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REDWOOD PARTNERSHIP

Consulting Engineers
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**DEVELOPMENT AT NIGRA HOUSE
MULBERRY BUSINESS PARK,
FISHPONDS ROAD
WOKINGHAM, RG41 2GY**

**SPECIFICATION
FOR
SECTION S278 HIGHWAY WORKS**

3496S1/July 2023

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1.0 SPECIAL REQUIREMENTS

- 1.1 The S278 Works (the 'Works') are those carried out on Adopted Public Highway to provide a new access to a light industrial development. The Works shall be carried out by a roadworks contractor approved by Wokingham Council (the 'Council') with a minimum level of Public Liability Insurance cover of £10,000,000.00.
- 1.2 The Contractor shall be responsible for requesting inspections and approvals of the Works from the Council and shall provide copies of all approvals to the Engineer in order that the Employer may obtain Adoption Certificates for the Works or part or parts of the Works. The Engineer will not give approval for any work before the same has been obtained from the Council.
- 1.3 The Contractor shall provide all equipment and facilities for inspections, testing etc. as required by the Council and carry out all tests to their satisfaction. The Contractor shall notify the Engineer at least 48 hours in advance of all inspections by the Council so that they may be present to witness all inspections and tests. Any variation or remedial works required by the Council will require an instruction from the Engineer before implementation.
- 1.4 The Contractor shall comply with the Special Requirements in relation to the Statutory Service Authorities. Compliance with such Special Requirements shall not relieve the Contractor of any of his other obligations and liabilities under the Contract and fulfilment of such other obligations and liabilities shall not relieve of his responsibilities to comply with the said Special Requirements.
- 1.5 The Works will be subject to a 12-month Maintenance Period which will commence upon issue of the Practical Completion Certificate by the Council and confirmed by the Engineer.
- 1.6 The Contractor shall comply with the conditions of the New Roads and Street Works Act 1991. Any work on the Public Highway will require road-opening permission from the Council. The Contractor will be responsible for making all the necessary applications to work on the Public Highway.
- 1.7 Backfilling and reinstatement of trenches shall be carried out in accordance with the requirements of the Street Works (Reinstatement) Regulations 1992 and relevant provisions of the HAUC "Specification for the reinstatement of Openings in Highways" June 1992, both made under Section 71 of the New Roads and Street Works Act 1991.
- 1.8 In accordance with good working practice, the Contractor shall allow for all works to be constructed in a healthy and safe manner taking into consideration the latest working methods and statutory legislation. Attention is to be afforded to the requirements of the Construction (Design and Management) Regulations 2015 (CDM Regulations 2015), the Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1992 to ensure that all works carried out on Site are done so with due regard to the health and safety of the persons working on site or any person who may be affected by the works and/or by persons working on the site. As part of his tender submission, the Contractor is required to submit method statements, sufficiently detailed to indicate that he fully understands and is conversant with the working practices as they relate to this project.

- 1.9 In accordance with the CDM Regulations 2015, the Contractor will be nominated as the Principal Contractor for the Works, and he will be required to fulfil all of the duties of the Principal Contractor as defined in the CDM Regulations 2015. The Contractor is required to show how he intends to fulfil his duties as the Principal Contractor paying particular reference to satisfying the Client that he is both competent and will allocate sufficient resources to manage all health and safety matters.
- 1.10 Where any part of the works requires the Contractor, or any of his Sub-Contractors, to prepare a design for permanent or temporary works, it is incumbent upon the Contractor to ensure that all relevant and necessary information is submitted to give sufficient time to allow the Client, the Designer and the Principle Designer to fulfil their duties in accordance with the CDM Regulations 2015.
- 1.11 Upon award of the Contract, the Principal Contractor will take possession of the Health and Safety Plan from the Principle Designer and develop its content to include his own arrangements for the management and monitoring of compliance with all relevant statutory provision, the welfare of all persons on site, and shall ensure that the information is passed on to everybody carrying out construction works on the site.
- 1.12 The Health and Safety Plan shall take into account all the information previously detailed or incorporated and any further information that becomes available or known to the Principal Contractor.
- 1.13 Before any construction works start on site, the Principal Contractor shall have prepared the Health and Safety Plan in sufficient detail that will enable the Client and Principle Designer to be satisfied that the Health and Safety Plan complies with the requirements of the CDM Regulations 2015. Any delay to the commencement of the works due to the failure of the Principal Contractor to have prepared a satisfactory Health and Safety Plan will not entitle the Principal Contractor to claim for any delay to the commencement of the works.
- 1.14 The Principal Contractor must clearly show within his programme the different stages of such Works indicating periods of design, submission, approval, construction phase and completion in order that, as the Principal Contractor, he has allowed sufficient time for the Client and Principle Designer to discharge their duties and obligations under the Regulations.
- 1.15 Throughout the works, the Principal Contractor shall ensure that all relevant information required to keep the Health and Safety File updated by the Principle Designer on a regular basis is submitted in adequate time, and to ensure that the Health and Safety File can be handed over to the Client in its completed form upon completion of the Works in order that the Client can discharge his obligations under the CDM Regulations 2015.

2.0 BRIEF DESCRIPTION OF WORKS

2.1 The Works will involve the following:

- i) The construction of a new simple bellmouth vehicle access from Fishponds Road to serve a new light industrial development situated at Nigra House, Mulberry Business Park, Fishponds Road, Wokingham, RG41 2GY. The new site access will provide the sole vehicular and pedestrian access to the development from Fishponds Road;
- ii) The replacement and relocation of an existing street lighting column at the new site access;
- iii) The diversion, protection or lowering of existing statutory services in the location of the new access including BT, Virgin Media, City Fibre, Southern & Scottish Electricity Networks and Southern Gas Networks.

2.2 The construction of these works will include all necessary highway drainage, ducts, highway pavement re-surfacing, full depth carriageway construction and footway construction, street lighting, traffic signs and associated road markings.

3.0 SPECIFICATION

3.1 The specification referred to in the Tender shall be the following:

- (i) "The Department of Transport's Specification for Highway Works published by Her Majesty's Stationery Office as Volume 1 of the Manual of Contract Documents for Highway Works", March 1998 as modified and extended by Supplements and Revisions in force at the date of the execution of the Works and the enclosed Appendices;
- (ii) Engineer's Supplementary Specification;

4.0 ENGINEER'S SUPPLEMENTARY SPECIFICATION

- 4.1. The Contractor shall obtain the written approval of the Engineer to the siting of all huts, equipment, stacks or heaps. On completion of the Contract, the huts, equipment etc., shall be removed and the sites made good to the satisfaction of the Engineer.
- 4.2. The Contractor shall take all necessary precautions to prevent danger, nuisance or inconvenience to owners, tenants, or occupiers of adjacent properties, and to the public generally and shall at all times keep all roads, streets, private entrances, verges, paths, footways, drains and sewers in the area of the Works in a safe, clean and passable state. All waste or superfluous material shall be cleared away by the Contractor.
- 4.3. Damage to highways in the vicinity of the Works carried out by construction traffic or lorries delivering or removing materials from the site will be the responsibility of the Contractor and he will be required to reinstate these highways to the satisfaction of the Local Highway Authority. During the Contract Period the Contractor shall be responsible for the sweeping and cleaning of the carriageways and footways, flushing out the cleaning gullies and making good any potholes that form in the footways and carriageways with suitable tarmacadam or bitumen macadam also for full reinstatement of the site to the Engineer's satisfaction.
- 4.4. All trees, shrubs, fences, verges, signs and other surfaces required to be maintained shall be protected and kept free from damage due to operations under the Contract and upon completion of the Works, the same shall be handed over in a clean and proper state to the satisfaction of the Engineer.
- 4.5. The Contractor shall take all precautions and shall provide for dealing with the flow in existing sewers and drains in such a manner that in no case shall any surface water or sewage matter overflow or otherwise be poured on to the site of the Works in such a way to affect the stability of the formation or to cause flooding.
- 4.6. The Contractor shall ensure that surface water is prevented from entering foul water sewers and that foul sewage is not allowed to leak or overflow into surface water drains or sewers elsewhere.
- 4.7. All soil and surface water drains shall be completed in advance of the construction of verges, footpaths and carriageways.

APPENDIX 0/3

LIST OF NUMBERED APPENDICES REFERRED TO IN THE SPECIFICATION FOR HIGHWAY WORKS

Incl	Excl	Appendix Number	APPENDIX TITLE
			INTRODUCTION
	☒	0/1	Contract - specific Additional, Substitute and Cancelled Clauses and Tables Included in the Contract.
	☒	0/2	Contract - specific Minor Alterations to Existing Clauses and Tables Included in the Contract.
	☒	0/3	List of Numbered Appendices Referred to in the Specification and Included in the Contract.
☒		0/4	List of Drawings included in the Contract.
			PRELIMINARIES
	☒	1/1	Temporary Accommodation and Equipment for the Engineer.
	☒	1/2	Vehicles for the Engineer.
	☒	1/3	Communication System for the Engineer.
☒		1/4	Working and Fabrication Drawings.
☒		1/5	Testing to be carried out by the Contractor.
	☒	1/6	Supply and delivery of Samples to the Engineer.
☒		1/7	Site Extent and Limitations on Use.
	☒	1/8	Operatives for the Engineer.
	☒	1/9	Control of Noise and Vibration.
	☒	1/10	Structures to be Designed by the Contractor.
	☒	1/11	Structural Elements and Other features to be Designed by the Contractor.
☒		1/12	Setting Out and Existing Ground Levels.
☒		1/13	Programme of Works.
☒		1/14	Monthly Statements.
☒		1/15	Accommodation Works.
☒		1/16	Privately and Publicly Owned Services and Supplies.
☒		1/17	Traffic Safety and Management.
	☒	1/18	Temporary Diversions for Traffic.
☒		1/19	Routeing of Vehicles.
	☒	1/20	Recovery Vehicles for Breakdowns.
☒		1/21	Information Boards.
	☒	1/22	Progress Photographs.
☒		1/23	Substances Hazardous to Health.
			SITE CLEARANCE
	☒	2/1	List of Buildings etc. to be Demolished.
☒		2/2	Filling of Trenches and Pipes.
	☒	2/3	Retention of Material Arising from Site Clearance.
	☒	2/4	Explosives and Blasting.
☒		2/5	Hazardous Materials.
			contd./..

