

Company: Company

Project: IE HECTOR MANUEL VIDES BALLESTEROS (MÓDULO 4)

File: C:\IE REGIDOR\MOD4.rcb

Engineer: Name

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GENERAL INPUT DATA

Structure type: Three-Dimensional Frame Structure
Number of Floor Grids = 1
Building total length = 33.72 m
Building total width = 11.4 m

STORY INFORMATION

Number of Stories = 1
Total Frame Height = 3.65 m

Floor	Story Height	Grid No
1	3.65	1
2	-	1

* Story Height in (m)

STRUCTURAL GRID INFORMATION

GRID No 1

Grid Point	X	Y
A'-7	0.00	0.00
F-7	0.00	1.31
B'-7	0.00	4.00
C'-7	0.00	6.69
I-7	0.00	9.38
D'-7	0.00	11.40
A'-1'	2.81	0.00
F-1'	2.81	1.31
B'-1'	2.81	4.00
C'-1'	2.81	6.69
I-1'	2.81	9.38
D'-1'	2.81	11.40
A'-2'	5.62	0.00
F-2'	5.62	1.31
B'-2'	5.62	4.00
C'-2'	5.62	6.69
I-2'	5.62	9.38
D'-2'	5.62	11.40
A'-11	8.43	0.00
F-11	8.43	1.31
B'-11	8.43	4.00
C'-11	8.43	6.69
I-11	8.43	9.38
D'-11	8.43	11.40
A'-3'	11.24	0.00
F-3'	11.24	1.31
B'-3'	11.24	4.00
C'-3'	11.24	6.69
I-3'	11.24	9.38
D'-3'	11.24	11.40
A'-4'	14.05	0.00
F-4'	14.05	1.31
B'-4'	14.05	4.00
C'-4'	14.05	6.69
I-4'	14.05	9.38
D'-4'	14.05	11.40
A'-14	16.86	0.00
F-14	16.86	1.31
B'-14	16.86	4.00
C'-14	16.86	6.69
I-14	16.86	9.38
D'-14	16.86	11.40
A'-5'	19.67	0.00
F-5'	19.67	1.31
B'-5'	19.67	4.00
C'-5'	19.67	6.69
I-5'	19.67	9.38
D'-5'	19.67	11.40
A'-6'	22.48	0.00
F-6'	22.48	1.31
B'-6'	22.48	4.00
C'-6'	22.48	6.69
I-6'	22.48	9.38
D'-6'	22.48	11.40
A'-15	25.29	0.00
F-15	25.29	1.31
B'-15	25.29	4.00

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Grid Point	X	Y
C'-15	25.29	6.69
I-15	25.29	9.38
D'-15	25.29	11.40
A'-7'	28.10	0.00
F-7'	28.10	1.31
B'-7'	28.10	4.00
C'-7'	28.10	6.69
I-7'	28.10	9.38
D'-7'	28.10	11.40
A'-8'	30.91	0.00
F-8'	30.91	1.31
B'-8'	30.91	4.00
C'-8'	30.91	6.69
I-8'	30.91	9.38
D'-8'	30.91	11.40
A'-16	33.72	0.00
F-16	33.72	1.31
B'-16	33.72	4.00
C'-16	33.72	6.69
I-16	33.72	9.38
D'-16	33.72	11.40

* Coordinates X & Y are in (m)

MATERIALS

Number of materials = 2

REINFORCED CONCRETE

Mat	Name	f'c Kg/cm2	fy Kg/cm2	fys1 Kg/cm2	fys2 Kg/cm2	E Kg/cm2	G Kg/cm2	w Kg/m3
1	RConcrete1	210	4200	4200	4200	218540	87430	2400.0
2	RConcrete2	280	4200	4200	4200	252350	100940	2400.0

f'c: Compressive strength of concrete

fy: Yield strength of longitudinal reinforcement

fys1: Yield strength of shear reinforcement, bar sizes <= 3/8"

fys2: Yield strength of shear reinforcement, bar sizes > 3/8"

