GOVERNMENT OF TELANGANA

T.G. STANDARD DATA
(With Schedule of Rates **2025-26**)
(Effective from 1st June 2025)

BOARD OF CHIEF ENGINEERS

Office of the Engineer-in-Chief (Admn)
Irrigation & CAD Dept., Errummanzil, Hyderabad

Proc.No.ENC(Admn)/Dy.ENC/EE(Tech)/DEE.1/AEE.3/Data-2025-26/Vol.-I Dt:18.06.2025

Sub: Telangana Revised **Standard Data** for I&CAD works(Part-I) for the year **2025-26** – approved-Printing & communication of Standard Data –Reg.,

Ref:
1. G.O.Ms.No.49, I&CAD (PW:Reforms)Dept., dt:02.03.2009.
2. Minutes of BOCEs meeting for Schedule of Rates held on 30.05.2025.
3. T.O. Proc.No. ENC/Admn/Dy.EnC/EE(Tech)/DEE-1/AEE-3/SoR 2025-26/Vol.I Dt:18.06.2025

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The Board of Chief Engineers during its meeting held on 30.05.2025 has discussed and finalized the Schedule of Rates (SoR) for the year 2025-26 for I&CAD (Part-I), Road & Bridges (Part-II), Buildings (Part-III) and Public Health (Part-IV).

Based on the approval of BoCE's, the SoR for Labour & Material items of I&CAD Dept. (basic input required for arriving unit item rates as per Telangana Revised Standard data), R&B Department, PR Department and Public Health Department were communicated vide this office proceeding 3rd cited.

By incorporating the Basic data items and Labour rates, the Telangana Revised Standard Data (unit rate for work items) for the year **2025-26** is finalized. Any additions, modifications or deletions in the existing data must be approved by Government based on recommendations of Board of Chief Engineers (BoCEs).

Encl: Soft copy of Telangana Revised Standard Data for I&CAD Department for the year 2025-26.

Sd/- Mohd Amjad Hussain (Dt:18.06.2025)
Engineer-in-Chief(Admn)
Irrigation & CAD Department and
Chairman, Board of Chief Engineers

To,

I. The following Heads of Departments along with Enclosures for information and necessary action.
   1. Engineer-in-Chief (P.H.), PH & ME Department.
   2. Engineer-in-Chief (P.R.), Panchayat Raj Department.
   3. Engineer-in-Chief, Mission Bhagiratha Department.
   4. Chief Engineer (SR & CRN), Roads & Buildings Department.
   5. Chief Engineer (Buildings), Roads & Buildings Department.
   6. Chief Engineer (Electrical), Roads & Buildings Department.

II. Copy submitted to the Principal Secretary to Government, I&CAD Dept., 4th Floor, Dr. B.R. Ambedkar Telangana Secretariat, Hyderabad for favour of information.

III. Copy to the Superintending Engineer, Irrigation Circle, Irrigation & CAD Department, Red Hills, Hyderabad for necessary action

IV. Copy communicated to the DEE (computers) with a request to place the Schedule of Rates 2025-26 & Standard data, Part-1 (Irrigation & CAD works) and Proceedings in I& CAD department website for wide publicity.

Sd/- Mohd Amjad Hussain (Dt:18.06.2025)
Engineer-in-Chief(Admn)
Irrigation & CAD Department and
Chairman, Board of Chief Engineers

for Engineer-in-Chief(Admn)
Irrigation & CAD Department

Important – Read the following

ANNEXURE- A

1. The SPIU (Irrigation), Centre for Good Governance (CGG), Hyderabad has developed software package linking the basic input data of Irrigation with approved data of Irrigation work items.

2. The lead and lift charges are common to all Engineering Departments. The detailed calculations are incorporated in the Lead &Lift charges chapter in the I&CAD works (Part-1) of Telangana Revised standard data.

3. The estimate sanctioning authority shall physically verify each and every Irrigation work item data incorporated in the estimate with basic input data before sanction of the estimate. Any lapses or arithmetic errors arising in the sanction of data's /estimate due to adoption of the software package lies entirely on the concerned estimate sanctioning authority only.

4. Any discrepancies / corrections required for improper basic input data appearing in the approved data's of Irrigation work items in the software package and hard copy of SoR & Standard data's (part-1) may be brought to the notice of undersigned for issuing corrections.

5. Estimate Sanction Authority shall examine the Components/Materials/Items proposed for arriving finished rate in the Data. Any Items Components/ Materials/ Items not required for that work, can be deleted by the Estimate Sanctioning Authority while according the approval to Datas.

Sd/- Mohd Amjad Hussain; Dt:18.06.2025
Engineer-in-Chief(Admn)
Irrigation & CAD Department and
Chairman, Board of Chief Engineers

T.G. REVISED STANDARD DATA

I. PREAMBLE

The TS Revised Standard data adopted for various construction items has come into existence as per the Government Orders G.O.Ms.No.49, I & CAD (PW: Reforms) Dept., dt: 02-03-2009.

The background for adoption of Telangana Revised Standard Data is:

1. Government, in GO 7326 (GAD-GPM& AR), Dated 26-10-2005, has observed that the age old "Standard data" requires revision and updation with reference to the latest machinery and contemporary practices and has constituted a **High Level Committee** to advise on updating and revision of standard data and schedule of rates. The work has been taken up by CGG and SPIU-Irrigation. The Secretary (Irrigation) is the Member- Convener of the Committee

   Accordingly, the data has been revised adopting the procedures and guidelines given by *CWC, Report on "committee on cost control of River valley Projects, BIS specifications, NHAI, MORTH, MORD, CPWD and Government of Karnataka and revised data* and formulated schedule of rates for all infrastructure Departments (I&CAD, R&B, PR and PH). The team of senior engineers interacted with the S.R Committee of Karnataka on implementation and improvements needed. For irrigation works, the data pattern as adopted by Karnataka has been considered and for other Departments, the data adopted by MORTH, MORD and NHAI etc. is considered.

2. Sequence followed in revision of standard data is,
   a) The first step is the revision and formulation of standard data for each work component.
   b) The second step is to work out the details of inputs. This enables to generate the unit work item rates, by incorporating the use rates of machinery, materials, labour charges and other supplementary parameters.
   c) The third step is to develop software tool to generate unit rate using the software (completed for irrigation works by the SPI Unit of Irrigation)
3. The Detailed draft data was communicated to all the HOD's and interacted through many seminars and discussions and incorporated the relevant features. The Board of Chief Engineers in their meetings have recommended for acceptance to the data formulated and schedule of rates. It was proposed to examine the recommendations on important parameters, to refer to high level committee, for their specific recommendations for adoption, as they are common to all departments.

The committee made indepth study on the methodology and systems followed by the reputed National organizations and other States and made detailed deliberations with

HOD's and representatives of Builders Association of India and made recommendations to the Government, on adoption of such parameters in Telangana.

4. The Chief Secretary held a detailed discussion on 04-07-2007, with the Secretaries of the Departments and Heads of Departments.

II. GUIDE LINES

1) The Schedule of Rates (SoR) is formulated under four Parts, which are applicable to all the Engineering Departments and other Organizations under the control of Telangana State Government.

PART -1: Irrigation& CAD (Dam and Allied Works, Canals and Allied Works, Canal C.D. Works, Tunnels and Allied Works, Preliminary and Maintenance Works, Hydraulic Gates and allied works and Leads and Lifts applicable to all Departments.

PART -2: Roads and Bridges

PART -3: Buildings including Electrical Works

PART -4: Drinking Water Supply and Public Health (Only for works done by manual means)

2) Brief description of item of work:

Brief description of the item of work to cover all important aspects of the work included in the Data. On reading the description of the item, the user should be in a position to assess the various cost components involved in the work.

3) Data for assessing quantities:

The data reflects various assessments / assumptions made in arriving at the quantities of materials, machinery, labour and other in-puts. In case of plants and equipment the output of main plant is worked out and the requirement of all other inputs and assessed to match the output of the main plant. Cycle time of operations is the criteria for assessing the output of equipment. Generally, the equipment manufacturers furnish the output of machinery under ideal conditions of working. Suitable job and management efficiency factors are to be considered while working out the average output of machinery under field conditions. In case of combination of machinery and manpower, the assessment of manpower shall match the output of machinery.

Though the cycle time of operations is the criteria for hourly / daily out-put of machinery work-force, the actual progress of work depends on several other factors such as power interruptions, minor break-downs, time for meals and other needs of work-force, stray rains etc.

Therefore, it is the general practice to consider 50 minutes as the actual working time per hour for working out the hourly / daily out-put of machinery / work-force. CWC / BIS guide-lines stipulate the actual working hours for the purpose of equipment planning and utilisation. The daily out-put is computed duly considering the actual available working time and feedback from the field.

- For gate and hoist works, it is the general practice to specify the quantity of work in terms of number of sets of embedded parts / gates. The requirement of machinery and work-force for cutting, bending, fabrication, erection, painting etc., is assessed to commensurate with the task involved.
- The data for gates and E.M. Parts is arrived per Metric Tonne (MT) quantity.
- The data for Hoists and Gantry Cranes is worked out on the basis of capacity in tonnage.

4. **The lead and lift charges** provided in SoR are generally applicable and common to all Engineering Departments. Any item which is not covered in this part, the rates as provided in the data of the relevant works may be adopted in preparation of estimates.
5. **Input Basic Materials** needed for all works are listed and incorporated in the data. The requirements are analysed and the specifications adopted shall confirm to Standards published by the BIS.
   - The labour and material rates will be finalised by the Board of Chief Engineers.
   - Unless otherwise specified, all Material rates shall be exclusive of GST.
   - For Sand, Gravel, Murrum, Stones, Coarse Aggregates etc., the rates are ex-quarry/Stock yard, adding loading charges by machinery / manual means and idle hire charges of machinery as per table under chapter “Conveyance or Lead and Lift charges”, as applicable.
   - For AC sheets, GI sheets, Hume pipes, wood and stone slabs, the rates are to be taken prevailing at major commercial centre near project area. The lead charges, as applicable are to be added in preparing estimates
   - For Steel and Cement, the rates are delivery at site excluding GST.
   - The specifications of the aggregates for sizes and gradation and its adoption shall be as per IS 383.

6. The Labour component in the data is mentioned for unit work.

- No allowance towards labour importation and labour amenities added extra as they are included in the recommended overheads.
- On Labour Component: Certain additional allowances are added extra to the wages of labour (i.e. only on labour component in the work item) in the form of percentage, as recommended by the Government/Board of chief engineers due to statutory and other provisions.

7. Hire Charges of Machinery*:* The machinery and /or group of machinery For items of works and their output has been worked out based on the availability of machinery generally in the market and working in the field successfully, duly considering cycle time, idle time, operator efficiency, type of work etc.

- The hire charge of a machinery / equipment is worked out based on the guidelines published by CWC and BIS codes.
- For the other machinery not covered by the list, the R&B and other users may adopt hire charges as recommended by the MORTH.

8. Lead Charges

a. The high level committee has recommended to adopt, for conveyance by head load, a minimum lead of 50 meters and additional lead up to 150 meters in the intervals of 50 meters. Beyond 150 meters lead, only machinery rates are to be adopted.

b. The basic work item rates provided in the Standard Data & Schedule of rates include 50 m or 1 km as initial lead and no lead charges shall be allowed where the source of material is within the initial lead specified in item rate. Additional lead charges shall be allowed for the lead exceeding initial lead specified in the item rate. The Guidelines may be followed regarding adding Lead charges as given against each chapter.

c. For the materials where the basic rates are mentioned as “Quarry Rates” in the SoR, which includes initial lead of 1.00km. Lead charges are to be added for the lead distances from the approved quarries as applicable

d. The lead charges per unit quantity for conveyance of the materials are worked out, and included in the schedule of rates in increment of 50 m for head load and in increment of 1 km for mechanical mode.

e. The rates for lead charges by head load up to 150 meters and by machinery up to 5 km, shall be cumulative and inclusive of lead charges for preceding lead. For lead beyond 5 km, the lead charges shall be worked out on per km basis.

9. Loading and Unloading Charges for Materials

The following features are considered:

a. Loading and unloading charges are not payable for conveyance by head load.
b. Loading and unloading charges are not payable for conveyance by mechanical means, for disposal of excavated material unless specified.
c. The rates for unloading of materials except earth, sand, gravel, coarse aggregate, rubble, size stone and cut stone, are inclusive of stacking wherever applicable.

10. Lift Charges:

a. The data includes initial lift charges of 3.0 meters, for materials conveyance by head load, Additional leads in the interval of 1.0 meters are worked out, as additional labour input and incorporated in the chapter on" Lead and lifts"
b. Where the conveyance / lifting of material is done by mechanical means, lift charges shall not be considered, as the cycle time of operation of the machine includes lifts involved.
c. The data and rates for lift charges is cumulative and are inclusive of rates for preceding lifts also.

11. Wastage of Materials

a) Cement: No wastage allowance is recommended towards the quantity of cement used in works, as the wastage is already included in the input and in major works bulk quantities are used.

b) Steel: The wastage of steel @ 2.5% is allowed for gates and allied structures. For RCC works the wastage is @2.5% for the reinforcement rods above 36mm dia. and @ 5% for rods below 36mm dia. including overlaps, if they are not welded. If welding is adopted for the reinforcement rods even for below 36mm dia, 2.5% of wastage is only recommended.

12) Provision for rate of water: -

The Committee has recommended not to consider the water charges in the Irrigation Project works. But, it may be considered in specific cases as per the site conditions.

13) In respect of RCC works*:* the rate for cement concrete for 1 cum is worked separately for all grades based on Indian Standards. The rate of Reinforcement steel per MT is calculated separately and to be added separately in the estimates of RCC works as a separate item.

14) Soil classification: The Committee recommended to allow uniform classification of soils for all Departments and data is worked out accordingly.

1. All soils
2. Marshy soil
3. Ordinary rock (Not requiring Blasting),
4. Hard rock
    a. Hard rock (Requiring Blasting)
    b. Hard rock (Controlled Blasting)
    c. Removable by chiseling (Blasting prohibited)

15) Use of Super Plasticizers and Admixtures:

Concrete admixtures such as Air-Entraining Agent (AEA) / Water reducing agent can be used advantageously for better quality concrete. The high level committee has recommended to adopt for super plasticizers and admixtures at **0.4**% on cement for concrete work as per MORTH standards for batching plants.

16) Contractors overheads, profit and other provisions:

- The provisions allowed in G.O.Ms.No.94, I&CAD, dt: 01.07.03, need not be added separately for the items covered in the contractor overhead charges
- For all Road & Bridge works Overheads & Contractors profit shall be allowed as specified in the MoRTH Stardard Data Book.
- Overheads and Contractor's profit @ 13.615% shall be allowed in the data which includes labour importation and amenities etc. as mentioned below.

i. Site accommodation, setting up plant, access road, water supply, electricity and general site arrangements.
ii. Office furniture, equipment and communications
iii. Expenditure on:
    a. Corporate office of contractor
    b. site supervision
    c. Documentation and "as built" drawings
iv. Mobilisation/ de-mobilisation of resources

v. Labour camps with minimum amenities and transportation to work sites.
vi. Light vehicles for site supervision including administrative and managerial requirements.
vii. Laboratory equipment and quality control including field and laboratory testing.
viii. Minor T & P and survey instruments and setting outworks, including verification of line, dimensions, trial pits and bore holes, where required.
ix. Watch and ward
x. Traffic management during construction
xi. Expenditure on safeguarding environment
xii. Sundries
xiii. Financing Expenditure

17) Dewatering & Desilting:

The High level committee considering the local conditions of rainfall / seepage has recommended towards de-watering and de-silting at 3 percent on the relevant work component for which dewatering is required.

It is also proposed as per CWC guidelines, to keep a condition in the agreements to fix a ceiling of 5% in extreme cases, with the specific approval of chief engineer/Government.

18) For each chapter separate additional details are incorporated for clarity.

19) GST (Goods & Service Tax):

Note: The GST (Goods & Service Tax) on **Works Contract** will be implemented as per orders of the Government from time to time.

Sd/- Mohd Amjad Hussain; Dt:18.06.2025
Engineer-in-Chief(Admn)
Irrigation & CAD Department and
Chairman, Board of Chief Engineers

USER GUIDELINES OF REVISED STANDARD DATA

Please select the item of work, as given in Index Code, and view the relevant data.

The common data items like, lead, lift, conveyance and manual excavation (without involving contracting agencies) is applicable to all Departments (volume-1).

The departments have to adopt the relevant data from other Departments, if such works are executed by them.

The unit rate /hire charges, of machinery not covered in the Irrigation data, the MORTH data may be taken with the approval of Board of Chief Engineers.

For "Drinking water Supply works" (PART-IV), the data incorporated is generally applicable only for manual means of execution. The rates deploying machinery have to be worked out by the Board of Chief engineers and approved for adoption.

ROLE OF CENTRAL COMPETENT AUTHORITY FOR SCHEDULE OF RATES (BOARD OF CHIEF ENGINEERS)

a) The Board of Chief Engineers under the Chairman ship of Engineer-in-Chief, (Administration) I&CAD Department is the competent authority to finalize and recommend the Schedule of Rates applicable for all Engineering Departments, and has to assess and incorporate only the three basic inputs required to generate unit work item rates as below.

1. Basic rates of labour:

Wages of labour commonly required in execution of works has to be arrived and incorporated in the schedule of rates (Basic input of Labour Wages), without adding extra towards area allowances (like municipality allowance, tribal area and ghat road allowances etc.) which shall be added to the rates where applicable in the form of separate percentage as explained in the preceding paras. The rates shall be the prevailing daily rates in the State and shall not be less than the minimum wages fixed by the Government from time to time.

Materials rates:

The basic input material rates common to all departmental works are listed out and incorporated (in the chapter "Basic inputs"). The material specifications adopted shall confirm to Standards published by the BIS.

The Prevailing market rates for all basic input materials shall be obtained from the major commercial centers near the project areas. Average of the rates, ignoring freak rates, shall be reckoned as the prevailing market rate excluding all taxes viz., GST.

For sand, gravel, murrum, stones, aggregates etc., the rates are ex-quarry/stock yard including loading charges and idle hire charges.

For AC sheets, GI sheets, Hume pipes, wood and stone slabs, the rates prevailing at major commercial centre near project area has to be adopted. The lead charges, as applicable are to be added in preparing estimates

For Steel and Cement, the rates are delivery at site excluding GST

2. Use Rate of Machinery:

The third parameter for incorporation in the Basic Inputs, is the use rate of machinery. To arrive at the use rate of machinery, the inputs to be incorporated are

- The list and capital cost of machinery required to be used in the construction activity, the rate has to be obtained from major manufacturers and outlet sources and the rate shall be the current market price inclusive of all taxes, duties i.e G.S.T etc., and including freight charges.
- The prevailing fuel charges of petrol and diesel are ascertained and average rate adopted
- Borrow rate of interest as fixed by the Government/competent authority be indicated.
- For the other machinery not covered by the list, the R&B and other users may adopt hire charges as recommended by the MORTH

b) The Chairman, Board of Chief Engineers or competent authority appointed by the Government, based on the approved basic inputs, load the above three basic parameters in the software program. The unit rate of all works including hire charges of all machinery will be generated automatically for adoption.

The Chairman, BOCEs shall communicate the uniform Schedule of rates and Standard Data, to all users for uniform and direct adoption in all infrastructure Departments, as applicable.

Sd/- Mohd Amjad Hussain; Dt:18.06.2025
Engineer-in-Chief(Admn)
Irrigation & CAD Department and
Chairman, Board of Chief Engineers

INDEX

S.No	Description	Page No.	
		From	To
1	Abstract Items	01	49
2	Dam and Allied Works	50	124
3	Tunnel and Allied Works	125	153
4	Canal And Allied Works	154	261
5	Canal Cross Drainage Works	262	330
6	Gate Hoist and Allied Works	331	367
7	Preliminary and Maintenance Works	368	405
8	Common to all Departments	406	406
9	Hire Charges of Machinery	407	408
10	Lead/Lift/Loading & Unloading Charges	409	411
11	Detailed Lead and Lift	412	429

#

WORK ITEM RATES

FOR THE YEAR - 2025-26

*** Add Leads and Lifts, Area Allowance as applicable in the estimate**

**** Area Allowance includes profit component also**

***** Unit Rates arrived without Seigniorage Charges**

Sl. No	Chapter wise item No.	Item Description	Unit	Rate	Itemwise unit rate for Labour Component
1	2	3	4	5	6
		CHAPTER-I			
		DAM AND ALLIED WORKS (IRR-DAW)			
	IRR-DAW-1	**EXCAVATION & FOUNDATION TREATMENT WORKS:**			
1	IRR-DAW-1-1	Excavation for foundation **in all kinds of soil** including boulders **upto 0.30 m** diameter for dam, spillway, intake structure and other appurtenant works and placing the excavated soil neatly in dump area or disposing off the same as directed etc., complete **with initial lead upto 1 km and all lifts.**	cum	170.70	
		Labour Component (including contractor's profit and Overheads)	cum		42.40
2	IRR-DAW-1-2	Excavation for foundation in **ordinary rock (including HDR)** without blasting including boulders **above 0.3 m upto 0.6 m** dia for dam, spillway, intake structure and other appurtenant works and placing the excavated material neatly in dump area or disposing off the same as directed etc., complete **with initial lead upto 1 km and all lifts.**	cum	224.80	
		Labour Component (including contractor's profit and Overheads)	cum		54.90
3	IRR-DAW-1-3	Excavation for foundation in **hard rock (including F&F)** requiring blasting including boulders **above 0.6 m upto 1.2 m dia.** for dam, spillway, intake structure and other appurtenant works and placing the excavated material neatly in dump area or disposing off the same as directed etc., complete **with initial lead upto 1 km and all lifts.**	cum	340.40	
		Labour Component (including contractor's profit and Overheads)	cum		97.10
4	IRR-DAW-1-4	Excavation for foundation in **hard rock (including F&F rock) including boulders above 0.6 m upto 1.2 m dia. by controlled blasting** and controlling fly rock by muffling arrangements for dam, spillway, intake structure and other appurtenant works and other open foundation works and placing the excavated material neatly in dump area or disposing off the same as directed etc., **complete with initial lead upto 1 km and all leads**	cum	512.70	
		Labour Component (including contractor's profit and Overheads)	cum		115.80
5	IRR-DAW-1-5	Excavation for foundation in **hard rock of all toughness** by blasting including boulders **above 1.2 m dia.** for dam, spillway, intake structure and other appurtenant works and placing the excavated rock neatly in dump area or stack yard including levelling as directed etc., complete **with initial lead upto 1 km and all lifts.**	cum	607.30	
		Labour Component (including contractor's profit and Overheads)	cum		187.10
6	IRR-DAW-1-6	Excavation for foundation in **hard rock of all toughness** including boulders **above 1.2 m dia. by controlled blasting method** and controlling fly-rock by muffling arrangements for dam, spillway, intake structure and other appurtenant structures etc., including placing and levelling the excavated rock neatly in dump area or other place as directed etc., complete **with lead upto upto 1 km and all lifts.**	cum	955.70	
		Labour Component (including contractor's profit and Overheads)	cum		207.70

7	IRR-DAW-1-7	Excavation for foundation **in hard rock of all toughness including boulders above 1.2 m dia. by line drilling and smooth blasting** and controlling fly-rock by muffling arrangements for dam, spillway, intake structure and other appurtenant structures etc., including dressing sides and bed to required level / profile, placing and levelling the excavated rock neatly in dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.** i) For the purpose of payment 1 m width of excavation along boundary of excavation shall be treated as excavation by line drilling and smooth blasting and remaining portion shall be treated as excavation by normal / controlled blasting as the case may be. ii) The rate includes controlling fly-rock wherever required. iii) The rate under this item shall be paid only on ascertaining that the excavated face has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval. iv) In case, where the above criteria is not fulfilled payment shall be restricted to rate provided for excavation by normal blasting or controlled blasting as the case may be.	cum	1331.40	
		Labour Component (including contractor's profit and Overheads)	cum		542.90
8	IRR-DAW-1-8	Preparing **foundation bed for masonry or concrete** by benching, stepping, removing all loose material by wedging / chiselling and disposing off the same as directed and cleaning the surface with air and water jet etc.,complete **with initial lead upto 50 m and all lifts.**	sqm	60.80	
		Labour Component (including contractor's profit and Overheads)	sqm		51.20
9	IRR-DAW-1-9	Preparing **foundation bed for cut-off trench filling** in rock portion by removing all loose materials by wedging / chiselling and disposing off the same as directed etc., complete **with initial lead upto 50 m and all lifts.**	sqm	43.30	
		Labour Component (including contractor's profit and Overheads)	sqm		43.30
10	IRR-DAW-1-10	**Drilling 45 to 50 mm dia holes** vertical or inclined upto 10 degrees to vertical in **rock /masonry / concrete by percussion drilling** using waggon drill or any other suitable equipment including cost of all materials, machinery, labour, redrilling through partially set grout wherever required etc., complete **for drilling upto 6 m depth from surface.** The item rate for drilling through rock / masonry / concrete includes redrilling through partially set grout, if any, in the portion of the hole drilled and grouted.	Rm	271.70	
		Beyond 6 m upto 12 m from surface :	Rm	298.90	
		Beyond 12 m upto 18 m from surface :	Rm	328.80	
		Beyond 18 m upto 24 m from surface	Rm	361.70	
		Beyond 24 m upto 30 m from surface	Rm	397.90	
		Beyond 30 m upto 36 m from surface	Rm	437.70	
		Beyond 36 m upto 42 m from surface	Rm	481.50	
		Beyond 42 m upto 48 m from surface	Rm	529.70	
		Labour Component (including contractor's profit and Overheads)	Rm		81.70
11	IRR-DAW-1-11	**Flushing grout holes of all sizes** with water and air jets alternatively for an average period of **30 minutes** including water intake observations after flushing, cost of all materials, machinery, labour etc., complete.	Rm	76.20	
		Labour Component (including contractor's profit and Overheads)	Rm		33.20
12	IRR-DAW-1-12	**Consolidation grouting with neat cement grout mix** of suitable consistency under specified pressure as directed in drilled holes by stage grouting method including cost of all materials, machinery, labour, redrilling if necessary etc.,complete **with initial lead upto 1 km and all lifts.**	tonne	12256.30	
		Labour Component (including contractor's profit and Overheads)	tonne		5269.80
13	IRR-DAW-1-13	**Curtain grouting with neat cement grout mix** of suitable consistency under specified pressure as directed in drilled holes by stage grouting method including cost of all materials, machinery, labour, redrilling if necessary etc., complete **with initial lead upto 1 km and all lifts.**	tonne	13939.60	
		Labour Component (including contractor's profit and Overheads)	tonne		6779.30

14	IRR-DAW-1-14	Providing and fixing **25 mm dia 3 m long cold twisted deformed steel dowel bars** with one end driven into 45 to 50 mm diameter 1.50 m deep hole drilled in bed rock and other end provided with L-bend for embedding in concrete / masonry of over flow / non-over flow blocks and other appertenant works including cost of drilling and cleaning hole, filling hole with **cement mortar 1 : 1 proportion**, driving anchor rod, cost of all materials, machinery, labour etc., **complete with initial lead upto 1 km and all lifts.**	Each	1305.10	
		Labour Component (including contractor's profit and Overheads)	Each		189.90
15	IRR-DAW-1-15	**Providing and fixing 25 mm dia. 2.75 m long ribbed steel anchor rods** with one end split and driven firmly using steel wedge into 1.25 m deep 45 to 50 mm dia. hole drilled in bed rock and other end provided with L- bend for embedding in concrete / masonry for spillway and appurtenant works including drilling and cleaning hole, filling hole with thick cement slurry, driving anchor rod, cost of all materials, machinery, labour, steel wedge etc., complete **with initial lead upto 1 km and all lifts.**	Each	1216.40	
		Labour Component (including contractor's profit and Overheads)	Each		217.80
	IRR-DAW-2	**REINFORCEMENT & CEMENT CONCRETE WORKS :**			
16	IRR-DAW-2-1	Providing, fabricating and placing in position **reinforcement steel for RCC,below 36 dia rods** overlaps and wastages wherever required, tying with 1.25 mm diameter soft annealed steel wire, including cost of all materials, machinery, labour etc., complete **with initial lead upto 1 km and all lifts.**	tonne	75408.78	
		Labour Component (including contractor's profit and Overheads)	tonne		6530.80
17	IRR-DAW-2-2	Providing, fabricating and placing in position **reinforcement steel for RCC above 36 dia with welding** and wastage at 2.5%, tying with 1.25 mm diameter soft annealed steel wire, including cost of all materials, machinery, labour etc., complete **with initial lead upto 1 km and all lifts.**	tonne	77808.32	
		Labour Component (including contractor's profit and Overheads)	tonne		8575.90
18	IRR-DAW-2-3	Providing and laying **insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works** with **initial lead upto 1 km and all lifts.** (**Cement content : 250 kg /cum with use of super plasticiser equla to 0.4% of cement content, CA : 0.98 cum, Blending Ratio of CA -- 40:30:20:10, FA : 0.35 cum**))	cum	4142.90	
		Labour Component (including contractor's profit and Overheads)	cum		307.20
19	IRR-DAW-2-4	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works** with **initial lead upto 1 km and all lifts.** (**Cement content : 300 kg /cum with use of super plasticiser equla to 0.4% of cement content, CA : 0.90 cum, Blending Ratio of CA -- 40:30:20:10, FA : 0.4 cum**))	cum	4434.90	
		Labour Component (including contractor's profit and Overheads)	cum		307.20
20	IRR-DAW-2-5	Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works** with **initial lead upto 1 km and all lifts.** (**Cement content : 220 kg /cum with use of super plasticiser, CA: 0.98 cum, Blending Ratio of CA --40:30:20:10, FA: 0.37 cum**)	cum.	3960.60	
		Labour Component (including contractor's profit and Overheads)	cum.		307.20

21	IRR-DAW-2-6	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,**complete for RCC works** of gallery, sluice, spillway crest, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts. (Cement content : 310 kg / cum with use of super plasticiser, CA : 0.90 cum, blending ratio of CA--50:30:20, FA : 0.40 cum**)	cum.	5783.00	
		Labour Component (including contractor's profit and Overheads)	cum.		618.70
22	IRR-DAW-2-7	Providing and laying **insitu vibrated M-25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,**complete for RCC works** of gallery, sluice, spillway crest, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations with **initial lead upto 1 km and all lifts. (Cement content : 360 kg / cum with use of super plasticiser,CA : 0.90 cum, blending ratio of CA--50:30:20, FA : 0.40 cum**)	cum.	6118.40	
		Labour Component (including contractor's profit and Overheads)	cum.		618.70
23	IRR-DAW-2-8	Providing and laying **insitu vibrated M-25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC works** of gallery, sluice, spillway crest, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts. (Cement content : 380 kg / cum with use of super plasticiser,CA : 0.90 cum, blending ratio of CA--65:35, FA : 0.40 cum)**	cum.	6271.90	
		Labour Component (including contractor's profit and Overheads)	cum.		618.70
24	IRR-DAW-2-9	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using 4**0 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC works** of gallery, sluice, spillway crest, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts.(Using Transit Mixers) (Cement content : 310 kg / cum with use of super plasticiser,CA : 0.90 cum, blending ratio of CA--50:30:20, FA : 0.40 cum)**	cum.	6016.20	
		Labour Component (including contractor's profit and Overheads)	cum.		729.90
25	IRR-DAW-2-10	Providing and laying **insitu vibrated M-25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC works** of gallery, sluice, spillway crest, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts.(Using Transit Mixers) (Cement content : 380 kg / cum with use of super plasticiser,CA : 0.90 cum, blending ratio of CA--65:35, FA : 0.40 cum)**	cum.	6505.10	
		Labour Component (including contractor's profit and Overheads)	cum.		729.90

26	IRR-DAW-2-11	Providing and laying **insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for plain concrete works **with initial lead upto 1 km and all lifts. (Cement content : 260 kg /cum with use of super plasticiser,CA : 0.90 cum, Blending Ratio of CA -- 50:30:20, FA : 0.40 cum**)	cum.	5863.20	
		Labour Component (including contractor's profit and Overheads)	cum.		2278.90
27	IRR-DAW-2-12	Providing and laying **insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates with placing and **sinking plums of size 150 to 80 mm upto 15 percent** for gravity type structures including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **with initial lead upto 1 km and all lifts. (Cement content : 260 kg / cum of concrete with use of plums and super plasticiser,, CA : 0.77 cum, Blending Ratio of CA : 50:30:20,FA : 0.34 cum, plums of size 150 to 80 mm : 0.25 cum**)	cum.	5781.80	
		Labour Component (including contractor's profit and Overheads)	cum.		2232.50
28	IRR-DAW-2-13	Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **plain concrete works** with **initial lead upto 1 km and all lifts. (Cement content 220 kg /cum with use of super plasticiser,CA : 0.90 cum, Blending Ratio of CA : 50:30:20, FA : 0.40 cum**)	cum.	5389.80	
		Labour Component (including contractor's profit and Overheads)	cum.		2065.20
29	IRR-DAW-2-14	Providing and laying **insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works** with **initial lead upto 1 km and all lifts. (Cement content : 280 kg /cum with use of super plasticiser,CA : 0.80 cum, Blending Ratio of CA -- 65:35, FA : 0.44 cum**)	cum.	5738.40	
		Labour Component (including contractor's profit and Overheads)	cum.		2114.40
30	IRR-DAW-2-15	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete f**or RCC works** of spillway bridge, blockouts and such other similar structures with conjested reinforcement with **initial lead upto 1 km and all lifts. (Cement content : 330 kg / cum with use of super plasticiser, CA : 0.80 cum, Blending Ratio of CA -- 65:35, FA : 0.44 cum**).	cum.	8391.20	
		Labour Component (including contractor's profit and Overheads)	cum.		2986.70
31	IRR-DAW-2-16	Providing and forming **porous concrete body drain** of size 68.5 x 68.5 cm with 23 cm diameter central hole using cement and **20 mm down** approved, clean, hard, graded coarse aggregates in **1 : 3.50** proportion by volume including cost of all materials, machinery, labour, formwork, curing etc., complete **with initial lead upto 1 km and all lifts.(M15 Cement content : 400kg/cum, CA : 1cum, Blending Ratio of CA -- 65:35)**	Rm	2938.50	
		Labour Component (including contractor's profit and Overheads)	Rm		1021.60

32	IRR-DAW-2-17	Providing and laying insitu **vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC solid parapet** consisting of 35 cm x 20 cm kerb, 35 cm x 35 cm x 1 m pillars spaced approximately at 3.35 m c / c, 12.5 cm thick wall 80 cm height with 12.5 cm thick and 35 cm wide coping slab for wall and 12 .5 cm thick 40 cm x 40 cm coping for pillars with top edges of kerb and coping chamferred / rounded as directed etc., complete **(excluding cost of providing and placing reinforcement steel and gate) with initial lead upto 1 km and all lifts. (Cement content 350 kg / cum with use of super plasticiser(0.4% by wt.of cement), CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.44 cum)**	Rm	3308.90	
		Labour Component (including contractor's profit and Overheads)	Rm		1268.10
33	IRR-DAW-2-18	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC ornamental parapet** consisting of 35 cm x 20 cm kerb, 35 cm x 35 cm x 1 m pillars spaced approximately at 3.5 m apart, 20 cm x 15 cm posts 80 cm height approximately 30 cm c / c with 12.5 cm thick and 35 cm wide coping slab for posts and pillars with top edges of kerb and coping chamferred or rounded as directed etc., complete (excluding cost of providing and placing reinforcement steel and gate) **with initial lead upto 1 km and all lifts. (Cement content : 350 kg / cum with use of super plasticiser, CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.44 cum)**	Rm	3463.10	
		Labour Component (including contractor's profit and Overheads)	Rm		1344.40
34	IRR-DAW-2-19	Providing and laying **insitu M- 25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **20 mm down** size approved, clean, hard, graded aggregates for wearing coat including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position in alternate panels, levelling, compacting, finishing, curing, packing joints with asphalt mortar etc., **complete with initial lead upto 1 km and all lifts. (Cement content : 380 kg / cum with use of super plasticiser, CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	6601.20	
		Labour Component (including contractor's profit and Overheads)	cum		2565.30
35	IRR-DAW-2-20	Pre-cooling to control placement temperature of cement concrete in the range of 18 to 21 C at the concrete placement point by inundation of coarse aggregates and adding flaked ice as part of mixing water including cost of all materials, machinery, labour etc., **complete with all leads and lifts**.	cum	118.50	
		Labour Component (including contractor's profit and Overheads)	cum		24.00
36	IRR-DAW-2-21	Conveying and fixing elastomeric bearing for spillway bridge including cleaning and preparing surface, mixing and applying adhesive, fixing bearing in correct position etc., including cost of all materials except bearings, machinery, labour etc., **complete with all leads and lifts.**	Each	589.40	
		Labour Component (including contractor's profit and Overheads)	Each		535.90
37	IRR-DAW-2-22	Providing and constructing **150 mm dia hume pipe weep holes for concrete / masonry walls** including providing 20 x 20 x 20 cm size porous concrete block made of cement and **20 mm down** coarse aggregate in **1 : 4 proportion** including 10 cm thick sand backing at the junction of wall and soil back fill, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.**	Rm	573.30	
		Labour Component (including contractor's profit and Overheads)	Rm		118.80
38	IRR-DAW-2-23	Providing and **forming expansion joint for spillway bridge** consisting of 75 x 75 x 6 mm angles 2 numbers provided with 25 cm long 12 mm dia. anchors fixed to both flanges at 15 cm c /c and 140 x 6 mm plate welded on top of one of the angle including cost of all materials, machinery, labour, providing and fixing 38 mm thick joint filler board matching the thickness of wearing coat, painting etc., **complete with lead upto 1 km and all lifts.**	Rm	2640.90	

		Labour Component (including contractor's profit and Overheads)	Rm		532.10
	IRR_DAW-3	**MASONRY & GUNITING WORKS :**			
39	IRR_DAW-3-1	Providing and constructing **un-coursed rubble stone masonry** using approved stones in **cement mortar 1 : 3 proportion** including cost of all materials, machinery, labour, scaffolding, cleaning, packing mortar, wedging stone chips, curing etc., **complete with initial lead upto 1 km and all lifts.(Cement content : 190 kg/cum of masonry, rubble stones : 0.85 cum,stone chips : 0.15 cum/cum, FA : 0.4 cum)**	cum	4116.80	
		Labour Component (including contractor's profit and Overheads)	cum		1912.50
40	IRR_DAW-3-2	Providing and constructing **un-coursed rubble stone masonry** using approved stones in **cement mortar 1 : 4 proportion** including cost of all materials, machinery, labour, scaffolding, cleaning, packing mortar, wedging stone chips, curing etc., **complete with initial lead upto 1 km and all lifts.(Cement content : 143 kg/cum of masonry, rubble stones : 0.85 cum, stone chips : 0.15 cum/cum, FA : 0.4 cum)**	cum	3844.50	
		Labour Component (including contractor's profit and Overheads)	cum		1912.50
41	IRR_DAW-3-3	Providing and constructing **coursed rubble face stone masonry** using approved rubble stones in **cement mortar 1 : 3 proportion** including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc., **with initial lead upto 1 km and all lifts.(Thickness of the CR face assumed: 0.75 m, Cement content : 178 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.375 cum, CR stones 30 x 30 x 45 cm : 9.75 No, CR stones 30 x 30 x 60 cm : 3.25 No)**	cum	4490.20	
		Labour Component (including contractor's profit and Overheads)	cum		2119.30
42	IRR_DAW-3-4	Providing and constructing **coursed rubble face stone masonry** using approved rubble stones in **cement mortar 1 : 4 proportion** including cost of all materials, machinery, labour, scaffolding,ramps, cleaning, packing mortar, wedging stone chips, curing etc., **with initial lead upto 1 km and all lifts. (Cement content : 134 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.375 cum, CR stones 30 x 30 x 45 cm : 9.75 No, CR stones 30 x 30 x 60 cm : 3.25 No)**	cum	4235.20	
		Labour Component (including contractor's profit and Overheads)	cum		2119.30
43	IRR_DAW-3-5	Providing and constructing **chisel drafted and hammer dressed face stone masonry** with approved stones in **cement mortar 1 : 3 proportion** including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc.,complete **with initial lead upto 1 km and all lifts.(Cement content : 167 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.35 cum, Dressed stones 30 x 30 x 45 cm : 10 No, Dressed stones 30 x 30 x 60 cm : 3.40 No)**	cum	4868.70	
		Labour Component (including contractor's profit and Overheads)	cum		2574.20
44	IRR-DAW-3-6	Providing and constructing **chisel drafted and hammer dressed face stone masonry** with approved stones in **cement mortar 1 : 4 proportion** including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc.,complete **with initial lead upto 1 km and all lifts.(Cement content : 125 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.35 cum, Dressed stones 30 x 30 x 45 cm : 10 No, Dressed stones 30 x 30 x 60 cm : 3.40 No**)	cum	4625.40	
		Labour Component (including contractor's profit and Overheads)	cum		2574.20
45	IRR-DAW-3-7	Providing **cement mortar pointing to coursed rubble face stone masonry** 50 mm deep in **CM 1 : 2 proportion** by volume including raking and cleaning joints, pressing mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., **complete with initial lead upto 1 km and all lifts.**	sqm	180.70	
		Labour Component (including contractor's profit and Overheads)	sqm		146.00
46	IRR-DAW-3-8	Providing **cement mortar pointing to coursed rubble face stone masonry** 50 mm deep in **CM 1 : 3 proportion** by volume including raking and cleaning joints, pressing mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete **with initial lead upto 1 km and all lifts.**	sqm	172.90	
		Labour Component (including contractor's profit and Overheads)	sqm		146.00
	IRR_DAW-4	**CONTRACTION JOINT WORKS:**			

47	IRR-DAW-4-1	Providing **25 mm thick guniting to rock or masonry surface** in **cement mortar 1 : 3 proportion** by weight including cost of all materials, machinery, labour, raking-out and cleaning joints, scaffolding wherever required and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**	sqm	686.80	
		Labour Component (including contractor's profit and Overheads)	sqm		295.50
48	IRR-DAW-4-2	Providing and **constructing contraction joints** by fixing 16 SWG 60 cm wide annealed copper sheets in two lines with 8 mm dia steel dowel rods on either side at one metre interval, forming 125 x 125 mm size groove in between copper strips for filling asphalt including fixing 15 mm dia two legged G.I pipe with U - bend at bottom for circulation of steam at intervals and forming 150 mm dia formed drain behind water seals including cost of all materials, machinery, labour, filling asphalt, circulation of steam through pipes etc., **complete with all leads and lifts.**	Rm	18076.60	
		Labour Component (including contractor's profit and Overheads)	Rm		297.10
49	IRR-DAW-4-3	Providing and **constructing contraction joints** by fixing 310 mm wide central bulb type approved quality PVC water stop in two lines with 8 mm diameter steel dowel rods on either side at 1m interval, forming 125 x 125 mm size groove in between two water stops, providing & fixing 15 mm dia two legged G.I pipe with U-bend at bottom for circulation steam at interval, forming 150 mm diameter formed drain behind water seals including filling groove with asphalt, circulation of steam at intervals, cost of all materials, machinery, labour etc., **complete with all leads and lifts.**	Rm	3030.70	
		Labour Component (including contractor's profit and Overheads)	Rm		199.10
50	IRR-DAW-4-4	Providing and **constructing contraction joints** by fixing 16 SWG 60 cm wide annealed copper sheets in single line with 8 mm dia steel dowel rods on either side at 1 metre interval including cost of all materials, machinery, labour etc., complete with all leads and lifts.	Rm	8338.20	
		Labour Component (including contractor's profit and Overheads)	Rm		227.60
51	IRR-DAW-4-5	Providing and **constructing contraction joints** by fixing 23 cm wide central bulb type PVC water stop in single line supported by 10 mm dia steel dowel rods on either side at 1 metre interval including cost of all materials, machinery, labour, valcunising joints etc., **complete with all leads and lifts.**	Rm	336.00	
		Labour Component (including contractor's profit and Overheads)	Rm		183.50
	IRR-DAW-5	**EARTH / ROCKFILL EMBANKMENT WORKS :**			
52	IRR-DAW-5-1	**Providing hearting embankment** using selected impervious soil from **approved borrow areas** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, sectioning, watering, compacting to density control of not **less than 95 percent** or as stipulated using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., **complete with initial lead upto 1 km and all lifts.**	cum	189.90	
		Labour Component (including contractor's profit and Overheads)	cum		35.40
53	IRR-DAW-5-2	Providing **cut-off trench filling** using **selected impervious soil** from **approved borrow areas** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting to density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** as stipulated etc., complete with **initial lead upto 1 km and all lifts.**	cum	204.40	
		Labour Component (including contractor's profit and Overheads)	cum		38.50
54	IRR-DAW-5-3	Providing **casing embankment** using **semi-pervious soil** from **approved borrow areas** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as excavation, sorting out, transportation, spreading soil in layers of specified thickness, breaking clods, sectioning, watering, compacting to density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** as stipulated etc., complete with **initial lead upto 1 km and all lifts.**	cum	204.30	
		Labour Component (including contractor's profit and Overheads)	cum		38.50

55	IRR-DAW-5-4	Providing **casing embankment** using **semi-pervious soil available from excavation** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as re-excavation, sorting out, transportation, spreading in layers of specified thickness, breaking clods, sectioning, watering, compacting to specified density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller as stipulated etc., complete with initial lead upto 1 km and all lifts.**	cum	172.70	
		Labour Component (including contractor's profit and Overheads)	cum		32.60
56	IRR-DAW-5-5	Providing **casing embankment** using **semi-pervious soil available from excavation** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as re-excavation, sorting out, transportation, spreading in layers of specified thickness, breaking clods, sectioning, watering, compacting to specified density control of **not less than 90 percent** using **2Tonne Roller** as stipulated etc., complete **with initial lead upto 1 km and all lifts. (For Maintenance Works)**	cum	112.40	
		Labour Component (including contractor's profit and Overheads)	cum		32.60
57	IRR-DAW-5-6	Providing **homogeneous embankment** using soil **from approved borrow area** in layers of **25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, sectioning, watering, compacting to density control of **not less than 95 percent** or as stipulated using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., **complete with initial lead upto 1 km and all lifts.**	cum	193.20	
		Labour Component (including contractor's profit and Overheads)	cum		36.10
58	IRR-DAW-5-7	Providing **embankment adjacent to masonry / concrete structures** and **filling trial pits** using **impervious soil from approved borrow areas** in layers of **10 to 15 cm** and compacting each layer to density control of **not less than 95 percent** using **pneumatic tampers or by vibratory earth rammers** including cost of all materials, machinery, labour, picking previous layer, spreading soil in layer, breaking clods, watering etc., complete **with initial lead upto 1 km and all lifts.**	cum	398.70	
		Labour Component (including contractor's profit and Overheads)	cum		201.80
59	IRR-DAW-5-8	Providing and **constructing rockfill embankment** with 300 mm down graded stones and quarry spalls from **approved source** including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing the surface to required slopes etc., **complete with initial lead upto 1 km and all lifts.**	cum	621.00	
		Labour Component (including contractor's profit and Overheads)	cum		180.60
60	IRR-DAW-5-9	Providing and **constructing dry rubble rock-toe** using rubble and stone chips from **approved source** including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete **with initial lead upto 1 km and all lifts.**	cum	758.30	
		Labour Component (including contractor's profit and Overheads)	cum		350.20
61	IRR-DAW-5-10	Providing and **constructing dry rubble rock-toe** with rubble and stone chips from **dump yard** including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete **with initial lead upto 1 km and all lifts.** Note: Useful rubble and stone chips will be issued at dump yard at the issue rate for usefull rubble /stone chips. Sorting out and breaking charges included in rate analysis.	cum	721.00	
		Labour Component (including contractor's profit and Overheads)	cum		247.50
62	IRR-DAW-5-11	Providing and **constructing Dry rock Pitching for Groynes** using **Un-Coursed rubble stone of size 300 mm thick** and Un-Coursed rubble stone chips from Quarry to site of work including cost of all materials, Machinery, Labour charge hand packing Un-Course rubble stone &chips to the designed profile **with all leads and lifts etc**	cum	1035.50	
		Labour Component (including contractor's profit and Overheads)	cum		247.50
63	IRR-DAW-5-12	Providing and **laying 30 cm diameter open jointed hume pipes with collars in rock-toe** for drainage including cost of all materials, machinery, labour etc., **complete with lead upto 1 km and all lifts.**	Rm	835.40	
		Labour Component (including contractor's profit and Overheads)	Rm		56.00

	IRR-DAW-6	**FILTER & PITCHING WORKS :**			
64	IRR-DAW-6-1	Providing and **constructing 1.20 m internal diameter and average 3 m height RCC manhole** with 60 cm dia. top cover in **M-15** grade cement concrete using **20 mm down graded**, clean, hard coarse aggregate, 20 cm thick for bed / sides / top slab / 1.5 m long cut-off wall and 7.5 cm thick for cover including providing 12 mm dia reinforcement bars at 30 cm c / c bothways for bed / sides / cut-off wall / top slab / rungs and 8 mm dia bars at 15 cm c / c bothways for cover, excavation for foundation, providing 30 cm dia hume pipe outlet, cost of all materials, machinery, labour, formwork, scaffolding, batching, mixing, laying, vibrating, finishing, curing etc., **complete with lead upto 1 km and all lifts.(Cement content : 300 kg/cum , CA : 0.80 cum, Blending Ratioof CA -- 65:35,FA : 0.44 cum, superplasticizer (0.4% by wt. of cement**)	Each	61656.00	
		Labour Component (including contractor's profit and Overheads)	Each		18982.80
65	IRR-DAW-6-2	Providing and **constructing longitudinal and cross graded filter drains** using sand and 80-20 mm and 20 mm down graded aggregates **satisfying specified filter creteria** in layers as per specifications including cost of all materials, machinery, labour, laying to required slopes, compaction etc. complete **with initial lead upto 50 m and all lifts.**	cum	1210.40	
		Labour Component (including contractor's profit and Overheads)	cum		270.40
66	IRR-DAW-6-3	Providing and **constructing 1.40 m thick vertical or inclined graded filter** media consisting of **20 cm thick sand layers, 25 cm thick 20 mm down coarse aggregate layer**s and 50 cm thick 80-20 mm coarse aggregate layer using approved materials satisfying specified filter creteria as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	1229.90	
		Labour Component (including contractor's profit and Overheads)	cum		270.40
67	IRR-DAW-6-4	Providing and **constructing graded filter media below and behind rock-toe** consisting of **20 cm thick sand, 25 cm thick 20 - 4.75 mm and 40 cm thick 80 - 20 mm size graded coarse aggregates** satisfying filter creteria as per specifications including cost of all materials, labour, machinery, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	1152.40	
		Labour Component (including contractor's profit and Overheads)	cum		242.90
68	IRR-DAW-6-5	Providing and **constructing graded filter media below and behind rock-toe** consisting of **30 cm thick, 80 - 20 mm size graded coarse aggregates** satisfying filter creteria as per specifications including cost of all materials, labour, machinery, laying to required slope, compaction etc., **complete with initial lead upto 50 m and all lifts.**	cum	1098.70	
		Labour Component (including contractor's profit and Overheads)	cum		91.70
69	IRR-DAW-6-6	Providing and **laying filter media consisting of 2 layers of 250 gsm poly-propeline non-woven filter fabric and 400 mm thick 20 mm down graded coarse aggregate** for vertical / inclined and horizontal filter blanket for embankment including cost of all materials, machinery, labour etc., complete with lead upto 50 m for aggregate **and all leads for fabric and all lifts.**	sqm	765.10	
		Labour Component (including contractor's profit and Overheads)	sqm		105.40
70	IRR-DAW-6-7	Providing and constructing **sand filters below Revetment for Minor Works** using clean approved sand satisfying filter creteria including cost of all materials, machinery, labour, compacting etc., complete with **initial lead upto 50 m and all lifts.**	cum	886.00	
		Labour Component (including contractor's profit and Overheads)	sum		64.14
71	IRR-DAW-6-8	Providing and **constructing 45 cm thick chimney filter** using clean approved sand satisfying filter creteria including cost of all materials, machinery, labour, compacting etc., **complete with initial lead upto 50 m and all lifts.**	cum	1077.90	
		Labour Component (including contractor's profit and Overheads)	cum		215.40
72	IRR-DAW-6-9	Providing and **constructing 90 cm thick transition cum filter** media behind rockfill using approved sand and 80-20 mm and 20 mm down graded aggregates satisfying the filter creteria in layers of 30 cm thickness each as per specifications including cost of all materials, machinery, labour, laying each layer to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	1236.80	
		Labour Component (including contractor's profit and Overheads)	cum		284.20

73	IRR-DAW-6-10	Providing and **constructing 60 cm thick hand packed rough stone revetment with 65 to 75 cm long through stones** at 1.50 m c / c over a backing of 45 cm thick graded filter media consisting of sand, 10 mm and 40 mm size approved graded aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**	sqm	1186.20	
		Labour Component (including contractor's profit and Overheads)	sqm		309.80
74	IRR-DAW-6-11	Providing and **constructing 60 cm thick hand packed rough stone revetment with 65 to 75 cm long through stones** at 1.50 m c / c over a backing of 60 cm thick graded filter media consisting of sand, 10 mm and 40 mm size approved graded aggregates laid in layers of 20 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**	sqm	1379.90	
		Labour Component (including contractor's profit and Overheads)	sqm		351.10
75	IRR-DAW-6-12	Providing and **constructing 60 cm thick hand packed rough stone riprap over a backing of 45 cm thick graded filter** media consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips etc., **complete with initial lead upto 50 m and all lifts.**	sqm	1081.80	
		Labour Component (including contractor's profit and Overheads)	sqm		238.60
76	IRR-DAW-6-13	Providing and **constructing 75 cm thick hand packed rough stone riprap over a backing of 45 cm thick graded filter** media consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips, etc., complete **with initial lead upto 50 m and all lifts.**	sqm	1197.60	
		Labour Component (including contractor's profit and Overheads)	sqm		259.70
77	IRR-DAW-6-14	Providing and **constructing 90 cm thick hand packed rough stone riprap over a backing of 45 cm thick graded filter** media consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips etc., **complete with initial lead upto 50 m and all lifts.**	sqm	1338.10	
		Labour Component (including contractor's profit and Overheads)	sqm		302.00
78	IRR-DAW-6-15	Providing and **laying Hariyala or other approved quality turfing sods** for the slopes of earthen embankments over 20 mm thick sand backing including cost of all materials, machinery, labour including preparing surface, spreading sand, watering for 15 days etc., **complete with initial lead upto 1 km and all lifts.**	sqm	192.20	
		Labour Component (including contractor's profit and Overheads)	sqm		119.30
		CHAPTER- II			
	IRR-TAW	**TUNNEL AND ALLIED WORKS**			
	IRR-TAW-1	**EXCAVATION :**			
79	IRR-TAW-1-1	**Excavation for adit by tunnelling methods in all types of rock** including cost of all materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage, removing and hauling the excavated muck outside adit upto specified dump area and all other ancillary operations etc., **complete with initial lead upto 50 m and all lifts.**	cum	2518.40	
		Labour Component (including contractor's profit and Overheads)	cum		1046.30
80	IRR-TAW-1-2	**Excavation for vertical / inclined shaft in all types of soft / hard rock** including cost of all materials, machinery, labour, shoring, strutting, scaling excavated surface, ventilation, lighting, drainage, removing and hauling excavated muck outside shaft upto specified dump area and all other ancillary operations etc., **complete with initial lead upto 1 km and all lifts.**	cum	3668.90	
		Labour Component (including contractor's profit and Overheads)	cum		2123.40
81	IRR-TAW-1-3	**Excavation for tunnel by tunnelling methods in rock not requiring supports** including cost of all materials,machinery, labour, scaling excavated surface, removing under-cuts, ventilation, lighting, drainage, removing and hauling the excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., **complete with initial lead upto 1 km and all lifts.**	cum	2577.30	
		Labour Component (including contractor's profit and Overheads)	cum		1031.20

82	IRR-TAW-1-4	**Excavation for tunnel by tunnelling methods including excavation for supports in all types of soil / rock strata requiring supports** (excluding cost of providing supports) including cost of all other materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage, removing and hauling the excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., **complete with initial lead upto 1 km and all lifts.**	cum	2648.70	
		Labour Component (including contractor's profit and Overheads)	cum		1065.10
83	IRR-TAW-1-5	**Excavation for tunnel by heading and benching tunnelling methods** including excavation for supports in all types of soil / rock strata requiring supports (excluding cost of providing supports) for roof before benching including cost of all other materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage removing and hauling excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.** NOTE: Where mucking is to be carried out through shaft using winch and mucking tub system increase the basic rates for items 3, 4 & 5 by 8 percent.	cum	2730.80	
		Labour Component (including contractor's profit and Overheads)	cum		1140.00
84	IRR-TAW-1-6	**Removing and hauling muck overfallen** due to natural causes such as geological faults etc., out of tunnel including breaking large fragments by blasting if necessary and disposing off the same in specified dump area or as directed including cost of all materials, machinery, labour, ventilation, drainage, lighting and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**	cum	521.60	
		Labour Component (including contractor's profit and Overheads)	cum		160.20
	IRR-TAW-2	**DEWATERING & GUNITING WORKS :**			
85	IRR-TAW-2-1	**Dewatering tunnel by pumping out water** collected by natural drainage inside tunnel including providing sump wherever necessary, cost of all materials, machinery, labour, drainage, lighting, ventilation and all other ancillary operations etc., complete.	Kwhr	36.10	
		Labour Component (including contractor's profit and Overheads)	Kwhr		14.80
86	IRR-TAW-2-2	**Providing 25 mm thick guniting to sides and arch** of tunnel in **cement mortar 1 : 3** proportion by weight including cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts.**	sqm	840.10	
		Labour Component (including contractor's profit and Overheads)	sqm		332.20
87	IRR-TAW-2-3	**Shortcreting in two layers (each layer+38 mm thickness) for slabs** duly fixing chain weld wire mesh 100 x 100x5 mm in between the two layers including cost and conveyance of all materials, labour charges, all heads, lifts, centering, scaffolding, machine mixing, laying concrete with shortcrete machine etc. complete as per specification and as directed by Engineer-in-Charge	sqm	1861.60	
		Labour Component (including contractor's profit and Overheads)	sqm		332.20
	IRR-TAW-3	**TEMPORARY & PERMANENT SUPPORTS :**			
88	IRR-TAW-3-1	Providing and **fixing 25 mm diameter steel rock bolts with mechanical / wedge type anchorage** including drilling 35 mm dia holes, providing 15 cm long 20 mm thick steel tapered wedge, 10 mm thick plate washers and nuts, tightening bolt by torque wrench, cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operations etc., **complete with lead upto 1 km and all lifts.**	Rm	1578.70	
		Labour Component (including contractor's profit and Overheads)	Rm		548.00
89	IRR-TAW-3-2	Providing and **fixing 25 mm diameter steel rock bolts with resin bond cement capsule anchorage** including drilling 35 mm dia holes, inserting grout capsule, driving bolt,fixing 10 mm thick plate washers and nuts and tightening the same by torque wrench after hardening of cement grout, cost of all materials, machinery, labour, ventilation, lighting, drainage and other ancillary operations etc., **complete with lead upto 1 km and all lifts.**	Rm	1511.70	
		Labour Component (including contractor's profit and Overheads)	Rm		508.00

90	IRR-TAW-3-3	Providing, fabricating and **fixing in position permanent structural steel supports as per details** including cost of all materials, machinery, labour, cutting, bending, welding, grinding, lighting, ventilation, drainage and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**	tonne	130838.30	
		Labour Component (including contractor's profit and Overheads)	tonne		29366.50
91	IRR-TAW-3-4	Providing, fabricating and **fixing in position temperary structural steel supports as per details** and dismantling the same before concreting including cost of all materials, machinery, labour, cutting, bending, welding, grinding, ventilation, lighting, drainage and all other ancillary operations etc.,complete **with initial lead upto 1 km and all lifts.**	tonne	31872.50	
		Labour Component (including contractor's profit and Overheads)	tonne		14653.80
92	IRR-TAW-3-5	Providing and fixing **hard variety cut jungle wood for lagging / blocking locations in tunnel** wherever required including cost of all materials, machinery, labour, fixing in position, lighting, ventilation, drainage etc complete **with all leads and lifts.**	cum	48491.60	
		Labour Component (including contractor's profit and Overheads)	cum		2756.10
	IRR-TAW-4	**MASONRY WORKS :**			
93	IRR-TAW-4-1	Providing and **constructing un-coursed rubble stone masonry** with approved stones from tunnel excavated muck in **cement mortar 1 : 6** proportion for backfilling over cuts / slips on tunnel sides due to geological faults etc., including cost of all materials, machinery, labour, cleaning,scaffolding, packing mortar, wedging stone chips, curing, ventilation, lighting, drainage complete **with lead upto 1 km and all lifts.(cement content : 95 kg/cum of masonry, Rubble stones : 0.83 cum, Stone chips : 0.13 cum,FA : 0.40 cum)**	cum	3408.60	
		Labour Component (including contractor's profit and Overheads)	cum		1487.90
	IRR-TAW-5	**REINFORCEMENT & CONCRETE WORKS :**			
94	IRR-TAW-5-1	Providing, fabricating and placing in position **reinforcement steel for tunnel RCC works** including cleaning, straightening, cutting, bending, hooking, lapping / welding joints wherever required, tying with 1.25 mm dia.soft annealed steel wire, including cost of all materials, labour, machinery, ventilation, lighting, drainage etc.,complete **with initial lead upto 1 km and all lifts.**	tonne	96474.70	
		Labour Component (including contractor's profit and Overheads)	tonne		18542.00
95	IRR-TAW-5-2	Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates crushed from tunnel excavated muck for filling and levelling over-cuts in bed due to geological faults etc., including cost of all materials, machinery, labour, cleaning bed, batching, mixing, conveying and laying, levelling, compacting, finishing, curing, lighting, ventilation, drainage etc., **complete with initial lead upto 1 km and all lifts. (Cement content : 220 kg / cum, CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum, Superplasticizer 0.4% by wt. of cement)**	cum	6661.40	
		Labour Component (including contractor's profit and Overheads)	cum		1435.60
96	IRR-TAW-5-3	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sqmm) grade cement concrete using **40 mm and down size** approved clean, hard, graded aggregates crushed from tunnel muck for kerb and bed lining including cost of all materials, machinery, labour, formwork, batching, mixing, conveying upto placing point in agitator cars, placing in position, levelling, vibrating, finishing, curing, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts. (Cement content 330 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	8092.30	
		Labour Component (including contractor's profit and Overheads)	cum		1787.40

97	IRR-TAW-5-4	Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sqmm) grade cement concrete using **40 mm and down size** approved clean, hard, graded aggregates crushed from tunnel muck for sides and arch lining including cost of all materials, machinery, labour, formwork, batching, mixing, conveying upto placing point in agitator cars, placing in position, levelling, vibrating, finishing, curing, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts. (Cement content 330 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	8267.90	
		Labour Component (including contractor's profit and Overheads)	cum		1354.20
	IRR-TAW-6	**DRILLING & GROUTING WORKS :**			
98	IRR-TAW-6-1	**Drilling 32 mm diameter grout holes in concrete / rock by percussion drilling** using jack hammer or stooper drills as directed to specified depth for consolidation / contact grouting including cost of all materials, machinery, labour, cleaning holes, ventilation, lighting, drainage and all other ancillary operations etc., complete.	Rm	582.50	
		Labour Component (including contractor's profit and Overheads)	Rm		264.00
99	IRR-TAW-6-2	**Grouting cement slurry in grout holes under specified pressure for consolidation / contact grouting** including cost of all materials, machinery, labour, redrilling wherever necessary, ventilation,lighting, drainage and other ancillary operations etc., complete **with lead upto 1 km and all lifts.**	tonne	12736.40	
		Labour Component (including contractor's profit and Overheads)	tonne		4117.40
100	IRR-TAW-6-3	**Drilling 75 mm diameter drainage holes** vertical or inclined in rock / concrete in tunnel by **percussion drilling** using waggon drill or other suitable drilling equipment including cost of all materials, machinery, labour, ventilation, lighting, drainage etc., complete.	Rm	502.80	
		Labour Component (including contractor's profit and Overheads)	Rm		108.00
		CHAPTER-III			
	IRR-CAW	**CANAL AND ALLIED WORKS**			
	IRR-CAW-1	**EXCAVATION WORKS :**			
101	IRR-CAW-1-1	Excavation **in all kinds of soil** including boulders **upto 0.3 m diameter** for **canal**, seating of embankment, filter drains / catch water drains etc., including dressing bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated soil neatly in dump area or for the formation of service road / embankment as directed etc., complete **with initial lead upto 1 km and all lifts.**	cum	136.80	
		Labour Component (including contractor's profit and Overheads)	cum		43.40
102	IRR-CAW-1-2	Excavation **in all kinds of soil** including boulders **upto 0.30 m dia** for **field channels**, seating of embankment for field channels etc., including dressing of bed and sides to required profile, cost of all materials, machinery, labour, placing the excavated stuff for formation of service road / embankment as directed etc., complete with lead upto 10 m and lift upto 3 m. (Machinery excavation and manual conveyance)	cum	74.60	
		Labour Component (including contractor's profit and Overheads)	cum		36.40
103	IRR-CAW-1-3	Excavation in all kinds of soil including boulders upto 0.30 m dia for **Silt Removal from the Tank Bed and bringing it to the required profile** including cost of all materials, machinery, labour, placing the excavated stuff for disposal with **initial lead of 10 m and lift upto 3 m** (Machinery excavation and manual conveyance)	cum	53.00	
		Labour Component (including contractor's profit and Overheads)	cum		10.76
104	IRR-CAW-1-4	Excavation **in ordinary rock (including HDR) without blasting** including boulders **above 0.30 m upto 0.6 m dia. for canals**, seating of embankment, filter drain / catch water drains etc., including dressing of bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated soft rock neatly in dump area or for formation of service road as directed etc., complete **with lead upto 1 km and all lifts.**	cum	186.00	
		Labour Component (including contractor's profit and Overheads)	cum		63.90

105	IRR-CAW-1-5	Excavation **in ordinary rock (including HDR) without blasting** including boulders **above 0.3 m upto 0.60 m dia. for field channels**, seating of embankment for field channels etc., including dressing of bed and sides to required profile, cost of all materials, machinery, labour, placing the excavated stuff for formation of service road as directed etc.,complete **with lead upto 10 m and lift upto 3 m.** (Machinery excavation and manual conveyance)	cum	122.30	
		Labour Component (including contractor's profit and Overheads)	cum		58.70
106	IRR-CAW-1-6	**Excavation in hard rock (including F&F rock) requiring blasting** including boulders **above 0.6 m upto 1.2 m dia. for canals**, seating of embankment, filter drain / catch water drains etc., including dressing bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated rock in dump area or for formation of service road as directed etc., **complete with lead upto 1 km and all lifts.**	cum	290.20	
		Labour Component (including contractor's profit and Overheads)	cum		114.80
107	IRR-CAW-1-7	**Excavation in hard rock of all toughness by blasting** including boulders **above 1.2 m dia. for canals**, seating of embankment, filter drain / catch water drains etc., including levelling the bed by removing all projections by hammering / chiselling, cost of all materials, machinery, labour, placing the excavated rock neatly in approved dump area and levelling the same as directed etc., complete **with initial lead upto 1 km and all lifts.** i) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth excavation in hard rock is less than 3 m. ii) The rate includes levelling canal bed by hammering / chiselling all rock projections wherever required.	cum	719.80	
		Labour Component (including contractor's profit and Overheads)	cum		243.10
108	IRR-CAW-1-8	**Excavation in hard rock of all toughness** including boulders **above 1.2 m dia.** by **approved controlled blasting methods for canals**, cut-off trench of embankment, filter / catch-water drains etc., including controlling fly-rock by muffling arrangements such as placing 50 x 50 mm opening chain link mesh or waste tyres and sand bags, monitoring ground vibrations at specified locations, costof all materials, machinery, labour, placing excavated rock neatly in approved dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.** i) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth excavation in hard rock is less than 3 m. ii) The rate under this item shall be adopted where the control of fly-rock and ground vibrations is required.	cum	878.00	
		Labour Component (including contractor's profit and Overheads)	cum		241.10

109	IRR-CAW-1-9	**Excavation in hard rock of all toughness** including boulders **above 1.2 m dia. for dressing canal sides** neatly on either side to required profile by line drilling and smooth blasting including removing under-cuts by chiselling / hammering, placing the excavated rock neatly in dump area or other place as directed, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.** i) For excavation of canal below free board level combination of normal controlled blasting and line drilling and smooth blasting shall be adopted to obtain neat side slopes. For the purpose of payment 1 m width of excavation on either side shall be treated as excavation by line drilling and smooth blasting and remaining portion shall be treated as excavation by normal / controlled blasting as the case may be. ii) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth of excavation in hard rock is less than 3 m. iii) The rate includes controlling fly-rock wherever required. iv) The rate under this item shall be paid only on ascertaining that the excavated face has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval. v) In case, where the above criteria is not fulfilled payment shall be restricted to the rate provided for excavation by normal blasting or controlled blasting as the case may be.	cum	1638.10	
		Labour Component (including contractor's profit and Overheads)	cum		641.80
110	IRR-CAW-1-10	**Excavation in hard rock by blasting** including boulders **above 1.2 m dia. for canals**, seating embankment etc., including levelling bed by removing all projections by hammering / chiselling, cost of all materials, machinery, labour, placing the excavated rock neatly in approved dump area and levelling the same as directed etc.,complete **with initial lead upto 1 km and all lifts.** i) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m. ii) The rate includes levelling canal bed by hammering /chiselling all rock projections wherever required.	cum	419.80	
		Labour Component (including contractor's profit and Overheads)	cum		76.00
111	IRR-CAW-1-11	**Excavation in hard rock of all toughness** including boulders **above 1.2 m dia. by approved controlled blasting methods for canals, cut-off trench of embankment** etc., including controlling fly-rock by muffling arrangements such as placing 50 x 50 mm opening chain link mesh or waste tyres and sand bags, monitoring ground vibrations at specified locations, cost of all materials, machinery, labour, placing excavated rock neatly in approved dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.** i) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m. ii) The rate under this item shall be adopted where the control of fly-rock and ground vibrations is required.	cum	605.60	
		Labour Component (including contractor's profit and Overheads)	cum		86.90

112	IRR-CAW-1-12	**Excavation in hard rock of all toughness** including boulders **above 1.2 m dia. for dressing canal sides** neatly on either side to required profile by line drilling and smooth blasting including removing under-cuts by chiselling / hammering, placing the excavated rock neatly in dump area or other place as directed, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.** i) For excavation of canal below free board level combination of normal controlled blasting and line drilling and smooth blasting shall be adopted to obtain neat side slopes. For the purpose of payment 1 m width of excavation on either side shall be treated as excavation by line drilling and smooth blasting and remaining portion shall be treated as excavation by normal / controlled blasting as the case may be. ii) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m. iii) The rate includes controlling fly-rock wherever required. iv) The rate under this item shall be paid only on ascertaining that the excavated face has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval. v) In case, where the above criteria is not fulfilled payment shall be restricted to the rate provided for excavation by normal blasting or controlled blasting as the case may be.	cum	1015.70	
		Labour Component (including contractor's profit and Overheads)	cum		195.60
	IRR-CAW-2	**EMBANKMENT WORKS USING BORROW AREA SOIL :**			
113	IRR-CAW-2-1	Providing **impervious hearting embankment** with selected soil from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	272.90	
		Labour Component (including contractor's profit and Overheads)	cum		57.40
114	IRR-CAW-2-2	Providing **impervious hearting embankment** with selected soil from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	263.80	
		Labour Component (including contractor's profit and Overheads)	cum		56.40
115	IRR-CAW-2-3	Providing **semi-pervious / pervious casing embankment** using soil from **approved borrow area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	272.60	
		Labour Component (including contractor's profit and Overheads)	cum		57.40
116	IRR-CAW-2-4	Providing **semi-pervious / pervious casing embankment** using soil from **approved borrow area** in **layers of 25cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	268.30	
		Labour Component (including contractor's profit and Overheads)	cum		60.90

117	IRR-CAW-2-5	Providing **semi-pervious / pervious casing embankment** using soil from **approved borrow area** in **layers of 25cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	248.10	
		Labour Component (including contractor's profit and Overheads)	cum		52.30
118	IRR-CAW-2-6	Providing **hearting / casing embankment with homogeneous soil** from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	235.40	
		Labour Component (including contractor's profit and Overheads)	cum		47.20
119	IRR-CAW-2-7	Providing **hearting / casing embankment with homogeneous soil** from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	227.30	
		Labour Component (including contractor's profit and Overheads)	cum		46.10
120	IRR-CAW-2-8	Providing **casing embankment using homogeneous soil** from **approved borrow area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	213.10	
		Labour Component (including contractor's profit and Overheads)	cum		42.40
	IRR-CAW-3	**EMBANKMENT WORKS USING DUMP AREA SOIL :**			
121	IRR-CAW-3-1	Providing **impervious hearting embankment** with soil from **approved dump areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to achieve density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc.,complete **with initial lead upto 1 km and all lifts.**	cum	208.10	
		Labour Component (including contractor's profit and Overheads)	cum		43.70
122	IRR-CAW-3-2	Providing **impervious hearting embankment** with soil from **approved dump areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to achieve density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc.,complete **with initial lead upto 1 km and all lifts.**	cum	200.90	
		Labour Component (including contractor's profit and Overheads)	cum		43.20
123	IRR-CAW-3-3	Providing **semi-pervious / pervious casing embankment** using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	202.10	
		Labour Component (including contractor's profit and Overheads)	cum		42.50

124	IRR-CAW-3-4	Providing **semi-pervious / pervious casing embankment** using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	194.60	
		Labour Component (including contractor's profit and Overheads)	cum		41.60
125	IRR-CAW-3-5	Providing **semi-pervious / pervious casing embankment** using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	182.10	
		Labour Component (including contractor's profit and Overheads)	cum		38.30
	IRR-CAW-4	**EMBANKMENT WORKS USING EXCAVATED SOIL :**			
126	IRR-CAW-4-1	Providing **impervious hearting embankment** with soil **collected in embankment area** in heaps as part of disposal of excavated soil from canal including cost of all materials,machinery, labour, all operations such as sortingout, spreading in **layer of 25 cm** before compaction, breaking clods,sectioning, **watering** and compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with lead upto 1 km for water.**	cum	91.70	
		Labour Component (including contractor's profit and Overheads)	cum		18.20
127	IRR-CAW-4-2	Providing **impervious hearting embankment** with soil **collected in embankment area** in heaps as part of disposal of excavated soil from canal including cost of all materials,machinery, labour, all operations such as sortingout, spreading in **layer of 25 cm** before compaction, breaking clods,sectioning, **watering** and compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with lead upto 1 km for water.**	cum	84.90	
		Labour Component (including contractor's profit and Overheads)	cum		18.70
128	IRR-CAW-4-3	Providing **semi-pervious / pervious casing hearting embankment** using soil **collected in heaps in embankment area** as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning, **watering** and compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete **with lead upto 1 km for water.**	cum	91.70	
		Labour Component (including contractor's profit and Overheads)	cum		18.20
129	IRR-CAW-4-4	Providing **semi-pervious / pervious casing embankment** using soil **collected in heaps in embankment area** as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning, **watering** and compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., **complete with lead upto 1 km for water.**	cum	84.90	
		Labour Component (including contractor's profit and Overheads)	cum		18.70
130	IRR-CAW-4-5	Providing **semi-pervious / pervious casing embankment** using soil **collected in heaps in embankment area** as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning and compacting each layer without watering to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** etc., complete.	cum	69.70	
		Labour Component (including contractor's profit and Overheads)	cum		13.50

131	IRR-CAW-4-6	Providing **compacted embankment for field irrigation channels with gravely soil** from approved **borrow area** including sorting out, spreading in **layers of 15 cm** thickness, breaking clods, watering, compacting, dressing sides to required slopes etc.,complete **with lead upto 50 m and all lifts**. (manual work with water pump)	cum	527.70	
		Labour Component (including contractor's profit and Overheads)	cum		521.30
	IRR-CAW-5	**FOUNDATION FILLING WORKS :**			
132	IRR-CAW-5-1	Providing **rubble and sand filling** in **layers of 22.5 to 30 cm** including cost of all materials, machinery, labour, watering, ramming etc., complete **with initial lead upto 50 m and all lifts.**	cum	1140.90	
		Labour Component (including contractor's profit and Overheads)	cum		274.90
133	IRR-CAW-5-2	Providing & constructing **Sand filling below foudation** including cost of all materials, machinery, labour, watering, ramming etc., complete **with initial lead upto 50 m and all lifts.**	cum	959.00	
		Labour Component (including contractor's profit and Overheads)	cum		137.47
134	IRR-CAW-5-3	Providing **rubble and Murum filling in layers of 22.5 to 30 cm** including cost of all materials, machinery, labour, watering, ramming etc., complete **with initial lead upto 50 m and all lifts.**	cum	944.60	
		Labour Component (including contractor's profit and Overheads)	cum		274.90
135	IRR-CAW-5-4	Providing and **laying 25 cm thick sand blanket below embankment** including cost of all materials, machinery, labour, spreading to specified thickness etc., complete **with initial lead upto 50 m and all lifts.**	sqm	239.70	
		Labour Component (including contractor's profit and Overheads)	sqm		34.40
136	IRR-CAW-5-5	Providing and **laying sand blanket below embankment** including cost of all materials, machinery, labour, spreading to specified thickness etc., complete **with initial lead upto 50 m and all lifts.**	cum	958.90	
		Labour Component (including contractor's profit and Overheads)	cum		137.50
137	IRR-CAW-5-6	Providing and **constructing dry rubble rock-toe using rubble and stone chips** from **approved source** including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete **with initial lead upto 50 m and all lifts.**	cum	835.00	
		Labour Component (including contractor's profit and Overheads)	cum		191.40
138	IRR-CAW-5-7	Providing and **constructing longitudinal and cross graded filter drains** using sand and 20 mm down graded aggregates satisfying specified filter creteria in layers as per specifications including cost of all materials, machinery, labour, laying to required slopes, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	1171.50	
		Labour Component (including contractor's profit and Overheads)	cum		256.70
139	IRR-CAW-5-8	Laying **Longitudinal Drains and Transverse drains of Size 600 x600 x750 mm in Bed** and filling with 12 mm to 40 mm HG machine Crushed metal and sand in bed including excavation of drains and Cost of procuring of all materials	Rm	529.90	
		Labour Component (including contractor's profit and Overheads)	Rm		48.60
140	IRR-CAW-5-9	Laying and **fixing of 100 mm Dia 300 mm long precast porus CC plugs in bed and sides** using 1.181 Kgs of cement per each using 20 mm HG metal and placing in local filters of size 600x600x750 mm in size including excavation of drains and Cost of procuring of all materials	one plug	502.80	
		Labour Component (including contractor's profit and Overheads)	one plug		206.20
141	IRR-CAW-5-10	Providing and **constructing 0.50 m thick vertical or inclined graded filter media** consisting of 15 cm thick sand layers and 20 cm thick 20 mm down coarse aggregate layer using approved materials satisfying specified filter creteria as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	1239.30	
		Labour Component (including contractor's profit and Overheads)	cum		256.70

142	IRR-CAW-5-11	Providing and **constructing graded filter media below and behind rock-toe** consisting of 20 cm thick sand, 15 cm thick 20 mm down and 15 cm thick 40 mm down size graded coarse aggregates satisfying filter creteria behind rock-toe and 15 cm thick sand, 20 cm thick 20 mm down coarse aggregate and 65 cm thick 40 mm down size coarse aggregate satisfying filter creiteria below rock-toe as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**	cum	1317.00	
		Labour Component (including contractor's profit and Overheads)	cum		239.50
143	IRR-CAW-5-12	Providing and **laying filter media consisting of 2 layers of poly-propeline** nonwoven filter fabric and 200 mm thick 20 mm down graded coarse aggregate for embankment including cost of all materials, machinery, labour, forming toe drain etc., complete **with lead upto 50 m for aggregate and all leads for fabric and all lifts.** Using **200 gsm** filter fabric.	sqm	438.20	
		Labour Component (including contractor's profit and Overheads)	sqm		57.30
144	IRR-CAW-5-13	Providing and **laying filter media consisting of 2 layers of poly-propeline** nonwoven filter fabric and 200 mm thick 20 mm down graded coarse aggregate for embankment including cost of all materials, machinery, labour, forming toe drain etc., complete **with lead upto 50 m for aggregate and all leads for fabric and all lifts.** Using **250 gsm** filter fabric.	sqm	464.40	
		Labour Component (including contractor's profit and Overheads)	sqm		57.30
	IRR-CAW-6	**ROCK FILL WORKS :**			
145	IRR-CAW-6-1	Providing and **constructing rockfill casing to canal embankment** with graded stones and spalls from **approved quarry** including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing surface to required slopes etc., complete **with initial lead upto 50 m and all lifts.**	cum	742.20	
		Labour Component (including contractor's profit and Overheads)	cum		99.30
146	IRR-CAW-6-2	Providing and **constructing rockfill casing to canal embankment** with graded stones and spalls available **in dump yard** including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing surface to required slopes etc., complete **with initial lead upto 50 m and all lifts.** Stones and spalls available in dump yard will be issued at specified issue rate.	cum	456.20	
		Labour Component (including contractor's profit and Overheads)	cum		127.80
	IRR-CAW-7	**CANAL LINING WORKS :**			
147	IRR-CAW-7-1	Providing **cohesive non-swelling (CNS) soil lining to canals** using soil from **approved borrow area** including spreading soil in **layers of thickness not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 98 percent** or as stipulated, dressing to required profile etc., complete **with initial lead upto 1 km and all lifts.**	cum	319.00	
		Labour Component (including contractor's profit and Overheads)	cum		119.20
148	IRR-CAW-7-2	Providing **cohesive non-swelling (CNS) soil lining to canals** using soil from **approved borrow area** including spreading soil in **layers of thickness not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 95 percent** or as stipulated, dressing to required profile etc., complete **with initial lead upto 1 km and all lifts.**	cum	311.30	
		Labour Component (including contractor's profit and Overheads)	cum		117.70
149	IRR-CAW-7-3	Providing **cohesive non-swelling (CNS) soil lining to canal** using soil **collected in heaps along the edge of canal requiring CNS soil lining** as part of the disposal of excavated soil from canal excavation in CNS soil reach including spreading in layers of thickness **not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 95 percent** or as stipulated, dressing to required profile etc., complete **with lead upto upto 50 m and all lifts.**	cum	174.50	
		Labour Component (including contractor's profit and Overheads)	cum		92.60

150	IRR-CAW-7-4	Providing and **fixing 20 x 20 x 75 cm size top surface neatly dressed canal bed level stones** including cost of all materials, labour, excavation, fixing in position to correct level etc., complete **with lead upto 50 m and all lifts.**	Each	174.60	
		Labour Component (including contractor's profit and Overheads)	Each		122.40
151	IRR-CAW-7-5	Providing, fabricating and **placing in position reinforcement steel bars** for **RCC works** including cleaning, straightening, cutting, bending, hooking, lapping, tying with 1.25 mm dia.soft annealed steel wire, welding wherever required including cost of all materials, machinery, labour etc., complete **with initial lead upto 50 and all lifts.(1.05 tonne/tonne of steel)**	kg	82.20	
		Labour Component (including contractor's profit and Overheads)	kg		13.10
152	IRR-CAW-7-6	Providing and **laying 75 mm thick in-situ M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining** using vibrating cylinder type mechanical paver including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position,finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to other side of canal etc., **complete with initial lead upto 1 km and all lifts. (43 Gr Cement content: (300kg /cum) 22.5 kg / sqm for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum, equivalent concrete volume:79.2 cum including the extra quantity of concrete for curvatures and bends etc.,)**	sqm	495.10	
		Labour Component (including contractor's profit and Overheads)	sqm		51.90
153	IRR-CAW-7-7	Providing and **laying 80 mm thick in-situ M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining** using vibrating cylinder type mechanical paver including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to other side of canal etc., **complete with initial lead upto 1 km and all lifts. (43 Gr Cement content: (300kg /cum) 24 kg / sqm for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum, equivalent concrete volume:84.48 cum including the extra quantity of concrete for curvatures and bends etc.,)**	sqm	513.40	
		Labour Component (including contractor's profit and Overheads)	sqm		51.90
154	IRR-CAW-7-8	Providing and **laying 100 mm thick in situ M-15** (28 days cube compressive strength not less than 15 N /Sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining** using, vibrating, cylinder type mechanical paver including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to othere side of canal etc., **complete with initial lead upto 1 Km and all lifts. (43 Gr Cement content: (300kg /cum) 30 kg / sqm for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum, equivalent concrete volume:88 cum including the extra quantity of concrete for curvatures and bends etc.,)**	sqm	618.60	
		Labour Component (including contractor's profit and Overheads)	sqm		60.30
155	IRR-CAW-7-9	**Dismantling, shifting and re-erecting mechanical concrete paver and DG set** with all accessories **across canal CD work** or other locations wherever shifting and re-erecting is necessary including aligning paver correctly for continuing canal lining work, cost of all materials, machinery, labour etc., **complete with all leads and lifts.** Note: Local shifting and re-erection of paver for LH and RH side lining included in concrete lining rates under items IRR-CAW-7-7 and IRR-CAW-7-8 and saperate rate for shifting shall not be allowed.	shifting	14663.60	
		Labour Component (including contractor's profit and Overheads)	shifting		11607.80

156	IRR-CAW-7-10	Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for bed and side lining of canal**(150mm thick)** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (43 Gr Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** (Only forManually operated)	cum	5588.80	
		Labour Component (including contractor's profit and Overheads)	cum		2140.70
157	IRR-CAW-7-11	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N/sqm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregade for bed and side lining of canal**(100 mm thick)** including, finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead up to 50 m and all lifts (43 Gr Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	5756.40	
		Labour Component (including contractor's profit and Overheads)	cum		2203.70
158	IRR-CAW-7-12	Providing and **laying 100mm thick insitu vibrated M-10** (28 days cube compressive strength-not less than 10.00 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for bed and side lining of canal lining **using vibrating cylindertype mechanical paver** including cost of all materials mechinery labour batching mixing placing in position forming contraction joints fixing pvc joint seiling strips shifting of paver from one side of canal to other side etc.**complete with all leads & lifts. (Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	sqm	589.20	
		Labour Component (including contractor's profit and Overheads)	sqm		60.30
159	IRR-CAW-7-13	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N /sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates for bed and side lining of canal including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	5716.50	
		Labour Component (including contractor's profit and Overheads)	cum		2203.70
160	IRR-CAW-7-14	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for bed and side lining(**150 mm thick**) of canal including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 290 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	6071.50	
		Labour Component (including contractor's profit and Overheads)	cum		2330.20

161	IRR-CAW-7-15	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates for bed and side lining(**of thickness 100 mm**) of canal including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 300 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	6332.10	
		Labour Component (including contractor's profit and Overheads)	cum		2459.70
162	IRR-CAW-7-16	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for bed and side lining**(**of thickness 100 mm**) of canal including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Manual Lining) (Cement content: 290 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.90 cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	5807.00	
		Labour Component (including contractor's profit and Overheads)	cum		2246.21
163	IRR-CAW-7-17	Providing and **laying 150mm thick insitu vibrated M-15** (28 days cube compressive strength-not less than 15.00 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates for bed and side lining of canal lining using vibrating cylindertype mechanical paver including cost of all materials mechinery labour batching mixing placing in position forming contractiom joints fixing pvc joint seiling strips shifting of paver from one side of canal to other side etc.**complete with all leads & lifts. (Cement content: 300 kg / cum for use of super plasticiser(0.4% by wt. of cement),CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.44 cum)** **(Paver)**	sqm	798.50	
		Labour Component (including contractor's profit and Overheads)	sqm		60.30
164	IRR-CAW-7-18	Providing and **fixing pre-cast RCC template walls** consisting of 0.05 cum **M-15 grade** concrete using **20 mm down size** coarse aggregates and 10 kg reinforcement steel moulded as per specifications and drawing in CM 1:4 proportion including cost of all materials, machinery, labour, formwork, fabricating and placing reinforcement steel, mixing, laying, conveying and fixing in position including necessary excavation for seating, finishing joints in CM 1:4, curing etc., complete **with initial lead upto 1 km and all lifts.**	Rm	1390.90	
		Labour Component (including contractor's profit and Overheads)	Rm		478.90
165	IRR-CAW-7-19	Providing and **fixing 50 mm dia perforated GI pressure relief pipes 12.50 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete **with all leads and lifts.**	Each	164.10	
		Labour Component (including contractor's profit and Overheads)	Each		79.30
166	IRR-CAW-7-20	Providing and **fixing 50 mm dia perforated GI pressure relief pipes 22.50 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., **complete with all leads and lifts.**	Each	219.20	
		Labour Component (including contractor's profit and Overheads)	Each		79.30
167	IRR-CAW-7-21	Providing and **fixing 50 mm dia perforated GI pressure relief pipes 30 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., **complete with all leads and lifts.**	Each	255.90	
		Labour Component (including contractor's profit and Overheads)	Each		79.30

168	IRR-CAW-7-22	Providing and fixing **50 mm dia perforated GI pressure relief pipes 45 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete **with all leads and lifts.**	Each	326.10	
		Labour Component (including contractor's profit and Overheads)	Each		79.30
169	IRR-CAW-7-23	Providing and **fixing 50 mm dia perforated GI pressure relief pipes 75 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete **with all leads and lifts.**	Each	463.30	
		Labour Component (including contractor's profit and Overheads)	Each		79.30
170	IRR-CAW-7-24	Providing and **fixing 100 mm dia perforated PVC pipes 40 cm long for Weep holes** including cost of all materials, labour, drilling 8 mm dia holes etc. complete **with all leads and lifts.**	Each	264.60	
		Labour Component (including contractor's profit and Overheads)	Each		39.70
171	IRR-CAW-7-25	**Drilling 32 mm dia pressure relief hole** below pressure relief pipe for bed and side lining of canal laid on rock including cost of all materials, machinery, labour etc., complete **with all leads and lifts.**	Each	421.00	
		Labour Component (including contractor's profit and Overheads)	Each		159.10
172	IRR-CAW-7-26	Providing and **forming 35 x 35 x 40 cm deep filter drain** consisting of 75 mm thick 10 mm down coarse aggregate around pressure relief pipe and 75 mm thick sand around coarse aggregate filter including cost of all materials, labour, excavation of pit etc., complete **with lead upto 50 m and all lifts.**	Each	58.00	
		Labour Component (including contractor's profit and Overheads)	Each		14.30
173	IRR-CAW-7-27	Providing and **fixing 25 to 40 mm thick Shahabad / Talikota / other similar stone slabs with pointing and finishing joints** neatly in **CM 1:3** proportion for canal / field channel lining including cutting slabs to required size, mixing mortar, finishing joints neatly, curing etc., complete **with lead upto 50 m and all lifts.**	sqm	525.20	
		Labour Component (including contractor's profit and Overheads)	sqm		121.90
174	IRR-CAW-7-28	**Fixing PCC slabs** of various sizes in **CM 1 : 3** proportion **to the side slopes of canal** including preparing bed, flush pointing joints in **CM 1 : 3** propn, cost of all materials (excluding PCC slabs), labour, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**	sqm	136.50	
		Labour Component (including contractor's profit and Overheads)	sqm		114.00
175	IRR-CAW-7-29	**Fixing PCC lug slabs** of various sizes in **CM 1 : 3** proportion **for supporting PCC slab lining** including necessary excavation, refilling, flush pointing joints in CM 1 : 3 propn, cost of all materials (excluding PCC lug slabs), labour, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**	Rm	82.70	
		Labour Component (including contractor's profit and Overheads)	Rm		76.50
176	IRR-CAW-7-30	**Fixing 30 cm height pre-cast drops for field channels** as directed including excavation, etc., complete **with all leads and lifts.**	Each	334.40	
		Labour Component (including contractor's profit and Overheads)	Each		334.40
177	IRR-CAW-7-31	Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.** Using **500 micron** thick LDPE sheet.	sqm	171.60	
		Labour Component (including contractor's profit and Overheads)	sqm		16.70
		If the surface on which the LDPE sheet is to be laid is too rough and undulating provide **75 mm thick sand backing** to LDPE sheet. For providing 75 mm thick Sand for backing add	sqm	78.10	
		Labour Component (including contractor's profit and Overheads)	sqm		16.50
178	IRR-CAW-7-32	Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.** Using **750 micron** thick LDPE sheet.	sqm	235.70	
		Labour Component (including contractor's profit and Overheads)	sqm		22.00
179	IRR-CAW-7-33	Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.** Using **1000 micron** thick LDPE sheet.	sqm	309.30	
		Labour Component (including contractor's profit and Overheads)	sqm		28.20

180	IRR-CAW-7-34	Providing and **fixing 12 mm thick 380 mm depth tarfelt expansion joint filler boards for stone masonry lining** of canal including cost of all materials, labour etc., **complete with all leads and lifts.**	Rm	211.10	
		Labour Component (including contractor's profit and Overheads)	Rm		14.30
181	IRR-CAW-7-35	Providing and **fixing 20 mm thick 100 mm depth tarfelt expansion joint filler boards for cement concrete lining** of canal including cost of all materials, labour etc., **complete with all leads and lifts.**	Rm	91.10	
		Labour Component (including contractor's profit and Overheads)	Rm		14.30
182	IRR-CAW-7-36	Providing and **fixing 20 mm thick 150 mm depth tarfelt expansion joint filler boards for cement concrete lining** of canal including cost of all materials, labour etc., complete **with all leads and lifts.**	Rm	131.80	
		Labour Component (including contractor's profit and Overheads)	Rm		14.30
183	IRR-CAW-7-37	Providing and **forming 35 mm wide and 10 mm thick construction / contraction joints for concrete lining by mastic filler** including cost of all materials, labour etc., complete **with all leads and lifts.**	Rm	35.70	
		Labour Component (including contractor's profit and Overheads)	Rm		10.60
184	IRR-CAW-7-38	**Manufacturing 550 x 550 x 55 mm size PCC lining slabs in M-15 grade** (28 days cube compressive strength not less than 15 N /sqmm) cement concrete using **20 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.80 cum, Blending Ratio of CA : 65:35, FA : 0.45cum)**	Each	117.80	
		Labour Component (including contractor's profit and Overheads)	Each		45.10
185	IRR-CAW-7-39	**Manufacturing 550 x 300 x 55 mm size PCC lug slabs in M-15 grade** (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **20 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete with **initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.80 cum, Blending Ratio of CA : 65:35, FA : 0.45cum)**	Each	89.10	
		Labour Component (including contractor's profit and Overheads)	Each		45.10
186	IRR-CAW-7-40	**Manufacturing 450 x 300 x 30 mm size PCC lining slabs in M-15 grade** (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.68 cum, FA : 0.43cum)**	Each	47.70	
		Labour Component (including contractor's profit and Overheads)	Each		29.40
187	IRR-CAW-7-41	**Manucturing 450 x 150 x 30 mm size PCC lug slabs in M-15 grade** (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement),CA : 0.68 cum, FA : 0.43cum)**	Each	39.60	
		Labour Component (including contractor's profit and Overheads)	Each		29.40
188	IRR-CAW-7-42	**Manufacturing 600 x 300 x 100mm size PCC lining slabs in M-15 grade** (28 days cube compressive strength not less than 15 N/Sqmm) cement concrete using **20 mm down grades** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.80 cum, FA : 0.45cum, Blending Ratio of CA--65:35)**	Each	97.90	
		Labour Component (including contractor's profit and Overheads)	Each		28.70

189	IRR-CAW-7-43	**Manucturing 400 x 400 x 30 mm size PCC lining slabs in M-15 grade** (28 days cube compressive strength not less than 15 N / sqmm)cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.68 cum, FA : 0.43cum)**	Each	50.00	
		Labour Component (including contractor's profit and Overheads)	Each		29.40
190	IRR-CAW-7-44	**Manufacturing 400 x 150 x 30 mm size PCC lug slabs in M-15 grade** (28 days cube compressive strength not less than 15 N /sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.68 cum, FA : 0.43cum)**	Each	39.00	
		Labour Component (including contractor's profit and Overheads)	Each		29.40
191	IRR-CAW-7-45	Providing and **laying uncoursed rubble stone masonry** in **CM 1 : 5** proportion **for canal side lining** using stones and chips from **approved quarry** including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Thickness of the masonry assumed: 0.3 m, rubble stones : 0.96 cum, Stone Chips : 0.15cum,Through Stones 20 x 20 x 30cm : 1/sqm)**	cum	3007.00	
		Labour Component (including contractor's profit and Overheads)	cum		1104.80
192	IRR-CAW-7-46	Providing and **laying uncoursed rubble stone masonry** in **CM 1:5** proportion **for canal side lining** using stones from **approved quarry** including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete with **initial lead upto 50m and all lifts.(with no pin headers)(Thickness of the Masonry assumed:0.3 m, rubble stones : 1.1 cum**)	cum	5213.80	
		Labour Component (including contractor's profit and Overheads)	cum		3602.00
193	IRR-CAW-7-47	Providing and **laying uncoursed rubble stone masonry** in **CM 1 : 5** proportion **for canal side lining** using stones and chips **from canal excavation** including cost of all materials, machinery, labour, forming weep holes at specified interval, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.96 cum, Stone Chips : 0.15cum, Through Stones 20 x 20 x 30cm : 1/sqm)**	cum	2840.50	
		Labour Component (including contractor's profit and Overheads)	cum		1247.40
194	IRR-CAW-7-48	Providing and **laying uncoursed rubble stone masonry** in **CM 1:5** proportion **for canal side lining** using stones **from canal excavation** including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete **with initial lead upto 50m and all lifts.(with no pin headers)(rubble stones : 1.1cum, cement : 98kg, sand 0.34 cum**)	cum	4935.60	
		Labour Component (including contractor's profit and Overheads)	cum		3602.00
	IRR-CAW-8	**ROCK PITCHING**			
195	IRR-CAW-8-1	Providing and **constructing 25 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.23 cum/sqm, Stone Chips : 0.0375cum/sqm, Pin Headers 30cm : 2/sqm)**	sqm	310.00	
		Labour Component (including contractor's profit and Overheads)	sqm		87.40
		If 15 cm thick murum bed is to be provided below pitching add	sqm	87.00	
		Labour Component (including contractor's profit and Overheads)	sqm		27.50
196	IRR-CAW-8-2	Providing and **constructing 22.5 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.207 cum/sqm, Stone Chips : 0.3375cum/sqm, Pin Headers 30cm : 2/sqm) (For Maintenance Works)**	sqm	295.00	
		Labour Component (including contractor's profit and Overheads)	sqm		87.40

197	IRR-CAW-8-3	Providing and **constructing 25 cm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., complete with **initial lead upto 50 m and all lifts.(with no pin headers)(rubble stones : 0.33 cum/sqm)**	sqm	358.50	
		Labour Component (including contractor's profit and Overheads)	sqm		210.80
198	IRR-CAW-8-4	Providing and **constructing 225 mmm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., complete with **initial lead upto 50 m and all lifts.(with no pin headers)(rubble stones : 0.2475 cum/sqm) (For Maintenance Works)**	sqm	286.70	
		Labour Component (including contractor's profit and Overheads)	sqm		189.60
199	IRR-CAW-8-5	Providing and **constructing 30 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.275 cum/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)**	sqm	339.50	
		Labour Component (including contractor's profit and Overheads)	sqm		87.40
200	IRR-CAW-8-6	Providing and **constructing 30 cm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., **complete with initial lead upto 50 m and all lifts.(with no pin headers)(rubble stones : 0.33 cum/sqm)**	sqm	430.20	
		Labour Component (including contractor's profit and Overheads)	sqm		252.90
201	IRR-CAW-8-7	Providing and **constructing 45 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.40 cum/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)**	sqm	519.20	
		Labour Component (including contractor's profit and Overheads)	sqm		122.70
202	IRR-CAW-8-8	Providing and **constructing 45 cm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(with no pin headers)(rubble stones : 0.495 cum/sqm)**	sqm	645.30	
		Labour Component (including contractor's profit and Overheads)	sqm		379.40
203	IRR-CAW-8-9	Providing and **constructing 30 cm thick rubble stone pitching** set in **CM 1: 5 proportion with pin headers at 2 per sqm** in including cost of all materials, labour, packing chips and mortar, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(rubble stones : 0.275 cum/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)**	sqm	691.50	
		Labour Component (including contractor's profit and Overheads)	sqm		148.70
204	IRR-CAW-8-10	Providing and **Constructing 30 cm thick rubble stone pitching** set in **CM 1:5 Proportion** including cost of all materials,labour, packing chips and mortar ,finishing etc.,**complete(rubble stones : 0.33 cum/sqm)**	sqm	518.70	
		Labour Component (including contractor's profit and Overheads)	sqm		32.70
205	IRR-CAW-8-11	Providing and **constructing 30 cm thick dry khandki stone pitching using 20 to 25 cm size khandki stones with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(Khandki stones 20- 25 cm height : 1200 Nos/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)**	sqm	518.90	
		Labour Component (including contractor's profit and Overheads)	sqm		87.40
206	IRR-CAW-8-12	Providing and **constructing 45 cm thick dry khandki stone pitching using 25 to 30 cm size khandki stones with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.(Khandki stones 25- 30 cm height : 1200 Nos/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)**	sqm	528.20	
		Labour Component (including contractor's profit and Overheads)	sqm		122.70
207	IRR-CAW-8-13	Providing and **constructing 30 cm thick khandki stone pitching using 20 to 25 cm size khandki stones with pin headers at 2 per sqm** set in **CM 1 : 5** proportion with pointing joints in CM 1:3 proportion including cost of all materials, labour, packing chips and mortar, finishing, curing etc.complete **with initial lead upto 50 m and all lifts.(Khandki stones 20- 25 cm height : 1200 Nos/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)**	sqm	849.40	
		Labour Component (including contractor's profit and Overheads)	sqm		141.80

208	IRR-CAW-8-14	Providing and **constructing 45 cm thick khandki stone pitching using 25 to 30 cm stones with pin headers at 2 per sqm** set in **CM 1 : 5** proportion with pointing joints in CM 1 : 3 proportion including cost of all materials, labour, packing chips and mortar, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Khandki stones 25- 30 cm height : 730 Nos/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)**	sqm	992.90	
		Labour Component (including contractor's profit and Overheads)	sqm		195.00
209	IRR-CAW-8-15	**Providing 10 cm thick approved type grass turfing to the side slopes of canal** icluding cost of all materials, labour, watering for minimum 15 days etc.,complete **with lead 50 m and all lifts.(FA : 2 cum/sqm)**	sqm	185.40	
		Labour Component (including contractor's profit and Overheads)	sqm		113.30
210	IRR-CAW-8-16	**Providing 10 cm thick approved type grass turfing to the side slopes of canal** icluding cost of all materials, labour, watering for minimum 15 days etc.,**complete with lead 50 m and all lifts.** **with no sand**	sqm	119.90	
		Labour Component (including contractor's profit and Overheads)	sqm		64.30
		CHAPTER-IV			
	IRR-CCDW	**CANAL CROSS DRAINAGE WORKS**			
	IRR-CCDW-1	**EXCAVATION & FOUNDATION TREATMENT WORKS :**			
211	IRR-CCDW-1-1	(manual means of excavation and conveyance) **Excavation in all kinds of soil** including boulders **upto 0.30 m dia. for foundations of canal cross drainage** and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., **complete with initial lead upto 50 m and initial lift upto 3 m.**	cum	435.30	
		Labour Component (including contractor's profit and Overheads)	cum		435.30
212	IRR-CCDW-1-2	Excavation for Structures- Mechanical Means (Data adopted from MORTH) **Earth work in excavation in all kinds of soils** of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material. (depth upto 3 meters)	cum	127.80	
		Labour Component (including contractor's profit and Overheads)	cum		34.80
213	IRR-CCDW-1-3	(manual means of excavation and conveyance) **Excavation in ordnary rock (including HDR) without blasting** including boulders **above 0.3 m upto 0.60 m dia. for foundations of canal cross drainage** and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**	cum	619.90	
		Labour Component (including contractor's profit and Overheads)	cum		619.90
214	IRR-CCDW-1-4	(Data adopted from MORTH) (manual means of excavation and conveyance) **Excavation in ordnary rock (including HDR) without blasting for foundations of canal cross drainage** and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**	cum	162.30	
		Labour Component (including contractor's profit and Overheads)	cum		38.30
215	IRR-CCDW-1-5	(manual means of excavation after blasting and conveyance) **Excavation in hard rock requiring blasting including boulders above 0.6 m upto 1.2 m dia. for foundations of canal cross drainage** and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**	cum	594.80	
		Labour Component (including contractor's profit and Overheads)	cum		482.20

216	IRR-CCDW-1-6	(manual means of excavation after blasting and conveyance) **Excavation in hard rock of all toughness by blasting** including boulders **above 1.2 m dia. for foundations of canal cross drainage** and other appurtenant structures and placing the excavated rock neatly in specified dump area or stack yard as directed etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**	cum	878.50	
		Labour Component (including contractor's profit and Overheads)	cum		592.20
217	IRR-CCDW-1-7	(manual means of excavation after controlled blasting and conveyance) Hard Rock (blasting prohibited) (Data adopted from MORTH) **Excavation in hard rock with blasting (blasting prohibited)prohibited for foundations of canal cross drainage** and other appurtenant structures and placing the excavated rock neatly in or stack yard as directed etc., complete with specified dump area **initial lead upto 50 m and initial lift upto 3 m.**	cum	1581.50	
		Labour Component (including contractor's profit and Overheads)	cum		593.40
218	IRR-CCDW-1-8	Providing and **fixing 25 mm dia 2.50 m long cold twisted deformed steel anchor rods** with 1.25 m length driven into 32 mm dia hole drilled in bed rock and remaining length embedded in concrete / masonry including cost of all materials, machinery, labour, drilling and cleaning hole, driving anchor rod, grouting hole with thick cement slurry etc., complete **with initial lead upto 50 m and all lifts.**	Each	1288.00	
		Labour Component (including contractor's profit and Overheads)	Each		356.20
	IRR-CCDW-2	**STEEL AND CEMENT CONCRETE WORKS :**			
219	IRR-CCDW-2-1	Providing, fabricating and **placing in position reinforcement steel bars for RCC works** including cleaning, straightening, cutting, bending, hooking, lapping, welding wherever required,tying with 1.25 mm dia soft annealed steel wire, including cost of all materials, machinery, labour etc., complete **with initial lead upto 50 and all lifts.**	kg	82.80	
		Labour Component (including contractor's profit and Overheads)	kg		14.00
220	IRR-CCDW-2-2	Providing, fabricating and **fixing in position structural steel cutting edge** consisting of 100 x 100 x 10 mm angle and 250 x 12 mm plate for sinking 4.50 m outer diameter foundation wells foundation wells including cost of all materials, machinery, labour, bending, welding, providing anchors etc., complete **with initial lead upto 50 m and all lifts.**	kg	106.10	
		Labour Component (including contractor's profit and Overheads)	kg		16.70
221	IRR-CCDW-2-3	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	5864.00	
		Labour Component (including contractor's profit and Overheads)	cum		2222.00
222	IRR-CCDW-2-4	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)**	cum	5917.30	
		Labour Component (including contractor's profit and Overheads)	cum		2313.70

223	IRR-CCDW-2-5	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	5508.50	
		Labour Component (including contractor's profit and Overheads)	cum		2124.30
224	IRR-CCDW-2-6	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)**	cum	5715.10	
		Labour Component (including contractor's profit and Overheads)	cum		2298.90
225	IRR-CCDW-2-7	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for foundation filling** including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 310 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	6301.30	
		Labour Component (including contractor's profit and Overheads)	cum		2335.00
226	IRR-CCDW-2-8	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	6904.70	
		Labour Component (including contractor's profit and Overheads)	cum		2327.30
227	IRR-CCDW-2-9	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 280 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**	cum	6218.00	
		Labour Component (including contractor's profit and Overheads)	cum		2228.71
228	IRR-CCDW-2-10	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	7037.80	
		Labour Component (including contractor's profit and Overheads)	cum		2470.40

229	IRR-CCDW-2-11	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 280 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	6736.40	
		Labour Component (including contractor's profit and Overheads)	cum		2474.80
230	IRR-CCDW-2-12	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	6168.80	
		Labour Component (including contractor's profit and Overheads)	cum		2301.30
231	IRR-CCDW-2-13	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well kerb** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 350 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	8976.20	
		Labour Component (including contractor's profit and Overheads)	cum		2981.00
232	IRR-CCDW-2-14	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for well steining** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	7961.40	
		Labour Component (including contractor's profit and Overheads)	cum		2726.80
233	IRR-CCDW-2-15	Providing and **laying insitu M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well bottom plug** by tremie or skip box method including cost of all materials, complete **with initial lead upto 50 m and all lifts.(Cement content: 350 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	5820.70	
		Labour Component (including contractor's profit and Overheads)	cum		2173.10
234	IRR-CCDW-2-16	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for well top plug** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 280 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** **If water is to be brought from other place add only lead charges @ 500 ltrs / cum**	cum	5369.50	
		Labour Component (including contractor's profit and Overheads)	cum		2116.10

235	IRR-CCDW-2-17	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well cap** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	6060.60	
		Labour Component (including contractor's profit and Overheads)	cum		2152.30
236	IRR-CCDW-2-18	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	7436.80	
		Labour Component (including contractor's profit and Overheads)	cum		2854.60
237	IRR-CCDW-2-19	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	7234.20	
		Labour Component (including contractor's profit and Overheads)	cum		2838.40
238	IRR-CCDW-2-20	Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	6997.60	
		Labour Component (including contractor's profit and Overheads)	cum		2625.50
239	IRR-CCDW-2-21	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for cantiliver / counterfort retaining walls** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	7825.30	
		Labour Component (including contractor's profit and Overheads)	cum		2717.20

240	IRR-CCDW-2-22	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **with placing and sinking plums of size 150 to 80 mm upto 15 percent for gravity type retaining walls / piers / abutments etc.**, including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.765cum, Blending Ratio of CA--50:30:20, FA : 0.34 cum, plums of size 150 to 80 mm : 0.25cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	7051.00	
		Labour Component (including contractor's profit and Overheads)	cum		2547.10
241	IRR-CCDW-2-23	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard,graded aggregates **for cast in-situ pipes** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	6504.90	
		Labour Component (including contractor's profit and Overheads)	cum		2404.80
242	IRR-CCDW-2-24	Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for cast in-situ pipes** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	6550.80	
		Labour Component (including contractor's profit and Overheads)	cum		2495.20
243	IRR-CCDW-2-25	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for deck slab & kerb** including cost of all materials,machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	11276.30	
		Labour Component (including contractor's profit and Overheads)	cum		3559.20
244	IRR-CCDW-2-26	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for for slabs for small culverts span upto 2 mts** including cost of all materials,machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum ,CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	8189.00	
		Labour Component (including contractor's profit and Overheads)	cum		2816.23

245	IRR-CCDW-2-27	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for for slabs for small culverts span upto 2 - 4 mts** including cost of all materials,machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum ,CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	9597.00	
		Labour Component (including contractor's profit and Overheads)	cum		3240.16
246	IRR-CCDW-2-28	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for columns and beams** including cost of all materials, labour, machinery, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	9720.50	
		Labour Component (including contractor's profit and Overheads)	cum		3254.60
247	IRR-CCDW-2-29	Providing and **laying insitu M- 20** (28 days cube compressive strength not less than 20 N / sqmm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for wearing coat** including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position in alternate panels, levelling, compacting, finishing, curing, packing joints with asphalt mortar etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	5924.80	
		Labour Component (including contractor's profit and Overheads)	cum		2203.80
248	IRR-CCDW-2-30	Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates for troughs including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position,levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)** **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**	cum	8751.30	
		Labour Component (including contractor's profit and Overheads)	cum		3023.90
	IRR-CCDW-3	**FOUNDATION WELL SINKING WORKS :**			
249	IRR-CCDW-3-1	**Sinking RCC wells vertically for foundation of piers and abutments** in **all kinds of soil, sand and soft rock** by approved well sinking method including cost of all materials, machinery, labour, kent - ledge arrangements, disposal of excavated material as disposal of excavated material as directed etc., complete **with lead upto 50 m for disposal of excavated material.(diameter of well 6.00m)** (Data adopted from MORTH)	*Rm	5844.80	
		Labour Component (including contractor's profit and Overheads)	*Rm		2313.00
		for 3 to 10 meters for each running meter	*Rm	8208.20	
		Labour Component (including contractor's profit and Overheads)	*Rm		3745.50
250	IRR-CCDW-3-2	**Filling foundation wells with sand** in **layers of 25 to 30 cm** and compacting by watering, ramming as directed including cost of all materials, machinery, labour etc., complete **with initial lead upto 50 m and all lifts.**	cum	1061.10	
		Labour Component (including contractor's profit and Overheads)	cum		198.60

	IRR-CCDW-4	**MASONRY WORKS :**			
251	IRR-CCDW-4-1	Providing and **constructing un-coursed rubble stone masonry** with approved stones in **CM 1 : 4** proportion **for sub-structure portions of return walls / abutments etc.,** including cost of all materials, machinery, labour, scaffolding, cleaning, packing cement mortar, wedging stone chips, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 143 kg / cum of masonry, rubble stones : 0.85cum, FA : 0.40 cum,Stone Chips : 0.15 cum)**	cum	3329.70	
		Labour Component (including contractor's profit and Overheads)	cum		1389.30
252	IRR-CCDW-4-2	Providing and **constructing un-coursed rubble stone masonry** with approved stones in **CM 1 : 4** proportion **for super-structure portions of return walls / abutments etc.,** including cost of all materials, machinery, labour, scaffolding, cleaning, packing cement mortar, wedging stone chips, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 143 kg / cum of masonry, rubble stones : 0.85cum, FA : 0.40 cum,Stone Chips : 0.15 cum)**	cum	3410.00	
		Labour Component (including contractor's profit and Overheads)	cum		1423.90
253	IRR-CCDW-4-3	Providing and **constructing coursed rubble masonry second sort** in **CM 1:4** proportion with stones from approved source including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, finishing, curing etc., complete **with initial lead upto 50 m and initial lift upto 3 m.(Cement content: 133 kg / cum of masonry, rubble stones : 0.45cum, FA : 0.35 cum,Stone Chips : 0.15 cum, Khandki stones 25 x 25 x 30 cm : 180 Nos, Header stones 25 x 25x 45 cm : 60 Nos)**	cum	4209.70	
		Labour Component (including contractor's profit and Overheads)	cum		1580.60
254	IRR-CCDW-4-4	Providing and **constructing coursed rubble masonry first sort** in **CM 1:4** proportion with stones from approved source including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, finishing, curing etc., complete **with initial lead upto 50 m and initial lift upto 3 m.(Cement content: 133 kg / cum of masonry, rubble stones : 0.45cum, FA : 0.35 cum,Stone Chips : 0.15 cum, Khandki stones 25 x 25 x 30 cm : 180 Nos, Header stones 25 x 25x 45 cm : 60 Nos)**	cum	4436.80	
		Labour Component (including contractor's profit and Overheads)	cum		1807.70
255	IRR-CCDW-4-5	**Providing cement mortar pointing to coursed rubble face stone masonry** in **CM 1 : 2** proportion by volume including raking and cleaning joints for 50 mm depth, pressing cement mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	190.50	
		246	sqm		155.20
256	IRR-CCDW-4-6	**Providing cement mortar pointing to coursed rubble face stone masonry** in **CM 1 : 3** proportion by volume including raking and cleaning joints for 50 mm depth, pressing cement mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	182.60	
		Labour Component (including contractor's profit and Overheads)	sqm		155.20
257	IRR-CCDW-4-7	**Providing 12 mm thick plastering** in **cement mortar 1:3** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	275.90	
		Labour Component (including contractor's profit and Overheads)	sqm		223.90
258	IRR-CCDW-4-8	**Providing 12 mm thick plastering** in **cement mortar 1:4** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	266.50	
		Labour Component (including contractor's profit and Overheads)	sqm		223.90
259	IRR-CCDW-4-9	**Providing 20 mm thick plastering** in **cement mortar 1:3** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	383.60	
		Labour Component (including contractor's profit and Overheads)	sqm		296.90
260	IRR-CCDW-4-10	**Providing 20 mm thick plastering** in **cement mortar 1:4** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	sqm	368.10	

