

## Method of Measurement (M.O.M)

## **METHOD OF MEASUREMENT AND PRICING FACTORS**

### **SECTION 7 - GEOTECHNICAL WORKS**

#### **7.1 SOFT GROUND IMPROVEMENT**

##### **7.1.1 SOFT GROUND REPLACEMENT / STABILITY**

###### **7.1.1.1 Non-Woven Geotextile**

###### **Unit**

The units of measurements for Geotextile below embankments shall be in Square Metre (m<sup>2</sup>).

###### **Measurement**

The measurement for payment of this item shall be based on the plan area of the geotextile laid. Laps shall not be measured for payment.

###### **Item Coverage**

The item for the non-woven geotextile in ground treatment shall be in accordance with the Preambles to the Bill of Quantities General Directions and shall include:

- a. supply and storage at site with necessary protection against exposure to direct sunlight.
- b. placing the geotextile to suit the extend ground treatment required.
- c. jointing.
- d. wastage.

###### **7.1.1.2 High Strength Geotextile – N/A**

###### **Unit**

The units of measurements for high strength Geotextile below embankments shall be in Square Metre (m<sup>2</sup>).

###### **Measurement**

The measurement for payment of this item shall be based on the plan area of the geotextile laid. Laps shall not be measured for payment.

###### **Item Coverage**

The item for the high strength geotextile in ground treatment shall be in accordance with the Preambles to the Bill of Quantities General Directions and shall include:

- a. supply and storage at site with necessary protection against exposure to direct sunlight.
- b. placing the geotextile to suit the extend ground treatment required.
- c. jointing.
- d. wastage.

- g. standing and waiting time for tests to be carried out.

#### 7.1.1.5 Imported Fill Material – N/A

##### Unit

The units of measurement for Placement and compaction of imported fill materials from contractor's own source shall be Cubic Metre (m<sup>3</sup>)

##### Measurements

The measurement of placement and compaction of imported fill material for soft ground replacement shall be the volume of the void formed by the excavation to the lines and levels shown on drawing or describe in the contract.

##### Item Coverage

The items shall be in accordance with the Preambles to Bill of Quantities General Directions and shall include:

- a. supply of approved materials of stated types from sources outside the site including royalties and other costs including for searching for and finding borrow pits, acquiring the right to occupy the sites and extract material, obtaining right of access, establishing and maintaining access.
- b. excavation in whatever ground that may be met with and cost of the approved filling material.
- c. loading, hauling and double handling ( where necessary ) to points of deposition or stockpiles including payment of royalties ( if any ).
- d. provision of sites for stockpile and the costs arising there from including payment of royalties, if any.
- e. increase in bulk of approved imported filling material.
- f. depositing, spreading, leveling, trimming, shaping and compacting in accordance with the specification to required lines, levels, grades and dimension as shown on the drawings or as directed by the S.O, in whatever site condition and depth ( filling placed beyond requirement shall not be measured).
- g. shrinkage in compacted materials.
- h. the mechanical or chemical treatment of soil required to facilitate the use of particular plant.
- i. keeping earthworks free from water.
- j. taking precaution to avoid damage to property, structures, sewers, drains and services.
- k. Taking precaution to prevent suitable material from becoming unsuitable and replacing suitable material rendered unsuitable.
- l. processing on or off site to bring material within the required moisture content limit for compaction.

- e. removing the rigs and ancillary equipment off Site.

#### 7.1.2.2 Non-Woven Geotextile N/A

##### Unit

The units of measurements for Geotextile below embankments shall be in Square Metre (m<sup>2</sup>).

##### Measurement

The measurement for payment of this item shall be based on the plan area of the geotextile laid ; laps shall not be measured for payment.

##### Item Coverage

The items for non-woven geotextile in ground treatment shall be in accordance with the Preambles to Bill of Quantities General Directions and shall include:

- a. supply and storage at site with necessary protection against exposure to direct sunlight.
- b. placing the geotextile to suit the extend ground treatment required.
- c. jointing.
- d. wastage.

#### 7.1.2.3 ..... kN/m Warp Tensile Strength N/A

##### Unit

The units of measurements for Geotextile below embankments shall be in Square Metre (m<sup>2</sup>).

##### Measurement

The measurement for payment of this item shall be based on the plan area of the geotextile laid; laps shall not be measured for payment.