MEMBER DATA

Total number of members..... = 89

Number of columns..... = 10

Number of beams = 92

Number of braces = 0

COLUMN SECTIONS

Number of prismatic sections = 1

Sec	Name	Shape	b (cm)	h (cm)	tw (cm)	tf (cm)	P1 (cm)	P2 (cm)	A (cm2)	I2 (cm4)	I3 (cm4)	J (cm4)
1	C-30X50	Rectang	30.00	50.00	-	-	-	-	1500.0	312500	112500	279900

COLUMNS

Column	Story	L (m)	Lu (m)	a (m)	c (m)	Theta (o)	Sec -	Mat -	System -
I-16	1	3.65	3.13	0.00	0.53	0.0	1	2	G&L
F-16	1	3.65	3.13	0.00	0.53	0.0	1	2	G&L
I-15	1	3.65	3.13	0.00	0.53	0.0	1	2	G&L

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Column	Story	L	Lu	a	c	Theta	Sec	Mat	System
F-15	1	3.65	3.13	0.00	0.53	0.0	1	2	G&L
I-14	1	3.65	3.13	0.00	0.53	0.0	1	2	G&L
F-14	1	3.65	3.13	0.00	0.53	0.0	1	2	G&L
I-11	1	3.65	3.13	0.00	0.53	0.0	1	2	G&L
F-11	1	3.65	3.13	0.00	0.53	0.0	1	2	G&L
I-7	1	3.65	3.13	0.00	0.53	0.0	1	2	G&L
F-7	1	3.65	3.13	0.00	0.53	0.0	1	2	G&L

BEAM SECTIONS

Number of prismatic sections = 3

Sec	Name	Shape	b (cm)	h (cm)	tw (cm)	tf (cm)	P1 (cm)	P2 (cm)	A (cm2)	I2 (cm4)	I3 (cm4)	J (cm4)
1	VG-30X60	Rectang	30.00	60.00	-	-	-	-	1800.0	540000	135000	369900
2	VG-20X60	Rectang	20.00	60.00	-	-	-	-	1200.0	360000	40000	126400
3	VC-30X45	Rectang	30.00	45.00	-	-	-	-	1350.0	227812	101250	234900

