128274.37
              200.0    11282.75  1128274.62
   2        0.00
                0.0    -4238.72   423872.41
              200.0    -4238.72  -423872.53
 73 ---------------------------------------
   1        0.00
                0.0    31855.47 -3185547.50
              200.0    31855.47  3185547.50
   2        0.00
                0.0   -11967.53  1196753.00
              200.0   -11967.53 -1196753.00
 74 ---------------------------------------
   1        0.00
                0.0     1168.79  -116879.35
              200.0     1168.79   116879.32
   2        0.00
                0.0     -335.03    33503.32
              200.0     -335.03   -33503.33
 75 ---------------------------------------
   1        0.00
                0.0     6463.24  -646323.69
              200.0     6463.24   646323.81
   2        0.00
                0.0    -1852.68   185267.84
              200.0    -1852.68  -185267.87
 76 ---------------------------------------
   1        0.00
                0.0    31936.62 -3193663.00
              200.0    31936.62  3193662.00
```

```
  2        0.00
               0.0    -9154.59   915459.37
             200.0    -9154.59  -915459.37
77 ----------------------------------------
  1        0.00
               0.0    57640.71 -5764071.00
             200.0    57640.71  5764072.00
  2        0.00
               0.0   -16522.64  1652263.75
             200.0   -16522.64 -1652264.50
78 ----------------------------------------
  1        0.00
               0.0    37177.67 -5576651.00
             300.0    37177.67  5576651.00
  2        0.00
               0.0    -9718.72  1457808.50
             300.0    -9718.72 -1457808.50
79 ----------------------------------------
  1        0.00
               0.0    37177.67 -5576651.00
             300.0    37177.67  5576651.00
  2        0.00
               0.0    -9718.72  1457808.50
             300.0    -9718.72 -1457808.50
80 ----------------------------------------
  1        0.00
               0.0    62414.27 -4681071.00
             150.0    62414.27  4681070.00
  2        0.00
               0.0    10627.52  -797063.25
             150.0    10627.52   797064.12
81 ----------------------------------------
  1        0.00
               0.0   133014.05 -9976053.00
             150.0   133014.05  9976055.00
  2        0.00
               0.0    22648.81 -1698661.75
             150.0    22648.81  1698660.25
82 ----------------------------------------
  1        0.00
               0.0    32154.34 -3215433.50
             200.0    32154.34  3215433.50
  2        0.00
               0.0     3781.34  -378133.69
             200.0     3781.34   378133.75
83 ----------------------------------------
  1        0.00