APPENDIX 0/3...../2

Incl	Excl	Appendix Number	APPENDIX TITLE
			FENCING AND ENVIRONMENTAL BARRIERS
☐	☒	3/1	Fencing, Gates and Stiles.
☐	☒	3/2	Environmental Barriers.
			SAFETY FENCES, SAFETY BARRIERS AND PEDESTRIAN GUARDRAILS
☐	☒	4/1	Safety Fences and Safety Barriers.
☐	☒	4/2	Pedestrian Guardrails.
			DRAINAGE AND SERVICE DUCTS
☒	☐	5/1	Drainage Requirements.
☒	☐	5/2	Service Duct Requirements.
☐	☒	5/3	Surface Water Channels and Drainage Channel Blocks.
☐	☒	5/4	Fin Drains and Narrow Filter Drains.
☐	☒	5/5	Combined Drainage and Kerb Systems.
☐	☒	5/6	Design Requirements for Gully Tops and Manhole Tops
			EARTHWORKS
☒	☐	6/1	Requirements for Acceptability and Testing etc. of Earthworks Materials.
☒	☐	6/2	Requirements for Dealing with Class U2 Unacceptable Materials.
☒	☐	6/3	Requirements for Excavation, Deposition, Compaction (other than Dynamic Compaction).
☒	☐	6/4	Requirements for Class 3 Material.
☐	☒	6/5	Geotextiles Used to Separate Earthworks Materials.
☐	☒	6/6	Fill to Structures and Fill Above Structural Foundations.
☒	☐	6/7	Sub-formation & Capping & Preparation & Surface Treatment of Formation.
☐	☒	6/8	Topsoiling, Grass Seeding and Turfing.
☐	☒	6/9	Earthworks Environmental Bunds, Landscape Areas, Strengthened Embankments.
☐	☒	6/10	Ground Anchorages, Crib Walling and Gabions.
☐	☒	6/11	Swallow Holes & Other Naturally Occurring Cavities & Disused Mine Workings.
☐	☒	6/12	Instrumentation and Monitoring.
☐	☒	6/13	Ground Improvement.
			ROAD PAVEMENTS - GENERAL
☒	☐	7/1	Permitted Pavement Options Sheets 1,2, & 3.
☒	☐	7/2	Excavation and Reinstatement of Existing Surfaces.
☐	☒	7/3	Surface Dressing.
☒	☐	7/4	Bituminous Sprays.
☐	☒	7/5	In-Situ Recycling: The Repave Process.
☒	☐	7/6	Breaking Up or Perforation of Existing Pavement.
			contd./..

APPENDIX 0/3...../3

Incl	Excl	Appendix Number	APPENDIX TITLE
☒	☐	11/1	KERBS, FOOTWAYS AND PAVED AREAS Kerbs, Footways and Paved Areas.
☒	☐	12/1	TRAFFIC SIGNS Traffic Signs: General.
☒	☒	12/2	Traffic Signs: Marker Posts.
☒	☒	12/3	Traffic Signs: Road Marking and Studs.
☒	☒	12/4	Traffic Signs: Cones, Cylinders, FTDs and Other Traffic Delineators.
☒	☒	12/5	Traffic Signs: Traffic Signals.
☒	☒	12/6	Traffic Signs: Special Sign Requirements on Gantries.
☒	☐	13/1	ROAD LIGHTING COLUMNS AND BRACKETS Information to be provided by the Engineer when specifying Lighting Columns and Brackets.
☒	☒	13/2	Column and Bracket Data Sheets 1 & 2.
☒	☒	13/3	Instructions for Completion of Column and Bracket Data Sheet.
☒	☐	14/1	ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS Site Records.
☒	☒	14/2	Location of Lighting Units and Feeder Pillars.
☒	☐	14/3	Temporary Lighting.
☒	☐	14/4	Electrical Equipment for Road Lighting.
☒	☐	14/5	Electrical Equipment for Traffic Signs.
☒	☒	15/1	MOTORWAY COMMUNICATIONS Motorway Communications.
☒	☒	16/1	PILING AND DIAPHRAGM WALLING Requirements for Piling and Diaphragm Walling.
☒	☒	17/1	STRUCTURAL CONCRETE Concrete - Classification of Mixes.
☒	☒	17/2	Concrete - Impregnation Schedule.
☒	☒	17/3	Concrete - Surface Finishes
☒	☒	17/4	Concrete - General
☒	☒	18/1	STRUCTURAL STEELWORK Requirements for Structural Steelwork

contd./..

APPENDIX 0/3...../4

Incl	Excl	Appendix Number	APPENDIX TITLE
			PROTECTION OF STEELWORK AGAINST CORROSION
	☒	19/1	Requirements for Bridges, Parapets and Other Highway Structures except Bearings and Lighting Columns.
	☒	19/2	Requirements for Bearings.
☒		19/3**	Requirements for Lighting Columns and Bracket Arms.
	☒	19/3**	G2 System for Flange Mounted Columns with a Plinth Built Over the Flange.
☒		19/4	Requirements for Other Work.
	☒	19/5	Form BE/P2 (New Works) Paint System Sheet.
	☒	19/6	Form BE/P3 Paint Sample Despatch List.
	☒	19/7	Form BE/P4 Paint Sample Analysis Report.
	☒	19/8	Form BE/P5 Paint Data Sheet.
	☒	19/9	General Requirements.
			WATERPROOFING FOR STRUCTURES
	☒	20/1	Form PWS Proprietary Waterproofing System Data Sheet 1991 and Annex 'A'.
	☒	20/2	Waterproofing for Concrete Structures.
			BRIDGE BEARINGS
	☒	21/1	Bridge Bearing Schedule.
			PARAPETS
	☒	22/1	Parapet Schedule.
			BRIDGE EXPANSION JOINTS AND SEALING OF GAPS
	☒	23/1	Bridge Deck Expansion Joint Schedule.
	☒	23/2	Sealing of Gaps Schedule.
			BRICKWORK, BLOCKWORK AND STONework
☒		24/1	Brickwork, Blockwork and Stonework.
			SPECIAL STRUCTURES
	☒	25/1	Requirements for Corrugated Steel Buried Structures.
	☒	25/2	Requirements for Reinforced Earth and Anchored Earth Structures.
	☒	25/3	Requirements for Pocket Type Reinforced Brickwork Retaining Wall Structures.
			MISCELLANEOUS
☒		26/1	Concrete for Ancillary Purposes
	☒	26/2	Bedding Mortar

APPENDIX 0/4**LIST OF DRAWINGS INCLUDED IN THE CONTRACT**

(Refer to construction issue drawing issue sheets for relevant revision numbers)

DRAWING TITLE	SIZE	DRAWING No	SOURCE
S278 HIGHWAY WORKS PLAN	A1	3496-100	REDWOOD
STANDARD DETAILS DRAWING TITLE		DRAWING No	SOURCE
NEW CARRIAGEWAY CONSTRUCTION DETAILS	A4	3496-200	REDWOOD
KERB & EDGING DETAILS	A4	3496-201	REDWOOD
FOOTWAY CONSTRUCTION DETAILS	A4	3496-202	REDWOOD
TACTILE PAVING DETAILS	A4	3496-203	REDWOOD
STEPPED TIE-IN DETAILS	A4	3496-204	REDWOOD
CONCRETE ROAD BASE JOINT DETAILS	A4	3496-205	REDWOOD
DUCT AND CABLE TRENCH DETAILS	A4	3496-206	REDWOOD
TRAFFIC SIGN DETAILS	A4	3496-207	REDWOOD

APPENDIX 1/4

WORKING AND FABRICATION DRAWINGS

1. The contractor shall provide upon issue of the Completion Certificate, a full set of prints and AutoCad/PDF copies of the construction drawings amended to show the 'as-built' details of the Works together with a health and safety file including the following:
 - (i) In respect of the soil reports, records of materials tested, revised forms TA1 and design certificates;
 - (ii) Record drawings showing details of all aspects of the Works as constructed;
 - (iii) Records of the earthworks showing sources of material used in areas of fill, description of fill materials, descriptions of sub-grades in cut areas, copies of results of tests of material carried out as part of the supervision of the construction of the earthworks;
 - (iv) Records of the sources of supply of all deliveries of road construction materials with details of the location in the Works at which each load is placed;
 - (v) Records of the sources of supply of all other manufactured materials (e.g. kerbs etc.);
 - (vi) Records of existing statutory services location as encountered during the construction of the Works.

APPENDIX 1/5

TESTING TO BE CARRIED OUT BY THE CONTRACTOR

This table gives the minimum frequency of testing to be carried out by the Contractor to demonstrate compliance where no frequency of testing is given within the Specification. The Contractor should note that plant certificates will not be acceptable. In all instances NAMAS accredited testing facilities shall be used:

CLAUSE	WORK, GOODS OR MATERIALS	TEST	FREQUENCY OF TESTING	TEST CERTIFICATE	COMMENT
601	Acceptable Material Class 6F1 + 6F2	Grading Optimum m.c. Moisture Content 10% fines	For approval/source " "	Required " "	
803	Sub-base Type 1	Grading 10% fines Sedimentation Sol. Sulphate Mag. Sulphate Soundness Frost heave	For approval/source " " " "	Required " " " "	
903	Dense macadam Roadbase	BS EN 13108 Grading + binder Sediment 10% fines Mag. Sulphate soundness Frost heave Penetration PSV + AAV	For approval/source " " " " " " "	Required " " " " " "	Plant certificates not acceptable
906	Dense Macadam Binder course	BS EN 13108 All other Cl.906 tests	For approval/source	Required "	Plant certificates not acceptable
942	SMA surface course	PSV + AAV 10% fines Flakiness Index Grading + binder Penetration	For approval/source " " "		Plant certificates not acceptable
1004	Continuously reinforced concrete base	BS13877-2 All other Series 1000 tests	For approval/source	Required "	
1212	Thermoplastic road markings materials	Tests specified in BS 3262: Part 1	Composition/Lab Performance test Road Trial Cert.	Required	Quality management and product certification schemes apply Sampling procedures are given in BS 3262: Part 1

APPENDIX 1/7

SITE EXTENT AND LIMITATIONS OF USE

1. The extent of the site is shown on the S278 Highway Works Plan, REDW-3496-100. The site shall be extended to include for Traffic management works, sign erection works, etc. as necessary.
2. The Contractor will only be permitted to cause disruption to the flow of traffic on Fishponds Road between 09:30am and 15.30pm, Monday to Sunday.
3. The Council may agree to working outside these hours if an application is made. Any work on the public highway outside these stipulated times must be with the permission of the Council and the Engineer in writing, or in connection with the safety of the works.
4. When no work is being undertaken, the road shall be fully open to traffic in both directions and the verges shall be clear so that visibility standards are not obstructed.
5. None of the roads in which construction is to take place will be permitted to be closed unless agreed with the Council.
6. Note that these restrictions relate to the highway and the need to ensure that unacceptable delays to traffic on the roads do not occur. There may be other restrictions such as noise which result in no working at other times.
7. The use of temporary traffic signals is to be agreed with the Council. If traffic signals are agreed, then they shall be manned at all times by a competent operative.
8. No plant or materials shall be stockpiled on verges adjacent to live traffic lanes.

