



An Roinn Iompair,
Turasóireachta agus Spóirt
Department of Transport,
Tourism and Sport



N16 Fence Retrofitting Scheme Junction of N16 and R283

Volume A: Works Requirements Specification

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LIST OF CONTRACT DOCUMENTS

DOCUMENTS INCLUDED IN THE CONTRACT

Volume A Works Requirements	Specification (this document) Drawings
Volume B Form of Tender and Schedule	Tender and Schedule Conditions of Contract
Volume C Pricing Document	Pricing Document

DOCUMENTS NOT INCLUDED IN THE CONTRACT

Instructions to Tenderers (ITT)

Suitability Assessment Questionnaire & Appendices

Health and Safety Competence Questionnaire

Information Pack (not part of the Contract Documents)

- Preliminary Health and Safety Plan
- Leitrim County Council RASOP's

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1 Project Description and Scope of Works

Title

The Scheme is known as: Junction of N16 and R283 Fence Retrofitting Scheme.

The Client is: Leitrim County Council

Location

The Scheme comprises the removal and re-installation of land boundary fences to private properties along the National Road (in accordance with CC-RMP-00300 & CC-SPW-00300) for the N16 National Primary Road Junction of N16 and R283 in the townland Moneenshinnagh, in Co. Leitrim. The proposed scheme is shown on drawing no. LM 203/1784-000.

Description

The N16 Fence Retrofitting Scheme involves the removal of existing Concrete Post and Rail boundary fences having been identified by the Design Office as hazardous under the current TII guidelines, to facilitate the installation of the proposed new fence type vegetation and trees will be removed. The scheme is located within the 80kph speed limit zone however as this is an improved section between sections legacy roadway the operating speed may be higher than posted speed limit at this location.

Scope of Works

The scope of works for the N15 Fence Retrofitting Scheme is as follows:

- (i) Traffic management
- (ii) Site Clearance works including redundant fencing, vegetation and debris.
- (iii) Drainage Works
- (iv) Installation of Tensioned Post and Mesh fence

The full scope of the works and the obligations of the Contractor are to be ascertained by reference to the Works Requirements and the Contract Documents as a whole.

The works must be organised in such a fashion as to minimize any potential hazards or inconveniences to all road users.

General Site Conditions

The Contractors traffic management plan must be carefully devised and carried out with the full consent of Leitrim County Council and An Garda Síochána.

A number of properties and businesses access onto the works site. These road users shall be facilitated in entering and exiting their properties at all times.

2 Specific Requirements

1. All necessary traffic safety precautions shall be taken by the Contractor to ensure the safety of traffic through and in the vicinity of the works. The Contractor shall also take precautions to minimise disruption to local residents. Access for emergency services shall be maintained at all times during the works.
2. The Contractor shall submit a detailed resourced programme of the works with particular regards to the phased nature of the Contract. Any elemental section of the sequential works cannot commence without prior approval of the Employer's Representative being obtained.

Existing Services:

Prior to the commencement of the contract the Contractor should acquaint himself/herself with all available records indicating the location of all services which may impinge upon his works.

Drawings received from the utility boards are included in the Information Pack. These are for Information only.

The existing services drawings within the Information Pack give an overview of the quantity and location of underground services but this does not relieve the contractor of his obligation to verify the exact location on site prior to commencement of excavations. To this end the Contractor shall be responsible for taking due care of the existing services and will ensure that No damage is caused to the existing services as a consequence of the Contractor's actions or inactions during the courses of this project.

If the Contractors intends working in close proximity to Electricity cable (both underground and overhead cables) he/she will give sufficient advance notice to the ESB in order for them to ensure a monitor will be available to assist and direct the Contractor's excavation or tipping operations. The Contractor will have total responsibility for coordinating this activity and the monitoring relationship is between the Contractor and the ESB. The Client will entertain no claims for delay or disruption to programme as a consequence of any ESB direction regarding Safety or for any other matter concerning the Monitor.

If the Contractors intends working in close proximity to EIR cable, he/she will give sufficient advance notice to EIR in order for them to ensure a monitor will be available to assist and direct the Contractor's excavation operations. The Contractor will have total responsibility for coordinating this activity and the monitoring relationship is between the Contractor and EIR. The Client will entertain no claims for delay or disruption to programme as a consequence of any EIR direction regarding Safety or for any other matter concerning the Monitor.

If the Contractors intends working in close proximity to Watermains or Foul Sewers, he/she will give sufficient advance notice to the Irish Water in order for them to ensure a monitor will be available to assist and direct the Contractor's excavation operations. The Contractor will have total responsibility for coordinating this activity and the monitoring relationship is between the Contractor and Irish Water. The Client will entertain no claims for delay or disruption to programme as a consequence of any Irish Water direction regarding Safety or for any other matter concerning the Monitor.

3 Specification

Preamble to Specification

1. The Specification referred to in the Contract shall be the Specification for Works (SPW) in TII Publications (Standards) published by TII as a collective group of document under the Construction and Commissioning Activity within the online TII Publications System (<http://www.tiipublications.ie/>), current on the date 10 working days prior to the tender returns date or, if applicable, the extended tender returns date and incorporating all amendments current on that date and as extended by the following:
 - i. Appendix 0/1: Contract-specific Additional, Substitute and Cancelled Clauses, Tables and Figures;
 - ii. Appendix 0/2: Contract-specific minor alterations to existing Clauses, Tables and Figures;
 - iii. The Numbered Appendices listed in Appendix 0/3;
 - iv. Appendix 0/4 containing a list of the drawings referred to in the Specification.
2. An Additional Clause as indicated by a suffix 'AR' in Appendix 0/1 is a Contract-specific alteration.
3. A Substitute Clause as indicated by a suffix 'SR' in Appendix 0/1 is a Contract-specific alteration.
4. A Cancelled Clause as indicated by a suffix 'CR' in Appendix 0/1 is a Contract-specific alteration.
5. Insofar as any of the Numbered Appendices may conflict or be inconsistent with any provision of the SPW the Numbered Appendices shall always prevail.
6. Any reference in the Contract to a Clause number or Appendix shall be deemed to refer to the corresponding Substitute Clause number or Appendix listed in Appendix 0/1 or 0/2.
7. Where a part of the SPW is altered, any original Table/Figure referred to in the Clause shall apply unless the Table/Figure is also altered. Where a Table/Figure is altered, any reference in a Clause to the original Table/Figure shall also apply to the altered Table/Figure.
8. Where a Clause relates to work goods or materials that are not required for the Works it shall be deemed not to apply.
9. Any Appendix referred to in the SPW that is not used shall be deemed not to apply.
10. References in the SPW to "NRA Road Construction Details" shall be taken to refer to Standard Construction Details (SCD) in TII Publications (Standards) published by TII as a collective group of documents under the Construction and Commissioning Activity within the online TII Publications System (<http://www.tiipublications.ie/>), current on the date 10 working days prior to the tender returns date or, if applicable, the extended tender returns date.
11. Text shown in grey highlight applies only to Contracts where the applicable Conditions of Contract is the Public Works Contract for Civil Engineering Works Designed by the Employer and the Public Works Contract for Minor Building and Civil Engineering Works Designed by the Employer.

12. Text shown in square brackets immediately following text shown in grey highlight, if any, is deemed to replace the text in grey highlight for Contracts where applicable Conditions of Contract is the Public Works Contract for Civil Engineering Works Designed by the Contractor.
13. The Works Requirements consist of the following books:

Title
N16 Fence Retrofitting Scheme – Vol A – Works Requirements – Book 1: Spec (this document)
N16 Fence Retrofitting Scheme – Vol A – Book 2: Drawings

Note:

Should the Contractor consider that there is a lack of clarity in any respect, he is reminded of his obligation to bring it to the notice of the Employer's Representative.

Introduction

Appendix 0/1: Contract-Specific Additional, Substitute and Cancelled Clauses

(Tables and Figures Included in the Contract)

List of Additional Clauses, Tables and Figures

Clause No. (etc.)	Title
105.9 AR	Storage of Materials
112.4 AR	Setting Out
114 AR	Manufacturer's Instructions, Catalogues
116.6 AR	Underground Utilities / Services
116.7 AR	Underground Utilities / Services
116.8 AR	Overhead Utilities / Services
116.10 AR	Privately and Publicly Owned Services or Supplies
116.11 AR	Privately and Publicly Owned Services or Supplies
116.12 AR	Privately and Publicly Owned Services or Supplies
116.13 AR	Privately and Publicly Owned Services or Supplies
118.9 AR	Temporary Diversions of Traffic
125.5 AR	Temporary Services
127.2 AR	Safety, Health and Welfare at Work
128.2 AR	Public Liaison
130.3 AR	Offensive Fumes
132.3AR	Dust Control
133.3AR	Protection of Watercourses from Pollution
133.4AR	Protection of Watercourses from Pollution
133.5AR	Protection of Watercourses from Pollution
133.6AR	Protection of Watercourses from Pollution
134.2 AR	Protection of Existing Structures
139 AR	Checking of Drawings
140 AR	Access
141 AR	Contractor should visit the Site
170.1 AR	As Built Records Drawings
170.2 AR	Record as Built Drawings
172.1 AR	Information Required for the Safety File
176.1 AR	Waste Management
176.2 AR	Disposal of Surplus Soil and Demolition Rubble
1702.5 AR	Concrete – Ordinary Structural – Constituent
1706.3 AR	Concrete – Production

Table 0/1.1. List of Additional Clauses, Tables and Figures

List of Substitute Clauses, Tables and Figures

Clause No. (etc.)	Title	Rewritten on Page No. following

Table 0/1.2. List of Substitute Clauses, Tables and Figures

List of Cancelled Clauses, Tables and Figures

Clause No. (etc.)	Title

Table 0/1.3. List of Cancelled Clauses, Tables and Figures

Additional Clauses, Tables and Figures

Clause No. (etc.)	Title and written text
105.9 AR	Storage of Materials The Contractor shall store all materials in a tidy manner, separating different materials and protecting them from dirt, physical damage, rain, frost and snow, reaction with other materials, marking or staining, micro-organisms, mildew, vermin and fungus. All materials shall be handled and stored in accordance with manufactures' and suppliers' recommendations. The Contractor shall arrange to store only limited amount of materials on site for works in progress. Remaining materials shall be stored off site and only be brought to site when required for incorporation in the works.
112.4 AR	Setting Out The Contractor shall survey and record existing details of items which he is required to remove and subsequently replace. The level of survey information to be recorded is described in Appendix 1/12.
114 AR	Manufacturer's Instructions, Catalogues The Contractor shall supply to the Employer's Representative the following items, prior to incorporation into the works; (i) Details of all proprietary current manufacturer's instructions and explanatory brochures to be used on the project. (ii) Test results and certificates for all items and investigations whether the tests or investigations are carried out on Site or off Site. (iii) Operating instruction for items. (iv) References for all materials and processes used in the works. References shall include origin, comprehensive description, manufacturer, supplier, copies of relevant parts of standards and specification and any other information necessary to reproduce the item.
116.6 AR	Underground Utilities / Services Before commencing any excavation, the Contractor shall notify all relevant authorities including, Local Authority, ESB, Telephone Utility Companies, etc. so that all available information regarding the location of underground services and working restrictions imposed by same is ascertained prior to such excavation.

116.7 AR	Underground Utilities / Services The Contractor shall consult the responsible authorities before commencing excavation about the position and type of underground service, including all drainage and water mains likely to be encountered. It remains the Contractor's responsibility to accurately locate all services on Site. For the purposes of this Clause, the Contractor shall provide in his Contract Sum for pipe and cable detection equipment for his own use on Site. Electricity cables must be located using cable detection equipment and the Contractor shall not assume cables are located at a minimum depth.
116.8 AR	Overhead Utilities / Services Where overhead services are present, it shall be deemed that the Contractor has made note of these overhead services during his inspection of the Site and made due allowance for all temporary diversions necessary for construction of the Works. This shall include temporary diversions of overhead services in the location of the Works compounds. The Contractor shall restore overhead services to their original locations on completion of the Works. No such diversions may take place without prior notification and approval of relevant utility or statutory body.
116.10 AR	Privately and Publicly Owned Services or Supplies The positions of all services of State Authorities, Local Authorities, Statutory Undertakers, mains and services and public authority's sewers shall be verified by the Contractor who shall satisfy himself as to the exact position of such apparatus. The Contractor shall liaise fully with and take all measures required by any Statutory Undertaker or public authority for the support and full protection of the pipes, ducts, cables and other apparatus during the progress of the Works. He shall keep the Employer's Representative informed of such liaison and measures
116.11 AR	Privately and Publicly Owned Services or Supplies If any privately-owned service for water, electricity, telephone, drainage, etc. passing through the Site will be affected by the Works, the Contractor shall locate it and provide a satisfactory alternative service in full working order to the satisfaction of the Employer's Representative and any affected property owners or occupiers before cutting the existing service.
116.12 AR	Privately and Publicly Owned Services or Supplies The Contractor shall establish and maintain regular communications with all Statutory Authorities for the purpose of pre-locating and protecting all existing Statutory Services within the boundaries of the Works. He shall be responsible for, and indemnify Leitrim County Council against, any loss damage to Statutory Services
116.13 AR	Privately and Publicly Owned Services or Supplies The Contractor shall make good any damage resulting from his operations and shall indemnify the Employer and the local authority against any claims for damage to drains, sewers, mains, cables, water pipes, fittings, boxes and the like or any other property caused by the execution and completion of the Works.
118.9 AR	Temporary Diversions of Traffic During the course of the Works, the Contractor shall provide reasonable access for each owner/ occupier of adjacent lands to enable him to move machinery and people etc. from one position of his property to another where it is severed or flanked by the Works.
126.6 AR	Cleaning of Roads The Contractor shall be responsible for maintaining all roads and footpaths used by members of the public in a clean condition. He shall also take every precaution to prevent dirt, mud or other material being dropped or spread by traffic associated with the Works on roads in public use, or on roads being part of the Works which are made available for public use by the Contractor, whether such traffic is the Contractor's own vehicles, his sub-contractor's or his suppliers', or vehicles hired by any of the above and shall clean up any such spillages promptly. If the Contractor fails to take adequate precautions or to

	clean the roads or footpaths in good time, the Employers Representative may deduct from Contractors account the cost of road cleaning operations carried out by the Employer.
127.2 AR	Safety, Health and Welfare at Work The following sub-clauses are intended to remind the Contractor of the various Statutory Regulations and responsibilities to be accounted for in carrying out the works: - a) The provisions of S.I. 504 of the Safety, Health and Welfare at Work (Construction) Regulations 2013, will apply to this Contract. The work is also subject to the provisions of Factories Act 1955, the Safety in Industry Act 1980 and the most recent Safety, Health and Welfare at Work Act 2005. The tenderer is to examine the site and the information supplied regarding the nature and extent of the proposed works, so as to be satisfied as to what is required to be done to fulfil the duties of Project Supervisor for Construction Stage and also what measures are required to be taken to meet the requirements of the Regulations in the execution of the works including compliance with the Health and Safety Plan. All costs arising in respect of these matters are to be included in the tender figure. The client will not be liable for any such costs which are reasonably foreseeable, and which are not so included. It shall be noted that where the Contractor or any Sub-Contractor carries out any design (as defined in the Regulations), the duties set out in Article 5 of the Regulations apply. The competence of any tenderer to carry out the duties of the Project Supervisor (Construction Stage) will be considered in the valuation of tenders. b) Notification of work on construction sites: The Health and Safety Authority must be notified of any building operation (including demolition or maintenance work) or work of civil engineering construction (including road works) where the work is to take six weeks or more. Use Form AF2 for this purpose. c) Accidents, Dangerous Occurrences and Ill Health: The Health and Safety Authority must be notified if: (i) A person dies as a result of an accident caused by or connected with the work on site. (ii) A listed dangerous occurrence takes place because of or in connection with the work (e.g. the collapse, overturning or failure of a crane or any other lifting appliance). (iii) A person is prevented from working for more than three days as a result of any injury or illness caused by an accident at work. (iv) A person at work is affected by a specified disease under the Notification of Industrial Disease Regulations 1956. The form for reporting any of the above is Form I.R1. d) Safety Officer: Every contractor who carries out building operations or works of engineering construction and normally employs a total of 21 or more workers must specifically appoint, in writing, one or more people to act as Safety Officer(s). Small contractors may engage the services of an outside Safety Officer who may work for a safety group or specialist safety company. e) Duties: The Safety Officer will advise the Contractor/Employer on how to comply with the law and will regularly supervise site work to see that it is carried out safely. The Safety Officer must be sufficiently experienced in the type of work being done, be suitably qualified and have enough time and authority to carry out his duties properly. f) Safety Statement: Each Employer and self-employed person must prepare a suitable written safety statement. The purpose of the statement is to identify all foreseeable risks and to outline how these are to be eliminated

	and minimised. The statement must also name those with responsibility for safety. The terms of the statement must be brought to the attention of employees and others who may be affected by it. g) Welfare: Every Contractor on site must ensure that adequate welfare facilities are available for his employees. These should include as a minimum: (i) Adequate washing facilities (ii) Adequate toilets (iii) Drying sheds, huts, rooms or other accommodation for sheltering during bad weather, storing clothes and taking meals (including tables and chairs, facilities for boiling water and a supply of drinking water). h) First Aid: Every Employer and self-employed person on site must ensure that adequate first aid is available. It is sensible for all contractors to make arrangements with the main contractor to provide first aid (if possible). First aid arrangements will vary with the degree of risk on the site but should usually include as a minimum: (i) Adequately stocked first aid box(es) (ii) A person who holds a current certificate in first aid, though for small sites it is sufficient to appoint a person to take charge of the first aid box and any situation where serious injury or major illness occurs (responsibilities should include phoning for an ambulance). Information for workers on site about first aid arrangements, including the location of first aid boxes and the nearest telephone. i) Exclusion of Children and Others from Work areas: A fence should be erected to enclose the site or any part of it that may give rise to danger. The fence should be at least 2 meters high and of anti-intruder type and should: (i) Protect the public from dangers of excavations (including shallow ones filled with water), holes or openings and badly stacked materials. (ii) Prevent tampering with vehicles and plant, electricity supplies, gas cylinders and hazardous chemicals. (iii) Prevent access to scaffolds which are left unattended, e.g. by removing all ladders at ground level. j) Watching, Lighting and Protection of the Public: The contractor shall provide for the protection of the works and adjacent property and for the protection and convenience of the public, adjacent owners, and occupiers including all necessary watching, lighting, erection and maintenance of barriers, guard rails warning notices and for all necessary precautions required by the Employer's Representative. Safe pedestrian passage shall be maintained at all times. While footpaths are being worked upon, alternative pedestrian routing shall be provided in a safe manner. These alternative routes should be protected from vehicular and site traffic by use of heras fencing or similar approved and should be adequately illuminated at nighttime. Temporary ramps shall be installed at all steps up or down at kerbs. These ramps may be constructed of wood or delay set macadam. All of the requirements of Chapter 8 of the Traffic Signs Manual shall be fulfilled.
128.2 AR	Public Liaison The Contractor is required to support the Local Authority in their endeavours to promote a pro-active public liaison approach. The Contractor shall establish and maintain liaison with the local businesses and residents. The purpose of the liaison will be to understand the needs of the business and residents and to provide for their various requirements in conjunction with the construction works, such as deliveries, car parking, 24-hour access, emergency

