5.1.11 Where a number of installations have individual earthing arrangements, any ECC common to these installations shall either be capable of carrying the maximum fault current likely to flow through them or to be earthed within one installation only and insulated from the earthing arrangements of any other installation.

5.1.12 Foundation metalwork in concrete may be used as a readymade and effective earth electrode. The total electrode area formed by the underground metalwork of large structure may often be used to provide an earth resistance lower than that obtainable by other methods; overall values well below 1ohm are obtainable. It is important that consideration is given to the possibility of corrosion of the metalwork reinforcement; the products of corrosion occupy a greater volume than the original metal and cracking might occur. In particular, continuous earth currents shall be given attention; a possible source of such current might be incompatible with other buried metalwork, including other types of earth electrode to which foundation metalwork may be bonded (It might be necessary to consider the need for cathodic protection. Damage to the concrete in the form of cracking, due to arcing or the rapid evaporation of moisture, can occur where the long-term duration earth fault currents exceed the carrying capability of the electrode. This situation is unlikely to arise if the electrode has a resistance sufficiently low to avoid dangerous voltages to earth .Where, in structures made of bolted sections, the electrical continuity of the structural joints cannot be relied upon to form permanent and reliable earth bonds it is necessary to install loops bonding across these joints.)

5.1.13 The use of water mains for earthing purposes shall not be permitted. In general, metallic pipes, e.g. for gas, oil, compressed air, or drainage, shall only be bonded to the protective conductors but not used for the sole means of earthing.

5.1.14 Earth electrodes shall not be installed close to a metal fence, unless they are used for earthing that fence; this is to avoid the possibility of the fence becoming live and thus dangerous at points remote from the substation, or alternatively giving rise to danger within the resistance area of the electrode by introducing a good connection with the general mass of the earth.

5.2 CONSUMER'S MAIN EARTH ELECTRODE

5.2.1 In general, minimum one Main Earth electrode shall be provided for each incoming point of supply/consumer's Main Distribution Board (MDB), within the consumer's premises. For installations with main incomer 200A and above, a minimum of 2 earth pits shall be provided.

5.2.2 The 'Earthig systems' shall consist of copper conductors, copper clad or austenitic steel rods of appropriate dimensions , set with driving pin and head driven to a minimum depth of 3 metres. The earth electrode shall be installed inside a 300 mm x 300 mm x 300 mm earth pit with inspection cover. The connection of the earthing conductor to the earth electrode or other means of earthing should be soundly made by the use of compound filled,Encapsulated