               0.0    23272.84 -2327284.00
             200.0    23272.84  2327284.00
  2        0.00
               0.0     2736.88  -273687.62
             200.0     2736.88   273687.62
84 ----------------------------------------
  1        0.00
               0.0    23272.84 -2327284.00
             200.0    23272.84  2327284.00
  2        0.00
               0.0     2736.88  -273687.62
             200.0     2736.88   273687.62
85 ----------------------------------------
  1        0.00
               0.0    40922.70 -4092269.00
             200.0    40922.70  4092270.00
  2        0.00
               0.0     4812.49  -481249.06
             200.0     4812.49   481249.06
107 ---------------------------------------
  1        0.00
              40.0    23573.71 -1885896.75
             200.0    23573.71  1885897.25
  2        0.00
              40.0     2260.99  -180879.12
             200.0     2260.99   180879.12
108 ---------------------------------------
  1        0.00
              40.0    35973.58 -2877886.50
             200.0    35973.58  2877886.00
  2        0.00
```

```
              40.0     3450.28  -276022.16
             200.0     3450.28   276022.28
109 ------------------------------------
   1        0.00
              40.0    23573.71 -1885896.75
             200.0    23573.71  1885897.25
   2        0.00
              40.0     2260.99  -180879.12
             200.0     2260.99   180879.12
110 ------------------------------------
   1        0.00
              40.0    48217.98 -3857438.25
             200.0    48217.98  3857438.75
   2        0.00
              40.0     4624.66  -369972.50
             200.0     4624.66   369972.50
111 ------------------------------------
   1        0.00
               0.0    72114.63-10817195.00
             300.0    72114.63 10817195.00
   2        0.00
               0.0    -4293.68   644051.81
             300.0    -4293.68  -644051.81
 86 ------------------------------------
   1        0.00
               0.0    37951.00 -3795100.00
             200.0    37951.00  3795100.00
   2        0.00
               0.0   -25899.61  2589960.50
             200.0   -25899.61 -2589961.00
 87 ------------------------------------
   1        0.00
               0.0    37951.00 -3795100.00
             200.0    37951.00  3795100.00
   2        0.00
               0.0   -25899.61  2589960.50
             200.0   -25899.61 -2589961.00
 88 ------------------------------------
   1        0.00
               0.0    17768.06 -1776806.12
             200.0    17768.06  1776805.87
   2        0.00
               0.0   -12125.79  1212578.75
             200.0   -12125.79 -1212579.00
 89 ------------------------------------
   1        0.00
               0.0    13379.76 -1337975.75
