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16.8.11 PCE/SC
CBE



दक्षिण मध्य रेलवे SOUTH CENTRAL RAILWAY

मुख्य प्रशासनिक अधिकारी (निर्माण) का कार्यालय

Office of the

Chief Administrative Officer/Construction

सिकंदराबाद Secunderabad - 500071

→ Ch/OB

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Dy. Ch. O. B. D

24.8.11

No. CAO(C)/Circulars/2011

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Date 10-8-11

CAO(C) Circular No.18 of 2011.

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29/08

Sub: Shape and size of the piers adjoining
of the existing railway/road bridges.

Secunderabad

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There are two types of flow, laminar and turbulent flow. Laminar flow is always preferred than turbulent flow. Turbulent flow also create whirlpool which erode foundation at a very fast rate. Therefore, if there is any whirlpool flow in the existing bridge then the turbulent flow has to be contained or limited at the time of new construction of bridge in adjoining area.

To achieve this if a new Railway bridge is planned adjoining the existing rail/road bridge, the following points may be kept in view while designing the shape and size of the piers.

- i. The arrangement for the new bridge piers should be in the same orientation as that of existing bridge.
- ii. The piers should be founded in the same direction as the existing pier or new pier may be exact mirror image of the existing pier. All other span arrangements should be kept exactly as the existing one.

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- iii. Preferably the size and shape of the new pier should be kept as the same of the existing pier and if it is not possible then longitudinal dimension of the new pier should be equal or more than existing pier if new pier is located in upstream side.
- iv. If the new bridge is located at downstream side the longitudinal dimension of the pier should be equal or less than the existing bridge.
- v. There should be sufficient spacing between existing bridge and new bridge. If it is not possible then the shape and size of the new bridge to be exactly as the same of existing bridge so as to avoid turbulent flow even between two piers.
- vi. The pier cap or well cap of the new bridge should be kept at same level as of the existing well cap/pier cap or the pedestal level so that there is no obstruction to the free flow of the water.

Notable Point

[Signature]
10-08-11
(S.K.Sharma)

Chief Administrative Officer/Con

[Signature]

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