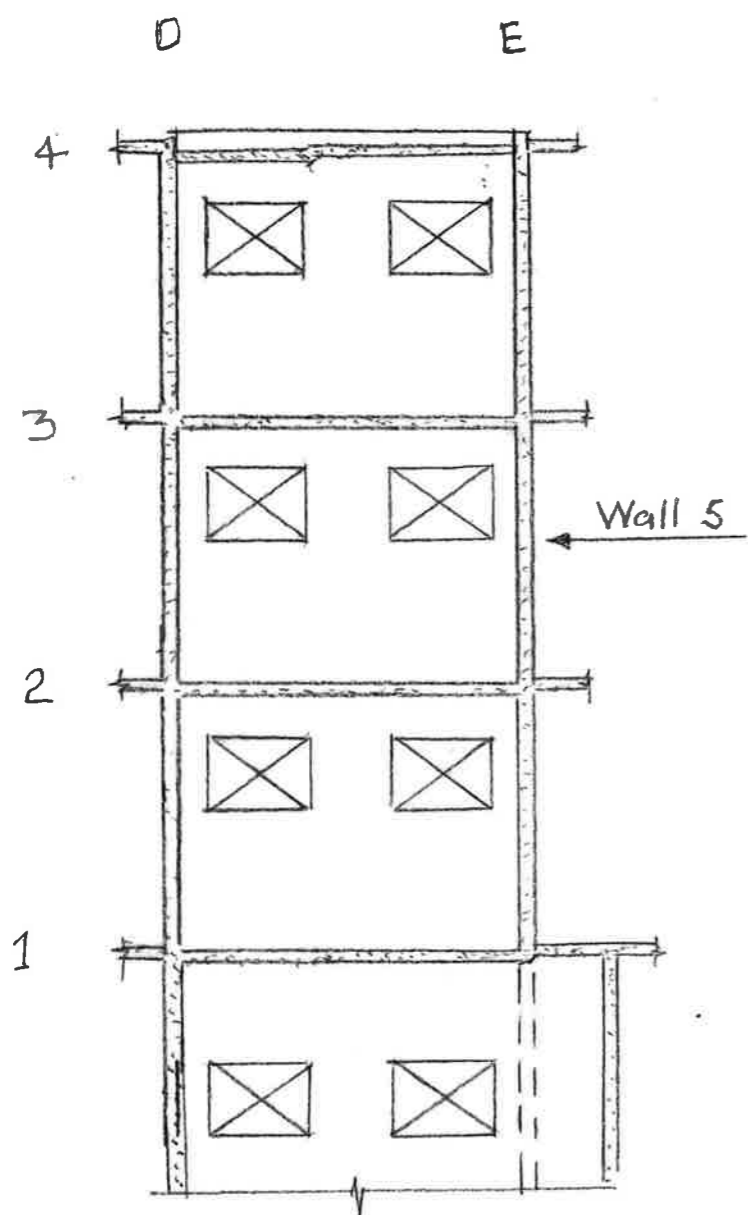


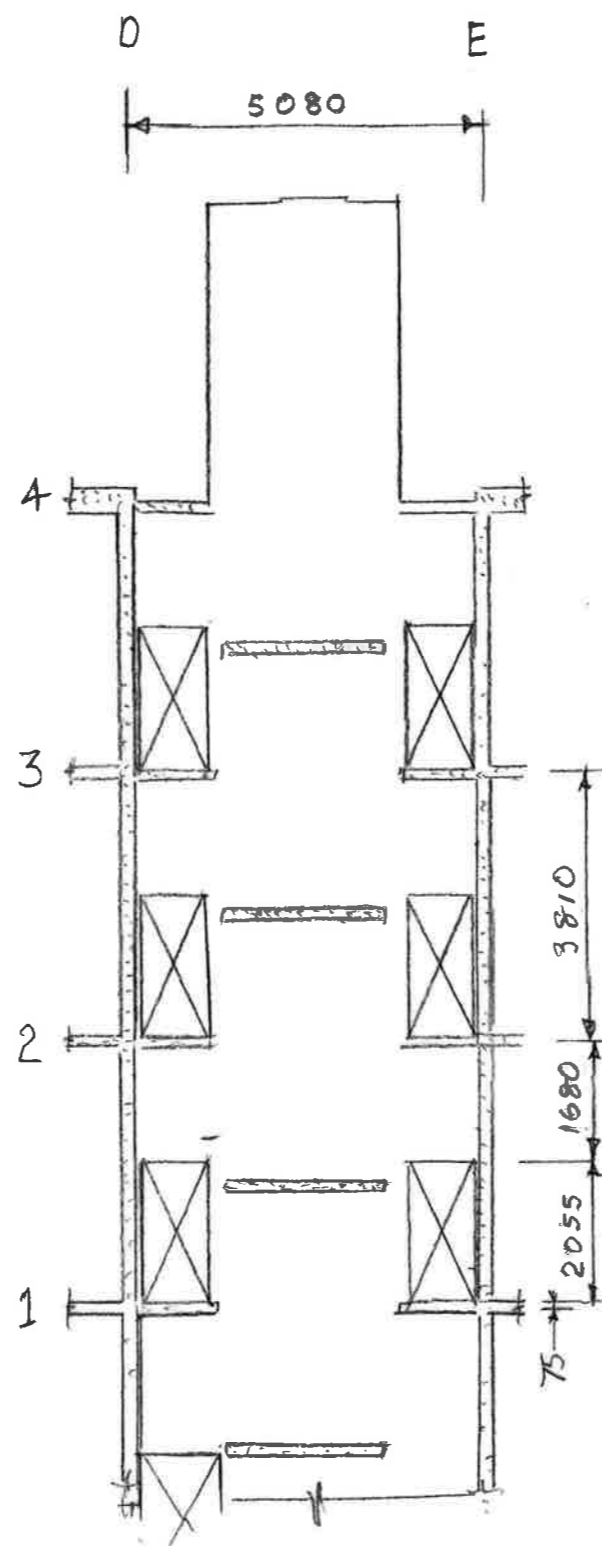
Plan on 1st elevated floor

→
Shows likely centroid of
inertial forces at a level