APPENDIX 1/12

SETTING OUT

1. Control station co-ordinates are given on the S278 Highway Works Plan, REDW-3496-100.
2. Existing ground levels are given on the S278 Highway Works Plan, REDW-3496-100.
3. The Contractor shall establish permanent survey stations and sufficient works survey stations as required to provide the day to day control of the Works. They shall be located in approved positions with each station being visible from a minimum of two other stations and be accurately levelled and co-ordinated.
4. Not less than 48 hours before commencing any work, the Contractor shall give notice to the Engineer and provide such information as will enable him to check the setting out.
5. No setting out information should be marked on private property, lighting columns or street furniture.

APPENDIX 1/13 PROGRAMME OF WORKS

1. The Contractor shall provide the programme of Works in the form of a Bar Chart produced as a result of a Critical Path Analysis and must abide by the Constraints below. 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.
2. Before the commencement of the Works the Contractor will be required to consult with the Engineer, Police and other interested authorities as to the method of working to be adopted, and this Programme must include details based on these consultations. A pre-commencement meeting shall be held three weeks before the start on site with all the above parties to discuss the construction of the works.
3. The contractor in preparing his programme should allow for the diversion works and new works to be carried out by the Statutory Service Authorities, and in particular the contractor should anticipate the need and allow for changes to the timing of these works which are outside the control of the Engineer.
4. The Contractor's attention is drawn to the need to take the following constraints into consideration:
 - (i) The Special Requirements in relation to Statutory Undertakers;
 - (ii) Appendix 1/7 for Restricted Working Hours;
 - (iii) Appendix 1/9 for Control of Noise and Vibration;
 - (iv) Appendix 1/17 for Traffic Safety and Management;
 - (v) Working Hours;
 - (vi) Making of any Traffic Regulating orders;
 - (vii) The Contractor will maintain a clear route through the Works at all times for emergency services;
 - (viii) The Contractor shall provide full time superintendence at all times that work is being carried out on site including any times that work on site is being carried out solely by any approved sub-contractor(s).
5. The level of detail shall not be less than the following:

Within 7 days after the acceptance of Tender:

 - (i) Each traffic management operation;
 - (ii) Each construction operation;
 - (iii) Off site signing erection and road marking removal and laying;
 - (iv) Location of site offices and stores and access thereto;
 - (v) Plant and staffing levels and organisation.

APPENDIX 1/13
PROGRAMME OF WORKS (CONTD.)

6. The Programme should cover the following general headings where applicable:
- (a) Permanent and temporary fencing;
 - (b) Site entrance construction;
 - (c) Site clearance;
 - (d) Service Authority diversions and site supplies;
 - (e) Topsoil strip;
 - (f) Earthworks - covering each cut and fill area;
 - (g) Drainage, ducts and ducting;
 - (h) Sub-base and road base;
 - (i) Carriageway surfacing;
 - (j) Kerbing and footway;
 - (k) Traffic signs, road markings and street furniture;
 - (l) Street lighting and cabling;
 - (m) Clearing the site and removal of contractor's equipment.
7. The programme once agreed by the Engineer shall be sent to the Council by the Contractor for their formal approval.
8. The Contractor shall submit to the Engineer a weekly programme giving details of proposed activities in each section of the site including, where appropriate, chainages and any other points of detail as may be required.
9. The Contractor must also show plant and labour resource allocation during the Contract period and provide details of earthworks compaction equipment proposed.
10. The Contractor must provide details of earthworks compaction equipment proposed.

APPENDIX 1/14
MONTHLY STATEMENT

1. The monthly statements shall be submitted to the Client's representative in accordance with the Building Contract requirements.

APPENDIX 1/15 ACCOMMODATION WORKS

1. The Contract may require the removal and/or relocation of existing traffic signage throughout the site. Signage are to be carefully taken down and stored temporarily prior to re-erection.
2. Existing manhole covers will be required to be adjusted to new carriageway levels.

APPENDIX 1/16 PRIVATELY AND PUBLICLY OWNED SERVICES AND SUPPLIES

1.0 GENERAL

- 1.1 Disconnected apparatus can be removed by the Contractor only with the prior approval of the Authority concerned.
- 1.2 Any information supplied by the Engineer to the Contractor as to the presence or position of the apparatus of Statutory Undertakers or other services has been obtained from the respective authorities or from site inspection. No guarantee can be given as to the accuracy or completeness of this information and the Contractor shall be responsible for ascertaining by independent inquiry the precise location of such apparatus likely to be affected by the Works. If the Contractor in the course of the works shall damage any mains, cables, services, drains, sewers or other apparatus of Statutory or Local Authorities, Landowners and others, he shall immediately inform the Authority or owner concerned and the Engineer, and shall forthwith comply with any instructions given by either.
- 1.3 The Contractor must comply fully with the New Roads and Street Works Act 1991, in particular Section (70) with respect to reinstatement of trenches. The Contractor shall complete the permanent reinstatement of the Highway as soon as reasonably practicable and in any event within six months from the date on which the interim reinstatement was completed.
- 1.4 Details of preliminary arrangements that have been made with Statutory Authorities and others for the alteration of services affected by the works shown in Appendix A.
- 1.5 The Contractor shall make arrangements with the Statutory Authorities and others concerned, for the co-ordination of his works with all work which needs to be undertaken by them or their contractors concurrently with the Works. Compliance with the periods of notice given in this Appendix does not relieve the Contractor of his obligations. Where periods of notice and completion times are not provided the Contractor shall obtain the necessary information from the Statutory Undertakers.
- 1.6 The Contractor shall pay for any temporary diversions that are requested from the Statutory Authorities by the Contractor.
- 1.7 The names, addresses and telephone numbers of the Authorities serving in the locality are shown in Appendix A.

2.0 SPECIAL REQUIREMENTS FOR OPENREACH (BT)

- 2.1 All drawings issued by Openreach, showing the whereabouts of plant are issued for information only and carry an appropriate warning. The attention of the Contractor is drawn to the freephone "0800 800 865: DIAL BEFORE YOU DIG" service. The Contractor could then arrange for a plant protection officer to identify and mark a more accurate plant position on site. Their email address is dbyd@openreach.co.uk.
- 2.2 Before commencing any work or moving heavy plant or equipment over any portion of the site, the contractor shall confirm details of British Telecommunications underground plant within the site with the appropriate Telephone Manager.
- 2.3 Where such details show that the Contractor's works or the movement of plant or equipment may endanger the Openreach plant the contractor must give the Telephone Manager at least one week's notice of the date on which it is intended to commence such works or movement of plant and equipment in order that the presence of buried plant can be indicated by markers to be supplied by Openreach and placed by the Contractor under the supervision of a British Telecommunications representative. The Contractor shall ensure that Openreach plant is protected from damage.
- 2.4 In the event of an Openreach marker being disturbed for any reason it shall not be replaced other than in the exact position and to its former depth unless the re-positioning is carried out at the direction and under the supervision of an Openreach representative.
- 2.5 No work shall be carried out under, over or against Openreach plant without an Openreach supervisor present. No mechanical plant shall be used within one metre of Openreach plant.
- 2.6 Excavations in the vicinity of Openreach poles and stays must not be allowed to affect the stability of the plant and the existing levels must not be reduced. No spoil, hazardous substance shall be tipped or stored, so as to obstruct access to Openreach jointing chambers. 24-hour vehicular access must be maintained, and covers must be kept visible at all times.
- 2.7 The above requirements do not relieve the Contractor of any of his obligations under the Contract.

3.0 SPECIAL REQUIREMENTS FOR THE ELECTRICITY GENERATING AND DISTRIBUTION COMPANIES

- 3.1 In these Special Requirements the following expressions shall have the meanings assigned to them:
- (a) 'Company' means Scottish & Southern Electricity Networks (SSEN) or its successors and assigns;
 - (b) 'Company Representative' means the Chief Civil Engineer of the 'Company' or their nominated representatives;
 - (c) 'Plant or equipment' means any plant equipment gear machinery apparatus or appliance or any part thereof as defined in the Construction (General Provisions) Regulations 1961 and the Construction (Lifting Operations) Regulations 1961.
- 3.2 The Work should be carried out to conform with the Regulations of the Health and Safety Executive Guidance Notes No's. GS6 'Avoidance of Danger from Overhead Electric Cables' and GS33 'Avoiding Danger from Buried Cables'. Except under such restrictions as the Company Representative may impose for the safety of persons and the protection of property a distance of 15 metres shall be maintained at all times between any part of any plant or equipment or anything connected to such a plant and equipment (e.g. the jib of a crane hoist rope load etc.) and any part of the Company's electric lines where these lines are carried on steel towers or a distance of 9 metres where the lines are carried on wood poles. Excavation spoil must not be dumped or accumulated so as to cause infringement of these distances. The permission of the Company's Engineers must be obtained in writing before any plant or equipment is operated or work of any kind is carried out within the above distances.
- 3.3 The Contractor shall give at least fourteen days notice to the Company's Engineers of the dates upon which it is intended to operate plant or equipment or carry out any work for which permission has been given by the Company's Engineers. Such operations or work shall only be carried out in the presence of the Company's Engineers.
- 3.4 It is confirmed that LV cables will require lowering the new site access. A quotation has been received from SSE for this work. The Contractor shall consult the Company's Engineers as early as possible before it is proposed to commence work to update the quotation already received and arrange for the diversion work to be carried out within their programme of works.
- 3.6 The above requirements will not relieve the Contractor of any responsibility for taking every precaution to avoid risk to persons or damage to property including compliance with Regulation 44(2) of the Construction (General Provisions) Regulations 1961.

