



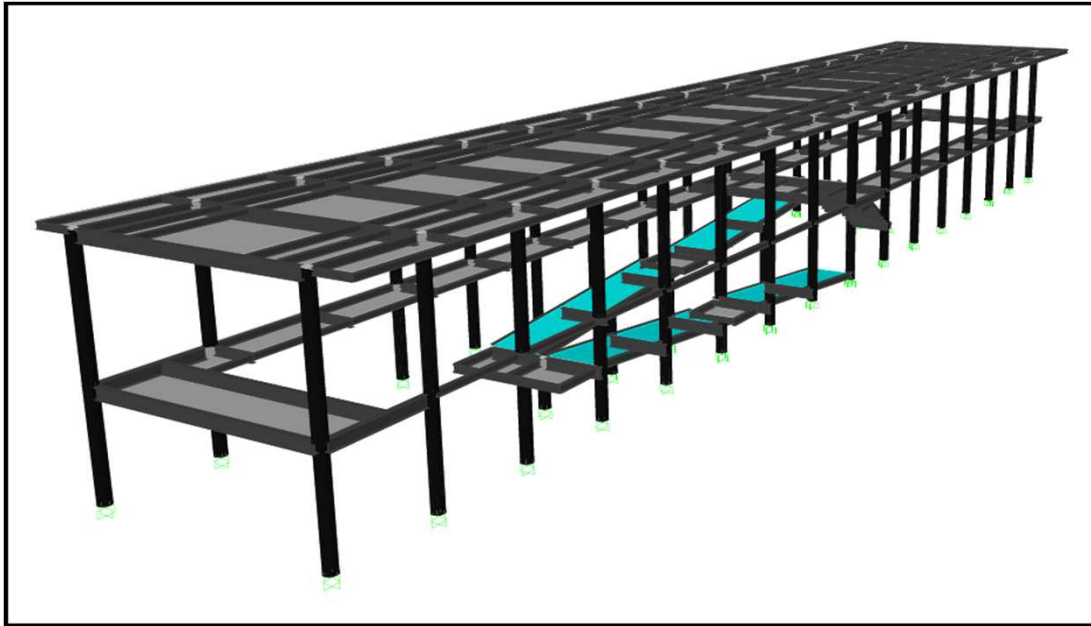
PROYECTO

COLEGIO Y TEATRO EL ENSUEÑO

PASILLO CENTRAL

ANALISIS Y DISEÑO ESTRUCTURAL

MEMORIA DE CALCULOS



1.0 DESCRIPCION DE PROYECTO.

El modulo del pasillo del patio central del colegio es una edificacion con un nivel de losa maciza y una cubierta, soportada en porticos de acero resistentes a momento DMO, cimentados en caissons.

2.0 UBICACION

Bogota - Cundinamarca.

3.0 TIPO DE SISTEMA - ESTRUCTURAL

Porticos de acero resistentes a momento. DMO

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4.0 GEOMETRIA

4.1 NIVELES

N+0.00	Primer piso
N+3.74	Losa segundo piso
N+8.43	Primer piso
N+9.23	Losa segundo piso

4.2 EJES LONGITUDINALES

EJES 1D-6D

4.3 EJES TRANSVERSALES

EJES D1-D2

4.4 TIPOS DE LOSA

Losa Maciza (H=10cm)

4.5 TIPOS DE CIMENTACION

Caissons

5.0 ESPECIFICACIONES DE MATERIALES

5.1 CONCRETO

$f'_c = 28 \text{ Mpa}$ Cimentacion y estructura.

5.2 ACERO DE REFUERZO

$F_y = 420 \text{ Mpa}$	$\emptyset \geq 3/8"$
$F_y = 260 \text{ Mpa}$	$\emptyset \leq 1/4"$
$F_y = 420 \text{ Mpa}$	Mallas electrosoldadas

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5.3 ACERO ESTRUCTURAL

Perfiles Laminados y Platinas ASTM A-572 gr50 (Fy=350 Mpa)
 Perfiles Tubulares ASTM A-588 (Fy=350 Mpa)
 Acero de Steel Deck -Lamina Colaborante ASTM A-570 (Fy=232 Mpa)
 Acero de Elementos Formados en Frio (Fy=350 Mpa)
 Uniones:
 Pernos de Anclaje Astm A-307 (Pernos B-7)
 Tornillos de Alta Resistencia ASTM A-325
 Soldaduras E70XX

6.0 RESUMEN DE CARGAS

N+3.74

CM: 590 kg/m2 CG: 100 kg/m2
 CV: 200 kg/m2

7.0 CALCULO DEL COEFICIENTE R

SISTEMA ESTRUCTURAL :
 GRADO DE DISIPACION DE ENERGIA:

R_o:
Ω_o:

IRREGULARIDADES: (ver Anexo)

Planta **Ø_p:**
 Alzada **Ø_a:**
 Redundancia **Ø_r:**

Porticos de acero	
DMO	
5	
3.0	
1	
1	
0.75	

FACTOR R:

3.75

8.0 PARAMETROS ESTUDIO DE SUELOS

Estudio de suelos realizado por el GRUPO CAÑASGORDAS: Ing. Carlos Julio Echeverry

8.1 ESPECTRO DE DISEÑO

Zona de Amenaza Sísmica:
 Aceleracion Pico Efectiva
 Velocidad Pico Efectiva

Intermedia	
Aa:	0.15
Av:	0.2

8.2 RECOMENDACIONES DE CIMENTACION

Caissons a 17mts.



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9.0 REVISION DE DERIVAS

Deriva Maxima en el Sentido Longitudinal: 0.56% <= 1% **OK!**

Deriva Maxima en el Sentido Transversal: 0.63% <= 1% **OK!**

9.2 UMBRAL DE DAÑO

Deriva Maxima en el Sentido Longitudinal: 0.35% <= 0.40% **OK!**

Deriva Maxima en el Sentido Transversal: 0.37% <= 0.40% **OK!**



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5. CHEQUEO DE DERIVAS

6. DISEÑO DE ELEMENTOS ESTRUCTURALES

6.1. DISEÑO DE ESTRUCTURA METALICA

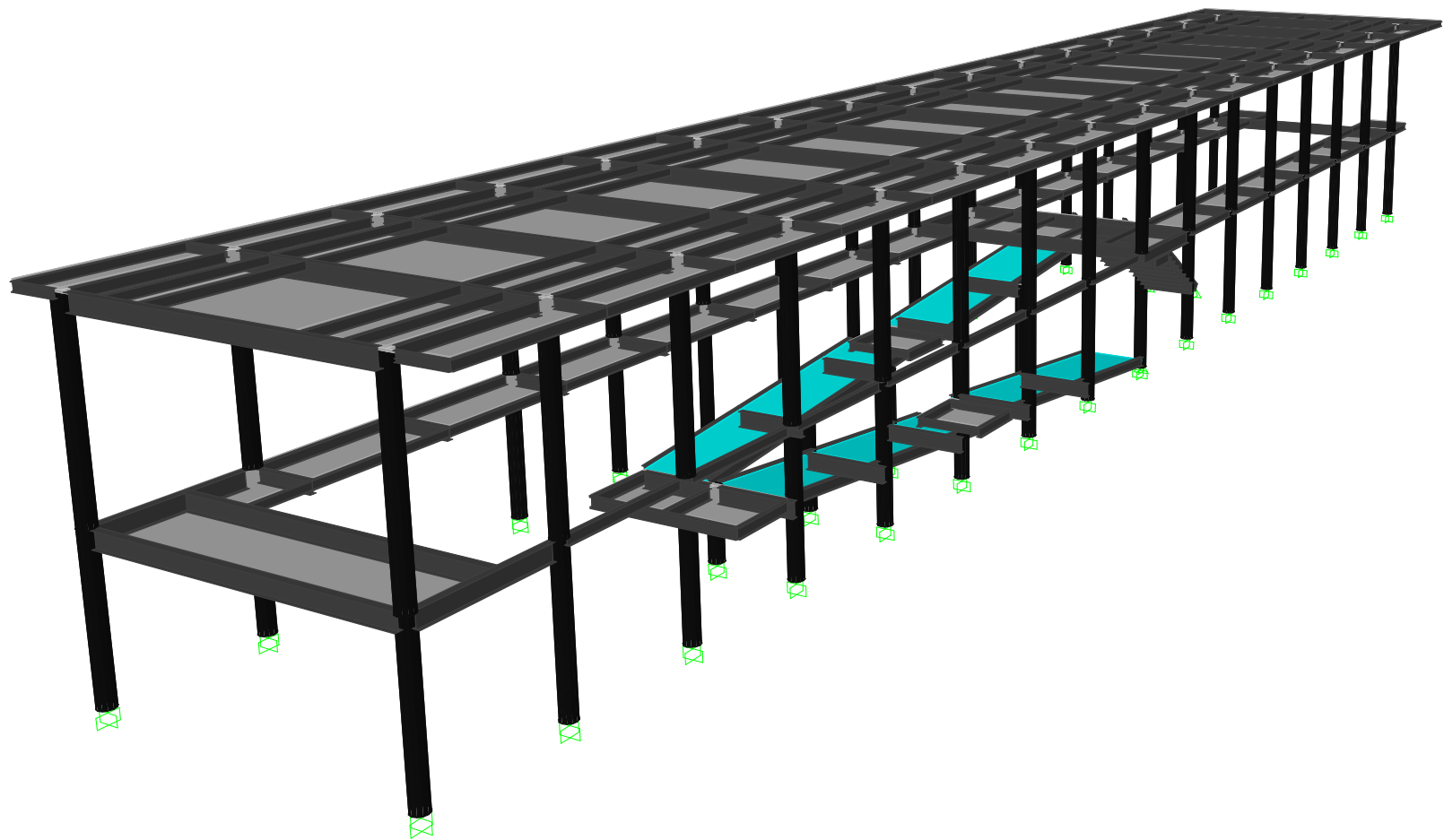
7. REACCIONES DE CIMENTACION

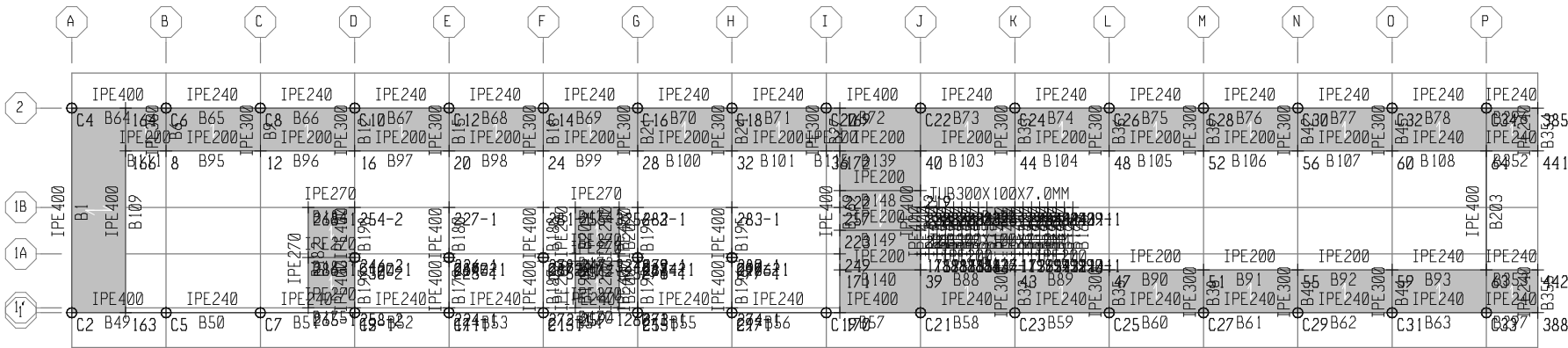
8. DISEÑO DE ELEMENTOS NO ESTRUCTURALES

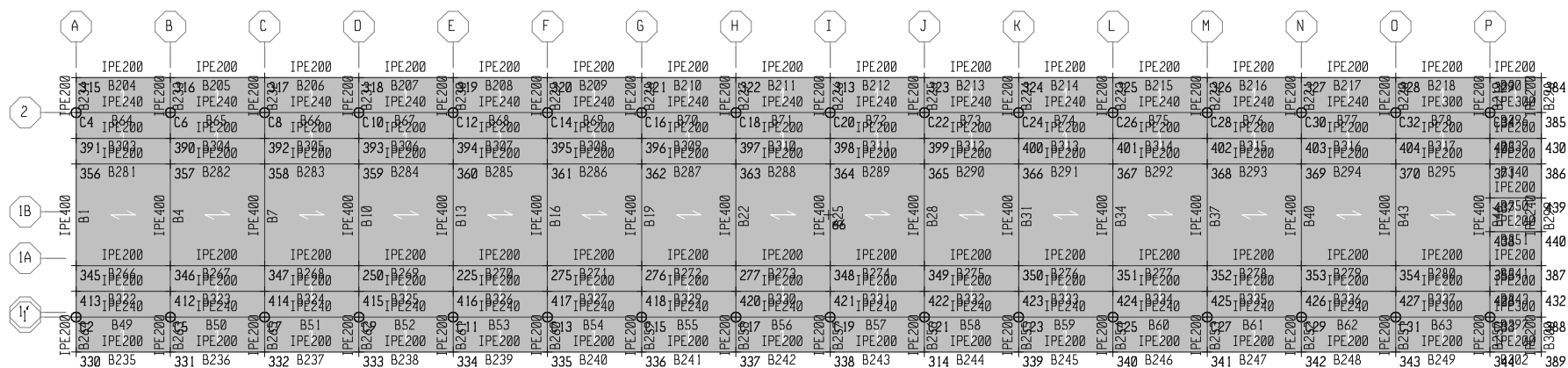


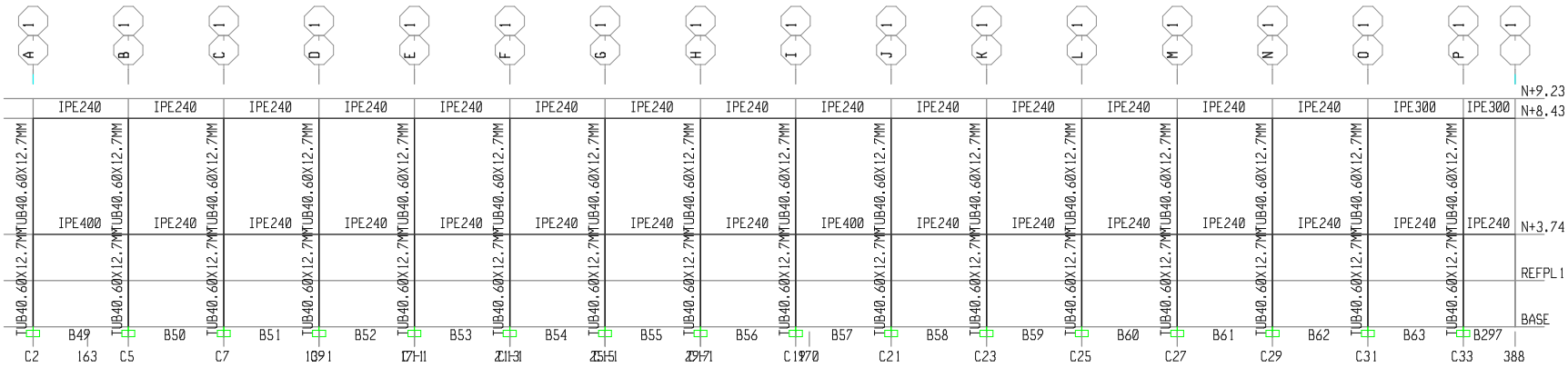
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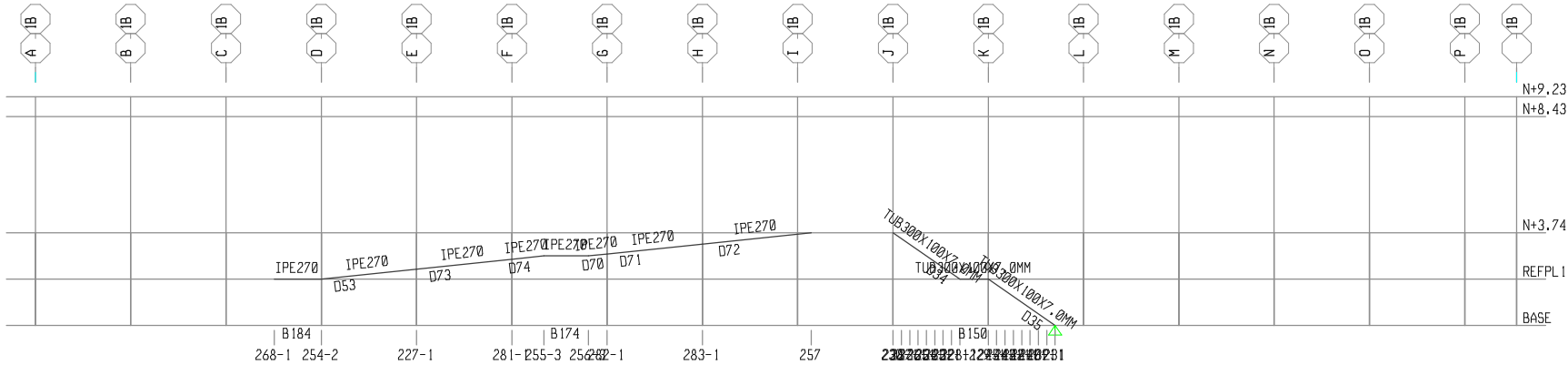
ANEXO 1 . ESQUEMAS DEL MODELO

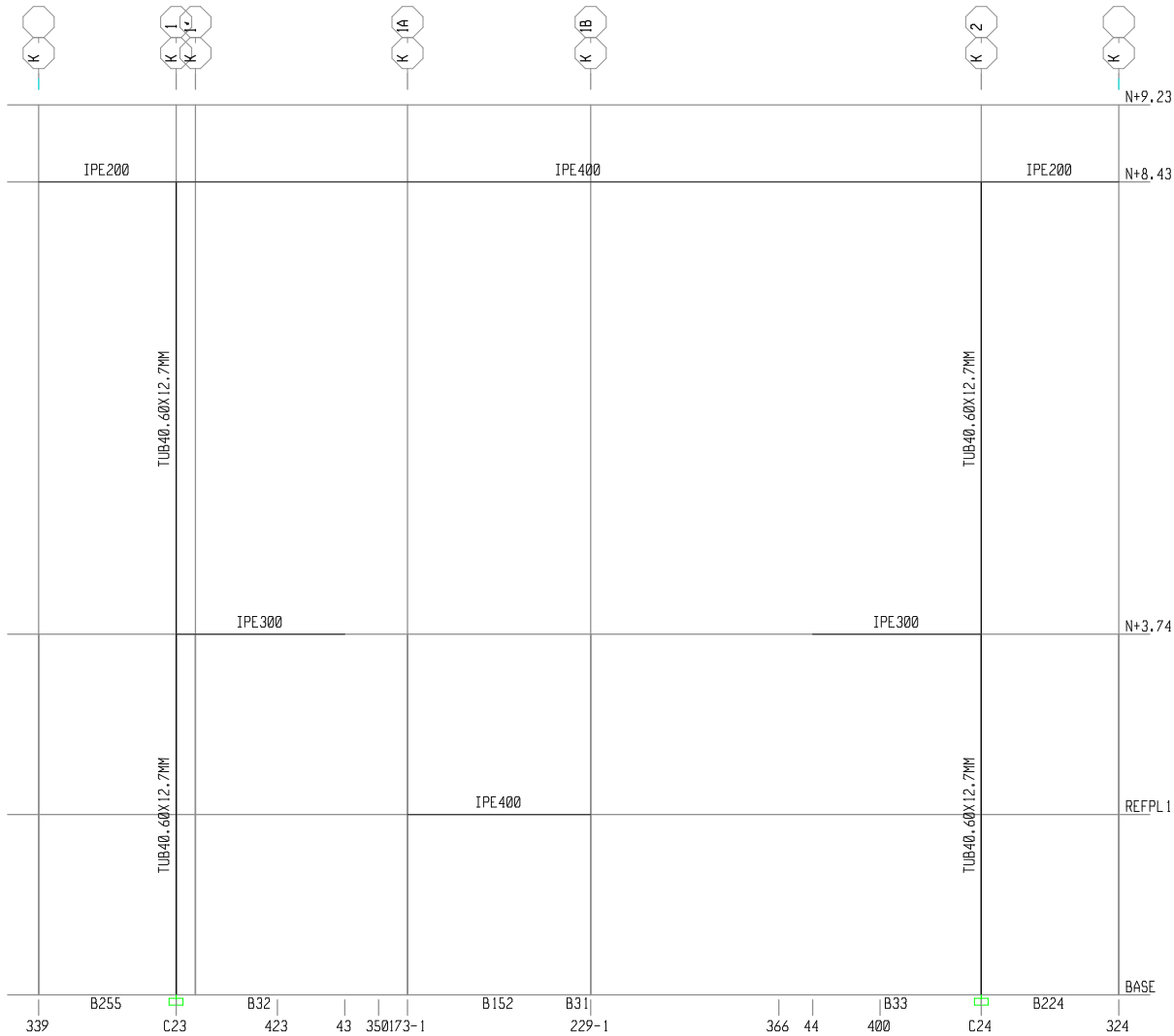














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ANEXO 2 . AVALUO DE CARGAS



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ANEXO 2.1. AVALUO DE CARGAS VERTICALES



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AVALUO DE CARGAS LOSA MACIZA NORMA NSR-10

Niveles: N+6.60, N+9.84

CARGAS MUERTAS - REF: CAPITULO B-3

T:	10	Cm	(Espesor de losa)
I:	240	Kg/m²	(Peso propio de la losa)
C:	250	Kg/m²	(Acabados o impermeabilización)
C:	100	Kg/m²	(Divisiones o densidad de muros)
CM:	590	Kg/m²	Total Carga Muerta
	5.9	KN/m²	

CARGAS VIVAS - REF: CAPITULO B-4

CM:	200	Kg/m²	Total Carga Viva
	2.0	KN/m²	

FACTORES DE CARGA

Wu:	1.4D	826	Kg/m²
Wu:	1.2D+1.6L	1028	Kg/m²
FC:	1.30		



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ANEXO 2.2 ESPECTRO DE DISEÑO

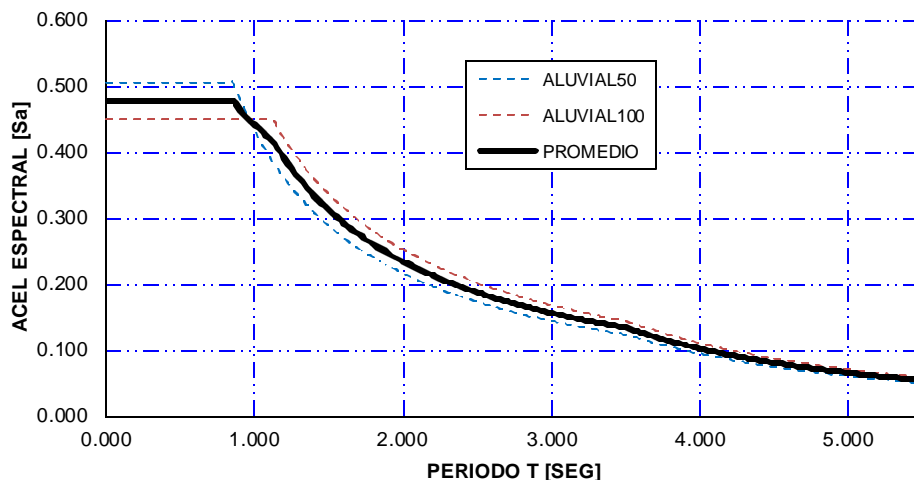


Propietario:	SEC. EDUCACION Y SEC. CULTURA	Calculó:	ING. FABIO RIVERA
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ESPECTRO DE DISEÑO MICROZONIFICACIÓN SÍSMICA BOGOTA

BOGOTA		ALUVIAL50		ALUVIAL100	
Aa =	0.15	Fa :	1.35	Fa :	1.20
Av =	0.20	Fv :	1.80	Fv :	2.10
		Tc (s):	0.85	Tc (s):	1.12
		TL (s):	3.50	TL (s):	3.50
		Ao (g):	0.20	Ao (g):	0.18
A.6.2.1.2	→	I :	1.00	I :	1.00

ESPECTRO DE DISEÑO



Aceleraciones Espectrales para diferentes Períodos

	T [seg]	Sa [g]
Modo 1:	0.3272	
Modo 2:		
Modo 3:		
Modo 4:		
Modo 5:		
Modo 6:		
Modo 7:		
Modo 8:		
Modo 9:		
Modo 10:		

NOTA: El literal **A.6.2.1.2** permite que al calcular desplazamientos horizontales se use el coeficiente de importancia con un valor igual a la unidad ($I=1.0$).

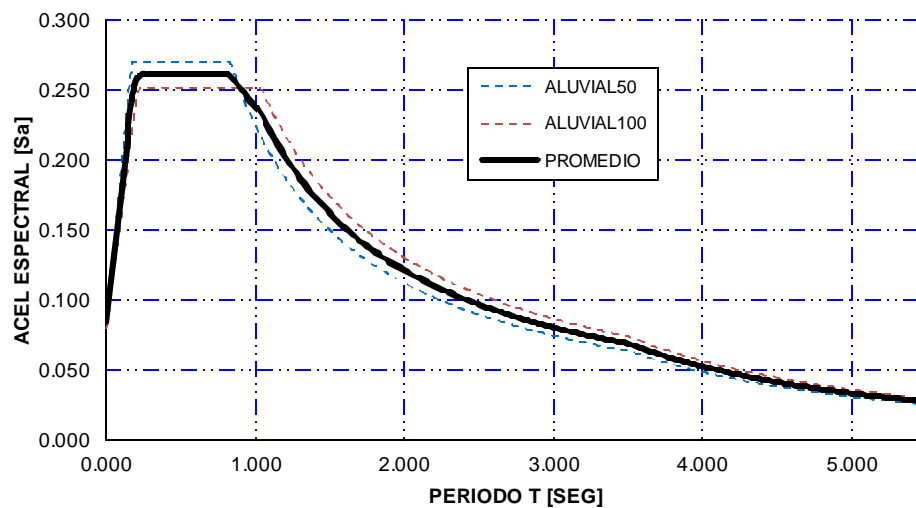


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UMBRAL DE DAÑO MICROZONIFICACIÓN SÍSMICA BOGOTA

BOGOTA		ALUVIAL50	ALUVIAL100
Ae =	0.13	Fa :	1.50
		Fv :	2.50
		Tc (s):	0.83
		TL (s):	3.50
		Ao (g):	0.09
		Fa :	1.40
		Fv :	2.90
		Tc (s):	1.04
		TL (s):	3.50
		Ao (g):	0.08

ESPECTRO PARA UMBRAL DE DAÑO



Aceleraciones Espectrales para diferentes Períodos

	T [seg]	Sa [g]
Modo 1:		
Modo 2:		
Modo 3:		
Modo 4:		
Modo 5:		
Modo 6:		
Modo 7:		
Modo 8:		
Modo 9:		
Modo 10:		



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ANEXO 2.3. REVISION DE IRREGULARIDADES

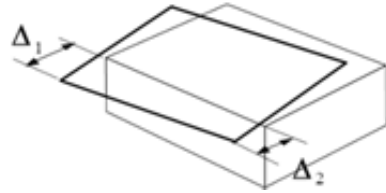


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REVISION DE IRREGULARIDADES NORMA NSR-10

IRREGULARIDADES EN PLANTA, Referencia Tabla A.3-6, Figura A.3-1

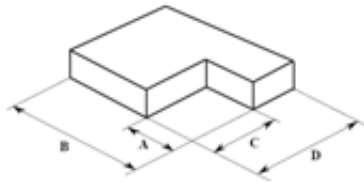
Tipo 1P



Tipo 1aP - Irregularidad Torsional $\phi_p=0.9$
Tipo 1bP - Irregularidad Torsional Extrema $\phi_p=0.8$

Δ_1 : 0.38 % ϕ_p : 1.0
 Δ_2 : 0.31 %

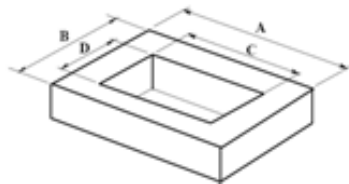
Tipo 2P



Tipo 2P - Retrocesos en las esquinas

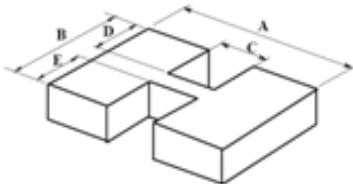
A: m
B: m ϕ_p : 1.0
C: m
D: m

Tipo 3P



Tipo 3P - Irregularidad del diafragma

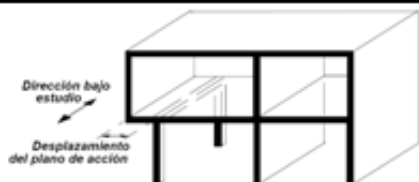
A: m
B: m ϕ_p : 1.0
C: m
D: m



Tipo 3P - Irregularidad del diafragma

A: m
B: m ϕ_p : 1.0
C: m
D: m
E: m

Tipo 4P



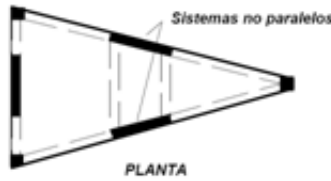
Tipo 4P - Desplazamiento del planos de acción $\phi_p=0.8$

ϕ_p : 1.0



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Tipo 5P

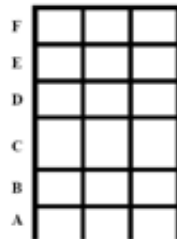


Tipo 5P - Sistemas no paralelos $\phi_p=0.9$

ϕ_p : **1.0**

IRREGULARIDADES EN ALZADA, Referencia Tabla A.3-7, Figura A.3-2

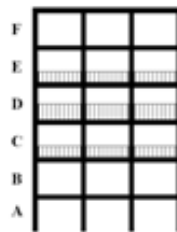
Tipo 1A.