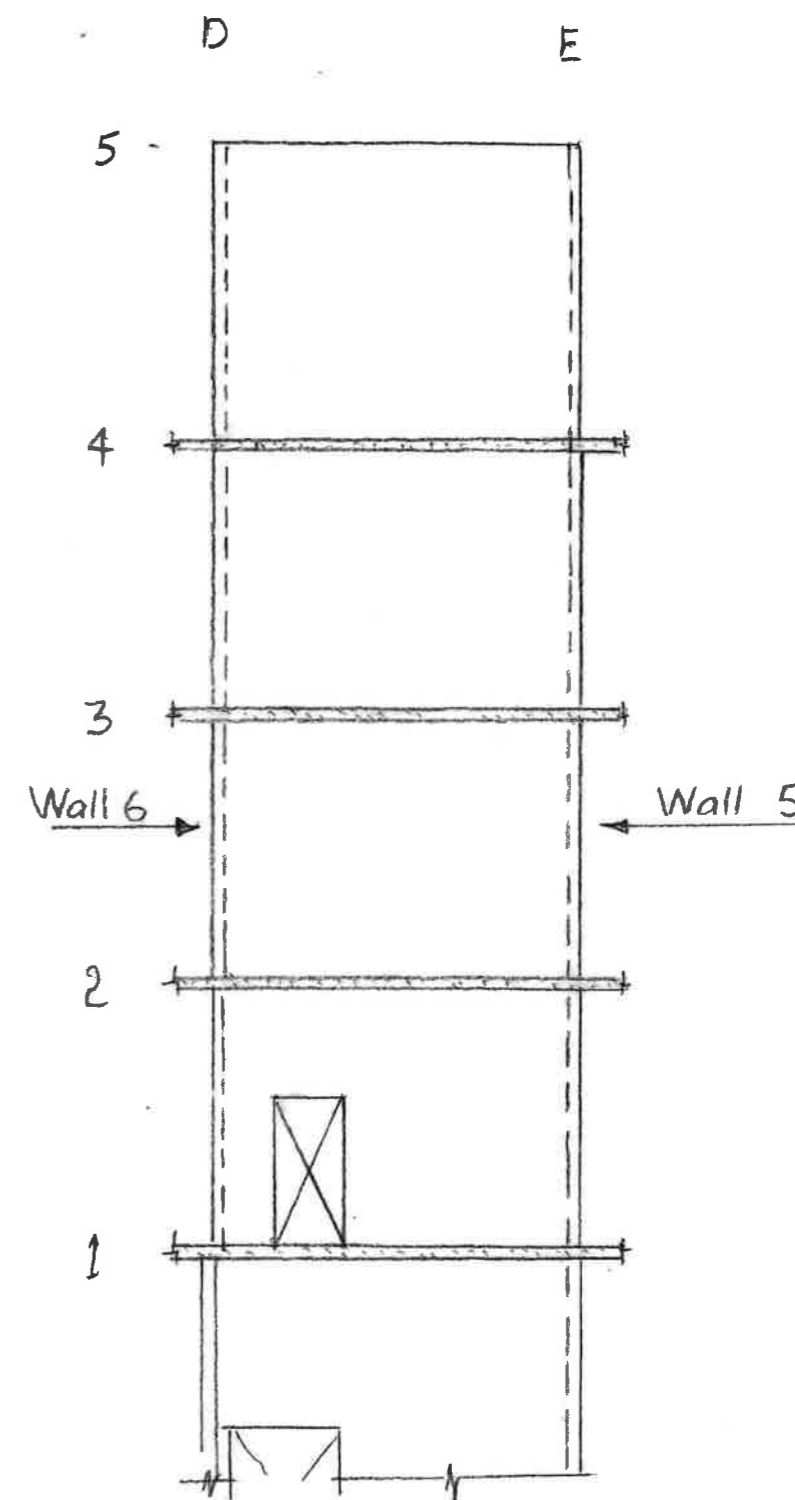
G - Sectional elevation
on Wall 1

Wall 1

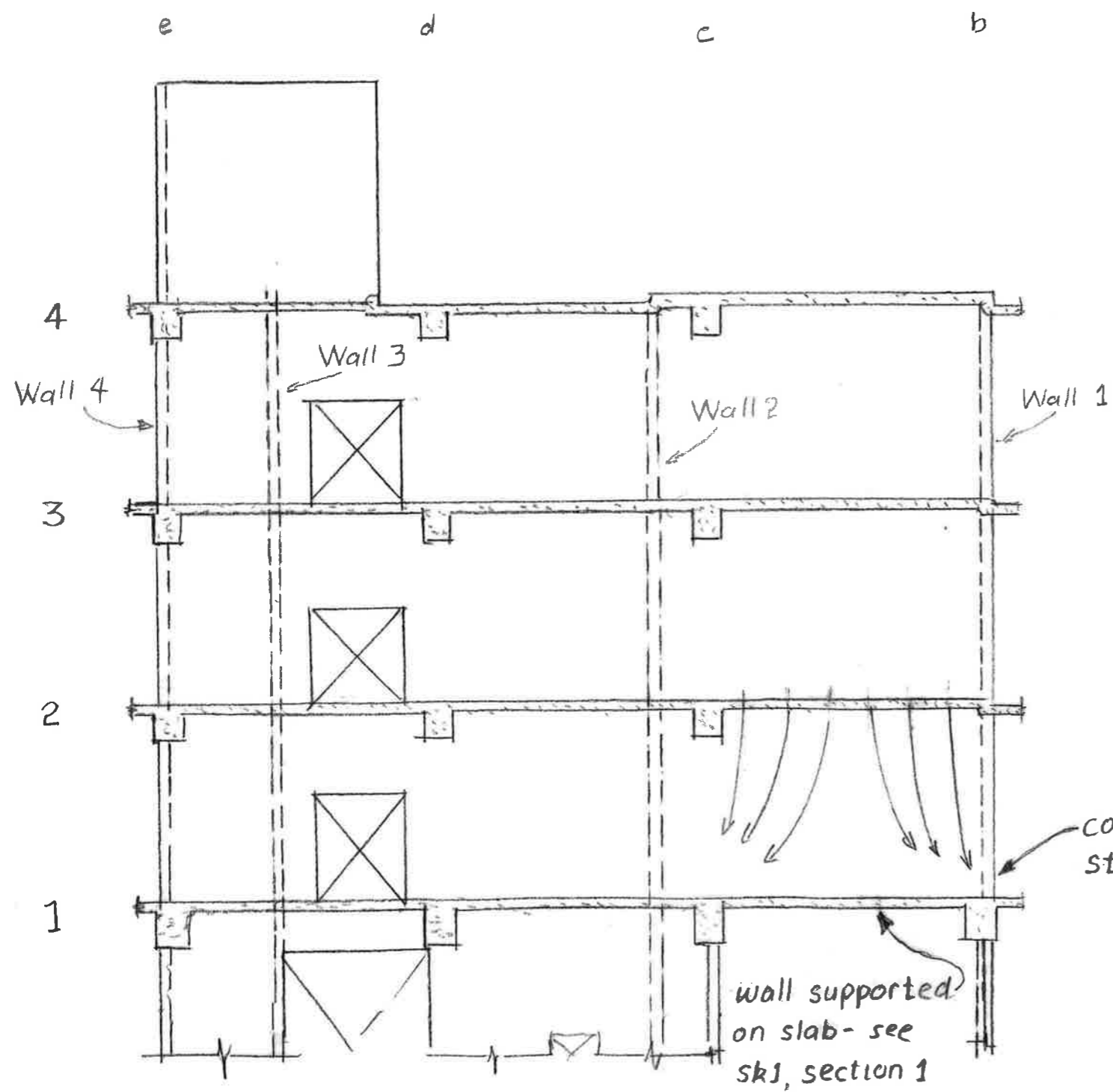


G - Sectional elevation
on Wall 2

