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## 13 TELEPHONE INSTALLATIONS

### 13.1 GENERAL

#### 13.1.1 Scope

1 This Part specifies the general requirements for telephone installations carried out as part of a contract for other works. It shall be read in conjunction with the other Parts of the Specifications and the Project Drawings.

2 Related Parts and Sections are as follows:

This Section

Part 1.....General Provisions for Electrical Installations

Part 6.....Cables and Small Wiring

Part 7.....Conduits and Conduit Boxes

Part 8.....Trunking

Part 9.....Cable Trays

Part 10.....Wiring Accessories and General Power

Part 14.....Structured Cabling Systems

Part 23.....Testing

#### 13.1.2 Reference Standards

1 The following standards and documents of other organisations are referred to in this Part and shall be complied with.

BS 1363 .....13A plugs, socket outlets, adapters and connection units.

The Ministry of Communications and Information Technology, Communications Regulatory Authority CRA & Licensed Telecom Service Providers rules and regulation

### 13.2 PRODUCTS

#### 13.2.1 General

1 Telephone cabling and equipment supply and installation shall be carried out by an Approved contractor (which been approved by CRA) specializing in telephone installations. All telephone related installations carried out by the approved contractor shall conform to the last updated version of "in building wiring guidelines" that is prepared by the Licensed Telecom Service Providers and published by CRA together with the specification and the project drawings. The Contractor shall supply and install cable ways, empty conduits with draw wires and/or trunking, telephone points and outlets, PVC ducts, telephone junction boxes, and manholes as required and shown on the Project Drawings unless otherwise Specified.

#### 13.2.2 Telephone Outlets

1 The Contractor shall supply and install telephone points and the associated mains power outlets which shall conform to international standards / standards adopted by the Telecom Service Providers in Qatar.

2 The telephone outlets shall be jack type and from the same manufacturer, and finish as for the lighting and general power outlets, unless specified otherwise.

3 Telephone outlets shall be of the type approved by the Licensed Telecom Service Providers.

### 13.3 INSTALLATION

#### 13.3.1 Incoming Line/Site Services

- 1 The approved contractor shall supply and install the incoming line underground through Licensed Telecom Service Providers approved PVC-u pipe ducts or any other recommended materials with draw wires, together with the manholes/draw pits as indicated on the drawings. The works shall be carried out in co-operation with Licensed Telecom Service Providers engineers.
- 2 Standard Licensed Telecom Service Providers type manhole and manhole covers shall be utilised, appropriate to the manhole location.
- 3 External ducts shall be installed in a 775 mm deep trench, on 75 mm of dune sand, covered with 75 mm of dune sand, and completed with selected filling materials.
- 4 Trenches for Licensed Telecom Service Providers ducts through rock fill shall be lined with geotextile filter fabric material as specified in Section 6.
- 5 Approved Contractor shall arrange with Licensed Telecom Service Providers for inspection of the installation during execution stage and on completion, all costs are deemed to be included in his price.

#### 13.3.2 Conduits and Trunking

- 1 The Contractor shall if required by the Project Specification or on the Project Drawings, allow for the supply and installation of an empty conduit system complete with draw wires and/or a trunking system between the outlet points and the telephone equipment area.
- 2 Conduit installations shall be concealed within the building fabric and/or concealed in suspended ceiling voids.
- 3 Conduit and trunking installations shall conform to the requirements of the Specifications as per the Licensed Telecom Service Providers requirements.
- 4 Unless otherwise specified, the minimum size of the lead in conduit installed shall be 25 mm diameter and telephone underground duct 50 mm diameter as subscriber duct.
- 5 The approved Contractor shall be responsible for liaison with the specialist telephone installer and/or Licensed Telecom Service Providers engineers to ensure that:
  - (a) the proposed conduits and trunking are adequate to accommodate cables
  - (b) the specialist installer is provided with the programme requirements and that his work is carried out in accordance with the Contractor's main programme.

#### 13.3.3 Telephone Outlets

- 1 Outlets shall be installed at locations indicated on the drawings and at the same heights as the general power socket outlets, unless otherwise specified in the Project Documentation.

#### 13.3.4 Special Requirements

- 1 The approved contractor shall apply on the online system (QPRO system) and get approval from the Licensed Telecom Service Providers to ascertain whether any underground installations will not be affected by the proposed works before they commence their works.

- 2 The approved contractor shall give at least one-weeks' notice in writing to the Licensed Telecom Service Providers of the dates upon which it is intended to operate plant or equipment or carry out work for which permission has been given in writing by the Licensed Telecom Service Providers. Such operations of work shall only be carried out in the presence of the Licensed Telecom Service Providers representative unless notice shall be obtained in writing from the Licensed Telecom Service Providers that they do not require to be present.
- 3 The Licensed Telecom Service Providers may require work to be executed on their installations during the period of the contract. The approved contractor shall afford all facilities to the Licensed Telecom Service Provider approved contractors or workmen until their diversion work is complete. The approved contractor shall co-ordinate the work of the Licensed Telecom Service Providers and his own activities and when necessary, shall amend his program of work to suit requirements of the Licensed Telecom Service Providers in connection with their diversion work and keep the Engineer informed in writing of all arrangements made.

#### **13.4 RECORD DRAWINGS**

- 1 The Contractor shall keep accurate record drawings of the arrangement, positions and details of all works constructed by him. These drawings will be of forms and to scales approved by the Engineer and his designated representative.
- 2 As soon as each drawing has been completed, two prints shall be submitted to the Engineer and his designated representative for approval.
- 3 If the Drawings or documents are not approved, one copy shall be returned to the Contractor with marked indications of the alterations required. Upon final approval one copy of the drawing or document shall be stamped "Approved" by the Engineer or his designated representative and returned to the Contractor forthwith.
- 4 After such approval is given, the Contractor shall supply to the Engineer two prints of the finalised drawings, and the digital files in CAD format on CD, for the use of the Engineer.
- 5 All record drawings shall be completed within 30 days of the commencement of the Maintenance Period.
- 6 Record drawings will show accurately the exact locations of all road crossings, ducts, joint boxes, etc., fully dimensioned and triangulated.

END OF PART