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MINOR IRRIGATION TANKS -Head Regulators -Revised Instructions -

GOVERNMENT OF MAHARASHTRA, Irrigation Department, dovernment Circular No.MIS-8189/380/89-MIN-2. Mantralaya, Bombay - 400032.

Dated the 19th July 1991.

CIR.CULAR

Chief Engineer's Technical Circular NO.MNS/1972/75165-MI(3)dated 28-7-1972 REFERENCE : (Page 180, Part-II, M.I.Manual)

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2) Govt.letter No.MNS-1079/(765)-MIN-I, dated 3-10-1980.

A modified type plan with modified instructions was circulated to the field officers vide circular cited under reference (1) above. The standard layout of outlet gates was approved vide Govt.letter cited at reference(ii) above. Further revision of these instructions was felt necessary in view of several incidents of leakages through the outlet/pipes and subsequent damages to the dams of Minor Irrigation Tanks. The following revised instructions are issued in this respect for the guidance of field officers.

OUTLET WELL (1)

For outlets with head of more than 15.00 m., R.C.C. circular well (M.15) of 3.00 m. internal diameter should be provided instead of uncoursed Rubble Masonry as at present. The steining thickness should be 0.30 m. for the first 5.00 m. from top, 0.45 m. for the next 5.00 m. and 0.60 m. for the remaining height. The foundation of well should invariably be taken atleast 0.60 m. in hard rock.

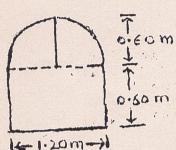
For outlets with head less than 15.00 m. the outlet will well may be provided in U.C.R. masonry with 0.30 m. thick There should R.C.C. Rings at every 3.00 m. height from top. Spacing of be R.C.C. Raft(M-15) at the foundation also. Foundation in intermediate rings may be suitably adjusted. this case too be taken in hard rock.

(ii) Slot for Emergency Gates :-

A standing emergency gate is not necessary for Minor Irrigation Schomes. However a slot for lowering emergency gate should invariably be provided so that in case of emergency, a gate can be transported from outside and lowered in position to facilitate repairs to gate. Trials should invariably taken before release of water.

(111) Conduit

For outlets with head more than 10.00 m, R.C.C. conduit (M-20) of size 1.2 m x 1.2 m. rectangular at bottom and semicircular at top (as shown) should be provided instead of R.C.C. pipes.



The bed slope of the conduit should be designed to be steeper than the critical slope to avoid pressurised flow in the conduit.

For outlets with heads below 10.00 m., 900 nm dia meter NP-3 class R.C.C. pipes may be used with R.C.C.collars/stannching rings at joints. The pipes should be laid on hard bed.

GENERAL POINTS

- TO CONTRACTOR CONTRACTOR CONTRACTOR 1) The location of the outlet should be sufficiently away from the gorge and the waste weir. As far as possible the location should not be kept on sloping ground. The location should be such that the conduit and the canal pass in full cutting.
- The construction of Head Regulator should invariably be completed prior to gorge filling, Permission for gorge filling should not be granted where this condition is not fulfilled. However, the Regional Chief Engineer may accord permission to fill the gorge in urgent cases looking to the exigency for the same. Provision for rehandling of excavated material from Head Regulator may be made in the estimate where necessary.
- 3) For proper back filling around the outlet concrete/Masonry with impervious material, sufficient space (minimum 0.5 m.) should be left during excavation of foundation of outlet.
- The Head Regulator should be founded on rock. At px the location of outlet, the bottom of cut-off trench on either side should necessarily be upto the foundation level of Head Regulator.
- 5) After the conduit/pipes are laid to designed gradient, they should be inspected by the Executive Engineer before covering with bank work, particularly in respect of joints. He should also ensure filling and compaction of impervious material around the pipes/conduit in the hearting zone.

The Regional Minor Irrigation Cell should exercise control over the quality of R.C.C.work. There should be at least two sites inspections (Before concreting and before back-filling) by the Executive Engineer of Regional Minor Trrigation Cell in connection with the work of Head Regulator. Without such inspection work should not be started. Regarding the quality of concrete it should be ensured that no cosmetic treatment such as plastering etc. is resorted to. That is to say the form struck concrete should be kept as it is except for filling cavities, pockets left during concreting if noticed,

Inclined sand filter of 1.00 m. thickness should be provided on downstream side of hearting for 30.00 m. length on either side of the outlet. Seepage from the filter should be carried away to the Longitudinal and cross drains.

The above instructions should be scrupolously followed in respect of all Minor Irrigation tanks where the work of Head Regulator is yet to be taken up.

By order and in the name of Covernor of Maharashtra.

Lock en my (D.N.Kulkarid)

Chief Engineer(Irrigation) and Joint Secretary to the Government of Maharashtra.

Copy to -

All Chief Engineers, Irrigation Department,

All Superintending Engineers, Irrigation Department, (Wilnor All Superintending Engineers, Irrigation)

All Executive Engineers, Irrigation Department.

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