

## **SECTION R1**

### **General**

#### **R1 01 Contractor's area**

The Employer will make available the land required for the permanent Works as indicated on the Drawings. The Contractor must make his own arrangements for any land required for any other working areas outside the boundaries of the Works and the Employer will not accept any liability in connection with such land.

#### **R1 02 Notice of operations**

No important operation shall be carried out without the consent in writing of the Engineer or without full and complete notice, also in writing, being given to him sufficiently in advance of the time of the operation, so as to enable him to make such arrangements as he may deem necessary for its inspection.

#### **R1 03 Information where work is intended**

The Contractor shall from time to time supply the Engineer's Representative with up-to-date copies of his main works program and full information of the location of the sources of all materials. The Contractor shall also supply to the Engineer's Representative a daily program of the work intended to be carried out the following day. This program shall be in the hands of the Engineer's Representative by 17.00 hours, so as to enable him to make such arrangements as he may consider necessary for inspection.

#### **R1 04 Setting out**

The Contractor shall verify the existence of all Permanent Ground Markers as are applicable to the Works and shall notify the Engineer's Representative of the absence of any of the markers within one week of taking possession of the Site. The Engineer's Representative will then provide the necessary information to enable the Contractor to replace any missing Permanent Ground Markers.

If subsequently during the Contract any of the Permanent Ground Markers become displaced the Contractor must then re-establish those that are still applicable, as directed by the Engineer's Representative, immediately at his own expense. The Contractor shall provide at his own expense stakes and such other material as required by the Engineer's Representative. Spacing of the final setting out stakes shall be as directed by the Engineer's Representative but normally not more than 20m apart, unless authorized by the Engineer's Representative because of a flat terrain or other special circumstances.

The Contractor shall thereafter, in accordance with the information included in the Contract, set out, mark and maintain on Site all references for the alignment, crosssections, bench marks and readily identifiable markers necessary for the setting out and checking of the Works. Subject to the checking of and any correction by the Engineer's Representative the Contractor shall keep permanent schedules and drawings of such information which he shall supply to the Engineer's Representative as the setting out proceeds.

Where setting-out markers are likely to be disturbed during the progress of the Works the Contractor shall temporarily transfer such markers to an adjacent point. The Engineer's Representative shall be immediately informed of such changes, including subsequent

re-establishment of these markers, and given full details of the relative position of the points. Any changes in the stakes and marks caused by the development of construction shall not be made the basis of any claim for payment. The contractor at his own expense shall replace any relevant stakes or marks destroyed.

The Contractor shall give the Engineer's Representative not less than 24 hours' notice of his intention to set out or give levels for any part of the Works, in order that control lines and grades may be furnished and checked and the necessary measurements made for record and payment with the least inconvenience to the Engineer's Representative and delay to the Contractor.

The Contractor shall, as a contingency of the Contract and without extra charge provide all necessary instruments (as specified for the Contract), appliances, labor and any other materials or staging which the Engineer's Representative may require for checking the setting out. Upon the completion of the Contract the instruments will remain the property of the Contractor. Any survey marks made by the Engineer or the Engineer's Representative shall be carefully preserved. Working shall be suspended for such times as necessary for checking the lines on any part of the Works.

The horizontal alignment of highways or structures shall be set out from a base using the National Grid or from any other grid or base line used in the design, including any Survey Control Points which have been established on the ground and/or marked on the Drawings.

Structures shall be set out using the Structure Setting-outlines and where shown on the Drawings the clearances from existing topographical features.

The associated chainages and/or co-ordinates and skew angles shall be checked by the Contractor. Where clearances from existing features are not shown on the Drawings the chainages and/or co-ordinates and skew angles shall be used.

### **R1 05 Approval of sources and types of material and plant**

As soon as possible after the Contract has been awarded, the Contractor shall submit to the Engineer a list of the suppliers from whom he proposes to purchase the materials, manufactured articles and machinery necessary for the execution of or incorporation in the Works. Each supplier must be willing to admit the Engineer or his representative to his premises during ordinary working hours for the purpose of obtaining samples of the materials in question. Alternatively, if required by the Engineer, the Contractor shall deliver the samples of the materials to the Engineer's Office. Samples shall be taken in accordance with the relevant British or American Standard where applicable. Materials subsequently supplied shall conform within any specified tolerances to the quality of samples which have been approved by the Engineer.