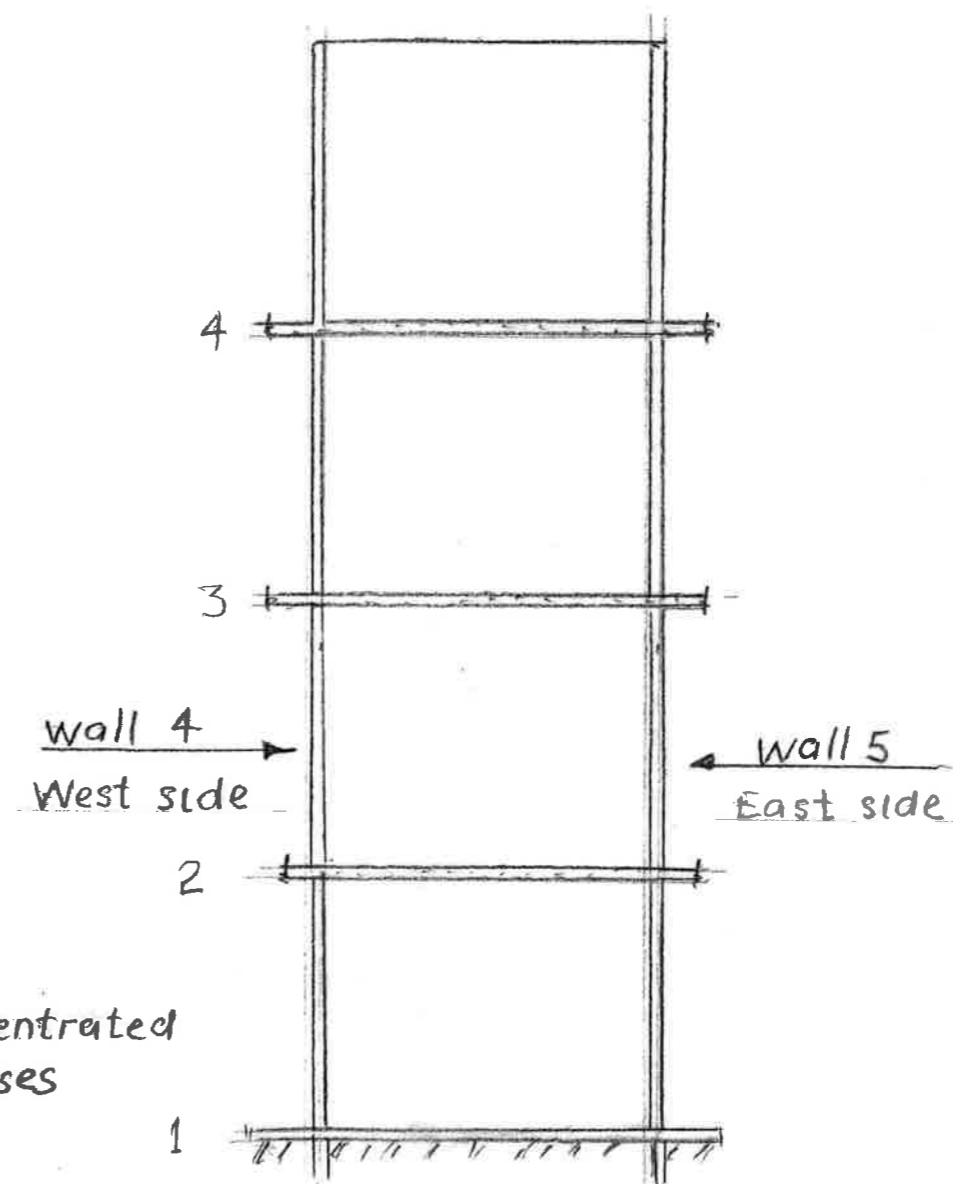
Elevations Looking North on
Walls



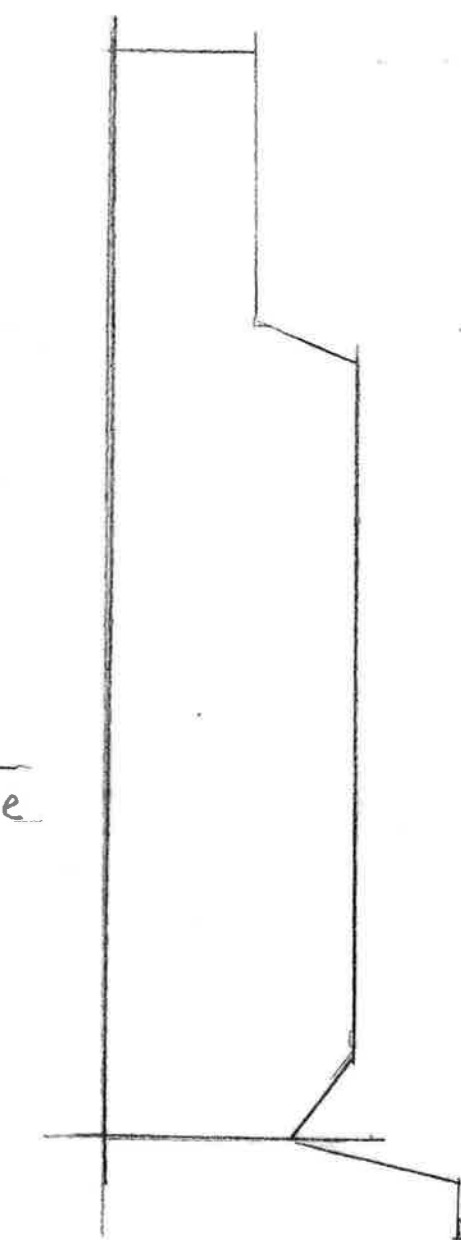
G - Sectional elevation
on Wall 4



