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One of the most important parameters that helps determine the displacement capacity of a reinforced concrete structure in a displacement-based design/assessment is the plastic hinge length. Due to the lack of research of the plastic hinge length for lightly reinforced walls, which are commonly found in low-to-moderate seismic regions such as Australia, some of my research focused on this parameter and using state-of-the-art finite element modelling software. The results showed that a minimum amount of longitudinal reinforcement was needed to produce distributed flexural cracking up the height of the concrete wall from the base. This minimum longitudinal reinforcement ratio, dependent on the strength of concrete and mechanical properties of the reinforcing steel, is much higher than the current minimum stipulated in the AS3600 (which is just 0.0015). The earthquake actions code in Australia (AS1170.4) also permits a ductility factor of 2 for limited-ductile shear walls, whereas this research has shown that this ductility might not be possible with the low minimum longitudinal reinforcement that is currently stipulated. This research has also scrutinised the yield displacement equation for lightly reinforced walls, which is commonly used in a displacement-based design/assessment. An alternative equation, which has been suggested by other researchers, has been recommended, which is also important for estimating the flexural capacity of RC walls in low-to-moderate seismic regions.