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DIGITALLY VERIFIED RECORD

N. KANAGAVEL M.E., M.B.A., MIE., FIV
Chartered Engineer, Structural Consultant and Approved Valuer

CA- 12, Tarangini Complex
Ambattur Industrial Estate, Chennai – 600 058

Mobile : 94440 61295
e – mail: kanagavelchennai@gmail.com

29.12.2025

STABILITY CERTIFICATE

1. The detailed engineering and structure design of the proposed building comprising of stilt + five floors at Door No.3/F1 to 3/F6, G-Block, 55th Street, Ashok Nagar, Chennai – 600 078 comprised in TS No.8/7, Block No.71 of Kodambakkam(part-2) village, Mambalam Taluk, within the limits of Greater Chennai Corporation has been done by me/us based on the report of geotechnical investigation (soil test) done by Nagadi Consultants (P) Ltd., Report No. G(C) 10065 and considering the functional requirement of the building.

2. It is certified that among other factors, the proposed building has been designed to resist earthquake. I/We have checked various parameters and found that the proposed building would be safe.

3. I/We further certify that:

   (i) The minimum grade of concrete is M25

   (ii) The design and analysis has been done using the code of practice for plain and reinforced concrete as per IS 456:2000, design loads as per IS Codes No.IS 875-1987 and design of earthquake resistant structure as per IS Code No. IS1893(part 1):2016

4. The building will be safe and sound when used for the purpose for which it is designed.

N. KANAGAVEL, M.E, M.B.A., MIE., FIV
Registered Structural Engineer Grade-I
CMDA Reg.No. SE/GR-I/19/03/049
GCC Reg.No.RSE100022019
CA-12, Tarangani Complex,
Ambattur Industrial Estate
Mogappair West, Chennai-600 058

Stamp and Signature

Encl.: Structural Design Calculation

CHENNAI METROPOLITAN DEVELOPMENT AUTHORITY
'ThalamuthuNatarajan Building', No.1, Gandhi Irwin Road,
Egmore, Chennai-600 008.

PROFESSIONAL REGISTRATION CERTIFICATE

This is to certify that the **Thiru. N. KANAGAVEL** has enrolled as **Registered Structural Engineer Grade-I (SE)** with Chennai Metropolitan Development Authority (CMDA) who has the qualification of **M.E.,(Structural Engg.)** and experience in the relevant field for **11 years**.

He has been given the Registration No.**SE/GR-I/2019/03/049** Renewed on **26.03.2024.** He shall be required to comply with the duties and responsibilities prescribed by the Government of Tamil Nadu in Part-V, "Registration of Professionals", Tamil Nadu Combined Development and Building Rules, 2019 approved vide G.O.(Ms) No.18 MAWS (MA1) Dept. dated 04.02.2019.

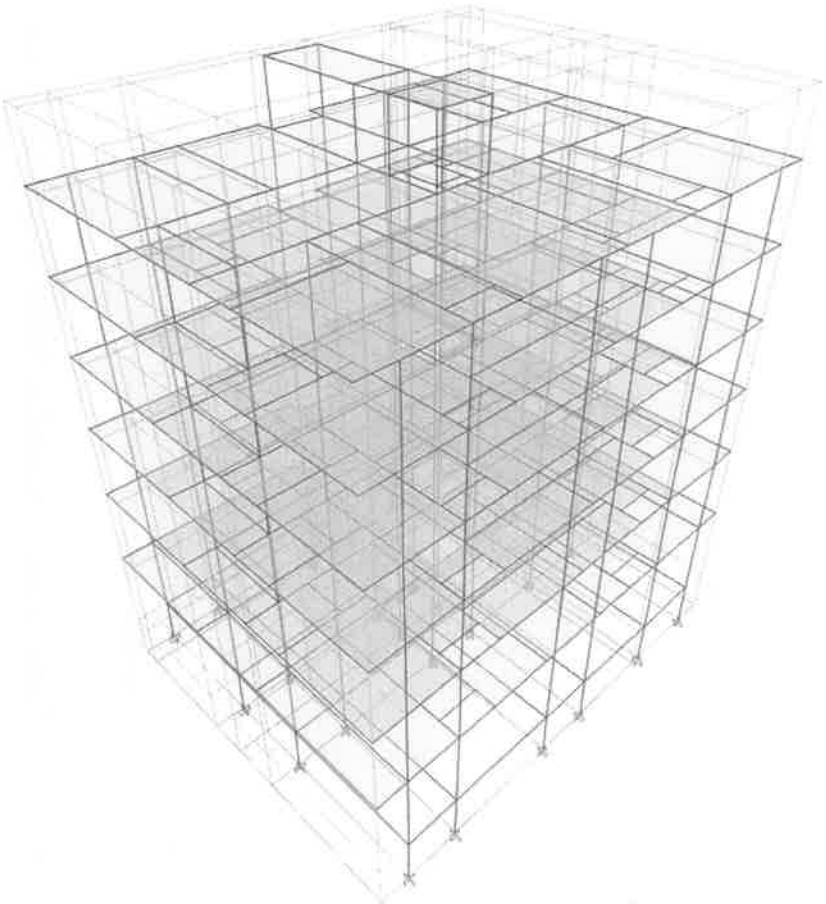
This Registration is valid upto **25.03.2029**.



26/3/24.

(A. MEGANATHAN)
Superintendent

ETABS®



User Report 1

Model File: block-05 – stilt + 5 floors
27-Dec-25

Design Specifications:

The proposed structure are to be designed for stilt + five floors and to be of framed structure to resist the seismic effect of zone III as per IS 1893 – 2016. The usage of the building is for residential purpose.

Soil:

As per Nagadi Consultants (P) Ltd., geo technical report G(C) 10065, the foundation recommendations are:

(i) type of foundation	=	Isolated / combined
(ii) Depth of foundation	=	2.50 m
(ii) SBC @ 2.50 m depth	=	100kn/m^2

Floor Heights Considered:

Foundation depth	=	2.50m
Car parking level	=	0.60m
Stilt and typical floors height	=	3.05m

Analysis and Design:

Analysis part is done using ETAB software and the designing part by manual calculations in accordance with IS 456 – 2000, IS 1893 - 2016 and SP – 16.

Materials:

The following recommendations of materials are to be used

(i) Grade of concrete : M25 grade for all RCC members

(ii) Grade of steel : Fe 500 for all diameter

(iii) Potable quality of water to be used for all construction activities including curing.

1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Story Data

Table 1.1 - Story Definitions

Tower	Name	Height m	Master Story	Similar To	Splice Story	Color
T1	head room	2.5	No	None	No	Yellow
T1	roof	3.05	No	None	No	Yellow
T1	story5	3.05	No	story2	No	Yellow
T1	story4	3.05	No	story2	No	Yellow
T1	story3	3.05	No	story2	No	Yellow
T1	story2	3.35	Yes	None	No	Gray8Dark
T1	story1	3.6	No	None	No	Blue
T1	plinth beam	2	No	None	No	Green

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
HYSD500	Rebar	Uniaxial	HYSD Grade 500	Cyan	
M25	Concrete	Isotropic	M25	Cyan	

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3)

Name	Material	Shape	Color	Area cm2	J cm4	I33 cm4	I22 cm4	As2 cm2	As3 cm2	S33Pos cm3
B230x300	M25	Concrete Rectangular	Cyan	690	64595.3	51750	30417.5	575	575	3450
B230x380	M25	Concrete Rectangular	Gray8Dark	874	96006	105171.3	38528.8	728.3	728.3	5535.3
B230x450	M25	Concrete Rectangular	Blue	1035	124072.6	174656.3	45626.3	862.5	862.5	7762.5
B230x525	M25	Concrete Rectangular	Green	1207.5	154336.3	277347.7	53230.6	1006.2	1006.2	10565.6
B230x600	M25	Concrete Rectangular	Magenta	1380	184679.1	414000	60835	1150	1150	13800
C230x230	M25	Concrete Rectangular	Blue	529	39410.9	23320.1	23320.1	440.8	440.8	2027.8
C230x300	M25	Concrete Rectangular	Yellow	690	64595.3	51750	30417.5	575	575	3450
C230x450	M25	Concrete Rectangular	Cyan	1035	124072.6	174656.3	45626.3	862.5	862.5	7762.5
C230x525	M25	Concrete Rectangular	Cyan	1207.5	154336.3	277347.7	53230.6	1006.2	1006.2	10565.6
C230x600	M25	Concrete Rectangular	Blue	1380	184679.1	414000	60835	1150	1150	13800
C300x525	M25	Concrete Rectangular	Red	1575	303911.4	361757.8	118125	1312.5	1312.5	13781.3
C300x600	M25	Concrete Rectangular	Magenta	1800	370785.9	540000	135000	1500	1500	18000
ConcBm	M25	Concrete Rectangular	Gray8Dark	1875	474572.9	390625	219726.6	1562.5	1562.5	15625
ConcCol	M25	Concrete Rectangular	Yellow	1406.3	278503.4	164794.9	164794.9	1171.9	1171.9	8789.1
SteelBm	A992Fy50	Steel I/Wide Flange	Magenta	71.4	25.7	30343.2	965.5	31.3	37.4	1213.7
SteelCol	A992Fy50	Steel I/Wide Flange	Red	306.3	551.8	150638	52090.7	63.4	222.5	6025.5