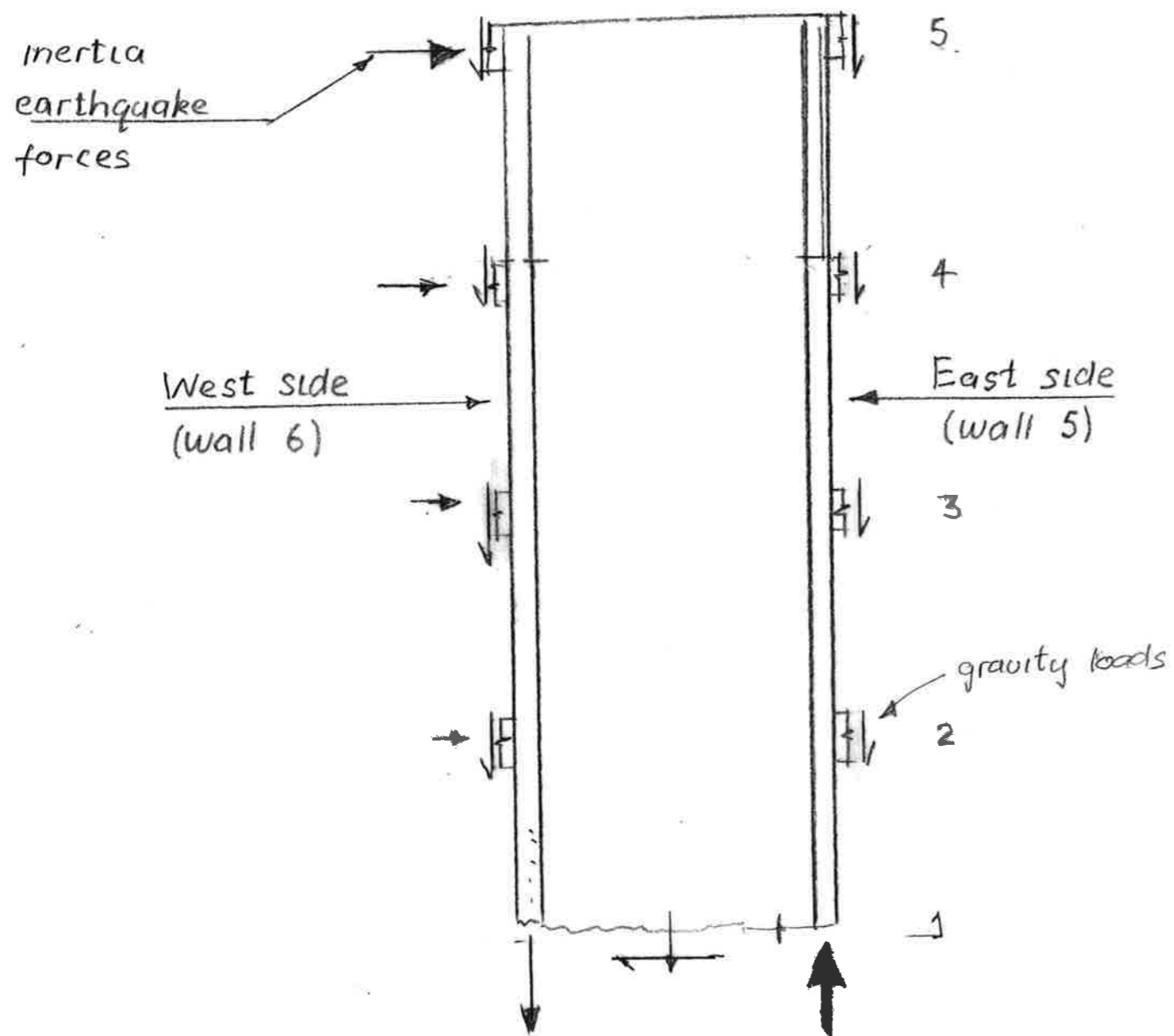
Wall 5 on East side of shear core



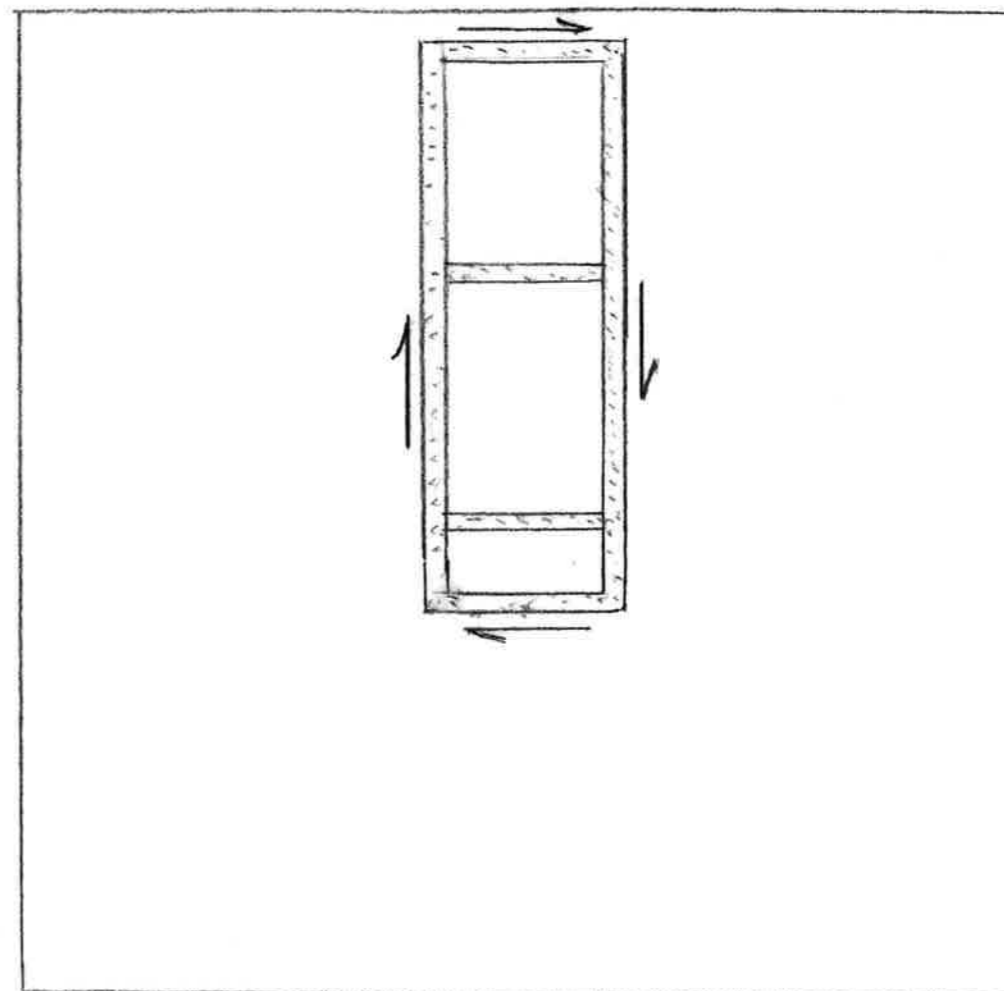
Elevation on shear core as a whole Looking North