##### Item Coverage

The items for high strength geotextile in ground treatment shall be in accordance with the Preambles to Bill of Quantities General Directions and shall include:

- a. supply and storage at site with necessary protection against exposure to direct sunlight.
- b. placing the geotextile to suit the extend ground treatment required.
- c. jointing.
- d. wastage.

- f. temporary drainage to channel expelled water from the vertical drains away from the designated treatment area.
- g. clear debris around drain position and taking measures to prevent contamination of fill material.

#### **7.1.2.6 Sand Fill Under Water N/A**

##### **Unit**

The units of measurement for Sand for backfilling under water shall be in Cubic Metre (m<sup>3</sup>)

##### **Measurement**

The measurement for sand fill under embankment shall be in cubic metres of compacted layer constructed to lines and levels as shown on drawings or as directed by the S.O.

##### **Item Coverage**

The items for construction of the sand fill under water shall be in accordance with the Preambles to Bill of Quantities General Direction and shall include :-

- a. supply of material for sand fill under embankment.
- b. haul and place material in areas as shown on drawings or as directed by the engineer.
- c. wastage.
- d. trimming and shaping to required level.

#### **7.1.3 STONE COLUMNS/GEOPIERS/SOIL CEMENT/COLUMNS/CHEMICAL COLUMNS/SAND COLUMNS – N/A**

##### **7.1.3.1 Mobilization / Demobilization – N/A**

*Please refer to Method Of Measurement Clause 7.1.2.1*

##### **7.1.3.2 Non-Woven Geotextile – N/A**

*Please refer to Method Of Measurement Clause 7.1.1.1*

##### **7.1.3.3 High Strength Geotextile – N/A**

*Please refer to Method Of Measurement Clause 7.1.1.2*

##### **7.1.3.4 Stone column/soil cement columns/chemical columns/sand columns – N/A**

##### **Unit**

The units of measurement for stone column/soil cement columns/chemical columns/sand columns shall be in Metre (m)

##### **7.1.3.5 Drainage Blanket – N/A**

*Please refer to Method Of Measurement Clause 7.1.2.5*

#### 7.1.4.1(ii) Imported Fill Materials as Surcharge N/A

##### Unit

The units of measurement for Imported fill materials as surcharge shall be in Cubic Metre (m<sup>3</sup>).

##### Measurement

The measurement of approved imported fill material as surcharge shall be the nett cubic content in cubic metres of the compacted embankments constructed to the finished lines and levels as shown in the drawings and specified or as directed by the S.O. The line of the top of the embankment shall be the surcharge levels as shown on the drawings

##### Item Coverage

The items shall be in accordance with the Preambles to Bill of Quantities General Direction and shall include:-

- a. supply of approved materials of stated types from sources outside the site including royalties and other costs including for searching for and finding borrow pits, acquiring the right to occupy the sites and extract material, obtaining right of access, establishing and maintaining access.
- b. excavation in whatever ground that may be met with and cost of the approved filling material.
- c. loading, hauling and double handling ( where necessary ) to points of deposition or stockpiles including payment of royalties ( if any ).
- d. provision of sites for stockpile and the costs arising therefrom including payment of royalties, if any.
- e. increase in bulk of approved imported filling material.
- f. depositing, spreading, leveling, trimming, shaping and compacting in accordance with the specification to required lines, levels, grades and dimension as shown on the drawings or as directed by the S.O, in whatever site condition and depth ( filling placed beyond requirement shall not be measured ).
- g. shrinkage in compacted materials.
- h. the mechanical or chemical treatment of soil required to facilitate the use of particular plant.
- i. keeping earthworks free from water.
- j. taking precaution to avoid damage to property, structures, sewers, drains and services.
- k. taking precaution to prevent suitable material from becoming unsuitable and replacing suitable material rendered unsuitable.
- l. processing on or off site to bring material within the required moisture content limit for compaction.
- m. complying with requirements for the equalization of earth pressures or the sequence or rate of filling.

The measurement for payment of this item shall be the net cubic content in cubic metres of remove surcharge to the formation levels as shown in the drawings and specifies or as directed by the S.O.

Item Coverage

The item for removal of surplus surcharge material from site shall include :-

- a. excavation of surcharge material to the depth specified or as directed by the S.O.
- b. loading, hauling and double handling ( where necessary ) of excavated materials to sides of embankment and disposal area including payment of royalties ( if any ).
- c. cost acquiring or use of land outside the site and disposal of excavated material not required for use in works.
- d. preparing the disposal area, leveling and trimming the material in the disposal areas and providing all drainage and other erosion protection measures in and around the disposal areas.

