**LIST OF SYMBOLS & ABBREVIATIONS**

BMD = Bending Moment Diagram

C = Damping matrix

C0 = Damping coefficient for bearing

Ce = Linear effective damping

CG = Centre of gravity

CR = Centre of rigidity

DBE = Design Basis Earthquake

e = Eccentricity

EDF = Electricide De France

F = Force

F+ = Maximum force in positive direction

F-  = Maximum force in negative direction

Fmax = Absolute maximum force

FPS = Friction Pendulum System

g = Gravitational acceleration

I = Moment of inertia

K = Stiffness matrix

K0 = Stiffness of bearing

Kb = Stiffness of base isolator

Kbx = Base isolator stiffness in X – direction

Kby = Base isolator stiffness in Y- direction

Ke = Linear effective stiffness

Kx = Effective stiffness in X-direction

Ky = Effective stiffness in Y-direction

Kɵ = Effective torsional stiffness

LRB = Laminated Rubber Bearing

M = Diagonal mass matrix

MCE = Maximum Capable Earthquake

NL Link = Non Linear link

NS Component = North South Component

NZS = New Zealand System

P-F System = Pure Friction System

R = Response reduction factor

r = Radius of gyration

R-FBI = Resilient Friction Base Isolator

RCC = Reinforced Cement Concrete

Sa = Spectral Acceleration

SR-FBI = Sliding Resistance Friction Base Isolator

T = Fundamental Time period

Tn = Fundamental Time period of structure

Tnb = Fundamental Time period of base isolator

UBC = Uniform building Code

X = Displacement matrix

X’ = Velocity matrix

X’’ = Acceleration matrix

Xi = Distance of ith isolator from CR along X-axis

Yi = Distance of ith isolator from CR along Y-axis

Z = Zone factor

z = Internal hysteretic variable

Δ = Deflection

Δ+ = Maximum deflection in positive direction

Δ- = Maximum deflection in negative direction

Δmax = Absolute maximum deflection

µ = Coeffecient of friction

ξ b = Damping of base isolator

ω = Frequency ratio

ωn = Fundamental frequency of structure

ωnb = Fundamental frequency of base isolator

ωx  = Lateral frequency in X-direction

ωy = Lateral frequency in Y direction

ωɵ = Torsional frequency