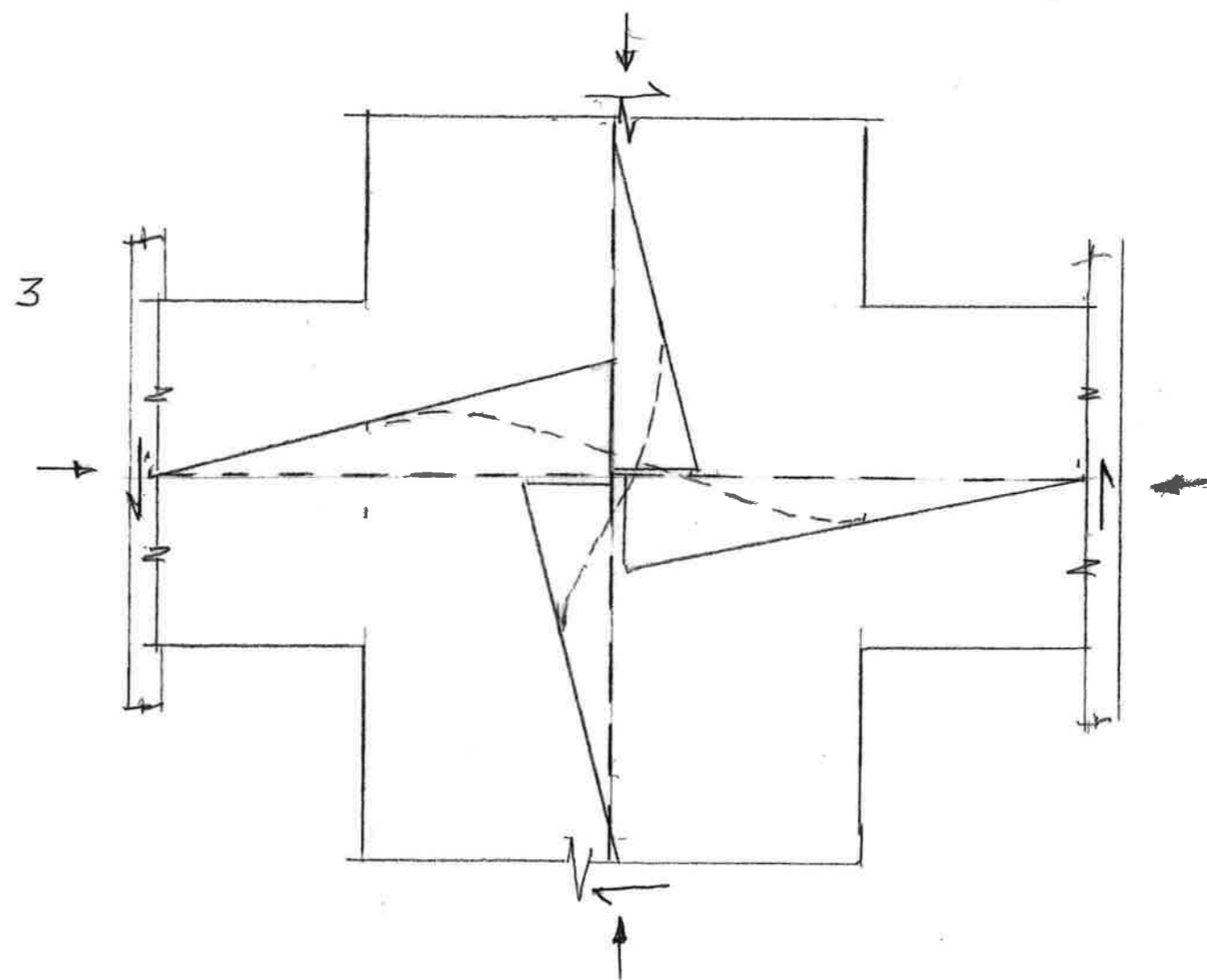
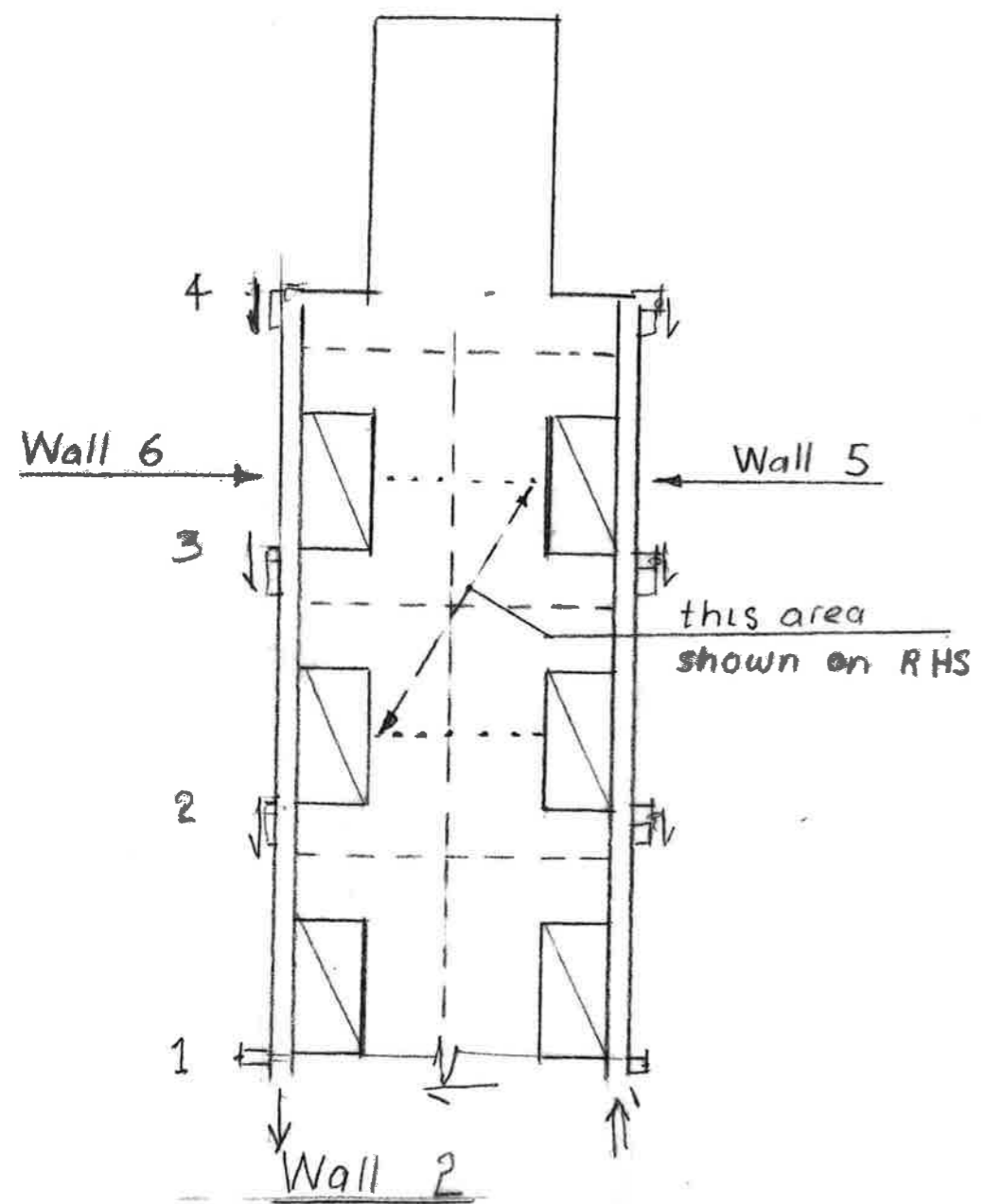
Diagrammatic variation in stiffness