4.0 SPECIAL REQUIREMENTS FOR THAMES WATER

- 4.1 In these Special requirements the following expressions have the meanings assigned to them:
- (a) 'Company' means Thames Water.
 - (b) 'Company's Engineer' means the Divisional Manager of the Company.
- 4.2 The Contractor shall at all times maintain close liaison with the Company in connection with any work affecting the Company's apparatus.
- 4.3 Before commencing work in the vicinity of any of the Company's apparatus the Contractor shall inform the Company and give at least 48 hours notice. He shall also in conjunction with the Company accurately determine the lines of mains, and may be required by the Company's Engineers to dig trial holes.
- 4.4 Plant will not be permitted to travel over any mains (water or sewerage) unless suitable protection is afforded to spread the load at the crossing point. The protection measures shall be approved by the Company and agreed by the engineer.
- 4.5 The Contractor is reminded that existing water mains, sewers and sewage pumping mains shall remain in continual use during the Contract period and all precautions shall be taken for protection. The Company reserves the right to require any further protection that it considers necessary at the time.

5.0 SPECIAL REQUIREMENTS IN RELATION TO SOUTHERN GAS NETWORKS

- 5.1 These requirements relate to MEDIUM AND LOW-PRESSURE MAINS, AND SERVICE PIPES (PRESSURE RANGE FROM BELOW 75mbar TO NOT EXCEEDING 2 BAR) which are generally local distribution pipes but may also run across country. (Separate conditions apply to High and Intermediate Pressure Pipelines - i.e. pressures above 2 BAR).
- 5.2 Reference should be made to the H.S.E. Guidance Note HS(G)47 "Avoiding Danger from Underground Services" and to publication No. 7 of the National Joint Utilities Group (NJUG7).
- 5.3 Every possible precaution must be taken to avoid causing damage to Southern Gas Networks apparatus during the progress of the works. Any costs incurred by Southern Gas Networks for the repair of direct or consequential damage will be charged in full.
- 5.4 Southern Gas Networks reserves the right to divert any affected apparatus if proved necessary during the course of your works; the cost of which will be recharged.
- 5.5 Southern Gas Networks must be notified at least three days in advance if the following activities are to be carried out in the vicinity of National Grid Gas Plc apparatus:
- (a) Excavation deeper than 1.5m within 8m of apparatus;
 - (b) Excavation within 10m of any above ground or below ground installation;
 - (c) Excavation adjacent to any pressure control kiosk.
- 5.6 No manhole, cover or other structure shall be built over, around, or under a gas pipe and no work should be carried out which results in a reduction of cover or protection, without agreement.
- 5.7 Explosives must not be used within 30m of Southern Gas Networks apparatus without prior consultation and agreement.
- 5.8 To facilitate future repair and maintenance of gas apparatus, a minimum clearance of 250mm should be maintained between the gas apparatus and new plant. Where this minimum clearance cannot be achieved, site discussions should be held with Southern Gas Networks to agree a suitable Clearance which will vary according to the size and age of the apparatus and the scope of the work.
- 5.9 Access to the site and to Southern Gas Networks apparatus must be provided at all times.
- 5.10 The placing of heavy construction plant or materials on, or the passage of, heavy vehicles over Southern Gas Networks apparatus is prohibited unless specially agreed provisions (i.e. the construction of reinforced crossing points) have been carried out. This is particularly important where reductions in the side support or ground cover are planned.

- 5.11 Excavation within 500mm of mains and services must be carried out by hand. Mechanical excavators (including breaker attachments) must not be used within 500mm proximity. In the case of apparatus operating at pressures above medium pressure (2 bar), mechanical excavation must not be used within 3m proximity.
- 5.12 Trial holes must be dug by hand to determine the exact location of mains and services in advance of excavating or thrustboring.
- 5.13 All exposed plant must be protected from direct impact.
- 5.14 When gas apparatus is exposed welding or other hot works involving naked flames should only be carried out in close proximity to Southern Gas Networks apparatus and great care is taken to avoid damage to plastics or to the protective coatings of pipes.
- 5.15 Where excavations adjacent to gas apparatus affect its support, the apparatus must be adequately supported protected in consultation with, and to the satisfaction of Southern Gas Networks.
- 5.16 Shuttering must be constructed so as to prevent fresh concrete encasing Southern Gas Networks apparatus and to maintain the stated clearances. No concrete or hard material should be placed closer than 300mm to any apparatus.
- 5.17 Any damage to Southern Gas Networks apparatus, including damage to wrapping or sleeving must be notified to the contact address and must be repaired before backfill.
- 5.18 Material used for the surround backfill or Southern Gas Networks plant must conform to the following requirements:
- (a) If sand, it must be well graded to BS882 table 5 additional grading C;
 - (b) It must not contain any sharp particles nor any particle greater than 8mm nominal size;
 - (c) Foamed concrete should not be used;
 - (d) It must be laid to a minimum depth of 100mm above the crown of the apparatus;
 - (e) Thrust blocks and supports must not be disturbed.
- 5.19 If leakage is caused by excavation or a gas leak is smelt or suspected, the following action should be taken at once:
- (a) Remove all personnel and public from the immediate vicinity of the escape;
 - (b) Do not attempt to stop the escape by backfilling;
 - (c) Gas may be forced along the line of services into buildings;
 - (d) Ask the occupants of the buildings adjacent to the escape to leave until it has been established that it is safe for them to return. (Damage to a service into a building

- may result in unseen damage to the pipe within the building);
- (e) Inform the local Southern Gas Networks Emergency Control by telephone;
 - (f) Prevent any approach to the immediate vicinity of the escape;
 - (g) Prohibit smoking and extinguish all naked flames or other sources of ignition for at least 15m from the leakage;
 - (h) Assist Southern Gas Networks personnel, Police or Fire Service as requested.

APPENDIX 1/17

CLAUSE 117 TRAFFIC SAFETY AND MANAGEMENT

1. The Contractor shall supply to the Engineer and the Police the name and telephone number of the Traffic Safety Officer who shall be available at all times of emergency. This person is responsible for the traffic safety and management and associated work as described in Clause 117 and the following requirements.
2. Compliance with Clause 117 or this Appendix shall not relieve the Contractor of any of his obligations and liabilities under the Contract and the relevant provision of the Highways Acts.
3. The works will necessitate the closure of sections of the carriageway. These closures shall be implemented by the Contractor's provision, erection, maintenance and eventual removal of traffic signs, traffic signals, cones, lamps, cylinders and carriageway markings.
4. The Contractor shall, after consultation with the Council, submit proposals to the Engineer for his consent. The Contractor in preparing his proposals shall have regard to the guidance given in the layouts, diagrams and tables shown in Chapter 8 of the Traffic Signs Manual Parts 1 & 2 (2009) and Part 3 (2017). The Contractor's proposals shall be at a scale 1:500 or larger and shall be provided to show in detail merging/diverging at all junctions.
5. The Contractor should note that working hours on Fishponds Road are strictly between 09:30am and 15:30pm, Monday to Sunday. These hours apply where disruption will be caused to the flow of traffic on the main roads. Approval to work outside these stipulated hours may be given by the Council.
6. Manually operated "Stop-Go" signs will be permitted only if agreed by the Council, or as required in the event of an emergency.
7. All portable traffic signal units shall be of a type currently approved by the Highways Agency. The equipment shall conform to MCE 0111 "Traffic Signal Control Equipment for use at Roadworks (on roads other than motorways)" and shall always be set for vehicle actuated operation unless manual (hand) control is agreed by the Engineer. The optical performance of all portable traffic control signals shall comply with the requirements for high intensity traffic control signals specified in BS 505.
8. Where portable traffic signal control is to be used at a junction, written approval from the Highway Authority is required. The Contractor shall submit to the Engineer in writing, full details of his proposals at least 6 weeks prior to requiring the signals and shall give the Engineer one week's notice of the actual date of installation of each signal unit.
9. The Contractor shall comply with the requirements of the Police in all situations involving public safety and traffic safety.
10. The Contractor shall not erect, dismantle or alter signs, cones, cylinders, markings or other traffic safety and control apparatus without the consent of the Engineer and the Police.

APPENDIX 1/17

CLAUSE 117 TRAFFIC SAFETY AND MANAGEMENT (CONT)

11. The Engineer may cancel, delay or curtail any agreed closure or restriction in the event of exceptional weather or traffic conditions rendering such closure or restriction hazardous in the opinion of the Engineer. The Contractor shall so arrange his work as to ensure that, if instructed by the Engineer, all obstructions can be removed from the carriageway so that one traffic lane in each direction can be operated within 30 minutes of an instruction being issued.
12. All vehicles and plant operating within the site between sunset and sunrise and during periods of poor visibility or fog or when directed by the Engineer shall have mandatory side lights and rear lights illuminated. In addition, they shall display rotating amber flashers and/or hazard warning lights and travel only in the normal direction of traffic flow. Stationary vehicles, equipment, huts, heaps of material, etc., shall not be placed in such positions that the vision of plant operatives or the travelling public is impeded. The Contractor shall take all necessary steps to prevent the spread of dust or stones to trafficked areas of the highway.
14. Traffic signs shall comply with the current edition of BS EN 12899-1:2001 and road danger lamps with BS 3143, except that the flashing rate for flashing lamps shall be within the range 120 - 150 flashes per minute. The minimum luminous intensity of the lamps shall be 0.5 candela for steady lamps, 1.0 candela for tippie lamps at their peaks and 1.5 candela for flashing lamps at their peak. All traffic signs shall be illuminated by temporary gas lighting, temporary electric lighting or, where practicable and approved by the Engineer, by electric power supply. All sign faces shall be CLASS Ref 2 reflective.
15. The Contractor shall for the duration of the contract maintain arrangements whereby they can quickly call out labour outside normal working hours to do any work needed for safety or to maintain the passage of traffic. Such work shall be put into effect immediately when instructed by the Engineer or when any occurrence on the works requiring immediate action comes to the attention of the Contractor. Clear and approved instructions for calling the local Fire Brigade in the event of a fire shall be prominently displayed on the site in positions to be approved by the Engineer.
16. In order that all matters of traffic safety and control in relation to traffic and the works are dealt with effectively the Contractor shall appoint a Traffic Safety Officer. He shall be responsible for all matters relating to traffic control including liaison with the Engineer and the police, inspection and maintenance of all equipment described, arranging duties for watchmen so that the site is patrolled and inspected at all times and equipment attended to as required and for dealing with traffic in emergencies as specified, including notifying the police immediately of any accidents, emergencies etc. The Traffic Safety Officer shall also be available at all times for contact by the Police for arranging the safe passage of abnormal loads through the site.
17. Traffic liaison meetings attended by the Contractor's Agent and Traffic Safety Officer and the Engineer shall be held approximately 7 days prior to commencement of the Works at a venue to be arranged between the Engineer and the Contractor.

