



SRI VIDYA COLLEGE OF ENGINEERING & TECHNOLOGY
VIRUDHUNAGAR



CE6704 ESTIMATION & QUANTITY SURVEYING

UNIT - V

REPORT PREPARATION

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Report Preparation

Introduction:-

Each estimate has to be accompanied with a report describing the various features of the work. The report should be written in a simple language and in a lucid manner. The details in the report should be in such a manner that on the study of the report one can get a full picture about the whole work.

Principles for Report Preparation:- [NOV/DEC 2012]

While preparing a report on a particular work, the following principles have to be considered.

1. A complete history of the report should be given in the beginning of the report.

2. Necessary of the project has to

be highlighted fully with the future utility of the project with adequate reasons.

3. Steps taken to select a site with necessary justification for the same.

4. Details of surveying undertaken to reflect the details needed for the project.

5. General specification of the items are to be clearly reflected in the report.

6. Materials availability should be properly assessed.

7. Labour component, both skilled and unskilled, should be fully assessed.

8. Equipment needed for the project should be decided along with their availability.

9. Total estimated cost of the project and the way the finance to be arranged should be done.

10. If the project is a revenue - action type the equation of revenue expected should be properly assessed.

Report on Estimate for sinking of open

Wells: -

Open wells are the simplest form of well, there is no maintenance of the pump required.

A necessity arose for the construction of an open well for a village, According to an order passed with reference to letter no..... dated to go ahead with the construction of the open wells based on the estimate.

Diameter of open well: -

To tap the groundwater storage vertical hole of bigger diameter (2 to 10m) is dug or sunk in the rock or soil mass.

Lining of open well:-

Since the village is with alluvial soil formation the wells with impervious or pucca permanent lining is adopted. It forms a permanent source of water as long as ground water condition remains favourable. This well is very suitable for irrigation purposes.

Drainage apron:-

A drainage apron is provided with reinforced concrete slab 2m wide to surround a well.

Cover:-

The precasting cover in one or two pieces is provided for both strong enough to

Drainage pit:-

The drainage pit or lorn away from open well is provided to allow spilled and runoff water to soak into the ground.

Specific yield of well:-

The specific yield of the open well is $2.2 \text{ m}^3/\text{hr}$.

Report on Estimates for sinking of Tube Wells:-

Tube well is a type of water well in which wide stainless tube or pipe is bored into underground.

A necessity arose for the construction of a tube well for a village where there is no natural source of wells. According to an order passed with reference to letter No..... dated to go ahead with the construction of the tube wells based on estimates.

Depth of Tube well:-

Diameter of tube well:-

The tubewell is made up of 8cm diameter. In India mostly small diameter tubewells are used.

Material used:-

Mild steel is used for the production

of tube.

Strainer used:-

The tube well is strainer type.

Brounlie strainer is used made of a polygonal convoluted steel plate having holes. It is surrounded by wire mesh consisting of copper wires.

Yield of well:-

The yield of well is 20 L/s.

Casting of tube well:-

This tube well is provided with casting to support the external surfaces of the bore hole against collapse. It is made of PVC pipe.

Sand / gravel packing:-

Sand and gravel packing is made to eliminate particles from the water before they reach the screen.

Report on Estimate for providing Sanitary arrangements to a village [NOV. DEC 2012]

The sanitation development takes place in real world setting or scarce funds, competing priorities, human resource and other institutions. Sanitation standards depend on factors such as the users perceived needs, affordability, population density, soil conditions, local hydrology, and institutional capacities.

Types of water sources:-

There are 38 potential water sources in the village, there is also bore hole pump in the village which has been deemed useless to repair and no improved traditional hand dug well, one modern hand dug well and two borehole pump are there. (7)

Usage of water:-

only domestic use of water were considered in this survey. Domestic use of water include drinking, cooking, ablutions, bathing, clothe washing and dish washing.

Existence of latrines:-

The usage of latrines in the village and in other similar village are poor in the area. The majority of the latrines have a wooden slab and mud floor. Simple pit latrines are considered to be an improved sanitation.

Problems with village sanitation:-

The two problems with latrines that were reported are that the latrine floor is broken or the latrine pit is full.

Improvement of village sanitation:-

Based on the findings of this study, it is proposed that the best method to improve the existing village sanitation

6. Inspection of latrine :-

Inspection of the latrines would allow for a more complete assessment of the sanitation situation by confirming if any households have improved latrines with mortar or concrete floors.

7. Obstacles During Survey :-

It was observed that the main obstacle to the improvement of village sanitation and the achievement of 100% coverage in the area were lack of financial means.

Report on Estimate for providing water supply to village :- [Nov. Dec 2012]

A remote village needs a drinking water supply. A request in this regard is submitted to the village panchayat by the people. The engineer of the panchayat has been directed by the panchayat to prepare the estimate. Following are steps to be taken.

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Water Demand:-

The population of the village has been taken from the record and anticipated percentage increase has been accounted.

Source of water:-

The source of water has been analysed and ground water has been chosen as source.

Bore well:-

A bore well has to be sunk and the yield to be assessed. As the yield is satisfactory it has been decided to go ahead with a sinking of bore hole of 150mm dia about 50m deep.

Purification plant:-

The bore well water has to be treated properly so as to make it suitable for drinking.

Distribution system:-

Gravity flow has been decided. Accordingly an overhead tank has been decided with a 150,000 litres capacity.

Mode of construction:-

The work shall be executed on Contract by inviting tenders and to be completed in four months.

The estimate has been prepared following schedule of rates.

The estimate has been submitted to the higher authorities for sanction.

