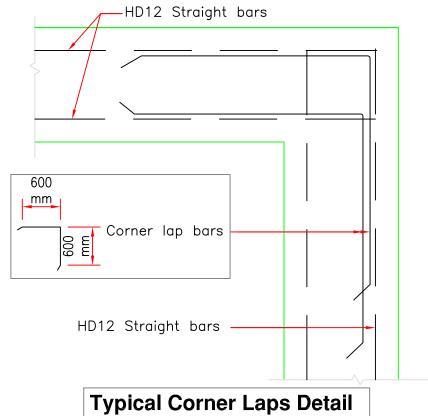
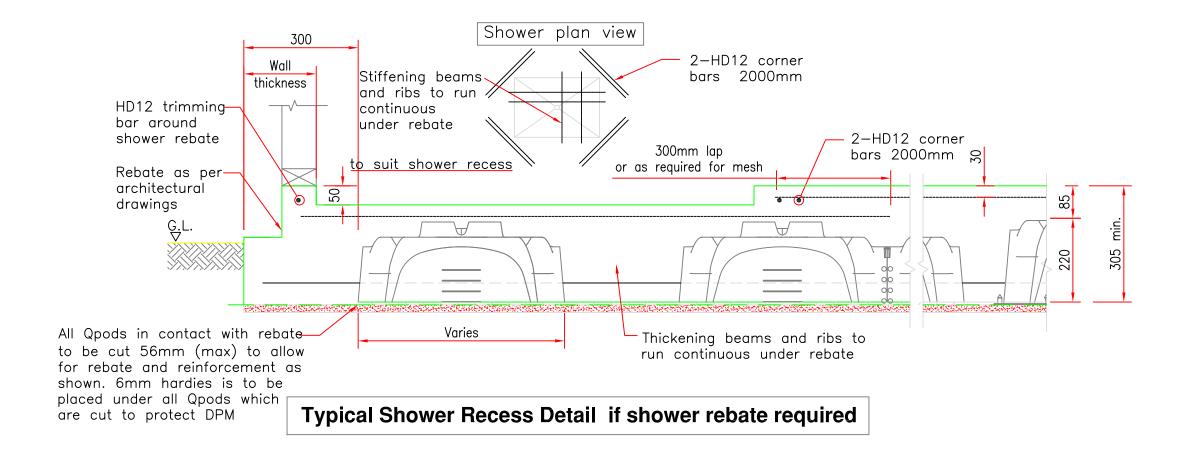


