Summary of Decisions of the Structural Engineering Committee
SEC 5/2004 held on 6.10.2004

(a) Case 9/2004

Issue : Proposed enhancement of the load capacity of existing caissons founded on Grade III rock by inserting H-piles through the caisson and socketted into bedrock.

Recommendation : (1) To accept the design principle for enhancing the load capacity of existing caissons founded on Grade III rock by inserting H-pile through the caisson and socketted into bedrock subject to full scale loading test of three trial piles.
(2) To accept the enhanced load capacity from end bearing resistance of net caisson (excluding the central grouted portion) and frictional resistance from the socketted H-pile.

Decision : Noting the background information and the rational approach on verification of the design principles, members endorsed the recommendation subject to the conditions in the following :-

a. The integrity of the remaining concrete annulus of the existing caissons shall not be jeopardized by the coring works. A contingency plan shall be given to remedy the problem when defective concrete is observed.
b. The verticality of the coring work shall be ensured.
c. Proper control on overbreak to the existing caissons and the grouting process shall be exercised.
d. The design principle of the future working piles shall be ascertained by the proposed trial pile tests illustrated in the footnotes below. A trial pile test report shall be submitted for the consideration of BA before submitting the working piles for approval.

Footnotes:

a. To carry out full scale load test to an existing caisson (**TP1**) and a new rock socketted H-pile (**TP2**) for verifying the design principle for enhanced load capacity of the composite

pile.

b. Based on the loading test results of **TP1** & **TP2**, RSE would then determine the enhanced capacity and allowable settlement limit for the existing caisson with inserted H-pile (**TP3**).

c. A full scale load test for **TP3** with test load derived from above would then be carried out to verify the enhanced load capacity and workmanship of the strengthened caisson.

(b) Case 10/2004

Issue : Proposed use of loading for specific Show Train in lieu of Railway Bridge Live Load as mentioned in Structural Design Manual for Highways and Railway.

Recommendation : To accept the Show Train specific loading as the appropriate highway loading required by Table 1 of Building (Construction) Regulations (B(C)R).

Decision : Noting the background information and justification provided by RSE, members endorsed the recommendation subject to the following :-

(i) The use of the proposed bridge structure is restricted to the specific Show Train.

(ii) The designed superimposed loadings and the specification of the train shall be shown conspicuously on the proposed bridge structure.

(iii) A corresponding building amendment plan showing the information at para (i) above shall be submitted to BA for approval.