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3)

S33Neg cm3	S22Pos cm3	S22Neg cm3	Z33 cm3	Z22 cm3	R33 mm	R22 mm	Cw cm6	CG Offset 3 mm	CG Offset 2 mm	PNA Offset 3 mm	PNA Offset 2 mm	Area Modifier
3450	2645	2645	5175	3967.5	86.6	66.4		0	0	0	0	1
5535.3	3350.3	3350.3	8303	5025.5	109.7	66.4		0	0	0	0	1
7762.5	3967.5	3967.5	11643.8	5951.3	129.9	66.4		0	0	0	0	1
10565.6	4628.8	4628.8	15848.4	6943.1	151.6	66.4		0	0	0	0	1
13800	5290	5290	20700	7935	173.2	66.4		0	0	0	0	1
2027.8	2027.8	2027.8	3041.8	3041.8	66.4	66.4		0	0	0	0	1
3450	2645	2645	5175	3967.5	86.6	66.4		0	0	0	0	1
7762.5	3967.5	3967.5	11643.8	5951.3	129.9	66.4		0	0	0	0	1
10565.6	4628.8	4628.8	15848.4	6943.1	151.6	66.4		0	0	0	0	1
13800	5290	5290	20700	7935	173.2	66.4		0	0	0	0	1
13781.3	7875	7875	20671.9	11812.5	151.6	86.6		0	0	0	0	1
18000	9000	9000	27000	13500	173.2	86.6		0	0	0	0	1
15625	11718.8	11718.8	23437.5	17578.1	144.3	108.3		0	0	0	0	1
8789.1	8789.1	8789.1	13183.6	13183.6	108.3	108.3		0	0	0	0	1
1213.7	115.9	115.9	1368.2	178.2	206.2	36.8	573052.3	0	0	0	0	1
6025.5	2083.6	2083.6	6570.3	3142.6	221.8	130.4	29378255.2	0	0	0	0	1

3 Loads

This chapter provides loading information as applied to the model.

3.1 Load Patterns

Table 3.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier	Auto Load
~LLRF	Yes	Other	0	
Dead	No	Dead	1	
EQx	No	Seismic	0	IS 1893:2016
EQy	No	Seismic	0	IS 1893:2016
floor finish	No	Super Dead	0	
Live	No	Live	0	
roof	No	Roof Live	0	
sunken filling	No	Super Dead	0	
wall load	No	Super Dead	0	

3.2 Auto Seismic Loading

IS 1893:2016 Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern EQx according to IS 1893:2016, as calculated by ETABS.

Direction and Eccentricity

Direction = X

Structural Period

Period Calculation Method = User Specified

User Period $T = 0.4$ sec

Factors and Coefficients

Seismic Zone Factor, Z [IS Table 3] $Z = 0.16$

Response Reduction Factor, R [IS Table 9] $R = 5$

Importance Factor, I [IS Table 8] $I = 1$

Site Type [IS Table 1] = II

Seismic Response

Spectral Acceleration Coefficient, S_a/g [IS 6.4.2] $\frac{S_a}{g} = 2.5$ $\frac{S_a}{g} = 2.5$

Equivalent Lateral Forces

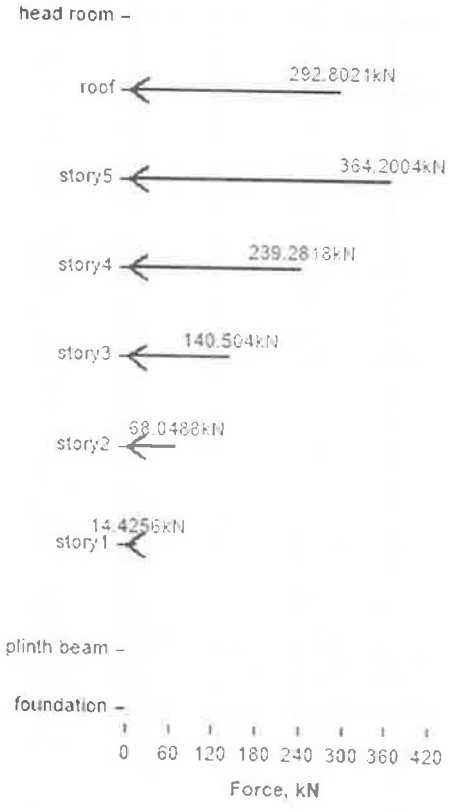
Seismic Coefficient, A_h [IS 6.4.2] $A_h = \frac{ZI\frac{S_a}{g}}{2R}$

Calculated Base Shear

Direction	Period Used (sec)	W (kN)	V_b (kN)
X	0.4	27981.5688	1119.2628

Applied Story Forces

Lateral Load to Stories - X



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
head room	21.65	0	0
roof	19.15	292.8021	0
story5	16.1	364.2004	0
story4	13.05	239.2818	0
story3	10	140.504	0
story2	6.95	68.0488	0
story1	3.6	14.4256	0
plinth beam	0	0	0
foundation	-2	0	0

IS 1893:2016 Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern EQy according to IS 1893:2016, as calculated by ETABS.

Direction and Eccentricity

Direction = Y

Structural Period

Period Calculation Method = User Specified

User Period $T = 0.4$ sec

Factors and Coefficients

Seismic Zone Factor, Z [IS Table 3] $Z = 0.16$

Response Reduction Factor, R [IS Table 9] $R = 5$

Importance Factor, I [IS Table 8] $I = 1$

Site Type [IS Table 1] = II

Seismic Response

Spectral Acceleration Coefficient, S_a/g [IS 6.4.2] $\frac{S_a}{g} = 2.5$ $\frac{S_a}{g} = 2.5$

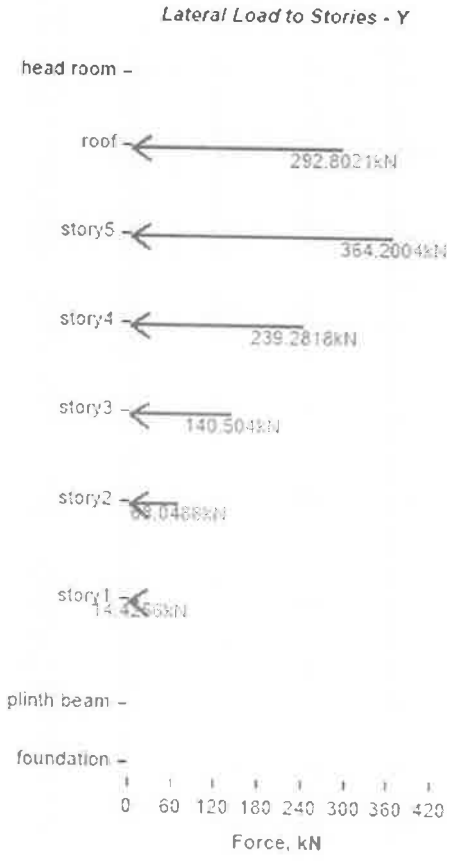
Equivalent Lateral Forces

Seismic Coefficient, A_h [IS 6.4.2] $A_h = \frac{ZI\frac{S_a}{g}}{2R}$

Calculated Base Shear

Direction	Period Used (sec)	W (kN)	V_b (kN)
Y	0.4	27981.5688	1119.2628

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
head room	21.65	0	0
roof	19.15	0	292.8021
story5	16.1	0	364.2004
story4	13.05	0	239.2818
story3	10	0	140.504
story2	6.95	0	68.0488
story1	3.6	0	14.4256
plinth beam	0	0	0
foundation	-2	0	0