**7.1.5 PILED EMBANKMENT**

**7.1.5.1 300mm Diameter Spun Pile**

**7.1.5.1.1 Mobilization and Demobilization**

Unit

The units of measurement for Mobilization and demobilization of all labour, plants, piling equipments, etc. on site for piling works shall be in Lump Sum (sum).

Measurement

The measurement shall be made on establishment of the required piling plants at site including setting up of piling frames at the first pile position.

Item Coverage

The items shall include furnishing all labour materials, tools, equipment and incidentals necessary to do all piling works required and the payment shall include :

- a. the transport and installation of all plants necessary to complete the piling works from Contractor's own source to the site where they are to be used on the works.
- b. mobilization of the Contractor's labour force necessary to complete the piling works.
- c. mobilization of the Contractor's piling staff.
- d. the supply, construction or rental of all items required.
- e. construction of any necessary access roads.
- f. set preparation including all necessary excavation, leveling of ground, temporary staging and setting out of piling positions.

The measurement shall be the length of each pile handled, pitched and driven complete in place and accepted by the S.O and shall be measured along the axis from the toe of the pile ( after settlement of the pile under its own weight ) to the specified cut off level. Driving of piles that fail to meet the piles acceptance criteria will not be paid for.

#### Item Coverage

The items for handle, pitch and drive precast reinforced concrete piles shall be in accordance with the Preambles to Bill of Quantities General Directions and shall include:-

- a. setting out of pile position.
- b. taking from store, handling and pitching in accordance with the specification.
- c. all materials, equipment, tools and labour incidental thereto.
- d. driving of piles.
- e. driving trial piles to determine the pile length requirement.
- f. jetting where permitted by the S.O.
- g. moving plant and equipment back and redriving the risen pile.
- h. lost time due to moving plant and equipment and standing time and disruption cost by the process of lengthening and overcoming of obstructions.
- i. taking observations and compiling pile records and supplying two copies to the S.O.
- j. wailing, ties and the like.
- k. achieving tolerances.
- l. redriving or further redriving of piles as directed.
- m. continue driving to a driving resistance higher than twice the working load including change to the heavier hammer where necessary to achieve the set requirement as specified.
- n. moving plant and equipment from one pile position to another pile position and from one piling site to another piling site including site preparation.
- o. leveling and access ramp to individual pile.

#### **7.1.5.1.5 Handle, Pitch and Drive Raked Piles**

*Please refer to Method Of Measurement Clause 7.1.5.1.4*

#### **7.1.5.1.6 Lengthening of piles**

##### Unit

The units of measurement for Lengthening of piles shall be Number (nr).



The units of measurement for Test load on preliminary pile shall be Number (nr).

Measurement

The measurement for load tests shall be the number of completed tests on piles which have met the pile acceptance criteria.

Item Coverage

The items for load testing of precast concrete piles shall be in accordance with the Preambles to Bill of Quantities General Directions and shall include:-

- a. bringing test rigs, kentledge and associated equipment to the site of the bridge, or other structure and subsequently removing them on completion of the test.
- b. setting up test rigs, kentledge, cable anchorages, anchor piles and reference bench marks and dismantling on completion.
- c. providing, calibrating, setting up, operating and maintaining instruments and apparatus required to complete the tests.
- d. constructing temporary pile caps and subsequent stripping off.
- e. applying, releasing and re-applying the test load in stages up to the maximum test load specified.
- f. taking readings, measurements and observations of pile performance under test and supplying 2 copies of records of each test to the S.O as specified.
- g. moving plant and equipment from one pile test location to another and from site to site including site preparation, leveling and access ramps.
- h. in the case of trial pile testing all additional costs involved in bringing testing equipment and kentledge to Site and removing on completion of test.

**7.1.5.1.12 Test Load On Working Pile – N/A**

*Please refer to Method Of Measurement Clause 7.1.5.1.11*

**7.1.5.1.13 Carry Out PDA in accordance with specification**

Unit

The units shall be in Number (nr).