		Labour Component (including contractor's profit and Overheads)	sqm		296.90
	IRR-CCDW-5	**COPING & RAILING WORKS :**			
261	IRR-CCDW-5-1	Providing and **fixing 10 cm thick roughly dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing **to joints** in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm thick 1.05 sqm/ sqm)**	sqm	835.10	
		Labour Component (including contractor's profit and Overheads)	sqm		331.00
262	IRR-CCDW-5-2	Providing and **fixing 10 cm thick one line dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing **to joints** in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm thick 1.05 sqm/ sqm)**	sqm	1086.20	
		Labour Component (including contractor's profit and Overheads)	sqm		582.00
263	IRR-CCDW-5-3	Providing and **fixing 10 cm thick two line dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing **to joints** in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm thick 1.05 sqm/ sqm)**	sqm	1411.10	
		Labour Component (including contractor's profit and Overheads)	sqm		907.00
264	IRR-CCDW-5-4	Providing and **laying insitu M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete using **20 mm down size** approved clean, hard, graded aggregates for coping slab including cost of all materials, machinery, labour, formwork, cleaning surface, batching, mixing, placing in position, levelling, compacting, finishing, curing etc., complete **with initial lead upto 50 m and initial lift upto 3 m. (Cement content: 300 kg / cum with use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**	cum	8432.00	
		Labour Component (including contractor's profit and Overheads)	cum		2874.50
265	IRR-CCDW-5-5	Providing and **constructing protective railing** consisting of in-situ railing posts of size 15 x 15 cm at bottom, 10 x 10 cm at top and 75 cm height at 2 m centre to centre in **M-20** grade concrete using 20 mm down size graded aggregates and with each post reinforced by 4 Nos. of 8 mm dia main bars embedded in kerb concrete for a depth of 40 cm and 5 Nos. of 6 mm dia. stirrups including fixing 3 rows of 40 mm dia. GI pipes with one coat of red oxide primer and two coats of synthetic enamel paint, cost of all materials, machinery, labour, formwork, finishing, curing etc., complete **with lead upto 50 m and all lifts.**	Rm	1642.50	
		Labour Component (including contractor's profit and Overheads)	Rm		307.10
	IRR-CCDW-6	**HUME PIPE LAYING & JOINTING WORKS :**			
266	IRR-CCDW-6-1	**Laying and jointing 300 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 9.9 kg / joint, FA : 0.01cum/joint, Hemp Yarn : 0.091kg/joint)**	Joint	523.60	
		Labour Component (including contractor's profit and Overheads)	Joint		445.40
267	IRR-CCDW-6-2	**Laying and jointing 450 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 17.4 kg / joint, FA : 0.022cum/joint, Hemp Yarn : 0.127kg/joint)**	Joint	584.00	
		Labour Component (including contractor's profit and Overheads)	Joint		445.40
268	IRR-CCDW-6-3	**Laying and jointing 600 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 24.8 kg / joint, FA : 0.025cum/joint, Hemp Yarn : 0.22kg/joint)**	Joint	746.00	
		Labour Component (including contractor's profit and Overheads)	Joint		551.00

269	IRR-CCDW-6-4	**Laying and jointing 700 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 32.1 kg / joint, FA : 0.031cum/joint, Hemp Yarn : 0.25kg/joint)**	Joint	798.10	
		Labour Component (including contractor's profit and Overheads)	Joint		551.00
270	IRR-CCDW-6-5	**Laying and jointing 800 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 39.6 kg / joint, FA : 0.039cum/joint, Hemp Yarn : 0.31kg/joint)**	Joint	962.50	
		Labour Component (including contractor's profit and Overheads)	Joint		656.70
271	IRR-CCDW-6-6	**Laying and jointing 900 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 44.6 kg / joint, FA : 0.045cum/joint, Hemp Yarn : 0.34kg/joint)**	Joint	1001.30	
		Labour Component (including contractor's profit and Overheads)	Joint		656.70
272	IRR-CCDW-6-7	**Laying and jointing 1000 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 49.5 kg / joint, FA : 0.05cum/joint, Hemp Yarn : 0.377kg/joint)**	Joint	1107.90	
		Labour Component (including contractor's profit and Overheads)	Joint		725.40
273	IRR-CCDW-6-8	**Laying and jointing 1100 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 56.9 kg / joint, FA : 0.058cum/joint, Hemp Yarn : 0.415kg/joint)**	Joint	1163.60	
		Labour Component (including contractor's profit and Overheads)	Joint		725.40
274	IRR-CCDW-6-9	**Laying and jointing 1200 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.(Cement content: 66.8 kg / joint, FA : 0.069cum/joint, Hemp Yarn : 0.453kg/joint)**	Joint	1379.60	
		Labour Component (including contractor's profit and Overheads)	Joint		868.00
	IRR-CCDW-7	**BACK FILLING & OTHER WORKS :**			
275	IRR-CCDW-7-1	**Providing rubble / boulder and sand filling behind abutment and return walls** in layers including cost of all materials, machinery, labour, watering, ramming etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**	cum	1260.50	
		Labour Component (including contractor's profit and Overheads)	cum		394.60
276	IRR-CCDW-7-2	**Providing and filling murrum / gravely soil (CNS soil) for foundation or around pipes** including breaking clods, spreading in layers of 10 to 15 cm, watering, **compaction by earth masters** to achieve density control of **not less than 95 percent** etc., complete **with lead upto 50 m and all lifts.**	cum	895.20	
		Labour Component (including contractor's profit and Overheads)	cum		498.50
277	IRR-CCDW-7-3	**Providing and filling murum / gravely soil (CNS soil) for foundation or above pipes** including breaking clods, spreading in layers of 10 to 15 cm, watering, **compaction by power roller** to achieve density **control of not less than 98 percent** etc., complete **with lead upto 50 m and all lifts.**	cum	620.40	
		Labour Component (including contractor's profit and Overheads)	cum		196.10

278	IRR-CCDW-7-4	Providing and **fixing one line dressed 111x35x25 cm thick IRC standard kilometre stone in cement concrete M-10** grade with **40 mm down size** aggregates including excavating pit of size 70x45x40 cm, embedding the stone by 30 cm in concrete, providing 2 coats synthetic enamel paint of approved quality and colour to exposed surfaces and lettering as directed, cost of all materials, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	Each	1911.00	
		Labour Component (including contractor's profit and Overheads)	Each		806.70
279	IRR-CCDW-7-5	Providing and **fixing one line dressed 65x15x10 cm thick IRC standard hectometre stone in cement concrete M-10** grade with **40 mm down size** aggregates including excavating pit of size 50x45x40 cm, embedding the stone by 30 cm in concrete, providing 2 coats synthetic enamel paint of approved quality and colour to exposed surfaces and lettering as directed, cost of all materials, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**	Each	1506.30	
		Labour Component (including contractor's profit and Overheads)	Each		695.90
		CHAPTER- V			
	IRR-GAW	**GATES / HOISTS AND ALLIED WORKS**			
280	IRR-GAW-1-1	**SPILLWAY RADIAL GATES** **E.M Parts and anchorages** fabrication, supply, erection, testing and **commissioning of embedded parts for radial gate** consists of sill beam, wall plates, anchor girders , yoke girders, tie flats, trunnion supports etc., including cost of all materials, machinery, labour, welding, finishing, **with leads and lifts &all accessories** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under itemsinthis chapter and add as applicable separately)	tonne	214271.70	
		Labour Component (including contractor's profit and Overheads)	tonne		75055.00
281	IRR-GAW-1-2	**RADIAL GATES** fabrication, supply, erection, testing and **commissioning of radial gate** consisting of skin plate, stiffeners, horizontal girders, radial arms, trunnion assemblies, tie beam, pulley supports, bracings, rubber seals, clamps etc., with all accessories for spillway/canals including cost of all materials, machinery, labour, seal fixing etc., **complete as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under itemsinthis chapter and add as applicable separately)	tonne	185755.60	
		Labour Component (including contractor's profit and Overheads)	tonne		57358.20
282	IRR-GAW-1-3	**RADIAL GATES-ROPE DRUM HOISTS WITH HOIST BRIDGES** fabrication, supply, erection, testing and **commissioning of electrically operated rope drum hoist of adequate capacity** consisting of base frames, rope drums,connecting shaft, gear system, brake system, electric motor, wire ropes, gate position indicator, manual operation arrangement etc., with all accessories for spillway radial gate including cost of all materials, machinery, labour,, greasing, providing hand railing and approach staircase with gate to hoist platform, , **complete as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under itemsinthis chapter and add as applicable separately)	tonne capacity	54769.40	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		4574.60

283	IRR-GAW-1-4	**RADIAL GATES** **Walk way(cat walk)** Design, fabrication, supply, erection and **commissioning of 1 metre wide walkway connecting spillway piers / abutments** at trunnion platform level including cost of all materials, machinery, labour, cutting, etc., complete **as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	Rm	147601.30	
		Labour Component (including contractor's profit and Overheads)	Rm		54979.30
284	IRR-GAW-2-1	**VERTICAL LIFT GATES-EM PARTS** Design, fabrication, supply, erection and **commissioning of embedded parts** consisting of sill beam, slide tracks, seal seats, guide rails, dogging sets for storage of stoplog elements etc., with all accessories for spillway stop log gates and other vertical lift elements including cost of all materials, machinery, labour, etc., **complete as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne	234134.80	
		Labour Component (including contractor's profit and Overheads)	tonne		89724.90
285	IRR-GAW-2-2	**vertical lift gates and stop log gate elements (SLIDING GATES)** Design, fabrication, supply, erection, testing and **commissioning of vertical lift gates and stoplog gate elements**, consisting of skin plate, horizontal and vertical girders, stiffeners, lifting pins, bronze padded slide blocks/bearings, guide shoes, rubber seals, clamps etc., with all accessories including cost of all materials, machinery, labour, seal fixing etc.,**complete as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)2	tonne	196415.50	
		Labour Component (including contractor's profit and Overheads)	tonne		66163.40
286	IRR-GAW-2-3	**STOP LOGS-automatic lifting beam** fabrication, supply, erection, testing and **commissioning of automatic lifting beam** with all accessories for handling, lowering and lifting of spillway stop log gate elements including cost of all materials, machinery, labour, cutting, aligning, welding, finishing, etc., complete **as per specifications and drawings with all leads and lifts.** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne	163843.90	
		Labour Component (including contractor's profit and Overheads)	tonne		33340.10
287	IRR-GAW-2-4	**MOVING GANTRY CRANE-CLASS II** fabrication, supply, erection, testing and **commissioning of adequate capacity Class- II type moving gantry crane** consisting of rail mounted gantry frame, top platform with hand railing, long / cross travel arrangements, rope drums, gear systems, electric motors, electro-magnetic brake system, cabin, control panel, wire rope, ladder, motorised cable reeling drum etc., with all accessories for operating spillway stop log gate elements and river sluice / canal sluice emergency gates including cost of all materials, machinery, labour, etc., **complete with all leads and lifts.** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne capacity	306037.90	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		33583.70

288	IRR-GAW-2-5	**RAIL TRACK FOR GANTRY CRANE** Design, fabrication, supply, erection and **commissioning of rail track using 45 kg / m standard rails on spillway bridge** for movement of gantry crane for handling and operating spillway stoplog gate elements / river sluice / canal sluice emergency gate including cost of all materials, machinery, labour, **complete as per specifications** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	Rm	9217.00	
		Labour Component (including contractor's profit and Overheads)	Rm		819.30
289	IRR-GAW-2-6	**VERTICAL LIFT GATES/STOP LOGS - ROLLER MOUNTED** Design, fabrication, supply, erection, testing and **commissioning of fixed wheel type vertical lift service gate** consisting of skin plate, vertical and horizontal girders, wheels, stiffeners, lifting brackets, guide rollers, ballast blocks, teflon claded rubber seals etc., with all accessories for river sluice / canal sluice vent including cost of all materials, machinery, labour,welding ,aligning finishing seal fixing etc.with all leads and lifts, **complete as per specifications and approved drawings** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne	193700.10	
		Labour Component (including contractor's profit and Overheads)	tonne		62533.40
290	IRR-GAW-2-7	**VERTICAL LIFT GATES-ROPE DRUM HOIST UPTO 30 TON CAP. POWER OPERATED** Design, fabrication, supply, erection, testing and **commissioning of adequate capacity rope drum hoist** consisting of hoist platform, rope drum, gear system, electric motor, electro-magnetic brake system, hand operation assembly, control panel, wire rope, pulleys, ladder etc., with all accessories for operating river sluice / canal sluice service gate including cost of all materials, machinery, labour, , **complete as per specifications and drawings with all leads and lifts** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne capacity	91268.70	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		4346.20
291	IRR-GAW-2-8	**HOIST BRIDGE/ WITH TRESSELS** Design, fabrication, supply, erection and **commissioning of structural steel hoist bridge** consisting of columns, beams, bracings, stiffeners, ties, chequered plate covering, hand railing, ladder etc., with all accessories for supporting rope drum hoist for operating barrage gates including cost of all materials, machinery, labour, welding, finishing, etc., complete complete as per specifications and drawings **with all leads and lifts** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne	164631.10	
		Labour Component (including contractor's profit and Overheads)	tonne		56964.70
292	IRR-GAW-2-9	**ROPE DRUM HOIST WITHOUT HOIST BRIDGE FOR BARRAGE GATES** Design, fabrication, supply, erection, testing and **commissioning of adequate capacity rope drum hoist** consisting of rope drum, pulleys, gear system, electric motor, electro-magnetic brake system, manual operation assembly, position indicator, control panel, wire rope etc., with all accessories for operating vertical lift roller gates for barrage including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding, finishing etc., **complete with all leads and lifts.** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne capacity	44349.20	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		1839.70

293	IRR-GAW-2-10	**SCREW GEAR HOISTS INCLUDING PLATFORM (UPTO 10 TON CAP)** Design, fabrication, supply, erection, testing and **commissioning of adequate capacity screw gear type hoist** consisting of supporting structure, platform, ladder etc., with all accessories for operating canal escape / regulator gate including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding,finishing etc.,**complete with all leads and lifts.** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne capacity	46036.60	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		8295.50
294	IRR-GAW-2-11	**MANUAL OPERATED ROPE DRUM HOISTS** Design, fabrication, supply, erection, testing and **commissioning of adequate capacity manually operated rope drum hoist** consisting of hoist platform, rope drum, gear system, brake system, wire rope, ladder etc., with all accessories for operating canal regulator radial gate including cost of all materials, machinery, labour, welding, finishing, cleaning, ., **complete with all leads and lifts** (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as per scedule of rates under items in this chapter and add as applicable separately)	tonne capacity	97267.30	
		Labour Component (including contractor's profit and Overheads)	tonne capacity		11119.70
295	IRR-GAW-2-12	**OT SLUICE SHUTTERS Screw Gear Hoist Including Platform for below 5 Tons Capacity (Small Gates)** As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System Fabrication, supply, erection, testing and commissioning of Embedded parts consisting of supporting structure, platform etc. with all accessories for operating canal escape/ regulator gate with all accessories including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding, finishing etc. complete as per Specification and approved drawings (without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)	Tonne	171200.00	
		Labour Component (including contractor's profit and Overheads)	Tonne		41361.30
296	IRR-GAW-2-13	**OT SLUICE SHUTTERS EM parts for Below 5 Tons capacity (small gates)** As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System Fabrication, supply, erection, testing and commissioning of Embedded parts consisting of sil beam, slide tracks, seal seats, Guide plates etc. with all accessories including cost of all materials, machinery, labour, etc. complete as per specifications and approved drawings. (without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)	Tonne	116450.00	
		Labour Component (including contractor's profit and Overheads)	Tonne		34596.70
297	IRR-GAW-2-14	**OT SLUICE SHUTTERS for Below 5 Tons capacity (small gates)** As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System Fabrication, supply, erection, testing and commissioning of Sluice Shutters consisting of skin plate, horizontal and vertical angles, stiffeners, rubber seals, clamps with all accessories for sluice shutters including cost of all materials, machinery, labour, seal fixing etc., complete as per specifications and approved drawings (without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)	Tonne	305750.30	
		Labour Component (including contractor's profit and Overheads)	Tonne		17917.30
	IRR-GAW-3	**SAND BLASTING AND PAINTING**			

298	IRR-GAW-3-1	**Cleaning gates / hoists / embedded parts/lifting beams** etc, to expose fresh metal surface for painting **by sand blasting method** as per specifications including cost of all materials, labour, machinery, scaffolding, etc., complete **with initial lead for sand upto 1 km and all lifts.**	sqm	681.20	
		Labour Component (including contractor's profit and Overheads)	sqm		166.10
299	IRR-GAW-3-2	**painting of embedded metal parts and all types of gates**, stoplogs,etc, on sand blasted surfaces with **one coat** of inorganic zinc silicate (airless spray preferred)70+/- 5 and **two super coats** with a total thickness of 300 microns (each 150+/- 5) of solventless coaltar epoxy paint each coat 150 microns (total 300 microns) cost of all materials, labour, scaffolding etc., complete with all leads and all lifts **(Upstream surface of gates portion may be painted with solventless coaltar epoxy brown paint instead of solventless coaltar black. The rate for coaltar epoxy brown shall be adopted in data for Upstream side painting)**	sqm	655.80	
		Labour Component (including contractor's profit and Overheads)	sqm		337.90
300	IRR-GAW-3-3	**painting of Lifting beams,cat walks and other similar structures**-painting hoist machinery, on sand blasted surfaces with **two coats** of zinc phosphate primer (airless spray preferred) 40microns/coat and **twocoats** of alkyd based micaccous iron oxide paint , 65 microns/coat cost of all materials, labour, scaffolding etc., complete with all leads and all lifts	sqm	484.60	
		Labour Component (including contractor's profit and Overheads)	sqm		259.20
301	IRR-GAW-3-4	**HOISTS:STRUCTURAL COMPONENTS**-- **painting structurals on sand blasted surfaces** with **two coats** of zinc phosphate primer (airless spray preferred) 40microns/coat and **one coat** 65+/-5 of alkyd based micaccous iron oxide paint followed by **two coats** of synthetic enamel paint 25 microns/coat cost of all materials, labour, scaffolding etc., complete with all leads and all lifts	sqm	605.80	
		Labour Component (including contractor's profit and Overheads)	sqm		337.90
302	IRR-GAW-3-5	**HOISTS:machineryCOMPONENTS**-- **painting hoist machinery, on sand blasted surfaces** with **one coats** of zinc phosphate primer (airless spray preferred) 50microns/coat and **three coats** of aluminium paint or synthetic enamel , 25 microns/coat cost of all materials, labour, scaffolding etc., complete with all leads and all lifts	sqm	564.80	
		Labour Component (including contractor's profit and Overheads)	sqm		337.90
	IRR-GAW-4	**PAINTING WITHOUT SAND BLASTING**			
303	IRR-GAW-4-1	**E.M Parts OF ALL TYPES OF GATES** Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **one coat of Protective Mastic** to athickness of 70+5 microns ,followed by finishing coats **2 coats** with coal tar epoxy each coat with a DFT of 150+5 microns and total DFT of all coats including Primary coat should not be less than 350 microns with material, labour and all accessories with all leads and lifts **(in respect of Heavily rusted (30 to 40% rusted) surfaces)**	sqm	755.00	
		Labour Component (including contractor's profit and Overheads)	sqm		337.90
304	IRR-GAW-4-2	**HOIST BRIDGES ,HOISTING EQUIPMENT AND CRANES,Etc,** Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **two coats of Zinc chromite red oxide primer** , followed by finishing coats **3 coats with synthetic enamel paint** with material, labour,and all accessories with all leads and lifts where surface cleaning by sand blasting is not feasible and based on specific recommendations of designers, it is to adopt surface preperation done manually by hand and power tool after cleaning by chemical treatment to remove grease, rust, scaling etc., and to form phasphate coating to prevent further rusting, before applying primer painting.	sqm	596.90	
		Labour Component (including contractor's profit and Overheads)	sqm		337.90

305	IRR-GAW-4-3	**WALK WAYS(CAT WALKS), LIFTING BEAMS,**etc, Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **one coat of Zinc rich epoxy primer** to a thickness of 40 microns ,followed by finishing coats **2 coats with coal tar epoxy** with material, labour, and all accessories with all leads and lifts	sqm	617.30	
		Labour Component (including contractor's profit and Overheads)	sqm		227.70
		CHAPTER-VI			
	IRR-PMW	**PRELIMINARY AND MAINTENANCE WORKS**			
		JUNGLE CLEARANCE :			
306	IRR-PMW-1-1	**Clearing thin jungle growth (more than 50 percent open space)** including bushes **upto 30 cm / parthenium and other weeds** including burning or disposing off the same as directed etc., complete.	sqm	2.50	
		Labour Component (including contractor's profit and Overheads)	sqm		2.50
307	IRR-PMW-1-2	**Clearing thick jungle growth (less than 50 percent open space)** including bushes **upto 30 cm / parthenium and other weeds** including burning or disposing off the same as directed etc., complete.	sqm	3.90	
		Labour Component (including contractor's profit and Overheads)	sqm		3.90
308	IRR-PMW-1-3	**Removing stumps, tree roots, roots of bamboo clusters etc., upto 1.50 m girth** including excavation, stacking the materials neatly and levelling the surface etc., complete **with initial lead upto 50 m and all lifts.**	Each	89.10	
		Labour Component (including contractor's profit and Overheads)	Each		89.10
309	IRR-PMW-1-4	**Removing stumps, tree roots, roots of bamboo cluster etc., with girth above 1.50 m and upto 3.0 m** including excavation, stacking the materials neatly and levelling the area etc., **complete with initial lead upto 50 m and all lifts.**	Each	200.40	
		Labour Component (including contractor's profit and Overheads)	Each		200.40
310	IRR-PMW-1-5	**Removing stumps, tree roots, roots of bamboo cluster etc., with girth above 3.0 m and upto 5.0 m** including excavation, stacking the materials neatly and levelling the area etc., complete **with initial lead upto 50 m and all lifts.**	Each	641.40	
		Labour Component (including contractor's profit and Overheads)	Each		641.40
311	IRR-PMW-1-6	Additional rate **for every 0.5 m increase in girth** of tree stump/stumps of bamboo cluster beyond 5 m	Each	114.70	
		Labour Component (including contractor's profit and Overheads)	Each		114.60
312	IRR-PMW-1-7	**Cutting and stacking bamboos** excluding removing stumps and roots etc., **complete with initial lead upto 50 m and all lifts.**	Each	26.00	
		Labour Component (including contractor's profit and Overheads)	Each		26.00
313	IRR-PMW-1-8	**Cutting and removing jauliflora bushes upto 1.5 m girth** excluding removal of stumps and including burning or disposing off the materials as directed **with initial lead upto 50 m and all lifts.**	Each	25.20	
		Labour Component (including contractor's profit and Overheads)	Each		25.20
314	IRR-PMW-1-9	**Cutting and removing jauliflora bushes above 1.5 m upto 3.0 m girth** excluding removal of stumps and including burning or disposing off the materials as directed **with initial lead upto 50 m and all lifts.**	Each	50.40	
		Labour Component (including contractor's profit and Overheads)	Each		50.40
315	IRR-PMW-1-10	**Cutting trees above 0.3 m and upto 0.6 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**	Each	167.60	
		Labour Component (including contractor's profit and Overheads)	Each		163.60
316	IRR-PMW-1-11	**Cutting trees above 0.6 m and upto 1.2 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**	Each	586.80	
		Labour Component (including contractor's profit and Overheads)	Each		572.70
317	IRR-PMW-1-12	**Cutting trees above 1.2 m and upto 1.8 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**	Each	1173.50	
		Labour Component (including contractor's profit and Overheads)	Each		1145.40
318	IRR-PMW-1-13	**Cutting trees above 1.8 m and upto 2.4 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**	Each	2347.00	
		Labour Component (including contractor's profit and Overheads)	Each		2290.80

319	IRR-PMW-1-14	**Cutting trees above 2.4 m and upto 3.0 m girth** excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**	Each	3778.00	
		Labour Component (including contractor's profit and Overheads)	Each		3665.60
320	IRR-PMW-1-15	**For every 0.5 m increase in girth of tree beyond 3 m** add Additional rate for cutting tree for every 0.5 m increase in girth of tree beyond 3 m.	Each	1328.10	
		Labour Component (including contractor's profit and Overheads)	Each		1294.40
321	IRR-PMW-1-16	**Cutting and burning or disposing off Apu / Jondu from marshy areas** as directed with initial lead upto 50 m and all lifts.	sqm	9.20	
		Labour Component (including contractor's profit and Overheads)	sqm		9.20
	IRR-PMW-2	**PRELIMINARY WORKS :**			
322	IRR-PMW-2-1	**Earthwork excavation for trial pits / borrow pits** and other investigation works **in all kinds of soi**l including boulders **upto 30 cm dia** and disposing off excavated soil as directed **with lead upto 10 m and lift upto 3 m.**	cum	458.20	
		Labour Component (including contractor's profit and Overheads)	cum		458.20
323	IRR-PMW-2-2	**Earthwork excavation for trial pits / borrow pits** and other investigation works **in soft rock** including disposing off the excavated rock as directed **with lead upto 10 m and lift upto 3 m.**	cum	635.10	
		Labour Component (including contractor's profit and Overheads)	cum		635.10
324	IRR-PMW-2-3	**Conducting geophysical investigation studies by electrical resistivity method** in stages of 5m for sub-surface details such as depth of formations, shear zones, classification of strata, depth of water table etc., including cost of all materials, equipments, labour, analysing and reporting the details of field studies conducted etc., **complete excluding cost of transportation arrangements.**	stage	503.30	
		Labour Component (including contractor's profit and Overheads)	stage		432.10
325	IRR-PMW-2-4	**Drilling 80 mm dia hole** through over-burden **using casing shoe bit** vertical or inclined upto 10 degrees to vertical as directed including cost of all materials, machinery, labour, water charges, reaming, collection of wash samples at suitable intervals, logging and lebelling, supplying honne wood core box, **fixing casing pipes (excluding cost of casing pipes) etc., complete for depth upto 30 m from surface.** 1. For driiling through over-burden beyond 30 m from surface increase the rate per Rm by 10 percent. 2. For providing HDPE or light black MS casing pipe add the cost of pipe per Rm.	Rm	1763.50	
		Labour Component (including contractor's profit and Overheads)	Rm		761.40
326	IRR-PMW-2-5	**Drilling 76 mm dia (NX) core hole in hard rock** using **diamond core bit** vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, collection of core samples, logging and lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., **complete for depth upto 30 m from surface.** 1. For driiling in hard rock beyond 30 m upto 60 m from surface increase the rate per Rm by 25 percent. 2. For driiling in hard rock beyond 60 m upto 90 m from surface increase the rate per Rm by 40 percent.	Rm	8339.30	
		Labour Component (including contractor's profit and Overheads)	Rm		2883.90

327	IRR-PMW-2-6	**Drilling 76 mm dia (NX)** core hole **in all types of rocks (other than Hard Rock) including Masonry/CC** (where **drilling is not possible by casing shoe)** using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, and redrilling in case of collapse of sides etc., complete for depth upto 30 m from surface **for Primary and Secondary Holes** 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the rate per Rm by 25 percent. 2. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 60 m upto 90 m from surface increase the rate per Rm by 40 percent.	Rm	5256.50	
		Labour Component (including contractor's profit and Overheads)	Rm		1720.60
328	IRR-PMW-2-7	**Drilling 76 mm dia (NX)** core hole **in all types of rocks (other than Hard Rock) including Masonry/CC** (where **drilling is not possible by casing shoe)** using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, collection of core samples, logging and lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., complete for depth upto 30 m from surface **for Test Holes** 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the rate per Rm by 25 percent. 2. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 60 m upto 90 m from surface increase the rate per Rm by 40 percent.	Rm	6161.30	
		Labour Component (including contractor's profit and Overheads)	Rm		1721.60
329	IRR-PMW-2-8	**Drilling 47 mm (BX)dia core hole in hard rock** using **diamond core bit** vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges,collection of core samples,logging, lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., **complete for depth upto 30 m from surface.** 1. For drilling in hard rock beyond 30 m upto 60 m from surface increase the rate per Rm by 25 percent. 2. For drilling in hard rock beyond 60 m upto 90 m from surface increase the rate per Rm by 40 percent.	Rm	8393.30	
		Labour Component (including contractor's profit and Overheads)	Rm		2883.90
330	IRR-PMW-2-9	**Drilling 47 mm (BX)dia core hole in all types of rocks (other than Hard Rock) including Masonry/CC** (where drilling is not possible by casing shoe) using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, and redrilling in case of collapse of sides etc., **complete for depth upto 30 m** 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the rate per Rm by 25 percent. 2. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 60 m upto 90 m from surface increase the rate per Rm by 40 percent.	Rm	4774.20	
		Labour Component (including contractor's profit and Overheads)	Rm		1720.60
331	IRR-PMW-2-10	Providing and **fixing 20 x 20 x 75 cm size roughly dressed boundary / demarcation / chainage / arrow stones** including cost of all materials, labour, engraving marks, fixing in position, murum filling etc., **complete with lead upto 50 m and all lifts.**	Each	281.10	
		Labour Component (including contractor's profit and Overheads)	Each		210.50
332	IRR-PMW-2-11	Providing and **fixing 20 x 20 x 75 cm size temporary bench mark stone** in **CC 1 : 4 : 8** using **40 mm down size** graded coarse aggregate including cost of all materials, labour, dressing top surface, engraving BM data etc.,complete **with lead upto 50 m and all lifts.**	Each	794.40	
	NOTE:	Labour Component (including contractor's profit and Overheads)	Each		610.10

		For providing 30 cm thick compacted murum bed in B.C soil area including additional			
		excavation for thickness of murum bedding add per	Each	4.00	
333	IRR-PMW-2-12	Providing and **fixing 20 x 20 x 75 cm size permanent bench mark stone** in **CC 1 :3 : 6** block of size 90 x 90 x 120 cm using **40 mm down size** graded coarse aggregate and providing 35 cm thick 30 cm high UCR masonry in CM 1 : 5 proportion protective wall alround the BM stone, including cost of all materials, labour, dressing top surface of stone, engraving BM data	Each	8896.60	
		Labour Component (including contractor's profit and Overheads)	Each		5496.10
	IRR-PMW-3	**MAINTENANCE WORKS :**			
334	IRR-PMW-3-1	**Removing dry stone rock-toe / rivetment and filter layers below rock-toe/ rivetment** including stacking all materials separately as directed **with initial lead upto 50 m and all lifts.**	cum	365.10	
		Labour Component (including contractor's profit and Overheads)	cum		365.20
335	IRR-PMW-3-2	**Re-constructing 60 cm thick hand packed rough stone revetment** with through stones at 1.5 m c / c over a backing of 45 cm thick graded filter media consisting of sand, 10 mm and 40 mm size graded aggregates satisfying filter criteria laid in layers of 15 cm thick each using sand from approved quarry and stones and filter aggregates obtained from revetment removed for re-construction including cost of all machinery, labour, laying filter and stones to specified slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**	sqm	398.60	
		Labour Component (including contractor's profit and Overheads)	sqm		272.90
336	IRR-PMW-3-3	**Re-constructing dry rubble rock-toe and filter media for rock-toe** consisting of sand 20 mm and 80 mm size graded aggregates satisfying filter criteria laid in layers of 15 cm thick each using sand from approved quarry and stones and filter aggregates obtained from rock-toe removed for re-construction including cost of all machinery, labour, laying filter and stones to specified slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**	cum	471.30	
		Labour Component (including contractor's profit and Overheads)	cum		390.80
337	IRR-PMW-3-4	**Removing and resetting disturbed Yarguntla / Shahabad / Talikot / PCC / Other types of slab lining** set in **CM 1 : 3** including flush cement mortar pointing in CM 1 : 3 **with lead upto 50 m and all lifts.**	sqm	97.50	
		Labour Component (including contractor's profit and Overheads)	sqm		89.40
338	IRR-PMW-3-5	**Removing and resetting disturbed dry rubble / khandki stone pitching 25 to 45 cm thick** including packing, wedging, finishing etc., complete **with all leads and lifts.**	sqm	94.70	
		Labour Component (including contractor's profit and Overheads)	sqm		94.80
339	IRR-PMW-3-6	**Removing and refixing disturbed chainage / demarcation / hectometre / guard stones** including excavation, back filling etc., complete **with all leads and lifts.**	Each	127.20	
		Labour Component (including contractor's profit and Overheads)	Each		127.20
340	IRR-PMW-3-7	**Removing and refixing disturbed km stone / sign board / hecto-metre stone etc.**, including excavation, back filling with available stuff after refixing, forming base platform of size 90 x 90 x 7.5 cm including watering, ramming etc complete **with all leads and lifts.**	Each	286.20	
		Labour Component (including contractor's profit and Overheads)	Each		286.20
341	IRR-PMW-3-8	**Providing impervious hearting for breached / damaged portion of embankment** with soil from **approved borrow areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated by rolling or by using mechanical tampers etc., **complete with initial lead upto 1 km and all lifts.**	cum	254.70	
		Labour Component (including contractor's profit and Overheads)	cum		51.90

342	IRR-PMW-3-9	**Providing pervious/semi-pervious casing for breached / damaged portion of embankment** with soil from **approved borrow areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent or as stipulated by rolling or by using mechanical tampers etc., complete with initial lead upto 1 km and all lifts.**	cum	291.90	
		Labour Component (including contractor's profit and Overheads)	cum		62.30
343	IRR-PMW-3-10	**Providing impervious hearting for breached / damaged portion of embankment** with soil from **approved dump areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil,sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated by rolling or by using mechanical tampers etc., complete **with initial lead upto 1 km and all lifts.**	cum	233.40	
		Labour Component (including contractor's profit and Overheads)	cum		49.60
344	IRR-PMW-3-11	**Providing pervious /semi-pervious casing for breached /damaged portion of embankment** with soil from **approved dump areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated by rolling or by using mechanical tampers etc., complete **with initial lead upto 1 km and all lifts.**	cum	266.50	
		Labour Component (including contractor's profit and Overheads)	cum		59.00
345	IRR-PMW-3-12	**Repairing rain cuts / resectioning canal slopes** to required lines and grades as directed using available soil including dressing, clod breaking, packing, tamping etc., complete **with all leads and lifts.**	sqm	6.40	
		Labour Component (including contractor's profit and Overheads)	sqm		6.40
346	IRR-PMW-3-13	**Cleaning drainage gallery, adits, instrumentation galleries** etc., by scrubbing / brushing including chiselling and removing leached lime deposit and disposing off all the waste material out side adits in specified location etc., **complete with all leads and lifts.**	Rm	66.10	
		Labour Component (including contractor's profit and Overheads)	Rm		56.00
347	IRR-PMW-3-14	**Cleaning dam parapet inner face and top** using oxalic acid and water by scrubbing / brushing and washing to remove all surface coatings etc., **complete .**	Rm	57.20	
		Labour Component (including contractor's profit and Overheads)	Rm		41.20
348	IRR-PMW-3-15	**Excavation and removal of silt and silt mixed with sand from canal bed in dry condition** including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete **with initial lead upto 50 m and all lifts.**	cum	274.90	
		Labour Component (including contractor's profit and Overheads)	cum		274.90
349	IRR-PMW-3-16	**Excavation and removal of silt or silt mixed with sand in slussy condition from canal bed** including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with **initial lead upto 50 m and all lifts.**	cum	343.70	
		Labour Component (including contractor's profit and Overheads)	cum		343.70
350	IRR-PMW-3-17	**Providing homogeneous embankment** using soil from **approved borrow area** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, sectioning,etc.,complete with **initial lead upto 1 km and all lifts**.	cum	130.50	
		Labour Component (including contractor's profit and Overheads)	cum		24.20
351	IRR-PMW-3-18	**Providing homogeneous embankment** using soil from **approved borrow area** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as watering, compactingto density control of **not less than 95 percent** or as stipulated **using 8T roller etc., complete with initial lead upto 1 km and all lifts.**	cum	62.70	
		Labour Component (including contractor's profit and Overheads)			11.90

352	IRR-PMW-3-19	**Providing homogeneous embankment** using soil from **approved borrow area** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as compactingto density control of **not less than 90 percent or as stipulated using 2T roller** etc., complete **with initial lead upto 1 km and all lifts.**	cum	2.40	
		Labour Component (including contractor's profit and Overheads)	cum		2.30
353		**Weed Removal by Manual Means**			
	IRR-PMW-3-20(a)				
354		Removal of Water Hyacinth up to 30 cm thick	Sqm	11.20	
	IRR-PMW-3-20(b)				
355		Removal of Water Hyacinth beyond 30 cm thick	Sqm	15.30	
	IRR-PMW-3-20(c)				
356		Clearing Alchi Tilla	Sqm	10.30	
	IRR-PMW-3-20(d)				
357		Removal of Jammu	Sqm	8.70	
	IRR-PMW-3-20(e)				
358		Removal of Imponea, Cornea	Sqm	10.30	
	IRR-PMW-3-20(f)				
359		Removal of Natchu, goobi, thooti, etc.	Sqm	3.30	
360	IRR-PMW-3-21	**PAINTING OF SLUICES FOR MAINTENANCE WORKS** Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaniong, applying primary coat with one coat of Zinc rich epoxy primer to a thickness of 100 microns, followed by finishing coats 2 coats with Coal tar epoxy with material, labour, and all accessories with all leads and lifts.	Sqm	572.80	
		Labour Component (including contractor's profit and Overheads)	Sqm		285.17
	COM-MWRK				
		New extra items-- common item for all earth works using only manual labour for all other works			
		without involving contractors			
361	COM-MWRK-1	(Manual)**Excavation in all kinds of soil** including boulders **upto 0.30 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works)** With 3 Cum per day output	cum	201.70	
362	COM-MWRK-2	(Manual)**Excavation in all kinds of soil/HDR** including boulders **upto 0.30 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works)** With 2.5 Cum per day output	cum	242.00	
363	COM-MWRK-3	(Manual)**Excavation in soft rock (including F&F rock) without blasting**, including boulders **upto 0.30 m** dia. for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works)** Soft rock 1.33 Cum/Day	cum	454.90	
364	COM-MWRK-4	(Manual)**Excavation in hard rock**, including boulders **upto 0.30 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works)** Hard rock 0.67Cum/ day	cum	903.00	

CHAPTER-1

DAM AND ALLIED WORKS - Standard Data

(WILL BE WITH E-N-C & TO INCORPORATE CHANGES YEARLY/ AS NEEDED)

FOR THE YEAR :2025-26

Index- code

IRR-DAW

DAM AND ALLIED WORKS - DATA RATES

Directions to add Seigniorage Charges and Additional Lead Charges

Seigniorage Charges:

1. The unit rate for work item in the Standard Data is **exclusive of Seigniorage Charges** wherever applicable.

2. The appropriate Seigniorage Charges for relevant materials are to be added to the Unit rate of work item Charges while adding Seigniorage Charges to the data in the estimate

Additional Lead and Lift Charges:

1. Unless otherwise specified the basic rates are inclusive of all lifts.
2. For concrete, masonry and reinforcement items **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Cement, Steel, sand, coarse aggregate, stones and stone chips shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item.

In case of Cement and Steel, Loading and unloading charges are already added in the work item while arriving the unit rate and hence should not be added again

Example:

Total lead for sand from approved sand quarry : 15 Km

Initial lead included in the basic rate in the SR : 1 Km

Additional lead charges :

Lead charges for 5 km	Rs.	119.70	
Lead charges for next 10 km	Rs.	180	
Total lead charges for 15 km /cum	Rs.	299.70	
Less 1 km initial lead charges /cum	Rs.	44.90	(-)
Net additional lead charges / cum	Rs.	254.80	

3. For earth/rockfill embankments wherever initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Earth, Murrum etc., shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowedfor any item. (same as above)

Example:

Total lead for earth from approved borrow area : 15 Km

Initial lead included in the basic rate in the SR : 1 Km

Additional lead charges :

Lead charges for 5 km	Rs.	119.70	
Lead charges for next 10 km	Rs.	180	
Total lead charges for 15 km /cum	Rs.	299.70	
Less 1 km initial lead charges /cum	Rs.	44.90	(-)
Net additional lead charges / cum	Rs.	254.80	

4. The initial lead up to 50 m as mentioned in some standard data items is meant for manual lead within the working area. For conveyance of materials, the lead required from quarry/Borrow area/ Dump Area to worksite shall be added to the data without deducting the 50 m initial lead charges

DAW - Work Items

IRR-DAW-1

EXCAVATION & FOUNDATION TREATMENT WORKS:

IRR-DAW-1-1

Excavation for foundation **in all kinds of soil** including boulders **upto 0.30 m** diameter for dam, spillway, intake structure and other appurtenant works and placing the excavated soil neatly in dump area or disposing off the same as directed etc., complete **with initial lead upto 1 km and all lifts.**

RATE ANALYSIS

A. MATERIALS: UNIT **880** **cum**

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			**Rs:**	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
2	Dumpers 5 cum capacity 6 Nos	Hour	48.00	688.40	33043.20
	Fuel / Energy charges	Hour	48.00	663.20	31833.60
3	Tipper 5 cum capacity 1 No	Hour	8.00	540.80	4326.40
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
	Total hire charges of Machinery			**Rs:**	**99384.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	Crew for Dumper	Hour	48.00	356.90	17131.20
3	Crew for Tipper	Hour	8.00	278.90	2231.20
4	work inspector	Day	1.00	805.00	805.00
5	mazdoor	Day	16.00	605.00	9680.00
	Total cost of Labour			**Rs:**	**32832.20**

labour component/unit qty			37.30	
Add contractor's profit and overhead charges		13.615%	5.10	
labour component/unit qty (including contractor's profit)			**42.40**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	99384.00
C. Cost of Labour			Rs:	32832.20
	Total		Rs:	132216.20
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	18001.24
Total cost for	880.00	cum	Rs:	**150217.44**
Rate per Cum	(A+B+C+D)/880		Rs:	**170.70**

IRR-DAW-1-2

Excavation for foundation in ordinary rock (including HDR) without blasting including boulders **above 0.3 m upto 0.6 m dia for dam, spillway, intake structure and other appurtenant works and** placing the excavated material neatly in dump area or disposing off the same as directed etc., **complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **520** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	NIL	0.00	0.00	0.00
		0.00	0.00	0.00
	Total cost of Materials		Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
2	Dumpers 5 cum capacity(4 Nos)	Hour	32.00	688.40	22028.80
	Fuel / Energy charges	Hour	32.00	663.20	21222.40
3	Tipper 5 cum capacity(1 No)	Hour	8.00	540.80	4326.40
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
	Total hire charges of Machinery			Rs:	**77758.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	Crew for Dumper	Hour	32.00	356.90	11420.80
3	Crew for Tipper	Hour	8.00	278.90	2231.20
4	work inspector	Day	1.00	805.00	805.00
5	Crowbarman	Day	2.50	650.00	1625.00
6	mazdoor	Day	10.00	605.00	6050.00
	Total cost of Labour			Rs.	**25116.80**

labour component/unit qty		48.30	
Add contractor's profit and overhead charges	13.615%	6.60	
labour component/unit qty (including contractor's profit)		**54.90**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	77758.40
C. Cost of Labour			Rs:	25116.80
	Total		Rs:	102875.20
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	14006.46
Total cost for	520.00	cum	Rs:	**116881.66**
Rate per Cum	(A+B+C+D)/520		Rs:	**224.80**

IRR-DAW-1-3

Excavation for foundation in **hard rock (including F&F)** requiring blasting including boulders **above 0.6 m upto 1.2 m dia.** for dam, spillway, intake structure and other appurtenant works and placing the excavated material neatly in dump area or disposing off the same as directed etc., complete **with initial lead upto 1 km and all lifts**

DATA:

RATE ANALYSIS

A. MATERIALS: UNIT : **520.00** cum.

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of 1.5 m drill rod	Rm	216.00	30.89	6672.24
	Reconditioning charges @	10%			667.22
2	Use rate of air hose 4 Nos.	Hour	26.00	12.69	329.88
3	Explosive small dia	kg	104.00	95.00	9880.00
4	Electric detonators	Nos	154.00	14.00	2156.00
5	Fuse coil	Rm	320.00	9.00	2880.00
6	Sundries	LS	5.00	29.00	145.00
	Total cost of Materials			Rs.	**22730.34**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
2	Dumpers 5 cum capacity 4 Nos.	Hour	32.00	688.40	22028.80
	Fuel / Energy charges	Hour	32.00	663.20	21222.40
3	Tipper 5 cum capacity 1 No	Hour	8.00	540.80	4326.40
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
4	Air compressor 8.5 cmm (ele) 2 Nos	Hour	13.00	183.60	2386.80
	Fuel / Energy charges	Hour	13.00	604.30	7855.90
5	Jack hammers 4 Nos.	Hour	26.00	22.90	595.40
	Fuel / Energy charges	Hour	26.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**88596.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	Crew for Dumper	Hour	32.00	356.90	11420.80
3	Crew for Tipper	Hour	8.00	278.90	2231.20
4	Crew for Air compressor	Hour	13.00	265.20	3447.60
5	Crew for Jack hammer	Hour	26.00	530.40	13790.40
6	work inspector	Day	1.00	805.00	805.00
7	Blaster	Day	1.00	805.00	805.00
8	Helper blaster	Day	1.00	650.00	650.00
9	Crowbarman	Day	2.50	650.00	1625.00
10	Stone breaker	Day	1.00	650.00	650.00
11	mazdoor	Day	10.00	605.00	6050.00
	Total cost of Labour			Rs.	**44459.80**

labour component/unit qty		85.50		
Add contractor's profit and overhead charges	13.615%	11.60		
labour component/unit qty (including contractor's profit)		**97.10**		
ABSTRACT:				
A. Cost of Materials			Rs:	22730.34
B. Hire charges of Machinery			Rs:	88596.50
C. Cost of Labour			Rs:	44459.80
		Total	Rs:	155786.64
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	21210.35
Total cost for	520.00	cum.	Rs:	**176996.99**
Rate per Cum	(A+B+C+D)/520		Rs:	**340.40**

IRR-DAW-1-4

Excavation for foundation in **hard rock (including F&F rock)** including boulders above 0.6 m upto 1.2 m dia. by controlled blasting and controlling fly rock by muffling arrangements for dam, spillway, intake structure and other appurtenant works and other open foundation works and placing the excavated material neatly in dump area or disposing off the same as directed

DATA:

RATE ANALYSIS

A. MATERIALS: UNIT : **520.00** cum.

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of 1.5 m drill rod	Rm	216.00	30.89	6672.24
	Reconditioning charges @	10%			667.22
2	Use rate of air hose 4 Nos.	Hour	26.00	12.69	329.88
3	Use rate of chain link wire mesh	Sq m	500.00	82.69	41343.75
4	Use rate of Sand Bags	Nos.	190.00	130.98	24885.25

3	Explosive small dia	kg	104.00	95.00	9880.00
4	Electric delay detonators	Nos	154.00	22.00	3388.00
5	Fuse coil	Rm	320.00	9.00	2880.00
6	Sundries	LS	5.00	29.00	145.00
	Total cost of Materials			Rs.	**90191.34**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
2	Angle dozer 90 hp	Hour	1.00	1871.20	1871.20
	Fuel / Energy charges	Hour	1.00	1012.60	1012.60
3	Dumpers 5 cum capacity 4 Nos.	Hour	32.00	688.40	22028.80
	Fuel / Energy charges	Hour	32.00	663.20	21222.40
4	Tipper 5 cum capacity 1 No	Hour	8.00	540.80	4326.40
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
5	Air compressor 8.5 cmm (ele) 2 Nos	Hour	13.00	183.60	2386.80
	Fuel / Energy charges	Hour	13.00	604.30	7855.90
6	Jack hammers 4 Nos.	Hour	26.00	22.90	595.40
	Fuel / Energy charges	Hour	26.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**91480.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	Crew for Angle dozer	Hour	1.00	373.10	373.10
3	Crew for Dumper	Hour	32.00	356.90	11420.80
4	Crew for Tipper	Hour	8.00	278.90	2231.20
5	Crew for Air compressor	Hour	13.00	265.20	3447.60
6	Crew for Jack hammer	Hour	26.00	530.40	13790.40
7	work inspector	Day	3.00	805.00	2415.00
8	Blaster	Day	1.50	805.00	1207.50
9	Helper blaster	Day	2.00	650.00	1300.00
10	Crowbarman	Day	2.50	650.00	1625.00
11	Stone breaker	Day	2.00	650.00	1300.00
12	mazdoor	Day	18.00	605.00	10890.00
	Total cost of Labour			Rs.	**52985.40**

labour component/unit qty		101.90	
Add contractor's profit and overhead charges	13.615%	13.90	
labour component/unit qty (including contractor's profit)		**115.80**	

ABSTRACT:

A. Cost of Materials			Rs:	90191.34
B. Hire charges of Machinery			Rs:	91480.30
C. Cost of Labour			Rs:	52985.40
		Total	Rs:	234657.04
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	31948.56
Total cost for	520.00	cum.	Rs:	**266605.60**
Rate per CUM	(A+B+C+D)/520		Rs:	**512.70**

IRR-DAW-1-5

Excavation for foundation in **hard rock of all toughness by blasting** including boulders above 1.2 m dia. for dam, spillway, intake structure and other appurtenant works and placing the excavated rock neatly in dump area or stack yard including levelling as directed etc., complete with initial lead upto 1 km and all lifts

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT **320.00** cum

Sl No	Particulars	Unit	Quantity	Rate	Amount

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill rod 1.5 m long	Rm	310.00	41.19	12767.87
	Reconditioning charges @	0.10			1276.79
2	Use rate of air hose 4 Nos.	Hour	48.00	12.69	609.00
3	Explosive small dia	kg	95.00	95.00	9025.00
4	Ordinary detonators	Nos	10.00	11.00	110.00
5	Electric detonators	Nos	333.00	14.00	4662.00
6	Fuse coil	Rm	450.00	9.00	4050.00
7	Sundries	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**32645.66**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
2	Dumpers 5 cum capacity 3 Nos.	Hour	24.00	688.40	16521.60
	Fuel / Energy charges	Hour	24.00	663.20	15916.80
3	Tipper 5 cum capacity 1 No	Hour	4.00	540.80	2163.20
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
4	Angle dozer 90 hp	Hour	1.00	1871.20	1871.20
	Fuel / Energy charges	Hour	1.00	1012.60	1012.60
5	Air compressor 8.5 cmm (ele) 2 Nos.	Hour	24.00	183.60	4406.40
	Fuel / Energy charges	Hour	24.00	604.30	14503.20
6	Jack hammers 4 Nos.	Hour	48.00	22.90	1099.20
	Fuel / Energy charges	Hour	48.00	0.00	0.00
	Total hire charges of Machinery			Rs.	**85685.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	Crew for Dumper	Hour	24.00	356.90	8565.60
3	Crew for Tipper	Hour	4.00	278.90	1115.60
4	Crew for Dozer	Hour	1.00	373.10	373.10
5	Crew for Air compressor	Hour	24.00	265.20	6364.80
6	Crew for Jack hammer	Hour	48.00	530.40	25459.20
7	work inspector	Day	1.00	805.00	805.00
8	Blaster	Day	1.00	805.00	805.00
9	Helper blaster	Day	1.00	650.00	650.00
10	Crowbarman	Day	1.00	650.00	650.00
11	Stone breaker	Day	2.00	650.00	1300.00
12	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs.	**52703.10**

labour component/unit qty		164.70		
Add contractor's profit and overhead charges	13.615%	22.40		
labour component/unit qty (including contractor's profit)		**187.10**		

ABSTRACT:

A. Cost of Materials			Rs:	32645.66
B. Hire charges of Machinery			Rs:	85685.40
C. Cost of Labour			Rs:	52703.10
		Total	Rs:	171034.16
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	23286.3
Total cost for	320.00	cum	Rs:	**194320.46**
Rate per CUM	(A+B+C+D)/320		Rs:	**607.30**

IRR-DAW-1-6

Excavation for foundation in **hard rock of all toughness** including boulders **above 1.2 m dia. by**

controlled blasting method and controlling fly-rock by muffling arrangements for dam, spillway, intake structure and other appurtenant structures etc., including placing and levelling the excavated rock neatly in dump area or other place as directed etc., complete **with lead upto upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **480.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill rod 1.5 m length	Rm	464.00	41.19	19110.61
	Reconditioning charges @	10%			1911.06
2	Use rate of 50 m air hose 4 Nos.	Hour	70.00	12.69	888.13
3	Use rate of chain link wire mesh	sqm	715.00	82.69	59121.56
4	Use rate of sand bag	Nos	580.00	130.98	75965.50
5	Explosive small dia.	kg	149.00	95.00	14155.00
6	Ordinary detonators	Nos	23.00	11.00	253.00
7	Electric delay detonators	Nos	500.00	22.00	11000.00
8	Fuse coil	Rm	700.00	9.00	6300.00
9	Sundries	LS	10.00	29.00	290.00
	Total cost of Materials			Rs:	**188994.86**

B. MACHINERY:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	12.00	1827.70	21932.40
	Fuel / Energy charges	Hour	12.00	1447.50	17370.00
2	Angle dozer 90 hp	Hour	2.00	1871.20	3742.40
	Fuel / Energy charges	Hour	2.00	1012.60	2025.20
3	Dumpers 5 cum capacity 3 Nos.	Hour	36.00	688.40	24782.40
	Fuel / Energy charges	Hour	36.00	663.20	23875.20
4	Tipper 5 cum capacity 1 No	Hour	4.00	540.80	2163.20
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
5	Air compressor 8.5 cmm (ele) 2 Nos	Hour	35.00	183.60	6426.00
	Fuel / Energy charges	Hour	35.00	604.30	21150.50
6	Jack hammers 4 Nos.	Hour	70.00	22.90	1603.00
	Fuel / Energy charges	Hour	70.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**127059.90**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	12.00	373.10	4477.20
2	Crew for Angle dozer	Hour	2.00	373.10	746.20
3	Crew for Dumper	Hour	36.00	356.90	12848.40
4	Crew for Tipper	Hour	4.00	278.90	1115.60
5	Crew for Air compressor	Hour	35.00	265.20	9282.00
6	Crew for Jack hammer	Hour	70.00	530.40	37128.00
7	work inspector	Day	4.50	805.00	3622.50
8	Blaster	Day	1.50	805.00	1207.50
9	Helper blaster	Day	3.00	650.00	1950.00
10	Crowbarman	Day	2.50	650.00	1625.00
11	Stone breaker	Day	2.50	650.00	1625.00
13	mazdoor	Day	20.00	605.00	12100.00
		Total cost of Labour		Rs.	**87727.40**

labour component/unit qty		182.80	
Add contractor's profit and overhead charges	13.615%	24.90	
labour component/unit qty (including contractor's profit)		**207.70**	

ABSTRACT:

A. Cost of Materials	Rs:	188994.86
B. Hire charges of Machinery	Rs:	127059.90

C. Cost of Labour			Rs:	87727.40
		Total	Rs:	403782.16
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	54974.94
Total cost for	480.00	cum	Rs:	**458757.10**
Rate Per CUM	(A+B+C+D)/480		Rs:	**955.70**

IRR-DAW-1-7

Excavation for foundation **in hard rock of all toughness including boulders above 1.2 m dia. by line drilling and smooth blasting** and controlling fly-rock by muffling arrangements for dam, spillway, intake structure and other appurtenant structures etc., including dressing sides and bed to required level / profile, placing and levelling the excavated rock neatly in dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.**

Note : i) 1 m width of excavation along the face to be dressed shall be treated as excavation by line drilling and smooth blasting.

ii) The rate includes controlling fly-rock wherever required.

iii) The rate under this item shall be paid only on ascertaining that the surface requiring dressing has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval.

iv) In case, where the above criteria is not fulfilled payment shall be restricted to the rate provided for excavation by normal or controlled blasting as the case may be.

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **40.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill rod 1.5 m length	Rm	138.00	41.19	5683.76
	Reconditioning charges @	10%			568.38
2	Use rate of 50 m air hose 4 Nos.	Hour	22.00	12.69	279.13
3	Explosive small dia.	kg	10.50	95.00	997.50
4	Ordinary detonators	Nos	2.00	11.00	22.00
5	Electric delay detonators	Nos	76.00	22.00	1672.00
6	Fuse coil	Rm	140.00	9.00	1260.00
7	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs.	**10540.77**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum capacity	Hour	1.00	1827.70	1827.70
	Fuel / Energy charges	Hour	1.00	1447.50	1447.50
2	Angle dozer 90 hp	Hour	0.25	1871.20	467.80
	Fuel / Energy charges	Hour	0.25	1012.60	253.15
3	Dumpers 5 cum capacity 3 Nos.	Hour	3.00	688.40	2065.20
	Fuel / Energy charges	Hour	3.00	663.20	1989.60
4	Air compressor 8.5 cmm (ele) 2 Nos	Hour	11.00	183.60	2019.60
	Fuel / Energy charges	Hour	11.00	604.30	6647.30
5	Jack hammers 4 Nos.	Hour	22.00	22.90	503.80
	Fuel / Energy charges	Hour	22.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**17221.65**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	1.00	373.10	373.10
2	Crew for Angle dozer	Hour	0.25	373.10	93.28
3	Crew for Dumper	Hour	3.00	356.90	1070.70
4	Crew for Air compressor	Hour	11.00	265.20	2917.20
5	Crew for Jack hammer	Hour	22.00	530.40	11668.80
6	work inspector	Day	0.50	805.00	402.50
7	Blaster	Day	0.50	805.00	402.50
8	Helper blaster	Day	0.50	650.00	325.00

9	Crowbarman	Day	0.50	650.00	325.00
10	Stone breaker	Day	0.50	650.00	325.00
11	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs.	**19113.08**

labour component/unit qty		477.80	
Add contractor's profit and overhead charges	13.615%	65.10	
labour component/unit qty (including contractor's profit)		**542.90**	

ABSTRACT:

A. Cost of Materials			Rs:	10540.77
B. Hire charges of Machinery			Rs:	17221.65
C. Cost of Labour			Rs:	19113.08
		Total	Rs:	46875.50
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	6382.1
Total cost for	40.00	cum	Rs:	**53257.60**
Rate Per CUM	(A+B+C+D)/40		Rs:	**1331.40**

IRR-DAW-1-8

Preparing **foundation bed for masonry or concrete** by benching, stepping, removing all loose material by wedging / chiselling and disposing off the same as directed and cleaning the surface with air and water jet etc., complete with **initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS**

A. MATERIALS: UNIT: **100.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs.	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5 cmm (ele)	Hour	1.00	183.60	183.60
	Fuel / Energy charges	Hour	1.00	604.30	604.30
2	Pump 5 hp (ele)	Hour	1.00	3.50	3.50
	Fuel / Energy charges	Hour	1.00	53.70	53.70
	Total hire charges of Machinery			Rs.	**845.10**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	1.00	265.20	265.20
2	Crew for Pump	Hour	1.00	132.90	132.90
3	Stone breaker	Day	2.00	650.00	1300.00
4	mazdoor	Day	2.50	605.00	1512.50
5	Crowbar man	Day	2.00	650.00	1300.00
	Total cost of Labour			Rs:	**4510.60**

labour component/unit qty		45.10	
Add contractor's profit and overhead charges	13.615%	6.10	
labour component/unit qty (including contractor's profit)		**51.20**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	845.10
C. Cost of Labour			Rs:	4510.60
		Total	Rs:	5355.70
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	729.18
Total cost for	100.00	sqm	Rs:	**6084.88**

Rate per Sqm	(A+B+C+D)/100		Rs:	**60.80**

IRR-DAW-1-9

Preparing foundation bed for cut-off trench filling in rock portion by removing all loose materials by wedging / chiselling and disposing off the same as directed etc., complete **with initial lead upto 50 m and all lifts.**

DATA **A. MATERIALS:** **RATE ANALYSIS** UNIT: **100.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs.	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Machinery			Rs.	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crowbar man	Day	2.00	650.00	1300.00
2	Stone breaker	Day	2.00	650.00	1300.00
3	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**3810.00**

labour component/unit qty		38.10		
Add contractor's profit and overhead charges	13.615%	5.20		
labour component/unit qty (including contractor's profit)		**43.30**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3810.00
		Total	Rs:	3810.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	518.73
Total cost for	100.00	sqm	Rs:	**4328.73**
Rate per Sqm	(A+B+C+D)/100		Rs:	**43.30**

IRR-DAW-1-10

Drilling 45 to 50 mm dia holes vertical or inclined up to 10 degrees to vertical **in rock /masonry/ concrete by percussion drilling** using waggon drill or any other suitable equipment including cost of all materials, machinery, labour, re-drilling through partially set grout wherever required etc., complete. **for drilling up to 6 m depth from surface.**

NOTE: The item rate for drilling through rock / masonry / concrete includes redrilling through partially set grout, if any, in the portion of hole already grouted.

Data **RATE ANALYSIS**

A. MATERIALS: UNIT: **96.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of cross bit 50 mm dia	Rm	96.00	74.10	7113.60
2	Use rate of 50 mm dia air hose 50 m	Hour	8.00	19.19	153.50
3	Use rate of extension rod 4.5 m	Rm	96.00	8.25	792.29
	Total cost of Materials			Rs.	**8059.39**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Waggon drill	Hour	8.00	204.40	1635.20
	Fuel / Energy charges	Hour	8.00	0.00	0.00

2	Air compressor 8.5 cmm (ele)	Hour	8.00	183.60	1468.80
	Fuel / Energy charges	Hour	8.00	604.30	4834.40
3	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**7996.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Waggon drill	Hour	8.00	446.20	3569.60
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**6901.20**

labour component/unit qty		71.90		
Add contractor's profit and overhead charges	13.615%	9.80		
labour component/unit qty (including contractor's profit)		**81.70**		

ABSTRACT:

A. Cost of Materials			Rs:	8059.39
B. Hire charges of Machinery			Rs:	7996.40
C. Cost of Labour			Rs:	6901.20
		Total	Rs:	22956.99
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	3125.59
Total cost for	96.00	Rm	Rs:	**26082.58**
Rate per Rm	(A+B+C+D)/96		Rs:	**271.70**
Upto 6 m from surface				271.70
Beyond 6 m upto 12 m from surface :				
Upto 6 m from surface	**Rate per**	**Rm**	Rs:	**271.70**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @		10%	Rs:	27.17
Beyond 6 m upto 12 m from surface		Rate / Rm	Rs:	298.90
Beyond 12 m upto 18 m from surface :				
For 6 m to 12 m from surface	**Rate per**	**Rm**	Rs:	**298.90**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @		10%	Rs:	29.89
Beyond 12 m upto 18 m from surface		Rate / Rm	Rs:	328.80
Beyond 18 m upto 24 m from surface			:	
For 12 m to 18 m from surface	**Rate per**	**Rm**	Rs:	**328.80**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @		10%	Rs:	32.88
Beyond 18 m upto 24 m from surface		Rate / Rm	Rs:	361.70
Beyond 24 m upto 30 m from surface			:	
For 18 m to 24 m from surface	**Rate per**	**Rm**	Rs:	**361.70**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @ :		10%	Rs	36.17
Beyond 24 m upto 30 m from surface		Rate / Rm	Rs:	397.90
Beyond 30 m upto 36 m from surface			:	
For 24 m to 30 m from surface	**Rate per**	**Rm**	Rs:	**397.90**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @		10%	Rs:	39.79
Beyond 30 m upto 36 m from surface		Rate / Rm	Rs:	437.70
Beyond 36 m upto 42 m from surface			:	
For 30 m to 36 m from surface	**Rate per**	**Rm**	Rs:	**437.70**
Add for redrilling through partially set grout / additional extension rods / reduction in rate of drilling etc @		10%	Rs:	43.77
Beyond 36 m upto 42 m from surface		Rate / Rm	Rs:	481.50
Beyond 42 m upto 48 m from surface				
For 36 m to 42 m from surface	**Rate per**	**Rm**	Rs:	**481.50**
Add for redrilling through partially set grout / additional				

extension rods / reduction in rate of drilling etc @	10%	Rs:	48.15
Beyond 42 m upto 48 m from surface	Rate / Rm	Rs:	529.70

IRR-DAW-1-11

Flushing grout holes of all sizes with water and air jets alternatively for an average period of 30 minutes including water intake observations after flushing, cost of all materials, machinery, labour etc., **complete.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **192.00** Rm.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of air hose 2 Nos x 8 hrs	Hour	16.00	12.69	203.04
2	Use rate of water hose 2 Nos x 8 hrs	Hour	16.00	12.50	200.00
3	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**461.04**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5 cmm (ele)	Hour	8.00	183.60	1468.80
	Fuel / Energy charges	Hour	8.00	604.30	4834.40
2	Pump 5 hp (ele)	Hour	8.00	3.50	28.00
	Fuel / Energy charges	Hour	8.00	53.70	429.60
3	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**6818.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	8.00	265.20	2121.60
2	Crew for Pump	Hour	8.00	132.90	1063.20
3	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**5604.80**

labour component/unit qty		29.20	
Add contractor's profit and overhead charges	13.615%	4.00	
labour component/unit qty (including contractor's profit)		**33.20**	

ABSTRACT:

A. Cost of Materials			Rs:	461.04
B. Hire charges of Machinery			Rs:	6818.80
C. Cost of Labour			Rs:	5604.80
		Total	Rs:	12884.64
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	1754.24
Total cost for	192.00	Rm.	Rs:	**14638.88**
Rate per RM	(A+B+C+D)/192		Rs:	**76.20**

IRR-DAW-1-12

Consolidation grouting with neat cement grout mix of suitable consistency under specified pressure as Directed in drilled holes by stage grouting method including cost of all materials, machinery, labour, redrilling if necessary etc.,complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **1.05** Tonne

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	tonne	1.05	5100.00	5355.00
2	Use rate of 50 m pressure hose	Hour	8.00	12.69	101.52
3	Sundries (packer assembly etc)	LS	3.00	29.00	87.00
	Total cost of Materials			Rs:	**5543.52**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Grouting equipment	Hour	8.00	38.90	311.20

	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	Pump 5 hp (ele)	Hour	2.00	3.50	7.00
	Fuel / Energy charges	Hour	2.00	53.70	107.40
3	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**913.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Grout pump	Hour	8.00	424.30	3394.40
2	Crew for Pump	Hour	2.00	132.90	265.80
3	mazdoor (cement handling)	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**4870.20**

labour component/unit qty		4638.30		
Add contractor's profit and overhead charges	13.615%	631.50		
labour component/unit qty (including contractor's profit)		**5269.80**		

ABSTRACT:

A. Cost of Materials			Rs:	5543.52
B. Hire charges of Machinery			Rs:	913.20
C. Cost of Labour			Rs:	4870.20
		Total	Rs:	11326.92
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	1542.16
Total cost for	1.05	Tonne	Rs:	**12869.08**
Rate per Tonne	(A+B+C+D)/1.05		Rs:	**12256.30**

IRR-DAW-1-13

Curtain grouting with neat cement grout mix of suitable consistency under specified pressure as directed in drilled holes by stage grouting method including cost of all materials, machinery, labour, redrilling if necessary etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **1.05** Tonne

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	tonne	1.05	5100.00	5355.00
2	Use rate of 100 m pressure hose	Hour	8.00	25.38	203.04
3	Use rate of 400 m GI pipe	Hour	8.00	7.4	59.20
4	Sundries (packer assembly etc)	LS	3.00	29.00	87.00
	Total cost of Materials			Rs:	**5704.24**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Grouting equipment	Hour	8.00	38.90	311.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	Pump 5 hp (ele)	Hour	2.00	3.50	7.00
	Fuel / Energy charges	Hour	2.00	53.70	107.40
3	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**913.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Grout pump	Hour	8.00	424.30	3394.40
2	Crew for Pump	Hour	2.00	132.90	265.80
3	Pipe fitter	Day	1.00	790.00	790.00
4	mazdoor (cement handling)	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**6265.20**

labour component/unit qty		5966.90	
Add contractor's profit and overhead charges	13.615%	812.40	
labour component/unit qty (including contractor's profit)		**6779.30**	

ABSTRACT:

A. Cost of Materials			Rs:	5704.24
B. Hire charges of Machinery			Rs:	913.20
C. Cost of Labour			Rs:	6265.20
		Total	Rs:	12882.64
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	1753.97
Total cost for	1.05	Tonne	Rs:	**14636.61**
Rate per Tonne	(A+B+C+D)/1.05		Rs:	**13939.60**

IRR-DAW-1-14

Providing and **fixing 25 mm dia 3 m long cold twisted deformed steel dowel bars** with one end driven into 45 to 50 mm diameter 1.50 m deep hole drilled in bed rock and other end provided with L-bend for embedding in concrete / masonry of over flow / non-over flow blocks and other appertenant works including cost of drilling and cleaning hole, filling hole with cement mortar 1 : 1 proportion, driving anchor rod, cost of all materials, machinery, labour etc., complete **with initial lead upto 1 km and all lifts.** Consider 25 anchor rods for analysis.

DATA: **RATE ANALYSIS**

UNIT: **25** Nos.

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill bit 50 mm dia	Rm	37.50	74.10	2778.75
2	Use rate of air hose 50 m	Hour	4.00	19.19	76.76
3	Anchor rod 25 mm dia	kg	303.22	57.00	17283.54
4	Cement	kg	75.00	5.10	382.50
5	Sand (screened)	cum	0.05	952.00	47.60
	Total cost of Materials			Rs:	**20569.15**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5 cmm (ele)	Hour	4.00	183.60	734.40
	Fuel / Energy charges	Hour	4.00	604.30	2417.20
2	Waggon drill	Hour	4.00	204.40	817.60
	Fuel / Energy charges	Hour	4.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**3969.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	4.00	265.20	1060.80
2	Crew for Waggon drill	Hour	4.00	446.20	1784.80
3	Bar bender	Day	0.50	805.00	402.50
4	Mason Cl- II	Day	0.50	650.00	325.00
5	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**4178.10**

labour component/unit qty		167.10	
Add contractor's profit and overhead charges	13.615%	22.80	
labour component/unit qty (including contractor's profit)		**189.90**	

ABSTRACT:

A. Cost of Materials			Rs:	20569.15
B. Hire charges of Machinery			Rs:	3969.20
C. Cost of Labour			Rs:	4178.10
		Total	Rs:	28716.45
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	3909.74
Lead Charges for 1 Km for FA	0.05	cum @	44.9 Rs./Cur	2.245
Total cost for	25.00	Nos.	Rs:	**32628.44**
Rate per EACH	(A+B+C+D)/25		Rs:	**1305.10**

IRR-DAW-1-15

Providing and fixing 25 mm dia. 2.75 m long ribbed steel anchor rods with one end split and driven firmly using steel wedge into 1.25 m deep 45 to 50 mm dia. hole drilled in bed rock and other end provided with L- bend for embedding in concrete / masonry for spillway and appurtenant works including drilling and cleaning hole, filling hole with thick cement slurry, driving anchor rod, cost of all materials, machinery, labour, steel wedge etc., complete with initial lead upto 1 km and all lifts Consider 25 anchor rods for analysis.

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT: **25.00** Nos.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of 50 mm dia drill bit	Rm	31.25	74.10	2315.63
2	Use rate of air hose 50 m 1 Nos.	Hour	3.00	19.19	57.57
3	Anchor rod 25 mm dia	kg	277.92	57.00	15841.44
4	Cement	kg	62.50	5.10	318.75
5	Gas for splitting anchor rods	LS	5.00	52.60	263.00
6	Steel wedges	LS	10.00	20.00	200.00
	Total cost of Materials			Rs:	**18996.39**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5 cmm (ele)	Hour	3.00	183.60	550.80
	Fuel / Energy charges	Hour	3.00	604.30	1812.90
2	Waggon drill	Hour	3.00	204.40	613.20
	Fuel / Energy charges	Hour	3.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**2976.90**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	3.00	265.20	795.60
2	Crew for Waggon drill	Hour	3.00	446.20	1338.60
3	Bar bender	Day	0.50	805.00	402.50
4	Mason Cl- II	Day	0.50	650.00	325.00
5	Gas cutter	Day	1.00	720.00	720.00
6	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**4791.70**

labour component/unit qty		191.70		
Add contractor's profit and overhead charges	13.615%	26.10		
labour component/unit qty (including contractor's profit)		**217.80**		

ABSTRACT:

A. Cost of Materials			Rs:	18996.39
B. Hire charges of Machinery			Rs:	2976.90
C. Cost of Labour			Rs:	4791.70
		Total	Rs:	26764.99
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	3644.05
Total cost for	25.00	Nos.	Rs:	**30409.04**
Rate per Each	(A+B+C+D)/25		Rs:	**1216.40**

IRR-DAW-2 **REINFORCEMENT & CEMENT CONCRETE WORKS :**

IRR-DAW-2-1

Providing, fabricating and **placing in position reinforcement steel for RCC,below 36 dia rods** overlaps and wastages wherever required, tying with 1.25 mm diameter soft annealed steel wire, including cost of all materials, machinery, labour etc., complete with **initial lead upto 1 km and all lifts.**

Overlaps and wastage as per NHAI-data Lap jointing considered for bars upto 36 mm diameter.

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **1.00** Tonne

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Rein.Steel with 5 % wastage	tonne	1.05	57000.00	59850.00
2	Binding wire 1.25 mm dia	kg	9.00	86.00	774.00
	Total cost of Materials			Rs:	**60624.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Bar bender	Day	2.00	805.00	1610.00
2	mazdoor	Day	6.84	605.00	4138.20
	Total cost of Labour				**5748.20**

labour component/unit qty		5748.20		
Add contractor's profit and overhead charges	13.615%	782.60		
labour component/unit qty (including contractor's profit)		**6530.80**		
A.MATERIAL				60624.00
B.MACHINERY				0.00
C. LABOUR				5748.20
Total				66372.20
D.Add for contractor's profit and overheads on A+B+C			13.615%	9036.58
Total cost for		1.00	Tonne	**75408.78**
Rate per Tonne	(A+B+C+D) /1			**75408.78**

IRR-DAW-2-2

Providing, fabricating and **placing in position reinforcement steel for RCC above 36 dia with welding** and wastage at 2.5%, tying with 1.25 mm diameter soft annealed steel wire, including cost of all materials, machinery, labour etc., complete with **initial lead upto 1 km and all lifts.**

Overlaps and wastage welding joints considered for bars above 36 mm diameter

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **1.00** Tonne

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Rein.Steel with 2.5 % wastage	tonne	1.025	57000.00	58425.00
3	Welding electrodes 5 per joint and 14 joints pe	One	70.00	15.00	1050.00
	Total cost of Materials			Rs:	**59475.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	welding machine	hour	10.00	17.20	172.00
	fuel charges	hour	10.00	128.90	1289.00
	Total hire charges of Machinery			Rs:	**1461.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	welder	day	2.50	720.00	1800.00
2	Bar bender	Day	2.00	805.00	1610.00
3	mazdoor	Day	6.84	605.00	4138.20
	Total cost of Labour				**7548.20**

labour component/unit qty 7548.20

Add contractor's profit and overhead charges	13.615%	1027.70		
labour component/unit qty (including contractor's profit)		**8575.90**		
ABSTRACT:				
A. Cost of Materials				59475.00
B. Hire charges of Machinery				1461.00
C. Cost of Labour				7548.20
Total				68484.20
D.Add for contractor's profit and overheads on A+B+C			13.615%	9324.12
Total cost for		1.00	Tonne	**77808.32**
Rate per Tonne		(A+B+C+D) / I		**77808.32**

IRR-DAW-2-3

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works with initial lead upto 1 km** and **all lifts. (Cement content : 250 kg /cum with use of super plasticiser equal to 0.4% of cement content , CA : 0.98 cum, Blending Ratio of CA -- 40:30:20:10, FA : 0.35 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **240.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	60000.00	5.10	306000.00
	Cement for incidentals @ 3 kg / cum	kg	720.00	5.10	3672.00
2	Coarse aggregate 80-40 mm	cum	94.08	625.00	58800.00
	Coarse aggregate 40-20 mm	cum	70.56	1030.00	72676.80
	Coarse aggregate 20-10 mm	cum	47.04	1144.00	53813.76
	Coarse aggregate 10 mm below	cum	23.52	879.00	20674.08
3	Fine aggregate (Un-screened)	cum	84.00	723.00	60732.00
4	Super Plasticizer or AEA	kg	240.00	73.00	17520.00
5	Use rate of shuttering	sqm	120.00	500.37	60044.40
	Total cost of Materials			Rs:	**653933.04**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant	Hour	8.00	546.80	4374.40
	Fuel / Energy charges	Hour	8.00	590.80	4726.40
2	Air compressor 7 cmm (ele)	Hour	8.00	154.80	1238.40
	Fuel / Energy charges	Hour	8.00	483.40	3867.20
3	Tipper	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Tower crane 5 t	Hour	16.00	938.60	15017.60
	Fuel / Energy charges	Hour	16.00	279.30	4468.80
5	Concrete bucket	Hour	40.00	17.40	696.00
	Fuel / Energy charges	Hour	40.00	0.00	0.00
6	10 hp pump (ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
7	Needle vibrator 60 mm dia (ele)	Hour	16.00	7.00	112.00
	Fuel / Energy charges	Hour	16.00	16.10	257.60
8	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**69189.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Air compressor	Hour	8.00	265.20	2121.60

3	Crew for Tipper (4)	Hour	32.00	278.90	8924.80
4	Crew for Tower crane (2)	Hour	16.00	297.40	4758.40
5	Crew for Pump	Hour	8.00	132.90	1063.20
6	Crew for Needle vibrator (2)	Hour	16.00	256.40	4102.40
7	Mason Class-I	Day	4.00	680.00	2720.00
8	Foreman	Day	2.00	790.00	1580.00
9	mazdoor				
	for silo (cement handling)	Day	2.00	605.00	1210.00
	for batching plant	Day	2.00	605.00	1210.00
	for conveyor system	Day	2.00	605.00	1210.00
	for laying & vibrating	Day	6.00	605.00	3630.00
	for cleaning / washing / curing	Day	2.00	605.00	1210.00
10	Labour cost for shuttering	sqm	120.00	223.88	26865.60
	Total cost of Labour			Rs:	**64888.40**

labour component/unit qty		270.40	
Add contractor's profit and overhead charges	13.615%	36.80	
labour component/unit qty (including contractor's profit)		**307.20**	

ABSTRACT:

A. Cost of Materials			Rs:	653933.04
B. Hire charges of Machinery			Rs:	69189.20
C. Cost of Labour			Rs:	64888.40
		Total	Rs:	788010.64
Add for conveyor system @		3.00%		23640.32
Add for electric sub-station/ Demand charges @		2.5%		19700.27
Add for trestle bridge for tower crane track @		4.0%		31520.43
		Total	Rs:	862871.66
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	117479.98
Lead Charges for 1 Km for FA	84.00	cum @	44.9 Rs./Cum	3771.6
Lead Charges for 1 Km for CA	235.20	cum @	45.3 Rs./Cum	10184.16
Total cost for	240.00	cum	Rs:	**994307.40**
Rate per cum	(A+B+C+D)/240		Rs:	**4142.90**

IRR-DAW-2-4

Providing and laying **insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works** with **initial lead upto 1 km and all lifts. (Cement content : 300 kg /cum with use of 0.4% of cement content super plasticiser , CA : 0.90 cum, Blending Ratio of CA -- 40:30:20:10, FA : 0.40 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **240.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	72000.00	5.10	367200.00
	Cement for incidentals @ 3 kg / cum	kg	720.00	5.10	3672.00
2	Coarse aggregate 80-40 mm	cum	86.40	625.00	54000.00
	Coarse aggregate 40-20 mm	cum	64.80	1030.00	66744.00
	Coarse aggregate 20-10 mm	cum	43.20	1144.00	49420.80
	Coarse aggregate 10 mm below	cum	21.60	879.00	18986.40
3	Fine aggregate (Un-Screened)	cum	96.00	723.00	69408.00
4	Super Plasticizer or AEA	kg	288.00	73.00	21024.00
5	Use rate of shuttering	sqm	120.00	500.37	60044.40
	Total cost of Materials			Rs:	**710499.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs

1	Batching plant	Hour	8.00	546.80	4374.40
	Fuel / Energy charges	Hour	8.00	590.80	4726.40
2	Air compressor 7 cmm (ele)	Hour	8.00	154.80	1238.40
	Fuel / Energy charges	Hour	8.00	483.40	3867.20
3	Tipper	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Tower crane 5 t	Hour	16.00	938.60	15017.60
	Fuel / Energy charges	Hour	16.00	279.30	4468.80
5	Concrete bucket	Hour	40.00	17.40	696.00
	Fuel / Energy charges	Hour	40.00	0.00	0.00
6	10 hp pump (ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
7	Needle vibrator 60 mm dia (ele)	Hour	16.00	7.00	112.00
	Fuel / Energy charges	Hour	16.00	16.10	257.60
8	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**69189.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	Crew for Tipper (4)	Hour	32.00	278.90	8924.80
4	Crew for Tower crane (2)	Hour	16.00	297.40	4758.40
5	Crew for Pump	Hour	8.00	132.90	1063.20
6	Crew for Needle vibrator (2)	Hour	16.00	256.40	4102.40
7	Mason Class-I	Day	4.00	680.00	2720.00
8	Foreman	Day	2.00	790.00	1580.00
9	mazdoor				
	for silo (cement handling)	Day	2.00	605.00	1210.00
	for batching plant	Day	2.00	605.00	1210.00
	for conveyor system	Day	2.00	605.00	1210.00
	for laying & vibrating	Day	6.00	605.00	3630.00
	for cleaning / washing / curing	Day	2.00	605.00	1210.00
10	Labour cost for shuttering	sqm	120.00	223.88	26865.00
	Total cost of Labour			Rs:	**64887.80**

labour component/unit qty			270.40		
Add contractor's profit and overhead charges		13.615%	36.80		
labour component/unit qty (including contractor's profit)			**307.20**		
ABSTRACT:					
A. Cost of Materials				Rs:	710499.60
B. Hire charges of Machinery				Rs:	69189.20
C. Cost of Labour				Rs:	64887.80
			Total	Rs:	844576.60
Add for conveyor system @			3.00%		25337.30
Add for electric sub-station/ Demand charges @			2.5%		21114.42
Add for trestle bridge for tower crane track @			4.0%		33783.06
			Total	Rs:	924811.38
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	125913.07
Lead Charges for 1 Km for FA		96.00	cum @	44.9 Rs./Cur	4310.4
Lead Charges for 1 Km for CA		216.00	cum @	43.3 Rs./Cum	9352.80
Total cost for		240.00	cum	Rs:	**1064387.65**
Rate per Cum		(A+B+C+D)/240		Rs:	**4434.90**

IRR-DAW-2-5

Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates including cost of

all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works with initial lead upto 1 km and all lifts. (Cement content : 220 kg /cum with use of super plasticiser,CA: 0.98 cum, Blending Ratio of CA-40:30:20:10, FA:0.37 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **240.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	52800	5.10	269280.00
	Cement for incidentals @ 3 kg / cum	kg	720.00	5.10	3672.00
2	Coarse aggregate 80-40 mm	cum	94.08	625.00	58800.00
	Coarse aggregate 40-20 mm	cum	70.56	1030.00	72676.80
	Coarse aggregate 20-10 mm	cum	47.04	1144.00	53813.76
	Coarse aggregate 10 mm below	cum	23.52	879.00	20674.08
3	Fine aggregate (Un-Screened)	cum	88.8	723.00	64202.40
4	Super Plasticizer or AEA	kg	211.20	73.00	15417.60
5	Use rate of shuttering	sqm	120.00	500.37	60044.40
	Total cost of Materials			Rs:	**618581.04**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant 2 x 1.5 cum	Hour	8.00	546.80	4374.40
	Fuel / Energy charges	Hour	8.00	590.80	4726.40
2	Air compressor 7 cmm (ele)	Hour	8.00	154.80	1238.40
	Fuel / Energy charges	Hour	8.00	483.40	3867.20
3	Tipper	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Tower crane 5 t	Hour	16.00	938.60	15017.60
	Fuel / Energy charges	Hour	16.00	279.30	4468.80
5	Concrete bucket	Hour	40.00	17.40	696.00
	Fuel / Energy charges	Hour	40.00	0.00	0.00
6	10 hp pump (ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
7	Needle vibrator 60 mm dia (ele)	Hour	16.00	7.00	112.00
	Fuel / Energy charges	Hour	16.00	16.10	257.60
8	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**69189.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	Crew for Tipper (4)	Hour	32.00	278.90	8924.80
4	Crew for Tower crane (2)	Hour	16.00	297.40	4758.40
5	Crew for Pump	Hour	8.00	132.90	1063.20
6	Crew for Needle vibrator (2)	Hour	16.00	256.40	4102.40
7	Mason Class-I	Day	4.00	680.00	2720.00
8	Foreman	Day	2.00	790.00	1580.00
9	mazdoor				
	for silo (cement handling)	Day	2.00	605.00	1210.00
	for batching plant	Day	2.00	605.00	1210.00
	for conveyor system	Day	2.00	605.00	1210.00
	for laying & vibrating	Day	6.00	605.00	3630.00
	for cleaning / washing / curing	Day	2.00	605.00	1210.00
10	Labour cost for shuttering	sqm	120.00	223.88	26865.60
	Total cost of Labour			Rs:	**64888.40**

labour component/unit qty		270.40		
Add contractor's profit and overhead charges	13.615%	36.80		
labour component/unit qty (including contractor's profit)		**307.20**		
ABSTRACT:				
A. Cost of Materials		Rs:		618581.04
B. Hire charges of Machinery		Rs:		69189.20
C. Cost of Labour		Rs:		64888.40
		Total	Rs:	752658.64
Add for conveyor system @		3.00%		22579.76
Add for electric sub-station/ Demand charges @		2.5%		18816.47
Add for trestle bridge for tower crane track @		4.0%		30106.35
		Total	Rs:	824161.22
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%	Rs.	112209.55
Lead Charges for 1 Km for FA	88.80	cum @	44.9 Rs./Cur	3987.12
Lead Charges for 1 Km for CA	235.20	cum @	43.3 Rs./Cur	10184.16
Total cost for	240.00	cum	Rs:	**950542.05**
Rate per	(A+B+C+D)/240		Rs:	**3960.60**

IRR-DAW-2-6

Providing and laying insitu vibrated M-20 (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using 40 mm down size approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for RCC works of gallery, sluice, spillway crest, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations with initial lead upto 1 km and all lifts. (Cement content : 310 kg / cum with use of super plasticiser, CA : 0.90 cum, blending ratio of CA--50:30:20, FA : 0.40 cum).

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **240.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	74400	5.10	379440.00
2	Cement for incidentals @ 3 kg / cum	kg	720.00	5.10	3672.00
	Coarse aggregate 40-20 mm	cum	108	1030.00	111240.00
	Coarse aggregate 20-10 mm	cum	64.8	1144.00	74131.20
	Coarse aggregate 10 mm below	cum	43.2	879.00	37972.80
3	Fine aggregate (Un-Screened)	cum	96	723.00	69408.00
4	Super Plasticizer or AEA	kg	297.60	73.00	21724.80
5	Use rate of shuttering	sqm	360.00	500.37	180133.20
6	Scaffolding of shuttering @	15%			27019.98
	Total cost of Materials			Rs:	**904741.98**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant 2 x 1.5 cum	Hour	8.00	546.80	4374.40
	Fuel / Energy charges	Hour	8.00	590.80	4726.40
2	Air compressor 7 cmm (ele)	Hour	8.00	154.80	1238.40
	Fuel / Energy charges	Hour	8.00	483.40	3867.20
3	Tipper	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Tower crane 5 t	Hour	16.00	938.60	15017.60
	Fuel / Energy charges	Hour	16.00	279.30	4468.80
5	Concrete bucket	Hour	40.00	17.40	696.00
	Fuel / Energy charges	Hour	40.00	0.00	0.00
6	10 hp pump (ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
7	Needle vibrator 60 mm dia (ele)	Hour	16.00	7.00	112.00

	Fuel / Energy charges	Hour	16.00	16.10	257.60
8	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**69189.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	Crew for Tipper (4)	Hour	32.00	278.90	8924.80
4	Crew for Tower crane (2)	Hour	16.00	297.40	4758.40
5	Crew for Pump	Hour	8.00	132.90	1063.20
6	Crew for Needle vibrator (2)	Hour	16.00	256.40	4102.40
7	Mason Class-I	Day	4.00	680.00	2720.00
8	Foreman	Day	2.00	790.00	1580.00
9	mazdoor				0.00
	for silo (cement handling)	Day	2.00	605.00	1210.00
	for batching plant	Day	2.00	605.00	1210.00
	for conveyor system	Day	2.00	605.00	1210.00
	for laying & vibrating	Day	6.00	605.00	3630.00
	for cleaning / washing / curing	Day	2.00	605.00	1210.00
10	Labour cost for shuttering	sqm	360.00	223.88	80596.80
11	Labour cost for scaffolding @	15%			12089.52
	Total cost of Labour			Rs:	**130709.12**

labour component/unit qty		544.60	
Add contractor's profit and overhead charges	13.615%	74.10	
labour component/unit qty (including contractor's profit)		**618.70**	

ABSTRACT:

A. Cost of Materials			Rs:	904741.98
B. Hire charges of Machinery			Rs:	69189.20
C. Cost of Labour			Rs:	130709.12
		Total	Rs:	1104640.30
Add for aggregate conveyor system @		3.0%		33139.21
Add for electric sub-station / Demand charges @		2.50%		27616.01
Add for trestle bridge for tower crane track @		4.0%		44185.61
		Total	Rs:	1209581.13
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%	Rs.	164684.47
Lead Charges for 1 Km for FA	96.00	cum @	44.9 Rs./Cur	4310.4
Lead Charges for 1 Km for CA	216.00	cum @	43.3 Rs./Cur	9352.80
Total cost for	240.00	cum	Rs:	**1387928.80**
Rate per Cum	(A+B+C+D)/240		Rs:	**5783.00**

IRR-DAW-2-7

Providing and **laying insitu vibrated M-25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC works of gallery, sluice, spillway crest**, spillway d / s face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts. (Cement content : 360 kg / cum with use of super plasticiser, CA : 0.90 cum, blending ratio of CA--50:30:20, FA : 0.40 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **240.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	86400	5.10	440640.00
2	Cement for incidentals @ 3 kg / cum	kg	720.00	5.10	3672.00
	Coarse aggregate 40-20 mm	cum	108	1030.00	111240.00

	Coarse aggregate 20-10 mm	cum	64.8	1144.00	74131.20
	Coarse aggregate 10 mm below	cum	43.2	879.00	37972.80
3	Fine aggregate (Un-Screened)	cum	96	723.00	69408.00
4	Super Plasticizer or AEA	kg	345.60	73.00	25228.80
5	Use rate of shuttering	sqm	360.00	500.37	180133.20
6	Scaffolding of shuttering @	15%			27019.98
	Total cost of Materials			Rs:	**969445.98**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant 2 x 1.5 cum	Hour	8.00	546.80	4374.40
	Fuel / Energy charges	Hour	8.00	590.80	4726.40
2	Air compressor 7 cmm (ele)	Hour	8.00	154.80	1238.40
	Fuel / Energy charges	Hour	8.00	483.40	3867.20
3	Tipper	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Tower crane 5 t	Hour	16.00	938.60	15017.60
	Fuel / Energy charges	Hour	16.00	279.30	4468.80
5	Concrete bucket	Hour	40.00	17.40	696.00
	Fuel / Energy charges	Hour	40.00	0.00	0.00
6	10 hp pump (ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
7	Needle vibrator 60 mm dia (ele)	Hour	16.00	7.00	112.00
	Fuel / Energy charges	Hour	16.00	16.10	257.60
8	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**69189.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	Crew for Tipper (4)	Hour	32.00	278.90	8924.80
4	Crew for Tower crane (2)	Hour	16.00	297.40	4758.40
5	Crew for Pump	Hour	8.00	132.90	1063.20
6	Crew for Needle vibrator (2)	Hour	16.00	256.40	4102.40
7	Mason Class-I	Day	4.00	680.00	2720.00
8	Foreman	Day	2.00	790.00	1580.00
9	mazdoor				0.00
	for silo (cement handling)	Day	2.00	605.00	1210.00
	for batching plant	Day	2.00	605.00	1210.00
	for conveyor system	Day	2.00	605.00	1210.00
	for laying & vibrating	Day	6.00	605.00	3630.00
	for cleaning / washing / curing	Day	2.00	605.00	1210.00
10	Labour cost for shuttering	sqm	360.00	223.88	80596.80
11	Labour cost for scaffolding @	15%			12089.52
	Total cost of Labour			Rs:	**130709.12**

labour component/unit qty		544.60	
Add contractor's profit and overhead charges	13.615%	74.10	
labour component/unit qty (including contractor's profit)		**618.70**	

ABSTRACT:

A. Cost of Materials		Rs:	969445.98
B. Hire charges of Machinery		Rs:	69189.20
C. Cost of Labour		Rs:	130709.12
	Total	Rs:	1169344.30
Add for aggregate conveyor system @	3.0%		35080.33

Add for electric sub-station / Demand charges @		2.50%		29233.61
Add for trestle bridge for tower crane track @		4.0%		46773.77
		Total	Rs:	1280432.01
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%	Rs.	174330.82
Lead Charges for 1 Km for FA	96.00	cum @	44.9 Rs./Cur	4310.4
Lead Charges for 1 Km for CA	216.00	cum @	43.3 Rs./Cur	9352.80
Total cost for	240.00	cum	Rs:	**1468426.03**
Rate per cum	(A+B+C+D)/240		Rs:	**6118.40**

IRR-DAW-2-8

Providing and **laying insitu vibrated M-25** (28 days cube compressive strength not less than 25 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC works of gallery, sluice, spillway crest, spillway d / s** face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts. (Cement content : 380 kg / cum with use of super plasticiser,CA : 0.90 cum, blending ratio of CA--65:35, FA : 0.40 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **240.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	91200	5.10	465120.00
2	Cement for incidentals @ 3 kg / cum	kg	720.00	5.10	3672.00
	Coarse aggregate 20-10 mm	cum	140.4	1144.00	160617.60
	Coarse aggregate 10 mm below	cum	75.6	879.00	66452.40
3	Fine aggregate (Un-Screened)	cum	96	723.00	69408.00
4	Super Plasticizer or AEA	kg	364.80	73.00	26630.40
5	Use rate of shuttering	sqm	360.00	500.37	180133.20
6	Scaffolding of shuttering @	15%			27019.98
	Total cost of Materials			Rs:	**999053.58**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant 2 x 1.5 cum	Hour	8.00	546.80	4374.40
	Fuel / Energy charges	Hour	8.00	590.80	4726.40
2	Air compressor 7 cmm (ele)	Hour	8.00	154.80	1238.40
	Fuel / Energy charges	Hour	8.00	483.40	3867.20
3	Tipper	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Tower crane 5 t	Hour	16.00	938.60	15017.60
	Fuel / Energy charges	Hour	16.00	279.30	4468.80
5	Concrete bucket	Hour	40.00	17.40	696.00
	Fuel / Energy charges	Hour	40.00	0.00	0.00
6	10 hp pump (ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
7	Needle vibrator 60 mm dia (ele)	Hour	16.00	7.00	112.00
	Fuel / Energy charges	Hour	16.00	16.10	257.60
8	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**69189.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	Crew for Tipper (4)	Hour	32.00	278.90	8924.80
4	Crew for Tower crane (2)	Hour	16.00	297.40	4758.40

5	Crew for Pump	Hour	8.00	132.90	1063.20
6	Crew for Needle vibrator (2)	Hour	16.00	256.40	4102.40
7	Mason Class-I	Day	4.00	680.00	2720.00
8	Foreman	Day	2.00	790.00	1580.00
9	mazdoor				0.00
	for silo (cement handling)	Day	2.00	605.00	1210.00
	for batching plant	Day	2.00	605.00	1210.00
	for conveyor system	Day	2.00	605.00	1210.00
	for laying & vibrating	Day	6.00	605.00	3630.00
	for cleaning / washing / curing	Day	2.00	605.00	1210.00
10	Labour cost for shuttering	sqm	360.00	223.88	80596.80
11	Labour cost for scaffolding @	15%			12089.52
	Total cost of Labour			Rs:	**130709.12**

labour component/unit qty		544.60	
Add contractor's profit and overhead charges	13.615%	74.10	
labour component/unit qty (including contractor's profit)		**618.70**	

ABSTRACT:

A. Cost of Materials			Rs:	999053.58
B. Hire charges of Machinery			Rs:	69189.20
C. Cost of Labour			Rs:	130709.12
		Total	Rs:	1198951.90
Add for aggregate conveyor system @		3.0%		35968.56
Add for electric sub-station / Demand charges @		2.50%		29973.80
Add for trestle bridge for tower crane track @		4.0%		47958.08
		Total	Rs:	1312852.34
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%	Rs.	178744.85
Lead Charges for 1 Km for FA	96.00	cum @	44.9 Rs./Cur	4310.4
Lead Charges for 1 Km for CA	216.00	cum @	43.3 Rs./Cur	9352.80
Total cost for	240.00	cum	Rs:	**1505260.39**
Rate per Cum	(A+B+C+D)/240		Rs:	**6271.90**

IRR-DAW-2-9

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N/sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for RCC works of gallery, sluice, spillway crest, spillway** d / s face, energy dissipating structures, training walls, piers, abutments and such other locations with **initial lead upto 1 km and all lifts.(using Transit Mixers) (Cement content : 310 kg/cum with use of super plasticiser, CA : 0.90 cum, blending ratio of CA--50:30:20, FA : 0.40 cum)**

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT: **134.40** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	41664	5.10	212486.40
2	Cement for incidentals @ 3 kg / cum	kg	403.20	5.10	2056.32
	Coarse aggregate 40-20 mm	cum	60.48	1030.00	62294.40
	Coarse aggregate 20-10 mm	cum	36.288	1144.00	41513.47
	Coarse aggregate 10 mm below	cum	24.192	879.00	21264.77
3	Fine aggregate (Un-Screened)	cum	53.76	723.00	38868.48
4	Super Plasticizer or AEA	kg	166.66	73.00	12165.89
5	Use rate of shuttering	sqm	201.60	500.37	100874.59
6	Scaffolding of shuttering @	15%			15131.19
	Total cost of Materials			Rs:	**506655.51**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant 2 x 1.5 cum	Hour	8.00	546.80	4374.40

	Fuel / Energy charges	Hour	8.00	590.80	4726.40
2	Air compressor 7 cmm (ele)	Hour	8.00	154.80	1238.40
	Fuel / Energy charges	Hour	8.00	483.40	3867.20
3	Transit Mixers (4 Nos)	Hour	24.00	540.80	12979.20
	Fuel / Energy charges	Hour	24.00	497.40	11937.60
4	Tower crane 5 t	Hour	8.00	938.60	7508.80
	Fuel / Energy charges	Hour	8.00	279.30	2234.40
5	Concrete bucket	Hour	20.00	17.40	348.00
	Fuel / Energy charges	Hour	20.00	0.00	0.00
6	10 hp pump (ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
7	Needle vibrator 60 mm dia (ele)	Hour	16.00	7.00	112.00
	Fuel / Energy charges	Hour	16.00	16.10	257.60
8	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**50792.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	Crew for Transit Mixers (4 Nos)	Hour	32.00	278.90	8924.80
4	Crew for Tower crane	Hour	8.00	297.40	2379.20
5	Crew for Pump	Hour	8.00	132.90	1063.20
6	Crew for Needle vibrator (2)	Hour	16.00	256.40	4102.40
7	Mason Class-I	Day	4.00	680.00	2720.00
8	Foreman	Day	2.00	790.00	1580.00
9	mazdoor				0.00
	for silo (cement handling)	Day	2.00	605.00	1210.00
	for batching plant	Day	2.00	605.00	1210.00
	for conveyor system	Day	2.00	605.00	1210.00
	for laying & vibrating	Day	4.00	605.00	2420.00
	for cleaning / washing / curing	Day	2.00	605.00	1210.00
10	Labour cost for shuttering	sqm	201.60	223.88	45134.21
11	Labour cost for scaffolding @	15%			6770.13
	Total cost of Labour			Rs:	**86337.94**

labour component/unit qty		642.40	
Add contractor's profit and overhead charges	13.615%	87.50	
labour component/unit qty (including contractor's profit)		**729.90**	

ABSTRACT:

A. Cost of Materials			Rs:	506655.51
B. Hire charges of Machinery			Rs:	50792.40
C. Cost of Labour			Rs:	86337.94
		Total	Rs:	643785.85
Add for aggregate conveyor system @		3.0%		19313.58
Add for electric sub-station / Demand charges @		2.50%		16094.65
Add for trestle bridge for tower crane track @		4.0%		25751.43
		Total	Rs:	704945.51
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%	Rs.	95978.33
Lead Charges for 1 Km for FA	53.76	cum @	44.9 Rs./Cur	2413.82
Lead Charges for 1 Km for CA	120.96	cum @	43.3 Rs./Cur	5237.57
Total cost for	134.40	cum	Rs:	**808575.23**
Rate per Cum	(A+B+C+D)/134.40		Rs:	**6016.20**

IRR-DAW-2-10

Providing and **laying insitu vibrated M-25** (28 days cube compressive strength not less than 25 N/sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of

all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC works of gallery, sluice, spillway crest, spillway d / s** face, energy dissipating structures, training walls, piers, abutments and such other locations **with initial lead upto 1 km and all lifts.(using Transit Mixers) (Cement content : 380 kg/cum with use of super plasticiser, CA : 0.90 cum, blending ratio of CA--65:35, FA : 0.40 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **134.40** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	51072	5.10	260467.20
2	Cement for incidentals @ 3 kg / cum	kg	403.20	5.10	2056.32
	Coarse aggregate 20-10 mm	cum	78.624	1144.00	89945.86
	Coarse aggregate 10 mm below	cum	42.336	879.00	37213.34
3	Fine aggregate (Un-Screened)	cum	53.76	723.00	38868.48
4	Super Plasticizer or AEA	kg	204.29	73.00	14913.02
5	Use rate of shuttering	sqm	201.60	500.37	100874.59
6	Scaffolding of shuttering @	15%			15131.19
	Total cost of Materials			Rs:	**559470.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Batching plant 2 x 1.5 cum	Hour	8.00	546.80	4374.40
	Fuel / Energy charges	Hour	8.00	590.80	4726.40
2	Air compressor 7 cmm (ele)	Hour	8.00	154.80	1238.40
	Fuel / Energy charges	Hour	8.00	483.40	3867.20
3	Transit Mixers (4 Nos)	Hour	24.00	540.80	12979.20
	Fuel / Energy charges	Hour	24.00	497.40	11937.60
4	Tower crane 5 t	Hour	8.00	938.60	7508.80
	Fuel / Energy charges	Hour	8.00	279.30	2234.40
5	Concrete bucket	Hour	20.00	17.40	348.00
	Fuel / Energy charges	Hour	20.00	0.00	0.00
6	10 hp pump (ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
7	Needle vibrator 60 mm dia (ele)	Hour	16.00	7.00	112.00
	Fuel / Energy charges	Hour	16.00	16.10	257.60
8	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**50792.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	Crew for Transit Mixers (4 Nos)	Hour	32.00	278.90	8924.80
4	Crew for Tower crane	Hour	8.00	297.40	2379.20
5	Crew for Pump	Hour	8.00	132.90	1063.20
6	Crew for Needle vibrator (2)	Hour	16.00	256.40	4102.40
7	Mason Class-I	Day	4.00	680.00	2720.00
8	Foreman	Day	2.00	790.00	1580.00
9	mazdoor				0.00
	for silo (cement handling)	Day	2.00	605.00	1210.00
	for batching plant	Day	2.00	605.00	1210.00
	for conveyor system	Day	2.00	605.00	1210.00
	for laying & vibrating	Day	4.00	605.00	2420.00
	for cleaning / washing / curing	Day	2.00	605.00	1210.00
10	Labour cost for shuttering	sqm	201.60	223.88	45134.21

11	Labour cost for scaffolding @	15%			6770.13
	Total cost of Labour			Rs:	**86337.94**

labour component/unit qty		642.40	
Add contractor's profit and overhead charges	13.615%	87.50	
labour component/unit qty (including contractor's profit)		**729.90**	

ABSTRACT:

A. Cost of Materials			Rs:	559470.00
B. Hire charges of Machinery			Rs:	50792.40
C. Cost of Labour			Rs:	86337.94
		Total	Rs:	696600.34
Add for aggregate conveyor system @		3.0%		20898.01
Add for electric sub-station / Demand charges @		2.50%		17415.01
Add for trestle bridge for tower crane track @		4.0%		27864.01
		Total	Rs:	762777.37
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%	Rs.	103852.140
Lead Charges for 1 Km for FA	53.76	cum @	44.9 Rs./Cur	2413.82
Lead Charges for 1 Km for CA	120.96	cum @	43.3 Rs./Cur	5237.57
Total cost for	134.40	cum	Rs:	**874280.90**
Rate per Cum	(A+B+C+D)/134.40		Rs:	**6505.10**

IRR-DAW-2-11

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N/sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works with initial lead upto 1 km and all lifts. (Cement content : 260 kg / cum with use of super plasticiser, CA : 0.90 cum, Blending Ratio of CA 50:30:20, FA : 0.40 cum)**

DATA:

RATE ANALYSIS

A. MATERIALS: UNIT : **14.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	3640.00	5.10	18564.00
	Cement for incidentals @ 3 kg	kg	42.00	5.10	214.20
2	Coarse aggregate 40-20 mm	cum	6.3	1030.00	6489.00
	Coarse aggregate 20-10 mm	cum	3.78	1144.00	4324.32
	Coarse aggregate 10 mm below	cum	2.52	879.00	2215.08
3	Fine aggregate (Un-Screened)	cum	5.6	723.00	4048.80
4	Super plasticizer	kg	14.56	73.00	1062.88
5	Use rate of shuttering	sqm	14.00	333.58	4670.12
6	Use rate of scaffolding @	15%			700.52
	Total cost of Materials			Rs:	**42288.92**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.0	61.90	495.20
	Fuel / Energy charges	Hour	8.0	53.70	429.60
2	10 hp pump (ele)	Hour	1.0	7.40	7.40
	Fuel / Energy charges	Hour	1.0	107.40	107.40
3	Needle vibrator 40 mm dia (ele)	Hour	8.0	6.30	50.40
	Fuel / Energy charges	Hour	8.0	10.70	85.60
	Total hire charges of Machinery			Rs:	**1175.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs

1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	mazdoor				
	for batching cement (cement handling	Day	2.00	605.00	1210.00
	for batching other materials	Day	9.00	605.00	5445.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	14.00	605.00	8470.00
	for cleaning / washing / curing	Day	1.00	605.00	605.00
6	Labour cost of shuttering	sqm	14.00	149.25	2089.50
7	Labour cost of scaffolding @	15%			313.43
	Total cost of Labour			Rs:	**28081.63**

labour component/unit qty		2005.80		
Add contractor's profit and overhead charges	13.615%	273.10		
labour component/unit qty (including contractor's profit)		**2278.90**		

ABSTRACT:

A. Cost of Materials			Rs:	42288.92
B. Hire charges of Machinery			Rs:	1175.60
C. Cost of Labour			Rs:	28081.63
		Total	Rs:	71546.15
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	9741.01
Lead Charges for 1 Km for FA	5.60	cum @	44.9 Rs./Cur	251.44
Lead Charges for 1 Km for CA	12.60	cum @	43.3 Rs./Cur	545.58
Total cost for	14.00	cum	Rs:	**82084.18**
Rate per Cum	(A+B+C+D)/14		Rs:	**5863.20**

IRR-DAW-2-12

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **with placing and sinking plums of size 150 to 80 mm upto 15 percent for gravity type structures** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **with initial lead upto 1 km and all lifts. (Cement content : 260 kg / cum of concrete with use of plums and super plasticiser of 0.4% of cement quantity, CA : 0.77 cum, Blending Ratio of CA : 50:30:20,FA : 0.34 cum, plums of size 150 to 80 mm : 0.25 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **16.45** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	4277.00	5.10	21812.70
	Cement for incidentals @ 3 kg / cum	kg	49.35	5.10	251.69
2	Coarse aggregate 40-20 mm	cum	6.33	1030.00	6519.90
	Coarse aggregate 20-10 mm	cum	3.80	1144.00	4347.20
	Coarse aggregate 10 mm below	cum	2.53	879.00	2223.87
3	Plums of size 150 to 80 mm	cum	4.11	619.00	2545.64
4	Fine aggregate (Un-Screened)	cum	5.59	723.00	4043.74
5	Super Plasticizer	kg	17.11	73.00	1248.88
6	Use rate of shuttering for 40 uses	sqm	16.45	333.58	5487.39
7	Scaffolding of shuttering @	0.15			823.11
	Total cost of Materials			Rs:	**49304.12**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60

2	10 hp pump (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
3	Needle vibrator 60 mm dia (ele)	Hour	8.00	7.00	56.00
	Fuel / Energy charges	Hour	8.00	16.10	128.80
	Total hire charges of Machinery			Rs:	**1224.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching cement (cement handling	Day	2.00	605.00	1210.00
	for batching other materials	Day	9.00	605.00	5445.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for loading plums	Day	1.00	605.00	605.00
	for laying concrete and plums	Day	4.00	605.00	2420.00
	for conveying concrete	Day	13.99	605.00	8461.54
	for conveying plums	Day	3.00	605.00	1815.00
	for cleaning / washing / curing	Day	1.00	605.00	605.00
7	Labour for shuttering	sqm	16.45	149.25	2455.16
8	Labour for scaffolding @	15%			368.27
	Total cost of Labour			Rs:	**32323.67**

labour component/unit qty			1965.00		
Add contractor's profit and overhead charges		13.615%	267.50		
labour component/unit qty (including contractor's profit)			**2232.50**		

ABSTRACT:

A. Cost of Materials			Rs:	49304.12
B. Hire charges of Machinery			Rs:	1224.40
C. Cost of Labour			Rs:	32323.67
		Total	Rs:	82852.19
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	11280.33
Lead Charges for 1 Km for FA	5.59	cum @	44.9 Rs./Cur	251.1257
Lead Charges for 1 Km for CA and Plums	16.77	cum @	43.3 Rs./Cur	726.25
Total cost for	16.45	cum	Rs:	**95109.89**
Rate per Cum	(A+B+C+D)/16.45		Rs:	**5781.80**

IRR-DAW-2-13

Providing and laying insitu vibrated M-10 (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using 40 mm down size approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for plain concrete works with initial lead upto 1 km and all lifts. (Cement content 220 kg / cum with use of super plasticiser, CA : 0.90 cum, Blending **Ratio of CA : 50:30:20, FA : 0.40 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **16.53** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	3636.60	5.10	18546.66
	Cement for incidentals @ 3 kg/ cum	kg	49.59	5.10	252.91
2	Coarse aggregate 40-20 mm	cum	7.44	1030.00	7661.66
	Coarse aggregate 20-10 mm	cum	4.46	1144.00	5105.79
	Coarse aggregate 10 mm below	cum	2.98	879.00	2615.38

3	Fine aggregate (Un-Screened)	cum	6.61	723.00	4780.48
4	Super plasticizer	kg	14.55	73.00	1061.89
5	Use rate of shuttering	sqm	16.53	333.58	5514.08
6	Use rate of scaffolding @	0.15			827.11
	Total cost of Materials			Rs:	**46365.96**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
3	Needle vibrator 40 mm dia (ele)	Hour	8.00	6.30	50.40
	Fuel / Energy charges	Hour	8.00	10.70	85.60
	Total hire charges of Machinery			Rs:	**1175.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	mazdoor				
	for batching cement (cement handling	Day	2.00	605.00	1210.00
	for batching other materials	Day	9.00	605.00	5445.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	16.53	605.00	10000.65
	for cleaning / washing / curing	Day	1.00	605.00	605.00
6	Labour cost of shuttering	sqm	16.53	149.25	2467.10
7	Labour cost of scaffolding @	15%			370.07
	Total cost of Labour			Rs:	**30046.52**

labour component/unit qty		1817.70		
Add contractor's profit and overhead charges	13.615%	247.50		
labour component/unit qty (including contractor's profit)		**2065.20**		

ABSTRACT:

A. Cost of Materials			Rs:	46365.96
B. Hire charges of Machinery			Rs:	1175.60
C. Cost of Labour			Rs:	30046.52
		Total	Rs:	77588.08
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	10563.62
Lead Charges for 1 Km for FA	6.61	cum @	44.9 Rs./Cur	296.8788
Lead Charges for 1 Km for CA	14.88	cum @	43.3 Rs./Cur	644.17
Total cost for	16.53	cum	Rs:	**89092.75**
Rate per Cum	(A+B+C+D)/16.53		Rs:	**5389.80**

IRR-DAW-2-14

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **for plain concrete works with initial lead upto 1 km and all lifts. (Cement content : 280 kg / cum with use of super plasticiser, CA : 0.80 cum, Blending Ratio of CA -- 65:35, FA : 0.44 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **15.87** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	4443.6	5.10	22662.36
	Cement for incidentals @ 3 kg/ cum	kg	47.61	5.10	242.81
2	Coarse aggregate 20-10 mm	cum	8.25	1144.00	9440.75
	Coarse aggregate 10 mm below	cum	4.44	879.00	3905.92
3	Fine aggregate (Un-Screened)	cum	6.98	723.00	5048.56
4	Super plasticiser	kg	17.77	73.00	1297.53
5	Use rate of shuttering	sqm	15.87	333.58	5293.91
6	Use rate of scaffolding @	15%			794.09
	Total cost of Materials			Rs:	**48685.93**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
3	Needle vibrator 40 mm dia (ele)	Hour	8.00	6.30	50.40
	Fuel / Energy charges	Hour	8.00	10.70	85.60
	Total hire charges of Machinery			Rs:	**1175.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	mazdoor				
	for batching cement (cement handling	Day	2.00	605.00	1210.00
	for batching other materials	Day	9.00	605.00	5445.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	15.87	605.00	9601.35
	for cleaning / washing / curing	Day	1.00	605.00	605.00
6	Labour cost of shuttering	sqm	15.87	149.25	2368.60
7	Labour cost of scaffolding @	15%			355.29
	Total cost of Labour			Rs:	**29533.94**

labour component/unit qty			1861.00		
Add contractor's profit and overhead charges		13.615%	253.40		
labour component/unit qty (including contractor's profit)			**2114.40**		
ABSTRACT:					
A. Cost of Materials				Rs:	48685.93
B. Hire charges of Machinery				Rs:	1175.60
C. Cost of Labour				Rs:	29533.94
			Total	Rs:	79395.47
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	10809.69
Lead Charges for 1 Km for FA		6.98	cum @	44.9 Rs./Cur	313.52772
Lead Charges for 1 Km for CA		12.70	cum @	43.3 Rs./Cur	549.74
Total cost for		15.87	cum	Rs:	**91068.42**
Rate per Cum		(A+B+C+D)/15.87		Rs:	**5738.40**