3.3 Load Combinations

Table 3.4 - Load Combination Definitions

Name	Type	Is Auto	Load Name	SF	Notes
0.9DL-1.5EQx	Linear Add	No	Dead	0.9	
0.9DL-1.5EQx			floor finish	0.9	
0.9DL-1.5EQx			sunken filling	0.9	
0.9DL-1.5EQx			wall load	0.9	
0.9DL-1.5EQx			EQx	-1.5	
0.9DL-1.5EQy	Linear Add	No	Dead	0.9	
0.9DL-1.5EQy			floor finish	0.9	
0.9DL-1.5EQy			sunken filling	0.9	
0.9DL-1.5EQy			wall load	0.9	
0.9DL-1.5EQy			EQy	-1.5	
0.9DL+1.5EQx	Linear Add	No	Dead	0.9	
0.9DL+1.5EQx			floor finish	0.9	
0.9DL+1.5EQx			sunken filling	0.9	
0.9DL+1.5EQx			wall load	0.9	
0.9DL+1.5EQx			EQx	1.5	
0.9DL+1.5EQy	Linear Add	No	Dead	0.9	
0.9DL+1.5EQy			floor finish	0.9	
0.9DL+1.5EQy			sunken filling	0.9	
0.9DL+1.5EQy			wall load	0.9	
0.9DL+1.5EQy			EQy	1.5	
1.2(DL+LL+EQx)	Linear Add	No	Dead	1.2	
1.2(DL+LL+EQx)			floor finish	1.2	
1.2(DL+LL+EQx)			sunken filling	1.2	
1.2(DL+LL+EQx)			wall load	1.2	
1.2(DL+LL+EQx)			Live	1.2	
1.2(DL+LL+EQx)			EQx	1.2	
1.2(DL+LL+EQy)	Linear Add	No	Dead	1.2	
1.2(DL+LL+EQy)			floor finish	1.2	
1.2(DL+LL+EQy)			sunken filling	1.2	
1.2(DL+LL+EQy)			wall load	1.2	
1.2(DL+LL+EQy)			Live	1.2	
1.2(DL+LL+EQy)			EQy	1.2	
1.2(DL+LL-EQx)	Linear Add	No	Dead	1.2	
1.2(DL+LL-EQx)			floor finish	1.2	
1.2(DL+LL-EQx)			sunken filling	1.2	
1.2(DL+LL-EQx)			wall load	1.2	
1.2(DL+LL-EQx)			Live	1.2	
1.2(DL+LL-EQx)			EQx	-1.2	
1.2(DL+LL-EQy)	Linear Add	No	Dead	1.2	
1.2(DL+LL-EQy)			floor finish	1.2	
1.2(DL+LL-EQy)			sunken filling	1.2	
1.2(DL+LL-EQy)			wall load	1.2	
1.2(DL+LL-EQy)			Live	1.2	
1.2(DL+LL-EQy)			EQy	-1.2	
1.5(DL+EQx)	Linear Add	No	Dead	1.5	
1.5(DL+EQx)			floor finish	1.5	
1.5(DL+EQx)			sunken filling	1.5	
1.5(DL+EQx)			wall load	1.5	
1.5(DL+EQx)			EQx	1.5	
1.5(DL+EQy)	Linear Add	No	Dead	1.5	
1.5(DL+EQy)			floor finish	1.5	
1.5(DL+EQy)			sunken filling	1.5	
1.5(DL+EQy)			wall load	1.5	

Name	Type	Is Auto	Load Name	SF	Notes
1.5(DL+EQy)			EQy	1.5	
1.5(DL+LL)	Linear Add	No	Dead	1.5	
1.5(DL+LL)			Live	1.5	
1.5(DL+LL)			floor finish	1.5	
1.5(DL+LL)			sunken filling	1.5	
1.5(DL+LL)			wall load	1.5	
1.5(DL-EQx)	Linear Add	No	Dead	1.5	
1.5(DL-EQx)			floor finish	1.5	
1.5(DL-EQx)			sunken filling	1.5	
1.5(DL-EQx)			wall load	1.5	
1.5(DL-EQx)			EQx	-1.5	
1.5(DL-EQy)	Linear Add	No	Dead	1.5	
1.5(DL-EQy)			floor finish	1.5	
1.5(DL-EQy)			sunken filling	1.5	
1.5(DL-EQy)			wall load	1.5	
1.5(DL-EQy)			EQy	-1.5	
DL+0.8LL-0.8EQx	Linear Add	No	Dead	1	
DL+0.8LL-0.8EQx			floor finish	1	
DL+0.8LL-0.8EQx			sunken filling	1	
DL+0.8LL-0.8EQx			wall load	1	
DL+0.8LL-0.8EQx			Live	0.8	
DL+0.8LL-0.8EQx			EQx	-0.8	
DL+0.8LL-0.8EQy	Linear Add	No	Dead	1	
DL+0.8LL-0.8EQy			floor finish	1	
DL+0.8LL-0.8EQy			sunken filling	1	
DL+0.8LL-0.8EQy			wall load	1	
DL+0.8LL-0.8EQy			Live	0.8	
DL+0.8LL-0.8EQy			EQy	-0.8	
DL+0.8LL+0.8EQx	Linear Add	No	Dead	1	
DL+0.8LL+0.8EQx			floor finish	1	
DL+0.8LL+0.8EQx			sunken filling	1	
DL+0.8LL+0.8EQx			wall load	1	
DL+0.8LL+0.8EQx			Live	0.8	
DL+0.8LL+0.8EQx			EQx	0.8	
DL+0.8LL+0.8EQy	Linear Add	No	Dead	1	
DL+0.8LL+0.8EQy			floor finish	1	
DL+0.8LL+0.8EQy			sunken filling	1	
DL+0.8LL+0.8EQy			wall load	1	
DL+0.8LL+0.8EQy			Live	0.8	
DL+0.8LL+0.8EQy			EQy	0.8	
DL+EQx	Linear Add	No	Dead	1	
DL+EQx			floor finish	1	
DL+EQx			sunken filling	1	
DL+EQx			wall load	1	
DL+EQx			EQx	1	
DL+EQy	Linear Add	No	Dead	1	
DL+EQy			floor finish	1	
DL+EQy			sunken filling	1	
DL+EQy			wall load	1	
DL+EQy			EQy	1	
DL+LL	Linear Add	No	Dead	1	
DL+LL			Live	1	
DL+LL			floor finish	1	
DL+LL			sunken filling	1	
DL+LL			wall load	1	

Name	Type	Is Auto	Load Name	SF	Notes
DL-EQx	Linear Add	No	Dead	1	
DL-EQx			floor finish	1	
DL-EQx			sunken filling	1	
DL-EQx			wall load	1	
DL-EQx			EQx	-1	
DL-EQy	Linear Add	No	Dead	1	
DL-EQy			floor finish	1	
DL-EQy			sunken filling	1	
DL-EQy			wall load	1	
DL-EQy			EQy	-1	
envelope	Envelope	No	1.5(DL+LL)	1	
envelope			1.2(DL+LL+EQx)	1	
envelope			1.2(DL+LL-EQx)	1	
envelope			1.2(DL+LL+EQy)	1	
envelope			1.2(DL+LL-EQy)	1	
envelope			1.5(DL+EQx)	1	
envelope			1.5(DL-EQx)	1	
envelope			1.5(DL+EQy)	1	
envelope			1.5(DL-EQy)	1	
envelope			0.9DL+1.5EQx	1	
envelope			0.9DL-1.5EQx	1	
envelope			0.9DL+1.5EQy	1	
envelope			0.9DL-1.5EQy	1	

4 Analysis Results

This chapter provides analysis results.

4.1 Story Results

Table 4.1 - Story Drifts

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
head room	Dead	LinStatic		X	2.6E-05	8	-6.15	46.74	21.65
head room	Dead	LinStatic		Y	1.9E-05	4	-6.15	54.97	21.65
head room	Live	LinStatic		X	2.9E-05	3	-8.51	54.97	21.65
head room	Live	LinStatic		Y	1.6E-05	4	-6.15	54.97	21.65
head room	floor finish	LinStatic		X	2.1E-05	7	-8.51	46.74	21.65
head room	floor finish	LinStatic		Y	2.3E-05	4	-6.15	54.97	21.65
head room	sunken filling	LinStatic		X	2.5E-05	4	-6.15	54.97	21.65
head room	wall load	LinStatic		X	1.4E-05	5	-6.15	50.4	21.65
head room	wall load	LinStatic		Y	5.4E-05	6	-8.51	50.4	21.65
head room	EQx	LinStatic		X	0.000311	4	-6.15	54.97	21.65
head room	EQy	LinStatic		Y	0.000559	1	-8.51	48.8	21.65
head room	roof	LinStatic		X	1.2E-05	7	-8.51	46.74	21.65
head room	roof	LinStatic		Y	6E-06	4	-6.15	54.97	21.65
head room	DL+LL	Combination		X	6.1E-05	8	-6.15	46.74	21.65
head room	DL+LL	Combination		Y	3.9E-05	6	-8.51	50.4	21.65
head room	1.5(DL+LL)	Combination		X	9.1E-05	8	-6.15	46.74	21.65
head room	1.5(DL+LL)	Combination		Y	5.9E-05	6	-8.51	50.4	21.65
head room	1.2(DL+LL+EQx)	Combination		X	0.00038	3	-8.51	54.97	21.65
head room	1.2(DL+LL-EQx)	Combination		X	0.000391	8	-6.15	46.74	21.65
head room	1.2(DL+LL+EQy)	Combination		Y	0.000717	6	-8.51	50.4	21.65
head room	1.2(DL+LL-EQy)	Combination		Y	0.000674	4	-6.15	54.97	21.65
head room	1.5(DL+EQx)	Combination		X	0.000432	3	-8.51	54.97	21.65