BEAMS

Beam	Floor	L (m)	Lu (m)	a (m)	c (m)	Sec	Mat	System
7 (A'-F)	2	1.31	1.06	0.00	0.25	1	2	G&L
7 (F-I)	2	8.07	7.57	0.25	0.25	1	2	G&L
F (7'-1')	2	2.81	2.66	0.15	0.00	1	2	G&L
F (1'-2')	2	2.81	2.81	0.00	0.00	1	2	G&L
F (2'-11)	2	2.81	2.66	0.00	0.15	1	2	G&L
F (11-3')	2	2.81	2.66	0.15	0.00	1	2	G&L
F (3'-4')	2	2.81	2.81	0.00	0.00	1	2	G&L
F (4'-14)	2	2.81	2.66	0.00	0.15	1	2	G&L
F (14-5')	2	2.81	2.66	0.15	0.00	1	2	G&L
F (5'-6')	2	2.81	2.81	0.00	0.00	1	2	G&L
F (6'-15)	2	2.81	2.66	0.00	0.15	1	2	G&L
F (15-7')	2	2.81	2.66	0.15	0.00	1	2	G&L
F (7'-8')	2	2.81	2.81	0.00	0.00	1	2	G&L
F (8'-16)	2	2.81	2.66	0.00	0.15	1	2	G&L
I (7'-1')	2	2.81	2.66	0.15	0.00	1	2	G&L
I (1'-2')	2	2.81	2.81	0.00	0.00	1	2	G&L
I (2'-11)	2	2.81	2.66	0.00	0.15	1	2	G&L
I (11-3')	2	2.81	2.66	0.15	0.00	1	2	G&L
I (3'-4')	2	2.81	2.81	0.00	0.00	1	2	G&L
I (4'-14)	2	2.81	2.66	0.00	0.15	1	2	G&L
I (14-5')	2	2.81	2.66	0.15	0.00	1	2	G&L
I (5'-6')	2	2.81	2.81	0.00	0.00	1	2	G&L
I (6'-15)	2	2.81	2.66	0.00	0.15	1	2	G&L
I (15-7')	2	2.81	2.66	0.15	0.00	1	2	G&L
I (7'-8')	2	2.81	2.81	0.00	0.00	1	2	G&L
I (8'-16)	2	2.81	2.66	0.00	0.15	1	2	G&L
D' (7'-1')	2	2.81	2.66	0.15	0.00	2	2	G
D' (1'-2')	2	2.81	2.81	0.00	0.00	2	2	G
D' (2'-11)	2	2.81	2.66	0.00	0.15	2	2	G
D' (11-3')	2	2.81	2.66	0.15	0.00	2	2	G
D' (3'-4')	2	2.81	2.81	0.00	0.00	2	2	G
D' (4'-14)	2	2.81	2.66	0.00	0.15	2	2	G
D' (14-5')	2	2.81	2.66	0.15	0.00	2	2	G
D' (5'-6')	2	2.81	2.81	0.00	0.00	2	2	G
D' (6'-15)	2	2.81	2.66	0.00	0.15	2	2	G
D' (15-7')	2	2.81	2.66	0.15	0.00	2	2	G
D' (7'-8')	2	2.81	2.81	0.00	0.00	2	2	G
A' (7'-1')	2	2.81	2.66	0.15	0.00	2	2	G
A' (1'-2')	2	2.81	2.81	0.00	0.00	2	2	G
A' (2'-11)	2	2.81	2.66	0.00	0.15	2	2	G
A' (11-3')	2	2.81	2.66	0.15	0.00	2	2	G
A' (3'-4')	2	2.81	2.81	0.00	0.00	2	2	G
A' (4'-14)	2	2.81	2.66	0.00	0.15	2	2	G
A' (14-5')	2	2.81	2.66	0.15	0.00	2	2	G
A' (5'-6')	2	2.81	2.81	0.00	0.00	2	2	G
A' (6'-15)	2	2.81	2.66	0.00	0.15	2	2	G
A' (15-7')	2	2.81	2.66	0.15	0.00	2	2	G

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Beam	Floor	L	Lu	a	c	Sec	Mat	System
A' (7'-8')	2	2.81	2.81	0.00	0.00	2	2	G
A' (8'-16)	2	2.81	2.66	0.00	0.15	2	2	G
I (7-11)	1	8.43	8.13	0.15	0.15	3	2	G&L
I (11-14)	1	8.43	8.13	0.15	0.15	3	2	G&L
I (14-15)	1	8.43	8.13	0.15	0.15	3	2	G&L
I (15-16)	1	8.43	8.13	0.15	0.15	3	2	G&L
16 (F-I)	1	8.07	7.57	0.25	0.25	3	2	G&L
F (7-11)	1	8.43	8.13	0.15	0.15	3	2	G&L
F (11-14)	1	8.43	8.13	0.15	0.15	3	2	G&L
F (14-15)	1	8.43	8.13	0.15	0.15	3	2	G&L
F (15-16)	1	8.43	8.13	0.15	0.15	3	2	G&L
7 (F-I)	1	8.07	7.57	0.25	0.25	3	2	G&L
11 (F-I)	1	8.07	7.57	0.25	0.25	3	2	G&L
14 (F-I)	1	8.07	7.57	0.25	0.25	3	2	G&L
15 (F-I)	1	8.07	7.57	0.25	0.25	3	2	G&L
D' (8'-16)	2	2.81	2.66	0.00	0.15	2	2	G
7 (I-D')	2	2.02	1.77	0.25	0.00	1	2	G&L
1' (A'-F)	2	1.31	1.16	0.00	0.15	2	2	G
1' (I-D')	2	2.02	1.87	0.15	0.00	2	2	G
2' (A'-F)	2	1.31	1.16	0.00	0.15	2	2	G
2' (I-D')	2	2.02	1.87	0.15	0.00	2	2	G
11 (A'-F)	2	1.31	1.06	0.00	0.25	1	2	G&L
11 (F-I)	2	8.07	7.57	0.25	0.25	1	2	G&L
11 (I-D')	2	2.02	1.77	0.25	0.00	1	2	G&L
3' (A'-F)	2	1.31	1.16	0.00	0.15	2	2	G
3' (I-D')	2	2.02	1.87	0.15	0.00	2	2	G
4' (A'-F)	2	1.31	1.16	0.00	0.15	2	2	G
4' (I-D')	2	2.02	1.87	0.15	0.00	2	2	G
14 (A'-F)	2	1.31	1.06	0.00	0.25	1	2	G&L
14 (F-I)	2	8.07	7.57	0.25	0.25	1	2	G&L
14 (I-D')	2	2.02	1.77	0.25	0.00	1	2	G&L
5' (A'-F)	2	1.31	1.16	0.00	0.15	2	2	G
5' (I-D')	2	2.02	1.87	0.15	0.00	2	2	G
6' (A'-F)	2	1.31	1.16	0.00	0.15	2	2	G
6' (I-D')	2	2.02	1.87	0.15	0.00	2	2	G
15 (A'-F)	2	1.31	1.06	0.00	0.25	1	2	G&L
15 (F-I)	2	8.07	7.57	0.25	0.25	1	2	G&L
15 (I-D')	2	2.02	1.77	0.25	0.00	1	2	G&L
7' (A'-F)	2	1.31	1.16	0.00	0.15	2	2	G
7' (I-D')	2	2.02	1.87	0.15	0.00	2	2	G
8' (A'-F)	2	1.31	1.16	0.00	0.15	2	2	G
8' (I-D')	2	2.02	1.87	0.15	0.00	2	2	G
16 (A'-F)	2	1.31	1.06	0.00	0.25	1	2	G&L
16 (F-I)	2	8.07	7.57	0.25	0.25	1	2	G&L
16 (I-D')	2	2.02	1.77	0.25	0.00	1	2	G&L