No material shall be used which is not obtained from a source approved by the Engineer. Approval of a source does not mean that all material in the source is approved.

The Contractor shall, before placing any order for materials, manufactured articles and machinery for the execution of or incorporation in the Works, submit for the approval of the Engineer as soon as possible after the Contract has been awarded a list of the names of the firms from whom he proposes to obtain such materials, etc. together with a list of the materials, manufactured articles and machinery which he proposes that the firms should supply. No materials, manufactured articles or machinery shall be ordered or obtained from

any firm of which the Engineer shall not have previously approved in writing.

The information regarding the names of the suppliers may be submitted at different times, as may be convenient, but no sources of supply shall be changed without the Engineer's prior approval.

When any material or article is required to comply with a British Standard, such material or article or its container shall bear the stamp of the registered certification trade mark of the British Standards Institution. Alternatively, the Contractor shall submit to the Engineer test certificates furnished by the supplier or manufacturer of the material or article indicating compliance with the relevant British or American Standard.

#### **R1 06 Offices for the engineer's representative**

The Contractor shall provide and maintain until three months after the issue of the Certificate of Completion and to the satisfaction of the Engineer for the use of the Engineer's Representative and his staff, approved central offices, portable offices, field laboratory buildings and residential provisions as specifically outlined in the Special Specification of Particular Application. Proper sanitary accommodation and washing facilities with an efficient water supply shall also be provided and the Contractor shall make all necessary arrangements, subject to the approval of the Engineer's Representative, for the use of any land required outside the areas indicated on the Drawings as being made available by the Employer for the execution of the Work.

During the currency of the Contract the Contractor shall supply all fuel, water, heating and cooling facilities, electric light, attendants, etc. required and make arrangements for the office being regularly and properly cleaned. Provision shall be made for an office telephone on an independent line where this is reasonably practicable. All equipment, furnishings, etc. shall be subject to the approval of the Engineer's Representative.

Unless otherwise specified in the Special Specification of Particular Application, upon the completion of the Contract all buildings and furnishings provided for the Engineer's Representative and his staff shall become the property of the Contractor, and shall be removed by the Contractor and the site made good and left clean and tidy.

Should the Contractor continue to Work on the Site for maintenance purposes longer than three months from the issue of the Certificate of Completion, the Engineer may require any of the offices with any or all the equipment, supplies and furnishings to remain for occupation for as long as the Contractor is on the Site.

#### **R1 07 Transport for and assistance to the engineer's representative**

Within one month after the issue of the order to commence the Works, the Contractor shall provide the motor vehicles as specifically outlined in the Special Specification of Particular Application. Until these vehicles are accepted, the Contractor shall supply the same number of temporary vehicles to the Engineer's Representative and his staff, day and night as required. Fuel for the use of the vehicles on all necessary journeys in the vicinity of the Works shall be provided by the Contractor. The vehicles shall be taxed and insured by the Contractor for use by any authorized person holding a current driving license and shall be free from any display or marking indicating the name of the Contractor. The Contractor shall also make available a driver at such times and for such durations as instructed by the Engineer's Representative. In the event of any vehicle being off the road for maintenance or on account of breakdown, the Contractor shall provide a substitute vehicle at no further charge.

Upon completion of the Contract all vehicles shall become the property of the Employer.

The Contractor shall, as and when required, provide experienced chainmen, information and assistance. He shall also supply and maintain approved pegs, markers, poles and other apparatus as required for checking the setting out of the Works, measuring up, ascertaining the quantities or qualities of the materials supplied and for the proper supervision, inspection and testing of the Works at every stage and for any purpose in connection with the Contract.

Particulars of assistance to the Engineer's Representative, including medical services and a list of the major instruments and other equipment, will be as specifically outlined in the Special Specification of Particular Application.

Upon completion of the Contract such instruments and equipment will remain the property of the Contractor.

#### **R1 08 Living accommodation, sheds and stores**

The Contractor shall provide and maintain all such living accommodation, shelters, sheds and stores as are necessary for the execution of the Works, including the provision and maintenance of simple, unfurnished living accommodation, as specified in the Special Specification of Particular Application, to meet the needs of the Employer's daily-paid staff and shall make his own arrangements, subject to the approval of the Engineer's Representative, with the land owner of any land required.