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
head room	1.5(DL+EQx)	Combination		Y	7.4E-05	6	-8.51	50.4	21.65
head room	1.5(DL-EQx)	Combination		X	0.000502	4	-6.15	54.97	21.65
head room	1.5(DL+EQy)	Combination		Y	0.000886	6	-8.51	50.4	21.65
head room	1.5(DL-EQy)	Combination		X	9.4E-05	5	-6.15	50.4	21.65
head room	1.5(DL-EQy)	Combination		Y	0.000818	4	-6.15	54.97	21.65
head room	0.9DL+1.5EQx	Combination		X	0.000445	3	-8.51	54.97	21.65
head room	0.9DL-1.5EQx	Combination		X	0.000488	4	-6.15	54.97	21.65
head room	0.9DL+1.5EQy	Combination		Y	0.000867	6	-8.51	50.4	21.65
head room	0.9DL-1.5EQy	Combination		Y	0.000822	4	-6.15	54.97	21.65
head room	DL+EQx	Combination		X	0.000288	3	-8.51	54.97	21.65
head room	DL+EQx	Combination		Y	5E-05	6	-8.51	50.4	21.65
head room	DL-EQx	Combination		X	0.000335	4	-6.15	54.97	21.65
head room	DL+EQy	Combination		Y	0.000591	6	-8.51	50.4	21.65
head room	DL-EQy	Combination		X	6.3E-05	5	-6.15	50.4	21.65
head room	DL-EQy	Combination		Y	0.000545	4	-6.15	54.97	21.65
head room	DL+0.8LL+0.8EQx	Combination		X	0.000249	3	-8.51	54.97	21.65
head room	DL+0.8LL+0.8EQx	Combination		Y	5.2E-05	6	-8.51	50.4	21.65
head room	DL+0.8LL-0.8EQx	Combination		X	0.000272	8	-6.15	46.74	21.65
head room	DL+0.8LL+0.8EQy	Combination		Y	0.000485	6	-8.51	50.4	21.65
head room	DL+0.8LL-0.8EQy	Combination		Y	0.000448	4	-6.15	54.97	21.65
head room	envelope	Combination	Max	X	0.000445	3	-8.51	54.97	21.65
head room	envelope	Combination	Max	Y	0.000886	6	-8.51	50.4	21.65
head room	envelope	Combination	Min	X	0.000502	4	-6.15	54.97	21.65
head room	envelope	Combination	Min	Y	0.000822	4	-6.15	54.97	21.65
roof	Dead	LinStatic		X	8.4E-05	20	-13.5	55.73	19.15
roof	Live	LinStatic		X	2.2E-05	21	-15.83	55.73	19.15
roof	Live	LinStatic		Y	1.8E-05	36	-17.16	55.73	19.15
roof	floor finish	LinStatic		X	4.8E-05	20	-13.5	55.73	19.15
roof	sunken filling	LinStatic		X	4.4E-05	21	-15.83	55.73	19.15
roof	sunken filling	LinStatic		Y	3.2E-05	35	2.5	40.6	19.15
roof	wall load	LinStatic		X	8.5E-05	27	1.17	55.73	19.15
roof	wall load	LinStatic		Y	8.8E-05	36	-17.16	55.73	19.15
roof	EQx	LinStatic		X	0.000879	21	-15.83	55.73	19.15
roof	EQy	LinStatic		Y	0.001171	26	-15.83	40.6	19.15
roof	roof	LinStatic		X	9E-06	20	-13.5	55.73	19.15
roof	roof	LinStatic		Y	1.5E-05	13	-13.5	40.6	19.15
roof	DL+LL	Combination		X	0.000269	20	-13.5	55.73	19.15
roof	DL+LL	Combination		Y	0.000202	39	-17.16	40.6	19.15
roof	1.5(DL+LL)	Combination		X	0.000404	20	-13.5	55.73	19.15
roof	1.5(DL+LL)	Combination		Y	0.000302	39	-17.16	40.6	19.15
roof	1.2(DL+LL+EQx)	Combination		X	0.001376	21	-15.83	55.73	19.15
roof	1.2(DL+LL-EQx)	Combination		X	0.000733	21	-15.83	55.73	19.15
roof	1.2(DL+LL+EQy)	Combination		X	0.000339	20	-13.5	55.73	19.15
roof	1.2(DL+LL+EQy)	Combination		Y	0.001647	39	-17.16	40.6	19.15
roof	1.2(DL+LL-EQy)	Combination		X	0.00031	27	1.17	55.73	19.15
roof	1.2(DL+LL-EQy)	Combination		Y	0.00151	32	2.5	55.73	19.15
roof	1.5(DL+EQx)	Combination		X	0.001687	21	-15.83	55.73	19.15
roof	1.5(DL-EQx)	Combination		X	0.000949	21	-15.83	55.73	19.15
roof	1.5(DL+EQy)	Combination		X	0.000392	20	-13.5	55.73	19.15
roof	1.5(DL+EQy)	Combination		Y	0.002031	39	-17.16	40.6	19.15
roof	1.5(DL-EQy)	Combination		X	0.000356	27	1.17	55.73	19.15
roof	1.5(DL-EQy)	Combination		Y	0.001882	32	2.5	55.73	19.15
roof	0.9DL+1.5EQx	Combination		X	0.001539	21	-15.83	55.73	19.15
roof	0.9DL-1.5EQx	Combination		X	0.001097	21	-15.83	55.73	19.15

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
roof	0.9DL+1.5EQy	Combination		Y	0.001921	39	-17.16	40.6	19.15
roof	0.9DL-1.5EQy	Combination		Y	0.001816	32	2.5	55.73	19.15
roof	DL+EQx	Combination		X	0.001124	21	-15.83	55.73	19.15
roof	DL-EQx	Combination		X	0.000633	21	-15.83	55.73	19.15
roof	DL+EQy	Combination		X	0.000261	20	-13.5	55.73	19.15
roof	DL+EQy	Combination		Y	0.001354	39	-17.16	40.6	19.15
roof	DL-EQy	Combination		X	0.000238	27	1.17	55.73	19.15
roof	DL-EQy	Combination		Y	0.001255	32	2.5	55.73	19.15
roof	DL+0.8LL+0.8EQx	Combination		X	0.000966	21	-15.83	55.73	19.15
roof	DL+0.8LL-0.8EQx	Combination		X	0.000448	24	-15.83	46.74	19.15
roof	DL+0.8LL-0.8EQx	Combination		Y	6.4E-05	12	-2	40.6	19.15
roof	DL+0.8LL+0.8EQy	Combination		X	0.000276	20	-13.5	55.73	19.15
roof	DL+0.8LL+0.8EQy	Combination		Y	0.001135	39	-17.16	40.6	19.15
roof	DL+0.8LL-0.8EQy	Combination		X	0.000256	27	1.17	55.73	19.15
roof	DL+0.8LL-0.8EQy	Combination		Y	0.001028	32	2.5	55.73	19.15
roof	envelope	Combination	Max	X	0.001687	21	-15.83	55.73	19.15
roof	envelope	Combination	Max	Y	0.002031	39	-17.16	40.6	19.15
roof	envelope	Combination	Min	X	0.001097	21	-15.83	55.73	19.15
roof	envelope	Combination	Min	Y	0.001882	32	2.5	55.73	19.15
story5	Dead	LinStatic		X	8E-05	32	2.5	55.73	16.1
story5	Dead	LinStatic		Y	5E-05	35	2.5	40.6	16.1
story5	Live	LinStatic		X	2.6E-05	20	-13.5	55.73	16.1
story5	Live	LinStatic		Y	2.3E-05	39	-17.16	40.6	16.1
story5	floor finish	LinStatic		X	4.6E-05	32	2.5	55.73	16.1
story5	floor finish	LinStatic		Y	3.4E-05	35	2.5	40.6	16.1
story5	sunken filling	LinStatic		X	5.2E-05	20	-13.5	55.73	16.1
story5	wall load	LinStatic		X	9.6E-05	27	1.17	55.73	16.1
story5	wall load	LinStatic		Y	0.000116	39	-17.16	40.6	16.1
story5	EQx	LinStatic		X	0.001306	28	-2.42	55.73	16.1
story5	EQy	LinStatic		Y	0.001967	36	-17.16	55.73	16.1
story5	roof	LinStatic		X	4E-06	32	2.5	55.73	16.1
story5	roof	LinStatic		Y	9E-06	12	-2	40.6	16.1
story5	DL+LL	Combination		X	0.000299	27	1.17	55.73	16.1
story5	DL+LL	Combination		Y	0.000223	36	-17.16	55.73	16.1
story5	1.5(DL+LL)	Combination		X	0.000448	27	1.17	55.73	16.1
story5	1.5(DL+LL)	Combination		Y	0.000335	36	-17.16	55.73	16.1
story5	1.2(DL+LL+EQx)	Combination		X	0.001925	28	-2.42	55.73	16.1
story5	1.2(DL+LL-EQx)	Combination		X	0.00121	28	-2.42	55.73	16.1
story5	1.2(DL+LL+EQy)	Combination		Y	0.002629	36	-17.16	55.73	16.1
story5	1.2(DL+LL-EQy)	Combination		Y	0.002477	32	2.5	55.73	16.1
story5	1.5(DL+EQx)	Combination		X	0.002368	28	-2.42	55.73	16.1
story5	1.5(DL-EQx)	Combination		X	0.001551	28	-2.42	55.73	16.1
story5	1.5(DL+EQy)	Combination		Y	0.003253	36	-17.16	55.73	16.1
story5	1.5(DL-EQy)	Combination		Y	0.003088	32	2.5	55.73	16.1
story5	0.9DL+1.5EQx	Combination		X	0.002205	28	-2.42	55.73	16.1
story5	0.9DL-1.5EQx	Combination		X	0.001714	28	-2.42	55.73	16.1
story5	0.9DL+1.5EQy	Combination		Y	0.003132	36	-17.16	55.73	16.1
story5	0.9DL-1.5EQy	Combination		Y	0.003007	32	2.5	55.73	16.1
story5	DL+EQx	Combination		X	0.001579	28	-2.42	55.73	16.1
story5	DL-EQx	Combination		X	0.001034	28	-2.42	55.73	16.1
story5	DL+EQy	Combination		Y	0.002169	36	-17.16	55.73	16.1
story5	DL-EQy	Combination		Y	0.002059	32	2.5	55.73	16.1
story5	DL+0.8LL+0.8EQx	Combination		X	0.001338	28	-2.42	55.73	16.1
story5	DL+0.8LL-0.8EQx	Combination		X	0.000752	28	-2.42	55.73	16.1

