

- b. Homogeneity of the concrete.
  - c. Occurrence and distribution of cracking.
  - d. Characteristic and distribution of voids.
  - e. Presence of contaminating substances.
  - f. Proportion of un-hydrated cement.
  - g. Presence of mineral admixtures.
  - h. Volumetric proportion of aggregates, cement paste and air voids.
  - i. Air content and various dimensional characteristics of the air void system.
  - j. Weathering pattern from surface to bottom.
  - k. Presence of deterioration due to abrasion, chemical or fire exposure.
- F. The following chemical properties of the concrete shall be determined by chemical tests as agreed with the Engineer.
- a. Chloride ion content.
  - b. Sulphate content.
- G. Where destructive testing of specimens of reinforcement steel is required, the samples should be removed as follows:
- a. At location of minimum stress in the reinforcement.
  - b. No two samples shall be removed from the same cross section of a structural member.
  - c. Samples shall be a minimum of 400mm long.
- H. Non-destructive testing of concrete surface shall consist of:
- a. Delamination tests to determine and map areas of delamination.
  - b. Cover meter reading and recording of the results to determine the depth of reinforcement. This shall be undertaken in 1m<sup>2</sup> panels.
- I. A condition survey report shall be prepared for submission to the Engineer. The report shall include the results of the testing with laboratory report, photographs, drawings and recommended repairs in accordance with this section of the specification. Two copies of the condition survey report are to be submitted to the Engineer.

### **9.3.2 Repair Strategy**