

**OFFICE OF THE EXECUTIVE ENGINEER
ANAND AGRICULTURAL UNIVERSITY
ANAND**

LIST OF MATERIAL TO BE USED FOR WORK :-

Sr. no.	MATERIAL	MAKE/PLACE
1	TMT BAR	TATA TISCO, KAMDHENU, NATIONAL, GALENT, NRE, NILKANTH MAKE ONLY.
2	CEMENT	O.P.C- ONLY MAJOR PLANT- ACC, ELEPHANT, AMBUJA, SIDDHI, LOTUS, ULTRA TECH CEMENT, BINANNI CEMENT, SANGHI MAKE.
3	KAPACHI/ METAL	BLACK TRAP ONLY
4	SAND	SANKHEDA/BADALPUR/BODELI ONLY
5	POLISH KOTAH	GREEN COLOUR ONLY
6	VITRIFIED/ CERAMIC/ GLAZE TILES	AS PER TENDER ITEM
7	PLUMBING SANITARY	AS PER TENDER ITEM

Only above said material is to be used as per site condition/situation.

Contractor's sign

Executive Engineer

SPECIFICATIONS

NOTE: The various items of works shall be carried out in general as per relevant I.S. Specifications and that of the latest edition of P.W.D. Handbook Volume I & II along with the following specifications. Where there is construction between the following specifications and shall given in matters of inter-pretation etc. The decision of the Engineer/Architect shall be final and binding on the Contractor.

PRELIMINARIES :

1. The contractor is not allowed for execution any work, which in the Engineer/Architect opinion, is likely to cause any annoyance to occupants in the vicinity, at such time the architect may direct.
2. All treasure crove, coins or objects of antiquity which may be found on the site shall be handed over to the employer.
3. The contractor shall delivery daily to the Engineer-in-charge of works report as to the number of operative employed in all trades and deliver notes for all materials delivered to the site.
4. The contractor is to provide, at all times during the progress of the works and the maintenance period proper means of access, with loaders, gangways etc. The necessary attendance to move and adopt as directed for the inspection of measurement of the works by the Architects, Consulting Engineers, Structural Engineers and employer or their authorized representatives.
5. The contractor is to allow for general attendance upon sub-contractors, including the free use of plant and scaffolding (and the provision of any special scaffolding required) and is to allow their operatives the use of latrines, water closets, mess rooms, and sheds covered space for plant, storage of materials etc. and a look up shop for each.
6. The contractor is to act out any level the works and will be responsible for the accuracy of same. He is to provide all instruments and attendance required by the Architects, Consulting Engineers, Structural Engineers and Employer or their authorized representatives for checking their work.
7. The contractor is to cover up and protect the works from the weather and is to suspend all "SET" operations during weather which in the Engineer/Architects opinion will be detrimental to the work.
8. The contractor is to allow for a general foreman to be a constantly on the works through out the period of their execution and for supervision as required under the conditions of the contract.
9. The contractor shall provide, erect and maintain proper sheds and temporary buildings for the storage and protection of materials etc., and for the execution of works, which may be fabricated or brought on the site.
10. The contractor shall provide, erect and maintain proper sheds, mess rooms for the operative with adequate lighting attendance etc.
11. The contractor shall provide and erect in approved positions all necessary sanitary convenience with the rules and regulations of the Municipality/local authority and maintain in a clean and orderly condition etc.
12. The contractor shall provide, erect and maintain on site office for the general fireman with desk drawers etc. and adequate lighting and attendance etc.

GENERAL SPECIFICATIONS :

1. All damages to floor, walls, roads sides of buildings etc. during the process of fixing water supply, drainage and Sanitary installations shall be restored to the original condition by the contractor of his own cost.
2. All the pipes, fittings and appliances shall be thoroughly cleaned before fixing and particular care shall be taken to see that no materials gets into them during fixing.
3. All the joints shall be of the same diameters of the inside before expect wherever mentioned.
4. All the joints shall be rendered leak proof and tested for the same to ensure efficient functioning of pipes and appliances.
5. All diameters of pipes shall be of the same diameters of the inside before expect wherever mentioned.
6. Entire water supply and sanitary items arrangements shall be subjected to pressure test in accordance to IS Code at the contractors cost prior to commissioning.
7. All the water supply and sanitary items shall be carried out by the experienced plumber to the entire satisfaction of Engineer-in-charge.
8. Rate of each items are including of testing of its and connection and pipe etc. for no leakage.