Core walls as a whole
in flexure

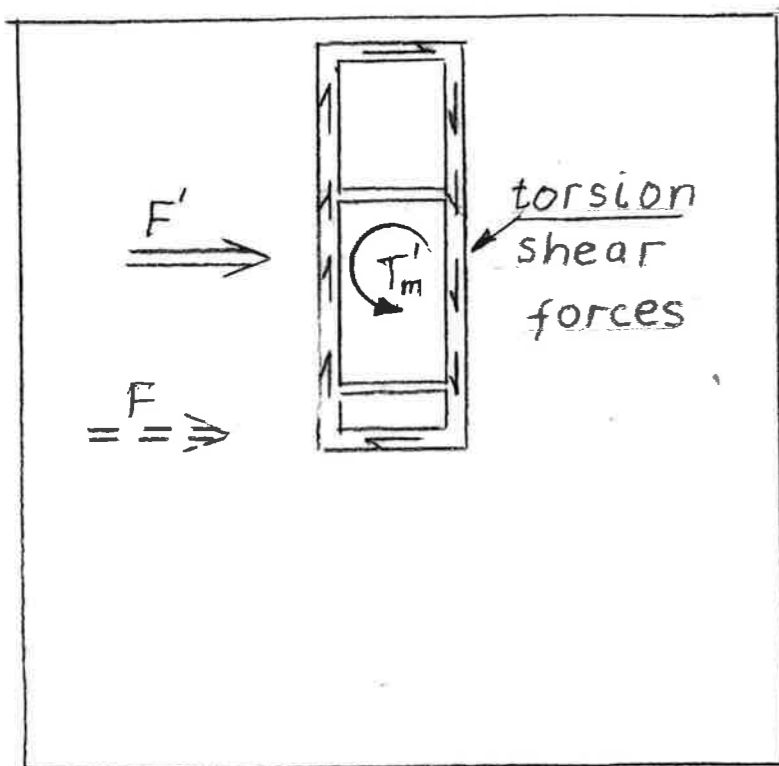


Plan - torsional shear forces
in core walls



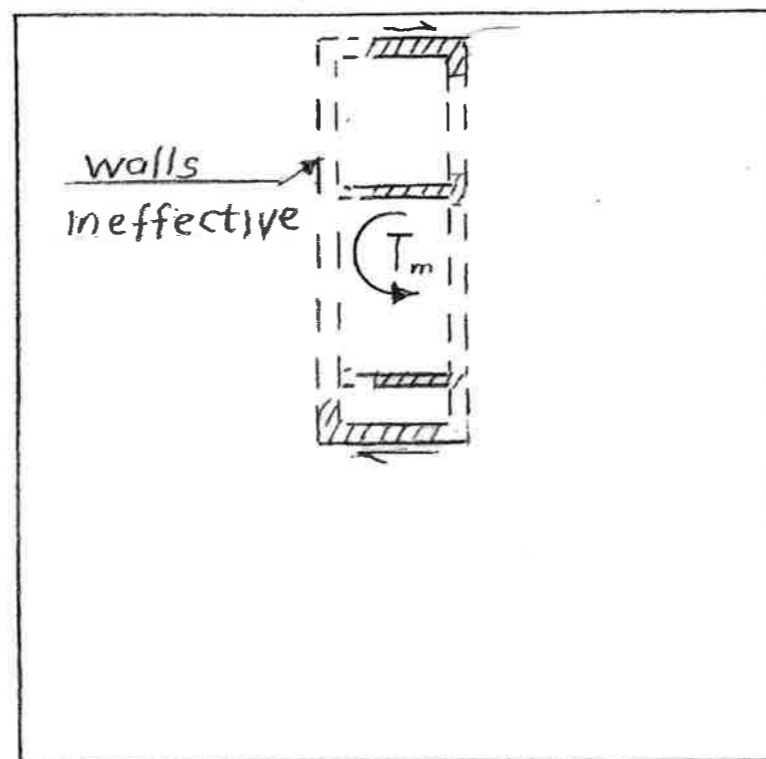
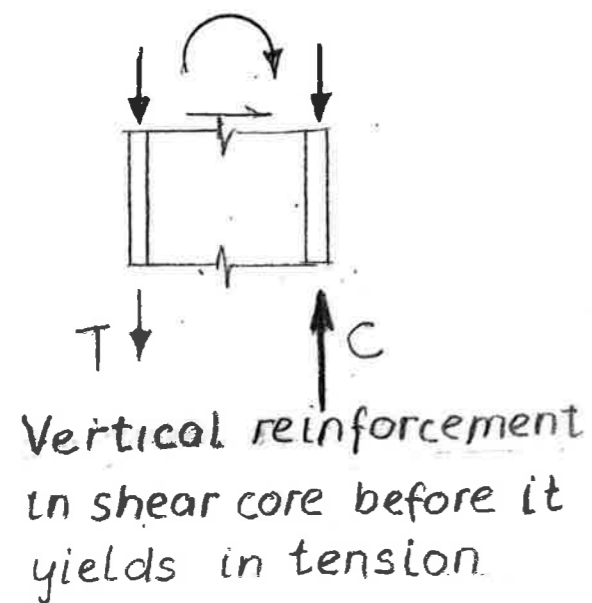
Bending moments part of
wall 2

high flexural
and shear stress
due to torsion



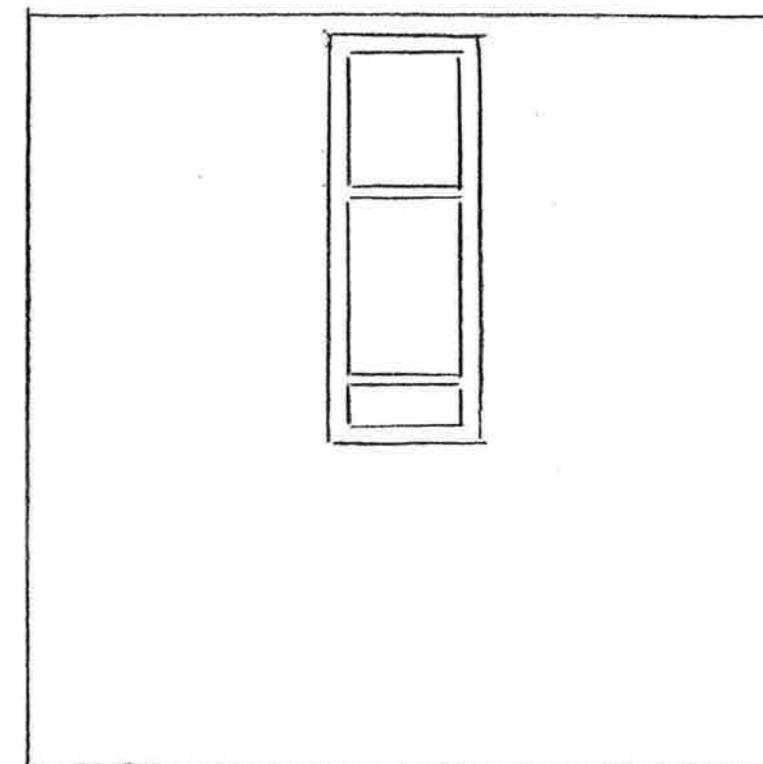
Lateral force "F" is equivalent to forces on centre-line of shear core of "F" and torsional moment "T_m"