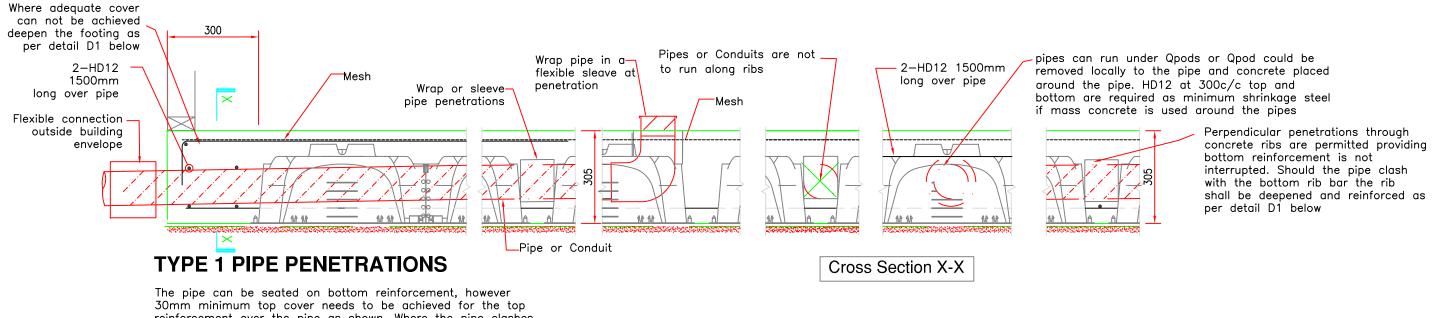
#### **Typical Stiffening Detail**



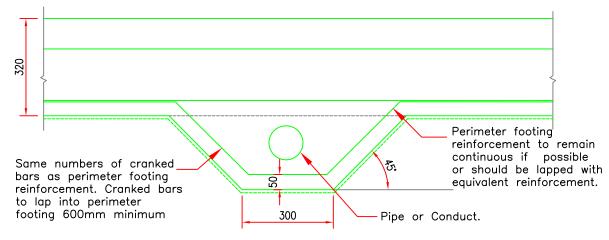
Scale 1:20



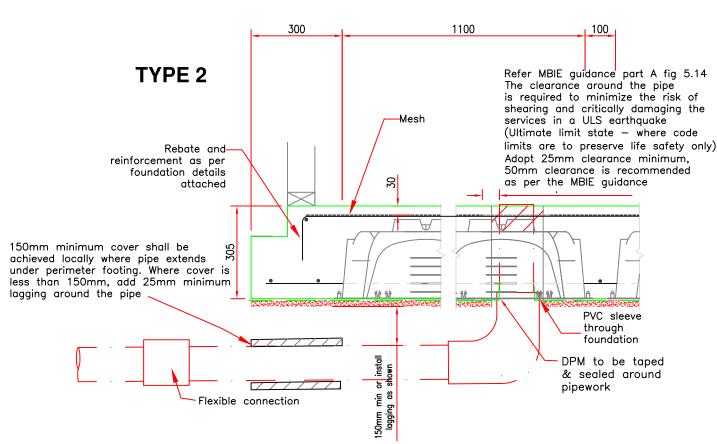
# Pipe Penetration Details For High Seismic Zones Refer to MBIE Guidelines Section A figure S14 & S15 and building code clause G13

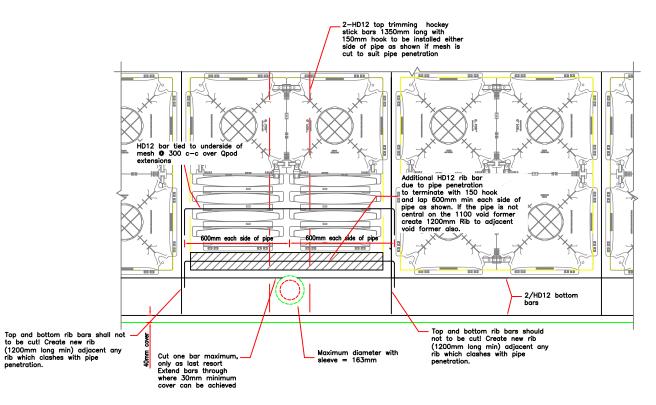


The pipe can be seated on bottom reinforcement, however 30mm minimum top cover needs to be achieved for the top reinforcement over the pipe as shown. Where the pipe clashes with bottom steel or top cover can not be achieved, the perimeter footing shall be deepened and reinforced as per detail D1 below. Where the pipe diameter is larger than 50mm and a brick rebate is required detail D1 shall be adopted to ensure continuity of the reinforcement.

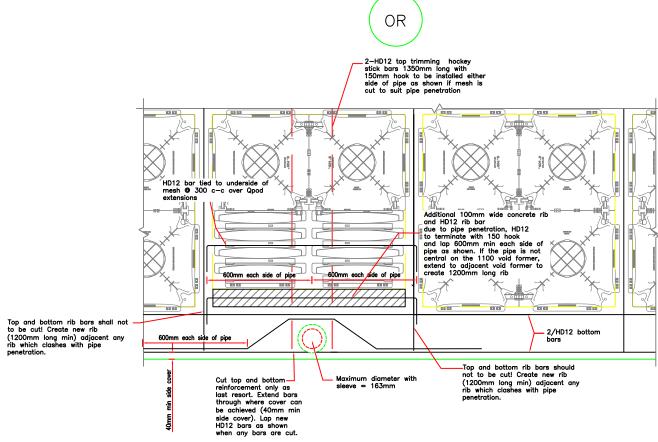


Detail D1 - Typical deepened edge penetration detail for Type 1 where pipes clash with bottom reinforcement to be extended as required back into the slab. (112.5mm diameter max.)

