

PRELIMINARIES

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Preliminaries

101 Accommodation and Equipment for the Engineer

- 1 The Contractor shall provide, maintain, service and unless otherwise described in Appendix 1/1, remove on issue of the Maintenance Certificate, all accommodation including contents, access roads and hardstanding thereto, as described in that Appendix, for the use of the Engineer.
- 2 Equipment, furnishings, fittings and supplies shall be located as described in Appendix 1/1. All temporary initial accommodation shall be ready for occupation on the Date for Commencement of the Works and all other accommodation complete with contents, access roads and hardstanding shall be ready for occupation and use by the Engineer within four weeks of the Date for Commencement of the Works unless otherwise stated in Appendix 1/1.
- 3 Where stated in Appendix 1/1 the Contractor shall furnish and service accommodation made available by the Employer.
- 4 Telephones shall have a separate connection direct to a telephone exchange of a telecommunication code system with privacy for conversation for the exclusive use of the Engineer. Applications to the Telephone Company for provision of telephone lines shall be made by the Contractor on behalf of the Engineer. The Contractor shall remain responsible for supply, maintenance and removal of the internal phone system in the Engineer's office. Accounts from the Telephone Company shall be in the name of the Engineer. These accounts shall be paid by the Contractor upon the Engineer's instruction.
- 5 All accommodation shall be regularly cleaned for so long as it is in use and suitable arrangements be made for the disposal of any waste arising from use of such accommodation.
- 6 All equipment supplied by the Contractor shall be of a quality and precision appropriate to its proposed use and shall be delivered in a serviceable condition to the Engineer. The Contractor shall maintain all such equipment and shall repair or replace, as required by the Engineer, any that becomes unserviceable. The Contractor shall ensure that any equipment needing periodic calibration is calibrated on delivery, annually and at other times as and when required by the Engineer.

- 7 When major components of the Works are manufactured off the Site the Contractor shall arrange to make available adequate and secure accommodation as described in Appendix 1/1 at or adjacent to the place of, and during the period of, manufacture and testing.

102 Vehicles for the Engineer

- 1 The Contractor shall provide transport as described in Appendix 1/2 for the exclusive use of the Engineer for any purpose in connection with the Works. The vehicles shall be delivered and maintained in good roadworthy condition. They shall be licensed and insured for use on the public road and shall have comprehensive insurance cover for any qualified driver authorised by the Engineer together with any authorised passengers and the carriage of goods or samples. The Contractor shall provide fuel, oil and maintenance in conformity with the vehicle manufacturers recommendations and shall clean the vehicles inside and out as required by the Engineer. A suitable replacement shall be provided for any vehicle out of service for more than 24 hours.

103 Communication System for the Engineer

- 1 When required in Appendix 1/3 the Contractor shall provide a communication system for the Engineer as described therein, within 4 weeks of the Date for Commencement of the Works unless a different date for provision is required in Appendix 1/3.
- 2 The system, unless otherwise described in Appendix 1/3, shall be entirely separate from any provision for a communication system provided by the Contractor for his own use except that any aerial installation may be shared.
- 3 The system shall have an operating range which ensures reception throughout the Site.
- 4 The Contractor shall maintain the system, dismantling and removing it at the end of the period stated in Appendix 1/3. If the system is inoperative for any reason, it shall either be repaired or a replacement provided within 24 hours.

104 Standards, Quality Assurance Schemes, Agreement Certificates and Other Approvals

Standards

- 1 Work, goods and materials shall comply with the standards specified in the Contract.
- 2 Except where the specified standard implements or is technically equivalent to a Harmonised European Standard or to a European Standard adopted for use within the European Communities after 31 December 1985, any requirement for goods or materials to comply with the specified standard shall be satisfied by compliance with;
 - (i) a relevant standard or code of practice of a national standards body or equivalent body of any EEA State which is a contracting party to the EEA Agreement; or
 - (ii) a relevant international standard recognised for use in any EEA State which is a contracting party to the EEA Agreement; or
 - (hi) a relevant specification acknowledged for use as a standard by a public authority of any EEA State which is a contracting party to the EEA Agreement; or
 - (iv) traditional procedures of manufacture of any EEA State which is a contracting party to the EEA Agreement where these are the subject of a written technical description sufficiently detailed to permit assessment of the goods or materials for the use specified; or
 - (v) a European Technical Approval (ETA) issued in accordance with the Construction Products Directive 89/106/EEC (or, until procedures are available for the issue of ETAs, a specification sufficiently detailed to permit assessment) for goods or materials of an innovative nature or subject to innovative processes of manufacture and which fulfil the purpose provided for by the specified standard;

Provided that the proposed standard, code of practice, specification, technical description or European Technical Approval provides, in use, levels of safety, suitability and fitness for purpose equivalent to those required by the specified standard in so far as they are not inconsistent with the "Essential Requirements" of the Construction Products Directive (89/106/EEC). This Clause applies also to works only in so far as the means of carrying out such works are indivisibly associated with the goods or materials for which an alternative standard.

code of practice, specification or technical description is proposed.