             200.0    13379.76  1337975.50
   2        0.00
               0.0    -7899.92   789991.37
             200.0    -7899.92  -789991.75
 90 ------------------------------------
   1        0.00
              50.0    46618.62 -5244593.50
             275.0    46618.62  5244595.50
   2        0.00
              50.0   -27525.40  3096607.00
             275.0   -27525.40 -3096608.50
 91 ------------------------------------
   1        0.00
             100.0    28057.99 -3507249.00
             350.0    28057.99  3507249.50
   2        0.00
             100.0   -16566.50  2070813.00
             350.0   -16566.50 -2070812.50
 92 ------------------------------------
   1        0.00
             100.0    54334.73 -5433472.50
             300.0    54334.73  5433472.50
   2        0.00
             100.0   -30613.25  3061325.50
             300.0   -30613.25 -3061323.50
 93 ------------------------------------
   1        0.00
             100.0    42189.40 -4218940.00
             300.0    42189.40  4218940.00
   2        0.00
             100.0   -23770.34  2377033.50
```

```
              300.0   -23770.34 -2377033.50
94 ---------------------------------------
   1        0.00
              40.0    18581.79 -1486542.62
             200.0    18581.79  1486543.12
   2        0.00
              40.0    -3233.48   258678.48
             200.0    -3233.48  -258678.48
95 ---------------------------------------
   1        0.00
              40.0     9110.92  -728873.06
             200.0     9110.92   728873.31
   2        0.00
              40.0    -1585.42   126833.74
             200.0    -1585.42  -126833.74
```

REACTIONS AND APPLIED FORCES

REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 1

FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Y)	M(Z)
1	.2137E+03	-.3955E+06	.0000E+01	.3105E+06
2	-.1953E-02	.1142E+05	.0000E+01	-.5250E+02
3	-.1465E-02	.1513E+05	.0000E+01	-.1800E+02
4	.2100E-01	.3483E+05	.0000E+01	-.3800E+02
5	.3906E-02	.3982E+05	.0000E+01	-.2475E+02
6	-.7813E-02	.4729E+05	.0000E+01	.3900E+02
7	.3906E-02	.4949E+05	.0000E+01	.6000E+01
8	.1172E-01	.5133E+05	.0000E+01	-.3000E+02
9	.7813E-02	.4851E+05	.0000E+01	-.3250E+01
10	.9766E-03	.4837E+05	.0000E+01	.2175E+02
11	.3906E-02	.4931E+05	.0000E+01	.3000E+01
12	.0000E+01	.0000E+01	.0000E+01	.0000E+01
13	.0000E+01	.0000E+01	.0000E+01	.0000E+01
14	.0000E+01	.0000E+01	.0000E+01	.0000E+01
15	.0000E+01	.0000E+01	.0000E+01	.0000E+01
16	.0000E+01	.0000E+01	.0000E+01	.0000E+01
17	.0000E+01	.0000E+01	.0000E+01	.0000E+01
18	.0000E+01	.0000E+01	.0000E+01	.0000E+01
19	.0000E+01	.0000E+01	.0000E+01	.0000E+01
20	.0000E+01	.0000E+01	.0000E+01	.0000E+01
21	.0000E+01	.0000E+01	-.2604E+06	.0000E+01
22	.0000E+01	.0000E+01	-.2604E+06	.0000E+01
