

FIGURE 8-3. Frame configuration and design earthquake loading for flat roof metal building construction with (a) fixed base and (b) pinned base.

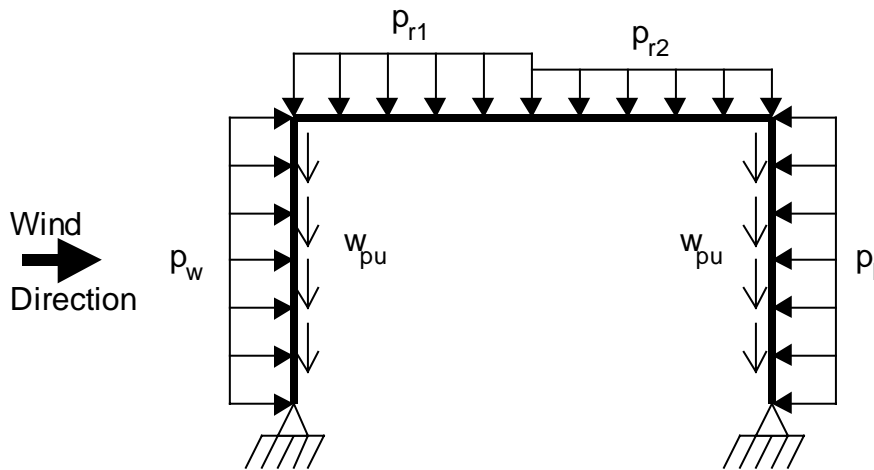
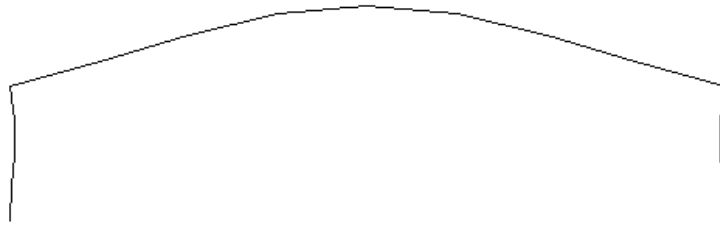
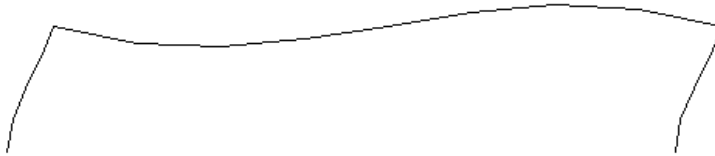


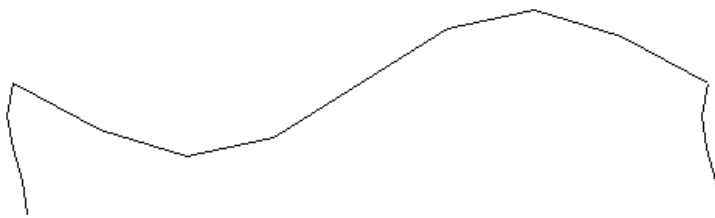
FIGURE 8-4. Design wind loading for flat roof metal building construction.



(a)

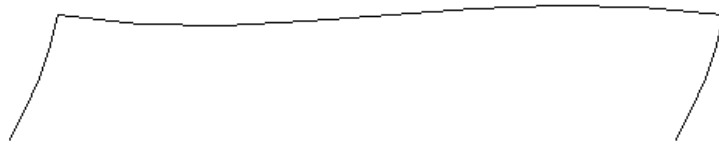


(b)



(c)

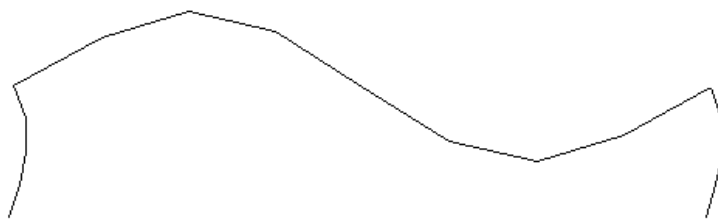
FIGURE 8-5. First three mode shapes for metal building with fixed base; (a) first mode, (b) second mode, and (c) third mode.



(a)



(b)



(c)

FIGURE 8-6. First three mode shapes for metal building with pinned base; (a) first mode, (b) second mode, and (c) third mode.