	ambulance access etc. The Contractor shall be obliged to comply with these requirements on a basis of co-operation. The Contractor shall provide the necessary resources in manpower and materials, including signage, letter drops, personal contact etc. to meet these needs. The Contractor shall monitor, on an on-going basis, the effects of construction activities on dwellings, offices, hospitals, churches, shops, hotels etc. and will immediately endeavour to resolve any problems with regard to access, noise, dust, safety, odours or site cleanliness. The Contractor shall if requested by the Employers Representative arrange meetings with residents, traders, traders' groups, businesses, business groups and representatives of Local Authority and An Garda Síochána to ensure full and adequate liaison in relation to the progress of the contract works.
130.3 AR	Offensive Fumes The Local Authority will fully implement all statutory regulations in relation to exhaust emissions from plant. All vehicles and mechanical plant used on the works shall be fitted out and operated to ensure that excessive dust emissions are not generated. Any plant emitting offensive fumes will be stopped immediately. No claims will be entertained for aforementioned stoppages.
132.3AR	Dust Control The Contractor shall employ the best practical means to limit and control dust emissions produced by his construction operations and he shall indemnify the Employer against all claims for damage or nuisance arising from his operations. This shall include: (i) Limiting the operational capacity and speed of vehicles and machinery, continuous operation of water spraying equipment and any other measures deemed necessary to control dust emissions to within specified limits. (ii) Removal from the works any item of equipment which, in the opinion of the Employers Representative, is creating a dust nuisance. (iii) Continuously spraying earthworks operations and haul routes in dry conditions with water. The Local Authority will insist on the Contractor maintaining a water sprayer on site in such conditions. (iv) Organising operations with regard to the positioning of plant and the location of haul routes, etc. so as to minimise dust emissions to adjacent properties. (v) Arrange that any necessary on-site cutting of new paving materials on site shall be by wet-cutting mechanical plant. Dry-cutting of new paving materials on site will not be permitted unless otherwise authorised by the Employers Representative. The Contractor shall ensure that at all properties outside the site boundaries, the dust emissions arising from his activities shall not result in a daily average concentration in excess of 150 micrograms of suspended particulate per cubic meter of air above background level or shall not result in an absolute daily average concentration in excess of 250 micrograms of suspended particulate per cubic meter of air, whichever is the lesser value. The measurement of suspended particulate shall be by the method described in Annex III, Part B to Council Directive No.80/779/EEC.
133.3AR	Protection of Watercourses from Pollution The Contractor shall ensure that the release of suspended solids to all surface waters shall be controlled by interception (e.g. silt traps) and management of Site run-off. Any surface water run-off shall be treated appropriately to ensure that suspended solids levels are minimised. Suitable precautions shall also be taken to ensure that oil, and other polluting materials associated with Construction Sites, does not enter local watercourses.
133.4AR	Protection of Watercourses from Pollution The Contractor shall ensure that foul drainage from the Site offices and facilities shall be properly treated and removed to a suitable treatment facility.

133.5AR	Protection of Watercourses from Pollution The Contractor shall ensure that the following mitigation measures are implemented to control concrete and cement-based material wash down water interaction with surface water a) On-site concrete batching and mixing activities shall be prohibited; b) Concrete lorries shall not be permitted to 'wash out' within the extent of the Construction Site; c) Hosing spills of concrete, cement, grout or similar materials into surface water drains shall be prohibited. d) Concrete waste and wash-down water will be contained and managed on site to prevent pollution of all surface watercourses. The following construction mitigation measures will be utilised to control concrete and cement-based material wash-down water interaction with surface water; e) Hydrophilic grout and quick-setting mixes or rapid hardener additives shall be used to promote the early set of concrete surfaces exposed to water. When working in or near the surface water and the application in-situ materials cannot be avoided, the use of alternative materials such as biodegradable shutter oils shall be considered; f) Where concrete is to be placed under water it will need to be designed to provide a cohesive mix to limit segregation and wash-out of fine material. This will be achieved by having either a higher than normal fines content, a higher cement content or the use of chemical admixtures; Any plant operating close to the water will require special consideration on the transport of concrete from the point of discharge from the mixer to final discharge into the delivery pipe (tremie). Care shall be exercised when slewing concrete skips or mobile concrete pumps over or near surface waters.
133.6AR	Protection of Watercourses from Pollution The Contractor shall manage excess material stockpiles to prevent siltation of watercourse systems through runoff during rainstorms. This shall involve allowing the establishment of vegetation on the exposed soil and surrounding stockpiles with cut off ditches to contain run off that will then be directed to settlement ponds before discharge.
134.2 AR	Protection of Existing Structures The Contractor shall take all necessary precautions to safeguard exiting buildings and works from damage due to construction activity, plant operations, ground water movement, ground movement and settlement, vibration and all other activities associated with the execution of the Contract. He shall make all necessary records (photographic or otherwise) of existing structures and properties that could be affected by the works, prior to the commencement of the works, independently of progress photographs required by the Employers Representative.
138 AR	Enclosure of Site The Contractor shall take adequate precautions to prevent trespass on adjoining property by employees, sub-contractors and/or their employees. The Contractor shall restrict his activities and site usage to the areas of works as approved by the Employers Representative.
139 AR	Checking of Drawings The Contractor shall be responsible for checking all drawings, schedules and details of the works. In the event of any discrepancy being found between such drawings, schedules and details or if the Contractor considers that additional drawings or information are required, then in either case the Contractor shall report such discrepancy to the Employers Representative for instruction, or apply for such detail drawings or information at least 21 days before the works concerned is to be executed.
140 AR	Access It is a requirement of the Contract that access for the public to businesses, houses and any other property will be maintained at all times. The Contractor shall be required to maintain traffic flow at all times on the road. He shall at all times, take proper precautions to ensure that his site operations have a

	minimum effect on existing traffic flow and that safe operating condition are prioritised. In addition, access to/from all adjoining dwellings must be maintained at all times.
141 AR	Contractor should visit the Site In accordance with the Contract, the Contractor is deemed to have visited the site of the proposed works and ascertained all local conditions and restrictions likely to affect the execution of the Works. He should acquaint himself generally with the layout and note particularly any features or irregularities of surfaces of site conditions which could not be clearly shown or delineated on plans. For the avoidance of doubt, it should be noted that service connections to individual premise are generally not shown on any drawing but nevertheless their presence will be regarded as foreseeable to an experience contractor. The Contractor should, in addition, carry out any investigation necessary as will enable him to fully appreciate and estimate for the works involved in the Contract, as extra payments will not be allowed for any difficulties due to site conditions encountered in construction the scheme in accordance with the plans.
170.1 AR	As Built Records Drawings The Contractor shall be required to provide as-built records drawings for the project upon completion of the Works as detailed in Appendix 1/70.
170.2 AR	Record as Built Drawings The Contractor shall maintain throughout the duration of the contract composite record drawings to show details of all temporary and permanent utility diversions installed during the works, as detailed in Appendix 1/60. The drawings shall also include details of any existing utilities encountered during the works, which shall remain in a position on completion of the works. One electronic copy of the as-built record drawings of all construction as it proceeds shall be issued to the Employer's Representative on a fortnightly basis.
172.1 AR	Information Required for the Safety File The Contractor shall be required to provide the information required for the safety file as detailed in Appendix 1/72.
174.1 AR	Construction Management Plan The Contractor shall be required to provide a Construction Management Plan (CMP) in accordance with Appendix 1/74.

176.1 AR	Waste Management The Contractor shall exercise due care in the handling and disposal of any potentially contaminating material. Appropriate site management control shall be demonstrated at all times to minimise the potential for pollution of the environment. The Contractor shall submit a Waste Management Plan to the Employer's Representative for approval, a minimum period of 2 weeks in advance of any works commencing on the site. This shall include details of the following items: • All proposed methods of waste disposal (reuse, recycle, landfill, discharge to drain, etc). • Details of the proposed licensed waste disposal contractors and licensed disposal sites, to be used by the Contractor. The Contractor shall maintain detailed records and receipts for all movements of waste materials from the site, for inspection by the Employer's Representative. All waste material arising from the Works shall be dealt with in compliance with the relevant legislation and regulations including without limitation the Waste Management Acts, 1996–2011, the Environmental Protection Agency Acts, 1992–2011, Planning and Development Acts, 2000–2017, The Roads Acts, 1993–2015 and European Communities (Waste Directive) Regulations 2011 each as amended and supplemented and in force for the duration of the Works. For the avoidance of doubt the Contractor shall prepare, and comply with the provisions of, a Waste Management Plan for the project as detailed in the guidelines contained in the TII Publication "GE-ENV-01101 - The Management of Waste from National Road Construction Projects".
176.2 AR	Disposal of Surplus Soil and Demolition Rubble Waste sent off site for recovery or disposal shall be transported from the proposed development to the site of recovery/disposal in a manner which will not adversely affect the environment. No material shall be recovered or disposed of offsite prior to such consultation and prior to the attainment of any statutory licences required. The materials to be disposed of site are classified as "wastes" and are subject to the provisions of the "Waste Management Act" 1996. The facilities at which such materials are discarded must have a waste licence from the EPA or where the EPA decides, must have a waste permit from the Local Authority.
1702.5 AR	Concrete – Ordinary Structural – Constituent Materials Non-Shrink Flowing Concrete <i>"Non-shrink flowing concrete" shall be "Exchem Concrete" or approved equivalent complying with UK Departmental Standard BD 27/86. It shall be stored, batched, mixed, placed, compacted and cured in accordance with manufacturer's instructions.</i>

1706.3 AR	Concrete - Production <i>Concrete production and delivery of concrete shall comply in all respects with the requirements of IS EN 206 for Designed or Prescribed Mixes. A copy of IS EN 206 shall be kept on site at all times for reference purposes by the Contractor's Foreman.</i> <i>The provisions of IS EN 206 shall not apply as no water shall be allowed to be added during transport of concrete or on site.</i> <i>The Composition of mixes shall conform in all respects to Appendix 17/1.</i> <i>The Concrete supplier shall provide delivery docket (at time of delivery) giving all information specified in IS EN 206.</i> <i>Concrete shall be obtained from a ready mixed concrete plant provided that the plant is designated "Approved Plant with Quality Control Procedures" by the Concrete Manufacturer's Association of Ireland provided that such a plant is approved by the Employer's Representative who may visit it from time to time to assure himself of compliance with the provision of this Specification.</i>
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Table 0/1.4. Additional Clauses, Tables and Figures

Substitute Clauses, Tables and Figures

Clause No. (etc.)	Title and written text
117.1 SR	Traffic Safety and Management When planning and undertaking work on roads open to traffic, the Contractor shall take account of the recommendations contained in Guidance for the Control and Management of Traffic at Roadworks published by the Department of Transport, and TII and the LGMSB October 2019 and the requirements of Chapter 8 of Traffic Signs Manual published by the Department of Transport.

Table 0/1.5. Substitute Clauses, Tables and Figures

Appendix 0/2: Contract-Specific Minor Alterations to Existing Causes,
(Tables and Figures Included in the Contract)**List of Altered Clauses, Tables and Figures**

Clause No. (etc.)	Alterations to be made
601.2 (i)	Earthworks Delete 'material which does not comply with the permitted constituents and material properties of Table 6/1 and Appendix 6/1 for acceptable material'. Insert 'For the purposes of the Contract all material excavated from the Site shall be deemed to be unacceptable'.
602.17	Replace the following text: "In carrying out the requirements of sub-Clause 15 of this Clause the Contractor shall:" With "In carrying out the requirements of sub-Clause 16 of this Clause the Contractor shall:"

Table 0/2.1. List of Altered Clauses, Tables and Figures

Appendix 0/3: List of Numbered Appendices Referred to in the Specification

and included in the Contract

This Appendix 0/3 is comprised of a list of the Numbered Appendices referred to in the Specification and included in this Contract.

Responsibility for the compilation/completion of the appendices is indicated by the following symbols:

E	Employer compiles
C	Contractor to compile and submit to the Employers Representative
E/C	Employer partially complies and Contractor completes and submits to the Employer's Representative
T/C	Tenderer complies and returns with his Tender. Post award of Contract the Contractor reviews and submits to the Employer's Representative.
(P)	The symbol 'P' indicted the appendix is a national pro-forma and the format must not be altered.

Where a Contractor or Tenderer is required to compile or complete an Appendix, they shall do so in accordance with the Notes for Guidance on the Specification for Works (GSW), and providing information similar to that stated in the sample appendices as a minimum.

Appendix 0/3 is comprised of two lists. A and B, of Numbered Appendices as follows:

- i. List 'A' is complete list of the Numbered Appendices referred to in the SPW with those not adopted marked "Not Used". Those identified by the letter 'T' or 'C' shall be complied by the Tenderer or the Contractor respectively.
- ii. List 'B' gives a list of Contract-specific numbered Appendices devised for this Contract.

List 'A' – List of Numbered Appendices referred to in the Specification for Road Works with those not adopted marked 'Not Used'.

Volume No.	Contract for Works Designed by the Employer	Appendix No.	Title
	Completed / Completed By		
1			Introduction
	E	0/1	Contract-specific Additional, Substitute and Cancelled Clauses and Tables Included in the Contract
	E	0/2	Contract-specific Minor Alterations to Existing Clauses and Tables Included in the Contract
	E	0/3	List of Numbered Appendices Referred to in the Specification and Included In the Contract
	E	0/4	List of Drawings Included in the Works Requirements
1			Preliminaries
	Not Used	1/1	Accommodation and Equipment for the Employer's Representative
	Not Used	1/2	Vehicles for the Employer's Personnel
	Not Used	1/3	Communication System for the Employer's Personnel
	E	1/4	Working and Fabrication Drawings
	Not Used	1/5	Testing to be Carried out by the Contractor
	Not Used	1/6	Supply and Delivery of Samples to the Employer's Representative
	E	1/7	Site Extent and Limitations on Use
	Not Used	1/8	Operatives for the Employer's Representative
	E	1/9	Control of Noise and Vibration
	Not Used	1/10	Structures to be Designed by the Contractor
	Not Used	1/11	Structural Elements and Other Features to be Designed by the Contractor
	Not Used	1/12	Setting Out and Existing Ground Levels
	E	1/13	Programme of Design and Execution and Completion of the Works
	Not Used	1/14	Monthly Statements
	Not Used	1/15	Accommodations Works
	E	1/16	Privately and Publicly Owned Services and Supplies
	E	1/17	Traffic Safety and Management
	E	1/18	Temporary Diversions for Traffic
	E	1/19	Routeing of Vehicles
	Not Used	1/20	Recovery Vehicles for Breakdowns
	Not Used	1/21	Information Boards
	Not Used	1/22	Progress Photographs
	E	1/23	Substances Hazardous to Health
	E	1/24	Quality Management Schemes
	E	1/25	Product Certification Schemes
	E	1/26	NSAI Agreement Certificates
1			Site Clearance
	E	2/1	List of Buildings etc. to be Demolished
	E	2/2	Filling of Trenches and Pipes
	E	2/3	Retention of Material Arising from Site Clearance
	Not Used	2/4	Explosives and Blasting
	E	2/5	Hazardous Materials
	E	2/70	Hedgerow and Tree Clearance
1			Fencing and Environmental Noise Barriers
	E	3/1	Fencing, Gates and Stiles
	E	3/2	Fencing: TII Road Construction Details

1			Road Restraint Systems (Vehicle and Pedestrian)
	Not Used	4/1	Safety Barriers
	Not Used	4/2	Pedestrian Restraint Systems
	Not Used	4/3	Safety Barrier Terminals
	Not Used	4/4	Safety Barrier Maintenance
	Not Used	4/5	Anti-Glare Screens
	Not Used	4/6	Safety Barriers: TII Road Construction Details
	Not Used	4/7	Vehicle Parapet Systems
1			Drainage and Service Ducts
	E	5/1	Drainage Requirements
	Not Used	5/2	Service Duct Requirements
	Not Used	5/3	Surface Water Channels and Drainage Channel Blocks
	E	5/4	Fin Drains and Narrow Filter Drains and Geotextiles for Filter Drains
	Not Used	5/5	Combined Drainage and Kerb Systems
	Not Used	5/6	Linear Drainage Channel Systems
	E	5/7	Drainage and Service Ducts: TII Road Construction Details
	Not Used	5/8	Thermoplastics Structural Wall Pipes and Fittings
	Not Used	5/9	Attenuation
1			Earthworks
	Not Used	6/1	Requirements for Acceptability & Testing of Earthworks Materials
	E	6/2	Requirements for Dealing with Class U2 Unacceptable Material
	Not Used	6/3	Requirements for Excavation, Deposition, Compaction (Other than Dynamic Compaction)
	Not Used	6/4	Not Used
	Not Used	6/5	Geotextiles Used to Separate Earthworks Materials
	Not Used	6/6	Fill to Structures & Fill Above Structural Foundations
	Not Used	6/7	Sub-Formation & Capping & Preparation & Surface Treatment of Formation
	Not Used	6/8	Topsoiling, Grass Seeding and Turfing
	Not Used	6/9	Earthwork Environmental Bunds, Landscape Areas, Screening Mounds, Strengthened Embankments
	Not Used	6/10	Ground Anchorages, Crib Walling and Gabions
	Not Used	6/11	Swallow Holes and Other Naturally Occurring Cavities & Disused Mine Workings
	Not Used	6/12	Instrumentation and Monitoring
	Not Used	6/13	Ground Improvement
1			Road Pavements – General
	Not Used	7/1	Permitted Pavement Options
	Not Used	7/2	Excavation and Reinstatement of Existing Surfaces
	Not Used	7/3	Surface Dressing Product (End Performance)
	Not Used	7/4	Bituminous Sprays
	Not Used	7/5	Road Pavements: TII Road Construction Details
	Not Used	7/6	Breaking up or Perforation of Existing Pavement
	Not Used	7/7	Not Used
	Not Used	7/8	Not Used
	Not Used	7/9	Cold Milling (Planing) of Bituminous Bound Flexible Pavement
	Not Used	7/10	Microsurfacing
	Not Used	7/11	High Friction Surfacing
	Not Used	7/12	Low Energy Bound Mixtures
	Not Used	7/21	Recipe Surface Dressing
1			Kerbs, Footways and Paved Areas
	Not Used	11/1	Kerbs, Footways and Paved Areas