Measurement

It shall be the tonnage of completed load test on piles which have met the pile acceptance criteria

Item Coverage

- a. setting up test rigs, kentledge, cable anchorages, anchor piles and reference bench marks and dismantling and removing them on completion;

#### **7.1.5.2.3 Lean Concrete**

##### Units

The units shall be Square Metre (m<sup>2</sup>).

##### Measurement

The measurement shall be the plan area of the specified thickness of lean concrete laid as shown on the drawings or as directed by the S.O.

##### Item Coverage

The rate shall include preparing the subgrade, lean concrete, mixing and placing and provision of all necessary plant, equipment and labour.

#### **7.1.5.2.4 Reinforced Concrete Slab**

##### Unit

The unit shall be in Cubic Metre (cu.m).

##### Measurement

In-situ concrete shall be measured as the *net volumes in cubic metres* of concrete of the appropriate class placed and compacted in the structure as shown on the Drawings and as directed and accepted by the S.O.

No deductions shall be made for space occupied by reinforcement or holes or voids formed in the concrete not exceeding 0.01 square metre in cross-sectional area each, fillets, chamfers, splays and drips of 100 mm total girth or less measured on the face of the concrete.

##### Item Coverage

The rate shall include:-

- a. Trial mixes as specified.
- b. Providing materials, attendance and all cost for all sampling and testing carried out by the S.O.
- c. Mixing, transporting, placing in or against any surface, compacting, surface finishing, curing and protecting the concrete from damage and staining.
- d. Falls, cambers and shaped profiles.
- e. Weep holes, pipe sleeves and the like not specifically measured in other items.
- f. Forming construction joints, skew back, stunt ends, stepping, bonding chases, rebates, recesses, holes, sockets, scuppers, provision of water stops and the like including all necessary formwork.(whether shown on the Drawings or not)
- g. Use of cement other than ordinary Portland cement and all necessary admixtures.
- h. Any additional concrete required to fill overbreak or working space.

- i. not exceeding 5m
- ii. exceeding 5m but not exceeding 10m
- iii. exceeding 5m but not exceeding 10m

Unit

The units of measurements for piezometers shall be in Number (nr).

Measurement

The measurement for payment of the piezometers shall be the respective numbers of each type of piezometers completely installed in accordance with the specification and accepted by the S.O.

Item Coverage

The items for piezometers shall include :-

- a. transport and delivery to site.
- b. all extension rods and joints required.
- c. protection and costs of working around piezometers.
- d. complete removal upon completion of monitoring exercise

7.2.4 Supply and install inclinometers – N/A

- i. not exceeding 10m
- ii. exceeding 10m but not exceeding 20m
- iii. exceeding 20m but not exceeding 30m

Unit

The units of measurements for inclinometer shall be in Number (nr).

Measurement

The measurement for payment of the inclinometer shall be the respective numbers of each type of inclinometer completely installed in accordance with the specification and accepted by the S.O.

Item Coverage

The items for inclinometer shall include :-

- a. transport and delivery to site.
- b. all extension rods and joints required.
- c. protection and costs of working around inclinometer.
- d. complete removal upon completion of monitoring exercise

**7.2.7 Monitoring Report N/A**

**Unit**

The unit of measurement for monitoring report shall be Lump Sum (Ls).

**Measurement**

The measurement for payment shall be the number of reports prepared based on monitoring carried out and accepted by the S.O.

**Pricing Factor**

The item for preparation of the monitoring report shall be in accordance with the Preambles to Bill of Quantities General Direction including:-

- a. cost associated in the preparation of a comprehensive report;
- b. submission of five (3) copies of the monitoring report per trip to S.O.

**7.3 SLOPE STABILISATION WORKS – N/A**

**7.3.1 SOIL NAILING – N/A**

**7.3.1.1 Drilling and Grouting Equipment N/A**

**Unit**

The unit of measurement for providing the necessary drilling and grouting equipment and all other appliances required for the installation of soils nails shall be in Lump Sum (**Sum**).