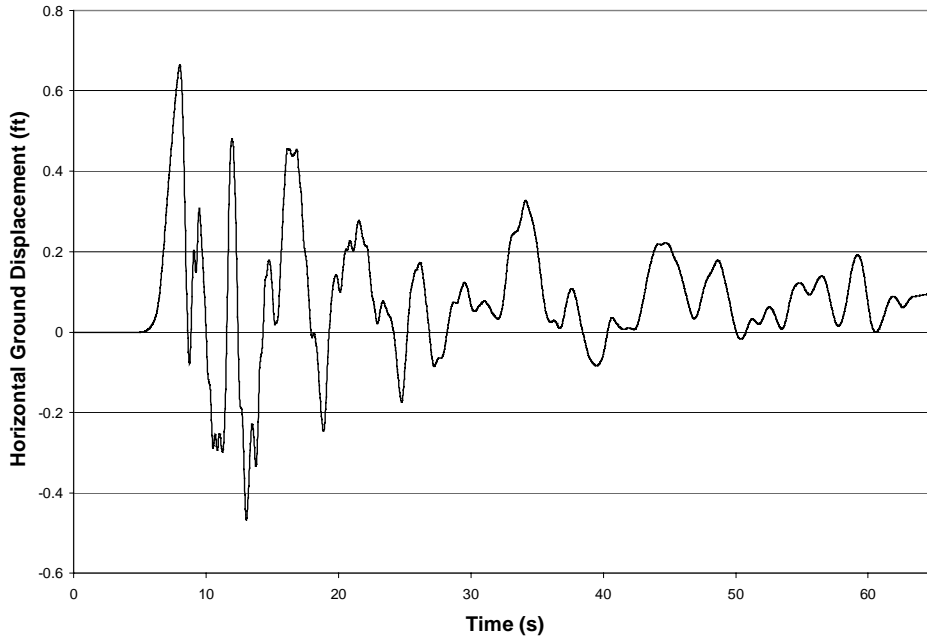


FIGURE 8-7. Horizontal ground displacements from Northridge earthquake.

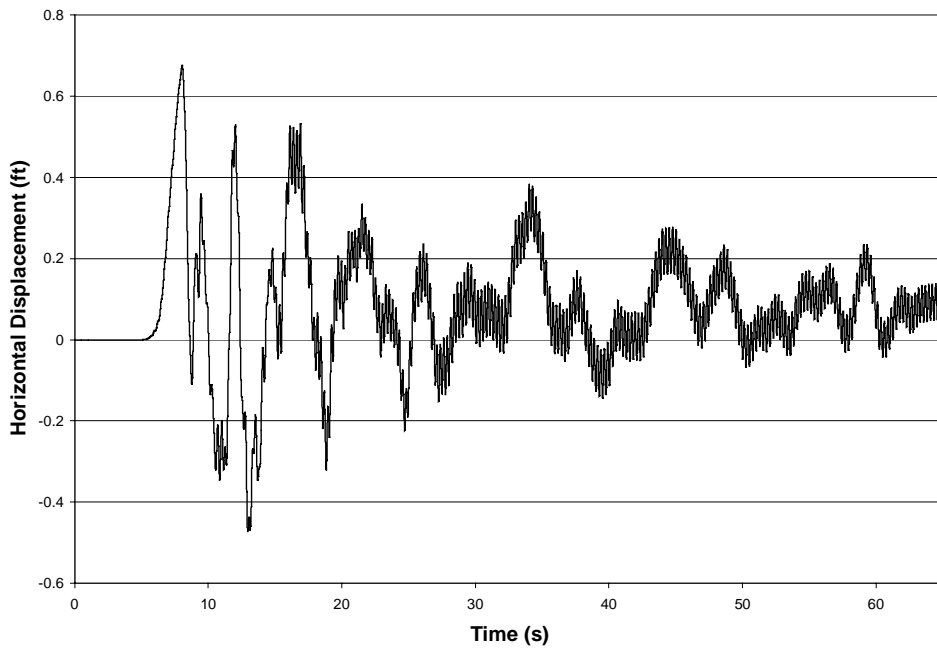


FIGURE 8-8. Horizontal displacement of center beam node for undamped metal building structure with fixed base (horizontal excitation).