	Not Used	11/2	Access Steps
	Not Used	11/3	Kerbs, Footways and Paved Areas: TII Road Construction Details
1			Traffic Signs and Road Markings
	Not Used	12/1	Traffic Signs: General
	Not Used	12/2	Traffic Signs: Reflective Markers
	Not Used	12/3	Traffic Signs: Road Markings and Studs
	Not Used	12/4	Traffic Signs: Cones, Cylinders, FTD's and Other Traffic Delineators
	Not Used	12/5	Traffic Signs: Traffic Signals
	Not Used	12/6	Traffic Signs: Special Sign Requirements on Gantries
	Not Used	12/7	Traffic Signs: Preparation and Finish of Metal and Other Surfaces
1			Road Lighting Columns and Brackets
	Not Used	13/1	Information to be Provided by the Designer for the Road Lighting Works when Specifying Lighting Columns and Brackets
	Not Used	13/2	Column and Data Bracket Sheets 1 & 2
	Not Used	13/3	Instructions for Completion of Column and Bracket Data Sheet
	Not Used	13/4	Certification For Lighting Columns
	Not Used	13/5	Road Lighting Columns And Brackets: NRA Road Construction Details
1			Electrical Work for Road Lighting and Traffic Signs
	Not Used	14/1	Site Records
	Not Used	14/2	Location of Lighting Units and Feeder Pillars
	Not Used	14/3	Temporary Lighting
	Not Used	14/4	Electrical Equipment for Road Lighting
	Not Used	14/5	Electrical Equipment for Traffic Signs
	Not Used	14/6	Preparation and Finish of Metal and Other Surfaces
1			Motorway Communications
	Not Used	15/1	Motorway Communications
	Not Used	15/2	Traffic Counter Loop
1			Piling and Embedded Retaining Walls
	Not Used	16/1	Requirements for Piling and Embedded Retaining Walls
	Not Used	16/2	Precast Reinforced and Prestressed Concrete Piles and Precast reinforced Concrete Segmental Piles
	Not Used	16/3	Bored Cast-in-Place Piles
	Not Used	16/4	Bored Piles Constructed Using Continuous Flight Augers and Concrete or Grout Injection Through Hollow Auger Stems
	Not Used	16/5	Driven Cast-in-Place Piles
	Not Used	16/6	Steel Bearing Piles
	Not Used	16/7	Reduction of Friction on Piles
	Not Used	16/8	Non-Destructive Methods for Testing Piles
	Not Used	16/9	Static Testing of Piles
	Not Used	16/10	Diaphragm Walls
	Not Used	16/11	Hard/Hard Secant Pile Walls
	Not Used	16/12	Hard/Soft Secant Pile Walls
	Not Used	16/13	Contiguous Bored Pile Walls
	Not Used	16/14	King Post Walls
	Not Used	16/15	Steel Sheet Piles
	Not Used	16/16	Integrity Testing of Wall Elements
	Not Used	16/17	Instrumentation for Piles and Embedded Walls
	Not Used	16/18	Support Fluid
1			Structural Concrete

	Not Used	17/1	Concrete - Classification of Mixes
	Not Used	17/2	Concrete - Impregnation and Coating Schedule
	Not Used	17/3	Concrete - Surface Finishes
	Not Used	17/4	Concrete - General
1			Structural Steelwork
	Not Used	18/1	Requirements for Structural Steelwork
1			Protection of Steelwork Against Corrosion
	Not Used	19/1	(Specification for Road Works) Sheet No. Form BE/P1 (New Works) Paint System Sheet
	Not Used	19/2	(New Works) Requirements for Other Works
	Not Used	19/3	(Specification for Road Works) Form BE/P2 Paint Data Sheet
	Not Used	19/3*	(Specification for Road Works) Form BE/P3 Paint Sample Despatch List: Sheet 1
	Not Used	19/3*	(Specification for Road Works) Form BE/P3 Paint Sample Despatch List: Sheet 2
	Not Used	19/4	(New Works) General Requirements
	Not Used	19/5	(Specification for Road Works) Form BE/P1 (Maintenance) Paint System Sheet 1
	Not Used	19/6	(Specification for Road Works) Form BE/P1 (Maintenance) Paint System Sheet 2
	Not Used	19/7	(Maintenance) Requirements for Other Work
	Not Used	19/8	(Maintenance) General Requirements
1			Waterproofing for Concrete Structures
	Not Used	20/1	Form PWS Proprietary Waterproofing System Data Sheet (1991 & Annex 'A')
	Not Used	20/2	Waterproofing for Concrete Structures
1			Bridge Bearings
	Not Used	21/1	Bridge Bearing Schedule
1			Parapets
	Not Used	22/1	Parapet Schedule
1			Bridge Expansion Joints and Sealing of Gaps
	Not Used	23/1	Bridge Deck Expansion Joint Schedule
	Not Used	23/2	Sealing of Gaps Schedule (other than in Bridge Deck Expansion Joints)
1			Brickwork, Blockwork and Stonework
	Not Used	24/1	Brickwork, Blockwork and Stonework
	Not Used	24/2	Brickwork, Blockwork and Stonework: NRA Road Construction Details
1			Special Structures
	Not Used	25/1	Requirements for Corrugated Steel Buried Structures
	Not Used	25/2	Requirements for Reinforced Earth and Anchored Earth Structures
	Not Used	25/3	Requirements for Reinforced Clay Brickwork Retaining Walls of Packet Type and Grouted Cavity Construction Structures
1			Miscellaneous
	Not Used	26/1	Ancillary Concrete
	Not Used	26/2	Bedding Mortar
	Not Used	26/3	Cored Thermoplastic Node Markers
1			Watermains, Utilities and Accommodation Works
	Not Used	27/1	Requirements for Watermains
	Not Used	27/2	Watermains: NRA Road Construction Details
1			Trenchless Installation of Road drainage and Service Ducts
	Not Used	28/1	Trenchless and Minimum Dig techniques
1			CCTV Survey of Road Drainage Systems
	Not Used	29/1	CCTV Survey of Road Drainage Systems

Table 0/3.1. List 'A' – Numbered Appendices referred to in the Specification and Included in the Contract

List 'B' – List of Contract Specific Numbered Appendices Devised for the Contract.

Appendix No.	Title	Used
1/70	As Built Records	Yes
1/71	Construction Management	Yes
1/72	Safety File	Yes
1/73	Emergency Services	Yes

Table 0/3.2. List 'B' – Numbered Appendices referred to in the Specification and Included in the Contract

Appendix 0/4: List of Drawings Included in the Contract**Contract-specific Drawings Supplied to Each Tenderer**

Drawing No.	Title	Volume No.
LM 203/1784-000	Scheme Location Map	A
LM 203/1688-001 to 002	Scheme Landowner Layout & Fencing Locations	A

4 Table 0/4.1. Contract-specific Drawings Supplied to Each Tenderer**Project Specific Construction Details, other than the TII SCDs, supplied to each Tenderer**

Drawing No.	Title	Volume No.

Table 0/4.2. Project Specific Construction Details

Inspected by Tenders

None

Brought into the Contract by Reference

The Standard Construction Details (SCD) in TII Publications (Standards) contains the following drawings brought into the Contract by reference. Unless otherwise stated below the whole drawing is brought into the Contract.

Drawing No.	Title	Date	Aspect/Alternative(s) Required if Not Whole Drawing
CC-SCD-00320	Timber Post And Tension Mesh Fence		Entire Drawing
CC-SCD-00321	Timber Post And Tension Mesh Stud Fence		Entire Drawing

Table 0/4.3. Brought into the Contract by Reference

Preliminaries

Appendix 1/4 Working and Fabrication Drawings

1. Whenever required by the Employer, the Contractor shall supply calculations, test reports, data sheets, etc. in support of his detailed working and fabrication drawings. Such documents shall remain the property of the Employer.
2. The Contractor shall submit three copies of all relevant documents to the Employer's Representative at least two weeks in advance of the date on which the Contractor proposes to commence such works, unless otherwise specified. Shorter tie periods may be acceptable subject to written approval by the Employer's Representative.
3. Drawings shall be to an appropriate scale and standard and have sufficient details to enable the employer to access the Contractors Proposals.
4. The following working and/or fabrication drawings shall be supplied by the Contractor to the Employer's Representative.

Series	Description of Work	Minimum Period for Submission of Drawings
100	Traffic Management – All Work	Two weeks in advance of each Temporary Traffic Management phase / sequence

Appendix 1/7 Site Extent and Limitations on Use**Extent of the Site**

1. The lands made available are indicated on the following drawing and represents the extent of the Site. In addition, the Contractor is permitted, unless otherwise indicated by the Employer's Representative, to use public areas outside the works for traffic control measures in compliance with Appendix 1/17, Appendix 1/18, Clause 117 and Clause 118 of the Specification and for works in connection with diversions to statutory undertakers' plant, as and when necessary.

Title	Drawings No.
Works Extents	LM 203/1784-000

2. The Contractor shall keep open and maintain access facilities to properties for all landowners during the course of the Works.
3. The Contractor is limited in the use of the access routes by means of public roads to the site as stated in appendix 1/19 and shown on the drawings.
4. The Contractor shall provide for safe passage of pedestrians and cyclists on public roads through the works and maintain this for the duration of the works.
5. The Contractor shall ensure that all areas of land which have been temporarily occupied are reinstated to the satisfaction of the Employer's Representative.

Working hours

1. The permitted normal working hours on the Site shall be Monday to Saturday between 08:00 and 18:00 hours with no working on Sundays and Public Holidays, unless otherwise stated to comply with traffic management restrictions in Appendix 1/17, Appendix 1/18 and Appendix 1/19.
2. Exceptionally, the Employer's Representative's consent for work outside these hours may be given after necessary consultation and written approval. A minimum of 14 days' notice shall be required from the Contractor when seeking such consent. Where work is thus permitted on Sundays or Public Holidays, it shall be carried out between the hours of 0800 and 18:00 hours.
3. Night Time Works: 20:00 to 06:00 Monday to Friday only. Temporary lighting will be required during night time works which must be incorporated into the Traffic Management Plans provided by the Contractor. Night time works may only be undertaken following consultation and approval from Leitrim County Council and the Employer's Representative. A minimum of 14 days' notice is required from the Contractor when seeking such consent.
4. On completion of each days / night works, the N15 shall be returned to a safe working state and fully re-opened to two-way traffic outside of the working hours. No excessive ramping is permitted.

Limitations on the Use of the Site

1. Where public roads are included within the extent of the Site, the Contactor shall maintain adequate traffic routes across, within and through the Site, in accordance with Appendix 1/17 and Appendix 1/18 of the Specification.
2. The Contractor is limited in the use of public roads (national and regional only) as a means of access to the Site.
3. The Site shall be used solely for the execution of the Works.
4. The Contractor's attention is drawn to Appendix 1/9 of the Specification concerning limitation on noise and vibration.

Volume A – Works Requirements - Specification

5. The Contractor's use of the Site shall be limited to the constraints and restrictions contained within this Appendix 1/7, Appendix 1/13, Appendix 1/17 and Appendix 1/19 of the Specification.
6. The Contractor shall not use areas of land with a temporary right of access for any purpose other than the execution and completion of the Works. The Contractor shall minimise the area of land occupied to that which is essential for the safe execution and completion of such part of the Works. The Contractor shall reinstate all areas of land which have been temporarily occupied to the satisfaction of the affected landowner, occupier and the relevant Authorities, Utilities Service Providers and Private Utility Services and other companies.
7. The Contractor shall be responsible for making all arrangements for providing any land outside the extent of site required for offices and other temporary facilities.
8. The Contractor shall ensure that no damage is caused to existing buildings or services due to the delivery of materials or the execution of Works.
9. Any Accommodation Works to be undertaken as a result of the Construction Works shall be executed and completed as soon as possible as that inconvenience to the property owners and occupiers shall be minimised.
10. The Contractor shall provide and maintain at all times suitable temporary access (vehicular, cycle and pedestrian) to lands and property affected by the execution and completion of the Works having regard to the use of the lands and property.
11. The Contractor must give a minimum of 72 hours advance notice to property owners where scheduled Works have the effect of limiting access to properties. A written record of this advance notice must be provided to the Employer's Representative prior to commencement of these Works.
12. Notwithstanding the other provisions of the Contract the Contractor shall not have exclusive use of the Site and shall be aware that third parties shall be operating within the extent of the Site. Without limiting the pervious sentence, those areas defined in Appendix 1/13 of the Specification and within this Appendix 1/7 shall not be for the sole use of the Contractor.
13. The contractor shall be responsible for:
 - A. Maintaining the right of way for all traffic (including but not limited to pedestrian, vehicular and cycle) on the public road;
 - B. Maintaining access for adjoining property owners;
 - C. Allowing statutory undertakers access to plant and providing facilities for them;
 - D. Carrying out the above duties safely.
14. Where the execution and completion of the Works affects lands and property the Contractor shall provide suitable temporary access having regard to the use of the lands and property.
15. Works shall not be carried out in watercourses between the beginning of October and the end of February unless otherwise approved by the Employer's Representative.
16. The Contractor shall not allow any plant or material stockpiles to be left on the road carriageway outside of the designated working hours.
17. Any Works adjacent to or in watercourse shall be carried out in accordance with the Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes as published by TII. In particular, the Contractor shall undertake the Works in such a manner as to avoid degradation of stream/river quality by pollution as a consequence of Site operations and incorporate measures during construction to prevent deleterious matter entering water courses.
18. The Contractor shall maintain flow in watercourses, streams and rivers during the construction of the Works and any temporary drainage Works must be equal in capacity to the existing or proposed drainage infrastructure, whichever is the greater. Flows must be maintained without flooding to adjacent property.

Volume A – Works Requirements - Specification

19. The Contractor shall make all reasonable efforts to avoid tree felling and removal of vegetation (other than grass) between the 1st day of March and the 31st day of August. Site clearance of the areas shall be restricted to only that necessary, in the opinion of the Employer's Representative, for the execution of the specific works. On completion of these works the Contractor shall reinstate the areas to the satisfaction of the Employer's Representative.

Planning Permission and Health and Safety and Environmental – Consents

1. The Contractor must comply with Planning Permissions, and must obtain a Waste Licence, or other consents or permits (including, without prejudice to the generality of the foregoing, licences, permits or consents under of pursuant to any planning, health and safety or environmental legislation, regulation or enactment), as may be required to be obtained in relation to the development of any quarry or other source of materials required for the carrying out and completion of the Works and/or in relation to any disposal site intended to be used by the Contractor for the disposal of material relation to the Works, or in relation to any activity involved in the carrying out and completion of the Works. The Contractor shall be responsible to obtain, at his own cost, all such permission, licences, consents or permits.

Special Requirements in Relation to Landowners Adjacent to the site

1. The Contractor shall comply with the requirements of the Department of Agriculture, Food and the Marine's, Disease Eradication Scheme.
2. The Contractor shall note that, except where shown on the Drawings, no provision has been made for acquiring or renting land outside the Site boundary and construction activity must be confined to within the Site unless the Contractor enters into separate agreements with adjacent landowners.
3. The Contractor shall take all necessary precautions to prevent the straying of livestock and shall indemnify the Employer against all claims, demands, proceedings, damages, costs, charges and expenses arising from the loss or injury to such animals during the construction and maintenance of the Works.
4. Entry onto the Site shall be from public roads unless the Contractor enters into separate agreements with landowners to allow access through their lands not forming part of the Site.

Adjacent Works

The Contractor shall note and have regard to the presence of other Contractors on parts of and adjacent to the site.

Dust, fumes and smoke

The Contractor shall not cause excessive dust, fumes or smoke from the following operations:

- A. Sweeping of pavements;
 - B. Removal of thermoplastic markings;
 - C. Cutting of kerbs;
 - D. Cutting of the existing concrete substructures;
 - E. Laying of granular and bituminous materials.
1. All the above operations shall cease at the direction of the Employer's Representative, if in his opinion excessive dust, fumes and smoke are causing a nuisance to the public.
 2. Access/egress points onto the public roads shall be kept free from the dust and mud. Laying hard-core and the installation of wheel washers or other necessary means shall be implemented by the Contractor in order to minimise dust nuisance.
 3. The Contractor shall, provide, use, maintain and keep available plant and equipment necessary to minimise the formation and accumulation of dust arising from the Works, normally in dry weather conditions.

Volume A – Works Requirements - Specification

4. The contractor shall ensure that adequate provision is made to damp down areas where activities are likely to create dust. Measures shall include the spraying by pressure hoses to suppress dust and also the provision of bowzers and suction sweepers where appropriate.
5. Free floating dust shall be kept to a minimum and shall if required by the Employer's Representative be dampened with water sprays.
6. The Contractor shall prepare and submit an air quality management plan to the Employer's representative for approval.

3.3.7.8 Archaeological Investigations

Not applicable

3.3.7.9 Construction Environmental Operating Plan

The Contractor shall develop and implement a Construction Environmental operating Plan for the Works in accordance with 'Guidelines for the Creation and Maintenance of an Environmental Operating Plan' (National Road Authority, 2007).

3.3.7.10 Traffic Management

Refer to the Preliminary Safety and Health Plan for traffic management limitations.

3.3.7.11 Additional Particular Limitations on certain lands

The Contractor shall note the following:

In the event of the programme of works extending beyond the date permitted in the contract the local authority may dictate the order of the works by location in order to meet expenditure deadlines or for any other reason.