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
story5	DL+0.8LL+0.8EQy	Combination		Y	0.001793	36	-17.16	55.73	16.1
story5	DL+0.8LL-0.8EQy	Combination		X	0.000281	32	2.5	55.73	16.1
story5	DL+0.8LL-0.8EQy	Combination		Y	0.001679	32	2.5	55.73	16.1
story5	envelope	Combination	Max	X	0.002368	28	-2.42	55.73	16.1
story5	envelope	Combination	Max	Y	0.003253	36	-17.16	55.73	16.1
story5	envelope	Combination	Min	X	0.001714	28	-2.42	55.73	16.1
story5	envelope	Combination	Min	Y	0.003088	32	2.5	55.73	16.1
story4	Dead	LinStatic		X	7.4E-05	36	-17.16	55.73	13.05
story4	Dead	LinStatic		Y	4.6E-05	32	2.5	55.73	13.05
story4	Live	LinStatic		X	2.6E-05	21	-15.83	55.73	13.05
story4	Live	LinStatic		Y	2E-05	39	-17.16	40.6	13.05
story4	floor finish	LinStatic		X	4.3E-05	36	-17.16	55.73	13.05
story4	floor finish	LinStatic		Y	3.1E-05	32	2.5	55.73	13.05
story4	sunken filling	LinStatic		X	5E-05	21	-15.83	55.73	13.05
story4	wall load	LinStatic		X	9.5E-05	21	-15.83	55.73	13.05
story4	wall load	LinStatic		Y	0.000111	36	-17.16	55.73	13.05
story4	EQx	LinStatic		X	0.001631	32	2.5	55.73	13.05
story4	EQy	LinStatic		Y	0.002579	36	-17.16	55.73	13.05
story4	roof	LinStatic		X	3E-06	28	-2.42	55.73	13.05
story4	roof	LinStatic		Y	4E-06	27	1.17	55.73	13.05
story4	DL+LL	Combination		X	0.000287	36	-17.16	55.73	13.05
story4	DL+LL	Combination		Y	0.000215	39	-17.16	40.6	13.05
story4	1.5(DL+LL)	Combination		X	0.000431	36	-17.16	55.73	13.05
story4	1.5(DL+LL)	Combination		Y	0.000323	39	-17.16	40.6	13.05
story4	1.2(DL+LL+EQx)	Combination		X	0.002301	32	2.5	55.73	13.05
story4	1.2(DL+LL-EQx)	Combination		X	0.001613	32	2.5	55.73	13.05
story4	1.2(DL+LL+EQy)	Combination		Y	0.003354	36	-17.16	55.73	13.05
story4	1.2(DL+LL-EQy)	Combination		Y	0.003192	32	2.5	55.73	13.05
story4	1.5(DL+EQx)	Combination		X	0.002838	32	2.5	55.73	13.05
story4	1.5(DL-EQx)	Combination		X	0.002054	32	2.5	55.73	13.05
story4	1.5(DL+EQy)	Combination		Y	0.004162	36	-17.16	55.73	13.05
story4	1.5(DL-EQy)	Combination		Y	0.003979	32	2.5	55.73	13.05
story4	0.9DL+1.5EQx	Combination		X	0.002681	32	2.5	55.73	13.05
story4	0.9DL-1.5EQx	Combination		X	0.002211	32	2.5	55.73	13.05
story4	0.9DL+1.5EQy	Combination		Y	0.004045	36	-17.16	55.73	13.05
story4	0.9DL-1.5EQy	Combination		Y	0.003899	32	2.5	55.73	13.05
story4	DL+EQx	Combination		X	0.001892	32	2.5	55.73	13.05
story4	DL-EQx	Combination		X	0.001369	32	2.5	55.73	13.05
story4	DL+EQy	Combination		Y	0.002775	36	-17.16	55.73	13.05
story4	DL-EQy	Combination		Y	0.002652	32	2.5	55.73	13.05
story4	DL+0.8LL+0.8EQx	Combination		X	0.001586	32	2.5	55.73	13.05
story4	DL+0.8LL-0.8EQx	Combination		X	0.001023	32	2.5	55.73	13.05
story4	DL+0.8LL+0.8EQy	Combination		Y	0.002275	36	-17.16	55.73	13.05
story4	DL+0.8LL-0.8EQy	Combination		Y	0.002155	32	2.5	55.73	13.05
story4	envelope	Combination	Max	X	0.002838	32	2.5	55.73	13.05
story4	envelope	Combination	Max	Y	0.004162	36	-17.16	55.73	13.05
story4	envelope	Combination	Min	X	0.002211	32	2.5	55.73	13.05
story4	envelope	Combination	Min	Y	0.003979	32	2.5	55.73	13.05
story3	Dead	LinStatic		X	6.7E-05	20	-13.5	55.73	10
story3	Live	LinStatic		X	2.4E-05	32	2.5	55.73	10
story3	Live	LinStatic		Y	1.8E-05	36	-17.16	55.73	10
story3	floor finish	LinStatic		X	3.8E-05	32	2.5	55.73	10
story3	floor finish	LinStatic		Y	2.7E-05	35	2.5	40.6	10
story3	sunken filling	LinStatic		X	4.6E-05	20	-13.5	55.73	10

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
story3	wall load	LinStatic		X	8.9E-05	20	-13.5	55.73	10
story3	wall load	LinStatic		Y	0.000104	39	-17.16	40.6	10
story3	EQx	LinStatic		X	0.001823	36	-17.16	55.73	10
story3	EQy	LinStatic		Y	0.002983	21	-15.83	55.73	10
story3	roof	LinStatic		X	2E-06	21	-15.83	55.73	10
story3	roof	LinStatic		Y	3E-06	35	2.5	40.6	10
story3	DL+LL	Combination		X	0.000263	20	-13.5	55.73	10
story3	DL+LL	Combination		Y	0.000203	36	-17.16	55.73	10
story3	1.5(DL+LL)	Combination		X	0.000395	20	-13.5	55.73	10
story3	1.5(DL+LL)	Combination		Y	0.000304	36	-17.16	55.73	10
story3	1.2(DL+LL+EQx)	Combination		X	0.002504	20	-13.5	55.73	10
story3	1.2(DL+LL-EQx)	Combination		X	0.001873	36	-17.16	55.73	10
story3	1.2(DL+LL+EQy)	Combination		Y	0.003821	36	-17.16	55.73	10
story3	1.2(DL+LL-EQy)	Combination		Y	0.003649	35	2.5	40.6	10
story3	1.5(DL+EQx)	Combination		X	0.003095	20	-13.5	55.73	10
story3	1.5(DL-EQx)	Combination		X	0.002377	36	-17.16	55.73	10
story3	1.5(DL+EQy)	Combination		Y	0.00475	36	-17.16	55.73	10
story3	1.5(DL-EQy)	Combination		Y	0.004548	32	2.5	55.73	10
story3	0.9DL+1.5EQx	Combination		X	0.002951	20	-13.5	55.73	10
story3	0.9DL-1.5EQx	Combination		X	0.00252	36	-17.16	55.73	10
story3	0.9DL+1.5EQy	Combination		Y	0.004639	36	-17.16	55.73	10
story3	0.9DL-1.5EQy	Combination		Y	0.004477	32	2.5	55.73	10
story3	DL+EQx	Combination		X	0.002063	20	-13.5	55.73	10
story3	DL-EQx	Combination		X	0.001585	36	-17.16	55.73	10
story3	DL+EQy	Combination		Y	0.003167	36	-17.16	55.73	10
story3	DL-EQy	Combination		Y	0.003032	32	2.5	55.73	10
story3	DL+0.8LL+0.8EQx	Combination		X	0.001717	20	-13.5	55.73	10
story3	DL+0.8LL-0.8EQx	Combination		X	0.001201	36	-17.16	55.73	10
story3	DL+0.8LL+0.8EQy	Combination		Y	0.002584	36	-17.16	55.73	10
story3	DL+0.8LL-0.8EQy	Combination		Y	0.002456	35	2.5	40.6	10
story3	envelope	Combination	Max	X	0.003095	20	-13.5	55.73	10
story3	envelope	Combination	Max	Y	0.00475	36	-17.16	55.73	10
story3	envelope	Combination	Min	X	0.00252	36	-17.16	55.73	10
story3	envelope	Combination	Min	Y	0.004548	32	2.5	55.73	10
story2	Dead	LinStatic		X	4.9E-05	27	1.17	55.73	6.95
story2	Dead	LinStatic		Y	3.3E-05	39	-17.16	40.6	6.95
story2	Live	LinStatic		X	1.9E-05	20	-13.5	55.73	6.95
story2	Live	LinStatic		Y	1.7E-05	39	-17.16	40.6	6.95
story2	floor finish	LinStatic		X	2.8E-05	20	-13.5	55.73	6.95
story2	floor finish	LinStatic		Y	1.8E-05	32	2.5	55.73	6.95
story2	sunken filling	LinStatic		X	2.7E-05	36	-17.16	55.73	6.95
story2	wall load	LinStatic		X	6.6E-05	27	1.17	55.73	6.95
story2	wall load	LinStatic		Y	7.4E-05	36	-17.16	55.73	6.95
story2	EQx	LinStatic		X	0.002014	32	2.5	55.73	6.95
story2	EQy	LinStatic		Y	0.00308	9	-6.15	40.6	6.95
story2	roof	LinStatic		X	1E-06	36	-17.16	55.73	6.95
story2	roof	LinStatic		Y	2E-06	32	2.5	55.73	6.95
story2	DL+LL	Combination		X	0.000186	27	1.17	55.73	6.95
story2	DL+LL	Combination		Y	0.000156	39	-17.16	40.6	6.95
story2	1.5(DL+LL)	Combination		X	0.00028	27	1.17	55.73	6.95
story2	1.5(DL+LL)	Combination		Y	0.000235	39	-17.16	40.6	6.95
story2	1.2(DL+LL+EQx)	Combination		X	0.002641	27	1.17	55.73	6.95
story2	1.2(DL+LL-EQx)	Combination		X	0.002201	21	-15.83	55.73	6.95
story2	1.2(DL+LL+EQy)	Combination		Y	0.003852	39	-17.16	40.6	6.95