23	.0000E+01	.0000E+01	.0000E+01	.0000E+01
24	.0000E+01	.0000E+01	.0000E+01	.0000E+01
25	.0000E+01	.0000E+01	.0000E+01	.0000E+01
26	.0000E+01	.0000E+01	.0000E+01	.0000E+01
27	.0000E+01	.0000E+01	.0000E+01	.0000E+01
28	.0000E+01	.0000E+01	.0000E+01	.0000E+01
29	.0000E+01	.0000E+01	.0000E+01	.0000E+01
30	.0000E+01	.0000E+01	.0000E+01	.0000E+01
31	.0000E+01	.0000E+01	.0000E+01	.0000E+01
32	.0000E+01	.0000E+01	.2604E+06	.0000E+01
33	.0000E+01	.0000E+01	.2604E+06	.0000E+01
34	.0000E+01	.0000E+01	.1940E+06	.0000E+01
35	.0000E+01	.0000E+01	.1517E+07	.0000E+01
36	.0000E+01	.0000E+01	.1799E+07	.0000E+01
37	.0000E+01	.0000E+01	.4763E+07	.0000E+01
38	.0000E+01	.0000E+01	.7892E+07	.0000E+01
39	.0000E+01	.0000E+01	.4545E+07	.0000E+01
40	.0000E+01	.0000E+01	.4527E+07	.0000E+01
41	.0000E+01	.0000E+01	-.2931E+04	.0000E+01
42	.0000E+01	.0000E+01	-.5272E+06	.0000E+01
43	.0000E+01	.0000E+01	.2729E+06	.0000E+01
44	.0000E+01	.0000E+01	.0000E+01	.0000E+01
45	-.1578E+03	.0000E+01	.3125E-01	.0000E+01
46	-.8545E-03	.0000E+01	.4688E-01	.0000E+01
47	.1953E-02	.0000E+01	.0000E+01	.0000E+01
48	.0000E+01	.0000E+01	-.3625E+07	.0000E+01

49	.0000E+01	.0000E+01	-.7674E+07	.0000E+01
50	.0000E+01	.0000E+01	-.4650E+07	.0000E+01
51	.0000E+01	.0000E+01	-.4640E+07	.0000E+01
52	.0000E+01	.0000E+01	.2924E+04	.0000E+01
53	.0000E+01	.0000E+01	.8001E+06	.0000E+01
54	.0000E+01	.0000E+01	.0000E+01	.0000E+01
55	.0000E+01	.0000E+01	.0000E+01	.0000E+01
56	.0000E+01	.0000E+01	.0000E+01	.0000E+01
57	.0000E+01	.0000E+01	.0000E+01	.0000E+01
58	.0000E+01	.0000E+01	.0000E+01	.0000E+01
59	.0000E+01	.0000E+01	.0000E+01	.0000E+01
60	.0000E+01	.0000E+01	.0000E+01	.0000E+01
61	.0000E+01	.0000E+01	.0000E+01	.0000E+01
62	.0000E+01	.0000E+01	.0000E+01	.0000E+01
63	.0000E+01	.0000E+01	.0000E+01	.0000E+01
64	.0000E+01	.0000E+01	-.2729E+06	.0000E+01
65	.0000E+01	.0000E+01	-.2729E+06	.0000E+01
66	.0000E+01	.0000E+01	.0000E+01	.0000E+01
67	.0000E+01	.0000E+01	-.2542E+06	.0000E+01
68	.0000E+01	.0000E+01	-.1334E+07	.0000E+01
69	.0000E+01	.0000E+01	-.2070E+07	.0000E+01
70	.0000E+01	.0000E+01	-.9897E+06	.0000E+01
71	.0000E+01	.0000E+01	.0000E+01	.0000E+01
72	.0000E+01	.0000E+01	.0000E+01	.0000E+01
73	.0000E+01	.0000E+01	.0000E+01	.0000E+01
74	.0000E+01	.0000E+01	.0000E+01	.0000E+01
75	.0000E+01	.0000E+01	.0000E+01	.0000E+01
76	.0000E+01	.0000E+01	.0000E+01	.0000E+01
77	-.0000E+01	.0000E+01	.0000E+01	.0000E+01
78	.0000E+01	.0000E+01	.0000E+01	.0000E+01
79	.0000E+01	.0000E+01	.0000E+01	.0000E+01
80	.0000E+01	.0000E+01	.0000E+01	.0000E+01
81	.0000E+01	.0000E+01	.0000E+01	.0000E+01
82	.0000E+01	.0000E+01	.0000E+01	.0000E+01
83	.0000E+01	.0000E+01	.0000E+01	.0000E+01
84	.0000E+01	.0000E+01	.0000E+01	.0000E+01
85	.0000E+01	.0000E+01	.0000E+01	.0000E+01