Appendix 1/9 Control of Noise and Vibration**Noise Control**

1. The Contractor shall comply with the contents and recommendations of BS 5228: Code of Practice for Noise Control on Construction and Open Sites together with the specific requirements of this Appendix. Further to Clause 109 of the Specification, the Contractor's attention is particularly drawn to Part 1:1984 of the British Standard.
2. As stated in Appendix 1/7, the normal working hours within the Site shall be Monday to Saturday between 09:00 and 17:00 hours with no working on Sundays and Public Holidays. Exceptionally, the Employer's Representative's consent for work outside these hours may be given after necessary consultation and written approval. A minimum of 14 days' notice shall be required from the Contractor when seeking such consent. Where work is thus permitted on Sundays or Public Holidays, it shall be carried out between the hours of 0900 and 1600 hours.
3. All plant used on the Works shall be the quietest of its type practical for carrying out the work required and shall be maintained in good condition with regard to minimising noise output. All plant shall be operated and maintained in accordance with the manufacturer's recommendations including the use and maintenance of any specific noise reduction measures.
4. All vehicles and mechanical plant used on the Works shall be fitted with effective exhaust silencers and shall be maintained in good and efficient working order for the duration of the Works in compliance with BS5228.
5. All necessary measures shall be employed including the use of mufflers or silencers of the type recommended by the manufacturers on pneumatic percussion tools, the use of non-reciprocating plant and the use where practical of effective sound reducing enclosures to ensure all plant used in connection with the Works operates with the minimum of noise.
6. All compressors shall be "sound reduced" models fitted with properly lined and sealed acoustic covers shall be kept closed whenever the machines are in use.
7. Any mechanical static plant such as generators and pumps which is required to work outside the hours of 0700 and 1900, Monday to Friday, shall be surrounded by an acoustic enclosure to the approval of the Employer which shall restrict the noise level to not less than 5dB(A) below the levels quoted in Schedule 1/9 of the Appendix.
8. Machines in intermittent use shall be shut down in the periods between Works or throttled down to a minimum.
9. The Contractor shall remove from the Works any item of plant, which in the opinion of the Employer's Representative is ineffectively silenced.
10. The Contractor shall provide the Employer's Representative with all necessary assistance in measurement and control of the noise levels on and adjacent to the Site. At any time during the Contract when requested by the Employer's Representative, the Contractor shall supply, construct, maintain, move or remove such equipment or structure as may be requested by the Employer's Representative to enable the measurement of the level of noise on or adjacent to the Site or to comply with the noise limits given in Schedule 1/9 of this Appendix.
11. The Contractor shall organise his operations with regard to the positioning of plant and the location of haul routes etc. so as to minimise construction noise to adjacent properties.
12. The noise levels (see note (i) of Schedule 1/9) scheduled for periods outside the normal working hours will only be permitted when consent has been given to exceptional working.
13. The ambient noise level, Leq (see note (ii) of Schedule 1/9) from all sources when measured 2.0 metres above the ground at noise control stations as detailed, shall either not exceed the appropriate level

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given in the schedule or not exceed by more than 3dB(A) the existing ambient noise level Leq (see note (iii) of Schedule 1/9) at the control station measured over the same period, whichever level is greater. The maximum sound level at any noise control station shall not exceed the level given in Schedule 1/9.

14. Exceptionally, the Contractor may be given permission to carry out Works that will exceed the noise levels in the schedule provided that 14 days' notice if the date of timing of these Works is given to the Employer and the Contractor demonstrates that he/she intends to take a reasonable measure to mitigate the noise nuisance. After consultations with Leitrim County Council and any other interested bodies a decision will be given in writing within days of receipt of the notice.

Schedule		Total Noise level at Control Stations		
Period	Hours	Ambient noise Level, Leq , measured at Control Station [dB(A)]	Period of hours over which Leq is applicable	Maximum Sound Level (see note (iv) below) measured at Control Station [dB(A)]
Monday to Friday	07:00 to 19:00	70	1	80
Monday to Friday	19:00 to 22:00	60	1	65
Saturday	08:00 to 16:30	65	1	75
Sundays and Public Holidays	08:00 to 16:30	60	1	65
All unattended plant outside normal working hours	06:00 to 00:00	45	18	49

Table 1/9.1: Permitted Noise Level at Control Station

Notes:

- Noise levels relate to free field conditions. Where noise Control Stations are located 1 metre from the façade of buildings, the permitted noise levels can be increased by 3dB(A).
 - The ambient noise level Leq , as a noise Control Station is the total Leq from all the noise sources in the vicinity over the specified period.
 - The existing ambient noise level Leq at a noise Control Station is the total Leq from all the noise sources in the vicinity over the specified period over the specified period prior to the commencement of Site Works.
 - Maximum sound level is the highest value indicated on a sound level meter which meets the requirements of BS EN 61672.
15. Control Stations shall be established at areas adjacent to noise sensitive buildings within the Works if required by the Client. The location of the Control Stations need not be within the Works, but the Contractor shall obtain all necessary permissions for stations located outside the Site.

Vibration Control

1. Vibration generated by the Contractor's activities shall not adversely affect the structural and serviceability performance of any building or structure outside the boundaries of the site. In addition, the maximum permitted peak particle velocity generated by the construction of the Works shall be 5mm/second measured at the building closest to the operations being carried out. Furthermore, the Contractor shall select and utilise methods of working and items of plant that the maximum measured ground vibrations within the site do not exceed the following particle velocities:

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- i. 5mm per second at any location within 100 metres of freshly poured concrete, i.e. Concrete placed within the previous seven days;
- ii. 12mm per second at completed structures.

No blasting will be permitted within 500m of concrete less than two days old.

Blasting, if permitted, shall be carried out in accordance to recommended practices.

2. The Contractor shall employ the best practical means to minimise vibration produced by operations, including plant maintenance, and shall comply with the recommendations in BS 5228 (Noise and Vibration Control on Construction and Open Sites; Part 1: Code of Practice for basic information and procedures for noise and vibration control). The Contractor shall monitor ground vibrations at selected locations to the approval of the Employer's Representative during progress of the Works. Each vibrograph shall be certified as being in proper working order and shall unless otherwise approved, record vibrations in three directions simultaneously with a printout showing the amplitude and frequency of the vibrations.
3. Vibration measurements shall be taken at the base of buildings, on the side facing the source of vibration. Where feasible, the measurement should be taken on a hard surface on the building e.g. window sill or alternatively, where practicable at a location on the ground outside the building on a block of concrete 1m³ set 1m deep below existing ground level.
4. The Contractor shall allow for the provision of 1 vibration monitoring stations.
5. In exceptional circumstances the Contractor may apply to the Employer's Representative for consent to carry out works which the Contractor considers will exceed the specified limit of ground vibration. The procedure for submitting and processing the application will be as specified for obtaining consent to exceed the specified noise levels.
6. The Contractor shall provide instrumentation suitable for monitoring vibration when required by the Employer's Representative. Such monitoring shall include locations outside the limits of the site. The Employer's Representative is to be provided with copies of all vibration recordings.

3.3.9.3 Vibrations Monitoring Equipment

1. The type of instrumentation suitable for monitoring vibration shall be a digital seismograph having the following minimum specification:
 - i. Minimum sampling rate 1000 samples/second/channel
 - ii. Capable of recording Peak Particle Velocity (Directly), Peak Acceleration (Calculated), Peak Displacement (Calculated), Frequency at the Peak Velocity (Calculated).
 - iii. Dual Mode instrument having (a) Self Triggering Mode and (b) Continuous Monitoring Mode
 - iv. Transducer – 3 orthogonally mounted transducers on one mounting unit
 - v. Frequency Range – 4.5 to 200Hz
 - vi. Minimum Resolution – 0.05mm/second, velocity
 - vii. Range – 0 to 100mm/second velocity
 - viii. Record of Events – hard copy print out and storage on solid state memory or disc for subsequent printout
 - ix. Power – 240 volt mains for continuous unattended operation plus internal battery with minimum of 24 hours capacity
2. Blasting is not permitted in the works (see Appendix 1/24)

Standard Schedule of Measures to avoid, reduce and remedy significant adverse effects.

Air overpressure as a result of blasting procedures will be limited to the EPA recommended level of 125dB. The following good practice procedures will be adhered to where relevant:

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- i. The size of the maximum instantaneous charge (MIC) will be controlled and detonations will be in sequence with delays.
- ii. If necessary smaller blasts will be carried out to ensure that the PPV limit of 12 mm/sec is adhered to.
- iii. The use of detonating cord will be used as sparingly as possible, and any exposed lengths covered with as much material as possible to avoid breaching the air overpressure level of 125dB(L).
- iv. Stemming release, which gives rise to high frequencies and air overpressure, will be controlled by detonation technique, together with an adequate amount of good stemming material.
- v. The control of gas venting, which also gives rise to high frequencies and air overpressure, will be aided by accurate drilling and placement of charges.
- vi. Close liaison with residents will be maintained during blasting operations.

Control of Dust and Mud

1. The Contractor shall take all necessary steps in accordance with Clause 132 of the Specification (CC-SPW-00100) and provide, use, maintain and keep available plant and equipment necessary to minimise the formation and accumulation of dust during the Works, and in particular so in dry weather conditions

Compliance with the requirements in this Specification with respect to noise, vibration and the control of dust and mud shall not relieve the Contractor of his obligations to Third Parties in tort for nuisance caused.

Appendix 1/13 Programme of Design and Execution and Completion of the Works**Programme**

1. The Contractor shall provide the programme in the form of a Microsoft Project Gantt Chart, or equivalent approved, produced as a result of a “Critical Path Analysis” and must abide by the constraints stated or implied in the Contract. It shall show the level of detail appropriate to each stage of the Works, and all activities and restraints, each of which shall be given a short title. All events shall be numbered and annotated with earliest and latest event dates. The Critical Path Analysis referred to above shall also be provided to the Employers Representative together with a schedule of outputs and resources to support activities shown. The critical path analysis referred to above shall be provided to the Employers Representative in hard format and also in intelligible digital-source format using recognised programming software agreed with the Employers Representative e.g. “Primavera” or “MS Project”. The Contractor shall provide the programme to the Employer within 14 days following the acceptance of the Tender.
2. An electronic version of the programme shall also be supplied at the same time which shall be an intelligible digital source format for input into programming software such as MS Project or equivalent approved. The Gantt chart shall show all items in the programme, without hidden or rolled-up sections. The critical path shall be clearly shown on the programme. The programme shall be supported by bar charts for particular activities or time scales at the request of the Employer’s Representative.
3. All revisions and / or updates to the programme and data relating to the programme shall be provided to the Employer’s Representative in both hard copy and approved electronic format.

Schedule of Stated Constraints

4. The list of constraints included in this Specification Appendix 1/13 shall not be considered exhaustive and all other constraints suggested, or implied, within the Contract or considered prudent by the Contractor for any reason whatsoever including, but not limited to, its inspection of the Site and off-site areas, shall be taken into account by it in formulating its programme in accordance with the provisions of the Contract.
 - i. Normal working hours are defined in Appendix 1/9.
 - (a) Works other than pumping from excavations, watching and emergency works necessary for the safety of the works shall not be executed outside normal working hours.
 - (b) Should the Contractor wish to work outside normal working hours, permission must be obtained from the Employers Representative. The Employers Representative may approve particular times for work outside normal hours and reserves the right to withdraw his approval to all or any particular time.
 - ii. Access to all businesses and other premises to be accommodated at all times, including out of hours deliveries, refuse collections etc. The Contractor shall take all necessary measures to minimise the impact of his activities on the businesses in the locality and shall meet and liaise with the business representatives to agree the extent of that impact.
 - iii. Peak hour traffic is defined as Monday to Friday between 7:30 and 9:00 and 16:00 to 19:00 hours. The Contractor is required to factor this into the programme and ensure that traffic delay is minimised during these times.
 - iv. Constraints imposed by the extensive Traffic Management Measures required facilitating the construction of the Works and the necessity for liaison and the obtaining of the permissions with respect to all traffic management proposals.
 - v. Constraints imposed by Appendix 1/17.
 - vi. Working around privately and publicly owned services and supplies. Constraints imposed by Appendix 1/16.

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- vii. Traffic safety and management including notice requirements and restrictions arising from the use of substances hazardous to health.
 - viii. Provision of environmental protection prior to the main construction operation.
 - ix. Trials and demonstrations in advance of main construction.
 - x. Approvals by the Employers Representative of domestic sub-contractor nominations. Scheduling of Nominated Sub-Contractors to be built into Contractors programme.
 - xi. Compliance with Planning, Environmental and other legislation. The Contractor must apply for a Waste Management Licence.
 - xii. Constraints imposed by complying with Appendix 1/9 Noise and Vibration control.
 - xiii. Constraints imposed by the phasing of the Works including the limitations of the Use of the Site set out in Appendix 1/7.
 - xiv. Constraints imposed on the planning and programming of the Works and methods of construction through working with live services and the programming in conjunction with the relevant statutory authorities as outlined in Clause 116 of the Specification and Appendix 1/16.
 - xv. Constraints and programming with relevant utilities for both temporary and permanent above and below ground utility connections. Constraints imposed by Appendix 1/16.
 - xvi. Constraints imposed on construction activities due to maintenance at all times of any right of way through or across the Works, the maintenance of access to properties, businesses and other lands, including access for service and supplies and the maintenance of pedestrian/cyclist movements through the Site.
 - xvii. Constraints due to in-situ testing as required by the Contract Specification. Constraints imposed by Appendix 1/5.
 - xviii. Constraints through working on or adjacent to a live carriageway and any necessary temporary diversions.
 - xix. Constraints imposed by the routing of vehicles as required by the Contract Specification. Constraints imposed by Appendix 1/19.
 - xx. All Works activity, including lighting systems should take account of bat activity.
5. The level of detail should not be less than the following:
- i. Roadworks – in length not exceeding 0.2km for main route and for each side road, link road and slip road:
 - a. Fencing;
 - b. Site Clearance;
 - c. Topsoil strip
 - d. Drainage and other ancillary works (pre-earthworks and second stage);
 - e. Milling of existing pavement;
 - f. Sub-base;
 - g. Base Course;
 - h. Binder Course;
 - i. Regulating Course;
 - j. Bond coat;
 - k. Surface Course;
 - l. Kerbs;
 - m. Road Signs;
 - n. Road markings and Road studs;

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- o. Accommodation works.
- ii. Major privately and publicly owned services and supplies.
- iii. Traffic management measures including operation of Site accesses, plant crossings and temporary diversions of traffic.
- iv. Maintenance of access for vehicles, cyclists and pedestrians at all times.
- v. All traffic management phases including temporary diversions for traffic.
 - a. Installation
 - b. Maintaining
 - c. Removal and Reinstatement
- vi. The contractor shall also provide the Employers Representative with fortnightly marked up copies of the contemporary (bar chart) programme showing percentage complete in relation to all activities.

Appendix 1/16 Privately and Publicly Owned Services and Supplies**General**

1. The Contractor shall liaise and consult with all the relevant Statutory Undertakers and the management of privately and publicly Owned Services and Supplies before commencing any works in their vicinity. The Contractor shall carry out on-site surveys, e.g. CAT scans for the presence of existing utilities and shall satisfy himself as to the exact position of existing services which may affect or be affected by the execution and completion of the Works. The actual positions of mains/service pipes should be verified and established prior to excavation. This shall be done by trial pit excavation.
2. The Contractor shall satisfy himself as to the exact location of all services, supplies and otherwise prior to carrying out work in any part of the Site. The Contractor shall include in his tender for measures for the locating of, support and full protection of pipes, cables and other apparatus during the Works and ensure that the Employer's Representative is informed of all arrangements he makes with owners of privately owned services, Statutory Undertakers and Public Authorities as appropriate and for ensuring that no existing mains and services are interrupted without the written consent from the appropriate Authority. The Contractor shall also confirm the location of existing services in advance of the Works.
3. No warranty or representation is given by the Employer as to the accuracy or completeness of any such information. The Employer shall be under no liability for any error, misstatement or omission, and none of such information shall constitute a contract or part of a contract between the Employer and the Contractor and shall not create a duty of care by the Employer to the Contractor.
4. The Contractor shall during the progress of the works liaise with each statutory undertaker and obtain a copy of any special requirements or codes of practice from the individual statutory undertaker. The Contractor shall take all measures required by any statutory undertaker for the support and full protection of all services or supplies in accordance with the relevant code of practice or special requirement. He shall keep the Employer's Representative informed of such liaisons and measures.
5. The Contractor shall comply with any periods of notice given by the Statutory Undertakers and management of privately and Publicly Owned Services and Supplies and any other such companies including those outlined in this Appendix 1/16 of the Specification. Any such compliance by the Contractor shall not relieve the Contractor of any of his other obligations under the Contract.
6. If any public utility service passing through the site is subsequently found to be affected by the Works, the Contractor shall not carry out work in close proximity to the service until the method of carrying out the work has been approved. Where existing utilities are impacted by the works, reinstatement shall be carried out in accordance with the service provider's requirements. The Contractor shall ensure that all existing services and supplies are maintained during the course of the Works.
7. Disconnected apparatus shall be removed by the Contractor only with the prior consent to the Statutory Undertakers, management of privately and Publicly Owned Services and Supplies or any other such companies concerned.
8. Should any leakages or damage be discovered, the Contractor shall immediately notify the Employer's Representative and the owners of the service and the Contractor shall afford every facility for repair or replacement of the apparatus affected.
9. The Contractor shall ensure that maintenance access is available for existing services and supplies during the Works.

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10. Construction traffic, including all traffic at site accommodation areas, shall only be permitted to transverse buried services after protective measures to be agreed with the Employer's Representative have been implemented. The Contractor shall restrict construction traffic to approved designated crossing points only.
11. All ducting and ironwork required for Authorities, Utilities, Service Providers and Private Utility Services shall be confirmed with each Authority, Utility, Service Provider and Private Utility Services and any other such companies during consultation.
12. The names, addresses and telephone numbers of the authorities serving in the locality are listed in Table 1/16.1. This list is not exhaustive, and should the Contractor encounter a service they shall verify the provider and contact them accordingly.
13. The Contractor shall not damage any existing publicly and privately-owned services and shall exercise extreme care in working adjacent to all such services. The rights of the statutory authority and/or owner of each service shall be respected at all times.
14. No extras will be payable for damage to services by the Contractor and the Contractor shall be responsible for reinstatement of services at his own cost.

Contact details for Statutory Providers

Organisation	Address and Tel. No.	Contact
ESB	Cranmore Road, Sligo 087-2436589	Paul Gillogley
Eir	Eir Planning Department	Rob.Foley@eir.ie plantalterations@eir.ie Kevin Ring - 0851742629
Leitrim County Council (Roads)	enda.mcguinness@leitrimcoco.ie 071-9620005 Ext 379 eric.gilroy@leitrimcoco.ie 071-9620005 Leitrim County Council, Áras an Chontae, Carrick on Shannon, County Leitrim, N41 PF67	Enda McGuinness Eric Gilroy
Uisce Eireann	Uisce Eireann, PO Box 860, South City Delivery Office, Cork city. 1890-278278	Jana Goold jagoold@water.ie

15. Contractor must endeavour to make contact with statutory providers as early as possible. Should the contacts listed above not be reachable or of assistance to the candidate, then the candidate must obtain relevant contact details for said statutory body or service provider through their own resources.

Services and Supplies Affected by the Works

16. The layout of known existing services and supplies are included with the Instructions to Tenders (Information Pack Drawings). The Contractor shall satisfy himself as to the exact location of all services, supplies and otherwise prior to carrying out work in any part of the Site. No warranty or representation is given by the Employer as to the accuracy or completeness of any such information. The Employer shall be under no liability for any error, misstatement or omission, and none of such information shall constitute a contract or part of a contract between the Employer and the Contractor and shall not create a duty of care by the Employer to the Contractor.