IRR-DAW-2-15

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm** down size approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in

position, levelling, vibrating, finishing, curing etc.,complete **for RCC works of spillway bridge, block outs** and such other similar structures with conjested reinforcement **with initial lead upto 1 km and all lifts.**
(Cement content : 330 kg / cum with use of super plasticiser, CA : 0.80 cum, Blending Ratio of CA -- 65:35, FA : 0.44 cum)

DATA:

RATE ANALYSIS

A. MATERIALS: UNIT: **13.47** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	4445.1	5.10	22670.01
	Cement for incidentals @ 3 kg/ cum	kg	40.41	5.10	206.09
2	Coarse aggregate 20-10 mm	cum	7.00	1144.00	8013.03
	Coarse aggregate 10 mm below	cum	3.77	879.00	3315.24
3	Fine aggregate (Un-Screened)	cum	5.93	723.00	4285.08
4	Super plasticiser	ltr	17.78	73.00	1297.97
5	Use rate of shuttering	sqm	33.68	333.58	11233.31
6	Scaffolding of shuttering @	100%			11233.31
	Total cost of Materials			Rs:	**62254.04**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
3	Needle vibrator 40 mm dia (ele)	Hour	8.00	6.30	50.40
	Fuel / Energy charges	Hour	8.00	10.70	85.60
	Total hire charges of Machinery			Rs:	**1175.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	mazdoor				0.00
	for batching cement (cement handling)	Day	2.00	605.00	1210.00
	for batching other materials	Day	9.00	605.00	5445.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	13.47	605.00	8149.35
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
6	Labour cost of shuttering	sqm	33.68	149.25	5025.99
7	Labour cost of scaffolding @	100%			5025.99
	Total cost of Labour			Rs:	**35410.03**

labour component/unit qty		2628.80	
Add contractor's profit and overhead charges	13.615%	357.90	
labour component/unit qty (including contractor's profit)		**2986.70**	

ABSTRACT:

A. Cost of Materials			Rs:	62254.04
B. Hire charges of Machinery			Rs:	1175.60
C. Cost of Labour			Rs:	35410.03
		Total	Rs:	98839.67
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	13457.02
Lead Charges for 1 Km for FA	5.93	cum @	44.9 Rs./Cur	266.11332
Lead Charges for 1 Km for CA	10.78	cum @	43.3 Rs./Cur	466.60
Total cost for	13.47	cum	Rs:	**113029.40**

Rate per Cum	(A+B+C+D)/13.47		Rs:	**8391.20**

IRR-DAW-2-16

Providing and **forming porous concrete body drain of size 68.5 x 68.5 cm** with 23 cm diameter central hole using cement and 20 mm down approved, clean, hard, graded coarse aggregates in 1 : 3.50 proportion by volume including cost of all materials, machinery, labour, formwork, curing etc., complete **with initial lead upto 1 km and all lifts. (M15 Cement content : 400kg/cum, CA : 1cum, Blending Ratio of CA -- 65:35)**
(M15 Cement content : 400kg/cum, CA : 1cum,
Blending Ratio of CA -- 65:35)

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT: **20.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	kg	3424	5.10	17462.40
2	Coarse aggregate 20-10 mm	cum	5.56	1144.00	6365.22
3	Coarse aggregate 10-4.75 mm	cum	3.00	879.00	2633.48
4	Use rate of shuttering	sqm	76.00	78.59	5973.03
	Total cost of Materials			Rs:	**32434.13**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump (ele)	Hour	0.50	7.40	3.70
	Fuel / Energy charges	Hour	0.50	107.40	53.70
	Total hire charges of Machinery			Rs:	**982.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	132.90	66.45
3	Mason Class-I	Day	1.00	680.00	680.00
4	mazdoor				
	for batching cement (cement handling	Day	2.00	605.00	1210.00
	for batching other materials	Day	6.00	605.00	3630.00
	for loading mortar pans	Day	2.00	605.00	1210.00
	for laying & packing concrete	Day	2.00	605.00	1210.00
	for conveying concrete	Day	8.56	605.00	5178.80
5	Fitter shuttering	Day	3.00	650.00	1950.00
	Total cost of Labour			Rs:	**17984.85**

labour component/unit qty			899.20		
Add contractor's profit and overhead charges		13.615%	122.40		
labour component/unit qty (including contractor's profit)			**1021.60**		

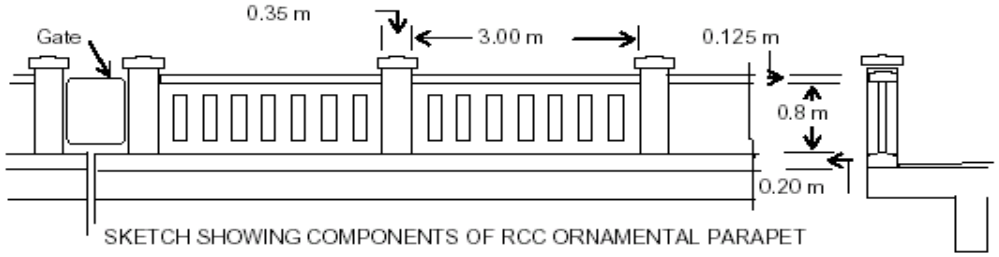
ABSTRACT:

A. Cost of Materials			Rs:	32434.13
B. Hire charges of Machinery			Rs:	982.20
C. Cost of Labour			Rs:	17984.85
		Total	Rs:	51401.18
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	6998.27
Lead Charges for 1 Km for CA	8.56	cum @	43.3 Rs./Cum	370.65
Total cost for	20.00	Rm	Rs:	**58770.10**
Rate per RM	(A+B+C+D)/20		Rs:	**2938.50**

IRR-DAW-2-17

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC solid parapet consisting of**

35 cm x 20 cm kerb, 35 cm x 35 cm x 1 m pillars spaced approximately at 3.35 m c / c, 12.5 cm thick wall 80 cm height with 12.5 cm thick and 35 cm wide coping slab for wall and 12 .5 cm thick 40 cm x 40 cm coping for pillars with top edges of kerb and coping chamferred / rounded as directed etc., **complete (excluding cost of providing and placing reinforcement steel and gate) with initial lead upto 1 km and all lifts. (Cement content 350 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.44 cum)**



SKETCH SHOWING COMPONENTS OF RCC ORNAMENTAL PARAPET

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **36.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement mix	kg	3034.5	5.10	15475.95
	Cement for incidentals @ 5 kg / cum	kg	43.35	5.10	221.09
2	Coarse aggregate 20-10 mm	cum	4.51	1144.00	5159.44
	Coarse aggregate 10-4.75 mm	cum	2.43	879.00	2135.97
3	Fine aggregate (Un-Screened)	cum	3.81	723.00	2754.63
4	Super plasticiser	kg	12.14	73.00	886.07
5	Use rate of shuttering	sqm	95.00	333.58	31690.10
6	Scaffolding of shuttering @	15%			4753.52
7	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**63134.77**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	Needle vibrator 40 mm (ele)	Hour	8.00	6.30	50.40
	Fuel / Energy charges	Hour	8.00	10.70	85.60
3	10 hp pump (ele)	Hour	0.50	7.40	3.70
	Fuel / Energy charges	Hour	0.50	107.40	53.70
	Total hire charges of Machinery			Rs:	**1118.20**

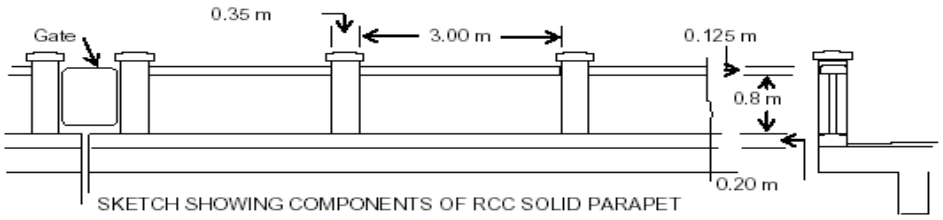
C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	132.90	66.45
3	Crew for Vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	2.00	680.00	1360.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching cement (cement handling)	Day	2.00	605.00	1210.00
	for batching other materials	Day	9.00	605.00	5445.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying & packing concrete	Day	2.00	605.00	1210.00
	for conveying concrete	Day	8.67	605.00	5245.35
	for curing & miscellaneous	Day	2.00	605.00	1210.00

7	Labour for shuttering	sqm	95.00	149.25	14178.75
8	Labour for scaffolding @	15%			2126.81
	Total cost of Labour			Rs:	**40178.16**
labour component/unit qty			1116.10		
Add contractor's profit and overhead charges		13.615%	152.00		
labour component/unit qty (including contractor's profit)			**1268.10**		
ABSTRACT:					
A. Cost of Materials				Rs:	63134.77
B. Hire charges of Machinery				Rs:	1118.20
C. Cost of Labour				Rs:	40178.16
			Total	Rs:	104431.13
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	14218.3
Lead Charges for 1 Km for FA		3.81	cum @	44.9 Rs./Cur	171.069
Lead Charges for 1 Km for CA		6.94	cum @	43.3 Rs./Cur	300.50
Total cost for		36.00	Rm	Rs:	**119121.00**
Rate per RM		(A+B+C+D)/36		Rs:	**3308.90**

IRR-DAW-2-18

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates including cost of all materials, machinery, labour, formwork, centering, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete for **RCC ornamental parapet consisting of 35 cm x 20 cm kerb**, 35 cm x 35 cm x 1 m pillars spaced approximately at 3.5 m apart, 20 cm x 15 cm posts 80 cm height approximately 30 cm c / c with 12.5 cm thick and 35 cm wide coping slab for posts and pillars with top edges of kerb and coping chamferred or rounded as directed etc., **complete (excluding cost of providing and placing reinforcement steel and gate) with initial lead upto 1 km and all lifts. (Cement content : 350 kg / cum with use of super plasticiser(0.4% by wt. of cement, CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.44 cum)**



SKETCH SHOWING COMPONENTS OF RCC SOLID PARAPET

DATA: **RATE ANALYSIS** UNIT:

A. MATERIALS: **36.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement mix	kg	2450	5.10	12495.00
	Cenent for incidentals @ 5 kg / cum	kg	35.00	5.10	178.50
2	Coarse aggregate 20-10 mm	cum	3.64	1144.00	4164.16
	Coarse aggregate 10-4.75 mm	cum	1.96	879.00	1722.84
3	Fine aggregate (Un-Screened)	cum	3.08	723.00	2226.84
4	Super plasticiser	kg	9.80	73.00	715.40
5	Use rate of shuttering	sqm	115.00	333.58	38361.70
6	Scaffolding of shuttering @	15%			5754.26
7	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**65676.70**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60

2	Needle vibrator 40 mm (ele)	Hour	8.00	6.30	50.40
	Fuel / Energy charges	Hour	8.00	10.70	85.60
3	10 hp pump (ele)	Hour	0.50	7.40	3.70
	Fuel / Energy charges	Hour	0.50	107.40	53.70
	Total hire charges of Machinery			Rs:	**1118.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	132.90	66.45
3	Crew for Vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	2.00	680.00	1360.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching cement (cement handling)	Day	2.00	605.00	1210.00
	for batching other materials	Day	9.00	605.00	5445.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying & packing concrete	Day	2.00	605.00	1210.00
	for conveying concrete	Day	7.00	605.00	4235.00
	for curing & miscellaneous	Day	2.00	605.00	1210.00
7	Labour for shuttering	sqm	115.00	149.25	17163.75
8	Labour for scaffolding @	15%			2574.56
	Total cost of Labour			Rs:	**42600.56**

labour component/unit qty		1183.30	
Add contractor's profit and overhead charges	13.615%	161.10	
labour component/unit qty (including contractor's profit)		**1344.40**	

ABSTRACT:

A. Cost of Materials			Rs:	65676.70
B. Hire charges of Machinery			Rs:	1118.20
C. Cost of Labour			Rs:	42600.56
		Total	Rs:	109395.46
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	14894.19
Lead Charges for 1 Km for FA	3.08	cum @	44.9 Rs./Cur	138.292
Lead Charges for 1 Km for CA	5.60	cum @	43.3 Rs./Cur	242.48
Total cost for	36.00	Rm	Rs:	**124670.42**
Rate Per Rm	(A+B+C+D)/36		Rs:	**3463.10**

IRR-DAW-2-19

Providing and laying insitu M- 25 (28 days cube compressive strength not less than 25 N / sq mm) grade Cement concrete using 20 mm down size approved, clean, hard, graded aggregates for wearing coat including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position in alternate panels, levelling, compacting, finishing, curing, packing joints with asphalt mortar etc., complete with initial lead upto 1 km and all lifts. (Cement content : 380 kg / cum with use of **super plasticiser(0.4% by wt. of cement, CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **11.70** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mix	kg	4446	5.10	22674.60
	Cement for incidentals @ 5 kg / cum	kg	58.50	5.10	298.35
2	Coarse aggregate 20-10 mm	cum	6.084	1144.00	6960.10
	Coarse aggregate 10 mm below	cum	3.276	879.00	2879.60
3	Fine aggregate (Un-Screened)	cum	5.265	723.00	3806.60

4	Super Plasticizer	kg	17.78	73.00	1298.23
5	Use rate of shuttering	sqm	5.85	333.58	1951.44
6	Sundries (asphalt mortar etc)	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**40013.92**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300/200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump (ele)	Hour	0.50	7.40	3.70
	Fuel / Energy charges	Hour	0.50	107.40	53.70
	Total hire charges of Machinery			Rs:	**982.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	132.90	66.45
3	Mason Class-I	Day	3.00	680.00	2040.00
4	work inspector	Day	1.00	805.00	805.00
5	mazdoor				
	for batching cement (cement handling)	Day	2.00	605.00	1210.00
	for batching materials	Day	9.00	605.00	5445.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying & compacting	Day	5.00	605.00	3025.00
	for conveying concrete	Day	11.70	605.00	7078.50
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
6	Labour cost for shuttering	sqm	5.85	149.25	873.11
	Total cost of Labour			Rs:	**26417.66**

labour component/unit qty		2257.90	
Add contractor's profit and overhead charges	13.615%	307.40	
labour component/unit qty (including contractor's profit)		**2565.30**	

ABSTRACT:

A. Cost of Materials			Rs:	40013.92
B. Hire charges of Machinery			Rs:	982.20
C. Cost of Labour			Rs:	26417.66
		Total	Rs:	67413.78
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	9178.39
Lead Charges for 1 Km for FA	5.27	cum @	44.9 Rs./Cur	236.3985
Lead Charges for 1 Km for CA	9.36	cum @	43.3 Rs./Cur	405.29
Total cost for	11.70	cum	Rs:	**77233.86**
Rate Per cum	(A+B+C+D)/11.70		Rs:	**6601.20**

IRR-DAW-2-20

Pre-cooling to control placement temperature of cement concrete in the range of 18 to 21 C at the concrete placement point by inundation of coarse aggregates and adding flaked ice as part of mixing water including cost of all materials, machinery, labour etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **500** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sundries (amonia gas etc)	LS	3.00	29.00	87.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**87.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Ice maker unit consisting of:	Hour	24.00	198.70	4768.80
	Compressor 125 hp - 1 No				
	Condenser with 30 hp motor - 1 No.				
	Ice makers 10 t / day each - 3 Nos.				
	Pump 2 hp for ice cutting - 3 Nos.				
	Pump 2 hp for pumping water-3 Nos.				
	Screw conveyor with 15 hp motor -1				
	Ice elevator with 5 hp motor - 1 No.				
	Fuel / Energy charges for system	Hour	24.00	1530.80	36739.20
	Total hire charges of Machinery			Rs:	**41508.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Ice maker unit	Hour	24.00	213.70	5128.80
2	mazdoor				
	for Ice chamber (2 x 3)	Day	6.00	605.00	3630.00
	for miscellaneous works (1 x 3)	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**10573.80**

labour component/unit qty		21.10	
Add contractor's profit and overhead charges	13.615%	2.90	
labour component/unit qty (including contractor's profit)		**24.00**	

ABSTRACT:

A. Cost of Materials			Rs:	87.00
B. Hire charges of Machinery			Rs:	41508.00
C. Cost of Labour			Rs:	10573.80
		Total	Rs:	52168.80
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	7102.78
Total cost for	500.00	cum	Rs:	**59271.58**
Rate Per cum	(A+B+C+D)/500		Rs:	**118.50**

IRR-DAW-2-21

Conveying and **fixing elastomeric bearing for spillway bridge** including cleaning and preparing surface, mixing and applying adhesive, fixing bearing in correct position etc., including cost of all materials except bearings, machinery, labour etc., complete **with all leads and lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **6.00** Nos.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Synthetic adhesive (Resin + Hardener)	kg	0.60	374.00	224.40
2	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**282.40**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Nil		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs

1	Marker / Erector	Day	1.00	815.00	815.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**2830.00**

labour component/unit qty		471.70		
Add contractor's profit and overhead charges	13.615%	64.20		
labour component/unit qty (including contractor's profit)		**535.90**		
ABSTRACT:				
A. Cost of Materials			Rs:	282.40
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2830.00
		Total	Rs:	3112.40
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	423.75
Total cost for	6.00	Nos.	Rs:	**3536.15**
Rate Per Each	(A+B+C+D)/6		Rs:	**589.40**

IRR-DAW-2-22

Providing and **constructing 150 mm dia hume pipe weep holes for concrete / masonry walls** including providing 20 x 20 x 20 cm size porous concrete block made of cement and 20 mm down coarse aggregate in 1 : 4 proportion including 10 cm thick sand backing at the junction of wall and soil back fill, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **3.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	150 mm dia hume pipe	Rm	2.90	400.00	1160.00
2	Cement	kg	3.00	5.10	15.30
3	20 - 10 mm coarse aggregate	cum	0.01	1144.00	9.15
4	Sand for filling	cum	0.02	723.00	14.46
	Total cost of Materials			Rs:	**1198.91**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Nil		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Mason Class-II	Day	0.25	650.00	162.50
2	mazdoor	Day	0.25	605.00	151.25
	Total cost of Labour			Rs:	**313.75**

labour component/unit qty		104.60		
Add contractor's profit and overhead charges	13.615%	14.20		
labour component/unit qty (including contractor's profit)		**118.80**		
ABSTRACT:				
A. Cost of Materials			Rs:	1198.91
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	313.75
		Total	Rs:	1512.66
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	205.95
Lead Charges for 1 Km for FA	0.02	cum @	44.9 Rs./Cur	0.898
Lead Charges for 1 Km for CA	0.01	cum @	43.3 Rs./Cur	0.35
Total cost for	3.00	Rm	Rs:	**1719.86**
Rate Per Rm	(A+B+C+D)/3		Rs:	**573.30**

IRR-DAW-2-23

Providing and **forming expansion joint for spillway bridge** consisting of 75 x 75 x 6 mm angles 2 numbers provided with 25 cm long 12 mm dia. anchors fixed to both flanges at 15 cm c /c and 140 x 6 mm plate welded on top of one of the angle including cost of all materials, machinery, labour, providing and fixing 38 mm thick joint filler board matching the thickness of wearing coat, painting etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **7.50** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Structural steel plate	kg	50.70	61.00	3092.70
2	Structural steel angle	kg	104.50	60.00	6270.00
3	12 dia steel anchors	kg	27.40	57.00	1561.80
4	Welding electrodes	Nos	70.00	15.00	1050.00
5	Joint filler board 19 mm thick	sqm	1.00	676.00	676.00
6	Sundries (cutting gas / paint etc)	LS	1.50	29.00	43.50
	Total cost of Materials			Rs:	**12694.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Welding set	Hour	8.00	17.20	137.60
	Fuel / Energy charges	Hour	8.00	128.90	1031.20
2	Sundries (cutting torch/ welding guns etc)	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**1226.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Marker / Fabricator / Erector	Day	1.50	815.00	1222.50
2	Gas cutter / Welder	Day	1.50	720.00	1080.00
3	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**3512.50**

labour component/unit qty		468.30		
Add contractor's profit and overhead charges	13.615%	63.80		
labour component/unit qty (including contractor's profit)		**532.10**		

ABSTRACT:

A. Cost of Materials			Rs:	12694.00
B. Hire charges of Machinery			Rs:	1226.80
C. Cost of Labour			Rs:	3512.50
		Total	Rs:	17433.30
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	2373.54
Total cost for	7.50	Rm	Rs:	**19806.84**
Rate Per Rm	(A+B+C+D)/7.50		Rs:	**2640.90**

IRR_DAW-3 **MASONRY & GUNITING WORKS :**

IRR-DAW-3-1

Providing and **constructing un-coursed rubble stone masonry** using approved stones **in cement mortar 1 : 3** proportion including cost of all materials, machinery, labour, scaffolding, cleaning, packing mortar,wedging stone chips, curing etc., complete **with initial lead upto 1 km and all lifts. (Cement content : 190 kg/cum of masonry, rubble stones : 0.85 cum, stone chips : 0.15 cum/cum, FA : 0.4 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **25.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	4750	5.10	24225.00

2	Rubble stones	cum	21.25	473.00	10051.25
3	Stone chips	cum	3.75	619.00	2321.25
4	Sand (Screened)	cum	10	952.00	9520.00
	Total cost of Materials			Rs:	**46117.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
				Rs:	**1039.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	work inspector	Day	1.00	805.00	805.00
4	Mason Class-I	Day	2.50	680.00	1700.00
5	Mason Class-II	Day	4.00	650.00	2600.00
6	Chavali	Day	16.00	650.00	10400.00
7	mazdoor				
	for batching cement (cement handling)	Day	2.00	605.00	1210.00
	for batching sand	Day	6.00	605.00	3630.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying & packing mortar	Day	10.00	605.00	6050.00
	for loading chips	Day	1.00	605.00	605.00
	for washing rubble / finishing / curing	Day	4.00	605.00	2420.00
	for conveying mortar / chips	Day	12.00	605.00	7260.00
	Total cost of Labour			Rs:	**42082.50**

labour component/unit qty		1683.30		
Add contractor's profit and overhead charges	13.615%	229.20		
labour component/unit qty (including contractor's profit)		**1912.50**		

ABSTRACT:

A. Cost of Materials			Rs:	46117.50
B. Hire charges of Machinery			Rs:	1039.60
C. Cost of Labour			Rs:	42082.50
		Total	Rs:	89239.60
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	12149.97
Lead Charges for 1 Km for FA	10.00	cum @	44.9 Rs./Cur	449
Lead Charges for 1 Km for Stones/Stone Chips	25.00	cum @	43.3 Rs./Cur	1082.50
Total cost for	25.00	cum	Rs:	**102921.07**
Rate Per cum	(A+B+C+D)/25		Rs:	**4116.80**

IRR-DAW-3-2

Providing and constructing **un-coursed rubble stone masonry** using approved stones in **cement mortar 1 : 4** proportion including cost of all materials, machinery, labour, scaffolding, cleaning, packing mortar, wedging stone chips, curing etc., complete **with initial lead upto 1 km and all lifts. (Cement content : 143 kg/cum of masonry, rubble stones : 0.85 cum, stone chips : 0.15 cum/cum, FA : 0.4 cum)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **25.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	3575	5.10	18232.50
2	Rubble stones	cum	21.25	473.00	10051.25
3	Stone chips	cum	3.75	619.00	2321.25
4	Sand (Screened)	cum	10	952.00	9520.00

	Total cost of Materials	Rs:	**40125.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr(ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
				Rs:	**1039.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	work inspector	Day	1.00	805.00	805.00
4	Mason Class-I	Day	2.50	680.00	1700.00
5	Mason Class-II	Day	4.00	650.00	2600.00
6	Chavali	Day	16.00	650.00	10400.00
7	mazdoor				
	for batching cement (cement handling)	Day	2.00	605.00	1210.00
	for batching sand	Day	6.00	605.00	3630.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying & packing mortar	Day	10.00	605.00	6050.00
	for loading chips	Day	1.00	605.00	605.00
	for washing rubble / finishing / curing	Day	4.00	605.00	2420.00
	for conveying mortar / chips	Day	12.00	605.00	7260.00
	Total cost of Labour			Rs:	**42082.50**

labour component/unit qty		1683.30	
Add contractor's profit and overhead charges	13.615%	229.20	
labour component/unit qty (including contractor's profit)		**1912.50**	

ABSTRACT:

A. Cost of Materials			Rs:	40125.00
B. Hire charges of Machinery			Rs:	1039.60
C. Cost of Labour			Rs:	42082.50
		Total	Rs:	83247.10
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	11334.09
Lead Charges for 1 Km for FA	10.00	cum @	44.9 Rs./Cur	449
Lead Charges for 1 Km for Stones/Stone Chips	25.00	cum @	43.3 Rs./Cur	1082.50
Total cost for	25.00	cum	Rs:	**96112.69**
Rate Per cum		(A+B+C+D)/25	Rs:	**3844.50**

IRR-DAW-3-3

Providing and **constructing coursed rubble face stone masonry** using approved rubble stones **in cement mortar 1 : 3** proportion including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc., **with initial lead upto 1 km and all lifts. (Thickness of the CR face assumed: 0.75 m,Cement content : 178 kg/cum of masonry, rubble stones : 0.35 cum, stone chips:0.15 cum/cum, FA:0.375 cum, CR stones 30x30x45 cm:9.75 No, CR stones 30x30x60 cm:3.25 No)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **25.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	4450	5.10	22695.00
2	Coursed rubble stone 30 x 30 x 45 cm	Nos	244	34.00	8296.00
3	Coursed rubble stone 30 x 30 x 60 cm	Nos	82	41.00	3362.00
4	Rubble stones	cum	8.75	473.00	4138.75

5	Stone chips	cum	3.75	619.00	2321.25
6	Sand (Screened)	cum	9.375	952.00	8925.00
	Total cost of Materials			Rs:	**49738.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
	Total hire charges of Machinery			Rs:	**1039.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	work inspector	Day	1.00	805.00	805.00
4	Stone chiseller Cl -II	Day	7.00	650.00	4550.00
5	Mason Class-I	Day	2.50	680.00	1700.00
6	Mason Class-II	Day	4.00	650.00	2600.00
7	Chavali	Day	16.00	650.00	10400.00
8	mazdoor				
	for batching cement (cement handling)	Day	2.00	605.00	1210.00
	for batching sand	Day	6.00	605.00	3630.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying & packing mortar	Day	10.00	605.00	6050.00
	for loading chips	Day	1.00	605.00	605.00
	for washing rubble / finishing / curing	Day	4.00	605.00	2420.00
	for conveying mortar / chips	Day	12.00	605.00	7260.00
	Total cost of Labour			Rs:	**46632.50**

labour component/unit qty		1865.30	
Add contractor's profit and overhead charges	13.615%	254.00	
labour component/unit qty (including contractor's profit)		**2119.30**	

ABSTRACT:

A. Cost of Materials			Rs:	49738.00
B. Hire charges of Machinery			Rs:	1039.60
C. Cost of Labour			Rs:	46632.50
		Total	Rs:	97410.10
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	13262.39
Lead Charges for 1 Km for FA	9.38	cum @	44.9 Rs./Cur	420.9375
Lead Charges for 1 Km for Stones/Stone Chips	26.81	cum @	43.3 Rs./Cur	1160.87
Total cost for	25.00	cum	Rs:	**112254.30**
Rate Per cum	(A+B+C+D)/25		Rs:	**4490.20**

IRR-DAW-3-4

Providing and **constructing coursed rubble face stone masonry** using approved rubble stones in **cement mortar 1 : 4** proportion including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc., **with initial lead upto 1 km and all lifts. (Cement content : 134 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.375 cum, CR stones 30 x 30 x 45 cm : 9.75 No, CR stones 30 x 30 x 60 cm : 3.25 No)**
stone chips : 0.15 cum/cum, FA : 0.375 cum,

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **25.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs

1	Cement for mortar	kg	3350	5.10	17085.00
2	Coursed rubble stone 30 x 30 x 45 cm	Nos	244	34.00	8296.00
3	Coursed rubble stone 30 x 30 x 60 cm	Nos	82	41.00	3362.00
4	Rubble stones	cum	8.75	473.00	4138.75
5	Stone chips	cum	3.75	619.00	2321.25
6	Sand (Screened)	cum	9.375	952.00	8925.00
	Total cost of Materials			Rs:	**44128.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
	Total hire charges of Machinery			Rs:	**1039.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	work inspector	Day	1.00	805.00	805.00
4	Stone chiseller Cl -II	Day	7.00	650.00	4550.00
5	Mason Class-I	Day	2.50	680.00	1700.00
6	Mason Class-II	Day	4.00	650.00	2600.00
7	Chavali	Day	16.00	650.00	10400.00
8	mazdoor				
	for batching cement (cement handling)	Day	2.00	605.00	1210.00
	for batching sand	Day	6.00	605.00	3630.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying & packing mortar	Day	10.00	605.00	6050.00
	for loading chips	Day	1.00	605.00	605.00
	for washing rubble / finishing / curing	Day	4.00	605.00	2420.00
	for conveying mortar / chips	Day	12.00	605.00	7260.00
	Total cost of Labour			Rs:	**46632.50**

labour component/unit qty		1865.30		
Add contractor's profit and overhead charges	13.615%	254.00		
labour component/unit qty (including contractor's profit)		**2119.30**		

ABSTRACT:

A. Cost of Materials			Rs:	44128.00
B. Hire charges of Machinery			Rs:	1039.60
C. Cost of Labour			Rs:	46632.50
		Total	Rs:	91800.10
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	12498.58
Lead Charges for 1 Km for FA	9.38	cum @	44.9 Rs./Cur	420.9375
Lead Charges for 1 Km for Stones/Stone Chips	26.81	cum @	43.3 Rs./Cur	1160.87
Total cost for	25.00	cum	Rs:	**105880.49**
Rate per cum	(A+B+C+D)/25		Rs:	**4235.20**

IRR-DAW-3-5

Providing and **constructing chisel drafted and hammer dressed face stone masonry** with approved stones in **cement mortar 1 : 3** proportion including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc., complete with **initial lead upto 1 km and all lifts. (Cement content : 167 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.35 cum, Dressed stones 30 x 30 x 45 cm : 10 No, Dressed stones 30 x 30 x 60 cm : 3.40 No)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **25.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	4175	5.10	21292.50
2	Coursed rubble stone 30 x 30 x 45 cm	Nos	250	34.00	8500.00
3	Coursed rubble stone 30 x 30 x 60 cm	Nos	85	41.00	3485.00
4	Rubble stones	cum	8.75	473.00	4138.75
5	Stone chips	cum	3.75	619.00	2321.25
6	Sand (Screened)	cum	8.75	952.00	8330.00
	Total cost of Materials			Rs:	**48067.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
	Total hire charges of Machinery			Rs:	**1039.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	work inspector	Day	1.00	805.00	805.00
4	Stone chiseller Cl -I	Day	14.00	715.00	10010.00
5	Stone chiseller Cl -II	Day	7.00	650.00	4550.00
6	Mason Class-I	Day	2.50	680.00	1700.00
7	Mason Class-II	Day	4.00	650.00	2600.00
8	Chavali	Day	16.00	650.00	10400.00
9	mazdoor				
	for batching cement (cement handling)	Day	2.00	605.00	1210.00
	for batching sand	Day	6.00	605.00	3630.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying & packing mortar	Day	10.00	605.00	6050.00
	for loading chips	Day	1.00	605.00	605.00
	for washing rubble / finishing / curing	Day	4.00	605.00	2420.00
	for conveying mortar / chips	Day	12.00	605.00	7260.00
	Total cost of Labour			Rs:	**56642.50**

labour component/unit qty		2265.70		
Add contractor's profit and overhead charges	13.615%	308.50		
labour component/unit qty (including contractor's profit)		**2574.20**		

ABSTRACT:

A. Cost of Materials			Rs:	48067.50
B. Hire charges of Machinery			Rs:	1039.60
C. Cost of Labour			Rs:	56642.50
		Total	Rs:	105749.60
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	14397.81
Lead Charges for 1 Km for FA	8.75	cum @	44.9 Rs./Cur	392.875
Lead Charges for 1 Km for Stones/Stone Chips	27.22	cum @	43.3 Rs./Cur	1178.41
Total cost for	25.00	cum	Rs:	**121718.69**
Rate Per cum	(A+B+C+D)/25		Rs:	**4868.70**

IRR-DAW-3-6

Providing and **constructing chisel drafted and hammer dressed face stone masonry** with approved stones in **cement mortar 1 : 4** proportion including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, curing etc.,complete with **initial lead upto 1 km and all lifts. (Cement content : 125 kg/cum of masonry, rubble stones : 0.35 cum, stone chips : 0.15 cum/cum, FA : 0.35 cum,**

Dressed stones 30 x 30 x 45 cm : 10 No, Dressed stones 30 x 30 x 60 cm : 3.40 No)

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **25.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement for mortar	kg	3125	5.10	15937.50
2	Coursed rubble stone 30 x 30 x 45 cm	Nos	250	34.00	8500.00
3	Coursed rubble stone 30 x 30 x 60 cm	Nos	85	41.00	3485.00
4	Rubble stones	cum	8.75	473.00	4138.75
5	Stone chips	cum	3.75	619.00	2321.25
6	Sand (Screened)	cum	8.75	952.00	8330.00
	Total cost of Materials			Rs:	**42712.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 ltr (ele)	Hour	8.00	61.90	495.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	10 hp pump (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
	Total hire charges of Machinery			Rs:	**1039.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	1.00	132.90	132.90
3	work inspector	Day	1.00	805.00	805.00
4	Stone chiseller Cl -I	Day	14.00	715.00	10010.00
5	Stone chiseller Cl -II	Day	7.00	650.00	4550.00
6	Mason Class-I	Day	2.50	680.00	1700.00
7	Mason Class-II	Day	4.00	650.00	2600.00
8	Chavali	Day	16.00	650.00	10400.00
9	mazdoor				
	for batching cement (cement handling	Day	2.00	605.00	1210.00
	for batching sand	Day	6.00	605.00	3630.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying & packing mortar	Day	10.00	605.00	6050.00
	for loading chips	Day	1.00	605.00	605.00
	for washing rubble / finishing / curing	Day	4.00	605.00	2420.00
	for conveying mortar / chips	Day	12.00	605.00	7260.00
	Total cost of Labour			Rs:	**56642.50**

labour component/unit qty		2265.70		
Add contractor's profit and overhead charges	13.615%	308.50		
labour component/unit qty (including contractor's profit)		**2574.20**		

ABSTRACT:

A. Cost of Materials			Rs:	42712.50
B. Hire charges of Machinery			Rs:	1039.60
C. Cost of Labour			Rs:	56642.50
		Total	Rs:	100394.60
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	13668.72
Lead Charges for 1 Km for FA	8.75	cum @	44.9 Rs./Cur	392.875
Lead Charges for 1 Km for Stones/Stone Chips	27.22	cum @	43.3 Rs./Cur	1178.41
Total cost for	25.00	cum	Rs:	**115634.60**
Rate Per cum	(A+B+C+D)/25		Rs:	**4625.40**

IRR-DAW-3-7

Providing **cement mortar pointing to coursed rubble face stone masonry** 50 mm deep in **CM 1 : 2**

proportion by volume including raking and cleaning joints, pressing mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT: **100.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	kg	455.446	5.10	2322.77
2	Sand (Screened)	cum	0.735	952.00	699.72
	Total cost of Materials			Rs:	**3022.49**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Mason Class-I	Day	10.00	680.00	6800.00
2	mazdoor	Day	10.00	605.00	6050.00
	Total cost of Labour			Rs:	**12850.00**

labour component/unit qty		128.50	
Add contractor's profit and overhead charges	13.615%	17.50	
labour component/unit qty (including contractor's profit)		**146.00**	

ABSTRACT:

A. Cost of Materials			Rs:	3022.49
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	12850.00
		Total	Rs:	15872.49
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	2161.04
Lead Charges for 1 Km for FA	0.74	cum @	44.9 Rs./Cur	33.0015
Total cost for	100.00	sqm	Rs:	**18066.54**
Rate Per sqm	(A+B+C+D)/100		Rs:	**180.70**

IRR-DAW-3-8

Providing **cement mortar pointing to coursed rubble face stone masonry** 50 mm deep in **CM 1 : 3** proportion by volume including raking and cleaning joints, pressing mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **100.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	kg	321.80	5.10	1641.18
2	Sand (Screened)	cum	0.74	952.00	699.72
	Total cost of Materials			Rs:	**2340.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs

1	Mason Class-I	Day	10.00	680.00	6800.00
2	mazdoor	Day	10.00	605.00	6050.00
	Total cost of Labour			Rs:	**12850.00**

labour component/unit qty		128.50		
Add contractor's profit and overhead charges	13.615%	17.50		
labour component/unit qty (including contractor's profit)		**146.00**		

ABSTRACT:

A. Cost of Materials			Rs:	2340.90
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	12850.00
		Total	Rs:	15190.90
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	2068.24
Lead Charges for 1 Km for FA	0.74	cum @	44.9 Rs./Cur	33.0015
Total cost for	100.00	sqm	Rs:	**17292.14**
Rate Per sqm	(A+B+C+D)/100		Rs:	**172.90**

IRR_DAW-4 **CONTRACTION JOINT WORKS:**

IRR-DAW-4-1

Providing **25 mm thick guniting to rock or masonry surface in cement mortar 1 : 3** proportion by weight including cost of all materials, machinery, labour, raking-out and cleaning joints, scaffolding wherever required and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **36.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	kg	609.90	5.10	3110.49
2	Sand (Screened)	cum	1.09	952.00	1037.68
3	Use rate of grout hose 25 m	Hour	8.00	6.34	50.75
4	Use rate of water hose 25 m	Hour	8.00	6.25	50.00
5	Use rate of guniting nozzle	Hour	8.00	4.50	36.00
6	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**4342.92**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Guniting equipment	Hour	8.00	125.90	1007.20
	Fuel / Energy charges	Hour	8.00	0.00	0.00
2	Air compressor 8.5 cmm (ele)	Hour	8.00	183.60	1468.80
	Fuel / Energy charges	Hour	8.00	604.30	4834.40
3	Pump 10 hp (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
4	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**7483.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Guniting equipment	Hour	8.00	353.60	2828.80
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	Crew for pump	Hour	1.00	132.90	132.90
4	Mason Cl II	Day	1.00	650.00	650.00
5	mazdoor				
	for cement handling	Day	2.00	605.00	1210.00
	for sand	Day	2.00	605.00	1210.00
	mazdoor for other works	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**9363.30**

labour component/unit qty 260.10

Add contractor's profit and overhead charges	13.615%	35.40	
labour component/unit qty (including contractor's profit)		**295.50**	

ABSTRACT:

A. Cost of Materials			Rs:	4342.92
B. Hire charges of Machinery			Rs:	7483.20
C. Cost of Labour			Rs:	9363.30
		Total	Rs:	21189.42
Add for scaffolding	3%			529.74
		Total	Rs:	21719.16
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%	Rs.	2957.06
Lead Charges for 1 Km for FA	1.09	cum @	44.9 Rs./Cur	48.941
Total cost for	36.00	sqm	Rs:	**24725.16**
Rate Per sqm	(A+B+C+D)/36		Rs:	**686.80**

IRR-DAW-4-2

Providing and **constructing contraction joints by fixing 16 SWG 60 cm wide annealed copper sheets** in two lines with 8 mm dia steel dowel rods on either side at one metre interval, forming 125 x 125 mm size groove in between copper strips for filling asphalt including fixing 15 mm dia two legged G.I pipe with U - bend at bottom for circulation of steam at intervals and forming 150 mm dia formed drain behind water seals including cost of all materials, machinery, labour, filling asphalt, circulation of steam through pipes etc., complete with all leads and lifts. consider 12 m height of contraction joint for analysis.

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **12.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Copper sheet 16 SWG	kg	215.00	790.00	169850.00
2	Reinforcement steel 8 mm dia	kg	30.00	57.00	1710.00
3	GI pipe 15 mm dia	Rm	24.00	121.00	2904.00
4	Asphalt	kg	192.00	62.00	11904.00
5	Elbows / Nipple / Plugs etc.,	LS	5.00	25.00	125.00
6	Soldering materials	LS	40.00	22.00	880.00
	Total cost of Materials			Rs:	**187373.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Steam circulation arrangement	LS	8.00	23.00	184.00
	Fuel charges (gas for heating)	LS	10.00	23.00	230.00
	Total hire charges of Machinery			Rs:	**414.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Welder	Day	1.00	720.00	720.00
2	Tinsmith	Day	1.00	675.00	675.00
3	Bar bender	Day	0.50	805.00	402.50
4	Pipe fitter	Day	0.50	790.00	395.00
5	Mason Class-I	Day	0.50	680.00	340.00
6	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**3137.50**

labour component/unit qty		261.50	
Add contractor's profit and overhead charges	13.615%	35.60	
labour component/unit qty (including contractor's profit)		**297.10**	

ABSTRACT:

A. Cost of Materials	Rs:	187373.00	
B. Hire charges of Machinery	Rs:	414.00	
C. Cost of Labour	Rs:	3137.50	

		Total	Rs:	190924.50
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	25994.37
Total cost for	12.00	Rm	Rs:	**216918.87**
Rate Per Rm	(A+B+C+D)/12		Rs:	**18076.60**

IRR-DAW-4-3

Providing and **constructing contraction joints by fixing 310 mm wide central bulb type approved quality PVC water stop** in two lines with 8 mm diameter steel dowel rods on either side at 1m interval, forming 125 x 125 mm size groove in between two water stops, providing & fixing 15 mm dia two legged G.I pipe with U-bend at bottom for circulation steam at interval, forming 150 mm diameter formed drain behind water seals including filling groove with asphalt, circulation of steam at intervals, cost of all materials, machinery, labour etc, Complete with all leads and lifs

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT: **12.00** Rm.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	PVC water stops 310 mm wide	Rm	24.50	499.00	12225.50
2	Reinforcement steel 8 mm dia	kg	30.00	57.00	1710.00
3	GI pipe 15 mm dia	Rm	24.00	121.00	2904.00
4	Asphalt	kg	192.00	62.00	11904.00
5	Elbows / Nipple / Plugs etc.,	LS	5.00	25.00	125.00
6	Vulcanizing materials	LS	25.00	25.00	625.00
	Total cost of Materials			Rs:	**29493.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Steam circulation arrangement	LS	8.00	23.00	184.00
	Fuel charges (gas for heating)	LS	10.00	23.00	230.00
	Total hire charges of Machinery			Rs:	**414.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Welder	Day	0.50	720.00	360.00
2	Bar bender	Day	0.50	805.00	402.50
3	Pipe fitter	Day	0.50	790.00	395.00
4	Mason Class-I	Day	0.50	680.00	340.00
5	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**2102.50**

labour component/unit qty		175.20		
Add contractor's profit and overhead charges	13.615%	23.90		
labour component/unit qty (including contractor's profit)		**199.10**		

ABSTRACT:

A. Cost of Materials			Rs:	29493.50
B. Hire charges of Machinery			Rs:	414.00
C. Cost of Labour			Rs:	2102.50
		Total	Rs:	32010.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	4358.16
Total cost for	12.00	Rm.	Rs:	**36368.16**
Rate Per Rm.	(A+B+C+D)/12		Rs:	**3030.70**

IRR-DAW-4-4

Providing and **constructing contraction joints by fixing 16 SWG 60 cm wide annealed copper sheets** in single line with 8 mm dia steel dowel rods on either side at 1 metre interval including cost of all materials, machinery, labour etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **8.7** Rm

Sl No	Particulars	Unit	Quantity	Rate	Amount

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Copper sheet 16 SWG	kg	77.00	790.00	60830.00
2	Reinforcement steel 8 mm dia	kg	15.00	57.00	855.00
3	Soldering materials	LS	10.00	22.00	220.00
	Total cost of Materials			Rs:	**61905.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sundries such as soldering gun etc.,	LS	3.00	29.00	87.00
	Fuel charges (gas)	LS	5.00	23.00	115.00
				Rs:	**202.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Welder	Day	0.5	720.00	360.00
2	Tinsmith	Day	0.5	675.00	337.50
3	Bar bender	Day	0.5	805.00	402.50
4	Mason Class-I	Day	0.5	680.00	340.00
5	mazdoor	Day	0.5	605.00	302.50
	Total cost of Labour			Rs:	**1742.50**

labour component/unit qty		200.30	
Add contractor's profit and overhead charges	13.615%	27.30	
labour component/unit qty (including contractor's profit)		**227.60**	

ABSTRACT:

A. Cost of Materials			Rs:	61905.00
B. Hire charges of Machinery			Rs:	202.00
C. Cost of Labour			Rs:	1742.50
		Total	Rs:	63849.50
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	8693.11
Total cost for	8.70	Rm	Rs:	**72542.61**
Rate Per Rm	(A+B+C+D)/8.70		Rs:	**8338.20**

IRR-DAW-4-5

Providing and **constructing contraction joints by fixing 23 cm wide central bulb type PVC water stop in single line** supported by 10 mm dia steel dowel rods on either side at 1 metre interval including cost of all materials, machinery, labour, valcunising joints etc., complete **with all leads and lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT: **8.70** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	PVC water seal 23 cm wide	Rm	9.00	58.00	522.00
2	Reinforcement steel 10 mm dia	kg	10.00	57.00	570.00
3	Vulcanising materials	LS	2.00	25.00	50.00
	Total cost of Materials			Rs:	**1142.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sundries such as heater etc.,	LS	0.50	29.00	14.50
	Fuel charges for heating	LS	0.50	23.00	11.50
	Total hire charges of Machinery				**26.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Welder	Day	0.50	720.00	360.00
2	Bar bender	Day	0.50	805.00	402.50

3	Mason Class-I	Day	0.50	680.00	340.00
4	mazdoor	Day	0.50	605.00	302.50
	Total cost of Labour			Rs:	**1405.00**

labour component/unit qty		161.50	
Add contractor's profit and overhead charges	13.615%	22.00	
labour component/unit qty (including contractor's profit)		**183.50**	

ABSTRACT:

A. Cost of Materials			Rs:	1142.00
B. Hire charges of Machinery			Rs:	26.00
C. Cost of Labour			Rs:	1405.00
		Total	Rs:	2573.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	350.31
Total cost for	8.70	Rm	Rs:	**2923.31**
Rate Per Rm	(A+B+C+D)/8.70		Rs:	**336.00**

IRR_DAW-5 **EARTH / ROCKFILL EMBANKMENT WORKS :**

IRR-DAW-5-1

Providing **hearting embankment** using selected **impervious soil** from **approved borrow areas** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** or as stipulated using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT **825.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	5.50	1871.20	10291.60
	Fuel / Energy charges	Hour	5.50	1012.60	5569.30
2	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
3	Tippers 5.00 cum capacity 5 Nos.	Hour	40.00	540.80	21632.00
	Fuel / Energy charges	Hour	40.00	497.40	19896.00
4	Pump 5 hp (ele)	Hour	4.00	3.50	14.00
	Fuel / Energy charges	Hour	4.00	53.70	214.80
5	Water tanker 8000 ltr	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
6	Vibratory Roller 8 tonne	Hour	6.50	1462.00	9503.00
	Fuel / Energy charges	Hour	6.50	1710.60	11118.90
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**112167.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	5.50	373.10	2052.05
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	40.00	278.90	11156.00
4	Crew for Pump	Hour	4.00	132.90	531.60
5	Crew for Water tanker	Hour	8.00	278.90	2231.20

6	Crew for Roller	Hour	6.50	425.90	2768.35
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**25754.00**

labour component/unit qty		31.20	
Add contractor's profit and overhead charges	13.615%	4.20	
labour component/unit qty (including contractor's profit)		**35.40**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	112167.20
C. Cost of Labour			Rs:	25754.00
		Total	Rs:	137921.20
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	18777.97
Total cost for	825.00	cum	Rs:	**156699.17**
Rate Per cum	(A+B+C+D)/825		Rs:	**189.90**

IRR-DAW-5-2

Providing cut-off trench filling using selected **impervious soil** from **approved borrow areas** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil to specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** as stipulated etc., **complete with initial lead upto 1 km and all lifts. complete with initial lead upto 1 km and all lifts.**

DATA:

A. MATERIALS: UNIT : **825.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	5.50	1871.20	10291.60
	Fuel / Energy charges	Hour	5.50	1012.60	5569.30
2	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
3	Tippers 5.00 cum capacity 6 Nos.	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Pump 5 hp (ele)	Hour	4.00	3.50	14.00
	Fuel / Energy charges	Hour	4.00	53.70	214.80
5	Water tanker 8000 ltr	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
6	Vibratory Roller 8 tonne	Hour	6.50	1462.00	9503.00
	Fuel / Energy charges	Hour	6.50	1710.60	11118.90
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**120472.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	5.50	373.10	2052.05
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Pump	Hour	4.00	132.90	531.60
5	Crew for Water tanker	Hour	8.00	278.90	2231.20
6	Crew for Roller	Hour	6.50	425.90	2768.35
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00

	Total cost of Labour			Rs:	**27985.20**
labour component/unit qty			33.90		
Add contractor's profit and overhead charges		13.615%	4.60		
labour component/unit qty (including contractor's profit)			**38.50**		
ABSTRACT:					
A. Cost of Materials				Rs:	0.00
B. Hire charges of Machinery				Rs:	120472.80
C. Cost of Labour				Rs:	27985.20
			Total	Rs:	148458.00
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	20212.56
Total cost for		825.00	cum	Rs:	**168670.56**
Rate Per cum		(A+B+C+D)/825		Rs:	**204.40**

IRR-DAW-5-3

Providing casing embankment using **semi-pervious soil** from **approved borrow areas** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as excavation, sorting out, transportation, spreading soil in layers of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller** as stipulated etc., **complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **630** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	4.00	1871.20	7484.80
	Fuel / Energy charges	Hour	4.00	1012.60	4050.40
2	Shovel 0.85 cum	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
3	Tipper 5 cum	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Pump 5 hp (ele)	Hour	3.00	3.50	10.50
	Fuel / Energy charges	Hour	3.00	53.70	161.10
5	Water tanker 8000 ltr	Hour	5.00	461.10	2305.50
	Fuel / Energy charges	Hour	5.00	497.40	2487.00
6	Vibratory Roller 8 tonne	Hour	5.00	1462.00	7310.00
	Fuel / Energy charges	Hour	5.00	1710.60	8553.00
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**91931.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	4.00	373.10	1492.40
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	32.00	278.90	8924.80
4	Crew for Pump	Hour	3.00	132.90	398.70
5	Crew for Water tanker	Hour	5.00	278.90	1394.50
6	Crew for Roller	Hour	5.00	425.90	2129.50
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
		Total cost of Labour		Rs:	**21354.70**

labour component/unit qty		33.90	
Add contractor's profit and overhead charges	13.615%	4.60	

labour component/unit qty (including contractor's profit)		**38.50**		
ABSTRACT:				
A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	91931.30
C. Cost of Labour			Rs:	21354.70
		Total	Rs:	113286.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	15423.89
Total cost for	630.00	cum	Rs:	**128709.89**
Rate Per cum	(A+B+C+D)/630		Rs:	**204.30**

IRR-DAW-5-4

Providing **casing embankment** using **semi-pervious soil** available from excavation in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as re-excavation, sorting out, transportation, spreading in layers of specified thickness, breaking clods, sectioning, **watering**, compacting to specified density control of **not less than 95 percent** using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller as stipulated etc.,complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **970.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	4.60	1871.20	8607.52
	Fuel / Energy charges	Hour	4.60	1012.60	4657.96
2	Shovel 0.85 cum	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
3	Tipper 5 cum	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Pump 5 hp (ele)	Hour	4.00	3.50	14.00
	Fuel / Energy charges	Hour	4.00	53.70	214.80
5	Water tanker 8000 ltr	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
6	Vibratory Roller 8 tonne	Hour	7.00	1462.00	10234.00
	Fuel / Energy charges	Hour	7.00	1710.60	11974.20
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**119550.68**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	4.60	373.10	1716.26
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Pump	Hour	4.00	132.90	531.60
5	Crew for Water tanker	Hour	8.00	278.90	2231.20
6	Crew for Roller	Hour	7.00	425.90	2981.30
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**27862.36**

labour component/unit qty		28.70	
Add contractor's profit and overhead charges	13.615%	3.90	
labour component/unit qty (including contractor's profit)		**32.60**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	119550.68
C. Cost of Labour			Rs:	27862.36
		Total	Rs:	147413.04
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	20070.29
Total cost for	970.00	cum	Rs:	**167483.33**
Rate Per cum	(A+B+C+D)/970		Rs:	**172.70**

IRR-DAW-5-5

Providing casing embankment using **semi-pervious soil** available **from excavation in layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all other operations such as re-excavation, sorting out, transportation, spreading in layers of specified thickness, breaking clods, sectioning, **watering**, compacting to specified density control of **not less than 90 percent using** 2 Tonne Roller **as stipulated etc.,complete with initial lead upto 1 km and all lifts. (For Maintenance Works)**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **970.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	4.60	1871.20	8607.52
	Fuel / Energy charges	Hour	4.60	1012.60	4657.96
2	Shovel 0.85 cum	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
3	Tipper 5 cum	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Pump 5 hp (ele)	Hour	4.00	3.50	14.00
	Fuel / Energy charges	Hour	4.00	53.70	214.80
5	Water tanker 8000 ltr	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
6	Vibratory Roller 8 tonne	Hour	7.00	1462.00	10234.00
	Fuel / Energy charges	Hour	7.00	1710.60	11974.20
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**119550.68**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	4.60	373.10	1716.26
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Pump	Hour	4.00	132.90	531.60
5	Crew for Water tanker	Hour	8.00	278.90	2231.20
6	Crew for Roller	Hour	7.00	425.90	2981.30
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**27862.36**

labour component/unit qty		28.70	
Add contractor's profit and overhead charges	13.615%	3.90	
labour component/unit qty (including contractor's profit)		**32.60**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	119550.68
C. Cost of Labour		Rs:	27862.36
	Total	Rs:	147413.04

D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	20070.29
Total cost for	970.00	cum	Rs:	**167483.33**
Rate per cum	(A+B+C+D)/970		Rs:	172.70
Deduct Rate for Proctar's density Control of 95% using 8T roller as per IRR-PMW-3-18				62.70
Add Rate for Proctor's Density control of 90% using 2T Roller as per IRR-PMW-3-19				9.60
Rate Per cum			Rs.	**119.60**

IRR-DAW-5-6

Providing **homogeneous embankment** using soil from **approved borrow area in layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 95 percent** or as stipulated using **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **807.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	5.40	1871.20	10104.48
	Fuel / Energy charges	Hour	5.40	1012.60	5468.04
2	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
3	Tippers 5.00 cum capacity 5 Nos.	Hour	40.00	540.80	21632.00
	Fuel / Energy charges	Hour	40.00	497.40	19896.00
4	Pump 5 hp (ele)	Hour	4.00	3.50	14.00
	Fuel / Energy charges	Hour	4.00	53.70	214.80
5	Water tanker 8000 ltr	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
6	Vibratory Roller 8 tonne	Hour	6.40	1462.00	9356.80
	Fuel / Energy charges	Hour	6.40	1710.60	10947.84
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**111561.56**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	5.40	373.10	2014.74
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	40.00	278.90	11156.00
4	Crew for Pump	Hour	4.00	132.90	531.60
5	Crew for Water tanker	Hour	8.00	278.90	2231.20
6	Crew for Roller	Hour	6.40	425.90	2725.76
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**25674.10**

labour component/unit qty		31.80	
Add contractor's profit and overhead charges	13.615%	4.30	
labour component/unit qty (including contractor's profit)		**36.10**	

ABSTRACT:

A. Cost of Materials	Rs:	0.00
B. Hire charges of Machinery	Rs:	111561.56
C. Cost of Labour	Rs:	25674.10

		Total	Rs:	137235.66
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	18684.64
Total cost for	807.00	cum	Rs:	**155920.30**
Rate Per cum	(A+B+C+D)/807		Rs:	**193.20**

IRR-DAW-5-7

Providing **embankment adjacent to masonry / concrete structures and filling trial pits** using **impervious soil** from **approved borrow areas** in **layers of 10 to 15 cm** and compacting each layer to density control of **not less than 95 percent using pneumatic tampers or by vibratory earth rammers** including cost of all materials, machinery, labour, picking previous layer, spreading soil in layer, breaking clods, **watering** etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **80** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of air hose	Hour	16.00	12.69	203.00
	Total cost of Materials			Rs:	**203.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	0.15	1871.20	280.68
	Fuel / Energy charges	Hour	0.15	1012.60	151.89
2	Shovel 0.85 cum	Hour	0.80	1827.70	1462.16
	Fuel / Energy charges	Hour	0.80	1447.50	1158.00
3	Tipper 5 cum	Hour	3.00	540.80	1622.40
	Fuel / Energy charges	Hour	3.00	497.40	1492.20
4	Air compressor 8.5 cmm (ele)	Hour	8.00	183.60	1468.80
	Fuel / Energy charges	Hour	8.00	604.30	4834.40
5	Pump 5 hp (ele)	Hour	0.40	3.50	1.40
	Fuel / Energy charges	Hour	0.40	53.70	21.48
6	Water tanker 8000 ltr	Hour	0.80	461.10	368.88
	Fuel / Energy charges	Hour	0.80	497.40	397.92
7	Pneumatic tampers 2 Nos.	Hour	16.00	23.30	372.80
	Fuel / Energy charges	Hour	16.00	0.00	0.00
8	Sundries	LS	1.00	29.00	29.00
	Total cost of Machinary			Rs:	**13662.01**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	0.15	373.10	55.97
2	Crew for Shovel	Hour	0.80	373.10	298.48
3	Crew for Tipper	Hour	3.00	278.90	836.70
4	Crew for Air compressor	Hour	8.00	265.20	2121.60
5	Crew for Pump	Hour	0.40	132.90	53.16
6	Crew for Water tanker	Hour	0.80	278.90	223.12
7	Crew for Pneumatic tamper	Hour	16.00	424.30	6788.80
8	work inspector	Day	1.00	805.00	805.00
9	mazdoor	Day	5.00	605.00	3025.00
	Total cost of Labour			Rs:	**14207.83**

labour component/unit qty		177.60	
Add contractor's profit and overhead charges	13.615%	24.20	
labour component/unit qty (including contractor's profit)		**201.80**	

ABSTRACT:

A. Cost of Materials	Rs:	203.00
B. Hire charges of Machinery	Rs:	13662.01
C. Cost of Labour	Rs:	14207.83

		Total	Rs:	28072.84
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	3822.12
Total cost for	80.00	cum	Rs:	**31894.96**
Rate Per cum	(A+B+C+D)/80		Rs:	**398.70**

IRR-DAW-5-8

Providing and **constructing rockfill embankment** with 300 mm down graded stones and quarry spalls from approved source including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing the surface to required slopes etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **400** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill rod 2.5 m long	Rm	387.00	49.78	19264.86
	Reconditioning charges @	10%			1926.49
2	Use rate of air hose 6 Nos.	Hour	60.00	12.69	761.25
3	Explosive small dia	kg	118.00	95.00	11210.00
4	Electric detonators	Nos	159.00	14.00	2226.00
5	Detonator ordinary	Nos	8.00	11.00	88.00
6	Fuse coil	Rm	200.00	9.00	1800.00
7	Sundries (waste tyres etc)	LS	10.00	29.00	290.00
	Total cost of Materials			Rs:	**37566.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5cmm(diesel)3 Nos	Hour	30.00	300.50	9015.00
	Fuel / Energy charges	Hour	30.00	1480.40	44412.00
2	Jack hammer 6 Nos	Hour	60.00	22.90	1374.00
	Fuel / Energy charges	Hour	60.00	0.00	0.00
3	Angle dozer 90 hp	Hour	4.00	1871.20	7484.80
	Fuel / Energy charges	Hour	4.00	1012.60	4050.40
4	Shovel 0.85 cum	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
5	Tipper 5 cum	Hour	24.00	540.80	12979.20
	Fuel / Energy charges	Hour	24.00	497.40	11937.60
	Total hire charges of Machinery			Rs:	**117454.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	30.00	339.50	10185.00
2	Crew for Jack hammer	Hour	60.00	530.40	31824.00
3	Crew for Shovel	Hour	8.00	373.10	2984.80
4	Crew for Tipper	Hour	24.00	278.90	6693.60
5	Crew for Dozer	Hour	4.00	373.10	1492.40
6	Blaster	Day	1.00	805.00	805.00
7	Helper blaster	Day	1.00	650.00	650.00
8	work inspector	Day	2.00	805.00	1610.00
9	Mason Class-II	Day	2.00	650.00	1300.00
10	mazdoor	Day	10.00	605.00	6050.00
	Total cost of Labour			Rs:	**63594.80**

labour component/unit qty		159.00	
Add contractor's profit and overhead charges	13.615%	21.60	
labour component/unit qty (including contractor's profit)		**180.60**	

ABSTRACT:

A. Cost of Materials		Rs:	37566.60

B. Hire charges of Machinery			Rs:	117454.60
C. Cost of Labour			Rs:	63594.80
		Total	Rs:	218616.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	29764.57
Total cost for	400.00	cum	Rs:	**248380.57**
Rate Per cum	(A+B+C+D)/400		Rs:	**621.00**

IRR-DAW-5-9

Providing and constructing dry rubble rock-toe using rubble and stone chips from approved source including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Use rate of drill rod 1.5 m long	Rm	97.00	49.78	4828.66
	Reconditionong charges @	10%			482.87
2	Use rate of air hose	Hour	15.00	12.69	190.31
3	Explosive small dia	kg	30.00	95.00	2850.00
4	Electric detonator	Nos	40.00	14.00	560.00
5	Detonator ordinary	Nos	2.00	11.00	22.00
6	Fuse coil	Rm	50.00	9.00	450.00
7	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**9441.84**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Air compressor 8.5 cmm (diesel)	Hour	7.50	300.50	2253.75
	Fuel / Energy charges	Hour	7.50	1480.40	11103.00
2	Jack hammer	Hour	15.00	22.90	343.50
	Fuel / Energy charges	Hour	15.00	0.00	0.00
3	Shovel 0.85 cum	Hour	2.00	1827.70	3655.40
	Fuel / Energy charges	Hour	2.00	1447.50	2895.00
4	Tipper 5 cum	Hour	6.00	540.80	3244.80
	Fuel / Energy charges	Hour	6.00	497.40	2984.40
	Total hire charges of Machinery			Rs:	**26479.85**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Air compressor	Hour	7.50	339.50	2546.25
2	Crew for Jack hammer	Hour	15.00	530.40	7956.00
3	Crew for Shovel	Hour	2.00	373.10	746.20
4	Crew for Tipper	Hour	6.00	278.90	1673.40
5	Blaster	Day	0.50	805.00	402.50
6	Helper blaster	Day	1.00	650.00	650.00
7	work inspector	Day	1.00	805.00	805.00
8	Mason Class-II	Day	7.00	650.00	4550.00
9	mazdoor	Day	19.00	605.00	11495.00
	Total cost of Labour			Rs:	**30824.35**

labour component/unit qty		308.20	
Add contractor's profit and overhead charges	13.615%	42.00	
labour component/unit qty (including contractor's profit)		**350.20**	

ABSTRACT:

A. Cost of Materials		Rs:	9441.84
B. Hire charges of Machinery		Rs:	26479.85
C. Cost of Labour		Rs:	30824.35
	Total	Rs:	66746.04

D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	9087.47
Total cost for	100.00		cum	Rs:	**75833.51**
Rate Per cum	(A+B+C+D)/100			Rs:	**758.30**

IRR-DAW-5-10

Providing and **constructing dry rubble rock-toe** with rubble and stone chips from **dump yard (Spoil Bank)** including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete **with initial lead upto 1 km and all lifts.**

Note: ***Useful rubble and stone chips will be issued at dump yard at the issue rate for usefull rubble /stone chips. Sorting out and breaking charges included in rate analysis.***

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Useful rubble (at dump yard)	cum	100.00	250.00	25000.00
2	Useful stone chips (at dump yard)	cum	15.00	260.00	3900.00
	Total cost of Materials			Rs:	**28900.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum	Hour	2.00	1827.70	3655.40
	Fuel / Energy charges	Hour	2.00	1447.50	2895.00
2	Tipper 5 cum	Hour	6.00	540.80	3244.80
	Fuel / Energy charges	Hour	6.00	497.40	2984.40
	Total hire charges of Machinery			Rs:	**12779.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	2.00	373.10	746.20
2	Crew for Tipper	Hour	6.00	278.90	1673.40
3	Mason Class-II	Day	7.00	650.00	4550.00
4	work inspector	Day	1.00	805.00	805.00
6	Stone breaker	Day	2.00	650.00	1300.00
7	mazdoor	Day	21.00	605.00	12705.00
	Total cost of Labour			Rs:	**21779.60**

labour component/unit qty			217.80		
Add contractor's profit and overhead charges	13.615%		29.70		
labour component/unit qty (including contractor's profit)			**247.50**		

ABSTRACT:

A. Cost of Materials				Rs:	28900.00
B. Hire charges of Machinery				Rs:	12779.60
C. Cost of Labour				Rs:	21779.60
			Total	Rs:	63459.20
D.Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs.	8639.97
Total cost for	100.00		cum	Rs:	**72099.17**
Rate Per cum	(A+B+C+D)/100			Rs:	**721.00**

IRR-DAW-5-11

Providing and **constructing Dry rock Pitching for Groynes** using **Un-Coursed rubble stone of size 300 mm thick** and Un-Coursed rubble stone chips **from Quarry to site of work** including cost of all materials, Machinery, Labour charge hand packing Un-Course rubble stone &chips to the designed profile **with all leads and lifts etc**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Un Coursed Rubble Stones at quarry	cum	100.00	473.00	47300.00

2	Stone Chips at Quarry	cum	15.00	619.00	9285.00
	Total cost of Materials			Rs:	**56585.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Shovel 0.85 cum for loading tipper at the works	Hour	2.00	1827.70	3655.40
	Fuel / Energy charges	Hour	2.00	1447.50	2895.00
2	Tipper 5 cum	Hour	6.00	540.80	3244.80
	Fuel / Energy charges	Hour	6.00	497.40	2984.40
	Total hire charges of Machinery			Rs:	**12779.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Shovel	Hour	2.00	373.10	746.20
2	Crew for Tipper	Hour	6.00	278.90	1673.40
3	Mason Class-II	Day	7.00	650.00	4550.00
4	work inspector	Day	1.00	805.00	805.00
6	Stone breaker	Day	2.00	650.00	1300.00
7	mazdoor	Day	21.00	605.00	12705.00
	Total cost of Labour			Rs:	**21779.60**

labour component/unit qty		217.80	
Add contractor's profit and overhead charges	13.615%	29.70	
labour component/unit qty (including contractor's profit)		**247.50**	

ABSTRACT:

A. Cost of Materials			Rs:	56585.00
B. Hire charges of Machinery			Rs:	12779.60
C. Cost of Labour			Rs:	21779.60
		Total	Rs:	91144.20
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	12409.28
Total cost for	100.00	cum	Rs:	**103553.48**
Rate Per cum	(A+B+C+D)/100		Rs:	**1035.50**

IRR-DAW-5-12

Providing and **laying 30 cm diameter open jointed hume pipes with collars in rock-toe** for drainage including cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Hume pipe 300 mm dia.with collar	Rm	100.00	686.00	68600.00
			0.00	0.00	
	Total cost of Materials			Rs:	**68600.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Mason Cl- II	Day	2	650.00	1300.00
2	mazdoor	Day	6	605.00	3630.00
	Total cost of Labour			Rs:	**4930.00**

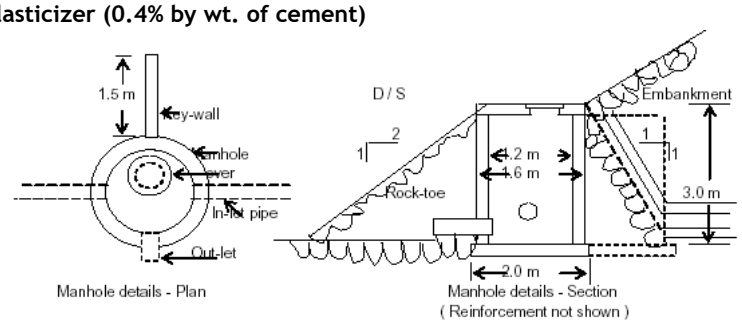
labour component/unit qty	49.30

Add contractor's profit and overhead charges	13.615%	6.70		
labour component/unit qty (including contractor's profit)		**56.00**		
ABSTRACT:				
A. Cost of Materials			Rs:	68600.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4930.00
		Total	Rs:	73530.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	10011.11
Total cost for	100.00	Rm	Rs:	**83541.11**
Rate Per Rm	(A+B+C+D)/100		Rs:	**835.40**

IRR_DAW-6 **FILTER & PITCHING WORKS :**

IRR-DAW-6-1

Providing and **constructing 1.20 m internal diameter and average 3 m height RCC manhole** with 60 cm dia. top cover in **M-15** grade cement concrete using **20 mm down graded**, clean, hard coarse aggregate, 20 cm thick for bed / sides / top slab / 1.5 m long cut-off wall and 7.5 cm thick for cover including providing 12 mm dia reinforcement bars at 30 cm c / c both ways for bed / sides / cut-off wall / top slab / rungs and 8 mm dia bars at 15 cm c / c bothways for cover, excavation for foundation, providing 30 cm dia hume pipe outlet, cost of all materials, machinery, labour, formwork, scaffolding, batching, mixing, laying, vibrating, finishing, curing etc., complete **with lead upto 1 km and all lifts. (Cement content : 300 kg/cum , CA : 0.80 cum, Blending Ratioof CA -- 65:35, FA : 0.44 cum, superplasticizer (0.4% by wt. of cement)**
FA : 0.44 cum, superplasticizer (0.4% by wt. of cement)



Excavation for foundation : (0.7857 x 2 x 2 x 2) + (1.5 x 0.4 x 2) : 7.50 cum

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT **1** Each

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cement	kg	1331.70	5.10	6791.67
	Cement for incidentals @ 3 kg / cum	kg	13.32	5.10	67.92
2	Coarse aggregate 20 to 10 mm	cum	2.31	1144.00	2640.67
	Coarse aggregate 10 to 4.75 mm	cum	1.24	879.00	1092.53
3	Fine aggregate (Un-Screened)	cum	1.95	723.00	1412.13
4	Super plasticiser	kg	23.65	73.00	1726.13
5	Reinforcement steel with 5 % wastage	kg	163.70	57.00	9330.62
6	Binding wire	kg	4.00	86.00	344.00
7	Hume pipe 300 mm dia	Rm	1.00	686.00	686.00
8	Use rate of shuttering	sqm	36.00	333.58	12008.88
9	Scaffolding of shuttering @	5%			600.44
10	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**36758.99**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Concrete mixer 300 / 200 (ele)	Hour	4.00	61.90	247.60
	Fuel / Energy charges	Hour	4.00	53.70	214.80
2	Needle vibrator 40 mm dia (ele)	Hour	4.00	6.30	25.20

	Fuel / Energy charges	Hour	4.00	10.70	42.80
3	Pump 5 hp (ele)	Hour	0.50	3.50	1.75
	Fuel / Energy charges	Hour	0.50	53.70	26.85
4	Sundries	LS	1.00	29.00	29.00
	Total cost of Machinery			Rs:	**588.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Mason Cl- II	Day	1.00	650.00	650.00
2	Bar bender	Day	1.00	805.00	805.00
3	work inspector	Day	1.00	805.00	805.00
4	mazdoor				
	for excavation for foundation	Day	2.00	605.00	1210.00
	for bar bending	Day	1.00	605.00	605.00
	for concreting	Day	5.00	605.00	3025.00
	for excavation for foundation	Day	2.00	605.00	1210.00
	for concreting	Day	4.00	605.00	2420.00
	for curing	Day	1.00	605.00	605.00
5	Labour for shuttering	sqm	36.00	149.25	5373.00
	Total cost of Labour			Rs:	**16708.00**

labour component/unit qty		16708.00	
Add contractor's profit and overhead charges	13.615%	2274.80	
labour component/unit qty (including contractor's profit)		**18982.80**	

ABSTRACT:

A. Cost of Materials			Rs:	36758.99
B. Hire charges of Machinery			Rs:	588.00
C. Cost of Labour			Rs:	16708.00
		Total	Rs:	54054.99
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	7359.59
Lead Charges for 1 Km for FA	1.95	cum @	44.9 Rs./Cur	87.70
Lead Charges for 1 Km for CA	3.55	cum @	43.3 Rs./Cur	153.77
Total cost for	1.00	Each	Rs:	**61656.05**
Rate Per Each	(A+B+C+D)/1.0		Rs:	**61656.00**

IRR-DAW-6-2

Providing and **constructing longitudinal and cross graded filter drains** using sand and **80-20 mm and 20 mm down** graded aggregates satisfying specified filter creteria in layers as per specifications including cost of all materials, machinery, labour, laying to required slopes, compaction etc. complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Fine aggregate (Un-Screened)	cum	47.50	723.00	34342.50
2	Coarse aggregate 80-40 mm	cum	17.87	625.00	11165.63
3	Coarse aggregate 40-20 mm	cum	1.99	1030.00	2044.55
4	Coarse aggregate 20-10 mm	cum	24.49	1144.00	28013.70
5	Coarse aggregate 10 mm down	cum	8.16	879.00	7174.84
	Total cost of Materials			Rs:	**82741.21**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	38.00	605.00	22990.00
	Total cost of Labour			Rs:	**23795.00**

labour component/unit qty		238.00	
Add contractor's profit and overhead charges	13.615%	32.40	
labour component/unit qty (including contractor's profit)		**270.40**	

ABSTRACT:

A. Cost of Materials			Rs:	82741.21
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	23795.00
		Total	Rs:	106536.21
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	14504.91
Total cost for	100.00	cum	Rs:	**121041.12**
Rate Per cum	(A+B+C+D)/100		Rs:	**1210.40**

IRR-DAW-6-3

Providing and constructing 1.40 m thick vertical or inclined graded filter media consisting of 20 cm thick sand layers, 25 cm thick 20 mm down coarse aggregate layers and 50 cm thick 80-20 mm coarse aggregate layer using approved materials satisfying specified filter criteria as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete with initial lead upto 50 m and all lifts.

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Fine aggregate (Un-Screened)	cum	28.60	723.00	20677.80
2	Coarse aggregate 80-40 mm	cum	32.13	625.00	20081.25
3	Coarse aggregate 40-20 mm	cum	3.57	1030.00	3677.10
4	Coarse aggregate 20-10 mm	cum	28.13	1144.00	32175.00
5	Coarse aggregate 10 mm down	cum	8.93	879.00	7845.08
	Total cost of Materials	al cost of Materials		Rs:	**84456.23**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	38.00	605.00	22990.00
	Total cost of Labour			Rs:	**23795.00**

labour component/unit qty		238.00	
Add contractor's profit and overhead charges	13.615%	32.40	
labour component/unit qty (including contractor's profit)		**270.40**	

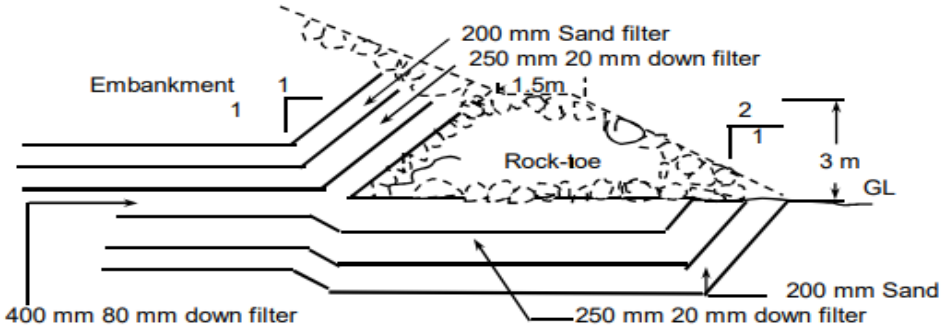
ABSTRACT:

A. Cost of Materials			Rs:	84456.23
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	23795.00
		Total	Rs:	108251.23
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	14738.4
Total cost for	100.00	cum	Rs:	**122989.63**

Rate Per cum	(A+B+C+D)/100	Rs:	**1229.90**

IRR-DAW-6-4

Providing and constructing graded filter media below and behind rock-toe consisting of 20 cm thick sand, 25 cm thick 20 - 4.75 mm and 40 cm thick 80 - 20 mm size graded coarse aggregates satisfying filter criteria as per specifications including cost of all materials, labour, machinery, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**



SKETCH SHOWING DETAILS OF FILTER BELOW & BEHIND ROCK-TOE

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Fine aggregate (Un-Screened)	cum	23.55	723.00	17026.65
2	Coarse aggregate 80-40 mm	cum	42.39	625.00	26493.75
3	Coarse aggregate 40-20 mm	cum	4.71	1030.00	4851.30
4	Coarse aggregate 20-10 mm	cum	22.05	1144.00	25225.20
5	Coarse aggregate 10 mm down	cum	7.35	879.00	6460.65
	Total cost of Materials			Rs:	**80057.55**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	34.00	605.00	20570.00
	Total cost of Labour			Rs:	**21375.00**

labour component/unit qty		213.80		
Add contractor's profit and overhead charges	13.615%	29.10		
labour component/unit qty (including contractor's profit)		**242.90**		

ABSTRACT:

A. Cost of Materials			Rs:	80057.55
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	21375.00
		Total	Rs:	101432.55
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	13810.04
Total cost for	100.00	cum	Rs:	**115242.59**
Rate Per cum	(A+B+C+D)/100		Rs:	**1152.40**

IRR-DAW-6-5

Providing and **constructing graded filter media below and behind rock-toe** consisting of 30 cm thick 80 - 20 mm

Size graded coarse aggregates satisfying filter criteria as per specifications including cost of all materials, labour, Machinery, laying to required slope, compaction etc., complete **with initial lead up to 50 m and all lifts.**
all lifts.

DATA:

RATE ANALYSIS

A. MATERIALS: UNIT **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Coarse aggregate 80-40 mm	cum	35.00	625.00	21875.00
2	Coarse aggregate 40-20 mm	cum	55.00	1030.00	56650.00
3	Coarse aggregate 20-10 mm	cum	5.00	1144.00	5720.00
4	Coarse aggregate 10 mm down	cum	5.00	879.00	4395.00
	Total cost of Materials			Rs:	**88640.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	12.00	605.00	7260.00
	Total cost of Labour			Rs:	**8065.00**

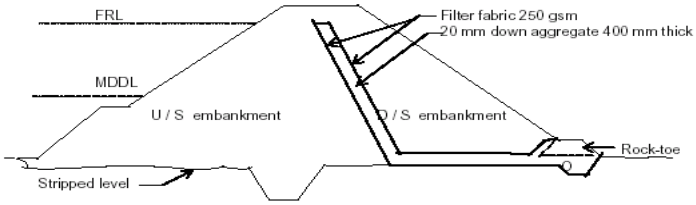
labour component/unit qty		80.70		
Add contractor's profit and overhead charges	13.615%	11.00		
labour component/unit qty (including contractor's profit)		**91.70**		

ABSTRACT:

A. Cost of Materials			Rs:	88640.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	8065.00
		Total	Rs:	96705.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	13166.39
Total cost for	100.00	cum	Rs:	**109871.39**
Rate Per cum	(A+B+C+D)/100		Rs:	**1098.70**

IRR-DAW-6-6

Providing and **laying filter media consisting of 2 layers of 250 gsm poly-propeline** non-woven filter fabric and 400 mm thick 20 mm downgraded coarse aggregate for vertical / inclined and horizontal filter blanket for embankment including cost of all materials, machinery, labour etc., complete **with lead upto 50 m for aggregate and all leads for fabric and all lifts.**



Requirement of labour for laying aggregate and filter fabric:
1 heavy mazdoor & 1 light mazdoor 6 cum / day.

RATE ANALYSIS

DATA:

A. MATERIALS: UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	PP filter fabric 250 gsm	sqm	220.00	68.00	14960.00
2	20 - 10 mm CA @ 75 %	cum	30.00	1144.00	34320.00

	10 mm down CA @ 25 %	cum	10.00	879.00	8790.00
	Total cost of Materials			Rs:	**58070.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	14.00	605.00	8470.00
	Total cost of Labour			Rs:	**9275.00**

labour component/unit qty		92.80		
Add contractor's profit and overhead charges	13.615%	12.60		
labour component/unit qty (including contractor's profit)		**105.40**		

ABSTRACT:

A. Cost of Materials			Rs:	58070.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	9275.00
		Total	Rs:	67345.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	9169.02
Total cost for	100.00	sqm	Rs:	**76514.02**
Rate Per sqm	(A+B+C+D)/100		Rs:	**765.10**

IRR-DAW-6-7

Providing and **constructing sand filters below Revetment for Minor Works** using clean approved sand satisfying filter criteria including cost of all materials, machinery, labour, compacting **etc., complete with initial lead up to 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (unscreaned)	cum	100.00	723.00	72300.00
	Total cost of Materials			Rs:	**72300.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	8.00	605.00	4840.00
	Total cost of Labour			Rs:	**5645.00**

labour component/unit qty		56.45	
Add contractor's profit and overhead charges	13.615%	7.69	
labour component/unit qty (including contractor's profit)		**64.14**	

ABSTRACT:

A. Cost of Materials			Rs:	72300.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	5645.00
		Total	Rs:	77945.00
D.Add for contractor's profit and overheads on (A+B+C)			Rs.	10612.21175
Total cost for	100	cum	Rs:	**88557.21**
Rate Per cum		(A+B+C+D)/100	Rs:	886.00

IRR-DAW-6-8

Providing and **constructing 45 cm thick chimney filter** using clean approved sand satisfying filter criteria including cost of all materials, machinery, labour, compacting etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	105.00	723.00	75915.00
	Total cost of Materials			Rs:	**75915.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	30.00	605.00	18150.00
	Total cost of Labour			Rs:	**18955.00**

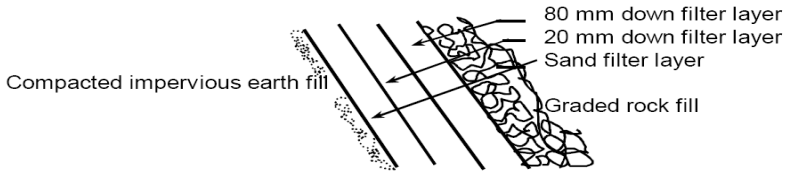
labour component/unit qty		189.60	
Add contractor's profit and overhead charges	13.615%	25.80	
labour component/unit qty (including contractor's profit)		**215.40**	

ABSTRACT:

A. Cost of Materials			Rs:	75915.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	18955.00
		Total	Rs:	94870.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	12916.55
Total cost for	100.00	cum	Rs:	**107786.55**
Rate Per cum		(A+B+C+D)/100	Rs:	**1077.90**

IRR-DAW-6-9

Providing and **constructing 90 cm thick transition cum filter media behind rock fill** using approved sand and 80-20 mm and 20 mm downgraded, aggregates satisfying the filter criteria in layers of 30 cm thickness each as per Specifications including cost of all materials, machinery, labour, laying each layer to required slope, compaction etc., complete with initial **lead upto 50 m and all lifts.**



SKETCH SHOWING TRANSITION FILTER BETWEEN EARTH & ROCK FILL

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** cum.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	34.00	723.00	24582.00
2	Coarse aggregate 80-40 mm	cum	30.60	625.00	19125.00
3	Coarse aggregate 40-20 mm	cum	3.40	1030.00	3502.00
4	Coarse aggregate 20-10 mm	cum	25.50	1144.00	29172.00
5	Coarse aggregate 10 mm down	cum	8.50	879.00	7471.50
	Total cost of Materials			Rs:	**83852.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	40.00	605.00	24200.00
	Total cost of Labour			Rs:	**25005.00**

labour component/unit qty		250.10	
Add contractor's profit and overhead charges	13.615%	34.10	
labour component/unit qty (including contractor's profit)		**284.20**	

ABSTRACT:

A. Cost of Materials			Rs:	83852.50
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	25005.00
		Total	Rs:	108857.50
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	14820.95
Total cost for	100.00	cum.	Rs:	**123678.45**
Rate Per cum.	(A+B+C+D)/100		Rs:	**1236.80**

IRR-DAW-6-10

Providing and **constructing 60 cm thick hand packed rough stone revetment** with 65 to 75 cm long through stones at 1.50 m c / c over a backing of 45 cm thick graded filter media consisting of sand, 10 mm and 40 mm size approved graded aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	15.30	723.00	11061.90
2	Coarse aggregate 10 mm down	cum	15.30	879.00	13448.70
3	Coarse aggregate 40-20 mm	cum	15.30	1030.00	15759.00
4	Stone chips	cum	9.00	619.00	5571.00
5	Rough stones (rubble) 30 to 45 cm long	cum	57.60	473.00	27244.80
6	Through stones 65 to 75 cm long	Nos	44.00	92.00	4048.00
	Total cost of Materials			Rs:	**77133.40**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00

Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class-II	Day	10.00	650.00	6500.00
3	mazdoor	Day	33.00	605.00	19965.00
	Total cost of Labour			Rs:	**27270.00**

labour component/unit qty		272.70		
Add contractor's profit and overhead charges	13.615%	37.10		
labour component/unit qty (including contractor's profit)		**309.80**		

ABSTRACT:

A. Cost of Materials			Rs:	77133.40
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	27270.00
		Total	Rs:	104403.40
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	14214.52
Total cost for	100.00	sqm	Rs:	**118617.92**
Rate Per sqm	(A+B+C+D)/100		Rs:	**1186.20**

IRR-DAW-6-11

Providing and **constructing 60 cm thick hand packed rough stone revetment** with 65 to 75 cm long through stones at 1.50 m c / c over a backing of 60 cm thick graded filter media consisting of sand, 10 mm and 40 mm size approved graded aggregates laid in layers of 20 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	20.40	723.00	14749.20
2	Coarse aggregate 10 mm down	cum	20.40	879.00	17931.60
3	Coarse aggregate 40-20 mm	cum	20.40	1030.00	21012.00
4	Stone chips	cum	9.00	619.00	5571.00
5	Rough stones (rubble) 30 to 45 cm long	cum	57.60	473.00	27244.80
6	Through stones 65 to 75 cm long	Nos	44.00	92.00	4048.00
	Total cost of Materials			Rs:	**90556.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class-II	Day	10.00	650.00	6500.00
3	mazdoor	Day	39.00	605.00	23595.00
	Total cost of Labour			Rs:	**30900.00**

labour component/unit qty		309.00		
Add contractor's profit and overhead charges	13.615%	42.10		
labour component/unit qty (including contractor's profit)		**351.10**		

ABSTRACT:

A. Cost of Materials			Rs:	90556.60
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	30900.00

		Total	Rs:	121456.60
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	16536.32
Total cost for	100.00	sqm	Rs:	**137992.92**
Rate Per sqm	(A+B+C+D)/100		Rs:	**1379.90**

IRR-DAW-6-12

Providing and **constructing 60 cm thick hand packed rough stone riprap over a backing of 45 cm thick graded filter media** consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	15.30	723.00	11061.90
2	Coarse aggregate 10 mm down	cum	15.30	879.00	13448.70
3	Coarse aggregate 40-20 mm	cum	15.30	1030.00	15759.00
4	Stone chips	cum	9.00	619.00	5571.00
5	Rough stones (rubble)	cum	60.00	473.00	28380.00
	Total cost of Materials			Rs:	**74220.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class-II	Day	5.00	650.00	3250.00
3	mazdoor	Day	28.00	605.00	16940.00
	Total cost of Labour			Rs:	**20995.00**

labour component/unit qty		210.00		
Add contractor's profit and overhead charges	13.615%	28.60		
labour component/unit qty (including contractor's profit)		**238.60**		

ABSTRACT:

A. Cost of Materials			Rs:	74220.60
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	20995.00
		Total	Rs:	95215.60
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	12963.6
Total cost for	100.00	sqm.	Rs:	**108179.20**
Rate Per sqm.	(A+B+C+D)/100		Rs:	**1081.80**

IRR-DAW-6-13

Providing and **constructing 75 cm thick hand packed rough stone riprap** over a backing of 45 cm thick graded filter media consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips, etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	15.30	723.00	11061.90
2	Coarse aggregate 10 mm down	cum	15.30	879.00	13448.70
3	Coarse aggregate 40-20 mm	cum	15.30	1030.00	15759.00

4	Stone chips	cum	11.00	619.00	6809.00
5	Rough stones (rubble)	cum	75.00	473.00	35475.00
	Total cost of Materials	al cost of Materials		Rs:	**82553.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class-II	Day	6.00	650.00	3900.00
3	mazdoor	Day	30.00	605.00	18150.00
	Total cost of Labour			Rs:	**22855.00**

labour component/unit qty		228.60		
Add contractor's profit and overhead charges	13.615%	31.10		
labour component/unit qty (including contractor's profit)		**259.70**		

ABSTRACT:

A. Cost of Materials			Rs:	82553.60
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	22855.00
		Total	Rs:	105408.60
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	14351.38
Total cost for	100.00	sqm	Rs:	**119759.98**
Rate per Sqm	(A+B+C+D)/100		Rs:	**1197.60**

IRR-DAW-6-14

Providing and **constructing 90 cm thick hand packed rough stone riprap over a backing of 45 cm thick graded filter media** consisting of sand, 10 mm and 40 mm size graded approved aggregates laid in layers of 15 cm thick each including cost of all materials, machinery, labour, laying to required slopes, wedging with stone chips etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand (Un-Screened)	cum	15.30	723.00	11061.90
2	Coarse aggregate 10 mm down	cum	15.30	879.00	13448.70
3	Coarse aggregate 40-20 mm	cum	15.30	1030.00	15759.00
4	Stone chips	cum	13.50	619.00	8356.50
5	Rough stones (rubble)	cum	90.00	473.00	42570.00
	Total cost of Materials			Rs:	**91196.10**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class-II	Day	8.00	650.00	5200.00
3	mazdoor	Day	34.00	605.00	20570.00

	Total cost of Labour			Rs:	**26575.00**
	labour component/unit qty		265.80		
	Add contractor's profit and overhead charges	13.615%	36.20		
	labour component/unit qty (including contractor's profit)		**302.00**		

ABSTRACT:

A. Cost of Materials			Rs:	91196.10
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	26575.00
		Total	Rs:	117771.10
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	16034.54
Total cost for	100.00	sqm	Rs:	**133805.64**
Rate Per sqm	(A+B+C+D)/100		Rs:	**1338.10**

IRR-DAW-6-15

Providing and **laying Hariyala or other approved quality turfing sods** for the slopes of earthen embankments over 20 mm thick sand backing including cost of all materials, machinery,labour including preparing surface, spreading sand, watering for 15 days etc., complete with **initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100** sqm.

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Sand for filling	cum	2.00	723.00	1446.00
2	Hariyala turfing sods	sqm	100.00	49.00	4900.00
	Total cost of Materials			Rs:	**6346.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Cartman with double bullock cart	Day	2.00	710.00	1420.00
2	mazdoor	Day	15.00	605.00	9075.00
	Total cost of Labour			Rs:	**10495.00**

labour component/unit qty			105.00		
Add contractor's profit and overhead charges		13.615%	14.30		
labour component/unit qty (including contractor's profit)			**119.30**		

ABSTRACT:

A. Cost of Materials			Rs:	6346.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	10495.00
		Total	Rs:	16841.00
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	2292.9
Lead Charges for 1 Km for FA	2.00	cum @	44.9 Rs./Cur	89.8
Total cost for	100.00	sqm.	Rs:	**19223.70**
Rate Per sqm.	(A+B+C+D)/100		Rs:	**192.20**

CHAPTER-II

TUNNEL AND ALLIED WORKS - Standard Data

(WLL BE WITH E-N-C & TO INCORPORATE CHANGES YEARLY/ AS NEEDED)

FOR THE YEAR :2025-26

Index- code

IRR-TAW **TUNNEL AND ALLIED WORKS - DATA RATES**

Directions to add Seigniorage Charges and Additional Lead Charges

Seigniorage Charges:

1. The unit rate for work item in the Standard Data is exclusive of Seigniorage Charges wherever applicable.

2. The appropriate Seigniorage Charges for relevant materials are to be added to the Unit rate of work item Charges while adding Seigniorage Charges to the data in the estimate

Additional Lead and Lift Charges:

1. Unless otherwise specified the basic rates are inclusive of all lifts.
2. For concrete, masonry and reinforcement items wherever initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Cement, Steel, sand, coarse aggregate, stones and stone chips shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item.

In case of Cement and Steel, Loading and unloading charges are already added in the work item while arriving the unit rate and hence should not be added again

Example:

Total lead for sand from approved sand quarry :			15	Km
Initial lead included in the basic rate in the SR :			1	Km
Additional lead charges :	Lead charges for 5 km	Rs.	119.70	
	Lead charges for next 10 km	Rs.	180	
	Total lead charges for 15 km /cum	Rs.	299.70	
	Less 1 km initial lead charges /cum	Rs.	44.90	(-)
	Net additional lead charges / cum	Rs.	254.80	

3. For earth/rockfill embankments wherever initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Earth, Murrum etc., shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item. (same as above)

Example:

Total lead for earth from approved borrow area :			15	Km
Initial lead included in the basic rate in the SR :			1	Km
Additional lead charges :	Lead charges for 5 km	Rs.	119.70	
	Lead charges for next 10 km	Rs.	180	
	Total lead charges for 15 km /cum	Rs.	299.70	
	Less 1 km initial lead charges /cum	Rs.	44.90	(-)
	Net additional lead charges / cum	Rs.	254.80	

4. The initial lead up to 50 m as mentioned in some standard data items is meant for manual lead within the working area. For conveyance of materials, the lead required from quarry/Borrow area/ Dump Area to worksite shall be added to the data without deducting the 50 m initial lead charges

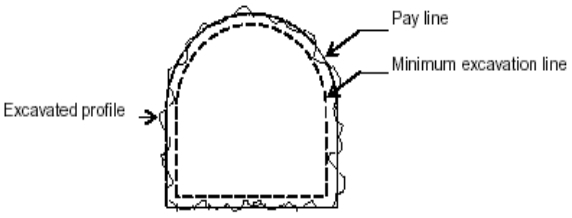
TAW -Work Items

EXCAVATION :

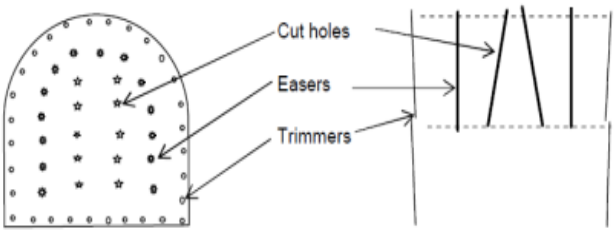
IRR-TAW-1

IRR-TAW-1-1

Excavation for adit by tunnelling methods in all types of rock including cost of all materials,machinery, labour scaling excavated surface, ventilation, lighting, drainage, removing and hauling the excavated muck outside adit upto specified dump area and all other ancillary operations etc., complete **with initial lead upto 1km and all lif**



TYPICAL CROSS SECTION OF ADIT / TUNNEL



TYPICAL DRILLING PATTERN FOR ADIT / TUNNEL

RATE ANALYSIS

DATA A. MATERIALS: UNIT : **38.50** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Small dia explosive	kg	40.00	95.00	3800.00
2	Delay detonators	Nos	54.00	22.00	1188.00
3	Electric detonators	Nos	5.00	14.00	70.00
4	Detonating fuse coil	Rm	50.00	9.00	450.00
5	Use rate of drill rod 2.5 m long	Rm	119.00	49.78	5923.82
	Reconditioning charges @	10%			592.38
6	Use rate of air hose	Hour	20.00	6.34	126.88
7	Use rate of water hose	Hour	20.00	6.25	125.00
8	Sundries(paint / template etc)	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**12334.08**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling jumbo	Hour	8.00	413.10	3304.80
	Fuel / Energy charges	Hour	8.00	71.10	568.80
2	Air compressor 15 cmm (ele)	Hour	5.00	147.60	738.00
	Fuel / Energy charges	Hour	5.00	1342.80	6714.00
3	Jack hammer (4 x 5 hrs)	Hour	20.00	22.90	458.00
	Fuel / Energy charges	Hour	20.00	0.00	0.00
4	Pusher leg	Hour	20.00	13.80	276.00
	Fuel / Energy charges	Hour	20.00	0.00	0.00
5	Convey mucker	Hour	6.50	914.10	5941.65
	Fuel / Energy charges	Hour	6.50	373.80	2429.70
6	Dumper (1 x 6.5 hrs)	Hour	6.50	688.40	4474.60
	Fuel / Energy charges	Hour	6.50	663.20	4310.80
7	Pump 10 hp (ele)	Hour	5.00	7.40	37.00
	Fuel / Energy charges	Hour	5.00	107.40	537.00
8	Ventilation fans 20 hp	Hour	1.00	12.80	12.80
	Fuel / Energy charges	Hour	1.00	214.80	214.80
9	Sundries(explosive van / magazine)	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**30075.95**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	8.00	282.90	2263.20
2	Crew for Air compressor	Hour	5.00	282.90	1414.50
3	Crew for Jack hammer	Hour	20.00	530.40	10608.00
4	Crew for Convey mucker	Hour	6.50	285.00	1852.50
5	Crew for Dumper	Hour	6.50	356.90	2319.85
6	Crew for Pump	Hour	5.00	132.90	664.50
7	Crew for ventilation fans	Hour	1.00	45.80	45.80
8	Surveyor	Day	0.50	1150.00	575.00
9	Foreman	Day	1.00	790.00	790.00
10	Fitter / Mechanic	Day	2.00	710.00	1420.00
11	Blaster (Licensed)	Day	1.00	805.00	805.00
12	Helper blasting	Day	2.00	650.00	1300.00
13	Hammerman	Day	2.00	650.00	1300.00
14	work inspector 1 in each shift	Day	3.00	805.00	2415.00
15	Khalasi for mucking shift 4 Nos	Day	4.00	710.00	2840.00
16	mazdoor				
	for mucking shift 4 Nos	Day	4.00	605.00	2420.00
	for other 2 shifts 1 No each shift	Day	2.00	605.00	1210.00
	for cleaning & miscellaneous	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**35453.35**

labour component/unit qty		920.90	
Add contractor's profit and overhead charges	13.615%	125.40	
labour component/unit qty (including contractor's profit)		**1046.30**	

ABSTRACT:

A. Cost of Materials			Rs:	12334.08
B. Hire charges of Machinery			Rs:	30075.95
C. Cost of Labour			Rs:	35453.35
		Total	Rs:	77863.38
Add for Air and Water line @		1.00%	Rs:	778.63
Add for Ventilation @		4.50%	Rs:	3503.85
Add for Lighting @		1.60%	Rs:	1245.81
Add for Ele sub-station / Demand charges @		2.50%	Rs:	1946.58
		Total	Rs:	85338.26
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%	Rs:	11618.80
Total cost for	38.50	cum	Rs:	**96957.07**
Rate per cum	(A+B+C+D) / 38.50		Rs:	**2518.40**

IRR-TAW-1-2

Excavation for vertical / inclined shaft in all types of soft / hard rock including cost of all materials, machinery labour, shoring, strutting, scaling excavated surface, ventilation, lighting, drainage, removing and hauling excavated muck outside shaft upto specified dump area and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**

DATA A. MATERIALS: **RATE ANALYSIS** UNIT : **30.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Small dia explosive	kg	32.00	95.00	3040.00
2	Electric detonator	Nos	65.00	14.00	910.00
3	Detonating fuse coil	Rm	50.00	9.00	450.00
4	Use rate of drill rod 1.6 m long	Rm	95.00	41.19	3912.73
5	Reconditioning charges @	10%			391.27
6	Use rate of air hose	Hour	18.00	25.38	456.75
7	Use rate of water hose	Hour	16.00	25.00	400.00
8	Use rate of rail track	Shift	3.00	153.93	461.78

9	Use rate of mucking bucket	Hour	24.00	34.94	838.56
10	Sundries(paint / template etc)	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**10919.09**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 15 cmm (ele)	Hour	4.50	147.60	664.20
	Fuel / Energy charges	Hour	4.50	1342.80	6042.60
2	Jack hammer (4 x 4 hrs)	Hour	16.00	22.90	366.40
	Fuel / Energy charges	Hour	16.00	0.00	0.00
3	Pump 10 hp (ele)	Hour	4.00	7.40	29.60
	Fuel / Energy charges	Hour	4.00	107.40	429.60
4	Pump 20 hp electric	Hour	2.00	14.40	28.80
	Fuel / Energy charges	Hour	2.00	214.80	429.60
5	Winch 35 hp electric	Hour	28.00	147.10	4118.80
	Fuel / Energy charges	Hour	28.00	263.20	7369.60
6	Tipping tub 1.5 cum	Hour	24.00	77.80	1867.20
	Fuel / Energy charges	Hour	24.00	0.00	0.00
7	Sundries(explosive van / magazine)	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**21404.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	4.50	282.90	1273.05
2	Crew for Jack hammer	Hour	16.00	530.40	8486.40
3	Crew for Pump 10 hp	Hour	4.00	132.90	531.60
4	Crew for Pump 20 hp	Hour	2.00	132.90	265.80
5	Crew for Winch	Hour	28.00	424.30	11880.40
6	Surveyor	Day	0.50	1150.00	575.00
7	Foreman	Day	4.00	790.00	3160.00
8	Fitter / Mechanic	Day	2.00	710.00	1420.00
9	Blaster (Licensed)	Day	1.00	805.00	805.00
10	Helper blasting	Day	2.00	650.00	1300.00
11	Hammerman 1 No. in each shift	Day	3.00	650.00	1950.00
12	work inspector 1 in each shift	Day	4.00	805.00	3220.00
13	Khalasi for mucking 2 Nos in each shift	Day	6.00	710.00	4260.00
14	mazdoor				
	for mucking 8 Nos in each shift	Day	24.00	605.00	14520.00
	for other 2 shifts 1 No / shift	Day	2.00	605.00	1210.00
	for cleaning & miscellaneous	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**56067.25**

labour component/unit qty		1868.90	
Add contractor's profit and overhead charges	13.615%	254.50	
labour component/unit qty (including contractor's profit)		**2123.40**	

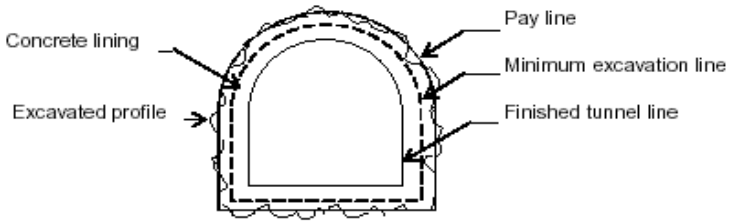
ABSTRACT:

A. Cost of Materials			Rs:	10919.09
B. Hire charges of Machinery			Rs:	21404.40
C. Cost of Labour			Rs:	56067.25
		Total	Rs:	88390.74
Add for Air and Water line @	1.00%		Rs:	883.91
Add for Ventilation @	4.50%		Rs:	3977.58
Add for Lighting @	1.60%		Rs:	1414.25
Add for Ele sub-station / Demand charges @	2.50%		Rs:	2209.77
		Total	Rs:	96876.26
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	13189.70

Total cost for	30.00	cum	Rs:	**110065.96**
Rate per cum	(A+B+C+D) / 30.00		Rs:	**3668.90**

IRR-TAW-1-3

Excavation for tunnel by tunnelling methods in rock not requiring supports including cost of all materials, machinery, labour, scaling excavated surface, removing under-cuts, ventilation, lighting, drainage, removing and hauling the excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**



TYPICAL CROSS SECTION OF TUNNEL 4.50 m dia.

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **48.60** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Small dia explosive	kg	54.00	95.00	5130.00
2	Delay detonators	Nos	68.00	22.00	1496.00
3	Electric detonators	Nos	10.00	14.00	140.00
4	Detonating fuse coil	Rm	50.00	9.00	450.00
5	Use rate of drill rod 2.5 m long	Rm	150.00	49.78	7467.00
	Reconditioning charges @	10%			746.70
6	Use rate of air hose	Hour	24.00	6.34	152.25
7	Use rate of water hose	Hour	24.00	6.25	150.00
8	Sundries(paint / template etc)	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**15789.95**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling jumbo	Hour	10.00	413.10	4131.00
	Fuel / Energy charges	Hour	10.00	71.10	711.00
2	Air compressor 15 cmm (ele)	Hour	6.50	147.60	959.40
	Fuel / Energy charges	Hour	6.50	1342.80	8728.20
3	Jack hammer (4 x 6.5 hrs)	Hour	26.00	22.90	595.40
	Fuel / Energy charges	Hour	26.00	0.00	0.00
4	Pusher leg	Hour	26.00	13.80	358.80
	Fuel / Energy charges	Hour	26.00	0.00	0.00
5	Convey mucker	Hour	6.00	914.10	5484.60
	Fuel / Energy charges	Hour	6.00	373.80	2242.80
6	Dumper (2 x 6 hrs)	Hour	12.00	688.40	8260.80
	Fuel / Energy charges	Hour	12.00	663.20	7958.40
7	Pump 10 hp (ele)	Hour	6.50	7.40	48.10
	Fuel / Energy charges	Hour	6.50	107.40	698.10
8	Ventilation fans 20 hp	Hour	2.00	12.80	25.60
	Fuel / Energy charges	Hour	2.00	214.80	429.60
9	Sundries(explosive van / magazine)	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**40689.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	10.00	282.90	2829.00

2	Crew for Air compressor	Hour	6.50	282.90	1838.85
3	Crew for Jack hammer	Hour	26.00	530.40	13790.40
4	Crew for Convey mucker	Hour	6.00	285.00	1710.00
5	Crew for Dumper	Hour	12.00	356.90	4282.80
6	Crew for Pump	Hour	6.50	132.90	863.85
7	Crew for ventilation fans	Hour	2.00	45.80	91.60
8	Surveyor	Day	0.50	1150.00	575.00
9	Foreman	Day	1.00	790.00	790.00
10	Fitter / Mechanic	Day	2.00	710.00	1420.00
11	Blaster (Licensed)	Day	1.00	805.00	805.00
12	Helper blasting	Day	2.00	650.00	1300.00
13	Hammerman	Day	2.00	650.00	1300.00
14	work inspector 1 in each shift	Day	3.00	805.00	2415.00
15	Khalasi for mucking shift 4 Nos	Day	4.00	710.00	2840.00
16	mazdoor				
	for mucking shift 8 Nos	Day	8.00	605.00	4840.00
	for other 2 shifts 1 No each shift	Day	2.00	605.00	1210.00
	for cleaning & miscellaneous	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**44111.50**

labour component/unit qty		907.60	
Add contractor's profit and overhead charges	13.615%	123.60	
labour component/unit qty (including contractor's profit)		**1031.20**	

ABSTRACT:

A. Cost of Materials			Rs:	15789.95
B. Hire charges of Machinery			Rs:	40689.80
C. Cost of Labour			Rs:	44111.50
		Total	Rs:	100591.25
Add for Air and Water line @	1.00%		Rs:	1005.91
Add for Ventilation @	4.50%		Rs:	4526.61
Add for Lighting @	1.60%		Rs:	1609.46
Add for Ele sub-station / Demand charges @	2.50%		Rs:	2514.78
		Total	Rs:	110248.01
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	15010.27
Total cost for	48.60	cum	Rs:	**125258.28**
Rate per cum	(A+B+C+D) / 48.60		Rs:	**2577.30**

IRR-TAW-1-4

Excavation for tunnel by tunnelling methods including excavation for supports in all types of soil / rock strat requiring supports (excluding cost of providing supports) including cost of all other materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage, removing and hauling the excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **46.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Small dia explosive	kg	41.00	95.00	3895.00
2	Delay detonators	Nos	77.00	22.00	1694.00
3	Electric detonators	Nos	10.00	14.00	140.00
4	Detonating fuse coil	Rm	50.00	9.00	450.00
5	Use rate of drill rod 2.5 m long	Rm	144.00	49.78	7168.32
	Reconditioning charges @	10%			716.83
6	Use rate of air hose	Hour	24.00	6.34	152.25
7	Use rate of water hose	Hour	24.00	6.25	150.00
8	Sundries(paint / template etc)	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**14424.40**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling jumbo	Hour	11.00	413.10	4544.10
	Fuel / Energy charges	Hour	11.00	71.10	782.10
2	Air compressor 15 cmm (ele)	Hour	6.00	147.60	885.60
	Fuel / Energy charges	Hour	6.00	1342.80	8056.80
3	Jack hammer (4 x 6 hrs)	Hour	24.00	22.90	549.60
	Fuel / Energy charges	Hour	24.00	0.00	0.00
4	Pusher leg	Hour	24.00	13.80	331.20
	Fuel / Energy charges	Hour	24.00	0.00	0.00
5	Convey mucker	Hour	6.00	914.10	5484.60
	Fuel / Energy charges	Hour	6.00	373.80	2242.80
6	Dumper (2 x 6 hrs)	Hour	12.00	688.40	8260.80
	Fuel / Energy charges	Hour	12.00	663.20	7958.40
7	Pump 10 hp (ele)	Hour	6.00	7.40	44.40
	Fuel / Energy charges	Hour	6.00	107.40	644.40
8	Ventilation fans 20 hp	Hour	2.00	12.80	25.60
	Fuel / Energy charges	Hour	2.00	214.80	429.60
9	Sundries(explosive van / magazine)	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**40298.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	11.00	282.90	3111.90
2	Crew for Air compressor	Hour	6.00	282.90	1697.40
3	Crew for Jack hammer	Hour	24.00	530.40	12729.60
4	Crew for Convey mucker	Hour	6.00	285.00	1710.00
5	Crew for Dumper	Hour	12.00	356.90	4282.80
6	Crew for Pump	Hour	6.00	132.90	797.40
7	Crew for ventilation fans	Hour	2.00	45.80	91.60
8	Surveyor	Day	0.50	1150.00	575.00
9	Foreman	Day	1.00	790.00	790.00
10	Fitter / Mechanic	Day	2.00	710.00	1420.00
11	Blaster (Licensed)	Day	1.00	805.00	805.00
12	Helper blasting	Day	2.00	650.00	1300.00
13	Hammerman 2 Nos	Day	2.00	650.00	1300.00
14	work inspector 1 in each shift	Day	3.00	805.00	2415.00
15	Khalasi for mucking shift 4 Nos	Day	4.00	710.00	2840.00
16	mazdoor				
	for mucking shift 8 Nos	Day	8.00	605.00	4840.00
	for other 2 shifts 1 No each shift	Day	2.00	605.00	1210.00
	for cleaning & miscellaneous	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**43125.70**

labour component/unit qty		937.50	
Add contractor's profit and overhead charges	13.615%	127.60	
labour component/unit qty (including contractor's profit)		**1065.10**	

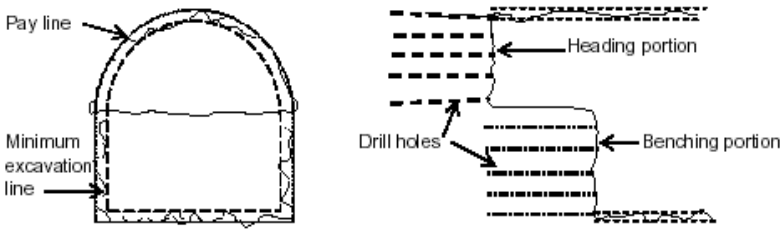
ABSTRACT:

A. Cost of Materials		Rs:	14424.40
B. Hire charges of Machinery		Rs:	40298.00
C. Cost of Labour		Rs:	43125.70
	Total	Rs:	97848.10
Add for Air and Water line @	1.00%	Rs:	978.48
Add for Ventilation @	4.50%	Rs:	4403.16

Add for Lighting @	1.60%		Rs:	1565.57
Add for Ele sub-station / Demand charges @	2.50%		Rs:	2446.20
		Total	Rs:	107241.52
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	14600.93
Total cost for	46.00 cum		Rs:	**121842.45**
Rate per cum	(A+B+C+D) / 46.00		Rs:	**2648.70**

IRR-TAW-1-5

Excavation for tunnel by heading and benching tunnelling methods including excavation for supports in all types of soil / rock strata requiring supports (excluding cost of providing supports) for roof before benching including cost of all other materials, machinery, labour, scaling excavated surface, ventilation, lighting, drainage removing and hauling excavated muck outside tunnel upto specified dump area and all other ancillary operations etc., complete with **initial lead upto 1 km and all lifts.**



TYPICAL CROSS SECTION OF TUNNEL FOR HEADING & BENCHING

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **50.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Small dia explosive	kg	44.00	95.00	4180.00
2	Delay detonators	Nos	84.00	22.00	1848.00
3	Electric detonator	Nos	10.00	14.00	140.00
4	Detonating fuse coil	Rm	50.00	9.00	450.00
5	Use rate of drill rod 2.5 m long	Rm	157.00	49.78	7815.46
	Reconditioning charges @	10%			781.55
6	Use rate of air hose	Hour	26.00	6.34	164.94
7	Use rate of water hose	Hour	26.00	6.25	162.50
8	Sundries(paint / template etc)	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**15600.44**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling jumbo	Hour	12.00	413.10	4957.20
	Fuel / Energy charges	Hour	12.00	71.10	853.20
2	Air compressor 15 cmm (ele)	Hour	6.50	147.60	959.40
	Fuel / Energy charges	Hour	6.50	1342.80	8728.20
3	Jack hammer (4 x 6.5 hrs)	Hour	26.00	22.90	595.40
	Fuel / Energy charges	Hour	26.00	0.00	0.00
4	Pusher leg	Hour	26.00	13.80	358.80
	Fuel / Energy charges	Hour	26.00	0.00	0.00
5	Convey mucker	Hour	6.50	914.10	5941.65
	Fuel / Energy charges	Hour	6.50	373.80	2429.70
6	Dumper (2 x 6.5 hrs)	Hour	13.00	688.40	8949.20
	Fuel / Energy charges	Hour	13.00	663.20	8621.60
7	Pump 10 hp (ele)	Hour	6.50	7.40	48.10
	Fuel / Energy charges	Hour	6.50	107.40	698.10
8	Ventilation fans 20 hp	Hour	3.00	12.80	38.40
	Fuel / Energy charges	Hour	3.00	214.80	644.40
9	Sundries(explosive van / magazine)	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**43881.35**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	12.00	282.90	3394.80
2	Crew for Air compressor	Hour	6.50	282.90	1838.85
3	Crew for Jack hammer	Hour	26.00	530.40	13790.40
4	Crew for Convey mucker	Hour	6.50	285.00	1852.50
5	Crew for Dumper	Hour	13.00	356.90	4639.70
6	Crew for Pump	Hour	6.50	132.90	863.85
7	Crew for Ventilation fan	Hour	3.00	45.80	137.40
8	Surveyor	Day	0.50	1150.00	575.00
9	Foreman	Day	1.00	790.00	790.00
10	Fitter / Mechanic	Day	2.00	710.00	1420.00
11	Blaster (Licensed)	Day	2.00	805.00	1610.00
12	Helper blasting	Day	4.00	650.00	2600.00
13	Hammerman 2 Nos	Day	2.00	650.00	1300.00
14	work inspector 1 in each shift	Day	3.00	805.00	2415.00
15	Khalasi				
	for pushing muck in heading portion	Day	4.00	710.00	2840.00
	for mucking shift 4 Nos	Day	4.00	710.00	2840.00
16	mazdoor				
	for mucking shift 8 Nos	Day	8.00	605.00	4840.00
	for other 2 shifts 1 No each shift	Day	2.00	605.00	1210.00
	for cleaning &miscellaneous	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**50167.50**

labour component/unit qty		1003.40	
Add contractor's profit and overhead charges	13.615%	136.60	
labour component/unit qty (including contractor's profit)		**1140.00**	

ABSTRACT:

A. Cost of Materials			Rs:	15600.44
B. Hire charges of Machinery			Rs:	43881.35
C. Cost of Labour			Rs:	50167.50
		Total	Rs:	109649.29
Add for Air and Water line @	1.00%		Rs:	1096.49
Add for Ventilation @	4.50%		Rs:	4934.22
Add for Lighting @	1.60%		Rs:	1754.39
Add for Ele sub-station / Demand charges @	2.50%		Rs:	2741.23
		Total	Rs:	120175.63
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	16361.91
Total cost for	50.00 cum		Rs:	**136537.54**
Rate per cum	(A+B+C+D) / 50.00		Rs:	**2730.80**

NOTE: ***Where mucking is to be carried out through shaft using winch and mucking tub system increase the basic rates for items IRR-TAW-1-3, IRR-TAW-1-4 & IRR-TAW-1-5 by 8 percent***

IRR-TAW-1-6

Removing and hauling muck overfallen due to natural causes such as geological faults etc., out of tunnel including breaking large fragments by blasting if necessary and disposing off the same in specified dump area or as directed including cost of all materials, machinery, labour, ventilation, drainage, lighting and all other ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**

DATA **RATE ANALYSIS**

A. MATERIALS: UNIT : **100.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod	Rm	15.00	41.19	617.80
	Reconditioning charges @	10%			61.78

2	Explosive small dia.	kg	8.00	95.00	760.00
3	Detonator (ele)	Nos.	30.00	14.00	420.00
4	Detonating fuse coil	Rm	20.00	9.00	180.00
5	Use rate of air hose	Hour	4.00	6.34	25.38
6	Use rate of water hose	Hour	4.00	6.25	25.00
7	Sundries	LS	1.00	29.00	29.00
	Total cost of Materials			Rs:	**2118.96**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 15 cmm (ele)	Hour	1.00	147.60	147.60
	Fuel / Energy charges	Hour	1.00	1342.80	1342.80
2	Jack hammer	Hour	4.00	22.90	91.60
	Fuel / Energy charges	Hour	4.00	0.00	0.00
3	Pump 10 hp (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
4	Convey mucker	Hour	6.00	914.10	5484.60
	Fuel / Energy charges	Hour	6.00	373.80	2242.80
5	Dumper 4.5 cum	Hour	12.00	688.40	8260.80
	Fuel / Energy charges	Hour	12.00	663.20	7958.40
6	Sundries	LS	1.00	29.00	29.00
	Total hire charges of Machinery			Rs:	**25672.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	1.00	282.90	282.90
2	Crew for Jack hammer	Hour	4.00	530.40	2121.60
3	Crew for Pump	Hour	1.00	132.90	132.90
4	Crew for Convey mucker	Hour	6.00	285.00	1710.00
5	Crew for Dumper	Hour	12.00	356.90	4282.80
6	Blaster (Licensed)	Day	0.50	805.00	402.50
7	Helper blasting	Day	0.50	650.00	325.00
8	mazdoor	Day	8.00	605.00	4840.00
	Total cost of Labour			Rs:	**14097.70**

labour component/unit qty		141.00	
Add contractor's profit and overhead charges	13.615%	19.20	
labour component/unit qty (including contractor's profit)		**160.20**	

ABSTRACT:

A. Cost of Materials			Rs:	2118.96
B. Hire charges of Machinery			Rs:	25672.40
C. Cost of Labour			Rs:	14097.70
		Total	Rs:	41889.06
Add for Air and Water line @	1.00%		Rs:	418.89
Add for Ventilation @	4.50%		Rs:	1885.01
Add for Lighting @	1.60%		Rs:	670.22
Add for Ele sub-station / Demand charges @	2.50%		Rs:	1047.23
		Total	Rs:	45910.40
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	6250.70
Total cost for 100.00	cum		Rs:	**52161.11**
Rate per cum (A+B+C+D) / 100.00			Rs:	**521.60**

IRR_TAW-2 **DEWATERING & GUNITING WORKS :**

IRR-TAW-2-1

Dewatering tunnel by pumping out water collected by natural drainage inside tunnel including providing sump wherever necessary, cost of all materials, machinery, labour, drainage, lighting, ventilation and all other ancilla operations etc., complete.