Report on the Estimate for a Road:-
 [Nov/Dec 2016] Part B 16 marks. [May/June 2013]
 [Nov/Dec 2012] A particular small town is an important market place for agricultural products and there are some cottage industries also. This village has no road connecting the nearest town. There is a need for connecting this village to the nearest road.

Surveying:-

Plane table survey has been made for the whole length of the proposed road for both width on each side of the centre line. Cross section and longitudinal surveys has been

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2. Alignment of road:-

The existing road is a local road with ups and downs. Formation line has been fixed to have easy gradient. Highest flood level has been taken into account while fixing the formation line.

3. Drainage crossings:-

It has been assessed that about three culverts and one bridge of about 30m span has to be constructed.

4. Road formation:-

For the present a land of 30m width shall be required and has been provided in the estimate.

5. Pavement:-

The subgrade of the roadways has been found to be stiff clayey silt to silty clay of about 200mm thick. A bindage of 20mm thick has been decided.

All the work shall be done as per detailed highway specifications.

The estimate along with all details have been submitted for technical sanction.

6. Mode construction: -

The work will be carried out by existing tenders.

Report on Estimate of Culvert: -
[NOV. DEC 2012] [May/June 2013]

A road at a particular location has been observed to be flooded almost every year during the rainy season, causing damages in the area due to fluid. A Senior PWD engineer inspected the location and realised for the construction of a culvert. He directed his subordinate to prepare an estimate for the construction of an arch culvert for a 3m span at the inspected location.

Accordingly the engineer concerned has prepared the estimate based on the order of the Senior Engineer letter No.dt. (13)

1. Type of culvert and loading
As directed by the Senior Engineer, an arch culvert has been decided. Based on the vehicle movement, IRC class A loading has been decided.

2. Catchment area:-

The catchment area has been determined from the 2.5 cm map of the area, which comes to 1500 acres.

3. Foundation:-

Based on the bearing capacity of the soil at the location it has been decided to provide spread footing. The foundation shall be of cement concrete 1:4:8

4. Brick work:-

Attachments, wing walls and parapet shall be of brick masonry in 1:5 cement mortar. The arch work shall be of brick masonry in 1:3 cement mortar.

5. Pointing:-

All the exposed surfaces shall be cement pointed with 1:2 mortar.

All the works shall be as per detailed

PWD Specifications.

Design and Estimation:—

Necessary design of the arch is made. The estimate has been prepared at PWD schedule of Rates. A statement of materials, cement, bricks, coal, etc., required for the construction, has been enclosed with the estimate.

7. Mode of Construction:—

The work shall be executed on contract by inviting tenders and works shall be completed within four months.

The estimated cost shall be submitted for sanction and allotment of fund to the higher authorities.

Report on Estimate of Residential building:—
[Nov./Dec 2016] 16 marks, May/June 2013, NOV/Dec 2012

A necessity arose for the construction of a residential for an office of a Government department who is living on a rental buildings. The request was made to the Engineer of the public works department.

Accordingly an order has been passed with reference to letter No..... dated to 9/5

Details of work:-

Following Provisions are made in the residential accommodation:-

1. Two bed rooms
2. Drawing hall,
3. Kitchen,
4. Dining hall,
5. Toilets (General and attached)
6. One guest room,
7. Front & Back Verandahs.
8. Garage.

Above details are reflected in the enclosed plan.

The site necessary for construction has been selected and acquired as per the Government norms. The building has been decided to orient to face south direction.

Excavation:-

As the soil at the site is of adequate strength a minimum depth of 1.5m above the present road level has been decided.

2. Foundation:-

The building shall have lime concrete foundation and first class brick masonry with lime mortar upto plinth level.

3. Damp proof course:-

DPC of 2.0cm thick of rich cement mortar 1:2 mixed with standard water proofing material & provided at the plinth level.

4. Superstructure:-

Super structure shall be of first class brick work in C.M 1:6.

5. Linels:-

Lintal shall be R.B work.

6. Roof:-

Roof shall be R.C.C with lime concrete terrace finishing.

⑦ Flooring:-

The drawing and dining rooms shall have mosaic floor and other rooms 2.5cm cement concrete floor over 7.5cm lime concrete.

⑧ Flooring:-

The drawing and dining rooms shall ⑩

have ~~most~~² floor.

8. Plastering:-

outside and inside walls shall be 12mm cement lime plaster 1:1:6 and ceiling shall be 6mm cement plaster or 1:3.

9) Doors and windows:-

Doors and windows shall be 4.5cm thick teak wood and colour painted.

10) Painting:-

Inside of drawing and dining rooms shall be colour washed, inside of remaining rooms shall be white washed, ceiling shall be white washed and outside wall shall be colour washed. Doors and windows shall be painted.

11. Weathering course:-

A suitable weathering course with flat tiles shall be done.

12. Water supply:-

Water supply shall be provided along with fittings necessary.

13. Sanitary arrangements:-

Necessary sanitary fittings shall be provided along with due disposal of sewage and waste water.

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14. Electrical Arrangements:-

Electrical wiring and fittings shall be done as per the requirements.

15. Boundary Wall:-

A compound wall with a gate has to be provided.

All work shall be strictly as per PWD specification.

Design and Estimation:-

The Estimate has to be prepared at PWD schedule of rates and for non-schedule items on analysis of rates. The foundation has to be designed for a safe bearing capacity of 10 tonne/m^2 .

Along ^{with} the estimate, a statement of important materials as cement, steel, coal, etc., to be supplied by the department has to be enclosed. A rent statement is also to be enclosed.

Mode of Construction:-

The construction shall be carried out by inviting tenders. The construction shall be (17)

completed within a period of six months.

The estimated cost shall be submitted for sanction and ^{the} allotment of fund to the higher authorities.