ESB Requirements

17. Works in the vicinity of ESB ducting shall comply with the following published by ESB Networks:
- “Safe Construction with Electricity”,
 - “Avoidance of Electrical Hazards when working near Overhead Electric Lines” ESB Code 98032003,
 - “Code of Practice for Avoiding Danger from Overhead Electricity Lines” HSA May 2019,
 - “Avoidance of Electrical Hazards when Digging/Drilling”,
 - “Guide book for ESB Networks Standards Rev 5 January 2014” published by ESB Networks.
18. Before using a mechanical excavator, ONLY MANUAL means should be employed to prove the location of ESB cables. Even where manual excavation is used, extreme caution must always be exercised, as failure to do so could result in serious injury or electrocution. Under no circumstances should iron bars be used during manual excavation. Careful Hand Digging of Trial Holes using ‘HSA Code of Practice for Avoiding Danger from Buried Services’ should be used for accurate cable location and prior to using a mechanical excavator in the vicinity of electrical cables. See H.S.A. Code of Practice publication “Avoiding Danger from Underground Services” for further guidelines.
19. Please note that, if during excavation, damage or interference occurs to cables, causing damage to any property, injury or death to any person or loss of supply to any customers, ESB may at its discretion serve a STOP WORK Notice, and notify the relevant Health and Safety Authority immediately. The user will also be liable to reimburse the ESB on a full indemnity basis, the full costs, expenses and damages arising (directly or indirectly) as a result. It is essential before excavating in the vicinity of ESB cables that the ESB Network Controller in the area you are working in is contacted.
20. ESB will extend every assistance in indicating the route of the cables and arrangements can be made by contacting the relevant ESB office. ESB cannot, however, accept responsibility for the absence or incorrect position of any particular cable on ESB's records and drawings supplied. Please note that a charge may be made where a movement of networks is required, and/or where ESB provide staff outside of normal working hours.

Emergency Call-Out Procedure

21. Prior to the commencement of the Works the Contractor shall advise all of the relevant Statutory Undertakers/Service Owners and all residents, occupiers and facilities management companies of the buildings in the vicinity of the scheme of the contact telephone number(s) to be used in the event of damage or disruption to a service, e.g. telecommunications/data, electricity, water services.
22. In the event of the Contractor becoming aware of damage or disruption occurring to any privately or publicly owned services during the course of the Works the Contractor shall immediately make contact with the Statutory Undertakers/Service Owners to ensure that services are restored as quickly as possible. Contact details for each Statutory Undertaker/Service Owner are outlined in Table 1/16.1.

Emergency Call-Out Procedure during Normal Working Hours

23. In the event of the Contractor becoming aware of damage or disruption occurring to any privately or publicly owned services and supplies during the course of the Works within normal working hours the Contractor shall;
24. Ensure a competent person within their employ is available at all times throughout normal working hours to perform the following tasks;

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- a. make contact with the necessary Statutory Undertaker/Service Owner in accordance with the Statutory Undertaker/Service Owner requirements as attached.
 - b. provide the Statutory Undertaker/Service Owner with the exact location of where the disruption of the Statutory Undertaker/Service Owner service has occurred.
 - c. provide the Statutory Undertaker/Service Owner with a brief description of how the incident occurred.
 - d. provide the Statutory Undertaker/Service Owner with a description of the extent and nature of the disruption or damage.
 - e. advise the Statutory Undertaker/Service Owner of their name, the Contractor's name and a contact number.
25. Thereafter the Contractor shall:
- a. Escort, or arrange to have a Contractor's representative escort, the Statutory Undertaker/Service Owner personnel to the location of the disruption
 - b. Notify the Employer's Representative or, in the Employer's Representative's absence, a representative of the Employer's Representative of the disruption to the Statutory Undertaker/Service Owner service and advise him/her of what steps have been taken to repair the damage and/or restore the service.
 - c. Assist in the restoration of service by providing Labour, Plant and Materials, if requested by the Utility/Service Provider, at no additional cost to the Employer.
 - d. Provide whatever assistance the Statutory Undertaker/Service Owner requests as directed by the Statutory Undertaker/Service Owner in order to expedite service restoration.
 - e. Notify the emergency services as necessary.
 - f. Notify the Local Authority as necessary.

Emergency Call-Out Procedure During Non-Working Hours

26. In the event of the Contractor becoming aware of damage or disruption occurring to any privately or publicly owned services during the course of the Works outside of normal working hours the Contractor shall;
- (i) Ensure a competent person within their employ is available on-call at all times outside of normal working hours. This competent person will be required to go to site, or alternatively, arrange for another competent person in the Contractor's employ to attend the site, and shall;
 - a. make contact with the necessary Utility/Services Provider in accordance with the Statutory Undertaker/Service Owner requirements as attached.
 - b. provide the Statutory Undertaker/Service Owner with the exact location of where the disruption of the Statutory Undertaker/Service Owner service has occurred.
 - c. provide the Statutory Undertaker/Service Owner with a brief description of how the incident occurred.
 - d. provide the Statutory Undertaker/Service Owner with a description of the extent and nature of the disruption or damage.
 - e. advise the Statutory Undertaker/Service Owner of their name, the Contractor's name and a contact number.
- Thereafter the competent person shall:
- a. Escort, or arrange to have a Contractor's representative escort, the Statutory Undertaker/Service Owner personnel to the location of the disruption.
 - b. Arrange assistance in the restoration of service by providing Labour, Plant and Materials, if requested by the Statutory Undertaker/Service Owner at no additional cost to the Employer.
 - c. Notify the Employer's Representative as soon as practicable of the disruption to the Statutory Undertaker/Service Owner service and inform him/her of what procedures have been implemented.
 - d. Notify the emergency services as necessary.

Appendix 1/17 Traffic Safety and Management**Traffic Safety and Management Requirements**

1. The Contractor shall be responsible for the Planning, Design, Implementation, Construction, Maintenance and Removal of all traffic management and traffic safety measures required to facilitate the Construction of the Works.
2. The Contractor shall comply at all times with the requirements of Chapter 8 of the Department of the Environment Traffic Signs Manual, current edition, published by The Stationery Office, and available from the Government Publications Office, Sun Alliance House, Molesworth Street, Dublin 2 and Guidance for the Control and Management of Traffic at Road Works (Second Edition, 2019) prepared by the Local Government Management Services Board and any additional requirements detailed in the TII Design Manual for Roads and Bridges.
3. Prior to the Starting Date and before any Traffic Management Operations take place, the Contractor shall arrange a meeting with Leitrim County Council, Garda Síochána, other Emergency Services, Bus Companies (including school buses), Utilities and Service Providers and Private Utility Service Providers and the Employer's Representative to discuss the strategy for Traffic Management and its arrangements for implementation and emergency procedures.
4. The Contractor shall appoint an engineer, suitably experienced in Temporary Traffic Management Design who holds relevant qualifications in Temporary Traffic Management design and also a qualification in the signing, lighting and guarding of installed Traffic Management. This experienced engineer shall be approved by the Roads Authority and the Employer's Representative.
5. The Contractor shall supply details and layout drawings of the proposed Traffic Safety and Management measures to Leitrim County Council prior to award of contract to allow the roads authority time to review the measures.
6. The Contractors Temporary Traffic Management Designer shall:
 - Develop detailed Temporary Traffic Management (TTM) Plans and Method Statements along with Temporary Traffic Management Designers Safety Assessments in respect of the TTM Design and submit them to the PSDP (The TTM design and method statements shall clearly demonstrate how the Works can be constructed safely, taking account of passing traffic, including pedestrians and other non-motorised users and the public in general).
 - When each phase of the temporary works design (temporary traffic management) is complete, the Temporary Traffic Management Designer shall, for each phase of the TTM design, populate and sign a Temporary Works Design Certificate (ACEI/ Engineers Ireland/ RIAI form HST1) and return it with the temporary traffic management designs to the PSDP.
7. All Temporary Traffic Management Signage containing text shall be bilingual. When a Temporary Traffic Management Signage designed by the Contractor includes bespoke text, the Contractor shall:
 - Ensure compliance with the Official Languages Act by agreeing the Irish wording and spelling for all Temporary and Permanent Traffic Signs.
 - Provide a Design / Check Certificate confirming that they have met the requirements of the Official Languages Act.
 - Where a considerable amount of text is required, such that there is a danger that the impact of the message may be diluted, separate Irish and English signs shall be used.

The appropriate translation / spelling of place names can be found on the website www.logainm.ie.
Other English / Irish translation services are available, including www.tearma.ie.
8. The Contractor's traffic management proposals shall take account of the work area required for fragmented Works.
9. The Contractor shall ensure level differences are appropriately managed within their traffic management proposals.
10. The Contractor's attention is drawn to the requirement for road safety audits for Temporary Traffic Management Schemes.
11. Leitrim County Council (LCC) may exercise the right to carry out traffic control at certain locations. The Contractor shall co-operate fully with LCC and provide the required manning and facilities are requested by LCC to address any concerns.
12. Provisions for safe and convenient access routes for vehicular and pedestrian traffic must be provided at all times to businesses or private premises affected by the works. The works shall be

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- carried out in such a manner as will ensure freedom of movement to and from these premises, and the Contractor shall maintain constant liaison with the owners/occupiers in this regard.
13. All necessary traffic safety precautions must be taken by the Contractor to ensure the safety of all traffic and pedestrians using the existing roads adjacent to the Site and connecting minor roads during the execution and completion of the Works. All precautions shall be taken to minimise disruption to the local residents. The Contractor shall maintain access at all times to land and property affected by or adjacent to the Works.
 14. The Contractor shall be responsible for safe access to all public roads and site accesses within the site and any diversion routes outside of the site until completion of the Contract. The Contractor shall constantly monitor the public roads while any Lane and/or Carriageway Occupations are in force during the execution of the Works. Any defects identified shall be rectified immediately to the satisfaction of the Employers Representative.

Traffic Safety & Control Officer

- 1 The Contractor shall appoint a Traffic Safety & Control Officer (TSCO) in accordance with Clause 117 of the Specification. The principal Traffic Safety and Control Officer shall be experienced in the management and operation of Traffic Safety and Control measures at roadworks. The number of Officers to be assigned by the Contractor shall be sufficient to ensure that all sections and locations on the Site are adequately supervised regarding the installation and monitoring of the operation of all Traffic Safety and Control measures.
- 2 At least one of the officers shall be nominated as Chief Officer and shall be on site at all times when work is in progress. The Chief Officer shall supervise the installation and monitor the operation of all Traffic Safety and Control measures in conjunction with all other officers. He / She shall meet weekly with the Employer's Representative to review the operation of the Traffic Safety and Control Measures and to submit such further details as required by the Employer's Representative. The Chief Officer or one of his deputies shall be available at any time of the day or night and shall be in a position to put into immediate effect measures considered necessary by the Employer's Representative or Garda Síochána to ensure the safety of the public.
- 3 The Contractor shall provide telephone numbers of a minimum of 3 employees who can be contacted by the Gardaí and/or Employer's Representative, both during and outside normal working hours, and who shall be responsible for initiating whatever action shall reasonably be required in the event of an emergency.
- 4 The Traffic Safety and Control Officers shall be entirely responsible for:
 - (i) Liaison with the Employer's Representative, Leitrim County Council, the Emergency Services and An Garda Síochána in all matters relating to traffic management;
 - (ii) The management of traffic during periods when traffic restrictions are necessary, and ensuring that all traffic management requirements are met;
 - (iii) Making proper provisions for handling traffic in emergencies;
 - (iv) Immediately notifying An Garda Síochána and Employer's Representative of any accidents or emergencies, including the following information – location of accident, seriousness of the accident and whether any persons are trapped, whether the collision involves vehicles carrying inflammable, corrosive or hazardous substances, whether there is a possibility of ignition from leaking fuel or chemicals;
 - (v) Ensuring the safe working of plant, machinery and personnel, and ensuring that all personnel engaged on the works are aware of the Contractors obligations and duties in respect of site safety when working on or adjacent to a live carriageway;
 - (vi) Notifying the Employer's Representative of any deterioration in traffic management equipment and trafficked surfaces;
 - (vii) Submitting to the Employer's Representative weekly information sheets detailing all traffic management operations, traffic incidents, breakdowns and removal of broken down or damaged vehicles occurring within the site;
 - (viii) Design and implementing appropriate Traffic Management and Control scheme;
 - (ix) Reinstate or temporary alteration to Traffic Safety and Management System as requested by the Garda in the event of an emergency;
 - (x) Enforcing any safety zones, and specific site entry and exit points;

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- (xi) Ensuring that all traffic management equipment is inspected frequently and is always maintained in a safe condition;
- (xii) Making proper provisions for handling abnormal loads;
- (xiii) Provide regular updates to the Traffic Information Outlets;
- (xiv) The TSCO shall be available to deal with and update the public regarding all matters relating to traffic management;
- (xv) The TSCO shall continuously liaise with property owners and businesses regarding all matters relating to traffic management.
- (xvi) Organising on a weekly basis, or as required by the Employer's Representative, meetings to be held consisting of representatives of the following organisations:
 - The Employer and Employer's Representative;
 - Other stakeholders such as An Garda Síochána.
 - These meetings will normally occur after the Progress Meetings

Traffic Management Co-ordination Meetings

- 1 Regular meetings between the Employer's Representative, the Contractor, Leitrim County Council, the Gardaí and other emergency services shall be arranged by the Contractor and shall take place throughout the Construction Period on a weekly basis; as well as at initiation or changes of Traffic Management layouts and at any other time deemed necessary by any of these parties. Such meetings shall take account of any special events that may require particular Traffic Management Operations.
- 2 Other interested parties may also attend should the Employer's Representative deem it necessary.

Temporary Traffic Management Method Statements and Drawings

1. The Contractor shall phase the construction of any work which affects the public traffic in a manner acceptable to the Roads Authority, the Garda Síochána and the Employer's Representative. At least two weeks prior to carrying out any works which will affect public traffic, the Contractor shall consult with the Roads Authority and the Gardaí.
2. Without prejudice to the Conditions, the Contractor shall submit at least two weeks prior to the commencement of each traffic management phase of the works to the Employer's Representative detailed traffic management plans and associated method statements for each traffic Management Phase, which shall have been previously agreed in writing with Leitrim County Council, An Garda Síochána and the Emergency Services. The TTMP shall show the sequence of construction, within the programme constraints of Appendix 1/13, and the Contract and including the following information as a minimum:
 - (xvii) Phasing of works at each location;
 - (xviii) Method Statements detailing traffic management plan and drawings including, but not limited to, the following:
 - (i) Geometric Design;
 - (ii) Position of traffic control point, signals and flag men;
 - (iii) Width of Lanes;
 - (iv) Working Areas;
 - (v) Safety Zones;
 - (vi) Crossovers;
 - (vii) Running lane / provision for emergency vehicles;
 - (viii) Access and exit locations for construction vehicles;
 - (ix) Access and exit locations for businesses, property owners and other users;

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- (x) All temporary traffic signs, cones, barriers and traffic control signals necessary for the safe direction and control of public traffic and other road users;
 - (xi) Temporary road lighting (refer to Appendix 14/3);
 - (xii) Provision for pedestrians and cyclists, including road crossing details;
 - (xiii) Protection/diversion of services, supplies and the like;
 - (xiv) Extent of lane closures;
 - (xv) Details of plant working in the vicinity of the works, and measure to be implemented to ensure public safety;
 - (xvi) Phasing of works;
 - (xvii) Timing of operations; and
 - (xviii) Preventing mud and dust on public roads.
3. Drawings showing the Contractor's Traffic Management plans shall be to a scale not less than 1/1000, supplemented by drawings at 1/500 scales as necessary, or as required by the Employer's Representative.
4. Where necessary, the Contractor shall employ temporary safety barrier systems to delineate and segregate the trafficked lanes from the Contractor's working area during construction. Water ballasted interlocking barriers or similar approved shall be used to control the flow and direction of traffic as necessary at junctions and accesses.
5. The Contractor shall programme the works with the aim of ensuring the safety of pedestrians/cyclists at all times and keeping disruption to pedestrians/cyclists to an absolute practical minimum and shall submit to the Employers Representative a method statement to demonstrate how he intends to achieve that aim.
6. The Contractor's traffic management proposals shall ensure that construction joints in the various pavement layers comply with Series 900 Clause 10.1.8 of the Specification.

Preliminary Safety and Health Plan

1. The Contractor shall be required to comply with all the requirements of the Preliminary Safety and Health Plan. The Contractor shall be responsible for all implementation measures required by the Safety and Health Plan and shall not proceed with the various phases of the works until the relevant record forms have been completed and signed by the appropriate staff member identified on the various forms. The Employer shall arrange to forward a copy of completed record form to the Contractor when it has been completed and signed by the relevant staff member(s). The Contractor shall ensure that works or a phase of the works shall not progress until he is in possession of the completed signed record form.
2. The Contractor shall maintain all completed and signed record forms on Site and shall be inspection by the Employers Representative or representatives of the Local Authority at any reasonable times.
3. The Contractor shall ensure that works or a phase of the works shall not progress until the Contractor has written approval from the Employer's Representative that the Temporary Traffic Management Plan has been reviewed and accepted by the Employer.

Particular Requirements

- An optimal lane width of 3.25m is maintained at all times. A reduced lane width of 3.0m shall be permitted in exceptional circumstances for all traffic. Where the reduced lane width of 3.0m is not being achieved, an absolute minimum lane width of 2.5m shall be permitted for cars and LGVs only.
- If situations where a lateral safety zone cannot be provided due to lack of available carriageway width convoy working using "follow-me" convoy vehicles must be provided

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to assist guiding vehicles through the works during site working hours.

- Pedestrian movements shall be facilitated through the site at all times.
- The geometry of the road including bends and junctions shall be taken account of when planning and implementing any shuttle working.
- The use of traffic signals is not permitted during normal working hours.
- Outside working hours temporary traffic signals may be considered, subject to a risk assessment and approval by the Employer's Representative. The Contractor's proposal together with the risk assessment shall be submitted to the Employer's Representative in accordance with Clause 4.7 of the Contract.
- Accesses to private, agriculture and business properties must be maintained at all times. Owners/occupiers shall be consulted 7 days prior to impacting their access.
- The Contractor shall comply with the determination of the Employer's Representative and Roads Authority as to the level of traffic congestion and if they call a cessation to the shuttle operation because of Traffic Congestion the Contractor shall without delay change the temporary traffic management back to two-way.