FOUNDATION SOIL PROPERTIES

Number of soil properties = 1

Soil	Name	Pressure Distribution	Allowable gross pres. Pa T/m2	Increase Pa Combinations incl.EQ & WL (%)	MODULUS OF SUBGRADE REACTION Gravity load Analysis, Kg T/m3 Lateral load Analysis, Ks T/m3	
1	Soil1	Linear	7.4	33	400.0	400.0

* Values of subgrade reaction are used only on footings with rotations and/or vert-displac. permitted.

FOUNDATION BEAM DATA

Number of foundation beams = 13

FOUNDATION BEAMS

Beam	Floor	L (m)	Lu (m)	a (m)	c (m)	TWidth (m)	Sec -	Mat -	Soil -	System -
I (7-11)	1	8.43	8.13	0.15	0.15	1.00	3	2	1	G&L
I (11-14)	1	8.43	8.13	0.15	0.15	1.00	3	2	1	G&L
I (14-15)	1	8.43	8.13	0.15	0.15	1.00	3	2	1	G&L
I (15-16)	1	8.43	8.13	0.15	0.15	1.00	3	2	1	G&L
16 (F-I)	1	8.07	7.57	0.25	0.25	1.00	3	2	1	G&L
F (7-11)	1	8.43	8.13	0.15	0.15	1.00	3	2	1	G&L

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Beam	Floor	L	Lu	a	c	TWidth	Sec	Mat	Soil	System
F(11-14)	1	8.43	8.13	0.15	0.15	1.00	3	2	1	G&L
F(14-15)	1	8.43	8.13	0.15	0.15	1.00	3	2	1	G&L
F(15-16)	1	8.43	8.13	0.15	0.15	1.00	3	2	1	G&L
7 (F-I)	1	8.07	7.57	0.25	0.25	1.00	3	2	1	G&L
11 (F-I)	1	8.07	7.57	0.25	0.25	1.00	3	2	1	G&L
14 (F-I)	1	8.07	7.57	0.25	0.25	1.00	3	2	1	G&L
15 (F-I)	1	8.07	7.57	0.25	0.25	1.00	3	2	1	G&L