Tipo 1aA - Piso Flexible $\phi_p=0.9$
Tipo 1bA - Piso Flexible Extremo $\phi_p=0.8$

Kc: ϕ_a : **1.0**
Kd:
Ke:
Kf:

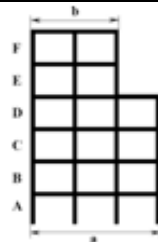
Tipo 2A.



Tipo 2A - Distribucion de Masa $\phi_p=0.9$

Mc: ϕ_a : **1.0**
Md:
Me:

Tipo 3A.



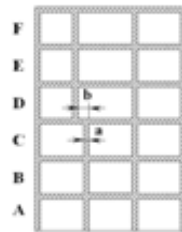
Tipo 3A - Geometrica $\phi_p=0.9$

a: m ϕ_a : **1.0**
b: m



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Tipo 4A.

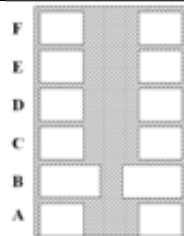


Tipo 4A - Desplazamiento del plano de acción $\phi_a=0.8$

a: m **ϕ_a :**

b: m

Tipo 5A.



Tipo 5aA - Piso Debil $\phi_p=0.9$

Tipo 5bA - Piso débil Extremo $\phi_p=0.8$

RpB: **ϕ_a :**

RpC:

IRREGULARIDAD POR AUSENCIA DE REDUNDANCIA, Referencia A.3.3.8

ϕ_r :

RESUMEN

ϕ_p :

ϕ_a :

ϕ_r :



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ANEXO 2.4. COMBINACIONES DE CARGA



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COMBINACIONES DE CARGA - SISMO NORMA NSR-10

Ro:	5	$R = R_o * \phi_p * \phi_a * \phi_r =$	3.75
ϕ_p:	1	$E = I * (1/R) * SISMO =$	0.333 * SISMO
ϕ_a:	1		
ϕ_r:	0.75		
I:	1.25	$0.3E = I * (1/R) * SISMO * 0.3 =$	0.100 * SISMO

COMBINACIONES DE CARGA - DISEÑO DE ELEMENTOS

COMBO	D	L	SISMOX	SISMOY
C1:	1.4			
C2:	1.2	1.6		
C3:	1.2	1	0.333	0.100
C4:	1.2	1	0.333	-0.100
C5:	1.2	1	-0.333	0.100
C6:	1.2	1	-0.333	-0.100
C7:	1.2	1	0.100	0.333
C8:	1.2	1	0.100	-0.333
C9:	1.2	1	-0.100	0.333
C10:	1.2	1	-0.100	-0.333
C11:	0.9		0.333	0.100
C12:	0.9		0.333	-0.100
C13:	0.9		-0.333	0.100
C14:	0.9		-0.333	-0.100
C15:	0.9		0.100	0.333
C16:	0.9		0.100	-0.333
C17:	0.9		-0.100	0.333
C18:	0.9		-0.100	-0.333

1.4D
1.2D+1.6L
1.2D+1.0L+1.0E
0.9D+1.0E



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COMBINACIONES DE CARGA - CIMENTACION
NORMA NSR-10

Ro:	5	$R = R_o * \phi_p * \phi_a * \phi_r =$	3.75
ϕ_p:	1		
ϕ_a:	1	$0.7E = 0.7 * I * (1/R) * SISMO =$	0.233 * SISMO
ϕ_r:	0.75		
I:	1.25	$0.75 * 0.7E = 0.75 * 0.7 * I * (1/R) * SISMO =$	0.175 * SISMO

COMBINACIONES DE CARGA - DISEÑO DE ELEMENTOS

COMBO	D	L	SISMOX	SISMOY
CIM1:	1			
CIM2:	1	1		
CIM3:	1		0.233	0.070
CIM4:	1		0.070	0.233
CIM5:	1	0.75	0.175	0.053
CIM6:	1	0.75	0.053	0.175
CIM7:	0.6		0.233	0.070
CIM8:	0.6		0.070	0.233

D
D+L
D+0.7E
D+0.75L+0.75(0.7E)
0.6D+0.7E



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ANEXO 2.5. AJUSTE DE CORTANTE SISMICA EN LA BASE



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Localización:	BOGOTA - CUNDINAMARCA	Hoja:	
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

AJUSTE DE CORTANTE SISMICA EN LA BASE

1. Calculo del periodo aproximado según A.4.2.2 $T_a = C_t h^\alpha$

Tabla A.4.2-1

Valor de los parámetros C_t y α para el cálculo del periodo aproximado T_a

Sistema estructural de resistencia sísmica	C_t	α
Pórticos resistentes a momentos de concreto reforzado que resisten la totalidad de las fuerzas sísmicas y que no están limitados o adheridos a componentes más rígidos, estructurales o no estructurales, que limiten los desplazamientos horizontales al verse sometidos a las fuerzas sísmicas.	0.047	0.9
Pórticos resistentes a momentos de acero estructural que resisten la totalidad de las fuerzas sísmicas y que no están limitados o adheridos a componentes más rígidos, estructurales o no estructurales, que limiten los desplazamientos horizontales al verse sometidos a las fuerzas sísmicas.	0.072	0.8
Pórticos arriostrados de acero estructural con diagonales excéntricas restringidas a pandeo.	0.073	0.75
Todos los otros sistemas estructurales basados en muros de rigidez similar o mayor a la de muros de concreto o mampostería	0.049	0.75
Alternativamente, para estructuras que tengan muros estructurales de concreto reforzado o mampostería estructural, pueden emplearse los siguientes parámetros C_t y α , donde C_w se calcula utilizando la ecuación A.4.2-4.	$\frac{0.0062}{\sqrt{C_w}}$	1.00

Ct:	0.047
h:	9.23
α:	0.9

Coeficiente para el calcular el periodo de la estructura
altura en metros, medida desde la base, del piso mas alto del edificio
Exponente del periodo aproximado

Ta: 0.347 Seg

2. Valor de la aceleración espectral (ver anexo Espectro de Diseño)

Sa: 0.478 g

3. Valor del exponente k

Valores de entrada - Etabs	Sa:	0.48
	k:	1.00

k: 1.00 Seg

4. Valor del periodo máximo de la estructura (Análisis Dinámico)

$T < C_u T_a$ T: periodo de la estructura del análisis dinámico

$C_u = 1.75 - 1.2 A_v F_v > 1.2$

Av:	0.2
Fv:	1.95

Cu: 1.28 **CuTa:** 0.45



Propietario:	SEC. EDUCACION Y SEC. CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	
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T1: 0.3261 Seg Período Fundamental del análisis dinámico (Etabs)
T2: 0.2776 Seg Período Fundamental del análisis dinámico (Etabs)
Sa: 0.478 g

5. Cortantes Sísmicas en la Base

Vu: 201.85 Ton Cortante Basal según FHE (Etabs)
0.8Vu: 161.48 Ton **Edificio Regular**
0.9Vu: 181.665 Ton **Edificio Irregular**

6. Ajuste de resultados (gravedad)

Vux: 162.47 Ton
Vuy: 146.24 Ton

Edificio Regular

gx: 9.80
gy: 10.82

Edificio Irregular

gx: 10.96
gy: 12.17

Story Shears									
Edit View									
Story Shears									
	Story	Load	Loc	P	VX	VY	T	MX	MY
	N+9.23	FHE	Top	0.00	0.00	0.00	0.000	0.000	0.000
	N+9.23	FHE	Bottom	0.00	0.00	0.00	0.000	0.000	0.000
	N+9.23	SISMOX	Top	0.00	0.00	0.00	0.000	0.000	0.000
	N+9.23	SISMOX	Bottom	0.00	0.00	0.00	0.000	0.000	0.000
	N+9.23	SISMOY	Top	0.00	0.00	0.00	0.000	0.000	0.000
	N+9.23	SISMOY	Bottom	0.00	0.00	0.00	0.000	0.000	0.000
	N+8.43	FHE	Top	0.00	-148.93	0.01	622.474	0.000	0.000
	N+8.43	FHE	Bottom	0.00	-148.93	0.01	622.474	-0.050	-698.487
	N+8.43	SISMOX	Top	0.00	135.55	4.09	472.327	0.000	0.000
	N+8.43	SISMOX	Bottom	0.00	135.55	4.09	472.327	19.164	635.715
	N+8.43	SISMOY	Top	0.00	-3.51	117.65	4005.380	0.000	0.000
	N+8.43	SISMOY	Bottom	0.00	-3.51	117.65	4005.380	551.775	16.446
	N+3.74	FHE	Top	0.00	-189.13	0.02	815.015	-0.050	-698.487
	N+3.74	FHE	Bottom	0.00	-201.85	0.02	845.752	-0.122	-1429.790
	N+3.74	SISMOX	Top	0.00	159.10	5.45	586.206	19.164	635.715
	N+3.74	SISMOX	Bottom	0.00	162.47	5.48	590.111	36.439	1224.215
	N+3.74	SISMOY	Top	0.00	5.19	143.46	4908.171	551.775	16.446
	N+3.74	SISMOY	Bottom	0.00	5.21	146.24	4983.063	1083.484	33.232

FUENTE: Modelacion en Etabs



Propietario:	SEC. EDUCACION Y SEC. CULTURA	Calculó:	ING. FABIO RIVERA
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Localización:	BOGOTA - CUNDINAMARCA	Hoja:	
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

ANEXO 2.6. RESUMEN DE CARGAS SISMICAS



Propietario: SEC. EDUCACION Y SEC. CULTURA

Calculó: ING. FABIO RIVERA

Proyecto: COLEGIO Y TEATRO EL ENSUEÑO

Revisó: ING. JUAN C. PATIÑO

Localización: BOGOTA - CUNDINAMARCA

Hoja:

Contenido: PASILLO - M. DE CALCULOS

Fecha: NOVIEMBRE - 2014

FUENTE DE MASA

Tipo de carga	% de participacion
Muerta	100%
Viva	10%


MASA POR PISO

Nivel	Masa (Ton/g)
CUB	23.38


FUERZAS SISMICAS POR PISO (Ton, m)

NIVEL	CARGA	P	VX	VY	T	MX	MY
N+9.23	FHE	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N+8.43	FHE	2.84E-14	-1.49E+02	1.07E-02	6.23E+02	-5.01E-02	-6.99E+02
N+3.74	FHE	2.24E-12	-2.02E+02	1.88E-02	8.46E+02	-1.22E-01	-1.43E+03
N+9.23	FHEU	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N+8.43	FHEU	7.55E-15	-8.13E+01	5.83E-03	3.40E+02	-2.73E-02	-3.81E+02
N+3.74	FHEU	1.25E-12	-1.10E+02	1.03E-02	4.62E+02	-6.67E-02	-7.81E+02
N+9.23	SISMOX	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N+8.43	SISMOX	6.51E-14	1.41E+02	4.26E+00	4.92E+02	2.00E+01	6.62E+02
N+3.74	SISMOX	1.96E-12	1.69E+02	5.71E+00	6.15E+02	3.80E+01	1.28E+03
N+9.23	SISMOY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N+8.43	SISMOY	1.28E-12	4.26E+00	1.43E+02	4.87E+03	6.71E+02	2.00E+01
N+3.74	SISMOY	8.67E-13	6.34E+00	1.78E+02	6.06E+03	1.32E+03	4.04E+01
N+9.23	UMBRALX	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N+8.43	UMBRALX	4.09E-14	8.37E+01	3.14E+00	3.30E+02	1.47E+01	3.92E+02
N+3.74	UMBRALX	1.16E-12	9.93E+01	4.31E+00	4.00E+02	2.72E+01	7.56E+02
N+9.23	UMBRALY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
N+8.43	UMBRALY	7.20E-13	3.19E+00	8.01E+01	3.22E+03	3.76E+02	1.50E+01
N+3.74	UMBRALY	5.12E-13	4.95E+00	9.93E+01	3.94E+03	7.38E+02	3.00E+01

NOTA: El analisis se hace por el metodo dinamico con el ajuste de cortante en la base.

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 1 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

ANEXO 3. DATOS DE ENTRADA

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 2 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

ETABS v9.7.3 File:MODELO-PATIO1 Units:Ton-m Noviembre 7, 2014 8:42 PAGE 1

S T O R Y D A T A

STORY	SIMILAR TO	HEIGHT	ELEVATION
N+9.23	None	0.800	9.230
N+8.43	N+9.23	4.690	8.430
N+3.74	N+9.23	3.740	3.740
BASE	None		0.000

ETABS v9.7.3 File:MODELO-PATIO1 Units:Ton-m Noviembre 7, 2014 8:42 PAGE 2

M A S S S O U R C E D A T A

MASS	LATERAL	LUMP MASS
FROM	MASS ONLY	AT STORIES

Loads Yes Yes

M A S S S O U R C E L O A D S

LOAD MULTIPLIER

DEAD 1.0000
LIVE 0.1000

ETABS v9.7.3 File:MODELO-PATIO1 Units:Ton-m Noviembre 7, 2014 8:42 PAGE 3


D I A P H R A G M M A S S D A T A

STORY	DIAPHRAGM	MASS-X	MASS-Y	MMI	X-M	Y-M
N+8.43	CUB	2.338E+01	2.338E+01	7.357E+03	30.731	4.175

ETABS v9.7.3 File:MODELO-PATIO1 Units:Ton-m Noviembre 7, 2014 8:42 PAGE 4

A S S E M B L E D P O I N T M A S S E S

STORY	POINT	UX	UY	UZ	RX	RY	RZ
N+8.43	1	1.921E-01	1.921E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.43	2	1.921E-01	1.921E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.43	35	2.338E+01	2.338E+01	0.000E+00	0.000E+00	0.000E+00	7.357E+03
N+3.74	1	3.626E-01	3.626E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	2	3.626E-01	3.626E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	5	1.288E-01	1.288E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	6	2.401E-01	2.401E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	8	1.597E-01	1.597E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	9	1.225E-01	1.225E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	10	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	12	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	13	1.225E-01	1.225E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	14	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	16	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	17	1.225E-01	1.225E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	18	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	20	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	21	1.225E-01	1.225E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	22	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	24	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	25	1.225E-01	1.225E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	26	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	28	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	29	1.225E-01	1.225E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	30	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	32	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	33	1.288E-01	1.288E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00


	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
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	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 3 DE 59
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N+3.74	34	2.185E-01	2.185E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	36	1.284E-01	1.284E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	37	2.960E-01	2.960E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	38	2.960E-01	2.960E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	39	2.379E-01	2.379E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	40	2.379E-01	2.379E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	41	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	42	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	43	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	44	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	45	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	46	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	47	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	48	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	49	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	50	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	51	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	52	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	53	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	54	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	55	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	56	2.222E-01	2.222E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	57	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	58	2.771E-01	2.771E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	59	2.239E-01	2.239E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	60	2.239E-01	2.239E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	61	2.344E-01	2.344E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	62	2.344E-01	2.344E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	63	1.556E-01	1.556E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	64	1.556E-01	1.556E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	163	2.700E-01	2.700E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	164	3.024E-01	3.024E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	166	4.691E-02	4.691E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	169	1.038E-01	1.038E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	170	9.300E-02	9.300E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	171	1.285E-01	1.285E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	172	1.441E-01	1.441E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	175	7.407E-02	7.407E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	177-1	1.240E-01	1.240E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	173-1	1.240E-01	1.240E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	183-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	184-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	185-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	186-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	187-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	188-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	189-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	190-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	191-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	192-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	193-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	194-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	195-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	196-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	219	1.235E-01	1.235E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	221	1.235E-01	1.235E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	222	1.235E-01	1.235E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	223	1.235E-01	1.235E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	228-1	1.240E-01	1.240E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	229-1	1.240E-01	1.240E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	230	7.407E-02	7.407E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	232-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	233-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	234-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	235-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	236-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	237-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	238-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	239-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 4 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

N+3.74	240-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	241-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	242-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	243-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	244-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	245-1	6.412E-03	6.412E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	249	1.025E-01	1.025E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	257	1.025E-01	1.025E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	258-2	1.368E-01	1.368E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	259-1	7.412E-02	7.412E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	260-1	6.131E-02	6.131E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	250-2	8.965E-02	8.965E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	251-1	7.412E-02	7.412E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	252-1	6.131E-02	6.131E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	246-2	8.965E-02	8.965E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	247-3	7.412E-02	7.412E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	248-3	6.131E-02	6.131E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	254-2	1.433E-01	1.433E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	255-3	7.412E-02	7.412E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	256-3	6.131E-02	6.131E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	265-1	5.472E-02	5.472E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	268-1	5.472E-02	5.472E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	13-1	7.094E-03	7.094E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	271-1	1.158E-01	1.158E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	224-1	1.793E-01	1.793E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	225-1	1.793E-01	1.793E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	226-1	1.793E-01	1.793E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	227-1	1.857E-01	1.857E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	274-1	1.921E-01	1.921E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	273-1	1.071E-01	1.071E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	272-1	1.199E-01	1.199E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	277-1	1.921E-01	1.921E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	276-1	1.071E-01	1.071E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	275-1	1.199E-01	1.199E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	279-1	1.071E-01	1.071E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	280-1	1.921E-01	1.921E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	278-1	1.199E-01	1.199E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	282-1	1.135E-01	1.135E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	283-1	1.985E-01	1.985E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	281-1	1.263E-01	1.263E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	284-1	2.066E-02	2.066E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	17-1	7.593E-03	7.593E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	284-2	7.593E-03	7.593E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	286-1	9.055E-02	9.055E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	287-1	2.317E-02	2.317E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	287-2	7.593E-03	7.593E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	21-1	7.593E-03	7.593E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	288-1	2.451E-02	2.451E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	288-2	7.593E-03	7.593E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	25-1	7.593E-03	7.593E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	290-1	2.701E-02	2.701E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	290-2	7.593E-03	7.593E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	29-1	7.593E-03	7.593E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	385	4.695E-02	4.695E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	388	4.695E-02	4.695E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	441	4.726E-02	4.726E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+3.74	442	4.726E-02	4.726E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	1	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	2	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	5	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	6	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	9	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	10	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	13	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	14	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	17	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	18	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	21	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	22	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 5 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

BASE	25	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	26	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	29	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	30	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	33	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	34	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	37	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	38	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	41	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	42	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	45	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	46	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	49	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	50	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	53	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	54	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	57	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	58	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	61	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	62	2.346E-02	2.346E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	181	7.407E-02	7.407E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	231	7.407E-02	7.407E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	253	1.025E-01	1.025E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	261	1.025E-01	1.025E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	271	1.173E-02	1.173E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	284	1.424E-02	1.424E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	287	1.675E-02	1.675E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	288	1.809E-02	1.809E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	290	2.060E-02	2.060E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+9.23	All	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.43	All	2.376E+01	2.376E+01	0.000E+00	0.000E+00	0.000E+00	7.357E+03
N+3.74	All	1.900E+01	1.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	All	1.185E+00	1.185E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals	All	4.395E+01	4.395E+01	0.000E+00	0.000E+00	0.000E+00	7.357E+03

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M A T E R I A L L I S T B Y E L E M E N T T Y P E

ELEMENT TYPE	MATERIAL	TOTAL MASS tons	NUMBER PIECES	NUMBER STUDS
Column	STEEL	34.79	69	
Beam	STEEL	35.27	305	0
Brace	STEEL	3.16	28	
Floor	CONC	153.35		
Ramp	CONC	16.52		
Metal Deck	N.A.	2.92		

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M A T E R I A L L I S T B Y S E C T I O N

SECTION	ELEMENT TYPE	NUMBER PIECES	TOTAL LENGTH meters	TOTAL MASS tons	NUMBER STUDS
TUB40.60X12	Column	69	282.736	34.79	
TUB300X100X	Beam	2	2.300	0.10	0
TUB300X100X	Brace	4	13.137	0.56	
IPE200	Beam	159	500.200	11.02	0
IPE240	Beam	63	235.850	6.54	0
IPE270	Beam	8	17.000	0.60	0
IPE270	Brace	24	72.388	2.60	
IPE300	Beam	22	43.400	1.62	0
IPE400	Beam	51	242.650	15.38	0
DECK1	Floor			6.27	
DECK1	Metal Deck			0.23	

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 6 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

LOSA10MAZ Floor 147.08
 LOSA10MAZ Ramp 16.52
 TEJA Metal Deck 2.68

ETABS v9.7.3 File:MODELO-PATIO1 Units:Ton-m Noviembre 7, 2014 8:42 PAGE 7

M A T E R I A L L I S T B Y S T O R Y

STORY	ELEMENT TYPE	MATERIAL	TOTAL WEIGHT tons	FLOOR AREA m2	UNIT WEIGHT kg/m2	NUMBER PIECES	NUMBER STUDS
N+8.43	Column	STEEL	18.47	670.320	27.5493	32	
N+8.43	Beam	STEEL	21.12	670.320	31.5062	181	0
N+8.43	Floor	CONC	103.49	670.320	154.3845		
N+8.43	Metal Deck	N.A.	2.68	670.320	4.0044		
N+3.74	Column	STEEL	16.32	201.953	80.8252	37	
N+3.74	Beam	STEEL	14.15	201.953	70.0695	124	0
N+3.74	Brace	STEEL	3.16	201.953	15.6415	28	
N+3.74	Floor	CONC	49.86	201.953	246.9037		
N+3.74	Ramp	CONC	16.52	201.953	81.8261		
N+3.74	Metal Deck	N.A.	0.23	201.953	1.1430		
SUM	Column	STEEL	34.79	872.273	39.8840	69	
SUM	Beam	STEEL	35.27	872.273	40.4346	305	0
SUM	Brace	STEEL	3.16	872.273	3.6214	28	
SUM	Floor	CONC	153.35	872.273	175.8049		
SUM	Ramp	CONC	16.52	872.273	18.9447		
SUM	Metal Deck	N.A.	2.92	872.273	3.3419		
TOTAL	All	All	246.01	872.273	282.0315	402	0

ETABS v9.7.3 File:MODELO-PATIO1 Units:Ton-m Noviembre 7, 2014 8:42 PAGE 8

M A T E R I A L P R O P E R T Y D A T A

MATERIAL NAME	MATERIAL TYPE	DESIGN TYPE	MATERIAL DIR/PLANE	MODULUS OF ELASTICITY	POISSON'S RATIO	THERMAL COEFF	SHEAR MODULUS
STEEL	Iso	Steel	All	20389020.000	0.3000	1.1700E-05	7841930.769
CONC	Iso	Concrete	All	2180000.000	0.2000	9.9000E-06	908333.333
OTHER	Iso	None	All	20389020.000	0.3000	1.1700E-05	7841930.769
COL	Iso	Concrete	All	2526710.000	0.2000	9.9000E-06	1052795.833
PANT	Iso	Concrete	All	2824950.000	0.2000	9.9000E-06	1177062.500


M A T E R I A L P R O P E R T Y M A S S A N D W E I G H T

MATERIAL NAME	MASS PER UNIT VOL	WEIGHT PER UNIT VOL
STEEL	7.9814E-01	7.8334E+00
CONC	2.4480E-01	2.4030E+00
OTHER	7.9814E-01	7.8334E+00
COL	2.4480E-01	2.4030E+00
PANT	2.4480E-01	2.4030E+00

M A T E R I A L D E S I G N D A T A F O R S T E E L M A T E R I A L S

MATERIAL NAME	STEEL FY	STEEL FU	STEEL COST (\$)
STEEL	35153.480	45699.530	27679.91

M A T E R I A L D E S I G N D A T A F O R C O N C R E T E M A T E R I A L S

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 7 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

MATERIAL NAME	LIGHTWEIGHT CONCRETE	CONCRETE FC	REBAR FY	REBAR FYS	LIGHTWT REDUC FACT
CONC	No	2100.000	42000.000	42000.000	N/A
COL	No	2800.000	42000.000	42000.000	N/A
PANT	No	3500.000	42000.000	42000.000	N/A

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FRAME SECTION PROPERTY DATA

FRAME SECTION NAME	MATERIAL NAME	SECTION SHAPE NAME OR NAME IN SECTION DATABASE FILE	CONC COL	CONC BEAM
C50X70	COL	Rectangular	Yes	
V30X50	CONC	Rectangular		Yes
V35X50	CONC	Rectangular		Yes
V25X50	CONC	Rectangular		Yes
V15X60	CONC	Rectangular		Yes
TUB40.60X12.7MM	STEEL	Pipe		
TUB300X100X7.0MM	STEEL	Box/Tube		
C30X100	COL	Rectangular	Yes	
C220X80X2.5MM	STEEL	Channel		
CONTRAVIENTO	STEEL	Circle		
V40X70	CONC	Rectangular		Yes
V50X70	CONC	Rectangular		Yes
V40X50	CONC	Rectangular		Yes
COL40X40	COL	Rectangular	Yes	
V60X140	CONC	Rectangular		Yes
V30X70	CONC	Rectangular		Yes
V35X100	CONC	Rectangular		Yes
COL100	COL	Circle	Yes	
C80X40	COL	Rectangular	Yes	
COL40X60	COL	Rectangular	Yes	
COL60X60	COL	Rectangular	Yes	
V30X60	CONC	Rectangular		Yes
V40X60	CONC	Rectangular		Yes
V50X60	CONC	Rectangular		Yes
V60X60	CONC	Rectangular		Yes
V20X60	COL	Rectangular		Yes
V60X100	COL	Rectangular		Yes
V40X100	COL	Rectangular		Yes
V25X100	CONC	Rectangular		Yes
V20X100	CONC	Rectangular		Yes
IPE100	STEEL	IPE100		
IPE120	STEEL	IPE120		
IPE140	STEEL	IPE140		
IPE160	STEEL	IPE160		
IPE180	STEEL	IPE180		
IPE200	STEEL	IPE200		
IPE220	STEEL	IPE220		
IPE240	STEEL	IPE240		
IPE270	STEEL	IPE270		
IPE300	STEEL	IPE300		
IPE400	STEEL	IPE400		
IPE450	STEEL	IPE450		
IPE500	STEEL	IPE500		
TUB300X300X10.0MM	STEEL	Box/Tube		
COL60	COL	Circle	Yes	
COL50	COL	Circle	Yes	
IPE550	STEEL	IPE550		
IPE600	STEEL	IPE600		
V60X90	CONC	Rectangular		Yes
C40X40	CONC	Rectangular	Yes	
IPE330	STEEL	IPE330		
IPE360	STEEL	IPE360		

FRAME SECTION PROPERTY DATA




Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 8 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

FRAME SECTION NAME	SECTION DEPTH	FLANGE WIDTH TOP	FLANGE THICK TOP	WEB THICK	FLANGE WIDTH BOT	FLANGE THICK BOT
C50X70	0.7000	0.5000	0.0000	0.0000	0.5000	0.0000
V30X50	0.5000	0.3000	0.0000	0.0000	0.3000	0.0000
V35X50	0.5000	0.3500	0.0000	0.0000	0.3500	0.0000
V25X50	0.5000	0.2500	0.0000	0.0000	0.2500	0.0000
V15X60	0.6000	0.1500	0.0000	0.0000	0.1500	0.0000
TUB40.60X12.7MM	0.4064	0.4064	0.0127	0.0127	0.4064	0.0000
TUB300X100X7.0MM	0.3000	0.1000	0.0070	0.0070	0.1000	0.0070
C30X100	1.0000	0.3000	0.0000	0.0000	0.3000	0.0000
C220X80X2.5MM	0.2200	0.0800	0.0025	0.0025	0.0800	0.0025
CONTRAVIENTO	0.0158	0.0158	0.0000	0.0000	0.0158	0.0000
V40X70	0.7000	0.4000	0.0000	0.0000	0.4000	0.0000
V50X70	0.7000	0.5000	0.0000	0.0000	0.5000	0.0000
V40X50	0.5000	0.4000	0.0000	0.0000	0.4000	0.0000
COL40X40	0.4000	0.4000	0.0000	0.0000	0.4000	0.0000
V60X140	1.4000	0.6000	0.0000	0.0000	0.6000	0.0000
V30X70	0.7000	0.3000	0.0000	0.0000	0.3000	0.0000
V35X100	1.0000	0.3500	0.0000	0.0000	0.3500	0.0000
COL100	1.0000	1.0000	0.0000	0.0000	1.0000	0.0000
C80X40	0.8000	0.4000	0.0000	0.0000	0.4000	0.0000
COL40X60	0.6000	0.4000	0.0000	0.0000	0.4000	0.0000
COL60X60	0.6000	0.6000	0.0000	0.0000	0.6000	0.0000
V30X60	0.6000	0.3000	0.0000	0.0000	0.3000	0.0000
V40X60	0.6000	0.4000	0.0000	0.0000	0.4000	0.0000
V50X60	0.6000	0.5000	0.0000	0.0000	0.5000	0.0000
V60X60	0.6000	0.6000	0.0000	0.0000	0.6000	0.0000
V20X60	0.6000	0.2000	0.0000	0.0000	0.2000	0.0000
V60X100	1.0000	0.6000	0.0000	0.0000	0.6000	0.0000
V40X100	1.0000	0.4000	0.0000	0.0000	0.4000	0.0000
V25X100	1.0000	0.2500	0.0000	0.0000	0.2500	0.0000
V20X100	1.0000	0.2000	0.0000	0.0000	0.2000	0.0000
IPE100	0.1000	0.0550	0.0057	0.0041	0.0550	0.0057
IPE120	0.1200	0.0640	0.0063	0.0044	0.0640	0.0063
IPE140	0.1400	0.0730	0.0069	0.0047	0.0730	0.0069
IPE160	0.1600	0.0820	0.0074	0.0050	0.0820	0.0074
IPE180	0.1800	0.0910	0.0080	0.0053	0.0910	0.0080
IPE200	0.2000	0.1000	0.0085	0.0056	0.1000	0.0085
IPE220	0.2200	0.1100	0.0092	0.0059	0.1100	0.0092
IPE240	0.2400	0.1200	0.0098	0.0062	0.1200	0.0098
IPE270	0.2700	0.1350	0.0102	0.0066	0.1350	0.0102
IPE300	0.3000	0.1500	0.0107	0.0071	0.1500	0.0107
IPE400	0.4000	0.1800	0.0135	0.0086	0.1800	0.0135
IPE450	0.4500	0.1900	0.0146	0.0094	0.1900	0.0146
IPE500	0.5000	0.2000	0.0160	0.0102	0.2000	0.0160
TUB300X300X10.0MM	0.3000	0.3000	0.0100	0.0100	0.3000	0.0100
COL60	0.6000	0.6000	0.0000	0.0000	0.6000	0.0000
COL50	0.5000	0.5000	0.0000	0.0000	0.5000	0.0000
IPE550	0.5500	0.2100	0.0172	0.0111	0.2100	0.0172
IPE600	0.6000	0.2200	0.0190	0.0120	0.2200	0.0190
V60X90	0.9000	0.6000	0.0000	0.0000	0.6000	0.0000
C40X40	0.4000	0.4000	0.0000	0.0000	0.4000	0.0000
IPE330	0.3300	0.1600	0.0115	0.0075	0.1600	0.0115
IPE360	0.3600	0.1700	0.0127	0.0080	0.1700	0.0127