#### **R1 09 Temporary traffic signs**

The Contractor shall erect and maintain on all works on highways and at prescribed points on the approaches to the Works all traffic signs and barriers necessary for the direction, protection and control of traffic and the size of all such signs and the lettering and wording thereon shall be approved by the Engineer's Representative before erection. The signs and barriers shall be illuminated by night either by flares or by other means.

#### **R1 10 Site for plant**

The Contractor shall select and arrange for the use of sites for all central mixing plants for concrete, bituminous mixtures or the deposit of materials and/or the storage of plant. Before any land in the possession of the Government is used for a central mixing depot, the Engineer's Representative's consent shall be obtained in writing and upon the completion of the Contract, or before then if required by the Engineer's Representative, the plant shall be removed and all damage made good.

#### **R1 11 Responsibility of contractor**

Where the approval of the Engineer or the Engineer's Representative is required under this Specification such approval shall not relieve the Contractor of his duties or responsibilities under the Contract.

### **R1 12 Access to contractor's records**

The Engineer or the Engineer's Representative shall at all times have full access to the Contractor's time book and may check daily the time of any extra works with the Contractor's timekeeper or other person; but the fact of his agreeing upon any time shall in no way bind the Engineer to value the work other than by measurement.

### **R1 13 Maintenance of traffic**

The Contractor shall provide, maintain and remove on completion of the Works, all temporary ramps, curbing and traffic signs when it is necessary to divert traffic.

The Contractor shall be responsible for the maintenance of traffic flow on all public highways affected by the Works, providing an effective width wherever practicable of at least 6m. Single way traffic should be avoided as far as possible, but in the event of it becoming necessary on any particular length, the Contractor shall provide a width of at least 3m, arrange for traffic control by signals or flagmen and provide passing bays of agreed length at distances apart not exceeding 100m.

### **R1 14 Removals of obstructions**

The Contractor shall, if required by the Engineer or by Engineer's Representative, take away and remove all obstructions, obstacles, matters and things, whether concealed or not, which may be found or may be put on the Site, or on the adjacent land, or the approaches thereto, and which there may be occasion to remove for, or in connection with, the construction, excavation, completion or maintenance of the Works.

### **R1 15 Temporary works**

The Contractor shall provide, maintain and remove on completion of the Works all temporary roadways, bridges, sleeper tracks and staging, etc. over roads, streams or unsuitable ground and he shall make them safe and suitable in every respect to carry all plant required for the Works, or for providing access or for maintaining diverted through traffic, or for any other purpose. The roadways, bridges, sleeper tracks, staging, etc. shall be constructed and maintained to the satisfaction of the Engineer, but the Contractor shall nevertheless be responsible for damage done to or caused by these temporary works.

Temporary bridge structures, where required on any site, shall be designed by the Contractor to carry the greater of the following alternative live loading and details shall be submitted to the Engineer for approval as Clause R1 16.

- (a) Live loading equivalent to the capacity of the existing bridge structure, if any, which is to be replaced.
- (b) Live loading equivalent to 50% of the standard loading for highway bridges, adopted by the Government of Iraq.

Carriageway widths on temporary bridges may be 3m single lane where approved arrangements are made for the proper direction and control of traffic at all times: otherwise the carriageway width shall be 6m double lane.

The Contractor shall make all necessary arrangements with and obtain permission from the authorities or land owners concerned before constructing temporary works and he shall obtain the approval of such works from the Engineer's Representative, but such approval will not relieve the Contractor of his responsibility.

Where no specific provision is made in the Bill of Quantities for any work of a temporary nature then it shall be considered as covered by the rates entered against other items in the Bill of Quantities.

#### **R1 16 Temporary staging for structures**

Temporary works, including staging or false work, shall be provided by the Contractor to enable the construction of structures according to the approved erection programme. The staging, etc. shall be properly designed and constructed for the loads which it will be required to support.

The Contractor shall submit to the Engineer for his approval duplicate copies of complete drawings and calculations relating to strength and anticipated deflections of all temporary works and staging he proposes to carry out or erect. Such details shall be submitted not less than eight weeks before the Contractor proposes to put such work in hand and he shall not commence the proposed work without the prior approval of the Engineer.

The approval of the Engineer shall not relieve the Contractor of his responsibility for the adequacy of such works or any of his liabilities or obligations under the Contract in respect of such temporary works or staging.