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
story2	1.2(DL+LL-EQy)	Combination		Y	0.003771	32	2.5	55.73	6.95
story2	1.5(DL+EQx)	Combination		X	0.003274	27	1.17	55.73	6.95
story2	1.5(DL-EQx)	Combination		X	0.00278	21	-15.83	55.73	6.95
story2	1.5(DL+EQy)	Combination		Y	0.004789	39	-17.16	40.6	6.95
story2	1.5(DL-EQy)	Combination		Y	0.004703	32	2.5	55.73	6.95
story2	0.9DL+1.5EQx	Combination		X	0.003173	32	2.5	55.73	6.95
story2	0.9DL-1.5EQx	Combination		X	0.002875	36	-17.16	55.73	6.95
story2	0.9DL+1.5EQy	Combination		Y	0.004706	39	-17.16	40.6	6.95
story2	0.9DL-1.5EQy	Combination		Y	0.00466	32	2.5	55.73	6.95
story2	DL+EQx	Combination		X	0.002183	27	1.17	55.73	6.95
story2	DL-EQx	Combination		X	0.001853	21	-15.83	55.73	6.95
story2	DL+EQy	Combination		Y	0.003193	39	-17.16	40.6	6.95
story2	DL-EQy	Combination		Y	0.003135	32	2.5	55.73	6.95
story2	DL+0.8LL+0.8EQx	Combination		X	0.001794	27	1.17	55.73	6.95
story2	DL+0.8LL-0.8EQx	Combination		X	0.001436	21	-15.83	55.73	6.95
story2	DL+0.8LL+0.8EQy	Combination		Y	0.002596	39	-17.16	40.6	6.95
story2	DL+0.8LL-0.8EQy	Combination		Y	0.002528	32	2.5	55.73	6.95
story2	envelope	Combination	Max	X	0.003274	27	1.17	55.73	6.95
story2	envelope	Combination	Max	Y	0.004789	39	-17.16	40.6	6.95
story2	envelope	Combination	Min	X	0.002875	36	-17.16	55.73	6.95
story2	envelope	Combination	Min	Y	0.004703	32	2.5	55.73	6.95
story1	Dead	LinStatic		X	2.5E-05	27	1.17	55.73	3.6
story1	Dead	LinStatic		Y	2E-05	26	-15.83	40.6	3.6
story1	Live	LinStatic		X	9E-06	20	-13.5	55.73	3.6
story1	Live	LinStatic		Y	1E-05	13	-13.5	40.6	3.6
story1	floor finish	LinStatic		X	1.2E-05	20	-13.5	55.73	3.6
story1	floor finish	LinStatic		Y	8E-06	28	-2.42	55.73	3.6
story1	sunken filling	LinStatic		X	8E-06	21	-15.83	55.73	3.6
story1	sunken filling	LinStatic		Y	5E-06	12	-2	40.6	3.6
story1	wall load	LinStatic		X	3.1E-05	27	1.17	55.73	3.6
story1	wall load	LinStatic		Y	2.9E-05	21	-15.83	55.73	3.6
story1	EQx	LinStatic		X	0.002169	28	-2.42	55.73	3.6
story1	EQy	LinStatic		Y	0.003018	9	-6.15	40.6	3.6
story1	roof	LinStatic		X	1E-06	20	-13.5	55.73	3.6
story1	roof	LinStatic		Y	1E-06	27	1.17	55.73	3.6
story1	DL+LL	Combination		X	8.4E-05	27	1.17	55.73	3.6
story1	DL+LL	Combination		Y	6.5E-05	26	-15.83	40.6	3.6
story1	1.5(DL+LL)	Combination		X	0.000126	27	1.17	55.73	3.6
story1	1.5(DL+LL)	Combination		Y	9.8E-05	26	-15.83	40.6	3.6
story1	1.2(DL+LL+EQx)	Combination		X	0.002703	28	-2.42	55.73	3.6
story1	1.2(DL+LL-EQx)	Combination		X	0.002508	21	-15.83	55.73	3.6
story1	1.2(DL+LL+EQy)	Combination		Y	0.003643	8	-6.15	46.74	3.6
story1	1.2(DL+LL-EQy)	Combination		Y	0.003629	31	1.17	46.74	3.6
story1	1.5(DL+EQx)	Combination		X	0.003366	28	-2.42	55.73	3.6
story1	1.5(DL-EQx)	Combination		X	0.003148	21	-15.83	55.73	3.6
story1	1.5(DL+EQy)	Combination		Y	0.004549	8	-6.15	46.74	3.6
story1	1.5(DL-EQy)	Combination		Y	0.004534	31	1.17	46.74	3.6
story1	0.9DL+1.5EQx	Combination		X	0.003321	28	-2.42	55.73	3.6
story1	0.9DL-1.5EQx	Combination		X	0.003186	28	-2.42	55.73	3.6
story1	0.9DL+1.5EQy	Combination		Y	0.00454	8	-6.15	46.74	3.6
story1	0.9DL-1.5EQy	Combination		Y	0.004526	31	1.17	46.74	3.6
story1	DL+EQx	Combination		X	0.002244	28	-2.42	55.73	3.6
story1	DL-EQx	Combination		X	0.002099	21	-15.83	55.73	3.6
story1	DL+EQy	Combination		Y	0.003033	8	-6.15	46.74	3.6

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
story1	DL-EQy	Combination		Y	0.003023	31	1.17	46.74	3.6
story1	DL+0.8LL+0.8EQx	Combination		X	0.001817	27	1.17	55.73	3.6
story1	DL+0.8LL-0.8EQx	Combination		X	0.001659	21	-15.83	55.73	3.6
story1	DL+0.8LL+0.8EQy	Combination		Y	0.002431	8	-6.15	46.74	3.6
story1	DL+0.8LL-0.8EQy	Combination		Y	0.002422	31	1.17	46.74	3.6
story1	envelope	Combination	Max	X	0.003366	28	-2.42	55.73	3.6
story1	envelope	Combination	Max	Y	0.004549	8	-6.15	46.74	3.6
story1	envelope	Combination	Min	X	0.003186	28	-2.42	55.73	3.6
story1	envelope	Combination	Min	Y	0.004534	31	1.17	46.74	3.6
plinth beam	Dead	LinStatic		X	9E-06	21	-15.83	55.73	0
plinth beam	Live	LinStatic		X	3E-06	28	-2.42	55.73	0
plinth beam	Live	LinStatic		Y	1.2E-05	12	-2	40.6	0
plinth beam	floor finish	LinStatic		X	4E-06	28	-2.42	55.73	0
plinth beam	floor finish	LinStatic		Y	1.3E-05	12	-2	40.6	0
plinth beam	sunken filling	LinStatic		X	2E-06	4	-6.15	54.97	0
plinth beam	sunken filling	LinStatic		Y	2E-06	19	1.17	40.6	0
plinth beam	wall load	LinStatic		X	2.1E-05	24	-15.83	46.74	0
plinth beam	wall load	LinStatic		Y	1.6E-05	13	-13.5	40.6	0
plinth beam	EQx	LinStatic		X	0.000968	20	-13.5	55.73	0
plinth beam	EQy	LinStatic		Y	0.001338	18	-2	46.74	0
plinth beam	roof	LinStatic		X	2.024E-07	27	1.17	55.73	0
plinth beam	roof	LinStatic		Y	3.152E-07	18	-2	46.74	0
plinth beam	DL+LL	Combination		X	3.1E-05	24	-15.83	46.74	0
plinth beam	DL+LL	Combination		Y	3E-05	28	-2.42	55.73	0
plinth beam	1.5(DL+LL)	Combination		X	4.6E-05	24	-15.83	46.74	0
plinth beam	1.5(DL+LL)	Combination		Y	4.5E-05	28	-2.42	55.73	0
plinth beam	1.2(DL+LL+EQx)	Combination		X	0.001194	21	-15.83	55.73	0
plinth beam	1.2(DL+LL-EQx)	Combination		X	0.001167	27	1.17	55.73	0
plinth beam	1.2(DL+LL+EQy)	Combination		Y	0.001617	28	-2.42	55.73	0
plinth beam	1.2(DL+LL-EQy)	Combination		Y	0.001631	12	-2	40.6	0
plinth beam	1.5(DL+EQx)	Combination		X	0.001491	21	-15.83	55.73	0
plinth beam	1.5(DL-EQx)	Combination		X	0.001463	27	1.17	55.73	0
plinth beam	1.5(DL+EQy)	Combination		Y	0.002004	16	-2.42	50.4	0
plinth beam	1.5(DL-EQy)	Combination		Y	0.002026	18	-2	46.74	0
plinth beam	0.9DL+1.5EQx	Combination		X	0.001476	21	-15.83	55.73	0
plinth beam	0.9DL-1.5EQx	Combination		X	0.001457	27	1.17	55.73	0
plinth beam	0.9DL+1.5EQy	Combination		Y	0.001996	16	-2.42	50.4	0
plinth beam	0.9DL-1.5EQy	Combination		Y	0.002018	18	-2	46.74	0
plinth beam	DL+EQx	Combination		X	0.000994	21	-15.83	55.73	0
plinth beam	DL-EQx	Combination		X	0.000975	27	1.17	55.73	0
plinth beam	DL+EQy	Combination		Y	0.001336	16	-2.42	50.4	0
plinth beam	DL-EQy	Combination		Y	0.00135	18	-2	46.74	0
plinth beam	DL+0.8LL+0.8EQx	Combination		X	0.000801	21	-15.83	55.73	0
plinth beam	DL+0.8LL-0.8EQx	Combination		X	0.00078	27	1.17	55.73	0
plinth beam	DL+0.8LL+0.8EQy	Combination		Y	0.001081	28	-2.42	55.73	0
plinth beam	DL+0.8LL-0.8EQy	Combination		Y	0.001091	12	-2	40.6	0
plinth beam	envelope	Combination	Max	X	0.001491	21	-15.83	55.73	0
plinth beam	envelope	Combination	Max	Y	0.002004	16	-2.42	50.4	0
plinth beam	envelope	Combination	Min	X	0.001463	27	1.17	55.73	0
plinth beam	envelope	Combination	Min	Y	0.002026	18	-2	46.74	0