Specification No. 1

Item No.:

Providing and fixing 32mm thick FRP Plastic moulded Door having single door shutter with round edge good quality prestress precast cement concrete frame of size 10cmx7cm, BELLU/TIGER brand including aluminium anodized fixtures and fastening and S.S. hinges as approved by E.I.C. including one coat of primar & two coats of synthetic enamel paint to C.C. frame etc... complete as directed by E.I.C.

Materials and Workmanship for R.C.C. Frame :

Frame :

The precast R.C.C. frame size 10cm x 7cm shall be made from concrete grade 1:1:2. It can with stand pressure up to 300 Kg./Cm². Reinforcement for concrete frame shall be 3mm wire x 3 Nos. x 4 Nos.

FRP Door Shutter :

FRP Door shutter means Fiber Reinforced Plastic door shutter shall be moulded one piece from good quality of plastic with Fiber reinforcement having fire resistant, no ageing due to sunlight/rain, no swelling, no splitting, no chipping quality. In door shutter wooden pieces are provided as per requirement.

Primer & Oil Paint :

Item shall confirm to Item No.19.71 Page No.142, Vol. 1 vide 1.0 to 2.2 and It. No.19.59(B), Page No. of Vol. 1 vide 1.0 to 2.2.1.

Fixtures and Fastening :

All fixtures and fastening used shall be of aluminium anodized and confirm to as per Vol. I Pg. 188 to 191. Fixtures and fastening shall be got approved from concern Engineer-in-charge before fixing it to door.

The Mode of measurement :

The measurement shall be made upto finished surface of wall, soffits and floor correct to a centimeter accuracy.

The rate shall include cost of all materials, labour for fixing frame, shutter, fixtures and all other arrangements to complete the item satisfactorily and shall be paid on Sq.mt. basis of actual visible work done.

Specification No. 2

Item No.:

Providing and fixing double polished machine cut KOTAH STONE PARTITION for Urinals including making gissi in brick wall and filling gap with white cement slurry round moulding at edge etc..complete in true line and level as per detailed drawing and as directed by E.I.C.

Machine polished and machine cut edges kotah stone shall be of best quality of fine grained textures green uniform colour, hard even sound, durable, regular in shape, size and surface and with out any spots, veins, cracks or flaws. The edges shall be machine cut, the size of stone shall be 25mm to 30mm non joints or short size of stone shall be allowed to be used.

Before fixing of stones grooves shall be made as per design and surface shall be well cleaned of all dust and dirt and well watered. Polished stone shall be fixed on CM (1:3) (1 cement 3sand) bedding and back coat of applying cement slurry paste on the complete surface and bed shall be set in such a way that the finished surface shall be in true line, level and uniform grade and making good the surface same as per original etc. complete. The work shall be well cured for 7 days and hand polished and waxed properly.

The rate includes cost of all materials other arrangements labour etc. complete as directed for satisfactory competition of item and shall be paid on sqmt. Basis of visible work done.

Specification No.3

Item No.:

Providing and fixing P.V.C. Nahni Supreme Trap of 75mm dia. inlet & 75 mm dia. outlet nominal diameter of self cleaning design with P.V.C. greeting zali 100mmx100mm in size including fixing P.V.C. reducer & rubber paking ring of 110mm dia. to 75mm dia. & jointing with adhesive solvent cement iincluding cost of cutting & making good the walls & floor etc.. complete as directed by E.I.C.

1.0 Material :

- P.V.C. Nahni trap shall be of best approved quality such as PRINCE or equivalent make.
- P.V.C. solvent cement/adhesive shall be of best quality and approved make.