APPENDIX 1/19 ROUTEING OF VEHICLES

1. The Contractor shall not permit construction vehicles to use residential side roads in order to gain access to the site. All construction access shall be via Fishponds Road.

APPENDIX 1/21 INFORMATION BOARDS

1. The Contractor will provide two information boards on Fishponds Road at the locations to be agreed with the Engineer. The boards are to be erected three weeks before works start on site.
2. Any other form of advertising the Contractor may wish to erect will require the approval of the Engineer and must be removed after the issue of the Practical Completion certificate.

APPENDIX 1/23 SUBSTANCES HAZARDOUS TO HEALTH

1. The Contractor shall comply with the Health & Safety at Work Act (1974), CDM Regulations 2015, and the control of substances Hazardous to Health Regulations (2002).
2. Diesel shall be stored in a bunded area to current Environment Agency regulations and to the satisfaction of the Engineer.
3. Diesel bowsers used for refuelling plant should be of sound condition and sealed against loss of fluid. They should be kept locked when not in use. Plant should not be refuelled within 20 metres of a ditch or watercourse.

APPENDIX 2/2 FILLING OF TRENCHES AND PIPES

1. Refer to the drainage layout drawings for an indication of those pipes to be removed.
2. Pipes indicated on the drainage layout drawings to be abandoned shall be filled by grouting. Initially, the lowest point shall be sealed with concrete grade C20 (ST4 mix) for a minimum length of 2 pipe diameters. The filling operation shall commence from this point and continue progressively so as to fill all voids completely. Grout for filling pipes shall comprise 6 parts PFA to 1-part cement and be mixed with only sufficient water to allow proper placement.
3. Trenches for both pipes and removed pipes shall be backfilled wherever practicable, immediately after the pipe bed and surround has been laid or the pipe removal has been completed and shall be as given below.
4. For trenches under carriageway the Contractor shall use material complying with the requirements of Clause 803 granular sub-base material Type 1 to clause 803. This material shall be placed in layers not exceeding 250mm thick and compacted.

- Where pipes with less than 1m cover below formation level are to be retained the Contractor shall safeguard and maintain the integrity of the pipeline.

APPENDIX 2/5 HAZARDOUS MATERIALS

- Treatment of any hazardous materials, if encountered in the works, shall be as agreed by the Engineer.

APPENDIX 5/1 DRAINAGE REQUIREMENTS

- If required, all drainage pipelines shall be constructed in accordance with the specification (S.H.W.)
- If required, gully connections shall utilise purpose made junction pipes. The connection shall meet the pipe concentrically and at between 2° and 45° above the horizontal. The junction pipe shall also be at 45° to the direction of flow in the pipeline.
- Pipes for sewerage shall have mechanically flexible joints and shall be watertight.
- For general drainage details refer to the table below and the contract drawings:

DETAILS	DESCRIPTION
Pipe, manhole and catchpit location	Not applicable
Pipe designs and strengths	Specified in drainage schedules and standard details
Manhole and catchpit types and chamber covers and frames	Specified in manhole schedule, and Appendix 5/6
Manhole and catchpit construction	Not applicable
Hydraulic Design	Drainage system - designed using pipe roughness value Ks 0.60mm
Pipe joints in concrete beds and surrounds	Concrete beds or surrounds to pipes shall have joint filler boards to Clause 1015 at flexible pipe joints. Specification Clause 504.5.
Gullies	Not applicable
Gully Gratings	Refer to Appendix 5/6
Pipe-bedding	Not applicable
Grading requirement for filter drain material - Type B	To table 5/5
Sulphate Resisting Portland Cement	Required for all concrete pipes
Pipe joints	All joints in surface water drains to be watertight
Backfilling requirements to 750 or 900 perforated pipes	Type C filter material to table 5/5 - As Type B but excluding 0 - 5% passing 10mm sieve
Connections to existing sewers	See drainage layout plans for details/locations.

APPENDIX 5/2

SERVICE DUCT REQUIREMENTS

1. The new access will require street lighting cable to be fully ducted so that any cable can be installed or removed without the need for further civil engineering works.
2. The location of ducts and cable draw pits are to be as shown on the Duct Layout Plans. If any changes need to be made because of site conditions then these shall be agreed in writing with the Engineer.
3. All ducts and draw pits shall be installed in accordance with the Specification and the manufacturer's recommendations or instructions as per Drawing Nos. REDW-3496-100 and REDW-3496-206.
4. All service ducts for signs and street lighting to be managed by the Highways Authority shall be smooth bore (internal and external), 5mm thick walled High Density polyethylene, printed with "Street Lighting" as appropriate at intervals of 900 - 1000mm in white 9mm high lettering throughout its length and installed in accordance with relevant Highway Construction Details. Colour of ducts to be black for street lighting and signs ducting.
5. 2 No. polypropylene draw cords, breakweight 5.5KN (1220 lb.) shall be provided in each duct; these draw cords shall be continuous over their entire length with no joints or knots and shall extend one metre from each end of the duct. They shall be replaced on each cable draw through so that they can be reused.

All ducts are to be bedded on 100mm of compacted coarse sharp sand. Compacted coarse sharp sand shall also be used to fill any voids within the duct configuration and shall extend to 50mm above the ducts.

6. All ducts shall be laid in a straight line. In cases where this is not possible the bend radius must not exceed 35°. If necessary, a series of straight chords shall be used to negotiate bends with draw pits at the intersection of each of the chords.
7. If required, drawpits for lighting and bollards shall be prefabricated in reinforced high-density polythene as manufactured by Cooper Clarke Group Ltd. with 150 thick Class ST4 concrete bed and surround or similar approved. Draw pit frames and covers shall conform to BS EN 124. Frames and covers in footways shall satisfy the loading requirements of Class B125. In cases where there is a possibility of a vehicle running over a draw pit in the footway/roadway a heavier duty cover and frame to BS EN 124 must be used. In carriageways, frames and covers shall satisfy the loading requirements of at least Class D400.
8. The drawpit must be kept free of debris, rubble or sand at all times during work on site. Any rubbish getting into the pit must immediately be removed.
9. A minimum clearance of 50mm is to be maintained between the bottom of the lowest duct and the base of the draw pit. The duct end shall be flush with the wall of the draw pit. Voids at duct entry points are to be filled with Class 1A mortar.

APPENDIX 6/1

REQUIREMENTS FOR ACCEPTABILITY AND TESTING ETC. OF EARTHWORKS MATERIALS

1. Permitted Classes of Materials

1.1 The contractor shall use only the following permitted classes of acceptable material in construction of the Permanent Works.

a) General Fill

All fills and embankments shall be of class 6F2 capping material as defined in Table 6/1 of the Specification, except where noted below or where stated otherwise in the Contract.

b) Topsoil

Topsoil shall be of Class 5A or 5B as defined in Table 6/1 of the Specification

c) Capping Layer

Capping shall be 6F2 as defined in Table 6/1 of the Specification, and shall be in accordance with the requirements of Appendix 6/7.

d) Trench Fill

Trench fill shall be material of Classes 1A, 1B, 2A or 2B complying with the special requirements of Class 8 stated in Table 6/1 of the Specification.

2. Classification

2.1 The classification and confirmation of acceptability of the earthwork materials shall be carried out by the Contractor at the point of excavation for on-site materials, and either at the point of loading or the point of deposition for imported materials. Trial pit locations for classification purposes shall be agreed with the Engineer in advance. If in the opinion of the Engineer the material has altered its classification or become unacceptable for whatever reason, the Contractor may be required to repeat the classification and acceptability tests given in Table 6/1 and this Appendix 6/1.

2.2 The Contractor shall submit two copies of all test results to the Engineer not later than 5 working days after taking of the sample or within one working day of the completion of the test. The copies shall be signed by the Contractor's responsible engineer/technician.

APPENDIX 6/1
REQUIREMENTS FOR ACCEPTABILITY AND TESTING ETC. OF EARTHWORKS
MATERIALS (CONTD.)

2.3 Testing requirements are as follows:

- a) The contractor shall at least 7 working days before commencement of importation of the Class 6A, 6F1 and 6F2 material submit to the Engineer for approval:
 - i) The values of maximum dry density and the optimum moisture content for these materials obtained in accordance with BS 1377 Part 4 Test methods 3 and 4 as appropriate, for each type and source of material.
- b) The minimum frequency of testing to be carried out by the Contractor is as follows:

Material Class	Type of Test	Relevant Standard	Rate of Testing
1A, 1B, 1C, 2A, 2C, 6A, 6F1, 6F2, 6N, 6P	Grading	See Table in Item 3 of this Appendix	Source approval and two per day per source
	Uniformity Coefficient	See Table in Item 3 of this Appendix	Source approval and two per day per source
	mc	See Table in Item 3 of this Appendix	Source approval and two per day per source
	Optimum mc	See Table in Item 3 of this Appendix	Source approval and one per day per source
	10% fines	See Table in Item 3 of this Appendix	Source approval and two per week per source
6N, 6P only	ϕ^I	See Table in Item 3 of this Appendix	Source approval and two per week per source
	c^I	See Table in Item 3 of this Appendix	Source approval and two per week per source
	Permeability	See Table in Item 3 of this Appendix	Source approval and two per week per source

- c) A set of three tests per material class is considered appropriate for source approval assessment.