86	.0000E+01	.0000E+01	.0000E+01	.0000E+01
87	.0000E+01	.0000E+01	.0000E+01	.0000E+01
88	.0000E+01	.0000E+01	.0000E+01	.0000E+01
89	.0000E+01	.0000E+01	.0000E+01	.0000E+01
90	.0000E+01	.0000E+01	.0000E+01	.0000E+01
91	.0000E+01	.0000E+01	.0000E+01	.0000E+01
92	.0000E+01	.0000E+01	.0000E+01	.0000E+01
93	.0000E+01	.0000E+01	.0000E+01	.0000E+01
94	.0000E+01	.0000E+01	.0000E+01	.0000E+01
95	.0000E+01	.0000E+01	.0000E+01	.0000E+01
96	.0000E+01	.0000E+01	.0000E+01	.0000E+01
97	.0000E+01	.0000E+01	.0000E+01	.0000E+01
98	.0000E+01	.0000E+01	.0000E+01	.0000E+01
99	.0000E+01	.0000E+01	.0000E+01	.0000E+01
100	.0000E+01	.0000E+01	.0000E+01	.0000E+01
101	.0000E+01	.0000E+01	.0000E+01	.0000E+01
102	.0000E+01	.0000E+01	.0000E+01	.0000E+01
103	.0000E+01	.0000E+01	.0000E+01	.0000E+01
104	.0000E+01	.0000E+01	.0000E+01	.0000E+01
105	.0000E+01	.0000E+01	.0000E+01	.0000E+01
106	.0000E+01	.0000E+01	.0000E+01	.0000E+01
107	.0000E+01	.0000E+01	.0000E+01	.0000E+01
108	.0000E+01	.0000E+01	.0000E+01	.0000E+01
109	.0000E+01	.0000E+01	.0000E+01	.0000E+01
110	.0000E+01	.0000E+01	.0000E+01	.0000E+01
111	.0000E+01	.0000E+01	.0000E+01	.0000E+01
112	.0000E+01	.0000E+01	.0000E+01	.0000E+01
113	.0000E+01	.0000E+01	.0000E+01	.0000E+01
114	.0000E+01	.0000E+01	.0000E+01	.0000E+01
115	.0000E+01	.0000E+01	.0000E+01	.0000E+01
116	.0000E+01	.0000E+01	.0000E+01	.0000E+01
117	.0000E+01	.0000E+01	.0000E+01	.0000E+01
118	.0000E+01	.0000E+01	.0000E+01	.0000E+01
119	.0000E+01	.0000E+01	.0000E+01	.0000E+01
120	.0000E+01	.0000E+01	.0000E+01	.0000E+01
121	.0000E+01	.0000E+01	.0000E+01	.0000E+01
122	.0000E+01	.0000E+01	.0000E+01	.0000E+01
123	.0000E+01	.0000E+01	.0000E+01	.0000E+01
124	.0000E+01	.0000E+01	.0000E+01	.0000E+01
125	.0000E+01	.0000E+01	.0000E+01	.0000E+01
126	.0000E+01	.0000E+01	.0000E+01	.0000E+01

127	.0000E+01	.0000E+01	.0000E+01	.0000E+01
128	.0000E+01	.0000E+01	.0000E+01	.0000E+01
129	.0000E+01	.0000E+01	.0000E+01	.0000E+01
130	.0000E+01	.0000E+01	.0000E+01	.0000E+01
131	.0000E+01	.0000E+01	.0000E+01	.0000E+01
132	.0000E+01	.0000E+01	.0000E+01	.0000E+01
133	.0000E+01	.0000E+01	.0000E+01	.0000E+01
134	.0000E+01	.0000E+01	.0000E+01	.0000E+01
135	.0000E+01	.0000E+01	.0000E+01	.0000E+01
136	.0000E+01	.0000E+01	.0000E+01	.0000E+01
137	.0000E+01	.0000E+01	.0000E+01	.0000E+01
138	.0000E+01	.0000E+01	.0000E+01	.0000E+01
139	.0000E+01	.0000E+01	.0000E+01	.0000E+01
140	.0000E+01	.0000E+01	.0000E+01	.0000E+01
141	.0000E+01	.0000E+01	.0000E+01	.0000E+01
142	.0000E+01	.0000E+01	.0000E+01	.0000E+01
143	.0000E+01	.0000E+01	.0000E+01	.0000E+01
144	.0000E+01	.0000E+01	.0000E+01	.0000E+01
145	.0000E+01	.0000E+01	.0000E+01	.0000E+01
146	.0000E+01	.0000E+01	.0000E+01	.0000E+01
147	.0000E+01	.0000E+01	.0000E+01	.0000E+01
148	-.5592E+02	.0000E+01	-.3125E-01	.0000E+01