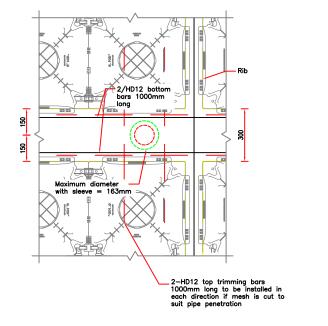




#### TYPICAL SERVICES THROUGH PERIMETER FOOTING

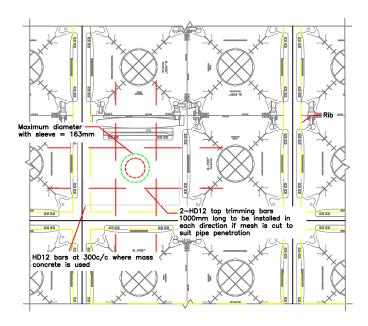


TYPICAL SERVICES THROUGH
PERIMETER FOOTING

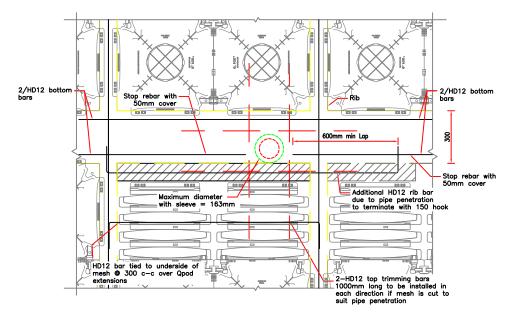


OR

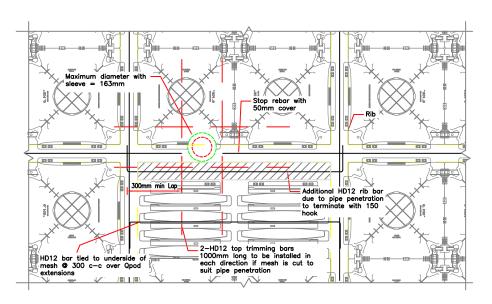
TYPICAL PENETRATION IN LOAD BEARING
THICKENING — PIPE CENTRAL



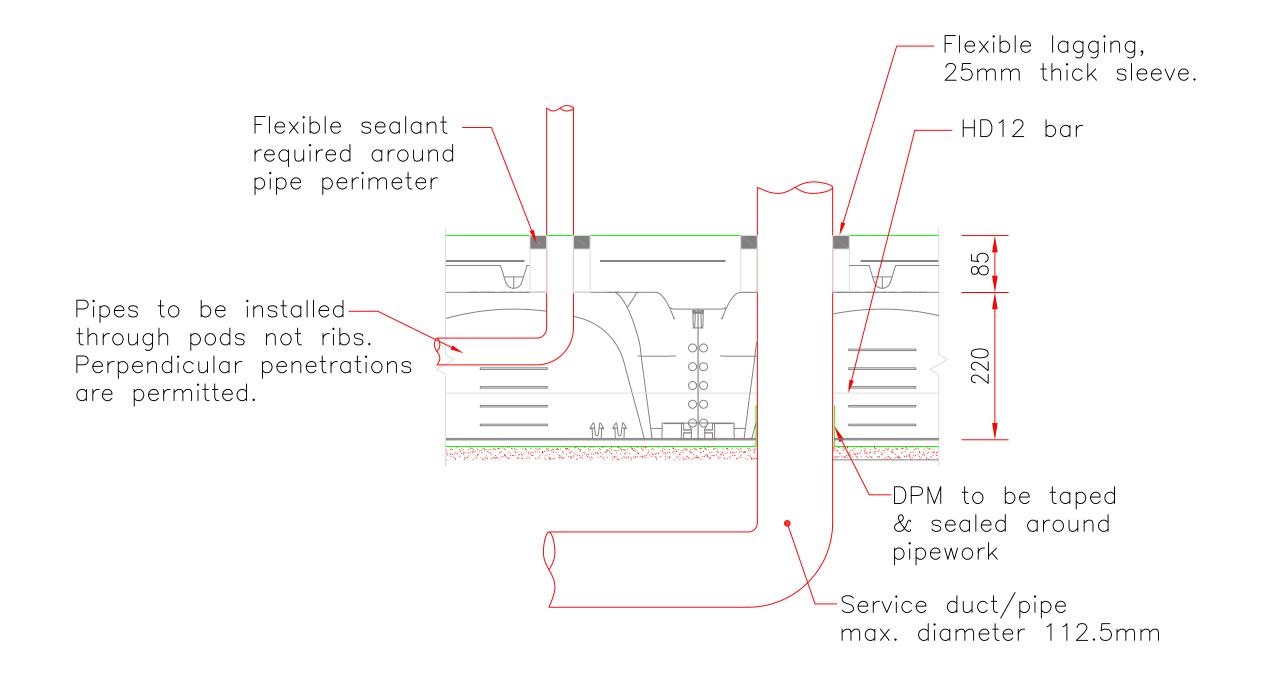
