



**PLAN OF PIPING**  
(SCALE 1:200)

- NOTE:**
- ALL DIMENSIONS ARE IN MM AND LEVELS ARE IN METERS, UNLESS SPECIFIED OTHERWISE.
  - USE CONCRETE OF GRADE M 30 AS PER IS:456-2000.
  - PCC SHALL BE M20, 100 MM THICK.
  - USE H.Y.S.D. BARS OF GRADE FE415 AS PER IS:1786 FOR ALL R.C.C. WORK
  - PROVIDE 50xDIA. OF BAR AS DEVELOPMENT LENGTH.
  - LAPS SHOULD BE VERTICALLY AND HORIZONTALLY STAGGERED.
  - REINFORCEMENT IF REQUIRED SHALL BE MARGINALLY SHIFTED OR BENT TO CLEAR OPENINGS, EMBEDMENT ETC. IN NO CASE WITHOUT PRIOR APPROVAL OF ENGINEER IN CHARGE.
  - CLEAR COVER TO REINFORCEMENT SHALL BE AS FOLLOWS :-  
 [A] WALLS, RAFT TOP, BEAM, COLUMN, SLAB (LIQUID FACE) = 45 MM  
 [B] COLUMNS (NON LIQUID FACE) = 40 MM  
 [C] BEAMS (NON LIQUID FACE) = 30 MM  
 [D] SLAB (NON LIQUID FACE) = 25 MM  
 [E] WALLS (NON LIQUID FACE) = 30 MM  
 [F] RAFT BOTTOM = 50 MM
  - BACK FILLING SHALL BE DONE IN UNIFORM LAYERS ALL AROUND THE STRUCTURE.
  - ANY SOFT OR LOOSE STRATUM MET WITH UNDER FOUNDATION, BASE SLAB ETC. SHALL BE EXCAVATED AND MADE GOOD WITH COMPACTED SOIL.
  - ALL EMBEDMENTS/INSERTS SHALL BE PLACED TO CORRECT LINE & LEVEL AS SHOWN IN G.A.DRAWING AND SHALL BE MAINTAINED DURING CONCRETING. EMBEDMENTS/INSERTS FOR ALL IMPORTANT STRUCTURE SHALL BE POSITIONED BY TEMPLATES AS DIRECTED BY ENGINEER IN CHARGE.
  - NET S.B.C. CONSIDERED IS 150 KN./SQ.M. IN CASE OF ANY VARIATION IT MUST BE POINTED OUT TO RECONFIRM THE DESIGN.
  - T&B INDICATES TOP & BOTTOM, B/F INDICATES BOTH FACES, B/W INDICATES BOTH WAYS I/F INDICATES INNER WATER FACE, O/F = OUTER FACE.
  - FOR LOCATION AND ORIENTATION OF INLET, SLUDGE OUTLET AND SUPRITANT OUTLET PIPES REFER TO G.A. DRWG. AND MECHANICAL DRAWING.
  - FILLING, WHEREVER REQUIRED, SHALL BE DONE IN LAYERS NOT EXCEEDING 200MM THICK. EACH LAYER SHALL BE DONE WITH EITHER SAND COMPACTED TO 90% RELATIVE DENSITY OR GOOD SOIL COMPACTED TO 95% PROCTOR DENSITY.

Consultants:  
**PROJECT MANAGEMENT CONSULTANT (PMC)**  
 NJS Consultants Co.Limited  
 PMC Project Office,  
 Saikia Commercial Complex  
 3rd Floor, Christian Basti,  
 G.S.Road  
 Guwahati - 781005



Project:  
**GUWAHATI WATER SUPPLY PROJECT (GWSP)**  
 (JICA ODA LOAN PROJECT: ID P-201)

Client:  
**GUWAHATI METROPOLITAN DEVELOPMENT AUTHORITY (GMDA)**  
 STATFED Building, Bhangagarh, GMCH Road,  
 Guwahati-5, Assam

Approved by:	V.Subramaniam	
Checked by:	BMS Murthy	
Drawn by:	Manpreet Singh	
Design by:	P.K.Relhan	
Scale:	Rev: 0	Date 09.09.2017
<b>AS SPC.</b>		

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REV NO.	DATE	REMARKS

Title:  
**LOCATION PLAN & GENERAL ARRANGEMENT DETAILS OF GEETANAGAR RESERVOIR**