149	-.2518E-03	.0000E+01	.1318E+00	.0000E+01
150	-.1953E-02	.0000E+01	-.2500E+00	.0000E+01

REACTIONS AND APPLIED FORCES FOR LOAD CONDITION 2

FORCES "F" AND MOMENTS "M"

JOINT	F(X)	F(Y)	M(Y)	M(Z)
1	-.3920E+06	-.4492E-01	.0000E+01	.2374E+09
2	.1142E+05	.3516E-01	.0000E+01	-.4400E+02
3	.1513E+05	.3906E-01	.0000E+01	-.1280E+03
4	.3483E+05	.3906E-01	.0000E+01	-.8800E+02
5	.3982E+05	.9766E-02	.0000E+01	-.9275E+02
6	.4729E+05	-.5127E-02	.0000E+01	.1361E+03
7	.4949E+05	-.9766E-03	.0000E+01	.1625E+02
8	.5173E+05	.3906E-02	.0000E+01	-.6800E+02
9	.4851E+05	.4272E-03	.0000E+01	.9812E+01
10	.4837E+05	-.6104E-04	.0000E+01	-.1944E-02
11	.4931E+05	-.1404E-02	.0000E+01	.2528E+02
12	.0000E+01	.0000E+01	.0000E+01	.0000E+01
13	.0000E+01	.0000E+01	.0000E+01	.0000E+01
14	.0000E+01	.0000E+01	.0000E+01	.0000E+01
15	.0000E+01	.0000E+01	.0000E+01	.0000E+01
16	.0000E+01	.0000E+01	.0000E+01	.0000E+01
17	.0000E+01	.0000E+01	.0000E+01	.0000E+01
18	.0000E+01	.0000E+01	.0000E+01	.0000E+01
19	.0000E+01	.0000E+01	.0000E+01	.0000E+01
20	.0000E+01	.0000E+01	.0000E+01	.0000E+01
21	.0000E+01	.0000E+01	-.2648E+07	.0000E+01
22	.0000E+01	.0000E+01	-.2648E+07	.0000E+01
23	.0000E+01	.0000E+01	.0000E+01	.0000E+01
24	.0000E+01	.0000E+01	.0000E+01	.0000E+01
25	.0000E+01	.0000E+01	.0000E+01	.0000E+01
26	.0000E+01	.0000E+01	.0000E+01	.0000E+01
27	.0000E+01	.0000E+01	.0000E+01	.0000E+01
28	.0000E+01	.0000E+01	.0000E+01	.0000E+01
29	.0000E+01	.0000E+01	.0000E+01	.0000E+01
30	.0000E+01	.0000E+01	.0000E+01	.0000E+01
31	.0000E+01	.0000E+01	.0000E+01	.0000E+01
32	.0000E+01	.0000E+01	-.4749E+07	.0000E+01
33	.0000E+01	.0000E+01	-.4749E+07	.0000E+01
34	.0000E+01	.0000E+01	-.2868E+08	.0000E+01
35	.0000E+01	.0000E+01	-.9025E+08	.0000E+01
36	.0000E+01	.0000E+01	-.4679E+08	.0000E+01
37	.0000E+01	.0000E+01	-.4887E+08	.0000E+01
38	.0000E+01	.0000E+01	-.5600E+08	.0000E+01
39	.0000E+01	.0000E+01	-.4843E+08	.0000E+01
40	.0000E+01	.0000E+01	-.4378E+08	.0000E+01
41	.0000E+01	.0000E+01	-.3594E+08	.0000E+01
42	.0000E+01	.0000E+01	-.2812E+08	.0000E+01
43	.0000E+01	.0000E+01	-.1204E+08	.0000E+01
44	.0000E+01	.0000E+01	.0000E+01	.0000E+01
45	-.2563E+04	.0000E+01	-.2500E+00	.0000E+01
46	.9766E-02	.0000E+01	.1250E+00	.0000E+01

47	-.1563E-01	.0000E+01	-.2500E+01	.0000E+01
48	.0000E+01	.0000E+01	-.1943E+08	.0000E+01
49	.0000E+01	.0000E+01	-.4440E+08	.0000E+01
50	.0000E+01	.0000E+01	-.3892E+08	.0000E+01
51	.0000E+01	.0000E+01	-.2731E+08	.0000E+01
52	.0000E+01	.0000E+01	-.1562E+08	.0000E+01
53	.0000E+01	.0000E+01	-.5851E+07	.0000E+01
54	.0000E+01	.0000E+01	.0000E+01	.0000E+01
55	.0000E+01	.0000E+01	.0000E+01	.0000E+01
56	.0000E+01	.0000E+01	.0000E+01	.0000E+01
57	.0000E+01	.0000E+01	.0000E+01	.0000E+01
58	.0000E+01	.0000E+01	.0000E+01	.0000E+01
59	.0000E+01	.0000E+01	.0000E+01	.0000E+01