TYPICAL SERVICES



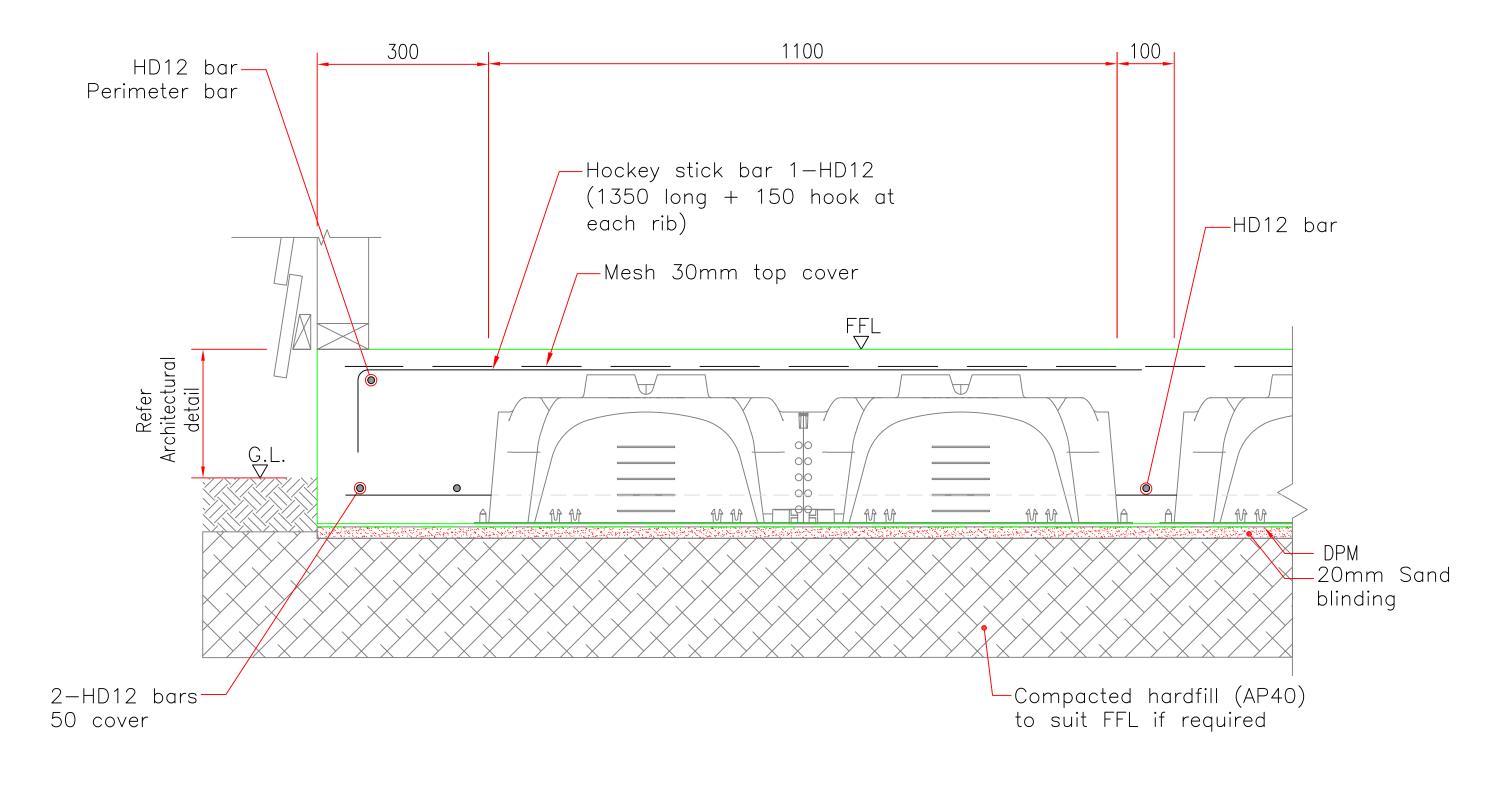
TYPICAL PENETRATION IN LOAD BEARING THICKENING — PIPE NOT CENTRAL



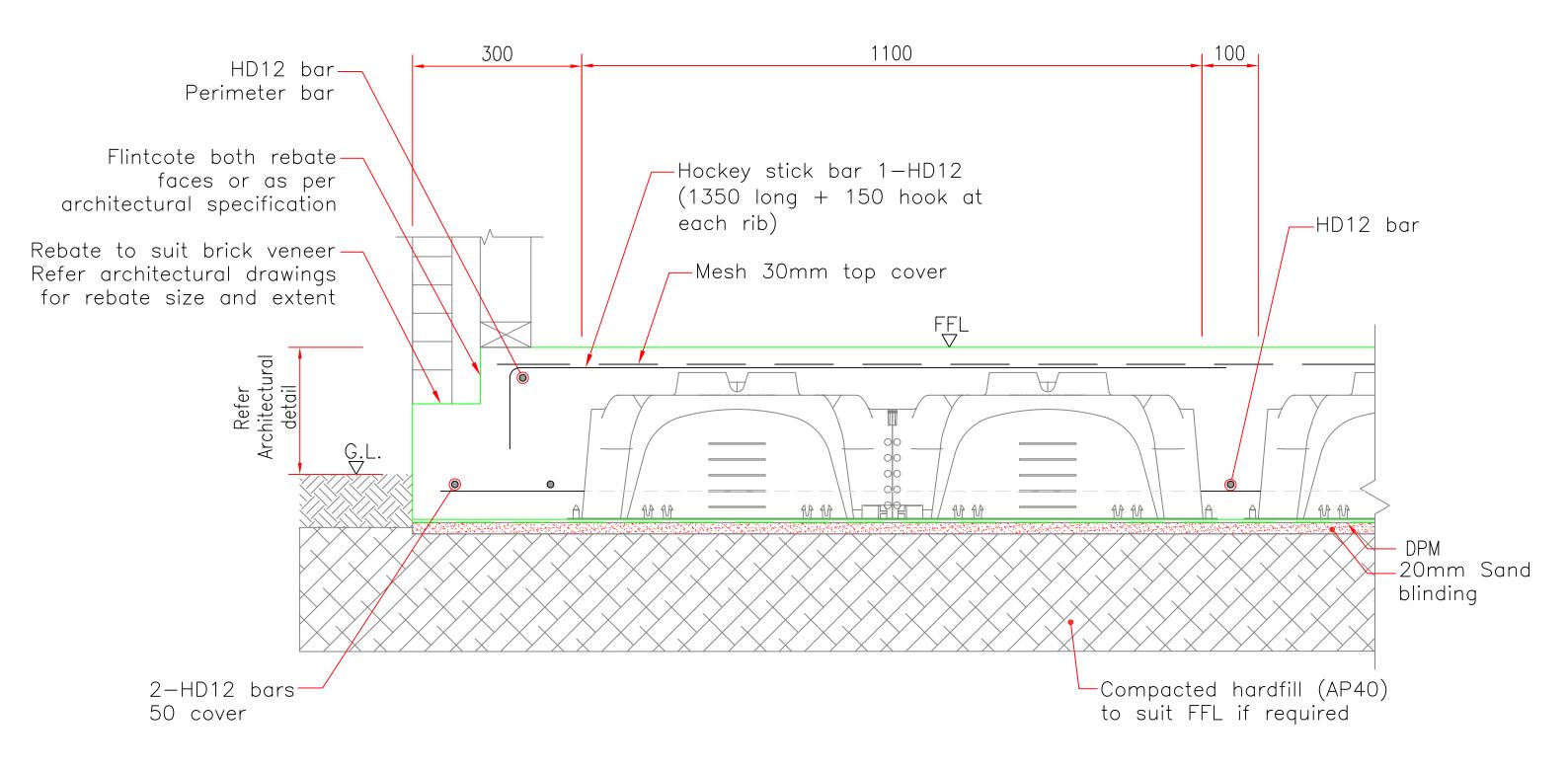
TYPICAL SERVICES THROUGH RIBS