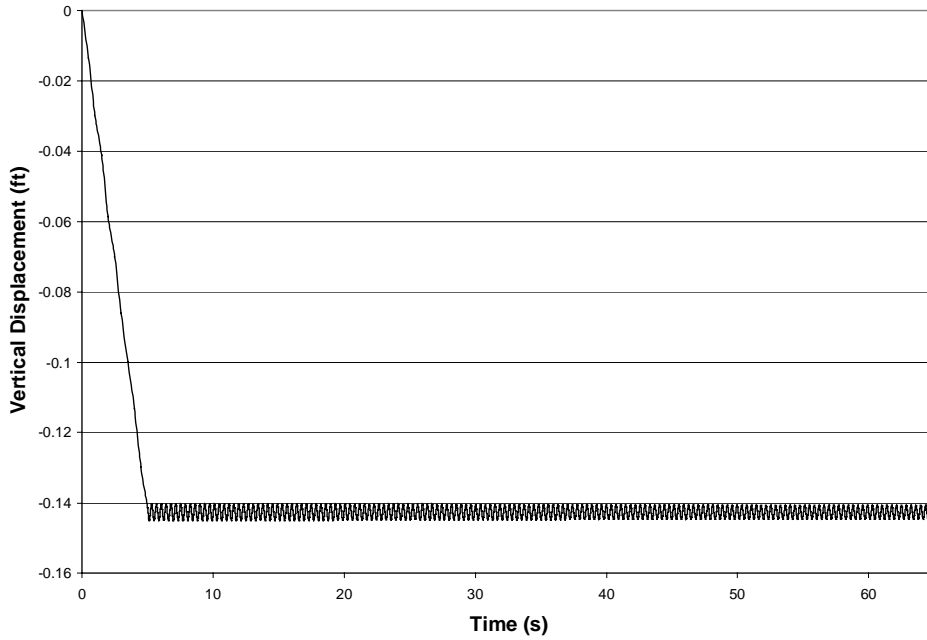


FIGURE 8-9. Vertical displacement of center beam node for undamped metal building structure with fixed base (horizontal excitation).

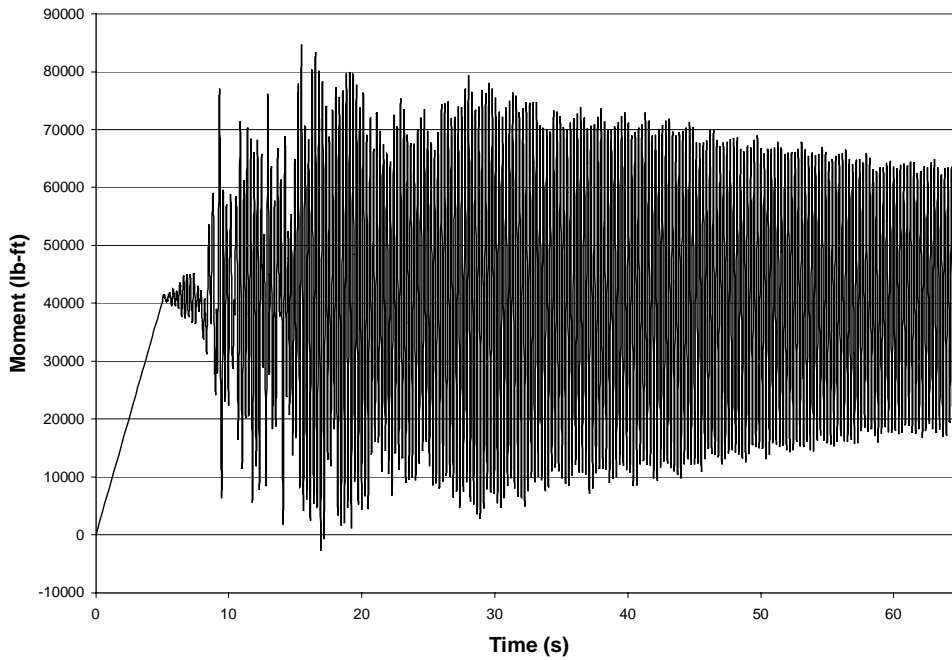


FIGURE 8-10. Moment at connection node for undamped metal building structure with fixed base (horizontal excitation).

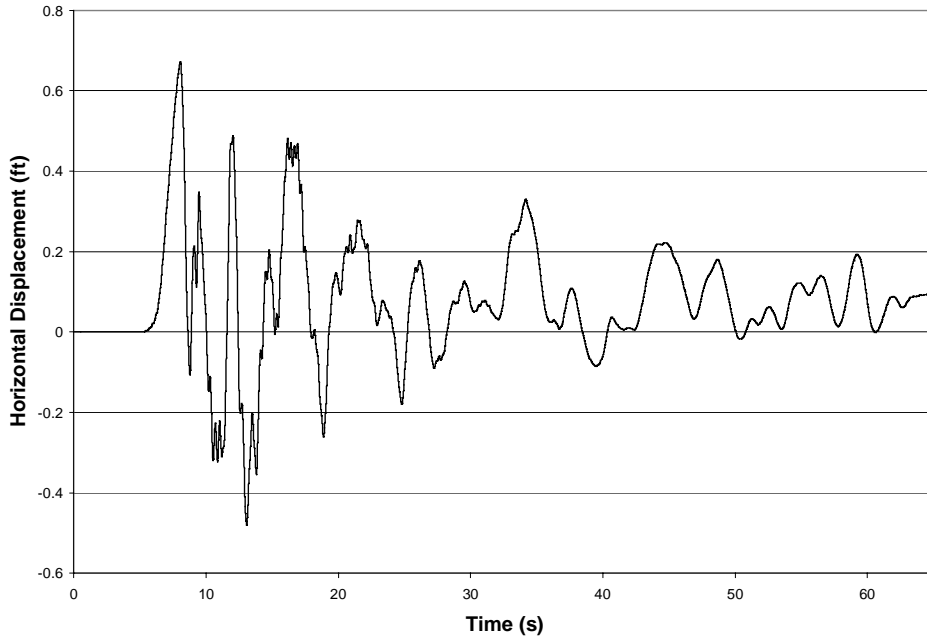


FIGURE 8-11. Horizontal displacement of center beam node for damped metal building structure with fixed base (horizontal excitation).