APPENDIX 6/1
REQUIREMENTS FOR ACCEPTABILITY AND TESTING ETC. OF EARTHWORKS
MATERIALS (CONTD.)

3. Requirements for Testing and Acceptable Limits

The following tests are required to classify and determine the acceptability of earthworks materials. Each Class shall only comprise material with properties within the acceptability limits prescribed below:

Class as defined in Table 6/1	Property	Defined and tested in accordance with	Acceptable limits within	
			Lower	Upper
1A	Grading Uniformity Coefficient Moisture Content	BS 1377 Pt 2 Test Method 9 See Table 6/1, Note 5 BS 1377 Pt 2 Test Method 3	Table 6/2 10 Optimum MC-2%	Table 6/2 - Optimum MC
	Optimum MC	BS 1377 Pt 4 Test Method 3.7	-	-
1B	Grading Uniformity Coefficient Moisture Content	BS 1377 Pt 2 Test Method 9 See Table 6/1, Note 5 BS 1377 Pt 2 Test Method 3	Table 6/2 - Optimum MC-2%	Table 6/2 10 Optimum MC
	Optimum MC	BS 1377 Pt 4 Test Method 3.7	-	-
1C	Grading Uniformity Coefficient	BS1377 Pt 2 See Table 6/1, Note 5	table 6/2 5	Table 6/2 -
	10% Fines Value	Clause 365	50kN	-
2A	Grading MC	BS 1377 Pt 2 BS 1377 Pt 2	Table 6/2 PL-4%	Table 6/2 1.2 x PL
	Plastic Limit (PL)	BS 1377 Pt 2	-	-
2C	Grading MC	BS 1377 Pt 2 BS 1377 Pt 2	Table 6/2 Optimum MC-2%	Table 6/2 1.2 x PL
	Plastic Limit Optimum MC	BS 1377 Pt 2 BS 1377 Pt 4 Test Method 3.6	- -	- -

APPENDIX 6/1
REQUIREMENTS FOR ACCEPTABILITY AND TESTING ETC. OF EARTHWORKS
MATERIALS (CONTD.)

3. **Requirements for Testing and Acceptable Limits (Contd.)**

Class as defined in Table 6/1	Property	Defined and tested in accordance with	Acceptable limits within	
			Lower	Upper
5A	Grading	Clause 618	-	Clause 618
5B	(Material complying with BS 3882:1965)			
6A	Grading Uniformity Coefficient		Table 6/2 10	Table 6/2 -
	Plasticity Index		Non Plastic	
6F1	Grading Optimum MC Moisture Content		Table 6/2 -	Table 6/2 -
	10% Fines Value		Optimum MC-2% 30kN	Optimum MC -
6F2	Grading Optimum MC Moisture Content		Table 6/2 -	Table 6/2 -
	10% Fines Value		Optimum MC-2% 50kN	Optimum MC -
6N	Grading Uniformity Coefficient		Table 6/2 10	Table 6/2 -
	10% Fines Value		100kN	-
	Effective angle of internal friction (ϕ^I)		35°	-
	Effective cohesion (c^I)		OkPa	-
	Permeability		-	-
	Moisture Content		-	-
	Optimum MC		-	-

**APPENDIX 6/1
REQUIREMENTS FOR ACCEPTABILITY AND TESTING ETC. OF EARTHWORKS
MATERIALS (CONTD.)**

3. Requirements for Testing and Acceptable Limits (Contd.)

Class as defined in Table 6/1	Property	Defined and tested in accordance with	Acceptable limits within	
			Lower	Upper
6P	Grading Uniformity Coefficient 10% Fines Value Effective angle of internal friction (ϕ') Effective cohesion (c') Permeability Moisture Content Optimum MC		Table 6/2 5 100kN 35° OkPa - - -	Table 6/2 - - - - - - -
8	As general fill classes 1A, 1B and 2A			

4. Class 3 Material

4.1 No material is designated as Class 3.

**APPENDIX 6/2
REQUIREMENTS FOR DEALING WITH CLASS U2 UNACCEPTABLE MATERIAL**

- Should such material be encountered, the Contractor shall notify the Engineer immediately so that instructions can be given for safe removal, handling and disposal of the material.

APPENDIX 6/3
REQUIREMENTS FOR EXCAVATION, DEPOSITION, COMPACTION (OTHER THAN DYNAMIC COMPACTION)

1. Drawings

The Drawings which give related Earthworks requirements including line and level are the Long section and Cross section drawings.

2. Blasting

Blasting shall not be permitted.

3. Watercourses including ditches etc.

- (i) Existing and new watercourses/ditches may be dammed, diverted, overpumped, or blocked off during construction with the prior agreement of the Engineer and the drainage Authority. Any dams or other temporary structures shall be removed if instructed by the Engineer. The Contractor shall not be relieved of his responsibility with regard to any land or property upstream, adjoining or downstream as a result of damming, diverting, overpumping or blocking-off of any watercourse/ditch;
- (ii) Existing ditches as shown on the sections and construction drawings to be cleared and cleaned out, topsoil stripped and new drainage pipe laid. Filling shall then take place to the required height with granular sub-base material Type 2 Clause 804;
- (iii) Existing gullies which become redundant are to have their brickwork removed and be backfilled with ST4 concrete are indicated on the construction drawing.

4. Embankment Constructions

- (i) The Contractor shall not stockpile material on any earthworks area;
- (ii) Maximum gradient shall generally be limited to a 1:2 slope, unless otherwise shown on the Contract drawings;
- (iii) Minimum thickness of capping or sub-base for weather protection of sub-formation or formation shall be 300mm and the minimum thickness of sub-base when used as a weather protection layer shall be 150mm;
- (iv) Prior to the construction of any embankment all vegetation, top soil, made ground and any underlying soft material shall be removed from the embankment footprint, any resulting voids shall be backfilled with well compacted granular fill.

**APPENDIX 6/3
REQUIREMENTS FOR EXCAVATION, DEPOSITION, COMPACTION (OTHER THAN DYNAMIC
COMPACTION) CONTD.**

5. Compaction

- (i) A nuclear moisture/density gauge may be used for the measurement of field dry densities subject to the observance of the appropriate safety requirements.
- 6. Requirement for benching or shaping to natural or earthwork faces to receive fill are shown on the Standard Details.

**APPENDIX 6/4
REQUIREMENTS FOR CLASS 3 MATERIAL**

- 1. There is no material designated as Class 3 for the purposes of this Contract.

**APPENDIX 6/7
SUB-FORMATION AND CAPPING AND PREPARATION AND SURFACE TREATMENT OF
FORMATION**

- 1. Locations of capping layer are shown on the construction and standard details. Its thickness is to be ascertained from insitu CBR tests taken prior to the placement of capping for the different locations of the works as shown on Drg.No. REDW-3496-100. A minimum road construction thickness of 450mm shall be maintained at all times irrespective of CBR results.
- 2. Capping shall be Class 6F2 in accordance with Table 6/1.
- 3. In cuttings and on embankments, construction of capping shall comply with Clauses 613.11 (i) and 613.12 (i) respectively.
- 4. The subformation shall be protected, to ensure that softening of material does not ensue, by using additional general fill which would be removed before capping placement or capping material. In both cases an adequate depth of material shall be placed to offer frost protection, so between the beginning of October to the end of May 450mm protection is required, otherwise 150mm is sufficient.

APPENDIX 7/1

PERMITTED PAVEMENT OPTIONS - FLEXIBLE CONSTRUCTION

1. Project: Nigra House, Mulberry Business Park, Fishponds Road, Wokingham, RG41 2GY
2. Grid for checking levels of pavement courses (Clause 702.4)

Longitudinal Dimension : 5m
Transverse Dimension : 1m
3. Surface Regularity (Clause 702.7): Category of Road (Table 7/2): A
4. Compaction of Bituminous Materials

"Compaction of Bituminous Materials – Void content required (cl 901): void content when placed and compacted to be in range 2-6% for SMA surface course with no individual result to be greater than 7%, less than 6% for rolled asphalt base and roadbase, less than 8% for dense bitumen macadam base course and roadbase within the range recommended by the propriety system for thin surfacing.
5. Thin Surface Aggregate (Clause 915)
 - a) Nominal Size: 10mm nominal size
 - b) Minimal PSV 65
 - c) Maximum AAV 12
6. Surface Texture - The method to check compliance of surface texture shall be by the sand patch Clause 921.
7. Traffic Category - For the purposes of the scheme as a whole all reinstatements/excavations in the carriageway for utility cables, ducts, pipes or other Utility company plant shall be classified as Road Category Type 2 in accordance with NRSWA Act 1991. When required material complying with Clause 912/914 shall be category A
8. Joints in Surface Course - Transverse and longitudinal joints shall be cut by one of the following methods:
 - i) cutting wheel fitted to a roller when the surface course is warm
 - ii) saw cutting when the surface course is cold
9. Treatment of Joints

All vertical joint faces between stone mastic asphalts and bituminous material shall be completely sealed with hot applied 70 pen bitumen. Vertical joint faces between existing concrete layers or planed off surfaces and proposed bituminous materials to be spray painted with tack coat emulsion. All joints in the existing surface course to be formed by a sawn cut.

APPENDIX 7/1

PERMITTED PAVEMENT OPTIONS - FLEXIBLE CONSTRUCTION (CONTD.)

10. Quality Assurance

All Proprietary Thin Surfacing material and coated macadam shall be supplied from a manufacturing plant approved by the Council's Quality Assurance Scheme.

11. New Carriageway Construction

New carriageway construction specification shall be in accordance with Table 7.1 below:

TABLE 7.1 – NEW CARRIAGEWAY CONSTRUCTION

	Thickness (mm)
SURFACE COURSE Surface Course (Clause 942): Proprietary Thin Surfacing TUFFPAVE by Hanson to be used Special Requirements: BS EN 13108-1 SMA 10 surf 40/60 – PSV 65, AAV 12 max The thin surfacing shall have BBA/HAPAS certification or have Highway Agency Type Approval Site stress level: 4 Initial Texture Depth: 1.0mm min	40
BINDER COURSE Binder course (Clause 906): Dense Bitumen Macadam Special Requirements: BS EN 13108-1 AC 20 dense bin 40/60 Aggregate: 20mm nominal size crushed rock only	60
BASE Continuously reinforced concrete base (Clause 1001) 2 layers of A393 mesh C40 mix -BS8500-1 On 1200 grade polyethylene sheet	200
SUB-BASE Sub-base (Clause 803): Type 1 Special Requirements Minimum CBR: 30%	150
TOTAL THICKNESS	450

APPENDIX 7/1
PERMITTED PAVEMENT OPTIONS
FLEXIBLE CONSTRUCTION (CONT.)