60	.0000E+01	.0000E+01	.0000E+01	.0000E+01
61	.0000E+01	.0000E+01	.0000E+01	.0000E+01
62	.0000E+01	.0000E+01	.0000E+01	.0000E+01
63	.0000E+01	.0000E+01	.0000E+01	.0000E+01
64	.0000E+01	.0000E+01	-.2610E+07	.0000E+01
65	.0000E+01	.0000E+01	-.2610E+07	.0000E+01
66	.0000E+01	.0000E+01	.0000E+01	.0000E+01
67	.0000E+01	.0000E+01	-.3453E+08	.0000E+01
68	.0000E+01	.0000E+01	-.6997E+08	.0000E+01
69	.0000E+01	.0000E+01	-.6683E+08	.0000E+01
70	.0000E+01	.0000E+01	-.3138E+08	.0000E+01
71	.0000E+01	.0000E+01	.0000E+01	.0000E+01
72	.0000E+01	.0000E+01	.0000E+01	.0000E+01
73	.0000E+01	.0000E+01	.0000E+01	.0000E+01
74	.0000E+01	.0000E+01	.0000E+01	.0000E+01
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82	.0000E+01	.0000E+01	.0000E+01	.0000E+01
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84	.0000E+01	.0000E+01	.0000E+01	.0000E+01
85	.0000E+01	.0000E+01	.0000E+01	.0000E+01
86	.0000E+01	.0000E+01	.0000E+01	.0000E+01
87	.0000E-01	.0000E+01	.0000E+01	.0000E-01
88	.0000E+01	.0000E+01	.0000E+01	.0000E+01
89	.0000E+01	.0000E+01	.0000E+01	.0000E+01
90	.0000E+01	.0000E+01	.0000E+01	.0000E+01
91	.0000E+01	.0000E+01	.0000E+01	.0000E+01
92	.0000E+01	.0000E+01	.0000E+01	.0000E+01
93	.0000E+01	.0000E+01	.0000E+01	.0000E+01
94	.0000E+01	.0000E+01	.0000E+01	.0000E+01
95	.0000E+01	.0000E+01	.0000E+01	.0000E+01
96	.0000E+01	.0000E+01	.0000E+01	.0000E+01
97	.0000E+01	.0000E+01	.0000E+01	.0000E+01
98	.0000E+01	.0000E+01	.0000E+01	.0000E+01
99	.0000E+01	.0000E+01	.0000E+01	.0000E+01
100	.0000E+01	.0000E+01	.0000E+01	.0000E+01
101	.0000E+01	.0000E+01	.0000E+01	.0000E+01
102	.0000E+01	.0000E+01	.0000E+01	.0000E+01
103	.0000E+01	.0000E+01	.0000E+01	.0000E+01
104	.0000E+01	.0000E+01	.0000E+01	.0000E+01
105	.0000E+01	.0000E+01	.0000E+01	.0000E+01
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112	.0000E+01	.0000E+01	.0000E+01	.0000E+01
113	.0000E+01	.0000E+01	.0000E+01	.0000E+01
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133	.0000E+01	.0000E+01	.0000E+01	.0000E+01
134	.0000E+01	.0000E+01	.0000E+01	.0000E+01
135	.0000E+01	.0000E+01	.0000E+01	.0000E+01
136	.0000E+01	.0000E+01	.0000E+01	.0000E+01
137	.0000E+01	.0000E+01	.0000E+01	.0000E+01
138	.0000E+01	.0000E+01	.0000E+01	.0000E+01
139	.0000E+01	.0000E+01	.0000E+01	.0000E+01
140	.0000E+01	.0000E+01	.0000E+01	.0000E+01
141	.0000E+01	.0000E+01	.0000E+01	.0000E+01
142	.0000E+01	.0000E+01	.0000E+01	.0000E+01
143	.0000E+01	.0000E+01	.0000E+01	.0000E+01
144	.0000E+01	.0000E+01	.0000E+01	.0000E+01
145	.0000E+01	.0000E+01	.0000E+01	.0000E+01
146	.0000E+01	.0000E+01	.0000E+01	.0000E+01
147	.0000E+01	.0000E+01	.0000E+01	.0000E+01
148	-.9084E+03	.0000E+01	.0000E+01	.0000E+01
149	-.3662E-02	.0000E+01	.2609E+01	.0000E+01
150	.1563E-01	.0000E+01	.5500E+01	.0000E+01