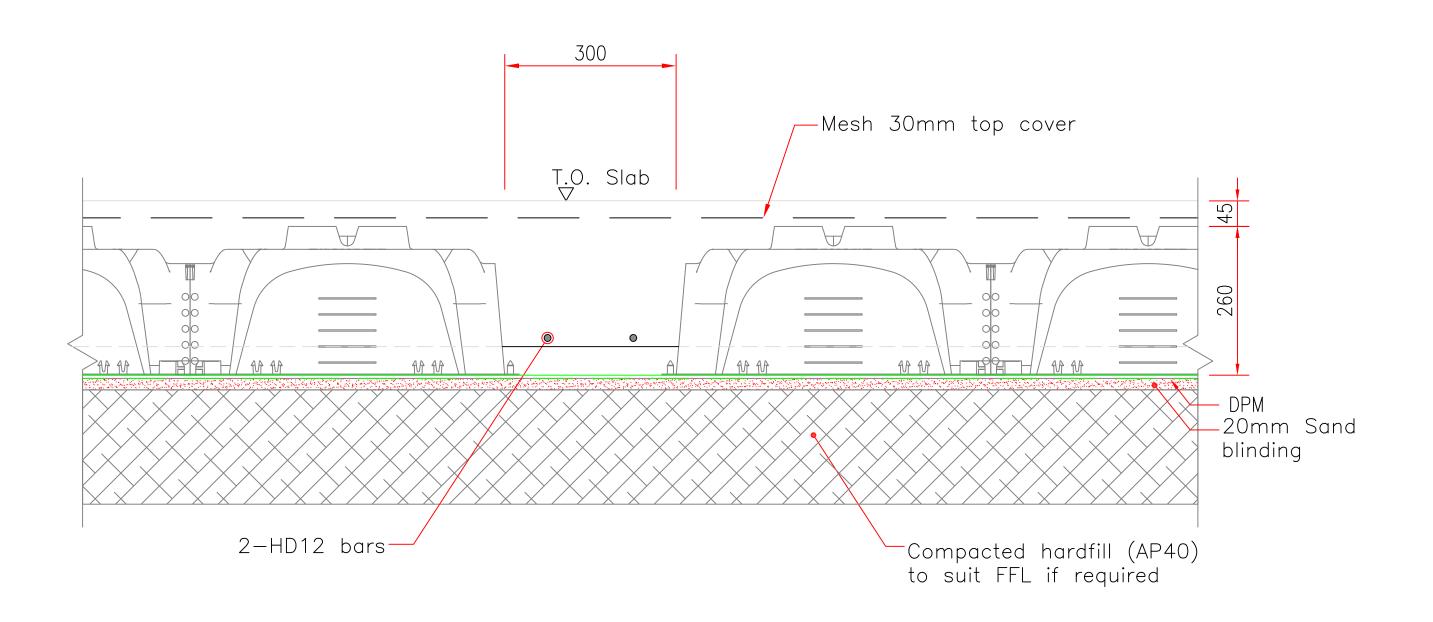
## TYPICAL SERVICES PENETRATIONS DETAIL



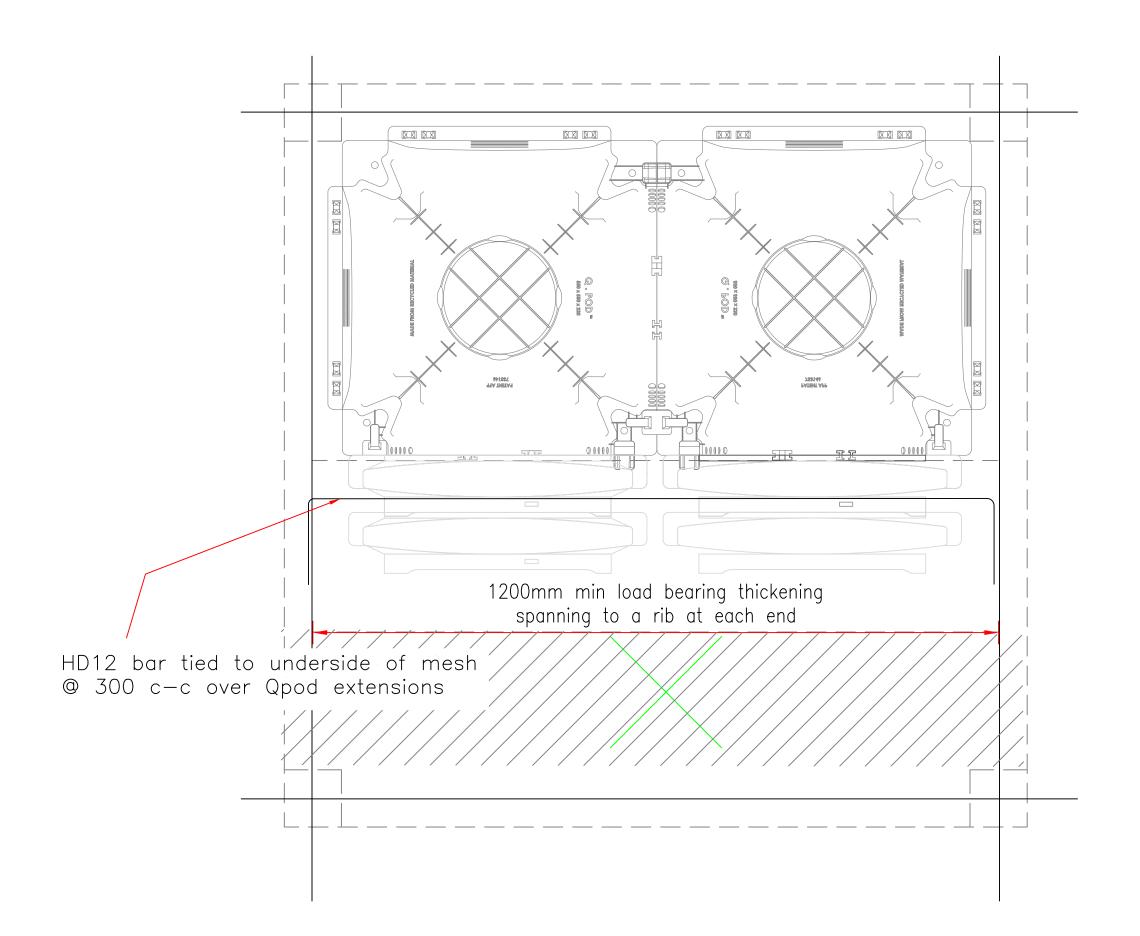
TIMBER WEATHER PERIMETER DETAIL