NOTE: In situ CBR tests will be taken during the works to confirm the CBR values of the sub-formation. If CBR values are below 15%, the required capping layer thickness is to be provided as defined on the Contract drawings.

12. Where a capping layer of material complying with Specification for Highway Works (SHW) Types 6F2, 6F3 or 6F4 is required, this shall comprise non-argillaceous material and, where the material size permits, shall a CBR value of at least 15% when tested in accordance with BS1377: Part 4.7 at the in-situ moisture content following compaction. Appropriate thicknesses for subbase on capping layer or subbase only are shown in Table 1.0 below. These design thicknesses are dependent on the design sub-grade CBR values measured on site and agreed with the Council and the Engineer:

Table 1.0 Capping Layer thicknesses depending upon sub-grade CBR

CARRIAGEWAY SUB-BASE ON CAPPING

CBR (%)	Subbase on Capping (mm)		Subbase Only (mm)
	Subbase	Capping	
≤2.5	Ground Stabilisation		Ground Stabilisation
2.6 – 2.9	350	250	450
3.0 – 3.9	320	240	400
4.0 – 4.9	270	220	360
5.0 – 5.9	240	210	320
6.0 – 7.9	210	200	300
8.0 – 9.9	200	180	270
10 – 11.9	180	180	250
12.0 – 14.9	170	160	230
15.0≥	150	150	200

(figures used in the table above have been extracted from figures 3.1 and 3.2 of IAN 73/06 Rev 1)

APPENDIX 7/2

EXCAVATION AND REINSTATEMENT OF EXISTING SURFACES

1. Location of trenches, pits etc. which require to be excavated in existing paved surfaces are shown on Drg.No. REDW-3496-100.
2. The new construction areas are shown on Drg.No. REDW-3496-100 indicating the location and areas of existing paved areas which are to be trimmed, regulated and reinstated to match levels where new and existing pavements abut.
3. All surface course longitudinal and transverse tie-in joints are to be saw cut, cleaned and completely sealed with hot applied 70 pen. Bitumen.

APPENDIX 7/4 BITUMINOUS SPRAYS

LOCATION: CONSTRUCTION JOINTS, OVERLAYING EXISTING SURFACING

1. Where a tack-coat or bond coat is specified prior to resurfacing or regulating it shall be applied at a uniform rate in accordance with CI 5.5 of BS 594-2 or BS 4987-2. There shall be no bare areas or areas of ponding. Bond coat can be substituted for Tack coat at suitable application rates but not vice versa.
2. Bituminous sprays shall be used in the following applications:

	<u>Grade</u>	<u>Rate of Spread</u>
i) Vertical faces of cut surfacing	K1-40	0.51/m ²
ii) New surfaces not immediately overlain	K1-40	0.51/m ²
iii) existing planed surfaces	K1-40	0.51/m ²

APPENDIX 7/6 BREAKING UP OR PERFORATION OF EXISTING PAVEMENT

- 1.0 For areas of removal of existing pavements refer to Drawing No. REDW-3496-100,

APPENDIX 11/1 KERBS, FOOTWAYS AND PAVED AREAS

1.0 GENERAL

- 1.1 All kerbing, footways and paved areas shall be constructed in accordance with Drawing Nos REDW-3496-100 and REDW-3496-200 to 205.
- 1.2 The following tolerances shall apply to the construction thickness of footways either in total or in part, as appropriate:

Finished footway level *	Stated level +/- 5mm
Top of binder course	Stated level +/- 5mm
Top of sub-base	Stated level +/- 10mm
Overall construction	Stated thickness +/- 10mm

- 1.3 Regardless of the tolerances quoted footway levels shall finish flush with the top of the kerb line.
- 1.4 Individual layer thicknesses are not to vary in excess of the stated level tolerances.
- 1.5 All cuts required to kerbs, edgings and tactile paving shall be sawn.

APPENDIX 11/1

KERBS, FOOTWAYS AND PAVED AREAS (CONTD.)

1.6 Minimum length of closures for kerbing and edging shall be 300mm.

2.0 FOOTWAYS AND PAVED AREAS

2.1 Footway flexible surfacing materials and construction shall be in accordance with Drg.No REDW-3377-202 and consist of the material and thicknesses shown in Table 2.0:

Table 2.0 Footway Construction Specification

	Thickness (mm)
SURFACE COURSE Surface course (SHW Clause 909): Dense Bitumen Macadam Special Requirements: BS EN 13108: AC 6 dense surf 160/220 Aggregate: 6mm nominal size crushed rock only	25
BINDER COURSE Binder course (SHW Clause 906): Dense Bitumen Macadam Special Requirements: BS EN 13108: AC 20 dense bin 40/60 Aggregate: 20mm nominal size crushed rock only	75
SUB-BASE Sub-base (SHW Clause 803): Type 1	150

Note: Limestone is not acceptable within surface course for footways or carriageway.

2.2 The mortar used in kerbs, channels, edgings, paved areas and the like shall conform to Clause 2404 of the Specification, Table 24/1 Designation (i) unless otherwise stated in the contract.

APPENDIX 12/1

TRAFFIC SIGNS: GENERAL

1.0 Permanent Traffic Signs

- 1.1 The location of all permanent traffic signs shall be as shown on Drawing No. REDW-3496-100.
- 1.2 Details of signs, sign lighting units and mountings are shown on Drawing No. REDW-3496-207.
- 1.3 All signs, whether constructed of sheet or extruded plank, shall be manufactured in aluminium to BS EN 12899-1.
- 1.4 The manufacturer's sign fabrication drawings shall be submitted to the Engineer for checking. Manufacture may not commence until the Engineer's approval has been received. The Engineer will require two weeks to check the drawings, from the date of receipt.
- 1.5 The required durability of all sign plates and faces shall be as follows:
 - i) 10 years for signs manufactured with class 1 and/or diamond grade (or equivalent) face material;
 - ii) 7 years for signs manufactured with other face material;
 - iii) 5 years for signs manufactured with other than aluminium substrate.
- 1.6 All sign faces, except Tourism signs and signs to TSRGD Diagrams 637 to 662, shall be Class Ref 2 reflective to BSEN 12899 – 1:2001.
- 1.7 All signs shall be supplied complete with sufficient clips, brackets and ancillary items, to suit the posts to which they are to be fitted.

2.0 Installation of Permanent Traffic Signs

- 2.1 Signs shall be erected in accordance with Drawing No. REDW-3496-207.
- 2.2 During sign erection, measures shall be taken to ensure that signs are not abraded, impacted or otherwise marked.
- 2.3 Tape shall not be applied to sign faces.
- 2.4 Signs on single posts shall be fixed by a minimum of 2 clips. Such clips shall be specially designed to prevent rotation of the sign.

3.0 Relocated Sign Plates

- 3.1 The Contractor shall carefully remove the existing sign face(s)/plate(s) taking care not to damage any column/post protective coating.
- 3.2 The relocated faces shall be fixed using a stainless-steel banding system having a tamper proof locking mechanism.
- 3.3 The sign faces/plates shall be fixed such that the lowest part of the lowest face is at 2.4m or 2.1m type above ground level (depending upon sign). If this cannot be achieved the Contractor must inform the Engineer before removing the existing sign faces.
- 3.4 Signs which face oncoming traffic shall be set at an angle of 95 degrees from the straight edge of the carriageway to avoid glare.

APPENDIX 12/1

TRAFFIC SIGNS: GENERAL (CONT.)

4.0 Posts for Permanent Traffic Signs

- 4.1 Posts for Permanent Traffic Signs shall be as shown on Drawing No. REDW-3496-207.
- 4.2 Tubular steel posts shall be manufactured from steel complying with the requirements of BS EN 10210. Wide-based posts shall also be to this specification. The minimum base section diameter for a wide-based post is 140mm.
- 4.3 Where a sign is erected on more than one post and is required to carry an overhead lighting unit, a length of 76 mm diameter tubular post shall be fastened with clips to at least two points on the rear of the sign leaving a 150 mm projection above the post for the luminaire bracket. The length of the dummy post may vary between 750 mm and 1200 mm dependent upon the depth of the sign. Otherwise no part of any post shall show above the sign.
- 4.4 Plastic post caps of the appropriate size shall be fitted to the exposed ends of all tubular steel posts.
- 4.5 Types of lock to traffic sign housings shall be agreed by the Engineer and shall be supplied with six (6 No.) keys of any one type.
- 4.6 Foundations for posts shall be constructed as detailed on Drawing No. REDW-3496-207.
- 4.7 The sign plates or planks shall not be fixed until three days after concreting of the posts.
- 4.8 Where signs are illuminated provision shall be made for cable entry through the concrete base by means of a 50mm diameter flexible PVC duct.

5.0 Installation of Street Furniture

- 5.1 The Contractor shall be required to liaise with the Southern & Scottish Electricity Networks where applicable for the installation and connection of service cable to the relocated street lighting column.
- 5.2 The exact positions of all statutory undertaker's apparatus and equipment shall be determined on site by the Contractor prior to commencing excavation.
- 5.3 The foundations for posts, columns and illuminated bollards shall be as detailed in the contract drawings.
- 5.4 The Contractor shall install the unit in accordance with manufacturer's instructions, Statutory (and other) Regulations and Codes of Practice.
- 5.5 The cable entry hole shall be free from obstruction. All column/post doors must face away from oncoming traffic where possible.
- 5.6 The Contractor shall satisfy themselves as to the correctness of all connections between apparatus installed by them and apparatus previously installed by others, before any new installation works are commissioned and operational.

6.0 Reinstatement

- 6.1 The Contractor shall allow for permanent reinstatements as detailed in the Specification for all excavations associated with new or replacement illuminated street furniture and associated control points.