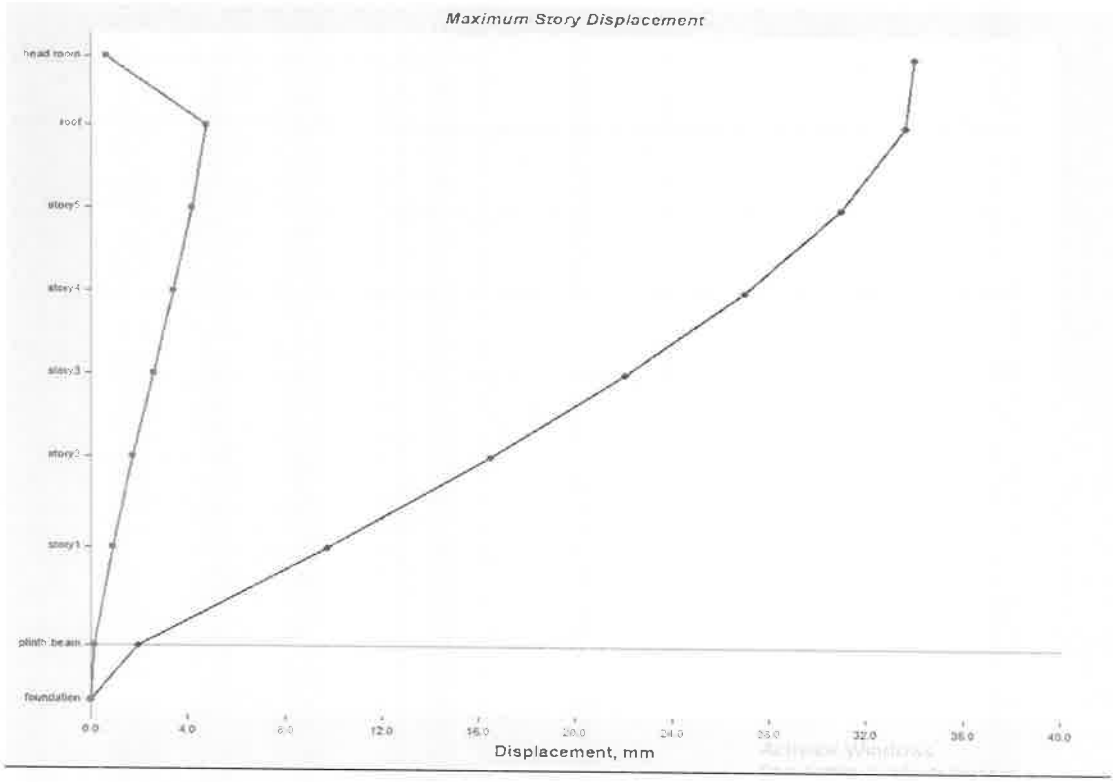
4.2 Modal Results

Table 4.2 - Modal Participating Mass Ratios (Part 1 of 2)

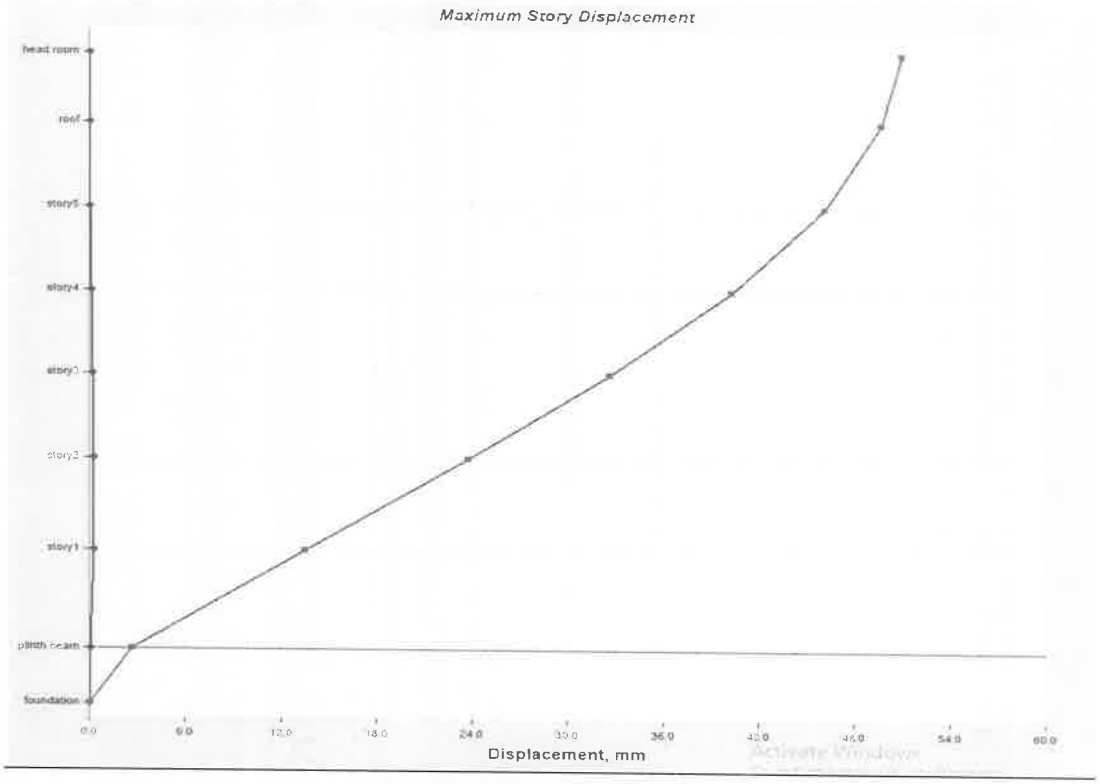
Case	Mode	Period sec	UX	UY	UZ	SumUX	SumUY	SumUZ	RX	RY	RZ
Modal	1	1.786	4.837E-05	0.8693	0	4.837E-05	0.8693	0	0.1284	1.012E-05	0.0016
Modal	2	1.673	0.057	0.0014	0	0.0571	0.8707	0	0.0004	0.012	0.8212
Modal	3	1.381	0.8288	7.462E-06	0	0.8859	0.8707	0	5.55E-06	0.1018	0.0606
Modal	4	0.552	1.537E-06	0.0737	0	0.8859	0.9445	0	0.6485	9.696E-06	0.0001
Modal	5	0.515	0.0055	6.108E-06	0	0.8914	0.9445	0	0.0003	0.0414	0.067
Modal	6	0.416	0.0597	0	0	0.9511	0.9445	0	5.229E-07	0.6379	0.0038
Modal	7	0.302	2.827E-06	0.0191	0	0.9511	0.9635	0	0.0414	1.359E-05	0.0001
Modal	8	0.281	0.0012	3.486E-05	0	0.9523	0.9636	0	0.0001	0.0042	0.0157
Modal	9	0.228	0.013	0	0	0.9653	0.9636	0	6.352E-07	0.0301	0.0012
Modal	10	0.206	4.005E-06	0.0078	0	0.9653	0.9714	0	0.0528	1.137E-05	2.439E-05
Modal	11	0.195	0.0014	1.191E-05	0	0.9667	0.9714	0	0.0001	0.0063	0.005
Modal	12	0.169	0.003	0	0	0.9698	0.9714	0	0	0.0238	0.001
Modal	13	0.155	0	0.0026	0	0.9698	0.974	0	0.0073	2.037E-06	6.249E-07
Modal	14	0.149	0.0027	6.807E-07	0	0.9725	0.974	0	4.165E-06	0.0173	0.0007
Modal	15	0.141	0.0011	0	0	0.9736	0.974	0	0	0.0054	0.0007