Forces acting on shear core



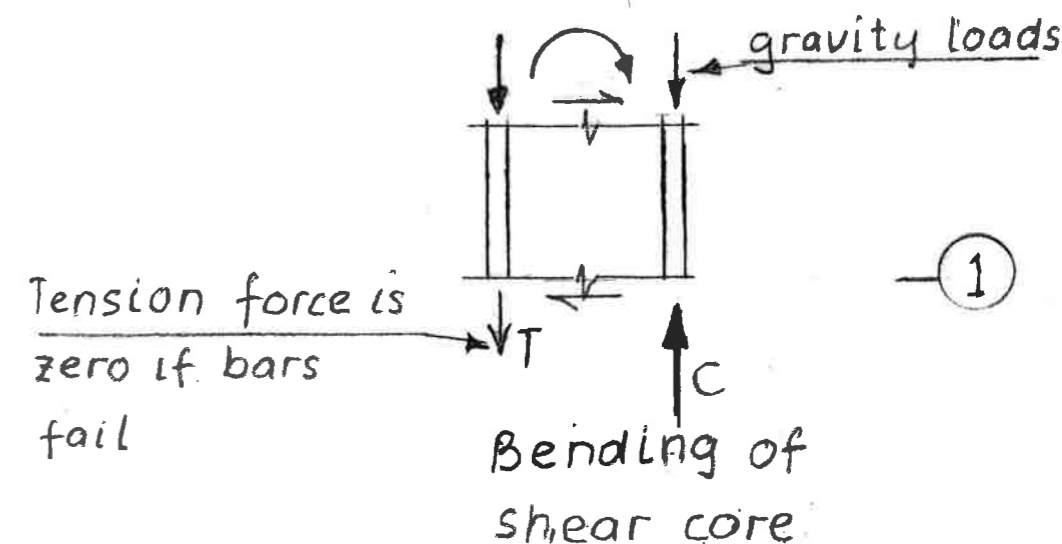
If vertical bars fail and/or a wide crack develops in say wall & the N-S walls (586) become ineffective in resisting torsion

Torsion

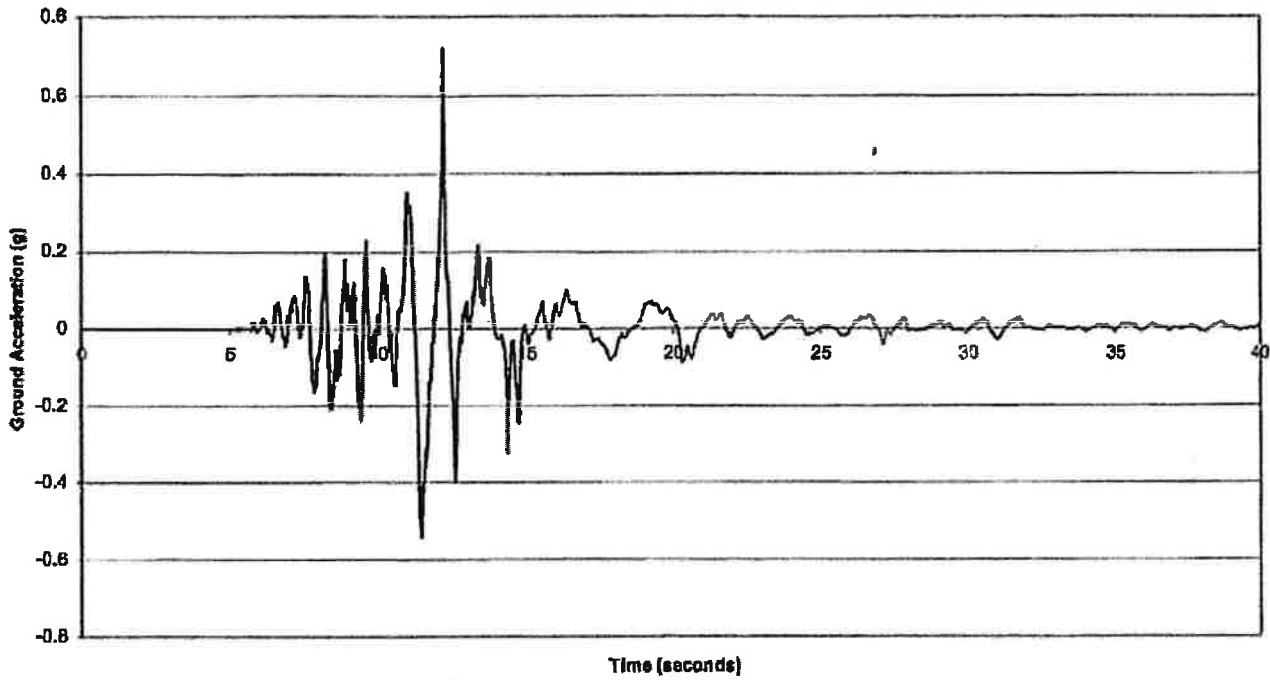


If bars fail the shear core could rock back due to gravity load unless a wall fails in compression