Site Vehicles, Personal and Plant

1. No Vehicles shall exceed 15kph when travelling within the working areas of the site. Temporary site speed limit signs are to be erected as appropriate, or as directed by the Employer's Representative.
2. No site vehicles are permitted to drive against the normal flow or to face oncoming traffic.
3. Vehicles shall only enter or leave the working areas of the site via approved accesses and egresses. Non-essential vehicles, particularly private cars, shall not enter the working areas. The Contractor shall make provision for parking of employees' cars, and other non-essential vehicles, at a location away from the working areas and shall provide transport to the site as necessary.
4. All vehicles and plant engaged in the works or entering/exiting the working areas shall have roof mounted amber flashing lamp, as required by sub-clause 117.14 of the Specification. The lamp shall be used in the circumstances stated in sub-clause 117.14, or as instructed by the Employer's Representative, his representative or the Gardaí. Hazard warning lights shall not be used as an alternative to the roof mounted amber flashing lamp.
5. Vehicles, not engaged in the construction of the Works, which are the property of the Contractor, sub-Contractors or employees shall be parked in locations dedicated by the Contractor, where they do not interfere with the works, or obstruct any sight lines.
6. The Contractor shall arrange that all vehicles leaving a work area and entering a traffic lane shall, prior to entry, have its wheels and underbody cleaned so as to avoid mud being deposited on the public road. For this purpose, the Contractor shall employ a pressure cleaner or a mobile wheel wash or the like at each site egress. In addition, the Contractor shall employ a suction sweeper to remove mud and dirt deposited on the public road. All public roads shall be swept when mud and dirt are a hazard to traffic and at least once per day.
7. All drivers including those delivering plant and materials must be given clear instructions regarding the traffic arrangements applicable at any particular time.
8. Heavy Goods Vehicles used on Site by the Contractor, his Sub-Contractors or suppliers must be fitted with an audible reversing warning device.
9. The Contractor shall ensure that no item of plant, goods or equipment (including stores or offices) shall be placed or parked on the public roadway or its verges in a manner which shall /may result in danger to the personnel on the Site or members of the public, or which shall / may restrict sight distances on all accesses to the Site or on public roads.

10. Temporary Lighting

1. The Contractor shall provide temporary lighting in accordance with Appendix 14/3 of this specification.

Details of Events that could have a Bearing of the Works

- Public Holiday: October Bank Holiday

Appendix 1/19 Routeing of Vehicles**PERMITTED ACCESS ROUTES TO AND FROM THE SITE**

1. Permitted access routes to and from the Site area are to be agreed with the Employer's Representative prior to works commencing on site.
2. Permitted access routes to and from the Site shall be via the national and regional road network. Construction generated traffic is not permitted on Local Roads adjoining the N15.
3. The Contractor, his Sub-Contractors and Suppliers shall access\exit the site by sharing road space with through traffic.
4. Site access/egress points shall be designed taking into account existing traffic volumes and anticipated type and volumes of site generated traffic.
5. Dump trucks, including articulated dump trucks engaged in material haulage are not permitted on the public road network. Importation of materials and disposal of material offsite shall only be carried out utilising tipper Lorries to the satisfaction of the Employer's Representative.
6. The Contractor, his Subcontractors and suppliers shall use only these permitted access routes for all purposes in connection with the Works (including the import of acceptable and disposal of unacceptable materials) unless otherwise agreed by the Employer's Representative
7. Should the Contractor wish to seek the Employer's Representative permission to use non-permitted routes, or to use the permitted routes for purposes other than those allowed under the Contract, it shall be the responsibility of the Contractor to first liaise as necessary with the relevant road authority, and to demonstrate to the Employer's Representative that agreement has been obtained.
8. The permitted access routes shall not be used for the transportation of earthworks materials in cut to fill operations unless offsite stockpiling has been approved by the Employer's Representative
9. The Contractor is deemed to have inspected and examined the Site and its surroundings at tender stage, and to have satisfied himself as to the nature and means of access to the site. In the event of the Contractor not being satisfied with the permitted access routes to and from the Site, the Contractor is obliged under the Contract to provide for all expenses and charges for temporary wayleaves required by the Contractor in connection with access to the Site.

THE USE OF PERMANENT WORKS BY CONSTRUCTION TRAFFIC

1. The structures and finished pavement forming part of the permanent Works may be used to carry construction traffic only when measures approved by Leitrim County Council and the Employer's Representative have been taken to protect them from damage.
2. Subject and without prejudice to the Conditions, the Contractor shall submit his proposals at least two weeks before it is proposed to use any of the pavement forming part of the Works to carry construction traffic. The proposal shall include supporting calculations, details of any loadings, proposed protective measures, and any other information required by the Employer's Representative in order to fully assess the proposal. The proposals shall not be implemented by the Contractor without the prior written consent of the Employer's Representative.
3. The consent of the Employer's Representative to proposals to use pavement forming part of the permanent works for construction traffic shall not relieve the Contractor of his responsibilities under the Contract.
4. The Contractor shall take every precaution to prevent dirt, mud or other material being dropped or spread by traffic associated with the works on roads being part of the works, which are made available for public use by the Contractor, whether such traffic is the Contractor's own vehicles, his sub-contractors or his suppliers or vehicles hired by any of the above. The Contractor shall

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clean roadways of any such dirt, mud or other 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 sub-contractors or his suppliers. The Contractor shall clean all public roads within a distance of 500m of the site and will employ a road suction sweeper where necessary. Such cleaning operations shall be carried out notwithstanding road cleaning work being carried out by the Employer or other Contractors to the Employer.

PERMITTED ACCESS ROUTES TO AND FROM THE SITE

PERMITTED ROUTE	TIME CONSTRAINT
N16	None

Table 1/19.1 Permitted Access Routes to and from Site

MOVEMENT OF MACHINERY AND PLANT ACROSS PUBLIC ROADS

1. The provisions for Contractor's haul route crossings of public roads detailed in this Appendix shall be read in conjunction with the requirements of Appendix 1/17.
2. The Contractor shall, where he proposes to move machinery and plant across public roads, seek the consent of the Road Authority (Leitrim County Council) and the Employer's Representative. In seeking consent the Contractor shall submit details of the layout of the crossing, and all proposed signing, safety equipment and controls proposed.
3. At any site haul route crossing of public or private right of way, a speed limit of 15km/h shall be enforced on the haul route within 50 metres of the crossing.
4. The Contractor shall take care to avoid damage to roads, grass margins, and other surfaces within or outside of the authorised site, and shall be liable for the cost of repairing, to the satisfaction of the Employer's Representative and the owner, all such damage caused by his operations. The Contractor shall take precautions to prevent spillage of diesel fuel or other solvents. 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. Any damage so caused shall be made good by the Contractor at his own expense.
5. The Contractor shall comply with the maximum legal permissible loads for public roads in Ireland and where requested by the Employer's Representative, the Contractor shall provide evidence of compliance with regard to delivery of material to site. 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.
6. The Contractor shall take every precaution to prevent dirt, mud or other material being dropped or spread by traffic associated with the works on roads being part of the works, which are made available for public use by the Contractor, whether such traffic is the Contractor's own vehicles, the sub-contractors or his supplies of vehicles hired by any of the above. All vehicles leaving a work area and entering a traffic lane shall have its wheels and underbody cleaned when necessary so as to avoid mud and dirt being deposited on the public road. The Contractor shall clean roadways of any such dirt, mud or other materials that 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 sub- contractors or his suppliers. On each working day the Contractor shall employ a Road Suction Sweeper to clean all Public Roads within 500m of his operations. Such cleaning operations shall be carried out notwithstanding road cleaning work being carried out by the Employer or other Contractors to the Employer.
7. The Contractor shall take care to avoid damage to roads, grass margins and other surfaces within or outside of the authorised site and shall be liable for the cost of repairing, to the satisfaction of the Employer and the owner, all such damage caused by his operations.

Appendix 1/23 Substances Hazardous to Health**General**

1. All work shall be carried out with due regard to the Safety, Health and Welfare at work (Construction) Regulations 2013 and any subsequent relevant legislation.
2. The Contractor shall provide the Employer's Representative with a copy of his Safety Statement and shall revise it as necessary in the light of any revised or additional obligations required by law. The statement shall include the Contractor's detailed procedures to be followed in the event of any accident including minor incidents.
3. The Contractor shall be aware of and take the necessary precautions detailed in the UK Design Manual for Roads and Bridges Departmental Advice Note SA 8/94 "Use of Substances Hazardous to Health in Highway Construction".
4. Suitable PPE equipment shall be provided by the Contractor at all times.

Restrictions in relation to traffic management measures.

1. Refer to Appendices 1/17, 1/18 and 1/19.
2. The Contractor shall not store or arrange unloading of any substances considered hazardous to health at or near any traffic management safety zones or systems.
3. Where any burning of road markings is to be undertaken on public roads, this shall be undertaken during off peak hours, excluding school opening and closing times in the locality.

Restrictions in relation to Working Practices.

1. The Contractor shall take all reasonable precautions to use substances that are not known to be hazardous to health for use in the Construction of the Contract. Where the use of such substances is unavoidable, the Contractor shall ensure that all employees are advised of the proper methods for use of such substances and the consequences of not following recommended use.
2. These substances shall be stored in accordance with the manufacturer's recommendations.
3. Where potentially hazardous substances are encountered during excavations or any part of the Works, the Contractor should seek the advice of a specialist Sub-Contractor regarding the identification, treatment and disposal of such substances.
4. The Contractor shall ensure that all hazard sheets for materials to be used in the Works are displayed prominently in the stores, and that all employees can read and understand these sheets. In any event, the Contractor shall ensure that toolbox talks address the subject of all materials to be used in the Works and their potential risks.

Measures to be taken to protect members of the public.

1. All work should be planned to avoid generating dust - a water bowser shall be on Site to enable dust to be dampened down when necessary.
2. For minor cutting with hand tools a fine water spray should be used.
3. Live carriageways are to be protected from dust or spray arising from site clearance (or Construction) which might otherwise reduce visibility.
4. The Contractor shall be required to provide temporary screening to protect members of the general public, including motorists and other road users, in close proximity to the works.

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5. The screening shall be of sufficient construction to protect the public from any substances potentially hazardous to health, which are either being used by the Contractor or are a result of the Works.
6. Once erected, the screening shall reduce the concentrations of these substances within the air to levels which are below European Union guidelines. Any monitoring necessary shall be the responsibility of the Contractor.
7. The following list details materials which may require such particular precautions:
 - a) Bituminous Materials
 - b) Concrete dust
 - c) Cement dust
 - d) Earthwork dust
 - e) Siloxane, Silane and coatings
 - f) Paint
 - g) Combined waterproofing and slip resistant surface course
 - h) Asbestos cement pipework/ducting.
 - i) Protective system to steelwork
 - j) Weld material
 - k) Hydroseeding
 - l) Coal Tar

This list is not fully comprehensive and further materials will fall within the scope of this requirement.

8. Measures to be taken to protect members of the public are listed in Table 1/23.1 below.

Substance	Hazard	Operation	Special Measure
Concrete	Low	Site Clearance	Damp down, screen
Asbestos	Harmful	Various	Ensure asbestos is handled in accordance with current Health and Safety regulations. Works should be stopped and Health and Safety Authority (HSA) should be notified. Specialist Contractor is required to remove it. Disposal should be in accordance with the Waste Management Act 1996 and any amendment acts.
All substances	All excluding Low	Disposal	All containers to be removed at end of shift/operation and disposed of in accordance with manufacturer's instructions.

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9. The Contractor shall submit to the Employer's Representative his proposals for complying with the above requirements 14 days in advance of the use of the potentially hazardous material.
10. As part of his overall Safety Statement for the use of hazardous substances, the Contractor shall include for secure separation from the remainder of his workforce and the general public from areas where the following substances and any other substances hazardous to health is being used:
 - i. Petrochemicals
 - ii. Paints containing toxic elements
 - iii. Nuclear density meter
11. The above substances shall only be utilised by personnel trained in their use and all required safety apparatus and protective clothing shall be worn by those operatives.
12. Warnings to the remainder of the workforce and the general public of the use of these substances shall be provided and the area of application shall be securely sealed off.
13. Compliance with Clause 124.5 does not confer immunity from relevant legal requirements

Monitoring to be undertaken by the Contractor

Any monitoring necessary shall be the responsibility of the Contractor.

Appendix 1/70 As Built Records**General**

1. The Contractor shall arrange for an on-line file hosting service and share the link with the Employer's Representative and the Employer. The Contractor shall ensure a backup of this hosting service is available.
2. The Contractor shall upload the As-Built Records to the on-line file hosting service as the Works progress.
3. All progress meetings shall include an item on the meeting agenda to discuss As-Built Records.
4. Any comments raised by the Employer's Representative in relation to these drafts are to be incorporated into the final As-Built Records.
5. The line and level of all buried pipes, ducts and the like shall be accurately recorded before Works are covered up and shall be recorded and issued on the continuing records.
6. All Works element complete at the time of 14 days prior to the proposed Date of Substantial Completion, the Contractor shall submit a set of final draft As-Built records, in both hard and soft- copy formats. A final draft of As-Built records for outstanding Works elements shall be submitted within 1 week of the Works element being completed and no later than 2 weeks after the Date of Substantial Completion.
7. The final complete set of As-Built records shall be submitted by the Contractor within 1 week of receipt of comments from the Employer's Representative.
8. The Works or any part of the Works shall not be considered to be complete for the purposes of Substantial Completion until a draft of the As-Built records have been submitted to the Employer's Representative. Note the Certificate of Substantial Completion will not be issued until such time as an accepted complete final As-Built Records has been submitted.
9. The Final As-Built Records shall be submitted via sharefile or other similar electronic download link method.
10. If Works are required to rectify a defect, the As-Built record shall be updated and issued to the Employer's Representative within 1 week of the rectification Works being completed. A final updated As-Built record shall be submitted by the Contractor within 1 week of receipt of comments from the Employer's Representative.
11. As-Built Records shall be prepared in accordance with the TII Publication (standards) CC-CMG- 04001 "Preparation and Delivery Requirements for As- Built Records", available on the TII Publications website <http://www.tiipublications.ie/>.
12. The Contractor shall issue to the Employer's Representative, any key information requested by the Roads Authority necessary to operate and maintain the Works.
13. The particular requirements of the As-Built Records are that they include:
 - As-built drawings;
 - for Design Elements:
 - one copy of each of all Design drawings on A1 size paper clearly marked "As Built Drawing"; and
 - copies of all drawings in AutoCAD DWG (minimum version AutoCAD Release 2010) and PDF format, and schedules in Microsoft Word or Microsoft Excel format as appropriate and shared using a suitable file sharing platform;
 - Structures' drawings and photographs as specified in the TII Publication

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- (standards) CC-CMG- 04001;
- completed Design Data for the N16 road including each side road forming part of the Works;
 - Construction report identifying the actual types of materials and construction that were used throughout the Works which shall:
 - summarise the information obtained by the laboratory of field tests on the road materials employed in the Works;
 - comment on the remedial and corrective actions taken;
 - discuss points of interest or the use of “unusual” and “special” materials and methods of Construction;
 - include a statement setting out the problems and Defects encountered during Construction and how they were overcome or rectified. For the purposes of these As-Built Records a Defect shall mean a failure of any component in the Works during the execution and completion of the Works including, inter alia, deterioration in the road pavement including chip loss, unexpected movement of earthworks slopes, evidence of poor drainage and subsequent identification of the use of materials within the Works that would not have met the requirements of the Design and/or the Specification;
 - include records of material compliance, such as certification, quality assurance, external testing and the like; and
 - include a complete record of sampling and testing data.

As-Built Drawings**1 Scheme Drawings**

- 1.1** All drawings submitted for formal review shall be provided in the following format, to be agreed with the Employer:
- AutoCad DWG format (2018 or greater).
- 1.2** The following standards shall also apply:
- All CAD files shall be provided in an acceptable version of AutoCAD .DWG format, along with any font, linestyle, block or other necessary definition.
 - Each transfer shall be fully documented to detail items such as level use cross-referenced files, necessary directory structure, etc.
 - Full details of the programs used to generate the DWG format file shall be attached for reference.
 - Data transfers shall be readable using equipment currently employed by the Employer. For small transfers this may take the form of cc: Mail attachments; for large transfers e.g. area completion, this may also be on CD format.
- 1.3** Generally, the current version of all application software shall be deemed to be standard, as long as it is compliant with the operating characteristics of the Employer's computer systems.
- 1.4** General arrangement drawings referenced to the ITM Projection or maintenance reference system, to be confirmed with the Employer's Representative, and covering:
- horizontal alignment including land boundaries to a scale of 1:1000; and
 - vertical alignment showing the final and original ground levels on the centre line of the road or new and existing surface levels where reconstructing an existing road.
- 1.5** The drawings shall have all non-existing background information removed and the boundaries of the Works clearly shown in to the Works, to side roads or other features.
- 1.6** The Contractor shall provide, for review by the Employer's Representative, 1 No. hard copy A1 of As-built drawings within 4 weeks of Substantial Completion of the works and 1 No.

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soft copy in AutoCAD 2018 Format and also in pdf Format.

- 1.7** Once the Employer's Representative has reviewed the submitted documents described in the previous point the Contractor shall incorporate the comments of the Employer's Representative and provide 1 No. A1 Final copy of the As-built drawings and 1 No. Digital copy in AutoCAD 2018 and .pdf to the Employer's Representative on a suitable file sharing platform.

2 Utility (Services) Companies Equipment

- Drawings showing location, depth, size and type of equipment of all utilities including Eircom, ESB both overhead and underground.
- Drawings showing location, depth, size and type of watermains, valves, fittings etc.

3 Materials

The Contractor shall provide details of materials and products used in the Works. This shall list all suppliers by name, address and material product supplied. Where products or materials are covered by the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (SI No. 619 of 2001) -full details of the product or material specification shall be given. Where sub- contractors are responsible for activities involving the construction, installation or application of products or materials, names and addresses shall be given.

Appendix 1/71 Construction Management**Construction Management Plan**

- 1 Prior to any demolition, excavation or Construction, a Construction Management Plan (CMP) shall be produced by the Contractor. The CMP shall deal with the Contractor's overall management and administration of a Construction project. The CMP will include a detailed programme of works and budget. The CMP is also developed to ensure that all Construction activities are undertaken in a satisfactory and safe manner, to a delivery program meeting the Employer's requirements. The Contractor will be required to include details under the following headings: -
 - Details of working hours and days;
 - Details of emergency plan - in the event of fire, chemical spillage, cement spillage, collapse of structures or failure of equipment or road traffic incident within an area of traffic management. The plan must include contact names and telephone numbers for:
 - ◆ Local Authority (all sections/departments);
 - ◆ Ambulance;
 - ◆ Gardaí; and
 - ◆ Fire Services;
 - Details of chemical/fuel storage areas (including location and bunding to contain runoff of spillages and leakages)
 - Details of Construction plant storage, temporary offices and on-Site chemical toilet areas;
 - Traffic management plan in accordance with the requirements of Appendix 1/17 to 1/20;
 - Truck wheel wash details (including measures to reduce and treat runoff);
 - Dust management to prevent nuisance (demolition & Construction);
 - Site run-off management;
 - Noise and vibration management to prevent nuisance (demolition & Construction);
 - Landscape management;
 - Management of demolition of all structures and assessment of risks for same;
 - Lighting details (Construction & operation);
 - Signage;
 - Stockpiles;
 - Liaison with landowners and property owners
 - Completion of Accommodation Works
 - Project procedures & method statements
- 2 The production of the CMP will also detail areas of concern with regard to Health and Safety and any environmental issues that require attention during the Construction phase. Adoption of good management practices on Site during Construction and operation phase will also contribute to reducing environmental impacts.
- 3 The Contractor shall note that the Construction of the proposed road development shall comply with the full suite of TII Environmental Planning, Construction and Environmental Operating Plan Guidelines as published on the TII website (<http://www.tii.ie/tii-library/environment/>).

