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## **OPTIMUM DESIGN OF FARM PONDS**

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**ABSTRACT:** In Egypt, the design of the irrigation system for the new reclaimed lands does not include storage facilities. As most of the field application systems require pumping, daily working hours are usually 16 hours, while the canals system run for 24 hours. This situation leads to waste of immense investments as the night flows are spilled into drains. Several options for storage of irrigation water are presented and discussed. The most attractive option is the storage of night flows in farm ponds. This paper presents a procedure to the design of the canal system, equipped with farm ponds, based on 24 hours flows rather than 16 hours which would reduce the cost of the canal systems and save the spilled water for new lands as well. The design of the pipe intakes and the optimum design of the farm ponds are also presented in this paper.