FRAME SECTION PROPERTY DATA

FRAME SECTION NAME	SECTION AREA	TORSIONAL CONSTANT	MOMENTS OF INERTIA		SHEAR AREAS	
			I33	I22	A2	A3
C50X70	0.3500	0.0163	0.0143	0.0073	0.2917	0.2917
V30X50	0.1500	0.0028	0.0031	0.0011	0.1250	0.1250
V35X50	0.1750	0.0041	0.0036	0.0018	0.1458	0.1458
V25X50	0.1250	0.0018	0.0026	0.0007	0.1042	0.1042
V15X60	0.0900	0.0006	0.0027	0.0002	0.0750	0.0750
TUB40.60X12.7MM	0.0157	0.0006	0.0003	0.0003	0.0082	0.0082

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 9 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

TUB300X100X7.0MM	0.0054	0.0000	0.0001	0.0000	0.0042	0.0014
C30X100	0.3000	0.0073	0.0250	0.0023	0.2500	0.2500
C220X80X2.5MM	0.0009	0.0000	0.0000	0.0000	0.0006	0.0004
CONTRAVIENTO	0.0002	0.0000	0.0000	0.0000	0.0002	0.0002
V40X70	0.2800	0.0096	0.0114	0.0037	0.2333	0.2333
V50X70	0.3500	0.0163	0.0143	0.0073	0.2917	0.2917
V40X50	0.2000	0.0055	0.0042	0.0027	0.1667	0.1667
COL40X40	0.1600	0.0036	0.0021	0.0021	0.1333	0.1333
V60X140	0.8400	0.0737	0.1372	0.0252	0.7000	0.7000
V30X70	0.2100	0.0046	0.0086	0.0016	0.1750	0.1750
V35X100	0.3500	0.0111	0.0292	0.0036	0.2917	0.2917
COL100	0.7854	0.0982	0.0491	0.0491	0.7069	0.7069
C80X40	0.3200	0.0117	0.0171	0.0043	0.2667	0.2667
COL40X60	0.2400	0.0075	0.0072	0.0032	0.2000	0.2000
COL60X60	0.3600	0.0183	0.0108	0.0108	0.3000	0.3000
V30X60	0.1800	0.0037	0.0054	0.0014	0.1500	0.1500
V40X60	0.2400	0.0075	0.0072	0.0032	0.2000	0.2000
V50X60	0.3000	0.0124	0.0090	0.0063	0.2500	0.2500
V60X60	0.3600	0.0183	0.0108	0.0108	0.3000	0.3000
V20X60	0.1200	0.0013	0.0036	0.0004	0.1000	0.1000
V60X100	0.6000	0.0451	0.0500	0.0180	0.5000	0.5000
V40X100	0.4000	0.0160	0.0333	0.0053	0.3333	0.3333
V25X100	0.2500	0.0044	0.0208	0.0013	0.2083	0.2083
V20X100	0.2000	0.0023	0.0167	0.0007	0.1667	0.1667
IPE100	0.0010	0.0000	0.0000	0.0000	0.0004	0.0005
IPE120	0.0013	0.0000	0.0000	0.0000	0.0005	0.0007
IPE140	0.0016	0.0000	0.0000	0.0000	0.0007	0.0008
IPE160	0.0020	0.0000	0.0000	0.0000	0.0008	0.0010
IPE180	0.0024	0.0000	0.0000	0.0000	0.0010	0.0012
IPE200	0.0029	0.0000	0.0000	0.0000	0.0011	0.0014
IPE220	0.0033	0.0000	0.0000	0.0000	0.0013	0.0017
IPE240	0.0039	0.0000	0.0000	0.0000	0.0015	0.0020
IPE270	0.0046	0.0000	0.0001	0.0000	0.0018	0.0023
IPE300	0.0054	0.0000	0.0001	0.0000	0.0021	0.0027
IPE400	0.0085	0.0000	0.0002	0.0000	0.0034	0.0041
IPE450	0.0099	0.0000	0.0003	0.0000	0.0042	0.0046
IPE500	0.0116	0.0000	0.0005	0.0000	0.0051	0.0053
TUB300X300X10.0MM	0.0116	0.0002	0.0002	0.0002	0.0060	0.0060
COL60	0.2827	0.0127	0.0064	0.0064	0.2545	0.2545
COL50	0.1963	0.0061	0.0031	0.0031	0.1767	0.1767
IPE550	0.0134	0.0000	0.0007	0.0000	0.0061	0.0060
IPE600	0.0156	0.0000	0.0009	0.0000	0.0072	0.0070
V60X90	0.5400	0.0380	0.0365	0.0162	0.4500	0.4500
C40X40	0.1600	0.0036	0.0021	0.0021	0.1333	0.1333
IPE330	0.0063	0.0000	0.0001	0.0000	0.0025	0.0031
IPE360	0.0073	0.0000	0.0002	0.0000	0.0029	0.0036

FRAME SECTION PROPERTY DATA

FRAME SECTION NAME	SECTION MODULI		PLASTIC MODULI		RADIUS OF GYRATION	
	S33	S22	Z33	Z22	R33	R22
C50X70	0.0408	0.0292	0.0613	0.0438	0.2021	0.1443
V30X50	0.0125	0.0075	0.0188	0.0113	0.1443	0.0866
V35X50	0.0146	0.0102	0.0219	0.0153	0.1443	0.1010
V25X50	0.0104	0.0052	0.0156	0.0078	0.1443	0.0722
V15X60	0.0090	0.0023	0.0135	0.0034	0.1732	0.0433
TUB40.60X12.7MM	0.0015	0.0015	0.0020	0.0020	0.1393	0.1393
TUB300X100X7.0MM	0.0004	0.0002	0.0005	0.0002	0.1030	0.0427
C30X100	0.0500	0.0150	0.0750	0.0225	0.2887	0.0866
C220X80X2.5MM	0.0001	0.0000	0.0001	0.0000	0.0852	0.0244
CONTRAVIENTO	0.0000	0.0000	0.0000	0.0000	0.0040	0.0040
V40X70	0.0327	0.0187	0.0490	0.0280	0.2021	0.1155
V50X70	0.0408	0.0292	0.0613	0.0438	0.2021	0.1443
V40X50	0.0167	0.0133	0.0250	0.0200	0.1443	0.1155
COL40X40	0.0107	0.0107	0.0160	0.0160	0.1155	0.1155
V60X140	0.1960	0.0840	0.2940	0.1260	0.4041	0.1732
V30X70	0.0245	0.0105	0.0368	0.0158	0.2021	0.0866




Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 10 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

V35X100	0.0583	0.0204	0.0875	0.0306	0.2887	0.1010
COL100	0.0982	0.0982	0.1667	0.1667	0.2500	0.2500
C80X40	0.0427	0.0213	0.0640	0.0320	0.2309	0.1155
COL40X60	0.0240	0.0160	0.0360	0.0240	0.1732	0.1155
COL60X60	0.0360	0.0360	0.0540	0.0540	0.1732	0.1732
V30X60	0.0180	0.0090	0.0270	0.0135	0.1732	0.0866
V40X60	0.0240	0.0160	0.0360	0.0240	0.1732	0.1155
V50X60	0.0300	0.0250	0.0450	0.0375	0.1732	0.1443
V60X60	0.0360	0.0360	0.0540	0.0540	0.1732	0.1732
V20X60	0.0120	0.0040	0.0180	0.0060	0.1732	0.0577
V60X100	0.1000	0.0600	0.1500	0.0900	0.2887	0.1732
V40X100	0.0667	0.0267	0.1000	0.0400	0.2887	0.1155
V25X100	0.0417	0.0104	0.0625	0.0156	0.2887	0.0722
V20X100	0.0333	0.0067	0.0500	0.0100	0.2887	0.0577
IPE100	0.0000	0.0000	0.0000	0.0000	0.0407	0.0124
IPE120	0.0001	0.0000	0.0001	0.0000	0.0491	0.0145
IPE140	0.0001	0.0000	0.0001	0.0000	0.0574	0.0165
IPE160	0.0001	0.0000	0.0001	0.0000	0.0658	0.0184
IPE180	0.0001	0.0000	0.0002	0.0000	0.0742	0.0206
IPE200	0.0002	0.0000	0.0002	0.0000	0.0826	0.0223
IPE220	0.0003	0.0000	0.0003	0.0001	0.0911	0.0248
IPE240	0.0003	0.0000	0.0004	0.0001	0.0998	0.0270
IPE270	0.0004	0.0001	0.0005	0.0001	0.1123	0.0302
IPE300	0.0006	0.0001	0.0006	0.0001	0.1246	0.0335
IPE400	0.0012	0.0001	0.0013	0.0002	0.1654	0.0395
IPE450	0.0015	0.0002	0.0017	0.0003	0.1848	0.0412
IPE500	0.0019	0.0002	0.0022	0.0003	0.2038	0.0430
TUB300X300X10.0MM	0.0011	0.0011	0.0013	0.0013	0.1185	0.1185
COL60	0.0212	0.0212	0.0360	0.0360	0.1500	0.1500
COL50	0.0123	0.0123	0.0208	0.0208	0.1250	0.1250
IPE550	0.0024	0.0003	0.0028	0.0004	0.2238	0.0446
IPE600	0.0031	0.0003	0.0035	0.0005	0.2430	0.0466
V60X90	0.0810	0.0540	0.1215	0.0810	0.2598	0.1732
C40X40	0.0107	0.0107	0.0160	0.0160	0.1155	0.1155
IPE330	0.0007	0.0001	0.0008	0.0002	0.1371	0.0355
IPE360	0.0009	0.0001	0.0010	0.0002	0.1496	0.0379

FRAME SECTION WEIGHTS AND MASSES

FRAME SECTION NAME	TOTAL WEIGHT	TOTAL MASS
C50X70	0.0000	0.0000
V30X50	0.0000	0.0000
V35X50	0.0000	0.0000
V25X50	0.0000	0.0000
V15X60	0.0000	0.0000
TUB40.60X12.7MM	34.7897	3.5447
TUB300X100X7.0MM	0.6535	0.0666
C30X100	0.0000	0.0000
C220X80X2.5MM	0.0000	0.0000
CONTRAVIENTO	0.0000	0.0000
V40X70	0.0000	0.0000
V50X70	0.0000	0.0000
V40X50	0.0000	0.0000
COL40X40	0.0000	0.0000
V60X140	0.0000	0.0000
V30X70	0.0000	0.0000
V35X100	0.0000	0.0000
COL100	0.0000	0.0000
C80X40	0.0000	0.0000
COL40X60	0.0000	0.0000
COL60X60	0.0000	0.0000
V30X60	0.0000	0.0000
V40X60	0.0000	0.0000
V50X60	0.0000	0.0000
V60X60	0.0000	0.0000
V20X60	0.0000	0.0000

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 11 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014


V60X100	0.0000	0.0000
V40X100	0.0000	0.0000
V25X100	0.0000	0.0000
V20X100	0.0000	0.0000
IPE100	0.0000	0.0000
IPE120	0.0000	0.0000
IPE140	0.0000	0.0000
IPE160	0.0000	0.0000
IPE180	0.0000	0.0000
IPE200	11.0219	1.1230
IPE220	0.0000	0.0000
IPE240	6.5392	0.6663
IPE270	3.2067	0.3267
IPE300	1.6235	0.1654
IPE400	15.3841	1.5675
IPE450	0.0000	0.0000
IPE500	0.0000	0.0000
TUB300X300X10.0MM	0.0000	0.0000
COL60	0.0000	0.0000
COL50	0.0000	0.0000
IPE550	0.0000	0.0000
IPE600	0.0000	0.0000
V60X90	0.0000	0.0000
C40X40	0.0000	0.0000
IPE330	0.0000	0.0000
IPE360	0.0000	0.0000

C O N C R E T E C O L U M N D A T A

FRAME SECTION NAME	REINF CONFIGURATION		REINF SIZE/TYPE	NUM BARS 3DIR/2DIR	NUM BARS CIRCULAR	BAR COVER
	LONGIT	LATERAL				
C50X70	Rectangular	Ties	#9/Design	3/4	N/A	0.0500
C30X100	Rectangular	Ties	#9/Design	2/5	N/A	0.0500
COL40X40	Rectangular	Ties	#9/Design	3/3	N/A	0.0500
COL100	Circular	Ties	#7/Design	N/A	16	0.0500
C80X40	Rectangular	Ties	#9/Design	3/4	N/A	0.0800
COL40X60	Rectangular	Ties	#9/Design	3/4	N/A	0.0600
COL60X60	Rectangular	Ties	#9/Design	4/4	N/A	0.0500
COL60	Rectangular	Ties	#9/Design	3/3	N/A	0.1200
COL50	Rectangular	Ties	#9/Design	3/3	N/A	0.1100
C40X40	Rectangular	Ties	#9/Design	3/3	N/A	0.0500

C O N C R E T E B E A M D A T A

FRAME SECTION NAME	TOP COVER	BOT COVER	TOP LEFT AREA	TOP RIGHT AREA	BOT LEFT AREA	BOT RIGHT AREA
V30X50	0.0500	0.0500	0.000	0.000	0.000	0.000
V35X50	0.0500	0.0500	0.000	0.000	0.000	0.000
V25X50	0.0500	0.0500	0.000	0.000	0.000	0.000
V15X60	0.0500	0.0500	0.000	0.000	0.000	0.000
V40X70	0.0500	0.0500	0.000	0.000	0.000	0.000
V50X70	0.0500	0.0500	0.000	0.000	0.000	0.000
V40X50	0.0500	0.0500	0.000	0.000	0.000	0.000
V60X140	0.1000	0.1000	0.000	0.000	0.000	0.000
V30X70	0.0500	0.0500	0.000	0.000	0.000	0.000
V35X100	0.1000	0.1000	0.000	0.000	0.000	0.000
V30X60	0.0500	0.0500	0.000	0.000	0.000	0.000
V40X60	0.0500	0.0500	0.000	0.000	0.000	0.000
V50X60	0.0500	0.0500	0.000	0.000	0.000	0.000
V60X60	0.0500	0.0500	0.000	0.000	0.000	0.000
V20X60	0.0500	0.0500	0.000	0.000	0.000	0.000
V60X100	0.0500	0.0500	0.000	0.000	0.000	0.000
V40X100	0.0500	0.0500	0.000	0.000	0.000	0.000

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V25X100	0.0500	0.0500	0.000	0.000	0.000	0.000
V20X100	0.0500	0.0500	0.000	0.000	0.000	0.000
V60X90	0.0800	0.0800	0.000	0.000	0.000	0.000

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DECK SECTION PROPERTY DATA

DECK SECTION	DECK TYPE	SLAB MATERIAL	DECK MATERIAL	DECK SHEAR THICK	DECK UNIT WT
DECK1	Filled	CONC	N/A	N/A	1.1230E-02
LOSA60	Filled	CONC	N/A	N/A	1.1200E-02
STEELDECK10	Filled	CONC	N/A	N/A	1.1200E-02
STEELDECK11	Filled	CONC	N/A	N/A	1.1200E-02
LOSA10MAZ	Solid	CONC	N/A	N/A	N/A
TEJA	Unfilled	N/A	STEEL	0.0004	1.1200E-02

DECK SECTION SHEAR STUD DATA

DECK SECTION	STUD DIAM	STUD HEIGHT	STUD FU
DECK1	0.0191	0.1524	45699.530
LOSA60	0.0191	0.1524	45699.530
STEELDECK10	0.0191	0.1524	45699.530
STEELDECK11	0.0191	0.1524	45699.530
LOSA10MAZ	0.0191	0.1524	42184.180
TEJA	N/A	N/A	N/A

DECK SECTION GEOMETRY DATA

DECK SECTION	SLAB DEPTH	RIB DEPTH	RIB WIDTH	RIB SPACING
DECK1	0.0889	0.0762	0.1524	0.3048
LOSA60	0.0800	0.5200	0.1200	0.8500
STEELDECK10	0.0500	0.0500	0.1524	0.3048
STEELDECK11	0.0600	0.0500	0.1524	0.3048
LOSA10MAZ	0.1000	N/A	N/A	N/A
TEJA	N/A	0.0400	0.1500	0.1500

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STATIC LOAD CASES

STATIC CASE	CASE TYPE	AUTO LAT LOAD	SELF WT MULTIPLIER	NOTIONAL FACTOR	NOTIONAL DIRECTION
DEAD	DEAD	N/A	1.0000		
LIVE	LIVE	N/A	0.0000		
FHE	QUAKE	USER_COEFF	0.0000		
GRANIZO	LIVE	N/A	0.0000		
FHEU	QUAKE	USER_COEFF	0.0000		


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RESPONSE SPECTRUM CASES

RESP SPEC CASE: SISMOX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

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RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	MICROBOG	10.9800
U2	----	N/A
UZ	----	N/A

RESP SPEC CASE: SISMOY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	----	N/A
U2	MICROBOG	12.1900
UZ	----	N/A

RESP SPEC CASE: UMBRALX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0200	0.0000	0.0500

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	UMBMICROBOG	11.9300
U2	----	N/A
UZ	----	N/A


RESP SPEC CASE: UMBRALY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0200	0.0000	0.0500


RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	----	N/A
U2	UMBMICROBOG	13.6900
UZ	----	N/A


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LOADING COMBINATIONS


COMBO	COMBO TYPE	CASE	CASE TYPE	SCALE FACTOR
C1	ADD	DEAD	Static	1.4000
C2	ADD	DEAD	Static	1.2000
		LIVE	Static	1.6000
C3	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.3330
		SISMOY	Spectra	0.1000
C4	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.3330
		SISMOY	Spectra	-0.1000
C5	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.3330
		SISMOY	Spectra	0.1000
C6	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.3330
		SISMOY	Spectra	-0.1000
C7	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.1000
		SISMOY	Spectra	0.3330
C8	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.1000
		SISMOY	Spectra	-0.3330
C9	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.1000
		SISMOY	Spectra	0.3330
C10	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.1000
		SISMOY	Spectra	-0.3330
C11	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.3330
		SISMOY	Spectra	0.1000
C12	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.3330
		SISMOY	Spectra	-0.1000
C13	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.3330
		SISMOY	Spectra	0.1000
C14	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.3330
		SISMOY	Spectra	-0.1000
C15	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.1000
		SISMOY	Spectra	0.3330
C16	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.1000
		SISMOY	Spectra	-0.3330
C17	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.1000
		SISMOY	Spectra	0.3330
C18	ADD	DEAD	Static	1.2000

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		LIVE	Static	1.0000
		SISMOX	Spectra	-0.1000
		SISMOY	Spectra	-0.3330
CIM1	ADD	DEAD	Static	1.0000
CIM2	ADD	DEAD	Static	1.0000
		LIVE	Static	1.0000
CIM3	ADD	DEAD	Static	1.0000
		SISMOX	Spectra	0.2330
		SISMOY	Spectra	0.0700
CIM4	ADD	DEAD	Static	1.0000
		SISMOX	Spectra	0.0700
		SISMOY	Spectra	0.2330
CIM5	ADD	DEAD	Static	1.0000
		LIVE	Static	0.7500
		SISMOX	Spectra	0.1750
		SISMOY	Spectra	0.0530
CIM6	ADD	DEAD	Static	1.0000
		LIVE	Static	0.7500
		SISMOX	Spectra	0.0530
		SISMOY	Spectra	0.1750
CIM7	ADD	DEAD	Static	0.6000
		SISMOX	Spectra	0.2330
		SISMOY	Spectra	0.0700
CIM8	ADD	DEAD	Static	0.6000
		SISMOX	Spectra	0.0700
		SISMOY	Spectra	0.2330
ENVCIM	ENVE	CIM1	Combo	1.0000
		CIM2	Combo	1.0000
		CIM3	Combo	1.0000
		CIM4	Combo	1.0000
		CIM5	Combo	1.0000
		CIM6	Combo	1.0000
		CIM7	Combo	1.0000
		CIM8	Combo	1.0000
ENVOL	ENVE	C1	Combo	1.0000
		C2	Combo	1.0000
		C3	Combo	1.0000
		C4	Combo	1.0000
		C5	Combo	1.0000
		C6	Combo	1.0000
		C7	Combo	1.0000
		C8	Combo	1.0000
		C9	Combo	1.0000
		C10	Combo	1.0000
		C11	Combo	1.0000
		C12	Combo	1.0000
		C13	Combo	1.0000
		C14	Combo	1.0000
		C15	Combo	1.0000
		C16	Combo	1.0000
		C17	Combo	1.0000
		C18	Combo	1.0000
VNC1	ADD	DEAD	Static	1.3000
		LIVE	Static	1.0000
		SISMOX	Spectra	1.0000
		SISMOY	Spectra	0.3000
VNC2	ADD	DEAD	Static	1.3000
		LIVE	Static	1.0000
		SISMOX	Spectra	1.0000
		SISMOY	Spectra	-0.3000
VNC3	ADD	DEAD	Static	1.1000
		LIVE	Static	1.0000
		SISMOX	Spectra	-1.0000
		SISMOY	Spectra	0.3000
VNC4	ADD	DEAD	Static	1.1000
		LIVE	Static	1.0000
		SISMOX	Spectra	-1.0000
		SISMOY	Spectra	-0.3000
VNC5	ADD	DEAD	Static	1.3000

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		LIVE	Static	1.0000
		SISMOX	Spectra	0.3000
		SISMOY	Spectra	1.0000
VNC6	ADD	DEAD	Static	1.1000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.3000
		SISMOY	Spectra	-1.0000
VNC7	ADD	DEAD	Static	1.3000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.3000
		SISMOY	Spectra	1.0000
VNC8	ADD	DEAD	Static	1.1000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.3000
		SISMOY	Spectra	-1.0000
VNC9	ADD	DEAD	Static	1.0000
		SISMOX	Spectra	1.0000
		SISMOY	Spectra	0.3000
VNC10	ADD	DEAD	Static	1.0000
		SISMOX	Spectra	1.0000
		SISMOY	Spectra	-0.3000
VNC11	ADD	DEAD	Static	0.8000
		SISMOX	Spectra	-1.0000
		SISMOY	Spectra	0.3000
VNC12	ADD	DEAD	Static	0.8000
		SISMOX	Spectra	-1.0000
		SISMOY	Spectra	-0.3000
VNC13	ADD	DEAD	Static	1.0000
		SISMOX	Spectra	0.3000
		SISMOY	Spectra	1.0000
VNC14	ADD	DEAD	Static	0.8000
		SISMOX	Spectra	0.3000
		SISMOY	Spectra	-1.0000
VNC15	ADD	DEAD	Static	1.0000
		SISMOX	Spectra	-0.3000
		SISMOY	Spectra	1.0000
VNC16	ADD	DEAD	Static	0.8000
		SISMOX	Spectra	-0.3000
		SISMOY	Spectra	-1.0000
VNV1	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.6670
		SISMOY	Spectra	0.2000
VNV2	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.6670
		SISMOY	Spectra	-0.2000
VNV3	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.6670
		SISMOY	Spectra	0.2000
VNV4	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.6670
		SISMOY	Spectra	-0.2000
VNV5	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.2000
		SISMOY	Spectra	0.6670
VNV6	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	0.2000
		SISMOY	Spectra	-0.6670
VNV7	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000
		SISMOX	Spectra	-0.2000
		SISMOY	Spectra	0.6670
VNV8	ADD	DEAD	Static	1.2000
		LIVE	Static	1.0000

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VNV9	ADD	SISMOX	Spectra	-0.2000
		SISMOY	Spectra	-0.6670
		DEAD	Static	0.9000
		SISMOX	Spectra	0.6670
VNV10	ADD	SISMOY	Spectra	0.2000
		DEAD	Static	0.9000
		SISMOX	Spectra	0.6670
		SISMOY	Spectra	-0.2000
VNV11	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	-0.6670
		SISMOY	Spectra	0.2000
		DEAD	Static	0.9000
VNV12	ADD	SISMOX	Spectra	-0.6670
		SISMOY	Spectra	-0.2000
VNV13	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	0.2000
		SISMOY	Spectra	0.6670
		DEAD	Static	0.9000
VNV14	ADD	SISMOX	Spectra	0.2000
		SISMOY	Spectra	-0.6670
VNV15	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	-0.2000
		SISMOY	Spectra	0.6670
		DEAD	Static	0.9000
VNV16	ADD	SISMOX	Spectra	-0.2000
		SISMOY	Spectra	-0.6670
DU1	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	1.0000
		UMBRALY	Spectra	0.3000
		DEAD	Static	0.9000
DU2	ADD	UMBRALX	Spectra	1.0000
		UMBRALY	Spectra	-0.3000
DU3	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	-1.0000
		UMBRALY	Spectra	0.3000
		DEAD	Static	0.9000
DU4	ADD	UMBRALX	Spectra	-1.0000
		UMBRALY	Spectra	-0.3000
DU5	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	0.3000
		UMBRALY	Spectra	1.0000
		DEAD	Static	0.9000
DU6	ADD	UMBRALX	Spectra	0.3000
		UMBRALY	Spectra	-1.0000
DU7	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	-0.3000
		UMBRALY	Spectra	1.0000
		DEAD	Static	0.9000
DU8	ADD	UMBRALX	Spectra	-0.3000
		UMBRALY	Spectra	-1.0000
D1	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	1.0000
		SISMOY	Spectra	0.3000
		DEAD	Static	0.9000
D2	ADD	SISMOX	Spectra	1.0000
		SISMOY	Spectra	-0.3000
D3	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	-1.0000
		SISMOY	Spectra	0.3000
		DEAD	Static	0.9000
D4	ADD	SISMOX	Spectra	-1.0000
		SISMOY	Spectra	-0.3000
D5	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	0.3000
		SISMOY	Spectra	1.0000
		DEAD	Static	0.9000
D6	ADD	SISMOX	Spectra	0.3000
		SISMOY	Spectra	-1.0000
D7	ADD	DEAD	Static	0.9000

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D8	ADD	SISMOX	Spectra	-0.3000
		SISMOY	Spectra	1.0000
		DEAD	Static	0.9000
		SISMOX	Spectra	-0.3000
		SISMOY	Spectra	-1.0000

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R E S P O N S E S P E C T R U M F U N C T I O N - U S E R

FUNCTION NAME: MICROBOG

PERIOD	ACCEL
0.0000	0.4780
0.0250	0.4780
0.0500	0.4780
0.0750	0.4780
0.1000	0.4780
0.1250	0.4780
0.1500	0.4780
0.1750	0.4780
0.2000	0.4780
0.2250	0.4780
0.2500	0.4780
0.2750	0.4780
0.3000	0.4780
0.3250	0.4780
0.3500	0.4780
0.3750	0.4780
0.4000	0.4780
0.4250	0.4780
0.4500	0.4780
0.4750	0.4780
0.5000	0.4780
0.5250	0.4780
0.5500	0.4780
0.5750	0.4780
0.6500	0.4780
0.6750	0.4780
0.7000	0.4780
0.7250	0.4780
0.7500	0.4780
0.7750	0.4780
0.8000	0.4780
0.8250	0.4780
0.8500	0.4780
0.8750	0.4720
0.9000	0.4650
0.9250	0.4590
0.9500	0.4520
0.9750	0.4470
1.0000	0.4410
1.0250	0.4360
1.0500	0.4310
1.0750	0.4260
1.1000	0.4210
1.1250	0.4160
1.1500	0.4070
1.1750	0.3980
1.2000	0.3900
1.2250	0.3820
1.2500	0.3740
1.2750	0.3670
1.3000	0.3600
1.3250	0.3530
1.3500	0.3470
1.3750	0.3400
1.4000	0.3340




Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
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1.4250	0.3280
1.4500	0.3230
1.4750	0.3170
1.5000	0.3120
1.5250	0.3070
1.5500	0.3020
1.5750	0.2970
1.6000	0.2930
1.6250	0.2880
1.6500	0.2840
1.6750	0.2790
1.7000	0.2750
1.7250	0.2710
1.7500	0.2670
1.7750	0.2640
1.8000	0.2600
1.8250	0.2560
1.8500	0.2530
1.8750	0.2500
1.9000	0.2460
1.9250	0.2430
1.9500	0.2400
1.9750	0.2370
2.0000	0.2340
2.0250	0.2310
2.0500	0.2280
2.0750	0.2260
2.1000	0.2230
2.1250	0.2200
2.1500	0.2180
2.1750	0.2150
2.2000	0.2130
2.2250	0.2100
2.2500	0.2080
2.2750	0.2060
2.3000	0.2030
2.3250	0.2010
2.3500	0.1990
2.3750	0.1970
2.4000	0.1950
2.4250	0.1930
2.4500	0.1910
2.4750	0.1890
2.5000	0.1870
2.5250	0.1850
2.5500	0.1840
2.5750	0.1820
2.6000	0.1800
2.6250	0.1780
2.6500	0.1770
2.6750	0.1750
2.7000	0.1730
2.7250	0.1720
2.7500	0.1700
2.7750	0.1690
2.8000	0.1670
2.8250	0.1660
2.8500	0.1640
2.8750	0.1630
2.9000	0.1610
2.9250	0.1600
2.9500	0.1590
2.9750	0.1570
3.0000	0.1560
3.0250	0.1550
3.0500	0.1530
3.0750	0.1520
3.1000	0.1510
3.1250	0.1500



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 20 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

3.1500	0.1490
3.1750	0.1470
3.2000	0.1460
3.2250	0.1450
3.2500	0.1440
3.2750	0.1430
3.3000	0.1420
3.3250	0.1410
3.3500	0.1400
3.3750	0.1390
3.4000	0.1380
3.4250	0.1370
3.4500	0.1360
3.4750	0.1350
3.5000	0.1340
3.5250	0.1320
3.5500	0.1300
3.5750	0.1280
3.6000	0.1260
3.6250	0.1250
3.6500	0.1230
3.6750	0.1210
3.7000	0.1200
3.7250	0.1180
3.7500	0.1160
3.7750	0.1150
3.8000	0.1130
3.8250	0.1120
3.8500	0.1110
3.8750	0.1090
3.9000	0.1080
3.9250	0.1060
3.9500	0.1050
3.9750	0.1040
4.0000	0.1020
4.0250	0.1010
4.0500	0.1000
4.0750	0.0990
4.1000	0.0970
4.1250	0.0960
4.1500	0.0950
4.1750	0.0940
4.2000	0.0930
4.2250	0.0920
4.2500	0.0910
4.2750	0.0900
4.3000	0.0890
4.3250	0.0880
4.3500	0.0870
4.3750	0.0860
4.4000	0.0850
4.4250	0.0840
4.4500	0.0830
4.4750	0.0820
4.5000	0.0810
4.5250	0.0800
4.5500	0.0790
4.5750	0.0780
4.6000	0.0770
4.6250	0.0770
4.6500	0.0760
4.6750	0.0750
4.7000	0.0740
4.7250	0.0730
4.7500	0.0730
4.7750	0.0720
4.8000	0.0710
4.8250	0.0700
4.8500	0.0700

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 21 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

4.8750	0.0690
4.9000	0.0680
4.9250	0.0680
4.9500	0.0670
4.9750	0.0660
5.0000	0.0660
5.0250	0.0650
5.0500	0.0640
5.0750	0.0640
5.1000	0.0630
5.1250	0.0620
5.1500	0.0620
5.1750	0.0610
5.2000	0.0610
5.2250	0.0600
5.2500	0.0590
5.2750	0.0590
5.3000	0.0580
5.3250	0.0580
5.3500	0.0570
5.3750	0.0570
5.4000	0.0560
5.4250	0.0560
5.4500	0.0550
5.4750	0.0550
5.5000	0.0540

FUNCTION NAME: UMBMICROBOG

PERIOD	ACCEL
0.0000	0.2610
0.0250	0.2610
0.0500	0.2610
0.0750	0.2610
0.1000	0.2610
0.1250	0.2610
0.1500	0.2610
0.1750	0.2610
0.2000	0.2610
0.2250	0.2610
0.2500	0.2610
0.2750	0.2610
0.3000	0.2610
0.3250	0.2610
0.3500	0.2610
0.3750	0.2610
0.4000	0.2610
0.4250	0.2610
0.4500	0.2610
0.4750	0.2610
0.5000	0.2610
0.5250	0.2610
0.5500	0.2610
0.5750	0.2610
0.6000	0.2610
0.6250	0.2610
0.6500	0.2610
0.6750	0.2610
0.7000	0.2610
0.7250	0.2610
0.7500	0.2610
0.7750	0.2610
0.8000	0.2610
0.8250	0.2610
0.8500	0.2580
0.8750	0.2550
0.9000	0.2510



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 22 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

0.9250	0.2480
0.9500	0.2440
0.9750	0.2410
1.0000	0.2390
1.0250	0.2360
1.0500	0.2310
1.0750	0.2260
1.1000	0.2210
1.1250	0.2160
1.1500	0.2110
1.1750	0.2070
1.2000	0.2030
1.2250	0.1980
1.2500	0.1940
1.2750	0.1910
1.3000	0.1870
1.3250	0.1830
1.3500	0.1800
1.3750	0.1770
1.4000	0.1740
1.4250	0.1710
1.4500	0.1680
1.4750	0.1650
1.5000	0.1620
1.5250	0.1590
1.5500	0.1570
1.5750	0.1540
1.6000	0.1520
1.6250	0.1500
1.6500	0.1470
1.6750	0.1450
1.7000	0.1430
1.7250	0.1410
1.7500	0.1390
1.7750	0.1370
1.8000	0.1350
1.8250	0.1330
1.8500	0.1310
1.8750	0.1300
1.9000	0.1280
1.9250	0.1260
1.9500	0.1250
1.9750	0.1230
2.0000	0.1220
2.0250	0.1200
2.0500	0.1190
2.0750	0.1170
2.1000	0.1160
2.1250	0.1140
2.1500	0.1130
2.1750	0.1120
2.2000	0.1100
2.2250	0.1090
2.2500	0.1080
2.2750	0.1070
2.3000	0.1060
2.3250	0.1050
2.3500	0.1030
2.3750	0.1020
2.4000	0.1010
2.4250	0.1000
2.4500	0.0990
2.4750	0.0980
2.5000	0.0970
2.5250	0.0960
2.5500	0.0950
2.5750	0.0940
2.6000	0.0930
2.6250	0.0930




Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 23 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

2.6500	0.0920
2.6750	0.0910
2.7000	0.0900
2.7250	0.0890
2.7500	0.0880
2.7750	0.0880
2.8000	0.0870
2.8250	0.0860
2.8500	0.0850
2.8750	0.0850
2.9000	0.0840
2.9250	0.0830
2.9500	0.0820
2.9750	0.0820
3.0000	0.0810
3.0250	0.0800
3.0500	0.0800
3.0750	0.0790
3.1000	0.0780
3.1250	0.0780
3.1500	0.0770
3.1750	0.0770
3.2000	0.0760
3.2250	0.0750
3.2500	0.0750
3.2750	0.0740
3.3000	0.0740
3.3250	0.0730
3.3500	0.0730
3.3750	0.0720
3.4000	0.0710
3.4250	0.0710
3.4500	0.0700
3.4750	0.0700
3.5000	0.0690
3.5250	0.0680
3.5500	0.0670
3.5750	0.0670
3.6000	0.0660
3.6250	0.0650
3.6500	0.0640
3.6750	0.0630
3.7000	0.0620
3.7250	0.0610
3.7500	0.0600
3.7750	0.0600
3.8000	0.0590
3.8250	0.0580
3.8500	0.0570
3.8750	0.0570
3.9000	0.0560
3.9250	0.0550
3.9500	0.0550
3.9750	0.0540
4.0000	0.0530
4.0250	0.0520
4.0500	0.0520
4.0750	0.0510
4.1000	0.0510
4.1250	0.0500
4.1500	0.0490
4.1750	0.0490
4.2000	0.0480
4.2250	0.0480
4.2500	0.0470
4.2750	0.0470
4.3000	0.0460
4.3250	0.0450
4.3500	0.0450




Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 24 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

4.3750	0.0440
4.4000	0.0440
4.4250	0.0430
4.4500	0.0430
4.4750	0.0420
4.5000	0.0420
4.5250	0.0420
4.5500	0.0410
4.5750	0.0410
4.6000	0.0400
4.6250	0.0400
4.6500	0.0390
4.6750	0.0390
4.7000	0.0390
4.7250	0.0380
4.7500	0.0380
4.7750	0.0370
4.8000	0.0370
4.8250	0.0370
4.8500	0.0360
4.8750	0.0360
4.9000	0.0350
4.9250	0.0350
4.9500	0.0350
4.9750	0.0340
5.0000	0.0340
5.0250	0.0340
5.0500	0.0330
5.0750	0.0330
5.1000	0.0330
5.1250	0.0320
5.1500	0.0320
5.1750	0.0320
5.2000	0.0310
5.2250	0.0310
5.2500	0.0310
5.2750	0.0310
5.3000	0.0300
5.3250	0.0300
5.3500	0.0300
5.3750	0.0290
5.4000	0.0290
5.4250	0.0290
5.4500	0.0290
5.4750	0.0280
5.5000	0.0280

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 25 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

ANEXO 4. ANALISIS ESTRUCTURAL

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 26 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

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PROJECT INFORMATION

Company Name = Solarte y Cia Ingenieros Calculistas

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S T O R Y D A T A

STORY	SIMILAR TO	HEIGHT	ELEVATION
N+9.23	None	0.800	9.230
N+8.43	N+9.23	4.690	8.430
N+3.74	N+9.23	3.740	3.740
BASE	None		0.000

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S T A T I C L O A D C A S E S

STATIC CASE	CASE TYPE	AUTO LAT LOAD	SELF WT MULTIPLIER	NOTIONAL FACTOR	NOTIONAL DIRECTION
DEAD	DEAD	N/A	1.0000		
LIVE	LIVE	N/A	0.0000		
FHE	QUAKE	USER_COEFF	0.0000		
GRANIZO	LIVE	N/A	0.0000		
FHEU	QUAKE	USER_COEFF	0.0000		

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R E S P O N S E S P E C T R U M C A S E S

RESP SPEC CASE: SISMOX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	MICROBOG	10.9800
U2	----	N/A
UZ	----	N/A


RESP SPEC CASE: SISMOY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	----	N/A
U2	MICROBOG	12.1900

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 27 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

UZ ---- N/A

RESP SPEC CASE: UMBRALX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0200	0.0000	0.0500

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	UMBMICROBOG	11.9300
U2	----	N/A
UZ	----	N/A

RESP SPEC CASE: UMBRALY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0200	0.0000	0.0500

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	----	N/A
U2	UMBMICROBOG	13.6900
UZ	----	N/A

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A U T O S E I S M I C U S E R C O E F F I C I E N T
Case: FHE

AUTO SEISMIC INPUT DATA

Direction: X
Typical Eccentricity = 5%
Eccentricity Overrides: No

Top Story: N+9.23
Bottom Story: BASE


C = 0.478
K = 1

AUTO SEISMIC CALCULATION FORMULAS

V = C W

AUTO SEISMIC CALCULATION RESULTS

W Used = 419.42

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 28 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

V Used = 0.4780W = 200.48

AUTO SEISMIC STORY FORCES

STORY	FX	FY	FZ	MX	MY	MZ
N+9.23	0.00	0.00	0.00	0.000	0.000	0.000
N+8.43	147.98	0.00	0.00	0.000	0.000	0.000
N+3.74	52.50	0.00	0.00	0.000	-23.475	-220.860

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A U T O S E I S M I C U S E R C O E F F I C I E N T
Case: FHEU

AUTO SEISMIC INPUT DATA

Direction: X
Typical Eccentricity = 5%
Eccentricity Overrides: No

Period Calculation: Program Calculated
Ct = 0.035 (in feet units)

Top Story: N+9.23
Bottom Story: BASE

C = 0.261
K = 1

AUTO SEISMIC CALCULATION FORMULAS

V = C W

AUTO SEISMIC CALCULATION RESULTS

W Used = 419.42

V Used = 0.2610W = 109.47

AUTO SEISMIC STORY FORCES

STORY	FX	FY	FZ	MX	MY	MZ
N+9.23	0.00	0.00	0.00	0.000	0.000	0.000
N+8.43	80.80	0.00	0.00	0.000	0.000	0.000
N+3.74	28.67	0.00	0.00	0.000	-12.818	-120.595


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M A S S S O U R C E D A T A

MASS LATERAL LUMP MASS
FROM MASS ONLY AT STORIES
Loads Yes Yes

M A S S S O U R C E L O A D S

LOAD MULTIPLIER
DEAD 1.0000
LIVE 0.1000

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 29 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

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D I A P H R A G M M A S S D A T A

STORY	DIAPHRAGM	MASS-X	MASS-Y	MMI	X-M	Y-M
N+8.43	CUB	2.338E+01	2.338E+01	7.357E+03	30.731	4.175

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A S S E M B L E D P O I N T M A S S E S

STORY	UX	UY	UZ	RX	RY	RZ
N+9.23	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.43	2.376E+01	2.376E+01	0.000E+00	0.000E+00	0.000E+00	7.357E+03
N+3.74	1.900E+01	1.900E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	1.185E+00	1.185E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals	4.395E+01	4.395E+01	0.000E+00	0.000E+00	0.000E+00	7.357E+03

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C E N T E R S O F C U M U L A T I V E M A S S & C E N T E R S O F R I G I D I T Y

STORY	DIAPHRAGM	/-----CENTER OF MASS-----//--CENTER OF RIGIDITY--/				
LEVEL	NAME	MASS	ORDINATE-X	ORDINATE-Y	ORDINATE-X	ORDINATE-Y
N+8.43	CUB	2.338E+01	30.731	4.175	28.569	3.950

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M O D A L P E R I O D S A N D F R E Q U E N C I E S

MODE	PERIOD	FREQUENCY	CIRCULAR FREQ
NUMBER	(TIME)	(CYCLES/TIME)	(RADIANS/TIME)
Mode 1	0.58981	1.69547	10.65297
Mode 2	0.53046	1.88515	11.84477
Mode 3	0.45915	2.17794	13.68442
Mode 4	0.31442	3.18047	19.98345
Mode 5	0.16966	5.89425	37.03468
Mode 6	0.13721	7.28794	45.79149
Mode 7	0.11949	8.36917	52.58506
Mode 8	0.11444	8.73789	54.90176
Mode 9	0.10985	9.10315	57.19679
Mode 10	0.10802	9.25796	58.16946
Mode 11	0.10247	9.75927	61.31929
Mode 12	0.10069	9.93182	62.40347
Mode 13	0.09424	10.61173	66.67548
Mode 14	0.08063	12.40289	77.92967
Mode 15	0.06937	14.41536	90.57437
Mode 16	0.06509	15.36377	96.53340
Mode 17	0.06377	15.68170	98.53100
Mode 18	0.05720	17.48261	109.84649
Mode 19	0.05556	17.99720	113.07974
Mode 20	0.05475	18.26631	114.77061
Mode 21	0.05457	18.32539	115.14183
Mode 22	0.05407	18.49404	116.20146
Mode 23	0.05007	19.97180	125.48649
Mode 24	0.04968	20.12796	126.46773
Mode 25	0.04838	20.66862	129.86480
Mode 26	0.04741	21.09388	132.53675
Mode 27	0.04304	23.23415	145.98445
Mode 28	0.04068	24.58513	154.47290
Mode 29	0.03907	25.59339	160.80803
Mode 30	0.03445	29.02938	182.39694
Mode 31	0.03282	30.47240	191.46371
Mode 32	0.03103	32.22653	202.48528

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 30 DE 59
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Mode 33	0.03014	33.18121	208.48367
Mode 34	0.02995	33.38848	209.78603
Mode 35	0.02827	35.36870	222.22808
Mode 36	0.02627	38.07189	239.21273
Mode 37	0.02602	38.42921	241.45785
Mode 38	0.02500	39.99768	251.31285
Mode 39	0.02424	41.25025	259.18299
Mode 40	0.02221	45.01797	282.85625

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MODAL PARTICIPATING MASS RATIOS

MODE NUMBER	X-TRANS %MASS <SUM>	Y-TRANS %MASS <SUM>	Z-TRANS %MASS <SUM>	RX-ROTN %MASS <SUM>	RY-ROTN %MASS <SUM>	RZ-ROTN %MASS <SUM>
Mode 1	0.09 < 0>	57.82 < 58>	0.00 < 0>	73.52 < 74>	0.10 < 0>	23.65 < 24>
Mode 2	0.11 < 0>	19.48 < 77>	0.00 < 0>	25.37 < 99>	0.13 < 0>	57.16 < 81>
Mode 3	72.76 < 73>	0.01 < 77>	0.00 < 0>	0.01 < 99>	97.44 < 98>	0.14 < 81>
Mode 4	0.00 < 73>	0.71 < 78>	0.00 < 0>	0.02 < 99>	0.00 < 98>	0.21 < 81>
Mode 5	1.65 < 75>	0.00 < 78>	0.00 < 0>	0.00 < 99>	0.05 < 98>	0.00 < 81>
Mode 6	0.00 < 75>	0.73 < 79>	0.00 < 0>	0.01 < 99>	0.00 < 98>	0.02 < 81>
Mode 7	0.00 < 75>	4.75 < 83>	0.00 < 0>	0.28 < 99>	0.00 < 98>	0.14 < 81>
Mode 8	0.47 < 75>	4.63 < 88>	0.00 < 0>	0.16 < 99>	0.05 < 98>	3.64 < 85>
Mode 9	0.70 < 76>	4.09 < 92>	0.00 < 0>	0.18 < 100>	0.07 < 98>	4.93 < 90>
Mode 10	5.41 < 81>	0.00 < 92>	0.00 < 0>	0.00 < 100>	0.50 < 98>	4.42 < 94>
Mode 11	7.81 < 89>	0.01 < 92>	0.00 < 0>	0.01 < 100>	0.81 < 99>	0.13 < 94>
Mode 12	0.08 < 89>	0.01 < 92>	0.00 < 0>	0.00 < 100>	0.01 < 99>	0.04 < 94>
Mode 13	4.98 < 94>	0.00 < 92>	0.00 < 0>	0.01 < 100>	0.52 < 100>	0.71 < 95>
Mode 14	1.24 < 95>	0.15 < 92>	0.00 < 0>	0.01 < 100>	0.14 < 100>	0.14 < 95>
Mode 15	0.14 < 95>	1.42 < 94>	0.00 < 0>	0.14 < 100>	0.02 < 100>	0.73 < 96>
Mode 16	0.10 < 96>	1.77 < 96>	0.00 < 0>	0.14 < 100>	0.01 < 100>	1.61 < 98>
Mode 17	0.50 < 96>	0.44 < 96>	0.00 < 0>	0.04 < 100>	0.04 < 100>	0.11 < 98>
Mode 18	0.00 < 96>	0.13 < 96>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.23 < 98>
Mode 19	0.00 < 96>	0.16 < 96>	0.00 < 0>	0.01 < 100>	0.02 < 100>	0.45 < 98>
Mode 20	0.00 < 96>	0.10 < 96>	0.00 < 0>	0.01 < 100>	0.00 < 100>	0.03 < 98>
Mode 21	0.00 < 96>	0.15 < 97>	0.00 < 0>	0.01 < 100>	0.00 < 100>	0.01 < 98>
Mode 22	0.02 < 96>	0.11 < 97>	0.00 < 0>	0.01 < 100>	0.01 < 100>	0.12 < 99>
Mode 23	0.00 < 96>	0.23 < 97>	0.00 < 0>	0.01 < 100>	0.00 < 100>	0.06 < 99>
Mode 24	0.00 < 96>	0.04 < 97>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.12 < 99>
Mode 25	0.00 < 96>	0.00 < 97>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.00 < 99>
Mode 26	0.01 < 96>	0.12 < 97>	0.00 < 0>	0.01 < 100>	0.00 < 100>	0.07 < 99>
Mode 27	0.48 < 97>	0.14 < 97>	0.00 < 0>	0.01 < 100>	0.02 < 100>	0.18 < 99>
Mode 28	0.00 < 97>	0.00 < 97>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.00 < 99>
Mode 29	0.63 < 97>	0.07 < 97>	0.00 < 0>	0.01 < 100>	0.03 < 100>	0.15 < 99>
Mode 30	0.00 < 97>	0.03 < 97>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.02 < 99>
Mode 31	0.05 < 97>	0.05 < 97>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.01 < 99>
Mode 32	0.02 < 97>	0.08 < 97>	0.00 < 0>	0.00 < 100>	0.01 < 100>	0.11 < 99>
Mode 33	0.02 < 97>	0.05 < 97>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.05 < 99>
Mode 34	0.02 < 97>	0.01 < 97>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.01 < 99>
Mode 35	0.12 < 97>	0.00 < 97>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.00 < 99>
Mode 36	0.06 < 97>	0.02 < 98>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.02 < 99>
Mode 37	0.11 < 98>	0.05 < 98>	0.00 < 0>	0.00 < 100>	0.01 < 100>	0.06 < 99>
Mode 38	0.15 < 98>	0.00 < 98>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.00 < 99>
Mode 39	0.02 < 98>	0.00 < 98>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.00 < 99>
Mode 40	0.00 < 98>	0.01 < 98>	0.00 < 0>	0.00 < 100>	0.00 < 100>	0.00 < 99>

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MODAL LOAD PARTICIPATION RATIOS
(STATIC AND DYNAMIC RATIOS ARE IN PERCENT)

TYPE	NAME	STATIC	DYNAMIC
Load	DEAD	17.3352	0.0702
Load	LIVE	24.8100	0.0656
Load	FHE	99.9993	99.3008
Load	GRANIZO	6.3323	0.0000
Load	FHEU	99.9993	99.3008

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 31 DE 59
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Accel	UX	99.9973	97.7689
Accel	UY	99.9983	97.5606
Accel	UZ	0.0000	0.0000
Accel	RX	100.0000	99.9796
Accel	RY	100.0000	99.9769
Accel	RZ	80.0938	99.4943

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TOTAL REACTIVE FORCES (RECOVERED LOADS) AT ORIGIN

LOAD	FX	FY	FZ	MX	MY	MZ
DEAD	-1.903E-12	-5.079E-12	4.088E+02	1.704E+03	-1.213E+04	-8.272E-11
LIVE	1.419E-12	-4.009E-12	2.401E+02	1.000E+03	-7.095E+03	-5.991E-11
FHE	-2.005E+02	1.545E-11	-1.683E-13	-1.330E-10	-1.420E+03	8.387E+02
GRANIZO	-3.903E-14	-3.630E-14	6.703E+01	2.799E+02	-2.006E+03	-1.616E-13
FHEU	-1.095E+02	9.384E-12	-7.727E-14	-8.386E-11	-7.756E+02	4.579E+02
SISMOX	1.680E+02	5.656E+00	7.226E-13	3.758E+01	1.267E+03	6.100E+02
SISMOY	6.279E+00	1.756E+02	3.013E-13	1.302E+03	3.997E+01	5.981E+03
UMBRALX	9.862E+01	4.274E+00	4.313E-13	2.689E+01	7.505E+02	3.966E+02
UMBRALY	4.905E+00	9.812E+01	2.145E-13	7.301E+02	2.968E+01	3.891E+03

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S T O R Y F O R C E S


STORY	LOAD	P	VX	VY	T	MX	MY
N+9.23	FHE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.43	FHE	2.842E-14	-1.489E+02	1.067E-02	6.225E+02	-5.005E-02	-6.985E+02
N+3.74	FHE	2.241E-12	-2.018E+02	1.882E-02	8.458E+02	-1.221E-01	-1.430E+03
N+9.23	FHEU	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.43	FHEU	7.550E-15	-8.132E+01	5.827E-03	3.399E+02	-2.733E-02	-3.814E+02
N+3.74	FHEU	1.252E-12	-1.102E+02	1.028E-02	4.618E+02	-6.667E-02	-7.807E+02
N+9.23	SISMOX	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.43	SISMOX	6.512E-14	1.412E+02	4.257E+00	4.920E+02	1.996E+01	6.623E+02
N+3.74	SISMOX	1.957E-12	1.693E+02	5.707E+00	6.147E+02	3.796E+01	1.275E+03
N+9.23	SISMOY	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.43	SISMOY	1.281E-12	4.262E+00	1.430E+02	4.868E+03	6.706E+02	1.999E+01
N+3.74	SISMOY	8.668E-13	6.338E+00	1.777E+02	6.056E+03	1.317E+03	4.039E+01
N+9.23	UMBRALX	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.43	UMBRALX	4.086E-14	8.365E+01	3.140E+00	3.299E+02	1.473E+01	3.923E+02
N+3.74	UMBRALX	1.159E-12	9.934E+01	4.313E+00	3.999E+02	2.719E+01	7.555E+02
N+9.23	UMBRALY	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.43	UMBRALY	7.201E-13	3.194E+00	8.008E+01	3.224E+03	3.756E+02	1.498E+01
N+3.74	UMBRALY	5.117E-13	4.950E+00	9.934E+01	3.941E+03	7.384E+02	3.001E+01

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STORY DRIFTS

STORY	DIRECTION	LOAD	MAX DRIFT
N+8.43	X	FHE	1/178
N+3.74	X	FHE	1/392
N+8.43	X	FHEU	1/327
N+3.74	X	FHEU	1/718
N+8.43	X	SISMOX	1/190
N+3.74	X	SISMOX	1/447
N+8.43	Y	SISMOY	1/90
N+3.74	Y	SISMOY	1/148
N+8.43	X	UMBRALX	1/317
N+3.74	X	UMBRALX	1/749
N+8.43	Y	UMBRALY	1/118
N+3.74	Y	UMBRALY	1/197

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	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 32 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014


DISPLACEMENTS AT DIAPHRAGM CENTER OF MASS

STORY	DIAPHRAGM	LOAD	UX	UY	RZ
N+8.43	CUB	FHE	0.0343	-0.0004	-0.00004
N+8.43	CUB	FHEU	0.0187	-0.0002	-0.00002
N+8.43	CUB	SISMOX	0.0314	0.0014	0.00012
N+8.43	CUB	SISMOY	0.0014	0.0506	0.00134
N+8.43	CUB	UMBRALX	0.0186	0.0011	0.00011
N+8.43	CUB	UMBRALY	0.0011	0.0293	0.00126


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STORY MAXIMUM AND AVERAGE LATERAL DISPLACEMENTS

STORY	LOAD	DIR	MAXIMUM	AVERAGE	RATIO
N+8.43	FHE	X	0.0345	0.0343	1.005
N+8.43	FHEU	X	0.0188	0.0187	1.005
N+8.43	SISMOX	X	0.0316	0.0314	1.007
N+8.43	SISMOY	Y	0.0755	0.0597	1.264
N+8.43	UMBRALX	X	0.0190	0.0188	1.009
N+8.43	UMBRALY	Y	0.0568	0.0415	1.369

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 33 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

ANEXO 5. CHEQUEO DE DERIVAS

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 34 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

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L O A D I N G C O M B I N A T I O N S

COMBO	COMBO TYPE	CASE	CASE TYPE	SCALE FACTOR
D1	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	1.0000
		SISMOY	Spectra	0.3000
D2	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	1.0000
		SISMOY	Spectra	-0.3000
D3	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	-1.0000
		SISMOY	Spectra	0.3000
D4	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	-1.0000
		SISMOY	Spectra	-0.3000
D5	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	0.3000
		SISMOY	Spectra	1.0000
D6	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	0.3000
		SISMOY	Spectra	-1.0000
D7	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	-0.3000
		SISMOY	Spectra	1.0000
D8	ADD	DEAD	Static	0.9000
		SISMOX	Spectra	-0.3000
		SISMOY	Spectra	-1.0000

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S T O R Y D R I F T S

STORY	DIRECTION	LOAD	POINT	X	Y	Z	MAX DRIFT
N+8.43	X	D1	37	34.650	0.000	8.430	0.005563
N+8.43	Y	D1	385	59.850	8.350	8.430	0.003987
N+8.43	X	D2	37	34.650	0.000	8.430	0.005563
N+8.43	Y	D2	385	59.850	8.350	8.430	0.003987
N+8.43	X	D3	37	34.650	0.000	8.430	0.005563
N+8.43	Y	D3	385	59.850	8.350	8.430	0.003987
N+8.43	X	D4	37	34.650	0.000	8.430	0.005563
N+8.43	Y	D4	385	59.850	8.350	8.430	0.003987
N+8.43	Y	D5	388	59.850	0.000	8.430	0.006349
N+8.43	Y	D6	388	59.850	0.000	8.430	0.006349
N+8.43	Y	D7	388	59.850	0.000	8.430	0.006349
N+8.43	Y	D8	388	59.850	0.000	8.430	0.006349
N+3.74	X	D1	10	7.700	8.350	3.740	0.002461
N+3.74	Y	D1	62	57.750	8.350	3.740	0.002444
N+3.74	X	D2	10	7.700	8.350	3.740	0.002461
N+3.74	Y	D2	62	57.750	8.350	3.740	0.002444
N+3.74	X	D3	10	7.700	8.350	3.740	0.002461
N+3.74	Y	D3	62	57.750	8.350	3.740	0.002444
N+3.74	X	D4	10	7.700	8.350	3.740	0.002461
N+3.74	Y	D4	62	57.750	8.350	3.740	0.002444
N+3.74	Y	D5	62	57.750	8.350	3.740	0.005889

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 35 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

N+3.74	Y	D6	62	57.750	8.350	3.740	0.005889
N+3.74	Y	D7	62	57.750	8.350	3.740	0.005889
N+3.74	Y	D8	62	57.750	8.350	3.740	0.005889