2.0 Workmanship :

Item shall be carried out in general as per given drawing-design and instruction of concern Architect/Engineer. Nahni trap shall be fitted in true line and level and slope and all the joints shall be fitted with proper adhesive solution with sufficient quantity. All the joints shall be kept open and shall be tested for no leakage.

3.0 Mode of Measurement & Payment :

Rate for item includes all the required materials, labours, tools, plants, machinery etc. involves for satisfactory completion of job.

Item shall be measured and paid on No. basis.

Specification No. 4

Item No. :

Providing and constructing B.B masonry and cement concrete for SEPTIC TANK of 3m x 0.9m x 1.5m depth internal dimension with excavation & depositing off the excavated stuff as and where directed including providing laying brick masonry in C.M. 1:6 (1 cement : 6 sand) with using common burnt clay conventional building brick having crushing strength not less than 35kg/sq.m for necessary compartment for chamber & septic tank with necessary inlet & outlet with cement plaster 15mm thick on wall, I.P.S. flooring, bed concrete, R.C.C. top slab, M.H. cover 600mm x 450mm of C.I., air vent pipe with cowl vent and cement vata of 10cm x 10cm size in C.M. 1:1 etc.. complete as directed by E.I.C.

1.0 Materials :

Different materials required for the above items shall conform to specified in specifications of materials as detailed below Vol.I.

Water M-1 Page No.1 cement M-3 P.3, sand M-6 pg. 3.4, cement mortar M-11 Pg. 11, brick aggregate M-14 pg.8 mild steel M-18, Pg.7 tor steel M.19, Pg. 7 C.I. pipes –M.68 Pg. 19-20.

C.I. cover of 60cm x 45 cm size and 75mm dia C.I. cowl vent shall be approved quality.

2.0 Workmanship :

Different items covered in the above job shall confirm to as specified in a detail specifications detailed below vol. I excavation specification No.4.0.0(A) Para 1.0 to 5.2 page No.21,22.

Brick masonry in C.M. 1:6 specification No.6.13(B) P.No.44 Para No.1.0 to 2.1

BCC 1:5:10 specification No.5-3-8 (A) Para No.1.0 to 2 Page No.39.

RCC 1:2:4 slab specification No.5.00.3 (III) Para 1.0 to 1.1 Page No.40.41.

Half brick masonry in C.M. 1:4 specification No.6.30.1 (B) Para 1.0 to 1.0 Page No.46-47.

Mild steel reinforcement specification No.5.4.10 page No.36-37 Para No.1.00 to 2.8.

Tor steel reinforcement specification No.5.4.11 Page No.37 Para 1.0 to 2.1

15mm tick smooth cement plaster in C.M. 1:4 specification No.17.58 (ii) Page No. 103 Para 1.0 1.1 and 17.69 (a) Para 1.0 to 1.4 page No.,121.

40mm thick IPS (1:2:4) flooring specification No.14-71 (A) Para 1.0 to 2.3 Page No.88.

Cement vata in C.M. 1:1 specification No.17-0-01 Para 1.0 to 2.1 Page No.109.

75mm dia C.I. pipe specification No.23-79(B) Pg. No.145 Para No.1.0 to 2.7

60mm x 45cms size C.I. Cover specification No.23.00.6 Page No.173 Para 1.0 to 2.1 75mm dia C.I. cowl shall confirm to specification oNo.3 on Page No.11.

3.0 Mode of measurement & payment :-

The rate includes all labours materials tools and plants required from work, centering shuttering etc. for satisfactory completion of this item as specified about for complete job.

The rate shall be for a unit of one number.

Specification No. 5

Item No. : 21

Providing and constructioning SOAK WELL of 2.50m internal dia. & 5.0 mt. depth internal clear dimation including the cost of excavation, foundation for honey combed masonry of 3.00m height in C.M. 1:6 (1 cement : 6 coarse sand), casting R.C.C. 1:2:4 (1 cement : 2 sand, 4 graded sone aggregate 20mm nominal size) top slab 12 thick with C.I. Manhole cover 60 cm x 45 cm size of 35 kg. weight and 75 mm dia. C.I. pipe 1.80m long with 75 mm dia cowl vent and filling the wall 1m in depth with dry brick bats including providing vata in C.M. 1:3 (1 cement : 3 sand), curing including cost of reinforcement etc. complete as directed by E.I.C.