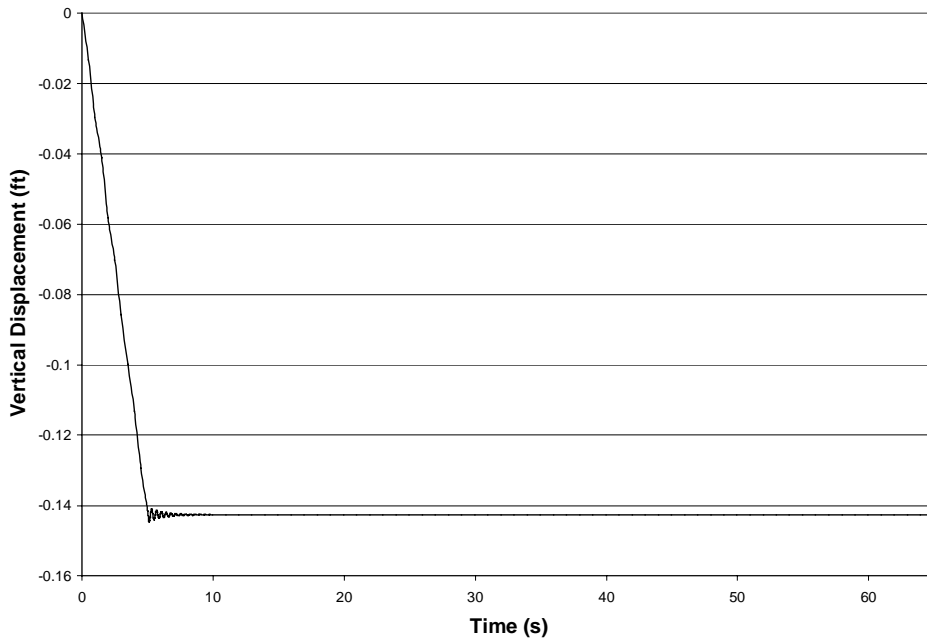


FIGURE 8-12. Vertical displacement of center beam node for damped metal building structure with fixed base (horizontal excitation).

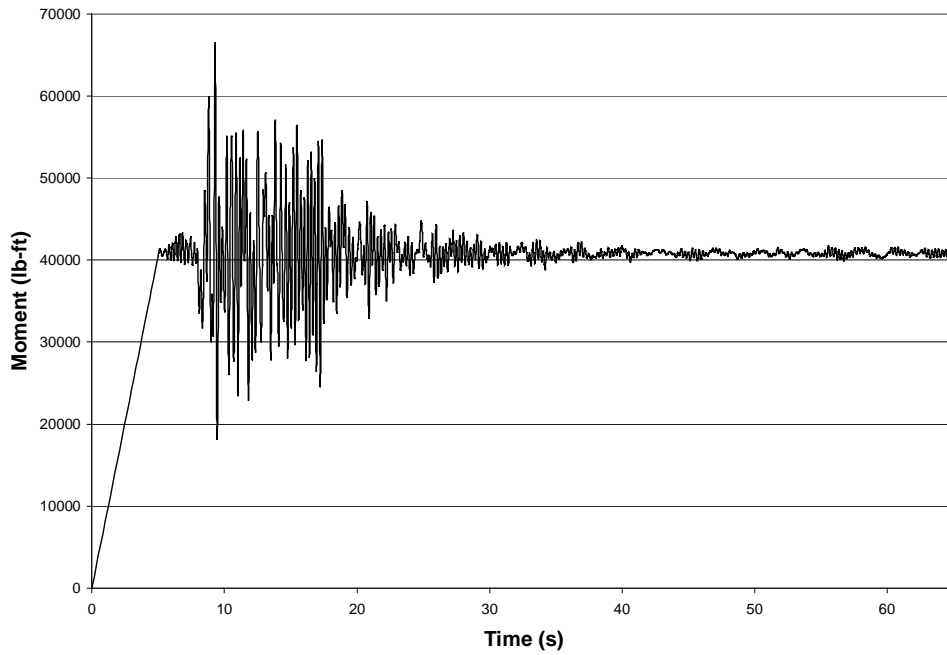


FIGURE 8-13. Moment at connection node for damped metal building structure with fixed base (horizontal excitation).