**Measurement**

The measurement for payment shall be made as follows:

- a. 70% on completion of mobilisation;
- b. 30% on completion of demobilisation

**Item Coverage**

The items for moving of plant and equipment for soil nails shall be in accordance with Preambles to the Bill of Quantities General Directions include for:-

- a. Mobilization and bringing all plant and equipment to the difference locations;
- b. Erecting and setting up at each soil nail position including all tagging, platforms and access;
- c. Dismantling equipment and staging, moving and reassembling at the next soil nail position;
- d. Sequential method of stage excavation and any loss time;
- e. Dismantling and removing plant and equipment from site on completion

#### Item Coverage

The rate shall include for:-

- a. storage of all test equipment and tools on the sites between pull-out tests;
- b. calibrating of load measuring device at approved laboratory;
- c. setting up test beams, hydraulic jacks, dial gauges, and reference bench marks and dismantling and removing them on completion;
- d. providing, setting up, operating and maintaining instruments and apparatus required to complete
- e. the tests;
- f. constructing temporary pile caps and subsequent stripping off (if required);
- g. applying and re-applying the test load and releasing;
- h. taking readings, measurement and observations of soil nail behaviour under test and recording
- i. and supplying two copies of the record of each test to the S.O;
- j. moving plant and equipment from one pull-out test location to another and from site to site including site preparation, levelling and access ramps.

#### **7.3.1.4 Proof test for soil nail – N/A**

##### Unit

The unit of measurement for proof test for soil nail shall be in Number (**nr**)

#### **7.3.1.5 Horizontal Drains– N/A**

##### Unit

The unit of measurement for installation of complete horizontal drain with perforated PVC pipe wrapped with non-woven geotextile shall be in Number (**nr**)

##### Measurement

The measurement for installation of horizontal drain shall be in number according to the length specified.

#### Item Coverage

The rate for horizontal or inclined drain shall include:

- a. moving the machine for the installation of the drains from one drain position to another and from on designated treatment area to another
- b. site preparation, access ramp, construction staging and working platforms as necessary
- c. loss of mandrel and its replacement
- d. overcoming obstruction and standing time

#### **7.3.2.2 Installation of Rock Bolt– N/A**

- i. 2m long
- ii. 4m long
- iii. 6m long
- iv. exceeding 6 m long but not exceeding 9m (....m)

##### **Unit**

The unit of measurement for installation of rock bolt shall be in Number (**nr**).

#### **7.3.2.3 ...mm Thick Sprayer Grade...Concrete – N/A**

##### **Unit**

The unit of measurement to construct specific thick sprayer concrete on unstable fractured rock face shall be in Square Metre (**m<sup>2</sup>**).

#### **7.3.2.4 Pull-Out Test– N/A**

##### **Unit**

The unit of measurement for carry out pull-out test shall be in Number (**nr**).

### **7.3.3 GROUND ANCHORAGE**

#### **7.3.3.1 Drilling and Grouting Equipment - N/A**

##### **Unit**

The unit of measurement for providing the necessary drilling and grouting equipment and all other appliances required for the installation of rock bolt shall be in Lump Sum (**Sum**).

#### **7.3.3.2 Ground Anchors– N/A**

##### **Unit**

The unit of measurement for installing ground anchors including anchor heads and necessary inspection shall be in Lump Sum (**Sum**).

#### **7.3.3.3 Anchor Test - N/A**

##### **Unit**

The unit of measurement for pull out anchor test shall be in Number (**nr**).

### **7.3.4 HORIZONTAL DRAINS**

#### **7.3.4.1 Horizontal Drains– N/A**

- i. 9m long

**7.4.1.3 Erection and Installation of .....Shaped Precast Concrete Panel in Successive Horizontal Lifts to Form Reinforced Soil Wall Components**

**Unit**

The unit of measurement shall be in Square Metre (m<sup>2</sup>).

**7.4.1.4 350mm x 150mm Cast in Situ Mass Concrete Leveling Pad**

**Unit**

The unit of measurement shall be in Square Metre (m<sup>2</sup>).

**7.4.1.5 Drainage Blanket**

**Unit**

The units of measurement for Drainage Blanket below structure shall be Square Metre (m<sup>2</sup>).

**Measurement**

The measurement for drainage blanket shall be the plan area of the compacted layer constructed to lines and levels as shown on drawings or as directed by the S.O.

**Item Coverage**

The items for construction of the drainage blanket layer shall be in accordance with the Preambles to Bill of Quantities General Directions and shall include:-

- a. supply of material for drainage blanket construction.
- b. haul and place material in areas as shown on drawings or as directed by the engineer.
- c. supply and lay geotextile as specified.
- d. wastage.
- e. multiple handling of excavated material.
- f. trimming and shaping to required levels.

**7.4.1.6 River/mining Sand**

**Unit**

The units of measurement for sand fill to reinforced soil wall shall be in Cubic Metre (m<sup>3</sup>).