Quality Assurance Schemes

- 3 Where any work, goods or materials to be used in the Works are the subject of a quality management scheme or product certification scheme listed in Appendix 1/24 or 1/25 respectively only work, goods or materials conforming with such a scheme shall be used and the Contractor shall in each case submit to the Engineer a copy of the certificate of conformity affirming compliance with the scheme, unless the goods or materials bear a prescribed certification mark.
- 4 The requirement for any goods or materials to be manufactured or supplied subject to a quality management scheme or product certification scheme listed in Appendix 1/24 or 1/25 respectively shall be satisfied by compliance with an equivalent quality management scheme or product certification scheme of any member state of the European Communities, provided that the proposed scheme is designed to ensure in use levels of safety, suitability and fitness for purpose equivalent to those provided for by the scheme specified. This sub-Clause applies also to works only in so far as the means of carrying out such works are indivisibly associated with the goods or materials for which an alternative quality management scheme or product certification scheme is proposed.

Irish Agreement Board Roads and Bridges Certificates

- 5 Where any work, goods or materials are required to have an Irish Agreement Board Roads and Bridges Certificate only work, goods or materials so certificated shall be used and the Contractor shall in each case submit to the Engineer a copy of the certificate. Types of work, goods and materials subject to such requirements are listed in Appendix 1/26.
- 6 The requirement for types of goods or materials listed in Appendix 1/26 to have an Irish Agreement Board Roads and Bridges Certificate shall be satisfied by goods or materials having an equivalent Agreement certificate issued in any member state of the European Communities, provided that the goods or materials covered by such certificate offer in use levels of safety, suitability and fitness for purpose equivalent to those incorporated in the Irish Agreement Board Roads and Bridges Certificate. This sub-Clause applies also to works only in so far as the means of carrying

out such works are indivisibly associated with the goods or materials for which an alternative Agreement certificate is proposed.

Named Suppliers or Manufacturers

- 7 Any requirement in the Contract to use goods or materials which are defined by reference to a named supplier or manufacturer shall be construed as referring to those goods or materials or equivalent. For the purposes of this sub-Clause equivalent goods or materials are those supplied from within the EEA which provide in use levels of safety, suitability and fitness for purpose equivalent to those provided by the specified goods or materials in so far as they are not inconsistent with the 'Essential Requirements' of the Construction Products Directive (89/106/EEC).

Provision of Information

- 8 Unless otherwise specified, two copies of all information, including valid certificates, in respect of work, goods or materials proposed by the Contractor shall be supplied to the Engineer. Where the original documentation is in a language other than English, it shall be accompanied by an English translation. Information and certificates shall be supplied at least four weeks prior to the use of the work, goods or materials in the Works.
- 9 Three copies of detailed working and fabrication drawings, prepared by or on behalf of the Contractor shall, when required in Appendix 1/4, be submitted for the Engineer's approval at least 4 weeks prior to commencing the related works. Such approval shall in no way relieve the Contractor of his responsibilities for the work under the Contract. When the drawings have been approved the Contractor shall provide transparencies of the approved drawings to the Engineer at least two weeks prior to commencing the related works.
- 10 When the Contractor proposes to use a different standard, quality management scheme, product certification scheme or Agreement Certificate from that specified the Contractor shall provide all the information in his possession which is relevant for the assessment of the facts to enable the Engineer to ascertain whether or not the proposal is equivalent to the specified requirement. The information shall be supplied at least 4 weeks prior to commencing the related works, to enable the evaluation of equivalence to be made, taking into account the programme for the Works.

105 Goods, Materials, Sampling and Testing

Goods and Materials

- 1 The Contractor shall submit a list to the Engineer of the suppliers from whom he proposes to purchase the goods and materials necessary for the execution of the Works. Where a choice of goods or materials is listed in the Contract, the Contractor shall inform the Engineer of the goods or materials he proposes to use. No change in the list of suppliers and the Contractor's proposals shall be made without the prior approval of the Engineer.

Sampling and Testing

- 2 The testing scheduled in Appendix 1/5, including provision of the associated samples, shall be undertaken by the Contractor who shall supply to the Engineer, within 24 hours of the completion of each test, a copy of the results. Where ILAB accreditation is required the results shall be reported on an official ILAB test report or certificate.

The following operations are not included in Appendix 1/5:

- (i) checking, inspecting, examining, measuring (except in connection with testing);
- (ii) trials and demonstrations;
- (iii) routine testing carried out by manufacturers and suppliers in compliance with a specified standard or specification;
- (iv) testing of plant.

Where required in Appendix 1/5 a test certificate, complying with the provisions of the relevant standard or specification where applicable and certifying that the goods or materials have been tested and meet the specified requirements, shall be supplied to the Engineer by the Contractor at least four weeks prior to the incorporation of the goods or materials in the Works.