DATA **RATE ANALYSIS**

A. MATERIALS: UNIT : **15.00** Kwhr

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of G.I.pipe 100 mm dia	Hour	1.00	4.67	4.67
2	Sundries	LS	0.10	29.00	2.90
	Total cost of Materials			Rs:	**7.57**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Electric pump 20 hp	Hour	1.00	14.40	14.40
2	Fuel / Energy charges	Hour	1.00	214.80	214.80
3	Sundries(Starter/Switches ete)	LS	0.10	29.00	2.90
	Total hire charges of Machinery			Rs:	**232.10**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew charges for Pump	Hour	1.00	132.90	132.90
2	Laying & dismantling pipe	LS	0.05	29.00	1.45
3	mazdoor	Day	0.10	605.00	60.50
	Total cost of Labour			Rs:	**194.85**

labour component/unit qty		13.00	
Add contractor's profit and overhead charges	13.615%	1.80	
labour component/unit qty (including contractor's profit)		**14.80**	

ABSTRACT:

A. Cost of Materials			Rs:	7.57
B. Hire charges of Machinery			Rs:	232.10
C. Cost of Labour			Rs:	194.85
		Total	Rs:	434.52
Add for Air and Water line @	1.00%		Rs:	4.35
Add for Ventilation @	4.50%		Rs:	19.55
Add for Lighting @	1.60%		Rs:	6.95
Add for Ele sub-station / Demand charges @	2.50%		Rs:	10.86
		Total	Rs:	476.23
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	64.84
Total cost for 15.00	Kwhr		Rs:	**541.07**
Rate per Kwhr (A+B+C+D) / 15.00			Rs:	**36.10**

IRR-TAW-2-2

Providing 25 mm thick guniting to sides and arch of tunnel in **cement mortar 1 : 3** proportion by weight including cost of all materials, machinery, labour, ventilation, lighting, drainage and all other ancillary operation etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **36.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	600.00	5.10	3060.00
2	Sand (Screened)	cum	1.10	952.00	1047.20
3	Use rate of grout hose 20 m	Hour	8.00	6.34	50.75
4	Use rate of water hose 20 m	Hour	8.00	6.25	50.00

5	Use rate of guniting nozzle	Hour	8.00	4.50	36.00
6	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**4301.95**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Guniting equipment	Hour	8.00	125.90	1007.20
	Fuel / Energy charges	Hour	8.00	0.00	0.00
2	Air compressor 8.5 cmm (ele)	Hour	8.00	183.60	1468.80
	Fuel / Energy charges	Hour	8.00	604.30	4834.40
3	Pump 10 hp (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
4	Drilling jumbo	Hour	4.00	413.10	1652.40
	Fuel / Energy charges	Hour	4.00	71.10	284.40
5	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**9420.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Guniting equipment	Hour	8.00	353.60	2828.80
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	Crew for pump	Hour	1.00	132.90	132.90
4	Crew for Drilling jumbo	Hour	4.00	282.90	1131.60
5	Mason Cl I	Day	1.00	680.00	680.00
6	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**10524.90**

labour component/unit qty			292.40		
Add contractor's profit and overhead charges		13.615%	39.80		
labour component/unit qty (including contractor's profit)			**332.20**		

ABSTRACT:

A. Cost of Materials				Rs:	4301.95
B. Hire charges of Machinery				Rs:	9420.00
C. Cost of Labour				Rs:	10524.90
				Total Rs:	24246.85
Add for Air and Water line @			1.00%	Rs:	242.47
Add for Ventilation @			4.50%	Rs:	1091.11
Add for Lighting @			1.60%	Rs:	387.95
Add for Ele sub-station / Demand charges @			2.50%	Rs:	606.17
				Total Rs:	26574.55
D.Add for contractor's profit and overheads on (A+B+C+other percenta			13.615%	Rs:	3618.12
Lead Charges for 1 Km for FA		1.10	cum @	44.9 Rs./Cum	49.39
Total cost for		36.00	sqm	Rs:	**30242.06**
Rate per sqm		(A+B+C+D) / 36.00		Rs:	**840.10**

IRR-TAW-2-3

Shortcreting in two layers (each layer+38 mm thickness) for slabs duly fixing chain weld wire mesh 100 x 100x mm in between the two layers including cost and conveyance of all materials, labour charges, all heads, lifts, centering, scaffolding, machine mixing, laying concrete with shortcrete machine etc. complete **as per specification and as directed by Engineer-in-Charge**

Data **RATE ANALYSIS**

A. MATERIALS: UNIT : **36.00** sqm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1548.00	5.10	7894.80
2	Sand (Screened)	cum	2.41	952.00	2294.32

3	Coarse aggregate 10-4.75 mm size	cum	1.03	879.00	905.37
4	Use rate of grout hose 20 m	Hour	8.00	6.34	50.75
5	Use rate of water hose 20 m	Hour	8.00	6.25	50.00
6	Use rate of guniting nozzle	Hour	8.00	4.50	36.00
7	Welded steel wire fabric 100 x 100 x 5 mm	kg	108.00	208.00	22464.00
8	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**33753.24**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Guniting equipment	Hour	8.00	125.90	1007.20
	Fuel / Energy charges	Hour	8.00	0.00	0.00
2	Air compressor 8.5 cmm (ele)	Hour	8.00	183.60	1468.80
	Fuel / Energy charges	Hour	8.00	604.30	4834.40
3	Pump 10 hp (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
4	Drilling jumbo	Hour	4.00	413.10	1652.40
	Fuel / Energy charges	Hour	4.00	71.10	284.40
5	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**9420.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Guniting equipment	Hour	8.00	353.60	2828.80
2	Crew for Air compressor	Hour	8.00	265.20	2121.60
3	Crew for pump	Hour	1.00	132.90	132.90
4	Crew for Drilling jumbo	Hour	4.00	282.90	1131.60
5	Mason Cl I	Day	1.00	680.00	680.00
6	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**10524.90**

labour component/unit qty		292.40	
Add contractor's profit and overhead charges	13.615%	39.80	
labour component/unit qty (including contractor's profit)		**332.20**	

ABSTRACT:

A. Cost of Materials				Rs:	33753.24
B. Hire charges of Machinery				Rs:	9420.00
C. Cost of Labour				Rs:	10524.90
			Total	Rs:	53698.14
Add for Air and Water line @		1.00%		Rs:	536.98
Add for Ventilation @		4.50%		Rs:	2416.42
Add for Lighting @		1.60%		Rs:	859.17
Add for Ele sub-station / Demand charges @		2.50%		Rs:	1342.45
			Total	Rs:	58853.16
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%		Rs:	8012.86
Lead Charges for 1 Km for FA	2.41	cum @	44.9 Rs./Cum		108.209
Lead Charges for 1 Km for CA	1.03	cum @	43.3 Rs./Cum		44.599
Total cost for	36.00	sqm		Rs:	**67018.83**
Rate per sqm	(A+B+C+D) / 36.00			Rs:	**1861.60**

IRR_TAW-3 TEMPORARY & PERMANENT SUPPORTS :

IRR-TAW-3-1

Providing and **fixing 25 mm diameter steel rock bolts with mechanical / wedge type anchorage** including drilling 35 mm dia holes, providing 15 cm long 20 mm thick steel tapered wedge, 10 mm thick plate washers and nuts, tightening bolt by torque wrench, cost of all materials, machinery, labour, ventilation, lighting,

drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **20.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rein.Steel with 5 % wastage	kg	86.91	57.00	4954.08
2	Steel plate for washers	kg	65.94	61.00	4022.34
	Steel plate for wedges	kg	6.18	61.00	377.09
3	M S Nuts for bolts	kg	4.00	97.00	388.00
4	Use rate of drill rod	Rm	20.00	49.78	995.60
	Reconditioning charges @	10%			99.56
5	Use rate of air hose 4 Nos	Hour	6.00	6.34	38.06
6	Use rate of water hose 4 Nos	Hour	6.00	6.25	37.50
7	Sundries (gas for cutting / heating etc)	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**11057.24**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 15 cmm (ele)	Hour	1.50	147.60	221.40
	Fuel / Energy charges	Hour	1.50	1342.80	2014.20
2	Pump 10 hp (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
3	Jack hammer	Hour	6.00	22.90	137.40
	Fuel / Energy charges	Hour	6.00	0.00	0.00
4	Pusher leg	Hour	6.00	13.80	82.80
	Fuel / Energy charges	Hour	6.00	0.00	0.00
5	Drilling jumbo	Hour	4.00	413.10	1652.40
	Fuel / Energy charges	Hour	4.00	71.10	284.40
6	Sundries (lathe, blower etc)	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**4652.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	1.50	282.90	424.35
2	Crew for pump	Hour	1.00	132.90	132.90
3	Crew for Jack hammer	Hour	6.00	530.40	3182.40
4	Crew for Drilling jumbo	Hour	4.00	282.90	1131.60
5	Fitter	Day	0.50	710.00	355.00
6	Gas cutter	Day	1.00	720.00	720.00
7	Turner	Day	1.00	780.00	780.00
8	Blacksmith	Day	1.00	675.00	675.00
9	Khalasi (2 x 0.5)	Day	1.00	710.00	710.00
10	Hammerman	Day	0.50	650.00	325.00
11	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**9646.25**

labour component/unit qty		482.30	
Add contractor's profit and overhead charges	13.615%	65.70	
labour component/unit qty (including contractor's profit)		**548.00**	

ABSTRACT:

A. Cost of Materials		Rs:	11057.24
B. Hire charges of Machinery		Rs:	4652.40
C. Cost of Labour		Rs:	9646.25
	Total	Rs:	25355.89
Add for Air and Water line @	1.00%	Rs:	253.56

Add for Ventilation @	4.50%		Rs:	1141.02
Add for Lighting @	1.60%		Rs:	405.69
Add for Ele sub-station / Demand charges @	2.50%		Rs:	633.90
		Total	Rs:	27790.06
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	3783.62
Total cost for	20.00	Rm	Rs:	**31573.67**
Rate per Rm	(A+B+C+D) / 20.00		Rs:	**1578.70**

IRR-TAW-3-2

Providing and **fixing 25 mm diameter steel rock bolts with resin bond cement capsule anchorage** including drilling 35 mm dia holes, inserting grout capsule, driving bolt,fixing 10 mm thick plate washers and nuts and tightening the same by torque wrench after hardening of cement grout, cost of all materials, machinery, labour, ventilation, lighting, drainage and other ancillary operations etc., **complete with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **20.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rein.Steel with 5 % wastage	kg	86.91	57.00	4954.08
2	Steel plate for washers	kg	65.94	61.00	4022.34
3	Resin bond cement grout capsule	Nos.	2.00	61.00	122.00
4	M S Nuts for bolts	kg	4.00	97.00	388.00
5	Use rate of drill rod	Rm	20.00	49.78	995.60
	Reconditioning charges @	10%			99.56
6	Use rate of air hose 4 Nos	Hour	6.00	6.34	38.06
7	Use rate of water hose 4 Nos	Hour	6.00	6.25	37.50
8	Sundries(gas for cutting etc)	LS	3.00	29.00	87.00
	Total cost of Materials			Rs:	**10744.15**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate	Amount
1	Air compressor 15 cmm (ele)	Hour	1.50	147.60	221.40
	Fuel / Energy charges	Hour	1.50	1342.80	2014.20
2	Pump 10 hp (ele)	Hour	1.00	7.40	7.40
	Fuel / Energy charges	Hour	1.00	107.40	107.40
3	Jack hammer	Hour	6.00	22.90	137.40
	Fuel / Energy charges	Hour	6.00	0.00	0.00
4	Pusher leg	Hour	6.00	13.80	82.80
	Fuel / Energy charges	Hour	6.00	0.00	0.00
5	Drilling jumbo	Hour	4.00	413.10	1652.40
	Fuel / Energy charges	Hour	4.00	71.10	284.40
6	Sundries (lathe, etc)	LS	3.00	29.00	87.00
	Total hire charges of Machinery			Rs:	**4594.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	1.50	282.90	424.35
2	Crew for pump	Hour	1.00	132.90	132.90
3	Crew for Jack hammer	Hour	6.00	530.40	3182.40
4	Crew for Drilling jumbo	Hour	4.00	282.90	1131.60
5	Fitter	Day	0.50	650.00	325.00
6	Gas cutter	Day	1.00	720.00	720.00
7	Turner	Day	1.00	780.00	780.00
8	Khalasi (2 x 0.5)	Day	1.00	710.00	710.00
9	Hammerman	Day	0.50	650.00	325.00
10	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**8941.25**

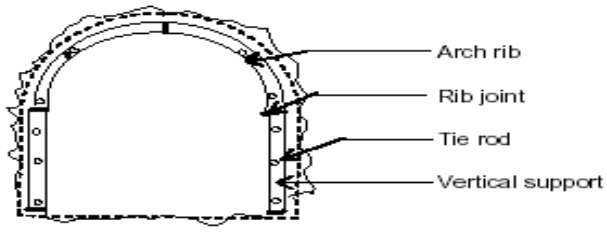
labour component/unit qty		447.10			
Add contractor's profit and overhead charges	13.615%	60.90			
labour component/unit qty (including contractor's profit)		**508.00**			

ABSTRACT:

A. Cost of Materials			Rs:	10744.15
B. Hire charges of Machinery			Rs:	4594.40
C. Cost of Labour			Rs:	8941.25
		Total	Rs:	24279.80
Add for Air and Water line @	1.00%		Rs:	242.80
Add for Ventilation @	4.50%		Rs:	1092.59
Add for Lighting @	1.60%		Rs:	388.48
Add for Ele sub-station / Demand charges @	2.50%		Rs:	606.99
		Total	Rs:	26610.66
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	3623.04
Total cost for	20.00 Rm		Rs:	**30233.70**
Rate per Rm	(A+B+C+D) / 20.00		Rs:	**1511.70**

IRR-TAW-3-3

Providing, fabricating and **fixing in position permanent structural steel supports as per details** including cost o all materials, machinery, labour, cutting, bending, welding, grinding, lighting, ventilation, drainage and all othe ancillary operations etc., complete **with initial lead upto 1 km and all lifts.**



TYPICAL SKETCH SHOWING TUNNEL SUPPORTS

Data **RATE ANALYSIS**

A. MATERIALS: UNIT : 1 tonne

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel beams	kg	760.00	60.00	45600.00
2	Structural steel plates	kg	115.00	61.00	7015.00
3	Steel bars for tie rods & anchors	kg	150.00	57.00	8550.00
4	For cutting sections:				
	Oxygen gas @ 2.4 cum / t	cum	2.40	63.00	151.20
	Acetylene gas @ 0.8 cum / t	cum	0.80	463.00	370.40
5	For welding sections:				
	Electrodes 4 x 300 mm @ 125 Nos / t	Nos.	125.00	15.00	1875.00
6	For field connections:				
	M.S.Bolts / Nuts & Washers	kg	50.00	97.00	4850.00
7	Sundries	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**68556.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Bending machine	Hour	8.00	45.20	361.60
	Fuel / Energy charges	Hour	8.00	161.10	1288.80
2	Welding set	Hour	16.00	17.20	275.20
	Fuel / Energy charges	Hour	16.00	128.90	2062.40
3	Drilling Jumbo	Hour	12.00	413.10	4957.20
	Fuel / Energy charges	Hour	12.00	71.10	853.20
4	Sundries (lathe / drilling / grinder)	LS	30.00	29.00	870.00
	Total hire charges of Machinery			Rs:	**10668.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling Jumbo	Hour	12.00	282.90	3394.80
2	Crew fir Bending machine	Hour	8.00	212.20	1697.60
3	For cutting & preparing sections:				
	Structural steel Marker	Day	1.00	815.00	815.00
	Gas cutter	Day	2.00	720.00	1440.00
	Fitter	Day	2.00	710.00	1420.00
	Turner / Driller	Day	3.00	780.00	2340.00
	Khalasi	Day	2.00	710.00	1420.00
	Helper fabrication	Day	4.00	650.00	2600.00
4	For welding sections:				
	Welder	Day	2.00	720.00	1440.00
	Helper fabrication	Day	2.00	650.00	1300.00
	Khalasi	Day	2.00	710.00	1420.00
5	For erection of supports:				
	Foreman	Day	1.00	790.00	790.00
	Structural steel Erector	Day	2.00	815.00	1630.00
	Helper erector	Day	2.00	650.00	1300.00
	Khalasi	Day	4.00	710.00	2840.00
	Total cost of Labour			Rs:	**25847.40**

labour component/unit qty		25847.40	
Add contractor's profit and overhead charges	13.615%	3519.10	
labour component/unit qty (including contractor's profit)		**29366.50**	

ABSTRACT:

A. Cost of Materials			Rs:	68556.60
B. Hire charges of Machinery			Rs:	10668.40
C. Cost of Labour			Rs:	25847.40
		Total	Rs:	105072.40
Add for Air and Water line @	1.00%		Rs:	1050.72
Add for Ventilation @	4.50%		Rs:	4728.26
Add for Lighting @	1.60%		Rs:	1681.16
Add for Ele sub-station / Demand charges @	2.50%		Rs:	2626.81
		Total	Rs:	115159.35
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	15678.95
Total cost for	1.00 tonne		Rs:	**130838.30**
Rate per tonne	(A+B+C+D) / 1.00		Rs:	**130838.30**

IRR-TAW-3-4

Providing, fabricating and **fixing in position temperary structural steel supports as per details** and dismantling the same before concreting including cost of all materials, machinery, labour, cutting, bending, welding, grindin ventilation, lighting, drainage and all other ancillary operations etc.,complete **with initial lead upto 1 km and all lifts**

DATA **RATE ANALYSIS**

A. MATERIALS (for 20 uses): UNIT : **1.00** tonne

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel beams	kg	760.00	60.00	45600.00
2	Structural steel plates	kg	115.00	61.00	7015.00
3	Tie rods & anchors	kg	150.00	57.00	8550.00
4	For cutting sections:				
	Oxygen gas @ 2.40 cum / t	cum	2.40	63.00	151.20
	Acetylene @ 0.8 cum / t	cum	0.80	463.00	370.40
5	For welding sections:				
	Electrodes @ 125 Nos / t	Nos.	125.00	15.00	1875.00

6	For field connections:				
	M.S.Bolts / Nuts / Washers	kg	50.00	97.00	4850.00
7	Sundries	LS	20.00	29.00	580.00
	Total cost of Materials for 20 uses of supports			Rs:	**68991.60**
	Cost per use considering	20	uses	Rs:	**3449.58**

B. MACHINERY (for fabrication):

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Bending machine	Hour	8.00	45.20	361.60
	Fuel / Energy charges	Hour	8.00	161.10	1288.80
2	Welding set	Hour	16.00	17.20	275.20
	Fuel / Energy charges	Hour	16.00	128.90	2062.40
3	Sundries	LS	30.00	29.00	870.00
	Total hire charges of Machinery			Rs:	**4858.00**
	Cost per use considering	20	uses	Rs:	**242.90**

B. MACHINERY (for erection and dismantling):

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling Jumbo	Hour	18.00	413.10	7435.80
	Fuel / Energy charges	Hour	18.00	71.10	1279.80
2	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**9005.60**

C. LABOUR (for fabrication):

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Bending machine	Hour	8.00	212.20	1697.60
2	For cutting & preparing sections:				
	Structural steel Marker	Day	1.00	815.00	815.00
	Gas cutter	Day	2.00	720.00	1440.00
	Fitter	Day	2.00	710.00	1420.00
	Turner / Driller	Day	3.00	780.00	2340.00
	Khalasi	Day	2.00	710.00	1420.00
	Helper fabrication	Day	4.00	650.00	2600.00
3	For welding sections:				
	Welder	Day	2.00	720.00	1440.00
	Helper fabrication	Day	2.00	650.00	1300.00
	Khalasi	Day	2.00	710.00	1420.00
	Total cost of Labour			Rs:	**15892.60**
	Cost per use considering	20	uses	Rs:	**794.63**

C. LABOUR (for erection):

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	8.00	282.90	2263.20
2	For erection of supports:				
	Foreman	Day	1.00	790.00	790.00
	Structural steel Erector	Day	2.00	815.00	1630.00
	Helper erector	Day	2.00	650.00	1300.00
	Khalasi	Day	4.00	710.00	2840.00
3	For dismantling of supports:				
	Foreman	Day	0.50	790.00	395.00
	Structural steel Erector	Day	1.00	815.00	815.00
	Helper erector	Day	1.00	650.00	650.00
	Khalasi	Day	2.00	710.00	1420.00
	Total cost of Labour			Rs:	**12103.20**

labour component/unit qty		12897.80			
Add contractor's profit and overhead charges	13.615%	1756.00			
labour component/unit qty (including contractor's profit)		**14653.80**			

ABSTRACT:

A. Cost of Materials			Rs:	3449.58
B. Hire charges of Machinery for fabrication			Rs:	242.90
C. Hire charges of Machinery for erection and dismantling			Rs:	9005.60
D. Cost of Labour for fabrication			Rs:	794.63
E. Cost of Labour for erection and dismantling			Rs:	12103.20
		Total	Rs:	25595.91
Add for Air and Water line @	1.00%		Rs:	255.96
Add for Ventilation @	4.50%		Rs:	1151.82
Add for Lighting @	1.60%		Rs:	409.53
Add for Ele sub-station / Demand charges @	2.50%		Rs:	639.90
		Total	Rs:	28053.12
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	3819.43
Total cost for 1.00	tonne		Rs:	**31872.55**
Rate per tonne (A+B+C+D) / 1.00			Rs:	**31872.50**

IRR-TAW-3-5

Providing and fixing hard variety cut jungle wood for lagging / blocking locations in tunnel wherever required including cost of all materials, machinery, labour, fixing in position, lighting, ventilation, drainage etc complete with all leads and lifts.

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **1.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cut jungle wood	cum	1.05	33800.00	35490.00
2	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**35548.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling jumbo	Hour	2.00	413.10	826.20
	Fuel / Energy charges	Hour	2.00	71.10	142.20
	Total hire charges of Machinery			Rs:	**968.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling jumbo	Hour	2.00	282.90	565.80
2	Carpenter Cl II	Day	1.00	650.00	650.00
3	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**2425.80**

labour component/unit qty		2425.80	
Add contractor's profit and overhead charges	13.615%	330.30	
labour component/unit qty (including contractor's profit)		**2756.10**	

ABSTRACT:

A. Cost of Materials			Rs:	35548.00
B. Hire charges of Machinery			Rs:	968.40
C. Cost of Labour			Rs:	2425.80
		Total	Rs:	38942.20
Add for Air and Water line @	1.00%		Rs:	389.42
Add for Ventilation @	4.50%		Rs:	1752.40
Add for Lighting @	1.60%		Rs:	623.08
Add for Ele sub-station / Demand charges @	2.50%		Rs:	973.56
		Total	Rs:	42680.65

D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	5810.97
Total cost for	1.00	cum	Rs:	**48491.62**
Rate per cum	(A+B+C+D) / 1.00		Rs:	**48491.60**

IRR_TAW-4 **MASONRY WORKS :**

IRR-TAW-4-1

Providing and **constructing un-coursed rubble stone masonry with approved stones** from **tunnel excavated mu** in **cement mortar 1 : 6** proportion for backfilling over cuts / slips on tunnel sides due to geological faults etc., including cost of all materials, machinery, labour, cleaning,scaffolding, packing mortar, wedging stone chips, curing, ventilation, lighting, drainage complete **with lead upto 1 km and all lifts. (cement content : 95 kg/cum masonry, Rubble stones : 0.83 cum, Stone chips : 0.13 cum, FA : 0.40 cum)**

DATA **RATE ANALYSIS**

A. MATERIALS: UNIT : **10.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	950.00	5.10	4845.00
2	Rubble stones	cum	8.30	473.00	3925.90
3	Stone chips	cum	1.25	619.00	773.75
4	Sand (Screened)	cum	4.00	952.00	3808.00
			TOTAL	Rs:	13352.65
	Add for scaffolding @		2.5%	Rs:	333.82
	Total cost of Materials			Rs:	**13686.47**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	10 hp pump (ele)	Hour	1.00	7.40	7.40
	Fuel / energy charges	Hour	1.00	107.40	107.40
	Total hire charges of Machinery			Rs:	**114.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	1.00	132.90	132.90
2	work inspector	Day	1.00	805.00	805.00
3	Mason Class-I	Day	1.00	680.00	680.00
4	Mason Class-II	Day	2.00	650.00	1300.00
5	mazdoor				
	for sorting out rubble in dump yard	Day	1.00	605.00	605.00
	for conveying rubble	Day	2.00	605.00	1210.00
	for preparing mortar	Day	2.00	605.00	1210.00
	for loading mortar pans	Day	1.00	605.00	605.00
	for laying & packing mortar	Day	4.00	605.00	2420.00
	for washing rubble / finishing / curing	Day	1.00	605.00	605.00
	for conveying mortar / chips	Day	3.00	605.00	1815.00
			TOTAL	Rs:	11387.90
	Add for labour for scaffolding @		15.0%	Rs:	1708.19
	Total cost of Labour			Rs:	**13096.09**

labour component/unit qty		1309.61	
Add contractor's profit and overhead charges	13.615%	178.30	
labour component/unit qty (including contractor's profit)		**1487.90**	

ABSTRACT:

A. Cost of Materials			Rs:	13686.47
B. Hire charges of Machinery			Rs:	114.80
C. Cost of Labour			Rs:	13096.09
		Total	Rs:	26897.35
Add for Air and Water line @	1.00%		Rs:	268.97

Add for Ventilation @		4.50%		Rs:	1210.38
Add for Lighting @		1.60%		Rs:	430.36
Add for Ele sub-station / Demand charges @		2.50%		Rs:	672.43
			Total	Rs:	29479.50
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%		Rs:	4013.63
Lead Charges for 1 Km for FA	4.00	cum @	44.9 Rs./Cum		179.6
Lead Charges for 1 Km for Stones and Stone Chips	9.55	cum @	43.3 Rs./Cum		413.52
Total cost for	10.00	cum		Rs:	**34086.25**
Rate per cum	(A+B+C+D) / 10.00			Rs:	**3408.60**

IRR_TAW-5 **REINFORCEMENT & CONCRETE WORKS :**

IRR-TAW-5-1

Providing, fabricating and **placing in position reinforcement steel for tunnel RCC works** including cleaning, straightening, cutting, bending, hooking, lapping / welding joints wherever required, tying with 1.25 mm dia. soft annealed steel wire, including cost of all materials, labour, machinery, ventilation, lighting, drainage etc., complete **with initial lead upto 1 km and all lifts.**

DATA **RATE ANALYSIS**

A. MATERIALS: UNIT : **1.00** tonne

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rein.Steel with 5 % wastage	tonne	1.05	57000.00	59850.00
2	Binding wire 1.25 mm dia	kg	13.50	86.00	1161.00
3	Sundries (chairs / spacers etc)	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**61156.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Bar bender	Day	9.00	805.00	7245.00
2	mazdoor	Day	15.00	605.00	9075.00
	Total cost of Labour			Rs:	**16320.00**

labour component/unit qty		16320.00
Add contractor's profit and overhead charges	13.615%	2222.00
labour component/unit qty (including contractor's profit)		**18542.00**

ABSTRACT:

A. Cost of Materials				Rs:	61156.00
B. Hire charges of Machinery				Rs:	0.00
C. Cost of Labour				Rs:	16320.00
			Total	Rs:	77476.00
Add for Air and Water line @		1.00%		Rs:	774.76
Add for Ventilation @		4.50%		Rs:	3486.42
Add for Lighting @		1.60%		Rs:	1239.62
Add for Ele sub-station / Demand charges @		2.50%		Rs:	1936.90
			Total	Rs:	84913.70
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%		Rs:	11561.00
Total cost for	1.00	tonne		Rs:	**96474.70**
Rate per tonne	(A+B+C+D) / 1.00			Rs:	**96474.70**

IRR-TAW-5-2

Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade

cement concrete using **40 mm down size** approved, clean, hard, graded aggregates crushed from tunnel excava muck **for filling and levelling over-cuts in bed due to geological faults etc.,** including cost of all materials, machinery, labour, cleaning bed, batching, mixing, conveying and laying, levelling, compacting, finishing, curing lighting, ventilation, drainage etc., complete **with initial lead upto 1 km and all lifts. (Cement content : 220 / cum, CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum, Superplasticizer 0.4% by wt. of cemen**

DATA **RATE ANALYSIS**

A. MATERIALS: UNIT : **28.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	6160.00	5.10	31416.00
2	Coarse aggregate 40-20 mm	cum	12.60	1030.00	12978.00
	Coarse aggregate 20-10 mm	cum	7.56	1144.00	8648.64
	Coarse aggregate 10 mm below	cum	5.04	879.00	4430.16
3	Fine aggregate (Un-Screened)	cum	11.20	723.00	8097.60
4	Super Plasticizer	kg	24.64	73.00	1798.72
5	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**67427.12**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Batching plant 2 x 1 cum	Hour	8.00	423.30	3386.40
	Fuel / Energy charges	Hour	8.00	483.40	3867.20
2	Agitator car 2 cum	Hour	16.00	885.80	14172.80
	Fuel / Energy charges	Hour	16.00	1447.50	23160.00
3	10 hp pump (ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
4	Needle vibrator 40 mm dia	Hour	8.00	6.30	50.40
	Fuel / Energy charges	Hour	8.00	10.70	85.60
5	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**45698.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Agitator car	Hour	16.00	446.20	7139.20
3	Crew for Pump	Hour	8.00	132.90	1063.20
4	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
5	Mason Class-I	Day	1.00	680.00	680.00
6	work inspector	Day	1.00	805.00	805.00
7	mazdoor				
	for cleaning bed	Day	2.00	605.00	1210.00
	for loading material bin (Cement)	Day	3.00	605.00	1815.00
	for miscellaneous works at BP	Day	2.00	605.00	1210.00
	for laying concrete	Day	7.00	605.00	4235.00
	for conveying laying concrete	Day	14.00	605.00	8470.00
	for cleaning bed	Day	2.00	605.00	1210.00
	for washing CA / curing	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**35381.00**

labour component/unit qty		1263.60
Add contractor's profit and overhead charges	13.615%	172.00
labour component/unit qty (including contractor's profit)		**1435.60**

ABSTRACT:

A. Cost of Materials	Rs:	67427.12
B. Hire charges of Machinery	Rs:	45698.80

C. Cost of Labour				Rs:	35381.00
			Total	Rs:	148506.92
Add for Air and Water line @		1.00%		Rs:	1485.07
Add for Ventilation @		4.50%		Rs:	6682.81
Add for Lighting @		1.60%		Rs:	2376.11
Add for Ele sub-station / Demand charges @		2.50%		Rs:	3712.67
			Total	Rs:	162763.58
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%		Rs:	22160.26
Lead Charges for 1 Km for FA	11.20	cum @	44.9 Rs./Cum		502.88
Lead Charges for 1 Km for CA	25.20	cum @	43.3 Rs./Cum		1091.16
Total cost for	28.00	cum		Rs:	**186517.89**
Rate per cum	(A+B+C+D) / 28.00			Rs:	**6661.40**

IRR-TAW-5-3

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sqmm) grade **cement concrete using 40 mm and down size** approved clean, hard, graded aggregates crushed from tunnel muck **for kerb and bed lining** including cost of all materials, machinery, labour, formwork, batching, mixing, conveying upto placing point in agitator cars, placing in position, levelling, vibrating, finishing, curing, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts.**
(Cement content 330 kg / cum for use of super plasticiser(0.4% by wt. of cement),
CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA **RATE ANALYSIS**

A. MATERIALS: UNIT : **28.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	9240.00	5.10	47124.00
	Cement for incidentals @ 1 kg / cum	kg	28.00	5.10	142.80
2	Fine aggregate (Un-Screened)	cum	11.20	723.00	8097.60
3	Coarse aggregate 40-20 mm	cum	12.60	1030.00	12978.00
	Coarse aggregate 20-10 mm	cum	7.56	1144.00	8648.64
	Coarse aggregate 10-4.75 mm	cum	5.04	879.00	4430.16
4	Super plasticiser	kg	36.96	73.00	2698.08
5	Use rate of shuttering for kerb / bed	sqm	28.00	238.20	6669.61
6	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**90846.89**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Batching plant 2 x 1.00 cum	Hour	8.00	423.30	3386.40
	Fuel / Energy charges	Hour	8.00	483.40	3867.20
2	Agitator car 2 cum (2 Nos)	Hour	16.00	885.80	14172.80
	Fuel / Energy charges	Hour	16.00	1447.50	23160.00
3	Needle Vibrator	Hour	8.00	6.30	50.40
	Fuel / Energy charges	Hour	8.00	10.70	85.60
4	Pump 10 hp (Ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
5	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**45785.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Agitator car	Hour	16.00	446.20	7139.20
3	Crew for vibrator	Hour	8.00	256.40	2051.20
4	Crew for pump	Hour	8.00	132.90	1063.20
5	For scaling & cleaning bed				
	Hammerman	Day	2.00	650.00	1300.00
	mazdoor	Day	6.00	605.00	3630.00
6	For loading cement to BP bin				
	mazdoor	Day	3.00	605.00	1815.00
7	For miscellaneous work at BP				
	mazdoor	Day	2.00	605.00	1210.00
8	For wetting C.A & curing				
	mazdoor	Day	2.00	605.00	1210.00
9	Laying concrete for kerb/ invert				
	Mason Cl I	Day	2.00	680.00	1360.00
	Mason Cl II	Day	2.00	650.00	1300.00
	mazdoor	Day	21.00	605.00	12705.00
	work inspector	Day	1.00	805.00	805.00
10	Labour charges for shuttering	sqm	28.00	149.25	4179.00
	Total cost of Labour			Rs:	**44050.00**

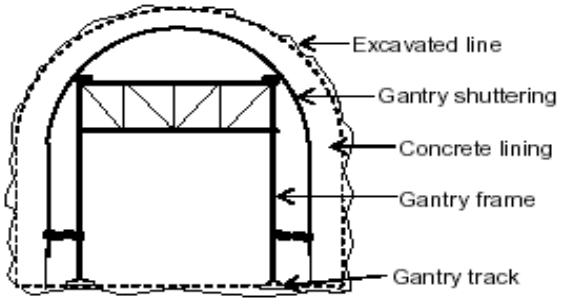
labour component/unit qty		1573.20	
Add contractor's profit and overhead charges	13.615%	214.20	
labour component/unit qty (including contractor's profit)		**1787.40**	

ABSTRACT:

A. Cost of Materials				Rs:	90846.89
B. Hire charges of Machinery				Rs:	45785.80
C. Cost of Labour				Rs:	44050.00
			Total	Rs:	180682.69
Add for Air and Water line @		1.00%		Rs:	1806.83
Add for Ventilation @		4.50%		Rs:	8130.72
Add for Lighting @		1.60%		Rs:	2890.92
Add for Ele sub-station / Demand charges @		2.50%		Rs:	4517.07
			Total	Rs:	198028.23
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%		Rs:	26961.54
Lead Charges for 1 Km for FA	11.20	cum @	44.9 Rs./Cum		502.88
Lead Charges for 1 Km for CA	25.20	cum @	43.3 Rs./Cum		1091.16
Total cost for	28.00	cum		Rs:	**226583.81**
Rate per cum	(A+B+C+D)	/ 28.00		Rs:	**8092.30**

IRR-TAW-5-4

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sqmm) grade cement concrete using **40 mm and down size** approved clean, hard, graded aggregates crushed from tunnel muc **for sides and arch lining** including cost of all materials, machinery, labour, formwork, batching, mixing, convey upto placing point in agitator cars, placing in position, levelling, vibrating, finishing, curing, ventilation, lighting, drainage and all other ancillary operations etc., complete **with lead upto 1 km and all lifts. (Cement content 3 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**



DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **48.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	15840.00	5.10	80784.00
	Cement for incidentals @ 1 kg / cum	kg	48.00	5.10	244.80
2	Fine aggregate (Un-Screened)	cum	19.20	723.00	13881.60
3	Coarse aggregate 40-20 mm	cum	21.60	1030.00	22248.00
	Coarse aggregate 20-10 mm	cum	12.96	1144.00	14826.24
	Coarse aggregate 10-4.75 mm	cum	8.64	879.00	7594.56
4	Super plasticiser	kg	63.36	73.00	4625.28
5	Use rate of end shuttering	sqm	6.00	238.20	1429.20
6	Use rate of steel gantry	sqm	100.00	149.25	14925.00
7	Sundries (placer pipe etc)	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**160703.68**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor (Ele) 8.5 cmm	Hour	16.00	183.60	2937.60
	Fuel / Energy charges @ 75 % load	Hour	12.00	604.30	7251.60
2	Batching plant 2 x 1.00 cum	Hour	12.00	423.30	5079.60
	Fuel / Energy charges	Hour	12.00	483.40	5800.80
3	Agitator car 2 cum (2 Nos)	Hour	32.00	885.80	28345.60
	Fuel / Energy charges	Hour	32.00	1447.50	46320.00
4	Concrete placer pump	Hour	16.00	102.00	1632.00
	Fuel / Energy charges	Hour	16.00	2.00	32.00
5	Needle Vibrator / Shutter vibrator	Hour	8.00	6.30	50.40
	Fuel / Energy charges	Hour	8.00	10.70	85.60
6	Pump 10 hp (Ele)	Hour	8.00	7.40	59.20
	Fuel / Energy charges	Hour	8.00	107.40	859.20
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**98598.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew charges for Air compressor	Hour	16.00	265.20	4243.20
2	Crew charges for Batching plant	Hour	16.00	535.30	8564.80
3	Crew charges for Agitator car	Hour	32.00	446.20	14278.40
4	Crew charges for placer pump	Hour	16.00	16.80	268.80
5	Crew charges for vibrator	Hour	8.00	256.40	2051.20
6	Crew charges for Pump	Hour	8.00	132.90	1063.20
7	For scaling & cleaning				
	Stone chiseller Cl II	Day	0.50	650.00	325.00
	mazdoor	Day	1.00	605.00	605.00
8	For dismantling / Laying track				

	Surveyer	Day	0.50	1150.00	575.00
	Fitter shuttering	Day	0.50	650.00	325.00
	Helper shuttering 2 x 0.5	Day	1.00	650.00	650.00
	Khalasi 6 x 0.5	Day	3.00	710.00	2130.00
	mazdoor 2 x 0.5	Day	1.00	605.00	605.00
9	For Moving / Positioning gantry				
	Surveyer	Day	0.50	1150.00	575.00
	Foreman	Day	0.50	790.00	395.00
	Fitter shuttering	Day	0.50	650.00	325.00
	Helper shuttering 2 x 0.5	Day	1.00	650.00	650.00
	Khalasi 6 x 0.5	Day	3.00	710.00	2130.00
	mazdoor 2 x 0.5	Day	1.00	605.00	605.00
10	For loading cement to BP bin				
	mazdoor	Day	5.00	605.00	3025.00
11	For miscellaneous works of BP				
	mazdoor	Day	2.00	605.00	1210.00
12	For Erection/Dismantling bulk head	sqm	6.00	149.25	895.50
13	For Laying concrete by placer				
	Masom Cl I	Day	3.00	680.00	2040.00
	mazdoor	Day	9.00	605.00	5445.00
	work inspector	Day	3.00	805.00	2415.00
14	For wetting C.A / Curing etc				
	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**57210.10**

labour component/unit qty		1191.90	
Add contractor's profit and overhead charges	13.615%	162.30	
labour component/unit qty (including contractor's profit)		**1354.20**	

ABSTRACT:

A. Cost of Materials				Rs:	160703.68
B. Hire charges of Machinery				Rs:	98598.60
C. Cost of Labour				Rs:	57210.10
			Total	Rs:	316512.38
Add for Air and Water line @		1.00%		Rs:	3165.12
Add for Ventilation @		4.50%		Rs:	14243.06
Add for Lighting @		1.60%		Rs:	5064.20
Add for Ele sub-station / Demand charges @		2.50%		Rs:	7912.81
			Total	Rs:	346897.57
D.Add for contractor's profit and overheads on (A+B+C+other percenta		13.615%		Rs:	47230.10
Lead Charges for 1 Km for FA	19.20	cum @	44.9 Rs./Cum		862.08
Lead Charges for 1 Km for CA	43.20	cum @	43.3 Rs./Cum		1870.56
Total cost for	48.00	cum		Rs:	**396860.32**
Rate per cum	(A+B+C+D) / 48.00			Rs:	**8267.90**

IRR-TAW-6 **DRILLING & GROUTING WORKS :**

IRR-TAW-6-1

Drilling 32 mm diameter grout holes in concrete / rock by percussion drilling using jack hammer or stooper drills as directed to specified depth for consolidation / contact grouting including cost of all materials, machinery, labour, cleaning holes, ventilation, lighting, drainage and all other ancillary operations etc., complete.

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **100.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod	Rm	100.00	49.78	4978.00

	Reconditioning charges @	10%			497.80
2	Use rate of air hose 4 Nos	Hour	32.00	6.34	203.00
3	Use rate of water hose 4 Nos	Hour	32.00	6.25	200.00
4	Sundries	LS	3.00	29.00	87.00
	Total cost of Materials			Rs:	**5965.80**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 15 cmm (ele)	Hour	8.00	147.60	1180.80
	Fuel / Energy charges	Hour	8.00	1342.80	10742.40
2	Pump 10 hp (ele)	Hour	4.00	7.40	29.60
	Fuel / Energy charges	Hour	4.00	107.40	429.60
3	Jack hammer	Hour	32.00	22.90	732.80
	Fuel / Energy charges	Hour	32.00	0.00	0.00
4	Pusher leg	Hour	32.00	13.80	441.60
	Fuel / Energy charges	Hour	32.00	0.00	0.00
5	Drilling jumbo	Hour	8.00	413.10	3304.80
	Fuel / Energy charges	Hour	8.00	71.10	568.80
6	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**17575.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew charges for Air compressor	Hour	8.00	282.90	2263.20
2	Crew charges for Pump	Hour	4.00	132.90	531.60
3	Crew charges for Jack Hammer	Hour	32.00	530.40	16972.80
4	Crew charges for Drilling Jumbo	Hour	8.00	282.90	2263.20
5	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**23240.80**

labour component/unit qty			232.40		
Add contractor's profit and overhead charges	13.615%		31.60		
labour component/unit qty (including contractor's profit)			**264.00**		

ABSTRACT:

A. Cost of Materials			Rs:	5965.80
B. Hire charges of Machinery			Rs:	17575.40
C. Cost of Labour			Rs:	23240.80
		Total	Rs:	46782.00
Add for Air and Water line @	1.00%		Rs:	467.82
Add for Ventilation @	4.50%		Rs:	2105.19
Add for Lighting @	1.60%		Rs:	748.51
Add for Ele sub-station / Demand charges @	2.50%		Rs:	1169.55
		Total	Rs:	51273.07
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	6980.83
Total cost for 100.00	Rm		Rs:	**58253.90**
Rate p Rm (A+B+C+D)/100.0			Rs:	**582.50**

IRR-TAW-6-2

Grouting cement slurry in grout holes under specified pressure for consolidation / contact grouting including cost of all materials, machinery, labour, redrilling wherever necessary, ventilation,lighting, drainage and other ancillary operations etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **1.50** tonne

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	tonne	1.50	5100.00	7650.00

2	Use rate of grouting hose 50 m	Hour	8.00	12.69	101.50
3	Use rate of water hose 50 m	Hour	8.00	12.50	100.00
4	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**7909.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Grouting machine	Hour	8.00	38.90	311.20
	Fuel / Energy charges	Hour	8.00	53.70	429.60
2	Pump 10 hp (ele)	Hour	2.00	7.40	14.80
	Fuel / Energy charges	Hour	2.00	107.40	214.80
3	Drilling jumbo	Hour	2.00	413.10	826.20
	Fuel / Energy charges	Hour	2.00	71.10	142.20
4	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**1996.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Grout pump	Hour	8.00	424.30	3394.40
2	Crew for pump	Hour	2.00	132.90	265.80
3	Crew for Drilling jumbo	Hour	2.00	282.90	565.80
4	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**5436.00**

labour component/unit qty			3624.00		
Add contractor's profit and overhead charges		13.615%	493.40		
labour component/unit qty (including contractor's profit)			**4117.40**		

ABSTRACT:

A. Cost of Materials				Rs:	7909.50
B. Hire charges of Machinery				Rs:	1996.80
C. Cost of Labour				Rs:	5436.00
				Total Rs:	15342.30
Add for Air and Water line @			1.00%	Rs:	153.42
Add for Ventilation @			4.50%	Rs:	690.40
Add for Lighting @			1.60%	Rs:	245.48
Add for Ele sub-station / Demand charges @			2.50%	Rs:	383.56
				Total Rs:	16815.16
D.Add for contractor's profit and overheads on (A+B+C+other percenta			13.615%	Rs:	2289.38
Total cost for		1.50	tonne	Rs:	**19104.54**
Rate per tonne		(A+B+C+D) / 1.50		Rs:	**12736.40**

IRR-TAW-6-3

Drilling 75 mm diameter drainage holes vertical or inclined in **rock / concrete** in tunnel by percussion drilling using waggon drill or other suitable drilling equipment including cost of all materials, machinery, labour, ventilation, lighting, drainage etc., complete.

DATA **RATE ANALYSIS**

A. MATERIALS: UNIT : **120.00** Rm

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of cross bit 75 mm dia	Rm	120.00	163.54	19624.50
2	Use rate of air hose 20 m	Hour	16.00	5.08	81.20
3	Use rate of water hose 20 m	Hour	16.00	5.00	80.00
4	Use rate of extension rods	Rm	120.00	11.00	1320.48
	Total cost of Materials			Rs:	**21106.18**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Waggon drill	Hour	16.00	204.40	3270.40
	Fuel / Energy charges	Hour	16.00	0.00	0.00
2	Air compressor 15 cmm (ele)	Hour	8.00	147.60	1180.80
	Fuel / Energy charges	Hour	8.00	1342.80	10742.40
3	Pump 10 hp (ele)	Hour	6.00	7.40	44.40
	Fuel / Energy charges	Hour	6.00	107.40	644.40
4	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**15940.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Waggon drill	Hour	16.00	446.20	7139.20
2	Crew for Air compressor	Hour	8.00	282.90	2263.20
3	Crew for Pump	Hour	6.00	132.90	797.40
4	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**11409.80**

labour component/unit qty		95.10			
Add contractor's profit and overhead charges	13.615%	12.90			
labour component/unit qty (including contractor's profit)		**108.00**			

ABSTRACT:

A. Cost of Materials			Rs:	21106.18
B. Hire charges of Machinery			Rs:	15940.40
C. Cost of Labour			Rs:	11409.80
		Total	Rs:	48456.38
Add for Air and Water line @	1.00%		Rs:	484.56
Add for Ventilation @	4.50%		Rs:	2180.54
Add for Lighting @	1.60%		Rs:	775.30
Add for Ele sub-station / Demand charges @	2.50%		Rs:	1211.41
		Total	Rs:	53108.19
D.Add for contractor's profit and overheads on (A+B+C+other percenta	13.615%		Rs:	7230.68
Total cost for 120.00	Rm		Rs:	**60338.87**
Rate per Rm (A+B+C+D) / 120.00			Rs:	**502.80**

CHAPTER III

CANAL AND ALLIED WORKS - Standard Data

(WLL BE WITH E-N-C & TO INCORPORATE CHANGES YEARLY/ AS NEEDED)

FOR THE YEAR : 2025-26

Index- code

IRR-CAW **CANAL AND ALLIED WORKS - DATA RATES**

Directions to add Seigniorage Charges and Additional Lead Charges

Seigniorage Charges:

1. The unit rate for work item in the Standard Data is **exclusive of Seigniorage Charges** wherever applicable.
2. The appropriate Seigniorage Charges for relevant materials are to be added to the Unit rate of work item Seigniorage Charges while adding Seigniorage Charges to the data in the estimate

Additional Lead and Lift Charges:

1. Unless otherwise specified the basic rates are inclusive of all lifts.
2. For concrete, masonry and reinforcement items **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Cement, Steel, sand, coarse aggregate, stones and stone chips shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item.

In case of Cement and Steel, Loading and unloading charges are already added in the work item while arriving the unit rate and hence should not be added again

Example:

Total lead for sand from approved sand quarry :			15 Km
Initial lead included in the basic rate in the SR :			1 Km
Additional lead charges :	Lead charges for 5 km	Rs.	119.70
	Lead charges for next 10 km	Rs.	180
	Total lead charges for 15 km /cum	Rs.	299.70
	Less 1 km initial lead charges /cum	Rs.	44.90 (-)
	Net additional lead charges / cum	Rs.	254.80

3. For earth/rockfill embankments **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Earth, Murrum etc., shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item. (same as above)

Example:

Total lead for earth from approved borrow area :			15 Km
Initial lead included in the basic rate in the SR :			1 Km
Additional lead charges :	Lead charges for 5 km	Rs.	119.70
	Lead charges for next 10 km	Rs.	180
	Total lead charges for 15 km /cum	Rs.	299.70
	Less 1 km initial lead charges /cum	Rs.	44.90 (-)
	Net additional lead charges / cum	Rs.	254.80

4. The initial lead up to 50 m as mentioned in some standard data items is meant for manual lead within the working area. For conveyance of materials, the lead required from quarry/Borrow area/ Dump Area to worksite shall be added to the data without deducting the 50 m initial lead charges

CAW-WORK ITEMS

IRR-CAW-1 **EXCAVATION WORKS :**

IRR-CAW-1-1

Excavation in **all kinds of soil** including boulders **upto 0.3 m** diameter **for canal**, seating of embankment, filter drains / catch water drains etc., including dressing bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated soil neatly in dump area or for the formation of service road / embankment as directed etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **925.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
2	Tippers 5 cum capacity 6 Nos	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
	Total hire charges of Machinery			Rs:	**76035.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	Crew for Tipper	Hour	48.00	278.90	13387.20
3	work inspector	Day	1.00	805.00	805.00
4	mazdoor	Day	30.00	605.00	18150.00
	Total cost of Labour			Rs:	**35327.00**

labour component/unit qty		38.20	
Add contractor's profit and overhead charges	13.615%	5.20	
labour component/unit qty (including contractor's profit)		**43.40**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	76035.20
C. Cost of Labour		Rs:	35327.00
Total		Rs:	111362.20
Add	13.615%	Rs:	15161.96
Total cost for	925.00 cum	Rs:	**126524.16**
Rate per cum	(A+B+C+D)/925	Rs.	**136.80**

IRR-CAW-1-2

Excavation in **all kinds of soil** including boulders **upto 0.30 m** dia **for field channels**, seating of embankment for field channels etc., including dressing of bed and sides to required profile, cost of all materials, machinery, labour, placing the excavated stuff for formation of service road / embankment as directed etc., complete **with lead upto 10 m and lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **440.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
	Total hire charges of Machinery			Rs:	**14827.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	17.00	605.00	10285.00
	Total cost of Labour			Rs:	**14074.80**

labour component/unit qty		32.00
Add contractor's profit and overhead charges	13.615%	4.40
labour component/unit qty (including contractor's profit)		**36.40**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	14827.20
C. Cost of Labour		Rs:	14074.80
	Total	Rs:	28902.00
Add	13.615%	Rs:	3935.01
Total cost for	440.00 cum	Rs:	**32837.01**
Rate per cum	(A+B+C+D)/440	Rs.	**74.60**

IRR-CAW-1-3

Excavation in all kinds of soil including boulders upto 0.30 m dia for **Silt Removal from the Tank Bed and bringing it to the required profile** including cost of all materials, machinery, labour, placing the excavated stuff for disposal with initial lead of 10 m and lift upto 3 m

DATA: **RATE ANALYSIS** UNIT : **400.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
	Total hire charges of Machinery			Rs:	**14827.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	work inspector	Day	1.00	805.00	805.00

Total cost of Labour			Rs:	**3789.80**
labour component/unit qty		9.47		
Add contractor's profit and overhead charges	13.615%	1.29		
labour component/unit qty (including contractor's profit)		**10.76**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	14827.20
C. Cost of Labour			Rs:	3789.80
		Total	Rs:	18617.00
Add	13.615%		Rs:	2534.70
Total cost for	400.00 cum		Rs:	**21151.70**
Rate per cum	(A+B+C+D)/400		Rs.	**53.00**

IRR-CAW-1-4

Excavation in **ordinary rock (including HDR) without blasting** including boulders **above 0.30 m upto** 0.6 m dia. For canals, seating of embankment, filter drain / catch water drains etc., including dressing of bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated soft rock neatly in dump area or for formation of service road as directed etc., complete **with lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **630.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
2	Tippers 5 cum capacity 5 Nos	Hour	40.00	540.80	21632.00
	Fuel / Energy charges	Hour	40.00	497.40	19896.00
	Total hire charges of Machinery			Rs:	**67729.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	Crew for Tipper	Hour	40.00	278.90	11156.00
3	work inspector	Day	1.00	805.00	805.00
4	Crowbarman	Day	11.00	650.00	7150.00
5	mazdoor	Day	22.00	605.00	13310.00
	Total cost of Labour			Rs:	**35405.80**

labour component/unit qty		56.20		
Add contractor's profit and overhead charges	13.615%	7.70		
labour component/unit qty (including contractor's profit)		**63.90**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	67729.60
C. Cost of Labour			Rs:	35405.80
		Total	Rs:	103135.40

D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	14041.88
Total cost for	630.00 cum	Rs:	**117177.28**
Rate per cum	(A+B+C+D)/630	Rs.	**186.00**

IRR-CAW-1-5

Excavation **in ordinary rock (including HDR) without blasting** including boulders **above 0.3 m upto** 0.60 m dia. For field channels, seating of embankment **for field channels** etc., including dressing of bed and sides to required profile, cost of all materials, machinery, labour, placing the excavated stuff for formation of service road as directed etc.,complete **with lead upto 10 m and lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **265.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
	Total hire charges of Machinery			Rs:	**14827.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	work inspector	Day	1.00	805.00	805.00
3	Crowbarman	Day	5.00	650.00	3250.00
4	mazdoor	Day	11.00	605.00	6655.00
	Total cost of Labour			Rs:	**13694.80**

labour component/unit qty		51.70
Add contractor's profit and overhead charges	13.615%	7.00
labour component/unit qty (including contractor's profit)		**58.70**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	14827.20
C. Cost of Labour		Rs:	13694.80
	Total	Rs:	28522.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3883.27
Total cost for	265.00 cum	Rs:	**32405.27**
Rate per cum	(A+B+C+D)/265	Rs.	**122.30**

IRR-CAW-1-6

Excavation in **hard rock (including F&F rock) requiring blasting** including boulders **above 0.6 m upto 1.2 m dia. for canals**, seating of embankment, filter drain / catch water drains etc., including dressing bed and sides to required level and profile, cost of all materials, machinery, labour, placing the excavated rock in dump area or for formation of service road as directed etc., complete **with lead upto 1 km and all lifts**

DATA: RATE ANALYSIS UNIT : **805.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.5 m length	Rm	316.00	30.89	9761.24

	Reconditioning charges @	10%			976.12
2	Use rate of 50 m air hose 2 Nos	Hour	24.00	12.69	304.50
3	Explosive small dia (Kelvex-220)	kg	161.00	95.00	15295.00
4	Ordinary detonators	Nos	12.00	11.00	132.00
5	Electric detonators	Nos	215.00	14.00	3010.00
6	Fuse coil	Rm	520.00	9.00	4680.00
7	Sundries	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**34303.86**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
2	Tippers 5 cum capacity 5 Nos.	Hour	40.00	540.80	21632.00
	Fuel / Energy charges	Hour	40.00	497.40	19896.00
3	Air compressor 8.5 cmm (diesel)	Hour	12.00	300.50	3606.00
	Fuel / Energy charges	Hour	12.00	1480.40	17764.80
4	Jack hammers 3 Nos.	Hour	39.00	22.90	893.10
	Fuel / Energy charges	Hour	39.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**89993.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	Crew for Tipper	Hour	40.00	278.90	11156.00
3	Crew for Air compressor	Hour	12.00	339.50	4074.00
4	Crew for Jack hammer	Hour	39.00	530.40	20685.60
5	work inspector	Day	1.00	805.00	805.00
6	Blaster	Day	1.00	805.00	805.00
7	Helper blaster	Day	1.00	650.00	650.00
8	Crowbarman	Day	16.00	650.00	10400.00
9	Stone breaker	Day	16.00	650.00	10400.00
10	mazdoor	Day	32.00	605.00	19360.00
	Total cost of Labour			Rs:	**81320.40**

labour component/unit qty		101.00
Add contractor's profit and overhead charges	13.615%	13.80
labour component/unit qty (including contractor's profit)		**114.80**

ABSTRACT:

A. Cost of Materials		Rs:	34303.86
B. Hire charges of Machinery		Rs:	89993.50
C. Cost of Labour		Rs:	81320.40
	Total	Rs:	205617.76
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	27994.86
Total cost for	805.00 cum	Rs:	**233612.62**
Rate per cum	(A+B+C+D)/805	Rs.	**290.20**

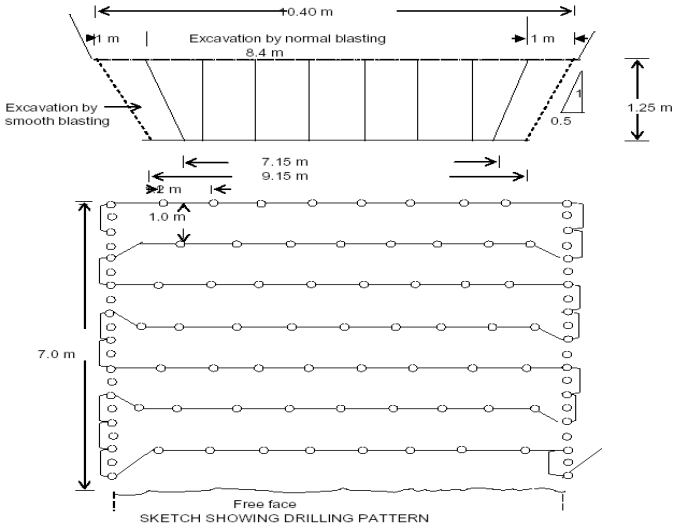
IRR-CAW-1-7

Excavation **in hard rock of all toughness by blasting** including boulders **above 1.2 m dia. for canals**, seating of embankment, filter drain / catch water drains etc., including levelling the bed by removing all projections by hammering / chiselling, cost of all materials, machinery, labour, placing the excavated rock neatly in approved dump area and levelling the same as directed

etc., complete **with initial lead upto 1 km and all lifts.**

Note: i) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth of excavation in hard rock is less than 3 m.

ii) The rate includes levelling canal bed by hammering / chiselling all rock projections wherever required.



SKETCH SHOWING DRILLING PATTERN

RATE ANALYSIS UNIT : **68.00** cum

DATA: **A. MATERIALS:**

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.5 m length	Rm	85.00	41.19	3500.87
	Reconditioning charges @	10%			350.09
2	Use rate of 50 m air hose 2 Nos.	Hour	13.00	12.69	164.94
3	Explosive small dia. (Kelvex-220)	kg	21.20	95.00	2014.00
4	Ordinary detonators	Nos	4.00	11.00	44.00
5	Electric detonators	Nos	59.00	14.00	826.00
6	Fuse coil	Rm	90.00	9.00	810.00
7	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**7767.89**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	1.10	1827.70	2010.47
	Fuel / energy charges	Hour	1.10	1447.50	1592.25
2	Angle dozer 90 hp	Hour	0.25	1871.20	467.80
	Fuel / Energy charges	Hour	0.25	1012.60	253.15
3	Tippers 5 cum capacity 4 Nos.	Hour	4.40	540.80	2379.52
	Fuel / Energy charges	Hour	4.40	497.40	2188.56
4	Air compressor 8.5 cmm (diesel) 1 Nos	Hour	6.50	300.50	1953.25
	Fuel / Energy charges	Hour	6.50	1480.40	9622.60
5	Jack hammers 2 Nos.	Hour	13.00	22.90	297.70
	Fuel / Energy charges	Hour	13.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**20765.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	1.10	373.10	410.41
2	Crew for Dozer	Hour	0.25	373.10	93.28
3	Crew for Tipper	Hour	4.40	278.90	1227.16
4	Crew for Air compressor	Hour	6.50	339.50	2206.75
5	Crew for Jack hammer	Hour	13.00	530.40	6895.20
6	work inspector	Day	0.50	805.00	402.50
7	Blaster	Day	1.00	805.00	805.00
8	Helper blaster	Day	1.00	650.00	650.00
9	Crowbarman	Day	0.50	650.00	325.00
10	Stone breaker	Day	0.50	650.00	325.00
11	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**14550.30**

labour component/unit qty		214.00	
Add contractor's profit and overhead charges	13.615%	29.10	
labour component/unit qty (including contractor's profit)		**243.10**	

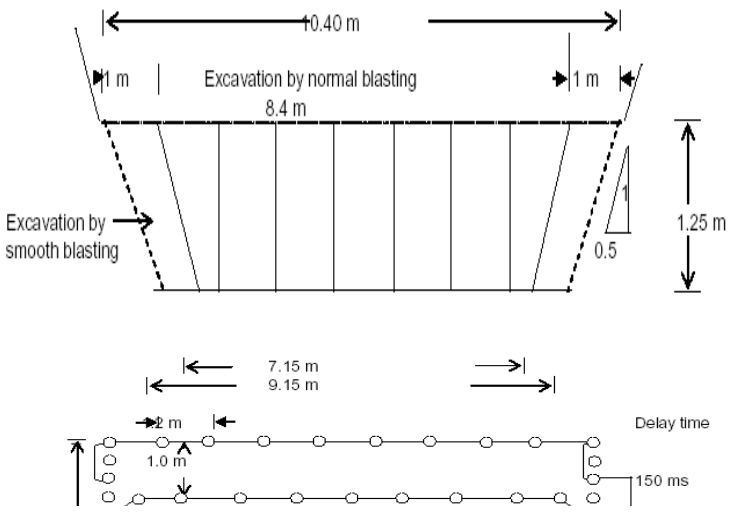
ABSTRACT:

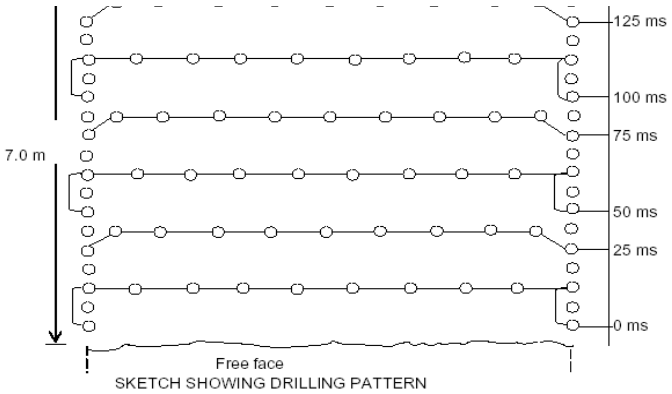
A. Cost of Materials			Rs:	7767.89
B. Hire charges of Machinery			Rs:	20765.30
C. Cost of Labour			Rs:	14550.30
		Total	Rs:	43083.49
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	5865.82
Total cost for	68.00 cum		Rs:	**48949.31**
Rate per cum	(A+B+C+D)/68		Rs.	**719.80**

IRR-CAW-1-8

Excavation **in hard rock of all toughness** including boulders **above 1.2 m dia.** by approved **controlled blasting methods for canals**, cut-off trench of embankment, filter / catch-water drains etc., including controlling fly-rock by muffling arrangements such as placing 50 x 50 mm opening chain link mesh or waste tyres and sand bags, monitoring ground vibrations at specified locations, costof all materials, machinery, labour, placing excavated rock neatly in approved dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.**

Note: i) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth of excavation in hard rock is less than 3 m.
ii) The rate under this item shall be adopted where the control of fly-rock and ground vibrations is required.





SKETCH SHOWING DRILLING PATTERN

DATA **RATE ANALYSIS** UNIT : **68.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.5 m length	Rm	85.00	41.19	3500.87
	Reconditioning charges @	10%			350.09
2	Use rate of 50 m air hose 2 Nos.	Hour	13.00	12.69	164.94
3	Use rate of wire mesh	sqm	94.00	66.38	6239.72
4	Use rate of sand bag	Nos	98.00	26.70	2616.11
5	Explosive small dia. (Kelvex-220)	kg	21.20	95.00	2014.00
6	Ordinary detonators	Nos	4.00	11.00	44.00
7	Electric delay detonators	Nos	59.00	22.00	1298.00
8	Fuse coil	Rm	90.00	9.00	810.00
9	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**17095.72**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	1.10	1827.70	2010.47
	Fuel / Energy charges	Hour	1.10	1447.50	1592.25
2	Angle dozer 90 hp	Hour	0.25	1871.20	467.80
	Fuel / Energy charges	Hour	0.25	1012.60	253.15
3	Tippers 5 cum capacity 3 Nos.	Hour	4.40	540.80	2379.52
	Fuel / Energy charges	Hour	4.40	497.40	2188.56
4	Air compressor 8.5 cmm (diesel) 1 No	Hour	6.50	300.50	1953.25
	Fuel / Energy charges	Hour	6.50	1480.40	9622.60
5	Jack hammers 2 Nos.	Hour	13.00	22.90	297.70
	Fuel / Energy charges	Hour	13.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**20765.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	1.10	373.10	410.41
2	Crew for Angle dozer	Hour	0.25	373.10	93.28
3	Crew for Tipper	Hour	4.40	278.90	1227.16
4	Crew for Air compressor	Hour	6.50	339.50	2206.75
5	Crew for Jack hammer	Hour	13.00	530.40	6895.20
6	work inspector	Day	0.50	805.00	402.50
7	Blaster	Day	0.50	805.00	402.50

8	Helper blaster	Day	0.50	650.00	325.00
9	Stone chiseller Cl - II	Day	0.50	650.00	325.00
10	Stone breaker	Day	0.50	650.00	325.00
11	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**14427.80**

labour component/unit qty		212.20
Add contractor's profit and overhead charges	13.615%	28.90
labour component/unit qty (including contractor's profit)		**241.10**

ABSTRACT:

A. Cost of Materials		Rs:	17095.72
B. Hire charges of Machinery		Rs:	20765.30
C. Cost of Labour		Rs:	14427.80
	Total	Rs:	52288.82
Add for blasting studies & monitoring vibrations etc	0.50%	Rs:	261.44
	Total	Rs:	52550.26
D. Add for contractor's profit and overheads on (A+B+C+blasting study charges)	13.615%	Rs:	7154.72
Total cost for	68.00 cum	Rs:	**59704.98**
Rate per cum	(A+B+C+D)/68	Rs.	**878.00**

IRR-CAW-1-9

Excavation **in hard rock of all toughness** including boulders **above 1.2 m dia. for dressing canal sides** neatly on either side to required profile by line drilling and smooth blasting including removing under-cuts by chiselling / hammering, placing the excavated rock neatly in dump area or other place as directed, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.**

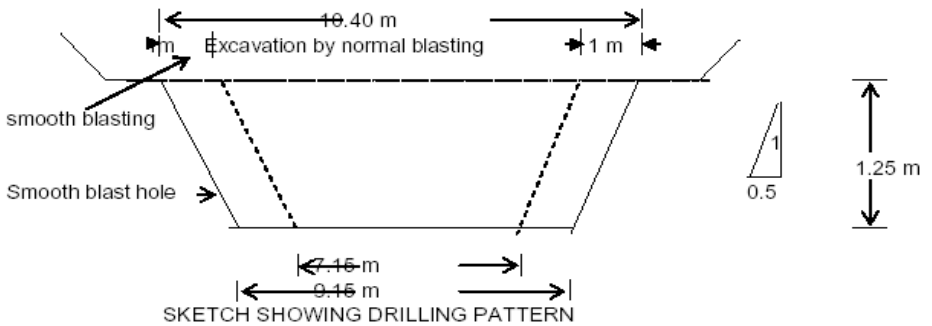
Note: i) For excavation of canal below free board level combination of normal / controlled blasting and line drilling and smooth blasting shall be adopted to obtain neat side slopes. For the purpose of payment 1 m width of excavation on either side shall be treated as excavation by line drilling and smooth blasting and remaining portion shall be treated as excavation by normal / controlled blasting as the case may be.

ii) The rate under this item shall be adopted for canals designed for carrying capacity of less than 15 cumecs or where the average depth of excavation in hard rock is less than 3 m.

iii) The rate includes controlling fly-rock wherever required.

iv) The rate under this item shall be paid only on ascertaining that the excavated face has come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval.

v) In case, where the above criteria is not fulfilled payment shall be restricted to rate provided for excavation by normal blasting or controlled blasting as the case may be.



SKETCH SHOWING DRILLING PATTERN

DATA

RATE ANALYSIS

A. MATERIALS: UNIT : **17.50** cum

Sl No	particulars	Unit	Quantity	Rate	Amount

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.5 m length	Rm	63.00	41.19	2594.76
	Reconditioning charges @	10%			259.48
2	Use rate of 50 m air hose 2 Nos.	Hour	10.00	12.69	126.88
3	Explosive small dia. (Kelvex-220)	kg	3.50	95.00	332.50
4	Electric delay detonators	Nos	22.00	22.00	484.00
5	Fuse coil	Rm	20.00	9.00	180.00
6	Sundries	LS	1.00	29.00	29.00
	Total cost of Materials			Rs:	**4006.61**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.85 cum capacity	Hour	0.28	1827.70	511.76
	Fuel / Energy charges	Hour	0.28	1447.50	405.30
2	Tippers 5 cum capacity 4 Nos.	Hour	1.12	540.80	605.70
	Fuel / Energy charges	Hour	1.12	497.40	557.09
3	Air compressor 8.5 cmm (diesel) 1 Nos	Hour	5.00	300.50	1502.50
	Fuel / Energy charges	Hour	5.00	1480.40	7402.00
4	Jack hammers 2 Nos.	Hour	10.00	22.90	229.00
	Fuel / Energy charges	Hour	10.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**11213.34**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	0.50	373.10	186.55
2	Crew for Tipper	Hour	1.12	278.90	312.37
3	Crew for Air compressor	Hour	5.00	339.50	1697.50
4	Crew for Jack hammer	Hour	10.00	530.40	5304.00
5	work inspector	Day	0.50	805.00	402.50
6	Blaster	Day	0.50	805.00	402.50
7	Helper blaster	Day	0.50	650.00	325.00
8	Stone breaker	Day	0.50	650.00	325.00
9	Stone chiseller Cl - II	Day	0.50	650.00	325.00
10	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**9885.42**

labour component/unit qty		564.90
Add contractor's profit and overhead charges	13.615%	76.90
labour component/unit qty (including contractor's profit)		**641.80**

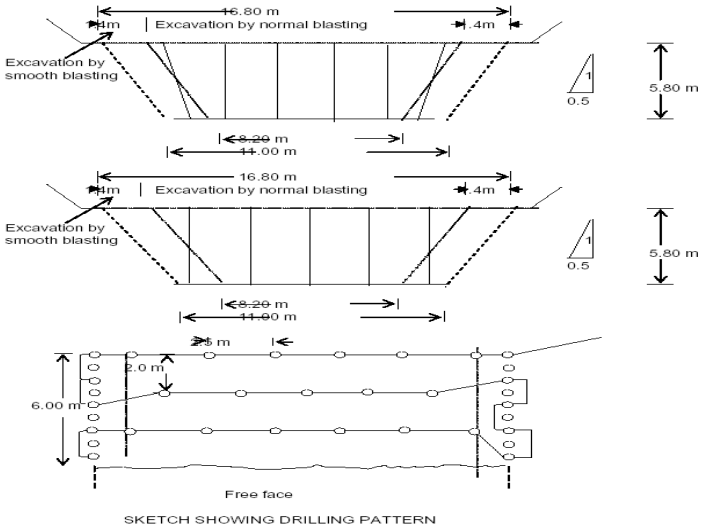
ABSTRACT:

A. Cost of Materials		Rs:	4006.61
B. Hire charges of Machinery		Rs:	11213.34
C. Cost of Labour		Rs:	9885.42
	Total	Rs:	25105.37
Add for blasting studies & monitoring vibrations etc	0.50%	Rs:	125.53
	Total	Rs:	25230.90
D. Add for contractor's profit and overheads on (A+B+C+blasting study charges)	13.615%	Rs:	3435.19
Total cost for	17.50 cum	Rs:	**28666.09**
Rate per cum	(A+B+C+D)/17.50	Rs.	**1638.10**

IRR-CAW-1-10

Excavation **in hard rock by blasting** including boulders **above 1.2 m dia. for canals**, seating embankment etc., including levelling bed by removing all projections by hammering / chiselling, cost of all materials, machinery, labour, placing the excavated rock neatly in approved dump area and levelling the same as directed etc.,complete with **initial lead upto 1 km and all lifts.**

Note: i) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m.
ii) The rate includes levelling canal bed by hammering / chiselling all rock projections wherever required.



SKETCH SHOWING DRILLING PATTERN

DATA: **RATE ANALYSIS** Unit: **386.00** Cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of T.C bit 100 mm dia	Rm	104.00	188.50	19604.00
2	Use rate of Extension rod with coupling sleeve	Rm	104.00	8.25	858.31
3	Use rate of Jack hammer drill rod 1.5 m	Rm	12.00	41.19	494.24
	reconditioning charges @	10%			49.42
4	Use rate of 50 m air hose for waggon drill	Hour	10.50	19.19	201.47
	Use rate of 25 m air hose for JH 2 Nos	Hour	1.00	12.69	12.69
5	High strength ANFO booster	kg	38.00	89.00	3382.00
6	ANFO	kg	155.00	76.00	11780.00
7	Diesel oil	ltr	35.00	95.70	3349.50
8	Explosive small dia (Kelvex-220)	kg	4.00	95.00	380.00
9	Ordinary detonators	Nos	20.00	11.00	220.00
10	D-cord	Rm	145.00	11.00	1595.00
11	Detonating fuse coil	Rm	20.00	9.00	180.00
12	Sundries	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**42251.63**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tippers 5 cum capacity	Hour	24.84	540.80	13433.47
	Fuel / Energy charges	Hour	24.84	497.40	12355.42
2	Shovel 0.85 cum capacity	Hour	6.21	1827.70	11350.02
	Fuel / Energy charges	Hour	6.21	1447.50	8988.98
3	Angle dozer	Hour	2.00	1871.20	3742.40

	Fuel / Energy charges	Hour	2.00	1012.60	2025.20
4	Air compressor 8.5 cmm (diesel)	Hour	11.50	300.50	3455.75
	Fuel / Energy charges	Hour	11.50	1480.40	17024.60
5	Waggon drill	Hour	10.50	204.40	2146.20
	Fuel / Energy charges	Hour	10.50	0.00	0.00
6	Jack hammer	Hour	2.00	22.90	45.80
	Fuel / Energy charges	Hour	2.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**74567.83**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Tipper	Hour	24.84	278.90	6927.88
2	Crew for Shovel	Hour	6.21	373.10	2316.95
3	Crew for Dozer	Hour	2.00	373.10	746.20
4	Crew for Air compressor	Hour	11.50	339.50	3904.25
5	Crew for Waggon drill	Hour	10.50	446.20	4685.10
6	Crew for Jack hammer	Hour	2.00	530.40	1060.80
7	work inspector	Day	2.00	805.00	1610.00
8	Blaster	Day	1.00	805.00	805.00
9	Helper blaster	Day	1.00	650.00	650.00
10	Stone chiseller Cl - II	Day	1.00	650.00	650.00
11	Stone breaker	Day	1.00	650.00	650.00
12	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**25821.18**

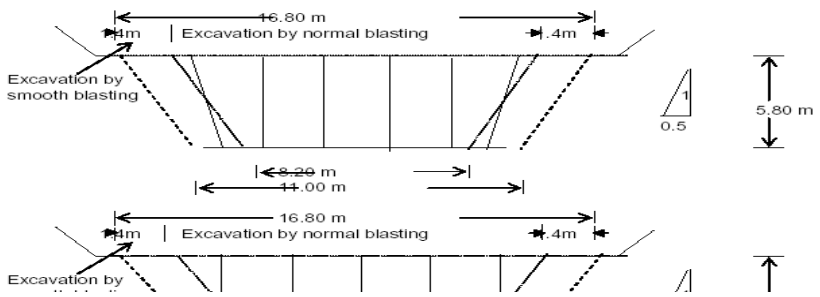
labour component/unit qty		66.90	
Add contractor's profit and overhead charges	13.615%	9.10	
labour component/unit qty (including contractor's profit)		**76.00**	

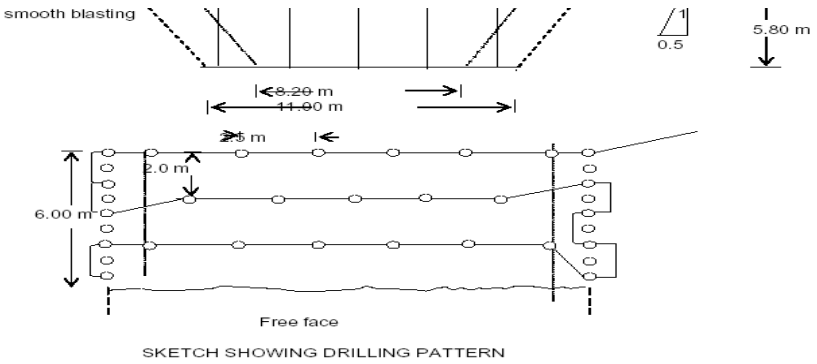
ABSTRACT:

A. Cost of Materials			Rs:	42251.63
B. Hire charges of Machinery			Rs:	74567.83
C. Cost of Labour			Rs:	25821.18
		Total	Rs:	142640.64
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	19420.52
Total cost for	386.00	Cum	Rs:	**162061.16**
Rate per Cum	(A+B+C+D)/386		Rs.	**419.80**

IRR-CAW-1-11

Excavation **in hard rock of all toughness** including boulders **above 1.2 m dia.** by approved **controlled blasting methods for canals, cut-off trench of embankment etc.**, including controlling fly-rock by muffling arrangements such as placing 50 x 50 mm opening chain link mesh or waste tyres and sand bags, monitoring ground vibrations at specified locations, cost of all materials, machinery, labour, placing excavated rock neatly in approved dump area or other place as directed etc., complete **with lead upto 1 km and all lifts.**





SKETCH SHOWING DRILLING PATTERN

Note: i) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m.
ii) The rate under this item shall be adopted where the control of fly-rock and ground vibrations is required.

DATA **RATE ANALYSIS** UNIT : **386.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of T.C bit 100 mm dia	Rm	104.00	188.50	19604.00
2	Use rate of Extension rod with coupling sleeve	Rm	104.00	8.25	858.31
3	Use rate of Jack hammer drill rod 1.6 m	Rm	12.00	41.19	494.24
	reconditioning charges @	10%			49.42
4	Use rate of 50 m air hose 50 mm 1 No.	Hour	10.50	19.19	201.47
	Use rate of 25 mm air hose 2 Nos	Hour	2.00	12.69	25.38
5	High strength ANFO booster	kg	38.00	89.00	3382.00
6	ANFO	kg	155.00	76.00	11780.00
7	Diesel oil	ltr	35.00	95.70	3349.50
8	Explosive small dia (Kelvex-220)	kg	4.00	95.00	380.00
9	Ordinary detonators	Nos	20.00	11.00	220.00
10	Shock tube detonators	Rm	120.00	43.00	5160.00
11	Noiseless trunk line delays	Nos	12.00	21.00	252.00
12	Detonating fuse coil	Rm	20.00	9.00	180.00
13	Use rate of chain link wire mesh	sqm	132.00	243.00	32076.00
14	Use rate of sand bag	Nos	110.00	20.70	2276.45
15	Sundries	LS	20.00	29.00	580.00
	Total cost of Materials			Rs:	**80868.77**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tippers 5 cum capacity	Hour	30.00	540.80	16224.00
	Fuel / Energy charges	Hour	30.00	497.40	14922.00
2	Shovel 0.85 cum capacity	Hour	10.00	1827.70	18277.00
	Fuel / Energy charges	Hour	10.00	1447.50	14475.00
3	Angle dozer	Hour	2.00	1871.20	3742.40
	Fuel / Energy charges	Hour	2.00	1012.60	2025.20
4	Air compressor 8.5 cmm (diesel)	Hour	12.50	300.50	3756.25
	Fuel / Energy charges	Hour	12.50	1480.40	18505.00
5	Waggon drill	Hour	11.50	204.40	2350.60
	Fuel / Energy charges	Hour	11.50	0.00	0.00

6	Jack hammer	Hour	2.00	22.90	45.80
	Fuel / Energy charges	Hour	2.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**94323.25**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Tipper	Hour	30.00	278.90	8367.00
2	Crew for Shovel	Hour	10.00	373.10	3731.00
3	Crew for Dozer	Hour	2.00	373.10	746.20
4	Crew for Air compressor	Hour	12.50	339.50	4243.75
5	Crew for Waggon drill	Hour	11.50	446.20	5131.30
6	Crew for Jack hammer	Hour	2.00	530.40	1060.80
7	work inspector	Day	1.50	805.00	1207.50
8	Blaster	Day	0.50	805.00	402.50
9	Helper blaster	Day	0.50	650.00	325.00
10	Stone chiseller Cl - II	Day	1.00	650.00	650.00
11	Stone breaker	Day	1.00	650.00	650.00
12	mazdoor	Day	5.00	605.00	3025.00
	Total cost of Labour			Rs:	**29540.05**

labour component/unit qty		76.50
Add contractor's profit and overhead charges	13.615%	10.40
labour component/unit qty (including contractor's profit)		**86.90**

ABSTRACT:

A. Cost of Materials		Rs:	80868.77
B. Hire charges of Machinery		Rs:	94323.25
C. Cost of Labour		Rs:	29540.05
	Total	Rs:	204732.07
Add for blasting studies & monitoring vibrations etc	0.50%	Rs:	1023.66
	Total	Rs:	205755.73
D. Add for contractor's profit and overheads on (A+B+C+blasting study charges)	13.615%	Rs:	28013.64
Total cost for	386.00 cum	Rs:	**233769.37**
Rate per cum	(A+B+C+D)/386	Rs.	**605.60**

IRR-CAW-1-12

Excavation **in hard rock of all toughness including boulders above 1.2 m dia. for dressing canal sides** neatly on either side to required profile **by line drilling and smooth blasting** including removing under-cuts by chiselling / hammering, placing the excavated rock neatly in dump area or other place as directed, cost of all materials, machinery, labour etc., complete **with lead upto 1 km and all lifts.**

Note: i) For excavation of canal below free board level combination of normal / controlled blasting and line drilling and smooth blasting shall be adopted to obtain neat side slopes. For the purpose of payment 1 m width of excavation on either side shall be treated as excavation by line drilling and smooth blasting and remaining portion shall be treated as excavation by normal / controlled blasting as the case may be.

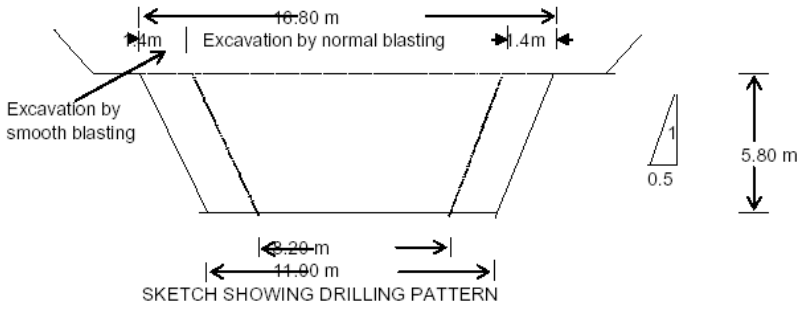
ii) The rate under this item shall be adopted for canals designed for carrying capacity of more than 15 cumecs or where the average depth of excavation in hard rock is more than 3 m.

iii) The rate includes controlling fly-rock wherever required.

iv) The rate under this item shall be paid only on ascertaining that the excavated face has

come off neatly as per specifications or atleast 50 percent of smooth blast holes are visible for inspection and are spaced at specified interval.

v) In case, where the above criteria is not fulfilled payment shall be restricted to rate provided for excavation by normal blasting or controlled blasting as the case may be.



SKETCH SHOWING DRILLING PATTERN

DATA **RATE ANALYSIS** UNIT : **97.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of T.C bit 100 mm dia	Rm	121.00	188.50	22808.50
2	Use rate of Extension rod with coupling sleeve	Rm	121.00	8.25	998.61
3	Use rate of Jack hammer drill rod 1.6 m	Rm	3.00	41.19	123.56
	reconditioning charges @	10%			12.36
4	Use rate of 50 m air hose 50 mm 1 No.	Hour	12.00	19.19	230.25
	Use rate of 25 mm air hose 2 Nos	Hour	0.50	12.69	6.34
5	High strength ANFO booster	kg	5.00	89.00	445.00
6	ANFO	kg	19.00	76.00	1444.00
7	Diesel oil	ltr	4.50	95.70	430.65
8	Explosive small dia (Kelvex-220)	kg	1.00	95.00	95.00
9	Ordinary detonators	Nos	5.00	11.00	55.00
10	Detonating shock tube	Rm	70.00	43.00	3010.00
11	Noiseless trunk line delays	Nos	4.00	21.00	84.00
12	Fuse coil	Rm	10.00	9.00	90.00
13	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**29891.27**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tippers 5 cum capacity	Hour	6.24	540.80	3374.59
	Fuel / Energy charges	Hour	6.24	497.40	3103.78
2	Shovel 0.85 cum capacity	Hour	1.56	1827.70	2851.21
	Fuel / Energy charges	Hour	1.56	1447.50	2258.10
3	Angle dozer	Hour	0.50	1871.20	935.60
	Fuel / Energy charges	Hour	0.50	1012.60	506.30
4	Air compressor 8.5 cmm (diesel)	Hour	13.45	300.50	4041.73
	Fuel / Energy charges	Hour	13.45	1480.40	19911.38
5	Waggon drill	Hour	13.20	204.40	2698.08
	Fuel / Energy charges	Hour	13.20	0.00	0.00
6	Jack hammer	Hour	0.50	22.90	11.45
	Fuel / Energy charges	Hour	0.50	0.00	0.00
	Total hire charges of Machinery			Rs:	**39692.22**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Tipper	Hour	5.24	278.90	1461.44
2	Crew for Shovel	Hour	1.56	373.10	582.04
3	Crew for Dozer	Hour	0.50	373.10	186.55
4	Crew for Air compressor	Hour	13.45	339.50	4566.28
5	Crew for Waggon drill	Hour	13.45	446.20	6001.39
6	Crew for Jack hammer	Hour	0.50	530.40	265.20
7	work inspector	Day	0.50	805.00	402.50
8	Blaster	Day	0.50	805.00	402.50
9	Helper blaster	Day	0.50	650.00	325.00
10	Stone breaker	Day	1.00	650.00	650.00
11	Stone chiseller Cl- II	Day	1.00	650.00	650.00
12	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**16702.89**

labour component/unit qty		172.20	
Add contractor's profit and overhead charges	13.615%	23.40	
labour component/unit qty (including contractor's profit)		**195.60**	

ABSTRACT:

A. Cost of Materials			Rs:	29891.27
B. Hire charges of Machinery			Rs:	39692.22
C. Cost of Labour			Rs:	16702.89
		Total	Rs:	86286.37
Add for blasting studies & monitoring vibrations etc		0.50%	Rs:	431.43
		Total	Rs:	86717.81
D. Add for contractor's profit and overheads on (A+B+C+blasting study charges)		13.615%	Rs:	11806.63
Total cost for	97.00 cum		Rs:	**98524.44**
Rate per cum	(A+B+C+D)/97		Rs.	**1015.70**

IRR-CAW-2 EMBANKMENT WORKS USING BORROW AREA SOIL :

IRR-CAW-2-1

Providing impervious hearting embankment with selected soil from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **412.80** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer	Hour	3.40	1871.20	6362.08
	Fuel / Energy charges	Hour	3.40	1012.60	3442.84

2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 4 Nos.	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Pump 5 hp (diesel)	Hour	2.00	9.90	19.80
	Fuel / Energy charges	Hour	2.00	131.60	263.20
5	Water tanker 8000 ltr	Hour	4.00	461.10	1844.40
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
6	Vibratory Roller 8 tonne	Hour	5.10	1462.00	7456.20
	Fuel / Energy charges	Hour	5.10	1710.60	8724.06
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**78296.78**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.40	373.10	1268.54
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	32.00	278.90	8924.80
4	Crew for Pump	Hour	2.00	177.20	354.40
5	Crew for Water tanker	Hour	4.00	278.90	1115.60
6	Crew for Roller	Hour	5.10	425.90	2172.09
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**20850.23**

labour component/unit qty		50.50
Add contractor's profit and overhead charges	13.615%	6.90
labour component/unit qty (including contractor's profit)		**57.40**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	78296.78
C. Cost of Labour		Rs:	20850.23
	Total	Rs:	99147.01
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	13498.87
Total cost for	412.80 cum	Rs:	**112645.88**
Rate per cum	(A+B+C+D)/412.80	Rs.	**272.90**

IRR-CAW-2-2

Providing impervious hearting embankment with selected soil from **approved borrow areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **412.80** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.40	1871.20	6362.08
	Fuel / Energy charges	Hour	3.40	1012.60	3442.84
2	Shovel 0.5 cum	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5 cum	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Pump 5 hp (diesel)	Hour	2.00	9.90	19.80
	Fuel / Energy charges	Hour	2.00	131.60	263.20
5	Water tanker 8000 ltr	Hour	4.00	461.10	1844.40
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
6	Vibratory Roller 8 tonne	Hour	4.18	1462.00	6111.16
	Fuel / Energy charges	Hour	4.18	1710.60	7150.31
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**75377.99**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.40	373.10	1268.54
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	32.00	278.90	8924.80
4	Crew for Pump	Hour	2.00	177.20	354.40
5	Crew for Water tanker	Hour	4.00	278.90	1115.60
6	Crew for Roller	Hour	4.18	425.90	1780.26
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**20458.40**

labour component/unit qty		49.60	
Add contractor's profit and overhead charges	13.615%	6.80	
labour component/unit qty (including contractor's profit)		**56.40**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	75377.99
C. Cost of Labour		Rs:	20458.40
	Total	Rs:	95836.39
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	13048.12
Total cost for	412.80 cum	Rs:	**108884.51**
Rate per cum	(A+B+C+D)/412.80	Rs.	**263.80**

IRR-CAW-2-3

Providing semi-pervious / pervious casing embankment using soil from **approved borrow area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **412.80** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.40	1871.20	6362.08
	Fuel / Energy charges	Hour	3.40	1012.60	3442.84
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 3 Nos.	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Pump 5 hp (diesel)	Hour	2.00	9.90	19.80
	Fuel / Energy charges	Hour	2.00	131.60	263.20
5	Water tanker 8000 ltr	Hour	4.00	461.10	1844.40
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
6	Vibratory Roller 8 tonne	Hour	5.10	1462.00	7456.20
	Fuel / Energy charges	Hour	5.10	1710.60	8724.06
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**78209.78**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.40	373.10	1268.54
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	32.00	278.90	8924.80
4	Crew for Pump	Hour	2.00	177.20	354.40
5	Crew for Water tanker	Hour	4.00	278.90	1115.60
6	Crew for Roller	Hour	5.10	425.90	2172.09
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**20850.23**

labour component/unit qty		50.50	
Add contractor's profit and overhead charges	13.615%	6.90	
labour component/unit qty (including contractor's profit)		**57.40**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	78209.78
C. Cost of Labour		Rs:	20850.23
	Total	Rs:	99060.01
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	13487.02
Total cost for	412.80 cum	Rs:	**112547.03**
Rate per cum	(A+B+C+D)/412.80	Rs.	**272.60**

IRR-CAW-2-4

Providing semi-pervious / pervious casing embankment using soil from **approved borrow area** in **layers of 25cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting to density control of **not less**

than 95 percent or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **412.80** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.40	1871.20	6362.08
	Fuel / Energy charges	Hour	3.40	1012.60	3442.84
2	Shovel 0.5 cum	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5 cum	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Pump 5 hp (diesel)	Hour	2.00	9.90	19.80
	Fuel / Energy charges	Hour	2.00	131.60	263.20
5	Water tanker 8000 ltr	Hour	4.00	461.10	1844.40
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
6	Vibratory Roller 8 tonne	Hour	4.17	1462.00	6096.54
	Fuel / Energy charges	Hour	4.17	1710.60	7133.20
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**75346.26**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate	Amount
1	Crew for Dozer	Hour	3.40	373.10	1268.54
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	32.00	278.90	8924.80
4	Crew for Pump	Hour	2.00	177.20	354.40
5	Crew for Water tanker	Hour	4.00	278.90	1115.60
6	Crew for Roller	Hour	4.00	425.90	1703.60
7	work inspector	Day	4.17	805.00	3356.85
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**22128.59**

labour component/unit qty		53.60	
Add contractor's profit and overhead charges	13.615%	7.30	
labour component/unit qty (including contractor's profit)		**60.90**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	75346.26
C. Cost of Labour		Rs:	22128.59
	Total	Rs:	97474.85
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	13271.2
Total cost for	412.80 cum	Rs:	**110746.05**
Rate per cum	(A+B+C+D)/412.80	Rs.	**268.30**

IRR-CAW-2-5

Providing semi-pervious / pervious casing embankment using soil from **approved borrow area**

in layers of 25cm before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **412.80** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.40	1871.20	6362.08
	Fuel / Energy charges	Hour	3.40	1012.60	3442.84
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 3 Nos.	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Vibratory Roller 8 tonne	Hour	4.17	1462.00	6096.54
	Fuel / Energy charges	Hour	4.17	1710.60	7133.20
5	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**71142.26**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.40	373.10	1268.54
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	32.00	278.90	8924.80
4	Crew for Roller	Hour	4.17	425.90	1776.00
5	work inspector	Day	2.00	805.00	1610.00
6	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**18984.14**

labour component/unit qty		46.00	
Add contractor's profit and overhead charges	13.615%	6.30	
labour component/unit qty (including contractor's profit)		**52.30**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	71142.26
C. Cost of Labour		Rs:	18984.14
	Total	Rs:	90126.41
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	12270.71
Total cost for	412.80 cum	Rs:	**102397.12**
Rate per cum	(A+B+C+D)/412.80	Rs.	**248.10**

IRR-CAW-2-6

Providing hearting / casing embankment with homogeneous soil from **approved borrow** areas **in layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **677.28** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer	Hour	6.06	1871.20	11339.47
	Fuel / Energy charges	Hour	6.06	1012.60	6136.36
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 6 Nos.	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80
5	Water tanker 8000 ltr	Hour	6.00	461.10	2766.60
	Fuel / Energy charges	Hour	6.00	497.40	2984.40
6	Vibratory Roller 8 tonne	Hour	7.53	1462.00	11008.86
	Fuel / Energy charges	Hour	7.53	1710.60	12880.82
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**112259.81**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	6.06	373.10	2260.99
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Pump	Hour	3.00	177.20	531.60
5	Crew for Water tanker	Hour	6.00	278.90	1673.40
6	Crew for Roller	Hour	7.53	425.90	3207.03
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**28075.01**

labour component/unit qty		41.50
Add contractor's profit and overhead charges	13.615%	5.70
labour component/unit qty (including contractor's profit)		**47.20**

ABSTRACT:

A. Cost of Materials	Rs:	0.00

B. Hire charges of Machinery			Rs:	112259.81
C. Cost of Labour			Rs:	28075.01
		Total	Rs:	140334.82
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	19106.59
Total cost for	677.28 cum		Rs:	**159441.41**
Rate per cum	(A+B+C+D)/677.28		Rs.	**235.40**

IRR-CAW-2-7

Providing hearting / casing embankment with homogeneous soil from **approved borrow** areas in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **677.28** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	6.06	1871.20	11339.47
	Fuel / Energy charges	Hour	6.06	1012.60	6136.36
2	Shovel 0.5 cum	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5 cum 3 Nos	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80
5	Water tanker 8000 ltr	Hour	6.00	461.10	2766.60
	Fuel / Energy charges	Hour	6.00	497.40	2984.40
6	Vibratory Roller 8 tonne	Hour	6.16	1462.00	9005.92
	Fuel / Energy charges	Hour	6.16	1710.60	10537.30
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**108000.34**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	6.06	373.10	2260.99
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Pump	Hour	3.00	177.20	531.60
5	Crew for Water tanker	Hour	6.00	278.90	1673.40
6	Crew for Roller	Hour	6.16	425.90	2623.54
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**27491.53**

labour component/unit qty		40.60	
Add contractor's profit and overhead charges	13.615%	5.50	
labour component/unit qty (including contractor's profit)		**46.10**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	108000.34
C. Cost of Labour		Rs:	27491.53
	Total	Rs:	135491.87
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18447.22
Total cost for	677.28 cum	Rs:	**153939.09**
Rate per cum	(A+B+C+D)/677.28	Rs.	**227.30**

IRR-CAW-2-8

Providing casing embankment using homogeneous soil from **approved borrow area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as excavation, sortingout, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/** 8 to 10 tonne power roller etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **677.28** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	6.06	1871.20	11339.47
	Fuel / Energy charges	Hour	6.06	1012.60	6136.36
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 4 Nos.	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Vibratory Roller 8 tonne	Hour	6.16	1462.00	9005.92
	Fuel / Energy charges	Hour	6.16	1710.60	10537.30
5	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**101737.84**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	6.06	373.10	2260.99
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Roller	Hour	6.16	425.90	2623.54
5	work inspector	Day	2.00	805.00	1610.00
6	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**25286.53**

labour component/unit qty 37.30

Add contractor's profit and overhead charges	13.615%	5.10		
labour component/unit qty (including contractor's profit)		**42.40**		
ABSTRACT:				
A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	101737.84
C. Cost of Labour			Rs:	25286.53
		Total	Rs:	127024.37
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	17294.37
Total cost for	677.28 cum		Rs:	**144318.74**
Rate per cum	(A+B+C+D)/677.28		Rs.	**213.10**

IRR-CAW-3 **EMBANKMENT WORKS USING DUMP AREA SOIL :**

IRR-CAW-3-1

Providing impervious hearting embankment with soil from **approved dump areas** in layers **of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to achieve density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc.,complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **735.36** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer	Hour	4.04	1871.20	7559.65
	Fuel / Energy charges	Hour	4.04	1012.60	4090.90
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 6 Nos.	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80
5	Water tanker 8000 ltr	Hour	6.00	461.10	2766.60
	Fuel / Energy charges	Hour	6.00	497.40	2984.40
6	Vibratory Roller 8 tonne	Hour	7.50	1462.00	10965.00
	Fuel / Energy charges	Hour	7.50	1710.60	12829.50
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**106339.35**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.58	373.10	1335.70
2	Crew for Shovel	Hour	8.00	373.10	2984.80

3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Pump	Hour	3.00	177.20	531.60
5	Crew for Water tanker	Hour	6.00	278.90	1673.40
6	Crew for Roller	Hour	7.50	425.90	3194.25
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**28346.95**

labour component/unit qty		38.50
Add contractor's profit and overhead charges	13.615%	5.20
labour component/unit qty (including contractor's profit)		**43.70**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	106339.35
C. Cost of Labour		Rs:	28346.95
	Total	Rs:	134686.30
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18337.54
Total cost for	735.36 cum	Rs:	**153023.84**
Rate per cum	(A+B+C+D)/735.36	Rs.	**208.10**

IRR-CAW-3-2

Providing impervious hearting embankment with soil from **approved dump areas** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to achieve density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc.,complete with initial lead upto 1 km and all lifts.**

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **735.36** cum

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	4.04	1871.20	7559.65
	Fuel / Energy charges	Hour	4.04	1012.60	4090.90
2	Shovel 0.5 cum	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5 cum	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80
5	Water tanker 8000 ltr	Hour	6.00	461.10	2766.60
	Fuel / Energy charges	Hour	6.00	497.40	2984.40
6	Vibratory Roller 8 tonne	Hour	6.13	1462.00	8962.06
	Fuel / Energy charges	Hour	6.13	1710.60	10485.98
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**102079.89**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.04	373.10	1507.32
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Pump	Hour	3.00	177.20	531.60
5	Crew for Water tanker	Hour	6.00	278.90	1673.40
6	Crew for Roller	Hour	6.13	425.90	2610.77
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**27935.09**

labour component/unit qty		38.00	
Add contractor's profit and overhead charges	13.615%	5.20	
labour component/unit qty (including contractor's profit)		**43.20**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	102079.89
C. Cost of Labour		Rs:	27935.09
	Total	Rs:	130014.98
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	17701.54
Total cost for	735.36 cum	Rs:	**147716.52**
Rate per cum	(A+B+C+D)/735.36	Rs.	**200.90**

IRR-CAW-3-3

Providing semi-pervious / pervious casing embankment using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **768.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	4.22	1871.20	7896.46
	Fuel / Energy charges	Hour	4.22	1012.60	4273.17
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 6 Nos	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80
5	Water tanker 8000 ltr	Hour	6.00	461.10	2766.60
	Fuel / Energy charges	Hour	6.00	497.40	2984.40
6	Vibratory Roller 8 tonne	Hour	7.82	1462.00	11432.84

	Fuel / Energy charges	Hour	7.82	1710.60	13376.89
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**107873.67**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.22	373.10	1574.48
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Pump	Hour	3.00	177.20	531.60
5	Crew for Water tanker	Hour	6.00	278.90	1673.40
6	Crew for Roller	Hour	7.82	425.90	3330.54
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**28722.02**

labour component/unit qty		37.40	
Add contractor's profit and overhead charges	13.615%	5.10	
labour component/unit qty (including contractor's profit)		**42.50**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	107873.67
C. Cost of Labour		Rs:	28722.02
	Total	Rs:	136595.69
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18597.5
Total cost for	768.00 cum	Rs:	**155193.19**
Rate per cum	(A+B+C+D)/768	Rs.	**202.10**

IRR-CAW-3-4

Providing semi-pervious / pervious casing embankment using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, **watering**, compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **768.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	4.22	1871.20	7896.46
	Fuel / Energy charges	Hour	4.22	1012.60	4273.17
2	Shovel 0.5 cum	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5 cum of 6 Nos	Hour	48.00	540.80	25958.40
	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80

5	Water tanker 8000 ltr	Hour	6.00	461.10	2766.60
	Fuel / Energy charges	Hour	6.00	497.40	2984.40
6	Vibratory Roller 8 tonne	Hour	6.40	1462.00	9356.80
	Fuel / Energy charges	Hour	6.40	1710.60	10947.84
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**103455.58**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.22	373.10	1574.48
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Pump	Hour	3.00	177.20	531.60
5	Crew for Water tanker	Hour	6.00	278.90	1673.40
6	Crew for Roller	Hour	6.40	425.90	2725.76
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**28117.24**

labour component/unit qty		36.60
Add contractor's profit and overhead charges	13.615%	5.00
labour component/unit qty (including contractor's profit)		**41.60**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	103455.58
C. Cost of Labour		Rs:	28117.24
	Total	Rs:	131572.82
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	17913.64
Total cost for	768.00 cum	Rs:	**149486.46**
Rate per cum	(A+B+C+D)/768	Rs.	**194.60**

IRR-CAW-3-5

Providing semi-pervious / pervious casing embankment using soil from **approved dump area** in **layers of 25 cm** before compaction including cost of all materials, machinery, labour, all operations such as re-excavation, sorting out, transporting, spreading in layer of specified thickness, breaking clods, sectioning, compacting each layer **without watering** to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **768.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	4.22	1871.20	7896.46
	Fuel / Energy charges	Hour	4.22	1012.60	4273.17
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 6 Nos.	Hour	48.00	540.80	25958.40

	Fuel / Energy charges	Hour	48.00	497.40	23875.20
4	Vibratory Roller 8 tonne	Hour	6.40	1462.00	9356.80
	Fuel / Energy charges	Hour	6.40	1710.60	10947.84
5	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**97193.08**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.22	373.10	1574.48
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	48.00	278.90	13387.20
4	Crew for Roller	Hour	6.40	425.90	2725.76
5	work inspector	Day	2.00	805.00	1610.00
6	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**25912.24**

labour component/unit qty		33.70
Add contractor's profit and overhead charges	13.615%	4.60
labour component/unit qty (including contractor's profit)		**38.30**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	97193.08
C. Cost of Labour		Rs:	25912.24
	Total	Rs:	123105.32
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	16760.79
Total cost for	768.00 cum	Rs:	**139866.11**
Rate per cum	(A+B+C+D)/768	Rs.	**182.10**

IRR-CAW-4 EMBANKMENT WORKS USING EXCAVATED SOIL :

IRR-CAW-4-1

Providing impervious hearting embankment with soil collected in embankment area in heaps as part of disposal of excavated soil from canal including cost of all materials,machinery, labour, all operations such as sortingout, spreading in **layer of 25 cm** before compaction, breaking clods,sectioning, **watering** and compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with lead upto 1 km for water.**

DATA: **RATE ANALYSIS** UNIT : **600.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.60	1871.20	6736.32
	Fuel / Energy charges	Hour	3.60	1012.60	3645.36
2	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80
3	Water tanker 8000 ltr	Hour	5.00	461.10	2305.50
	Fuel / Energy charges	Hour	5.00	497.40	2487.00

4	Vibratory Roller 8 tonne	Hour	7.30	1462.00	10672.60
	Fuel / Energy charges	Hour	7.30	1710.60	12487.38
5	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**38816.66**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.60	373.10	1343.16
2	Crew for Pump	Hour	3.00	177.20	531.60
3	Crew for Water tanker	Hour	5.00	278.90	1394.50
4	Crew for Roller	Hour	7.30	425.90	3109.07
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**9603.33**

labour component/unit qty		16.00
Add contractor's profit and overhead charges	13.615%	2.20
labour component/unit qty (including contractor's profit)		**18.20**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	38816.66
C. Cost of Labour		Rs:	9603.33
	Total	Rs:	48419.99
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6592.38
Total cost for	600.00 cum	Rs:	**55012.37**
Rate per cum	(A+B+C+D)/600	Rs.	**91.70**

IRR-CAW-4-2

Providing impervious hearting embankment with soil collected in embankment area in heaps as part of disposal of excavated soil from canal including cost of all materials,machinery, labour, all operations such as sortingout, spreading in **layer of 25 cm** before compaction, breaking clods,sectioning, **watering** and compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with lead upto 1 km for water.**

DATA: **RATE ANALYSIS** UNIT : **600.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.60	1871.20	6736.32
	Fuel / Energy charges	Hour	3.60	1012.60	3645.36
2	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80
3	Water tanker 8000 ltr	Hour	5.00	461.10	2305.50
	Fuel / Energy charges	Hour	5.00	497.40	2487.00
4	Vibratory Roller 8 tonne	Hour	6.06	1462.00	8859.72

	Fuel / Energy charges	Hour	6.06	1710.60	10366.24
5	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**34969.64**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.60	373.10	1343.16
2	Crew for Pump	Hour	3.00	177.20	531.60
3	Crew for Water tanker	Hour	5.00	278.90	1394.50
4	Crew for Roller	Hour	6.06	425.90	2580.95
5	work inspector	Day	2.00	805.00	1610.00
6	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**9880.21**

labour component/unit qty		16.50	
Add contractor's profit and overhead charges	13.615%	2.20	
labour component/unit qty (including contractor's profit)		**18.70**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	34969.64
C. Cost of Labour			Rs:	9880.21
		Total	Rs:	44849.85
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	6106.31
Total cost for	600.00	cum	Rs:	**50956.16**
Rate per cum	(A+B+C+D)/600		Rs.	**84.90**

IRR-CAW-4-3

Providing semi-pervious / pervious casing hearting embankment using soil collected in heaps in embankment area as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning, **watering** and compacting each layer to density control of **not less than 98 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with lead upto 1 km for water.**

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **600.00** cum

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.60	1871.20	6736.32
	Fuel / Energy charges	Hour	3.60	1012.60	3645.36
2	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80
3	Water tanker 8000 ltr	Hour	5.00	461.10	2305.50
	Fuel / Energy charges	Hour	5.00	497.40	2487.00
4	Vibratory Roller 8 tonne	Hour	7.30	1462.00	10672.60
	Fuel / Energy charges	Hour	7.30	1710.60	12487.38
5	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**38816.66**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.60	373.10	1343.16
2	Crew for Pump	Hour	3.00	177.20	531.60
3	Crew for Water tanker	Hour	5.00	278.90	1394.50
4	Crew for Roller	Hour	7.30	425.90	3109.07
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**9603.33**

labour component/unit qty		16.00	
Add contractor's profit and overhead charges	13.615%	2.20	
labour component/unit qty (including contractor's profit)		**18.20**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	38816.66
C. Cost of Labour		Rs:	9603.33
	Total	Rs:	48419.99
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6592.38
Total cost for	600.00 cum	Rs:	**55012.37**
Rate per cum	(A+B+C+D)/600	Rs.	**91.70**

IRR-CAW-4-4

Providing semi-pervious / pervious casing embankment using soil collected in heaps in embankment area as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning, **watering** and compacting each layer to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete with lead upto 1 km for water.**

DATA: **RATE ANALYSIS** UNIT : **600.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.60	1871.20	6736.32
	Fuel / Energy charges	Hour	3.60	1012.60	3645.36
2	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80
3	Water tanker 8000 ltr	Hour	5.00	461.10	2305.50
	Fuel / Energy charges	Hour	5.00	497.40	2487.00
4	Vibratory Roller 8 tonne	Hour	6.1	1462.00	8859.72
	Fuel / Energy charges	Hour	6.1	1710.60	10366.24
5	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**34969.64**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	Crew for Dozer	Hour	3.60	373.10	1343.16
2	Crew for Pump	Hour	3.00	177.20	531.60
3	Crew for Water tanker	Hour	5.00	278.90	1394.50
4	Crew for Roller	Hour	6.1	425.90	2580.95
5	work inspector	Day	2.00	805.00	1610.00
6	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**9880.21**

labour component/unit qty		16.50	
Add contractor's profit and overhead charges	13.615%	2.20	
labour component/unit qty (including contractor's profit)		**18.70**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	34969.64
C. Cost of Labour		Rs:	9880.21
	Total	Rs:	44849.85
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6106.31
Total cost for	600.00 cum	Rs:	**50956.16**
Rate per cum	(A+B+C+D)/600	Rs.	**84.90**

IRR-CAW-4-5

Providing semi-pervious / pervious casing embankment using soil collected in heaps in embankment area as part of disposal of excavated soil from canal including cost of all materials, machinery, labour, all operations such as sorting-out, spreading in **layers of 25 cm** before compaction, breaking clods, sectioning and compacting each layer **without** watering to density control of **not less than 95 percent** or as stipulated by **Sheep foot roller / Vibratory roller/ 8 to 10 tonne power roller etc., complete.**

DATA: **RATE ANALYSIS** UNIT : **600.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.60	1871.20	6736.32
	Fuel / Energy charges	Hour	3.60	1012.60	3645.36
2	Vibratory Roller 8 tonne	Hour	6.06	1462.00	8859.72
	Fuel / Energy charges	Hour	6.06	1710.60	10366.24
3	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**29665.64**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.60	373.10	1343.16
2	Crew for Roller	Hour	6.06	425.90	2580.95
3	work inspector	Day	1.00	805.00	805.00
4	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**7149.11**

labour component/unit qty		11.90	
Add contractor's profit and overhead charges	13.615%	1.60	

labour component/unit qty (including contractor's profit)		**13.50**		
ABSTRACT:				
A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	29665.64
C. Cost of Labour			Rs:	7149.11
		Total	Rs:	36814.75
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	5012.33
Total cost for	600.00 cum		Rs:	**41827.08**
Rate per cum	(A+B+C+D)/600		Rs.	**69.70**

IRR-CAW-4-6

Providing compacted embankment for field irrigation channels with gravely soil from **approved borrow area** including sorting out, spreading in **layers of 15 cm** thickness, breaking clods, **watering**, compacting, dressing sides to required slopes etc.,complete **with lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **25.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	1.00	9.90	9.90
	Fuel / Energy charges	Hour	1.00	131.60	131.60
	Total hire charges of Machinery			Rs:	**141.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for pump	Hour	1.00	177.20	177.20
2	work inspector	Day	1.00	805.00	805.00
3	Crowbarman for loosening soil	Day	2.50	650.00	1625.00
4	mazdoor				
	For excavation at borrow area	Day	5.00	605.00	3025.00
	For spreading / levelling / sectioning	Day	2.50	605.00	1512.50
	for loading soil	Day	5.00	605.00	3025.00
5	Cartman with Bullock cart for water	Day	1.00	650.00	650.00
6	Bullock drawn roller for rolling	Day	1.00	650.00	650.00
	Total cost of Labour			Rs:	**11469.70**

labour component/unit qty		458.80		
Add contractor's profit and overhead charges	13.615%	62.50		
labour component/unit qty (including contractor's profit)		**521.30**		
ABSTRACT:				
A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	141.50
C. Cost of Labour			Rs:	11469.70
		Total	Rs:	11611.20
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1580.86
Total cost for	25.00 cum		Rs:	**13192.06**
Rate per cum	(A+B+C+D)/25		Rs.	**527.70**

IRR-CAW-5 **FOUNDATION FILLING WORKS :**

IRR-CAW-5-1

Providing **rubble and sand filling in layers of 22.5 to 30 cm** including cost of all materials, machinery, labour, watering, ramming etc., complete **with initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble stones at quarry	cum	10.00	473.00	4730.00
2	Sand for filling	cum	4.00	723.00	2892.00
	Total cost of Materials			Rs:	**7622.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**2420.00**

labour component/unit qty		242.00
Add contractor's profit and overhead charges	13.615%	32.90
labour component/unit qty (including contractor's profit)		**274.90**

ABSTRACT:

A. Cost of Materials		Rs:	7622.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	2420.00
	Total	Rs:	10042.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1367.22
Total cost for	10.00 cum	Rs:	**11409.22**
Rate per cum	(A+B+C+D)/10	Rs.	**1140.90**

IRR-CAW-5-2

Providing **& constructing Sand filling below foudation** including cost of all materials, machinery, labour, watering, ramming etc., complete **with initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand for filling	cum	10.00	723.00	7230.00
	Total cost of Materials			Rs:	**7230.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	2.00	605.00	1210.00

Total cost of Labour			Rs:	**1210.00**
labour component/unit qty		121.00		
Add contractor's profit and overhead charges	13.615%	16.47		
labour component/unit qty (including contractor's profit)		**137.47**		
ABSTRACT:				
A. Cost of Materials			Rs:	7230.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	1210.00
		Total	Rs:	8440.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1149.106
Total cost for	10.00 cum		Rs:	**9589.11**
Rate per cum	(A+B+C+D)/10		Rs.	**959.00**

IRR-CAW-5-3

Providing rubble and Murum filling in layers of 22.5 to 30 cm including cost of all materials, machinery, labour, watering, ramming etc., complete with **initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble stones at quarry	cum	10.00	473.00	4730.00
2	Murum	cum	4.00	291.00	1164.00
	Total cost of Materials			Rs:	**5894.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**2420.00**

labour component/unit qty		242.00		
Add contractor's profit and overhead charges	13.615%	32.90		
labour component/unit qty (including contractor's profit)		**274.90**		
ABSTRACT:				
A. Cost of Materials			Rs:	5894.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2420.00
		Total	Rs:	8314.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1131.95
Total cost for	10.00 cum		Rs:	**9445.95**
Rate per cum	(A+B+C+D)/10		Rs.	**944.60**

IRR-CAW-5-4

Providing and laying 25 cm thick sand blanket below embankment including cost of all materials, machinery, labour, spreading to specified thickness etc., complete with initial lead **upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand for Filling	cum	25.00	723.00	18075.00
	Total cost of Materials			Rs:	**18075.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	5.00	605.00	3025.00
	Total cost of Labour			Rs:	**3025.00**

labour component/unit qty		30.30	
Add contractor's profit and overhead charges	13.615%	4.10	
labour component/unit qty (including contractor's profit)		**34.40**	

ABSTRACT:

A. Cost of Materials			Rs:	18075.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3025.00
		Total	Rs:	21100.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	2872.77
Total cost for	100.00 sqm		Rs:	**23972.77**
Rate per sqm	(A+B+C+D)/100		Rs.	**239.70**

IRR-CAW-5-5

Providing and laying sand blanket below embankment including cost of all materials, machinery, labour, spreading to specified thickness etc., complete with initial lead **upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand for Filling	cum	100.00	723.00	72300.00
	Total cost of Materials			Rs:	**72300.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	20.00	605.00	12100.00
	Total cost of Labour			Rs:	**12100.00**

labour component/unit qty		121.00	
Add contractor's profit and overhead charges	13.615%	16.50	
labour component/unit qty (including contractor's profit)		**137.50**	

ABSTRACT:

A. Cost of Materials		Rs:	72300.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	12100.00
	Total	Rs:	84400.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	11491.06
Total cost for	100.00 cum	Rs:	**95891.06**
Rate per cum	(A+B+C+D)/100	Rs.	**958.90**

IRR-CAW-5-6

Providing and constructing dry rubble rock-toe using rubble and stone chips from approved source including cost of all materials, machinery, labour, hand packing rubble and stone chips, finishing top and sides to required slopes etc., complete with initial lead upto **50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble	cum	100.00	473.00	47300.00
2	Stone chips	cum	15.00	619.00	9285.00
3	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**56643.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class-II	Day	7.00	650.00	4550.00
3	mazdoor	Day	19.00	605.00	11495.00
	Total cost of Labour			Rs:	**16850.00**

labour component/unit qty		168.50
Add contractor's profit and overhead charges	13.615%	22.90
labour component/unit qty (including contractor's profit)		**191.40**

ABSTRACT:

A. Cost of Materials		Rs:	56643.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	16850.00
	Total	Rs:	73493.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	10006.07
Total cost for	100.00 cum	Rs:	**83499.07**
Rate per cum	(A+B+C+D)/100	Rs.	**835.00**

IRR-CAW-5-7

Providing and constructing longitudinal and cross graded filter drains using sand and 20 mm down graded aggregates satisfying specified filter creteria in layers as per specifications including cost of all materials, machinery, labour, laying to required slopes, compaction etc.,

complete with initial lead upto 50 m and all lifts.