DERIVAS PARA EL UMBRAL DE DAÑO

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LOADING COMBINATIONS

COMBO	COMBO TYPE	CASE	CASE TYPE	SCALE FACTOR
DU1	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	1.0000
		UMBRALY	Spectra	0.3000
DU2	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	1.0000
		UMBRALY	Spectra	-0.3000
DU3	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	-1.0000
		UMBRALY	Spectra	0.3000
DU4	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	-1.0000
		UMBRALY	Spectra	-0.3000
DU5	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	0.3000
		UMBRALY	Spectra	1.0000
DU6	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	0.3000
		UMBRALY	Spectra	-1.0000
DU7	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	-0.3000
		UMBRALY	Spectra	1.0000
DU8	ADD	DEAD	Static	0.9000
		UMBRALX	Spectra	-0.3000
		UMBRALY	Spectra	-1.0000

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STORY DRIFTS

STORY	DIRECTION	LOAD	POINT	X	Y	Z	MAX DRIFT
N+8.43	X	DU1	37	34.650	0.000	8.430	0.003460
N+8.43	Y	DU1	385	59.850	8.350	8.430	0.003144
N+8.43	X	DU2	37	34.650	0.000	8.430	0.003460
N+8.43	Y	DU2	385	59.850	8.350	8.430	0.003144
N+8.43	X	DU3	37	34.650	0.000	8.430	0.003460
N+8.43	Y	DU3	385	59.850	8.350	8.430	0.003144
N+8.43	X	DU4	37	34.650	0.000	8.430	0.003460
N+8.43	Y	DU4	385	59.850	8.350	8.430	0.003144
N+8.43	Y	DU5	388	59.850	0.000	8.430	0.003683
N+8.43	Y	DU6	388	59.850	0.000	8.430	0.003683
N+8.43	Y	DU7	388	59.850	0.000	8.430	0.003683
N+8.43	Y	DU8	388	59.850	0.000	8.430	0.003683
N+3.74	X	DU1	10	7.700	8.350	3.740	0.001532
N+3.74	Y	DU1	62	57.750	8.350	3.740	0.001899




Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 36 DE 59
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N+3.74	X	DU2	10	7.700	8.350	3.740	0.001532
N+3.74	Y	DU2	62	57.750	8.350	3.740	0.001899
N+3.74	X	DU3	10	7.700	8.350	3.740	0.001532
N+3.74	Y	DU3	62	57.750	8.350	3.740	0.001899
N+3.74	X	DU4	10	7.700	8.350	3.740	0.001532
N+3.74	Y	DU4	62	57.750	8.350	3.740	0.001899
N+3.74	Y	DU5	62	57.750	8.350	3.740	0.005197
N+3.74	Y	DU6	62	57.750	8.350	3.740	0.005197
N+3.74	Y	DU7	62	57.750	8.350	3.740	0.005197
N+3.74	Y	DU8	62	57.750	8.350	3.740	0.005197

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 37 DE 59
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ANEXO 6. DISEÑO DE ELEMENTOS ESTRUCTURALES

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 38 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

ANEXO 6.1. DISEÑO DE ESTRUCTURA METALICA

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 39 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

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C O L U M N S T E E L S T R E S S C H E C K O U T P U T (AISC360-05/IBC2006)

STORY LEVEL	COLUMN LINE	SECTION ID	/-----MOMENT INTERACTION CHECK-----//				-----SHEAR22-----//-----SHEAR33-----//			
			COMBO	RATIO	=	AXL + B33 + B22	COMBO	RATIO	COMBO	RATIO
N+8.43	C2	TUB40.60X12.7MM								
		C18(C)	0.149	=	0.009 + 0.035 + 0.136		C14	0.011	C18	0.024
N+3.74	C2	TUB40.60X12.7MM								
		C18(C)	0.203	=	0.020 + 0.038 + 0.179		C14	0.014	C18	0.030
N+8.43	C4	TUB40.60X12.7MM								
		C18(C)	0.120	=	0.008 + 0.052 + 0.099		C14	0.012	C18	0.017
N+3.74	C4	TUB40.60X12.7MM								
		C18(C)	0.154	=	0.019 + 0.043 + 0.128		C14	0.013	C18	0.024
N+8.43	C5	TUB40.60X12.7MM								
		C18(C)	0.130	=	0.016 + 0.026 + 0.111		C14	0.015	C18	0.014
N+3.74	C5	TUB40.60X12.7MM								
		C18(C)	0.165	=	0.024 + 0.041 + 0.135		C14	0.014	C18	0.012
N+8.43	C6	TUB40.60X12.7MM								
		C14(C)	0.121	=	0.013 + 0.095 + 0.053		C14	0.014	C18	0.015
N+3.74	C6	TUB40.60X12.7MM								
		C18(C)	0.148	=	0.026 + 0.061 + 0.105		C14	0.017	C18	0.014
N+8.43	C7	TUB40.60X12.7MM								
		C18(C)	0.126	=	0.016 + 0.024 + 0.107		C14	0.011	C18	0.012
N+3.74	C7	TUB40.60X12.7MM								
		C18(C)	0.157	=	0.018 + 0.026 + 0.136		C14	0.006	C18	0.013
N+8.43	C8	TUB40.60X12.7MM								
		C18(C)	0.108	=	0.013 + 0.021 + 0.093		C14	0.010	C18	0.016
N+3.74	C8	TUB40.60X12.7MM								
		C18(C)	0.143	=	0.023 + 0.042 + 0.113		C14	0.007	C18	0.018
N+8.43	C9	TUB40.60X12.7MM								
		C18(C)	0.137	=	0.016 + 0.023 + 0.119		C14	0.010	C18	0.018
N+3.74	C9	TUB40.60X12.7MM								
		C18(C)	0.173	=	0.015 + 0.047 + 0.151		C14	0.021	C14	0.021
N+8.43	C10	TUB40.60X12.7MM								
		C18(C)	0.112	=	0.013 + 0.021 + 0.096		C14	0.010	C18	0.016
N+3.74	C10	TUB40.60X12.7MM								
		C18(C)	0.148	=	0.023 + 0.043 + 0.117		C14	0.007	C18	0.019
N+8.43	C11	TUB40.60X12.7MM								
		C18(C)	0.134	=	0.016 + 0.023 + 0.116		C14	0.011	C18	0.017
N+3.74	C11	TUB40.60X12.7MM								
		C18(C)	0.169	=	0.015 + 0.043 + 0.147		C2	0.020	C18	0.033
N+8.43	C12	TUB40.60X12.7MM								
		C18(C)	0.111	=	0.013 + 0.021 + 0.095		C14	0.010	C18	0.016
N+3.74	C12	TUB40.60X12.7MM								
		C18(C)	0.152	=	0.023 + 0.043 + 0.122		C14	0.007	C18	0.019
N+8.43	C13	TUB40.60X12.7MM								
		C18(C)	0.131	=	0.016 + 0.023 + 0.112		C14	0.011	C18	0.015
N+3.74	C13	TUB40.60X12.7MM								
		C18(C)	0.158	=	0.015 + 0.039 + 0.138		C14	0.044	C14	0.041
N+8.43	C14	TUB40.60X12.7MM								
		C18(C)	0.112	=	0.013 + 0.021 + 0.097		C14	0.010	C18	0.016
N+3.74	C14	TUB40.60X12.7MM								
		C18(C)	0.156	=	0.023 + 0.042 + 0.126		C14	0.007	C18	0.020
N+8.43	C15	TUB40.60X12.7MM								
		C18(C)	0.130	=	0.016 + 0.023 + 0.111		C14	0.011	C18	0.014
N+3.74	C15	TUB40.60X12.7MM								
		C18(C)	0.153	=	0.015 + 0.034 + 0.134		C14	0.035	C18	0.015
N+8.43	C16	TUB40.60X12.7MM								
		C18(C)	0.115	=	0.013 + 0.021 + 0.100		C14	0.010	C18	0.017
N+3.74	C16	TUB40.60X12.7MM								
		C18(C)	0.160	=	0.023 + 0.042 + 0.131		C14	0.007	C18	0.020
N+8.43	C17	TUB40.60X12.7MM								
		C18(C)	0.130	=	0.016 + 0.023 + 0.111		C14	0.012	C18	0.013
N+3.74	C17	TUB40.60X12.7MM								
		C18(C)	0.150	=	0.015 + 0.024 + 0.133		C14	0.040	C18	0.023
N+8.43	C18	TUB40.60X12.7MM								
		C18(C)	0.118	=	0.013 + 0.021 + 0.103		C14	0.010	C18	0.017



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 40 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

N+3.74	C18	TUB40.60X12.7MM	C18(C)	0.166	= 0.023 + 0.042 + 0.137	C14	0.007	C18	0.021
N+8.43	C19	TUB40.60X12.7MM	C18(C)	0.144	= 0.016 + 0.024 + 0.125	C14	0.013	C18	0.020
N+3.74	C19	TUB40.60X12.7MM	C18(C)	0.155	= 0.030 + 0.046 + 0.117	C14	0.013	C18	0.013
N+8.43	C20	TUB40.60X12.7MM	C18(C)	0.118	= 0.013 + 0.021 + 0.103	C14	0.013	C18	0.015
N+3.74	C20	TUB40.60X12.7MM	C18(C)	0.165	= 0.028 + 0.048 + 0.128	C14	0.011	C18	0.016
N+8.43	C21	TUB40.60X12.7MM	C18(C)	0.207	= 0.015 + 0.056 + 0.184	C14	0.016	C18	0.031
N+3.74	C21	TUB40.60X12.7MM	C18(C)	0.197	= 0.029 + 0.032 + 0.165	C14	0.008	C18	0.030
N+8.43	C22	TUB40.60X12.7MM	C18(C)	0.155	= 0.014 + 0.039 + 0.135	C14	0.013	C18	0.024
N+3.74	C22	TUB40.60X12.7MM	C18(C)	0.226	= 0.028 + 0.061 + 0.188	C14	0.015	C18	0.035
N+8.43	C23	TUB40.60X12.7MM	C18(C)	0.142	= 0.014 + 0.024 + 0.126	C14	0.013	C18	0.022
N+3.74	C23	TUB40.60X12.7MM	C18(C)	0.171	= 0.023 + 0.029 + 0.145	C14	0.005	C18	0.018
N+8.43	C24	TUB40.60X12.7MM	C18(C)	0.128	= 0.013 + 0.020 + 0.113	C14	0.010	C18	0.019
N+3.74	C24	TUB40.60X12.7MM	C18(C)	0.186	= 0.023 + 0.047 + 0.156	C14	0.007	C18	0.022
N+8.43	C25	TUB40.60X12.7MM	C18(C)	0.141	= 0.014 + 0.024 + 0.125	C14	0.012	C18	0.021
N+3.74	C25	TUB40.60X12.7MM	C18(C)	0.190	= 0.023 + 0.028 + 0.165	C14	0.005	C18	0.022
N+8.43	C26	TUB40.60X12.7MM	C18(C)	0.134	= 0.014 + 0.020 + 0.119	C14	0.010	C18	0.020
N+3.74	C26	TUB40.60X12.7MM	C18(C)	0.194	= 0.023 + 0.047 + 0.164	C14	0.007	C18	0.023
N+8.43	C27	TUB40.60X12.7MM	C18(C)	0.143	= 0.014 + 0.024 + 0.127	C14	0.012	C18	0.021
N+3.74	C27	TUB40.60X12.7MM	C18(C)	0.202	= 0.023 + 0.027 + 0.177	C14	0.005	C18	0.023
N+8.43	C28	TUB40.60X12.7MM	C18(C)	0.140	= 0.014 + 0.020 + 0.125	C14	0.010	C18	0.021
N+3.74	C28	TUB40.60X12.7MM	C18(C)	0.202	= 0.023 + 0.045 + 0.173	C14	0.007	C18	0.023
N+8.43	C29	TUB40.60X12.7MM	C18(C)	0.147	= 0.014 + 0.022 + 0.131	C14	0.012	C18	0.021
N+3.74	C29	TUB40.60X12.7MM	C18(C)	0.207	= 0.023 + 0.026 + 0.182	C14	0.005	C18	0.024
N+8.43	C30	TUB40.60X12.7MM	C18(C)	0.147	= 0.014 + 0.020 + 0.132	C14	0.010	C18	0.022
N+3.74	C30	TUB40.60X12.7MM	C18(C)	0.208	= 0.023 + 0.044 + 0.180	C14	0.007	C18	0.023
N+8.43	C31	TUB40.60X12.7MM	C18(C)	0.154	= 0.013 + 0.041 + 0.134	C14	0.016	C18	0.022
N+3.74	C31	TUB40.60X12.7MM	C18(C)	0.204	= 0.023 + 0.027 + 0.179	C14	0.005	C18	0.022
N+8.43	C32	TUB40.60X12.7MM	C18(C)	0.155	= 0.014 + 0.037 + 0.137	C14	0.013	C18	0.022
N+3.74	C32	TUB40.60X12.7MM	C18(C)	0.208	= 0.023 + 0.040 + 0.181	C14	0.006	C18	0.022
N+8.43	C33	TUB40.60X12.7MM	C18(C)	0.221	= 0.019 + 0.100 + 0.176	C14	0.020	C18	0.033
N+3.74	C33	TUB40.60X12.7MM	C18(C)	0.249	= 0.031 + 0.027 + 0.216	C14	0.004	C18	0.034
N+8.43	C34	TUB40.60X12.7MM	C18(C)	0.229	= 0.018 + 0.108 + 0.181	C14	0.021	C18	0.034
N+3.74	C34	TUB40.60X12.7MM	C18(C)	0.261	= 0.031 + 0.047 + 0.225	C14	0.009	C18	0.035
N+3.74	C120-1	TUB40.60X12.7MM	C14(C)	0.173	= 0.021 + 0.094 + 0.119	C14	0.027	C14	0.059
N+3.74	C170-1	TUB40.60X12.7MM				C14	0.045	C18	0.047

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 41 DE 59
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N+3.74	C172-1	TUB40.60X12.7MM	C2(C)	0.215 = 0.010 + 0.064 + 0.194	C14	0.023	C18	0.043
N+3.74	C174-1	TUB40.60X12.7MM	C2(C)	0.165 = 0.009 + 0.014 + 0.155	C14	0.017	C18	0.039
N+3.74	C176-1	TUB40.60X12.7MM	C2(C)	0.169 = 0.012 + 0.011 + 0.157	C14	0.039	C18	0.040
			C2(C)	0.165 = 0.011 + 0.007 + 0.154				

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BEAM STEEL STRESS CHECK OUTPUT (AISC360-05/IBC2006)

STORY LEVEL	BEAM BAY	SECTION ID	/-----MOMENT INTERACTION CHECK-----//						----SHEAR22----		----SHEAR33----	
			COMBO	RATIO	=	AXL +	B33 +	B22	COMBO	RATIO	COMBO	RATIO
N+8.43	B1	IPE400							C18	0.059	C18	0.000
			C18(C)	0.214	=	0.003	+ 0.210	+ 0.001				
			C14(T)	0.108	=	0.000	+ 0.107	+ 0.001				
N+3.74	B1	IPE400							C18	0.092	C18	0.000
			C18(C)	0.413	=	0.006	+ 0.406	+ 0.001				
N+8.43	B4	IPE400							C2	0.088	C18	0.000
			C18(C)	0.223	=	0.000	+ 0.223	+ 0.000				
N+3.74	B6	IPE300							C2	0.082	C18	0.000
			C2(T)	0.285	=	0.000	+ 0.285	+ 0.000				
N+8.43	B7	IPE400							C2	0.087	C18	0.000
			C18(C)	0.216	=	0.000	+ 0.216	+ 0.000				
N+3.74	B9	IPE300							C2	0.115	C18	0.000
			C2(C)	0.398	=	0.000	+ 0.398	+ 0.000				
N+8.43	B10	IPE400							C18	0.089	C18	0.000
			C18(C)	0.241	=	0.000	+ 0.241	+ 0.000				
N+3.74	B12	IPE300							C2	0.115	C18	0.000
			C2(C)	0.398	=	0.000	+ 0.398	+ 0.000				
N+8.43	B13	IPE400							C18	0.089	C18	0.000
			C18(C)	0.235	=	0.000	+ 0.235	+ 0.000				
N+3.74	B15	IPE300							C2	0.115	C18	0.000
			C2(C)	0.398	=	0.000	+ 0.398	+ 0.000				
N+8.43	B16	IPE400							C18	0.088	C18	0.000
			C18(C)	0.227	=	0.000	+ 0.227	+ 0.000				
N+3.74	B18	IPE300							C2	0.115	C18	0.000
			C2(C)	0.398	=	0.000	+ 0.398	+ 0.001				
N+8.43	B19	IPE400							C18	0.088	C18	0.000
			C18(C)	0.224	=	0.000	+ 0.224	+ 0.000				
N+3.74	B21	IPE300							C2	0.115	C14	0.000
			C2(C)	0.399	=	0.000	+ 0.398	+ 0.001				
N+8.43	B22	IPE400							C18	0.088	C18	0.000
			C18(C)	0.223	=	0.000	+ 0.223	+ 0.000				
N+3.74	B24	IPE300							C2	0.115	C14	0.000
			C2(C)	0.400	=	0.000	+ 0.398	+ 0.002				
N+8.43	B25	IPE400							C18	0.092	C18	0.000
			C18(C)	0.251	=	0.000	+ 0.251	+ 0.000				
N+3.74	B27	IPE300							C2	0.066	C18	0.000
			C2(C)	0.232	=	0.002	+ 0.229	+ 0.002				
N+8.43	B28	IPE400							C18	0.094	C18	0.000
			C18(C)	0.278	=	0.000	+ 0.278	+ 0.000				
N+8.43	B31	IPE400							C18	0.092	C18	0.000
			C18(C)	0.256	=	0.000	+ 0.256	+ 0.000				
N+3.74	B32	IPE300							C2	0.115	C18	0.000
			C2(T)	0.399	=	0.000	+ 0.398	+ 0.001				
N+3.74	B33	IPE300							C2	0.115	C14	0.000
			C2(T)	0.402	=	0.000	+ 0.398	+ 0.004				
N+8.43	B34	IPE400							C18	0.092	C18	0.000
			C18(C)	0.254	=	0.000	+ 0.254	+ 0.000				
N+3.74	B35	IPE300							C2	0.115	C14	0.000
			C2(C)	0.398	=	0.000	+ 0.398	+ 0.001				
			C1(T)	0.219	=	0.000	+ 0.219	+ 0.000				
N+3.74	B36	IPE300							C2	0.115	C14	0.000
			C2(T)	0.401	=	0.000	+ 0.398	+ 0.003				
N+8.43	B37	IPE400							C18	0.092	C18	0.000
			C18(C)	0.257	=	0.000	+ 0.257	+ 0.000				



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 42 DE 59
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N+3.74	B38	IPE300	C2(T)	0.398 = 0.000 + 0.398 + 0.000	C2	0.115	C14	0.000
N+3.74	B39	IPE300	C2(T)	0.400 = 0.000 + 0.398 + 0.002	C2	0.115	C18	0.000
N+8.43	B40	IPE400	C18(C)	0.264 = 0.000 + 0.264 + 0.000	C18	0.093	C18	0.000
N+3.74	B41	IPE300	C2(T)	0.398 = 0.000 + 0.398 + 0.000	C2	0.115	C14	0.000
N+3.74	B42	IPE300	C2(T)	0.399 = 0.000 + 0.398 + 0.001	C2	0.115	C18	0.000
N+8.43	B43	IPE400	C18(C)	0.277 = 0.000 + 0.277 + 0.000	C18	0.095	C18	0.000
N+3.74	B44	IPE300	C2(T)	0.347 = 0.000 + 0.347 + 0.000	C2	0.100	C14	0.000
N+3.74	B45	IPE300	C2(T)	0.348 = 0.000 + 0.347 + 0.001	C2	0.100	C14	0.000
N+8.43	B46	IPE400	C18(C)	0.321 = 0.000 + 0.321 + 0.000	C18	0.101	C18	0.000
N+8.43	B49	IPE240	C14(C)	0.241 = 0.001 + 0.240 + 0.000	C14	0.094	C18	0.000
N+3.74	B49	IPE400	C14(C)	0.215 = 0.002 + 0.174 + 0.038	C14	0.093	C18	0.006
N+8.43	B50	IPE240	C14(C)	0.223 = 0.000 + 0.223 + 0.000	C14	0.089	C18	0.000
N+3.74	B50	IPE240	C14(C)	0.135 = 0.012 + 0.121 + 0.002	C14	0.032	C18	0.000
N+8.43	B51	IPE240	C14(C)	0.212 = 0.000 + 0.212 + 0.000	C14	0.086	C18	0.000
N+3.74	B51	IPE240	C14(C)	0.186 = 0.026 + 0.149 + 0.011	C14	0.040	C18	0.001
N+8.43	B52	IPE240	C14(C)	0.215 = 0.000 + 0.215 + 0.000	C14	0.087	C18	0.000
N+3.74	B52	IPE240	C14(C)	0.168 = 0.012 + 0.148 + 0.008	C14	0.041	C18	0.000
N+8.43	B53	IPE240	C14(C)	0.218 = 0.000 + 0.218 + 0.000	C14	0.087	C18	0.000
N+3.74	B53	IPE240	C14(C)	0.156 = 0.010 + 0.140 + 0.006	C14	0.039	C18	0.000
N+8.43	B54	IPE240	C14(C)	0.219 = 0.000 + 0.219 + 0.000	C14	0.088	C18	0.000
N+3.74	B54	IPE240	C14(C)	0.163 = 0.020 + 0.137 + 0.005	C14	0.038	C18	0.000
N+8.43	B55	IPE240	C2(T)	0.040 = 0.001 + 0.034 + 0.005	C14	0.088	C18	0.000
N+3.74	B55	IPE240	C14(C)	0.222 = 0.000 + 0.222 + 0.000	C14	0.037	C18	0.000
N+8.43	B56	IPE240	C14(C)	0.174 = 0.036 + 0.134 + 0.004	C14	0.089	C18	0.000
N+3.74	B56	IPE240	C2(T)	0.034 = 0.001 + 0.030 + 0.003	C14	0.035	C18	0.000
N+8.43	B57	IPE240	C14(C)	0.227 = 0.000 + 0.227 + 0.000	C14	0.091	C18	0.000
N+3.74	B57	IPE400	C14(C)	0.191 = 0.058 + 0.124 + 0.010	C2	0.138	C18	0.035
N+8.43	B58	IPE240	C14(C)	0.283 = 0.018 + 0.139 + 0.126	C14	0.091	C18	0.000
N+3.74	B58	IPE240	C14(C)	0.232 = 0.000 + 0.232 + 0.000	C14	0.079	C18	0.000
N+8.43	B59	IPE240	C14(C)	0.197 = 0.014 + 0.183 + 0.000	C14	0.089	C18	0.000
N+3.74	B59	IPE240	C2(T)	0.115 = 0.003 + 0.112 + 0.000	C14	0.083	C18	0.000
N+8.43	B60	IPE240	C14(T)	0.203 = 0.007 + 0.195 + 0.001	C14	0.089	C18	0.000
N+3.74	B60	IPE240	C14(C)	0.224 = 0.000 + 0.224 + 0.000	C14	0.083	C18	0.000
			C14(T)	0.201 = 0.006 + 0.195 + 0.000				




Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 43 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

N+8.43	B61	IPE240	C14(C)	$0.225 = 0.000 + 0.225 + 0.000$	C14	0.089	C18	0.000
N+3.74	B61	IPE240	C14(C)	$0.202 = 0.007 + 0.195 + 0.000$	C14	0.083	C18	0.000
			C2(T)	$0.116 = 0.001 + 0.114 + 0.000$				
N+8.43	B62	IPE240	C14(C)	$0.198 = 0.000 + 0.198 + 0.000$	C14	0.085	C18	0.000
N+3.74	B62	IPE240	C14(C)	$0.211 = 0.009 + 0.201 + 0.000$	C14	0.084	C18	0.000
			C2(T)	$0.115 = 0.000 + 0.115 + 0.000$				
N+8.43	B63	IPE300	C14(C)	$0.300 = 0.000 + 0.300 + 0.000$	C14	0.096	C18	0.000
N+3.74	B63	IPE240	C14(C)	$0.204 = 0.012 + 0.192 + 0.000$	C14	0.083	C18	0.000
N+8.43	B64	IPE240	C14(C)	$0.225 = 0.001 + 0.223 + 0.000$	C14	0.090	C18	0.000
N+3.74	B64	IPE400	C14(T)	$0.189 = 0.001 + 0.187 + 0.001$	C14	0.111	C18	0.000
N+8.43	B65	IPE240	C14(C)	$0.207 = 0.000 + 0.207 + 0.000$	C14	0.086	C18	0.000
N+3.74	B65	IPE240	C14(T)	$0.187 = 0.002 + 0.184 + 0.000$	C14	0.079	C14	0.000
N+8.43	B66	IPE240	C14(C)	$0.201 = 0.000 + 0.201 + 0.000$	C14	0.084	C18	0.000
N+3.74	B66	IPE240	C14(C)	$0.204 = 0.005 + 0.198 + 0.000$	C14	0.084	C18	0.000
			C2(T)	$0.115 = 0.001 + 0.114 + 0.000$				
N+8.43	B67	IPE240	C14(C)	$0.202 = 0.000 + 0.202 + 0.000$	C14	0.084	C18	0.000
N+3.74	B67	IPE240	C14(C)	$0.207 = 0.009 + 0.197 + 0.000$	C14	0.084	C18	0.000
			C1(T)	$0.059 = 0.000 + 0.059 + 0.000$				
N+8.43	B68	IPE240	C14(C)	$0.203 = 0.000 + 0.203 + 0.000$	C14	0.084	C18	0.000
N+3.74	B68	IPE240	C14(C)	$0.209 = 0.011 + 0.197 + 0.001$	C14	0.084	C14	0.000
N+8.43	B69	IPE240	C14(C)	$0.203 = 0.000 + 0.203 + 0.000$	C14	0.084	C18	0.000
N+3.74	B69	IPE240	C14(C)	$0.207 = 0.010 + 0.197 + 0.001$	C14	0.084	C18	0.000
N+8.43	B70	IPE240	C14(C)	$0.203 = 0.000 + 0.203 + 0.000$	C14	0.084	C18	0.000
N+3.74	B70	IPE240	C14(T)	$0.202 = 0.003 + 0.197 + 0.001$	C14	0.084	C14	0.000
N+8.43	B71	IPE240	C14(C)	$0.206 = 0.000 + 0.206 + 0.000$	C14	0.085	C18	0.000
N+3.74	B71	IPE240	C14(T)	$0.196 = 0.010 + 0.184 + 0.002$	C14	0.082	C18	0.000
N+8.43	B72	IPE240	C14(C)	$0.213 = 0.000 + 0.213 + 0.000$	C14	0.086	C18	0.000
N+3.74	B72	IPE400	C14(T)	$0.172 = 0.003 + 0.166 + 0.003$	C14	0.129	C18	0.004
N+8.43	B73	IPE240	C14(C)	$0.206 = 0.000 + 0.206 + 0.000$	C14	0.086	C18	0.000
N+3.74	B73	IPE240	C14(C)	$0.200 = 0.012 + 0.187 + 0.001$	C14	0.080	C18	0.000
N+8.43	B74	IPE240	C14(C)	$0.202 = 0.000 + 0.202 + 0.000$	C14	0.084	C18	0.000
N+3.74	B74	IPE240	C14(C)	$0.214 = 0.015 + 0.198 + 0.000$	C14	0.084	C18	0.000
N+8.43	B75	IPE240	C14(C)	$0.202 = 0.000 + 0.202 + 0.000$	C14	0.084	C18	0.000
N+3.74	B75	IPE240	C14(C)	$0.217 = 0.019 + 0.197 + 0.001$	C14	0.084	C18	0.000
N+8.43	B76	IPE240	C14(C)	$0.204 = 0.000 + 0.204 + 0.000$	C14	0.084	C18	0.000
N+3.74	B76	IPE240	C14(C)	$0.216 = 0.018 + 0.197 + 0.000$	C14	0.084	C18	0.000
N+8.43	B77	IPE240			C14	0.082	C18	0.000




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Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 44 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