GROUND SUPPORT DATA

Total number of ground supports = 10

K = Spring constant(ton/cm)

Characteristics for All Degrees of Freedom
Value = K Dash = free C = constrained

Support	Floor	Type	Ux	Uy	Uz	TetX	TetY	TetZ
F-7	1	Fixed	C	C	C	C	C	C
I-7	1	Fixed	C	C	C	C	C	C
F-11	1	Fixed	C	C	C	C	C	C
I-11	1	Fixed	C	C	C	C	C	C
F-14	1	Fixed	C	C	C	C	C	C
I-14	1	Fixed	C	C	C	C	C	C
F-15	1	Fixed	C	C	C	C	C	C
I-15	1	Fixed	C	C	C	C	C	C
F-16	1	Fixed	C	C	C	C	C	C
I-16	1	Fixed	C	C	C	C	C	C

SUMMARY OF TOTAL FLOOR LOADS

LOAD CASE 1 : SELFW (D0)

Floor	Force (ton)			Moment (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	0.00	0.00	92.10	0.0	0.0	0.0
1	0.00	0.00	31.69	0.0	0.0	0.0
Total	0.00	0.00	123.79	0.0	0.0	0.0

LOAD CASE 2 : DEAD (DL)

Floor	Force (ton)			Moment (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	0.00	0.00	89.89	0.0	0.0	0.0
1	0.00	0.00	0.00	0.0	0.0	0.0
Total	0.00	0.00	89.89	0.0	0.0	0.0

LOAD CASE 3 : ROOF L (RFL)

Floor	Force (ton)			Moment (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	0.00	0.00	36.06	0.0	0.0	0.0
1	0.00	0.00	0.00	0.0	0.0	0.0
Total	0.00	0.00	36.06	0.0	0.0	0.0

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LOAD CASE 4 : EQUAKE X (EQX) - TYPE : SPECTRAL

Floor	Force (ton)			Acc. Tors. Mom. (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	130.80	0.00	0.00	0.0	0.0	75.0
1	0.00	0.00	0.00	0.0	0.0	0.0
Total	130.80	0.00	0.00	0.0	0.0	75.0

LOAD CASE 5 : EQUAKE Y (EQY) - TYPE : SPECTRAL

Floor	Force (ton)			Acc. Tors. Mom. (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	0.00	130.85	0.00	0.0	0.0	221.1
1	0.00	0.00	0.00	0.0	0.0	0.0
Total	0.00	130.85	0.00	0.0	0.0	221.1

LOAD CASE 6 : WIND X (WLX)

Floor	Force (ton)			Moment (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	1.22	0.00	0.00	0.0	0.0	0.7
1	0.86	0.00	0.00	0.0	0.0	0.0
Total	2.08	0.00	0.00	0.0	0.0	0.7

LOAD CASE 7 : WIND Y (WLY)

Floor	Force (ton)			Moment (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	0.00	4.30	0.00	0.0	0.0	7.6
1	0.00	0.00	0.00	0.0	0.0	0.0
Total	0.00	4.30	0.00	0.0	0.0	7.6

SUMMARY QUANTITY OF MATERIALS

COLUMNS

Item	Section	Material	Length m	Weight/Len ton/m	Total Weight ton
1	C-30X50	RConcrete2	31.25	0.360	11.25
TOTAL =					11.25

BEAMS

Item	Section	Material	Length m	Weight/Len ton/m	Total Weight ton
1	VG-30X60	RConcrete2	120.74	0.432	52.16
2	VG-20X60	RConcrete2	91.68	0.288	26.40
TOTAL =					78.56

FOUNDATION BEAMS

Item	Section	Material	Length m	Weight/Len ton/m	Total Weight ton
1	VC-30X45	RConcrete2	105.34	0.324	34.13
TOTAL =					34.13

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SLABS

Item	Section	Material	Area m²	Weight/Area ton/m²	Total Weight ton
1	Cubierta Plana	w =2.4	112.29	0.300	33.69
2	Cubierta Liviana	w =2.4	272.12	0.024	6.53
TOTAL =					40.22