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand (Un-Screened)	cum	76.80	723.00	55526.40
2	Coarse aggregate 20-10 mm 75 %	cum	17.40	1144.00	19905.60
3	Coarse aggregate 10 mm down 25 %	cum	5.80	879.00	5098.20
	Total cost of Materials			Rs:	**80530.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	36.00	605.00	21780.00
	Total cost of Labour			Rs:	**22585.00**

labour component/unit qty		225.90
Add contractor's profit and overhead charges	13.615%	30.80
labour component/unit qty (including contractor's profit)		**256.70**

ABSTRACT:

A. Cost of Materials		Rs:	80530.20
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	22585.00
	Total	Rs:	103115.20
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	14039.13
Total cost for	100.00 cum	Rs:	**117154.33**
Rate per cum	(A+B+C+D)/100	Rs.	**1171.50**

IRR-CAW-5-8

Laying Longitudinal Drains and Transverse drains of Size 600 x600 x750 mm in Bed and filling with 12 mm to 40 mm HG machine Crushed metal and sand in bed including Excavation of drains and Cost of procuring of all materials **including 50 m lead and for all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: Unit: **100** mt

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	12 mm to 40 mm metal	Cum	13.50	1030.00	13905.00
2	Sand (Un-Screened)	cum	36.00	723.00	26028.00
	Total cost of Materials			Rs.	**39933.00**

B. MACHINERY

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Excavation of drain with Excavator	Cum	45	54.00	2430.00
	Total hire charges of Machinery			Total Rs.	**2430.00**

C. LABOUR

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Labour for Sand laying	Cum	5.14	605.00	3109.70
2	Labour for Metal laying	Cum	1.93	605.00	1167.65
	Total cost of Labour			Rs.	**4277.35**

labour component/unit qty		42.80	
Add contractor's profit and overhead charges	13.615%	5.80	
labour component/unit qty (including contractor's profit)		**48.60**	

ABSTRACT

A. Cost of Materials		Rs.	39933.00
B. Hire charges of Machinery		Rs.	2430.00
C. Cost of Labour		Rs.	4277.35
		Total Rs:	46640.35
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6350.08
Total cost for	100.00 mt	Rs:	**52990.43**
Rate per mt	(A+B+C+D)/100	Rs.	**529.90**

IRR-CAW-5-9

Laying and fixing of 100 mm Dia 300 mm long precast porus CC plugs in bed and sides using 1.181 Kgs of cement per each using 20 mm HG metal and placing in local filters of size 600x600x750 mm in size including Excavation of drains and Cost of procuring of all materials **including 50 m lead and for all lifts.**

DATA **Rate Analysis** Unit **1** Plug

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Coarse aggregate	Cum	0.08	1144.00	91.98
2	Sand (Un-Screened)	cum	0.20	723.00	146.77
3	Cement	Kg	1.18	5.10	6.02
	Total cost of Materials			Rs.	**244.77**

B. MACHINERY

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Excavation of drain with Excavator	Cum	0.27	54.00	14.58
2	Machine mixing Charges	Cum	0.00	550.40	1.65
	Total hire charges of Machinery			Total Rs.	**16.23**

C. LABOUR

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	0.30	605.00	181.50
	Total cost of Labour			Rs.	**181.50**

labour component/unit qty		181.50	
Add contractor's profit and overhead charges	13.615%	24.70	
labour component/unit qty (including contractor's profit)		**206.20**	

ABSTRACT

A. Cost of Materials		Rs.	244.77
B. Hire charges of Machinery		Rs.	16.23
C. Cost of Labour		Rs.	181.50
		Total Rs:	442.50

D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	60.25
Total cost for	1.00 Plug	Rs:	**502.75**
Rate per Plug	(A+B+C+D)/1.0	Rs.	**502.80**

IRR-CAW-5-10

Providing and constructing 0.50 m thick vertical or inclined graded filter media consisting of 15 cm thick sand layers and 20 cm thick 20 mm down coarse aggregate layer using approved materials satisfying specified filter creteria as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete with initial lead upto **50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand (Un-Screened)	cum	60.00	723.00	43380.00
2	Coarse aggregate 20-10 mm 75 %	cum	30.00	1144.00	34320.00
3	Coarse aggregate 10 mm down 25 %	cum	10.00	879.00	8790.00
	Total cost of Materials			Rs:	**86490.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	36.00	605.00	21780.00
	Total cost of Labour			Rs:	**22585.00**

labour component/unit qty		225.90
Add contractor's profit and overhead charges	13.615%	30.80
labour component/unit qty (including contractor's profit)		**256.70**

ABSTRACT:

A. Cost of Materials		Rs:	86490.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	22585.00
	Total	Rs:	109075.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	14850.56
Total cost for	100.00 cum	Rs:	**123925.56**
Rate per cum	(A+B+C+D)/100.0	Rs.	**1239.30**

IRR-CAW-5-11

Providing and constructing graded filter media below and behind rock-toe consisting of 20 cm thick sand, 15 cm thick 20 mm down and 15 cm thick 40 mm down size graded coarse aggregates satisfying filter creteria behind rock-toe and 15 cm thick sand, 20 cm thick 20 mm down coarse aggregate and 65 cm thick 40 mm down size coarse aggregate satisfying filter creiteria below rock-toe as per specifications including cost of all materials, machinery, labour, laying to required slope, compaction etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **176.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	Sand (Un-Screened)	cum	58.77	723.00	42490.71
2	Coarse aggregate 40-20 mm	cum	52.70	1030.00	54281.00
3	Coarse aggregate 20-10 mm	cum	50.70	1144.00	58000.80
4	Coarse aggregate 10 mm down	cum	13.80	879.00	12130.20
	Total cost of Materials			Rs:	**166902.71**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	mazdoors	Day	60.00	605.00	36300.00
	Total cost of Labour			Rs:	**37105.00**

labour component/unit qty		210.80
Add contractor's profit and overhead charges	13.615%	28.70
labour component/unit qty (including contractor's profit)		**239.50**

ABSTRACT:

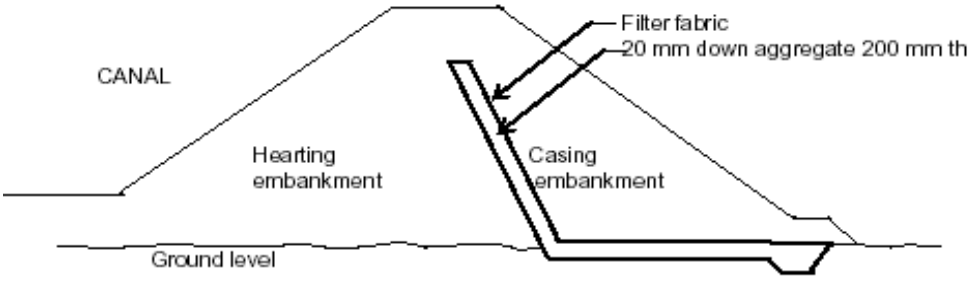
A. Cost of Materials		Rs:	166902.71
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	37105.00
	Total	Rs:	204007.71
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	27775.65
Total cost for	176.00 cum	Rs:	**231783.36**
Rate per cum	(A+B+C+D)/176.0	Rs.	**1317.00**

IRR-CAW-5-12

Providing and laying filter media consisting of 2 layers of poly-propeline nonwoven filter fabric and 200 mm thick 20 mm down graded coarse aggregate for embankment including cost of all materials, machinery, labour, forming toe drain etc., **complete with lead upto 50 m**

a. **for aggregate and all leads for fabric and all lifts.**

Using 200 gsm filter fabric.



TYPICAL SKETCH SHOWING FILTER MEDIA USING FILTER FABRIC

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	PP filter fabric 200 gsm	sqm	210.00	57.00	11970.00
2	20 - 10 mm CA @ 75 %	cum	15.00	1144.00	17160.00
	10 mm down CA @ 25 %	cum	5.00	879.00	4395.00

Total Cost of materials	Rs:	**33525.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	7.00	605.00	4235.00
	Total cost of Labour			Rs:	**5040.00**

labour component/unit qty		50.40
Add contractor's profit and overhead charges	13.615%	6.90
labour component/unit qty (including contractor's profit)		**57.30**

ABSTRACT:

A. Cost of Materials		Rs:	33525.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	5040.00
	Total	Rs:	38565.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5250.62
Total cost for	100.00 sqm	Rs:	**43815.62**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**438.20**

IRR-CAW-5-13

Providing and laying filter media consisting of 2 layers of poly-propeline nonwoven filter fabric and 200 mm thick 20 mm down graded coarse aggregate for embankment including cost of all materials, machinery, labour, forming toe drain etc., complete with lead upto 50 m for aggregate and **all leads for fabric and all lifts.**

b. **Using 250 gsm filter fabric.**

Data **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	PP filter fabric 250 gsm	sqm	210.00	68.00	14280.00
2	20 - 10 mm CA @ 75 %	cum	15.00	1144.00	17160.00
	10 mm down CA @ 25 %	cum	5.00	879.00	4395.00
	Total cost of Materials			Rs:	**35835.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	7.00	605.00	4235.00
	Total cost of Labour			Rs:	**5040.00**

labour component/unit qty		50.40		
Add contractor's profit and overhead charges	13.615%	6.90		
labour component/unit qty (including contractor's profit)		**57.30**		

ABSTRACT:

A. Cost of Materials		Rs:	35835.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	5040.00
	Total	Rs:	40875.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5565.13
Total cost for	100.00 sqm	Rs:	**46440.13**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**464.40**

IRR-CAW-6 **ROCK FILL WORKS :**

IRR-CAW-6-1

Providing and **constructing rockfill casing to canal embankment** with graded stones and spalls from **approved quarry** including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing surface to required slopes etc., **complete with initial lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble stones (at quarry)	cum	100.00	473.00	47300.00
2	Stone chips / spalls (at quarry)		15.00	619.00	9285.00
	Total cost of Materials			Rs:	**56585.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	6.00	650.00	3900.00
2	mazdoor	Day	8.00	605.00	4840.00
	Total cost of Labour			Rs:	**8740.00**

labour component/unit qty		87.40	
Add contractor's profit and overhead charges	13.615%	11.90	
labour component/unit qty (including contractor's profit)		**99.30**	

ABSTRACT:

A. Cost of Materials		Rs:	56585.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	8740.00
	Total	Rs:	65325.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	8894
Total cost for	100.00 cum	Rs:	**74219.00**
Rate per cum	(A+B+C+D)/100.0	Rs.	**742.20**

IRR-CAW-6-2

Providing and **constructing rockfill casing to canal embankment** with graded stones and

spalls **available in dump yard (spoil bank)** including cost of all materials, machinery, labour, spreading stones and spalls in layers, hand packing, wedging, finishing surface to required slopes etc., **complete with initial lead upto 50 m and all lifts.**

Note: Stones and spalls available in dump yard shall be issued at specified issue rate.

DATA **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble stones at dump yard	cum	100.00	250.00	25000.00
2	Stone chips (spalls) at dump yard		15.00	260.00	3900.00
	Total cost of Materials			Rs:	**28900.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate	Amount
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	6.00	650.00	3900.00
2	Crowbarman	Day	2.00	650.00	1300.00
3	mazdoor	Day	10.00	605.00	6050.00
	Total cost of Labour			Rs:	**11250.00**

labour component/unit qty		112.50
Add contractor's profit and overhead charges	13.615%	15.30
labour component/unit qty (including contractor's profit)		**127.80**

ABSTRACT:

A. Cost of Materials		Rs:	28900.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	11250.00
	Total	Rs:	40150.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5466.42
Total cost for	100.00 cum	Rs:	**45616.42**
Rate per cum	(A+B+C+D)/100.0	Rs.	**456.20**

IRR-CAW-7 **CANAL LINING WORKS :**

IRR-CAW-7-1

Providing cohesive non-swelling (CNS) soil lining to canals using soil from **approved borrow area** including spreading soil in **layers of thickness not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 98 percent** or as stipulated, dressing to required profile etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **394.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.5 cum	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00

2	Angle dozer 90 hp	Hour	3.00	1871.20	5613.60
	Fuel / Energy charges	Hour	3.00	1012.60	3037.80
3	Tipper 5 cum	Hour	24.00	540.80	12979.20
	Fuel / Energy charges	Hour	24.00	497.40	11937.60
4	Pump 5 hp (diesel)	Hour	4.00	9.90	39.60
	Fuel / Energy charges	Hour	4.00	131.60	526.40
5	Water tanker 8000 ltr	Hour	4.00	461.10	1844.40
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
6	Diesel road roller 8-10 tonne	Hour	11.50	235.40	2707.10
	Fuel / Energy charges	Hour	11.50	1184.30	13619.45
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**69266.95**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	Crew for Dozer	Hour	3.00	373.10	1119.30
3	Crew for Tipper	Hour	24.00	278.90	6693.60
4	Crew for Pump	Hour	4.00	177.20	708.80
5	Crew for Water tanker	Hour	4.00	278.90	1115.60
6	Crew for Road roller	Hour	11.50	358.20	4119.30
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	38.00	605.00	22990.00
	Total cost of Labour			Rs:	**41341.40**

labour component/unit qty		104.90	
Add contractor's profit and overhead charges	13.615%	14.30	
labour component/unit qty (including contractor's profit)		**119.20**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	69266.95
C. Cost of Labour			Rs:	41341.40
		Total	Rs:	110608.35
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	15059.33
Total cost for	394.00	cum	Rs:	**125667.68**
Rate per cum	(A+B+C+D)/394.0		Rs.	**319.00**

IRR-CAW-7-2

Providing cohesive non-swelling (CNS) soil lining to canals using soil from **approved borrow area** including spreading soil in layers of thickness **not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 95 percent** or as stipulated, dressing to required profile etc., complete **with initial lead upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **394.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shovel 0.5 cum	Hour	8.00	1063.90	8511.20

	Fuel / Energy charges	Hour	8.00	789.50	6316.00
2	Angle dozer 90 hp	Hour	3.00	1871.20	5613.60
	Fuel / Energy charges	Hour	3.00	1012.60	3037.80
3	Tippers 5 cum	Hour	24.00	540.80	12979.20
	Fuel / Energy charges	Hour	24.00	497.40	11937.60
4	Pump 5 hp (diesel)	Hour	4.00	9.90	39.60
	Fuel / Energy charges	Hour	4.00	131.60	526.40
5	Water tanker 8000 ltr	Hour	4.00	461.10	1844.40
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
6	Diesel road roller 8-10 tonnes	Hour	10.00	235.40	2354.00
	Fuel / Energy charges	Hour	10.00	1184.30	11843.00
7	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**67137.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Shovel	Hour	8.00	373.10	2984.80
2	Crew for Dozer	Hour	3.00	373.10	1119.30
3	Crew for Tipper	Hour	24.00	278.90	6693.60
4	Crew for Pump	Hour	4.00	177.20	708.80
5	Crew for Water tanker	Hour	4.00	278.90	1115.60
6	Crew for Road roller	Hour	10.00	358.20	3582.00
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	38.00	605.00	22990.00
	Total cost of Labour			Rs:	**40804.10**

labour component/unit qty		103.60	
Add contractor's profit and overhead charges	13.615%	14.10	
labour component/unit qty (including contractor's profit)		**117.70**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	67137.40
C. Cost of Labour		Rs:	40804.10
	Total	Rs:	107941.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	14696.24
Total cost for	394.00 cum	Rs:	**122637.74**
Rate per cum	(A+B+C+D)/394.0	Rs.	**311.30**

IRR-CAW-7-3

Providing cohesive non-swelling (CNS) soil lining to canal using **soil collected in heaps** along the edge of canal requiring CNS soil lining as part of the disposal of excavated soil from canal excavation in CNS soil reach including spreading in **layers of thickness not more than 15 cm**, breaking clods, watering, compacting to density control of **not less than 95 percent** or as stipulated, dressing to required profile etc., complete with **lead upto upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **394.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle Dozer 90 hp	Hour	1.50	1871.20	2806.80
	Fuel / Energy charges	Hour	1.50	1012.60	1518.90
2	Pump 5 hp (diesel)	Hour	5.00	9.90	49.50
	Fuel / Energy charges	Hour	5.00	131.60	658.00
3	Water tanker 8000 ltr	Hour	5.00	461.10	2305.50
	Fuel / Energy charges	Hour	5.00	497.40	2487.00
4	Diesel road roller 8-10 tonne	Hour	13.00	235.40	3060.20
	Fuel / Energy charges	Hour	13.00	1184.30	15395.90
5	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**28426.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	1.50	373.10	559.65
2	Crew for Pump	Hour	5.00	177.20	886.00
3	Crew for Water tanker	Hour	5.00	278.90	1394.50
4	Crew for Road roller	Hour	13.00	358.20	4656.60
5	work inspector	Day	2.00	805.00	1610.00
6	mazdoor	Day	38.00	605.00	22990.00
	Total cost of Labour			Rs:	**32096.75**

labour component/unit qty		81.50	
Add contractor's profit and overhead charges	13.615%	11.10	
labour component/unit qty (including contractor's profit)		**92.60**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	28426.80
C. Cost of Labour		Rs:	32096.75
	Total	Rs:	60523.55
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	8240.28
Total cost for	394.00 cum	Rs:	**68763.83**
Rate per cum	(A+B+C+D)/394.0	Rs.	**174.50**

IRR-CAW-7-4

Providing and **fixing 20 x 20 x 75 cm size top surface neatly dressed canal bed level stones** including cost of all materials, labour, excavation, fixing in position to correct level etc., **complete with lead upto 50 m and all lifts.**

DATA A. MATERIALS: RATE ANALYSIS UNIT : **32** Nos.

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rough stone 20x20x75 cm	Each	32.00	46.00	1472.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**1472.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Stone chiseller Cl- I	Day	2.00	715.00	1430.00
3	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**3445.00**

labour component/unit qty 107.70

Add contractor's profit and overhead charges 13.615% 14.70

labour component/unit qty (including contractor's profit) **122.40**

ABSTRACT:

A. Cost of Materials		Rs:	1472.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	3445.00
	Total	Rs:	4917.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	669.45
Total cost for	32.00 Nos.	Rs:	**5586.45**
Rate per Each	(A+B+C+D)/32.0	Rs.	**174.60**

IRR-CAW-7-5

Providing, fabricating and **placing in position reinforcement steel bars for RCC works** including cleaning, straightening, cutting, bending, hooking, lapping, tying with 1.25 mm dia. soft annealed steel wire, welding wherever required including cost of all materials, machinery, labour etc., complete **with initial lead upto 50 and all lifts.**

DATA **RATE ANALYSIS** UNIT : **1000** kg

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rein.Steel with 5 % wastage	kg	1050.00	57.00	59850.00
2	Binding wire 1.25 mm dia	kg	8.00	86.00	688.00
3	Sundries (chairs / spacers etc)	LS	10.00	29.00	290.00
	Total cost of Materials			Rs:	**60828.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Bar bender	Day	6.00	805.00	4830.00
2	mazdoor	Day	11.00	605.00	6655.00
	Total cost of Labour			Rs:	**11485.00**

labour component/unit qty 11.50

Add contractor's profit and overhead charges 13.615% 1.60

labour component/unit qty (including contractor's profit) **13.10**

ABSTRACT:

A. Cost of Materials		Rs:	60828.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	11485.00
	Total	Rs:	72313.00

D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	9845.41
Total cost for	1000.00 kg		Rs:	**82158.41**
Rate per kg	(A+B+C+D)/1000.0		Rs.	**82.20**

IRR-CAW-7-6

Providing and **laying 75 mm thick in-situ M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining using vibrating cylinder type mechanical paver** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to other side of canal etc., complete **with initial lead upto 1 km and all lifts.**
(43 Gr Cement content: 300 kg /cum (22.5 kg/ sqm) for
use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35,
FA : 0.45 cum equivalent concrete volume:79.2 cum including the extra quantity of concrete for curvatures and bends etc.,)

DATA: **RATE ANALYSIS** UNIT : **960** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	23760.00	5.10	121176.00
2	Coarse aggregate 20-10 mm	cum	41.18	1144.00	47114.50
	Coarse aggregate 10-4.75 mm	cum	22.18	879.00	19492.70
3	Fine aggregate (Un-Screened)	cum	35.64	723.00	25767.72
4	Super plasticiser	kg	95.04	73.00	6937.92
5	PVC sealing strip	Rm	640.00	58.00	37120.00
6	Use rate of paving cylinder	sqm	960.00	1.03	984.66
7	Sundries	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**258738.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Batching plant	Hour	8.00	423.30	3386.40
	Lubricants etc @ 5 %	Hour	8.00	21.17	169.32
2	Transit mixer 3 Nos	Hour	24.00	885.80	21259.20
	Fuel / Energy charges	Hour	24.00	1447.50	34740.00
3	Mechanical paver	Hour	8.00	373.40	2987.20
	Lubricants etc @ 5 %	Hour	8.00	18.67	149.36
4	DG set for batching plant 50 KVA	Hour	8.00	108.40	867.20
	Fuel / Energy charges	Hour	8.00	1579.10	12632.80
5	DG set for paver 30 KVA	Hour	8.00	73.60	588.80
	Fuel / Energy charges	Hour	8.00	1052.70	8421.60
6	Shovel 0.5 cum / Loader	Hour	2.00	1063.90	2127.80
	Fuel / Energy charges	Hour	2.00	789.50	1579.00
7	Water tanker	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
8	Pump 5 hp(diesel) 2 Nos. 4 hrs each	Hour	8.00	9.90	79.20
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
9	Sundries (power line etc)	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**97853.68**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Transit mixer	Hour	24.00	446.20	10708.80
3	Crew for Concrete paver	Hour	8.00	683.90	5471.20
4	Crew for DG set	Hour	16.00	212.20	3395.20
5	Crew for Shovel	Hour	2.00	373.10	746.20
6	Crew for Water tanker	Hour	8.00	278.90	2231.20
7	Crew for Pump	Hour	16.00	177.20	2835.20
8	Mason Class I	Day	2.00	680.00	1360.00
9	Mechanic	Day	1.00	710.00	710.00
10	Fitter	Day	1.00	710.00	710.00
11	Electrician	Day	1.00	775.00	775.00
12	work inspector	Day	2.00	805.00	1610.00
13	mazdoor (BP site)	Day	5.00	605.00	3025.00
14	mazdoor (Paver site)	Day	10.00	605.00	6050.00
	Total cost of Labour			Rs:	**43910.20**

labour component/unit qty		45.70
Add contractor's profit and overhead charges	13.615%	6.20
labour component/unit qty (including contractor's profit)		**51.90**

ABSTRACT:

A. Cost of Materials			Rs:	258738.50
B. Hire charges of Machinery			Rs:	97853.68
C. Cost of Labour			Rs:	43910.20
			Total	400502.38
Add for shifting & re-erection of BP @	2%		Rs:	8010.0476
Add for LH / RH shifting & erection of Paver @	0.5%		Rs:	2002.5119
Add for ledge cutting / erection of tracks etc @	1%		Rs:	4005.0238
			Total Rs:	414519.96
percentages)		13.615%	Rs:	56436.89
Lead Charges for 1 Km for FA	35.64	cum @	44.9 Rs./(	1600.236
Lead Charges for 1 Km for CA	63.36	cum @	43.3 Rs./(	2743.49
Total cost for	960.00	sqm	Rs:	**475300.58**
Rate per sqm	(A+B+C+D)/960.0		Rs.	**495.10**

IRR-CAW-7-7

Providing and **laying 80 mm thick in-situ M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining using vibrating cylinder type mechanical paver** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to other side of canal etc., complete **with initial lead upto 1 km and all lifts.**
(43 Gr Cement content: 300 kg /cum (24 kg/ sqm) for
use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35,
FA : 0.45 cum equivalent concrete volume:84.48 cum including the extra quantity of concrete for curvatures and bends etc.,)

DATA: **RATE ANALYSIS** UNIT : **960** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	25344.00	5.10	129254.40
2	Coarse aggregate 20-10 mm	cum	43.93	1144.00	50255.46
	Coarse aggregate 10-4.75 mm	cum	23.65	879.00	20792.22
3	Fine aggregate (Un-Screened)	cum	38.02	723.00	27485.57
4	Super plasticiser	kg	101.38	73.00	7400.45
5	PVC sealing strip	Rm	640.00	58.00	37120.00
6	Use rate of paving cylinder	sqm	960.00	1.03	984.66
7	Sundries	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**273437.76**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Batching plant	Hour	8.00	423.30	3386.40
	Lubricants etc @ 5 %	Hour	8.00	21.17	169.32
2	Transit mixer 3 Nos	Hour	24.00	885.80	21259.20
	Fuel / Energy charges	Hour	24.00	1447.50	34740.00
3	Mechanical paver	Hour	8.00	373.40	2987.20
	Lubricants etc @ 5 %	Hour	8.00	18.67	149.36
4	DG set for batching plant 50 KVA	Hour	8.00	108.40	867.20
	Fuel / Energy charges	Hour	8.00	1579.10	12632.80
5	DG set for paver 30 KVA	Hour	8.00	73.60	588.80
	Fuel / Energy charges	Hour	8.00	1052.70	8421.60
6	Shovel 0.5 cum / Loader	Hour	2.00	1063.90	2127.80
	Fuel / Energy charges	Hour	2.00	789.50	1579.00
7	Water tanker	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
8	Pump 5 hp(diesel) 2 Nos. 4 hrs each	Hour	8.00	9.90	79.20
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
9	Sundries (power line etc)	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**97853.68**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Transit mixer	Hour	24.00	446.20	10708.80
3	Crew for Concrete paver	Hour	8.00	683.90	5471.20
4	Crew for DG set	Hour	16.00	212.20	3395.20
5	Crew for Shovel	Hour	2.00	373.10	746.20
6	Crew for Water tanker	Hour	8.00	278.90	2231.20
7	Crew for Pump	Hour	16	177.20	2835.20
8	Mason Class I	Day	2	680.00	1360.00
9	Mechanic	Day	1	710.00	710.00
10	Fitter	Day	1	710.00	710.00
11	Electrician	Day	1	775.00	775.00
12	work inspector	Day	2	805.00	1610.00
13	mazdoor (BP site)	Day	5	605.00	3025.00
14	mazdoor (Paver site)	Day	10	605.00	6050.00
	Total cost of Labour			Rs:	**43910.20**

labour component/unit qty		45.70			
Add contractor's profit and overhead charges	13.615%	6.20			
labour component/unit qty (including contractor's profit)		**51.90**			
ABSTRACT:					
A. Cost of Materials			Rs:		273437.76
B. Hire charges of Machinery			Rs:		97853.68
C. Cost of Labour			Rs:		43910.20
			Total		415201.64
Add for shifting & re-erection of BP @	2%		Rs:		8304.03272
Add for LH / RH shifting & erection of Paver @	0.5%		Rs:		2076.00818
Add for ledge cutting / erection of tracks etc @	1%		Rs:		4152.01636
			Total	Rs:	429733.69
percentages)		13.615%		Rs:	58508.24
Lead Charges for 1 Km for FA	38.02	cum @	44.9	Rs./(	1706.9184
Lead Charges for 1 Km for CA	67.58	cum @	43.3	Rs./(	2926.39
Total cost for	960.00	sqm		Rs:	**492875.24**
Rate per sqm	(A+B+C+D)/960.0			Rs.	**513.40**

IRR-CAW-7-8

Providing and **laying 100 mm thick in situ M-15** (28 days cube compressive strength not less than 15 N /Sqmm) grade cement concrete with **20 mm down size** approved, clean, hard, graded aggregates **for canal lining using, vibrating, cylinder type mechanical paver** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, finishing, forming contraction joints, fixing PVC joint sealing strips, curing, shifting of paver from one side to othere side of canal etc., complete **with initial lead upto 1 Km and all lifts.**

(43 Gr Cement content: 300 kg /cum (30 kg/ sqm) for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum equivalent concrete volume:88 cum including the extra quantity of concrete for curvatures and bends etc.,)

DATA: **RATE ANALYSIS** UNIT : **800** Sqm

A. MATERIALS:

Sl.No	Particulars	Unit	Qty	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	Kg	26400.00	5.10	134640.00
2	Coarse aggregate 20-10 mm	cum	45.76	1144.00	52349.44
	Coarse aggregate 10-4.75 mm	cum	24.64	879.00	21658.56
3	Fine aggregate (Un-Screened)	cum	39.60	723.00	28630.80
4	Super plasticiser	kg	105.60	73.00	7708.80
5	PVC sealing strip	Rm	533.00	58.00	30914.00
6	Use rate of paving cylinder	sqm	800.00	1.03	820.55
	Total cost of Materials			Rs.	**276722.15**

B. MACHINERY:

Sl.No	Description	Unit	Qty	Rate in Rs.	Amount in Rs.
1	Batching plant	Hour	8.00	423.30	3386.40
2	Transit mixer 3 Nos	Hour	24.00	885.80	21259.20
	Fuel / Energy charges	Hour	24.00	1447.50	34740.00
3	Mechanical paver	Hour	8.00	373.40	2987.20
	lubricants etc @ 5%	Hour	8.00	18.67	149.36
4	DG set for batching plant 50 KVA	Hour	8.00	108.40	867.20
	Fuel / Energy charges	Hour	8.00	1579.10	12632.80

5	DG set for paver 30 KVA	Hour	8.00	73.60	588.80
	Fuel / Energy charges	Hour	8.00	1052.70	8421.60
6	Shovel 0.5 cum / Loader	Hour	2.00	1063.90	2127.80
	Fuel / Energy charges	Hour	2.00	789.50	1579.00
7	Water tanker	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
8	Pump 5 hp (diesel) 2 Nos. 4 hrs each	Hour	8.00	9.90	79.20
	Fuel / Energy charges		8.00	131.60	1052.80
	Total hire charges of Machinery			Rs.	**97539.36**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Transit mixer	Hour	24.00	446.20	10708.80
3	Crew for Concrete paver	Hour	8.00	683.90	5471.20
4	Crew for DG set	Hour	16.00	212.20	3395.20
5	Crew for Shovel	Hour	2.00	373.10	746.20
6	Crew for Water tanker	Hour	8	278.90	2231.20
7	Crew for Pump	Hour	8	177.20	1417.60
8	Mason Class I	Day	2	680.00	1360.00
9	Mechanic	Day	1	710.00	710.00
10	Fitter	Day	1	710.00	710.00
11	Electrician	Day	1	775.00	775.00
12	work inspector	Day	2	805.00	1610.00
13	mazdoor (BP site)	Day	5	605.00	3025.00
14	mazdoor (Paver site)	Day	10	605.00	6050.00
	Total cost of Labour			Rs:	**42492.60**

labour component/unit qty			53.10		
Add contractor's profit and overhead charges		13.615%	7.20		
labour component/unit qty (including contractor's profit)			**60.30**		
ABSTRACT					
A. Cost of Materials				Rs.	276722.15
B. Hire charges of Machinery				Rs.	97539.36
C. Cost of Labour				Rs.	42492.60
				TOTAL Rs	416754.11
Add for shifting & re-erection of BP @			2%	Rs.	8335.0822
Add for LH / RH shifting & erection of Paver @			0.5%	Rs.	2083.77055
Add for ledge cutting / erection of tracks etc @			1%	Rs.	4167.5411
				Total Rs:	431340.50
percentages)			13.615%	Rs:	58727.01
Lead Charges for 1 Km for FA	39.60	cum @	44.9	Rs./(	1778.04
Lead Charges for 1 Km for CA	70.40	cum @	43.3	Rs./(	3048.32
Total cost for	800.00	Sqm		Rs:	**494893.87**
Rate per Sqm	(A+B+C+D)/800.0			Rs.	**618.60**

IRR-CAW-7-9

Dismantling, shifting and re-erecting mechanical concrete paver and DG set with all accessories across canal CD work or other locations wherever shifting and re-erecting is necessary including aligning paver correctly for continuing canal lining work, cost of all materials, machinery, labour etc., complete **with all leads and lifts.**

Note: Local shifting and re-erection of paver for LH and RH side lining included in concrete lining rates

under items IRR-CAW-7-7 and IRR-CAW-7-8 and saperate rate for shifting shall not be allowed.

DATA: **RATE ANALYSIS** UNIT : **1.00** Shifting

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper	Hour	4.00	540.80	2163.2
	Fuel / Energy charges	Hour	1.00	497.40	497.4
2	Sundries (ropes / rails etc)	LS	1.00	29.00	29
	Total hire charges of Machinery			Rs:	**2689.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Tipper	Hour	4.00	278.90	1115.6
2	Crew for Paver	Hour	8.00	683.90	5471.2
3	mazdoor	Day	6.00	605.00	3630
	Total cost of Labour			Rs:	**10216.80**

labour component/unit qty		10216.80	
Add contractor's profit and overhead charges	13.615%	1391.00	
labour component/unit qty (including contractor's profit)		**11607.80**	

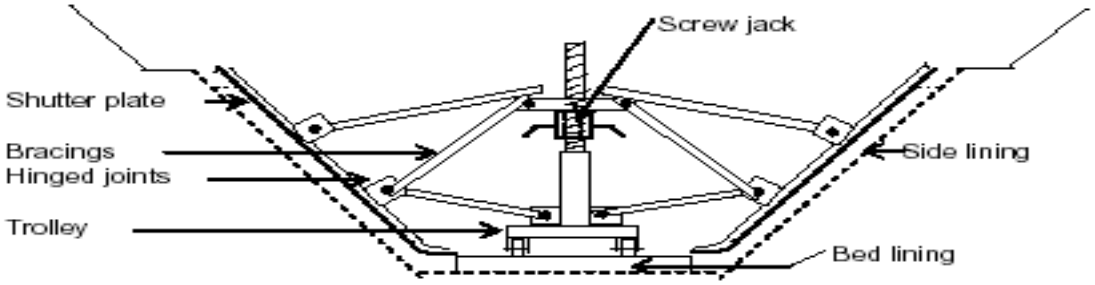
ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	2689.60
C. Cost of Labour		Rs:	10216.80
	Total	Rs:	12906.40
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1757.21
Total cost for	1.00 Shifting	Rs:	**14663.61**
Rate per Shifting	(A+B+C+D)/1.0	Rs.	**14663.60**

IRR-CAW-7-10

Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal(150mm thick)** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content : 250 kg / cum)**

(43 Gr Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)



INDICATIVE ARRANGEMENT OF MANUAL PAVER

DATA **RATE ANALYSIS** UNIT : **28.17** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	7042.5	5.10	35916.75
	Cement for incidentals @ 5 kg / cum	kg	140.85	5.10	718.335
2	Coarse aggregate 40-20 mm	cum	12.68	1030.00	13056.795
	Coarse aggregate 20-10 mm	cum	7.61	1144.00	8701.1496
	Coarse aggregate 10 mm below	cum	5.07	879.00	4457.0574
3	Fine aggregate (Un-Screened)	cum	11.27	723.00	8146.764
4	Super Plasticizer	kg	28.17	73.00	2056.41
6	Use rate of manual paver	sqm	180	27.37	4925.94
7	Sundries	LS	2	29.00	58
	Total cost of Materials			Rs:	**78037.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00	102.10	1633.6
	Fuel / Energy charges	Hour	16.00	263.20	4211.2
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.8
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.1
	Fuel / Energy charges	Hour	1.00	497.40	497.4
4	Needle vibrator 40 mm dia (petrol)	Hour	16.00	6.80	108.8
	Fuel / Energy charges	Hour	16.00	29.60	473.6
	Total hire charges of Machinery			Rs:	**7456.45**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00	356.20	5699.2
2	Crew for Pump	Hour	0.50	177.20	88.6
3	Crew for Water tanker	Hour	1.00	278.90	278.9
4	Crew for Needle vibrator	Hour	16.00	256.40	4102.4
5	work inspector	Day	1.00	805.00	805
6	Mason Class-I	Day	2.00	680.00	1360
7	Fitter	Day	1.00	710.00	710
8	mazdoor				
	for batching materials	Day	22.00	605.00	13310
	for loading mortar pans	Day	8.00	605.00	4840
	for laying and moving paver	Day	6.00	605.00	3630
	for conveying concrete	Day	28.17	605.00	17042.85
	for cleaning/ washing/ curing	Day	2.00	605.00	1210
	Total cost of Labour			Rs:	**53076.95**

labour component/unit qty		1884.20
Add contractor's profit and overhead charges	13.615%	256.50
labour component/unit qty (including contractor's profit)		**2140.70**

ABSTRACT:

A. Cost of Materials	Rs:	78037.20
B. Hire charges of Machinery	Rs:	7456.45
C. Cost of Labour	Rs:	53076.95

		Total Rs:	138570.60
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18866.39
Total cost for	28.17 cum	Rs:	**157436.99**
Rate per cum	(A+B+C+D)/28.17	Rs.	**5588.80**

IRR-CAW-7-11

Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N/sqm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregade **for bed and side lining of canal(100 mm thick)** including, finishing the junction of bed and sides to required curvature, cost of all materials, machinery, labour, formwork including supports cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead up to 50 m and all lifts (Cement content: 250 kg/cum)**

(43 Gr Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA **RATE ANALYSIS** UNIT: **27** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	6750	5.10	34425.00
	Cement for incidentals @ 5 Kg / cum	kg	135	5.10	688.50
2	Coarse aggregate 40mm	cum	12.15	1030.00	12514.50
	Coarse aggregate 20 mm .	cum	7.29	1144.00	8339.76
	Coarse aggregate 10 mm .	cum	4.86	879.00	4271.94
3	Fine aggregate (Un-Screened)	cum	10.8	723.00	7808.40
4	Super Plasticizer	kg	27	73.00	1971.00
5	Use rate of manual paver	sqm	270	27.37	7388.91
				Total Rs.	77408.01
	Total cost of Materials			Rs.	**77408.01**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00	102.10	1633.60
	Fuel / Energy charges	Hour	16.00	263.20	4211.20
2	5 hp pump (diesl)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm die (petrol)	Hour	4.00	6.80	27.20
	Fuel / Energy charges	Hour	4.00	29.60	118.40
	Total hire charges of Machinery			Rs.	**7019.65**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00	356.20	5699.2
2	Crew for Pump	Hour	0.50	177.20	88.6
3	Crew for Water tanker	Hour	1.00	278.90	278.9
4	Crew for Needle vibrator	Hour	16.00	256.40	4102.4
5	work inspector	Day	1.00	805.00	805

6	Mason Class-I	Day	2.00	680.00	1360
7	Fitter	Day	1.00	710.00	710
8	mazdoor				
	for batching materials	Day	22.00	605.00	13310
	for loading mortar pans	Day	8.00	605.00	4840
	for laying and moving paver	Day	6.00	605.00	3630
	for conveying concrete	Day	27.00	605.00	16335
	for cleaning/ washing/ curing	Day	2.00	605.00	1210
	Total cost of Labour			Rs:	**52369.10**

labour component/unit qty		1939.60	
Add contractor's profit and overhead charges	13.615%	264.10	
labour component/unit qty (including contractor's profit)		**2203.70**	

ABSTRACT:

A. Cost of Materials including royalty charges		Rs.	77408.01
B. Hire charges of Machinery		Rs.	7019.65
C. Cost of Labour		Rs.	52369.10
		Total Rs.	136796.76
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18624.88
Total cost for	27.00 cum	Rs:	**155421.64**
Rate per cum	(A+B+C+D)/27.0	Rs.	**5756.40**

IRR-CAW-7-12

Providing and **laying100mm thick insitu vibrated M-10** (28 days cube compressive strength-not less than 10.00 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal lining using vibrating cylindertype mechanical** paver including cost of all materials mechinery labour batching mixing placing in position forming contraction joints fixing pvc joint seiling strips shifting of paver from one side of canal to other side etc.complete **with 1 km lead & all lifts.**

(Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **800** Sqm

Sl.No	Particulars	Unit	Qty	Rate in Rs	Amount
1	Cement 43 Gr	Kg	22000.00	5.10	112200.00
2	Coarse aggregate 40 mm	cum	39.60	1030.00	40788.00
	Coarse aggregate 20 mm	cum	23.76	1144.00	27181.44
	Coarse aggregate 10 mm	cum	15.84	879.00	13923.36
3	Fine aggregate (Un-Screened)	cum	35.20	723.00	25449.60
4	Super plasticiser	kg	88	73.00	6424.00
5	PVC sealing strip	Rm	533	58.00	30914.00
6	Use rate of paving cylinder	sqm	800	1.03	820.55
	Total cost of Materials			Rs.	**257700.95**

B. MACHINERY:

Sl.No	Particulars	Unit	Qty	Rate in Rs	Amount
1	Batching plant	Hour	8.00	423.30	3386.40
2	Transit mixer 3 Nos	Hour	24.00	885.80	21259.20
	Fuel / Energy charges	Hour	24.00	1447.50	34740.00
3	Mechanical paver	Hour	5.00	373.40	1867.00
	lubricants etc @ 5%	Hour	5.00	18.67	93.35
4	DG set for batching plant 50 KVA	Hour	8.00	108.40	867.20
	Fuel / Energy charges	Hour	8.00	1579.10	12632.80
5	DG set for paver 30 KVA	Hour	8.00	73.60	588.80

	Fuel / Energy charges	Hour	8.00	1052.70	8421.60
6	Shovel 0.5 cum / Loader	Hour	2.00	1063.90	2127.80
	Fuel / Energy charges	Hour	2.00	789.50	1579.00
7	Water tanker	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
8	Pump 5 hp (diesel) 2 Nos. 4 hrs each	Hour	8.00	9.90	79.20
	Fuel / Energy charges	Hour	8	131.60	1052.80
	Total hire charges of Machinery			Rs.	**96363.15**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Transit mixer	Hour	24.00	446.20	10708.80
3	Crew for Concrete paver	Hour	8.00	683.90	5471.20
4	Crew for DG set	Hour	16.00	212.20	3395.20
5	Crew for Shovel	Hour	2.00	373.10	746.20
6	Crew for Water tanker	Hour	8	278.90	2231.20
7	Crew for Pump	Hour	8	177.20	1417.60
8	Mason Class I	Day	2	680.00	1360.00
9	Mechanic	Day	1	710.00	710.00
10	Fitter	Day	1	710.00	710.00
11	Electrician	Day	1	775.00	775.00
12	work inspector	Day	2	805.00	1610.00
13	mazdoor (BP site)	Day	5	605.00	3025.00
14	mazdoor (Paver site)	Day	10	605.00	6050.00
	Total cost of Labour			Rs:	**42492.60**

labour component/unit qty		53.10	
Add contractor's profit and overhead charges	13.615%	7.20	
labour component/unit qty (including contractor's profit)		**60.30**	

ABSTRACT:

A. Cost of Materials			Rs.	257700.95
B. Hire charges of Machinery			Rs.	96363.15
C. Cost of Labour			Rs.	42492.60
			TOTAL Rs.	396556.70
Add for shifting & re-erection of BP @		2%	Rs.	7931.13
Add for LH / RH shifting & erection of Paver @		0.5%	Rs.	1982.78
Add for ledge cutting / erection of tracks etc @		1%	Rs.	3965.57
		Total	Rs:	410436.18
percentages)		13.615%	Rs:	55880.89
Lead Charges for 1 Km for FA	35.20	cum @	44.9 Rs./(	1580.48
Lead Charges for 1 Km for CA	79.20	cum @	43.3 Rs./(	3429.36
Total cost for	800.00	Sqm	Rs:	**471326.91**
Rate per Sqm	(A+B+C+D)/800.0		Rs.	**589.20**

IRR-CAW-7-13

Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N /sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (Cement content : 250 kg / cum)**

(Cement content: 250 kg / cum for use of super plasticiser(0.4% by wt. of cement),
CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA **RATE ANALYSIS** UNIT : **27.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	6750	5.10	34425
	Cement for incidentals @ 5 kg / cum	kg	135	5.10	688.5
2	Coarse aggregate 20-10 mm	cum	14.04	1144.00	16061.76
	Coarse aggregate 10 mm below	cum	7.56	879.00	6645.24
3	Fine aggregate (Un-Screened)	cum	12.15	723.00	8784.45
4	Super Plasticizer	kg	27	73.00	1971
5	Use rate of manual paver	sqm	270	27.37	7388.91
6	Sundries	LS	2	29.00	58
	Total cost of Materials			Rs:	**76022.86**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00	102.10	1633.6
	Fuel / Energy charges	Hour	16.00	263.20	4211.2
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.8
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.1
	Fuel / Energy charges	Hour	1.00	497.40	497.4
4	Needle vibrator 40 mm dia (petrol)	Hour	16.00	6.80	108.8
	Fuel / Energy charges	Hour	16.00	29.60	473.6
	Total hire charges of Machinery			Rs:	**7456.45**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00	356.20	5699.2
2	Crew for Pump	Hour	0.50	177.20	88.6
3	Crew for Water tanker	Hour	1.00	278.90	278.9
4	Crew for Vibrator	Hour	16.00	256.40	4102.40
5	Mason Class-I	Day	2.00	680.00	1360
6	work inspector	Day	1.00	805.00	805
7	Fitter	Day	1.00	710.00	710
8	mazdoor				
	for batching materials	Day	22.00	605.00	13310
	for loading mortar pans	Day	8.00	605.00	4840
	for laying and moving paver	Day	6.00	605.00	3630
	for conveying concrete	Day	27.00	605.00	16335
	for cleaning/ washing/ curing	Day	2.00	605.00	1210
	Total cost of Labour			Rs:	**52369.10**

labour component/unit qty		1939.60	
Add contractor's profit and overhead charges	13.615%	264.10	
labour component/unit qty (including contractor's profit)		**2203.70**	

ABSTRACT:

A. Cost of Materials	Rs:	76022.86
B. Hire charges of Machinery	Rs:	7456.45

C. Cost of Labour		Rs:	52369.10
	Total	Rs:	135848.41
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18495.76
Total cost for	27.00 cum	Rs:	**154344.17**
Rate per cum	(A+B+C+D)/27.0	Rs.	**5716.50**

IRR-CAW-7-14

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal(150 mm thick)** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

(Cement content: 290 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA **RATE ANALYSIS** UNIT : **24.92** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	7226.8	5.10	36856.68
	Cement for incidentals @ 5 kg / cum	kg	124.6	5.10	635.46
2	Coarse aggregate 40-20 mm	cum	11.21	1030.00	11550.42
	Coarse aggregate 20-10 mm	cum	6.73	1144.00	7697.2896
	Coarse aggregate 10 mm below	cum	4.49	879.00	3942.84
3	Fine aggregate (Un-Screened)	cum	9.97	723.00	7206.864
4	Super Plasticizer	kg	28.91	73.00	2110.23
5	Use rate of manual paver	sqm	166.14	27.37	4546.64
6	Sundries	LS	2	29.00	58.00
	Total cost of Materials			Rs:	**74604.42**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00	102.10	1633.60
	Fuel / Energy charges	Hour	16.00	263.20	4211.20
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm dia (petrol)	Hour	16.00	6.80	108.80
	Fuel / Energy charges	Hour	16.00	29.60	473.60
	Total hire charges of Machinery			Rs:	**7456.45**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00	356.20	5699.2
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.9
4	Crew for Vibrator	Hour	16.00	256.40	4102.40
5	Mason Class-I	Day	2.00	680.00	1360
6	work inspector	Day	1.00	805.00	805

7	Fitter	Day	1.00	710.00	710
8	mazdoor				
	for batching materials	Day	22.00	605.00	13310
	for loading mortar pans	Day	8.00	605.00	4840
	for laying	Day	6.00	605.00	3630
	for conveying concrete	Day	24.92	605.00	15076.6
	for cleaning/ washing/ curing	Day	2.00	605.00	1210
	Total cost of Labour			Rs:	**51110.70**

labour component/unit qty		2051.00	
Add contractor's profit and overhead charges	13.615%	279.20	
labour component/unit qty (including contractor's profit)		**2330.20**	

ABSTRACT:

A. Cost of Materials		Rs:	74604.42
B. Hire charges of Machinery		Rs:	7456.45
C. Cost of Labour		Rs:	51110.70
	Total	Rs:	133171.57
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	18131.31
Total cost for	24.92 cum	Rs:	**151302.88**
Rate per cum	(A+B+C+D)/24.92	Rs.	**6071.50**

IRR-CAW-7-15

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal(100 mm thick)** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

(Cement content: 300 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.80 cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA **RATE ANALYSIS** UNIT : **23.10** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	6930	5.10	35343
	Cement for incidentals @ 5 kg / cum	kg	115.5	5.10	589.05
2	Coarse aggregate 20-10 mm	cum	12.01	1144.00	13741.728
	Coarse aggregate 10 mm below	cum	6.47	879.00	5685.372
3	Fine aggregate (Un-Screened)	cum	10.40	723.00	7515.585
4	Super Plasticizer	kg	27.72	73.00	2023.56
6	Use rate of manual paver	sqm	231	27.37	6321.62
7	Sundries	LS	2	29.00	58
	Total cost of Materials			Rs:	**71277.91**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00	102.10	1633.6
	Fuel / Energy charges	Hour	16.00	263.20	4211.2
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.8
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.1
	Fuel / Energy charges	Hour	1.00	497.40	497.4

4	Needle vibrator 40 mm dia (petrol)	Hour	16.00	6.80	108.8
	Fuel / Energy charges	Hour	16.00	29.60	473.6
	Total hire charges of Machinery			Rs:	**7456.45**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00	356.20	5699.2
2	Crew for Pump	Hour	0.50	177.20	88.6
3	Crew for Water tanker	Hour	1.00	278.90	278.9
4	Crew for Vibrator	Hour	16.00	256.40	4102.4
5	Mason Class-I	Day	2.00	680.00	1360
6	work inspector	Day	1.00	805.00	805
7	Fitter	Day	1.00	710.00	710
8	mazdoor				
	for batching materials	Day	22.00	605.00	13310
	for loading mortar pans	Day	8.00	605.00	4840
	for laying and moving paver	Day	6.00	605.00	3630
	for conveying concrete	Day	23.10	605.00	13975.5
	for cleaning/ washing/ curing	Day	2.00	605.00	1210
	Total cost of Labour			Rs:	**50009.60**

labour component/unit qty		2164.90
Add contractor's profit and overhead charges	13.615%	294.80
labour component/unit qty (including contractor's profit)		**2459.70**

ABSTRACT:

A. Cost of Materials			Rs:	71277.91
B. Hire charges of Machinery			Rs:	7456.45
C. Cost of Labour			Rs:	50009.60
		Total	Rs:	128743.96
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	17528.49
Total cost for	23.10 cum		Rs:	**146272.45**
Rate per cum	(A+B+C+D)/23.10		Rs.	**6332.10**

IRR-CAW-7-16

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal(100 mm thick)** including finishing the junction of bed and sides to required curveture, cost of all materials, machinery, labour, formwork including supports, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts. (manual lining)**

(Cement content: 290 kg / cum for use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA **RATE ANALYSIS** UNIT : **23.10** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	6699	5.10	34164.90
	Cement for incidentals @ 5 kg / cum	kg	115.5	5.10	589.05
2	Coarse aggregate 40-20 mm	cum	10.40	1030.00	10706.85
	Coarse aggregate 20-10 mm	cum	6.24	1144.00	7135.13
	Coarse aggregate 10 mm below	cum	4.16	879.00	3654.88
3	Fine aggregate (Un-Screened)	cum	9.24	723.00	6680.52

4	Super Plasticizer	kg	26.80	73.00	1956.40
5	Sundries	LS	2	29.00	58.00
	Total cost of Materials			Rs:	**64945.73**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	16.00	102.10	1633.60
	Fuel / Energy charges	Hour	16.00	263.20	4211.20
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm dia (petrol)	Hour	16.00	6.80	108.80
	Fuel / Energy charges	Hour	16.00	29.60	473.60
	Total hire charges of Machinery			Rs:	**7456.45**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	16.00	356.20	5699.20
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Vibrator	Hour	16.00	256.40	4102.40
5	Mason Class-I	Day	2.00	680.00	1360.00
6	work inspector	Day	1.00	805.00	805.00
8	mazdoor				
	for batching materials	Day	22.00	605.00	13310.00
	for loading mortar	Day	8.00	605.00	4840.00
	for conveying concrete	Day	23.10	605.00	13975.50
	for cleaning/ washing/ curing	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**45669.60**

labour component/unit qty		1977.04
Add contractor's profit and overhead charges	13.615%	269.17
labour component/unit qty (including contractor's profit)		**2246.21**

ABSTRACT:

A. Cost of Materials		Rs:	64945.73
B. Hire charges of Machinery		Rs:	7456.45
C. Cost of Labour		Rs:	45669.60
	Total	Rs:	118071.78
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	16075.47285
Total cost for	23.10 cum	Rs:	**134147.25**
Rate per cum	(A+B+C+D)/23.10	Rs.	**5807.00**

IRR-CAW-7-17

Providing and **laying150mm thick insitu vibrated M-15** (28 days cube compressive strength-not less than 15.00 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for bed and side lining of canal lining using vibrating cylindertype** mechanical paver including cost of all materials mechinery labour batching mixing placing in position forming contractiom joints fixing pvc joint seiling strips shifting of paver from one side of canal to other side etc.complete **with 1km lead & all lifts**.

(43 Gr Cement content: 300 kg /cum (45 kg/ sqm) for use of super plasticiser(0.4% by wt. of cement),CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.44 cum equivalent concrete volume:132 cum including the extra quantity of concrete for curvatures and bends etc.,)

DATA: **RATE ANALYSIS** UNIT : **800** Sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	Kg	39600.00	5.10	201960
2	Coarse aggregate 20 mm	cum	68.64	1144.00	78524.16
	Coarse aggregate 10 mm	cum	36.96	879.00	32487.84
3	Fine aggregate (Un-Screened)	cum	58.08	723.00	41991.84
4	Super plasticiser	kg	158.40	73.00	11563.2
5	PVC sealing strip	Rm	533.00	58.00	30914
6	Use rate of paving cylinder	sqm	800.00	1.026	820.55
	Total cost of Materials			Rs.	**398261.59**

B. MACHINERY:

Sl.No	Particulars	Unit	Qty	Rate in Rs	Amount
1	Batching plant	Hour	8.00	423.30	3386.40
2	Transit mixer 3 Nos	Hour	24.00	885.80	21259.20
	Fuel / Energy charges	Hour	24.00	1447.50	34740.00
3	Mechanical paver	Hour	5.00	373.40	1867.00
	lubricants etc @ 5%	Hour	5.00	18.67	93.35
4	DG set for batching plant 50 KVA	Hour	8.00	108.40	867.20
	Fuel / Energy charges	Hour	8.00	1579.10	12632.80
5	DG set for paver 30 KVA	Hour	8.00	73.60	588.80
	Fuel / Energy charges	Hour	8.00	1052.70	8421.60
6	Shovel 0.5 cum / Loader	Hour	2.00	1063.90	2127.80
	Fuel / Energy charges	Hour	2.00	789.50	1579.00
7	Water tanker	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
8	Pump 5 hp (diesel) 2 Nos. 4 hrs each	Hour	8.00	9.90	79.20
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
	Total hire charges of Machinery			Rs.	**96363.15**

C. LABOUR:

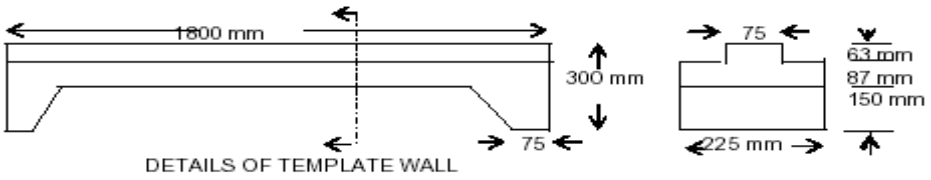
Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Batching plant	Hour	8.00	535.30	4282.40
2	Crew for Transit mixer	Hour	24.00	446.20	10708.80
3	Crew for Concrete paver	Hour	8.00	683.90	5471.20
4	Crew for DG set	Hour	16.00	212.20	3395.20
5	Crew for Shovel	Hour	2.00	373.10	746.20
6	Crew for Water tanker	Hour	8	278.90	2231.20
7	Crew for Pump	Hour	8	177.20	1417.60
8	Mason Class I	Day	2	680.00	1360.00
9	Mechanic	Day	1	710.00	710.00
10	Fitter	Day	1	710.00	710.00
11	Electrician	Day	1	775.00	775.00
12	work inspector	Day	2	805.00	1610.00

13	mazdoor (BP site)	Day	5	605.00	3025.00
14	mazdoor (Paver site)	Day	10	605.00	6050.00
	Total cost of Labour			Rs:	**42492.60**

labour component/unit qty			53.10		
Add contractor's profit and overhead charges		13.615%	7.20		
labour component/unit qty (including contractor's profit)			**60.30**		
ABSTRACT					
A. Cost of Materials				Rs.	398261.59
B. Hire charges of Machinery				Rs.	96363.15
C. Cost of Labour				Rs.	42492.60
				TOTAL Rs	537117.34
Add for shifting & re-erection of BP @			2%	Rs.	10742.35
Add for LH / RH shifting & erection of Paver @			0.5%	Rs.	2685.59
Add for ledge cutting / erection of tracks etc @			1%	Rs.	5371.17
				Total Rs:	555916.45
percentages)			13.615%	Rs:	75688.02
Lead Charges for 1 Km for FA	58.08	cum @	44.9	Rs./(	2607.792
Lead Charges for 1 Km for CA	105.60	cum @	43.3	Rs./(	4572.48
Total cost for	800.00	Sqm		Rs:	**638784.74**
Rate per Sqm	(A+B+C+D)/800.0			Rs.	**798.50**

IRR-CAW-7-18

Providing and **fixing pre-cast RCC template walls** consisting of 0.05 cum **M-15** grade concrete using **20 mm down size** coarse aggregates and 10 kg reinforcement steel moulded as per specifications and drawing in CM 1:4 proportion including cost of all materials, machinery, labour, formwork, fabricating and placing reinforcement steel, mixing, laying, conveying and fixing in position including necessary excavation for seating, finishing joints in CM 1:4, curing etc., complete **with initial lead upto 1 km and all lifts.**



DETAILS OF TEMPLATE WALL

DATA **RATE ANALYSIS** UNIT : **20.00** templete

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	310.00	5.10	1581
2	Sand (Un-Screened)	cum	0.50	723.00	361.5
3	Coarse aggregate 20-10 mm	cum	0.50	1144.00	572
	Coarse aggregate 10-4.75 mm	cum	0.30	879.00	263.7
4	Reinforcement steel	kg	200.00	57.00	11400
5	Binding wire	kg	3.00	86.00	258
6	Use rate of mould	set	20.00	74.20	1484.0356
7	Sundries(water charges & misc.)	LS	1.00	29.00	29
	Total cost of Materials			Rs:	**15949.24**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand mixer	Hour	8.00	6.90	55.20
			8.00	0.00	0.00

Total hire charges of Machinery	Rs:	**55.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class I for fixing	Day	1.00	680.00	680.00
3	Mason Class II for casting	Day	2.00	650.00	1300.00
4	Bar bender	Day	1.00	805.00	805.00
5	mazdoor (casting yard)	Day	4.00	605.00	2420.00
	mazdoor (for fixing)	Day	2.00	605.00	1210.00
	mazdoor for conveying	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**8430.00**

labour component/unit qty		421.50
Add contractor's profit and overhead charges	13.615%	57.40
labour component/unit qty (including contractor's profit)		**478.90**

ABSTRACT:

A. Cost of Materials including serignorage charges				Rs:	15949.24
B. Hire charges of Machinery				Rs:	55.20
C. Cost of Labour				Rs:	8430.00
			Total	Rs:	24434.44
D. Add for contractor's profit and overheads on (A+B+C)			13.615%	Rs:	3326.75
Lead Charges for 1 Km for FA	0.50	cum @	44.9	Rs./(	22.45
Lead Charges for 1 Km for CA	0.80	cum @	43.3	Rs./(	34.64
Total cost for	20.00	templete		Rs:	**27818.28**
Rate per templete	(A+B+C+D)/20.0			Rs.	**1390.90**

IRR-CAW-7-19

Providing and **fixing 50 mm dia perforated GI pressure relief pipes 12.50 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., **complete with all leads and lifts.**

DATA **A. MATERIALS:** **RATE ANALYSIS** UNIT : **10** Nos.

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	GI pipe 50 mm dia 10 Nos	Rm	1.25	354.00	442.5
2	GI plate & Alluminium lid (hinged)	LS	10.00	29.00	290
	Total cost of Materials			Rs:	**732.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling 8 mm dia holes	LS	0.50	29.00	14.50
	Total hire charges of Machinery			Rs:	**14.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Pipe fitter	Day	0.50	790.00	395.00
	mazdoor	Day	0.50	605.00	302.50
	Total cost of Labour			Rs:	**697.50**

labour component/unit qty		69.80
Add contractor's profit and overhead charges	13.615%	9.50
labour component/unit qty (including contractor's profit)		**79.30**

ABSTRACT:

A. Cost of Materials		Rs:	732.50
B. Hire charges of Machinery		Rs:	14.50
C. Cost of Labour		Rs:	697.50
	Total	Rs:	1444.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	196.67
Total cost for	10.00 Nos.	Rs:	**1641.17**
Rate per Each	(A+B+C+D)/10.0	Rs.	**164.10**

IRR-CAW-7-20

Providing and **fixing 50 mm dia perforated GI pressure relief pipes 22.50 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete with all **leads and lifts.**

DATA **RATE ANALYSIS** UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	GI pipe 50 mm dia 10 Nos	Rm	2.25	354.00	796.50
2	GI plate & Alluminium lid (hinged)	LS	10.00	29.00	290.00
	Total cost of Materials			Rs:	**1086.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling 8 mm dia holes	LS	5.00	29.00	145.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**145.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Pipe fitter	Day	0.50	790.00	395.00
	mazdoor	Day	0.50	605.00	302.50
	Total cost of Labour			Rs:	**697.50**

labour component/unit qty		69.80
Add contractor's profit and overhead charges	13.615%	9.50
labour component/unit qty (including contractor's profit)		**79.30**

ABSTRACT:

A. Cost of Materials		Rs:	1086.50
B. Hire charges of Machinery		Rs:	145.00
C. Cost of Labour		Rs:	697.50
	Total	Rs:	1929.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	262.63
Total cost for	10.00 Nos.	Rs:	**2191.63**
Rate per Each	(A+B+C+D)/10.0	Rs.	**219.20**

IRR-CAW-7-21

Providing and **fixing 50 mm dia perforated GI pressure relief pipes 30 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete with all **leads and lifts.**

DATA **RATE ANALYSIS** UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	GI pipe 50 mm dia 10 Nos	Rm	3.00	354.00	1062.00
2	GI plate & Alluminium lid (hinged)	LS	10.00	29.00	290.00
	Total cost of Materials			Rs:	**1352.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling 8 mm dia holes	LS	7.00	29.00	203.00
			0.00		
	Total hire charges of Machinery			Rs:	**203.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Pipe fitter	Day	0.50	790.00	395.00
	mazdoor	Day	0.50	605.00	302.50
	Total cost of Labour			Rs:	**697.50**

labour component/unit qty		69.80
Add contractor's profit and overhead charges	13.615%	9.50
labour component/unit qty (including contractor's profit)		**79.30**

ABSTRACT:

A. Cost of Materials		Rs:	1352.00
B. Hire charges of Machinery		Rs:	203.00
C. Cost of Labour		Rs:	697.50
	Total	Rs:	2252.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	306.68
Total cost for	10.00 Nos.	Rs:	**2559.18**
Rate per Each	(A+B+C+D)/10.0	Rs.	**255.90**

IRR-CAW-7-22

Providing and **fixing 50 mm dia perforated GI pressure relief pipes 45 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete with all **leads and lifts.**

DATA **A. MATERIALS:** **RATE ANALYSIS** UNIT : **10** Nos.

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	GI pipe 50 mm dia 10 Nos	Rm	4.50	354.00	1593.00
2	GI plate & Alluminium lid (hinged)	LS	10.00	29.00	290.00
	Total cost of Materials			Rs:	**1883.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling 8 mm dia holes	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**290.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Pipe fitter	Day	0.50	790.00	395.00
	mazdoor	Day	0.50	605.00	302.50
	Total cost of Labour			Rs:	**697.50**

labour component/unit qty		69.80		
Add contractor's profit and overhead charges	13.615%	9.50		
labour component/unit qty (including contractor's profit)		**79.30**		

ABSTRACT:

A. Cost of Materials		Rs:	1883.00
B. Hire charges of Machinery		Rs:	290.00
C. Cost of Labour		Rs:	697.50
	Total	Rs:	2870.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	390.82
Total cost for	10.00 Nos.	Rs:	**3261.32**
Rate per Each	(A+B+C+D)/10.0	Rs.	**326.10**

IRR-CAW-7-23

Providing and **fixing 50 mm dia perforated GI pressure relief pipes 75 cm long** with one end closed with perforated GI plate and other end provided with alluminium lid hinged to pipe including cost of all materials, labour, drilling 8 mm dia holes etc., complete with all **leads and lifts.**

DATA **RATE ANALYSIS** UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	GI pipe 50 mm dia	Rm	7.50	354.00	2655.00
2	GI plate & Alluminium lid (hinged)	LS	10.00	29.00	290.00
	Total cost of Materials			Rs:	**2945.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Drilling 8 mm dia holes	LS	15.00	29.00	435.00
	Total hire charges of Machinery			Rs:	**435.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Pipe fitter	Day	0.50	790.00	395.00
2	mazdoor	Day	0.50	605.00	302.50
	Total cost of Labour			Rs:	**697.50**

labour component/unit qty		69.80		
Add contractor's profit and overhead charges	13.615%	9.50		
labour component/unit qty (including contractor's profit)		**79.30**		

ABSTRACT:

A. Cost of Materials		Rs:	2945.00
B. Hire charges of Machinery		Rs:	435.00
C. Cost of Labour		Rs:	697.50
	Total	Rs:	4077.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	555.15
Total cost for	10.00 Nos.	Rs:	**4632.65**
Rate per Each	(A+B+C+D)/10.0	Rs.	**463.30**

IRR-CAW-7-24

Providing and **fixing 100 mm dia perforated PVC pipes 40 cm long for Weep holes** including cost of all materials, labour, drilling 8 mm dia holes etc. complete with all **leads and lifts.**

DATA **RATE ANALYSIS** UNIT: **10** Nos.

A. MATERIALS:

Sl.No	Particulars	Unit	Qty	Rate in Rs	Amount in Rs.
1	PVC pipe 100 mm dia 10 Nos	Rm	10.00	198.00	1980.00
	Total cost of Materials			Rs.	**1980.00**

B. MACHINERY

Sl.No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total hire chargs of Machinery			Rs.	**0.00**

C. LABOUR

Sl.No	Particulars	Unit	Qty	Rate in Rs	Amount in Rs.
1	Pipe fitter	Day	0.25	790.00	197.50
2	Mazdoor	Day	0.25	605.00	151.25
	Total cost of Labour			Rs.	**348.75**

labour component/unit qty		34.90
Add contractor's profit and overhead charges	13.615%	4.80
labour component/unit qty (including contractor's profit)		**39.70**

ABSTRACT

A. Cost of Materials		Rs.	1980.00
B. Hire charges of Machinery		Rs.	0.00
C. Cost of Labour		Rs.	348.75
	Total	Rs:	2328.75
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	317.06
Total cost for	10.00 Nos.	Rs:	**2645.81**
Rate per Each	(A+B+C+D)/10.0	Rs.	**264.60**

IRR-CAW-7-25

Drilling 32 mm dia pressure relief hole below pressure relief pipe for bed and side lining of canal laid on rock including cost of all materials, machinery, labour etc., complete with all **leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.6 m long	Rm	10.00	41.19	411.87
	Reconditioning charges @		10%		41.19
2	Use rate of air hose 2 Nos.	Hour	2.00	12.69	25.38
	Total cost of Materials			Rs:	**478.43**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 8.5 cmm diesel	Hour	1.00	300.50	300.50
	Fuel / Energy charges	Hour	1.00	1480.40	1480.40
2	Jack hammer 2 Nos.	Hour	2.00	22.90	45.80
	Fuel / Energy charges	Hour	2.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**1826.70**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate	Amount

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	1.00	339.50	339.50
2	Crew for Jack hammer	Hour	2.00	530.40	1060.80
	Total cost of Labour			Rs:	**1400.30**

labour component/unit qty		140.00	
Add contractor's profit and overhead charges	13.615%	19.10	
labour component/unit qty (including contractor's profit)		**159.10**	

ABSTRACT:

A. Cost of Materials		Rs:	478.43
B. Hire charges of Machinery		Rs:	1826.70
C. Cost of Labour		Rs:	1400.30
	Total	Rs:	3705.43
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	504.49
Total cost for	10.00 Nos.	Rs:	**4209.92**
Rate per Each	(A+B+C+D)/10.0	Rs.	**421.00**

IRR-CAW-7-26

Providing and **forming 35 x 35 x 40 cm deep filter drain** consisting of 75 mm thick 10 mm down coarse aggregate around pressure relief pipe and 75 mm thick sand around coarse aggregate filter including cost of all materials, labour, excavation of pit etc., complete with **lead upto 50 m and all lifts.**

DATA **RATE ANALYSIS** UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Coarse aggregate 10-4.75 mm	cum	0.15	879.00	131.85
2	Sand (Un-Screened)	cum	0.35	723.00	253.05
	Total cost of Materials			Rs:	**384.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	0.10	650.00	65.00
2	mazdoor	Day	0.10	605.00	60.50
	Total cost of Labour			Rs:	**125.50**

labour component/unit qty		12.60	
Add contractor's profit and overhead charges	13.615%	1.70	
labour component/unit qty (including contractor's profit)		**14.30**	

ABSTRACT:

A. Cost of Materials	Rs:	384.90
B. Hire charges of Machinery	Rs:	0.00
C. Cost of Labour	Rs:	125.50

		Total	Rs:	510.40
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	69.49
Total cost for	10.00 Nos.		Rs:	**579.89**
Rate per Each	(A+B+C+D)/10.0		Rs.	**58.00**

IRR-CAW-7-27

Providing and **fixing 25 to 40 mm thick Shahabad / Talikota / other similar stone slabs with pointing and finishing joints** neatly in **CM 1:3** proportion for canal / field channel lining including cutting slabs to required size, mixing mortar, finishing joints neatly, curing etc., **complete with lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Shahabad Stone slabs	sqm	105.00	322.00	33810.00
2	Cement 43 Gr	kg	200.00	5.10	1020.00
3	Sand (Screened)	cum	0.40	952.00	380.80
	Total cost of Materials			Rs:	**35210.80**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	2.00	9.90	19.80
	Fuel / Energy charges	Hour	2.00	131.60	263.20
	Total hire charges of Machinery			Rs:	**283.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	2.00	177.20	354.40
2	work inspector	Day	1.00	805.00	805.00
3	Mason Class I	Day	4.00	680.00	2720.00
4	Mason Class II	Day	2.00	650.00	1300.00
5	mazdoor	Day	8.00	605.00	4840.00
6	Cartman with Double Bullock cart for water	Day	1.00	710.00	710.00
	Total cost of Labour			Rs:	**10729.40**

labour component/unit qty		107.30	
Add contractor's profit and overhead charges	13.615%	14.60	
labour component/unit qty (including contractor's profit)		**121.90**	

ABSTRACT:

A. Cost of Materials		Rs:	35210.80
B. Hire charges of Machinery		Rs:	283.00
C. Cost of Labour		Rs:	10729.40
	Total	Rs:	46223.20
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6293.29
Total cost for	100.00 sqm	Rs:	**52516.49**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**525.20**

IRR-CAW-7-28

Fixing PCC slabs of various sizes in **CM 1 : 3** proportion to the side slopes of canal including preparing bed, flush pointing joints in CM 1 : 3 propn, cost of all materials (excluding PCC slabs), labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	240.00	5.10	1224.00
2	Sand (Screened)	cum	0.50	952.00	476.00
	Total cost of Materials			Rs:	**1700.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	2.00	9.90	19.80
	Fuel / Energy charges	Hour	2.00	131.60	263.20
	Total hire charges of Machinery			Rs:	**283.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	2.00	177.20	354.40
2	work inspector	Day	1.00	805.00	805.00
3	Mason Class I	Day	4.00	680.00	2720.00
4	mazdoor	Day	9.00	605.00	5445.00
5	Cartman with Double Bullock cart for water	Day	1.00	710.00	710.00
	Total cost of Labour			Rs:	**10034.40**

labour component/unit qty		100.30	
Add contractor's profit and overhead charges	13.615%	13.70	
labour component/unit qty (including contractor's profit)		**114.00**	

ABSTRACT:

A. Cost of Materials			Rs:	1700.00
B. Hire charges of Machinery			Rs:	283.00
C. Cost of Labour			Rs:	10034.40
		Total	Rs:	12017.40
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1636.17
Total cost for	100.00 sqm		Rs:	**13653.57**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**136.50**

IRR-CAW-7-29

Fixing PCC lug slabs of various sizes in **CM 1 : 3** proportion for supporting PCC slab lining including necessary excavation, refilling, flush pointing joints in CM 1 : 3 propn, cost of all materials (excluding PCC lug slabs), labour, finishing, curing etc., complete with initial lead **upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	58.00	5.10	295.80
2	Sand (Screened)	cum	0.12	952.00	114.24
	Total cost of Materials			Rs:	**410.04**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	5 hp pump (diesel)	Hour	1.00	9.90	9.90
	Fuel / Energy charges	Hour	1.00	131.60	131.60
	Total hire charges of Machinery			Rs:	**141.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	1.00	177.20	177.20
2	work inspector	Day	1.00	805.00	805.00
3	Mason Class I	Day	2.00	680.00	1360.00
4	Mason Class II	Day	1.00	650.00	650.00
5	mazdoor	Day	5.00	605.00	3025.00
6	Cartman with Double Bullock cart for water	Day	1.00	710.00	710.00
	Total cost of Labour			Rs:	**6727.20**

labour component/unit qty		67.30	
Add contractor's profit and overhead charges	13.615%	9.20	
labour component/unit qty (including contractor's profit)		**76.50**	

ABSTRACT:

A. Cost of Materials			Rs:	410.04
B. Hire charges of Machinery			Rs:	141.50
C. Cost of Labour			Rs:	6727.20
		Total	Rs:	7278.74
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	991
Total cost for	100.00	Rm	Rs:	**8269.74**
Rate per Rm	(A+B+C+D)/100.0		Rs.	**82.70**

IRR-CAW-7-30

Fixing 30 cm height pre-cast drops for field channels as directed including excavation, etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **7** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Cl- II	Day	1.00	650.00	650.00
3	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**2060.00**

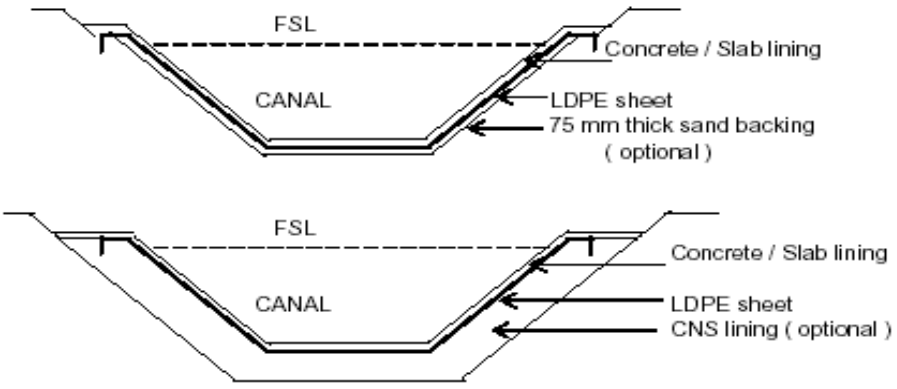
labour component/unit qty		294.30	
Add contractor's profit and overhead charges	13.615%	40.10	
labour component/unit qty (including contractor's profit)		**334.40**	
A. Cost of Materials			Rs: 0.00
B. Hire charges of Machinery			Rs: 0.00

C. Cost of Labour		Rs:	2060.00
	Total	Rs:	2060.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	280.47
Total cost for	7.00 Nos.	Rs:	**2340.47**
Rate per Each	(A+B+C+D)/7.00	Rs.	**334.40**

IRR-CAW-7-31

Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.**

Using 500 micron thick LDPE sheet.



TYPICAL SKETCH SHOWING LDPE SHEET FOR CANAL LINING

DATA: **RATE ANALYSIS** UNIT : **250.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	LDPE sheet 500 micron thick	sqm	275.00	123.00	33825.00
2	Bitumen 85 / 25 and 80 / 100 Gr	kg	4.00	62.00	248.00
	Total cost of Materials			Rs:	**34073.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Joining & laying @ 10 % of sheet cost	sqm	250.00	12.30	3075.00
2	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**3680.00**

labour component/unit qty		14.70
Add contractor's profit and overhead charges	13.615%	2.00
labour component/unit qty (including contractor's profit)		**16.70**

ABSTRACT:

A. Cost of Materials		Rs:	34073.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	3680.00
	Total	Rs:	37753.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5140.07

Total cost for	250.00 sqm	Rs:	**42893.07**
Rate per Sqm	(A+B+C+D)/250.0	Rs.	**171.60**

Note : i) If the surface on which the LDPE sheet is to be laid is too rough and undulating provide average 75 mm thick sand backing to LDPE sheet.

For providing average 75 mm thick sand backing :

RATE ANALYSIS UNIT : **250.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand for filling	cum	18.75	723.00	13556.25
	Total cost of Materials			Rs:	**13556.25**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**3630.00**

labour component/unit qty		14.50
Add contractor's profit and overhead charges	13.615%	2.00
labour component/unit qty (including contractor's profit)		**16.50**

ABSTRACT:

A. Cost of Materials		Rs:	13556.25
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	3630.00
	Total	Rs:	17186.25

D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	2339.91
Total cost for	250.00 sqm	Rs:	**19526.16**
Rate per sqm	(A+B+C+D)/250.0	Rs.	**78.10**

IRR-CAW-7-32

Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.**

b. **Using 750 micron thick LDPE sheet.**

DATA: **RATE ANALYSIS** UNIT : **250.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	LDPE sheet 750 micron thick		275.00	170.00	46750.00
2	Bitumen 85 / 25 and 80 / 100 Gr		4.00	62.00	248.00
	Total cost of Materials			Rs:	**46998.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00

Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Joining & laying @ 10 % of sheet cost	sqm	250.00	17.00	4250.00
2	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**4855.00**

labour component/unit qty		19.40
Add contractor's profit and overhead charges	13.615%	2.60
labour component/unit qty (including contractor's profit)		**22.00**

ABSTRACT:

A. Cost of Materials		Rs:	46998.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	4855.00
	Total	Rs:	51853.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	7059.79
Total cost for	250.00 sqm	Rs:	**58912.79**
Rate per sqm	(A+B+C+D)/250.0	Rs.	**235.70**

Note : i) If the surface on which the LDPE sheet is to be laid is too rough and undulating provide average 75 mm thick unscreened sand backing to LDPE sheet.

For providing average 75 mm thick sand backing add	per sqm	Rs:	78.10

IRR-CAW-7-33

Providing and **fixing LDPE sheet for bed and sides of canal** including cost of all materials, labour, laying, joining etc., complete **with all leads and lifts.**

c. **Using 1000 micron thick LDPE sheet.**

DATA: **RATE ANALYSIS** UNIT : **250.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	LDPE sheet 1000 micron thick		275.00	224.00	61600.00
2	Bitumen 85 / 25 and 80 / 100 Gr		4.00	62.00	248.00
	Total cost of Materials			Rs:	**61848.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Joining & laying @ 10 % of sheet cost	sqm	250.00	22.40	5600.00
2	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**6205.00**

labour component/unit qty		24.80
Add contractor's profit and overhead charges	13.615%	3.40
labour component/unit qty (including contractor's profit)		**28.20**

ABSTRACT:

A. Cost of Materials			Rs:	61848.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	6205.00
		Total	Rs:	68053.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	9265.42
Total cost for	250.00 sqm		Rs:	**77318.42**
Rate per sqm	(A+B+C+D)/250.0		Rs.	**309.30**

Note : i) If the surface on which the LDPE sheet is to be laid is too rough and undulating provide average 75 mm thick unscreened sand backing to LDPE sheet.

For providing average 75 mm thick sand backing add per sqm Rs: 78.10

IRR-CAW-7-34

Providing and **fixing 12 mm thick 380 mm depth tarfelt expansion joint filler boards for stone masonry lining of canal** including cost of all materials, labour etc., complete with all **leads and lifts.**

DATA **RATE ANALYSIS** UNIT : **100.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tarfelt joint filler board 12 mm thick	sqm	38.75	447.00	17321.25
	Total cost of Materials			Rs:	**17321.25**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Carpenter Cl- II	Day	1.00	650.00	650.00
2	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**1255.00**

labour component/unit qty		12.60
Add contractor's profit and overhead charges	13.615%	1.70
labour component/unit qty (including contractor's profit)		**14.30**

ABSTRACT:

A. Cost of Materials			Rs:	17321.25
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	1255.00
		Total	Rs:	18576.25
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	2529.16
Total cost for	100.00 Rm		Rs:	**21105.41**
Rate per Rm	(A+B+C+D)/100.00		Rs.	**211.10**

IRR-CAW-7-35

Providing and **fixing 20 mm thick 100 mm depth tarfelt expansion joint filler boards for cement concrete lining of canal** including cost of all materials, labour etc., complete with all **leads and lifts.**

DATA **A. MATERIALS:** **RATE ANALYSIS** UNIT : **100.00** Rm

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tarfelt joint filler board 20 mm thick	sqm	10.00	676.00	6760.00

Total cost of Materials	Rs:	**6760.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Carpenter Cl- II	Day	1.00	650.00	650.00
2	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**1255.00**

labour component/unit qty		12.60
Add contractor's profit and overhead charges	13.615%	1.70
labour component/unit qty (including contractor's profit)		**14.30**

ABSTRACT:

A. Cost of Materials		Rs:	6760.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	1255.00
	Total	Rs:	8015.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1091.24
Total cost for	100.00 Rm	Rs:	**9106.24**
Rate per Rm	(A+B+C+D)/100.00	Rs.	**91.10**

IRR-CAW-7-36

Providing and **fixing 20 mm thick 150 mm depth tarfelt expansion joint filler boards for cement concrete lining of canal** including cost of all materials, labour etc., complete with all **leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tarfelt joint filler board 20 mm thick	sqm	15.30	676.00	10342.80
	Total cost of Materials			Rs:	**10342.80**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Carpenter Cl- II	Day	1.00	650.00	650.00
2	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**1255.00**

labour component/unit qty		12.60
Add contractor's profit and overhead charges	13.615%	1.70
labour component/unit qty (including contractor's profit)		**14.30**

ABSTRACT:

A. Cost of Materials	Rs:	10342.80
B. Hire charges of Machinery	Rs:	0.00

C. Cost of Labour			Rs:	1255.00
		Total	Rs:	11597.80
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1579.04
Total cost for	100.00 Rm		Rs:	**13176.84**
Rate per Rm	(A+B+C+D)/100.00		Rs.	**131.80**

IRR-CAW-7-37

Providing and **forming 35 mm wide and 10 mm thick construction / contraction joints for concrete lining by mastic filler** including cost of all materials, labour etc., complete with **all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Asphalt 80/100 Gr	kg	35.00	62.00	2170.00
	Sand (Screened)	cum	0.04	952.00	38.08
	Total cost of Materials			Rs:	**2208.08**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	0.50	650.00	325.00
2	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**930.00**

labour component/unit qty		9.30
Add contractor's profit and overhead charges	13.615%	1.30
labour component/unit qty (including contractor's profit)		**10.60**

ABSTRACT:

A. Cost of Materials			Rs:	2208.08
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	930.00
		Total	Rs:	3138.08
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	427.25
Total cost for	100.00 Rm		Rs:	**3565.33**
Rate per Rm	(A+B+C+D)/100.00		Rs.	**35.70**

IRR-CAW-7-38

Manufacturing 550 x 550 x 55 mm size PCC lining slabs in M-15 grade (28 days cube compressive strength not less than 15 N /sqmm) cement concrete using **20 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts.**

(Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement),
CA : 0.80 cum, Blending Ratio of CA : 65:35, FA : 0.45cum
equivalent concrete volume: 3.74 cum)

DATA: **RATE ANALYSIS** UNIT : **225** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate	Amount

Sl No	particulars	Unit	Quantity	in Rs.	in Rs.
1	Cement for mix	kg	1122.00	5.10	5722.20
	Cement for incidentals @ 1 kg / slab	kg	225.00	5.10	1147.50
2	Coarse aggregate 20-10 mm	cum	1.94	1144.00	2224.85
	Coarse aggregate 10 mm below	cum	1.05	879.00	920.49
3	Fine aggregate (Un-Screened)	cum	1.68	723.00	1216.81
4	Super Plasticizer	kg	4.49	73.00	327.62
5	Use rate of moulds for 500 uses	No.	225.00	5.58	1254.43
	Total cost of Materials			Rs:	**12813.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.10	9.90	0.99
	Fuel / Energy charges	Hour	0.10	131.60	13.16
3	Water tanker 8000 ltr	Hour	0.20	461.10	92.22
	Fuel / Energy charges	Hour	0.20	497.40	99.48
	Total hire charges of Machinery			Rs:	**1759.45**
	Aportioned hire charges of machinery for lining slab		90%	Rs:	**1583.51**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.10	177.20	17.72
3	Crew for Water tanker	Hour	0.20	278.90	55.78
4	Mason Class-I	Day	2.00	680.00	1360.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials / laying CC	Day	3.00	605.00	1815.00
	for demoulding / oiling / laying	Day	2.00	605.00	1210.00
	for shifting slabs to curing pond	Day	1.00	605.00	605.00
	for stacking after curing	Day	1.00	605.00	605.00
	for cleaning & miscellaneous	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**9928.10**
	Aportioned cost of labour for lining slabs		90%	Rs:	**8935.29**

labour component/unit qty		39.70	
Add contractor's profit and overhead charges	13.615%	5.40	
labour component/unit qty (including contractor's profit)		**45.10**	

ABSTRACT:

A. Cost of Materials		Rs:	12813.90
B. Hire charges of Machinery		Rs:	1583.51
C. Cost of Labour		Rs:	8935.29
	Total	Rs:	23332.70
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3176.75
Total cost for	225.00 Nos.	Rs:	**26509.45**
Rate per Each	(A+B+C+D)/225.0	Rs.	**117.80**

IRR-CAW-7-39

Manufacturing 550 x 300 x 55 mm size PCC lug slabs in M-15 grade (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **20 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts.**
(Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement),
CA : 0.80 cum, Blending Ratio of CA : 65:35, FA : 0.45cum,
equivalent concrete volume: 0.23 cum)

DATA: **RATE ANALYSIS** UNIT : **25** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	69.00	5.10	351.90
	Cement for incidentals @ 0.5 kg/slab	kg	12.50	5.10	63.75
2	Coarse aggregate 20-10 mm	cum	0.12	1144.00	136.82
	Coarse aggregate 10 mm below	cum	0.06	879.00	56.61
3	Fine aggregate (Un-Screened)	cum	0.10	723.00	74.83
4	Super Plasticizer	kg	0.28	73.00	20.15
5	Use rate of moulds for 500 uses	No.	25.00	3.53	88.27
	Total cost of Materials			Rs:	**792.33**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.10	9.90	0.99
	Fuel / Energy charges	Hour	0.10	131.60	13.16
3	Water tanker 8000 ltr	Hour	0.20	461.10	92.22
	Fuel / Energy charges	Hour	0.20	497.40	99.48
	Total hire charges of Machinery			Rs:	**1759.45**
	Aportioned hire charges of machinery for lug slabs		10%	Rs:	**175.95**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.10	177.20	17.72
3	Crew for Water tanker	Hour	0.20	278.90	55.78
4	Mason Class-I	Day	2.00	680.00	1360.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials / laying CC	Day	3.00	605.00	1815.00
	for demoulding / oiling / laying	Day	2.00	605.00	1210.00
	for shifting slabs to curing pond	Day	1.00	605.00	605.00
	for stacking after curing	Day	1.00	605.00	605.00
	for cleaning & miscellaneous	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**9928.10**
	Aportioned cost of labourfor lug slabs		10%	Rs:	**992.81**

labour component/unit qty		39.70
Add contractor's profit and overhead charges	13.615%	5.40
labour component/unit qty (including contractor's profit)		**45.10**

ABSTRACT:

A. Cost of Materials		Rs:	792.33
B. Hire charges of Machinery		Rs:	175.95
C. Cost of Labour		Rs:	992.81
	Total	Rs:	1961.09
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	267
Total cost for	25.00 Nos.	Rs:	**2228.09**
Rate per Each	(A+B+C+D)/25.0	Rs.	**89.10**

IRR-CAW-7-40

Manufacturing 450 x 300 x 30 mm size PCC lining slabs in M-15 grade (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts.**

(Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement),

CA : 0.68 cum, FA : 0.43cum)

DATA: **RATE ANALYSIS** UNIT : **225** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	270.00	5.10	1377.00
	Cement for incidentals @ 0.5 kg/slab	kg	112.50	5.10	573.75
2	Coarse aggregate 10 mm below	cum	0.61	879.00	537.95
3	Fine aggregate (Un-Screened)	cum	0.39	723.00	279.80
4	Super Plasticizer	kg	1.08	73.00	78.84
5	Use rate of moulds for 250 uses	No.	225.00	2.35	528.17
	Total cost of Materials			Rs:	**3375.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand mixer 45 / 30 ltr	Hour	8.00	6.90	55.20
	Fuel / Energy charges	Hour	8.00	0.00	0.00
2	5 hp pump (diesel)	Hour	0.10	9.90	0.99
	Fuel / Energy charges	Hour	0.10	131.60	13.16
3	Water tanker 8000 ltr	Hour	0.20	461.10	92.22
	Fuel / Energy charges	Hour	0.20	497.40	99.48
	Total hire charges of Machinery			Rs:	**261.05**
	Aportioned hire charges of machinery for lining slab		90%	Rs:	**234.95**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	0.10	177.20	17.72
2	Crew for Water tanker	Hour	0.20	278.90	55.78
3	Mason Class-I	Day	2.00	680.00	1360.00
4	work inspector	Day	1.00	805.00	805.00
5	mazdoor				
	for batching / mixing / laying	Day	2.00	605.00	1210.00
	for demoulding / cleaning / oiling	Day	2.00	605.00	1210.00
	for shifting slabs to curing pond	Day	1.00	605.00	605.00
	for stacking after curing	Day	1.00	605.00	605.00
	for cleaning & miscellaneous	Day	1.00	605.00	605.00

	Total cost of Labour		Rs:	**6473.50**
	Aportioned cost of labour for lining slabs	90%	Rs:	**5826.15**

labour component/unit qty		25.90
Add contractor's profit and overhead charges	13.615%	3.50
labour component/unit qty (including contractor's profit)		**29.40**

ABSTRACT:

A. Cost of Materials			Rs:	3375.50
B. Hire charges of Machinery			Rs:	234.95
C. Cost of Labour			Rs:	5826.15
		Total	Rs:	9436.60
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1284.79
Total cost for	225.00	Nos.	Rs:	**10721.39**
Rate per Each	(A+B+C+D)/225.0		Rs.	**47.70**

IRR-CAW-7-41

Manucturing 450 x 150 x 30 mm size PCC lug slabs in M-15 grade (28 days cube compressive strength not less than 15 N / sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts.**

(Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement),

CA : 0.68 cum, FA : 0.43cum)

DATA: **RATE ANALYSIS** UNIT : **25** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	15.00	5.10	76.50
	Cement for incidentals @ 0.3 kg/slab	kg	7.50	5.10	38.25
2	Coarse aggregate 10 mm below	cum	0.03	879.00	29.89
3	Fine aggregate (Un-Screened)	cum	0.02	723.00	15.54
4	Super Plasticizer	kg	0.06	73.00	4.38
5	Use rate of moulds for 250 uses	No.	25.00	1.34	33.50
	Total cost of Materials			Rs:	**198.06**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand mixer 45 / 30 ltr	Hour	8.00	6.90	55.20
	Fuel / Energy charges	Hour	8.00	0.00	0.00
2	5 hp pump (diesel)	Hour	0.10	9.90	0.99
	Fuel / Energy charges	Hour	0.10	131.60	13.16
3	Water tanker 8000 ltr	Hour	0.20	461.10	92.22
	Fuel / Energy charges	Hour	0.20	497.40	99.48
	Total hire charges of Machinery			Rs:	**261.05**
	Aportioned hire charges of machinery for lug slabs		10%	Rs:	**26.11**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	0.10	177.20	17.72
2	Crew for Water tanker	Hour	0.20	278.90	55.78
3	Mason Class-I	Day	2.00	680.00	1360.00
4	work inspector	Day	1.00	805.00	805.00
5	mazdoor				

	for batching / mixing / laying	Day	2.00	605.00	1210.00
	for demoulding / cleaning / oiling	Day	2.00	605.00	1210.00
	for shifting slabs to curing pond	Day	1.00	605.00	605.00
	for stacking after curing	Day	1.00	605.00	605.00
	for cleaning & miscellaneous	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**6473.50**
	Aportioned cost of labour for lug slabs		10%	Rs:	**647.35**

labour component/unit qty 25.90

Add contractor's profit and overhead charges 13.615% 3.50

labour component/unit qty (including contractor's profit) **29.40**

ABSTRACT:

A. Cost of Materials		Rs:	198.06
B. Hire charges of Machinery		Rs:	26.11
C. Cost of Labour		Rs:	647.35
	Total	Rs:	871.51
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	118.66
Total cost for	25.00 Nos.	Rs:	**990.17**
Rate per Each	(A+B+C+D)/25.0	Rs.	**39.60**

IRR-CAW-7-42

Manufacturing 600 x 300 x 100mm size PCC lining slabs in M-15 grade (28 days cube compressive strength not less than 15 N/Sqmm) cement concrete using **20mm down grades** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**

(Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.80 cum, FA : 0.45cum, Blending Ratio of CA--65:35)

DATA: **RATE ANALYSIS** UNIT: **225** Nos.

A. MATERIALS :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	Kg	1215.00	5.10	6196.50
2	Cement for incidentals @ 0.5kg/slab	Kg	112.50	5.10	573.75
3	Coarse aggregate 20 mm below	Cum	2.11	1144.00	2409.26
4	Coarse aggregate 10 mm below	Cum	1.13	879.00	996.79
5	Fine aggregate (Un-Screened)	Cum	1.82	723.00	1317.67
6	Super Plasticizer	kg	4.86	73.00	354.78
7	Use rate of moulds for 250 uses	No.	225.00	1.23	276.75
	Total Cost of Materials Rs.				**12125.50**

B. MACHINERY :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Diesel mixer 300/200	Hour	8.00	62.60	500.80
	Fuel/Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.10	9.90	0.99
	Fuel/Energy charges	Hour	0.10	131.60	13.16
3	Water tanker 8000 ltr	Hour	0.20	461.10	92.22
	Fuel/Energy charges	Hour	0.20	497.40	99.48
	Total hire charges of Machinery Rs.				**1759.45**
	Aportioned hire charges of machinery @ 90% for lining slab		Rs.	90%	**1583.51**

C. LABOUR :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	0.1	177.20	17.72
2	Crew for water tanker	Hour	0.2	278.90	55.78
3	Mason Class-I	Day	2	680.00	1360.00
4	Class II Mason	Day	1	650.00	650.00
5	Mazdoor				
	For batching materials/laying	Day	2	605.00	1210.00
	For demoulding/cleaning/oiling		2	605.00	1210.00
	For shifting slabs to curing pond		1	605.00	605.00
	For stacking after curing		1	605.00	605.00
	For cleaning & miscellaneous	Day	1	605.00	605.00
	Total Cost of Labour Rs.				**6318.50**
	Aportioned cost of labour for lining slabs Rs.			90%	**5686.65**

labour component/unit qty		25.30
Add contractor's profit and overhead charges	13.615%	3.40
labour component/unit qty (including contractor's profit)		**28.70**

ABSTRACT :

A. Cost of Materials		Rs.	12125.50
B. Hire Charges of machinery		Rs.	1583.51
C. Cost of Labour		Rs.	5686.65
	Total	Rs:	19395.65
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	2640.72
Total cost for	225.00 Nos.	Rs:	**22036.37**
Rate per Each	(A+B+C+D)/225.0	Rs.	**97.90**

IRR-CAW-7-43

Manucturing 400 x 400 x 30 mm size PCC lining slabs in M-15 grade (28 days cube compressive strength not less than 15 N / sqmm)cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts.**

(Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.68 cum, FA : 0.43cum)

DATA: **RATE ANALYSIS** UNIT : **225** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	324.00	5.10	1652.40
	Cement for incidentals @ 0.5 kg/slab	kg	112.50	5.10	573.75
2	Coarse aggregate 10 mm below	cum	0.73	879.00	645.54
3	Fine aggregate (Un-Screened)	cum	0.46	723.00	335.76
4	Super Plasticizer	kg	1.30	73.00	94.61
5	Use rate of moulds for 250 uses	No.	225.00	2.39	536.96
	Total cost of Materials			Rs:	**3839.02**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand mixer 45 / 30 ltr	Hour	8.00	6.90	55.20
	Fuel / Energy charges	Hour	8.00	0.00	0.00

2	5 hp pump (diesel)	Hour	0.10	9.90	0.99
	Fuel / Energy charges	Hour	0.10	131.60	13.16
3	Water tanker 8000 ltr	Hour	0.20	461.10	92.22
	Fuel / Energy charges	Hour	0.20	497.40	99.48
	Total hire charges of Machinery			Rs:	**261.05**
	Aportioned hire charges of machinery for lining slab			90%	**234.95**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	0.10	177.20	17.72
2	Crew for Water tanker	Hour	0.20	278.90	55.78
3	Mason Class-I	Day	2.00	680.00	1360.00
4	work inspector	Day	1.00	805.00	805.00
5	mazdoor				
	for batching / mixing / laying	Day	2.00	605.00	1210.00
	for demoulding / cleaning / oiling	Day	2.00	605.00	1210.00
	for shifting slabs to curing pond	Day	1.00	605.00	605.00
	for stacking after curing	Day	1.00	605.00	605.00
	for cleaning & miscellaneous	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**6473.50**
	Aportioned cost of labour for lining slabs			90%	**5826.15**

labour component/unit qty		25.90
Add contractor's profit and overhead charges	13.615%	3.50
labour component/unit qty (including contractor's profit)		**29.40**

ABSTRACT:

A. Cost of Materials		Rs:	3839.02
B. Hire charges of Machinery		Rs:	234.95
C. Cost of Labour		Rs:	5826.15
	Total	Rs:	9900.11
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1347.9
Total cost for	225.00 Nos.	Rs:	**11248.01**
Rate per Each	(A+B+C+D)/225.0	Rs.	**50.00**

IRR-CAW-7-44

Manufacturing 400 x 150 x 30 mm size PCC lug slabs in M-15 grade (28 days cube compressive strength not less than 15 N /sqmm) cement concrete using **10 mm down graded** coarse aggregate including cost of all materials, machinery, labour, batching, mixing, laying, compacting, formwork, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts.**

(Cement content : 300 kg / cum with super plastcizer (0.4% by wt. of cement), CA : 0.68 cum, FA : 0.43cum)

DATA: **RATE ANALYSIS** UNIT : **25** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	13.50	5.10	68.85
	Cement for incidentals @ 0.3 kg/slab	kg	7.50	5.10	38.25
2	Coarse aggregate 10 mm below	cum	0.03	879.00	26.90
3	Fine aggregate (Un-Screened)	cum	0.02	723.00	13.99
4	Super Plasticizer	kg	0.05	73.00	3.94
5	Use rate of moulds for 250 uses	No.	25.00	1.29	32.28

	Total cost of Materials	Rs:	**184.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hand mixer 45 / 30 ltr	Hour	8.00	6.90	55.20
	Fuel / Energy charges	Hour	8.00	0.00	0.00
2	5 hp pump (diesel)	Hour	0.10	9.90	0.99
	Fuel / Energy charges	Hour	0.10	131.60	13.16
3	Water tanker 8000 ltr	Hour	0.20	461.10	92.22
	Fuel / Energy charges	Hour	0.20	497.40	99.48
	Total hire charges of Machinery			Rs:	**261.05**
	Aportioned hire charges of machinery for lug slabs			10%	**26.11**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	0.10	177.20	17.72
2	Crew for Water tanker	Hour	0.20	278.90	55.78
3	Mason Class-I	Day	2.00	680.00	1360.00
4	work inspector	Day	1.00	805.00	805.00
5	mazdoor				
	for batching / mixing / laying	Day	2.00	605.00	1210.00
	for demoulding / cleaning / oiling	Day	2.00	605.00	1210.00
	for shifting slabs to curing pond	Day	1.00	605.00	605.00
	for stacking after curing	Day	1.00	605.00	605.00
	for cleaning & miscellaneous	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**6473.50**
	Aportioned cost of labour for lug slabs			10%	**647.35**

labour component/unit qty		25.90
Add contractor's profit and overhead charges	13.615%	3.50
labour component/unit qty (including contractor's profit)		**29.40**

ABSTRACT:

A. Cost of Materials		Rs:	184.20
B. Hire charges of Machinery		Rs:	26.11
C. Cost of Labour		Rs:	647.35
	Total	Rs:	857.66
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	116.77
Total cost for	25.00 Nos.	Rs:	**974.43**
Rate per Each	(A+B+C+D)/25.0	Rs.	**39.00**

IRR-CAW-7-45

Providing and **laying uncoursed rubble stone masonry** in **CM 1 : 5** proportion **for canal side** lining using stones and chips from **approved quarry** including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

(Thickness of the masonry assumed: 0.3 m, rubble stones : 0.96 cum, Stone Chips : 0.15cum, Through Stones 20 x 20 x 30cm : 1/sqm)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	1152.00	5.10	5875.20

2	Sand (Screened)	cum	4.00	952.00	3808.00
3	Uncoursed rubble stones at quarry	cum	9.60	473.00	4540.80
4	Through stones 20x20x30 cm	Nos	32.00	32.00	1024.00
5	Stone chips at quarry	cum	1.50	619.00	928.50
	Total cost of Materials			Rs:	**16176.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	4.00	9.90	39.60
	Fuel / Energy charges	Hour	4.00	131.60	526.40
	Total hire charges of Machinery			Rs:	**566.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	4.00	177.20	708.80
2	work inspector	Day	1.00	805.00	805.00
3	Mason Class I	Day	2.00	680.00	1360.00
4	Mason Class II	Day	2.00	650.00	1300.00
5	mazdoor	Day	8.00	605.00	4840.00
6	Cartman with Double Bullock cart for water	Day	1.00	710.00	710.00
	Total cost of Labour			Rs:	**9723.80**

labour component/unit qty		972.40
Add contractor's profit and overhead charges	13.615%	132.40
labour component/unit qty (including contractor's profit)		**1104.80**

ABSTRACT:

A. Cost of Materials		Rs:	16176.50
B. Hire charges of Machinery		Rs:	566.00
C. Cost of Labour		Rs:	9723.80
	Total	Rs:	26466.30
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3603.39
Total cost for	10.00 cum	Rs:	**30069.69**
Rate per cum	(A+B+C+D)/10.0	Rs.	**3007.00**

IRR-CAW-7-46

Providing and **laying uncoursed rubble stone masonry** in **CM 1:5** proportion **for canal side lining using stones** from approved quarry including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete **with initial lead upto 50m and all lifts.(without pin headers) : 1.1 cum)**

(Thickness of the Masonry assumed: 0.3 m , rubble stones

DATA: **RATE ANALYSIS** UNIT: **10** Cum

A. MATERIALS :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	Kg	979.2	5.10	4993.92
2	Sand (Screened)	Cum	3.4	952.00	3236.80
3	Uncoursed rubble stones at quarry	Cum	11	473.00	5203.00
	Total Cost of Materials Rs.				**13433.72**

B. MACHINERY :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	Hand Mixing Charges	Hour	8	6.90	55.20
2	5 hp pump (diesel)	Hour	4	9.90	39.60
	Fuel / Energy charges	Hour	5	131.60	658.00
	Total hire charges of Machinery Rs.				**752.80**

C. LABOUR :

Sl. No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	4	177.20	708.80
2	Mason Class I	Day	13	680.00	8840.00
3	Mason Class II	Day	6	650.00	3900.00
4	Mazdoor	Day	29	605.00	17545.00
5	Cartman with Double Bullock cart for water	Day	1	710.00	710.00
	Total Cost of Labour Rs.				**31703.80**

labour component/unit qty		3170.40	
Add contractor's profit and overhead charges	13.615%	431.60	
labour component/unit qty (including contractor's profit)		**3602.00**	

ABSTRACT :

A. Cost of Materials		Rs.	13433.72
B. Hire Charges of Machinery		Rs.	752.80
C. Cost of Labour		Rs.	31703.80
	Total	Rs:	45890.32
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6247.97
Total cost for	10.00 Cum	Rs:	**52138.29**
Rate per Cum	(A+B+C+D)/10.0	Rs.	**5213.80**

IRR-CAW-7-47

Providing and **laying uncoursed rubble stone masonry** in **CM 1 : 5** proportion **for canal side lining using stones** and chips from canal excavation including cost of all materials, machinery, labour, forming weep holes at specified interval, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

(rubble stones : 0.96 cum, Stone Chips : 0.15cum, Through Stones 20 x 20 x 30cm : 1/sqm)

Note: Stones and chips will be issued from dump yard at specified issue rate.