N+3.74	B77	IPE240	C14(C)	0.195 = 0.000 + 0.195 + 0.000	C14	0.085	C18	0.000
N+8.43	B78	IPE300	C14(C)	0.218 = 0.015 + 0.202 + 0.001	C14	0.091	C18	0.000
N+3.74	B78	IPE240	C14(C)	0.278 = 0.000 + 0.278 + 0.000	C14	0.084	C18	0.000
N+3.74	B93	IPE240	C14(C)	0.207 = 0.014 + 0.193 + 0.000	C2	0.103	C18	0.000
			C18(C)	0.177 = 0.002 + 0.175 + 0.001				
			C2(T)	0.224 = 0.000 + 0.224 + 0.000				
N+3.74	B108	IPE240	C18(C)	0.177 = 0.002 + 0.175 + 0.001	C2	0.103	C18	0.000
			C2(T)	0.225 = 0.000 + 0.224 + 0.000				
N+3.74	B112	IPE400	C18(C)	0.385 = 0.002 + 0.378 + 0.005	C14	0.131	C14	0.001
			C18(T)	0.360 = 0.001 + 0.350 + 0.009				
N+3.74	B116	TUB300X100X7.0MM	C2(C)	0.825 = 0.009 + 0.816 + 0.000	C14	0.105	C18	0.000
N+3.74	B150	TUB300X100X7.0MM	C2(C)	0.912 = 0.016 + 0.896 + 0.000	C2	0.121	C18	0.000
N+3.74	B153	IPE400	C18(T)	0.012 = 0.000 + 0.000 + 0.012	C1	0.001	C18	0.001
N+3.74	B154	IPE400	C18(T)	0.016 = 0.000 + 0.000 + 0.016	C1	0.001	C18	0.001
N+3.74	B155	IPE400	C18(T)	0.018 = 0.000 + 0.000 + 0.018	C1	0.001	C18	0.001
N+3.74	B156	IPE400	C18(T)	0.019 = 0.000 + 0.000 + 0.019	C1	0.001	C18	0.001
N+3.74	B157	IPE400	C18(T)	0.020 = 0.000 + 0.000 + 0.020	C1	0.001	C18	0.001
N+3.74	B158	IPE400	C18(C)	0.022 = 0.000 + 0.000 + 0.022				
			C1(T)	0.005 = 0.000 + 0.001 + 0.005				
N+3.74	B159	IPE400	C18(T)	0.030 = 0.004 + 0.000 + 0.027	C1	0.001	C18	0.001
N+3.74	B160	IPE400	C18(C)	0.010 = 0.000 + 0.000 + 0.010	C1	0.001	C18	0.001
N+3.74	B161	IPE400	C18(C)	0.011 = 0.000 + 0.000 + 0.011	C1	0.001	C18	0.001
N+3.74	B162	IPE400	C18(T)	0.011 = 0.000 + 0.000 + 0.011	C1	0.001	C18	0.001
N+3.74	B163	IPE400	C18(T)	0.012 = 0.000 + 0.000 + 0.012	C1	0.001	C18	0.001
N+3.74	B164	IPE400	C18(C)	0.012 = 0.000 + 0.000 + 0.012	C1	0.001	C18	0.001
N+3.74	B165	IPE400	C18(C)	0.012 = 0.000 + 0.000 + 0.012	C1	0.001	C18	0.001
N+3.74	B166	IPE400	C18(T)	0.009 = 0.000 + 0.000 + 0.009	C1	0.001	C18	0.001
N+3.74	B170	IPE270	C2(T)	0.167 = 0.012 + 0.154 + 0.001	C14	0.045	C14	0.000
N+3.74	B172	IPE270	C2(T)	0.147 = 0.006 + 0.140 + 0.002	C14	0.040	C14	0.000
N+3.74	B173	IPE270	C14(C)	0.202 = 0.051 + 0.148 + 0.003	C14	0.064	C18	0.000
N+3.74	B174	IPE270	C2(T)	0.162 = 0.005 + 0.156 + 0.001	C14	0.042	C18	0.000
N+3.74	B175	IPE270	C2(C)	0.150 = 0.001 + 0.138 + 0.011	C2	0.063	C14	0.000
N+3.74	B179	IPE400	C14(C)	0.120 = 0.002 + 0.105 + 0.012	C18	0.127	C14	0.076
			C14(T)	0.259 = 0.015 + 0.103 + 0.141				
N+3.74	B180	IPE400	C14(T)	0.289 = 0.007 + 0.158 + 0.124	C2	0.135	C14	0.072
N+3.74	B183	IPE270	C2(T)	0.318 = 0.001 + 0.305 + 0.011	C2	0.133	C14	0.000
N+3.74	B184	IPE270	C2(C)	0.147 = 0.001 + 0.138 + 0.008	C2	0.063	C14	0.000
N+3.74	B187	IPE400			C18	0.109	C14	0.074

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	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 45 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

			C18(C)	0.126	= 0.002 + 0.113 + 0.011				
			C18(T)	0.228	= 0.012 + 0.086 + 0.130				
N+3.74	B188	IPE400				C2	0.120	C14	0.027
			C2(C)	0.260	= 0.004 + 0.219 + 0.038				
			C2(T)	0.236	= 0.001 + 0.219 + 0.016				
N+3.74	B191	IPE400				C2	0.157	C14	0.028
			C18(C)	0.303	= 0.013 + 0.200 + 0.090				
			C2(T)	0.256	= 0.001 + 0.237 + 0.018				
N+3.74	B192	IPE400				C18	0.103	C14	0.055
			C18(C)	0.130	= 0.004 + 0.099 + 0.028				
			C18(T)	0.175	= 0.004 + 0.118 + 0.052				
N+3.74	B195	IPE400				C2	0.146	C14	0.018
			C2(C)	0.358	= 0.010 + 0.240 + 0.107				
			C2(T)	0.245	= 0.003 + 0.241 + 0.001				
N+3.74	B196	IPE400				C18	0.098	C14	0.060
			C18(C)	0.170	= 0.004 + 0.100 + 0.066				
N+3.74	B197	IPE400				C18	0.101	C14	0.067
			C18(T)	0.188	= 0.009 + 0.106 + 0.073				
N+3.74	B198	IPE400				C2	0.139	C2	0.000
			C2(C)	0.268	= 0.001 + 0.252 + 0.015				
			C2(T)	0.266	= 0.001 + 0.250 + 0.015				
N+3.74	B203	IPE400				C18	0.098	C18	0.000
			C18(T)	0.355	= 0.001 + 0.352 + 0.002				
N+8.43	B218	IPE200				C2	0.054	C18	0.000
			C2(C)	0.192	= 0.000 + 0.192 + 0.000				
			C18(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B219	IPE200				C2	0.060	C18	0.000
			C2(C)	0.244	= 0.000 + 0.244 + 0.000				
			C18(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B220	IPE200				C2	0.103	C18	0.000
			C2(C)	0.421	= 0.000 + 0.421 + 0.000				
N+8.43	B221	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B222	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C14(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B223	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C18(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B224	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C1(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B225	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B226	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B227	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C2(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B228	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C18(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B229	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C2(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B230	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C1(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B231	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C2(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B232	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C1(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B233	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B234	IPE200				C2	0.049	C18	0.000
			C2(T)	0.201	= 0.000 + 0.201 + 0.000				
N+8.43	B249	IPE200				C2	0.053	C18	0.000

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
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	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 46 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

			C2(C)	0.189	= 0.000 + 0.189 + 0.000				
			C18(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B250	IPE200				C2	0.061	C18	0.000
			C2(C)	0.249	= 0.000 + 0.249 + 0.000				
			C18(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B251	IPE200				C2	0.102	C18	0.000
			C2(C)	0.419	= 0.000 + 0.419 + 0.000				
N+8.43	B252	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B253	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C2(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B254	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C1(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B255	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B256	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B257	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B258	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B259	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C2(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B260	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
			C2(T)	0.000	= 0.000 + 0.000 + 0.000				
N+8.43	B261	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B262	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B263	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B264	IPE200				C2	0.049	C18	0.000
			C2(T)	0.201	= 0.001 + 0.201 + 0.000				
N+8.43	B265	IPE200				C2	0.097	C18	0.000
			C2(C)	0.399	= 0.000 + 0.399 + 0.000				
N+8.43	B296	IPE300				C2	0.136	C18	0.000
			C2(C)	0.490	= 0.000 + 0.490 + 0.000				
			C18(T)	0.000	= 0.000 + 0.000 + 0.000				
N+3.74	B296	IPE240				C2	0.070	C18	0.000
			C2(C)	0.183	= 0.000 + 0.183 + 0.000				
N+8.43	B297	IPE300				C2	0.135	C18	0.000
			C2(C)	0.487	= 0.000 + 0.487 + 0.000				
			C18(T)	0.000	= 0.000 + 0.000 + 0.000				
N+3.74	B297	IPE240				C2	0.070	C18	0.000
			C2(C)	0.183	= 0.000 + 0.183 + 0.000				
N+8.43	B298	IPE200				C2	0.038	C18	0.000
			C2(C)	0.180	= 0.000 + 0.180 + 0.000				
N+8.43	B299	IPE240				C2	0.104	C18	0.000
			C2(C)	0.539	= 0.000 + 0.539 + 0.000				
N+8.43	B300	IPE200				C2	0.037	C18	0.000
			C2(C)	0.175	= 0.000 + 0.175 + 0.000				
N+8.43	B301	IPE200				C2	0.036	C18	0.000
			C18(C)	0.103	= 0.000 + 0.103 + 0.000				
N+8.43	B302	IPE200				C2	0.036	C18	0.000
			C18(C)	0.099	= 0.000 + 0.099 + 0.000				
N+3.74	B352	IPE240				C2	0.078	C18	0.000
			C2(C)	0.224	= 0.000 + 0.224 + 0.000				
N+3.74	B353	IPE240				C2	0.078	C14	0.000
			C2(C)	0.224	= 0.000 + 0.224 + 0.000				

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B R A C E S T E E L S T R E S S C H E C K O U T P U T (AISC360-05/IBC2006)

STORY BRACE SECTION /-----MOMENT INTERACTION CHECK-----//-----SHEAR22---//-----SHEAR33---/

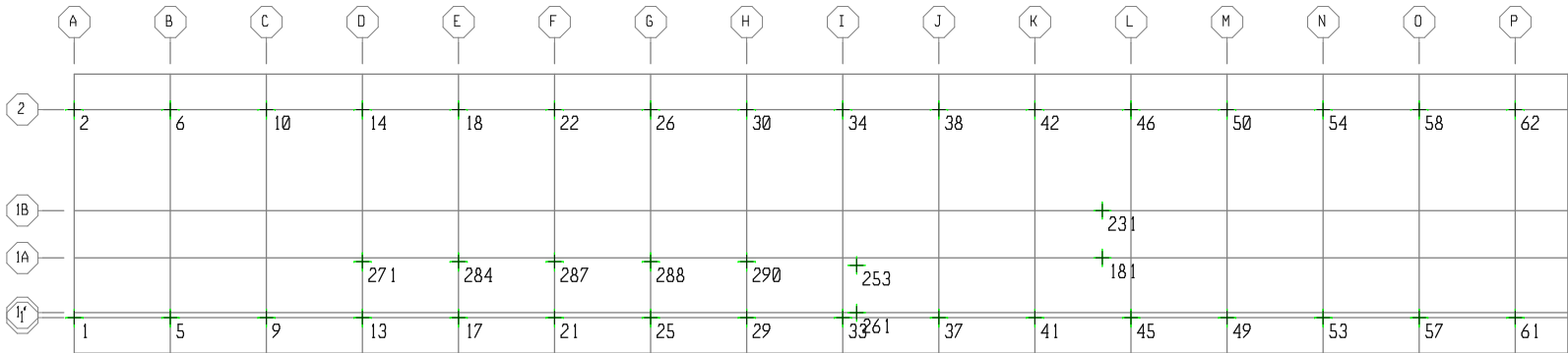



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 47 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

LEVEL	BAY	ID	COMBO	RATIO	=	AXL	+	B33	+	B22	COMBO	RATIO	COMBO	RATIO
N+3.74	D1	TUB300X100X7.0MM	C2(C)	0.858	=	0.038	+	0.816	+	0.004	C2	0.079	C14	0.125
N+3.74	D2	TUB300X100X7.0MM	C14(C)	0.443	=	0.048	+	0.385	+	0.010	C2	0.048	C18	0.010
N+3.74	D34	TUB300X100X7.0MM	C2(C)	0.948	=	0.051	+	0.896	+	0.001	C2	0.083	C14	0.121
N+3.74	D35	TUB300X100X7.0MM	C14(C)	0.382	=	0.054	+	0.314	+	0.014	C2	0.045	C18	0.010
N+3.74	D48	IPE270	C2(C)	0.168	=	0.031	+	0.134	+	0.003	C2	0.016	C14	0.000
N+3.74	D50	IPE270	C14(T)	0.057	=	0.043	+	0.006	+	0.009	C1	0.003	C14	0.000
N+3.74	D51	IPE270	C14(C)	0.261	=	0.249	+	0.006	+	0.006	C1	0.003	C14	0.000
N+3.74	D53	IPE270	C18(C)	0.011	=	0.011	+	0.000	+	0.000	C2	0.017	C14	0.000
N+3.74	D55	IPE270	C2(T)	0.144	=	0.004	+	0.138	+	0.002	C1	0.003	C18	0.000
N+3.74	D56	IPE270	C14(C)	0.026	=	0.026	+	0.000	+	0.000	C1	0.003	C14	0.000
N+3.74	D56	IPE270	C18(T)	0.017	=	0.007	+	0.009	+	0.001	C1	0.003	C14	0.000
N+3.74	D57	IPE270	C14(T)	0.024	=	0.017	+	0.006	+	0.001	C2	0.072	C2	0.000
N+3.74	D58	IPE270	C14(T)	0.155	=	0.023	+	0.129	+	0.003	C14	0.037	C14	0.000
N+3.74	D59	IPE270	C14(T)	0.145	=	0.016	+	0.117	+	0.012	C1	0.003	C14	0.000
N+3.74	D60	IPE270	C14(C)	0.027	=	0.027	+	0.000	+	0.000	C1	0.003	C18	0.000
N+3.74	D60	IPE270	C18(T)	0.016	=	0.006	+	0.006	+	0.004	C1	0.003	C18	0.000
N+3.74	D61	IPE270	C14(C)	0.017	=	0.017	+	0.000	+	0.000	C1	0.003	C14	0.000
N+3.74	D61	IPE270	C14(T)	0.022	=	0.012	+	0.009	+	0.001	C1	0.003	C14	0.000
N+3.74	D62	IPE270	C14(C)	0.020	=	0.020	+	0.000	+	0.000	C2	0.060	C14	0.000
N+3.74	D62	IPE270	C14(T)	0.020	=	0.014	+	0.006	+	0.001	C14	0.036	C14	0.000
N+3.74	D63	IPE270	C14(T)	0.118	=	0.010	+	0.106	+	0.002	C1	0.003	C14	0.000
N+3.74	D64	IPE270	C14(T)	0.141	=	0.017	+	0.113	+	0.011	C2	0.082	C14	0.000
N+3.74	D65	IPE270	C14(T)	0.038	=	0.029	+	0.006	+	0.004	C1	0.003	C18	0.000
N+3.74	D66	IPE270	C14(C)	0.202	=	0.039	+	0.148	+	0.016	C1	0.003	C18	0.000
N+3.74	D67	IPE270	C14(C)	0.110	=	0.099	+	0.006	+	0.004	C1	0.003	C18	0.000
N+3.74	D68	IPE270	C14(C)	0.083	=	0.083	+	0.000	+	0.000	C1	0.003	C14	0.000
N+3.74	D68	IPE270	C2(T)	0.021	=	0.005	+	0.009	+	0.006	C14	0.028	C18	0.000
N+3.74	D69	IPE270	C14(C)	0.269	=	0.261	+	0.006	+	0.003	C14	0.060	C14	0.000
N+3.74	D70	IPE270	C14(C)	0.146	=	0.047	+	0.086	+	0.013	C1	0.003	C14	0.000
N+3.74	D71	IPE270	C14(T)	0.140	=	0.014	+	0.110	+	0.017	C1	0.003	C18	0.000
N+3.74	D72	IPE270	C14(C)	0.087	=	0.087	+	0.000	+	0.000	C1	0.003	C14	0.000
N+3.74	D73	IPE270	C18(C)	0.381	=	0.370	+	0.009	+	0.003	C1	0.003	C14	0.000
N+3.74	D74	IPE270	C18(C)	0.048	=	0.048	+	0.000	+	0.000	C14	0.045	C18	0.000
N+3.74	D74	IPE270	C2(T)	0.015	=	0.005	+	0.006	+	0.004	C14	0.045	C18	0.000
N+3.74	D74	IPE270	C14(T)	0.167	=	0.015	+	0.141	+	0.012				

	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 48 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

ANEXO 7. REACCIONES DE CIMENTACION



	Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
	Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
	Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 49 DE 59
	Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

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L O A D I N G C O M B I N A T I O N S

COMBO	COMBO TYPE	CASE	CASE TYPE	SCALE FACTOR
CIM1	ADD	DEAD	Static	1.0000
CIM2	ADD	DEAD	Static	1.0000
		LIVE	Static	1.0000
CIM3	ADD	DEAD	Static	1.0000
		SISMOX	Spectra	0.2330
		SISMOY	Spectra	0.0700
CIM4	ADD	DEAD	Static	1.0000
		SISMOX	Spectra	0.0700
		SISMOY	Spectra	0.2330
CIM5	ADD	DEAD	Static	1.0000
		LIVE	Static	0.7500
		SISMOX	Spectra	0.1750
		SISMOY	Spectra	0.0530
CIM6	ADD	DEAD	Static	1.0000
		LIVE	Static	0.7500
		SISMOX	Spectra	0.0530
		SISMOY	Spectra	0.1750
CIM7	ADD	DEAD	Static	0.6000
		SISMOX	Spectra	0.2330
		SISMOY	Spectra	0.0700
CIM8	ADD	DEAD	Static	0.6000
		SISMOX	Spectra	0.0700
		SISMOY	Spectra	0.2330
ENVCIM	ENVE	CIM1	Combo	1.0000
		CIM2	Combo	1.0000
		CIM3	Combo	1.0000
		CIM4	Combo	1.0000
		CIM5	Combo	1.0000
		CIM6	Combo	1.0000
		CIM7	Combo	1.0000
		CIM8	Combo	1.0000

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S U P P O R T R E A C T I O N S

STORY	POINT	LOAD	FX	FY	FZ	MX	MY	MZ
BASE	1	CIM1	0.22	0.85	8.54	-1.522	0.212	-0.045
BASE	1	CIM2	0.42	1.67	13.42	-2.909	0.399	-0.068
BASE	1	CIM3 Max	1.34	1.61	11.58	0.616	3.345	0.034
BASE	1	CIM3 Min	-0.90	0.09	5.49	-3.660	-2.921	-0.124
BASE	1	CIM4 Max	0.71	2.72	10.96	4.052	1.561	0.104
BASE	1	CIM4 Min	-0.27	-1.02	6.11	-7.096	-1.136	-0.193
BASE	1	CIM5 Max	1.21	2.04	14.49	-0.947	2.707	-0.002
BASE	1	CIM5 Min	-0.47	0.89	9.91	-4.178	-2.001	-0.121
BASE	1	CIM6 Max	0.74	2.87	14.03	1.625	1.371	0.050
BASE	1	CIM6 Min	0.00	0.06	10.37	-6.750	-0.666	-0.173
BASE	1	CIM7 Max	1.25	1.27	8.17	1.225	3.260	0.052
BASE	1	CIM7 Min	-0.98	-0.25	2.08	-3.051	-3.006	-0.106
BASE	1	CIM8 Max	0.62	2.38	7.55	4.661	1.476	0.122
BASE	1	CIM8 Min	-0.35	-1.36	2.70	-6.487	-1.221	-0.175
BASE	1	ENVCIM Max	1.34	2.87	14.49	4.661	3.345	0.122
BASE	1	ENVCIM Min	-0.98	-1.36	2.08	-7.096	-3.006	-0.193
BASE	2	CIM1	0.13	-0.38	8.18	-0.063	0.035	0.063
BASE	2	CIM2	0.18	-0.80	12.82	0.026	-0.066	0.123
BASE	2	CIM3 Max	1.35	0.38	11.29	2.076	3.364	0.166
BASE	2	CIM3 Min	-1.09	-1.13	5.06	-2.203	-3.294	-0.040
BASE	2	CIM4 Max	0.84	1.50	10.66	5.510	1.884	0.206
BASE	2	CIM4 Min	-0.57	-2.25	5.70	-5.636	-1.814	-0.080
BASE	2	CIM5 Max	1.09	-0.12	14.00	1.620	2.461	0.186



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 50 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

BASE	2	CIM5 Min	-0.75	-1.26	9.32	-1.613	-2.542	0.030
BASE	2	CIM6 Max	0.71	0.72	13.53	4.190	1.354	0.215
BASE	2	CIM6 Min	-0.36	-2.10	9.80	-4.183	-1.435	0.001
BASE	2	CIM7 Max	1.30	0.53	8.02	2.101	3.350	0.141
BASE	2	CIM7 Min	-1.14	-0.98	1.79	-2.177	-3.308	-0.065
BASE	2	CIM8 Max	0.79	1.65	7.38	5.535	1.870	0.181
BASE	2	CIM8 Min	-0.63	-2.10	2.43	-5.611	-1.828	-0.105
BASE	2	ENVCIM Max	1.35	1.65	14.00	5.535	3.364	0.215
BASE	2	ENVCIM Min	-1.14	-2.25	1.79	-5.636	-3.308	-0.105
BASE	5	CIM1	-0.21	0.27	10.31	-1.151	-0.301	0.057
BASE	5	CIM2	-0.40	0.48	14.99	-2.014	-0.576	0.082
BASE	5	CIM3 Max	0.97	0.62	12.14	0.419	2.899	0.139
BASE	5	CIM3 Min	-1.38	-0.07	8.47	-2.721	-3.500	-0.025
BASE	5	CIM4 Max	0.31	1.18	11.56	3.194	1.078	0.241
BASE	5	CIM4 Min	-0.72	-0.63	9.05	-5.496	-1.679	-0.128
BASE	5	CIM5 Max	0.53	0.69	15.19	-0.611	1.897	0.138
BASE	5	CIM5 Min	-1.24	0.17	12.44	-2.985	-2.911	0.014
BASE	5	CIM6 Max	0.03	1.11	14.77	1.466	0.534	0.215
BASE	5	CIM6 Min	-0.74	-0.25	12.87	-5.062	-1.548	-0.063
BASE	5	CIM7 Max	1.05	0.51	8.02	0.880	3.019	0.116
BASE	5	CIM7 Min	-1.30	-0.18	4.35	-2.261	-3.380	-0.048
BASE	5	CIM8 Max	0.39	1.07	7.44	3.654	1.198	0.219
BASE	5	CIM8 Min	-0.64	-0.74	4.93	-5.035	-1.559	-0.151
BASE	5	ENVCIM Max	1.05	1.18	15.19	3.654	3.019	0.241
BASE	5	ENVCIM Min	-1.38	-0.74	4.35	-5.496	-3.500	-0.151
BASE	6	CIM1	-0.33	-0.31	12.91	-0.108	-0.523	-0.030
BASE	6	CIM2	-0.70	-0.56	20.27	-0.224	-1.123	-0.044
BASE	6	CIM3 Max	0.95	0.09	14.71	1.540	2.880	0.046
BASE	6	CIM3 Min	-1.61	-0.71	11.11	-1.756	-3.926	-0.105
BASE	6	CIM4 Max	0.41	0.68	14.20	4.349	1.371	0.116
BASE	6	CIM4 Min	-1.08	-1.30	11.61	-4.565	-2.417	-0.176
BASE	6	CIM5 Max	0.36	-0.19	19.78	1.051	1.585	0.016
BASE	6	CIM5 Min	-1.57	-0.80	17.08	-1.441	-3.530	-0.098
BASE	6	CIM6 Max	-0.05	0.24	19.41	3.153	0.456	0.069
BASE	6	CIM6 Min	-1.17	-1.24	17.45	-3.543	-2.401	-0.150
BASE	6	CIM7 Max	1.08	0.22	9.55	1.583	3.089	0.057
BASE	6	CIM7 Min	-1.48	-0.59	5.95	-1.713	-3.717	-0.093
BASE	6	CIM8 Max	0.54	0.80	9.04	4.392	1.580	0.128
BASE	6	CIM8 Min	-0.94	-1.17	6.45	-4.522	-2.208	-0.164
BASE	6	ENVCIM Max	1.08	0.80	20.27	4.392	3.089	0.128
BASE	6	ENVCIM Min	-1.61	-1.30	5.95	-4.565	-3.926	-0.176
BASE	9	CIM1	0.09	0.37	8.56	-1.323	0.054	-0.023
BASE	9	CIM2	0.16	0.63	11.68	-2.254	0.113	-0.042
BASE	9	CIM3 Max	0.62	0.67	8.83	0.148	2.480	0.046
BASE	9	CIM3 Min	-0.45	0.07	8.29	-2.794	-2.372	-0.092
BASE	9	CIM4 Max	0.34	1.23	9.24	2.885	1.114	0.156
BASE	9	CIM4 Min	-0.17	-0.49	7.88	-5.531	-1.005	-0.202
BASE	9	CIM5 Max	0.55	0.79	11.10	-0.909	1.921	0.015
BASE	9	CIM5 Min	-0.26	0.34	10.70	-3.134	-1.725	-0.089
BASE	9	CIM6 Max	0.33	1.21	11.41	1.140	0.898	0.098
BASE	9	CIM6 Min	-0.05	-0.08	10.39	-5.182	-0.702	-0.172
BASE	9	CIM7 Max	0.59	0.52	5.40	0.677	2.458	0.055
BASE	9	CIM7 Min	-0.49	-0.08	4.87	-2.265	-2.393	-0.083
BASE	9	CIM8 Max	0.30	1.09	5.82	3.414	1.092	0.165
BASE	9	CIM8 Min	-0.20	-0.64	4.45	-5.001	-1.027	-0.193
BASE	9	ENVCIM Max	0.62	1.23	11.68	3.414	2.480	0.165
BASE	9	ENVCIM Min	-0.49	-0.64	4.45	-5.531	-2.393	-0.202
BASE	10	CIM1	-0.08	-0.60	11.85	0.324	-0.228	-0.031
BASE	10	CIM2	-0.21	-1.07	18.29	0.517	-0.558	-0.048
BASE	10	CIM3 Max	0.58	-0.20	12.12	1.946	2.404	0.050
BASE	10	CIM3 Min	-0.74	-1.00	11.59	-1.299	-2.860	-0.111
BASE	10	CIM4 Max	0.36	0.44	12.53	4.846	1.288	0.121
BASE	10	CIM4 Min	-0.51	-1.64	11.17	-4.198	-1.744	-0.182
BASE	10	CIM5 Max	0.32	-0.65	16.88	1.696	1.503	0.017
BASE	10	CIM5 Min	-0.68	-1.25	16.48	-0.758	-2.454	-0.105



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
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Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 51 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

BASE	10	CIM6 Max	0.15	-0.17	17.19	3.866	0.668	0.070
BASE	10	CIM6 Min	-0.51	-1.73	16.17	-2.928	-1.618	-0.158
BASE	10	CIM7 Max	0.61	0.04	7.38	1.817	2.495	0.062
BASE	10	CIM7 Min	-0.71	-0.76	6.85	-1.428	-2.769	-0.099
BASE	10	CIM8 Max	0.39	0.68	7.79	4.716	1.379	0.134
BASE	10	CIM8 Min	-0.48	-1.40	6.43	-4.328	-1.653	-0.170
BASE	10	ENVCIM Max	0.61	0.68	18.29	4.846	2.495	0.134
BASE	10	ENVCIM Min	-0.74	-1.73	6.43	-4.328	-2.860	-0.182
BASE	13	CIM1	0.60	0.31	10.18	-0.793	0.579	-0.055
BASE	13	CIM2	1.25	0.69	14.90	-1.525	1.216	-0.109
BASE	13	CIM3 Max	1.89	2.09	11.78	0.915	1.212	0.207
BASE	13	CIM3 Min	-0.69	-1.46	8.58	-2.501	-0.054	-0.317
BASE	13	CIM4 Max	1.13	2.00	12.92	0.300	0.915	0.175
BASE	13	CIM4 Min	0.08	-1.37	7.45	-1.886	0.243	-0.284
BASE	13	CIM5 Max	2.06	1.93	14.93	-0.058	1.533	0.101
BASE	13	CIM5 Min	0.12	-0.74	12.51	-2.626	0.581	-0.293
BASE	13	CIM6 Max	1.48	1.87	15.78	-0.519	1.311	0.077
BASE	13	CIM6 Min	0.69	-0.67	11.66	-2.165	0.804	-0.269
BASE	13	CIM7 Max	1.65	1.96	7.71	1.232	0.981	0.229
BASE	13	CIM7 Min	-0.93	-1.59	4.51	-2.184	-0.285	-0.295
BASE	13	CIM8 Max	0.89	1.88	8.85	0.617	0.684	0.197
BASE	13	CIM8 Min	-0.16	-1.50	3.37	-1.568	0.012	-0.263
BASE	13	ENVCIM Max	2.06	2.09	15.78	1.232	1.533	0.229
BASE	13	ENVCIM Min	-0.93	-1.59	3.37	-2.626	-0.285	-0.317
BASE	14	CIM1	-0.09	-0.64	11.85	0.442	-0.252	-0.024
BASE	14	CIM2	-0.24	-1.13	18.30	0.703	-0.600	-0.043
BASE	14	CIM3 Max	0.58	-0.20	12.13	2.122	2.386	0.041
BASE	14	CIM3 Min	-0.76	-1.08	11.58	-1.239	-2.891	-0.089
BASE	14	CIM4 Max	0.35	0.41	12.62	5.005	1.276	0.123
BASE	14	CIM4 Min	-0.54	-1.70	11.09	-4.122	-1.780	-0.170
BASE	14	CIM5 Max	0.30	-0.68	16.90	1.908	1.470	0.011
BASE	14	CIM5 Min	-0.71	-1.34	16.49	-0.633	-2.496	-0.087
BASE	14	CIM6 Max	0.13	-0.22	17.27	4.066	0.639	0.072
BASE	14	CIM6 Min	-0.54	-1.80	16.12	-2.791	-1.665	-0.148
BASE	14	CIM7 Max	0.61	0.06	7.39	1.946	2.487	0.051
BASE	14	CIM7 Min	-0.73	-0.83	6.84	-1.416	-2.790	-0.079
BASE	14	CIM8 Max	0.39	0.67	7.88	4.829	1.376	0.132
BASE	14	CIM8 Min	-0.50	-1.44	6.35	-4.299	-1.679	-0.161
BASE	14	ENVCIM Max	0.61	0.67	18.30	5.005	2.487	0.132
BASE	14	ENVCIM Min	-0.76	-1.80	6.35	-4.299	-2.891	-0.170
BASE	17	CIM1	1.10	-1.54	9.11	0.903	0.952	-0.182
BASE	17	CIM2	2.32	-3.20	12.70	2.055	2.013	-0.382
BASE	17	CIM3 Max	1.41	-0.80	10.13	1.699	2.689	-0.065
BASE	17	CIM3 Min	0.79	-2.28	8.09	0.108	-0.784	-0.299
BASE	17	CIM4 Max	1.31	-0.60	11.73	2.174	1.682	-0.002
BASE	17	CIM4 Min	0.90	-2.48	6.49	-0.367	0.223	-0.363
BASE	17	CIM5 Max	2.24	-2.22	12.58	2.367	3.052	-0.244
BASE	17	CIM5 Min	1.78	-3.34	11.04	1.167	0.443	-0.420
BASE	17	CIM6 Max	2.17	-2.08	13.77	2.722	2.298	-0.196
BASE	17	CIM6 Min	1.86	-3.49	9.84	0.812	1.197	-0.467
BASE	17	CIM7 Max	0.97	-0.18	6.48	1.338	2.308	0.008
BASE	17	CIM7 Min	0.35	-1.67	4.45	-0.254	-1.165	-0.226
BASE	17	CIM8 Max	0.86	0.02	8.08	1.812	1.301	0.071
BASE	17	CIM8 Min	0.46	-1.86	2.85	-0.728	-0.158	-0.290
BASE	17	ENVCIM Max	2.32	0.02	13.77	2.722	3.052	0.071
BASE	17	ENVCIM Min	0.35	-3.49	2.85	-0.728	-1.165	-0.467
BASE	18	CIM1	-0.10	-0.68	11.85	0.552	-0.256	-0.022
BASE	18	CIM2	-0.24	-1.21	18.29	0.910	-0.604	-0.041
BASE	18	CIM3 Max	0.56	-0.21	12.10	2.270	2.349	0.048
BASE	18	CIM3 Min	-0.75	-1.15	11.60	-1.166	-2.861	-0.091
BASE	18	CIM4 Max	0.34	0.39	12.59	5.143	1.261	0.129
BASE	18	CIM4 Min	-0.53	-1.75	11.12	-4.038	-1.773	-0.173
BASE	18	CIM5 Max	0.28	-0.72	16.87	2.119	1.441	0.017
BASE	18	CIM5 Min	-0.70	-1.43	16.50	-0.478	-2.475	-0.089
BASE	18	CIM6 Max	0.12	-0.27	17.23	4.269	0.627	0.078