1.0 Materials :

Different materials required for the above item slab confirm to as specified in specifications of materials as specified in specifications of materials as detailed below in Vol.I.

Water-M-1, Page No.3 cement M-3 Pg.3 and M-6 Page 3,4 cement mortor M-11 page No.11, Brick aggregate M-14 Page 12 stone agg. M-12 Page 5, Bricks M-15 Page 6-4 Mild steel M-18, Pge 7 tor steel M-19, Page 7 C.I. pipes M-68 Page 26,27.

C.I. Cover of 60cmx45 cms size and 75m dia C.I. cowl vent shall be of approved quality.

2.0 Workmanship :-

Different items covered in the above job shall confirm to as specified in details specifications as detailed below in Vol.I.

Excavation 4.0.0(A) Para-1-0, to 5-2 Page 21-22 0-01, (A) Para 1-0 to 1.1 Page No.25 4.00.2(A) Para 1.0 to 1.1 Page 25-26.

Brick masonry solid and honey combed specification No.6.13(B) Page No.44 Para No.1.0. to 2.1

RCC 1:2:4 slab specification oNo.5.00 (1) (a) (III) Page No.47,48 Para 1.0 to 1.1.

Mild steel reinforcement specification No.5.4.10(A) Page No.36,37 Para 1.0 to 2.8.

For steel reinforcement specification No.5.4.11(A) Page No.37 Para 1.0 to 2.8

For steel reinforcement specification No.5.4.11 (A) Page No.37 Para 1.0 to 2.1

60 cm x 45 cm C.I. cover with frame specification No.23.00.06 Page No. 153 Para 1.0 to 2.1

75mm dia C.I. Pipe specification No.23.79(B) Page No.145 Para 1.0 to 2.7.

75mm dia C.I. cowl vent of approved quality as shal be fitted on top of ventilation of pipe, it shall confirm to It.No.3 Pg. No.319 of Vol. II approved quality of bricks aggregate of 40mm nominal size shall be filled up to the pit upto 1.50 mt depth/height as directed by Engineer in charge. 15 mm thick smooth cement plaster shall conforms to oSr.No.17.58 (A) (II) Para 1.00 to 1.1 Page No.105 and 17.69 Para 1.0 to 1.4 Page No.106.

3.0 Mode of measurement & payments :-

The rate includes all labours, materials, tools, and plants required form work, centering shuttering etc for satisfactory completion of this item as specified above for complete.

The rate should be for a unit of one number.

Specification No.6

Item No.:

Providing and Laying Sinder filling in plinth in layers of 20 cm. Thickness including watering ramming and consolidating etc. complete.

Providing and Laying Sinder filling in plinth with brought from outside in layers of 20 cm. Thickness including watering ramming and consolidating etc. complete.

Mode of Measurement :

Payment shall be made on Smt. Basis.

Specification No.7

Item No. :

Providing and Fixing PVC Water Tank of required Capacity of Sintex Triple Layer Tank code-CCWS 0500-01-TLW including cost of all brass fixtures & fittings required as per given detail for inlet and outlet connections, air vent, cover, testing etc., complete as directed by E.I.C.

1.0 Materials :

The material PVC moulded 'Sintex' or equivalent make water storage tank should be hard, tough and durable and as per manufactures specifications shall be of approved quality in lat, outlet overflow and wash out connection of required diameter of C.I. pipe shall be provided as directed.

1.2 Workmanship :

The readymade PVC water storage tank as above shall be fixed on any floor and or on flat masonry platform to be constructed for the same.

Necessary inlet, outlet, overflow and washout connections of 40mm dia or required dia, G.I. pipe shall be fixed in water tank.