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	1144.00	5.10	5834.40
2	Sand (Screened)	cum	4.00	952.00	3808.00
3	Uncoursed rubble at dump yard	cum	9.60	250.00	2400.00
4	Through stones 20x20x30 cm	Nos	32.00	32.00	1024.00
5	Stone chips at dump yard	cum	1.50	260.00	390.00
	Total cost of Materials			Rs:	**13456.40**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)	Hour	4.00	9.90	39.60
	Fuel / Energy charges	Hour	4.00	131.60	526.40
	Total hire charges of Machinery			Rs:	**566.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator pump	Hour	4.00	177.20	708.80
2	work inspector	Day	1.00	805.00	805.00
3	Mason Class I	Day	2.00	680.00	1360.00
4	Mason Class II	Day	2.00	650.00	1300.00
5	Crowbarman	Day	1.00	650.00	650.00
6	mazdoor	Day	9.00	605.00	5445.00
7	Cartman with Double Bullock cart for water	Day	1.00	710.00	710.00
	Total cost of Labour			Rs:	**10978.80**

labour component/unit qty		1097.90	
Add contractor's profit and overhead charges	13.615%	149.50	
labour component/unit qty (including contractor's profit)		**1247.40**	

ABSTRACT:

A. Cost of Materials		Rs:	13456.40
B. Hire charges of Machinery		Rs:	566.00
C. Cost of Labour		Rs:	10978.80
	Total	Rs:	25001.20
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3403.91
Total cost for	10.00 cum	Rs:	**28405.11**
Rate per cum	(A+B+C+D)/10.0	Rs.	**2840.50**

IRR-CAW-7-48

Providing and **laying uncoursed rubble stone masonry** in **CM 1:5** proportion **for canal side lining** using stones from canal excavation including cost of all materials, machinery, labour, forming weep holes at specified intervals, finishing, curing etc., complete **with initial lead upto 50m and all lifts.**

(rubble stones : 1.1cum, cement : 98kg, sand 0.34 cum)

DATA: **RATE ANALYSIS** UNIT: **10** Cum

A. MATERIALS :

Sl. No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Cement 43 Gr	Kg	980	5.10	4998.00
2	Sand (Screened)	Cum	3.4	952.00	3236.80
3	Uncoursed rubble at dump yard	Cum	11	250.00	2750.00
	Total Cost of Materials Rs.				**10984.80**

B. MACHINERY :

Sl. No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Hand Mixing Charges	Hour	8	6.90	55.20
2	5 hp pump (diesel)	Hour	4	9.90	39.60
	Fuel / Energy charges	Hour	5	131.60	658.00
	Total hire charges of Machinery Rs.				**752.80**

C. LABOUR :

Sl. No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Operator pump	Hour	4	177.20	708.80
2	Mason Class I	Day	13	680.00	8840.00
3	Mason Class II	Day	6	650.00	3900.00
4	Mazdoor	Day	29	605.00	17545.00
5	Cartman with double bullock cart	Day	1	710.00	710.00

Total Cost of Labour Rs.				**31703.80**
labour component/unit qty		3170.40		
Add contractor's profit and overhead charges	13.615%	431.60		
labour component/unit qty (including contractor's profit)		**3602.00**		
ABSTRACT :				
A. Cost of Materials			Rs.	10984.80
B. Hire Charges of Machinery			Rs.	752.80
C. Cost of Labour			Rs.	31703.80
		Total	Rs:	43441.40
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	5914.55
Total cost for	10.00	Cum	Rs:	**49355.95**
Rate per Cum	(A+B+C+D)/10.0		Rs.	**4935.60**

IRR-CAW-8 **ROCK PITCHING:**

IRR-CAW-8-1

Providing and **constructing 25 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete with initial **lead upto 50 m and all lifts.**

(rubble stones : 0.23 cum/sqm, Stone Chips : 0.0375cum/sqm, Pin Headers 30cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	cum	23.00	473.00	10879.00
2	Pin header (Through stone) 30 cm	Nos	200.00	32.00	6400.00
3	Stone chips at quarry	cum	3.75	619.00	2321.25
	Total cost of Materials			Rs:	**19600.25**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class II	Day	5.00	650.00	3250.00
3	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**7685.00**

labour component/unit qty		76.90		
Add contractor's profit and overhead charges	13.615%	10.50		
labour component/unit qty (including contractor's profit)		**87.40**		
ABSTRACT:				
A. Cost of Materials			Rs:	19600.25
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	7685.00
		Total	Rs:	27285.25
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3714.89
Total cost for	100.00	sqm	Rs:	**31000.14**

Rate per sqm	(A+B+C+D)/100.0	Rs.	**310.00**

Note: If 15 cm thick murum bed is to be provided below pitching
(Murum : 0.18 cum/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Murum	cum	18.00	291.00	5238.00
	Total cost of Materials			Rs:	**5238.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**2420.00**

labour component/unit qty		24.20
Add contractor's profit and overhead charges	13.615%	3.30
labour component/unit qty (including contractor's profit)		**27.50**

ABSTRACT:

A. Cost of Materials			Rs:	5238.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2420.00
		Total	Rs:	7658.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1042.64
Total cost for	100.00 sqm		Rs:	**8700.64**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**87.00**

IRR-CAW-8-2

Providing and **constructing 22.5 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete with initial **lead upto 50 m and all lifts.**

(rubble stones : 0.207 cum/sqm, Stone Chips : 0.03375cum/sqm, Pin Headers 30cm : 2/sqm)

(For Maintenance works)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	cum	20.70	473.00	9791.10
2	Pin header (Through stone) 30 cm	Nos	200.00	32.00	6400.00
3	Stone chips at quarry	cum	3.375	619.00	2089.13
	Total cost of Materials			Rs:	**18280.23**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00

			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class II	Day	5.00	650.00	3250.00
3	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**7685.00**

labour component/unit qty		76.90	
Add contractor's profit and overhead charges	13.615%	10.50	
labour component/unit qty (including contractor's profit)		**87.40**	

ABSTRACT:

A. Cost of Materials		Rs:	18280.23
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	7685.00
	Total	Rs:	25965.23
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3535.17
Total cost for	100.00 sqm	Rs:	**29500.40**
Rate per Sqm	(A+B+C+D)/100.0	Rs.	**295.00**

IRR-CAW-8-3

Providing and **constructing 25 cm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., complete

(rubble stones : 0.275 cum/sqm)

DATA: **RATE ANALYSIS** UNIT: **100** Sqm.

A. MATERIALS :

Sl. No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Uncoursed rubble stones at quarry	Cum	27.50	473.00	13007.50
	Total Cost of Materials Rs.				**13007.50**

B. MACHINERY :

Sl. No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Nil		0	0	
			0	0	
	Total hire charges of Machinery Rs.				**0.00**

C. LABOUR :

Sl. No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Mason Class II	Day	5.50	650.00	3575.00
2	Mazdoor	Day	24.75	605.00	14973.75
	Total Cost of Labour Rs.				**18548.75**

labour component/unit qty		185.50	
Add contractor's profit and overhead charges	13.615%	25.30	
labour component/unit qty (including contractor's profit)		**210.80**	

ABSTRACT :

A. Cost of Materials		Rs.	13007.50
B. Hire Charges of Machinery		Rs.	0.00
C. Cost of Labour		Rs.	18548.75

		Total	Rs:	31556.25
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	4296.38
Total cost for	100.00	Sqm.	Rs:	**35852.63**
Rate per Sqm.	(A+B+C+D)/100.0		Rs.	**358.50**
NOTE: If 15 cm thick murum bed is to be provided below pitching add			in Rs.	87.00
(As per rate analysis under item IRR-CAW-8-1- Note)				

IRR-CAW-8-4

Providing and **constructing 225 mm thick dry rubble stone pitching** including cost of all materials, labour, hand packing, finishing etc., complete

(rubble stones : 0.2475 cum/sqm) (For Maintenance Works)

DATA: **RATE ANALYSIS** UNIT: **100** Sqm.

A. MATERIALS :

Sl. No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Rough Stone for Revetment	Cum	24.75	260.00	6435.00
2	Stone Chips at Quarry	Cum	3.40	619.00	2104.60
	Total Cost of Materials Rs.				**8539.60**

B. MACHINERY :

Sl. No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Nil		0	0	
			0	0	
	Total hire charges of Machinery Rs.				**0.00**

C. LABOUR :

Sl. No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Mason Class II	Day	4.95	650.00	3217.50
2	Mazdoor	Day	22.28	605.00	13476.38
	Total Cost of Labour Rs.				**16693.88**

labour component/unit qty		166.90	
Add contractor's profit and overhead charges	13.615%	22.70	
labour component/unit qty (including contractor's profit)		**189.60**	

ABSTRACT :

A. Cost of Materials			Rs.	8539.60
B. Hire Charges of Machinery			Rs.	0.00
C. Cost of Labour			Rs.	16693.88
		Total	Rs:	25233.48
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3435.54
Total cost for	100.00	Sqm.	Rs:	**28669.02**
Rate per Sqm.	(A+B+C+D)/100.0		Rs.	**286.70**

IRR-CAW-8-5

Providing and **constructing 30 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete with initial **lead upto 50 m and all lifts.**

(rubble stones : 0.275 cum/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	cum	27.50	473.00	13007.50
2	Pin header (Through stone) 30 cm	Nos	200.00	32.00	6400.00
3	Stone chips at quarry	cum	4.50	619.00	2785.50
	Total cost of Materials			Rs:	**22193.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	
			0.00	0.00	
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class II	Day	5.00	650.00	3250.00
3	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**7685.00**

labour component/unit qty		76.90	
Add contractor's profit and overhead charges	13.615%	10.50	
labour component/unit qty (including contractor's profit)		**87.40**	

ABSTRACT:

A. Cost of Materials		Rs:	22193.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	7685.00
	Total	Rs:	29878.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	4067.89
Total cost for	100.00 sqm	Rs:	**33945.89**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**339.50**
NOTE: If 15 cm thick murum bed is to be provided below pitching add			87.00
(As per rate analysis under item IRR-CAW-8-1- Note)			

IRR-CAW-8-6

Providing and **Constructing 30 cm thick dry rubble stone pitching**

including cost of all materials,labour,hand packing,finishing etc.,complete

(rubble stones : 0.33 cum/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS :

Sl No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Uncoursed rubble stones at Quarry	Cum	33.00	473.00	15609.00
	(Included in material Rate)				
	Total Cost of materials Rs :				**15609.00**

B.MACHINERY :

Sl No	Description	Unit	Quantity	Rate in Rs	Amount in Rs
1	Nill		0.00	0.00	0.00
	Total hire charges of machinery Rs :				**0.00**

C.LABOUR :

Sl No	Description	Unit	Quantity	Rate	Amount

Sl No	Description	Unit	Quantity	Rate in Rs	Amount in Rs
1	Mason Class II	Day	6.60	650.00	4290.00
2	Mazdoor	Day	29.70	605.00	17968.50
	Total cost of labour Rs :				**22258.50**

labour component/unit qty		222.60	
Add contractor's profit and overhead charges	13.615%	30.30	
labour component/unit qty (including contractor's profit)		**252.90**	

ABSTRACT

A.Cost of Materials including ryolty charges			Rs:	15609.00
B. Hire charges of Machinery			Rs:	0.00
C.Cost of Labour			Rs:	22258.50
		Total	Rs:	37867.50
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	5155.66
Total cost for	100.00	sqm	Rs:	**43023.16**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**430.20**
NOTE: If 15 cm thick murum bed is to be provided below pitching Add (As per rate analysis under item IRR-CAW-8-1 - Note)			Rs	87.00

IRR-CAW-8-7

Providing and **constructing 45 cm thick dry rubble stone pitching with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete with initial **lead upto 50 m and all lifts.**

(rubble stones : 0.40 cum/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	cum	40.00	473.00	18920.00
2	Pin header (Through stone) 45 cm	Nos	200.00	59.00	11800.00
3	Stone chips at quarry	cum	6.75	619.00	4178.25
	Total cost of Materials			Rs:	**34898.25**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class II	Day	7.00	650.00	4550.00
3	mazdoor	Day	9.00	605.00	5445.00
	Total cost of Labour			Rs:	**10800.00**

labour component/unit qty		108.00	
Add contractor's profit and overhead charges	13.615%	14.70	
labour component/unit qty (including contractor's profit)		**122.70**	

ABSTRACT:

A. Cost of Materials		Rs:	34898.25
B. Hire charges of Machinery		Rs:	0.00

C. Cost of Labour			Rs:	10800.00
		Total	Rs:	45698.25
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	6221.82
Total cost for	100.00 sqm		Rs:	**51920.07**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**519.20**
NOTE: If 15 cm thick murum bed is to be provided below pitching add				87.00
(As per rate analysis under item IRR-CAW-8-1 - Note)				

IRR-CAW-8-8

Providing and **Constructing 45 cm thick dry rubble stone pitching including cost of all materials,** labour,hand packing,finishing etc.,complete (rubble stones : 0.495 cum/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS :

Sl No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Uncoursed rubble stones at Quarry	Cum	49.50	473.00	23413.50
	(Included in material Rate)				
	Total Cost of materials Rs :				**23413.50**

B.MACHINERY :

Sl No	Description	Unit	Quantity	Rate in Rs	Amount in Rs
1	Nill		0.00	0.00	0.00
	Total hire charges of machinery Rs :				**0.00**

C.LABOUR :

Sl No	Description	Unit	Quantity	Rate in Rs	Amount in Rs
1	Mason Class II	Day	9.90	650.00	6435.00
2	Mazdoor	Day	44.55	605.00	26952.75
	Total cost of labour Rs :				**33387.75**

labour component/unit qty		333.90	
Add contractor's profit and overhead charges	13.615%	45.50	
labour component/unit qty (including contractor's profit)		**379.40**	

ABSTRACT

A.Cost of Materials including ryolty charges		Rs:	23413.50
B. Hire charges of Machinery		Rs:	0.00
C.Cost of Labour		Rs:	33387.75
	Total	Rs:	56801.25
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	7733.49
Total cost for	100.00 sqm	Rs:	**64534.74**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**645.30**
NOTE: If 15 cm thick murum bed is to be provided below pitching		Rs	87.00
Add (As per rate analysis under item IRR-CAW-8-1 - Note)			

IRR-CAW-8-9

Providing and **constructing 30 cm thick rubble stone pitching** set in **CM 1: 5** proportion with **pin headers at 2 per sqm** in including cost of all materials, labour, packing chips and mortar, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

(rubble stones : 0.275 cum/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Uncoursed rubble stones at quarry	cum	27.50	473.00	13007.50
2	Pin header (Through stone) 30 cm	Nos	200.00	32.00	6400.00
3	Stone chips @ 15 % at quarry	cum	4.50	619.00	2785.50
4	Cement	kg	3000.00	5.10	15300.00
5	Sand (Screened)	cum	10.50	952.00	9996.00
	Total cost of Materials			Rs:	**47489.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp pump (diesel)		2.00	9.90	19.80
	Fuel / Energy charges		2.00	131.60	263.20
	Total hire charges of Machinery			Rs:	**283.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	2.00	177.20	354.40
2	work inspector	Day	1.00	805.00	805.00
3	Mason Class II	Day	5.00	650.00	3250.00
4	mazdoor	Day	12.00	605.00	7260.00
5	Catrman with double bullock cart	Day	2.00	710.00	1420.00
	Total cost of Labour			Rs:	**13089.40**

labour component/unit qty		130.90	
Add contractor's profit and overhead charges	13.615%	17.80	
labour component/unit qty (including contractor's profit)		**148.70**	

ABSTRACT:

A. Cost of Materials			Rs:	47489.00
B. Hire charges of Machinery			Rs:	283.00
C. Cost of Labour			Rs:	13089.40
		Total	Rs:	60861.40
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	8286.28
Total cost for	100.00	sqm	Rs:	**69147.68**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**691.50**
NOTE: If 15 cm thick murum bed is to be provided below pitching add				87.00
(As per rate analysis under item IRR-CAW-8-1 - Note)				

IRR-CAW-8-10

Providing and **Constructing 30 cm thick rubble stone pitching** set in **CM 1:5** Proportion including cost of all materials,labour, packing chips and mortar ,finishing etc.,complete

(rubble stones : 0.33 cum/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** Sqm

A. MATERIALS :

Sl No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Uncoursed rubble stones at Quarry	Cum	33.00	473.00	15609.00
2	Cement	Kg	3232.00	5.10	16483.20
3	Sand (Screened)	Cum	11.22	952.00	10681.44

	Total Cost of materials Rs :	**42773.64**

B.MACHINERY :

Sl No	Description	Unit	Quantity	Rate in Rs	Amount in Rs
1	Nill		0.00	0.00	0.00
	Total hire charges of machinery Rs :				**0.00**

C.LABOUR :

Sl No	Description	Unit	Quantity	Rate in Rs	Amount in Rs
1	Mason Class I	Day	0.54	680.00	367.20
2	Mason Class II	Day	1.26	650.00	819.00
3	Mazdoor	Day	2.80	605.00	1694.00
	Total cost of labour Rs :				**2880.20**

labour component/unit qty		28.80	
Add contractor's profit and overhead charges	13.615%	3.90	
labour component/unit qty (including contractor's profit)		**32.70**	

ABSTRACT

A.Cost of Materials			Rs:	42773.64
B. Hire charges of Machinery			Rs:	0.00
C.Cost of Labour			Rs:	2880.20
		Total	Rs:	45653.84
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	6215.77
Total cost for	100.00	Sqm	Rs:	**51869.61**
Rate per Sqm	(A+B+C+D)/100.0		Rs.	**518.70**
NOTE: If 15 cm thick murum bed is to be provided below pitching			Rs	87.00
Add (As per rate analysis under item IRR-CAW-8-1 - Note)				

IRR-CAW-8-11

Providing and **constructing 30 cm thick dry khandki stone pitching using 20 to 25 cm size khandki stones with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.**

(Khandki stones 20- 25 cm height : 1200 Nos/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Khandki stones 20-25 cm height	Nos	1200.00	24.00	28800.00
2	Pin header (Through stone) 30 cm	Nos	200.00	32.00	6400.00
3	Stone chips	cum	4.50	619.00	2785.50
	Total cost of Materials			Rs:	**37985.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	work inspector	Day	1.00	805.00	805.00
2	Mason Class II	Day	5.00	650.00	3250.00
3	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**7685.00**

labour component/unit qty 76.90
Add contractor's profit and overhead charges 13.615% 10.50
labour component/unit qty (including contractor's profit) **87.40**

ABSTRACT:

A. Cost of Materials		Rs:	37985.50
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	7685.00
	Total	Rs:	45670.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6218.04
Total cost for	100.00 sqm	Rs:	**51888.54**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**518.90**

NOTE: If 15 cm thick murum bed is to be provided below pitching add 87.00
(As per rate analysis under item IRR-CAW-8-1 - Note)

IRR-CAW-8-12

Providing and **constructing 45 cm thick dry khandki stone pitching using 25 to 30 cm size khandki stones with pin headers at 2 per sqm** including cost of all materials, labour, hand packing, finishing etc., complete **with initial lead upto 50 m and all lifts.**

(Khandki stones 25- 30 cm height : 1200 Nos/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Khandki stones 25-30 cm height	Nos	730.00	27.00	19710.00
2	Pin headers 45 cm	Nos	200.00	59.00	11800.00
3	Stone chips	cum	6.75	619.00	4178.25
	Total cost of Materials			Rs:	**35688.25**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class II	Day	7.00	650.00	4550.00
3	mazdoor	Day	9.00	605.00	5445.00
	Total cost of Labour			Rs:	**10800.00**

labour component/unit qty 108.00
Add contractor's profit and overhead charges 13.615% 14.70
labour component/unit qty (including contractor's profit) **122.70**

ABSTRACT:

A. Cost of Materials		Rs:	35688.25
B. Hire charges of Machinery		Rs:	0.00

C. Cost of Labour		Rs:	10800.00
	Total	Rs:	46488.25
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	6329.38
Total cost for	100.00 sqm	Rs:	**52817.63**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**528.20**
NOTE: If 15 cm thick murum bed is to be provided below pitching add			87.00

(As per rate analysis under item IRR-CAW-8-1 - Note)

IRR-CAW-8-13

Providing and **constructing 30 cm thick khandki stone pitching using 20 to 25 cm size khandki stones with pin headers at 2 per sqm** set in **CM 1 : 5** proportion with pointing joints in CM 1:3 proportion including cost of all materials, labour, packing chips and mortar, finishing, curing etc.complete with **initial lead upto 50 m and all lifts.**

(Khandki stones 20- 25 cm height : 1200 Nos/sqm, Stone Chips : 0.045cum/sqm, Pin Headers 30cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Khandki stones 20-25 cm height	Nos	1200.00	24.00	28800.00
2	Pin headers 30 cm long	Nos	200.00	32.00	6400.00
3	Stone chips @ 15 % at quarry	cum	4.50	619.00	2785.50
4	Cement	kg	2902.00	5.10	14800.20
5	Sand (Screened)	cum	9.67	952.00	9205.84
	Total cost of Materials			Rs:	**61991.54**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp diesel pump	Hour	2.00	9.90	19.80
	Fuel / Energy charges	Hour	2.00	131.60	263.20
	Total hire charges of Machinery			Rs:	**283.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	2.00	177.20	354.40
2	work inspector	Day	1.00	805.00	805.00
3	Cartman with double bullock cart	Day	2.00	710.00	1420.00
4	Mason Class II	Day	5.00	650.00	3250.00
5	mazdoor	Day	11.00	605.00	6655.00
	Total cost of Labour			Rs:	**12484.40**

labour component/unit qty		124.80
Add contractor's profit and overhead charges	13.615%	17.00
labour component/unit qty (including contractor's profit)		**141.80**

ABSTRACT:

A. Cost of Materials		Rs:	61991.54
B. Hire charges of Machinery		Rs:	283.00
C. Cost of Labour		Rs:	12484.40
	Total	Rs:	74758.94
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	10178.43
Total cost for	100.00 sqm	Rs:	**84937.37**

Rate per sqm	(A+B+C+D)/100.0	Rs.	**849.40**
NOTE: If 15 cm thick murum bed is to be provided below pitching add			87.00
(As per rate analysis under item IRR-CAW-8-1 - Note)			

IRR-CAW-8-14

Providing and **constructing 45 cm thick khandki stone pitching using 25 to 30 cm stones with pin headers at 2 per sqm** set in **CM 1 : 5** proportion with pointing joints in CM 1 : 3 proportion including cost of all materials, labour, packing chips and mortar, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

(Khandki stones 25- 30 cm height : 730 Nos/sqm, Stone Chips : 0.0675cum/sqm, Pin Headers 45cm : 2/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Khandki stones 25-30 cm height	Nos	730.00	27.00	19710.00
2	Pin headers 45 cm	Nos	200.00	59.00	11800.00
3	Stone chips @ 15 % at quarry	cum	6.75	619.00	4178.25
4	Cement	kg	4050.00	5.10	20655.00
5	Sand (Screened)	cum	13.99	952.00	13318.48
	Total cost of Materials			Rs:	**69661.73**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	5 hp diesel pump	Hour	4.00	9.90	39.60
	Fuel / Energy charges	Hour	4.00	131.60	526.40
	Total hire charges of Machinery			Rs:	**566.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Pump	Hour	4.00	177.20	708.80
2	work inspector	Day	1.00	805.00	805.00
3	Cartman with double bullock cart	Day	2.00	710.00	1420.00
4	Mason Class II	Day	7.00	650.00	4550.00
5	mazdoor	Day	16.00	605.00	9680.00
	Total cost of Labour			Rs:	**17163.80**

labour component/unit qty		171.60
Add contractor's profit and overhead charges	13.615%	23.40
labour component/unit qty (including contractor's profit)		**195.00**

ABSTRACT:

A. Cost of Materials		Rs:	69661.73
B. Hire charges of Machinery		Rs:	566.00
C. Cost of Labour		Rs:	17163.80
	Total	Rs:	87391.53
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	11898.36
Total cost for	100.00 sqm	Rs:	**99289.89**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**992.90**
NOTE: If 15 cm thick murum bed is to be provided below pitching add			87.00
(As per rate analysis under item IRR-CAW-8-1 - Note)			

IRR-CAW-8-15

Providing 10 cm thick approved type grass turfing to the side slopes of canal including cost of all materials, labour, watering for minimum 15 days etc.,complete **with lead 50 m and all lifts.**

(FA : 2 cum/sqm)

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Turfing sods	sqm	100.00	49.00	4900.00
2	Sand for filling	cum	2.00	723.00	1446.00
	Total cost of Materials			Rs:	**6346.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.10	805.00	80.50
2	Cartman with double bullock cart	Day	2.00	710.00	1420.00
3	mazdoor	Day	14.00	605.00	8470.00
	Total cost of Labour			Rs:	**9970.50**

labour component/unit qty		99.70
Add contractor's profit and overhead charges	13.615%	13.60
labour component/unit qty (including contractor's profit)		**113.30**

ABSTRACT:

A. Cost of Materials		Rs:	6346.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	9970.50
	Total	Rs:	16316.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	2221.49
Total cost for	100.00 sqm	Rs:	**18537.99**
Rate per sqm	(A+B+C+D)/100.0	Rs.	**185.40**

IRR-CAW-8-16

Providing 10 cm Thick approved type gross turfing to the side slopes of canal including cost of all materials ,labour,watering for minimum 15 days etc.,,complete.

with initial lead upto 50 m and all lifts (WITHOUT USING SAND)

DATA: **RATE ANALYSIS** UNIT : **100.00** Sqm

A. MATERIALS :

Sl No	Particulars	Unit	Quantity	Rate in Rs	Amount in Rs
1	Turfing Sods	Sqm	100.00	49.00	4900.00
	Total Cost of materials Rs :				**4900.00**

B.MACHINERY :

Sl No	Description	Unit	Quantity	Rate in Rs	Amount in Rs
1	Nill		0.00	0.00	0.00
			0.00	0.00	0.00

Total hire charges of machinery	Rs :	**0.00**

C.LABOUR :

Sl No	Description	Unit	Quantity	Rate in Rs	Amount in Rs
1	Mazdoor	Day	7.00	605.00	4235.00
2	Cart men with double bullock cart	Day	2.00	710.00	1420.00
	Total cost of labour	Rs :			**5655.00**

labour component/unit qty		56.60
Add contractor's profit and overhead charges	13.615%	7.70
labour component/unit qty (including contractor's profit)		**64.30**

ABSTRACT

A.Cost of Materials including ryolty charges			Rs:	4900.00
B. Hire charges of Machinery			Rs:	0.00
C.Cost of Labour			Rs:	5655.00
		Total	Rs:	10555.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1437.06
Total cost for	100.00	Sqm	Rs:	**11992.06**
Rate per Sqm	(A+B+C+D)/100.0		Rs.	**119.90**

CHAPTER-IV

CANAL CROSS DRAINAGE WORKS - Standard Data

(WLL BE WITH E-N-C & TO INCORPORATE CHANGES YEARLY/ AS NEEDED)

FOR THE YEAR :2025-26

Index- code

IRR-CCDW **CANAL CROSS DRAINAGE WORKS - DATA RATES**

Directions to add Seigniorage Charges and Additional Lead Charges

Seigniorage Charges:

1. The unit rate for work item in the Standard Data is **exclusive of Seigniorage Charges** wherever applicable.

2. The appropriate Seigniorage Charges for relevant materials are to be added to the Unit rate of work item Charges while adding Seigniorage Charges to the data in the estimate

Additional Lead and Lift Charges:

1. Unless otherwise specified the basic rates are inclusive of all lifts.
2. For concrete, masonry and reinforcement items **wherever** initial lead of 1km is considered in the basic rate, the additional lead as follows:

Additional lead charges for Cement, Steel, sand, coarse aggregate, stones and stone chips shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item.

In case of Cement and Steel, Loading and unloading charges are already added in the work item while arriving the unit rate and hence should not be added again

Example:

Total lead for sand from approved sand quarry : 15 Km

Initial lead included in the basic rate in the SR : 1 Km

Additional lead charges :

Lead charges for 5 km	Rs.	119.70	
Lead charges for next 10 km	Rs.	180	
Total lead charges for 15 km /cum	Rs.	299.70	
Less 1 km initial lead charges /cum	Rs.	44.90	(-)
Net additional lead charges / cum	Rs.	254.80	

3. For earth/rockfill embankments **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Earth, Murrum etc., shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item.

(same as above)

Example:

Total lead for earth from approved borrow area : 15 Km

Initial lead included in the basic rate in the SR : 1 Km

Additional lead charges :

Lead charges for 5 km	Rs.	119.70	
Lead charges for next 10 km	Rs.	180	
Total lead charges for 15 km /cum	Rs.	299.70	
Less 1 km initial lead charges /cum	Rs.	44.90	(-)
Net additional lead charges / cum	Rs.	254.80	

4. The initial lead up to 50 m as mentioned in some standard data items is meant for manual lead within the working area. For conveyance of materials, the lead required from quarry/Borrow area/ Dump Area to worksite shall be added to the data without deducting the 50 m initial lead charges

CCDW - Work Items

IRR-CCDW-1 **EXCAVATION & FOUNDATION TREATMENT WORKS :**

IRR-CCDW-1-1

Excavation in **all kinds of soil** including boulders upto **0.30 m dia.** for foundations of canal cross drainage and Other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete with initial lead upto **50 m and initial lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25	805.00	201.25
2	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**3831.25**

labour component/unit qty		383.10
Add contractor's profit and overhead charges	13.615%	52.20
labour component/unit qty (including contractor's profit)		**435.30**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3831.25
		Total	Rs:	3831.25
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	521.62
Total cost for	10.00 cum		Rs:	**4352.87**
Rate per cum	(A+B+C+D)/10.0		Rs.	**435.30**

IRR-CCDW-1-2 **Excavation for Structures- Mechanical Means** **(Data adopted from MORTH)**

Earth work in excavation **in all kinds of soils** of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.

Depth upto 3 m

Unit = cum

DATA: **RATE ANALYSIS** **Unit** **240.00** cum

A. Materials:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
	NIL		0.00	0.00	**0.00**

B. Machinery:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hydraulic excavator 1.0 cum bucket capacity	hour	6.00	1827.70	10966.20
	Fuel/ Energy charges	hour	6.00	1447.50	8685.00

	Total in Rs.	**19651.20**

C. Labour:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	day	0.32	805.00	257.60
2	Mazdoor	day	8.00	605.00	4840.00
3	crew for excavator	hour	6.00	373.10	2238.60
	Total in Rs.				**7336.20**

labour component/unit qty		30.60
Add contractor's profit and overhead charges	13.615%	4.20
labour component/unit qty (including contractor's profit)		**34.80**

Abstract

a) Material		Rs	0.00
b) Machinery		Rs	19651.20
c) Labour		Rs	7336.20
Total		Rs	26987.40
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3674.33
Total cost for	240.00 cum	Rs:	**30661.73**
Rate per cum	(A+B+C+D)/240.0	Rs.	**127.80**

IRR-CCDW-1-3

Excavation in **ordnary rock (including HDR) without blasting** including boulders **above 0.3 m upto 0.60 m d** for foundations of canal cross drainage and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., **complete with initial lead upto 50 m and initial lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crowbarman	Day	1.25	650.00	812.50
2	Stone breaker	Day	1.25	650.00	812.50
3	work inspector	Day	0.25	805.00	201.25
4	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**5456.25**

labour component/unit qty		545.60
Add contractor's profit and overhead charges	13.615%	74.30
labour component/unit qty (including contractor's profit)		**619.90**

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	5456.25
	Total	Rs:	5456.25

D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	742.87
Total cost for	10.00 cum		Rs:	**6199.12**
Rate per cum	(A+B+C+D)/10.0		Rs.	**619.90**

IRR-CCDW-1-4

Excavation in **ordnary rock without blasting** for foundations of canal cross drainage and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete with initial **lead upto 50 m and initial lift upto 3 m.**

(Data adopted from MORTH)

Mechanical Means

DATA: **RATE ANALYSIS** Unit: **180.00** cum

A. Materials:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
	NIL		0.00	0.00	**0.00**
	Total cost of Materials			Rs:	**0.00**

B. Machinery:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hydraulic excavator 1.0cum bucket capacity	hour	6.00	1827.70	10966.20
2	Fuel/ Energy charges	hour	6.00	1447.50	8685.00
	Total hire charges of Machinery			Rs:	**19651.20**

C. Labour:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	day	0.24	805.00	193.20
2	Mazdoor	day	6.00	605.00	3630.00
3	crew for excavator	hour	6.00	373.10	2238.60
	Total cost of Labour			Rs:	**6061.80**

labour component/unit qty		33.70	
Add contractor's profit and overhead charges	13.615%	4.60	
labour component/unit qty (including contractor's profit)		**38.30**	

Abstract

a) Material		Rs	0.00
b) Machinery		Rs	19651.20
c) Labour		Rs	6061.80
Total		Rs	25713.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	3500.82
Total cost for	180.00 cum	Rs:	**29213.82**
Rate per cum	(A+B+C+D)/180.0	Rs.	**162.30**

IRR-CCDW-1-5

Excavation **in hard rock requiring blasting** including boulders **above 0.6 m upto 1.2 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 50 m and initial lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **100** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of drill rod 1.6 m length	Rm	43.50	30.89	1343.72
	Reconditioning charges @	10%			134.37
2	Use rate of air hose 2 Nos.	Hour	6.00	0.25	1.52

3	Explosive small dia (Kelvex-220)	kg	20.00	95.00	1900.00
4	Electric detonators	Nos	29.00	14.00	406.00
5	Detonating fuse coil	Rm	70.00	9.00	630.00
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**4430.11**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 8.5 cmm (diesel)	Hour	3.00	300.50	901.50
	Fuel / Energy charges	Hour	3.00	1480.40	4441.20
2	Jack hammers 2 Nos.	Hour	6.00	22.90	137.40
	Fuel / Energy charges	Hour	6.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**5480.10**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	3.00	339.50	1018.50
2	Crew for Jack hammer	Hour	6.00	530.40	3182.40
3	work inspector	Day	1.00	805.00	805.00
4	Blaster	Day	0.50	805.00	402.50
5	Helper blaster	Day	0.50	650.00	325.00
6	Crowbarman	Day	6.00	650.00	3900.00
7	Stone breaker	Day	3.00	650.00	1950.00
8	mazdoor	Day	51.00	605.00	30855.00
	Total cost of Labour			Rs:	**42438.40**

labour component/unit qty		424.40	
Add contractor's profit and overhead charges	13.615%	57.80	
labour component/unit qty (including contractor's profit)		**482.20**	

ABSTRACT:

A. Cost of Materials			Rs:	4430.11
B. Hire charges of Machinery			Rs:	5480.10
C. Cost of Labour			Rs:	42438.40
		Total	Rs:	52348.61
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	7127.26
Total cost for	100.00 cum		Rs:	**59475.87**
Rate per cum	(A+B+C+D)/100.0		Rs.	**594.80**

IRR-CCDW-1-6

Excavation **in hard rock of all toughness by blasting** including boulders **above 1.2 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing the excavated rock neatly in specified dump area or stack yard as directed etc., complete with **initial lead upto 50 m and initial lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **100.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Explosive small dia (Kelvex-220)	kg	32.00	95.00	3040.00
2	Ordinary detonator	No.	8.00	11.00	88.00
3	Electric detonator	No.	104.00	14.00	1456.00
4	Detonating fuse coil	Rm	150.00	9.00	1350.00
5	Use rate of air hose 2 Nos.	Hour	16.00	12.69	203.00
6	Use rate of drill rod	Rm	98.30	41.19	4048.65
	Reconditioning charges @	10%			404.86

	Total cost of Materials	Rs: **10590.51**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 8.5 cmm (diesel)	Hour	8.00	300.50	2404.00
	Fuel / Energy charges	Hour	8.00	1480.40	11843.20
2	Jack hammer 2 Nos	Hour	16.00	22.90	366.40
	Fuel / Energy charges	Hour	16.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**14613.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	8.00	339.50	2716.00
2	Crew for Jack hammer	Hour	16.00	530.40	8486.40
3	Blaster licensed	Day	1.00	805.00	805.00
4	Helper blasting	Day	1.00	650.00	650.00
5	work inspector	Day	1.00	805.00	805.00
6	Crowbarman	Day	6.00	650.00	3900.00
7	Stone breaker	Day	6.00	650.00	3900.00
8	mazdoor	Day	51.00	605.00	30855.00
	Total cost of Labour			Rs:	**52117.40**

labour component/unit qty		521.20
Add contractor's profit and overhead charges	13.615%	71.00
labour component/unit qty (including contractor's profit)		**592.20**

ABSTRACT:

A. Cost of Materials			Rs:	10590.51
B. Hire charges of Machinery			Rs:	14613.60
C. Cost of Labour			Rs:	52117.40
		Total	Rs:	77321.51
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	10527.32
Total cost for	100.00 cum		Rs:	**87848.83**
Rate per cum	(A+B+C+D)/100.0		Rs.	**878.50**

IRR-CCDW-1-7

Excavation **in hard rock with blasting prohibited** for foundations of canal cross drainage and other a ppurtenant structures and placing the excavated rock neatly in or stack yard as directed etc., complete with specified dump area **initial lead upto 50 m and initial lift upto 3 m.**

Hard Rock (blasting prohibited) **(Data adopted from MORTH)**

DATA:

Mecha **RATE ANALYSIS** Unit **10.00** cum

A. MATERIALS:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
	NIL		0.00	0.00	**0.00**
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air Compressor 250 cft with 2 leads of pneumatic breaker	hour	6.00	265.20	1591.20
	Fuel/ Energy charges	hour	6.00	1184.30	7105.80
	Total hire charges of Machinery			Rs:	**8697.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	day	0.20	805.00	161.00
2	Mazdoor	day	5.00	605.00	3025.00
3	crew for compressor	hour	6.00	339.50	2037.00
	Total cost of Labour			Rs:	**5223.00**

labour component/unit qty		522.30
Add contractor's profit and overhead charges	13.615%	71.10
labour component/unit qty (including contractor's profit)		**593.40**

Abstract

A. Cost of Materials		Rs	0.00
B. Hire charges of Machinery		Rs	8697.00
C. Cost of Labour		Rs	5223.00
	Total	Rs	13920.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1895.21
Total cost for	10.00 cum	Rs:	**15815.21**
Rate per cum	(A+B+C+D)/10.0	Rs.	**1581.50**

IRR-CCDW-1-8

Providing and **fixing 25 mm dia 2.50 m long cold twisted deformed steel anchor rods** with 1.25 m length driven into 32 mm dia hole drilled in bed rock and remaining length embedded in concrete / masonry including cost of all materials, machinery, labour, drilling and cleaning hole, driving anchor rod, grouting hole with thick cement slurry etc., complete with initial lead **upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **10.00** Nos.

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for grouting	kg	5.00	5.10	25.50
2	25 mm dia steel	kg	101.00	57.00	5757.00
3	Use rate of 32 mm dia drill rod	Rm	12.50	41.19	514.83
	Reconditioning charges @	10%			51.48
4	Use rate of air hose	Hour	2.00	12.69	25.38
	Total cost of Materials			Rs:	**6374.19**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 8.5 cmm (diesel)	Hour	1.00	300.50	300.50
	Fuel / Energy charges	Hour	1.00	1480.40	1480.40
2	Jack hammer 2 Nos	Hour	2.00	22.90	45.80
	Fuel / Energy charges	Hour	2.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**1826.70**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	1.00	339.50	339.50
2	Crew for Jack hammer	Hour	2.00	530.40	1060.80
3	Mason Class-II	Day	0.50	650.00	325.00
4	Bar bender	Day	0.50	805.00	402.50
5	work inspector	Day	0.50	805.00	402.50
6	mazdoor	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**3135.30**

labour component/unit qty 313.50

Add contractor's profit and overhead charges	13.615%	42.70		
labour component/unit qty (including contractor's profit)		**356.20**		

ABSTRACT:

A. Cost of Materials			Rs:	6374.19
B. Hire charges of Machinery			Rs:	1826.70
C. Cost of Labour			Rs:	3135.30
		Total	Rs:	11336.19
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1543.42
Total cost for	10.00 Nos.		Rs:	**12879.61**
Rate per Each	(A+B+C+D)/10.0		Rs.	**1288.00**

STEEL AND CEMENT CONCRETE WORKS :

IRR-CCDW-2

IRR-CCDW-2-1

Providing, fabricating and **placing in position reinforcement steel bars for RCC works** including cleaning, straightening, cutting, bending, hooking, lapping, welding wherever required,tying with 1.25 mm dia soft annealed steel wire, including cost of all materials, machinery, labour etc., **complete with initial lead upto 50 and all lifts.**

RATE ANALYSIS UNIT : **1000.00** kg

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rein.Steel with 5 % wastage	kg	1050.00	57.00	59850.00
2	Binding wire 1.25 mm dia	kg	8.00	86.00	688.00
3	Sundries (chairs / spacers etc)	LS	3.00	29.00	87.00
	Total cost of Materials			Rs:	**60625.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Bar bender	Day	6.00	805.00	4830.00
3	mazdoor	Day	11.00	605.00	6655.00
	Total cost of Labour			Rs:	**12290.00**

labour component/unit qty		12.30		
Add contractor's profit and overhead charges	13.615%	1.70		
labour component/unit qty (including contractor's profit)		**14.00**		

ABSTRACT:

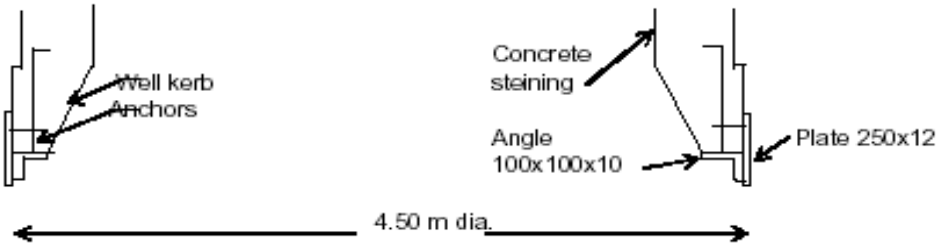
A. Cost of Materials			Rs:	60625.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	12290.00
		Total	Rs:	72915.00
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	9927.38
Total cost for	1000.00 kg		Rs:	**82842.38**
Rate per Kg	(A+B+C+D)/1000.0		Rs.	**82.80**

IRR-CCDW-2-2

Providing, fabricating and **fixing in position structural steel cutting edge** consisting of 100 x 100 x 10 mm angle and 250 x 12 mm plate for sinking for sinking 4.50 m outer diameter

foundation wells foundation wells including cost of all materials, machinery, labour, bending, welding, providing anchors etc., complete **with initial lead upto 50 m and all lifts.**

DATA:



DETAILS OF FOUNDATION WELL CUTTING EDGE

RATE ANALYSIS UNIT : **615.00** kg

DATA: **A. MATERIALS:**

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Str.Steel angle with 2.5 % wastage	kg	216.10	60.00	12966.00
2	Str.Steel plate with 2.5 % wastage	kg	342.30	61.00	20880.30
3	Steel for anchors	kg	56.60	57.00	3226.20
4	Acetyline gas	cum	0.50	463.00	231.50
5	Oxygen gas	cum	1.50	63.00	94.50
6	Welding electrodes	Nos	300.00	15.00	4500.00
7	Sundries	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**42043.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Bending machine	Hour	8.00	45.20	361.60
	Fuel / Energy charges	Hour	8.00	161.10	1288.80
2	Welding set	Hour	30.00	17.20	516.00
	Fuel / Energy charges	Hour	30.00	128.90	3867.00
3	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**6323.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Str. Steel fabricator	Day	2.00	815.00	1630.00
2	Welder / Gas cutter	Day	5.00	720.00	3600.00
3	work inspector	Day	1.00	805.00	805.00
4	mazdoor	Day	5.00	605.00	3025.00
	Total cost of Labour			Rs:	**9060.00**

labour component/unit qty		14.70	
Add contractor's profit and overhead charges	13.615%	2.00	
labour component/unit qty (including contractor's profit)		**16.70**	

ABSTRACT:

A. Cost of Materials			Rs:	42043.50
B. Hire charges of Machinery			Rs:	6323.40
C. Cost of Labour			Rs:	9060.00
		Total	Rs:	57426.90
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	7818.67
Total cost for	615.00 kg		Rs:	**65245.57**

Rate per kg (A+B+C+D)/615.0 Rs. **106.10**

IRR-CCDW-2-3

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N /sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

(Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

Data **A. MATERIALS:** **RATE ANALYSIS** UNIT : **15.38** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3998.80	5.10	20393.88
	Cement for incidentals @ 3 kg / cum	kg	46.14	5.10	235.31
2	Coarse aggregate 40-20 mm	cum	6.92	1030.00	7128.63
	Coarse aggregate 20-10 mm	cum	4.15	1144.00	4750.57
	Coarse aggregate 10 mm below	cum	2.77	879.00	2433.42
3	Fine aggregate (Un-Screened)	cum	6.15	723.00	4447.90
4	Super Plasticizer	kg	16.00	73.00	1167.65
5	Use rate of shuttering for 40 uses	sqm	15.38	346.20	5324.56
	Scaffolding @ of shuttering	10%			532.46
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**46428.89**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**2874.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
5	work inspector	Day	1.00	805.00	805.00
6	Mason Class-I	Day	1.00	680.00	680.00
7	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	15.38	605.00	9304.90
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
8	Labour cost for shuttering	sqm	15.38	149.25	2295.47
	Labour cost for scaffolding @	10%			229.55
	Total cost of Labour			Rs:	**30078.21**

labour component/unit qty		1955.70			
Add contractor's profit and overhead charges	13.615%	266.30			
labour component/unit qty (including contractor's profit)		**2222.00**			

ABSTRACT:

A. Cost of Materials			Rs:	46428.89
B. Hire charges of Machinery			Rs:	2874.05
C. Cost of Labour			Rs:	30078.21
		Total	Rs:	79381.15
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		10807.74
Total cost for	15.38 cum	Rs:		**90188.89**
Rate per cum	(A+B+C+D)/15.38	Rs.		**5864.00**

IRR-CCDW-2-4

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

(Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)

DATA: **RATE ANALYSIS** UNIT : **14.40** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3600.00	5.10	18360.00
	Cement for incidentals @ 3 kg / cum	kg	43.20	5.10	220.32
2	Coarse aggregate 80-40 mm	cum	4.94	625.00	3087.00
	Coarse aggregate 40-20 mm	cum	4.23	1030.00	4360.61
	Coarse aggregate 20-10 mm	cum	2.82	1144.00	3228.83
	Coarse aggregate 10 mm below	cum	2.12	879.00	1860.67
3	Fine aggregate (Un-Screened)	cum	5.04	723.00	3643.92
4	Super Plasticizer	kg	14.40	73.00	1051.20
5	Use rate of shuttering for 40 uses	sqm	14.40	346.20	4985.29
	Scaffolding @ of shuttering	10%			498.53
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**41310.85**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	8.00	102.10	816.80
	Fuel / Energy charges	Hour	8.00	263.20	2105.60
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 60 mm dia (petrol)	Hour	8.00	7.10	56.80
	Fuel / Energy charges	Hour	8.00	44.30	354.40
	Total hire charges of Machinery			Rs:	**4362.85**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60

2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
5	Mason Class-I	Day	1.00	680.00	680.00
6	work inspector	Day	1.00	805.00	805.00
7	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	14.40	605.00	8712.00
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
8	Labour cost for shuttering	sqm	14.40	149.25	2149.20
	Labour cost for scaffolding @	10%			214.92
	Total cost of Labour			Rs:	**29324.42**

labour component/unit qty		2036.40
Add contractor's profit and overhead charges	13.615%	277.30
labour component/unit qty (including contractor's profit)		**2313.70**

ABSTRACT:

A. Cost of Materials			Rs:	41310.85
B. Hire charges of Machinery			Rs:	4362.85
C. Cost of Labour			Rs:	29324.42
		Total	Rs:	74998.12
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		10210.99
Total cost for	14.40 cum	Rs:		**85209.11**
Rate per cum	(A+B+C+D)/14.40	Rs.		**5917.30**

IRR-CCDW-2-5

Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)**

DATA: **RATE ANALYSIS** UNIT : **16.36** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3599.20	5.10	18355.92
	Cement for incidentals @ 3 kg / cum	kg	49.08	5.10	250.31
2	Coarse aggregate 40-20 mm	cum	7.36	1030.00	7582.86
	Coarse aggregate 20-10 mm	cum	4.42	1144.00	5053.28
	Coarse aggregate 10 mm below	cum	2.94	879.00	2588.48
3	Fine aggregate (Un-Screened)	cum	6.54	723.00	4731.31
4	Super Plasticizer	kg	14.40	73.00	1050.97
5	Use rate of shuttering for 40 uses	sqm	16.36	346.20	5663.84
	Scaffolding @ of shuttering	10%			566.38
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**45857.84**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**2874.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Vibrator	Hour	8.00	256.40	2051.20
5	Mason Class-I	Day	1.00	680.00	680.00
6	work inspector	Day	1.00	805.00	805.00
7	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	16.36	605.00	9897.80
8	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
9	Labour cost for shuttering	sqm	16.36	149.25	2441.73
	Total cost of Labour			Rs:	**30587.83**

labour component/unit qty		1869.70
Add contractor's profit and overhead charges	13.615%	254.60
labour component/unit qty (including contractor's profit)		**2124.30**

ABSTRACT:

A. Cost of Materials			Rs:	45857.84
B. Hire charges of Machinery			Rs:	2874.05
C. Cost of Labour			Rs:	30587.83
		Total	Rs:	79319.72
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	10799.38
Total cost for	16.36 cum		Rs:	**90119.10**
Rate per cum	(A+B+C+D)/16.36		Rs.	**5508.50**

IRR-CCDW-2-6

Providing and laying **insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts. (Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)**

DATA: **RATE ANALYSIS** UNIT : **14.55** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3201.00	5.10	16325.10
	Cement for incidentals @ 3 kg / cum	kg	43.65	5.10	222.62

2	Coarse aggregate 80-40 mm	cum	4.99	625.00	3119.16
	Coarse aggregate 40-20 mm	cum	4.28	1030.00	4406.03
	Coarse aggregate 20-10 mm	cum	2.85	1144.00	3262.46
	Coarse aggregate 10 mm below	cum	2.14	879.00	1880.05
3	Fine aggregate (Un-Screened)	cum	5.09	723.00	3681.88
4	Super Plasticizer	kg	12.80	73.00	934.69
5	Use rate of shuttering for 40 uses	sqm	14.55	346.20	5037.22
	Scaffolding @ of shuttering	10%			503.72
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**39387.42**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	8.00	102.10	816.80
	Fuel / Energy charges	Hour	8.00	263.20	2105.60
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 60 mm dia (petrol)	Hour	8.00	7.10	56.80
	Fuel / Energy charges	Hour	8.00	44.30	354.40
	Total hire charges of Machinery			Rs:	**4362.85**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Vibrator	Hour	8.00	256.40	2051.20
5	Mason Class-I	Day	1.00	680.00	680.00
6	work inspector	Day	1.00	805.00	805.00
7	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	14.55	605.00	8802.75
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
8	Labour cost for shuttering	sqm	14.55	149.25	2171.59
	Labour cost for scaffolding @	10%			217.16
	Total cost of Labour			Rs:	**29439.80**

labour component/unit qty		2023.40	
Add contractor's profit and overhead charges	13.615%	275.50	
labour component/unit qty (including contractor's profit)		**2298.90**	

ABSTRACT:

A. Cost of Materials			Rs:	39387.42
B. Hire charges of Machinery			Rs:	4362.85
C. Cost of Labour			Rs:	29439.80
		Total	Rs:	73190.06
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	9964.83
Total cost for	14.55 cum		Rs:	**83154.89**

Rate per cum (A+B+C+D)/14.55 Rs. **5715.10**

IRR-CCDW-2-7

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates for foundation filling including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**
(Cement content : 220 kg / cum) (Cement content: 310 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS** UNIT : **14.19** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4398.90	5.10	22434.39
	Cement for incidentals @ 3 kg / cum	kg	42.57	5.10	217.11
2	Coarse aggregate 40-20 mm	cum	6.39	1030.00	6577.07
	Coarse aggregate 20-10 mm	cum	3.83	1144.00	4383.01
	Coarse aggregate 10 mm below	cum	2.55	879.00	2245.14
3	Fine aggregate (Un-Screened)	cum	5.68	723.00	4103.75
4	Super Plasticizer	kg	17.60	73.00	1284.48
5	Use rate of shuttering for 40 uses	sqm	14.19	346.20	4912.58
	Scaffolding @ of shuttering	10%			491.26
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**46663.28**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**2874.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Vibrator	Hour	8.00	256.40	2051.20
5	Mason Class-I	Day	1.00	680.00	680.00
6	work inspector	Day	1.00	805.00	805.00
7	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	14.19	605.00	8584.95
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
8	Labour cost for shuttering	sqm	14.19	149.25	2117.86
	Labour cost for scaffolding @	10%			211.79
	Total cost of Labour			Rs:	**29162.89**

labour component/unit qty		2055.20			
Add contractor's profit and overhead charges	13.615%	279.80			
labour component/unit qty (including contractor's profit)		**2335.00**			

ABSTRACT:

A. Cost of Materials			Rs:	46663.28
B. Hire charges of Machinery			Rs:	2874.05
C. Cost of Labour			Rs:	29162.89
		Total	Rs:	78700.22
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	10715.04
Total cost for	14.19 cum		Rs:	**89415.26**
Rate per cum	(A+B+C+D)/14.19		Rs.	**6301.30**

IRR-CCDW-2-8

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

(Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **15.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4800.00	5.10	24480.00
	Cement for incidentals @ 5 kg / cum	kg	75.00	5.10	382.50
2	Coarse aggregate 40-20 mm	cum	6.75	1030.00	6952.50
	Coarse aggregate 20-10 mm	cum	4.05	1144.00	4633.20
	Coarse aggregate 10 mm below	cum	2.70	879.00	2373.30
3	Fine aggregate (Un-Screened)	cum	6.00	723.00	4338.00
4	Super Plasticizer	kg	19.20	73.00	1401.60
5	Use rate of shuttering	sqm	30.00	346.20	10386.01
	Scaffolding @ of shuttering	25%			2596.50
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**57558.11**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**2874.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Vibrator	Hour	8.00	256.40	2051.20
5	Mason Class-I	Day	1.00	680.00	680.00

6	work inspector	Day	1.00	805.00	805.00
7	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying including lifting	Day	4.00	605.00	2420.00
	for conveying concrete	Day	15.00	605.00	9075.00
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
8	Labour cost for shuttering	sqm	15.00	149.25	2238.75
	Labour cost for scaffolding @	25%			559.69
	Total cost of Labour			Rs:	**30726.74**

labour component/unit qty 2048.40

Add contractor's profit and overhead charges 13.615% 278.90

labour component/unit qty (including contractor's profit) **2327.30**

ABSTRACT:

A. Cost of Materials			Rs:	57558.11
B. Hire charges of Machinery			Rs:	2874.05
C. Cost of Labour			Rs:	30726.74
		Total	Rs:	91158.90
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	12411.28
Total cost for	15.00 cum		Rs:	**103570.18**
Rate per cum	(A+B+C+D)/15.0		Rs.	**6904.70**

IRR-CCDW-2-9

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

(Cement content: 280 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS** UNIT : **15.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4200.00	5.10	21420.00
	Cement for incidentals @ 5 kg / cum	kg	75.00	5.10	382.50
2	Coarse aggregate 40-20 mm	cum	6.75	1030.00	6952.50
	Coarse aggregate 20-10 mm	cum	4.05	1144.00	4633.20
	Coarse aggregate 10 mm below	cum	2.70	879.00	2373.30
3	Fine aggregate (Un-Screened)	cum	6.00	723.00	4338.00
4	Super Plasticizer	kg	16.80	73.00	1226.40
5	Use rate of shuttering	sqm	30.00	225.53	6765.87
	Scaffolding @ of shuttering	25%			1691.47
6	Sundries	LS	0.50	20.00	10.00
	Total cost of Materials			Rs:	**49793.24**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80

3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**2874.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Vibrator	Hour	8.00	256.40	2051.20
5	Mason Class-I	Day	1.00	680.00	680.00
6	work inspector	Day	1.00	805.00	805.00
7	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying including lifting	Day	4.00	605.00	2420.00
	for conveying concrete	Day	15.00	605.00	9075.00
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
8	Labour cost for shuttering	sqm	15.00	79.80	1197.00
	Labour cost for scaffolding @	25%			299.25
	Total cost of Labour			Rs:	**29424.55**

labour component/unit qty		1961.64
Add contractor's profit and overhead charges	13.615%	267.08
labour component/unit qty (including contractor's profit)		**2228.71**

ABSTRACT:

A. Cost of Materials			Rs:	49793.24
B. Hire charges of Machinery			Rs:	2874.05
C. Cost of Labour			Rs:	29424.55
		Total	Rs:	82091.84
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		11176.80368
Total cost for	15.00 cum	Rs:		**93268.64**
Rate per cum	(A+B+C+D)/15.0	Rs.		**6218.00**

IRR-CCDW-2-10

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**
(Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80	5.10	26524.08
	Cement for incidentals @ 5 kg / cum	kg	78.80	5.10	401.88
2	Coarse aggregate 20-10 mm	cum	8.20	1144.00	9375.31
	Coarse aggregate 10 mm below	cum	4.41	879.00	3878.85
3	Fine aggregate (Un-Screened)	cum	7.09	723.00	5127.52

4	Super Plasticizer	kg	20.80	73.00	1518.63
5	Use rate of shuttering	sqm	31.52	346.20	10912.24
	Scaffolding @ of shuttering	25%			2728.06
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**60481.06**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**2874.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Vibrator	Hour	8.00	256.40	2051.20
5	Mason Class-I	Day	1.00	680.00	680.00
6	work inspector	Day	1.00	805.00	805.00
7	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	4.00	605.00	2420.00
	for conveying concrete	Day	15.76	605.00	9534.80
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
8	Labour cost for shuttering	sqm	31.52	149.25	4704.36
	Labour cost for scaffolding @	25%			1176.09
	Total cost of Labour			Rs:	**34268.55**

labour component/unit qty		2174.40	
Add contractor's profit and overhead charges	13.615%	296.00	
labour component/unit qty (including contractor's profit)		**2470.40**	

ABSTRACT:

A. Cost of Materials			Rs:	60481.06
B. Hire charges of Machinery			Rs:	2874.05
C. Cost of Labour			Rs:	34268.55
		Total	Rs:	97623.66
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		13291.46
Total cost for	15.76 cum	Rs:		**110915.12**
Rate per cum	(A+B+C+D)/15.76	Rs.		**7037.80**

IRR-CCDW-2-11

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials,

machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

(Cement content: 280 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **15.71** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4398.80	5.10	22433.88
	Cement for incidentals @ 5 kg / cum	kg	78.55	5.10	400.61
2	Coarse aggregate 20-10 mm	cum	8.17	1144.00	9345.56
	Coarse aggregate 10 mm below	cum	4.40	879.00	3866.55
3	Fine aggregate (Un-Screened)	cum	7.07	723.00	5111.25
4	Super Plasticizer	kg	17.60	73.00	1284.45
5	Use rate of shuttering for 40 uses	sqm	31.42	346.20	10877.62
	Scaffolding @ of shuttering	25%			2719.40
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**56053.81**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**2874.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Vibrator	Hour	8.00	256.40	2051.20
5	Mason Class-I	Day	1.00	680.00	680.00
6	work inspector	Day	1.00	805.00	805.00
7	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	4.00	605.00	2420.00
	for conveying concrete	Day	15.71	605.00	9504.55
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
8	Labour cost for shuttering	sqm	31.42	149.25	4689.44
	Labour cost for scaffolding @	25%			1172.36
	Total cost of Labour			Rs:	**34219.64**

labour component/unit qty		2178.20
Add contractor's profit and overhead charges	13.615%	296.60
labour component/unit qty (including contractor's profit)		**2474.80**

ABSTRACT:

A. Cost of Materials			Rs:	56053.81
B. Hire charges of Machinery			Rs:	2874.05
C. Cost of Labour			Rs:	34219.64
		Total	Rs:	93147.51
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		12682.03
Total cost for	15.71 cum	Rs:		**105829.54**
Rate per cum	(A+B+C+D)/15.71	Rs.		**6736.40**

IRR-CCDW-2-12

Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for sub-structure / super- structure works** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**
(Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **18.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3960.00	5.10	20196.00
	Cement for incidentals @ 5 kg / cum	kg	90.00	5.10	459.00
2	Coarse aggregate 20-10 mm	cum	9.36	1144.00	10707.84
	Coarse aggregate 10 mm below	cum	5.04	879.00	4430.16
3	Fine aggregate (Un-Screened)	cum	8.10	723.00	5856.30
4	Super Plasticizer	kg	15.84	73.00	1156.32
5	Use rate of shuttering for 40 uses	sqm	36.00	346.20	12463.21
	Scaffolding @ of shuttering	25%			3115.80
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**58399.14**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
4	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**2874.05**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Crew for Vibrator	Hour	8.00	256.40	2051.20
5	Mason Class-I	Day	1.00	680.00	680.00
6	work inspector	Day	1.00	805.00	805.00
7	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00

	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	4.00	605.00	2420.00
	for conveying concrete	Day	18.00	605.00	10890.00
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
8	Labour cost for shuttering	sqm	36.00	149.25	5373.00
	Labour cost for scaffolding @	25%			1343.25
	Total cost of Labour			Rs:	**36459.55**

labour component/unit qty 2025.50

Add contractor's profit and overhead charges 13.615% 275.80

labour component/unit qty (including contractor's profit) **2301.30**

ABSTRACT:

A. Cost of Materials		Rs:	58399.14
B. Hire charges of Machinery		Rs:	2874.05
C. Cost of Labour		Rs:	36459.55
	Total	Rs:	97732.74
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	13306.31
Total cost for	18.00 cum	Rs:	**111039.05**
Rate per cum	(A+B+C+D)/18.0	Rs.	**6168.80**

IRR-CCDW-2-13

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well kerb** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: If water is to be brought from other place add only lead charges @ 500 ltr / cum.
(Cement content: 350 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **15.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5250.00	5.10	26775.00
2	Coarse aggregate 20-10 mm	cum	7.80	1144.00	8923.20
	Coarse aggregate 10 mm below	cum	4.20	879.00	3691.80
3	Fine aggregate (Un-Screened)	cum	6.75	723.00	4880.25
4	Super Plasticizer	kg	21.00	73.00	1533.00
5	Use rate of curved shutter (40 uses)	sqm	82.50	380.82	31417.68
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**77235.43**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	15.00	605.00	9075.00
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	82.50	149.25	12313.13
	Total cost of Labour			Rs:	**39357.53**

labour component/unit qty		2623.80
Add contractor's profit and overhead charges	13.615%	357.20
labour component/unit qty (including contractor's profit)		**2981.00**

ABSTRACT:

A. Cost of Materials		Rs:	77235.43
B. Hire charges of Machinery		Rs:	1915.55
C. Cost of Labour		Rs:	39357.53
	Total	Rs:	118508.51
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	16134.93
Total cost for	15.00 cum	Rs:	**134643.44**
Rate per cum	(A+B+C+D)/15.0	Rs.	**8976.20**

IRR-CCDW-2-14

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for well steining** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement),
CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS** UNIT : **15.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4800.00	5.10	24480.00
	Cement for incidentals @ 2 kg / cum	kg	30.00	5.10	153.00
2	Coarse aggregate 40-20 mm	cum	6.75	1030.00	6952.50
	Coarse aggregate 20-10 mm	cum	4.05	1144.00	4633.20
	Coarse aggregate 10 mm below	cum	2.70	879.00	2373.30
3	Fine aggregate (Un-Screened)	cum	6.00	723.00	4338.00
4	Super Plasticizer	kg	19.20	73.00	1401.60
5	Use rate of curved shutter (40 uses)	sqm	60.00	380.82	22849.23
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**67195.33**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80

2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	15.00	605.00	9075.00
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	60.00	149.25	8955.00
	Total cost of Labour			Rs:	**35999.40**

labour component/unit qty		2400.00
Add contractor's profit and overhead charges	13.615%	326.80
labour component/unit qty (including contractor's profit)		**2726.80**

ABSTRACT:

A. Cost of Materials			Rs:	67195.33
B. Hire charges of Machinery			Rs:	1915.55
C. Cost of Labour			Rs:	35999.40
		Total	Rs:	105110.28
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	14310.76
Total cost for	15.00 cum		Rs:	**119421.04**
Rate per cum	(A+B+C+D)/15.0		Rs.	**7961.40**

IRR-CCDW-2-15

Providing and **laying insitu M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well bottom plug by tremie or skip box method** including cost of all materials, machinery, labour, batching, mixing, placing in position as per detailed specifications etc., **complete with initial lead upto 50 m and all lifts. (Cement content : 350 kg / cum)**
(Cement content: 350 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **14.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4900.00	5.10	24990.00
2	Coarse aggregate 20-10 mm	cum	7.28	1144.00	8328.32
	Coarse aggregate 10 mm below	cum	3.92	879.00	3445.68
3	Fine aggregate (Un-Screened)	cum	6.30	723.00	4554.90
4	Super Plasticizer	kg	19.60	73.00	1430.80
			TOTAL	Rs:	42749.70
	Add for tremie arrangement @		1%	Rs:	427.50
	Total cost of Materials			Rs:	**43177.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Sundries(Hopper etc.)	LS	5	29.00	145.00
	Total hire charges of Machinery			Rs:	**1769.35**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Fitter shuttering	Day	1.00	650.00	650.00
4	work inspector	Day	1.00	805.00	805.00
5	mazdoor				
	for erecting/ dismantling tremie	Day	4.00	605.00	2420.00
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for feeding tremie hopper	Day	2.00	605.00	1210.00
	for conveying concrete	Day	16.00	605.00	9680.00
	Total cost of Labour			Rs:	**26778.20**

labour component/unit qty		1912.70
Add contractor's profit and overhead charges	13.615%	260.40
labour component/unit qty (including contractor's profit)		**2173.10**

ABSTRACT:

A. Cost of Materials		Rs:	43177.20
B. Hire charges of Machinery		Rs:	1769.35
C. Cost of Labour		Rs:	26778.20
	Total	Rs:	71724.75
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	9765.32
Total cost for	14.00 cum	Rs:	**81490.07**
Rate per cum	(A+B+C+D)/14.0	Rs.	**5820.70**

IRR-CCDW-2-16

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for well top plug** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 280 kg / cum with use of super plasticiser(0.4% by wt. of cement),
CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **14.29** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4001.20	5.10	20406.12
2	Coarse aggregate 40-20 mm	cum	6.43	1030.00	6623.42
	Coarse aggregate 20-10 mm	cum	3.86	1144.00	4413.90
	Coarse aggregate 10 mm below	cum	2.57	879.00	2260.96
3	Fine aggregate (Un-Screened)	cum	5.72	723.00	4132.67
4	Super Plasticizer	kg	16.00	73.00	1168.35
	Total cost of Materials			Rs:	**39005.41**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	14.29	605.00	8645.45
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
	Total cost of Labour			Rs:	**26614.85**

labour component/unit qty		1862.50
Add contractor's profit and overhead charges	13.615%	253.60
labour component/unit qty (including contractor's profit)		**2116.10**

ABSTRACT:

A. Cost of Materials		Rs:	39005.41
B. Hire charges of Machinery		Rs:	1915.55
C. Cost of Labour		Rs:	26614.85
	Total	Rs:	67535.81
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	9195
Total cost for	14.29 cum	Rs:	**76730.81**
Rate per cum	(A+B+C+D)/14.29	Rs.	**5369.50**

IRR-CCDW-2-17

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for well cap** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80	5.10	26524.08
	Cement for incidentals @ 5 kg / cum	kg	78.80	5.10	401.88
2	Coarse aggregate 20-10 mm	cum	8.20	1144.00	9375.31
	Coarse aggregate 10 mm below	cum	4.41	879.00	3878.85
3	Fine aggregate (Un-Screened)	cum	7.09	723.00	5127.52

4	Super Plasticizer	kg	20.80	73.00	1518.63
5	Use rate of curved shutter (40 uses)	sqm	15.76	346.20	5456.12
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**52296.89**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	15.76	605.00	9534.80
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	15.76	149.25	2352.18
	Total cost of Labour			Rs:	**29856.38**

labour component/unit qty		1894.40
Add contractor's profit and overhead charges	13.615%	257.90
labour component/unit qty (including contractor's profit)		**2152.30**

ABSTRACT:

A. Cost of Materials			Rs:	52296.89
B. Hire charges of Machinery			Rs:	1915.55
C. Cost of Labour			Rs:	29856.38
		Total	Rs:	84068.82
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	11445.97
Total cost for	15.76 cum		Rs:	**95514.79**
Rate per cum	(A+B+C+D)/15.76		Rs.	**6060.60**

IRR-CCDW-2-18

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement),
CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)

DATA: **RATE ANALYSIS** UNIT : **14.40** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate	Amount

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3600.00	5.10	18360.00
	Cement for incidentals @ 5 kg / cum	kg	72.00	5.10	367.20
2	Coarse aggregate 80-40 mm	cum	4.94	625.00	3087.00
	Coarse aggregate 40-20 mm	cum	4.23	1030.00	4360.61
	Coarse aggregate 20-10 mm	cum	2.82	1144.00	3228.83
	Coarse aggregate 10 mm below	cum	2.12	879.00	1860.67
3	Fine aggregate (Un-Screened)	cum	5.04	723.00	3643.92
4	Super Plasticizer	kg	14.40	73.00	1051.20
5	Use rate of shuttering for 40 uses	sqm	39.60	363.51	14395.01
6	Scaffolding @ of shuttering	30%			4318.50
	Total cost of Materials			Rs:	**54672.94**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	8.00	102.10	816.80
	Fuel / Energy charges	Hour	8.00	263.20	2105.60
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 60 mm dia (petrol)	Hour	8.00	7.10	56.80
	Fuel / Energy charges	Hour	8.00	44.30	354.40
	Total hire charges of Machinery			Rs:	**3404.35**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	6.00	605.00	3630.00
	for conveying concrete	Day	14.40	605.00	8712.00
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	39.60	149.25	5910.30
	Labour cost for scaffolding @	30%			1773.09
	Total cost of Labour			Rs:	**36179.79**

labour component/unit qty		2512.50	
Add contractor's profit and overhead charges	13.615%	342.10	
labour component/unit qty (including contractor's profit)		**2854.60**	

ABSTRACT:

A. Cost of Materials			Rs:	54672.94
B. Hire charges of Machinery			Rs:	3404.35
C. Cost of Labour			Rs:	36179.79
		Total	Rs:	94257.08
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	12833.1
Total cost for	14.40 cum		Rs:	**107090.18**
Rate per cum	(A+B+C+D)/14.40		Rs.	**7436.80**

IRR-CCDW-2-19

Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded

aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)

DATA: **RATE ANALYSIS** UNIT : **14.55** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3201.00	5.10	16325.10
	Cement for incidentals @ 5 kg / cum	kg	72.75	5.10	371.03
2	Coarse aggregate 80-40 mm	cum	4.99	625.00	3119.16
	Coarse aggregate 40-20 mm	cum	4.28	1030.00	4406.03
	Coarse aggregate 20-10 mm	cum	2.85	1144.00	3262.46
	Coarse aggregate 10 mm below	cum	2.14	879.00	1880.05
3	Fine aggregate (Un-Screened)	cum	5.09	723.00	3681.88
4	Super Plasticizer	kg	12.80	73.00	934.69
5	Use rate ofshuttering for 40 uses	sqm	40.01	363.51	14544.96
6	Scaffolding @ of shuttering	30%			4363.49
	Total cost of Materials			Rs:	**52888.84**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	8.00	102.10	816.80
	Fuel / Energy charges	Hour	8.00	263.20	2105.60
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 60 mm dia (petrol)	Hour	8.00	7.10	56.80
	Fuel / Energy charges	Hour	8.00	44.30	354.40
	Total hire charges of Machinery			Rs:	**3404.35**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	6.00	605.00	3630.00
	for conveying concrete	Day	14.55	605.00	8802.75
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	40.01	149.25	5971.87
	Labour cost for scaffolding @	30%			1791.56
	Total cost of Labour			Rs:	**36350.58**
labour component/unit qty			2498.30		
Add contractor's profit and overhead charges		13.615%	340.10		

labour component/unit qty (including contractor's profit)		**2838.40**		
ABSTRACT:				
A. Cost of Materials			Rs:	52888.84
B. Hire charges of Machinery			Rs:	3404.35
C. Cost of Labour			Rs:	36350.58
		Total	Rs:	92643.76
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	12613.45
Total cost for	14.55 cum		Rs:	**105257.21**
Rate per cum	(A+B+C+D)/14.55		Rs.	**7234.20**

IRR-CCDW-2-20

Providing and **laying insitu vibrated M-10** (28 days cube compressive strength not less than 10 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for piers and abutments** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 220 kg / cum with use of super plasticiser(0.4% by wt. of cement),
CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **RATE ANALYSIS** UNIT : **16.36** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3599.20	5.10	18355.92
	Cement for incidentals @ 5 kg / cum	kg	81.80	5.10	417.18
2	Coarse aggregate 40-20 mm	cum	7.36	1030.00	7582.86
	Coarse aggregate 20-10 mm	cum	4.42	1144.00	5053.28
	Coarse aggregate 10 mm below	cum	2.94	879.00	2588.48
3	Fine aggregate (Un-Screened)	cum	6.54	723.00	4731.31
4	Super Plasticizer	kg	14.40	73.00	1050.97
5	Use rate of shuttering for 40 uses	sqm	44.99	363.51	16354.33
6	Scaffolding @ of shuttering	30%			4906.30
	Total cost of Materials			Rs:	**61040.63**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00

	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	5.00	605.00	3025.00
	for conveying concrete	Day	16.36	605.00	9897.80
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	44.99	149.25	6714.76
	Labour cost for scaffolding @	30%			2014.43
	Total cost of Labour			Rs:	**37806.38**

labour component/unit qty		2310.90	
Add contractor's profit and overhead charges	13.615%	314.60	
labour component/unit qty (including contractor's profit)		**2625.50**	

ABSTRACT:

A. Cost of Materials			Rs:	61040.63
B. Hire charges of Machinery			Rs:	1915.55
C. Cost of Labour			Rs:	37806.38
		Total	Rs:	100762.56
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	13718.82
Total cost for	16.36 cum		Rs:	**114481.38**
Rate per cum	(A+B+C+D)/16.36		Rs.	**6997.60**

IRR-CCDW-2-21

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **for cantiliver / counterfort retaining walls** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**
(Cement content: 320 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

Note: If water is to be brought from other place add only lead charges @ 500 ltr / cum.

DATA: **RATE ANALYSIS** UNIT : **16.25** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.00	5.10	26520.00
	Cement for incidentals @ 5 kg / cum	kg	81.25	5.10	414.38
2	Coarse aggregate 40-20 mm	cum	7.31	1030.00	7531.88
	Coarse aggregate 20-10 mm	cum	4.39	1144.00	5019.30
	Coarse aggregate 10 mm below	cum	2.93	879.00	2571.08
3	Fine aggregate (Un-Screened)	cum	6.50	723.00	4699.50
4	Super Plasticizer	kg	20.80	73.00	1518.40
5	Use rate of shuttering for 40 uses	sqm	52.81	346.20	18283.71
	Scaffolding @ of shuttering	25%			4570.93
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**71143.66**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40

	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	5.00	605.00	3025.00
	for conveying concrete	Day	16.25	605.00	9831.25
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	52.81	149.25	7882.27
	Labour cost for scaffolding @	25%			1970.57
	Total cost of Labour			Rs:	**38863.48**

labour component/unit qty		2391.60
Add contractor's profit and overhead charges	13.615%	325.60
labour component/unit qty (including contractor's profit)		**2717.20**

ABSTRACT:

A. Cost of Materials			Rs:	71143.66
B. Hire charges of Machinery			Rs:	1915.55
C. Cost of Labour			Rs:	38863.48
		Total	Rs:	111922.69
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	15238.27
Total cost for	16.25 cum		Rs:	**127160.96**
Rate per cum	(A+B+C+D)/16.25		Rs.	**7825.30**

IRR-CCDW-2-22

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard, graded aggregates **with placing and sinking plums of size 150 to 80 mm upto 15 percent for gravity type retaining walls / piers / abutments** etc., including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc.,complete **with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement),
CA : 0.765cum, Blending Ratio of CA--50:30:20, FA : 0.34 cum,
plums of size 150 to 80 mm : 0.25cum)

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **18.09** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4703.40	5.10	23987.34
	Cement for incidentals @ 4 kg / cum	kg	72.36	5.10	369.04
2	Coarse aggregate 40-20 mm	cum	6.92	1030.00	7127.01
	Coarse aggregate 20-10 mm	cum	4.15	1144.00	4749.49
	Coarse aggregate 10 mm below	cum	2.77	879.00	2432.87
3	Plums of size 150 to 80 mm	cum	4.52	619.00	2799.43
4	Fine aggregate (Un-Screened)	cum	6.15	723.00	4446.88
5	Super Plasticizer	kg	18.81	73.00	1373.39

	Use rate of shuttering for 40 uses	sqm	49.75	346.20	17222.60
6	Scaffolding @ of shuttering	30%			5166.78
	Total cost of Materials			Rs:	**69674.84**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 60 mm dia (petrol)	Hour	8.00	7.10	56.80
	Fuel / Energy charges	Hour	8.00	44.30	354.40
	Total hire charges of Machinery			Rs:	**2035.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	5.00	605.00	3025.00
	for placing plums	Day	2.00	605.00	1210.00
	for conveying concrete	Day	15.38	605.00	9304.90
	for conveying plums	Day	2.00	605.00	1210.00
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour for shuttering	sqm	49.75	149.25	7424.81
	Labour for scaffolding @	30%			2227.44
	Total cost of Labour			Rs:	**40556.56**

labour component/unit qty		2241.90	
Add contractor's profit and overhead charges	13.615%	305.20	
labour component/unit qty (including contractor's profit)		**2547.10**	

ABSTRACT:

A. Cost of Materials			Rs:	69674.84
B. Hire charges of Machinery			Rs:	2035.55
C. Cost of Labour			Rs:	40556.56
		Total	Rs:	112266.94
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	15285.14
Total cost for	18.09 cum		Rs:	**127552.08**
Rate per cum	(A+B+C+D)/18.09		Rs.	**7051.00**

IRR-CCDW-2-23

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than 15 N / sq mm) grade cement concrete using **40 mm down size** approved, clean, hard,graded aggregates **for cast in-situ pipes** including cost of all materials, machinery, labour, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 260 kg / cum with use of super plasticiser(0.4% by wt. of cement),
CA : 0.90cum, Blending Ratio of CA--50:30:20, FA : 0.40 cum)

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **15.38** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3998.80	5.10	20393.88
	Cement for incidentals @ 5 kg / cum	kg	76.90	5.10	392.19
2	Coarse aggregate 40-20 mm	cum	6.92	1030.00	7128.63
	Coarse aggregate 20-10 mm	cum	4.15	1144.00	4750.57
	Coarse aggregate 10 mm below	cum	2.77	879.00	2433.42
3	Fine aggregate (Un-Screened)	cum	6.15	723.00	4447.90
4	Super Plasticizer	kg	16.00	73.00	1167.65
5	Use rate of shuttering for 40 uses	sqm	30.76	363.51	11181.58
	Scaffolding @ of shuttering	15%			1677.24
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**53587.56**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	15.38	605.00	9304.90
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour for shuttering	sqm	30.76	149.25	4590.93
	Labour for scaffolding @	15%			688.64
	Total cost of Labour			Rs:	**32553.87**

labour component/unit qty		2116.60	
Add contractor's profit and overhead charges	13.615%	288.20	
labour component/unit qty (including contractor's profit)		**2404.80**	

ABSTRACT:

A. Cost of Materials			Rs:	53587.56
B. Hire charges of Machinery			Rs:	1915.55
C. Cost of Labour			Rs:	32553.87
		Total	Rs:	88056.98
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	11988.96
Total cost for	15.38 cum		Rs:	**100045.94**
Rate per cum	(A+B+C+D)/15.38		Rs.	**6504.90**

IRR-CCDW-2-24

Providing and **laying insitu vibrated M-15** (28 days cube compressive strength not less than

15 N / sq mm) grade cement concrete using **80 mm down size** approved, clean, hard, graded aggregates **for cast in-situ pipes** including cost of all materials, labour, machinery, formwork, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 250 kg / cum with use of super plasticiser(0.4% by wt. of cement),
CA : 0.98cum, Blending Ratio of CA--35:30:20:15, FA : 0.35 cum)

DATA: **RATE ANALYSIS** UNIT : **14.40** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	3600.00	5.10	18360.00
	Cement for incidentals @ 5 kg / cum	kg	72.00	5.10	367.20
2	Coarse aggregate 80-40 mm	cum	4.94	625.00	3087.00
	Coarse aggregate 40-20 mm	cum	4.23	1030.00	4360.61
	Coarse aggregate 20-10 mm	cum	2.82	1144.00	3228.83
	Coarse aggregate 10 mm below	cum	2.12	879.00	1860.67
3	Fine aggregate (Un-Screened)	cum	5.04	723.00	3643.92
4	Super Plasticizer	kg	14.40	73.00	1051.20
5	Use rate of shuttering for 40 uses	sqm	28.80	363.51	10469.10
6	Scaffolding @ of shuttering	15%			1570.36
	Total cost of Materials			Rs:	**47998.89**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 600/400 ltr (diesel)	Hour	8.00	102.10	816.80
	Fuel / Energy charges	Hour	8.00	263.20	2105.60
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 60 mm dia (petrol)	Hour	8.00	7.10	56.80
	Fuel / Energy charges	Hour	8.00	44.30	354.40
	Total hire charges of Machinery			Rs:	**3404.35**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	14.40	605.00	8712.00
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	28.80	149.25	4298.40
	Labour cost for scaffolding @	15%			644.76
	Total cost of Labour			Rs:	**31624.56**

labour component/unit qty 2196.20

Add contractor's profit and overhead charges	13.615%	299.00		
labour component/unit qty (including contractor's profit)		**2495.20**		

ABSTRACT:

A. Cost of Materials		Rs:	47998.89
B. Hire charges of Machinery		Rs:	3404.35
C. Cost of Labour		Rs:	31624.56
	Total	Rs:	83027.80
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	11304.23
Total cost for	14.40 cum	Rs:	**94332.03**
Rate per cum	(A+B+C+D)/14.40	Rs.	**6550.80**

IRR-CCDW-2-25

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for deck slab & kerb** including cost of all materials,machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80	5.10	26524.08
	Cement for incidentals @ 5 kg / cum	kg	78.80	5.10	401.88
2	Coarse aggregate 20-10 mm	cum	8.20	1144.00	9375.31
	Coarse aggregate 10 mm below	cum	4.41	879.00	3878.85
3	Fine aggregate (Un-Screened)	cum	7.09	723.00	5127.52
4	Super Plasticizer	kg	20.80	73.00	1518.63
5	Use rate of shuttering for 30 uses	sqm	39.40	422.60	16650.46
	Scaffolding @ of shuttering	250%			41626.15
6	Sundries	LS	1.00	29.00	29.00
	Total cost of Materials			Rs:	**105131.88**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	2.00	680.00	1360.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				

	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	4.00	605.00	2420.00
	for conveying concrete	Day	15.76	605.00	9534.80
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	39.40	149.25	5880.45
	Labour cost for scaffolding @	250%			14701.13
	Total cost of Labour			Rs:	**49370.78**

labour component/unit qty 3132.70

Add contractor's profit and overhead charges 13.615% 426.50

labour component/unit qty (including contractor's profit) **3559.20**

ABSTRACT:

A. Cost of Materials		Rs:	105131.88
B. Hire charges of Machinery		Rs:	1915.55
C. Cost of Labour		Rs:	49370.78
	Total	Rs:	156418.20
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	21296.34
Total cost for	15.76 cum	Rs:	**177714.54**
Rate per cum	(A+B+C+D)/15.76	Rs.	**11276.30**

IRR-CCDW-2-26

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for slabs for small culverts span upto 2 mts** including cost of all materials,machinery, labour, formwork,scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**

(Cement content: 330 kg / cum,

CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80	5.10	26524.08
	Cement for incidentals @ 5 kg / cum	kg	78.80	5.10	401.88
2	Coarse aggregate 20-10 mm	cum	8.20	1144.00	9375.31
	Coarse aggregate 10 mm below	cum	4.41	879.00	3878.85
3	Fine aggregate (Un-Screened)	cum	7.09	723.00	5127.52
5	Use rate of shuttering for 30 uses	sqm	39.40	346.20	13640.30
	Scaffolding @ of shuttering	100%			13640.30
6	Sundries	LS	1.00	29.00	29.00
	Total cost of Materials			Rs:	**72617.23**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	4.00	605.00	2420.00
	for conveying concrete	Day	15.76	605.00	9534.80
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
6	Labour cost for shuttering	sqm	39.40	149.25	5880.45
	Labour cost for scaffolding @	100%			5880.45
	Total cost of Labour			Rs:	**39065.10**

labour component/unit qty		2478.75
Add contractor's profit and overhead charges	13.615%	337.48
labour component/unit qty (including contractor's profit)		**2816.23**

ABSTRACT:

A. Cost of Materials			Rs:	72617.23
B. Hire charges of Machinery			Rs:	1915.55
C. Cost of Labour			Rs:	39065.10
		Total	Rs:	113597.88
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		15466.35082
Total cost for	15.76 cum	Rs:		**129064.23**
Rate per cum	(A+B+C+D)/15.76	Rs.		**8189.00**

IRR-CCDW-2-27

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for slabs for small culverts span upto 2-4 mts** including cost of all materials,machinery, labour, formwork,scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**

(Cement content: 330 kg / cum,

CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80	5.10	26524.08
	Cement for incidentals @ 5 kg / cum	kg	78.80	5.10	401.88
2	Coarse aggregate 20-10 mm	cum	8.20	1144.00	9375.31
	Coarse aggregate 10 mm below	cum	4.41	879.00	3878.85
3	Fine aggregate (Un-Screened)	cum	7.09	723.00	5127.52
4	Use rate of shuttering for 30 uses	sqm	39.40	346.20	13640.30
	Scaffolding @ of shuttering	200%			27280.59
5	Sundries	LS	1.00	29.00	29.00
	Total cost of Materials			Rs:	**86257.52**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80

	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	4.00	605.00	2420.00
	for conveying concrete	Day	15.76	605.00	9534.80
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
6	Labour cost for shuttering	sqm	39.40	149.25	5880.45
	Labour cost for scaffolding @	200%			11760.90
	Total cost of Labour			Rs:	**44945.55**

labour component/unit qty		2851.88
Add contractor's profit and overhead charges	13.615%	388.28
labour component/unit qty (including contractor's profit)		**3240.16**

ABSTRACT:

A. Cost of Materials			Rs:	86257.52
B. Hire charges of Machinery			Rs:	1915.55
C. Cost of Labour			Rs:	44945.55
		Total	Rs:	133118.62
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	18124.10025
Total cost for	15.76 cum		Rs:	**151242.72**
Rate per cum	(A+B+C+D)/15.76		Rs.	**9597.00**

IRR-CCDW-2-28

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for columns and beams** including cost of all materials, labour, machinery, formwork, scaffolding, cleaning, batching, mixing, placing in position, levelling, vibrating, **finishing, curing etc.,complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum.**
(Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80	5.10	26524.08
	Cement for incidentals @ 5 kg / cum	kg	78.80	5.10	401.88
2	Coarse aggregate 20-10 mm	cum	8.20	1144.00	9375.31
	Coarse aggregate 10 mm below	cum	4.41	879.00	3878.85
3	Fine aggregate (Un-Screened)	cum	7.09	723.00	5127.52

4	Super Plasticizer	kg	20.80	73.00	1518.63
5	Use rate of shuttering	sqm	78.80	346.20	27280.59
	Scaffolding @ of shuttering	50%			13640.30
6	Sundries	LS	1.00	29.00	29.00
	Total cost of Materials			Rs:	**87776.15**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	3.00	605.00	1815.00
	for conveying concrete	Day	15.76	605.00	9534.80
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	78.80	149.25	11760.90
	Labour cost for scaffolding @	50%			5880.45
	Total cost of Labour			Rs:	**45145.55**

labour component/unit qty		2864.60	
Add contractor's profit and overhead charges	13.615%	390.00	
labour component/unit qty (including contractor's profit)		**3254.60**	

ABSTRACT:

A. Cost of Materials			Rs:	87776.15
B. Hire charges of Machinery			Rs:	1915.55
C. Cost of Labour			Rs:	45145.55
		Total	Rs:	134837.25
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	18358.09
Total cost for	15.76 cum		Rs:	**153195.34**
Rate per cum	(A+B+C+D)/15.76		Rs.	**9720.50**

IRR-CCDW-2-29

Providing and **laying insitu M- 20** (28 days cube compressive strength not less than 20 N / sqmm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for wearing coat** including cost of all materials, machinery, labour, formwork, cleaning, batching, mixing, placing in position in alternate panels, levelling, compacting, finishing, curing, packing joints with asphalt mortar etc., complete **with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum. to the data (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement),**

CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80	5.10	26524.08
	Cement for incidentals @ 5 kg / cum	kg	78.80	5.10	401.88
2	Coarse aggregate 20-10 mm	cum	8.20	1144.00	9375.31
	Coarse aggregate 10 mm below	cum	4.41	879.00	3878.85
3	Fine aggregate (Un-Screened)	cum	7.09	723.00	5127.52
4	Super Plasticizer	kg	20.80	73.00	1518.63
5	Use rate of shuttering	sqm	7.88	346.20	2728.06
6	Sundries (asphalt mortar etc)	LS	5.00	29.00	145.00
	Total cost of Materials			Rs:	**49699.33**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (petrol)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	2.00	680.00	1360.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	4.00	605.00	2420.00
	for conveying concrete	Day	15.76	605.00	9534.80
	for cleaning/ washing/ curing	Day	2.00	605.00	1210.00
7	Labour cost for shuttering	sqm	7.88	149.25	1176.09
	Total cost of Labour			Rs:	**30570.29**

labour component/unit qty		1939.70
Add contractor's profit and overhead charges	13.615%	264.10
labour component/unit qty (including contractor's profit)		**2203.80**

ABSTRACT:

A. Cost of Materials			Rs:	49699.33
B. Hire charges of Machinery			Rs:	1915.55
C. Cost of Labour			Rs:	30570.29
		Total	Rs:	82185.17
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	11189.51
Total cost for	15.76 cum		Rs:	**93374.68**
Rate per cum	(A+B+C+D)/15.76		Rs.	**5924.80**

IRR-CCDW-2-30

Providing and **laying insitu vibrated M-20** (28 days cube compressive strength not less than 20 N / sq mm) grade cement concrete using **20 mm down size** approved, clean, hard, graded aggregates **for troughs** including cost of all materials, machinery, labour, formwork, scaffolding, cleaning, batching, mixing, placing in position,levelling, vibrating, finishing, curing **etc., complete with initial lead upto 50 m and all lifts.**

Note: **If water is to be brought from other place add only lead charges @ 500 ltr / cum. to the data (Cement content: 330 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)**

DATA: **RATE ANALYSIS** UNIT : **15.76** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	5200.80	5.10	26524.08
	Cement for incidentals @ 5 kg / cum	kg	78.80	5.10	401.88
2	Coarse aggregate 20-10 mm	cum	8.20	1144.00	9375.31
	Coarse aggregate 10 mm below	cum	4.41	879.00	3878.85
3	Fine aggregate (Un-Screened)	cum	7.09	723.00	5127.52
4	Super Plasticizer	kg	20.80	73.00	1518.63
5	Use rate of shuttering for 40 uses	sqm	70.92	346.20	24552.53
	Scaffolding @ of shuttering	25%			6138.13
6	Sundries	LS	0.50	29.00	14.50
	Total cost of Materials			Rs:	**77531.43**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Needle vibrator 40 mm dia (diesel)	Hour	8.00	6.80	54.40
	Fuel / Energy charges	Hour	8.00	29.60	236.80
	Total hire charges of Machinery			Rs:	**1915.55**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Needle vibrator	Hour	8.00	256.40	2051.20
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying	Day	5.00	605.00	3025.00
	for conveying concrete	Day	15.76	605.00	9534.80
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering	sqm	70.92	149.25	10584.81
	Labour cost for scaffolding @	25%			2646.20
	Total cost of Labour			Rs:	**41945.21**

labour component/unit qty 2661.50

Add contractor's profit and overhead charges	13.615%	362.40
labour component/unit qty (including contractor's profit)		**3023.90**

ABSTRACT:

A. Cost of Materials			Rs:	77531.43
B. Hire charges of Machinery			Rs:	1915.55
C. Cost of Labour			Rs:	41945.21
		Total	Rs:	121392.20
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	16527.55
Total cost for	15.76 cum		Rs:	**137919.75**
Rate per cum	(A+B+C+D)/15.76		Rs.	**8751.30**

IRR-CCDW-3 **FOUNDATION WELL SINKING WORKS :**

IRR-CCDW-3-1

Sinking RCC wells vertically for foundation of piers and abutments in all kinds of soil, sand and soft rock by approved well sinking method including cost of all materials, machinery, labour, kent - ledge arrangements, disposal of excavated material as directed etc., complete **with lead upto 50 m for disposal of excavated material.(diameter of well 6.00m)**

DATA: Unit = Running meter

Taking output = 1m

diameter of well = 6.00m

(i) Depth below bed level upto 3.0m

Rate of sinking = 0.50 m /hour

DATA: **RATE ANALYSIS** UNIT : **1.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	Hour	2.00	667.50	1335.00
	Fuel Charges	Hour	2.00	497.40	994.80
2	Crew Charges	Hour	2.00	278.90	557.80
3	Consumables in sinking @ 10% of machinery charges				288.76
	Total hire charges of Machinery			Rs:	**3176.36**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mate (Mason Cl- ll)	day	0.12	650.00	78.00
2	Sinker (skilled)	day	1.00	680.00	680.00
3	Sinking helper (Semi skilled)	day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**1968.00**

labour component/unit qty		1969.00
Contractor's profit and overhead charges	13.615%	344.00
labour component/unit qty(including contractor's profit)		**2313.00**

ABSTRACT:

A. Cost of Materials	Rs:	0.00	
B. Hire charges of Machinery	Rs:	3176.36	

C. Cost of Labour			Rs:	1968.00
		Total	Rs:	5144.36
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		700.4
Total cost for	1.00 Rm	Rs:		**5844.76**
Rate per Rm	(A+B+C+D)/1	Rs.		**5844.80**

(ii) Beyond 3m and upto 10m depth

Rate of sinking = 0.33 m per hour.

DATA: **RATE ANALYSIS** UNIT : **1.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire & running charges of crane with grab bucket of 0.75 cum capacity and accessories.	Hour	3.00	667.50	2002.50
	Fuel Charges	Hour	3.00	497.40	1492.20
2	Crew Charges	Hour	3.00	278.90	836.70
3	Consumables in sinking @ 10% of machinery charges				433.14
	Total hire charges of Machinery			Rs:	**4764.54**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mate (Mason Cl- ll)	day	0.15	650.00	97.50
2	Sinker (skilled)	day	1.25	680.00	850.00
3	Sinking helper (Semi skilled)	day	2.50	605.00	1512.50
	Total cost of Labour			Rs:	**2460.00**

labour component/unit qty		3296.70
Contractor's profit and overhead charges	13.615%	448.80
labour component/unit qty(including contractor's profit)		**3745.50**

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	4764.54
C. Cost of Labour			Rs:	2460.00
		Total	Rs:	7224.54
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		983.62
Total cost for	1.00 Rm	Rs:		**8208.16**
Rate per Rm	(A+B+C+D)/1	Rs.		**8208.20**

IRR-CCDW-3-2

Filling foundation wells with sand in layers of 25 to 30 cm and compacting by watering, ramming as directed including cost of all materials, machinery, labour etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **15.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand for filling	cum	15.75	723.00	11387.25

	Total cost of Materials	Rs:	**11387.25**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25	805.00	201.25
2	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**2621.25**

labour component/unit qty		174.80
Add contractor's profit and overhead charges	13.615%	23.80
labour component/unit qty (including contractor's profit)		**198.60**

ABSTRACT:

A. Cost of Materials		Rs:	11387.25
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	2621.25
	Total	Rs:	14008.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1907.26
Total cost for	15.00 cum	Rs:	**15915.76**
Rate per Cum	(A+B+C+D)/15.0	Rs.	**1061.10**

IRR-CCDW-4 **MASONRY WORKS :**

IRR-CCDW-4-1

Providing and **constructing un-coursed rubble stone masonry** with approved stones in **CM 1 : 4** proportion **for sub-structure portions of return walls / abutments** etc., including cost of all materials, machinery, labour, scaffolding, cleaning, packing cement mortar, wedging stone chips, curing etc., complete **with initial lead upto 50 m and all lifts.**

(Cement content: 143 kg / cum of masonry, rubble stones : 0.85cum, FA : 0.40 cum, Stone Chips : 0.15 cum)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1430.00	5.10	7293.00
2	Rubble stones	cum	8.50	473.00	4020.50
3	Stone chips	cum	1.50	619.00	928.50
4	Sand (Screened)	cum	4.00	952.00	3808.00
	Total cost of Materials			Rs:	**16050.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
	Total hire charges of Machinery			Rs:	**1029.25**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Water tanker	Hour	1.00	278.90	278.90
2	Crew for Pump	Hour	0.50	177.20	88.60
3	work inspector	Day	1.00	805.00	805.00
4	Mason Class-I	Day	1.00	680.00	680.00
5	Mason Class-II	Day	2.00	650.00	1300.00
6	mazdoor				
	for conveying rubble stones	Day	4.00	605.00	2420.00
	for preparing mortar	Day	2.00	605.00	1210.00
	for loading mortar pans	Day	1.00	605.00	605.00
	for laying & packing mortar	Day	3.00	605.00	1815.00
	for washing rubble / finishing / curing	Day	1.00	605.00	605.00
	for conveying mortar / chips	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**12227.50**

labour component/unit qty		1222.80
Add contractor's profit and overhead charges	13.615%	166.50
labour component/unit qty (including contractor's profit)		**1389.30**

ABSTRACT:

A. Cost of Materials			Rs:	16050.00
B. Hire charges of Machinery			Rs:	1029.25
C. Cost of Labour			Rs:	12227.50
		Total	Rs:	29306.75
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:		3990.11
Total cost for	10.00 cum	Rs:		**33296.86**
Rate per cum	(A+B+C+D)/10.0	Rs.		**3329.70**

IRR-CCDW-4-2

Providing and **constructing un-coursed rubble stone masonry** with approved stones in **CM 1 : 4** proportion **for super-structure portions of return walls / abutments** etc., including cost of all materials, machinery, labour, scaffolding, cleaning, packing cement mortar, wedging stone chips, curing etc., complete **with initial lead upto 50 m and all lifts.**

(Cement content: 143 kg / cum of masonry, rubble stones : 0.85cum, FA : 0.40 cum, Stone Chips : 0.15 cum)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1430.00	5.10	7293.00
2	Rubble stones	cum	8.50	473.00	4020.50
3	Stone chips	cum	1.50	619.00	928.50
4	Sand (Screened)	cum	4.00	952.00	3808.00
			TOTAL	Rs:	16050.00
	Add for scaffolding @		2.5%	Rs:	401.25
	Total cost of Materials			Rs:	**16451.25**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80

Total hire charges of Machinery	Rs:	**1029.25**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Water tanker	Hour	1.00	278.90	278.90
2	Crew for Pump	Hour	0.50	177.20	88.60
3	work inspector	Day	1.00	805.00	805.00
4	Mason Class-I	Day	1.00	680.00	680.00
5	Mason Class-II	Day	2.00	650.00	1300.00
6	mazdoor				
	for conveying rubble stones	Day	4.00	605.00	2420.00
	for preparing mortar	Day	2.00	605.00	1210.00
	for loading mortar pans	Day	1.00	605.00	605.00
	for laying & packing mortar	Day	3.00	605.00	1815.00
	for washing rubble / finishing / curing	Day	1.00	605.00	605.00
	for conveying mortar / chips	Day	4.00	605.00	2420.00
			TOTAL	Rs:	12227.50
	Add for labour for scaffolding @		2.5%	Rs:	305.69
	Total cost of Labour			Rs:	**12533.19**

labour component/unit qty		1253.30
Add contractor's profit and overhead charges	13.615%	170.60
labour component/unit qty (including contractor's profit)		**1423.90**

ABSTRACT:

A. Cost of Materials			Rs:	16451.25
B. Hire charges of Machinery			Rs:	1029.25
C. Cost of Labour			Rs:	12533.19
		Total	Rs:	30013.69
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	4086.36
Total cost for	10.00 cum		Rs:	**34100.05**
Rate per cum	(A+B+C+D)/10.0		Rs.	**3410.00**

IRR-CCDW-4-3

Providing and **constructing coursed rubble masonry second sort** in **CM 1:4** proportion with stones from approved source including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, finishing, curing etc., complete with **initial lead upto 50 m and initial lift upto 3m.**

(Cement content: 133 kg / cum of masonry, rubble stones : 0.45cum, FA : 0.35 cum, Stone Chips : 0.15 cum, Khandki stones 25 x 25 x 30 cm : 180 Nos, Header stones 25 x 25x 45 cm : 60 Nos)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1330.00	5.10	6783.00
2	Header stones 25x25x45 cm	Nos	60.00	59.00	3540.00
3	Khandki stones 25x25x30 cm	Nos	180.00	27.00	4860.00
4	Rubble stones	cum	4.50	473.00	2128.50
5	Stone chips	cum	1.50	619.00	928.50
6	Sand (Screened)	cum	3.50	952.00	3332.00
			TOTAL	Rs:	21572.00
	Add for scaffolding materials @		2.5%	Rs:	539.30
	Total cost of Materials			Rs:	**22111.30**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
	Total hire charges of Machinery			Rs:	**1029.25**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Water tanker	Hour	1.00	278.90	278.90
2	Crew for Pump	Hour	0.50	177.20	88.60
3	work inspector	Day	1.00	805.00	805.00
4	Stone chiseller Cl -II	Day	3.00	650.00	1950.00
5	Mason Class-I	Day	1.00	680.00	680.00
6	Mason Class-II	Day	2.00	650.00	1300.00
7	mazdoor				
	for conveying stones / rubble	Day	4.00	605.00	2420.00
	for preparation of mortar	Day	3.00	605.00	1815.00
	for loading mortar pans	Day	1.00	605.00	605.00
	for laying & packing mortar	Day	3.00	605.00	1815.00
	for washing rubble / finishing / curing	Day	1.00	605.00	605.00
	for conveying mortar / chips	Day	2.00	605.00	1210.00
			TOTAL	Rs:	13572.50
	Add for labour for scaffolding @		2.5%	Rs:	339.31
	Total cost of Labour			Rs:	**13911.81**

labour component/unit qty		1391.20
Add contractor's profit and overhead charges	13.615%	189.40
labour component/unit qty (including contractor's profit)		**1580.60**

ABSTRACT:

A. Cost of Materials			Rs:	22111.30
B. Hire charges of Machinery			Rs:	1029.25
C. Cost of Labour			Rs:	13911.81
		Total	Rs:	37052.36
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	5044.68
Total cost for	10.00 cum		Rs:	**42097.04**
Rate per cum	(A+B+C+D)/10.0		Rs.	**4209.70**

IRR-CCDW-4-4

Providing and **constructing coursed rubble masonry first sort** in **CM 1:4** proportion with stones from approved source including cost of all materials, machinery, labour, scaffolding, ramps, cleaning, packing mortar, wedging stone chips, finishing, curing etc., complete with **initial lead upto 50 m and initial lift upto 3 m.**

(Cement content: 133 kg / cum of masonry, rubble stones : 0.45cum, FA : 0.35 cum, Stone Chips : 0.15 cum, Khandki stones 25 x 25 x 30 cm : 180 Nos, Header stones 25 x 25x 45 cm : 60 Nos)

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1330.00	5.10	6783.00

2	Header stones 25x25x45 cm	Nos	60.00	59.00	3540.00
3	Khandki stones 25x25x30 cm	Nos	180.00	27.00	4860.00
4	Rubble stones	cum	4.50	473.00	2128.50
5	Stone chips	cum	1.50	619.00	928.50
6	Sand (Screened)	cum	3.50	952.00	3332.00
			TOTAL	Rs:	21572.00
	Add for scaffolding materials @		2.5%	Rs:	539.30
	Total cost of Materials			Rs:	**22111.30**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
	Total hire charges of Machinery			Rs:	**1029.25**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Water tanker	Hour	1.00	278.90	278.90
2	Crew for Pump	Hour	0.50	177.20	88.60
3	work inspector	Day	1.00	805.00	805.00
4	Stone chiseller Cl -II	Day	6.00	650.00	3900.00
5	Mason Class-I	Day	1.00	680.00	680.00
6	Mason Class-II	Day	2.00	650.00	1300.00
7	mazdoor				
8	for conveying rubble/ stones	Day	4.00	605.00	2420.00
	for preparation of mortar	Day	3.00	605.00	1815.00
	for loading mortar pans	Day	1.00	605.00	605.00
	for laying & packing mortar	Day	3.00	605.00	1815.00
	for washing rubble / finishing / curing	Day	1.00	605.00	605.00
	for conveying mortar / chips	Day	2.00	605.00	1210.00
			TOTAL	Rs:	15522.50
	Add for labour for scaffolding @		2.5%	Rs:	388.06
	Total cost of Labour			Rs:	**15910.56**

labour component/unit qty		1591.10
Add contractor's profit and overhead charges	13.615%	216.60
labour component/unit qty (including contractor's profit)		**1807.70**

ABSTRACT:

A. Cost of Materials		Rs:	22111.30
B. Hire charges of Machinery		Rs:	1029.25
C. Cost of Labour		Rs:	15910.56
	Total	Rs:	39051.11
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	5316.81
Total cost for	10.00 cum	Rs:	**44367.92**
Rate per cum	(A+B+C+D)/10.0	Rs.	**4436.80**

IRR-CCDW-4-5

Providing cement mortar pointing to coursed rubble face stone masonry in CM 1 : 2 proportion by volume including raking and cleaning joints for 50 mm depth, pressing cement mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	456.00	5.10	2325.60
2	Sand (Screened)	cum	0.75	952.00	714.00
			TOTAL	Rs:	3039.60
	Add for scaffolding / ramps etc @		2.5%	Rs:	75.99
	Total cost of Materials			Rs:	**3115.59**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	10.00	680.00	6800.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	10.00	605.00	6050.00
	Total cost of Labour			Rs:	**13655.00**

labour component/unit qty		136.60
Add contractor's profit and overhead charges	13.615%	18.60
labour component/unit qty (including contractor's profit)		**155.20**

ABSTRACT:

A. Cost of Materials			Rs:	3115.59
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	13655.00
		Total	Rs:	16770.59
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	2283.32
Total cost for	100.00 sqm		Rs:	**19053.91**
Rate pe Sqm	(A+B+C+D)/100.0		Rs.	**190.50**

IRR-CCDW-4-6

Providing cement mortar pointing to coursed rubble face stone masonry in CM 1 : 3 proportion by volume including raking and cleaning joints for 50 mm depth, pressing cement mortar into joints, cost of all materials, labour, scaffolding, finishing, curing etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	322.00	5.10	1642.20
2	Sand (Screened)	cum	0.75	952.00	714.00
			TOTAL	Rs:	2356.20
	Add for scaffolding / ramps etc @		2.5%	Rs:	58.91
	Total cost of Materials			Rs:	**2415.11**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00

	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	10.00	680.00	6800.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	10.00	605.00	6050.00
	Total cost of Labour			Rs:	**13655.00**

labour component/unit qty		136.60
Add contractor's profit and overhead charges	13.615%	18.60
labour component/unit qty (including contractor's profit)		**155.20**

ABSTRACT:

A. Cost of Materials			Rs:	2415.11
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	13655.00
		Total	Rs:	16070.11
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	2187.94
Total cost for	100.00 sqm		Rs:	**18258.05**
Rate per Sqm	(A+B+C+D)/100.0		Rs.	**182.60**

IRR-CCDW-4-7

Providing 12 mm thick plastering in **cement mortar 1:3** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	629.00	5.10	3207.90
2	Sand (Screened)	cum	1.32	952.00	1256.64
			TOTAL	Rs:	4464.54
	Add for scaffolding / ramps etc @		2.5%	Rs:	111.61
	Total cost of Materials			Rs:	**4576.15**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	10.00	680.00	6800.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	20.00	605.00	12100.00
	Total cost of Labour			Rs:	**19705.00**

labour component/unit qty		197.10
Add contractor's profit and overhead charges	13.615%	26.80
labour component/unit qty (including contractor's profit)		**223.90**

ABSTRACT:

A. Cost of Materials			Rs:	4576.15
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	19705.00
		Total	Rs:	24281.15
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3305.88
Total cost for	100.00 sqm		Rs:	**27587.03**
Rate per Sqm	(A+B+C+D)/100.0		Rs.	**275.90**

IRR-CCDW-4-8

Providing 12 mm thick plastering in **cement mortar 1:4** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	472.00	5.10	2407.20
2	Sand (Screened)	cum	1.32	952.00	1256.64
			TOTAL	Rs:	3663.84
	Add for scaffolding / ramps etc @		2.5%	Rs:	91.60
	Total cost of Materials			Rs:	**3755.44**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	10.00	680.00	6800.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	20.00	605.00	12100.00
	Total cost of Labour			Rs:	**19705.00**

labour component/unit qty		197.10
Add contractor's profit and overhead charges	13.615%	26.80
labour component/unit qty (including contractor's profit)		**223.90**

ABSTRACT:

A. Cost of Materials			Rs:	3755.44
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	19705.00
		Total	Rs:	23460.44
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3194.14
Total cost for	100.00 sqm		Rs:	**26654.58**
Rate per Sqm	(A+B+C+D)/100.0		Rs.	**266.50**

IRR-CCDW-4-9

Providing 20 mm thick plastering in **cement mortar 1:3** proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate	Amount

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	1050.00	5.10	5355.00
2	Sand (Screened)	cum	2.20	952.00	2094.40
			TOTAL	Rs:	7449.40
	Add for scaffolding / ramps etc @		2.5%	Rs:	186.24
	Total cost of Materials			Rs:	**7635.64**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	15.00	680.00	10200.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	25.00	605.00	15125.00
	Total cost of Labour			Rs:	**26130.00**

labour component/unit qty		261.30	
Add contractor's profit and overhead charges	13.615%	35.60	
labour component/unit qty (including contractor's profit)		**296.90**	

ABSTRACT:

A. Cost of Materials			Rs:	7635.64
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	26130.00
		Total	Rs:	33765.64
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	4597.19
Total cost for	100.00 sqm		Rs:	**38362.83**
Rate per sqm	(A+B+C+D)/100.0		Rs.	**383.60**

IRR-CCDW-4-10

Providing 20 mm thick plastering in cement mortar 1:4 proportion by volume including cost of all materials, machinery, labour, scaffolding, cleaning joints, smooth finishing, curing etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	788.00	5.10	4018.80
2	Sand (Screened)	cum	2.20	952.00	2094.40
			TOTAL	Rs:	6113.20
	Add for scaffolding / ramps etc @		2.5%	Rs:	152.83
	Total cost of Materials			Rs:	**6266.03**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- I	Day	15.00	680.00	10200.00

2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	25.00	605.00	15125.00
	Total cost of Labour			Rs:	**26130.00**

labour component/unit qty 261.30
Add contractor's profit and overhead charges 13.615% 35.60
labour component/unit qty (including contractor's profit) **296.90**

ABSTRACT:

A. Cost of Materials		Rs:	6266.03
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	26130.00
	Total	Rs:	32396.03
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	4410.72
Total cost for	100.00 sqm	Rs:	**36806.75**
Rate p sqm	(A+B+C+D)/100.0	Rs.	**368.10**

IRR-CCDW-5 **COPING & RAILING WORKS :**

IRR-CCDW-5-1

Providing and **fixing 10 cm thick roughly dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing to joints in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm,
Burnt stone slab 10 cm thick 1.05 sqm/ sqm)

DATA: **RATE ANALYSIS** UNIT : **10.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	75.00	5.10	382.50
2	Sand (Screened)	cum	0.30	952.00	285.60
3	Burnt stone slab 10 cm thick	sqm	10.50	359.00	3769.50
	Total cost of Materials			Rs:	**4437.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	1.00	650.00	650.00
2	Stone chiseller Cl- II	Day	1.00	650.00	650.00
3	work inspector	Day	0.50	805.00	402.50
4	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**2912.50**

labour component/unit qty 291.30
Add contractor's profit and overhead charges 13.615% 39.70
labour component/unit qty (including contractor's profit) **331.00**

ABSTRACT:

A. Cost of Materials			Rs:	4437.60
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2912.50
		Total	Rs:	7350.10
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1000.72
Total cost for	10.00 sqm		Rs:	**8350.82**
Rate per Sqm	(A+B+C+D)/10.0		Rs.	**835.10**

IRR-CCDW-5-2

Providing and **fixing 10 cm thick one line dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing to joints in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm thick 1.05 sqm/ sqm)

DATA: **RATE ANALYSIS** UNIT : **10.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	75.00	5.10	382.50
2	Sand (Screened)	cum	0.30	952.00	285.60
3	Burnt stone slab 10 cm thick	sqm	10.50	359.00	3769.50
	Total cost of Materials			Rs:	**4437.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	1.00	650.00	650.00
2	Stone chiseller Cl- I	Day	4.00	715.00	2860.00
3	work inspector	Day	0.50	805.00	402.50
4	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**5122.50**

labour component/unit qty		512.30
Add contractor's profit and overhead charges	13.615%	69.70
labour component/unit qty (including contractor's profit)		**582.00**

ABSTRACT:

A. Cost of Materials			Rs:	4437.60
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	5122.50
		Total	Rs:	9560.10
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1301.61
Total cost for	10.00 sqm		Rs:	**10861.71**
Rate per Sqm	(A+B+C+D)/10.0		Rs.	**1086.20**

IRR-CCDW-5-3

Providing and **fixing 10 cm thick two line dressed burnt stone slabs for coping** set in **CM 1: 6** proportion by volume with pointing to joints in CM 1 : 3 proportion by volume including cost of all materials, machinery, labour, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 7.5 kg / sqm, FA : 0.030 cum/sqm, Burnt stone slab 10 cm

thick 1.05 sqm/ sqm)

DATA: **RATE ANALYSIS** UNIT : **10.00** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	75.00	5.10	382.50
2	Sand (Screened)	cum	0.30	952.00	285.60
3	Burnt stone slab 10 cm thick	sqm	10.50	359.00	3769.50
	Total cost of Materials			Rs:	**4437.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nil		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	1.00	650.00	650.00
2	Stone chiseller Cl-I	Day	8.00	715.00	5720.00
3	work inspector	Day	0.50	805.00	402.50
4	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**7982.50**

labour component/unit qty		798.30	
Add contractor's profit and overhead charges	13.615%	108.70	
labour component/unit qty (including contractor's profit)		**907.00**	

ABSTRACT:

A. Cost of Materials			Rs:	4437.60
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	7982.50
		Total	Rs:	12420.10
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1691
Total cost for	10.00 sqm		Rs:	**14111.10**
Rate per Sqm	(A+B+C+D)/10.0		Rs.	**1411.10**

IRR-CCDW-5-4

Providing and **laying insitu M-15** (28 days cube compressive strength not less than 15 N / sqmm) grade cement concrete using **20 mm down size** approved clean, hard, graded aggregates for coping slab including cost of all materials, machinery, labour, formwork, cleaning surface, batching, mixing, placing in position, levelling, compacting, finishing, curing **etc., complete with initial lead upto 50 m and initial lift upto 3 m.**
(Cement content: 300 kg / cum with use of super plasticiser(0.4% by wt. of cement), CA : 0.80cum, Blending Ratio of CA--65:35, FA : 0.45 cum)

DATA: **RATE ANALYSIS** UNIT : **14.67** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement for mix	kg	4401.00	5.10	22445.10
	Cement for incidentals @ 5 kg / cum	kg	73.35	5.10	374.09
2	Coarse aggregate 20-10 mm	cum	7.63	1144.00	8726.89
	Coarse aggregate 10 mm below	cum	4.11	879.00	3610.58
3	Fine aggregate (Un-Screened)	cum	6.60	723.00	4772.88
4	Super Plasticizer	kg	17.60	73.00	1285.09

5	Use rate of shuttering	sqm	80.69	346.20	27933.18
6	Sundries	sqm	1.00	29.00	29.00
	Total cost of Materials			Rs:	**69176.81**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Concrete mixer 300/200 ltr (diesel)	Hour	8.00	62.60	500.80
	Fuel / Energy charges	Hour	8.00	131.60	1052.80
2	5 hp pump (diesel)	Hour	0.50	9.90	4.95
	Fuel / Energy charges	Hour	0.50	131.60	65.80
3	Water tanker 8000 ltr	Hour	1.00	461.10	461.10
	Fuel / Energy charges	Hour	1.00	497.40	497.40
	Total hire charges of Machinery			Rs:	**2582.85**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Concrete mixer	Hour	8.00	356.20	2849.60
2	Crew for Pump	Hour	0.50	177.20	88.60
3	Crew for Water tanker	Hour	1.00	278.90	278.90
4	Mason Class-I	Day	1.00	680.00	680.00
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor				
	for batching materials	Day	11.00	605.00	6655.00
	for loading mortar pans	Day	4.00	605.00	2420.00
	for laying and tamping	Day	3.00	605.00	1815.00
	for conveying concrete	Day	14.67	605.00	8875.35
	for cleaning/ washing/ curing	Day	1.00	605.00	605.00
7	Labour cost for shuttering/scaffolding	sqm	80.69	149.25	12042.24
	Total cost of Labour			Rs:	**37114.69**

labour component/unit qty		2530.00
Add contractor's profit and overhead charges	13.615%	344.50
labour component/unit qty (including contractor's profit)		**2874.50**

ABSTRACT:

A. Cost of Materials			Rs:	69176.81
B. Hire charges of Machinery			Rs:	2582.85
C. Cost of Labour			Rs:	37114.69
		Total	Rs:	108874.35
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	14823.24
Total cost for	14.67 cum		Rs:	**123697.59**
Rate per cum	(A+B+C+D)/14.67		Rs.	**8432.00**

IRR-CCDW-5-5

Providing and **constructing protective railing** consisting of in-situ railing posts of size 15 x 15 cm at bottom, 10 x 10 cm at top and 75 cm height at 2 m centre to centre in **M-20** grade concrete using **20 mm down size** graded aggregates and with each post reinforced by 4 Nos. of 8 mm dia main bars embedded in kerb concrete for a depth of 40 cm and 5 Nos. of 6 mm dia. stirrups including fixing 3 rows of 40 mm dia. GI pipes with one coat of red oxide primer and two coats of synthetic enamel paint, cost of all materials, machinery, labour, formwork, finishing, curing etc., complete **with lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **10.00** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	30.00	5.10	153.00
2	20-10 mm coarse aggregate	cum	0.04	1144.00	45.76
3	10-4.75 mm coarse aggregate	cum	0.02	879.00	17.58
4	Fine aggregate (Un-Screened)	cum	0.04	723.00	28.92
5	Reinforcement steel	kg	16.39	57.00	934.23
6	40 mm dia GI pipes B class	Rm	30.00	314.00	9420.00
7	Use rate of shuttering	sqm	3.00	346.20	1038.60
8	Sundries (paints/ binding wire etc)	LS	4.00	29.00	116.00
	Total cost of Materials			Rs:	**11754.09**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Class I	Day	0.50	680.00	340.00
2	Bar bender	Day	0.50	805.00	402.50
3	work inspector	Day	0.50	805.00	402.50
4	mazdoor	Day	1.50	605.00	907.50
5	Painter Cl- II	Day	0.50	650.00	325.00
6	Fitter shuttering	Day	0.50	650.00	325.00
	Total cost of Labour			Rs:	**2702.50**

labour component/unit qty		270.30	
Add contractor's profit and overhead charges	13.615%	36.80	
labour component/unit qty (including contractor's profit)		**307.10**	

ABSTRACT:

A. Cost of Materials			Rs:	11754.09
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2702.50
		Total	Rs:	14456.59
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1968.26
Total cost for	10.00 Rm		Rs:	**16424.85**
Rate per Rm	(A+B+C+D)/10.0		Rs.	**1642.50**

IRR-CCDW-6 **HUME PIPE LAYING & JOINTING WORKS :**

IRR-CCDW-6-1

Laying and **jointing 300 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 9.9 kg / joint, FA : 0.01cum/joint, Hemp Yarn : 0.091kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	99.00	5.10	504.90
2	Sand (Screened)	cum	0.10	952.00	95.20
3	Hemp yarn	kg	0.91	97.00	88.27
	Total cost of Materials			Rs:	**688.37**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	2.00	650.00	1300.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**3920.00**

labour component/unit qty		392.00
Add contractor's profit and overhead charges	13.615%	53.40
labour component/unit qty (including contractor's profit)		**445.40**

ABSTRACT:

A. Cost of Materials			Rs:	688.37
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3920.00
		Total	Rs:	4608.37
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	627.43
Total cost for	10.00 Joints		Rs:	**5235.80**
Rate per Joint	(A+B+C+D)/10.0		Rs.	**523.60**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class

(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-2

Laying and **jointing 450 mm dia. NP- 2 class or IRC standard hume pipes** in **CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 17.4 kg / joint, FA : 0.022cum/joint, Hemp Yarn : 0.127kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	174.00	5.10	887.40
2	Sand (Screened)	cum	0.22	952.00	209.44
3	Hemp yarn	kg	1.27	97.00	123.19
	Total cost of Materials			Rs:	**1220.03**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	2.00	650.00	1300.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**3920.00**

labour component/unit qty		392.00			
Add contractor's profit and overhead charges	13.615%	53.40			
labour component/unit qty (including contractor's profit)		**445.40**			

ABSTRACT:

A. Cost of Materials			Rs:	1220.03
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3920.00
		Total	Rs:	5140.03
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	699.82
Total cost for	10.00 Joints		Rs:	**5839.85**
Rate per Joint	(A+B+C+D)/10.0		Rs.	**584.00**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-3

Laying and **jointing 600 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

(Cement content: 24.8 kg / joint, FA : 0.025cum/joint, Hemp Yarn : 0.22kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	248.00	5.10	1264.80
2	Sand (Screened)	cum	0.25	952.00	238.00
3	Hemp yarn	kg	2.20	97.00	213.40
	Total cost of Materials			Rs:	**1716.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	2.50	650.00	1625.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**4850.00**

labour component/unit qty		485.00			
Add contractor's profit and overhead charges	13.615%	66.00			
labour component/unit qty (including contractor's profit)		**551.00**			

ABSTRACT:

A. Cost of Materials			Rs:	1716.20
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4850.00
		Total	Rs:	6566.20
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	893.99
Total cost for	10.00 Joints		Rs:	**7460.19**
Rate per Joint	(A+B+C+D)/10.0		Rs.	**746.00**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-4

Laying and **jointing 700 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 32.1 kg / joint, FA : 0.031cum/joint, Hemp Yarn : 0.25kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	321.00	5.10	1637.10
2	Sand (Screened)	cum	0.31	952.00	295.12
3	Hemp yarn	kg	2.50	97.00	242.50
	Total cost of Materials			Rs:	**2174.72**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	2.50	650.00	1625.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**4850.00**

labour component/unit qty		485.00
Add contractor's profit and overhead charges	13.615%	66.00
labour component/unit qty (including contractor's profit)		**551.00**

ABSTRACT:

A. Cost of Materials		Rs:	2174.72
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	4850.00
	Total	Rs:	7024.72
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	956.42
Total cost for	10.00 Joints	Rs:	**7981.14**
Rate per Joint	(A+B+C+D)/10.0	Rs.	**798.10**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-5

Laying and **jointing 800 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 39.6 kg / joint, FA : 0.039cum/joint, Hemp Yarn : 0.31kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	396.00	5.10	2019.60
2	Sand (Screened)	cum	0.39	952.00	371.28
3	Hemp yarn	kg	3.10	97.00	300.70
	Total cost of Materials			Rs:	**2691.58**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	3.00	650.00	1950.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	5.00	605.00	3025.00
	Total cost of Labour			Rs:	**5780.00**

labour component/unit qty		578.00
Add contractor's profit and overhead charges	13.615%	78.70
labour component/unit qty (including contractor's profit)		**656.70**

ABSTRACT:

A. Cost of Materials			Rs:	2691.58
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	5780.00
		Total	Rs:	8471.58
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1153.41
Total cost for	10.00 Joints		Rs:	**9624.99**
Rate per Joint	(A+B+C+D)/10.0		Rs.	**962.50**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class

(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-6

Laying and **jointing 900 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 44.6 kg / joint, FA : 0.045cum/joint, Hemp Yarn : 0.34kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	446.00	5.10	2274.60
2	Sand (Screened)	cum	0.45	952.00	428.40
3	Hemp yarn	kg	3.40	97.00	329.80
	Total cost of Materials			Rs:	**3032.80**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00

	Total hire charges of Machinery	Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	3.00	650.00	1950.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	5.00	605.00	3025.00
	Total cost of Labour			Rs:	**5780.00**

labour component/unit qty		578.00
Add contractor's profit and overhead charges	13.615%	78.70
labour component/unit qty (including contractor's profit)		**656.70**

ABSTRACT:

A. Cost of Materials		Rs:	3032.80
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	5780.00
	Total	Rs:	8812.80
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1199.86
Total cost for	10.00 Joints	Rs:	**10012.66**
Rate per Joint	(A+B+C+D)/10.0	Rs.	**1001.30**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-7

Laying and **jointing 1000 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 49.5 kg / joint, FA : 0.05cum/joint, Hemp Yarn : 0.377kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	495.00	5.10	2524.50
2	Sand (Screened)	cum	0.50	952.00	476.00
3	Hemp yarn	kg	3.77	97.00	365.69
	Total cost of Materials			Rs:	**3366.19**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	3.00	650.00	1950.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**6385.00**

labour component/unit qty			638.50		
Add contractor's profit and overhead charges		13.615%	86.90		
labour component/unit qty (including contractor's profit)			**725.40**		

ABSTRACT:

A. Cost of Materials			Rs:	3366.19
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	6385.00
		Total	Rs:	9751.19
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1327.62
Total cost for	10.00 Joints		Rs:	**11078.81**
Rate per Joint	(A+B+C+D)/10.0		Rs.	**1107.90**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-8

Laying and **jointing 1100 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 56.9 kg / joint, FA : 0.058cum/joint, Hemp Yarn : 0.415kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	569.00	5.10	2901.90
2	Sand (Screened)	cum	0.58	952.00	552.16
3	Hemp yarn	kg	4.15	97.00	402.55
	Total cost of Materials			Rs:	**3856.61**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	3.00	650.00	1950.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**6385.00**

labour component/unit qty			638.50		
Add contractor's profit and overhead charges		13.615%	86.90		
labour component/unit qty (including contractor's profit)			**725.40**		

ABSTRACT:

A. Cost of Materials			Rs:	3856.61
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	6385.00
		Total	Rs:	10241.61
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1394.4
Total cost for	10.00 Joints		Rs:	**11636.01**
Rate per Joint	(A+B+C+D)/10.0		Rs.	**1163.60**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class
(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-6-9

Laying and **jointing 1200 mm dia. NP- 2 class or IRC standard hume pipes in CM 1 : 2** proportion by volume including cost of all materials (excluding pipes and collars), machinery, labour, aligning, packing joints with hemp, finishing, curing etc., complete with initial lead upto **50 m and all lifts.**

(Cement content: 66.8 kg / joint, FA : 0.069cum/joint, Hemp Yarn : 0.453kg/joint)

DATA: **RATE ANALYSIS** UNIT : **10.00** Joints

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement	kg	668.00	5.10	3406.80
2	Sand (Screened)	cum	0.69	952.00	656.88
3	Hemp yarn	kg	4.53	97.00	439.41
	Total cost of Materials			Rs:	**4503.09**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	4.00	650.00	2600.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	7.00	605.00	4235.00
	Total cost of Labour			Rs:	**7640.00**

labour component/unit qty		764.00	
Add contractor's profit and overhead charges	13.615%	104.00	
labour component/unit qty (including contractor's profit)		**868.00**	

ABSTRACT:

A. Cost of Materials			Rs:	4503.09
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	7640.00
		Total	Rs:	12143.09
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1653.28
Total cost for	10.00 Joints		Rs:	**13796.37**
Rate per Joint	(A+B+C+D)/10.0		Rs.	**1379.60**

Note: (1) For NP3 Class - 10% extra over the rates of NP2 Class

(2) For NP4 Class - 20% extra over the rates of NP2 Class

IRR-CCDW-7 **BACK FILLING & OTHER WORKS :**

IRR-CCDW-7-1

Providing rubble / boulder and sand filling behind abutment and return walls in layers including cost of all materials, machinery, labour, watering, ramming etc., complete with initial **lead upto 50 m and initial lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble / Boulder	cum	10.00	473.00	4730.00
2	Sand for filling	cum	4.00	723.00	2892.00
	Total cost of Materials			Rs:	**7622.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50	805.00	402.50
2	Mason Cl II	Day	1.00	650.00	650.00
3	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**3472.50**

labour component/unit qty		347.30
Add contractor's profit and overhead charges	13.615%	47.30
labour component/unit qty (including contractor's profit)		**394.60**

ABSTRACT:

A. Cost of Materials		Rs:	7622.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	3472.50
	Total	Rs:	11094.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	1510.52
Total cost for	10.00 cum	Rs:	**12605.02**
Rate per cum	(A+B+C+D)/10.0	Rs.	**1260.50**

IRR-CCDW-7-2

Providing and **filling murrum / gravely soil (CNS soil) for foundation or around pipes** including breaking clods, spreading **in layers of 10 to 15 cm**, watering, compaction by earth masters to achieve density control of **not less than 95 percent** etc., complete with lead **upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Murum	cum	12.00	291.00	3492.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**3492.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Nill		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cartman with double bullock cart	Day	0.50	710.00	355.00
2	work inspector	Day	0.50	805.00	402.50

3	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**4387.50**

labour component/unit qty	438.80	
Add contractor's profit and overhead charges	13.615%	59.70
labour component/unit qty (including contractor's profit)		**498.50**

ABSTRACT:

A. Cost of Materials			Rs:	3492.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4387.50
		Total	Rs:	7879.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	1072.79
Total cost for	10.00 cum		Rs:	**8952.29**
Rate per cum	(A+B+C+D)/10.0		Rs.	**895.20**

IRR-CCDW-7-3

Providing and **filling murum / gravely soil (CNS soil) for foundation or above pipes** including breaking clods, spreading in **layers of 10 to 15 cm**, watering, compaction by power roller to achieve density control of **not less than 98 percent** etc., complete with lead upto **50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **10.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Murum	cum	12.00	291.00	3492.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**3492.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Diesel road roller 8-10 tonne	Hour	0.17	235.40	40.17
	Fuel / Energy charges	Hour	0.17	1184.30	202.10
	Total hire charges of Machinery			Rs:	**242.27**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Operator road roller	Hour	0.17	358.20	61.13
2	Cartman with double bullock cart	Day	0.50	710.00	355.00
3	work inspector	Day	0.50	805.00	402.50
4	mazdoor	Day	1.50	605.00	907.50
	Total cost of Labour			Rs:	**1726.13**

labour component/unit qty	172.60	
Add contractor's profit and overhead charges	13.615%	23.50
labour component/unit qty (including contractor's profit)		**196.10**

ABSTRACT:

A. Cost of Materials			Rs:	3492.00
B. Hire charges of Machinery			Rs:	242.27
C. Cost of Labour			Rs:	1726.13
		Total	Rs:	5460.40
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	743.43
Total cost for	10.00 cum		Rs:	**6203.83**
Rate per cum	(A+B+C+D)/10.0		Rs.	**620.40**

IRR-CCDW-7-4

Providing and **fixing one line dressed 111x35x25 cm thick IRC standard kilometre stone** in **cement concrete M-10** grade with **40 mm down size** aggregates including excavating pit of size 70x45x40 cm, embedding the stone by 30 cm in concrete, providing 2 coats synthetic enamel paint of approved quality and colour to exposed surfaces and lettering as directed, cost of all materials, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **4** Nos.