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 52 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

BASE	18	CIM6 Min	-0.54	-1.88	16.13	-2.628	-1.661	-0.150
BASE	18	CIM7 Max	0.60	0.06	7.36	2.049	2.451	0.057
BASE	18	CIM7 Min	-0.71	-0.88	6.86	-1.386	-2.759	-0.083
BASE	18	CIM8 Max	0.38	0.66	7.84	4.922	1.364	0.138
BASE	18	CIM8 Min	-0.49	-1.48	6.38	-4.259	-1.671	-0.164
BASE	18	ENVCIM Max	0.60	0.66	18.29	5.143	2.451	0.138
BASE	18	ENVCIM Min	-0.75	-1.88	6.38	-4.259	-2.861	-0.173
BASE	21	CIM1	1.90	-1.75	9.37	0.734	1.360	-0.086
BASE	21	CIM2	4.01	-3.64	13.25	1.728	2.870	-0.179
BASE	21	CIM3 Max	3.52	-0.41	10.98	2.147	4.456	-0.014
BASE	21	CIM3 Min	0.28	-3.09	7.77	-0.680	-1.736	-0.157
BASE	21	CIM4 Max	2.54	-0.80	12.31	3.051	2.576	0.086
BASE	21	CIM4 Min	1.26	-2.70	6.44	-1.584	0.143	-0.257
BASE	21	CIM5 Max	4.70	-2.16	13.49	2.544	4.818	-0.102
BASE	21	CIM5 Min	2.27	-4.18	11.07	0.414	0.166	-0.210
BASE	21	CIM6 Max	3.97	-2.45	14.49	3.221	3.411	-0.027
BASE	21	CIM6 Min	3.00	-3.88	10.07	-0.263	1.573	-0.284
BASE	21	CIM7 Max	2.76	0.29	7.23	1.853	3.912	0.020
BASE	21	CIM7 Min	-0.48	-2.39	4.02	-0.973	-2.280	-0.123
BASE	21	CIM8 Max	1.78	-0.10	8.56	2.758	2.032	0.120
BASE	21	CIM8 Min	0.50	-2.00	2.69	-1.877	-0.401	-0.223
BASE	21	ENVCIM Max	4.70	0.29	14.49	3.221	4.818	0.120
BASE	21	ENVCIM Min	-0.48	-4.18	2.69	-1.877	-2.280	-0.284
BASE	22	CIM1	-0.10	-0.73	11.87	0.696	-0.254	-0.044
BASE	22	CIM2	-0.24	-1.32	18.32	1.215	-0.596	-0.094
BASE	22	CIM3 Max	0.54	-0.27	12.11	2.391	2.310	0.026
BASE	22	CIM3 Min	-0.73	-1.19	11.63	-0.999	-2.817	-0.114
BASE	22	CIM4 Max	0.33	0.30	12.59	5.236	1.247	0.102
BASE	22	CIM4 Min	-0.52	-1.76	11.15	-3.844	-1.755	-0.190
BASE	22	CIM5 Max	0.27	-0.83	16.89	2.366	1.416	-0.029
BASE	22	CIM5 Min	-0.68	-1.52	16.52	-0.196	-2.438	-0.134
BASE	22	CIM6 Max	0.12	-0.40	17.25	4.496	0.621	0.029
BASE	22	CIM6 Min	-0.53	-1.95	16.16	-2.325	-1.642	-0.191
BASE	22	CIM7 Max	0.58	0.02	7.36	2.113	2.412	0.043
BASE	22	CIM7 Min	-0.69	-0.90	6.88	-1.277	-2.716	-0.096
BASE	22	CIM8 Max	0.37	0.59	7.84	4.958	1.349	0.120
BASE	22	CIM8 Min	-0.49	-1.47	6.40	-4.122	-1.653	-0.173
BASE	22	ENVCIM Max	0.58	0.59	18.32	5.236	2.412	0.120
BASE	22	ENVCIM Min	-0.73	-1.95	6.40	-4.122	-2.817	-0.191
BASE	25	CIM1	1.66	-0.15	10.40	-0.329	1.031	-0.137
BASE	25	CIM2	3.52	-0.24	15.43	-0.513	2.171	-0.290
BASE	25	CIM3 Max	2.71	0.39	11.47	0.594	3.563	-0.063
BASE	25	CIM3 Min	0.62	-0.70	9.32	-1.251	-1.502	-0.212
BASE	25	CIM4 Max	2.29	0.58	13.32	2.042	2.046	0.048
BASE	25	CIM4 Min	1.03	-0.89	7.47	-2.700	0.016	-0.322
BASE	25	CIM5 Max	3.84	0.19	14.98	0.230	3.788	-0.195
BASE	25	CIM5 Min	2.27	-0.63	13.36	-1.164	-0.017	-0.308
BASE	25	CIM6 Max	3.53	0.34	16.37	1.315	2.652	-0.113
BASE	25	CIM6 Min	2.58	-0.77	11.97	-2.248	1.119	-0.391
BASE	25	CIM7 Max	2.04	0.45	7.31	0.725	3.151	-0.008
BASE	25	CIM7 Min	-0.05	-0.64	5.16	-1.120	-1.914	-0.157
BASE	25	CIM8 Max	1.63	0.64	9.17	2.174	1.633	0.103
BASE	25	CIM8 Min	0.36	-0.83	3.31	-2.568	-0.397	-0.267
BASE	25	ENVCIM Max	3.84	0.64	16.37	2.174	3.788	0.103
BASE	25	ENVCIM Min	-0.05	-0.89	3.31	-2.700	-1.914	-0.391
BASE	26	CIM1	-0.09	-0.81	11.88	0.902	-0.251	-0.029
BASE	26	CIM2	-0.24	-1.51	18.34	1.677	-0.590	-0.065
BASE	26	CIM3 Max	0.52	-0.38	12.13	2.559	2.272	0.047
BASE	26	CIM3 Min	-0.71	-1.25	11.63	-0.755	-2.775	-0.105
BASE	26	CIM4 Max	0.33	0.13	12.62	5.322	1.233	0.121
BASE	26	CIM4 Min	-0.51	-1.76	11.14	-3.517	-1.736	-0.179
BASE	26	CIM5 Max	0.26	-1.01	16.91	2.736	1.391	0.001
BASE	26	CIM5 Min	-0.66	-1.66	16.54	0.231	-2.402	-0.113
BASE	26	CIM6 Max	0.12	-0.63	17.28	4.803	0.613	0.057
BASE	26	CIM6 Min	-0.52	-2.05	16.17	-1.837	-1.624	-0.169



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 53 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

BASE	26	CIM7 Max	0.56	-0.05	7.37	2.198	2.372	0.059
BASE	26	CIM7 Min	-0.67	-0.92	6.88	-1.116	-2.674	-0.093
BASE	26	CIM8 Max	0.36	0.46	7.87	4.961	1.333	0.133
BASE	26	CIM8 Min	-0.48	-1.43	6.39	-3.878	-1.635	-0.168
BASE	26	ENVCIM Max	0.56	0.46	18.34	5.322	2.372	0.133
BASE	26	ENVCIM Min	-0.71	-2.05	6.39	-3.878	-2.775	-0.179
BASE	29	CIM1	1.30	0.58	10.49	-0.632	0.526	-0.144
BASE	29	CIM2	2.77	1.29	15.70	-1.072	1.076	-0.305
BASE	29	CIM3 Max	3.18	1.27	11.44	0.424	3.082	0.054
BASE	29	CIM3 Min	-0.59	-0.12	9.53	-1.687	-2.030	-0.342
BASE	29	CIM4 Max	2.51	1.83	13.02	2.487	1.602	0.091
BASE	29	CIM4 Min	0.09	-0.67	7.95	-3.750	-0.551	-0.379
BASE	29	CIM5 Max	3.81	1.64	15.12	-0.163	2.859	-0.115
BASE	29	CIM5 Min	0.98	0.59	13.67	-1.760	-0.982	-0.414
BASE	29	CIM6 Max	3.31	2.05	16.30	1.380	1.751	-0.088
BASE	29	CIM6 Min	1.49	0.18	12.49	-3.304	0.125	-0.442
BASE	29	CIM7 Max	2.66	1.04	7.25	0.677	2.872	0.112
BASE	29	CIM7 Min	-1.11	-0.35	5.34	-1.435	-2.241	-0.285
BASE	29	CIM8 Max	1.99	1.60	8.83	2.739	1.392	0.149
BASE	29	CIM8 Min	-0.43	-0.90	3.76	-3.497	-0.761	-0.322
BASE	29	ENVCIM Max	3.81	2.05	16.30	2.739	3.082	0.149
BASE	29	ENVCIM Min	-1.11	-0.90	3.76	-3.750	-2.241	-0.442
BASE	30	CIM1	-0.11	-0.91	11.88	1.137	-0.275	-0.066
BASE	30	CIM2	-0.27	-1.74	18.34	2.230	-0.640	-0.148
BASE	30	CIM3 Max	0.48	-0.51	12.15	2.749	2.197	0.002
BASE	30	CIM3 Min	-0.69	-1.31	11.62	-0.475	-2.747	-0.133
BASE	30	CIM4 Max	0.30	-0.06	12.65	5.421	1.193	0.076
BASE	30	CIM4 Min	-0.52	-1.76	11.12	-3.146	-1.743	-0.208
BASE	30	CIM5 Max	0.21	-1.23	16.93	3.175	1.309	-0.076
BASE	30	CIM5 Min	-0.67	-1.84	16.53	0.738	-2.407	-0.178
BASE	30	CIM6 Max	0.08	-0.90	17.30	5.174	0.558	-0.020
BASE	30	CIM6 Min	-0.53	-2.17	16.15	-1.261	-1.656	-0.234
BASE	30	CIM7 Max	0.52	-0.15	7.40	2.294	2.307	0.028
BASE	30	CIM7 Min	-0.65	-0.95	6.86	-0.929	-2.637	-0.107
BASE	30	CIM8 Max	0.34	0.30	7.89	4.966	1.303	0.103
BASE	30	CIM8 Min	-0.47	-1.39	6.37	-3.601	-1.633	-0.182
BASE	30	ENVCIM Max	0.52	0.30	18.34	5.421	2.307	0.103
BASE	30	ENVCIM Min	-0.69	-2.17	6.37	-3.601	-2.747	-0.234
BASE	33	CIM1	0.33	-0.44	11.84	0.566	0.376	-0.157
BASE	33	CIM2	0.65	-0.87	18.64	1.226	0.708	-0.286
BASE	33	CIM3 Max	1.17	-0.14	12.85	2.005	2.935	-0.091
BASE	33	CIM3 Min	-0.51	-0.74	10.82	-0.874	-2.184	-0.223
BASE	33	CIM4 Max	0.85	0.32	13.18	4.775	1.742	0.014
BASE	33	CIM4 Min	-0.18	-1.19	10.49	-3.644	-0.991	-0.328
BASE	33	CIM5 Max	1.20	-0.54	17.71	2.150	2.548	-0.204
BASE	33	CIM5 Min	-0.06	-0.99	16.18	-0.028	-1.299	-0.303
BASE	33	CIM6 Max	0.96	-0.20	17.95	4.223	1.655	-0.125
BASE	33	CIM6 Min	0.18	-1.33	15.93	-2.101	-0.406	-0.382
BASE	33	CIM7 Max	1.04	0.04	8.11	1.779	2.785	-0.029
BASE	33	CIM7 Min	-0.64	-0.56	6.09	-1.101	-2.334	-0.160
BASE	33	CIM8 Max	0.71	0.49	8.44	4.549	1.592	0.077
BASE	33	CIM8 Min	-0.31	-1.02	5.76	-3.870	-1.141	-0.265
BASE	33	ENVCIM Max	1.20	0.49	18.64	4.775	2.935	0.077
BASE	33	ENVCIM Min	-0.64	-1.33	5.76	-3.870	-2.334	-0.382
BASE	34	CIM1	0.00	-0.62	13.37	0.857	-0.173	0.031
BASE	34	CIM2	-0.04	-1.25	21.63	1.803	-0.443	0.061
BASE	34	CIM3 Max	1.17	-0.30	14.66	2.347	3.035	0.113
BASE	34	CIM3 Min	-1.17	-0.94	12.07	-0.634	-3.382	-0.050
BASE	34	CIM4 Max	0.75	0.17	14.90	5.128	1.723	0.190
BASE	34	CIM4 Min	-0.74	-1.41	11.84	-3.414	-2.070	-0.127
BASE	34	CIM5 Max	0.85	-0.85	20.53	2.694	2.036	0.115
BASE	34	CIM5 Min	-0.91	-1.33	18.59	0.439	-2.787	-0.008
BASE	34	CIM6 Max	0.53	-0.50	20.71	4.774	1.054	0.173
BASE	34	CIM6 Min	-0.60	-1.68	18.41	-1.642	-1.805	-0.066
BASE	34	CIM7 Max	1.17	-0.05	9.31	2.005	3.105	0.101



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 54 DE 59
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BASE	34	CIM7 Min	-1.17	-0.69	6.73	-0.977	-3.313	-0.063
BASE	34	CIM8 Max	0.75	0.42	9.55	4.785	1.792	0.178
BASE	34	CIM8 Min	-0.74	-1.16	6.49	-3.757	-2.001	-0.140
BASE	34	ENVCIM Max	1.17	0.42	21.63	5.128	3.105	0.190
BASE	34	ENVCIM Min	-1.17	-1.68	6.49	-3.757	-3.382	-0.140
BASE	37	CIM1	0.00	0.59	13.45	-0.649	-0.010	0.032
BASE	37	CIM2	-0.06	1.14	21.58	-1.182	-0.118	0.056
BASE	37	CIM3 Max	0.91	1.72	14.35	1.785	2.626	0.103
BASE	37	CIM3 Min	-0.91	-0.54	12.56	-3.083	-2.646	-0.038
BASE	37	CIM4 Max	0.54	2.77	15.86	5.561	1.400	0.170
BASE	37	CIM4 Min	-0.54	-1.59	11.04	-6.860	-1.419	-0.105
BASE	37	CIM5 Max	0.64	1.85	20.23	0.790	1.890	0.104
BASE	37	CIM5 Min	-0.72	0.15	18.87	-2.888	-2.072	-0.003
BASE	37	CIM6 Max	0.36	2.64	21.36	3.617	0.972	0.154
BASE	37	CIM6 Min	-0.45	-0.64	17.74	-5.714	-1.154	-0.053
BASE	37	CIM7 Max	0.91	1.48	8.97	2.044	2.630	0.090
BASE	37	CIM7 Min	-0.91	-0.78	7.18	-2.824	-2.642	-0.051
BASE	37	CIM8 Max	0.54	2.53	10.48	5.821	1.404	0.157
BASE	37	CIM8 Min	-0.54	-1.83	5.66	-6.600	-1.415	-0.118
BASE	37	ENVCIM Max	0.91	2.77	21.58	5.821	2.630	0.170
BASE	37	ENVCIM Min	-0.91	-1.83	5.66	-6.860	-2.646	-0.118
BASE	38	CIM1	-0.25	-1.01	13.16	1.289	-0.484	0.090
BASE	38	CIM2	-0.57	-2.12	21.17	2.766	-1.094	0.196
BASE	38	CIM3 Max	0.97	0.11	14.41	3.801	2.793	0.183
BASE	38	CIM3 Min	-1.48	-2.13	11.90	-1.224	-3.761	-0.002
BASE	38	CIM4 Max	0.52	1.04	15.23	7.353	1.455	0.293
BASE	38	CIM4 Min	-1.02	-3.06	11.08	-4.775	-2.422	-0.113
BASE	38	CIM5 Max	0.43	-1.00	20.11	4.295	1.522	0.239
BASE	38	CIM5 Min	-1.41	-2.68	18.22	0.499	-3.405	0.099
BASE	38	CIM6 Max	0.09	-0.30	20.73	6.953	0.520	0.322
BASE	38	CIM6 Min	-1.07	-3.38	17.60	-2.159	-2.403	0.017
BASE	38	CIM7 Max	1.07	0.51	9.15	3.286	2.987	0.147
BASE	38	CIM7 Min	-1.38	-1.72	6.64	-1.740	-3.567	-0.039
BASE	38	CIM8 Max	0.62	1.44	9.97	6.837	1.648	0.257
BASE	38	CIM8 Min	-0.92	-2.66	5.82	-5.291	-2.229	-0.149
BASE	38	ENVCIM Max	1.07	1.44	21.17	7.353	2.987	0.322
BASE	38	ENVCIM Min	-1.48	-3.38	5.82	-5.291	-3.761	-0.149
BASE	41	CIM1	0.12	0.59	11.96	-0.768	0.122	0.043
BASE	41	CIM2	0.17	1.05	18.50	-1.310	0.130	0.087
BASE	41	CIM3 Max	0.48	1.01	12.31	1.048	2.095	0.130
BASE	41	CIM3 Min	-0.24	0.17	11.61	-2.583	-1.851	-0.044
BASE	41	CIM4 Max	0.41	1.71	12.87	4.571	1.237	0.260
BASE	41	CIM4 Min	-0.18	-0.54	11.06	-6.106	-0.992	-0.174
BASE	41	CIM5 Max	0.42	1.26	17.13	0.199	1.611	0.142
BASE	41	CIM5 Min	-0.11	0.62	16.60	-2.547	-1.355	0.010
BASE	41	CIM6 Max	0.38	1.78	17.54	2.836	0.969	0.239
BASE	41	CIM6 Min	-0.07	0.09	16.18	-5.184	-0.713	-0.087
BASE	41	CIM7 Max	0.43	0.77	7.53	1.355	2.046	0.113
BASE	41	CIM7 Min	-0.29	-0.07	6.83	-2.276	-1.900	-0.061
BASE	41	CIM8 Max	0.37	1.48	8.09	4.878	1.188	0.243
BASE	41	CIM8 Min	-0.23	-0.77	6.27	-5.799	-1.041	-0.191
BASE	41	ENVCIM Max	0.48	1.78	18.50	4.878	2.095	0.260
BASE	41	ENVCIM Min	-0.29	-0.77	6.27	-6.106	-1.900	-0.191
BASE	42	CIM1	-0.13	-0.83	11.84	1.047	-0.336	-0.049
BASE	42	CIM2	-0.35	-1.59	18.27	2.060	-0.818	-0.089
BASE	42	CIM3 Max	0.46	-0.31	12.14	3.020	2.140	0.022
BASE	42	CIM3 Min	-0.72	-1.35	11.54	-0.927	-2.812	-0.121
BASE	42	CIM4 Max	0.33	0.26	12.73	6.291	1.232	0.101
BASE	42	CIM4 Min	-0.60	-1.92	10.95	-4.198	-1.903	-0.200
BASE	42	CIM5 Max	0.15	-1.01	16.89	3.298	1.164	-0.025
BASE	42	CIM5 Min	-0.74	-1.79	16.44	0.315	-2.559	-0.133
BASE	42	CIM6 Max	0.06	-0.58	17.33	5.746	0.484	0.034
BASE	42	CIM6 Min	-0.64	-2.22	16.00	-2.133	-1.879	-0.193
BASE	42	CIM7 Max	0.51	0.02	7.40	2.602	2.275	0.042
BASE	42	CIM7 Min	-0.67	-1.02	6.81	-1.345	-2.678	-0.101



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 55 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

BASE	42	CIM8 Max	0.38	0.59	8.00	5.873	1.366	0.121
BASE	42	CIM8 Min	-0.54	-1.59	6.21	-4.616	-1.769	-0.180
BASE	42	ENVCIM Max	0.51	0.59	18.27	6.291	2.275	0.121
BASE	42	ENVCIM Min	-0.74	-2.22	6.21	-4.616	-2.812	-0.200
BASE	45	CIM1	0.10	0.70	11.94	-0.972	0.085	0.006
BASE	45	CIM2	0.13	1.26	18.45	-1.672	0.056	0.002
BASE	45	CIM3 Max	0.50	1.20	12.26	1.085	2.147	0.076
BASE	45	CIM3 Min	-0.30	0.20	11.62	-3.030	-1.978	-0.064
BASE	45	CIM4 Max	0.40	2.00	12.85	4.946	1.207	0.161
BASE	45	CIM4 Min	-0.20	-0.60	11.03	-6.891	-1.038	-0.149
BASE	45	CIM5 Max	0.42	1.49	17.06	0.059	1.613	0.056
BASE	45	CIM5 Min	-0.18	0.74	16.58	-3.053	-1.487	-0.050
BASE	45	CIM6 Max	0.35	2.10	17.51	2.949	0.910	0.120
BASE	45	CIM6 Min	-0.11	0.14	16.14	-5.943	-0.784	-0.113
BASE	45	CIM7 Max	0.46	0.92	7.48	1.474	2.113	0.074
BASE	45	CIM7 Min	-0.34	-0.08	6.85	-2.641	-2.012	-0.067
BASE	45	CIM8 Max	0.36	1.72	8.08	5.335	1.174	0.158
BASE	45	CIM8 Min	-0.24	-0.88	6.25	-6.502	-1.072	-0.151
BASE	45	ENVCIM Max	0.50	2.10	18.45	5.335	2.147	0.161
BASE	45	ENVCIM Min	-0.34	-0.88	6.25	-6.891	-2.012	-0.151
BASE	46	CIM1	-0.12	-0.77	11.87	0.956	-0.305	0.041
BASE	46	CIM2	-0.32	-1.43	18.33	1.785	-0.754	0.101
BASE	46	CIM3 Max	0.50	-0.21	12.19	3.094	2.219	0.146
BASE	46	CIM3 Min	-0.74	-1.33	11.55	-1.182	-2.829	-0.063
BASE	46	CIM4 Max	0.35	0.50	12.79	6.777	1.265	0.240
BASE	46	CIM4 Min	-0.59	-2.03	10.96	-4.866	-1.875	-0.157
BASE	46	CIM5 Max	0.20	-0.84	16.96	3.194	1.255	0.164
BASE	46	CIM5 Min	-0.73	-1.69	16.47	-0.038	-2.539	0.007
BASE	46	CIM6 Max	0.08	-0.31	17.40	5.951	0.541	0.235
BASE	46	CIM6 Min	-0.62	-2.21	16.03	-2.795	-1.826	-0.063
BASE	46	CIM7 Max	0.55	0.10	7.44	2.712	2.341	0.129
BASE	46	CIM7 Min	-0.69	-1.02	6.80	-1.565	-2.707	-0.079
BASE	46	CIM8 Max	0.40	0.80	8.04	6.395	1.387	0.223
BASE	46	CIM8 Min	-0.54	-1.72	6.21	-5.248	-1.753	-0.173
BASE	46	ENVCIM Max	0.55	0.80	18.33	6.777	2.341	0.240
BASE	46	ENVCIM Min	-0.74	-2.21	6.21	-5.248	-2.829	-0.173
BASE	49	CIM1	0.08	0.74	11.92	-1.025	0.058	-0.006
BASE	49	CIM2	0.11	1.33	18.41	-1.762	0.008	-0.007
BASE	49	CIM3 Max	0.50	1.28	12.25	1.211	2.162	0.056
BASE	49	CIM3 Min	-0.33	0.20	11.59	-3.260	-2.047	-0.069
BASE	49	CIM4 Max	0.37	2.16	12.88	5.341	1.164	0.152
BASE	49	CIM4 Min	-0.20	-0.67	10.96	-7.390	-1.048	-0.164
BASE	49	CIM5 Max	0.41	1.59	17.04	0.113	1.602	0.040
BASE	49	CIM5 Min	-0.21	0.77	16.54	-3.268	-1.561	-0.054
BASE	49	CIM6 Max	0.32	2.25	17.51	3.204	0.855	0.112
BASE	49	CIM6 Min	-0.12	0.12	16.07	-6.359	-0.814	-0.125
BASE	49	CIM7 Max	0.47	0.99	7.49	1.620	2.139	0.059
BASE	49	CIM7 Min	-0.37	-0.10	6.82	-2.850	-2.070	-0.066
BASE	49	CIM8 Max	0.34	1.86	8.11	5.751	1.141	0.154
BASE	49	CIM8 Min	-0.24	-0.97	6.19	-6.980	-1.072	-0.162
BASE	49	ENVCIM Max	0.50	2.25	18.41	5.751	2.162	0.154
BASE	49	ENVCIM Min	-0.37	-0.97	6.19	-7.390	-2.070	-0.164
BASE	50	CIM1	-0.11	-0.73	11.89	0.903	-0.275	-0.028
BASE	50	CIM2	-0.28	-1.32	18.37	1.627	-0.686	-0.053
BASE	50	CIM3 Max	0.53	-0.15	12.23	3.179	2.282	0.036
BASE	50	CIM3 Min	-0.74	-1.31	11.56	-1.372	-2.832	-0.092
BASE	50	CIM4 Max	0.35	0.66	12.85	7.207	1.275	0.115
BASE	50	CIM4 Min	-0.56	-2.12	10.93	-5.400	-1.824	-0.171
BASE	50	CIM5 Max	0.24	-0.74	17.00	3.167	1.339	0.001
BASE	50	CIM5 Min	-0.71	-1.61	16.49	-0.274	-2.505	-0.095
BASE	50	CIM6 Max	0.10	-0.13	17.47	6.182	0.585	0.060
BASE	50	CIM6 Min	-0.58	-2.22	16.03	-3.289	-1.751	-0.154
BASE	50	CIM7 Max	0.57	0.15	7.47	2.818	2.392	0.047
BASE	50	CIM7 Min	-0.69	-1.02	6.80	-1.734	-2.722	-0.080
BASE	50	CIM8 Max	0.39	0.96	8.09	6.846	1.385	0.126



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 56 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