- 3 Where required in Appendix 1/5 tests shall, except as allowed in sub-Clause 4 of this Clause, be undertaken only by testing laboratories accredited in accordance with IS/EN 45001 by the Irish Laboratory Accreditation Board (ILAB) for such tests.
- 4 Where testing is carried out in another member state of the European Communities such tests shall be undertaken by an appropriate organisation offering suitable and satisfactory evidence of technical and profes-

sional competence and independence. The condition shall be satisfied if the organisation is accredited in a member state of the European Communities in accordance with the relevant parts of the EN 45000 series of standards for the tests carried out.

- 5 Where goods or materials are accepted on the basis of an equivalent standard, code of practice, specification, technical description, quality management scheme, product certification scheme or Agreement certificate as provided for in Clause 104, testing and sampling as specified in or applicable to such an equivalent standard, code of practice, specification, technical description, quality management scheme, product certification scheme or Agreement certificate is accepted and shall be substituted for those specified in Appendices 1/5 and 1/6 respectively.
- 6 The Contractor shall provide samples of goods and materials and deliver these to the Engineer as described in Appendix 1/6. These samples shall be supplied in sufficient time for them to be tested and approved by the Engineer, taking into account the programme for the Works.
- 7 Where testing is undertaken by a supplier or manufacturer in accordance with the Contract the Contractor shall ensure that each supplier and manufacturer will admit the Engineer, or his representative, to his premises during normal working hours for the purposes of inspecting, selecting the samples and witnessing the testing.

106 Design of Permanent Works by the Contractor

Structures

- 1 The Contractor shall design the structures listed in Appendix 1/10 (A) to comply with the design specifications and requirements therein. Where the Contractor proposes to design a structure (for which a choice of designs is offered) listed in Appendix 1/10 (B) he shall comply with the design specification and requirements therein. The Contractor shall follow the technical approval procedures given in UK Department of Transport Standard BD 2: Part 1, for which purposes the Contractor shall be deemed to be the Designer.
- 2 Where the Contractor is required to complete an outline Approval in Principle form, the Contractor shall forward two copies of the completed form to the Engineer for acceptance.

- 3 The Contractor shall submit two copies of the completed design certificate and drawings for each structure listed in Appendix 1/10 to the Engineer for acceptance.

Structural Elements and Other Features

- 4 The Contractor shall design the structural elements and other features listed in Appendix 1/11 to comply with the design specifications therein. Alternatively, the Contractor may propose an element or feature designed by the manufacturer. In either case, the Contractor shall submit his proposals to the Engineer for approval.

107 Site Extent and Limitations on Use

- 1 The extent of the Site and any limitations on its use shall be as described in Appendix 1/7

108 Operatives for the Engineer

- 1 The Contractor shall provide the Engineer with, and maintain continuity of, operatives equal to the tasks, and capable of performing the functions, described in Appendix 1/8.
- 2 For site surveys and setting out, operatives shall be experienced in assisting engineers in such work.
- 3 For laboratory-related duties, operatives shall be capable of assisting the Engineer's laboratory staff in routine tasks.
- 4 Operatives provided under sub-Clauses 2 and 3 of this Clause shall have valid driving licences and driving experience suitable for the vehicles supplied.

109 Control of Noise and Vibration

- 1 The Contractor shall comply with the recommendations for practical measures to reduce noise set out in BS 5228 : Parts 1,2 and 4 and with any specific requirements stated in Appendix 1/9.
- 2 The Contractor shall comply with any specific requirements for the control of vibration stated in Appendices 1/9 , 2/4, 6/3, 6/13 and Clause 607.

- 3 Compliance with sub-Clauses 1 and 2 of this Clause does not confer immunity from relevant legal requirements.

110 Information Boards

- 1 The Contractor shall, within four weeks of the Date for the Commencement of the Works, provide and erect information boards at the locations and to the specification given in Appendix 1/21. The Contractor shall ensure that they are kept clean and maintained in a safe and legible condition and remove them on completion of the Works. The Contractor or any sub-contractor employed by him shall not erect any advertising sign on the site without the written permission of the Engineer.

III Existing Ground Levels

- 1 The Contractor shall satisfy himself that the existing ground levels as described in Appendix 1/12 are correct. Work shall not proceed until the existing ground levels are agreed. Disturbance of the existing ground shall be deemed to indicate that the Contractor is in agreement with the levels contained in the Contract. Should the Contractor wish to dispute any levels he shall submit to the Engineer a schedule of the position of the levels considered to be in error and a set of revised levels. The existing ground relevant to the disputed levels shall not be disturbed before the Engineer's decision as to the correct levels is given.

112 Setting Out

- 1 The Contractor shall, within 3 weeks of the Date for Commencement of the Works, carry out a check of the co-ordinates and levels of all permanent ground markers and permanent bench marks described in Appendix 1/12 and shall supply the Engineer with their position and level in order that the Engineer may check them and agree revised values if necessary. The Contractor shall identify and bring to the attention of the Engineer any markers that are missing. The Contractor shall comply with any specific requirements for setting out described in Appendix 1/12.
- 2 The Contractor shall keep updated schedules and drawings of all bench marks (which shall be based on Ordnance Datum at Malin Head)

used in the setting out and shall make these available to the Engineer when required.