#### **R1 17 Protection of property and buildings**

The Contractor shall take every precaution to preserve from damage any property, including buildings, fences, roads, paths, trees and shrubs, which is situated on or near the site of the Works and shall not demolish or remove any property except on the specific instruction of the Engineer or the Engineer's Representative. Where any building and property is in close proximity to the Works (including any trench, excavation, demolition or pumping operation) the Contractor shall support, shore or otherwise protect such buildings and property and shall be responsible for the making good of any damage which in the opinion of the Engineer is attributable to or in consequence of the carrying out of the Works. The Contractor's responsibilities under this Clause shall include the repair of any damage which in the opinion of the Engineer has been caused by subsidence or vibration.

#### **R1 18 Protection of or alteration to existing works or services**

The Contractor shall be entirely responsible for locating the position of all services, including telephone and telegraph lines, power lines, cables, sewers, oil and water pipelines, irrigation pipes and channels, and railway tracks, and their appurtenances, etc. All services which are encountered in the Works shall be adequately supported, slung up, strutted or otherwise protected from injury to the satisfaction of the person or the authority in whom they may be vested. Where existing land drains or irrigation culverts or ditches cross the site of the Works the Contractor shall take such steps as the Engineer considers necessary to maintain the flow of water as required along its existing course.

Except where shown on the Drawings included in the Contract or directed by the Engineer's Representative, the Contractor shall not alter or in anyway interfere with existing works or services. Where such works are required to be moved on account of unsuitable levels or situation, adequate notice is to be given to the Engineer's Representative who will arrange with the department or authority concerned for the work to be carried out. Where the Engineer requires the Contractor to move existing works or

services or to execute work in connection therewith, the cost of such work, if not already provided for, will be paid on a day work basis.

Wherever public utility services can be permanently diverted without temporary diversion at an interim stage of the Works, the Contractor shall program his works accordingly. Should the Contractor prefer to order a temporary diversion to facilitate his program, he shall bear all charges in respect of such temporary diversion. Where the permanent works cannot be completed without temporary service diversions, such temporary diversions will be ordered by the Engineer's Representative.

Any information supplied by the Engineer or the Engineer's Representative to the Contractor as to the presence or position of the apparatus of a department of authority or other services has been obtained from the respective authorities, etc. or from site inspection. No guarantee can be given as to the accuracy or completeness of this information, but this shall not relieve the Contractor of any of his obligations under the Contract. No excavation in the vicinity of services shall be commenced until the authority concerned has been notified and if practicable, their representative has been notified by the Engineer's Representative to be available for supervision of carefully-dug trial pits or trenches.

The Contractor will not be entitled to any additional payment as a result of delays occasioned by the alteration of existing works or services.

#### **R1 19 Protection of works from weather**

The Contractor shall, at his own expense, carefully protect from effect by weather all work and materials which may be damaged or affected thereby. Should any work be so damaged or affected, it shall be remedied or removed and new work substituted at the Contractor's expense, all to the Engineer's or Engineer's Representative's satisfaction.

#### **R1 20 Cleansing of highways**

The Contractor shall adopt an effective method of road cleansing control to avoid the deposit of mud or soil on highways adjacent to or on roads leading to the site of the Works or from vehicles or other plant used in connection with the Works. The Contractor shall remove and can away at his own expense any mud or soil immediately it is deposited on highways and continue to maintain all such roads in a clean condition.

#### **R1 21 Progress photographs**

When specified in the Special Specification of Particular Application progress photographs showing the progress of the Works each month and of the finished Works upon completion of the Contract shall be furnished in the kind and amounts so specified. The cost of this service shall be borne by the Contractor unless an item for such is placed in the Bill of Quantities.

**R1 22 Filling in holes and trenches**

The Contractor, immediately upon completion and examination of any work, shall at his own expense fill up all holes and trenches which may have been made or dug, level the mounds or heaps of earth that may have been raised or made and clear away all rubbish that may have become superfluous or have been accumulated or made in the execution of such work.

**R1 23 Unit prices bid when extended to cover corresponding work performed and to cover all costs of the contract of every kind and nature**

The attention of the Contractor is drawn to the limited number of tender items in the Bill of Quantities and to the need of covering all costs of the works of every kind and nature in the said Tender items. No claims for extra payment will be considered except as specifically provided in the Contract Documents.