### BRICK PERIMETER DETAIL

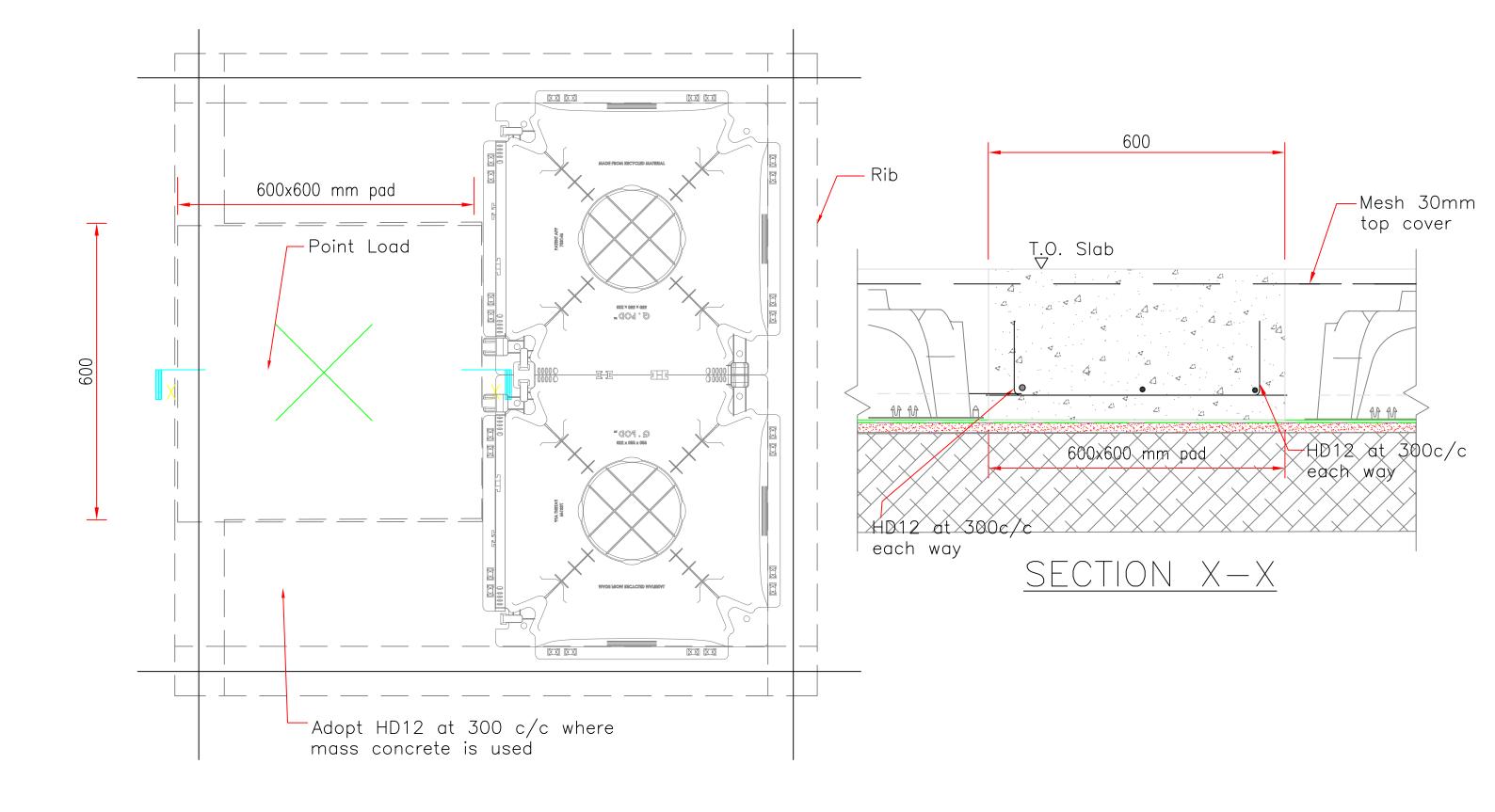


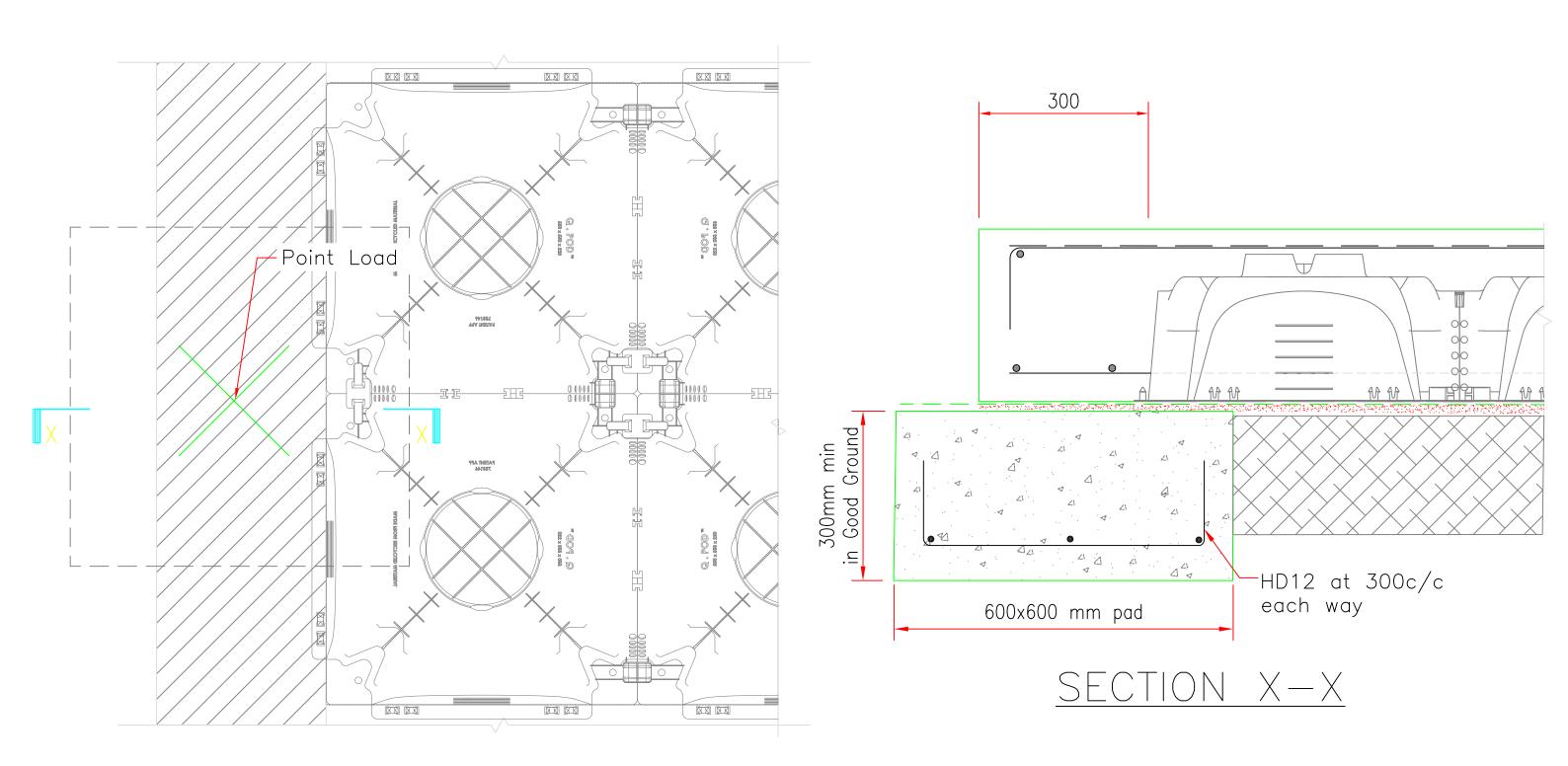
## INTERNAL SLAB THICKENING DETAIL

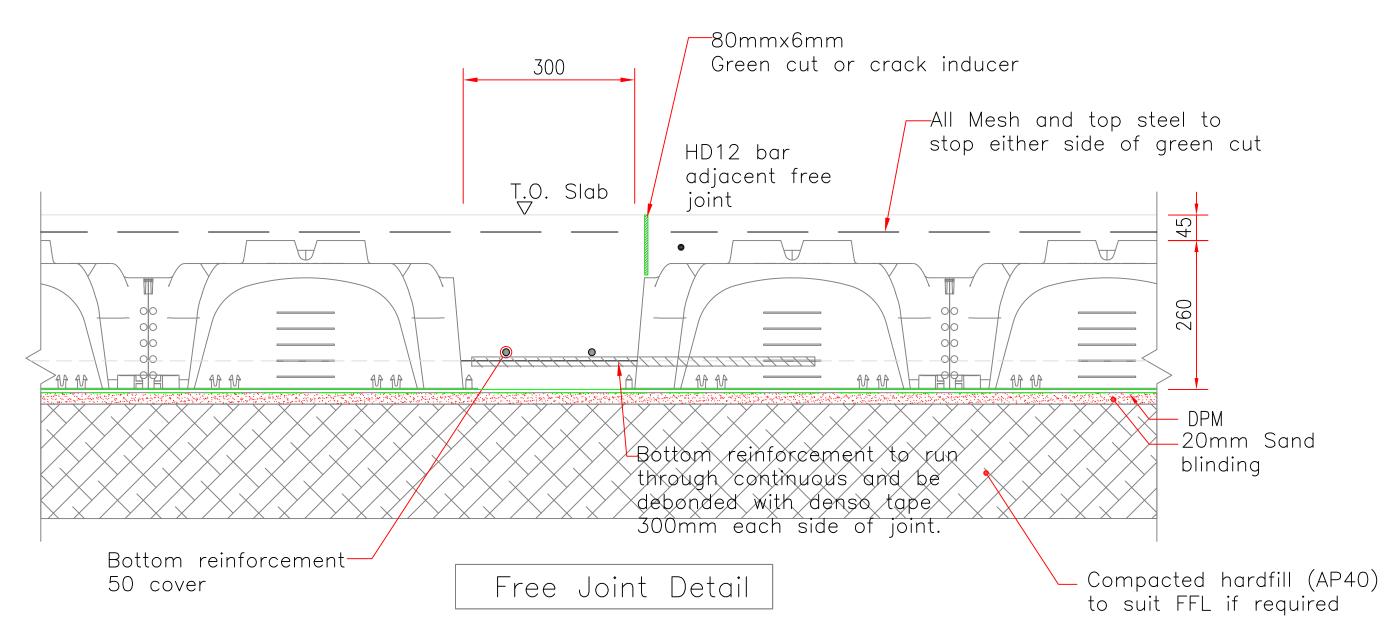


l<sup>2</sup> 5

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Floor coverings and cladding crossing this joint should be detailed appropriately as per product specifications.

### FREE JOINT DETAIL