- 3 The Contractor shall ensure that where necessary, in order to maintain his programme, lines and levels are set out in such time as to enable Statutory Undertakers plant and other publicly or privately owned services or supplies to be installed, altered or removed.

113 Programme of Works

- 1 Subject and without prejudice to Clause 14 of the Conditions of Contract, the programme which the Contractor submits to the Engineer shall comply with any specific requirements stated in Appendix 1/13.

114 Monthly Statements

- 1 The Contractor shall comply with the requirements described in Appendix 1/14 when submitting monthly statements to the Engineer in accordance with Clause 60(1) of the Conditions of Contract.

115 Accommodation Works

- 1 The Contractor shall undertake and complete the accommodation works as described in Appendix 1/15. The Contractor shall give the Engineer at least ten days notice of the date he intends to start work on individual plots, for the benefit of each owner, lessee or occupier*.

116 Privately and Publicly Owned Services or Supplies

- 1 The Contractor shall satisfy himself as to the exact position of Statutory Undertakers and other publicly and privately owned services or supplies affected by the Works.
- 2 The Contractor shall, during the progress of the Works liaise with and take all measures required by any Statutory Undertaker or the management of other publicly or privately owned services or supplies, for the support and full protection of all such services or supplies but subject to any instructions or contrary directions by the Engineer. He shall keep the Engineer informed of such liaison and measures. No such services or supplies shall be

interrupted without the written consent of the appropriate authority or owner. Where any service or supply is affected by the Works the Contractor shall provide a satisfactory alternative before interrupting the existing service or supply unless otherwise stated in Appendix 1/16.

- 3 The Contractor shall include for the programming consequences of all temporary and permanent diversions in his construction programme to the satisfaction of the Engineer and the Statutory Undertakers.
- 4 Where privately or publicly owned services or supplies affected by the Works are subject to alteration, removal or addition, the Contractor shall be responsible for all arrangements with the owners and/or their agents for the execution and phasing of such works in accordance with his programme. Details of such work and/or any orders already placed by the Engineer are given in Appendix 1/16.
- 5 Where work is being undertaken on a motorway the Contractor shall take all measures required by the Road Authority for the location and protection of all cabling, ducts and other devices which form part of the motorway communications system or other systems of the road authority. Where the motorway communications system or other systems will be affected by the Works the Contractor shall ensure that an alternative system as described in Appendix 1/16 is fully operational prior to interrupting the existing systems. Any connections or disconnections to the existing systems may only be undertaken by the maintenance authority concerned. The Contractor shall be responsible for liaising, through the Engineer with the maintenance authority.

117 Traffic Safety and Management

- 1 When planning and undertaking work on roads open to traffic the Contractor shall take account of the recommendations contained in the publication "Guidance for Traffic Control at Rural Roadworks" issued by the County and City Engineers Association.
- 2 When planning traffic safety and management measures the Contractor shall take into account the information contained in Appendices 1/17 and 1/18.
- 3 The Contractor shall, unless otherwise stated in Appendix 1/17, after consultation with the appropriate road authority and subsequently

with any statutory authority concerned and An Garda Síochána, prepare and submit traffic safety and management proposals within the timescale described in Appendix 1/17 to the Engineer for consent. These shall show the proposed traffic safety and management measures including provision of safety zones which he proposes for carrying out the Works. If stated in Appendix 1/17, the proposals shall include the provision of running lanes for the use of emergency vehicles within the Site. If required by the Engineer the Contractor shall make such changes to his proposals as may be necessary, in the opinion of the Engineer, to meet the requirements of the Contract and to obtain consent. Thereafter the Contractor shall furnish such details and information as may be necessitated by the Works or as the Engineer may require.

- 4 The Contractor shall design, construct and maintain, or if Appendix 1/17 so provides shall construct and maintain, the temporary diversions described in Appendix 1/17 in accordance with the information stated therein. Unless otherwise described in Appendix 1/17, the Contractor shall remove those diversions when no longer required and reinstate the area to its original condition.
- 5 If the Contractor intends to construct temporary diversions (incl. central reserve crossovers) as part of his traffic safety and management proposals he shall submit an outline of the proposals to the Engineer in advance for consent. If required by the Engineer the Contractor shall make such changes to his proposals as may be necessary, in the opinion of the Engineer, to meet the requirements of the Contract and to obtain consent.
- 6 The Contractor shall submit a formal application through the Engineer, as described in Appendix 1/17, to the appropriate authority for any statutory orders required to be made or notices required to be published in connection with his traffic safety and management proposals. The Contractor shall inform the Engineer of details the Contractor has agreed with the road authority for traffic signs, lighting, construction, maintenance and removal of any diversion (incl. central reserve crossovers) proposed by the Contractor.
- 7 If stated in Appendix 1/17, the Contractor shall undertake the maintenance functions described therein and to the extent there described, on the lengths of road there specified, until the issue of the appropriate Certificate of Completion.