Environmental Operating Plan

- 1 The Contractor will be required to complete an Environmental Operating Plan (EOP) in accordance with the TII publication 'Guidelines for the creation, implementation and maintenance of an on Environmental Operating Plan' (EOP). The EOP will set out the Contractor's approach to managing environmental issues associated with the Construction of the road. Details within the plan will include: -
- 2 All Environmental commitments and mitigation measures and any requirements of statutory bodies such as the National Parks and Wildlife Services as well as a method of documenting compliance with the measures;
 - A list all applicable environmental legislation requirements and a method of documenting compliance with these requirements; and
 - Outline methods by which Construction work will be managed to avoid, reduce or remedy potential adverse impacts on the environment.
 - An Emergency Response Plan (ERP) detailing the procedures to be undertaken in the event of a spill of a chemical, fuel or other hazardous wastes, a fire, or noncompliance incident with any permit or license issues. The ERP shall also address
 - a) Flood risks along the proposed route;
 - b) Method statements for the Control, treatment and disposal of potentially contaminated surface water.
 - c) Details of appropriate staff training in the implementation of the Emergency Response Plan and the use of any spill kit/ control equipment as necessary
- 3 To oversee the implementation of the EOP the Contractor will be required to appoint a responsible manager to ensure that the mitigation measure included in the EOP are executed in the Construction of the Works and to monitor that those mitigation measures employed are functioning properly.
- 4 In preparing the EOP, the Contractor shall adhere to the following guidance documents for Construction on/or near water: • Inland Fisheries Ireland - Guidelines on protection of fisheries during construction works in and adjacent to waters
 - Central Fisheries Board – Channels and Challenges, the Enhancement of Salmonid Rivers.
 - CIRIA – Guidance Document C648, Control of Water Pollution from Linear Construction Projects;
 - CIRIA – Guidance Document C697, The SUDS Manual;
 - CIRIA – Guidance Document C624, Development and Flood Risk – Guidance for the Construction Industry
 - OPW report on the Planning System and Flood Risk Management – Guidelines for Planning Authorities;
 - TII Suite of Best Practice Construction Guidelines;
 - UK Environment Agency – PG5 Pollution Prevention Guidelines Works and Maintenance in/ or near Water.

Waste Management Plan

- 1 Included within the EOP will be the Waste Management Plan (WMP) in accordance with the 'Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects'(DoEHLG) which clearly sets out the Contractor's proposals regarding the treatment, storage and disposal of waste. The WMP will contain (but not be limited to) the following measures:
 - Details of waste storage (e.g. skips, bins, containers) to be provided for different waste and collection times;
 - Details of where and how materials are to be disposed of - landfill or other appropriately licensed waste management facility;

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- Details of storage areas for waste materials and containers;
 - Details of how excess materials, unacceptable for use in the road Construction, will be disposed of where necessary;
 - Details of how and where hazardous wastes such as oils, diesel and other hydrocarbon or other chemical waste are to be stored and disposed of in a suitable manner; and
 - A Construction and demolition waste plan.
- 2 The Contractor shall comply with the requirements of additional Clause 176.1 AR.

Quality Plan

- 1 The Contractor shall prepare a Quality Management Plan. The Quality Plan shall include the Quality Documentation for the Contractor which shall include a Quality Manual and a Quality Plan which follow ISO 10005, shall describe how the obligations of the Contractor under the Construction Contract and any other activities of the Contractor in respect of the Project shall be achieved. Such Quality Documentation shall include:
- i written quality procedures and method statements or the like which shall be followed, including, where any procedure or method is not pertinent at the time when the Quality Plan is submitted to the Employer's Representative and a short synopsis of each such procedure and method statement or the like;
 - ii details of the scope of the Contractor's work and obligations and the Quality Certificates, reports and other deliverables to be provided in accordance with the other provisions of the Contract;
 - iii where applicable, a description of any joint Quality Management System to be operated including details of any third-party certification applicable to such system;
 - iv a list of the written procedures, inspection and test plans and method statements which shall be followed to ensure the effective management of the activities to be undertaken by the Contractor. This shall indicate a programme for submission of any written procedure or method statement which allows for its submission to the Employer's Representative for approval prior to construction;
 - v details of the Contractor's main contractual arrangements including a list of its Sub-Contractors and of related Quality Documentation;
 - vi details of the Contractor's organisational structure and lines of communication;
 - vii works descriptions of key Staff describing responsibilities and the specific experience required for those positions. A copy of the curriculum vitae for each individual shall be separately submitted to the Employer's Representative on that individual's appointment;
 - viii details of the person with defined authority for establishing, maintaining and reporting on the Quality Documentation forming part of the Quality Management System;
 - ix details of the Site quality management Staff and responsibilities;
 - x the arrangements, including timing and scope, for auditing and management review of the Quality Documentation for the Contractor including Contractor's staff and employees and its Sub-Contractors' activities;
 - xi the Contractor's quality control arrangements including sampling, trials, testing arrangements and lists of any relevant inspection and test plans or like items and identifying the proforma and/or databases that shall be used for recording the inspection and test results and the certification of compliance of all items of the Works by authorised key personnel;
 - xii the arrangements for the quality control of the work of Sub-Contractors and suppliers both on and off site including a list of inspection and test plans or like items and for records of compliance;
 - xiii the liaison, document control and reporting arrangements with the Employer's Representative, Relevant Authorities and, Relevant Persons;
 - xiv detailed method statements for each major activity whether directly undertaken or subcontracted;
 - xv a list of the work instructions or other like detailed documentation describing the activities to

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- be carried out in respect of the Contract;
- xvi a list of, and the retention arrangements for, quality and environmental records;
 - xvii details of the Quality Documentation submitted by the Contractor's Sub-Contractors and suppliers which provide for:
 - xviii the quality objectives and requirements that shall be achieved including quality records;
 - xix the specific allocation of responsibilities and authority during different phases of the Contract;
 - xx the specific procedures, methods and work instructions that shall be applied;
 - xxi suitable testing, inspection, examination and audit programmes at all relevant stages of the Works;
 - xxii method for changes and modifications in the Quality Documentation; and other measures necessary to meet the quality requirements and objectives;
 - xxiii Health and Safety arrangements, including obligations under the Safety Health and Welfare at Work (Construction) Regulations;
 - xxiv arrangements for the procurement of services, materials and products and control of Sub-Contractors;
 - xxv a programme for the Works;
 - xxvi handling, storage, package, preservation and delivery arrangements for materials, documents, drawings and data that shall be used for the Project;
 - xxvii recording, handling, storage, package, preservation and delivery arrangements for samples that shall be taken for testing required in accordance with Appendix 1/5 of the Specification or in accordance with Appendix 1/6 of the Specification;
 - xxviii arrangements for reporting, review and disposition of nonconforming work or products;
 - xxix details, procedures and arrangements for dealing with non-compliance on the Contractors and all other relevant Quality documentation and procedures:
 - xxx details, procedures and arrangements for fixing non-compliances raised on the Contractors and all other relevant Quality documentation and procedures including roles, responsibilities and timing;
 - xxxi details, procedures and arrangements for implementing minor design changes during Construction of the Works;
 - xxxii arrangements for corrective and preventive action reporting;
 - xxxiii details of servicing and/or statistical technique requirements;
 - xxxiv arrangements for contract review;
 - xxxv details of the method for controlling changes and modifications to the Contractor's Quality Documentation.

Appendix 1/72 Safety File**General**

- 1 A filing system for use on the project's safety file shall be agreed with the PSDP at the beginning of the works, this will be online and easily accessible by all parties.
- 2 The information detailed below is required from the Contractor for the Safety File, in accordance with Clause 2.4.5 of the Conditions and the Safety, Health and Welfare at Work (Construction) Regulations 2013.
- 3 The Safety File shall include for:
 - coordinate arrangements among contractors to ensure provision of relevant information in writing;
 - monitor the implementation of the arrangements and take any necessary corrective action;
 - transfer of the collected information to the media types required;
 - delivery of the information to the Project Supervisor for the Design Process and to the Employer's Representative;
 - assisting the Project Supervisor for the Design Process to comply with his statutory duties.
- 4 The Contractor shall collate information for inclusion in the Safety File throughout the duration of the Contract and shall regularly upload Safety File information as the Works progress to an online file hosting service as specified in Appendix 1/27.
- 5 All progress meetings shall include an item on the meeting agenda to discuss Safety File information.
- 6 Any comments raised by the Employer's Representative / PSDP in relation to these drafts are to be incorporated into the final Safety File.
- 7 A draft Safety File is to be submitted by the Contractor prior to Substantial Completion. Note the Certificate of Substantial Completion will not be issued until such time as the draft Safety File has been submitted.
- 8 The final draft of the Safety File information shall be made available to the PSDP no later than 4 weeks from the Date of Certificate of Substantial Completion.
- 9 The Contractor shall make all revisions and modifications to the Safety File information within 1 week of receipt of comments from the Employer's Representative / PSDP.
- 10 The Final Safety File shall be submitted as hard copy and soft copy. One full hard copy of the Safety File information and four soft copies on USB memory stick or external hard drive as appropriate shall be supplied to the Employer's Representative / PSDP, fully labelled and indexed. The format for labelling and indexing shall meet the requirements of the Employer's Representative, as shall the electronic format of the data.

Information to be supplied for the Safety File

- 1 The drawings and other information listed in the following sections shall be incorporated as appropriate to form the Safety File for the Project. The Safety File shall contain an index listing all drawings and other information provided with reference to information that will be in other records to which the file simply cross refers.
- 2 The Safety File shall contain the following as a non-exhaustive list of requirements.
 - All As-Constructed Drawings;
 - Works Requirements;
 - Schedule of Quantities;

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- All design information and general design criteria;
- Documentation on maintenance procedures and requirements;
- Details of equipment and maintenance facilities;
- All manuals, certificates;
- All procedures, requirements and schedules;
- Details of location and nature of all utilities and services;
- Fire Fighting and emergency systems (including security systems);
- Site records – example logs of difficulties encountered on site;
- Details, including licences / permits for disposal sites;
- Copies of relevant photographic and video material of construction;
- Other relevant information, which in the opinion of the PSCS, should be included in the Safety File;
- Any further information, requested by the PSDP, which is deemed necessary by the PSDP to allow him to complete his role and to prepare the Safety File.

Appendix 1/73 Emergency Services

- 1 The Contractor shall provide a first aid kit on site and have 1 member of personnel Qualified in emergency first aid.
- 2 The Contractor shall provide a mobile telephone on site for summoning assistance if required.
- 3 An emergency accident unit is available at the address shown below:

Sligo University Hospital
The Mall,
Rathquarter,
Sligo, F91 H684
Tel: +353 (0)71 917 1111
- 4 Hospital route maps shall be displayed and available from the Contractors Site office.
- 5 Contractor should have easy access to a local doctor's number.
- 6 An Garda Síochána shall be displayed and available from the Contractor's Site Office.

Emergency Numbers

Local Garda Station/– Bundoran Co. Donegal	Tel: 0719841203
Carrick-on-Shannon Garda Station, Shannon Lodge, Carrick-on-Shannon, Co. Leitrim, N41 CY28	Tel: +353719650510
Sligo Garda Station, Pearse Road, Sligo, Co. Sligo	+353719157000
Local Fire Division	Tel: +353 71 9650402

Site Clearance

Appendix 2/1 List of Buildings Etc. To Be Demolished

Existing Fencing

1. Where specified, the existing fence shall be removed and disposed of off-site. Where posts or foundations have to be removed, the resulting holes and surface shall be carefully backfilled and topsoiled. Wherever possible, existing posts should be removed in their entirety. Where posts have to be cut sufficient backfill /foundation material shall be neatly removed from around the post to enable the post to be cut, and flattened well below the existing surface so that it does not pose any surface hazard. The surface shall then be carefully backfilled and topsoiled. If in an urban setting, the surface shall be restored to avoid any trip hazard and shall be done in a durable finish to match the existing.

Vegetation

2. Removal of vegetation shall be required at various locations. Removal of vegetation must be carried out prior to the installation of the new fence. This clearance shall involve the complete removal of trees indicated through the works requirements – working drawings, plants, and shrubs, to ground level. All tree stumps are to be cut down flush with ground level. Where possible a stump grinder should be used to core out tree stumps and reinstate over. All cuttings/removals shall be either chipped and spread evenly over removed area or disposed of off-site. The cleared areas shall then be finished such that the terrain is left level and with no large stones, rocks, branches or roots, and to allow for safe future maintenance etc. In general, the cleared areas shall be levelled and grass seeded in accordance with CC-SPW-00600 (Series 600).

Fencing and Non Native Plant Species

3. Non-native invasive plant species are species that are initially transported through human activities outside of their natural range across ecological barriers, and that then survive, reproduce and spread, and that have negative impacts on the ecology of their new location as well as serious economic and social consequences. In Ireland, non-native plants have been introduced by humans and their activities, either purposefully or accidentally. Invasive species are so-called as they typically display one or more of the following features:
 - prolific reproduction through seed dispersal and/or re-growth from plant fragments;
 - rapid growth patterns; and,
 - Resistance to standard weed control methods.
4. Where a non-native plant species displays invasive qualities and are not managed, they can cause significant damage to road infrastructure including road carriageways, bridge structures and foundations, footpaths and walls.
5. Regulation 49(2) of the European Communities (Birds and Natural Habitats) Regulations, 2011, provides that, save in accordance with a licence, any person who allows or causes to disperse or spread any specified plant, shall be guilty of an offence. Specified plants likely to be encountered during the installation include:
 - Brazilian giant-rhubarb (*Gunnera manicata*);
 - Giant hogweed (*Heracleum mantegazzianum*);
 - Giant knotweed (*Fallopia sachalinensis*);
 - Giant-rhubarb (*Gunnera tinctoria*);
 - Himalayan balsam (*Impatiens glandulifera*);
 - Himalayan knotweed (*Persicaria wallichii*);
 - Japanese knotweed (*Fallopia japonica*); and,
 - hybrids of any such plants and strains, sports, varieties, cultivars or other

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intraspecific taxa of such plants.

6. It should be noted that the installation or maintenance of fencing, including the clearance of vegetation, has the potential to cause the dispersal and spread of such plants. Additionally, contact with the toxic sap of Giant hogweed (*Heracleum mantegazzianum*) can have serious health and safety implications for workers. Given the above, it is required that:
7. All sites are surveyed for these species in accordance with the Non-Native Invasive Species Site Assessment contained in Appendix 1 of the Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads; and,
8. The results of such surveys are forwarded to the Senior Engineer of the Contracting Authority for immediate attention and,
9. No attempt is made to carry out works that have the potential to cause the spread or dispersal of these species or carry health and safety risks from exposure to the toxic sap of Giant hogweed.

Appendix 2/2 Filling of Trenches and Pipes

1. Where the contractor disturbs any of the existing pipe or ducting network on site, reinstatement of same shall be carried out to match existing.
2. Reinstatement shall include the backfilling and reinstatement of all pipe trenches - from the top surface of the pea-gravel to the top surface of the adjacent ground or road level, in a suitably specified manner.
3. Backfilling of all trenches shall be carried out immediately after laying, jointing and surrounding of pipes with pea-gravel.
4. Reinstatement to the top surface of the trench shall be carried out on a temporary basis initially (after backfilling) with permanent restoration to all trenches laid through road carriageways, to be carried out by the Contractor, within 21 days of pipelaying - i.e. all road surfaces shall be fully reinstated (as specified) within 21 days of breaking out of original road carriageway surface.
5. All excavations, backfill and reinstatement work including the supply and installation of ducting for cable installation etc. to be carried out by the Contractor.

Appendix 2/3 Retention of Material Arising from Site Clearance

- 1 All materials need to be disposed of site to a licensed facility.
- 2 Voids left by items that have been removed shall be backfilled immediately in accordance with the appropriate Clauses in the 600 series
- 3 Materials and debris arising from taking up works shall be sorted prior to disposal according to their recycling potential.
- 4 All waste material arising from the Works shall be dealt with in compliance with the relevant legislation and regulations including without limitation the Waste Management Acts, 1996–2011, the Environmental Protection Agency Acts, 1992–2011, Planning and Development Acts, 2000–2017, The Roads Acts, 1993–2015 and European Communities (Waste Directive) Regulations 2011 each as amended and supplemented and in force for the duration of the Works and the Contractor shall be deemed to have provided for and allowed for all costs associated with lawfully dealing with waste material in the Tender Sum. For the avoidance of doubt the Contractor shall prepare, and comply with the provisions of, a Waste Management Plan for the project as detailed in the guidelines contained in the TII Publication “GE-ENV-01101 - The Management of Waste from National Road Construction Projects”.
- 5 Taking up or down of materials shall, where appropriate, include the following but not be limited to;
 - a) excavation of material;
 - b) breaking up foundations;
 - c) detensioning, dismantling and extracting posts;
 - d) cleaning, stacking, protecting and labelling;
 - e) transport and handling;
 - f) disconnecting, removing, disposing of and sealing of services and supplies;
 - g) sand and warning tape to cables where one or more are to remain in a shared trench;
 - h) backfilling and compaction;
 - i) making good to severed ends of existing walls, hedges and fencing;
 - j) disposal of material;
 - k) reinstatement and making good;
 - l) storage facilities;
 - m) replacing items damaged during the foregoing operations.
- 6 Materials and debris arising from the taking up works shall be disposed of at a waste management facility appropriately licensed in accordance with all relevant waste management legislation, regulations and guidelines (e.g. Waste Management Acts 1996-2011).
- 7 Private signs taken down as a result of the works shall be stored at the site compound up to 12 months from date of removal. During which time the sign owner can request the return of signs, to an agreed upon location. Unclaimed items to be disposed of to a licensed recycling operator.
- 8 Where items are taken up / down and not returned to the landowner, they shall be stored at the site compound for a period to be up to 12 months from date of removal. During which time the landowner can request the return of item, to an agreed upon location. Unclaimed items to be disposed of to a licensed recycling operator.