Table 4.2 - Modal Participating Mass Ratios (Part 2 of 2)

SumRX	SumRY	SumRZ
0.1284	1.012E-05	0.0016
0.1288	0.012	0.8228
0.1288	0.1138	0.8834
0.7773	0.1138	0.8835
0.7776	0.1552	0.9504
0.7776	0.7931	0.9542
0.819	0.7931	0.9543
0.8191	0.7973	0.97
0.8191	0.8274	0.9712
0.8719	0.8274	0.9712
0.872	0.8337	0.9762
0.872	0.8575	0.9772
0.8793	0.8576	0.9772
0.8793	0.8749	0.9779
0.8793	0.8803	0.9786



Displacement in X – direction



Displacement in Y – direction

DESIGN OF ISOLATED SQUARE FOOTING: C10 & C13

Load in kn (P)	2760.00	Size of pedestal	475.00
SBC in kn/m^2	100.00	Free end thickness	230.00
Size of the footing required (B)	5.25	Size provided	5.26
Net upward pressure (Po)	99.76	Size in feet	17.25
Maximum bending moment @ face of the column (Mu)	2252.62	eff. Width	1073.13
Depth required (d)	1007.01	Depth provided (d)	1025.00
K	4.51		
Pt	1.31		
Ast in mm^2	6382.93		
Spacing of 10mm dia	64.72		
Spacing of 12mm dia	93.20		
Spacing of 16mm dia	165.69		

Check for one way shear:

Shear force (V)	796.50
Eff. Depth (d')	684.40
Top width	2525.00
Tv	0.46
Pt	0.50
Ast in mm^2	8640.61
Spacing of 10mm dia	47.81
Spacing of 12mm dia	68.85
Spacing of 16mm dia	122.40

Check for two way shear:

Punching shear (F)	2535.55
Eff. Depth (d')	854.70
Tv	0.74
Tc	0.97

Check for transfer of load @ the column base:

Permissible bearing stress	13.50
Actual bearing stress	12.23

Design of Floor Slab:

Assume the slab thickness as 150 mm

Dead load of slab (0.15 x 25)	=	3.75 kn/m^2
Live load	=	2.00 kn/m^2
Partition wall load	=	1.00 kn/m^2
Floor finish load	=	1.00 kn/m^2
		7.75 kn/m^2

Say w = 8.0 kn/m^2

Long span L_y = 9.30 m

Short span L_x = 3.58 m

L_y / L_x = 2.60 >2.0

To design as one-way slab & slab thickness as 125mm

Positive moment @ mid span = $1.5x8x3.58^2/8$

= 19.23 knm

Referring to the table – 37 of SP – 16 and assuming the slab thickness as 125mm

Provide 8mm dia @ 100mm c/c along shorter span and 8mm dia @ 150mm c/c along the longer span with alternate rods cranked @ 0.2 times of respective span

Check for deflection:

Permissible span / depth = 22.5 x 1.3 (referring to chart 23)

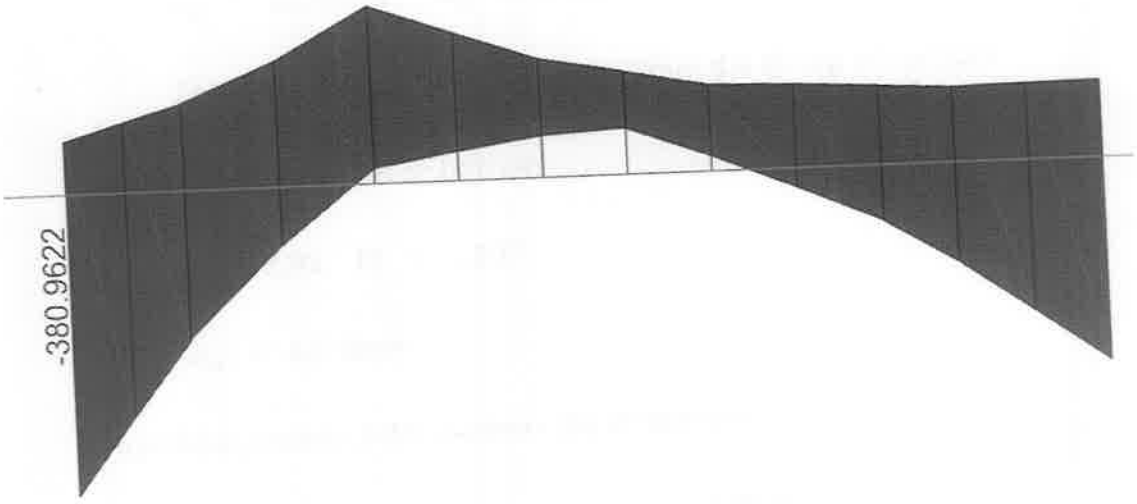
= 29.250

Actual deflection = 3580 / 125

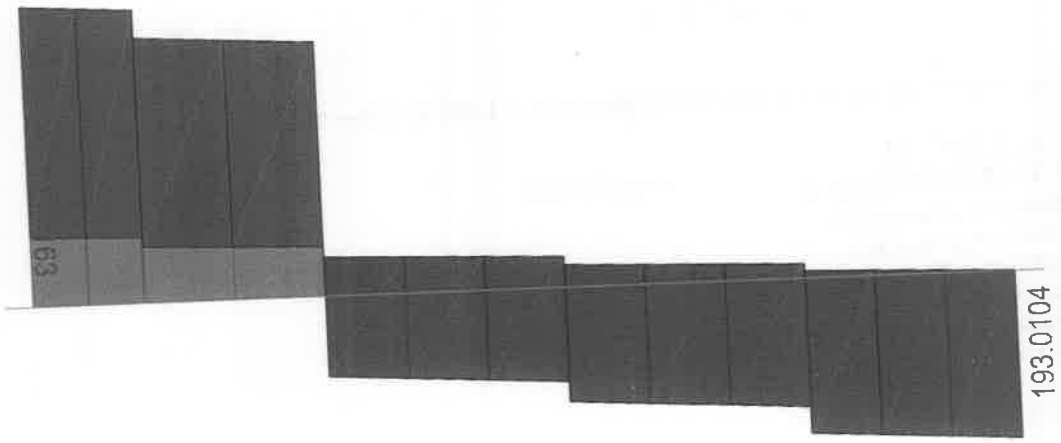
= 28.64 < 29.25

Hence safe

Design of critical floor beam:



Critical Bending Moment Diagram



Critical Shear Force Diagram

THE LANDLENS SUITE

Eight ways to know a piece of land before you pay for it.

This report covers one part of the picture. These cover the rest, drawn from the same government records, for any property in Tamil Nadu.

LandLens One
Ask anything about a property and get an answer grounded in live government records, with the sources shown.
/landlens/one

Verify My Land
Every record check run on one property and returned as a single report.
/landlens/verify-my-land

Legal Opinion
An advocate's written opinion on the title, built on the records we pull for it.
/landlens

One Map
Every layer on one map: the parcel, its boundary, zoning, water bodies and what sits around it.
/landlens/one/map

PriceMap
What land actually changed hands for around this plot, taken from the registered deeds.
/landlens/pricemap

Build Scope
What you are allowed to build here: floor space, height, coverage and setbacks.
/landlens/build-scope

Property Tracker
Watch a property and hear about it when something new is registered against it.
/landlens/property-tracker

Deal Room
Run the transaction in one place: documents, stamping, signatures and the parties.
/landlens/deal-room

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Twenty-four checks you can run yourself, at no cost.

Records and verification

The registers themselves, read for you.

- Encumbrance Certificate
- Patta and Chitta
- Field Measurement Sketch
- EC Analyzer
- Bank charge check
- Court case search
- Seller background check
- Approval check by survey

Value and duty

What it is worth and what it costs to register.

- Guideline value by street
- Guideline value by survey
- Stamp duty and registration fees
- Capital gains
- Floor space index
- Area unit converter

Zoning and land use

What the plan says can happen on this land.

- Land use zone finder
- CMDA land use check
- Coastal regulation zone
- Master plan check
- Water bodies finder
- Airport height clearance

Registers and directories

Who holds it, and which office keeps the record.

- Find your registering office
- Temple property check
- Waqf property check
- RERA register

Every free tool
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Services we run for you
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The LandLens suite
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Every claim in this document traces back to a government record.

- Legal opinions, due diligence and title verification
- Building plan, layout and sub-division approvals
- Completion and occupancy certificates, regularisation
- Escrow, negotiation and NRI property management
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+91 9996 12 9996

Prepared from the registers named on the page each finding sits on. Where a register could not be read, this document says so in its place rather than leaving the gap to be read as a clean result.