- 8 Nothing in sub-Clauses 4 and 7 of this Clause shall relieve the Contractor from his obligations under Clause 22 of the Conditions of Contract to indemnify and keep indemnified the Employer against losses and claims for injuries or damage to any person or property, which may arise out of or in consequence of a failure on the part of the Contractor adequately to maintain a road described in Appendix 1/17.
- 9 The Contractor shall, unless otherwise stated in Appendix 1/17, provide, erect, maintain, reposition, cover and uncover and finally remove traffic signs as required by the Works. In so doing, such other measures shall be taken by the Contractor as may be necessitated by the Works in accordance with any special requirements in Appendix 1/17, recommendations in the Department of the Environment Traffic Signs Manual, or other instructions of the Road authority listed in Appendix 1/17. Where the circumstances of any particular situation are not covered by the recommendations or described in Appendices 1/17 or 1/18, the Contractor shall submit proposals for dealing with that situation to the Engineer for consent.
- 10 Traffic signs shall comply with the Department of the Environmental Traffic Signs Manual and the appropriate Clauses in Series 1200 of the Specification. The Contractor shall unless otherwise stated in Appendix 1/17 keep traffic signs clean, secure and legible and ensure that all signs required to be lit, whether by external or internal lighting, are so lit during periods when road vehicles are required to display lights.
- 11 Where the Contract provides that the Contractor shall not erect, maintain or reposition traffic signs, the Contractor shall not change in any manner the permanent or temporary traffic signs except with the consent of the Engineer and shall give the Engineer such notice as is stated in Appendix 1/17 to indicate when signs should be moved compatible with the progress of the Works.
- 12 All traffic safety and management measures necessitated by the Works shall be fully operational and shall have been approved by the Engineer before the Contractor commences any work which affects the public road or the use of it.
- 13 Any area of road which has been closed because of the Works shall not be re-opened until the Engineer is satisfied that all appropriate traffic safety and management measures have been completed and the road is in a suitable condition for public use.
- 14 Where work is carried out on, or adjacent to a road open to traffic the Contractor shall ensure that vehicles and mobile plant under his control operating frequently or regularly on or adjacent to that road in the execution of the Works shall be painted in a conspicuous colour and shall have sign boards reading Road Maintenance or where appropriate Motorway Maintenance, fixed at the rear. The lettering shall be 150 mm X height for vehicles and plant except that for light vans and cars it shall be the largest X height that can be accommodated out of the following heights: 37.5, 50, 62.5, 75 or 100 mm. The lettering shall be in black capital letters from the "Transport Heavy" alphabet, on a yellow non-reflectorised background in accordance with BS 381C lemon yellow No. 355. In addition each such vehicle or item of plant shall be provided with a roof mounted amber flashing distinctive lamp. The lamp shall be switched on:
- (i) when the vehicle or plant is manoeuvring into or out of the Site or operating at low speed on a carriageway or hard shoulder open to vehicles and;
 - (ii) when the vehicle or plant is standing on a carriageway or hard shoulder open to vehicles, unless Appendix 1/17 permits hazard warning lights to be switched on and they are.
- 15 Temporary lighting shall be provided in accordance with Clause 1405 where required by Appendix 1/17, or by the Contractor in the execution of the Works with the consent of the Engineer.
- 16 The Contractor shall provide and suitably sign points of entry to and exit from the Site, for vehicles and plant engaged on the Works. Such provision shall be subject to the agreement of the Engineer. The Contractor shall ensure that when any vehicle or item of plant is reversing within the Site on or adjacent to a road open to traffic, it does so only under the supervision of a person designated for the purpose of regulating traffic within the Site who shall be readily distinguishable from the remainder of the workforce.
- 17 Where work is carried out on or adjacent to a road open to traffic the Contractor shall ensure that the workforce and site supervisory staff at all times wear high visibility garments to an appropriate specification of conspicuity. Pending the publication of the relevant Harmonised European Standard the appropriate specification is Class A or B to BS 6629, incorporating the recommendations of Appendix G of BS 6629 or better. On motorways or other high speed roads Class A (coats and jackets with sleeves) to Appendix G

shall be worn, except that where workers are protected by a safety zone, garments to either Class A or Class B to BS 6629, both to Appendix G are considered adequate. Garments complying with other specifications may be used, in accordance with Clause 104.2 where they offer equivalent levels of performance in so far as the specification given is not inconsistent with the basic health and safety requirements set out in Annex 2 of the Personal Protective Equipment Directive (89/686/EEC). The Contractor shall ensure that the person in charge of the workforce is readily distinguishable from the person designated in sub-Clause 16 of this Clause and from the remainder of the workforce.