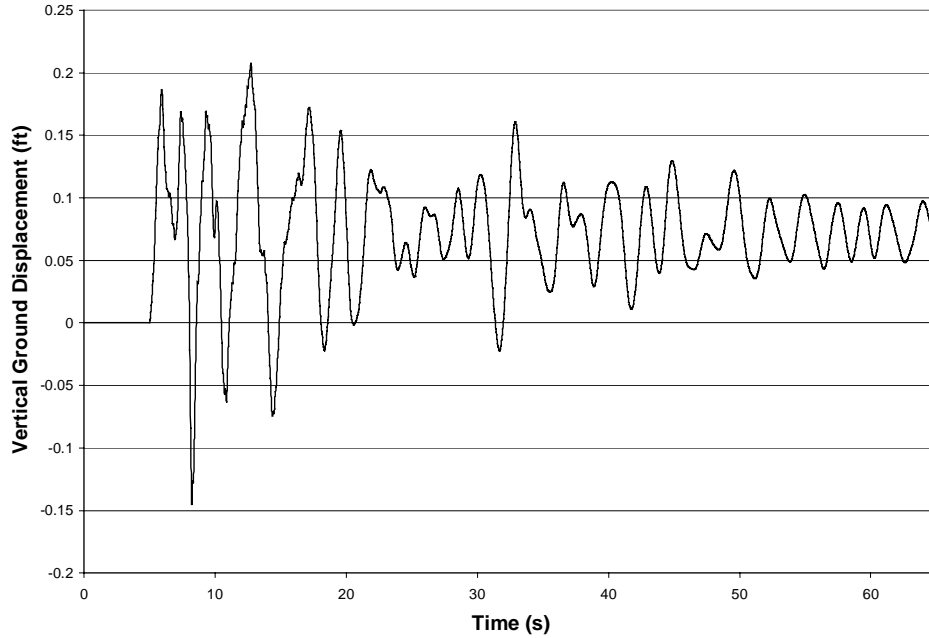


FIGURE 8-14. Vertical ground displacements from Northridge earthquake.

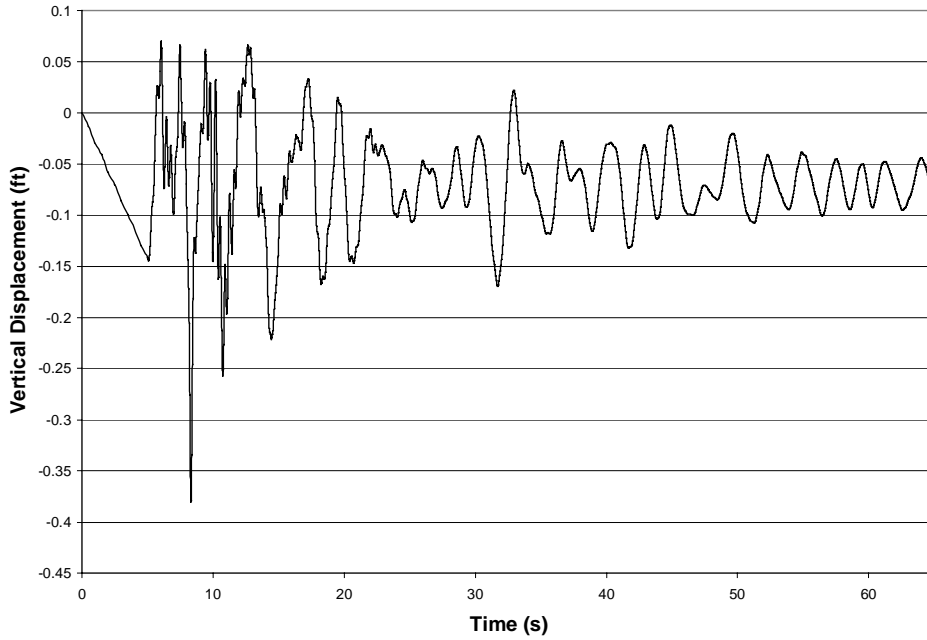


FIGURE 8-15. Vertical displacement of center beam node for damped metal building structure with fixed base (vertical excitation).