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	One line dressed Km stone	No.	4.00	598.00	2392.00
2	40-20 mm coarse aggregate	cum	0.20	1030.00	206.00
3	20-10 mm coarse aggregate	cum	0.15	1144.00	171.60
4	10-4.75 mm coarse aggregate	cum	0.10	879.00	87.90
5	Sand (Un-Screened)	cum	0.20	723.00	144.60
6	Cement	kg	100.00	5.10	510.00
7	Synthetic enamel paint I st quality	ltr	1.00	260.00	260.00
8	Sundries (brush / oil etc)	LS	4.00	29.00	116.00
	Total cost of Materials			Rs:	**3888.10**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	1.00	650.00	650.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	1.00	605.00	605.00
4	Painter Cl- I	Day	1.00	780.00	780.00
	Total cost of Labour			Rs:	**2840.00**

labour component/unit qty		710.00	
Add contractor's profit and overhead charges	13.615%	96.70	
labour component/unit qty (including contractor's profit)		**806.70**	

ABSTRACT:

A. Cost of Materials			Rs:	3888.10
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2840.00
		Total	Rs:	6728.10
D. Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs:	916.03
Total cost for	4.00 Nos.		Rs:	**7644.13**
Rate per No	(A+B+C+D)/4.0		Rs.	**1911.00**

IRR-CCDW-7-5

Providing and **fixing one line dressed 65x15x10 cm thick IRC standard hectometre stone** in **cement concrete M-10** grade with **40 mm down size** aggregates including excavating pit of size 50x45x40 cm, embedding the stone by 30 cm in concrete, providing 2 coats synthetic enamel paint of approved quality and colour to exposed surfaces and lettering as directed, cost of all materials, labour, finishing, curing etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **4** Nos.

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	One line dressed hectometre stone	No.	4.00	400.00	1600.00
2	40-20 mm coarse aggregate	cum	0.20	1030.00	206.00
3	20-10 mm coarse aggregate	cum	0.15	1144.00	171.60
4	10-4.75 mm coarse aggregate	cum	0.10	879.00	87.90
5	Sand (Un-Screened)	cum	0.20	723.00	144.60
6	Cement	kg	100.00	5.10	510.00
7	Synthetic enamel paint I st quality	ltr	0.40	260.00	104.00
8	Sundries (brush / oil etc)	LS	1.00	29.00	29.00
	Total cost of Materials			Rs:	**2853.10**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	(Manual mixing)		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mason Cl- II	Day	1.00	650.00	650.00
2	work inspector	Day	1.00	805.00	805.00
3	mazdoor	Day	1.00	605.00	605.00
4	Painter Cl- I	Day	0.50	780.00	390.00
	Total cost of Labour			Rs:	**2450.00**

labour component/unit qty		612.50	
Add contractor's profit and overhead charges	13.615%	83.40	
labour component/unit qty (including contractor's profit)		**695.90**	

ABSTRACT:

A. Cost of Materials		Rs:	2853.10
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	2450.00
	Total	Rs:	5303.10
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	722.02
Total cost for	4.00 Nos.	Rs:	**6025.12**
Rate per No	(A+B+C+D)/4.0	Rs.	**1506.30**

CHAPTER-V

HYDRAULIC GATES AND ALLIED EQUIPMENT - Standard Data

FOR THE YEAR - 2025-26

IRR-GAW **GATE HOIST AND ALLIED WORKS - DATA RATES**

1 All materials / bought out components for embedded parts, gates, hoists and allied works shall conform to relevant Indian standards / technical specifications and approved drawings.

2 The basic rates are EXCLUSIVEof preparation of designs / drawings / material schedules etc., as per specifications and other technical data including revisions.
If designs &drawings are to be done by private agency 2% of estimated cost be added

3 The basic rates are inclusive of cost of all materials, machinery, labour, fabrication, erection, commissioning and testing of gates, hoists and other related components as per technical specifications.
The basic rates are inclusive of finishing, wastage of materials , incidental works, temperary supports, all enabling works, profit, overheads, small tools / plants, hidden cost on labour etc.
The basic rates are inclusive of taxes, duties (excise), levies and all other incidental charges including

5 Turn over tax/sales tax on works contract. Separate provision shall be made in the estimate towards such tax on works contract at the rate prevailing at the time of preparation of estimate.
The basic rates are inclusive of all leads and lifts including rehandling.

6 no provision is made for stitch welding and it is part of welding work

7 The basic rates are inclusive of preparatory works such as rectification of damages, repairing

8 shop painting, cleaning, positioning and anchoring first stage embedments,
The basic rates are not inclusive of painting with or without sand blasting,and are to be added to the rate

9 as perschedule rates formulated in the same chapter as per applicability and specifications
The basic rates are exclusive of cost of river diversion arrangements, dewatering, desilting ,secondary

10 concreting of EM parts etc., which form part of civil works.
DESIGNS AND DRAWING CHARGES AT 2% BE ADDED EXTRA TO THE ESTIMATES, IF

11 CONTRACTOR'S SCOPE OF WORK INVOLVES DESIGNS COMPONENT ALSO
Add AREA ALLOWANCES AS APPLICABLE ON LABOUR COMPONENT ONLY (SHOWN UNDER EACH ITEM)

12 Add contractors profit and overheads at 13.615% to all items

13 Painting Charges added extra to the data items as per applicability wherver necessary

14 HOIST EQUIPMENT1.-where sand blasting is not possible, hand and power tool cleaning be

15 adopted - Guidance may be taken from Mechanical workshop in this regard
2. Machined surfaces should not be painted
3. for maintenance unless sand blasting is essential hand and power tool cleaning be adopted
Painting of Hoast Gates is to be done as per IS 14177:1994

DATA and RATES ---GATE / HOIST AND ALLIED WORKS -

(STORED WITH E-N-C &TO INCORPORATE CHANGES YEARLY/AS NEEDED)

Index- code **GAW - Work Items**

IRR-GAW **TYPES OF GATES:**

IRR-GAW-1 **A. SPILLWAY RADIAL GATES**

IRR-GAW-1-1

E.M Parts and anchorages

fabrication, supply, erection, testing and **commissioning of Embedded parts for radial gate** consists of sill beam, wall plates, anchor girders , yoke girders, tie flats, trunnion supports etc., including cost of all materials, machinery, labour, welding, finishing, with leads and lifts &all accessories
(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under itemsinthis chapter and add as applicable separately)
Drawing no. MD/CDO/VRSP/90-92/85-86 (Vengalaraya Sagar - Gomukhi Project)

Vent Size: 12.00 X 6.6 Mtrs

Use rate of materials :					
Cost of welding set @	Rs:	10192.00	/ Each	Rs:	10192.00
Life of welding set				:	1000 hours

Use rate of welding set per hour		(cost / life)		Rs:	10.19
Cost of gas cutting set @	Rs:	18148.00	/ Each	Rs:	18148.00
Life of gas cutting set				:	600 hours
Use rate of gas cutting set per hr		(cost / life)		Rs:	30.25

DATA: **A. MATERIALS:** **RATE ANALYS** UNIT : **15.300** tonne

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Str steel angle / beam / channel / bars	kg	3467.00	60.00	208020.00
2	Structural steel plate / flats	kg	11261.00	61.00	686921.00
3	Stainless steel plate / flats	kg	515.00	341.00	175615.00
4	MS bolts and nuts	kg	48.00	97.00	4656.00
5	Oxygen gas	cum	158.00	63.00	9954.00
6	Acetyline gas	cum	53.00	463.00	24539.00
7	Welding electrodes	Nos	11520.00	15.00	172800.00
8	Welding electrodes (LH)	Nos	2880.00	25.00	72000.00
9	Welding electrodes (stainless steel)	Nos	1160.00	30.00	34800.00
10	Use rate welding holder set	Hour	1945.00	10.19	19823.44
11	Use rate gas cutting torch set	Hour	158.00	30.25	4778.97
12	Sundries	LS	100.00	29.00	2900.00
	Total cost of Materials			Rs:	**1416807.41**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	1945.00	17.20	33454.00
	Fuel / Energy charges	Hour	1945.00	128.90	250710.50
2	Tower crane/heavy duty tyre mounted crane	Hour	16.00	938.60	15017.60
	Fuel / Energy charges	Hour	16.00	279.30	4468.80
3	Plate shearing machine	Hour	16.00	50.20	803.20
	Fuel / Energy charges	Hour	16.00	214.80	3436.80
4	Pug cutting machine	Hour	76.00	8.10	615.60
	Fuel / Energy charges	Hour	76.00	5.40	410.40
5	Mobile crane 16 Tonnes	Hour	22.00	2396.70	52727.40
	Fuel / Energy charges	Hour	22.00	75.00	1650.00
6	Stationery derric crane	Hour	64.00	89.60	5734.40
	Fuel / Energy charges	Hour	64.00	0.00	0.00
7	Grinding machine	Hour	30.00	26.60	798.00
	Fuel / Energy charges	Hour	30.00	53.70	1611.00
8	Drilling machines	Hour	30.00	26.60	798.00
	Fuel / Energy charges	Hour	30.00	53.70	1611.00
9	Planing machine	Hour	100.00	122.10	12210.00
	Fuel / Energy charges	Hour	100.00	161.10	16110.00
10	Bending Machine	Hour	30.00	45.20	1356.00
	Fuel / Energy charges	Hour	30.00	161.10	4833.00
11	Sundries	LS	100.00	29.00	2900.00
	Total hire charges of Machinery			Rs:	**411255.70**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Tower crane	Hour	16.00	297.40	4758.40
2	Crew for Mobile crane 16 T	Hour	22.00	843.60	18559.20
3	Crew for Shearing machine	Hour	16.00	223.10	3569.60
4	Crew for Planing machine	Hour	100.00	339.50	33950.00
5	Crew for Drilling machine	Hour	30.00	304.20	9126.00
6	Crew for Grinding machine	Hour	30.00	304.20	9126.00
7	Crew for Bending machine		30.00	212.20	6366.00

8	Foreman	Day	15.00	790.00	11850.00
9	Marker / Fabricator / Erector	Day	75.00	815.00	61125.00
10	Gas cutter	Day	20.00	720.00	14400.00
11	Welder (General)	Day	212.00	720.00	152640.00
12	Welder (X - ray)	Day	48.00	780.00	37440.00
13	Khalasi	Day	345.00	710.00	244950.00
14	Helper fabrication / erection	Day	255.00	650.00	165750.00
15	Electrician	Day	5.00	775.00	3875.00
	Total cost of Labour			Rs:	**777485.20**

Add towards highly skilled labour charges @ 30% on total cost of labour **233245.56**

Total Cost of Labour **1010730.76**

labour component/unit qty		66060.80
Add contractor's profit and overhead charges	13.615%	8994.20
labour component/unit qty (including contractor's profit)		**75055.00**

ABSTRACT:

A. Cost of Materials				Rs:	1416807.41
B. Hire charges of Machinery				Rs:	411255.70
C. Cost of Labour				Rs:	1010730.76
			Total	Rs:	2838793.87
D.Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	2838793.87
E. Add for transportation upto work site @			3%	Rs:	42504.22
		Total		Rs:	2881298.10
F. Add for contractor's profit and overheads on	13.615%			Rs:	392288.74
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00 per tonne		826.2
Unloading charges of fabricated parts Rs			128.90 per tonne		3944.34
Total cost for	15.300	tonne		Rs:	3278357.37
Rate per Tonne				Rs:	**214271.70**

A-2 Gates **RADIAL GATES**

IRR-GAW-1-2

Fabrication, supply, erection, testing and **commissioning of radial gate** consisting of skin plate, stiffeners, horizontal girders, radial arms, trunnion assemblies, tie beam, pulley supports, bracings, rubber seals, clamps etc., with all accessories **for spillway/canals** including cost of all materials, machinery, labour, seal fixing etc., complete as per specifications and approved drawings

(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under itemsinthis chapter and add as applicable separately)

Drawing no. MD/CDO/VRSP/170-172/85-86(Vengalaraya Sagar - Gomukhi Project) Vent Size: 12 X 6.6 Mtr

Use rate of materials :

Cost o	10192.00	/ Each	Rs:	10192.00
Life of welding set			:	1000 hours
Use ra (cost / life)			Rs:	10.19
Cost o	18148.00	/ Each	Rs:	18148.00
Life of gas cutting set			:	600 hours
Use ra (cost / life)			Rs:	30.25

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **29.000** tonne

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel :				
	Angles / beams / channels / bars	kg	9700.00	60.00	582000.00
	Plates / flats	kg	16850.00	61.00	1027850.00
2	Cast steel components :				

	Trunnion hubs / Guide rollers	kg	2100.00	213.00	447300.00
3	Alluminium / Bronze alloy components :				
	Bush for Trunnion / Guide roller	kg	350.00	1108.00	387800.00
4	Bolt / Nut / Washer :				
	GI bolts / nuts / washers	kg	250.00	140.00	35000.00
5	Zinc/Babbit Metal	kg	50.00	244.00	12200.00
6	Rubber seals :				
	Bottom seal	Rm	12.00	946.00	11352.00
	Side seals (Z - type)	Rm	14.00	2699.00	37786.00
7	Oxygen gas	cum	228.00	63.00	14364.00
8	Acetyline gas	cum	76.00	463.00	35188.00
9	Welding electrodes (std)	Nos	1000.00	15.00	15000.00
10	Welding electrodes (LH)	Nos	250.00	25.00	6250.00
11	Use rate welding holder set	Hour	156.00	10.19	1589.95
12	Use rate gas cutting torch set	Hour	228.00	30.25	6896.24
13	Sundries	LS	500.00	29.00	14500.00
	Total cost of Materials			Rs:	**2635076.19**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	156.00	17.20	2683.20
	Fuel / Energy charges	Hour	156.00	128.90	20108.40
2	Plate shearing machine	Hour	29.00	50.20	1455.80
	Fuel / Energy charges	Hour	29.00	214.80	6229.20
3	Pug cutting machine	Hour	114.00	8.10	923.40
	Fuel / Energy charges	Hour	114.00	5.40	615.60
4	Bending machine	Hour	116.00	45.20	5243.20
	Fuel / Energy charges	Hour	116.00	161.10	18687.60
5	Tower crane 5 t cpacity	Hour	29.00	938.60	27219.40
	Fuel / Energy charges	Hour	29.00	279.30	8099.70
6	Mobile derric crane	Hour	58.00	667.50	38715.00
	Fuel / Energy charges	Hour	58.00	497.40	28849.20
7	Stationery derric crane	Hour	58.00	89.60	5196.80
	Fuel / Energy charges	Hour	58.00	0.00	0.00
8	Grinding machine	Hour	58.00	26.60	1542.80
	Fuel / Energy charges	Hour	58.00	53.70	3114.60
9	Drilling machines	Hour	58.00	26.60	1542.80
	Fuel / Energy charges	Hour	58.00	53.70	3114.60
10	Mobile Crane 30 T	Hour	100.00	3555.10	355510.00
	Fuel / Energy charges	Hour	100.00	118.80	11880.00
11	Sundries	LS	500.00	29.00	14500.00
	Total hire charges of Machinery			Rs:	**555231.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 30T	Hour	100.00	843.60	84360.00
2	Crew for Tower crane	Hour	29.00	297.40	8624.60
3	Crew for Bending machine	Hour	116.00	212.20	24615.20
4	Crew for Drilling machine	Hour	58.00	304.20	17643.60
5	Crew for Grinding machine	Hour	58.00	304.20	17643.60
6	Foreman	Day	29.00	790.00	22910.00
7	Marker / Fabricator / Erector	Day	145.00	815.00	118175.00
8	Gas cutter	Day	29.00	720.00	20880.00
9	Welder (General)	Day	17.00	720.00	12240.00
10	Welder (X - ray)	Day	5.00	780.00	3900.00
11	Khalasi	Day	493.00	710.00	350030.00

12	Helper fabrication / erection	Day	667.00	650.00	433550.00
13	Electrician	Day	15.00	775.00	11625.00
	Total cost of Labour			Rs:	**1126197.00**

Add towards highly skilled labour charges @ 30% on total cost of labour **337859.10**

Total Cost of Labour **1464056.10**

labour component/unit qty		50484.70
Add contractor's profit and overhead charges	13.615%	6873.50
labour component/unit qty (including contractor's profit)		**57358.20**

ABSTRACT:

A. Cost of Materials				Rs:	2635076.19
B. Hire charges of Machinery				Rs:	555231.30
C. Cost of Labour				Rs:	1464056.10
			Total	Rs:	4654363.59
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	4654363.59
E. Add for transportation upto work site @			3%	Rs:	79052.29
		Total		Rs:	4733415.88
F. Add for contractor's profit and overheads on	13.615%			Rs:	644454.57
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00 per tonne		1566
Unloading charges of fabricated parts Rs			128.90 per tonne		7476.2
Total cost for	29.000	tonne		Rs:	5386912.65
Rate per Tonne				Rs.	**185755.60**

RADIAL GATES-ROPE DRUM HOISTS WITH HOIST BRIDGES

IRR-GAW-1-3

fabrication, supply, erection, testing and **commissioning of electrically operated rope drum hoist of adequate capacity** consisting of base frames, rope drums,connecting shaft, gear system, brake system, electric motor, wire ropes, gate position indicator, manual operation arrangement etc., with all accessories for spillway radial gate including cost of all materials, machinery, labour,, greasing, providing hand railing and approach staircase with gate to hoist platform, , complete as per specifications and approved drawings
(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under itemsinthis chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **15.440** tonne wt

A. MATERIALS: **90.00** t capacity

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	2571.00	60.00	154260.00
	Plates / flats	kg	3632.00	61.00	221552.00
2	Cast steel components :				
	Rope drums 2 Nos / Gears 4 Nos	kg	3680.00	281.00	1034080.00
	Pinions	kg	218.00	260.00	56680.00
	Pulleys 720 PCD 6 Nos	kg	1080.00	213.00	230040.00
	Plummer blocks / Hubs	kg	322.00	213.00	68586.00
3	Alloy steel components				
	Shafts	kg	557.00	286.00	159302.00
	Pins	kg	546.00	489.00	266994.00
4	Bronze alloy components :				
	Bronze bearings / bush	kg	144.00	1108.00	159552.00
5	Wire rope 36 mm dia 6/37 construction	kg	448.00	306.00	137088.00
6	MS Bolt / Nut / Washer	kg	85.00	97.00	8245.00
7	Worm reducers	No.	1.00	268528.00	268528.00
8	Electric motor 20 hp	No.	1.00	127504.00	127504.00
9	Floating shaft 300 mm dia	kg	1000.00	239.00	239000.00
10	Manual operating system	No.	1.00	34736.00	34736.00

11	Gate position indicator	No.	1.00	257920.00	257920.00
12	Ele-magnetic brake	No.	1.00	40872.00	40872.00
13	Electric cable / switch / control panel etc	LS	1.00	67496.00	67496.00
14	Oxygen gas	cum	213.00	63.00	13419.00
15	Acetyline gas	cum	71.00	463.00	32873.00
16	Welding electrodes	Nos	530.00	15.00	7950.00
17	Welding electrodes (LH)	Nos	4776.00	25.00	119400.00
18	Grease	kg	50.00	312.00	15600.00
19	Use rate welding holder set	Hour	566.00	10.19	5768.67
20	Use rate gas cutting torch set	Hour	90.00	30.25	2722.20
21	Sundries (hand rail /staircase / gate etc	LS	200.00	29.00	5800.00
	Total cost of Materials			Rs:	**3735967.87**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	566.00	17.20	9735.20
	Fuel / Energy charges	Hour	353.00	128.90	45501.70
2	Tower crane 5 t capacity	Hour	4.00	938.60	3754.40
	Fuel / Energy charges	Hour	4.00	279.30	1117.20
3	Pug cutting machine	Hour	53.00	8.10	429.30
	Fuel / Energy charges	Hour	53.00	5.40	286.20
4	Mobile derric crane	Hour	50.00	667.50	33375.00
	Fuel / Energy charges	Hour	50.00	497.40	24870.00
5	Grinding machine	Hour	8.00	26.60	212.80
	Fuel / Energy charges	Hour	8.00	53.70	429.60
6	Drilling machines	Hour	16.00	26.60	425.60
	Fuel / Energy charges	Hour	16.00	53.70	859.20
7	Sundries	LS	100.00	29.00	2900.00
	Total hire charges of Machinery			Rs:	**123896.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	50.00	278.90	13945.00
2	Crew for Tower crane	Hour	4.00	297.40	1189.60
3	Crew for Drilling machine	Hour	16.00	304.20	4867.20
4	Crew for Grinding machine	Hour	8.00	304.20	2433.60
5	Foreman	Day	35.00	790.00	27650.00
6	Marker / Fabricator / Erector / Mechanic	Day	58.00	815.00	47270.00
7	Gas cutter	Day	18.00	720.00	12960.00
8	Welder (General)	Day	53.00	720.00	38160.00
9	Khalasi	Day	20.00	710.00	14200.00
10	Helper fabrication / erection	Day	175.00	650.00	113750.00
11	Electrician	Day	3.00	775.00	2325.00
	Total cost of Labour			Rs:	**278750.40**

Add towards highly skilled labour charges @ 30% on total cost of labour **83625.12**

Total Cost of Labour **362375.52**

labour component/unit qty		4026.40
Add contractor's profit and overhead charges	13.615%	548.20
labour component/unit qty (including contractor's profit)		**4574.60**

ABSTRACT:

A. Cost of Materials	Rs:	3735967.87
B. Hire charges of Machinery	Rs:	123896.20
C. Cost of Labour	Rs:	362375.52
Total	Rs:	4222239.59

D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	4222239.59
E. Add for transportation upto work site @			3%	Rs:	112079.04
		Total		Rs:	4334318.63
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	590117.48
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00 per tonne		833.76
Unloading charges of fabricated parts Rs			128.90 per tonne		3980.432
Total cost for	15.440	tonne wt		Rs:	4929250.30
Total cost for	90.00	t capacity		Rs:	
	Rate per	tonne wt		Rs:	319252.00
Rate per tonne capacity of hoist					**54769.40**

IRR-GAW-1-4 Walk way(cat walk)

fabrication, supply, erection and **commissioning of 1 metre wide walkway connecting spillway piers / abutments** at trunnion platform level including cost of all materials, machinery, labour, cutting, welding etc, complete as per specifications and approved drawings **(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under itemsinthis chapter and add as applicable separately)**

DATA: **RATE ANALYSIS** UNIT : **5.22** MT

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	4258.00	60.00	255480.00
	Plates / flats	kg	98.00	61.00	5978.00
	Chequered plates	kg	856.00	77.00	65912.00
2	MS bolts / nuts / washers	kg	8.00	97.00	776.00
3	Oxygen gas	cum	51.00	63.00	3213.00
4	Acetyline gas	cum	17.00	463.00	7871.00
5	Welding electrodes	Nos	1195.00	15.00	17925.00
6	Use rate welding holder set	Hour	150.00	10.19	1528.80
7	Use rate gas cutting torch set	Hour	30.00	30.25	907.40
8	Sundries	LS	10.00	29.00	290.00
	Total cost of Materials			Rs:	**359881.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	150.00	17.20	2580.00
	Fuel / Energy charges	Hour	150.00	128.90	19335.00
2	Tower crane	Hour	6.00	938.60	5631.60
	Fuel / Energy charges	Hour	6.00	279.30	1675.80
3	Pug cutting machine	Hour	12.00	8.10	97.20
	Fuel / Energy charges	Hour	12.00	5.40	64.80
4	Mobile CRANE 16T	Hour	8.00	2396.70	19173.60
	Fuel / Energy charges	Hour	8.00	75.00	600.00
5	Grinding machine	Hour	12.00	26.60	319.20
	Fuel / Energy charges	Hour	12.00	53.70	644.40
6	Drilling machines	Hour	12.00	26.60	319.20
	Fuel / Energy charges	Hour	12.00	53.70	644.40
7	Bending Machine	Hour	10.00	45.20	452.00
	Fuel / Energy charges	Hour	10.00	161.10	1611.00
8	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**53438.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate	Amount

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 16T	Hour	10.00	843.60	8436.00
2	Crew for Tower crane	Hour	6.00	297.40	1784.40
3	Crew for Drilling machine	Hour	12.00	304.20	3650.40
4	Crew for Grinding machine	Hour	12.00	304.20	3650.40
5	Crew for Bending machine	Hour	10.00	212.20	2122.00
6	Foreman	Day	6.00	790.00	4740.00
7	Marker / Fabricator / Erector	Day	25.00	815.00	20375.00
8	Gas cutter	Day	5.00	720.00	3600.00
9	Welder (General)	Day	20.00	720.00	14400.00
10	Helper fabrication / erection	Day	200.00	650.00	130000.00
11	Electrician	Day	2.00	775.00	1550.00
	Total cost of Labour			Rs:	**194308.20**

Add towards highly skilled labour charges @ 30% on total cost of labour **58292.46**

Total Cost of Labour **252600.66**

labour component/unit qty 48390.90

Add contractor's profit and overhead charges 13.615% 6588.40

labour component/unit qty (including contractor's profit) **54979.30**

ABSTRACT:

A. Cost of Materials			Rs:	359881.20
B. Hire charges of Machinery			Rs:	53438.20
C. Cost of Labour			Rs:	252600.66
		Total	Rs:	665920.06
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	665920.06
E. Add for transportation upto work site @		3%	Rs:	10796.44
		Total	Rs:	676716.50
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	92134.95
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.00 per tonne		281.88
Unloading charges of fabricated parts Rs		128.90 per tonne		1345.716
Total cost for	5.22	MT	Rs:	770479.04
Rate per MT			Rs:	**147601.30**

IRR-GAW-2 VERTICAL LIFT GATES-EM PARTS

IRR-GAW-2-1

Design, fabrication, supply, erection and **commissioning of embedded parts** consisting of sill beam, slide tracks, seal seats, guide rails, dogging sets for storage of stoplog elements etc., with all accessories for spillway stop log gates and other vertical lift elements including cost of all materials,machinery, labour, etc., complete as per specifications and approved drawings **(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)**

Drawing No. MD/CDO/GNCP/HR/1759,1760/94 (GNSS Project)

Vent Size: 3.6 X 6.1 Mtr

DATA: **RATE ANALYSIS** UNIT : **6.300** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Str steel angle / beam / channel / bars	kg	1885.00	60.00	113100.00
2	Structural steel plate / flats	kg	3890.00	61.00	237290.00
3	Stainless steel plate / flats	kg	271.00	341.00	92411.00
4	MS bolts and nuts	kg	50.00	97.00	4850.00
5	Oxygen gas	cum	225.00	63.00	14175.00
6	Acetyline gas	cum	75.00	463.00	34725.00
7	Welding electrodes	Nos	1410.00	15.00	21150.00
8	Welding electrodes (LH)	Nos	350.00	25.00	8750.00

9	Welding electrodes (stainless steel)	Nos	1320.00	30.00	39600.00
10	Use rate welding holder set	Hour	385.00	10.19	3923.92
11	Use rate gas cutting torch set	Hour	225.00	30.25	6805.50
12	Sundries	LS	40.00	29.00	1160.00
	Total cost of Materials			Rs:	**577940.42**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	385.00	17.20	6622.00
	Fuel / Energy charges	Hour	385.00	128.90	49626.50
2	Plate shearing machine	Hour	8.00	50.20	401.60
	Fuel / Energy charges	Hour	8.00	214.80	1718.40
3	Pug cutting machine	Hour	110.00	8.10	891.00
	Fuel / Energy charges	Hour	110.00	5.40	594.00
4	Planing machine	Hour	270.00	122.10	32967.00
	Fuel / Energy charges	Hour	270.00	161.10	43497.00
5	Mobile Crane 16 T	Hour	24.00	2396.70	57520.80
	Fuel / Energy charges	Hour	24.00	75.00	1800.00
6	Stationery derric crane	Hour	14.00	89.60	1254.40
	Fuel / Energy charges	Hour	14.00	0.00	0.00
7	Grinding machine	Hour	14.00	26.60	372.40
	Fuel / Energy charges	Hour	14.00	53.70	751.80
8	Drilling machines	Hour	21.00	26.60	558.60
	Fuel / Energy charges	Hour	21.00	53.70	1127.70
9	Bending Machine	Hour	14.00	45.20	632.80
	Fuel / Energy charges	Hour	14.00	161.10	2255.40
10	Sundries	LS	40.00	29.00	1160.00
	Total hire charges of Machinery			Rs:	**203751.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 16 T	Hour	24.00	843.60	20246.40
2	Crew for Planing machine	Hour	270.00	339.50	91665.00
3	Crew for Drilling machine	Hour	21.00	304.20	6388.20
4	Crew for Grinding machine	Hour	14.00	304.20	4258.80
5	Crew for Bending machine	Hour	14.00	212.20	2970.80
6	Foreman	Day	32.00	790.00	25280.00
7	Marker / Fabricator / Erector	Day	35.00	815.00	28525.00
8	Gas cutter	Day	9.00	720.00	6480.00
9	Welder (General)	Day	46.00	720.00	33120.00
10	Welder (X - ray)	Day	6.00	780.00	4680.00
11	Helper fabrication / erection	Day	240.00	650.00	156000.00
12	Electrician	Day	4.00	775.00	3100.00
	Total cost of Labour			Rs:	**382714.20**

Add towards highly skilled labour charges @ 30% on total cost of labour			**114814.26**
Total Cost of Labour			**497528.46**
labour component/unit qty		78972.80	
Add contractor's profit and overhead charges	13.615%	10752.10	
labour component/unit qty (including contractor's profit)		**89724.90**	

ABSTRACT:

A. Cost of Materials		Rs:	577940.42
B. Hire charges of Machinery		Rs:	203751.40
C. Cost of Labour		Rs:	497528.46
	Total	Rs:	1279220.28
D. Add for excise duty	0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)	Total	Rs:	1279220.28

E. Add for transportation upto work site @		3%	Rs:	17338.21
		Total	Rs:	1296558.49
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	176526.44
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.00 per tonne		340.2
Unloading charges of fabricated parts Rs		128.90 per tonne		1624.14
Total cost for	6.30	tonne	Rs:	1475049.27
Rate per tonne			Rs:	**234134.80**

IRR-GAW-2-2 Vertical lift gates and stop log gate elements (SLIDING GATES)

Design, fabrication, supply, erection, testing and **commissioning of vertical lift gates and stoplog gate elements**, consisting of skin plate,

horizontal and vertical girders, stiffeners, lifting pins, bronze padded slide blocks/bearings, guide shoes, rubber seals, clamps etc., with all accessories including cost of all materials,

machinery, labour, seal fixing etc.,complete as per specifications and approved drawings

(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

Drawing NO. CE/CDO/CL3/MRP/783/2002 (Spillway Stop log gate Elements of Madduvalasa Project)

Vent Size: 12.624 X 0.50 M 16 Elements

DATA: **RATE ANALYSIS** UNIT : **119.000** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	5280.00	60.00	316800.00
	Plates / flats	kg	112880.00	61.00	6885680.00
2	Alloy steel components				
	Lifting pins	kg	520.00	489.00	254280.00
3	Bolt / Nut / Washer				
	GI bolts / nuts / washers	kg	600.00	140.00	84000.00
4	Rubber seals				
	Bottom seal	Rm	210.00	946.00	198660.00
	Side seals	Rm	18.00	2954.00	53172.00
5	Oxygen gas	cum	2714.00	63.00	170982.00
6	Acetyline gas	cum	905.00	463.00	419015.00
7	Welding electrodes	Nos	86554.00	15.00	1298310.00
8	Welding electrodes (LH)	Nos	16486.00	25.00	412150.00
9	Use rate welding holder set	Hour	12880.00	10.19	131272.96
10	Use rate gas cutting torch set	Hour	2714.00	30.25	82089.45
11	Sundries	LS	400.00	29.00	11600.00
	Total cost of Materials			Rs:	**10318011.41**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	12880.00	17.20	221536.00
	Fuel / Energy charges	Hour	12880.00	128.90	1660232.00
2	Pug cutting machine	Hour	6440.00	8.10	52164.00
	Fuel / Energy charges	Hour	6440.00	5.40	34776.00
3	Mobile crane 16 T	Hour	360.00	2396.70	862812.00
	Fuel / Energy charges	Hour	360.00	75.00	27000.00
4	Stationery derric crane	Hour	238.00	89.60	21324.80
	Fuel / Energy charges	Hour	238.00	0.00	0.00
5	Grinding machine	Hour	238.00	26.60	6330.80
	Fuel / Energy charges	Hour	238.00	53.70	12780.60
6	Drilling machines	Hour	357.00	26.60	9496.20
	Fuel / Energy charges	Hour	357.00	53.70	19170.90

7	Bending Machine	Hour	240.00	45.20	10848.00
	Fuel / Energy charges	Hour	240.00	161.10	38664.00
8	Sundries	LS	180.00	29.00	5220.00
	Total hire charges of Machinery			Rs:	**2982355.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 16T	Hour	360.00	843.60	303696.00
2	Crew for Drilling machine	Hour	357.00	304.20	108599.40
3	Crew for Grinding machine	Hour	238.00	304.20	72399.60
4	Crew for Bending machine	Hour	240.00	212.20	50928.00
5	Foreman	Day	120.00	790.00	94800.00
6	Marker / Fabricator / Erector	Day	195.00	815.00	158925.00
7	Gas cutter	Day	100.00	720.00	72000.00
8	Welder (General)	Day	1442.00	720.00	1038240.00
9	Welder (X - ray)	Day	275.00	780.00	214500.00
10	Khalasi	Day	2023.00	710.00	1436330.00
11	Helper fabrication / erection	Day	2727.00	650.00	1772550.00
12	Electrician	Day	10.00	775.00	7750.00
	Total cost of Labour			Rs:	**5330718.00**

Add towards highly skilled labour charges @ 30% on total cost of labour				**1599215.40**
Total Cost of Labour				**6929933.40**
labour component/unit qty		58234.70		
Add contractor's profit and overhead charges	13.615%	7928.70		
labour component/unit qty (including contractor's profit)		**66163.40**		

ABSTRACT:

A. Cost of Materials				Rs:	10318011.41
B. Hire charges of Machinery				Rs:	2982355.30
C. Cost of Labour				Rs:	6929933.40
			Total	Rs:	20230300.11
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	20230300.11
E. Add for transportation upto work site @			3%	Rs:	309540.34
		Total		Rs:	20539840.46
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	2796499.28
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00 per tonne		6426.000
Unloading charges of fabricated parts Rs			128.90 per tonne		30678.2
Total cost for	119.00	tonne		Rs:	23373443.93
Rate per tonne				Rs:	**196415.50**

STOP LOGS-automatic lifting beam

IRR-GAW-2-3

fabrication, supply, erection, testing and **commissioning of automatic lifting beam with all accessories for handling**, lowering and lifting of spillway stop log gate elements including cost of all materials, machinery, labour, cutting, aligning, welding, finishing, etc., complete as per specifications and drawings with all leads and lifts.
(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **3.528** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel Angles / beams / channels / bars	kg	13.00	60.00	780.00

	Plates / flats	kg	3389.00	61.00	206729.00
2	Alloy steel components				
	Lifting pins	kg	101.00	489.00	49389.00
3	Bronze alloy components :				
	Bronze bush	kg	5.00	1108.00	5540.00
4	Forged steel components :				
	Lifting hooks	kg	103.00	296.00	30488.00
5	MS pipe 100 mm dia	kg	11.00	198.00	2178.00
6	Bolt / Nut / Washer				
	MS bolts / nuts / washers	kg	3.00	97.00	291.00
7	Oxygen gas	cum	126.00	63.00	7938.00
8	Acetyline gas	cum	42.00	463.00	19446.00
9	Welding electrodes	Nos	175.00	15.00	2625.00
10	Welding electrodes (LH)	Nos	1575.00	25.00	39375.00
11	Use rate welding holder set	Hour	187.00	10.19	1905.90
12	Use rate gas cutting torch set	Hour	24.00	30.25	725.92
13	Sundries	LS	25.00	29.00	725.00
	Total cost of Materials			Rs:	**368135.82**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	187.00	17.20	3216.40
	Fuel / Energy charges	Hour	117.00	128.90	15081.30
2	Pug cutting machine	Hour	60.00	8.10	486.00
	Fuel / Energy charges	Hour	60.00	5.40	324.00
3	Mobile derric crane	Hour	4.00	667.50	2670.00
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
4	Stationery derric crane	Hour	8.00	89.60	716.80
	Fuel / Energy charges	Hour	8.00	0.00	0.00
5	Grinding machine	Hour	2.00	26.60	53.20
	Fuel / Energy charges	Hour	2.00	53.70	107.40
6	Drilling machines	Hour	2.00	26.60	53.20
	Fuel / Energy charges	Hour	2.00	53.70	107.40
7	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**25095.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	4.00	278.90	1115.60
2	Crew for Drilling machine	Hour	2.00	304.20	608.40
3	Crew for Grinding machine	Hour	2.00	304.20	608.40
4	Foreman	Day	10.00	790.00	7900.00
5	Marker / Fabricator / Erector	Day	18.00	815.00	14670.00
6	Gas cutter	Day	10.00	720.00	7200.00
7	Welder (General)	Day	18.00	720.00	12960.00
8	Helper fabrication / erection	Day	52.00	650.00	33800.00
9	Electrician	Day	1.00	775.00	775.00
	Total cost of Labour			Rs:	**79637.40**

Add towards highly skilled labour charges @ 30% on total cost of labour			**23891.22**
Total Cost of Labour			**103528.62**
labour component/unit qty		29344.80	
Add contractor's profit and overhead charges	13.615%	3995.30	
labour component/unit qty (including contractor's profit)		**33340.10**	

ABSTRACT:

A. Cost of Materials	Rs:	368135.82

B. Hire charges of Machinery				Rs:	25095.30
C. Cost of Labour				Rs:	103528.62
			Total	Rs:	496759.74
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	496759.74
E. Add for transportation upto work site @			3%	Rs:	11044.07
		Total		Rs:	507803.82
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	69137.49
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00 per tonne		190.512
Unloading charges of fabricated parts Rs			128.90 per tonne		909.518
Total cost for	3.528	tonne		Rs:	578041.34
Rate per tonne				Rs:	**163843.90**

MOVING GANTRY CRANE-CLASS II

IRR-GAW-2-4

fabrication, supply, erection, testing and **commissioning of adequate capacity Class- II type moving gantry crane** consisting of rail mounted gantry frame, top platform with hand railing, long / cross travel arrangements, rope drums, gear systems, electric motors, electro-magnetic brake system, cabin, control panel, wire rope, ladder, motorised cable reeling drum etc., with all accessories for operating spillway stop log gate elements and river sluice / canal sluice emergency gates including cost of all materials, machinery, labour, etc., complete **with all leads and lifts.**

(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **30.856** tonne

A. MATERIALS: **25** t capacity

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	1743.00	60.00	104580.00
	Plates / flats	kg	19700.00	61.00	1201700.00
	Chequered plates	kg	820.00	77.00	63140.00
2	Cast steel components :				
	Rope drums 2 Nos/Gears	kg	1320.00	281.00	370920.00
	pinions	kg	1165.00	260.00	302900.00
	Wheels / Pulleys	kg	2255.00	213.00	480315.00
	Plummer blocks / Couplings	kg	817.00	213.00	174021.00
3	Forged steel components				
	Hook / Shackle	kg	127.00	296.00	37592.00
4	Alloy steel components				
	Shafts	kg	556.00	286.00	159016.00
	Pins	kg	524.00	489.00	256236.00
5	Bronze alloy components :				
	Bronze bearings / bush	kg	181.00	1108.00	200548.00
6	Wire rope 28 mm dia 6/37 construction	kg	406.00	306.00	124236.00
7	MS Bolt / Nut / Washer	kg	63.00	97.00	6111.00
8	MS pipe 32 mm dia for railing	Rm	50.00	218.00	10900.00
9	Worm reducers	Nos.	4.00	268528.00	1074112.00
10	Electric motor 17.5 hp	No.	1.00	92092.00	92092.00
	Electric motor 5 hp	Nos.	2.00	37440.00	74880.00
	Electric motor 3 hp	No.	1.00	24752.00	24752.00
11	Ele-magnetic / Thruster brakes	Nos.	4.00	40872.00	163488.00
12	Electric cable / switch / control panel etc	LS	3.00	67496.00	202488.00
13	Oxygen gas	cum	579.00	63.00	36477.00

14	Acetyline gas	cum	193.00	463.00	89359.00
15	Welding electrodes	Nos	1123.00	15.00	16845.00
16	Welding electrodes (LH)	Nos	10110.00	25.00	252750.00
17	Grease	kg	50.00	312.00	15600.00
18	Use rate welding holder set	Hour	1197.00	10.19	12199.82
19	Use rate gas cutting torch set	Hour	150.00	30.25	4537.00
20	Sundries	LS	200.00	29.00	5800.00
	Total cost of Materials			Rs:	**5557594.82**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	1197.00	17.20	20588.40
	Fuel / Energy charges	Hour	748.00	128.90	96417.20
2	Tower crane 5 t capacity	Hour	6.00	938.60	5631.60
	Fuel / Energy charges	Hour	6.00	279.30	1675.80
3	Pug cutting machine	Hour	235.00	8.10	1903.50
	Fuel / Energy charges	Hour	235.00	5.40	1269.00
4	Mobile derric crane	Hour	100.00	667.50	66750.00
	Fuel / Energy charges	Hour	100.00	497.40	49740.00
5	Grinding machine	Hour	32.00	26.60	851.20
	Fuel / Energy charges	Hour	32.00	53.70	1718.40
6	Drilling machines	Hour	16.00	26.60	425.60
	Fuel / Energy charges	Hour	16.00	53.70	859.20
7	Sundries	LS	500.00	29.00	14500.00
	Total hire charges of Machinery			Rs:	**262329.90**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	100.00	278.90	27890.00
2	Crew for Tower crane	Hour	6.00	297.40	1784.40
3	Crew for Drilling machine	Hour	16.00	304.20	4867.20
4	Crew for Grinding machine	Hour	32.00	304.20	9734.40
5	Foreman	Day	74.00	790.00	58460.00
6	Marker / Fabricator / Erector	Day	124.00	815.00	101060.00
7	Gas cutter	Day	48.00	720.00	34560.00
8	Welder (General)	Day	112.00	720.00	80640.00
9	Khalasi	Day	20.00	710.00	14200.00
10	Helper fabrication / erection	Day	350.00	650.00	227500.00
11	Electrician	Day	10.00	775.00	7750.00
	Total cost of Labour			Rs:	**568446.00**

Add towards highly skilled labour charges @ 30% on total cost of labour **170533.80**

Total Cost of Labour **738979.80**

labour component/unit qty		29559.20
Add contractor's profit and overhead charges	13.615%	4024.50
labour component/unit qty (including contractor's profit)		**33583.70**

ABSTRACT:

A. Cost of Materials			Rs:	5557594.82
B. Hire charges of Machinery			Rs:	262329.90
C. Cost of Labour			Rs:	738979.80
		Total	Rs:	6558904.52
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	6558904.52
E. Add for transportation upto work site @		3%	Rs:	166727.84
		Total	Rs:	6725632.37
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	915694.85

Add 2 leads				
Add 1 km lead charges for fabricated parts			27.00 per tonne	1666.224
Unloading charges of fabricated parts Rs			128.90 per tonne	7954.676
Total cost for	30.856	tonne	Rs:	7650948.12
	25.000	t capacity	Rs:	
	Rate per	tonne	Rs:	247956.60
Rate per tonne capacity			Rs:	**306037.90**

RAIL TRACK FOR GANTRY CRANE

IRR-GAW-2-5

Design, fabrication, supply, erection and **commissioning of rail track using 45 kg / m standard rails on spillway bridge for movement of gantry crane** for handling and operating spillway stoplog gate elements / river sluice / canal sluice emergency gate including cost of all materials, machinery, labour, complete as per specifications
(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **200.000** Rm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Str steel angle / beam / channel / bars	kg	1570.00	60.00	94200.00
2	Structural steel plate / flats	kg	975.00	61.00	59475.00
3	Rails	kg	18450.00	62.19	1147442.40
4	MS bolts and nuts	kg	246.00	97.00	23862.00
5	Oxygen gas	cum	201.00	63.00	12663.00
6	Acetyline gas	cum	67.00	463.00	31021.00
7	Welding electrodes	Nos	1805.00	15.00	27075.00
8	Use rate welding holder set	Hour	193.00	10.19	1967.06
9	Use rate gas cutting torch set	Hour	133.00	30.25	4022.81
10	Sundries	LS	10.00	29.00	290.00
		Total cost of Materials		Rs:	**1402018.26**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	193.00	17.20	3319.60
	Fuel / Energy charges	Hour	121.00	128.90	15596.90
2	Mobile derric crane	Hour	4.00	667.50	2670.00
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
3	Grinding machine	Hour	8.00	26.60	212.80
	Fuel / Energy charges	Hour	8.00	53.70	429.60
4	Drilling machines	Hour	50.00	26.60	1330.00
	Fuel / Energy charges	Hour	50.00	53.70	2685.00
5	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**28523.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	4.00	278.90	1115.60
2	Crew for Drilling machine	Hour	50.00	304.20	15210.00
3	Crew for Grinding machine	Hour	8.00	304.20	2433.60
4	Foreman	Day	8.00	790.00	6320.00
5	Marker / Fabricator / Erector	Day	32.00	815.00	26080.00
6	Gas cutter	Day	17.00	720.00	12240.00
7	Welder (General)	Day	18.00	720.00	12960.00
8	Helper fabrication / erection	Day	52.00	650.00	33800.00
9	Electrician	Day	1.00	775.00	775.00
		Total cost of Labour		Rs:	**110934.20**

Add towards highly skilled labour charges @ 30% on total cost of labour					**33280.26**
Total Cost of Labour					**144214.46**
labour component/unit qty		721.10			
Add contractor's profit and overhead charges	13.615%	98.20			
labour component/unit qty (including contractor's profit)		**819.30**			
ABSTRACT:					
A. Cost of Materials				Rs:	1402018.26
B. Hire charges of Machinery				Rs:	28523.50
C. Cost of Labour				Rs:	144214.46
			Total	Rs:	1574756.22
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	1574756.22
E. Add for transportation upto work site @			3%	Rs:	42060.55
			Total	Rs:	1616816.77
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	220129.60
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00 per tonne		1118.988
Unloading charges of fabricated parts Rs			128.90 per tonne		5342.132
Total cost for	200.000	Rm		Rs:	1843407.49
Rate per Rm				Rs:	**9217.00**

VERTICAL LIFT GATES/STOP LOGS - ROLLER MOUNTED

IRR-GAW-2-6

Design, fabrication, supply, erection, testing and **commissioning of fixed wheel type vertical lift service gate** consisting of skin plate, vertical and horizontal girders, wheels, stiffeners, lifting brackets, guide rollers, ballast blocks, teflon claded rubber seals etc., with all accessories for river sluice / canal sluice vent including cost of all materials, machinery, labour,welding ,aligning finishing seal fixing etc.with allleads and lifts, complete as per specifications andvapproved drawings **(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)**

Drawing No. CE/CDO/DEE/DEE4/GNC/HR/2150/96,2137/98 (GNSS Project)

Gate Size: 3.66 X 6.1 Mtr

DATA: **RATE ANALYSIS** UNIT : **10.000** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Plates / flats	kg	7103.00	61.00	433283.00
	Beams/Channels	kg	2727.00	60.00	163620.00
2	Alloy steel components				
	Wheel axles / Pins	kg	108.00	489.00	52812.00
3	Cast steel components				
	Wheels / Guide rollers	kg	504.00	213.00	107352.00
4	Alluminium / Bronze alloy components				
	Bearings	kg	12.00	1108.00	13296.00
5	Bolt / Nut / Washer				
	GI bolts / nuts / washers	kg	36.00	112.00	4032.00
	MS bolts / nuts / washers	kg	6.00	97.00	582.00
6	Rubber seals				
	Bottom seal (flat uncladed)	Rm	3.72	946.00	3519.12
	Side seals (bulb teflon claded)	Rm	12.30	3604.00	44329.20
	Top seal (bulb teflon claded)	Rm	3.72	3604.00	13406.88
	Corner seals (bulb teflon claded)	Nos	2.00	2579.00	5158.00
7	Oxygen gas	cum	170.00	63.00	10710.00
8	Acetyline gas	cum	56.00	463.00	25928.00
9	Welding electrodes	Nos	3200.00	15.00	48000.00

10	Welding electrodes (LH)	Nos	800.00	25.00	20000.00
11	Use rate welding holder set	Hour	500.00	10.19	5096.00
12	Use rate gas cutting torch set	Hour	40.00	30.25	1209.87
13	Sundries	LS	60.00	29.00	1740.00
	Total cost of Materials			Rs:	**954074.07**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	500.00	17.20	8600.00
	Fuel / Energy charges	Hour	500.00	128.90	64450.00
2	Pug cutting machine	Hour	85.00	8.10	688.50
	Fuel / Energy charges	Hour	85.00	5.40	459.00
3	Tower crane	Hour	10.00	938.60	9386.00
	Fuel / Energy charges	Hour	10.00	279.30	2793.00
4	Mobile crane 16 T	Hour	30.00	2396.70	71901.00
	Fuel / Energy charges	Hour	30.00	75.00	2250.00
5	Stationery derric crane	Hour	20.00	89.60	1792.00
	Fuel / Energy charges	Hour	20.00	0.00	0.00
6	Grinding machine	Hour	10.00	26.60	266.00
	Fuel / Energy charges	Hour	10.00	53.70	537.00
7	Drilling machines	Hour	30.00	26.60	798.00
	Fuel / Energy charges	Hour	30.00	53.70	1611.00
8	Bending machine	Hour	10.00	45.20	452.00
	Fuel / Energy charges	Hour	10.00	161.10	1611.00
9	Sundries	LS	50.00	29.00	1450.00
	Total hire charges of Machinery			Rs:	**169044.50**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 16 T	Hour	30.00	843.60	25308.00
2	Crew for Tower crane	Hour	10.00	297.40	2974.00
3	Crew for Drilling machine	Hour	30.00	304.20	9126.00
4	Crew for Grinding machine	Hour	10.00	304.20	3042.00
5	Crew for Bending machine	Hour	10.00	212.20	2122.00
6	Foreman	Day	16.00	790.00	12640.00
7	Marker / Fabricator / Erector	Day	50.00	815.00	40750.00
8	Gas cutter	Day	8.00	720.00	5760.00
9	Welder (General)	Day	52.00	720.00	37440.00
10	Welder (X - ray grade)	Day	14.00	780.00	10920.00
11	Khalasi	Day	170.00	710.00	120700.00
12	Helper fabrication / erection	Day	230.00	650.00	149500.00
13	Electrician	Day	4.00	775.00	3100.00
	Total cost of Labour			Rs:	**423382.00**

Add towards highly skilled labour charges @ 30% on total cost of labour			**127014.60**
Total Cost of Labour			**550396.60**
labour component/unit qty		55039.70	
Add contractor's profit and overhead charges	13.615%	7493.70	
labour component/unit qty (including contractor's profit)		**62533.40**	

ABSTRACT:

A. Cost of Materials		Rs:	954074.07
B. Hire charges of Machinery		Rs:	169044.50
C. Cost of Labour		Rs:	550396.60
	Total	Rs:	1673515.17
D. Add for excise duty	0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)	Total	Rs:	1673515.17
E. Add for transportation upto work site @	3%	Rs:	28622.22

	Total		Rs:	1702137.39
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	231746.01
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.00 per tonne		540
Unloading charges of fabricated parts Rs		128.90 per tonne		2578
Total cost for	10.000	tonne	Rs:	1937001.39
Rate per tonne			Rs:	**193700.10**

VERTICAL LIFT GATES-ROPE DRUM HOIST UPTO 30 TON CAP. POWER OPERATED

IRR-GAW-2-7

Design, fabrication, supply, erection, testing and **commissioning of adequate capacity rope drum hoist** consisting of hoist platform, rope drum, gear system, electric motor, electro-magnetic brake system, hand operation assembly, control panel, wire rope, pulleys, ladder etc., with all accessories for operating river sluice / canal sluice service gate including cost of all materials, machinery, labour, , complete as per specifications and drawings with all leads and lifts (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA:

RATE ANALYSIS UNIT : **6.243** tonne wt

A. MATERIALS: **25** t capacity

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	1487.00	60.00	89220.00
	Plates / flats	kg	402.00	61.00	24522.00
	Chequered plate	kg	290.00	77.00	22330.00
2	Cast steel components :				
	Rope drums 2 Nos / Gears	kg	1926.00	281.00	541206.00
	Pinions	kg	79.00	260.00	20540.00
	Pulleys 3 Nos / Couplings 2 Nos	kg	306.00	213.00	65178.00
	Plummer blocks / Hubs	kg	72.00	213.00	15336.00
3	Alloy steel components				
	Shafts	kg	346.00	286.00	98956.00
	Pins	kg	73.00	489.00	35697.00
4	Bronze alloy components :				
	Bronze bearings / bush	kg	57.00	1108.00	63156.00
5	Wire rope 28 mm dia 6/37 construction	kg	325.00	306.00	99450.00
6	MS Bolt / Nut / Washer	kg	32.00	97.00	3104.00
7	Worm reducers	No.	1.00	268528.00	268528.00
8	Electric motor 5 hp	No.	1.00	37440.00	37440.00
9	Manual operating system	No.	1.00	34736.00	34736.00
10	Gate position indicator	No.	1.00	257920.00	257920.00
11	Ele-magnetic brake	No.	1.00	40872.00	40872.00
12	Electric cable / switch / control panel etc	LS	1.00	67496.00	67496.00
13	Oxygen gas	cum	45.00	63.00	2835.00
14	Acetyline gas	cum	15.00	463.00	6945.00
15	Welding electrodes	Nos	80.00	15.00	1200.00
16	Welding electrodes (LH)	Nos	720.00	25.00	18000.00
17	Grease	kg	50.00	312.00	15600.00
18	Use rate welding holder set	Hour	85.00	10.19	866.32
19	Use rate gas cutting torch set	Hour	16.00	30.25	483.95
20	Sundries	LS	25.00	29.00	725.00
	Total cost of Materials			Rs:	**1832342.27**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate	Amount

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	85.00	17.20	1462.00
	Fuel / Energy charges	Hour	53.00	128.90	6831.70
2	Tower crane 5 t capacity	Hour	2.00	938.60	1877.20
	Fuel / Energy charges	Hour	2.00	279.30	558.60
3	Pug cutting machine	Hour	15.00	8.10	121.50
	Fuel / Energy charges	Hour	15.00	5.40	81.00
4	Mobile derric crane	Hour	10.00	667.50	6675.00
	Fuel / Energy charges	Hour	10.00	497.40	4974.00
5	Grinding machine	Hour	2.00	26.60	53.20
	Fuel / Energy charges	Hour	2.00	53.70	107.40
6	Drilling machines	Hour	2.00	26.60	53.20
	Fuel / Energy charges	Hour	2.00	53.70	107.40
7	Sundries	LS	25.00	29.00	725.00
	Total hire charges of Machinery			Rs:	**23627.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	10.00	278.90	2789.00
2	Crew for Tower crane	Hour	2.00	297.40	594.80
3	Crew for Drilling machine	Hour	2.00	304.20	608.40
4	Crew for Grinding machine	Hour	2.00	304.20	608.40
5	Foreman	Day	15.00	790.00	11850.00
6	Marker / Fabricator / Erector	Day	19.00	815.00	15485.00
7	Gas cutter	Day	4.00	720.00	2880.00
8	Welder (General)	Day	8.00	720.00	5760.00
9	Khalasi	Day	4.00	710.00	2840.00
10	Helper fabrication / erection	Day	44.00	650.00	28600.00
11	Electrician	Day	2.00	775.00	1550.00
	Total cost of Labour			Rs:	**73565.60**

Add towards highly skilled labour charges @ 30% on total cost of labour			**22069.68**
Total Cost of Labour			**95635.28**
labour component/unit qty		3825.40	
Add contractor's profit and overhead charges	13.615%	520.80	
labour component/unit qty (including contractor's profit)		**4346.20**	

ABSTRACT:

A. Cost of Materials			Rs:	1832342.27
B. Hire charges of Machinery			Rs:	23627.20
C. Cost of Labour			Rs:	95635.28
		Total	Rs:	1951604.75
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	1951604.75
E. Add for transportation upto work site @		3%	Rs:	54970.27
		Total	Rs:	2006575.01
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	273195.19
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.00 per tonne		337.122
Unloading charges of fabricated parts Rs		128.90 per tonne		1609.446
Total cost for	6.243	tonne wt	Rs:	2281716.77
	25.000	t capacity	Rs:	
	Rate per	tonne wt	Rs:	365484.00
Rate per tonne capacity of hoist			Rs:	**91268.70**

HOIST BRIDGE/ WITH TRESSELS

IRR-GAW-2-8

Design, fabrication, supply, erection and **commissioning of structural steel hoist bridge**

consisting of columns, beams, bracings, stiffeners, ties, chequered plate covering, hand railing, ladder etc., with all accessories for supporting rope drum hoist for operating barrage gates including cost of all materials, machinery, labour, welding, finishing, etc., complete complete as per specifications and drawings **with all leads and lifts**

(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

Drawing No. CE/CDO/VRSP/215,216/86-87 (Vengalaraya Sagar - Gomukhi Project)

Vent Size: 12 X 6.6 Mtr

DATA: **RATE ANALYSIS** UNIT : **10.500** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel angles/ beams / channels	kg	1494.00	60.00	89640.00
	Structural steel plates / flats	kg	6564.00	61.00	400404.00
	Chequered plate	kg	2442.00	77.00	188034.00
2	MS pipe 25 mm dia	Rm	60.00	187.00	11220.00
3	Bolt / Nut / Washers	kg	18.00	97.00	1746.00
4	Oxygen gas	cum	105.00	63.00	6615.00
5	Acetyline gas	cum	35.00	463.00	16205.00
6	Welding electrodes	Nos	3150.00	15.00	47250.00
7	Use rate welding holder set	Hour	394.00	10.19	4015.65
8	Use rate gas cutting torch set	Hour	105.00	30.25	3175.90
9	Sundries	LS	50.00	29.00	1450.00
	Total cost of Materials			Rs:	**769755.55**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	394.00	17.20	6776.80
	Fuel / Energy charges	Hour	394.00	128.90	50786.60
2	Pug cutting machine	Hour	52.00	8.10	421.20
	Fuel / Energy charges	Hour	52.00	5.40	280.80
3	Mobile crane 30 T	Hour	30.00	3555.10	106653.00
	Fuel / Energy charges	Hour	30.00	118.80	3564.00
4	Stationery derric crane	Hour	20.00	89.60	1792.00
	Fuel / Energy charges	Hour	20.00	0.00	0.00
5	Drilling machine	Hour	20.00	26.60	532.00
	Fuel / Energy charges	Hour	20.00	53.70	1074.00
6	Grinding machine	Hour	20.00	26.60	532.00
	Fuel / Energy charges	Hour	20.00	53.70	1074.00
7	Tower Crane	Hour	20.00	938.60	18772.00
	Fuel / Energy charges	Hour	20.00	279.30	5586.00
8	Sundries	LS	50.00	29.00	1450.00
	Total hire charges of Machinery			Rs:	**199294.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane 30 T	Hour	30.00	843.60	25308.00
2	Crew for Drilling machine	Hour	20.00	304.20	6084.00
3	Crew for Grinding machine	Hour	20.00	304.20	6084.00
4	Crew for Tower Crane	Hour	20.00	297.40	5948.00
5	Foreman	Day	10.00	790.00	7900.00
6	Marker / Fabricator / Erector	Day	50.00	815.00	40750.00
7	Gas cutter	Day	14.00	720.00	10080.00

8	Welder (General)	Day	53.00	720.00	38160.00
9	Helper fabrication / erection	Day	400.00	650.00	260000.00
10	Electrician	Day	6.00	775.00	4650.00
	Total cost of Labour			Rs:	**404964.00**
	Add towards highly skilled labour charges @ 30% on total cost of labour				**121489.20**
	Total Cost of Labour				**526453.20**

labour component/unit qty		50138.40
Add contractor's profit and overhead charges	13.615%	6826.30
labour component/unit qty (including contractor's profit)		**56964.70**

ABSTRACT:

A. Cost of Materials				Rs:	769755.55
B. Hire charges of Machinery				Rs:	199294.40
C. Cost of Labour				Rs:	526453.20
			Total	Rs:	1495503.15
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	1495503.15
E. Add for transportation upto work site @			3%	Rs:	23092.67
		Total		Rs:	1518595.81
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	206756.82
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00 per tonne		567
Unloading charges of fabricated parts Rs			128.90 per tonne		2706.9
Total cost for	10.500	tonne		Rs:	1728626.53
Rate per tonne				Rs:	**164631.10**

ROPE DRUM HOIST WITHOUT HOIST BRIDGE FOR BARRAGE GATES

IRR-GAW-2-9

Design, fabrication, supply, erection, testing and **commissioning of adequate capacity rope drum hoist consisting of rope drum**, pulleys, gear system, electri c motor, electro-magnetic brake system, manual operation assembly, position indicator, control panel, wire rope etc., with all accessories for operating vertical lift roller gates for barrage including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding, finishing etc., **complete with all leads and lifts.**

(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **5.069** tonne wt

A. MATERIALS: **50.00** t capacity

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	420.00	60.00	25200.00
	Plates / flats	kg	225.00	61.00	13725.00
2	Cast steel components :				
	Rope drums 2 Nos / Gears	kg	1290.00	281.00	362490.00
	Pinions	kg	98.00	260.00	25480.00
	Pulleys 3 Nos / Couplings 2 Nos	kg	650.00	213.00	138450.00
	Plummer blocks / Hubs	kg	250.00	213.00	53250.00
3	Alloy steel components				
	Shafts / Keys	kg	350.00	286.00	100100.00
	Pins	kg	96.00	489.00	46944.00
4	Bronze alloy components :				
	Bronze bearings / bush	kg	100.00	1108.00	110800.00
5	Wire rope 28 mm dia 6/37 construction	kg	435.00	306.00	133110.00
6	MS Bolt / Nut / Washer	kg	26.00	97.00	2522.00

7	Worm reducers	No.	1.00	268528.00	268528.00
8	Electric motor 12.5 hp	No.	1.00	77688.00	77688.00
9	Manual operating system	No.	1.00	34736.00	34736.00
10	Gate position indicator	No.	1.00	257920.00	257920.00
11	Ele-magnetic brake	No.	1.00	40872.00	40872.00
12	Electric cable / switch / control panel etc	LS	1.00	67496.00	67496.00
13	Oxygen gas	cum	30.00	63.00	1890.00
14	Acetyline gas	cum	10.00	463.00	4630.00
15	Welding electrodes	Nos	44.00	15.00	660.00
16	Welding electrodes (LH)	Nos	392.00	25.00	9800.00
17	Grease	kg	50.00	312.00	15600.00
18	Use rate welding holder set	Hour	47.00	10.19	479.02
19	Use rate gas cutting torch set	Hour	12.00	30.25	362.96
20	Sundries	LS	25.00	29.00	725.00
	Total cost of Materials			Rs:	**1793457.98**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	47.00	17.20	808.40
	Fuel / Energy charges	Hour	47.00	128.90	6058.30
2	Tower crane 5 t capacity	Hour	2.00	938.60	1877.20
	Fuel / Energy charges	Hour	2.00	279.30	558.60
3	Pug cutting machine	Hour	9.00	8.10	72.90
	Fuel / Energy charges	Hour	9.00	5.40	48.60
4	Mobile derric crane	Hour	10.00	667.50	6675.00
	Fuel / Energy charges	Hour	10.00	497.40	4974.00
5	Grinding machine	Hour	2.00	26.60	53.20
	Fuel / Energy charges	Hour	2.00	53.70	107.40
6	Drilling machines	Hour	2.00	26.60	53.20
	Fuel / Energy charges	Hour	2.00	53.70	107.40
7	Sundries	LS	25.00	29.00	725.00
	Total hire charges of Machinery			Rs:	**22119.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	10.00	278.90	2789.00
2	Crew for Tower crane	Hour	2.00	297.40	594.80
3	Crew for Drilling machine	Hour	2.00	304.20	608.40
4	Crew for Grinding machine	Hour	2.00	304.20	608.40
5	Foreman	Day	13.00	790.00	10270.00
6	Marker / Fabricator / Erector	Day	17.00	815.00	13855.00
7	Gas cutter	Day	3.00	720.00	2160.00
8	Welder (General)	Day	5.00	720.00	3600.00
9	Khalasi	Day	4.00	710.00	2840.00
10	Helper fabrication / erection	Day	36.00	650.00	23400.00
11	Electrician	Day	2.00	775.00	1550.00
	Total cost of Labour			Rs:	**62275.60**

Add towards highly skilled labour charges @ 30% on total cost of labour **18682.68**

Total Cost of Labour **80958.28**

labour component/unit qty		1619.20
Add contractor's profit and overhead charges	13.615%	220.50
labour component/unit qty (including contractor's profit)		**1839.70**

ABSTRACT:

A. Cost of Materials				Rs:	1793457.98
B. Hire charges of Machinery				Rs:	22119.20
C. Cost of Labour				Rs:	80958.28
			Total	Rs:	1896535.46
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	1896535.46
E. Add for transportation upto work site @			3%	Rs:	53803.74
		Total		Rs:	1950339.20
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	265538.68
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00 per tonne		273.726
Unloading charges of fabricated parts Rs			128.90 per tonne		1306.788
Total cost for	5.069	tonne wt		Rs:	2217458.40
	50.000	t capacity		Rs:	
	Rate per	tonne wt		Rs:	437454.80
Rate per tonne capacity of hoist				Rs:	**44349.20**

SCREW GEAR HOISTS including plat form(UPTO 10 TON CAP)

IRR-GAW-2-10

Design, fabrication, supply, erection, testing and **commissioning of adequate capacity screw gear type hoist** consisting of supporting structure, platform, ladder etc., with all accessories for operating canal escape / regulator gate including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding,finishing etc.,complete with all leads and lifts. (without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **0.871** tonne

A. MATERIALS: **3.00** t capacity

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	402.00	60.00	24120.00
	Plates / flats	kg	145.00	61.00	8845.00
	Chequered plate	kg	176.00	77.00	13552.00
2	Cast iron components :				
	Hoist body / Lock nut / Main nut	kg	55.00	281.00	15455.00
3	Alloy steel components				
	Hoist stem	kg	75.00	286.00	21450.00
4	Bronze alloy components :				
	Thrust bearings	kg	4.00	1108.00	4432.00
5	MS Bolt / Nut / Washer	kg	8.00	97.00	776.00
6	Oxygen gas	cum	18.00	63.00	1134.00
7	Acetyline gas	cum	6.00	463.00	2778.00
8	Welding electrodes	Nos	7.00	15.00	105.00
9	Welding electrodes (LH)	Nos	66.00	25.00	1650.00
10	Grease	kg	2.00	312.00	624.00
11	Use rate welding holder set	Hour	8.00	10.19	81.54
12	Use rate gas cutting torch set	Hour	11.00	30.25	332.71
13	Sundries	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**95393.25**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	8.00	17.20	137.60
	Fuel / Energy charges	Hour	5.00	128.90	644.50

2	Grinding machine	Hour	2.00	26.60	53.20
	Fuel / Energy charges	Hour	2.00	53.70	107.40
3	Drilling machines	Hour	2.00	26.60	53.20
	Fuel / Energy charges	Hour	2.00	53.70	107.40
4	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**1161.30**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling machine	Hour	2.00	304.20	608.40
2	Crew for Grinding machine	Hour	2.00	304.20	608.40
3	Foreman	Day	4.00	790.00	3160.00
4	Marker / Fabricator / Erector	Day	5.00	815.00	4075.00
5	Gas cutter	Day	2.00	720.00	1440.00
6	Welder (General)	Day	1.00	720.00	720.00
7	Helper fabrication / erection	Day	9.00	650.00	5850.00
8	Electrician	Day	0.50	775.00	387.50
	Total cost of Labour			Rs:	**16849.30**
	Add towards highly skilled labour charges @ 30% on total cost of labour				**5054.79**
	Total Cost of Labour				**21904.09**

labour component/unit qty		7301.40
Add contractor's profit and overhead charges	13.615%	994.10
labour component/unit qty (including contractor's profit)		**8295.50**

ABSTRACT:

A. Cost of Materials			Rs:	95393.25
B. Hire charges of Machinery			Rs:	1161.30
C. Cost of Labour			Rs:	21904.09
		Total	Rs:	118458.64
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	118458.64
E. Add for transportation upto work site @		3%	Rs:	2861.80
	Total		Rs:	121320.44
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	16517.78
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.00 per tonne		47.034
Unloading charges of fabricated parts Rs		128.90 per tonne		224.544
Total cost for	0.871	tonne	Rs:	138109.79
	3.000	t capacity	Rs:	
	Rate per	tonne	Rs:	158564.60
Rate per tonne capacity			Rs:	**46036.60**

MANUAL OPERATED ROPE DRUM HOISTS

IRR-GAW-2-11

Design, fabrication, supply, erection, testing and **commissioning of adequate capacity manually operated rope drum hoist** consisting of hoist platform, rope drum, gear system, brake system, wire rope, ladder etc., with all accessories for operating canal regulator radial gate including cost of all materials, machinery, labour, welding, finishing, cleaning, ., complete **with all leads and lifts**

(without painting on sand-blasted or mechanical cleaning surfaces which are added extra as perscedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **2.804** tonne

A. MATERIALS: **10.00** t capacity

Sl No	Particulars	Unit	Quantity	Rate	Amount

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel				
	Angles / beams / channels / bars	kg	1229.00	60.00	73740.00
	Plates / flats	kg	453.00	61.00	27633.00
	Chequered plate	kg	195.00	77.00	15015.00
2	Cast steel components :				
	Rope drums 2 Nos / Gears	kg	384.00	281.00	107904.00
	Pinions	kg	14.00	260.00	3640.00
	Pulleys 6 Nos	kg	108.00	213.00	23004.00
	Plummer blocks / Couplings	kg	47.00	213.00	10011.00
3	Alloy steel components				
	Shafts	kg	75.00	286.00	21450.00
	Pins	kg	24.00	489.00	11736.00
4	Bronze alloy components :				
	Bronze bearings / bush	kg	11.00	1108.00	12188.00
5	Wire rope 12 mm dia 6/36 construction	kg	42.00	306.00	12852.00
6	MS Bolt / Nut / Washer	kg	64.00	97.00	6208.00
7	Worm reducers	No.	1.00	268528.00	268528.00
8	Manual operating system	No.	1.00	34736.00	34736.00
9	Brake	No.	1.00	40872.00	40872.00
10	Wire rope sockets	No	2.00	6136.00	12272.00
11	Oxygen gas	cum	75.00	63.00	4725.00
12	Acetyline gas	cum	25.00	463.00	11575.00
13	Welding electrodes	Nos	69.00	15.00	1035.00
14	Welding electrodes (LH)	Nos	622.00	25.00	15550.00
15	Grease	kg	10.00	312.00	3120.00
16	Use rate welding holder set	Hour	73.00	10.19	744.02
17	Use rate gas cutting torch set	Hour	42.00	30.25	1270.36
18	Sundries	LS	25.00	29.00	725.00
	Total cost of Materials			Rs:	**720533.38**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	73.00	17.20	1255.60
	Fuel / Energy charges	Hour	46.00	128.90	5929.40
2	Pug cutting machine	Hour	8.00	8.10	64.80
	Fuel / Energy charges	Hour	8.00	5.40	43.20
3	Mobile derric crane	Hour	4.00	667.50	2670.00
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
4	Stationery derric crane	Hour	8.00	89.60	716.80
	Fuel / Energy charges	Hour	8.00	0.00	0.00
5	Grinding machine	Hour	8.00	26.60	212.80
	Fuel / Energy charges	Hour	8.00	53.70	429.60
6	Drilling machines	Hour	16.00	26.60	425.60
	Fuel / Energy charges	Hour	16.00	53.70	859.20
7	Sundries	LS	25.00	29.00	725.00
	Total hire charges of Machinery			Rs:	**15321.60**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Mobile crane	Hour	4.00	278.90	1115.60
2	Crew for Drilling machine	Hour	16.00	304.20	4867.20
3	Crew for Grinding machine	Hour	8.00	304.20	2433.60
4	Foreman	Day	14.00	790.00	11060.00
5	Marker / Fabricator / Erector	Day	20.00	815.00	16300.00
6	Gas cutter	Day	6.00	720.00	4320.00

7	Welder (General)	Day	7.00	720.00	5040.00
8	Helper fabrication / erection	Day	44.00	650.00	28600.00
9	Electrician	Day	2.00	775.00	1550.00
	Total cost of Labour			Rs:	**75286.40**

Add towards highly skilled labour charges @ 30% on total cost of labour **22585.92**

Total Cost of Labour **97872.32**

labour component/unit qty 9787.20

Add contractor's profit and overhead charges 13.615% 1332.50

labour component/unit qty (including contractor's profit) **11119.70**

ABSTRACT:

A. Cost of Materials	Rs:			720533.38
B. Hire charges of Machinery	Rs:			15321.60
C. Cost of Labour	Rs:			97872.32
		Total	Rs:	833727.30
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	833727.30
E. Add for transportation upto work site @		3%	Rs:	21616.00
	Total		Rs:	855343.30
F. Add for contractor's profit and overheads on (A+B+C+D+E) 13.615%			Rs:	116454.99
Add 2 leads				
Add 1 km lead charges for fabricated parts		27.00 per tonne		151.416
Unloading charges of fabricated parts Rs		128.90 per tonne		722.872
Total cost for 2.804 tonne			Rs:	972672.58
10.000 t capacity				
Rate per tonne			Rs:	346887.50
Rate per tonne			Rs:	**97267.30**

Capacity of Hoist

IRR-GAW-2-12

OT SLUICE SHUTTERS Screw Gear Hoist Including Platform for below 5 Tons Capacity (Small Gates)

As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System

Fabrication, supply, erection, testing and commissioning of Embedded parts consisting of supporting structure, platform etc. with all accessories for operating canal escape/ regulator gate with all accessories including cost of all materials, machinery, labour, cutting, bending, aligning, anchoring, welding, finishing etc. complete as per Specification and approved drawings

(without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)

DATA: **RATE ANALYSIS** UNIT : **0.869** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel angles/ beams / channel	kg	445.78	60.00	26746.80
2	Structural steel plates / flats	kg	28.00	61.00	1708.00
3	Chequered plate	kg	144.80	77.00	11149.60
	Cast iron Components				
4	Hoist Body/lock nut/Main Nut etc.	Kg	83.00	281.00	23323.00
	Bronze Alloy Steel Components				
5	Thrust Bearings	kg	3.00	1108.00	3324.00
6	MS Bolt/Nut/ Washer	kg	16.00	97.00	1552.00
7	Oxygen gas	cum	21.00	63.00	1323.00
8	Acetyline gas	cum	7.00	463.00	3241.00
9	Welding electrodes	Nos	200.00	15.00	3000.00
10	Welding electrodes (LH)	Nos	40.00	25.00	1000.00
11	Use rate welding holder set	Hour	72.00	10.19	733.82

12	Use rate gas cutting torch set	Hour	36.00	30.25	1088.88
13	Sundries	LS	20.00	29.00	580.00
	Total cost of Materials			Rs:	**78770.10**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	30.00	17.20	516.00
	Fuel / Energy charges	Hour	30.00	128.90	3867.00
2	Pug cutting machine	Hour	12.00	8.10	97.20
	Fuel / Energy charges	Hour	12.00	5.40	64.80
3	Drilling machine	Hour	8.00	26.60	212.80
	Fuel / Energy charges	Hour	8.00	53.70	429.60
4	Grinding machine	Hour	36.00	26.60	957.60
	Fuel / Energy charges	Hour	36.00	53.70	1933.20
5	Lathe machine (Screw Rod M/C)	Hour	16.00	300.00	4800.00
6	Sundries	LS	10.00	29.00	290.00
	Total hire charges of Machinery			Rs:	**13168.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling machine	Hour	8.00	304.20	2433.60
2	Crew for Grinding machine	Hour	36.00	304.20	10951.20
3	Foreman	Day	2.00	790.00	1580.00
4	Marker / Fabricator / Erector	Day	10.00	815.00	8150.00
5	Gas cutter	Day	4.00	720.00	2880.00
6	Welder (General)	Day	4.00	720.00	2880.00
7	Mazdoors	Day	6.00	605.00	3630.00
8	Helper fabrication / erection	Day	6.00	650.00	3900.00
	Total cost of Labour			Rs:	**36404.80**

labour component/unit qty		36404.80	
Add contractor's profit and overhead charges	13.615%	4956.50	
labour component/unit qty (including contractor's profit)		**41361.30**	

ABSTRACT:

A. Cost of Materials				Rs:	78770.10
B. Hire charges of Machinery				Rs:	13168.20
C. Cost of Labour				Rs:	36404.80
			Total	Rs:	128343.10
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	128343.10
E. Add for transportation upto work site @			3%	Rs:	2363.10
		Total		Rs:	130706.21
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	17795.65
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00 per tonne		46.926
Unloading charges of fabricated parts Rs			128.90 per tonne		224.028
Total cost for	0.869	tonne		Rs:	148772.81
Rate per tonne				Rs:	**171200.00**

IRR-GAW-2-13

OT SLUICE SHUTTERS EM parts for Below 5 Tons capacity (small gates)

As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System

Fabrication, supply, erection, testing and commissioning of Embedded parts consisting of sil beam, slide tracks, seal seats, Guide plates etc. with all accessories including cost of all materials, machinery, labour, etc. complete as per specifications and approved drawings.

(without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)

Height of EM parts: 5.4 M Gate Size: 0.99 X 0.875 M

DATA: **RATE ANALYSIS** UNIT : **1.334** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel angles/ beams / channel	kg	440.57	60.00	26434.20
2	Structural steel plates / flats	kg	869.00	61.00	53009.00
3	Stainless Steel Flats	kg	25.12	341.00	8565.92
4	Oxygen gas	cum	12.00	63.00	756.00
5	Acetyline gas	cum	4.00	463.00	1852.00
6	Welding electrodes	Nos	210.00	15.00	3150.00
7	Welding electrodes (Stainless Steel)	Nos	30.00	30.00	900.00
8	Use rate welding holder set	Hour	62.00	10.19	631.90
9	Use rate gas cutting torch set	Hour	32.00	30.25	967.89
10	Sundries	LS	3.00	29.00	87.00
	Total cost of Materials			Rs:	**96353.92**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	30.00	17.20	516.00
	Fuel / Energy charges	Hour	30.00	128.90	3867.00
2	Pug cutting machine	Hour	20.00	8.10	162.00
	Fuel / Energy charges	Hour	20.00	5.40	108.00
3	Drilling machine	Hour	4.00	26.60	106.40
	Fuel / Energy charges	Hour	4.00	53.70	214.80
4	Grinding machine	Hour	20.00	26.60	532.00
	Fuel / Energy charges	Hour	20.00	53.70	1074.00
5	Sundries	LS	3.00	29.00	87.00
	Total hire charges of Machinery			Rs:	**6667.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling machine	Hour	4.00	304.20	1216.80
2	Crew for Grinding machine	Hour	20.00	304.20	6084.00
3	Foreman	Day	8.00	790.00	6320.00
4	Marker / Fabricator / Erector	Day	6.00	815.00	4890.00
5	Gas cutter	Day	2.00	720.00	1440.00
6	Welder (General)	Day	4.00	720.00	2880.00
7	Mazdoors	Day	4.00	605.00	2420.00
8	Helper fabrication / erection	Day	8.00	650.00	5200.00
	Total cost of Labour			Rs:	**30450.80**

labour component/unit qty		30450.80
Add contractor's profit and overhead charges	13.615%	4145.90
labour component/unit qty (including contractor's profit)		**34596.70**

ABSTRACT:

A. Cost of Materials		Rs:	96353.92
B. Hire charges of Machinery		Rs:	6667.20
C. Cost of Labour		Rs:	30450.80
	Total	Rs:	133471.92
D. Add for excise duty	0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)	Total	Rs:	133471.92
E. Add for transportation upto work site @	3%	Rs:	2890.62
	Total	Rs:	136362.53

F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	18565.76
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00	per tonne	72.036
Unloading charges of fabricated parts Rs			128.90	per tonne	343.906
Total cost for	1.334	tonne		Rs:	**155344.24**
	Rate per	**tonne**		Rs:	**116450**

IRR-GAW-2-14

OT SLUICE SHUTTERS for Below 5 Tons capacity (small gates)

As per Guidelines of Chief Engineer, Central Designs Organization, Hyderabad Specification drawing for Krishna Delta System

Fabrication, supply, erection, testing and commissioning of Sluice Shutters consisting of skin plate, horizontal and vertical angles, stiffeners, rubber seals, clamps with all accessories for sluice shutters including cost of all materials, machinery, labour, seal fixing etc., complete as per specifications and approved drawings

(without painting on mechanical cleaning surfaces which are added extra as per schedule of rates under items in this chapter and add as applicable separately)

Gate Size: 0.99 X 0.875 M

DATA: **RATE ANALYSIS** UNIT : **0.161** tonne

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Structural steel angles/ beams / channel	kg	63.72	60.00	3823.20
2	Structural steel plates / flats	kg	96.50	61.00	5886.50
3	GI Bolts/Nut/Washer	kg	20.00	140.00	2800.00
	Rubber Seals				
4	Bottom Seal	Rm	0.82	946.00	775.72
5	Side Seal/ Top Seal	Rm	1.75	2954.00	5169.50
6	Oxygen gas	cum	15.00	63.00	945.00
7	Acetyline gas	cum	5.00	463.00	2315.00
8	Welding electrodes	Nos	110.00	15.00	1650.00
9	Use rate welding holder set	Hour	30.00	10.19	305.76
10	Use rate gas cutting torch set	Hour	12.00	30.25	362.96
11	Sundries	LS	3.00	29.00	87.00
	Total cost of Materials			Rs:	**24120.64**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Welding transformer	Hour	14.00	17.20	240.80
	Fuel / Energy charges	Hour	14.00	128.90	1804.60
2	Pug cutting machine	Hour	4.00	8.10	32.40
	Fuel / Energy charges	Hour	4.00	5.40	21.60
3	Drilling machine	Hour	2.00	26.60	53.20
	Fuel / Energy charges	Hour	2.00	53.70	107.40
4	Grinding machine	Hour	4.00	26.60	106.40
	Fuel / Energy charges	Hour	4.00	53.70	214.80
5	Sundries	LS	3.00	29.00	87.00
	Total hire charges of Machinery			Rs:	**2668.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Drilling machine	Hour	2.00	304.20	608.40
2	Crew for Grinding machine	Hour	4.00	304.20	1216.80
3	Foreman	Day	2.00	790.00	1580.00
4	Marker / Fabricator / Erector	Day	3.00	815.00	2445.00
5	Gas cutter	Day	1.00	720.00	720.00

6	Welder (General)	Day	4.00	720.00	2880.00
7	Mazdoors	Day	4.00	605.00	2420.00
8	Helper fabrication / erection	Day	6.00	650.00	3900.00
	Total cost of Labour			Rs:	**15770.20**

labour component/unit qty		15770.20	
Add contractor's profit and overhead charges	13.615%	2147.10	
labour component/unit qty (including contractor's profit)		**17917.30**	

ABSTRACT:

A. Cost of Materials				Rs:	24120.64
B. Hire charges of Machinery				Rs:	2668.20
C. Cost of Labour				Rs:	15770.20
			Total	Rs:	42559.04
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	42559.04
E. Add for transportation upto work site @			3%	Rs:	723.62
		Total		Rs:	43282.66
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	5892.93
Add 2 leads					
Add 1 km lead charges for fabricated parts			27.00 per tonne		8.694
Unloading charges of fabricated parts Rs			128.90 per tonne		41.506
Total cost for	0.161	tonne		Rs:	49225.79
Rate per tonne				Rs:	**305750.30**

IRR-GAW-3 **SAND BLASTING AND PAINTING AS PER IS:14177-1994**

IRR-GAW-3-1

Cleaning gates / hoists / embedded parts/lifting beams etc, to expose fresh metal surface for painting **by sand blasting method** as per specifications including cost of all materials, l abour, machinery, scaffolding, etc., complete **with initial lead for sand upto 1 km and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100** **sqm**

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand (Screened)	cum	30.00	952.00	28560.00
2	Use rate of air hose	Hour	8.00	19.19	153.50
3	Use rate of sand blast gun nozzle	Hour	8.00	4.50	36.00
4	Sundries(Rust inhibitive, seive etc)	LS	5.00	29.00	145.00
	Total			Rs:	28894.50
	Add 10% towards scaffolding/laddor @			0.1	2889.45
	Total cost of Materials			Rs:	**31783.95**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Air compressor 7 cmm diesel	Hour	8.00	265.20	2121.60
	Fuel / Energy charges	Hour	8.00	1184.30	9474.40
2	Sand blasting equipment	Hour	8.00	125.90	1007.20
	Fuel / Energy charges	Hour	8.00	0.00	0.00
	Total hire charges of Machinery				**12603.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Air compressor	Hour	8.00	339.50	2716.00
2	Crew for Sand blasting equipment	Hour	8.00	353.60	2828.80
3	mazdoor	Day	15.00	605.00	9075.00
	Total cost of Labour				**14619.80**

labour component/unit qty		146.20
Add contractor's profit and overhead charges	13.615%	19.90

labour component/unit qty (including contractor's profit)	**166.10**				
ABSTRACT:					
A. Cost of Materials				Rs:	31783.95
B. Hire charges of Machinery				Rs:	12603.20
C. Cost of Labour				Rs:	14619.80
			Total	Rs:	59006.95
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	59006.95
E. Add for transportation upto work site @			3%	Rs:	953.52
			Total	Rs:	59960.47
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	8163.62
Total cost for	100.00	sqm		Rs:	68124.09
Rate per sqm				Rs:	**681.20**

IRR-GAW-3-2

painting of embedded metal parts and all types of gates, stoplogs,etc, on sand blasted surfaces with one coat of inorganic zinc silicate (airless spray preferred)70+/- 5 and two super coats with a total thickness of 300 microns (each 150+/- 5) of solventless coaltar epoxy paint each coat 150 microns (total 300 microns) cost of all materials, labour, scaffolding etc., complete with all leads and all lifts **(Upstream surface of gates portion may be painted with solventless coaltar epoxy brown paint instead of solventless coaltar black. The rate for coaltar epoxy brown shall be adopted in data for Upstream side painting)**

DATA: **RATE ANALYSIS** UNIT : **100 sqm**

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	inorganic zinc silicate	ltr	12.00	577.00	6924
2	Thinner @ 10%	ltr	1.20	99.00	118.8
3	Solventless Coal tar epoxy paint	ltr	40.00	260.00	10400
4	Thinner @ 10%	ltr	4.00	99.00	396
5	Sundries (brushes,ladders,platforms etc)		3.00	29.00	87
	Total cost of Materials			Rs:	**17925.80**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00	136.80	820.80
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00	265.20	1591.20
3	Fuel Charges of Air Compressor	Hr	6.00	1184.30	7105.80
	Total cost of Machinery			Rs:	**9517.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00	339.50	2037.00
2	Painter Class-I	Day	20.00	780.00	15600.00
3	Helper	Day	20.00	605.00	12100.00
	Total cost of Labour			Rs:	**29737.00**

labour component/unit qty		297.40	
Add contractor's profit and overhead charges	13.615%	40.50	
labour component/unit qty (including contractor's profit)		**337.90**	
ABSTRACT:			
A. Cost of Materials		Rs:	17925.80
B. Hire charges of Machinery		Rs:	9517.80
C. Cost of Labour		Rs:	29737.00
	Total	Rs:	57180.60
D. Add for excise duty	0%	Rs:	0.00

(on 75 percent cost excluding cost of materials)		Total	Rs:	57180.60
E. Add for transportation upto work site @		3%	Rs:	537.77
		Total	Rs:	57718.37
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	7858.36
Total cost for	100.00	sqm	Rs:	65576.73
Rate per sqm			Rs:	**655.80**

IRR-GAW-3-3

painting of Lifting beams,cat walks and other similar structures-painting hoist machinery, on sand blasted surfaces with two coats of zinc phosphate primer (airless spray preferred) 40microns/coat and twocoats of alkyd based micaccous iron oxide paint , 65 microns/coat cost of all materials, labour, scaffolding etc., complete **with all leads and all lifts**

DATA: **RATE ANALYSIS** UNIT : **100 sqm**

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	zinc phosphate primer	ltr	28.00	208.00	5824
2	Thinner@10%	ltr	2.80	99.00	277.2
3	alkyd based micaccous iron oxide paint	ltr	20.00	182.00	3640
4	Thinner@10%	ltr	2.00	99.00	198
5	Sundries (brushes,ladders,platforms etc)		3.00	29.00	87
	Total cost of Materials			Rs:	**10026.20**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00	136.80	820.80
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00	265.20	1591.20
3	Fuel Charges of Air Compressor	Hr	6.00	1184.30	7105.80
	Total cost of machinery			RS:	**9517.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00	339.50	2037.00
2	Painter Class-I	Day	15.00	780.00	11700.00
3	Helper	Day	15.00	605.00	9075.00
	Total cost of Labour			Rs:	**22812.00**

labour component/unit qty		228.10
Add contractor's profit and overhead charges	13.615%	31.10
labour component/unit qty (including contractor's profit)		**259.20**

ABSTRACT:

A. Cost of Materials			Rs:	10026.20
B. Hire charges of Machinery			Rs:	9517.80
C. Cost of Labour			Rs:	22812.00
		Total	Rs:	42356.00
D. Add for excise duty		0%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	42356.00
E. Add for transportation upto work site @		3%	Rs:	300.79
		Total	Rs:	42656.79
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	5807.72
Total cost for	100.00	sqm	Rs:	48464.51
	Rate per	**sqm**	Rs:	**484.60**

IRR-GAW-3-4

HOISTS:STRUCTURAL COMPONENTS--painting structurals on sand blasted surfaces with
two coats of zinc phosphate primer (airless spray preferred) 40microns/coat
and one coat 65+/-5 of alkyd based micaccous iron oxide paint
followed by two coats of synthetic enamel paint 25 microns/coat
cost of all materials, labour, scaffolding etc., complete with all leads and all lifts

DATA: **RATE ANALYSIS** UNIT : **100** sqm

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	zinc phosphate primer	ltr	28.00	208.00	5824
2	Thinner@10%	ltr	2.80	99.00	277.2
3	alkyd based micaccous iron oxide paint	ltr	15.00	182.00	2730
4	Thinner@10%	ltr	1.50	99.00	148.5
5	synthetic enamel paint	ltr	17.00	260.00	4420
6	Thinner@10%	ltr	1.70	99.00	168.3
7	Sundries (brushes,ladders,platforms etc)		3.00	29.00	87
	Total cost of Materials			Rs:	**13655.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00	136.80	820.80
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00	265.20	1591.20
3	Fuel Charges of Air Compressor	Hr	6.00	1184.30	7105.80
	Total cost of Machinery			Rs:	**9517.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00	339.50	2037.00
2	Painter Class-I	Day	20.00	780.00	15600.00
3	Helper	Day	20.00	605.00	12100.00
	Total cost of Labour			Rs:	**29737.00**

labour component/unit qty		297.40
Add contractor's profit and overhead charges	13.615%	40.50
labour component/unit qty (including contractor's profit)		**337.90**

ABSTRACT:

A. Cost of Materials			Rs:	13655.00
B. Hire charges of Machinery			Rs:	9517.80
C. Cost of Labour			Rs:	29737.00
		Total	Rs:	52909.80
D. Add for excise duty		0%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	52909.80
E. Add for transportation upto work site @		3%	Rs:	409.65
		Total	Rs:	53319.45
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	7259.44
Total cost for	100.00	sqm	Rs:	60578.89
Rate per sqm			Rs:	**605.80**

IRR-GAW-3-5

HOISTS:machineryCOMPONENTS--painting hoist machinery, on sand blasted surfaces with
one coats of zinc phosphate primer (airless spray preferred) 50microns/coat
and three coats of aluminium paint or synthetic enamel , 25 microns/coat
cost of all materials, labour, scaffolding etc., complete with all leads and all lifts

DATA: **A. MATERIALS:** **RATE ANALYSIS** UNIT : **100** sqm

Sl No	Particulars	Unit	Quantity	Rate	Amount

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	zinc phosphate primer	ltr	14.00	208.00	2912
2	Thinner@10%	ltr	1.40	99.00	138.6
3	aluminium paint or synthetic enamel per coat	ltr	26.00	260.00	6760
4	Thinner@10%	ltr	2.60	99.00	257.4
5	Sundries (brushes,ladders,platforms etc)		3.00	29.00	87
	Total cost of Materials			Rs:	**10155.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00	136.80	820.80
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00	265.20	1591.20
3	Fuel Charges of Air Compressor	Hr	6.00	1184.30	7105.80
	Total cost of Machinery			Rs:	**9517.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00	339.50	2037.00
2	Painter Class-I	Day	20.00	780.00	15600.00
3	Helper	Day	20.00	605.00	12100.00
	Total cost of Labour			Rs:	**29737.00**

labour component/unit qty		297.40	
Add contractor's profit and overhead charges	13.615%	40.50	
labour component/unit qty (including contractor's profit)		**337.90**	

ABSTRACT:

A. Cost of Materials				Rs:	10155.00
B. Hire charges of Machinery				Rs:	9517.80
C. Cost of Labour				Rs:	29737.00
			Total	Rs:	49409.80
D. Add for excise duty			0%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	49409.80
E. Add for transportation upto work site @			3%	Rs:	304.65
			Total	Rs:	49714.45
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	6768.62
Total cost for	100.00	sqm		Rs:	56483.07
Rate per sqm				Rs:	**564.80**

IRR-GAW-4 **PAINTING WITHOUT SAND BLASTING**

IRR-GAW-4-1

E.M Parts OF ALL TYPES OF GATES

Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and Removing dust. After cleaning,applying primary coat with **one** coat of **Protective Mastic** to athickness of 70±5 microns ,followed by finishing coats **2 coats** with Solventless Coal tar epoxy each coat with a DFT of 150±5 microns and total DFT of all coats including Primary coat should not be less than 350 microns with material, labour and all accessories with all leads and lifts

(in respect of Heavily rusted (30 to 40% rusted) surfaces)

DATA: **RATE ANALYSIS** UNIT : **100.000** Sq.m

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rust cleaner / inhibitor	ltr	13	177.00	2301.00

2	Protective Mastic	ltr	25	515.00	12875.00
3	Thinner@10%	ltr	2.5	99.00	247.50
4	Solventless Coal tar epoxy paint	ltr	40.00	260.00	10400.00
5	Thinner@10%	ltr	4	99.00	396.00
6	Wire brush	Nos	2	50.00	100.00
7	Sundries	LS	3.00	29.00	87.00
	Total cost of Materials			Rs:	**26406.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00	136.80	820.80
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00	265.20	1591.20
3	Fuel Charges of Air Compressor	Hr	6.00	1184.30	7105.80
	Total cost of Machinery				**9517.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00	339.50	2037.00
2	Painter Class-I	Day	20.00	780.00	15600.00
3	Helper	Day	20.00	605.00	12100.00
	Total cost of Labour			Rs:	**29737.00**

labour component/unit qty		297.40
Add contractor's profit and overhead charges	13.615%	40.50
labour component/unit qty (including contractor's profit)		**337.90**

ABSTRACT:

A. Cost of Materials			Rs:	26406.50
B. Hire charges of Machinery			Rs:	9517.80
C. Cost of Labour			Rs:	29737.00
		Total	Rs:	65661.30
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	65661.30
E. Add for transportation upto work site @		3%	Rs:	792.20
		Total	Rs:	66453.50
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	9047.64
Total cost for	100.00	sqm	Rs:	75501.14
Rate per sq.meter			Rs:	**755.00**

HOIST BRIDGES ,HOISTING EQUIPMENT AND CRANES,Etc,

IRR-GAW-4-2

Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **two** coats of Zinc chromite red oxide primer , followed by finishing coats **3 coats** with synthetic enamel paint with material, labour,and all accessories with all leads and lifts where surface cleaning by sand blasting is not feasible and based on specific recommendations of designers, it is to adopt surface preperation done manually by hand and power tool after cleaning by chemical treatment to remove grease, rust, scaling etc., and to form phasphate coating to prevent further rusting, before applying primer painting.

DATA: **RATE ANALYSIS** UNIT : **100.000** Sq.m

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rust cleaner / inhibitor	ltr	13	177.00	2301.00
2	Zinc Chromite Red Oxide Primer	ltr	28	198.00	5544.00

3	Thinner@10%	ltr	2.8	99.00	277.20
4	Synthetic enamel Paint	ltr	17.00	260.00	4420.00
5	Thinner@10%	ltr	1.7	99.00	168.30
6	Wire brush	Nos	2	50.00	100.00
7	Sundries	LS	3.00	29.00	87.00
	Total cost of Materials				**12897.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00	136.80	820.80
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00	265.20	1591.20
3	Fuel Charges of Air Compressor	Hr	6.00	1184.30	7105.80
	Total cost of Machinery				**9517.80**

C. LABOUR

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00	339.50	2037.00
2	Painter Class-I	Day	20.00	780.00	15600.00
3	Helper	Day	20.00	605.00	12100.00
	Total cost of Labour				**29737.00**

labour component/unit qty		297.40
Add contractor's profit and overhead charges	13.615%	40.50
labour component/unit qty (including contractor's profit)		**337.90**

ABSTRACT:

A. Cost of Materials				Rs.	12897.50
B. Hire charges of Machinery				Rs.	9517.80
C. Cost of Labour				Rs.	29737.00
			Total	Rs:	52152.30
D. Add for excise duty			0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)			Total	Rs:	52152.30
E. Add for transportation upto work site @			3%	Rs:	386.93
			Total	Rs:	52539.23
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%			Rs:	7153.22
Total cost for	100.00	sqm		Rs:	59692.44
Rate per sq.meter					**596.90**

WALK WAYS(CAT WALKS), LIFTING BEAMS,etc,

IRR-GAW-4-3

Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaning,applying primary coat with **one** coat of Zinc rich epoxy primer to a thickness of 40 microns ,followed by finishing coats **2 coats** with Solventless Coal tar epoxy with material, labour and all accessories **with all leads and lifts**

DATA: **RATE ANALYSIS** UNIT : **100.000** Sq.m

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rust cleaner / inhibitor	ltr	13.00	177.00	2301.00
2	Zinc rich epoxy primer	ltr	14.00	759.00	10626.00
3	Thinner@10%	ltr	1.40	99.00	138.60
4	Solvetnless Coal tar epoxy paint	ltr	40.00	260.00	10400.00
5	Thinner@10%	ltr	4.00	99.00	396.00
6	Wire brush	Nos	2.00	50.00	100.00

7	Sundries	LS	3.00	29.00	87.00
	Total cost of Materials			Rs:	**24048.60**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Hire Charges of Airless Spray Gun	Hr	6.00	136.80	820.80
2	Hire Charges of Air Compressor-7 Cmm (diesel)	Hr	6.00	265.20	1591.20
3	Fuel Charges of Air Compressor	Hr	6.00	1184.30	7105.80
	Total cost of Machinery			Rs:	**9517.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew Charges of Air Compressor	Day	6.00	339.50	2037.00
2	Painter Class-I	Day	13.00	780.00	10140.00
3	Helper	Day	13.00	605.00	7865.00
	Total cost of Labour			Rs:	**20042.00**

labour component/unit qty		200.40
Add contractor's profit and overhead charges	13.615%	27.30
labour component/unit qty (including contractor's profit)		**227.70**

ABSTRACT:

A. Cost of Materials			Rs:	24048.60
B. Hire charges of Machinery			Rs:	9517.80
C. Cost of Labour			Rs:	20042.00
		Total	Rs:	53608.40
D. Add for excise duty		0.00%	Rs:	0.00
(on 75 percent cost excluding cost of materials)		Total	Rs:	53608.40
E. Add for transportation upto work site @		3%	Rs:	721.46
		Total	Rs:	54329.86
F. Add for contractor's profit and overheads on (A+B+C+D+E)	13.615%		Rs:	7397.01
Total cost for	100.00	sqm	Rs:	61726.87
Rate per sq.meter			Rs:	**617.30**

CHAPTER-VI

PRELIMINARY AND MAINTENANCE WORKS - Standard Data

(STORED WITH E-N-C & TO INCORPORATE CHANGES YEARLY/ AS NEEDED)

For the Year:2025-26

Index- code

IRR-PMW **PRELIMINARY & MAINTENANCE WORKS - DATA RATES**

Directions to add Seigniorage Charges and Additional Lead Charges

Seigniorage Charges:

1. The unit rate for work item in the Standard Data is **exclusive of Seigniorage Charges** wherever applicable.
2. The appropriate Seigniorage Charges for relevant materials are to be added to the Unit rate of work item while preparing the estimate. (i.e., to the data itself)

Additional Lead and Lift Charges:

1. Unless otherwise specified the basic rates are inclusive of all lifts.
2. For concrete, masonry and reinforcement items **wherever** initial lead of 1km is considered in the basic rate, the additional lead as follows:

Additional lead charges for Cement, Steel, sand, coarse aggregate, stones and stone chips shall be worked out for Total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item.

