

**GOVERNMENT OF ANDHRA PRADESH
IRRIGATION & CAD DEPARTMENT**

NTPA	29/11
SUPDT	DW 26/11/11

28/11

From
Sri.B.Lakshmana Rao, B.Tech,M.B.A,F.I.E.,
Chief Engineer
Central Designs Organisation,
Hyderabad.

To
The Chief Engineer,
Godavari Delta Systems,
Dowlaiswaram.

Lr.No.CE/CDO/CDI/DEEI /MOD/GDS

Dt: 17.11.2011

Sir,

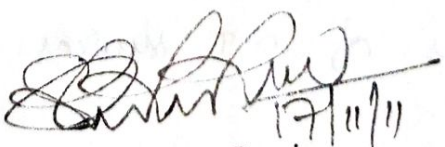
Sub: - Modernization of Godavari Delta Systems-Guide lines for OT sluices – Reg.

It is to be informed that certain Guide lines for vetting of designs of OT sluices (pipe and barrel) are prepared and h/w enclosed for following the uniform procedure in Modernization of Krishna and Godavari delta systems. The OT sluices may be approved at your end duly following the above Guide lines.

Encls:- As above

Yours faithfully,
Sd/-(Dt:17/11/2011),
Chief Engineer,
Central Designs Organisation,
Hyderabad.

// t.c.f//


17/11/11
Superintending Engineer
Dams Circle,
Central Designs Organization,
Hyderabad
As
12/11/11

P.T.O

Guide lines for pipe OT's

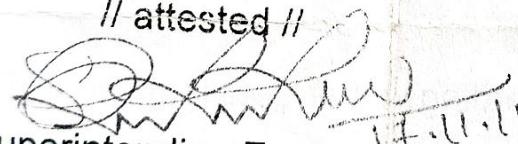
- 1). As seen from the designs furnished, no controlling arrangements are provided. But as per agreement shuttering arrangements are to be provided.
- 2). Sill levels and rear FSLs are as per the existing hydraulic particulars (as per agreement)
- 3) A minimum driving head of 0.075m (7.5cm) is to be considered for calculating the area of the pipe for the required discharge. Where minimum driving head of 7.5cm is not available, the difference between the FSLs is to be considered as driving head.
- 4) For calculating the area of the pipe, $Q=2.86 A \sqrt{h}$ formula is to be followed, where 'h' is the driving head.
- 5) NP2/NP3 pipes are to be adopted for the OT depending upon the strength of the pipe. The load on pipe, calculations for arriving the class of pipe NP2 or NP3 are given in appendix C of IS 783-1985.
- 6) Dimensions of coilars shall be according to the details given in Table 1 and Table 2 of IS 458-1988.
- 7) Craddle Bedding:
 - a) The width of cradle is not less than the external diameter of the pipe plus 200mm.
 - b) Thickness of the cradle under the pipe is not less than One quarter of the internal diameter subject to a minimum of 150mm and the cradle extends up the barrel of the pipe for a vertical distance equal to 'x' times external diameter of the pipe, where $x = 1/4$.
 - c) The compressive strength of concrete in the cradle shall not be less than 150 kg/cm² at 28days.
 - 8) Selected fill material free from clay lumps retained on a 75mm size and down stones retained on a 26.5mm sieve is placed around and over the pipe for a consolidated height of 300mm above the top of the pipe. Each compacted layer is to be not exceeding 150mm thick.

- 9) For normal trench conditions, the remainder of the trench is to be refilled to natural surface with ordinary fill material.
- 10) U/s Head wall – The top width of the Head wall on U/s side
- Shall be 1000 mm minimum
 - Top of the Head walls shall be kept at 0.3m above the TBL of Parent canal.
- 11) Wings and Returns:
- Top width of the wings and return wall 450mm
 - Foundation Thickness 450mm
 - Foundation offsets 2/3 to 1:1
 - Minimum depth of foundation below CBL 0.90m
 - The angle of internal friction of Earth fill on rear side of walls shall be not less than 28°
- 12) The maximum stresses may be allowed upto 8.0 t / sqm only as the strata is of clayey type.

Sd/.

Chief Engineer,
CDO, Hyderabad.

// attested //


17.11.11
Superintending Engineer (Dams),
CDO. Hyderabad.

ajg
17/11/11