**Measurements**

The measurement for sand shall be in cubic metres of compacted layer constructed to lines and levels as shown on drawings or as directed by the S.O.

**Item Coverage**

### 7.4.3.3 Formwork – N/A

#### Unit

The units shall be in Square Metre ( sq.m).

#### Measurement

The measurement for formwork shall be the *area in square metres* of formwork of the appropriate class which is in contact with the finished concrete. No deduction shall be made for any opening of one square metre or less.

#### Item Coverage

Formwork to the following shall not be measured and shall be deemed to have been included in the rates:

- a. to all types of joints such as shrinkage, construction and expansion joints (whether shown or not on the Drawings) skewbacks, stunts ends, stepping, bonding chases and the like;
- b. to holes, ducts, pockets, sockets, mortices not exceeding 0.15 cubic metres each in volume;
- c. to fillets, chamfers, splays, drips, rebates, recesses, grooves and the like of 150mm total width/girth or less;
- d. to edge of blinding concrete 75 mm or less in thickness;
- e. to upper surfaces of concrete except where shown to be required in the Contract.

Where concrete other than blinding concrete is placed in structural foundations, formwork shall be measured to the sides of such concrete foundations regardless of whether or not any formwork is used except where it is expressly stated in the Contract that the concrete is to be cast against the soil face.

The rates for formwork shall include for:-

- a. construction of all temporary works, false work, formwork, centring and linings and removal of same on completion and taking all measures necessary to produce the required finishes to the surfaces of the concrete;
- b. forming cambers and falls;
- c. formwork at any inclination and location;
- d. curved formwork of any radius;
- e. all falsework and formwork left permanently in place;
- f. cutting and fitting around projecting members, pipes, reinforcement and the like;
- g. forming fillets, chamfers, splays, drips, rebates, recesses and grooves;
- h. application of approved non-staining release agent;
- i. allowing for any variation from the minimum period for striking, arising from prevailing weather conditions;



#### Unit

The units shall be in Linear Metre (m)

#### Measurement

The measurement shall be made on the actual length constructed and measured along the centre line of the pipe from the position of terminations.

#### Item Coverage

The item shall include :-

- a. Supply of UPVC service duct;
- b. Supply of UPVC series
- c. Cutting of pipes to correct length including allowance for waste;
- d. Building, forming and casting into structure during the concreting process;
- e. Cleaning.

#### **7.4.3.6 .....mm Thick River Sand/mining N/A**

#### Unit

The units of measurement for river/mining sand as draining material shall be Square Metre (m<sup>2</sup>).

#### Measurement

The measurement for drainage material shall be the plan area of the compacted layer constructed to lines and levels as shown on drawings or as directed by the S.O.

#### Item Coverage

The items for construction of the drainage blanket layer shall be in accordance with the Preambles to Bill of Quantities General Directions and shall include:-

- a. supply of material for drainage material construction.
- b. haul and place material in areas as shown on drawings or as directed by the engineer.
- c. supply and lay geotextile as specified.
- d. wastage.
- e. multiple handling of excavated material.
- f. rimming and shaping to required levels.

#### **7.4.3.7 PVC Waterstop – N/A**

#### Unit

Laps included in the reinforcing steel to suit the Contractor's method of construction will not be measured for payment.

Measurement of fabric reinforcement will be measured as the area of covered, with no allowance for cutting waste or laps in the fabric.

#### Item Coverage

The rate shall include:-

- a. cleaning, cutting and bending.
- b. binding, placing and fixing with wire or other materials.
- c. supports and spacers (except for steel bar supports to reinforcement where shown in the Drawings).
- d. extra fabric reinforcement at laps.
- e. welding and splicing.

#### **7.4.3.11 Bituminous Coating – N/A**

##### Unit

The units shall be Square Metre (sq.m)

##### Measurement

The measurement shall be made on the nett dimension of the sprayed surface as shown on the drawings or as directed by the S.O.

##### Item Coverage

The rate shall include :

- a. cleaning the surface to be treated
- b. using hand tools to scrap and remove dirt from the surface
- c. supply and application of protection coating
- d. trial run
- e. cost of materials, transport to site and other expenses incurred in procuring the materials
- f. standby or waiting time, materials and attendance for sampling and testing carried out by the S.O.
- g. trials and trials area.