18 Where required in Appendix 1/17, the Contractor shall appoint a Traffic Safety and Control Officer who shall make all arrangements necessary for traffic safety and control, including the provision and operation of breakdown recovery vehicles where required in Appendix 1/20. The Traffic Safety and Control Officer shall have one or more nominated deputies. The Contractor shall provide the Engineer with the names of this Officer and his nominated deputies and with telephone numbers or details of other means by which they or one of them can be contacted at any time. The Traffic Safety and Control Officer or his nominated deputy shall be on the Site at all times when work is proceeding and shall be readily available to deal with matters related to traffic safety and control, including breakdown recovery vehicles where required in Appendix 1/20.

19 If an accident or breakdown occurs on a carriageway or hard shoulder open to traffic within or in the vicinity of the Site, the Contractor and operators of recovery vehicles provided in accordance with Clause 120 shall act as requested by An Garda Síochána but subject to any instructions or contrary directions by the Engineer.

118 Temporary Diversions for Traffic

- 1 The provisions of this Clause do not apply to any temporary access or accommodation works which the Contractor may construct for his sole use in the execution of the Works.
- 2 Each temporary diversion for traffic shall be made operative in advance of any interference with the existing arrangements and shall be maintained to the standard stated in Appendix

1/18 or if no standard is so stated, in accordance with sub-Clause 6 of this Clause.

Temporary Diversions for Traffic Specified by the Engineer

- 3 The Contractor shall construct, maintain, remove and reinstate each temporary diversion for traffic specified in Appendix 1/18 in accordance with the details stated therein. Where stated in Appendix 1/18, the Contractor shall design each temporary diversion for traffic, including any temporary structures, in accordance with the details stated therein. Unless otherwise described in Appendix 1/18, the Contractor shall remove each temporary diversion for traffic as soon as it is no longer required.

Temporary Diversions for Traffic Proposed by the Contractor

- 4 If the Contractor proposes to construct a temporary diversion for traffic as part of his intended traffic safety and management measures, he shall submit an outline of his proposals to the Engineer in advance for consent.
- 5 The Contractor shall submit a formal application to the appropriate authority for any statutory orders required to be made or notices required to be published through the Engineer, allowing such time as is stated in Appendix 1/18 for the orders to be made and notices to be published.
- 6 The standard and siting of every temporary diversion for traffic shall be suitable in all respects for the class or classes of traffic using it, and its width shall be not less than that of the existing way unless otherwise agreed by the Engineer.
- 7 The Contractor shall inform the Engineer of any details agreed with the road authority for traffic signs, lighting, construction, maintenance, removal and reinstatement of any temporary diversion for traffic proposed by the Contractor.
- 8 Nothing in sub-Clauses 3 to 7 of this Clause shall relieve the Contractor from his obligations under Clause 22 of the Conditions of Contract to indemnify and keep indemnified the Employer against losses and claims for injuries or damage to any person or property, which may arise out of or in consequence of a failure on the part of the Contractor adequately to maintain any temporary diversion for traffic.

119 Routeing of Vehicles

- 1 The Contractor shall comply with the requirements described in Appendix 1/19 in connection with routeing of vehicles.

120 Recovery Vehicles for Breakdowns

- 1 When required in Appendix 1/20 the Contractor shall have available for immediate use recovery vehicles as described in Appendix 1/20. The appointment, insurances, equipment and procedures for the operation of recovery vehicles, if required, shall be as described in Appendix 1/20.

121 Tidal, Flowing and Standing Water

- 1 The Contractor shall take measures and carry out any operation necessary for dealing with tidal, flowing or standing water within the Site.

122 Progress Photographs

- 1 The Contractor shall arrange, as described in Appendix 1/22, to have record photographs of the Works taken by a professional photographer approved by the Engineer. These photographs shall cover such extent of the Works as the Engineer may direct.
- 2 All prints shall be marked on the reverse side with the date of exposure, name and address of photographer, identification reference number, and brief description of the work or features including chainage and direction of view.
- 3 The copyright of all photographs shall be vested in the Employer and the negatives and prints shall be delivered to the Engineer within 4 weeks of exposure. The photographs shall not be used for any purpose whatsoever without the Engineer's approval.

123 Ionising Radiations

- 1 Nuclear gauges or other sources of ionising radiations shall be used only where permitted or required by the Engineer.

The Contractor shall provide, on request, to the Engineer a copy of the contractor's current valid licence issued by the Radiological Protection Institute of Ireland under SI 166 of the Nuclear Energy (General Control of Fissile Fuels, Radioactive Substances and Irradiating Apparatus) Order, 1977.

The Contractor shall provide, on request, to the Engineer a copy of the Contractor's "Radiation Safety Procedures", specified in Condition 2 of the RPII Licence.

The Contractor shall comply with :

- (i) the Contractor's RPII Licence conditions;
- (ii) the Contractor's Radiation Safety Procedures;
- (iii) basic safety standards for the health and protection of the general public and of workers, laid down in the European Communities (Ionising Radiations) Regulations 1991, SI 43.

The Contractor shall notify the Engineer in writing of any changes to :

- (i) the Contractor's RPII Licence conditions;
- (ii) the Contractor's Radiation Safety Procedures;
- (iii) the Radiological Protection Officers designated in the RPII Licence and in the Radiation Safety Procedures.