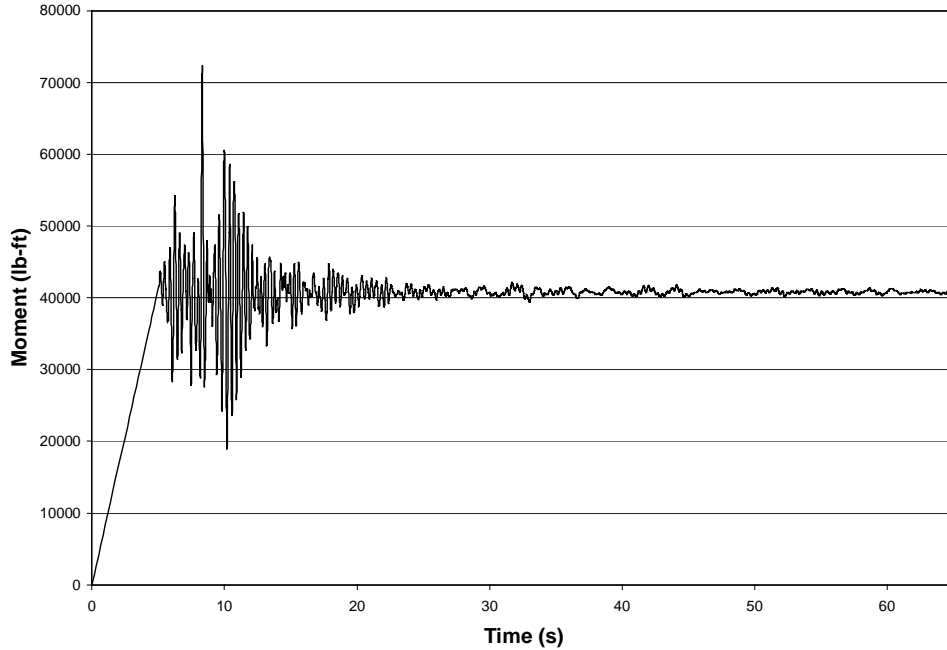


FIGURE 8-16. Moment at connection node for damped metal building structure with fixed base (vertical excitation).



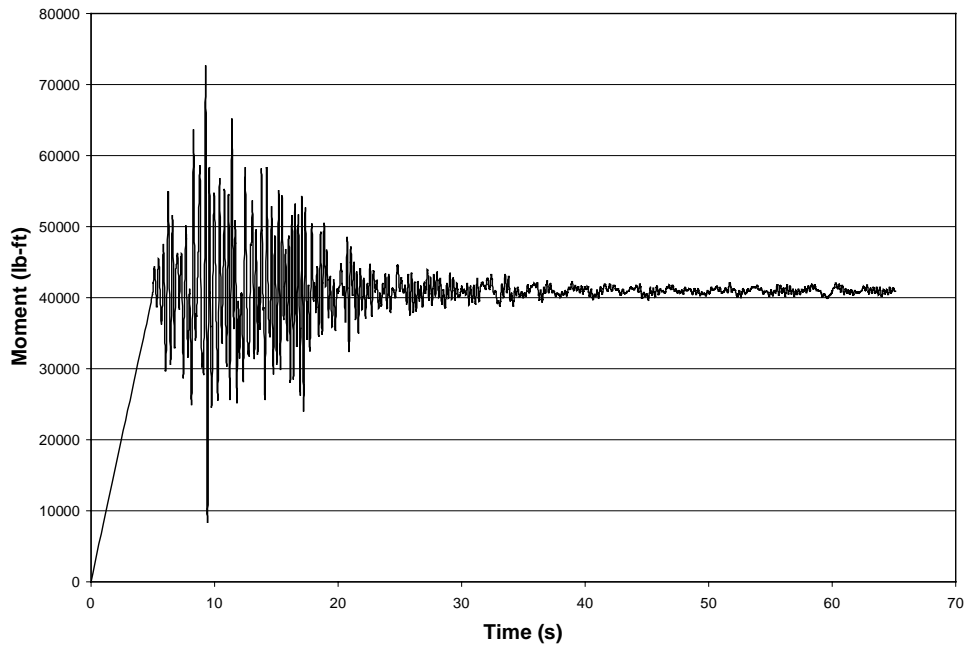


FIGURE 8-17. Moment at connection node for damped metal building structure with fixed base (combined excitation).