Appendix 2/5 Hazardous Materials

The following measures are acceptable for the handling and storage of hazardous material found in Site Clearance, and these are given here as a guide.

1. The Contractor's attention is drawn to the Preliminary Safety and Health Plan. The Contractor must consider all risks highlighted within and take special note that this list of risks is non-exhaustive. The Contractor is expected to be competent in dealing with typically encountered commonplace hazards and these should be controlled by good management and good site practices. The Contractor must be aware of the relevant legislation.
2. The Contractor shall immediately make the location safe, excluding access to the public and to all persons who do not have the required training and expertise. He shall make the appropriate measures to safeguard the health of his operatives and general public in the event of hazardous material being found in Site Clearance. All site staff and visitors to the site shall be briefed on the dangers and the correct usage of hazardous materials on site.
3. Where hazardous materials are encountered on the Site, the Employer's Representative is to be informed immediately.
4. The emergency services and, if appropriate, the Health and Safety Authority and the Environmental Protection Agency shall be immediately informed.
5. The Employer's Representative has the right to request that tests be carried out on any suspected hazardous materials to determine their exact nature.
6. The Contractor shall comply with current legislation, regulations and codes of practice in relation to the hazardous material inter alia: Dangerous Substances Acts, Safety Health and Welfare at Work Acts, Chemicals Act, European Communities Act, Carriage of Dangerous Goods by Road Act, all their associated regulations and the Codes of Practice (approved or published by the Health and Safety Authority).
7. The Contractor shall provide the Employer with a Method Statement for the removal of hazardous materials from Site.
8. Hazardous materials arising from Site Clearance and/or excavations shall be disposed of only at sites appropriately licensed by Leitrim County Council or other licensing authorities, in accordance with Appendix 6/2 and any relevant legislation.
9. Under certain circumstances, specialist contractors may be required to remove the hazardous materials from site. The Contractor shall seek the approval of the Employer's Representative where the services of a Specialist are to be engaged. The Contractor shall ensure that the Specialist Subcontractor, if any, shall comply with all relative legislation regarding the required permits and licensing for the disposal of hazardous materials.
10. If asbestos material is encountered, a specialist qualified in the disposal of asbestos shall remove and dispose of such material safely in accordance with the general principles of Appendices 1/23 and 6/2.
11. The Contractor shall note the following non-exhaustive list of legislation, which applies to Employers and Employees when working in the vicinity of Asbestos;
 - European Communities (Protection of Workers) (Exposure to Asbestos) Regulations 1989
 - European Communities (Protection of Workers) (Exposure to Asbestos) (Amendment) Regulations 1993
 - European Communities (Protection of Workers) (Exposure to Asbestos) (Amendment) Regulations 2003
 - Others;
 - The Safety, Health and Welfare at Work Act 2005
 - The Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001
 - The Safety, Health and Welfare at Work (Carcinogens) Regulations 2001
 - The Safety, Health and Welfare at Work (Exposure to Asbestos) (Amendment) Regulation 2010 (S.I No 589/2010)
 - The Safety, Health and Welfare at Work (Exposure to Asbestos) Regulation 2006 (S.I No 386/2006).

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12. The Contractor shall note, in particular, the European Communities (Protection of Workers) (Exposure to Asbestos) Regulations 1989 require that employers must seek to eliminate, reduce, enclose, or at a last resort to use personal protective equipment. The requirement to implement safe working procedures shall be determined by a risk assessment to determine primarily the type of Asbestos.
13. It is a requirement of the Contract that the Contractor carries out all works associated with the implementation of the above legislation and all other relevant legislation. This includes not only for the protection of workers during the removal phase but also the safe disposal of asbestos materials (in whatever form) to a disposal site in accordance with the Local and National guidelines / legislation governing the Safe Disposal of Asbestos materials.
14. For the purpose of this Contract, Unacceptable Material Class U2 shall be as defined in CC-SPW-00600 Clause 601.3, where hazardous chemical properties shall be defined as containing biodegradable (putrescible) material (i.e. capable of producing landfill gas), containing leachate, capable of producing leachate, containing radioactive materials, asbestos or containing petroleum products. As the existing road has been in place for many decades the tar pitches derived from coal may be present in the pavement to be removed, which should be classed as hazardous waste. Reference should be made to the contract drawings for the extent of the existing pavement to be removed. Reference should be made to Appendix 6/2 in relation to the requirements for dealing with Class U2 Materials.
15. The Contractor's attention is drawn to the following items of work requiring particular attention in regard to dealing with potentially hazardous substances:
 - Asbestos Materials
 - Coal Tar (PAH – Polycyclic Aromatic Hydrocarbons)
 - Milled Bituminous Material shall be classified as Class U2 Unacceptable Material.
16. Flammable or dangerous substances shall be locked away in clearly identified secure storage places.
17. Smoking shall be prohibited in all areas where gases or flammable liquids are stored or used.

Appendix 2/70 Hedgerow & Tree Clearance***Hedgerow/Boundary Line Clearance***

The Contractor shall carry out such Site Clearance as is required to prevent nesting and enable fencing work within the Area provided by the Employer.

The burning, burying or land filling of the cleared material will not be permitted in any case. The cut hedgerow material shall be shredded and mulched and disposed of to the satisfaction of the Employer's Representative and in accordance with the Waste Management Act 1996 and any subsequent amendments to same. The Contractor shall submit a method statement detailing his method of disposal for the approval of the Employer's Representative.

The Contractor shall comply with the Statutory Restrictions on Vegetation Clearance; Section 46(a) of the Wildlife (Amendment) Act 2000.

Roadside Hedgerows

A number of hedgerows are positioned alongside public roadways (county, regional and national roads). For safety requirements, hedgerows alongside these roads which are cleared as part of the Works Requirements shall have suitable traffic delineation/barriers placed to delineate the road edge until completion of the Works in these areas.

A method statement shall be submitted detailing the traffic management to be implemented during these works.

The burning, burying or land filling of the cleared material shall not be permitted in any case. In no circumstance shall cleared material be left on any carriageway. The cut hedgerow material shall be shredded and mulched and disposed of to the satisfaction of the Employer's Representative and in accordance with the Waste Management Act 1996 and any subsequent amendments to same. The Contractor shall submit a method statement detailing his method of disposal for the approval of the Employer's Representative.

Appendix 3/1: Fencing, Gates and Stiles

The location and details of permanent fencing to be replaced is outlined within the following drawings no. LM 203/1784-001 to 002 of the working drawings

A Schedule of Works can be provided post tender which contains set-out coordinates and lengths of permanent fencing to be replaced. A site layout map has also been provided for each fence location demonstrating the length of fence to be replaced.

Any new fencing works at existing entrances and other existing access points shall tie back into the existing fence/gate location.

Where existing fencing, hedges, walls and the like are damaged or otherwise affected by the Contractor's operations, but were otherwise intended to remain undisturbed, they shall be reinstated at the Contractor's own cost to their original condition and fit for purpose to the satisfaction of the landowner and the Employer's Representative.

Any works at field entrances and other existing access points shall tie back into the existing fence alignment.

All fencing and gates shall be constructed as per the TII Standard Construction Details (SCD's) unless otherwise stated.

(Note: Standard construction detail CC-SCD-00321 will apply to the fence construction requirements.

All timber used in fencing shall be treated in accordance with the requirements set out in IS435, the TII SCDs and comply with Appendix 1/24 of the Works Requirements.

Concrete footings shall be provided where timber posts cannot reach the depths specified in TII standard details.

All temporary and permanent fences shall comply with the requirements of CC-SPW-00300 of TII Publications.

All fence lines shall be tied into existing hedgerows, walls, pillars, gates or fence lines to the satisfaction of the Employer's Representative.

The Contractor shall consult with the landowners to ensure that livestock are re-located from the adjoining land during the course of works. Temporary fencing shall also be erected during the works to contain livestock which may enter the adjoining land. As stated in Clauses 302.1 and 303.1 of the Specification, such fencing shall take into account the usage of the adjoining land and where the public can access the adjacent lands; such fencing shall be fit for purpose and adequate to cover the Contractor's health safety obligations with respect to securing the Site. In accordance with paragraph 2 of CC-RMP-00300 of TII Publications such fencing has not been measured. The Contractor shall be deemed to have included in the Contract Price for his obligations in this regard. Temporary fencing shall be in accordance with Clause 303 of the Specification and Appendix 3/2. Temporary fencing shall also remain in position until permanent fencing is re-installed.

Where permanent fencing is removed, it shall be reinstated the same day. No gaps in permanent fencing shall be left open overnight.

Appendix 5/1 Drainage Requirements**General**

1. All materials and workmanship shall be subjected from time to time to such tests as the Employer's Representative may direct.
2. If required by the Employer's Representative the Contractor shall submit to the Employer's Representative a list of his proposed suppliers and sources of materials required for the execution of the Works. Samples shall be taken in accordance with the appropriate Standard where applicable.
3. Where required drainage gullies to be raised or removed and their connections with existing storm sewers must be sealed or that section of pipework must be replaced.
4. The Contractor shall record and mark with suitable stakes all land drains disturbed or damaged in carrying out the Works and shall submit daily schedules of these to the Employer's Representative stating size and type of drain, details and location of reinstatement or connection into new drain or ditch.
5. Drainage outlets are to be inspected and unblocked if necessary. All waste material removed is to be disposed off-site by the contractor to a licensed tip.
6. Existing land drains severed by the Works shall be extended to the nearest road drainage pipe and connected to same.

Storm Sewers & Filter Drains**Pipe Materials**

1. The Storm Sewers shall be manufactured from the following materials and comply to standards specified in Series 500 Table 5/1 of the Specification for Works.:
 - For Surface Water Pipelines up to and including 300mm diameter, they shall be laid with twin-walled polypropylene or UPVC pipe with external corrugations;
2. Plastic pipes used in the Contract shall comply with the following requirements:
 - Ultimate pipe stiffness (STES) shall be in excess of 1400 N/ m² when tested in accordance with BS 4962 and
 - Resistance to impact complying with BS 4962 except that the striker used in the test shall have a mass 1 kg and a 25mm hemispherical radius.

Pipe Bedding and Surrounds

1. Gully connection pipe bedding and surround types shall be as indicated on SCD Drawing Number CC-SCD-00521 Type Z.
2. Pipe strength/bedding combinations shown in the pipeline schedule (Table 5/1.1) are based on single narrow trench construction (dimensions are indicated on SCD Drawing Number CC-SCD-00521).

Bedding and Haunching to Pipes

1. Unless otherwise stated, bedding and haunching shall be granular material to Clause 505 of CC-SPW-00500 and CC-SCD-00520 Type K.

Appendix 5/4 Fin Drains and Narrow Filter Drains and Geotextiles for Filter Drains

1. Drainage stone in the existing Filter Drains to be excavated to a depth of 200mm. Drainage stone to be topped up as required to meet the levels of new pavements.
2. Backfilling for the filter drains to be in compliance with CI505 of CC-SPW-00500. Type B Gap graded non compacted stone.
3. Testing and Cleaning of the filter drainage to be in accordance with CI509 of CC-SPW-00500.
4. Any filter drains pipes damaged during the works/cleaning out of the drains, must be replaced by the contractor.
5. The allowable pipe type for use as filter drains include:
 - (i) Unplasticised polyvinyl-chloride (uPVC)
 - (i) The pipe is to be in accordance with IS EN 1401 or BS 5481
 - (ii) Perforated with not less than 100mm² of holes per metre length of pipe. The perforations shall not reduce the pipe stiffness by more than 5%.
 - (iii) Circular perforations not greater than 10mm or less than 3mm in diameter or rectangular slots not greater than 4mm or less than 0.6mm in width.
 - (ii) Plastics
 - (i) The pipe is to be in accordance with Irish Agrément Board Roads and Bridges Certificate (or equivalent)
 - (ii) Perforated and with a pipe stiffness and impact resistance as described in Appendix 5/1.
6. Unless otherwise described in Appendix 5/1 the materials used for the bedding, haunching and surrounding of filter drains shall comply with the appropriate bedding, haunching and surrounding materials specified in sub-clause 503.3(i) to 503.3(iv) and with the requirements for backfilling specified in sub-clause 505.3.
7. Filter drains shall have joints complying with sub-clause 6 of CI504 of CC-SPW-00500.
8. Joints in pipes for filter drains shall comply with the appropriate European Standard and with the following:
 - (i) Non-porous and unperforated concrete pipes with spigot and socket, rebated or ogee joints shall be laid with unsealed joints and with a gap of 10mm between the end of the pipe and the inner end of the socket or rebate. The pipes shall be supported with tarred rope yarn or equivalent flexible jointing material within the sockets over the lower third of the circumference so that there are no vertical steps greater than the construction tolerance permitted under clause between one pipe and another. Such pipes shall only be used with Type B filter material as described in Clause 505.
 - (ii) The ends of perforated or castellated concrete pipes with rebated joints shall be pushed tightly together. The width of slots measured along the length of the pipeline formed by joining castellated pipes shall not exceed 10mm.
 - (iii) Perforated or slotted UPVC pipes with spigots and sockets or sleeves may be dry-jointed or jointed as described in sub-clause 3 and 4 of CI504 of CC-SPW-00500.
 - (iv) Other perforated pipes shall be jointed as unperforated pipes of the same material.

Earthworks

Appendix 6/2 Requirements for Dealing with Class U2 Unacceptable Material

1. For the purpose of this Contract, Unacceptable Material Class U2 shall be as defined in Clause 601 of the Specification, where hazardous chemical properties shall include in its definition material containing biodegradable (putrescible) material (i.e. capable of producing landfill gas) or containing leachate or capable of producing leachate or containing asbestos or containing petroleum products and/or defined as hazardous wastes under the Waste Management Acts and Regulations, 1996 to 2014
2. All milled (planed) or excavated bituminous materials shall be classified as Class U2 materials. Refer also to Appendix 7/9.
 - Any U2 material encountered during the works shall be classified as hazardous “waste” and are subject to the provisions of the “Waste Management Act” 1996. The facilities at which such materials are discarded must have a waste licence from the EPA or where the EPA decides, must have a waste permit from Leitrim County Council.
 - All excavated or milled bituminous materials shall be disposed of in accordance with the relevant environmental guidelines and regulations. Waste disposal sites or recycling facilities shall have legitimate waste licences. The Contractor shall allow in his general rates for compliance with these regulations and any costs incurred as a consequence of disposal of same materials.
 - No material shall be recovered or disposed of offsite prior to which consultation and prior to the attainment of any statutory licences required.
 - The Contractor shall submit a Method Statement to the Employer’s Representative detailing his proposals for dealing with the Class U2 material. The Employers Representative will, if satisfied with the proposals, provide written permission to proceed with the treatment of the U2 material. For removal and replacement of the U2 material, the Contractor shall make arrangements for the Class U2 material to be excavated and removed off site by a specialist waste disposal contractor approved by Leitrim County Council and disposed of to an appropriately licensed landfill or recovery site with the appropriate waste permission in place such as an EPA licence or a local authority waste permit in accordance with the current Irish Waste Management legislation and associated statutory instruments. No such material shall leave the site without the prior written consent of the Employer’s Representative. The Contractor shall keep records of the materials removed and shall obtain the Employer’s Representative’s authentication of the records. These records shall be included in the Safety File.
 - A method statement shall be submitted by the Contractor to the Employer’s Representative for review detailing how this or any other potentially contaminated material will be sampled and tested. The Contractor shall carry out sampling and testing based on a grid spacing and to depths appropriate to the risk, extent and degree of contamination anticipated. Further samples to reduce the grid spacing may be taken after the initial analysis if required by the Employer’s Representative or Leitrim County Council.
 - The Contractor shall submit a Waste Management Plan to the Employer’s Representative for approval, a minimum period of 2 weeks in advance of any Works commencing on the Site. This shall include details of the following items:
 - All proposed methods of waste disposal (reuse, recycle, landfill, discharge to drain, etc).
 - Details of the proposed licensed waste disposal contractors and licensed disposal sites, to be used by the Contractor.
 - The Contractor shall maintain detailed records and receipts for all movements of waste materials from the Site, for inspection by the Employer’s Representative.
 - The Contractor shall exercise due care in the handling and disposal of any potentially contaminating material. Appropriate site management control shall be demonstrated at all times to minimise the potential for pollution of the environment.
 - Any suspected contaminated materials must be treated in such a way that minimises the risks to humans and the environment until the nature of the materials is confirmed. Any suspect material which has already been excavated is to be segregated and stored in a purpose built bunded area and kept covered to prevent any leaching of contamination from the material. Any suspect material still in situ must be fenced off and measures taken to ensure that any run off from the material is contained and controlled.
 - Measures shall be taken by the Contractor to contain leachate and contaminated water and prevent it entering watercourses.

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- Surface water flow from the area of the U2 material shall be strictly controlled by an arrangement of a series of grips and sumps and pumped to dedicated storage tanks to the Employer's Representative's satisfaction.
 - The pumped water will be sampled and tested to determine the required treatment before it can be discharged to the receiving watercourse. The water is not to be discharged to a receiving watercourse without the written approval of the Employer's Representative. Groundwater/leachate from contaminated areas shall be contained by a method to be agreed with the Employer's Representative and pumped to the dedicated storage tanks. The Contractor shall carry out such treatment on the groundwater/leachate as the Employer's Representative may require bringing the water to such a standard as to permit its return to the receiving watercourse.
 - The Contractors shall be responsible to consult with relevant statutory authorities, such as Local Authority and the Department of the Environment to establish any special requirements for the dealing with Class U2 material and any related contaminated water.
 - The control measures described above are to be considered as minimum requirements.
3. In the event that the Contractor encounters or suspects the presence of any Unacceptable Material Class U2 not already identified in the Contract, the following measures shall be implemented:
- The Contractor shall cease excavation in the vicinity of the material and inform the Employer's Representative immediately;
 - Unless otherwise directed by the Employer's Representative, the Contractor shall make arrangements to have the material inspected by an approved Sub-Contractor, specialising in the identification, sampling and testing of such material.
 - If this testing identifies the material to be Class U2, the Contractor shall appoint a specialist waste-disposal Contractor (to be approved by the Employers Representative) to dispose of the material to an appropriately licensed landfill site. The Contractor shall keep records of the materials removed and shall obtain the Employers Representative's authentication of the records.

Annexes

Annex A

Model Forms

All Model Forms used in this contract shall be in accordance with the Model Forms MF 1.21 to MF 1.23 available from the Construction Procurement website

(<https://constructionprocurement.gov.ie/model-forms/>)

Annex B

Special Clause Number

The successful tenderer will be required to provide a letter of compliance with the Registered Employment Agreement relating to Pensions, Assurance and Sick Pay.

Said written compliance will be placed on file as proof of compliance.