124 Substances Hazardous to Health

- 1 In this Clause, a hazardous substance is defined as follows :
 - (i) Any substance falling within the classifications of the ADR Agreement set out in the schedule of the Dangerous Substances Act 1972 (Part IV Declaration) Order, 1986;
 - (ii) Any substance, natural or artificial, whether in solid, liquid, gas or vapour state, that in either a concentrated or diluted form and/or mixed with any other substance, can cause an injury to a person(s) or property through ingestion, inhalation or bodily contact or as a result of fire, explosion or chemical reaction;
 - (iii) Any substance that in any form can contaminate/pollute the workplace/environment.
- 2 Hazardous substances shall only be used or generated in or about the Works where specified in the Contract or with the consent of the Engineer.

- 3 Where any hazardous substance is so used or generated the Contractor shall:
- (i) identify the hazardous substance; and
 - (ii) assess the risks created by its use; and
 - (iii) specify the arrangements made and the resources provided to safeguard the safety and health of persons employed at the work place against the risk posed;

in his Safety Statement and bring the terms of the Safety Statement to the attention of persons employed by him and to other persons at the place of work who may be effected by the Safety Statement. The Contractor shall also provide the Engineer with a copy of his Safety Statement at least 14 days prior to the use of or incorporation into the Works of substances hazardous to health or where appropriate at the commencement of the Works where this is less than 14 days.

- 4 It shall be the duty of the Contractor involved in sharing a place of work with another Contractor to co-operate in implementing any safety, health, welfare and occupational hygiene provisions considered necessary and taking into account the nature of the work activities, to co-ordinate their work areas in relation to the protection from and prevention of occupational risks, and to inform each other and their respective employees or safety representatives (or both) of any risks involved in such activities. The Contractor shall provide the Engineer with written details of any such co-operation and/or co-ordination in relation to hazardous substances.

- 5 The Contractor shall:
- (i) ensure that hazard labels are attached to containers or hazardous substances; and
 - (ii) obtain hazard data sheets (Materials Safety Data Sheets) on hazardous substances from the manufacturers/suppliers and shall communicate this information to persons who may in any way be effected by the substances; and
 - (iii) provide proper training in the identification and use of hazardous substances for persons whose duties involve contact with such substances.

- 6 If the Contractor proposes to use or generate any hazardous substance which has not been identified in the Safety Statement or otherwise approved by the Engineer, he shall:
- (i) revise his Safety Statement accordingly; and
 - (ii) put into effect any additional arrangements required to deal with the new hazardous substance as per the previous sub-Clauses; and
 - (iii) advise the Engineer accordingly.

- 7 The Contractor shall advise the Engineer of the information, instruction, training, equipment and supervision to be provided for the persons described in sub-Clause 5 of this Clause and for the Contractor's employees and any other persons with reason to enter the area in which the hazards exist, and of the provisions to be made in monitoring their health. The Contractor shall provide the Engineer with written details of his proposals to prevent, control or monitor the exposure of members of the public to any substance hazardous to health used or generated in or about the Works.

- 8 Where the measures referred to in this Clause necessitate the use of protective clothing or other safety apparatus by the Engineer and his staff, the Contractor shall:
- (i) provide the Engineer and his staff with sufficient suitable items of such protective clothing and other safety apparatus, so far as they are not otherwise supplied under Appendix 1/1; and
 - (ii) arrange for the proper storage, maintenance and, if necessary, regular testing and replacement of the items provided to the Engineer and his staff ; and
 - (iii) arrange for appropriate training or instruction for the Engineer and his staff in the use of such items.

- 9 Compliance with sub-Clauses 1 through to 8 of this Clause does not confer immunity from relevant legal requirements.

125 Contractor's Temporary Accommodation

- 1 The location of the Contractor's temporary accommodation and his storage areas shall be arranged to facilitate the most advantageous construction progress by the Contractor. It is the Contractor's responsibility to acquire and service these locations with power, telecommunications, water supply and sewerage disposal and to comply with all Local Authority planning requirements in respect of same.
- 2 The Contractor shall arrange for adequate canteen, sanitary, washing, changing and shelter facilities for the use of his staff at the site of the Works. These facilities shall be provided before construction work commences and shall be maintained for the duration of the Contract.