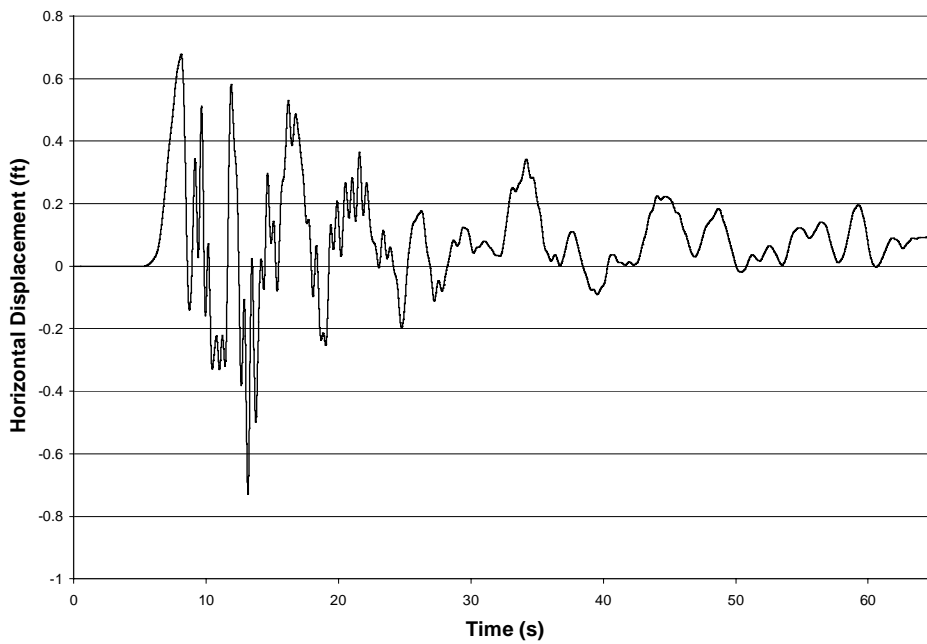


FIGURE 8-18. Horizontal displacement of center beam node for damped metal building structure with pinned base (horizontal excitation).

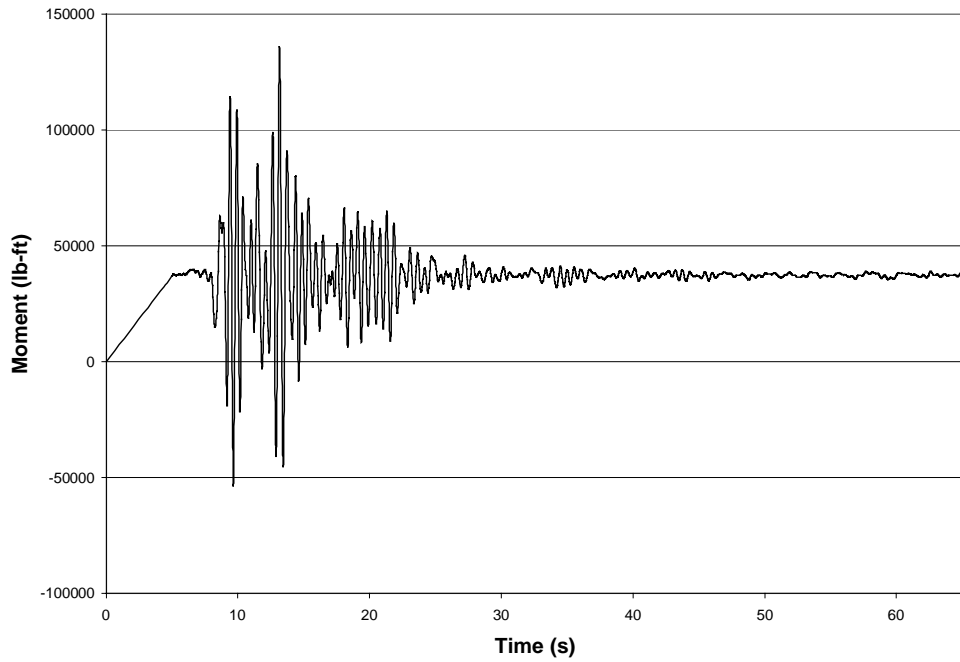


FIGURE 8-19. Moment at connection node for damped metal building structure with pinned base (horizontal excitation).

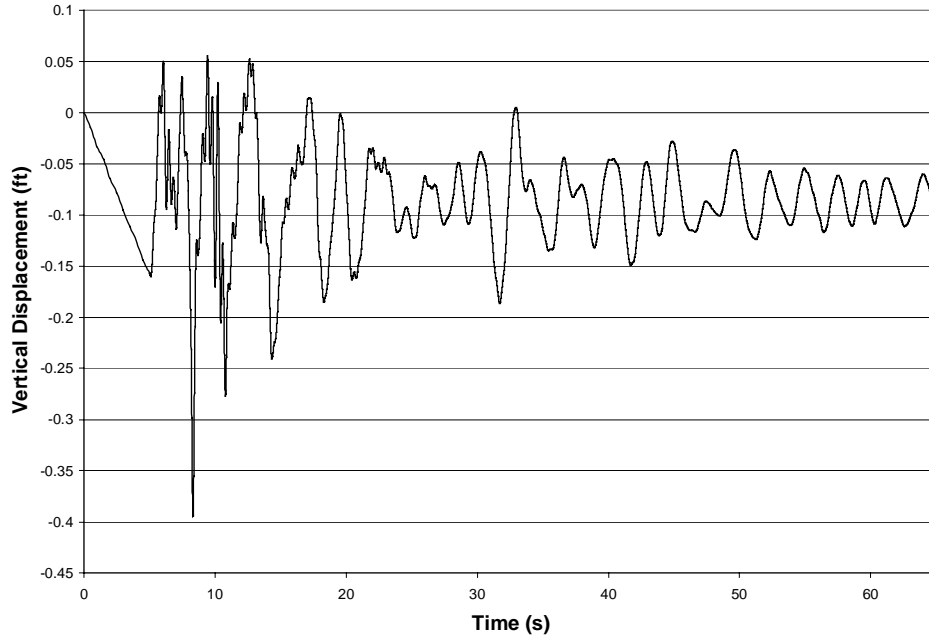


FIGURE 8-20. Vertical displacement of center beam node for damped metal building structure with pinned base (vertical excitation).