In case of Cement and Steel, Loading and unloading charges are already added in the work item while arriving the unit rate and hence should not be added again

Example:

Total lead for sand from approved sand quarry :			15	Km
Initial lead included in the basic rate in the SR :			1	Km
Additional lead charges :	Lead charges for 5 km	Rs.	119.70	
	Lead charges for next 10 km	Rs.	180	
	Total lead charges for 15 km /cum	Rs.	299.70	
	Less 1 km initial lead charges /cum	Rs.	44.90	(-)
	Net additional lead charges / cum	Rs.	254.80	

3. For earth/rockfill embankments **wherever** initial lead of 1km is considered in the basic rate, the additional lead charges are to be added as follows:

Additional lead charges for Earth, Murrum etc., shall be worked out for total lead involved and 1 km lead charges included in basic rate shall be deducted from total lead charges. No loading and unloading charges shall be allowed for any item. (same as above)

Example:

Total lead for earth from approved borrow area :			15	Km
Initial lead included in the basic rate in the SR :			1	Km
Additional lead charges :	Lead charges for 5 km	Rs.	119.70	
	Lead charges for next 10 km	Rs.	180	
	Total lead charges for 15 km /cum	Rs.	299.70	
	Less 1 km initial lead charges /cum	Rs.	44.90	(-)
	Net additional lead charges / cum	Rs.	254.80	

4. The initial lead up to 50 m as mentioned in some standard data items is meant for manual lead within the working area. For conveyance of materials, the lead required from quarry/Borrow area/ Dump Area to worksite shall be added to the data without deducting the 50 m initial lead charges

PMW - Work Items

IRR-PMW-1 **JUNGLE CLEARANCE :**

IRR-PMW-1-1

Clearing thin jungle growth (more than 50 percent open space) including bushes upto **30 cm / parthenium and other weeds** including burning or disposing off the same as directed etc., complete.

DATA: **RATE ANALYSIS** UNIT : **1000** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL	-	0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50	805.00	402.50
2	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**2217.50**

labour component/unit qty		2.20		
Add contractor's profit and overhead charges	13.615%	0.30		
labour component/unit qty (including contractor's profit)		**2.50**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2217.50
		Total	Rs:	2217.50
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	301.91
Total cost for	1000.00	sqm	Rs:	**2519.41**
Rate per sqm	(A+B+C+D)/1000.0		Rs.	**2.50**

IRR-PMW-1-2

Clearing thick jungle growth (less than 50 percent open space) including bushes upto 30 cm / parthenium and other weeds including burning or disposing off the same as directed etc., complete.

DATA: **RATE ANALYSIS** UNIT : **1000** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50	805.00	402.50
2	mazdoor	Day	5.00	605.00	3025.00
	Total cost of Labour			Rs:	**3427.50**

labour component/unit qty		3.40	
Add contractor's profit and overhead charges	13.615%	0.50	
labour component/unit qty (including contractor's profit)		**3.90**	

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	3427.50
	Total	Rs:	3427.50

D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	466.65
Total cost for	1000.00	sqm	Rs:	**3894.15**
Rate per Sqm	(A+B+C+D)/1000.0		Rs.	**3.90**

IRR-PMW-1-3

Removing stumps, tree roots, roots of bamboo clusters etc., upto 1.50 m girth including excavation, stacking the materials neatly and levelling the surface etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **18** Nos.

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25	805.00	201.25
2	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**1411.25**

labour component/unit qty		78.40		
Add contractor's profit and overhead charges	13.615%	10.70		
labour component/unit qty (including contractor's profit)		**89.10**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	1411.25
		Total	Rs:	1411.25
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	192.1416875
Total cost for	18.00	Nos.	Rs:	**1603.39**
Rate per Each	(A+B+C+D)/18.0		Rs.	**89.10**

IRR-PMW-1-4

Removing stumps, tree roots, roots of bamboo cluster etc., with girth above 1.50 m and **upto 3.0 m** including excavation, stacking the materials neatly and levelling the area etc., **complete with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS**

A. MATERIALS: UNIT : **8** Nos.

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25	805.00	201.25
2	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**1411.25**

labour component/unit qty		176.41

Add contractor's profit and overhead charges	13.615%	24.02		
labour component/unit qty (including contractor's profit)		**200.40**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	1411.25
		Total	Rs:	1411.25
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	192.14
Total cost for	8.00	Nos.	Rs:	**1603.40**
Rate per Each	(A+B+C+D)/8.0		Rs.	**200.40**

IRR-PMW-1-5

Removing stumps, tree roots, roots of bamboo cluster etc., with girth above **3.0 m** and upto **5.0 m** including excavation, stacking the materials neatly and levelling the area etc., complete **with initial lead upto 50 m and all lifts.**

RATE ANALYSIS

A. MATERIALS: UNIT : **5** Nos.

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50	805.00	402.50
2	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**2822.50**

labour component/unit qty		564.50	
Add contractor's profit and overhead charges	13.615%	76.90	
labour component/unit qty (including contractor's profit)		**641.40**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2822.50
		Total	Rs:	2822.50
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	384.28
Total cost for	5.00	Nos.	Rs:	**3206.78**
Rate per Each	(A+B+C+D)/5.0		Rs.	**641.40**

IRR-PMW-1-6

Additional rate for every 0.5 m increase in girth of tree stump / stumps of bamboo cluster beyond 5 m.

DATA:

RATE ANALYSIS

A. MATERIALS: UNIT : **7** Nos.

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.22	805.00	177.10
2	mazdoor	Day	0.88	605.00	529.38
	Total cost of Labour			Rs:	**706.48**

labour component/unit qty		100.90	
Add contractor's profit and overhead charges	13.615%	13.70	
labour component/unit qty (including contractor's profit)		**114.60**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	706.48
		Total	Rs:	706.48
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	96.19
Total cost for	7.00	Nos.	Rs:	**802.66**
Rate per Each	(A+B+C+D)/7.0		Rs.	**114.70**

IRR-PMW-1-7

Cutting and stacking bamboos excluding removing stumps and roots etc., complete with **initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **150** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50	805.00	402.50
2	mazdoor	Day	5.00	605.00	3025.00
	Total cost of Labour			Rs:	**3427.50**

labour component/unit qty		22.85	
Add contractor's profit and overhead charges	13.615%	3.11	
labour component/unit qty (including contractor's profit)		**26.00**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3427.50
		Total	Rs:	3427.50
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	466.65
Total cost for	150.00	Nos.	Rs:	**3894.15**
Rate per Each	(A+B+C+D)/150.0		Rs.	**26.00**

IRR-PMW-1-8

Cutting and removing jauliflora bushes upto 1.5 m girth excluding removal of stumps and including burning or disposing off the materials as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **100** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50	805.00	402.50
2	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**2217.50**

labour component/unit qty		22.20		
Add contractor's profit and overhead charges	13.615%	3.00		
labour component/unit qty (including contractor's profit)		**25.20**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2217.50
		Total	Rs:	2217.50
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	301.91
Total cost for	100.00	#REF!	Rs:	**2519.41**
Rate per Each	(A+B+C+D)/100.0		Rs.	**25.20**

IRR-PMW-1-9

Cutting and removing jauliflora bushes above 1.5 m upto 3.0 m girth excluding removal of stumps and including burning or disposing off the materials as directed

DATA: **with initial lead upto 50 m and all lifts.**

RATE ANALYSIS UNIT : **50** Nos

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50	805.00	402.50
2	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**2217.50**

labour component/unit qty		44.40		
Add contractor's profit and overhead charges	13.615%	6.00		
labour component/unit qty (including contractor's profit)		**50.40**		

ABSTRACT:

A. Cost of Materials	Rs:	0.00
B. Hire charges of Machinery	Rs:	0.00
C. Cost of Labour	Rs:	2217.50

	Total	Rs:	2217.50
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	301.91
Total cost for	50.00 Nos	Rs:	**2519.41**
Rate per Each	(A+B+C+D)/50.0	Rs.	**50.40**

IRR-PMW-1-10

Cutting trees above 0.3 m and upto 0.6 m girth excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **14** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.25	198.00	49.50
	Total cost of Materials			Rs:	**49.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25	805.00	201.25
2	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**2016.25**

labour component/unit qty		144.00
Add contractor's profit and overhead charges	13.615%	19.60
labour component/unit qty (including contractor's profit)		**163.60**

ABSTRACT:

A. Cost of Materials		Rs:	49.50
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	2016.25
	Total	Rs:	2065.75
D. Add for contractor's profit and overheads on (A+B+C)	13.615%	Rs:	281.25
Total cost for	14.00 Nos.	Rs:	**2347.00**
Rate per Each	(A+B+C+D)/14.0	Rs.	**167.60**

IRR-PMW-1-11

Cutting trees above 0.6 m and upto 1.2 m girth excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **4** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.25	198.00	49.50
	Total cost of Materials			Rs:	**49.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25	805.00	201.25
2	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**2016.25**

labour component/unit qty		504.10	
Add contractor's profit and overhead charges	13.615%	68.60	
labour component/unit qty (including contractor's profit)		**572.70**	

ABSTRACT:

A. Cost of Materials			Rs:	49.50
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2016.25
		Total	Rs:	2065.75
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	281.25
Total cost for	4.00	Nos.	Rs:	**2347.00**
Rate per Each	(A+B+C+D)/4.0		Rs.	**586.80**

IRR-PMW-1-12

Cutting trees above 1.2 m and upto 1.8 m girth excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **2** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.25	198.00	49.50
	Total cost of Materials			Rs:	**49.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25	805.00	201.25
2	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**2016.25**

labour component/unit qty		1008.10	
Add contractor's profit and overhead charges	13.615%	137.30	
labour component/unit qty (including contractor's profit)		**1145.40**	

ABSTRACT:

A. Cost of Materials			Rs:	49.50
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2016.25
		Total	Rs:	2065.75
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	281.25
Total cost for	2.00	Nos.	Rs:	**2347.00**
Rate per Each	(A+B+C+D)/2.0		Rs.	**1173.50**

IRR-PMW-1-13

Cutting trees above 1.8 m and upto 2.4 m girth excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **1** No.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.25	198.00	49.50
	Total cost of Materials			Rs:	**49.50**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25	805.00	201.25
2	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**2016.25**
labour component/unit qty			2016.30		
Add contractor's profit and overhead charges		13.615%	274.50		
labour component/unit qty (including contractor's profit)			**2290.80**		

ABSTRACT:

A. Cost of Materials			Rs:	49.50
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2016.25
		Total	Rs:	2065.75
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	281.25
Total cost for	1.00	No.	Rs:	**2347.00**
Rate per Each	(A+B+C+D)/1.0		Rs.	**2347.00**

IRR-PMW-1-14

Cutting trees above 2.4 m and upto 3.0 m girth excluding removal of stumps and including stacking the materials neatly as directed **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **1** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.50	198.00	99.00
	Total cost of Materials			Rs:	**99.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.25	805.00	201.25
2	mazdoor	Day	5.00	605.00	3025.00
	Total cost of Labour			Rs:	**3226.25**
labour component/unit qty			3226.30		
Add contractor's profit and overhead charges		13.615%	439.30		
labour component/unit qty (including contractor's profit)			**3665.60**		

ABSTRACT:

A. Cost of Materials			Rs:	99.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3226.25
		Total	Rs:	3325.25
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	452.73
Total cost for	1.00	Nos.	Rs:	**3777.98**
Rate per Each	(A+B+C+D)/1.0		Rs.	**3778.00**

IRR-PMW-1-15

Additional rate for cutting tree for every 0.5 m increase in girth of tree beyond 3 m.

DATA: **RATE ANALYSIS** UNIT : **1** No

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of ropes etc	LS	0.15	198.00	29.70
	Total cost of Materials			Rs:	**29.70**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.10	805.00	80.50
2	mazdoor	Day	1.75	605.00	1058.75
	Total cost of Labour			Rs:	**1139.25**

labour component/unit qty		1139.30	
Add contractor's profit and overhead charges	13.615%	155.10	
labour component/unit qty (including contractor's profit)		**1294.40**	

ABSTRACT:

A. Cost of Materials			Rs:	29.70
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	1139.25
		Total	Rs:	1168.95
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	159.15
Total cost for	1.00	No	Rs:	**1328.10**
Rate per Each	(A+B+C+D)/1.0		Rs.	**1328.10**

IRR-PMW-1-16

Cutting and burning or disposing off Apu / Jondu from marshy areas as directed with initial lead **upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **1000** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate	Amount

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	12.00	605.00	7260.00
	Total cost of Labour			Rs:	**8065.00**
labour component/unit qty			8.10		
Add contractor's profit and overhead charges		13.615%	1.10		
labour component/unit qty (including contractor's profit)			**9.20**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	8065.00
		Total	Rs:	8065.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1098.05
Total cost for	1000.00	sqm	Rs:	**9163.05**
Rate per Sqm	(A+B+C+D)/1000.0		Rs.	**9.20**

IRR-PMW-2 **PRELIMINARY WORKS :**

IRR-PMW-2-1

Earthwork excavation for trial pits / borrow pits and other investigation works in all kinds of soil including boulders **upto 30 cm dia** and disposing off excavated soil as directed with lead **upto 10 m and lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **10** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50	805.00	402.50
2	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**4032.50**
labour component/unit qty			403.25		
Add contractor's profit and overhead charges		13.615%	54.90		
labour component/unit qty (including contractor's profit)			**458.20**		

ABSTRACT:

A. Cost of Materials		Rs:	0.00
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	4032.50
	Total	Rs:	4032.50

D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	549.02
Total cost for	10.00	cum	Rs:	**4581.52**
Rate p cum	+B+C+D)/100.0		Rs.	**458.20**

IRR-PMW-2-2

Earthwork excavation for trial pits / borrow pits and other investigation works in **soft rock** including disposing off the excavated rock as directed with **lead upto 10 m and lift upto 3 m.**

DATA: **RATE ANALYSIS** UNIT : **10** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	0.50	805.00	402.50
2	Crowbarman	Day	1.00	650.00	650.00
3	mazdoor	Day	7.50	605.00	4537.50
	Total cost of Labour			Rs:	**5590.00**

labour component/unit qty		559.00	
Add contractor's profit and overhead charges	13.615%	76.10	
labour component/unit qty (including contractor's profit)		**635.10**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	5590.00
		Total	Rs:	5590.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	761.08
Total cost for	10.00	cum	Rs:	**6351.08**
Rate per Cum	(A+B+C+D)/10.0		Rs.	**635.10**

IRR-PMW-2-3

Conducting geophysical investigation studies by electrical resistivity method in stages of 5m for sub-surface details such as depth of formations, shear zones, classification of strata, depth of water table etc., including cost of all materials, equipments, labour, analysing and reporting the details of field studies conducted etc., complete excluding cost of transportation arrangements.

DATA: **RATE ANALYSIS** UNIT : **20** Stages

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sundries (misc. consumables)		5.00	29.00	145.00
	Total cost of Materials			Rs:	**145.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Electric resistivity meter	Hour	8.00	115.60	924.80

	Battery / charging cost etc @	20%			184.96
	Total hire charges of Machinery			Rs:	**1109.76**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Geophysist / Geologist	Day	2.00	1460.00	2920.00
2	Graduate Engineer	Day	1.00	1460.00	1460.00
3	Lab Assistant	Day	1.00	805.00	805.00
4	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**7605.00**

labour component/unit qty		380.30	
Add contractor's profit and overhead charges	13.615%	51.80	
labour component/unit qty (including contractor's profit)		**432.10**	

ABSTRACT:

A. Cost of Materials			Rs:	145.00
B. Hire charges of Machinery			Rs:	1109.76
C. Cost of Labour			Rs:	7605.00
		Total	Rs:	8859.76
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1206.26
Total cost for	20.00	Stages	Rs:	**10066.02**
Rate per Stage	(A+B+C+D)/20.0		Rs.	**503.30**

IRR-PMW-2-4

Drilling 80 mm dia hole through over-burden using casing shoe bit vertical or inclined upto 10 degrees to vertical as directed including cost of all materials, machinery, labour, water charges, reaming, collection of wash samples at suitable intervals, logging and lebelling, supplying honne wood core box, fixing casing pipes (excluding cost of casing pipes) etc., **complete for depth upto 30 m from surface.**

Note: 1. For drilling through over-burden beyond 30 m from surface increase the basic rate per Rm by 10 percent.

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of casing shoe bit	Rm	3.00	131.62	394.87
2	Use rate of reamer shell	Rm	3.00	35.82	107.47
3	Use rate of extension rod set 16.5 m	Rm	3.00	2.27	6.81
4	Use rate of honne core box	Rm	3.00	348.92	1046.76
	Total cost of Materials			Rs:	**1555.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	1.00	354.10	354.10
	Fuel / Energy charges	Hour	1.00	394.80	394.80
2	5 hp pump (diesel) 2 Nos.	Hour	2.00	9.90	19.80
	Fuel / Energy charges	Hour	2.00	131.60	263.20
3	Sundries (samplers etc)	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**1089.90**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	1.00	446.20	446.20
2	Crew for Pump	Hour	2.00	177.20	354.40
3	mazdoor	Day	2.00	605.00	1210.00

Total cost of Labour				Rs:	**2010.60**
labour component/unit qty			670.20		
Add contractor's profit and overhead charges		13.615%	91.20		
labour component/unit qty (including contractor's profit)			**761.40**		

ABSTRACT:

A. Cost of Materials			Rs:	1555.90
B. Hire charges of Machinery			Rs:	1089.90
C. Cost of Labour			Rs:	2010.60
		Total	Rs:	4656.40
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	633.97
Total cost for	3.00	Rm	Rs:	**5290.37**
Rate per Rm	(A+B+C+D)/3.0		Rs.	**1763.50**

IRR-PMW-2-5

Drilling 76 mm dia (NX) core hole in hard rock using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, collection of core samples, logging and lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., **complete for depth upto 30 m from surface.**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of diamond core bit	Rm	3.00	956.80	2870.40
2	Use rate of reamer shell	Rm	3.00	107.47	322.40
3	Use rate of double tube core barrel	Rm	3.00	279.07	837.20
4	Use rate of extension rod set 16.5 m	Rm	3.00	30.26	90.78
5	Use rate of honne core box	Rm	3.00	628.06	1884.17
	Total cost of Materials			Rs:	**6004.95**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	8.00	354.10	2832.80
	Fuel / Energy charges	Hour	8.00	394.80	3158.40
2	5 hp pump (diesel) 2 Nos.	Hour	16.00	9.90	158.40
	Fuel / Energy charges	Hour	16.00	131.60	2105.60
3	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**8400.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	8.00	446.20	3569.60
2	Crew for Pump	Hour	16.00	177.20	2835.20
3	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**7614.80**
labour component/unit qty			2538.30		
Add contractor's profit and overhead charges		13.615%	345.60		
labour component/unit qty (including contractor's profit)			**2883.90**		

ABSTRACT:

A. Cost of Materials			Rs:	6004.95
B. Hire charges of Machinery			Rs:	8400.20
C. Cost of Labour			Rs:	7614.80
		Total	Rs:	22019.95
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	2998.02
Total cost for	3.00	Rm	Rs:	**25017.97**

Rate per Rm	(A+B+C+D)/3.0	Rs.	**8339.30**

NOTE: 1. For drilling in hard rock beyond 30 m upto 60 m from surface increase the basic rate per Rm by 25 percent.
2. For drilling in hard rock beyond 60 m upto 90 m from surface increase the basic rate per Rm by 40 percent.

IRR-PMW-2-6

Drilling 76 mm dia (NX) core hole in all types of rocks (other than Hard Rock) including Masonry/CC (where drilling is not possible by casing shoe) using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, and redrilling in case of collapse of sides etc., complete for **depth upto 30 m from surface for Primary and Secondary Holes**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of diamond core bit	Rm	3.00	1357.81	4073.42
2	Use rate of reamer shell	Rm	3.00	64.48	193.44
4	Use rate of extension rod set 16.5 m	Rm	3.00	18.16	54.47
	Total cost of Materials			Rs:	**4321.33**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	4.78	354.10	1691.18
	Fuel / Energy charges	Hour	4.78	394.80	1885.56
2	5 hp pump (diesel) 2 Nos.	Hour	9.55	9.90	94.56
	Fuel / Energy charges	Hour	9.55	131.60	1257.04
3	Sundries	LS	2.99	29.00	86.71
	Total hire charges of Machinery			Rs:	**5015.06**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	4.78	446.20	2131.05
2	Crew for Pump	Hour	9.55	177.20	1692.26
3	mazdoor	Day	1.19	605.00	719.95
	Total cost of Labour			Rs:	**4543.26**

labour component/unit qty		1514.40		
Add contractor's profit and overhead charges	13.615%	206.20		
labour component/unit qty (including contractor's profit)		**1720.60**		

ABSTRACT:

A. Cost of Materials			Rs:	4321.33
B. Hire charges of Machinery			Rs:	5015.06
C. Cost of Labour			Rs:	4543.26
		Total	Rs:	13879.65
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1889.71
Total cost for	3.00	Rm	Rs:	**15769.37**
Rate p Rm	A+B+C+D)/3.0		Rs.	**5256.50**

NOTE: 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the basic rate per Rm by 25 percent.
2. For drilling in all types of rocks (other than hard rock) including masonry/CC m from surface increase the basic beyond 60 m upto 90 rate per Rm by 40 percent.

IRR-PMW-2-7

Drilling 76 mm dia (NX) core hole in all types of rocks (other than Hard Rock) including Masonry/CC (where drilling is not possible by casing shoe) using diamond core bit vertical /

inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, collection of core samples, logging and lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., **complete for depth upto 30 m from surface for Test Holes**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of diamond core bit	Rm	3.00	1357.81	4073.42
2	Use rate of reamer shell	Rm	3.00	64.48	193.44
3	Use rate of double tube core barrel	Rm	3.00	167.44	502.32
4	Use rate of extension rod set 16.5 m	Rm	3.00	18.16	54.47
5	Use rate of honne core box	Rm	3.00	628.06	1884.17
	Total cost of Materials			Rs:	**6707.81**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	4.78	354.10	1691.18
	Fuel / Energy charges	Hour	4.78	394.80	1885.56
2	5 hp pump (diesel) 2 Nos.	Hour	9.55	9.90	94.56
	Fuel / Energy charges	Hour	9.55	131.60	1257.04
3	Sundries	LS	2.99	29.00	86.71
	Total hire charges of Machinery			Rs:	**5015.06**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	4.78	446.20	2131.05
2	Crew for Pump	Hour	9.55	177.20	1692.61
3	mazdoor	Day	1.19	605.00	722.37
	Total cost of Labour			Rs:	**4546.04**

labour component/unit qty		1515.30		
Add contractor's profit and overhead charges	13.615%	206.30		
labour component/unit qty (including contractor's profit)		**1721.60**		

ABSTRACT:

A. Cost of Materials			Rs:	6707.81
B. Hire charges of Machinery			Rs:	5015.06
C. Cost of Labour			Rs:	4546.04
		Total	Rs:	16268.91
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	2215.01
Total cost for	3.00	Rm	Rs:	**18483.93**
Rate per Rm	(A+B+C+D)/3.0		Rs.	**6161.30**

NOTE: 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the basic rate per Rm by 25 percent.
2. For drilling in all types of rocks (other than hard rock) including masonry/CC m from surface increase the basic beyond 60 m upto 90 rate per Rm by 40 percent.

IRR-PMW-2-8

Drilling 47 mm (BX)dia core hole in hard rock using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges,collection of core samples,logging, lebelling, supplying honne wood core box and redrilling in case of collapse of sides etc., **complete for depth upto 30 m from surface.**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of diamond core bit	Rm	3.00	847.27	2541.80

2	Use rate of reamer shell	Rm	3.00	107.47	322.40
3	Use rate of double tube core barrel	Rm	3.00	279.07	837.20
4	Use rate of extension rod set 16.5 m	Rm	3.00	30.26	90.78
5	Use rate of honne core box	Rm	3.00	785.07	2355.21
	Total cost of Materials			Rs:	**6147.39**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Core drilling machine	Hour	8.00	354.10	2832.80
	Fuel / Energy charges	Hour	8.00	394.80	3158.40
2	5 hp pump (diesel) 2 Nos.	Hour	16.00	9.90	158.40
	Fuel / Energy charges	Hour	16.00	131.60	2105.60
3	Sundries	LS	5.00	29.00	145.00
	Total hire charges of Machinery			Rs:	**8400.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	8.00	446.20	3569.60
2	Crew for Pump	Hour	16.00	177.20	2835.20
3	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**7614.80**

labour component/unit qty		2538.30		
Add contractor's profit and overhead charges	13.615%	345.60		
labour component/unit qty (including contractor's profit)		**2883.90**		

ABSTRACT:

A. Cost of Materials			Rs:	6147.39
B. Hire charges of Machinery			Rs:	8400.20
C. Cost of Labour			Rs:	7614.80
		Total	Rs:	22162.39
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	3017.41
Total cost for	3.00	Rm	Rs:	**25179.80**
Rate per Rm	(A+B+C+D)/3.0		Rs.	**8393.30**

NOTE: 1. For drilling in hard rock beyond 30 m upto 60 m from surface increase the basic rate for drilling upto 30 m from surface by 25 percent per Rm.
2. For drilling in hard rock beyond 60 m upto 90 m from surface increase the basic rate for drilling upto 30 m from surface by 40 percent per Rm.

IRR-PMW-2-9

Drilling 47 mm (BX)dia core hole in all types of rocks (other than Hard Rock) including Masonry/CC (where drilling is not possible by casing shoe) using diamond core bit vertical / inclined upto 10 degree to vertical as directed including cost of all materials, machinery, labour, water charges, and redrilling in case of collapse of sides etc., complete for **depth upto 30 m**

Data: **RATE ANALYSIS** UNIT : **3.00** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Use rate of diamond core bit	Rm	3.00	950.33	2850.99
2	Use rate of reamer shell	Rm	3.00	51.00	153.00
4	Use rate of extension rod set 16.5 m	Rm	3.00	14.62	43.86
	Total cost of Materials			Rs:	**3047.85**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	Core drilling machine	Hour	4.78	354.10	1691.18
	Fuel / Energy charges	Hour	4.78	394.80	1885.56
2	5 hp pump (diesel) 2 Nos.	Hour	9.55	9.90	94.56
	Fuel / Energy charges	Hour	9.55	131.60	1257.04
3	Sundries	LS	2.99	29.00	86.71
	Total hire charges of Machinery			Rs:	**5015.06**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Core drilling machine	Hour	4.78	446.20	2131.05
2	Crew for Pump	Hour	9.55	177.20	1692.26
3	mazdoor	Day	1.19	605.00	719.95
	Total cost of Labour			Rs:	**4543.26**

labour component/unit qty		1514.40	
Add contractor's profit and overhead charges	13.615%	206.20	
labour component/unit qty (including contractor's profit)		**1720.60**	

ABSTRACT:

A. Cost of Materials			Rs:	3047.85
B. Hire charges of Machinery			Rs:	5015.06
C. Cost of Labour			Rs:	4543.26
		Total	Rs:	12606.18
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1716.33
Total cost for	3.00	Rm	Rs:	**14322.51**
Rate per Rm	(A+B+C+D)/3.0		Rs.	**4774.20**

NOTE: 1. For drilling in all types of rocks (other than hard rock) including masonry/CC beyond 30 m upto 60 m from surface increase the basic rate per Rm by 25 percent.
2. For drilling in all types of rocks (other than hard rock) including masonry/CC m from surface increase the basic beyond 60 m upto 90 rate per Rm by 40 percent.

IRR-PMW-2-10

Providing and **fixing 20 x 20 x 75 cm size roughly dressed boundary / demarcation / chainage / arrow stones** including cost of all materials, labour, engraving marks, fixing in position, murum filling etc., complete **with lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **18** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rough stone 20x20x75 cm	Each	18.00	46.00	828.00
2	Murrum	cum	1.00	291.00	291.00
	Total cost of Materials			Rs:	**1119.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Stone chiseller Cl- I	Day	1.00	715.00	715.00
3	mazdoor	Day	3.00	605.00	1815.00
	Total cost of Labour			Rs:	**3335.00**

labour component/unit qty		185.30	
Add contractor's profit and overhead charges	13.615%	25.20	
labour component/unit qty (including contractor's profit)		**210.50**	

ABSTRACT:

A. Cost of Materials			Rs:	1119.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3335.00
		Total	Rs:	4454.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	606.41
Total cost for	18.00	Nos.	Rs:	**5060.41**
Rate per Each	(A+B+C+D)/18.0		Rs.	**281.10**

IRR-PMW-2-11

Providing and **fixing 20 x 20 x 75 cm size temporary bench mark stone in CC 1 : 4 : 8** using **40 mm down size** graded coarse aggregate including cost of all materials, labour, dressing top surface, engraving BM data etc.,complete **with lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **10** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rough stone 20x20x75 cm	Each	10.00	46.00	460.00
2	Cement for CC & top finishing	kg	91.00	5.10	464.10
3	Coarse aggregate 40-20 mm	cum	0.25	1030.00	257.50
	Coarse aggregate 20-10 mm	cum	0.15	1144.00	171.60
	Coarse aggregate 10-4.75 mm	cum	0.10	879.00	87.90
4	Sand (Un-Screened)	cum	0.25	723.00	180.75
	Total cost of Materials			Rs:	**1621.85**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Stone chiseller Cl- I	Day	3.00	715.00	2145.00
3	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**5370.00**

labour component/unit qty		537.00	
Add contractor's profit and overhead charges	13.615%	73.10	
labour component/unit qty (including contractor's profit)		**610.10**	

ABSTRACT:

A. Cost of Materials			Rs:	1621.85
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	5370.00
		Total	Rs:	6991.85
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	951.94
Total cost for	10.00	Nos.	Rs:	**7943.79**
Rate per Each	(A+B+C+D)/10.0		Rs.	**794.40**
NOTE: For providing 30 cm thick compacted murum bed in B.C soil area including additional excavation for thickness of murum bedding add per			Each	Rs: 4.00

IRR-PMW-2-12

Providing and **fixing 20 x 20 x 75 cm size permanent bench mark stone in CC 1 :3 : 6** block of size 90 x 90 x 120 cm using **40 mm down size** graded coarse aggregate and providing

35 cm thick 30 cm high UCR masonry in CM 1 : 5 proportion protective wall alround the BM stone, including cost of all materials, labour, dressing top surface of stone, engraving BM data on top surface, excavation, finishing, curing etc., complete **with lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **1** No.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rough stone 20x20x75 cm	Each	1.00	46.00	46.00
2	Cement	kg	262.00	5.10	1336.20
3	Coarse aggregate 40-20 mm	cum	0.50	1030.00	515.00
	Coarse aggregate 20-10 mm	cum	0.30	1144.00	343.20
	Coarse aggregate 10-4.75 mm	cum	0.20	879.00	175.80
4	Rubble stone at quarry	cum	0.25	473.00	118.25
5	Stone chips at quarry	cum	0.04	619.00	24.76
6	Sand (Un-Screened)	cum	0.60	723.00	433.80
	Total cost of Materials			Rs:	**2993.01**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Stone chiseller Cl- I	Day	0.50	715.00	357.50
3	Mason Cl- II	Day	1.00	650.00	650.00
4	mazdoor	Day	5.00	605.00	3025.00
	Total cost of Labour			Rs:	**4837.50**

labour component/unit qty		4837.50	
Add contractor's profit and overhead charges	13.615%	658.60	
labour component/unit qty (including contractor's profit)		**5496.10**	

ABSTRACT:

A. Cost of Materials			Rs:	2993.01
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4837.50
		Total	Rs:	7830.51
		13.615%	Rs:	
D. Add for contractor's profit and overheads on (A+B+C)				1066.12
Total cost for	1.00	No.	Rs:	**8896.63**
Rate per Ecah	(A+B+C+D)/1.0		Rs.	**8896.60**

IRR-PMW-3 **MAINTENANCE WORKS :**

IRR-PMW-3-1

Removing dry stone rock-toe / rivetment and filter layers below rock-toe/ rivetment including stacking all materials separately as directed **with initial lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **105** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Cl- II	Day	6.00	650.00	3900.00
3	mazdoor	Day	48.00	605.00	29040.00
	Total cost of Labour			Rs:	**33745.00**

labour component/unit qty		321.40		
Add contractor's profit and overhead charges	13.615%	43.80		
labour component/unit qty (including contractor's profit)		**365.20**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	33745.00
		Total	Rs:	33745.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	4594.38
Total cost for	105.00	cum	Rs:	**38339.38**
Rate per Cum	(A+B+C+D)/105.0		Rs.	**365.10**

IRR-PMW-3-2

Re-constructing 60 cm thick hand packed rough stone revetment with through stones at 1.5 m c / c over a backing of 45 cm thick graded filter media consisting of sand, 10 mm and 40 mm size graded aggregates satisfying filter criteria laid in layers of 15 cm thick each using sand from approved quarry and stones and filter aggregates obtained from revetment removed for re-construction including cost of all machinery, labour, laying filter and stones to specified slopes, wedging with chips, finishing etc. complete **with initial lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **100** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Sand (Un-Screened) (from quarry)	cum	15.30	723.00	11061.90
2	Coarse aggregate 10 mm (available)	cum	15.30	0.00	0.00
3	Coarse aggr. 40-20 mm (available)	cum	15.30	0.00	0.00
4	Stone chips (available)	cum	9.00	0.00	0.00
5	Rough stones (available)	cum	57.60	0.00	0.00
6	Through stones (available)	Nos	44.00	0.00	0.00
	Total cost of Materials			Rs:	**11061.90**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	work inspector	Day	1.00	805.00	805.00
2	Mason Cl- II	Day	5.00	650.00	3250.00
3	mazdoor	Day	33.00	605.00	19965.00
	Total cost of Labour			Rs:	**24020.00**

labour component/unit qty		240.20	
Add contractor's profit and overhead charges	13.615%	32.70	
labour component/unit qty (including contractor's profit)		**272.90**	

ABSTRACT:

A. Cost of Materials			Rs:	11061.90
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	24020.00
		Total	Rs:	35081.90
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	4776.40
Total cost for	100.00	sqm	Rs:	**39858.30**
Rate per Sqm	(A+B+C+D)/100.0		Rs.	**398.60**

IRR-PMW-3-3

Re-constructing dry rubble rock-toe and filter media for rock-toe consisting of sand 20 mm and 80 mm size graded aggregates satisfying filter criteria laid in layers of 15 cm thick each using sand from approved quarry and stones and filter aggregates obtained from rock-toe removed for re-construction including cost of all machinery, labour, laying filter and stones to specified slopes, wedging with chips, finishing etc. complete with initial lead upto **50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **100** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Rubble (available)	cum	58.20	0.00	0.00
2	Stone chips (available)	cum	8.70	0.00	0.00
3	80-20 mm filter (available)	cum	19.40	0.00	0.00
4	20 mm down filter (available)	cum	12.10	0.00	0.00
5	Sand (Un-Screened) (fresh from quarry)	cum	9.80	723.00	7085.40
	Total cost of Materials			Rs:	**7085.40**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Cl- II	Day	7.00	650.00	4550.00
3	mazdoor	Day	48.00	605.00	29040.00
	Total cost of Labour			Rs:	**34395.00**

labour component/unit qty		344.00	
Add contractor's profit and overhead charges	13.615%	46.80	
labour component/unit qty (including contractor's profit)		**390.80**	

ABSTRACT:

A. Cost of Materials		Rs:	7085.40
B. Hire charges of Machinery		Rs:	0.00
C. Cost of Labour		Rs:	34395.00
	Total	Rs:	41480.40

			13.615%	Rs:	
	D. Add for contractor's profit and overheads on (A+B+C)				5647.56
	Total cost for	100.00	cum	Rs:	**47127.96**
	Rate per Cum	(A+B+C+D)/100.0		Rs.	**471.30**

IRR-PMW-3-4

Removing and resetting disturbed Yarguntla / Shahabad / Talikot / PCC / Other types of slab lining set in **CM 1 : 3** including flush cement mortar pointing in CM 1 : 3 **with lead upto 50 m and all lifts.**

Data: **RATE ANALYSIS** UNIT : **100** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement 43 Gr	kg	101.00	5.10	515.10
2	Sand (Screened)	cum	0.21	952.00	199.92
	Total cost of Materials			Rs:	**715.02**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class I	Day	4.00	680.00	2720.00
3	mazdoor	Day	6.00	605.00	3630.00
4	Cartman with Double Bullock cart for water	Day	1.00	710.00	710.00
	Total cost of Labour			Rs:	**7865.00**

	labour component/unit qty		78.70		
	Add contractor's profit and overhead charges	13.615%	10.70		
	labour component/unit qty (including contractor's profit)		**89.40**		
	ABSTRACT:				
	A. Cost of Materials			Rs:	715.02
	B. Hire charges of Machinery			Rs:	0.00
	C. Cost of Labour			Rs:	7865.00
			Total	Rs:	8580.02
	D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1168.17
	Total cost for	100.00	sqm	Rs:	**9748.19**
	Rate per sqm	+B+C+D)/100.0		Rs.	**97.50**

IRR-PMW-3-5

Removing and resetting disturbed dry rubble / khandki stone pitching 25 to 45 cm thick including packing, wedging, finishing etc., complete **with all leads and lifts.**

Data: **RATE ANALYSIS** UNIT : **100** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate	Amount

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	Mason Class II	Day	6.00	650.00	3900.00
3	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**8335.00**

labour component/unit qty		83.40	
Add contractor's profit and overhead charges	13.615%	11.40	
labour component/unit qty (including contractor's profit)		**94.80**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	8335.00
		Total	Rs:	8335.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	1134.81
Total cost for	100.00	sqm	Rs:	**9469.81**
Rate per Sqm	(A+B+C+D)/100.0		Rs.	**94.70**

IRR-PMW-3-6

Removing and refixing disturbed chainage / demarcation / hectometre / guard stones including excavation, back filling etc., complete **with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **18** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**2015.00**

labour component/unit qty		111.94	
Add contractor's profit and overhead charges	13.615%	15.24	
labour component/unit qty (including contractor's profit)		**127.20**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2015.00
		Total	Rs:	2015.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	274.34
Total cost for	18.00	Nos.	Rs:	**2289.34**

Rate per Each	(A+B+C+D)/18.0		Rs.	**127.20**

IRR-PMW-3-7

Removing and refixing disturbed km stone / sign board / hecto-metre stone etc., including excavation, back filling with available stuff after refixing, forming base platform of size 90 x 90 x 7.5 cm including watering, ramming etc complete **with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **8** Nos.

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**2015.00**

labour component/unit qty		251.88	
Add contractor's profit and overhead charges	13.615%	34.29	
labour component/unit qty (including contractor's profit)		**286.20**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2015.00
		Total	Rs:	2015.00
		13.615%	Rs:	
D. Add for contractor's profit and overheads on (A+B+C)				274.34
Total cost for	8.00	Nos.	Rs:	**2289.34**
Rate per each	(A+B+C+D)/18.0		Rs.	**286.20**

IRR-PMW-3-8

Providing impervious hearting for breached / damaged portion of embankment with soil from **approved borrow areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated **by rolling or by using mechanical tampers etc., complete with initial lead upto 1 km and all lifts.**

Data: **RATE ANALYSIS** UNIT : **480** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.

1	Angle dozer	Hour	5.00	1871.20	9356.00
	Fuel / Energy charges	Hour	5.00	1012.60	5063.00
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 4 Nos.	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Pump 5 hp (diesel)	Hour	2.00	9.90	19.80
	Fuel / Energy charges	Hour	2.00	131.60	263.20
5	Water tanker 8000 ltr	Hour	4.00	461.10	1844.40
	Fuel / Energy charges	Hour	4.00	497.40	1989.60
6	Vibratory pad foot roller 8 tonne	Hour	6.00	1462.00	8772.00
	Fuel / Energy charges	Hour	6.00	1710.60	10263.60
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**85679.20**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.00	373.10	1492.40
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	32.00	278.90	8924.80
4	Crew for Pump	Hour	3.00	177.20	531.60
5	Crew for Water tanker	Hour	5.00	278.90	1394.50
6	Crew for Roller	Hour	6.00	425.90	2555.40
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**21913.50**

labour component/unit qty		45.70	
Add contractor's profit and overhead charges	13.615%	6.20	
labour component/unit qty (including contractor's profit)		**51.90**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	85679.20
C. Cost of Labour			Rs:	21913.50
		Total	Rs:	107592.70
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	14648.75
Total cost for	480.00	cum	Rs:	**122241.45**
Rate per Cum	(A+B+C+D)/480.0		Rs.	**254.70**

IRR-PMW-3-9

Providing pervious/semi-pervious casing for breached / damaged portion of embankment with soil from **approved borrow areas** in layers of **10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of not less than 98 percent or as stipulated by rolling or by using mechanical tampers etc., complete **with initial lead upto 1 km and all lifts.**

Data: **RATE ANALYSIS** UNIT : **325** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.50	1871.20	6549.20

	Fuel / Energy charges	Hour	3.50	1012.60	3544.10
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 3 Nos.	Hour	24.00	540.80	12979.20
	Fuel / Energy charges	Hour	24.00	497.40	11937.60
4	Pump 5 hp (diesel)	Hour	1.50	9.90	14.85
	Fuel / Energy charges	Hour	1.50	131.60	197.40
5	Water tanker 8000 ltr	Hour	3.00	461.10	1383.30
	Fuel / Energy charges	Hour	3.00	497.40	1492.20
6	Vibratory pad foot roller 8 tonne	Hour	4.00	1462.00	5848.00
	Fuel / Energy charges	Hour	4.00	1710.60	6842.40
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**65673.45**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.50	373.10	1305.85
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	24.00	278.90	6693.60
4	Crew for Pump	Hour	1.50	177.20	265.80
5	Crew for Water tanker	Hour	3.00	278.90	836.70
6	Crew for Roller	Hour	4.00	425.90	1703.60
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**17820.35**

labour component/unit qty		54.80	
Add contractor's profit and overhead charges	13.615%	7.50	
labour component/unit qty (including contractor's profit)		**62.30**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	65673.45
C. Cost of Labour			Rs:	17820.35
		Total	Rs:	83493.80
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	11367.68
Total cost for	325.00	cum	Rs:	**94861.48**
Rate per cum	+B+C+D)/325.0		Rs.	**291.90**

IRR-PMW-3-10

Providing impervious hearting for breached / damaged portion of embankment with soil from **approved dump areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil,sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated by **rolling or by using mechanical tampers etc., complete with initial lead upto 1 km and all lifts.**

Data: **RATE ANALYSIS** UNIT : **612** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer	Hour	4.00	1871.20	7484.80

	Fuel / Energy charges	Hour	4.00	1012.60	4050.40
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00
3	Tippers 5.00 cum capacity 5 Nos.	Hour	40.00	540.80	21632.00
	Fuel / Energy charges	Hour	40.00	497.40	19896.00
4	Pump 5 hp (diesel)	Hour	4.00	9.90	39.60
	Fuel / Energy charges	Hour	4.00	131.60	526.40
5	Water tanker 8000 ltr	Hour	7.00	461.10	3227.70
	Fuel / Energy charges	Hour	7.00	497.40	3481.80
6	Vibratory pad foot roller 8 tonne	Hour	7.50	1462.00	10965.00
	Fuel / Energy charges	Hour	7.50	1710.60	12829.50
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**99018.40**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	4.00	373.10	1492.40
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	40.00	278.90	11156.00
4	Crew for Pump	Hour	4.00	177.20	708.80
5	Crew for Water tanker	Hour	7.00	278.90	1952.30
6	Crew for Roller	Hour	7.50	425.90	3194.25
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**26728.55**

labour component/unit qty			43.70		
Add contractor's profit and overhead charges		13.615%	5.90		
labour component/unit qty (including contractor's profit)			**49.60**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	99018.40
C. Cost of Labour			Rs:	26728.55
		Total	Rs:	125746.95
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	17120.45
Total cost for	612.00	cum	Rs:	**142867.40**
Rate per Cum	(A+B+C+D)/612.0		Rs.	**233.40**

IRR-PMW-3-11

Providing pervious /semi-pervious casing for breached /damaged portion of embankment with soil from **approved dump areas** in **layers of 10 to 15 cm** before compaction including cost of all materials, machinery, labour, all operations such as collection of soil, sorting out, spreading soil to specified thickness, breaking clods, sectioning, watering, compacting each layer to density control of **not less than 98 percent** or as stipulated **by rolling or by using mechanical tampers etc., complete with initial lead upto 1 km and all lifts.**

Data: **RATE ANALYSIS** UNIT : **440** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Angle dozer 90 hp	Hour	3.00	1871.20	5613.60
	Fuel / Energy charges	Hour	3.00	1012.60	3037.80
2	Shovel 0.50 cum capacity	Hour	8.00	1063.90	8511.20
	Fuel / Energy charges	Hour	8.00	789.50	6316.00

3	Tippers 5.00 cum capacity 4 Nos.	Hour	32.00	540.80	17305.60
	Fuel / Energy charges	Hour	32.00	497.40	15916.80
4	Pump 5 hp (diesel)	Hour	3.00	9.90	29.70
	Fuel / Energy charges	Hour	3.00	131.60	394.80
5	Water tanker 8000 ltr	Hour	6.00	461.10	2766.60
	Fuel / Energy charges	Hour	6.00	497.40	2984.40
6	Vibratory pad foot roller 8 tonne	Hour	5.50	1462.00	8041.00
	Fuel / Energy charges	Hour	5.50	1710.60	9408.30
7	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**80383.80**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Crew for Dozer	Hour	3.00	373.10	1119.30
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	32.00	278.90	8924.80
4	Crew for Pump	Hour	3.00	177.20	531.60
5	Crew for Water tanker	Hour	6.00	278.90	1673.40
6	Crew for Roller	Hour	5.50	425.90	2342.45
7	work inspector	Day	2.00	805.00	1610.00
8	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**22816.35**

labour component/unit qty		51.90		
Add contractor's profit and overhead charges	13.615%	7.10		
labour component/unit qty (including contractor's profit)		**59.00**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	80383.80
C. Cost of Labour			Rs:	22816.35
		Total	Rs:	103200.15
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	14050.70
Total cost for	440.00	cum	Rs:	**117250.85**
Rate per Cum	(A+B+C+D)/440.0		Rs.	**266.50**

IRR-PMW-3-12

Repairing rain cuts / resectioning canal slopes to required lines and grades as directed using available soil including dressing, clod breaking, packing, tamping etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **1000** sqm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	work inspector	Day	1.00	805.00	805.00
2	mazdoor	Day	8.00	605.00	4840.00
	Total cost of Labour			Rs:	**5645.00**

labour component/unit qty		5.65		
Add contractor's profit and overhead charges	13.615%	0.77		
labour component/unit qty (including contractor's profit)		**6.40**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	5645.00
		Total	Rs:	5645.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	768.57
Total cost for	1000.00	sqm	Rs:	**6413.57**
Rate per Sqm	(A+B+C+D)/1000.0		Rs.	**6.40**

IRR-PMW-3-13

Cleaning drainage gallery, adits, instrumentation galleries etc., by scrubbing / brushing including chiselling and removing leached lime deposit and disposing off all the waste material out side adits in specified location etc., **complete with all leads and lifts.**

DATA: **RATE ANALYSIS** UNIT : **100** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Wire brush	Each	5.00	50.00	250.00
2	Coir brush	Each	10.00	58.00	580.00
3	Sundries (brooms, gloves etc)	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**888.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Chiseller Cl II	Day	2.00	650.00	1300.00
2	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**4930.00**

labour component/unit qty		49.30		
Add contractor's profit and overhead charges	13.615%	6.70		
labour component/unit qty (including contractor's profit)		**56.00**		

ABSTRACT:

A. Cost of Materials			Rs:	888.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	4930.00
		Total	Rs:	5818.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	792.12
Total cost for	100.00	Rm	Rs:	**6610.12**
Rate per Rm	(A+B+C+D)/100.0		Rs.	**66.10**

IRR-PMW-3-14

Cleaning dam parapet inner face and top using oxalic acid and water by scrubbing / brushing and washing to remove all surface coatings etc., complete .

DATA: **RATE ANALYSIS** UNIT : **100** Rm

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate	Amount

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Oxalic acid	ltr	5.00	103.00	515.00
2	Wire brush	Each	5.00	50.00	250.00
3	Coir brush	Each	10.00	58.00	580.00
4	Sundries (brooms, gloves etc)	LS	2.00	29.00	58.00
	Total cost of Materials			Rs:	**1403.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
			0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**3630.00**

labour component/unit qty		36.30			
Add contractor's profit and overhead charges	13.615%	4.90			
labour component/unit qty (including contractor's profit)		**41.20**			

ABSTRACT:

A. Cost of Materials			Rs:	1403.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3630.00
		Total	Rs:	5033.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	685.24
Total cost for	100.00	Rm	Rs:	**5718.24**
Rate per Rm	(A+B+C+D)/100.0		Rs.	**57.20**

IRR-PMW-3-15

Excavation and removal of silt and silt mixed with sand from canal bed in dry condition including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **10** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	4.00	605.00	2420.00
	Total cost of Labour			Rs:	**2420.00**

labour component/unit qty		242.00			
Add contractor's profit and overhead charges	13.615%	32.90			
labour component/unit qty (including contractor's profit)		**274.90**			

ABSTRACT:

A. Cost of Materials			Rs:	0.00

B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	2420.00
		Total	Rs:	2420.00
D. Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs:	329.48
Total cost for	10.00	cum	Rs:	**2749.48**
Rate per cum	(A+B+C+D)/10.0		Rs.	**274.90**

IRR-PMW-3-16

Excavation and removal of silt or silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete **with initial lead upto 50 m and all lifts.**

DATA: **RATE ANALYSIS** UNIT : **12** cum

A. MATERIALS:

Sl No	particulars	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	mazdoor	Day	6.00	605.00	3630.00
	Total cost of Labour			Rs:	**3630.00**

labour component/unit qty		302.50	
Add contractor's profit and overhead charges	13.615%	41.20	
labour component/unit qty (including contractor's profit)		**343.70**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	0.00
C. Cost of Labour			Rs:	3630.00
		Total	Rs:	3630.00
		13.615%	Rs:	
D. Add for contractor's profit and overheads on (A+B+C)				494.22
Total cost for	12.00	cum	Rs:	**4124.22**
Rate per cum	\+B+C+D)/12.0		Rs.	**343.70**

IRR-PMW-3-17

Providing homogeneous embankment using soil from **approved borrow area** in **layers of 25 to 30 cm** Before compaction including cost of all materials, machinery, labour, all operations such as excavation, sorting out, transportation, spreading soil in layer of specified thickness, breaking clods, **sectioning,etc., complete with initial lead upto 1 km and all lifts.**

RATE ANALYSIS Unit: **807.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	2.70	1871.20	5052.24
	Fuel / Energy charges	Hour	2.70	1012.60	2734.02

2	Shovel 0.85 cum capacity	Hour	8.00	1827.70	14621.60
	Fuel / Energy charges	Hour	8.00	1447.50	11580.00
3	Tippers 5.00 cum capacity 5 Nos.	Hour	40.00	540.80	21632.00
	Fuel / Energy charges	Hour	40.00	497.40	19896.00
	Total hire charges of Machinery			Rs:	**75515.86**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	2.70	373.10	1007.37
2	Crew for Shovel	Hour	8.00	373.10	2984.80
3	Crew for Tipper	Hour	40.00	278.90	11156.00
4	work inspector	Day	1.00	805.00	805.00
5	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**17163.17**

labour component/unit qty		21.30	
Add contractor's profit and overhead charges	13.615%	2.90	
labour component/unit qty (including contractor's profit)		**24.20**	

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	75515.86
C. Cost of Labour			Rs:	17163.17
Total			Rs:	92679.03
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	12618.25
Total cost for	807.00	cum	Rs:	**105297.28**
Rate per Cum	(A+B+C+D)/807		Rs:	**130.50**

IRR-PMW-3-18

Providing homogeneous embankment using soil from **approved borrow area** in **layers of 25 to 30 cm** before compaction including cost of all materials, machinery, labour, all operations such as watering, compacting to density control of **not less than 95 percent** or as stipulated using **8T roller etc., complete with initial lead upto 1 km and all lifts.**

RATE ANALYSIS

A. MATERIALS: UNIT : **807.00** cum

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Angle dozer 90 hp	Hour	2.70	1871.20	5052.24
	Fuel / Energy charges	Hour	2.70	1012.60	2734.02
2	Pump 5 hp (ele)	Hour	4.00	3.50	14.00
	Fuel / Energy charges	Hour	4.00	53.70	214.80
3	Water tanker 8000 ltr	Hour	8.00	461.10	3688.80
	Fuel / Energy charges	Hour	8.00	497.40	3979.20
4	Vibratory pad foot roller 8 tonne	Hour	6.40	1462.00	9356.80
	Fuel / Energy charges	Hour	6.40	1710.60	10947.84
5	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**36045.70**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Crew for Dozer	Hour	2.70	373.10	1007.37
2	Crew for Pump	Hour	4.00	132.90	531.60

3	Crew for Water tanker	Hour	8.00	278.90	2231.20
4	Crew for Roller	Hour	6.40	425.90	2725.76
5	work inspector	Day	1.00	805.00	805.00
6	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**8510.93**
labour component/unit qty			10.50		
Add contractor's profit and overhead charges		13.615%	1.40		
labour component/unit qty (including contractor's profit)			**11.90**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	36045.70
C. Cost of Labour			Rs:	8510.93
Total			Rs:	44556.63
D.Add for contractor's profit and overheads on (A+B+C)		13.615%	Rs.	6066.39
Total cost for	807.00	cum	Rs:	**50623.02**
Rate per Cum	(A+B+C+D)/807		Rs:	**62.70**

IRR-PMW-3-19

Providing homogeneous embankment using soil from **approved borrow area** in **layers of 25 to 30 cm** Before compaction including cost of all materials, machinery, labour, all operations such as compacting to density control of **not less than 90 percent** or as stipulated using **2T roller etc., complete with initial lead upto 1 km and all lifts.**

RATE ANALYSIS UNIT : **807.00** cum

A. MATERIALS:

Sl No	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Tractor with 2T Roller	Hour	10.00	512.00	5120.00
2	Sundries	LS	2.00	29.00	58.00
	Total hire charges of Machinery			Rs:	**5178.00**

C. LABOUR:

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	work inspector	Day	0.50	805.00	402.50
2	mazdoor	Day	2.00	605.00	1210.00
	Total cost of Labour			Rs:	**1612.50**
labour component/unit qty			2.00		
Add contractor's profit and overhead charges		13.615%	0.30		
labour component/unit qty (including contractor's profit)			**2.30**		

ABSTRACT:

A. Cost of Materials			Rs:	0.00
B. Hire charges of Machinery			Rs:	5178.00
C. Cost of Labour			Rs:	1612.50
Total			Rs:	6790.50
D.Add for contractor's profit and overheads on (A+B+C)	13.615%		Rs.	924.526575
Total cost for	807.00	cum	Rs:	**7715.03**
Rate per Cum	(A+B+C+D)/807		Rs:	**9.60**

Weed Removal by Manual Means

IRR-PMW-3-20(a)

Removal of Water Hyacinth up to 30 cm thick

RATE ANALYSIS

A. MATERIALS Unit : **2000** Sqm

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0	0	0
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0	0	0
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Work Inspector	Day	3.5	805.00	2817.5
2	Mazdoor	Day	28	605.00	16940
	Total cost of Labour			Rs:	**19757.50**

ABSTRACT:

A.COST OF MATERIALS			Rs.	0.00
B.COST OF MACHINERY			Rs.	0.00
C.COST OF LABOUR			Rs.	19757.50
	Total			19757.50
D. Add for Contractor's Profit and overheads		13.615%		2689.98
Total Cost for removal weed in the extent of	2000	Sqm		**22447.48**
Rate per Sqm	(A+B+C+D)/2000			**11.2**

IRR-PMW-3-20(b)

Removal of Water Hyacinth beyond 30 cm thick

RATE ANALYSIS

A. MATERIALS Unit : **2000** Sqm

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0	0	0
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0	0	0
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Work Inspector	Day	5	805.00	4025
2	Mazdoor	Day	38	605.00	22990
	Total cost of Labour			Rs:	**27015.00**

ABSTRACT:

A.COST OF MATERIALS			Rs.	0.00
B.COST OF MACHINERY			Rs.	0.00
C.COST OF LABOUR			Rs.	27015.00
	Total			27015.00
D. Add for Contractor's Profit and overheads		13.615%		3678.09
Total Cost for removal weed in the extent of	2000	Sqm		**30693.09**
Rate per Sqm	(A+B+C+D)/2000			**15.3**

IRR-PMW-3-20(c)

Clearing Alchi Tilla

RATE ANALYSIS Unit : **2000** Sqm

A. MATERIALS

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0.00	0.00	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Work Inspector	Day	3.00	805.00	2415.00
2	Mazdoor	Day	26.00	605.00	15730.00
	Total cost of Labour			Rs:	**18145.00**

ABSTRACT:

A.COST OF MATERIALS			Rs.	0.00
B.COST OF MACHINERY			Rs.	0.00
C.COST OF LABOUR			Rs.	18145.00
	Total			18145.00
D. Add for Contractor's Profit and overheads		13.615%		2470.44
Total Cost for removal weed in the extent of	2000	Sqm		**20615.44**
Rate per Sqm	(A+B+C+D)/2000			**10.3**

IRR-PMW-3-20(d)

Removal of Jammu

RATE ANALYSIS

A. MATERIALS Unit : **2000** Sqm

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0	0	0
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0	0	0
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Work Inspector	Day	2.5	805.00	2012.5
2	Mazdoor	Day	22	605.00	13310
	Total cost of Labour			Rs:	**15322.50**

ABSTRACT:

A.COST OF MATERIALS			Rs.	0.00
B.COST OF MACHINERY			Rs.	0.00
C.COST OF LABOUR			Rs.	15322.50
	Total			15322.50
D. Add for Contractor's Profit and overheads		13.615%		2086.16
Total Cost for removal weed in the extent of	2000	Sqm		**17408.66**
Rate per Sqm	(A+B+C+D)/2000			**8.7**

IRR-PMW-3-20(e)

Removal of Imponea, Cornea

RATE ANALYSIS

A. MATERIALS Unit : **2000** Sqm

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0	0	0.00
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0	0	0.00
	Total hire charges of Machinery			Rs:	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Work Inspector	Day	3	805.00	2415.00
2	Mazdoor	Day	26	605.00	15730.00
	Total cost of Labour			Rs:	**18145.00**

ABSTRACT:

A.COST OF MATERIALS			Rs.	0.00
B.COST OF MACHINERY			Rs.	0.00
C.COST OF LABOUR			Rs.	18145.00
	Total			18145.00
D. Add for Contractor's Profit and overheads		13.615%		2470.44
Total Cost for removal weed in the extent of	2000	Sqm		**20615.44**
Rate per Sqm	(A+B+C+D)/2000			**10.30**

IRR-PMW-3-20(f)

Removal of Natchu, goobi, thooti, etc.

RATE ANALYSIS Unit : **2000** Sqm

A. MATERIALS

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0	0	0
	Total cost of Materials			Rs:	**0.00**

B. MACHINERY

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	NIL		0	0	0
	Total hire charges of Machinery			Rs.	**0.00**

C. LABOUR

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Work Inspector	Day	1.2	805.00	966
2	Mazdoor	Day	8	605.00	4840
	Total cost of Labour			Rs:	**5806.00**

ABSTRACT:

A.COST OF MATERIALS			Rs.	0.00
B.COST OF MACHINERY			Rs.	0.00
C.COST OF LABOUR			Rs.	5806.00
	Total			5806.00
D. Add for Contractor's Profit and overheads		13.615%		790.49

Total Cost for removal weed in the extent of	2000	Sqm	**6596.49**
Rate per Sqm	(A+B+C+D)/2000		**3.30**

PAINTING OF SLUICES FOR MAINTENANCE WORKS

IRR-PMW-3-21

Surface cleaning of metal surfaces by chemical cleaners and then by hand and power tool cleaners and removing dust. After cleaniong, applying primary coat with **one coat** of Zinc rich epoxy primer to a thickness of 100 microns, followed by finishing coats **2 coats** with Coal tar epoxy with material, labour, and all accessories with all leads and lifts.

Data: A. Materials **Rate Analysis** Unit: 100 Sqm

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Rust Cleaner/ Inhibitor	ltr	13.00	177.00	2301.00
2	Zinc rich epoxy primer	ltr	14.00	759.00	10626.00
3	Thinner@10%	ltr	1.40	99.00	138.60
4	Coal Tar epoxy paint	ltr	40.00	255.00	10200.00
5	Thinner@10%	ltr	4.00	99.00	396.00
6	Wire Brush	ltr	2.00	50.00	100.00
7	Sundries (brushes, Ladders, platforms)	LS	3.00	29.00	87.00
	Total Cost of Materials			Rs:	**23848.60**

B. Machinery

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
	NIL	0	0.00	0.00	0.00
	Total Cost of Machinery			Rs:	**0.00**

C. Labour

Sl. No.	Particulars	Unit	Quantity	Rate in Rs.	Amount in Rs
1	Painter Class-II	Day	20.00	650.00	13000.00
2	Helper	Day	20.00	605.00	12100.00
	Total cost of Labour			Rs:	**25100.00**

Labour Component/ Unit Qty.		251	
Add Contractor's Profit and and Overhead Charges @	13.615%	34.17	
Labour Component/ Unit Qty (including contractor' profit)		**285.17**	

ABSTRACT:

A. Cost of Materials:		23848.60
B. Hire Charges of Machinery		0.00
C. Cost of Labour		25100.00
	Total	**48948.60**
D. Add for Excise Duty on 75% cost excluding cost of materials)	0%	0.00
	Total	**48948.60**
E. Add for transportation Charges upto worksite @	3%	1468.46
	Total	**50417.06**
F. Add for Contractor's Profit and Overhead Charges @ 14%	13.615%	6864.28
Total Cost per 100	Sqm	57281.34
Rate per Sqm (A+B+C+D+E+F)/	100	**572.80**

CHAPTER-VII
(Common to all Departments)

Index_ **FOR THE YEAR - 2025-26**

COM_MWRK A. Manual Works

COM_MWRK-1			
	New extra items-- common item for all earth works using only manual labour for all other works without involving contractors (**Manual**)Excavation **in all kinds of soil** including boulders **upto 0.30 m dia.** for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works) With 3 Cum per day output**	per cum	201.70
COM_MWRK-2			
	(**Manual**)Excavation **in all kinds of soil/ HDR** including boulders **upto 0.30 m dia** For foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete with **initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works) With 2.5 Cum per day output**	per cum	242.00
COM_MWRK-3			
	(**Manua**l)Excavation in **soft rock (including F&F) without blasting**, including boulders upto 0.30 m dia. for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete with initial **lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works) Soft rock 1.33 Cum/Day**	per cum	454.90
COM_MWRK-4			
	(**Manual**)Excavation **in hard rock**, including boulders **upto 0.30 m dia**. for foundations of canal cross drainage and other appurtenant structures and placing excavated stuff neatly in specified dump area or disposing off the same as directed etc., complete **with initial lead upto 10 m and initial lift upto 1.5 m. (WIthout involving the contractors for specified works) Hard rock 0.67Cum/ day**	per cum	903.00

HIRE CHARGES OF MACHINERY

			Scheduled Rate for 2025-26			
Sl. No	Description of machinery	Unit	Hire charge in Rs	Fuel charge in Rs	Crew Charge in Rs.	Proposed Total in Rs
1	2	3	4	5	6	7
1	Agitator car / Transit mixer 2 cum	Hour	885.80	1447.50	446.20	2779.50
2	Air compressor 5 cmm (electric)	Hour	119.00	362.60	265.20	746.80
3	Air compressor 7 cmm (diesel)	Hour	265.20	1184.30	339.50	1789.00
4	Air compressor 7 cmm (electric)	Hour	154.80	483.40	265.20	903.40
5	Air compressor 8.5 cmm (diesel	Hour	300.50	1480.40	339.50	2120.40
6	Air compressor 8.5 cmm (electric)	Hour	183.60	604.30	265.20	1053.10
7	Air compressor 15 cmm (electric)	Hour	147.60	1342.80	282.90	1773.30
8	Angle Dozer 90 hp	Hour	1871.20	1012.60	373.10	3256.90
9	Batching plant 0.5 cum (6 cum/hr)	Hour	126.50	161.10	535.30	822.90
10	Batching plant 2 x 1.00 cum(15 cum/hr)	Hour	423.30	483.40	535.30	1442.00
11	Batching plant 2 x 1.50 cum(50 cum/hr)	Hour	546.80	590.80	535.30	1672.90
12	Bending machine 3000 x 12 mm	Hour	45.20	161.10	212.20	418.50
13	Clamp shell and hoisting ropes	Hour	6.60	0.00	0.00	6.60
14	Concrete bucket 1.5 cum	Hour	17.40	0.00	0.00	17.40
15	Concrete hand mixer 45 / 30 ltr	Hour	6.90	0.00	0.00	6.90
16	Concrete mixer 300 / 200 (diesel)	Hour	62.60	131.60	356.20	550.40
17	Concrete mixer 300 / 200 ltr (electric)	Hour	61.90	53.70	356.20	471.80
18	Concrete mixer 600 / 400 (diesel)	Hour	102.10	263.20	356.20	721.50
19	Concrete mixer 600 / 400 ltr (electric	Hour	100.00	107.40	356.20	563.60
20	Concrete paver 100 sqm / hr	Hour	373.40	0.00	683.90	1057.30
21	Convey mucker	Hour	914.10	373.80	285.00	1572.90
22	Core drilling machine	Hour	354.10	394.80	446.20	1195.10
23	Diesel generating set 30 KVA	Hour	73.60	1052.70	212.20	1338.50
24	Diesel generating set 50 KVA	Hour	108.40	1579.10	212.20	1899.70
25	Diesel Loco 45 hp	Hour	407.70	888.20	265.20	1561.10
26	Dewatering pump 5 hp (diesel)	Hour	9.90	131.60	177.20	318.70
27	Dewatering pump 5 hp (electric)	Hour	3.50	53.70	132.90	190.10
28	Dewatering pump 10 hp (diesel)	Hour	17.10	263.20	177.20	457.50
29	Dewatering pump 10 hp (electric	Hour	7.40	107.40	132.90	247.70
30	Dewatering pump 20 hp (diesel)	Hour	54.40	526.40	177.20	758.00
31	Dewatering pump 20 hp (electric)	Hour	14.40	214.80	132.90	362.10
32	Drifter	Hour	353.60	0.00	557.70	911.30
33	Drilling jumbo	Hour	413.10	71.10	282.90	767.10
34	Dumper 4.5 cum	Hour	688.40	663.20	356.90	1708.50
35	Geophysical Electric resistivity meter	Hour	115.60	0.00	0.00	115.60
36	Grouting pump	Hour	38.90	53.70	424.30	516.90
37	Guniting / sand blast equipment	Hour	125.90	0.00	353.60	479.50
38	Ice plant & accessories 30 t / day	Hour	198.70	1530.80	213.70	1943.20
39	Jack hammer	Hour	22.90	0.00	530.40	553.30
40	Needle vibrator 40 mm (petrol)	Hour	6.80	29.60	256.40	292.80
41	Needle vibrator 40 mm (electric)	Hour	6.30	10.70	256.40	273.40
42	Needle vibrator 60 mm (petrol)	Hour	7.10	44.30	256.40	307.80
43	Needle vibrator 60 mm (electric)	Hour	7.00	16.10	256.40	279.50

44	Planing machine 4 m stroke	Hour	122.10	161.10	339.50	622.70
45	Plate shearing machine upto 12 mm	Hour	50.20	214.80	223.10	488.10
46	Pneumatic placer 0.5 cum	Hour	198.80	0.00	140.40	339.20
47	Pneumatic tamper	Hour	23.30	0.00	424.30	447.60
48	Pug cutting machine	Hour	8.10	5.40	0.00	13.50
49	Pusher leg	Hour	13.80	0.00	0.00	13.80
50	Road roller diesel 10 t	Hour	235.40	1184.30	358.20	1777.90
51	Shovel 0.50 cum 75 hp	Hour	1063.90	789.50	373.10	2226.50
52	Shovel 0.85 cum 110 hp	Hour	1827.70	1447.50	373.10	3648.30
53	Stationery derric crane	Hour	89.60	0.00	0.00	89.60
54	Tipper 5 cum	Hour	540.80	497.40	278.90	1317.10
55	Tipping tub 1.5 cum	Hour	77.80	0.00	0.00	77.80
56	Tower crane 5 tonne	Hour	938.60	279.30	297.40	1515.30
57	Transformer 250 KVA	Hour	5598.70	0.00	0.00	5598.70
58	Truck 10 t	Hour	493.20	497.40	278.90	1269.50
59	Truck mounted derric crane 5 t	Hour	667.50	497.40	278.90	1443.80
60	Upright drilling machine/Grinder	Hour	26.60	53.70	304.20	384.50
61	Ventilation fan 20 hp	Hour	12.80	214.80	45.80	273.40
62	Vibratory pad foot roller 8 t	Hour	1462.00	1710.60	425.90	3598.50
63	Wagon drill	Hour	204.40	0.00	446.20	650.60
64	Water tanker 8000 ltr	Hour	461.10	497.40	278.90	1237.40
65	Welding set	Hour	17.20	128.90	0.00	146.10
66	Winch 35 hp (electric)	Hour	147.10	263.20	424.30	834.60
67*	Tractor with 2T roller	Hour	512.00	0.00	0.00	512.00
68	Hydraulic Truck Crane 30T	Hour	3555.10	118.80	843.60	4517.50
69	Hydraulic Truck Crane 16T	Hour	2396.70	75.00	843.60	3315.30
70	Heavy Duty Airless Spray Painting Equipment	Hour	136.80	0.00	0.00	136.80

* R&B Hire Charges item no 11

LEAD/LIFT/LOADING & UNLOADING CHARGES FOR THE YEAR 2025-26

LEAD, LIFT, LOADING AND UNLOADING CHARGES FOR MATERIALS

1. For total lead up to 150 m (including initial lead) lead charges by head load only shall be adopted irrespective of mode of conveyance.
2. For total lead exceeding 150 m conveyance by mechanical means only shall be adopted irrespective of mode of conveyance.
3. The rates for loading at quarry including idle hire charges of trucks and hire charges per for each kilometre and up to 5 km are cumulative and inclusive of total charges for preceding lead.
4. Unless otherwise specified lead charges for Earth / Sand / Gravel / Aggregates and Stones are for loose volume and not for compacted or in-situ volume.
5. The rates for lift charges, lead charges, hire charges are cumulative and inclusive of rates for preceding lift, lead and hire charges
6. Lift charges are not payable where conveyance of materials is by mechanical means to final placing point.
7. Loading and unloading charges are not payable for conveyance by head load.

8. Loading charges are not payable for conveyance by mechanical means for disposal of excavated materials beyond initial lead of 50 m wherever specified.
9. Loading and unloading charges are not payable for conveyance by mechanical means for disposal of excavated materials beyond initial lead of 1 km wherever specified.

10. The rates for unloading of materials except earth, sand, gravel, coarse aggregate, rubble, size stone and cut stone are inclusive of stacking.
11. Hire charges are per 1KM for tippers and trucks for transport of materials from work site to dump yard and other places are cumulative& includes previous km up to 5 kms.
12. The lead & lift charges are inclusive of contractor's profit and overhead charges of 13.615%
13. ***During the BoCE meeting held on 26.05.2016, it is observed that the in some of the estimates, Lead charges are being added directly to the material basic rates for arriving the finished item rate. In view of that, the BoCE has instructed to see that while arriving the finished item rate the lead charges are to be added to the material basic rates only after deducting the provision of Contractor's Profit and Overhead charges.***

COM-LDLFT-1

A. (Lead) Conveyance Charges for materials by head load

Sl No.	Total distance (Total lead includes initial lead)	Earth / Sand /Gravel / Murrum/ Lime/ Surki/ Size stone / Cut stone Rubble / Coarse aggregate Rs/Cum	Cement / Reinforcement steel / Structural steel Rs / tonne	PCC slab/ Shahbad slab / CC block/ BS slab/ Late-rite / Wood Rs / cum
1	2	3	4	5
1	Total lead upto 50 m (covered by item rate)	initial lead	initial lead	initial lead
2	Total lead upto 100 m	98.20	57.30	125.00
3	Total lead upto 150 m	196.40	114.60	250.00

Notes:

1. No loading or unloading charges are admissible for conveyance by head load.
2. For total lead exceeding 150 m conveyance charges by mechanical means only shall be adopted irrespective of mode of conveyance.
3. The Lead Charges are inclusive of 13.615% Contractor Profit and Overhead charges

COM-LDLFT-2

B. (Lead) Conveyance charges for machinery per kilometer for transporting materials by tippers and trucks excluding loading, unloading and idle hire charges of machinery.

Sl No.	Distance	(Lead) charges for trucks and tippers for Earth / Sand /Gravel / Murrum/ Lime/ Surki/ per cu.meter	(Lead) charges for trucks and tippers for Rubble/Size stones/ Cut Stones/ Coarse aggregate per cu.meter	(Lead) charges for trucks and tippers for Cement/ Steel/ RCC poles/ AC & GI sheets/ Packed materials/ tonne	(Lead) charges for trucks and tippers per cu.meter for PCC slabs/ Shahabad slabs/ CC & Laterite blocks/ Wood/ cum	(Lead) charges for trucks and tippers per cu.meter for water/ 1000 litres	(Lead) charges for trucks per 1000 Nos. of Bricks
1	2	3	4	5	6	7	8
1	Lead upto 1 km	44.90	43.30	27.00	63.60	26.40	72.10
2	Lead upto 2 km	62.90	60.60	37.90	89.10	36.90	101.00
3	Lead upto 3 km	83.80	83.80	52.00	123.20	49.20	134.60
4	Lead upto 4 km	101.80	101.80	63.60	149.60	59.80	163.50
5	Lead upto 5 km	119.70	119.70	74.80	176.10	70.30	192.30
6	for Every km beyond 5 km upto 30 km	18.00	18.00	11.20	26.40	10.50	28.80
7	for Every km beyond 30 km	15.00	15.00	9.40	22.00	8.80	24.00

Note: The Lead Charges are inclusive of 13.615% Contractor Profit and Overhead charges

COM-LDLFT-3

C. LOADING AND UNLOADING CHARGES BY MANUAL MEANS (idle hire charges of trucks are not added)

Sl No.	Description of item	Earth / Sand /Gravel Murrum/ / Surki/ Rs / cum	Rubble/ size stone/ cut stone/ Coarse aggregate,Lime in Rs/cum	cement in Rs/tonne	steel in Rs./tonne	brick work Rs/1000 No
1	2	3	4	5	6	7
1	Loading	32.60	65.20	107.50	128.90	89.60
2	Unloading	16.30	32.60	107.50	128.90	89.60

Note: The Lead Charges are inclusive of 13.615% Contractor Profit and Overhead charges

COM-LDLFT-4

D. LOADING AND UNLOADING CHARGES BY MANUAL MEANS (including idle hire charges of trucks)

Sl No.	Description of item	Earth / Sand /Gravel Murrum/ / Surki/ Rs / cum	Rubble/ size stone/ cut stone/ Coarse aggregate,Lime in Rs/cum	cement in Rs/tonne	steel in Rs./tonne	brick work Rs/1000 No
1	2	3	4	5	6	7
1	Loading	163.70	196.30	251.80	273.10	327.60
2	Unloading	59.80	98.15	251.80	273.10	327.60

Note: The Lead Charges are inclusive of 13.615% Contractor Profit and Overhead charges

COM-LDLFT-5

E. LOADING AND UNLOADING CHARGES BY MECHANICAL MEANS (including idle hire charges of trucks)

Sl No.	Description of item	Sand /Gravel Murrum/ / Surki/ Rs / cum	Rubble/ size stone/ cut stone/ Coarse aggregate,Lime in Rs/cum
1	2	3	4
1	Loading	73.80	138.90
2	Unloading	22.60	22.60

Note: The Lead Charges are inclusive of 13.615% Contractor Profit and Overhead charges

COM-LDLFT-6

F. LIFT CHARGES FOR MATERIALS BY HEAD LOAD

Sl No.	Total lift (Total lift includes initial lift)	Earth / Sand /Gravel Murrum/ Lime / Surki/ Size stone / Cut stone Rubble / Coarse aggregate Rs / cum	Cement / Reinforcement steel /Structural steel Rs / tonne	PCC slab/ Shahbad slab / CC block/ BS slab / Laterite / Wood Rs / cum
1	2	3	4	5
1	Total lift upto 3 m (covered by item rate)	Initial lift	Initial lift	Initial lift
2	For Every 1.00 Lift beyond initial lift of 3 meters	11.50	8.30	15.30

Note: The Lead Charges are inclusive of 13.615% Contractor Profit and Overhead charges

DETAILED DATA

LEAD / LIFT / LOADING & UNLOADING CHARGES - DATA RATES

Note: The Lead Charges are inclusive of 13.615% Contractor Profit and Overhead charges

I. GENERAL DATA FOR LEAD / LIFT / LOADING & UNLOADING:

A . DATA FOR LEAD CHARGES BY HEAD LOAD :

For the purpose of working out conveyance charges by head load the category of materials as classified in (I) above are grouped together as under :

CATEGORY : Earth / Sand / Gravel / Murrum / Lime / Surki / Coarse aggregate / Rubble stone

In this group materials which are comparatively lighter and generally conveyed by head

load by light / heavy mazdoor are included. Method of conveyance, approximate weight per load and time required to cover specified additional distance will be generally same. Therefore common data is considered for conveyance by head load for materials under this category.

CATEGORY : Cement in bag / Reinforcement steel / Structural steel sections

In this group the materials in packed / rolled / fabricated condition which are heavier per load compared to the materials under Category above and which can not be split into small quantities for the purpose of conveyance are included. The unit of measurement for these materials is per tonne

CATEGORY : PCC slab / Shahabad stone slab / CC block / Laterite stone / BS slab /Wood

In this group the materials in moulded condition / cut to standard size which are heavier per load compared to materials under Category above are included.

COM-DTL-LDLFT-1

A. (Lead) Conveyance Charges for materials by head load

CATEGORY : Earth / Sand / Gravel / Murrum / Lime / Surki / Coarse aggregate / Rubble stone / Size stone / Cut stone

Lead: Upto 50 m :

This is initial lead and cost is covered under item basic rate.

Lead: Upto 100 m :	25 m
Average distance to be covered beyond initial lead of 50 m	60 m / minute
Average speed of conveyance by head load	
Round trip cycle time for 25 m considering 50 min/ hr working	1 min
(2 x 25 x 60 / 50 / 60)	480
No. of trips per day for additional lead (8 x 60 / 1)	0.015 cum
Quantity of material by head load per load	7 cum
Quantity of material by head load per day (480 x 0.015) say	

Deploy one mazdoor for every 50 m additional lead beyond initial lead.

Labour **Unit: 7.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	1	605.00	605.00
	Total			Rs:	**605.00**

Contractor's profit and overhead charges				13.615%	82.37
Total for materials under this Category for	7	cum		Rs:	687.37
Rate per cum		687.37/7		Rs:	**98.20**

Lead: Upto 150 m :

Average distance to be covered beyond initial of 50 m : 50 m

Deploy two mazdoors for conveyance beyond initial lead.

Labour **Unit: 7.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	2	605.00	1210.00
	Total			Rs:	**1210.00**

Contractor's profit and overhead charges				13.615%	164.74
Total for materials under this Category for	7	cum		Rs:	1374.74
Rate per cum		1374.74/7		Rs:	**196.40**

CATEGORY : Cement in bag / Reinforcement steel / Structural steel sections

Lead: Upto 50 m :

This is initial lead and cost is covered under item basic rate.

Lead: Upto 100 m :

Average distance to be covered beyond initial lead of 50 m	25	m
Average speed of conveyance by head load	30	m / minute
Round trip cycle time for 25 m considering 50 min/ hr working (2 x 25 x 60 / 50 / 30)	2	min
No. of trips per day for lead upto 100 m (8 x 60 / 2)	240	
Quantity of material by head load per load	50	kg
Quantity of material by head load per day (240 x 50 / 1000)	12	tonne

Deploy one mazdoor for every 50 m additional lead beyond initial lead.

Labour **Unit: 12.00 tonne**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement /steel handling mazdoor	Day	1.00	605.00	605.00
	Total			Rs:	**605.00**

Contractor's profit and overhead charges				13.615%	82.37
Total for materials under this Category for	12.00	tonne		Rs:	687.37
Rate per tonne		687.37/12		Rs:	**57.30**

Lead: Upto 150 m :

Average distance to be covered beyond initial of 50 m : 50 m

Deploy two mazdoors for conveyance beyond initial lead.

Unit: 12.00 tonne

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Cement /steel handling Mazdoor	Day	2.00	605.00	1210.00
	Total			Rs:	**1210.00**

Contractor's profit and overhead charges				13.615%	164.74
Total for materials under this Category for	12.00	tonne		Rs:	1374.74
Rate per tonne		1374.74/12		Rs:	**114.60**

CATEGORY : PCC slab / Shahabad stone slab / CC block / Laterite stone / BS slab / Wood

Lead: Upto 50 m :

This is initial lead and cost is covered under item basic rate.

Lead: Upto 100 m :

Average distance to be covered beyond initial lead of 50 m	25	m
Average speed of conveyance by head load	40	m / minute
Round trip cycle time for 25 m considering 50 min/ hr working (2 x 25 x 60 / 50 / 40)	1.5	min
No. of trips per day for lead upto 100 m (8 x 60 / 1.5)	320	
Quantity of material by head load per load	0.017	cum
Quantity of material by head load per day (320 x 0.017) say	5.5	cum

Deploy one mazdoor for every 50 m additional lead beyond initial lead.

Unit: 5.50 cum

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	1.00	605.00	605.00
	Total			Rs:	**605.00**
Contractor's profit and overhead charges				13.615%	82.37
Total for materials under this Category for	5.50	cum		Rs:	687.37
Rate per cum		687.37/5.5		Rs:	**125.00**

Lead: Upto 150 m :

Average distance to be covered beyond initial of 50 m :	50	m

Deploy two mazdoors for conveyance beyond initial lead.

Unit: 5.50 cum

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	2.00	605.00	1210.00
	Total			Rs:	**1210.00**
Contractor's profit and overhead charges				13.615%	164.74
Total for materials under this Category for	5.50	cum		Rs:	1374.74
Rate per cum		1374.74/5.5		Rs:	**250.00**

COM-DTL-LDLFT-2

B.(Lead) Conveyance charges for machinery per kilometer for transporting materials by tippers and trucks excluding loading, unloading and idle hire charges of machinery.

CATEGORY : Earth / Sand / Gravel / Murrum / Lime / Surki /

For total lead upto 1 km **Unit: 5.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.15	540.80	81.12
	Fuel charges	Hour	0.15	497.40	74.61
2	Crew charges	Hour	0.15	278.90	41.84
	Total			Rs:	**197.57**
Contractor's profit and overhead charges				13.615%	26.90
Total for materials under this Category for	5.00	cum		Rs:	224.47
Rate per cum		224.47/5		Rs:	**44.90**

For total lead more than 1 km upto 2 km

Unit: 5.00 cum

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.21	540.80	113.57
	Fuel charges	Hour	0.21	497.40	104.45
2	Crew charges	Hour	0.21	278.90	58.57
	Total			Rs:	**276.59**
Contractor's profit and overhead charges				13.615%	37.66
Total for materials under this Category for		5.00	cum	Rs:	314.25
Rate per cum			314.25/5	Rs:	**62.90**

For total lead more than 2 km upto 3 km **Unit: 5.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.28	540.80	151.42
	Fuel charges	Hour	0.28	497.40	139.27
2	Crew charges	Hour	0.28	278.90	78.09
	Total			Rs:	**368.78**
Contractor's profit and overhead charges				13.615%	50.21
Total for materials under this Category for		5.00	cum	Rs:	418.99
Rate per cum			418.99/5	Rs:	**83.80**

For total lead more than 3 km upto 4 km **Unit: 5.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.34	540.80	183.87
	Fuel charges	Hour	0.34	497.40	169.12
2	Crew charges	Hour	0.34	278.90	94.83
	Total			Rs:	**447.82**
Contractor's profit and overhead charges				13.615%	60.97
Total for materials under this Category for		5.00	cum	Rs:	508.79
Rate per cum			508.79/5	Rs:	**101.80**

For total lead more than 4 km upto 5 km **Unit: 5.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.4	540.80	216.32
	Fuel charges	Hour	0.4	497.40	198.96
2	Crew charges	Hour	0.4	278.90	111.56
	Total			Rs:	**526.84**
Contractor's profit and overhead charges				13.615%	71.73
Total for materials under this Category for		5.00	cum	Rs:	598.57
Rate per cum			598.57/5	Rs:	**119.70**

For lead beyond 5 km upto 30 km for every km **Unit: 5.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.06	540.80	32.45
	Fuel charges	Hour	0.06	497.40	29.84
2	Crew charges	Hour	0.06	278.90	16.73
	Total			Rs:	**79.02**
Contractor's profit and overhead charges				13.615%	10.76

Total for materials under this Category for	5.00	cum	Rs:	89.78
Rate per cum		89.78/5	Rs:	**18.00**

For lead beyond 30 km for every km **Unit:** **5.00** **cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.05	540.80	27.04
	Fuel charges	Hour	0.05	497.40	24.87
2	Crew charges	Hour	0.05	278.90	13.95
	Total			Rs:	**65.86**
Contractor's profit and overhead charges				13.615%	8.97
Total for materials under this Category for	5.00	cum		Rs:	74.83
Rate per cum		74.83/5		Rs:	**15.00**

CATEGORY : Coarse aggregate / Rubble stone / Size stone / Cut stone

For total lead upto 1 km **Unit:** **5.00** **cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.15	493.20	73.98
	Fuel charges	Hour	0.15	497.40	74.61
2	Crew charges	Hour	0.15	278.90	41.84
	Total			Rs:	**190.43**
Contractor's profit and overhead charges				13.615%	25.93
Total for materials under this Category for	5.00	cum		Rs:	216.36
Rate per cum		216.36/5		Rs:	**43.30**

For total lead more than 1 km upto 2 km **Unit:** **5.00** **cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.21	493.20	103.57
	Fuel charges	Hour	0.21	497.40	104.45
2	Crew charges	Hour	0.21	278.90	58.57
	Total			Rs:	**266.59**
Contractor's profit and overhead charges				13.615%	36.30
Total for materials under this Category for	5.00	cum		Rs:	302.89
Rate per cum		302.89/5		Rs:	**60.60**

For total lead more than 2 km upto 3 km **Unit:** **5.00** **cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.28	540.80	151.42
	Fuel charges	Hour	0.28	497.40	139.27
2	Crew charges	Hour	0.28	278.90	78.09
	Total			Rs:	**368.78**
Contractor's profit and overhead charges				13.615%	50.21
Total for materials under this Category for	5.00	cum		Rs:	418.99
Rate per cum		418.99/5		Rs:	**83.80**

For total lead more than 3 km upto 4 km **Unit: 5.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.34	540.80	183.87
	Fuel charges	Hour	0.34	497.40	169.12
2	Crew charges	Hour	0.34	278.90	94.83
	Total			Rs:	**447.82**
Contractor's profit and overhead charges				13.615%	60.97
Total for materials under this Category for		5.00	cum	Rs:	508.79
Rate per cum			508.79/5	Rs:	**101.80**

For total lead more than 4 km upto 5 km **Unit: 5.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.4	540.80	216.32
	Fuel charges	Hour	0.4	497.40	198.96
2	Crew charges	Hour	0.4	278.90	111.56
	Total			Rs:	**526.84**
Contractor's profit and overhead charges				13.615%	71.73
Total for materials under this Category for		5.00	cum	Rs:	598.57
Rate per cum			598.57/5	Rs:	**119.70**

For lead beyond 5 km upto 30 km for every km **Unit: 5.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.06	540.80	32.45
	Fuel charges	Hour	0.06	497.40	29.84
2	Crew charges	Hour	0.06	278.90	16.73
	Total			Rs:	**79.02**
Contractor's profit and overhead charges				13.615%	10.76
Total for materials under this Category for		5.00	cum	Rs:	89.78
Rate per cum			89.78/5	Rs:	**18.00**

For lead beyond 30 km for every km **Unit: 5.00 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.05	540.80	27.04
	Fuel charges	Hour	0.05	497.40	24.87
2	Crew charges	Hour	0.05	278.90	13.95
	Total			Rs:	**65.86**
Contractor's profit and overhead charges				13.615%	8.97
Total for materials under this Category for		5.00	cum	Rs:	74.83
Rate per cum			74.83/5	Rs:	**15.00**

CATEGORY : Cement/ Steel/ Pipes/ RCC poles/ AC & GI sheets/ Packed materials

For total lead upto 1 km **Unit: 8.00 tonne**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.15	493.20	73.98
	Fuel charges	Hour	0.15	497.40	74.61
2	Crew charges	Hour	0.15	278.90	41.84

	Total			Rs:	**190.43**
Contractor's profit and overhead charges				13.615%	25.93
Total for materials under this Category for		8.00	tonne	Rs:	216.36
Rate per tonne			216.36/8	Rs:	**27.00**

For total lead more than 1 km upto 2 km **Unit: 8.00 tonne**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.21	493.20	103.57
	Fuel charges	Hour	0.21	497.40	104.45
2	Crew charges	Hour	0.21	278.90	58.57
	Total			Rs:	**266.59**
Contractor's profit and overhead charges				13.615%	36.30
Total for materials under this Category for		8.00	tonne	Rs:	302.89
Rate per tonne			302.89/8	Rs:	**37.90**

For total lead more than 2 km upto 3 km **Unit: 8.00 tonne**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.28	540.80	151.42
	Fuel charges	Hour	0.28	497.40	139.27
2	Crew charges	Hour	0.28	278.90	78.09
	Total			Rs:	**368.78**
Contractor's profit and overhead charges				13.615%	50.21
Total for materials under this Category for		8.00	tonne	Rs:	418.99
Rate per tonne			418.99/8	Rs:	**52.40**

For total lead more than 3 km upto 4 km **Unit: 8.00 tonne**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.34	540.80	183.87
	Fuel charges	Hour	0.34	497.40	169.12
2	Crew charges	Hour	0.34	278.90	94.83
	Total			Rs:	**447.82**
Contractor's profit and overhead charges				13.615%	60.97
Total for materials under this Category for		8.00	tonne	Rs:	508.79
Rate per tonne			508.79/8	Rs:	**63.60**

For total lead more than 4 km upto 5 km **Unit: 8.00 tonne**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.4	540.80	216.32
	Fuel charges	Hour	0.4	497.40	198.96
2	Crew charges	Hour	0.4	278.90	111.56
	Total			Rs:	**526.84**
Contractor's profit and overhead charges				13.615%	71.73
Total for materials under this Category for		8.00	tonne	Rs:	598.57
Rate per tonne			598.57/8	Rs:	**74.80**

For lead beyond 5 km upto 30 km for every km **Unit: 8.00 tonne**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.06	540.80	32.45
	Fuel charges	Hour	0.06	497.40	29.84
2	Crew charges	Hour	0.06	278.90	16.73
	Total			Rs:	**79.02**
Contractor's profit and overhead charges				13.615%	10.76
Total for materials under this Category for		8.00	tonne	Rs:	89.78
Rate per tonne			89.78/8	Rs:	**11.20**

For lead beyond 30 km for every km **Unit: 8.00 tonne**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.05	540.80	27.04
	Fuel charges	Hour	0.05	497.40	24.87
2	Crew charges	Hour	0.05	278.90	13.95
	Total			Rs:	**65.86**
Contractor's profit and overhead charges				13.615%	8.97
Total for materials under this Category for		8.00	tonne	Rs:	74.83
Rate per tonne			74.83/8	Rs:	**9.40**

CATEGORY : PCC slabs/ Shahabad slabs/ BS slabs/ CC & Laterite blocks/ Wood

For total lead upto 1 km **Unit: 3.40 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.15	493.20	73.98
	Fuel charges	Hour	0.15	497.40	74.61
2	Crew charges	Hour	0.15	278.90	41.84
	Total			Rs:	**190.43**
Contractor's profit and overhead charges				13.615%	25.93
Total for materials under this Category for		3.40	cum	Rs:	216.36
Rate per cum			216.36/3.4	Rs:	**63.60**

For total lead more than 1 km upto 2 km **Unit: 3.40 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck hire charges	Hour	0.21	493.20	103.57
	Fuel charges	Hour	0.21	497.40	104.45
2	Crew charges	Hour	0.21	278.90	58.57
	Total			Rs:	**266.59**
Contractor's profit and overhead charges				13.615%	36.30
Total for materials under this Category for		3.40	cum	Rs:	302.89
Rate per cum			302.89/3.4	Rs:	**89.10**

For total lead more than 2 km upto 3 km **Unit: 3.40 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.28	540.80	151.42
	Fuel charges	Hour	0.28	497.40	139.27
2	Crew charges	Hour	0.28	278.90	78.09
	Total			Rs:	**368.78**
Contractor's profit and overhead charges				13.615%	50.21

Total for materials under this Category for	3.40	cum	Rs:	418.99
Rate per cum		418.99/3.4	Rs:	**123.20**

For total lead more than 3 km upto 4 km **Unit: 3.40 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.34	540.80	183.87
	Fuel charges	Hour	0.34	497.40	169.12
2	Crew charges	Hour	0.34	278.90	94.83
	Total			Rs:	**447.82**

Contractor's profit and overhead charges			13.615%	60.97
Total for materials under this Category for	3.40	cum	Rs:	508.79
Rate per cum		508.79/3.4	Rs:	**149.60**

For total lead more than 4 km upto 5 km **Unit: 3.40 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.4	540.80	216.32
	Fuel charges	Hour	0.4	497.40	198.96
2	Crew charges	Hour	0.4	278.90	111.56
	Total			Rs:	**526.84**

Contractor's profit and overhead charges			13.615%	71.73
Total for materials under this Category for	3.40	cum	Rs:	598.57
Rate per cum		598.57/3.4	Rs:	**176.10**

For lead beyond 5 km upto 30 km for every km **Unit: 3.40 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.06	540.80	32.45
	Fuel charges	Hour	0.06	497.40	29.84
2	Crew charges	Hour	0.06	278.90	16.73
	Total			Rs:	**79.02**

Contractor's profit and overhead charges			13.615%	10.76
Total for materials under this Category for	3.40	cum	Rs:	89.78
Rate per cum		89.78/3.4	Rs:	**26.40**

For lead beyond 30 km for every km **Unit: 3.40 cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Tipper hire charges	Hour	0.05	540.80	27.04
	Fuel charges	Hour	0.05	497.40	24.87
2	Crew charges	Hour	0.05	278.90	13.95
	Total			Rs:	**65.86**

Contractor's profit and overhead charges			13.615%	8.97
Total for materials under this Category for	3.40	cum	Rs:	74.83
Rate per cum		74.83/3.4	Rs:	**22.00**

CATEGORY : WATER

For total lead upto 1 km **Unit: 8000.00 litres**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.15	461.10	69.17

	Fuel charges	Hour	0.15	497.40	74.61
2	Crew charges	Hour	0.15	278.90	41.84
	Total			Rs:	**185.62**
Contractor's profit and overhead charges				13.615%	25.27
Total for materials under this Category for		8000.00	litres	Rs:	210.89
Rate per litres			210.89/8000	Rs:	**26.40**

For total lead more than 1 km upto 2 km **Unit: 8000.00 litres**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.21	461.10	96.83
	Fuel charges	Hour	0.21	497.40	104.45
2	Crew charges	Hour	0.21	278.90	58.57
	Total			Rs:	**259.85**
Contractor's profit and overhead charges				13.615%	35.38
Total for materials under this Category for		8000.00	litres	Rs:	295.23
Rate per litres			295.23/8000	Rs:	**36.90**

For total lead more than 2 km upto 3 km **Unit: 8000.00 litres**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.28	461.10	129.11
	Fuel charges	Hour	0.28	497.40	139.27
2	Crew charges	Hour	0.28	278.90	78.09
	Total			Rs:	**346.47**
Contractor's profit and overhead charges				13.615%	47.17
Total for materials under this Category for		8000.00	litres	Rs:	393.64
Rate per litres			393.64/8000	Rs:	**49.20**

For total lead more than 3 km upto 4 km **Unit: 8000.00 litres**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.34	461.10	156.77
	Fuel charges	Hour	0.34	497.40	169.12
2	Crew charges	Hour	0.34	278.90	94.83
	Total			Rs:	**420.72**
Contractor's profit and overhead charges				13.615%	57.28
Total for materials under this Category for		8000.00	litres	Rs:	478.00
Rate per litres			478/8000	Rs:	**59.80**

For total lead more than 4 km upto 5 km **Unit: 8000.00 litres**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.4	461.10	184.44
	Fuel charges	Hour	0.4	497.40	198.96
2	Crew charges	Hour	0.4	278.90	111.56
	Total			Rs:	**494.96**
Contractor's profit and overhead charges				13.615%	67.39
Total for materials under this Category for		8000.00	litres	Rs:	562.35
Rate per litres			562.35/8000	Rs:	**70.30**

For lead beyond 5 km upto 30 km for every km **Unit: 8000.00 litres**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.06	461.10	27.67
	Fuel charges	Hour	0.06	497.40	29.84
2	Crew charges	Hour	0.06	278.90	16.73
	Total			Rs:	**74.24**
Contractor's profit and overhead charges				13.615%	10.11
Total for materials under this Category for		8000.00	litres	Rs:	84.35
Rate per litres			84.35/8000	Rs:	**10.50**

For lead beyond 30 km for every km **Unit: 8000.00 litres**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Water tanker hire charges	Hour	0.05	461.10	23.06
	Fuel charges	Hour	0.05	497.40	24.87
2	Crew charges	Hour	0.05	278.90	13.95
	Total			Rs:	**61.88**
Contractor's profit and overhead charges				13.615%	8.42
Total for materials under this Category for		8000.00	litres	Rs:	70.30
Rate per litres			70.3/8000	Rs:	**8.80**

CATEGORY : Bricks (as adopted by R&B(Buildings))

For total lead upto 1 km **Unit: 3000.00 bricks**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.15	493.20	73.98
	Fuel charges	Hour	0.15	497.40	74.61
2	Crew charges	Hour	0.15	278.90	41.84
	Total			Rs:	**190.43**
Contractor's profit and overhead charges				13.615%	25.93
Total for materials under this Category for		3000.00	bricks	Rs:	216.36
Rate per bricks			216.36/3000	Rs:	**72.10**

For total lead more than 1 km upto 2 km **Unit: 3000.00 bricks**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.21	493.20	103.57
	Fuel charges	Hour	0.21	497.40	104.45
2	Crew charges	Hour	0.21	278.90	58.57
	Total			Rs:	**266.59**
Contractor's profit and overhead charges				13.615%	36.30
Total for materials under this Category for		3000.00	bricks	Rs:	302.89
Rate per bricks			302.89/3000	Rs:	**101.00**

For total lead more than 2 km upto 3 km **Unit: 3000.00 bricks**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.28	493.20	138.10
	Fuel charges	Hour	0.28	497.40	139.27
2	Crew charges	Hour	0.28	278.90	78.09
	Total			Rs:	**355.46**
Contractor's profit and overhead charges				13.615%	48.40

Total for materials under this Category for	3000.00	bricks	Rs:	403.86
Rate per bricks		403.86/3000	Rs:	**134.60**

For total lead more than 3 km upto 4 km **Unit: 3000.00 bricks**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.34	493.20	167.69
	Fuel charges	Hour	0.34	497.40	169.12
2	Crew charges	Hour	0.34	278.90	94.83
	Total			Rs:	**431.64**

Contractor's profit and overhead charges			13.615%	58.77
Total for materials under this Category for	3000.00	bricks	Rs:	490.41
Rate per bricks		490.41/3000	Rs:	**163.50**

For total lead more than 4 km upto 5 km **Unit: 3000.00 bricks**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.4	493.20	197.28
	Fuel charges	Hour	0.4	497.40	198.96
2	Crew charges	Hour	0.4	278.90	111.56
	Total			Rs:	**507.80**

Contractor's profit and overhead charges			13.615%	69.14
Total for materials under this Category for	3000.00	bricks	Rs:	576.94
Rate per bricks		576.94/3000	Rs:	**192.30**

For lead beyond 5 km upto 30 km for every km **Unit: 3000.00 bricks**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.06	493.20	29.59
	Fuel charges	Hour	0.06	497.40	29.84
2	Crew charges	Hour	0.06	278.90	16.73
	Total			Rs:	**76.16**

Contractor's profit and overhead charges			13.615%	10.37
Total for materials under this Category for	3000.00	bricks	Rs:	86.53
Rate per bricks		86.53/3000	Rs:	**28.80**

For lead beyond 30 km for every km **Unit: 3000.00 bricks**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Truck 10 T charges	Hour	0.05	493.20	24.66
	Fuel charges	Hour	0.05	497.40	24.87
2	Crew charges	Hour	0.05	278.90	13.95
	Total			Rs:	**63.48**

Contractor's profit and overhead charges			13.615%	8.64
Total for materials under this Category for	3000.00	bricks	Rs:	72.12
Rate per 1000 bricks		72.12/3	Rs:	**24.00**

COM-DTL-LDLFT-3

C. LOADING AND UNLOADING CHARGES BY MANUAL MEANS (idle hire charges of trucks are not added)

Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building

1) Rubbish, Building Rubbish, Crushed Slag, Stone for Masonry Work by manual means including a lead upto 30 m

Labour **Unit** **5.5** **cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.02	650.00	13.00
2	Mazdoor	day	0.5	605.00	302.50
	Total			Rs.	**315.50**
contractor's profit and overhead charges				13.615%	42.96
Rate per cum				Rs:	**65.20**

b) Unloading 50% of the loading charges i.e., **32.60**

2) Loading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m

a). Loading **Unit** **5.5** **cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.01	650.00	6.50
2	Mazdoor	day	0.25	605.00	151.25
	Total			Rs.	**157.75**
contractor's profit and overhead charges				13.615%	21.48
Rate per cum				Rs:	**32.60**

b) Unloading 50% of the loading charges i.e., **16.30**

3) **Loading of Bricks by manual means including a lead upto 30 m**

a). Loading Unit 1000 No.s

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.01	650.00	6.50
	Mazdoor	day	0.25	605.00	151.25
	Total				**157.75**
contractor's profit and overhead charges				13.615%	21.48
Rate per No.s				Rs:	**89.60**

b) Unloading 100% of the loading charges i.e., **89.60**

4) **Loading of Cement by manual means including a lead upto 30 m**

a). Loading Unit 10 Tonnes

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.06	650.00	39.00
	Mazdoor	day	1.5	605.00	907.50
	Total				**946.50**
contractor's profit and overhead charges				13.615%	128.87
Total for materials under this Category for	10.00	Tonnes		Rs:	1075.37
Rate per Tonnes		1075.37/10		Rs:	**107.50**

b) Unloading 100% of the loading charges i.e., **107.50**

5) Loading of **Structural Steel**, **Steel Bars** by manual means including a lead up to **30 m**

a). Loading Unit 10 Tonnes

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.07	650.00	45.50
	Mazdoor	day	1.8	605.00	1089.00
	Total				**1134.50**
contractor's profit and overhead charges				13.615%	154.46
Total for materials under this Category for	10.00	Tonnes		Rs:	1288.96

Rate per Tonnes 1288.96/10 Rs: **128.90**

b) Unloading 100% of the loading charges i.e., **128.90**

6) Loading of **Bricks - 1000** Nos (**Regular sizes - 225x140x70** mm) by manual means including a lead upto **30 m**

a). Loading Unit 2000 Tonnes

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.01	650.00	6.50
	Mazdoor	day	0.25	605.00	151.25
	Total				**157.75**

contractor's profit and overhead charges 13.615% 21.48

Total for materials under this Category for 2000.00 Tonnes Rs: 179.23

Rate per Tonnes 179.23/2000 Rs: **89.60**

b) Unloading 100% of the loading charges i.e., **89.60**

COM-DTL-LDLFT-4

D. LOADING AND UNLOADING CHARGES BY MANUAL MEANS (including idle hire charges of trucks)

1) Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Building Rubbish, Crushed Slag, Stone for **Masonry Work** by manual means including a lead upto **30 m**

a). Loading Unit 5.5 cum

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.02	650.00	13.00
	Mazdoor	day	0.5	605.00	302.50
2	Mechinary				
	Truck 10 T	Hour	0.5	1269.50	634.75
	Total				**950.25**

contractor's profit and overhead charges 13.615% 129.38

Total for materials under this Category for 5.50 cum Rs: 1079.63

Rate per cum 1079.63/5.5 Rs: **196.30**

b) Unloading 50% of the loading charges i.e., **98.15**

2) Loading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m

a). Loading Unit 5.5 cum

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.01	650.00	6.50
	Mazdoor	day	0.25	605.00	151.25
2	Mechinary				
	Truck 10 T	Hour	0.5	1269.50	634.75
	Total			Rs.	**792.50**

contractor's profit and overhead charges 13.615% 107.90

Total for materials under this Category for 5.50 cum Rs: 900.40

Rate per cum 900.4/5.5 Rs: **163.70**

b).Un- Loading Unit 5.5 cum

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.005	650.00	3.25
	Mazdoor	day	0.125	605.00	75.63
2	Mechinary				
	Truck 10 T	Hour	0.166	1269.50	210.74
	Total			Rs.	**289.62**

contractor's profit and overhead charges				13.615%	39.43
Total for materials under this Category for	5.50	cum		Rs:	329.05
Rate per cum		329.05/5.5		Rs:	**59.80**

3) Loading of Bricks by manual means including a lead upto 30 m

a). Loading Unit 2000 No.s

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.01	650.00	6.50
	Mazdoor	day	0.25	605.00	151.25
2	Mechinary				
	Truck 10 T	Hour	0.33	1269.50	418.94
	Cost for 2000 Nos.			Rs.	**576.69**

contractor's profit and overhead charges				13.615%	78.52
Total for materials under this Category for	2000.00	No.s		Rs:	655.21
Rate per No.s		655.21/2000		Rs:	**327.60**

b) Unloading 100% of the loading charges i.e., **327.60**

4) Loading of Cement by manual means including a lead upto 30 m

a). Loading Unit 10 Tonne

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.06	650.00	39.00
	Mazdoor	day	1.5	605.00	907.50
2	Mechinary				
	Truck 10 T	Hour	1	1269.50	1269.50
	Total			Rs.	**2216.00**

contractor's profit and overhead charges				13.615%	301.71
Total for materials under this Category for	10.00	Tonne		Rs:	2517.71
Rate per Tonne		2517.71/10		Rs:	**251.80**

b) Unloading 100% of the loading charges i.e., **251.80**

5) Loading of **Structural Steel, Steel** Bars by manual meansincluding a lead upto **30 m**

a). Loading Unit 10 Tonne

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Head Mazdoor	day	0.07	650.00	45.50
	Mazdoor	day	1.8	605.00	1089.00
2	Mechinary				
	Truck 10 T	Hour	1	1269.50	1269.50
	Total			Rs.	**2404.00**

contractor's profit and overhead charges				13.615%	327.30
Total for materials under this Category for	10.00	Tonne		Rs:	2731.30
Rate per Tonne		2731.3/10		Rs:	**273.10**

b) Unloading 100% of the loading charges i.e., **273.10**

COM-DTL-LDLFT-5-A

E. LOADING AND UNLOADING CHARGES BY MECHANICAL MEANS

(including idle hire charges of trucks)

1) Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry work by mechanical means including a lead upto 30 m. Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.

Data:			
i) Positioning of tipper at loading point	Min	1.00
ii) Loading by front end loader 1 cum bucket capacity @ 45 / 25 cum per hour	Min	7.33
iii) Manoevouring, reversing, dumping and turning for return	Min	-
iv) Waiting time, unforeseen contingencies, etc.	Min	2.00
Total	Min	**10.33**

a). Loading — Unit — 5.5 — Cum

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
2	Mechinary				
	Tipper 10 t capacity.	Hour	0.17	1317.10	226.76
	Front end-loader 1 cum bucket capacity @ 45 cum	Hour	0.12	3648.30	445.70
	Total			Rs.	**672.46**
contractor's profit and overhead charges				13.615%	91.56
Total for materials under this Category for	5.50	Cum		Rs:	764.02
Rate per Cum		764.02/5.5		Rs:	**138.90**

b) Unloading see below. COM-LDLFT-5-B

COM-DTL-LDLFT-5-B

2) Loading of sand, Moorum, Manure, Flyash, by mechanical means including a lead upto 30 m Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip. Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.

Data	Time required for		
i) Positioning of tipper at loading point	Min	1.00
ii) Loading by front end loader 1 cum bucket capacity @ 45 / 25 cum per hour	Min	3.30
iii) Waiting time, unforeseen contingencies, etc.	Min	2.00
Total	Min	6.30

a). Loading — Unit — 5.5 — Cum

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
2	Mechinary				
	Tipper 10 t capacity.	Hour	0.105	1317.10	138.30
	Front end-loader 1 cum bucket capacity @ 45 cum	Hour	0.06	3648.30	218.90
	Total			Rs.	**357.20**
contractor's profit and overhead charges				13.615%	48.63
Total for materials under this Category for	5.50	Cum		Rs:	405.83
Rate per Cum		405.83/5.5		Rs:	**73.80**

2) Unloading of sand, Moorum, Manure, Flyash, lime, Aggregate, Stone boulder, Brick aggregate, Kankar, Building rubbish, Manure, Crushed Slag, Flyash, Stone for Masonry work by Mechaniccal means including a lead upto 30 m

Data Time required for

i) Positioning of tipper at loading point	Min	1.00
ii) Loading by front end loader 1 cum bucket capacity @ 45 / 25 cum per hour	Min	2.00
iii) Waiting time, unforeseen contingencies, etc.	Min	2.00
Total	Min	5.00
b).Un-Loading	Unit 5.5	Cum

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
2	Mechinary Tipper 10 t capacity.	Hour	0.083	1317.10	109.30
	Total			Rs.	**109.30**
	contractor's profit and overhead charges			13.615%	14.88
	Total for materials under this Category for	5.50	Cum	Rs:	124.18
	Rate per Cum		124.18/5.5	Rs:	**22.60**

COM-DTL-LDLFT-6

F. LIFT CHARGES FOR MATERIALS BY HEAD LOAD

FOR CATEGORY : Earth / Sand / Gravel / Murrum / Lime / Surki / Coarse aggregate / Rubble stone / Size stone / Cut stone

Lift : Upto 3.00 m

This is the initial lift and forms integral part of the activities in the basic rate of work item. Lift charges are admissible only lifting effort beyond initial lift specified in the work item.

Lift : ADDITIONAL LIFT CHARGES FOR each 1 METER LIFT BEYOND 3 M INITIAL LIFT

Data For additional lift of 1m beyond initial lift of 3 m

one meter lift is taken equivalent to 6 meters lead		
average speed of conveyance by head load	60 m/minute	
Round trip cycle time for 1.00 m considering 50 min/ hr working		
1 x6x 60 / 50 / 60)	0.12	min
No. of trips per day for lift 1.0 m above 3 m (8 x 60 / 0..12)	4000	
Quantity of material by head load	0.015	cum
Quantity of material by head load per day (4000x 0.015)	60	cum
Deploy 1 mazdoor for every additional lift of 1.0 m beyond initial lift.		
Lift : Upto 3.00 m for materials under this Category Unit:	60	cum

Unit 60.00 cum

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	1.00	605.00	605.00
	Total			Rs:	**605.00**
	Contractor's profit and overhead charges			13.615%	82.37
	Total for materials under this Category for	60.00	cum	Rs:	687.37
	Rate per cum		687.37/60	Rs:	**11.50**

FOR CATEGORY: Cement bag / Reinforcement steel / Structural steel sections

Lift : Upto 3.00 m

This is the initial lift and forms integral part of the activities in the basic rate of work item.
Lift charges are admissible only lifting effort beyond initial lift specified in the work item.

Lift : ADDITIONAL LIFT CHARGES FOR each 1 METER LIFT BEYOND 3 M INITIAL LIFT

For additional lift of 1m beyond initial lift of 3 m		
one meter lift is taken equivalent to 6 meters lead		
average speed of conveyance by head load	25 m/minute	
Round trip cycle time for 1.00 m considering 50 min/ hr working		
1 x6x 60 / 50 / 25)	0.29	min
No. of trips per day foradditional lift 1.0 m above 3 m (8 x 60 / 0.29)	1655	
Quantity of material by head load	50	kgs
Quantity of material by head load per day (1655x50x 0.015)	83	tons
Deploy 1 mazdoor for every additional lift of 1.5 m beyond initial lift.or	2/3 mazdoor	
Lift : Upto 3.00 m for materials under this Category Unit:	83	TONS
Unit	**83.00**	**Tonne**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	1.00	605.00	605.00
	Total			Rs:	**605.00**
Contractor's profit and overhead charges				13.615%	82.37
Total for materials under this Category for	83.00	Tonne		Rs:	687.37
Rate per Tonne		687.37/83		Rs:	**8.30**

FOR CATEGORY : PCC slab / Shahabad stone slab / CC block / Laterite stone / BS slab / Wood

Lift : Upto 3.00 m

This is the initial lift and forms integral part of the activities in the basic rate of work item.
Lift charges are admissible only lifting effort beyond initial lift specified in the work item.

Lift : ADDITIONAL LIFT CHARGES FOR EACH 1 METER LIFT BEYOND 3 M INITIAL LIFT

For additional lift of 1m beyond initial lift of 3 m		
one meter lift is taken equivalent to 6 meters lead		
average speed of conveyance by head load	40 m/minute	
Round trip cycle time for 1.00 m considering 50 min/ hr working		
1 x6x 60 / 50 / 40)	0.18	min
No. of trips per day for lift 1.0 m (8 x 60 / 0.18)	2667	
Quantity of material by head load	0.017	cum
Quantity of material by head load per day (1667x 0.018)	45	cum
Deploy 1 mazdoor for every additional lift of 1.5 m beyond initial lift.or	2/3 mazdoor	

Lift : Upto 3.00 m for materials under Category **Unit:** **45** **cum**

Sl No	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Mazdoor	Day	1.00	605.00	605.00
	Total			Rs:	**605.00**
Contractor's profit and overhead charges				13.615%	82.37
Total for materials under this Category for	45.00	cum		Rs:	687.37
Rate per cum		687.37/45		Rs:	**15.30**