126 Damage to Roadways

- 1 The Contractor shall take every reasonable precaution to prevent dirt, mud or other deleterious material being dropped or spread by traffic associated with the Works on public roads or roadways which are made available for public use by the Contractor, whether such traffic is the Contractor's own, his subcontractors or his suppliers or hired by any of them. The Contractor shall clean roadways of any such dirt, mud or other deleterious materials which may be spilt or spread by traffic travelling to or from the site in connection with the Works, whether such traffic belongs to the Contractor, his subcontractors or his suppliers. On each working day the Contractor shall employ a road suction sweeper to clean all public roads and entrances to public or private property within a distance of 500m of the site. This shall include washing. Such cleaning operations shall be carried out notwithstanding road cleaning work being carried out by the Employer or other Contractors to the Employer.
- 2 The Contractor shall take particular care to avoid damage to roads, footpaths, grass margins and other surfaces outside of the authorised site and shall be liable for the cost of repairing, to the satisfaction of the Engineer, the Local Authority or the owner, all such damage caused by his operations. He shall take precautions to prevent spillage of diesel fuel or solvents.
- 3 The Contractor shall have regard to the maximum legal permissible loads for public roads in Ireland and where requested by the Engineer shall provide evidence of compliance with regard to delivery of material to site. He shall also prohibit the use of tracked plant on road surfaces outside of the site unless suitably approved protective measures are taken to safeguard the integrity of the road surfaces. Pumping of water onto a public road or private property shall not be permitted. Heavy discharges to gullies and storm drains shall have silt traps incorporated in the temporary discharge arrangement. Any damage so caused shall be made good by the Contractor at his own expense.

127 Safety

- 1 The Contractor shall in accordance with the Conditions of Contract, ensure that all relevant Acts of the Oireachtas and Statutory Regulations dealing with construction safety

are complied with. He shall nominate a Safety Officer who shall be responsible for maintaining day to day contact with statutory bodies, local authorities, An Garda Síochána and the Engineer on all matters concerning safety on site including interference with services and traffic control. The Contractor shall have particular regard to the safety requirements of the ESB and Bord Gáis with regard to work in the vicinity of live services. The safety requirements outlined in the numbered Series shall be strictly enforced by the Contractor whose sole responsibility it shall be to ensure compliance.

- 2 In addition to the normal site progress meetings on the contract, the Contractor shall attend a monthly site safety meeting convened by the Engineer. This meeting shall be attended by the Contractor's Site Safety Officer and the Company Safety Officer from the Contractor's Head Office together with the Contractor's Site Agent. Preconstruction liaison meetings and subsequent safety meetings shall be held with the ESB and Board Gáis, as relevant, throughout the progress of the contract at three monthly intervals or as directed by the Engineer as the circumstances demand. The Contractor shall arrange for attendance at all such meetings.
- 3 The Contractor shall arrange to provide and update annually, or as required, a Site Safety Statement with respect to his own employees and those of his subcontractors. This statement shall be in addition to the particular requirements of Clause 124.

128 Liaison Officer

- 1 The Contractor shall designate one of his qualified engineering staff as a liaison officer to deal with landowners and utilities. The Liaison Officer shall attend all pre-entry meetings with landowners or occupiers together with the Engineer's representatives. These meetings with individual landowners or occupiers are intended to confirm the arrangements already agreed for temporary and permanent accommodation works.

129 Emergency Services

- 1 The Contractor shall include for the provision of a 24-hour, 7 day week emergency service from the start of construction work to completion of the Works if required. This

service shall in particular ensure immediate action on the following :

- (i) Replacement or relocation of warning signs, lights and safety items on public roads;
- (ii) Repair of damaged or inadequate stockproof fencing;
- (iii) Restoration of water supplies or other services where interrupted or rendered inadequate.
- (iv) Repair work on any damaged or inadequate temporary works;
- (v) All repair work associated with working in public thoroughfares.

The service shall be based locally and be equipped with vehicles, radio communications and equipment and trained personnel so as to be able to deal effectively and promptly with any risk, threat or hazard to persons, livestock or property arising from the Contractor's operations. The Contractor shall be prepared to work with and co-operate with An Garda Siochana, the Local Authority and service utilities in the event of such emergencies.

130 Health and the Environment

- 1 The Contractor shall take all necessary precautions to avoid injury to public health, animal health and the surrounding environment. Particular care shall be taken to prevent the discharge of deleterious material to watercourses and streams during road or bridge construction work. The Contractor shall rigorously conform to the provisions of the Local Government (Water Pollution) Act, 1977 and subsequent amendments. The Contractor shall take all necessary precautions on site against the growth of weeds injurious to human or animal health until the expiry of the relevant period of maintenance. He shall be careful not to contaminate any watercourse with the use of weed killers.
- 2 The Contractor shall have regard to the condition of mature trees which do not have to be felled as part of the Works. He shall protect these in an approved manner from damage by moving plant. In the event of accidental damage to tree branches, these shall be sawn back in an approved manner and sealed with an approved compound.

131 Public Relations

- 1 The Contractor shall give 14 days notice to An Garda Siochana , Local Authorities, members of the public and local residents of impending events likely to cause disturbance such as planned temporary disconnection of services, demolition by explosion, prolonged working at nights or at weekends, movements of heavy loads liable to cause traffic congestion or any other planned abnormal occurrence likely to cause disturbance to people in the vicinity of the Works.
- 2 The Contractor shall not allow visitors to the Works or photography of the Works or issue to the press or any other media for the dissemination of information, any statement relating to the Works or any other matter arising out of the contract, without first obtaining the approval of the Engineer in writing.