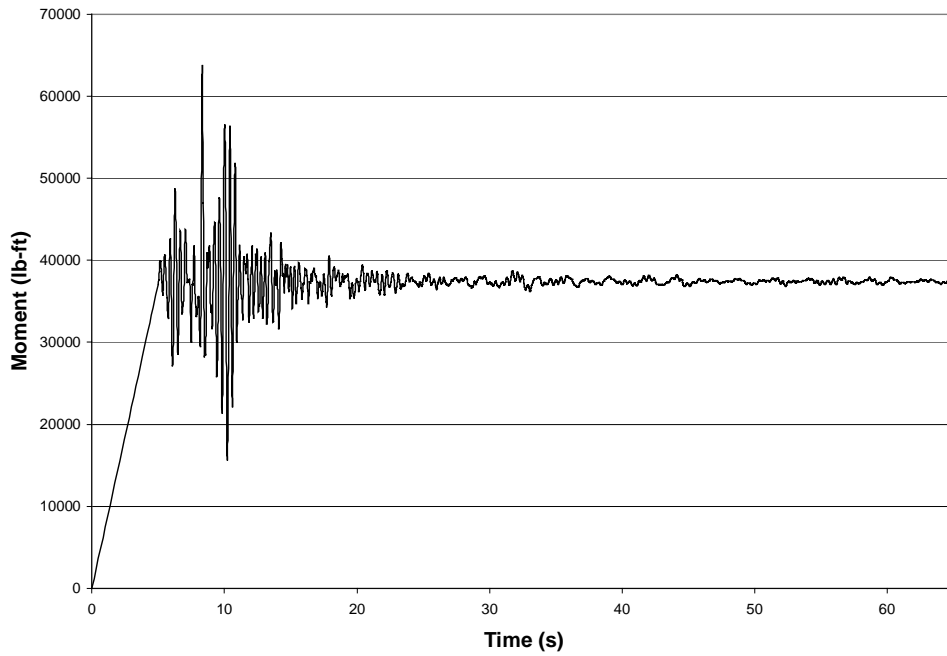


FIGURE 8-21. Moment at connection node for damped metal building structure with pinned base (vertical excitation).

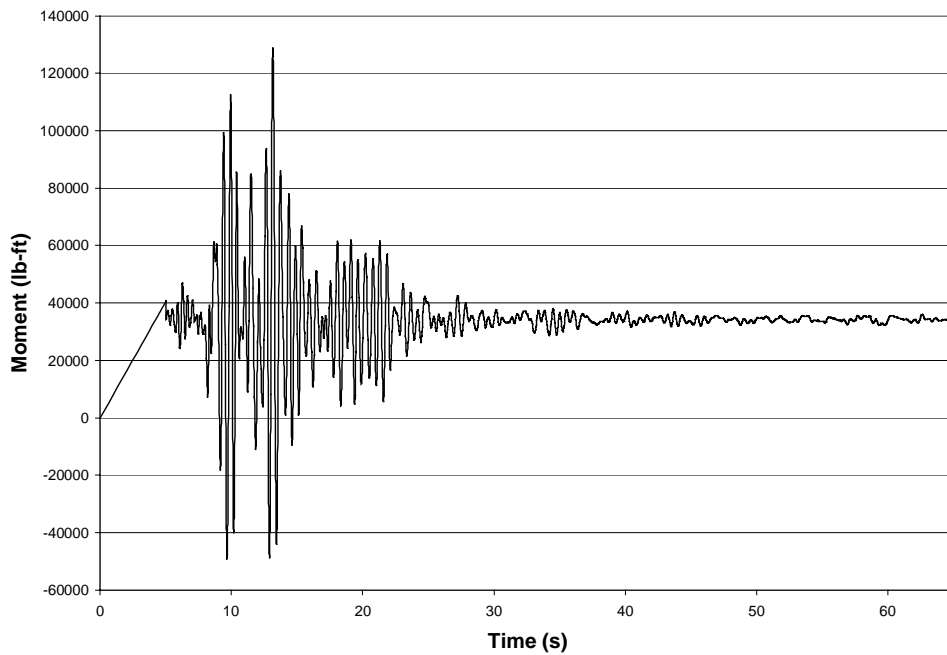


FIGURE 8-22. Moment at connection node for damped metal building structure with pinned base (combined excitation).