The tank shall be connected to the main line for inlet and outlet lines.

2.0 Mode of measurement :

The rate shall be for unit of one litre of total storage capacity of PVC moulded water tank provided (as per specified size capacity) cost shall includes the cost of inlet necessary fittings, fixtures for over flow, washout, inlet and outlet facilities. It shall be also include cost of fixing charges and cost of necessary platform.

Specification No. 8

Item No.: 35

Providing and laying white glazed tiles equal size pieces for CHINA MOSAIC WATER PROOFING TREATMENT to terrace including cleaning the surface, Opening the cracks in 'V' groove pattern & filling the same with cement mortar in 1:1 (1 cement: 1 sand) including brick bat bedding as to have proper slope over a layer of CM 1:3 (1 cement: 3 sand) and filling the joints with CM 1:1 including finishing the top surface with equal size white glazed tiles pieces including round shape vata, with filling white cement in joints, using chemical water proofing as per mfg., specification & standards with cleaning top surface using acid including drip moulding at the junction of vata & plaster etc.. complete as directed by E.I.C.

All materials Cement, Sand, Glazed tiles and Brick Bats shall be as per the specifications given earlier. Water proofing compound shall be Pidilite (Water proofing) compound and the preparation shall be 3 Bags per 10 Smt.

China Mosaic floor shall be laid on brick bats layer of 0.08 Cm. Thick in C.M (1:4) 25mm thick bedding laid in line level and required slope glazed tiles 40mm to 50mm size pieces of broken from glazed tiles floated in white cement 1.1 Kg. Per Smt. Pidilite water proofing compound shall be used in bedding. China Mosaic water proofing shall also be laid at the joints, corners and vertically with parapet wall (15 cms to 20 cms in C.M. (1:3) fillats below China Mosaic shall be provided as directed. The entire flooring shall be properly cleaned, filled and flooded with water for 4 days. Item includes all materials, labour, watering, curing etc.

Mode of Measurement :

Item shall be measured in Smt. of clear wall to wall.

ANNEXTURE – 'A'

Rates of different materials @ site required for the execution of work as per specification & wages of labour to engaged for the satisfactory completion of the work as per detailed specification.

A) For Labour	Category	Rate/Unit	
1) Skilled labour	Makardam Mistry Grade-I Meason Grade-I Carpenter Grade-I Plumber Grade-I Blacksmith Grade-I Wireman Grade-I Any other, if required		
2) Semi skilled labour	Bhisti Mason Grade-II Carpenter Grade-II Plumber Grade-II Wireman Grade-II Blacksmith Grade-II Any other, if required		
3) Unskilled labour	Male helper Female helper		
B) For Materials :			
Materials	Units	Rate/Units	Lead in Kms.
1) Cement	M.tonne		
2) Tor Steel	M.tonne		
3) Mild Steel	M.tonne		
4) Conventional bricks	1000 Nos.		
5) Course sand	Cumt.		
6) Fine Sand	Cumt.		
7) Kapachi 12mm to 20mm	Cumt.		
8) Teak wood finished size	Cumt.		
9) Mosaic tiles for flooring	Smt.		
10) Mosaic Tiles for skirting	Smt.		
11) Single side polished M.C. Kota.... thick for flooring	Sqmt.		
12) Single side polished kota Stone thick for dedo	Sqmt.		
13) Double side polished kota Stone thick	Sqmt.		

- 14) Figured glass mm thick
C for clear required sizes Sqmt.
- 15) Galvanised pipe of medium
size i.e. from 15mm to
40mm dia. Rmt.
- 16) Any other major Item, if
required for the work

Signature of Contractor

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Details regarding works executed / On hand due Contractor

1. Name of the Firm :
2. Partners :
3. Qualified Staff :
4. Tools Plant and Equipments :
5. Important Works :
 - (A) Carried out as so far :
 - (B) On Hand : Employer / Architect Cost
6. Additional Information if any :
7. **Rate Analysis with basic rates of** :
Materials for major tender items

Contractor Sign

Date :

Place :

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