BASE	50	CIM8 Min	-0.52	-1.83	6.18	-5.762	-1.714	-0.160
BASE	50	ENVCIM Max	0.57	0.96	18.37	7.207	2.392	0.126
BASE	50	ENVCIM Min	-0.74	-2.22	6.18	-5.762	-2.832	-0.171
BASE	53	CIM1	0.07	0.72	11.93	-0.956	0.038	-0.030
BASE	53	CIM2	0.09	1.31	18.42	-1.656	-0.023	-0.051
BASE	53	CIM3 Max	0.51	1.26	12.28	1.361	2.185	0.032
BASE	53	CIM3 Min	-0.36	0.19	11.58	-3.272	-2.109	-0.091
BASE	53	CIM4 Max	0.35	2.18	12.94	5.703	1.129	0.105
BASE	53	CIM4 Min	-0.21	-0.73	10.91	-7.615	-1.053	-0.164
BASE	53	CIM5 Max	0.41	1.57	17.06	0.271	1.606	0.001
BASE	53	CIM5 Min	-0.24	0.76	16.53	-3.233	-1.621	-0.092
BASE	53	CIM6 Max	0.29	2.25	17.56	3.521	0.815	0.055
BASE	53	CIM6 Min	-0.13	0.07	16.03	-6.483	-0.831	-0.147
BASE	53	CIM7 Max	0.48	0.97	7.51	1.743	2.170	0.044
BASE	53	CIM7 Min	-0.39	-0.10	6.81	-2.890	-2.124	-0.079
BASE	53	CIM8 Max	0.32	1.89	8.17	6.086	1.114	0.117
BASE	53	CIM8 Min	-0.24	-1.02	6.14	-7.233	-1.068	-0.152
BASE	53	ENVCIM Max	0.51	2.25	18.42	6.086	2.185	0.117
BASE	53	ENVCIM Min	-0.39	-1.02	6.14	-7.615	-2.124	-0.164
BASE	54	CIM1	-0.10	-0.70	11.92	0.872	-0.255	0.014
BASE	54	CIM2	-0.26	-1.27	18.41	1.568	-0.636	0.027
BASE	54	CIM3 Max	0.55	-0.14	12.30	3.220	2.345	0.092
BASE	54	CIM3 Min	-0.75	-1.25	11.55	-1.476	-2.855	-0.063
BASE	54	CIM4 Max	0.35	0.75	12.94	7.506	1.275	0.162
BASE	54	CIM4 Min	-0.54	-2.14	10.90	-5.762	-1.784	-0.134
BASE	54	CIM5 Max	0.27	-0.70	17.07	3.169	1.414	0.083
BASE	54	CIM5 Min	-0.71	-1.55	16.51	-0.381	-2.495	-0.035
BASE	54	CIM6 Max	0.11	-0.04	17.56	6.377	0.613	0.135
BASE	54	CIM6 Min	-0.56	-2.21	16.02	-3.590	-1.693	-0.087
BASE	54	CIM7 Max	0.59	0.14	7.53	2.871	2.447	0.086
BASE	54	CIM7 Min	-0.71	-0.98	6.78	-1.825	-2.753	-0.069
BASE	54	CIM8 Max	0.39	1.03	8.17	7.157	1.377	0.157
BASE	54	CIM8 Min	-0.50	-1.86	6.13	-6.111	-1.682	-0.139
BASE	54	ENVCIM Max	0.59	1.03	18.41	7.506	2.447	0.162
BASE	54	ENVCIM Min	-0.75	-2.21	6.13	-6.111	-2.855	-0.139
BASE	57	CIM1	0.14	0.59	11.31	-0.721	0.116	-0.028
BASE	57	CIM2	0.18	1.06	17.32	-1.235	0.091	-0.040
BASE	57	CIM3 Max	0.52	1.10	12.25	1.649	2.201	0.043
BASE	57	CIM3 Min	-0.25	0.09	10.36	-3.090	-1.969	-0.098
BASE	57	CIM4 Max	0.38	2.02	12.64	6.109	1.158	0.097
BASE	57	CIM4 Min	-0.11	-0.83	9.97	-7.551	-0.926	-0.153
BASE	57	CIM5 Max	0.46	1.32	16.53	0.686	1.664	0.017
BASE	57	CIM5 Min	-0.12	0.56	15.10	-2.898	-1.470	-0.090
BASE	57	CIM6 Max	0.36	2.02	16.82	4.024	0.883	0.057
BASE	57	CIM6 Min	-0.02	-0.13	14.81	-6.237	-0.689	-0.130
BASE	57	CIM7 Max	0.47	0.86	7.73	1.937	2.155	0.054
BASE	57	CIM7 Min	-0.30	-0.15	5.84	-2.802	-2.016	-0.087
BASE	57	CIM8 Max	0.33	1.79	8.12	6.397	1.111	0.108
BASE	57	CIM8 Min	-0.17	-1.07	5.45	-7.262	-0.972	-0.141
BASE	57	ENVCIM Max	0.52	2.02	17.32	6.397	2.201	0.108
BASE	57	ENVCIM Min	-0.30	-1.07	5.45	-7.551	-2.016	-0.153
BASE	58	CIM1	-0.03	-0.59	11.37	0.758	-0.163	-0.019
BASE	58	CIM2	-0.16	-1.06	17.46	1.363	-0.493	-0.048
BASE	58	CIM3 Max	0.57	-0.09	12.25	3.134	2.379	0.056
BASE	58	CIM3 Min	-0.63	-1.10	10.49	-1.619	-2.706	-0.094
BASE	58	CIM4 Max	0.38	0.83	12.72	7.578	1.309	0.104
BASE	58	CIM4 Min	-0.43	-2.02	10.02	-6.063	-1.636	-0.143
BASE	58	CIM5 Max	0.32	-0.56	16.60	3.009	1.500	0.016
BASE	58	CIM5 Min	-0.58	-1.33	15.27	-0.585	-2.321	-0.097
BASE	58	CIM6 Max	0.18	0.12	16.95	6.335	0.700	0.052
BASE	58	CIM6 Min	-0.43	-2.02	14.92	-3.912	-1.521	-0.134
BASE	58	CIM7 Max	0.58	0.15	7.70	2.831	2.444	0.064
BASE	58	CIM7 Min	-0.62	-0.86	5.94	-1.922	-2.640	-0.087
BASE	58	CIM8 Max	0.39	1.07	8.17	7.275	1.375	0.112
BASE	58	CIM8 Min	-0.42	-1.78	5.47	-6.366	-1.571	-0.135



Propietario:	SECRETARIA DE EDUCACION Y SECRETARIA DE CULTURA	Calculó:	ING. FABIO RIVERA
Proyecto:	COLEGIO Y TEATRO EL ENSUEÑO	Revisó:	ING. JUAN C. PATIÑO
Localización:	BOGOTA - CUNDINAMARCA	Hoja:	PAGINA 57 DE 59
Contenido:	PASILLO - M. DE CALCULOS	Fecha:	NOVIEMBRE - 2014

BASE	58	ENVCIM Max	0.58	1.07	17.46	7.578	2.444	0.112
BASE	58	ENVCIM Min	-0.63	-2.02	5.47	-6.366	-2.706	-0.143
BASE	61	CIM1	-0.23	0.37	14.22	-0.378	-0.306	-0.024
BASE	61	CIM2	-0.28	0.77	22.13	-0.777	-0.439	-0.041
BASE	61	CIM3 Max	0.04	1.42	16.59	2.757	1.622	0.054
BASE	61	CIM3 Min	-0.50	-0.69	11.86	-3.514	-2.235	-0.101
BASE	61	CIM4 Max	-0.05	3.26	17.40	8.387	0.641	0.108
BASE	61	CIM4 Min	-0.41	-2.53	11.04	-9.144	-1.254	-0.155
BASE	61	CIM5 Max	-0.06	1.47	21.94	1.693	1.044	0.022
BASE	61	CIM5 Min	-0.47	-0.13	18.37	-3.048	-1.855	-0.095
BASE	61	CIM6 Max	-0.14	2.84	22.55	5.907	0.309	0.062
BASE	61	CIM6 Min	-0.40	-1.51	17.76	-7.262	-1.120	-0.135
BASE	61	CIM7 Max	0.13	1.28	10.90	2.908	1.745	0.063
BASE	61	CIM7 Min	-0.41	-0.84	6.17	-3.362	-2.112	-0.091
BASE	61	CIM8 Max	0.04	3.11	11.71	8.538	0.764	0.117
BASE	61	CIM8 Min	-0.31	-2.67	5.35	-8.993	-1.131	-0.146
BASE	61	ENVCIM Max	0.13	3.26	22.55	8.538	1.745	0.117
BASE	61	ENVCIM Min	-0.50	-2.67	5.35	-9.144	-2.235	-0.155
BASE	62	CIM1	-0.39	-0.45	14.20	0.621	-0.574	-0.012
BASE	62	CIM2	-0.61	-0.94	22.10	1.304	-0.999	-0.024
BASE	62	CIM3 Max	0.08	0.61	16.59	3.758	1.796	0.070
BASE	62	CIM3 Min	-0.86	-1.51	11.80	-2.516	-2.944	-0.094
BASE	62	CIM4 Max	-0.08	2.45	17.29	9.387	0.779	0.122
BASE	62	CIM4 Min	-0.70	-3.34	11.10	-8.144	-1.928	-0.146
BASE	62	CIM5 Max	-0.20	-0.02	21.93	3.505	0.889	0.040
BASE	62	CIM5 Min	-0.90	-1.62	18.32	-1.238	-2.674	-0.083
BASE	62	CIM6 Max	-0.32	1.35	22.45	7.718	0.128	0.080
BASE	62	CIM6 Min	-0.79	-2.99	17.80	-5.451	-1.913	-0.122
BASE	62	CIM7 Max	0.23	0.79	10.91	3.510	2.025	0.074
BASE	62	CIM7 Min	-0.70	-1.33	6.12	-2.764	-2.715	-0.089
BASE	62	CIM8 Max	0.08	2.63	11.61	9.138	1.009	0.127
BASE	62	CIM8 Min	-0.55	-3.16	5.42	-8.393	-1.698	-0.142
BASE	62	ENVCIM Max	0.23	2.63	22.45	9.387	2.025	0.127
BASE	62	ENVCIM Min	-0.90	-3.34	5.42	-8.393	-2.944	-0.146
BASE	181	CIM1	-4.04	0.01	4.49	0.000	0.000	0.000
BASE	181	CIM2	-8.04	0.01	8.70	0.000	0.000	0.000
BASE	181	CIM3 Max	-1.13	0.05	6.15	0.000	0.000	0.000
BASE	181	CIM3 Min	-6.95	-0.04	2.83	0.000	0.000	0.000
BASE	181	CIM4 Max	-1.96	0.14	5.73	0.000	0.000	0.000
BASE	181	CIM4 Min	-6.12	-0.13	3.25	0.000	0.000	0.000
BASE	181	CIM5 Max	-4.85	0.04	8.90	0.000	0.000	0.000
BASE	181	CIM5 Min	-9.23	-0.02	6.39	0.000	0.000	0.000
BASE	181	CIM6 Max	-5.47	0.11	8.58	0.000	0.000	0.000
BASE	181	CIM6 Min	-8.60	-0.09	6.71	0.000	0.000	0.000
BASE	181	CIM7 Max	0.49	0.05	4.36	0.000	0.000	0.000
BASE	181	CIM7 Min	-5.33	-0.04	1.03	0.000	0.000	0.000
BASE	181	CIM8 Max	-0.35	0.14	3.94	0.000	0.000	0.000
BASE	181	CIM8 Min	-4.50	-0.13	1.45	0.000	0.000	0.000
BASE	181	ENVCIM Max	0.49	0.14	8.90	0.000	0.000	0.000
BASE	181	ENVCIM Min	-9.23	-0.13	1.03	0.000	0.000	0.000
BASE	231	CIM1	-5.21	0.01	5.18	0.000	0.000	0.000
BASE	231	CIM2	-10.38	0.01	10.08	0.000	0.000	0.000
BASE	231	CIM3 Max	-3.02	0.05	6.43	0.000	0.000	0.000
BASE	231	CIM3 Min	-7.41	-0.04	3.94	0.000	0.000	0.000
BASE	231	CIM4 Max	-3.97	0.14	5.95	0.000	0.000	0.000
BASE	231	CIM4 Min	-6.46	-0.13	4.42	0.000	0.000	0.000
BASE	231	CIM5 Max	-7.44	0.04	9.79	0.000	0.000	0.000
BASE	231	CIM5 Min	-10.74	-0.02	7.92	0.000	0.000	0.000
BASE	231	CIM6 Max	-8.15	0.11	9.43	0.000	0.000	0.000
BASE	231	CIM6 Min	-10.03	-0.09	8.28	0.000	0.000	0.000
BASE	231	CIM7 Max	-0.93	0.05	4.35	0.000	0.000	0.000
BASE	231	CIM7 Min	-5.33	-0.04	1.87	0.000	0.000	0.000
BASE	231	CIM8 Max	-1.88	0.14	3.87	0.000	0.000	0.000
BASE	231	CIM8 Min	-4.37	-0.13	2.35	0.000	0.000	0.000
BASE	231	ENVCIM Max	-0.93	0.14	10.08	0.000	0.000	0.000



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BASE	231	ENVCIM Min	-10.74	-0.13	1.87	0.000	0.000	0.000
BASE	253	CIM1	2.46	0.38	0.64	0.000	0.000	0.000
BASE	253	CIM2	5.10	0.74	1.42	0.000	0.000	0.000
BASE	253	CIM3 Max	7.47	1.48	1.16	0.000	0.000	0.000
BASE	253	CIM3 Min	-2.54	-0.72	0.12	0.000	0.000	0.000
BASE	253	CIM4 Max	5.80	1.13	0.99	0.000	0.000	0.000
BASE	253	CIM4 Min	-0.88	-0.37	0.30	0.000	0.000	0.000
BASE	253	CIM5 Max	8.20	1.48	1.62	0.000	0.000	0.000
BASE	253	CIM5 Min	0.68	-0.18	0.84	0.000	0.000	0.000
BASE	253	CIM6 Max	6.96	1.22	1.49	0.000	0.000	0.000
BASE	253	CIM6 Min	1.92	0.08	0.96	0.000	0.000	0.000
BASE	253	CIM7 Max	6.48	1.33	0.91	0.000	0.000	0.000
BASE	253	CIM7 Min	-3.53	-0.87	-0.13	0.000	0.000	0.000
BASE	253	CIM8 Max	4.82	0.98	0.73	0.000	0.000	0.000
BASE	253	CIM8 Min	-1.86	-0.52	0.04	0.000	0.000	0.000
BASE	253	ENVCIM Max	8.20	1.48	1.62	0.000	0.000	0.000
BASE	253	ENVCIM Min	-3.53	-0.87	-0.13	0.000	0.000	0.000
BASE	261	CIM1	1.68	-0.19	0.73	0.000	0.000	0.000
BASE	261	CIM2	3.61	-0.38	1.58	0.000	0.000	0.000
BASE	261	CIM3 Max	6.36	0.84	1.21	0.000	0.000	0.000
BASE	261	CIM3 Min	-3.01	-1.22	0.24	0.000	0.000	0.000
BASE	261	CIM4 Max	4.10	0.48	0.98	0.000	0.000	0.000
BASE	261	CIM4 Min	-0.74	-0.86	0.47	0.000	0.000	0.000
BASE	261	CIM5 Max	6.65	0.44	1.73	0.000	0.000	0.000
BASE	261	CIM5 Min	-0.39	-1.11	1.00	0.000	0.000	0.000
BASE	261	CIM6 Max	4.95	0.17	1.55	0.000	0.000	0.000
BASE	261	CIM6 Min	1.30	-0.84	1.17	0.000	0.000	0.000
BASE	261	CIM7 Max	5.69	0.92	0.92	0.000	0.000	0.000
BASE	261	CIM7 Min	-3.68	-1.15	-0.05	0.000	0.000	0.000
BASE	261	CIM8 Max	3.42	0.55	0.69	0.000	0.000	0.000
BASE	261	CIM8 Min	-1.41	-0.78	0.18	0.000	0.000	0.000
BASE	261	ENVCIM Max	6.65	0.92	1.73	0.000	0.000	0.000
BASE	261	ENVCIM Min	-3.68	-1.22	-0.05	0.000	0.000	0.000
BASE	271	CIM1	-0.48	2.77	7.35	-2.065	0.977	-0.720
BASE	271	CIM2	-1.06	5.62	15.42	-4.082	2.025	-1.512
BASE	271	CIM3 Max	1.27	4.61	9.57	-0.038	3.996	0.185
BASE	271	CIM3 Min	-2.23	0.93	5.13	-4.091	-2.042	-1.625
BASE	271	CIM4 Max	0.10	4.67	9.66	0.002	1.975	-0.393
BASE	271	CIM4 Min	-1.06	0.87	5.05	-4.131	-0.021	-1.046
BASE	271	CIM5 Max	0.40	6.29	15.07	-2.053	4.031	-0.634
BASE	271	CIM5 Min	-2.23	3.52	11.74	-5.103	-0.505	-1.994
BASE	271	CIM6 Max	-0.47	6.33	15.14	-2.023	2.518	-1.067
BASE	271	CIM6 Min	-1.35	3.48	11.67	-5.133	1.008	-1.561
BASE	271	CIM7 Max	1.46	3.50	6.63	0.788	3.605	0.473
BASE	271	CIM7 Min	-2.04	-0.18	2.19	-3.265	-2.433	-1.337
BASE	271	CIM8 Max	0.29	3.56	6.72	0.828	1.584	-0.106
BASE	271	CIM8 Min	-0.87	-0.24	2.11	-3.305	-0.412	-0.758
BASE	271	ENVCIM Max	1.46	6.33	15.42	0.828	4.031	0.473
BASE	271	ENVCIM Min	-2.23	-0.24	2.11	-5.133	-2.433	-1.994
BASE	287	CIM1	-0.20	1.12	5.33	0.256	1.054	-0.152
BASE	287	CIM2	-0.46	2.11	10.99	0.762	2.191	-0.321
BASE	287	CIM3 Max	1.65	2.37	6.61	1.615	4.026	0.014
BASE	287	CIM3 Min	-2.06	-0.13	4.05	-1.103	-1.918	-0.318
BASE	287	CIM4 Max	0.48	3.77	7.49	2.856	2.218	-0.037
BASE	287	CIM4 Min	-0.89	-1.53	3.17	-2.344	-0.109	-0.268
BASE	287	CIM5 Max	1.00	2.81	10.54	1.661	4.139	-0.154
BASE	287	CIM5 Min	-1.79	0.92	8.61	-0.390	-0.326	-0.403
BASE	287	CIM6 Max	0.12	3.85	11.20	2.589	2.786	-0.191
BASE	287	CIM6 Min	-0.91	-0.13	7.95	-1.318	1.028	-0.366
BASE	287	CIM7 Max	1.73	1.92	4.48	1.513	3.605	0.075
BASE	287	CIM7 Min	-1.98	-0.58	1.92	-1.206	-2.339	-0.257
BASE	287	CIM8 Max	0.56	3.32	5.36	2.753	1.796	0.024
BASE	287	CIM8 Min	-0.81	-1.98	1.04	-2.446	-0.531	-0.207
BASE	287	ENVCIM Max	1.73	3.85	11.20	2.856	4.139	0.075
BASE	287	ENVCIM Min	-2.06	-1.98	1.04	-2.446	-2.339	-0.403



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BASE	290	CIM1	0.93	0.87	5.37	-0.878	1.701	0.213
BASE	290	CIM2	1.88	1.60	11.03	-1.722	3.548	0.449
BASE	290	CIM3 Max	3.33	1.60	6.00	0.207	4.443	0.360
BASE	290	CIM3 Min	-1.48	0.14	4.75	-1.963	-1.041	0.065
BASE	290	CIM4 Max	2.58	2.23	7.12	2.315	3.221	0.426
BASE	290	CIM4 Min	-0.72	-0.49	3.62	-4.070	0.181	-0.001
BASE	290	CIM5 Max	3.45	1.97	10.09	-0.690	5.147	0.501
BASE	290	CIM5 Min	-0.16	0.87	9.14	-2.331	1.025	0.279
BASE	290	CIM6 Max	2.89	2.44	10.93	0.887	4.232	0.550
BASE	290	CIM6 Min	0.40	0.39	8.30	-3.909	1.940	0.229
BASE	290	CIM7 Max	2.96	1.25	3.85	0.558	3.763	0.275
BASE	290	CIM7 Min	-1.85	-0.21	2.60	-1.612	-1.722	-0.020
BASE	290	CIM8 Max	2.20	1.88	4.98	2.666	2.541	0.341
BASE	290	CIM8 Min	-1.09	-0.84	1.47	-3.719	-0.499	-0.086
BASE	290	ENVCIM Max	3.45	2.44	11.03	2.666	5.147	0.550
BASE	290	ENVCIM Min	-1.85	-0.84	1.47	-4.070	-1.722	-0.086
BASE	284	CIM1	-0.38	1.73	6.24	-0.238	0.911	-0.088
BASE	284	CIM2	-0.83	3.42	13.06	-0.263	1.892	-0.184
BASE	284	CIM3 Max	0.21	2.46	7.34	0.645	3.244	-0.017
BASE	284	CIM3 Min	-0.97	0.99	5.15	-1.122	-1.422	-0.159
BASE	284	CIM4 Max	-0.14	3.81	8.22	1.851	1.732	-0.025
BASE	284	CIM4 Min	-0.62	-0.36	4.27	-2.327	0.090	-0.152
BASE	284	CIM5 Max	-0.28	3.56	12.18	0.410	3.399	-0.106
BASE	284	CIM5 Min	-1.16	2.44	10.53	-0.924	-0.106	-0.213
BASE	284	CIM6 Max	-0.54	4.57	12.84	1.313	2.268	-0.112
BASE	284	CIM6 Min	-0.90	1.43	9.87	-1.827	1.026	-0.208
BASE	284	CIM7 Max	0.36	1.77	4.84	0.741	2.880	0.018
BASE	284	CIM7 Min	-0.82	0.30	2.65	-1.026	-1.786	-0.124
BASE	284	CIM8 Max	0.01	3.12	5.72	1.946	1.368	0.011
BASE	284	CIM8 Min	-0.47	-1.05	1.77	-2.232	-0.275	-0.117
BASE	284	ENVCIM Max	0.36	4.57	13.06	1.946	3.399	0.018
BASE	284	ENVCIM Min	-1.16	-1.05	1.77	-2.327	-1.786	-0.213
BASE	288	CIM1	-0.11	1.28	6.00	-0.437	1.283	-0.031
BASE	288	CIM2	-0.26	2.49	12.32	-0.742	2.675	-0.068
BASE	288	CIM3 Max	0.82	1.79	7.69	0.419	3.780	0.021
BASE	288	CIM3 Min	-1.04	0.77	4.30	-1.293	-1.214	-0.083
BASE	288	CIM4 Max	0.34	2.72	8.37	1.948	2.477	0.096
BASE	288	CIM4 Min	-0.55	-0.15	3.62	-2.822	0.089	-0.158
BASE	288	CIM5 Max	0.48	2.57	12.02	-0.018	4.203	-0.020
BASE	288	CIM5 Min	-0.92	1.80	9.47	-1.313	0.451	-0.098
BASE	288	CIM6 Max	0.12	3.27	12.53	1.126	3.228	0.037
BASE	288	CIM6 Min	-0.56	1.11	8.95	-2.457	1.426	-0.155
BASE	288	CIM7 Max	0.87	1.28	5.29	0.594	3.267	0.034
BASE	288	CIM7 Min	-1.00	0.26	1.90	-1.119	-1.727	-0.071
BASE	288	CIM8 Max	0.38	2.20	5.98	2.123	1.964	0.109
BASE	288	CIM8 Min	-0.51	-0.66	1.22	-2.647	-0.424	-0.146
BASE	288	ENVCIM Max	0.87	3.27	12.53	2.123	4.203	0.109
BASE	288	ENVCIM Min	-1.04	-0.66	1.22	-2.822	-1.727	-0.158
Summation	0, 0, Base	CIM1	0.02	0.02	408.76	1703.838	-12133.072	0.253
Summation	0, 0, Base	CIM2	0.04	0.04	648.86	2703.660	-19228.217	0.304
Summation	0, 0, Base	CIM3 MAX	47.61	27.79	451.15	1910.651	-13109.643	616.311
Summation	0, 0, Base	CIM3 MIN	-47.57	-27.74	366.36	1497.025	-11156.501	-615.805
Summation	0, 0, Base	CIM4 MAX	27.90	54.08	472.13	2075.586	-13831.221	1511.530
Summation	0, 0, Base	CIM4 MIN	-27.86	-54.03	345.38	1332.091	-10434.923	-1511.024
Summation	0, 0, Base	CIM5 MAX	35.81	20.98	620.78	2609.656	-18190.722	465.654
Summation	0, 0, Base	CIM5 MIN	-35.73	-20.91	556.89	2297.752	-16718.139	-465.072
Summation	0, 0, Base	CIM6 MAX	21.06	40.66	636.48	2733.104	-18730.799	1135.695
Summation	0, 0, Base	CIM6 MIN	-20.98	-40.58	541.19	2174.304	-16178.062	-1135.113
Summation	0, 0, Base	CIM7 MAX	47.60	27.78	287.65	1229.116	-8256.414	616.210
Summation	0, 0, Base	CIM7 MIN	-47.58	-27.75	202.86	815.490	-6303.272	-615.906
Summation	0, 0, Base	CIM8 MAX	27.89	54.07	308.63	1394.050	-8977.992	1511.429
Summation	0, 0, Base	CIM8 MIN	-27.87	-54.04	181.88	650.555	-5581.695	-1511.125
Summation	0, 0, Base	ENVCIM MAX	57.96	65.17	657.77	2897.817	-19295.639	1701.933
Summation	0, 0, Base	ENVCIM MIN	-58.59	-65.85	178.23	629.788	-5574.995	-1724.674



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ANEXO 8. DISEÑO DE ELEMENTOS NO ESTRUCTURALES



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DISEÑO DE ELEMENTOS NO ESTRUCTURALES (MUROS)

COLEGIO ENSUEÑO

MUROS PRIMER PISO

REF: CAPITULO A.9 NSR-10

1. Grado de Desempeño requerido: **Superior (Grupo de Uso III)**

2. Criterio de Diseño: **Elementos separados de la Estructura**

3. Fuerzas Sísmicas de Diseño:

$$F_p = \frac{a_x a_p}{R_p} g M_p \geq \frac{A_a I}{2} g M_p$$

a_x = Aceleración del Punto de Soporte (ref: A.9.4.2.1)

$$a_x = A_s + \frac{(S_a - A_s) h_x}{h_{eq}} \quad h_x \leq h_{eq}$$

$$a_x = S_a \frac{h_x}{h_{eq}} \quad h_x \geq h_{eq}$$

a_p = Amplificación Dinámica del Elemento No Estructural (ref: A.9.4.2.2 y Tabla A.9.5-1)

R_p = Capacidad de Disipación de Energía en el Rango Inelástico del Elemento (ref: A.9.4.9 y Tabla A.9.5-1)

Muros de Fachada:

Mampostería Reforzada Separada lateralmente de la Estructura, Apoyada solo Abajo

a_p = **2.5** Rp mínimo: **6**

Muros Divisorios:

Corredores

a_p = **1.0** Rp mínimo: **3**

Muros de Altura Total

a_p = **1.0** Rp mínimo: **1.5**

Muros de Altura Parcial

a_p = **2.5** Rp mínimo: **1.5**

Tipos de Anclaje:

Especiales:	Rp=	6.0
Dúctiles:	Rp=	3.0
No Dúctiles:	Rp=	1.5
Húmedos:	Rp=	0.5

4. Calculo de las Aceleraciones de Piso:

A_a =	0.15	Bogotá (Cundinamarca)	Coefficiente de aceleración Pico-efectiva
A_s =	0.478		Aceleración espectral, para un período de vibración igual a cero.
S_a =	0.478		Aceleración espectral. (referencia FHE)
I =	1.25		Coefficiente de Importancia
h_n =	9.23		Altura desde la base al piso mas alto de la edificación

h_{eq} : **6.92** Altura equivalente del sistema de un GDL, que simula la edificación. ($h_{eq} = 0.75 h_n$)



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NIVEL	hx	ax
N+8.43	8.43	0.582
N+3.74	3.74	0.598
BASE	0.00	0.598

hx: Altura desde la base, hasta el nivel de apoyo del elemento no estructural

5. Diseño de los elementos de reforzamiento

Mampostería de perforación Vertical

Altura del Muro: 3.5 m
Separación Dóvelas(máx: 150 cms) 1.5 m
Use Separación de: 0.9 m

Espesor del Muro: 0.12 m
Amplificación dinámica: 1
Aceleración del elemento : 0.598 Ver Tabla de Arriba.
Rp- Relacionado con el Anclaje: 3

Masa del Muro: 680.4 kg

$$Fp = \frac{a_x a_p}{R_p} gMp \geq \frac{a_a I}{2} gMp = 135.6 \text{ kg} \quad 63.8 \text{ kg}$$

HIPOTESIS 1. MURO EN VOLADIZO

$$Mu = Fp * h/2 = 237.3 \text{ kg-m}$$

HIPOTESIS 2. MURO SIMPLEMENTE APOYADO

$$Mu = Fp * h/4 = 118.7 \text{ kg-m}$$

HIPOTESIS 3. MURO EMPOTRADO EN LA BASE Y APOYADO SUPERIORMENTE

$$Mu+ = 5Fp * h/32 \quad 74.2 \text{ kg-m} \\ Mu- = 3Fp * h/16 \quad 89.0 \text{ kg-m} \quad Mmax = 89.0 \text{ kg-m}$$

Diseño de las Dovelas:

Separacion entre dovelas: 120 cm
Espesor del muro: 0.14 m
Recubrimiento a la barra: 7 cm

Nota: f'm=80 kg/cm2 y Acero de 4200 kg/cm2

HIPOTESIS 1. MURO EN VOLADIZO

FLEXION

a= 117085.5
b= -3780.0
c= 4.0

Ro1: 0.031178

use: Ro= 0.0011 < Romax= 0.0159 OK!

Ro2: 0.001106

Ro max: 0.0159



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Acero de Refuerzo Longitudinal en cada d6vela:

As= 0.93 cm² use: 5 Ø5mm
3 Ø1/4"
2 Ø3/8"

HIPOTESIS 2. MURO SIMPLEMENTE APOYADO

FLEXION

a= 117085.5

b= -3780.0

c= 2.0

Ro1: 0.031741

use: Ro= 0.0005 < Romax= 0.0159 OK!

Ro2: 0.000543

Ro max: 0.0159

Acero de Refuerzo Longitudinal en cada d6vela:

As= 0.46 cm² use: 3 Ø5mm
2 Ø1/4"
1 Ø3/8"

HIPOTESIS 3. MURO EMPOTRADO EN LA BASE Y APOYADO SUPERIORMENTE

FLEXION

a= 117085.5

b= -3780.0

c= 1.5

Ro1: 0.031879

use: Ro= 0.0004 < Romax= 0.0159 OK!

Ro2: 0.000406

Ro max: 0.0159

Acero de Refuerzo Longitudinal en cada d6vela:

As= 0.34 cm² use: 2 Ø5mm
2 Ø1/4"
1 Ø3/8"

CORTANTE

Fuerza Cortante resistida por el muro:

ØVc= 3384.7 kg

Fuerza Cortante Total Resistida por el muro:

ØV= 3384.7 kg

HIPOTESIS 1. MURO EN VOLADIZO

Vu max= Fp= 135.6 kg ØV= 3384.7 kg OK!

HIPOTESIS 2. MURO SIMPLEMENTE APOYADO

Vu max= Fp/2= 67.8 kg ØV= 3384.7 kg OK!

HIPOTESIS 3. MURO EMPOTRADO EN LA BASE Y APOYADO SUPERIORMENTE

Vu max= 11Fp/16= 93.2 kg ØV= 3384.7 kg OK!