Bending moment

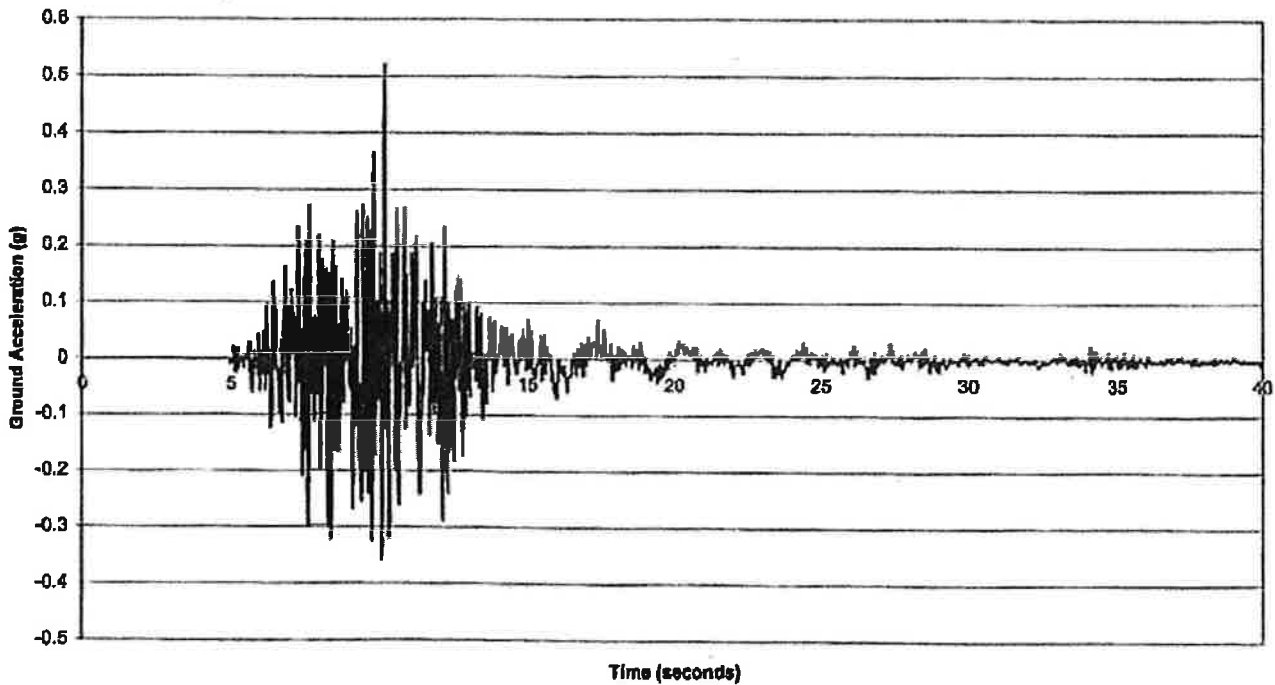


REHS_S88E - 22 February



**Figure A-22. Ground Acceleration History.
Resthaven. 22 February 2011- South 88° East Component**

REHS_Vertical - 22 February



**Figure A-24. Ground Acceleration History.
Resthaven. 22 February 2011- Vertical Component**

REHS_Vertical - 22 February 2011

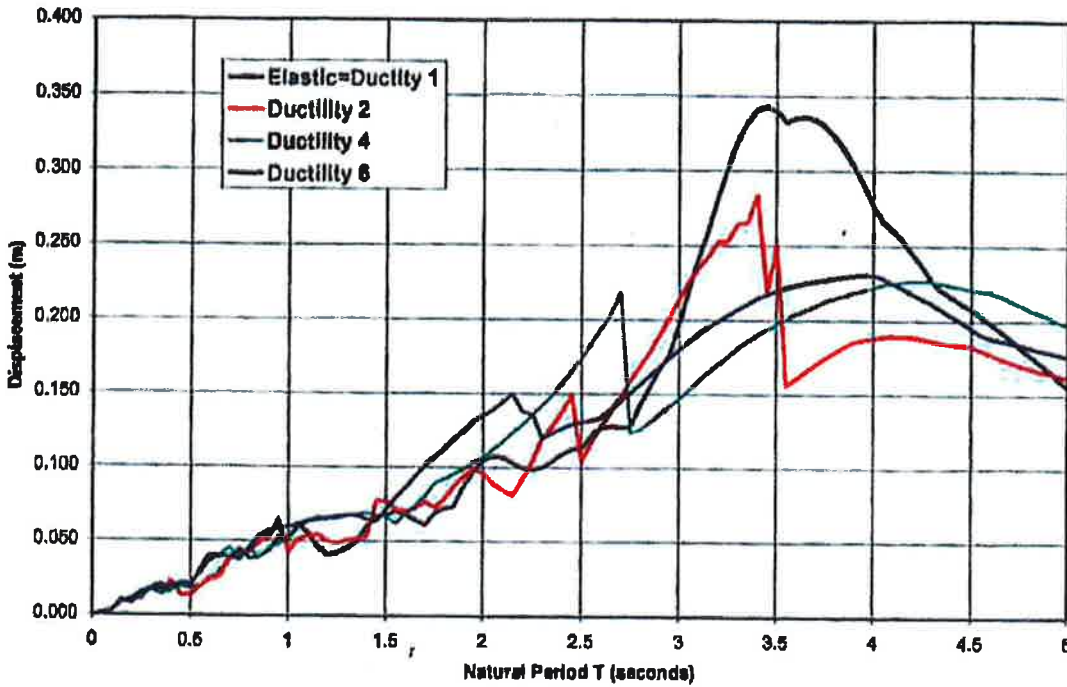


Figure 40. Displacement Response Spectra Resthaven. 22 February 2011- Vertical Component

REHS_Vertical - 22 February 2011

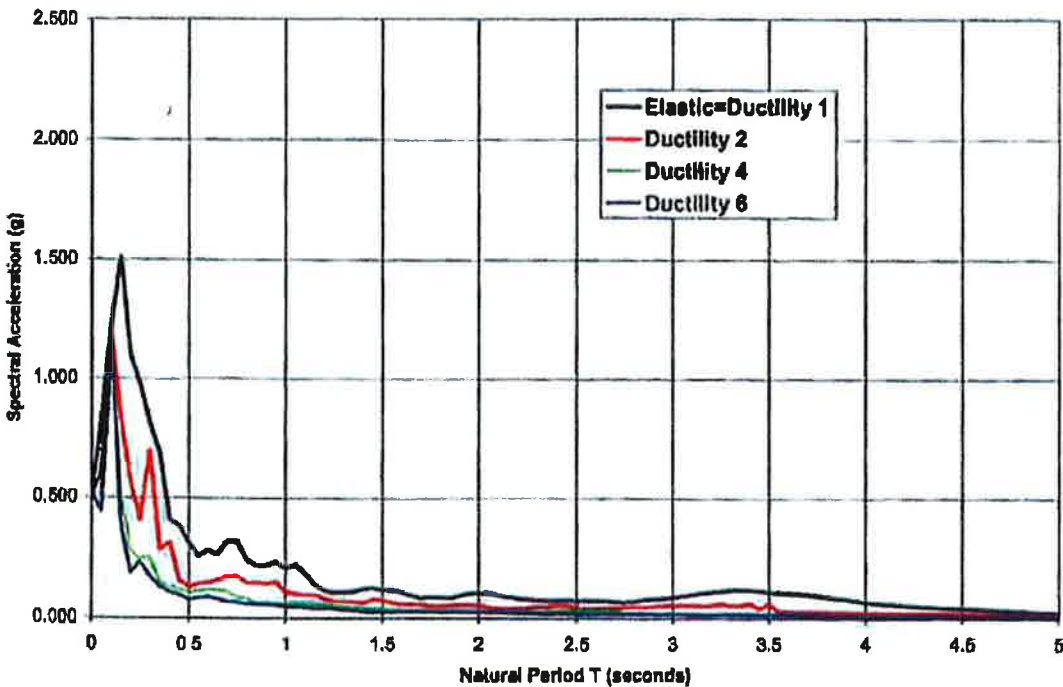


Figure 44. Acceleration Response Spectra Resthaven. 22 February 2011- Vertical Component