APPENDIX 12/1

TRAFFIC SIGNS: GENERAL (CONT.)

- 6.2 All surplus materials to be removed to Contractor's tip.
- 7.0 **Trenching and Ducts**
- 7.1 The Contractor shall allow for the careful removal and preservation of any turf for subsequent replacement.
- 7.2 The Contractor shall allow for breaking through the footway or carriageway surface and replacing the surface with similar material type to permanent reinstatement in accordance with the Specification.

APPENDIX 12/3

TRAFFIC SIGNS: ROAD MARKINGS AND STUDS

8.0 Road Markings

- 8.1 The location colour and material for permanent road markings and studs are indicated on Drawing No. REDW-3496-100.
- 8.2 The road markings shall be thermoplastic material complying with the following specification:
- i) BS EN 1871, BS EN 1436 and BS EN 1424. For permanent road markings;
 - ii) BS EN 1423 for surface applied glass beads;
 - iii) BS EN 1423 for pre-formed markings.
- 8.3 The binding material shall be synthetic resin. The thickness of line material shall be:
- i) Screed lines: not less than 2.0mm or more than 5.0mm;
 - ii) Extruded lines: not less than 2.5mm or more than 3.5mm.
- 8.4 The minimum thicknesses are exclusive of surface applied glass beads. The determination of thickness shall be in accordance with the British Standards. The surface of the line as laid shall be free from blisters, streaks, lumps and other defects. The extruded line application process shall ensure that all surfaces are filled and the thickness range given above shall provide, on completion of the works, a smooth line which is neatly finished with square ends at all break points.
- 8.5 Width and lateral tolerances shall be within the limits given in the current Traffic Signs Regulations and General Directions.
- 8.6 White road markings are to be reflectorised by the incorporation of solid glass beads in the mixed material and surface application of additional solid glass beads at the rates stated in Clause 1212.
- 8.7 A tack coat shall be applied before road markings are laid.
- 8.8 A 2-year maintenance period is required for all road markings.
- 8.9 Reflecting road studs (if required) are to be "long Cats eye type" as manufactured by Reflecting Road Studs Limited, Halifax (or equivalent) or similar approved and shall comply

with BS EN 1463-1.

- 8.10 All materials and solid glass beads shall be obtained from manufacturers who operate Third Party QA Schemes under ISO 9002, EN29002.
- 8.11 The contractor shall operate a Quality system complying with Scheme No. 7 of the sector schemes for Quality Management in Highway Construction - "Application of Road Marking Materials".
- 8.12 The Contractor shall hold and maintain a valid certificate of registration in the above scheme, issued by a UKAS accredited Certification Body.

9.0 Permanent Road Markings

- 9.1 Details of all required road markings and studs (if required) are shown on the Road Markings Plans.
- 9.2 All markings shall be screed applied thermoplastic material.
- 9.3 Material for yellow transverse bar markings shall be reflectorised screed applied thermoplastic. The skid resistance of these markings shall be to Class S5 of Table 7 of BS EN 1436.
- 9.4 Where markings are to be provided at sites of High Friction Surfaces, those markings shall not be applied until after the installation of the treatment.

10.0 Road Markings

- 10.1 All markings shall be white unless otherwise shown on the drawings and shall be reflectorised.
- 10.2 Temporary road markings shall be totally removable.

11.0 Removal or Concealment of Road Markings

11.1 Permanent Obliteration

Where existing road markings are to be permanently removed, they shall be completely removed by grit blasting, grinding, scabbling or other approved method. Hot air jet blasting shall not be used on concrete pavements. Obliteration of road markings using either bituminous or resinous paint shall not be permitted.

11.2 Temporary Obliteration

Where existing road markings on bituminous pavements are to be temporarily obliterated for traffic management or any other purpose the markings shall be completely covered by proprietary preformed removable black masking material which shall be able to withstand the traffic load upon it for the required period. Upon removal of the black masking material covering the original markings are to be upgraded to the standard apparent before the temporary obliteration. Temporary covering of road markings on concrete pavements shall not be permitted.

APPENDIX 13/1
INFORMATION TO BE PROVIDED BY THE ENGINEER WHEN SPECIFYING
LIGHTING COLUMNS AND BRACKETS

1. Refer to Drawing No. REDW-3496-100.

APPENDIX 14/3
ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS
TEMPORARY LIGHTING

1. Temporary lighting for traffic management during carriageway diversions will be provided by the Contractor wherever there is no existing lighting of an adequate standard. Temporary lighting will also be required where new sections of highway are opened to traffic before their permanent lighting systems are in operation.
2. The standard required for temporary lighting will be Category 2 of BS 5489: Part 2 : 2016, and the Contractor shall ensure that any temporary lighting he provides does not cause glare to traffic using any highway nor annoyance to occupants of surrounding property.

Existing illuminated regulatory signs, where not part of a traffic installation, must be maintained either in their existing locations or temporary locations and the same standard of illumination maintained by either existing or temporary lighting. The lighting is to be maintained until the relevant regulation ceases to be appropriate and may not be removed without the prior approval of the Engineer in writing.

3. The Contractor may if he wishes, propose the advance installation of fixed road lighting units in their final positions in order to fulfil the requirements of 1. and 2, but will be fully responsible for any damage which may occur to such equipment before final handover.

The Contractor shall ensure that all existing road lighting remains in operation for as long as that road is open to traffic. Where electrical supplies to existing units are disconnected during the execution of the Works the Contractor shall provide and install temporary supply cables as directed by the Engineer. Feeder Pillars may be installed in advance of the road construction.

4. The Contractor shall maintain on a previously lit road lighting to a level commensurate with that normally found on such a category of highway when lit.
5. No existing road lighting is to be switched off without the permission of the Council.

APPENDIX 24/1 BRICKWORK, BLOCKWORK AND STONWORK

1. All mortar for brickwork to be in accordance with Clause 2404 Table 24/1 designation (i).
2. Bricks to be of FL quality with a maximum water absorption of 7%
3. Pointing to be specified by the Engineer.

APPENDIX 26/1 ANCILLARY CONCRETE

1. The concrete mix for each purpose shall be as described in Table 26/1 unless otherwise specified below or in the Contract Drawings.

PURPOSE	MIX	MAXIMUM WATER/CEMENT RATIO	CHARACTERISTIC COMPRESSIVE STRENGTH AT 28 DAYS
1. Bedding and backing to precast Concrete kerbs, channels, edgings and guardrails. Surround to cable drawpit.	ST1	-	7.5 N/m m ²
2. Mass concrete infill and surround to cable duct, bed haunch and surround to drains. Benching to manholes. Surround to channels and gullies. Footings for fence posts and augered foundations for traffic signal posts.	ST2	-	10.0 N/m m ²
3. In-situ cover slab, manhole base slab, walls and benching. Surround to gullies.	ST4	-	20.0 N/mm ²
4. Foundations for safety fence posts and planted lighting columns	ST5	0.60	25.0 N/m m ²
Anchor blocks for safety fencing	ST5	0.50	25.0 N/m m ²

STATUTORY SERVICE DIVERSIONS
CORRESPONDENCE

The Cherwell Group Ltd

1 Cherwell Mews

London

SW11 1AF

FAO: Paul Duddridge

Our Ref: LP/BNSR11/896246

Your Ref: Mulberry Bus Park

6th June 2023

Dear Sir

**C4 Enquiry
Mulberry Business Park, Wokingham, RG41 2GY
NR&SWA Section 83**

Thank you for your Detailed Scheme.

Attached to this letter is a Detailed Specification and cost estimate of the works required.

This cost estimate contains elements that reflect anticipated cost levels rather than the actual costs and as with all estimates these cost elements may change. Openreach customer requirements often mean that our network is enhanced and expanded. Therefore, the estimate provided is an indication of the final costs, based on the network existing at the date of this letter. In the event of your scheme being delayed for any significant period, it may be prudent to request a revised detailed estimate before committing to the scheme.

Before any Openreach work, or work affecting Openreach apparatus can commence on site, we require your formal agreement to the Specification of Works and provisional programme timescales which needs to take into account the requirement for a three-month notice period to the relevant Highway Authority for programmed Openreach works in the public highway. You should signify this by returning the Specification with the agreement section signed, together with your official order. If you also enclose a cheque for your payment in advance of the estimated cost, we will be able to progress the works while the invoice is prepared and sent to you.

We offer a free site visit service to locate and mark the position of Openreach apparatus within your work area. To arrange a site visit from a Plant Protection Officer Email: cbyd@openreach.co.uk

Please be aware that any duct and poles owned and controlled by Openreach can be used by third party Communications Providers (CP) for the installation of their cables and apparatus if they have a contract with us for our Physical Infrastructure Access (PIA) product. The CP must, however, place an order with us for PIA before they install their cables or apparatus. If such CP cables or apparatus are identified in our network within your area of interest, I will identify a contact for the affected CP and advise them of your proposals. I will pass these contact details on to you and liaise with the CP so that they are aware of any diversionary requirements relating to your proposals. You will be contacted directly by the affected third-party CP - they will advise you of any associated chargeable costs relating to their cable and apparatus diversions. If you have any queries or concerns relating to this aspect of the Openreach operated network, please don't hesitate in contacting me. Please note Openreach Limited will not be held liable for any delays, costs, losses or damage caused by the third-party CP.

If you wish to discuss your proposals further or would like to arrange a meeting please do not hesitate in contacting me. In addition, could you please nominate a representative, who once work is in progress, would be able to authorise any changes required.

Yours faithfully



Lee Povey

Network Alterations Diversionary Works Payment Details

Please forward your order (free from contractual conditions) and the estimated sum of £163,600.78 (including VAT).

There are two ways to pay:

1. By Cheque

- This is our preferred method of payment
- Please make cheques payable to **British Telecommunications Plc**
- Send your cheque with your order / letter of authorisation to proceed with the works to the Project Engineer shown below (order not to contain contractual conditions)
- Write your cheque number here: _____
- Write the cheque amount here: £ _____

2. Using Bank Automated Clearing Services (BACS)

When your order / letter of authorisation to proceed with the works has been received an invoice for payment will be returned with the necessary BACS payment details.

Please quote the Openreach reference number / invoice number otherwise payment may not be allocated to your job.

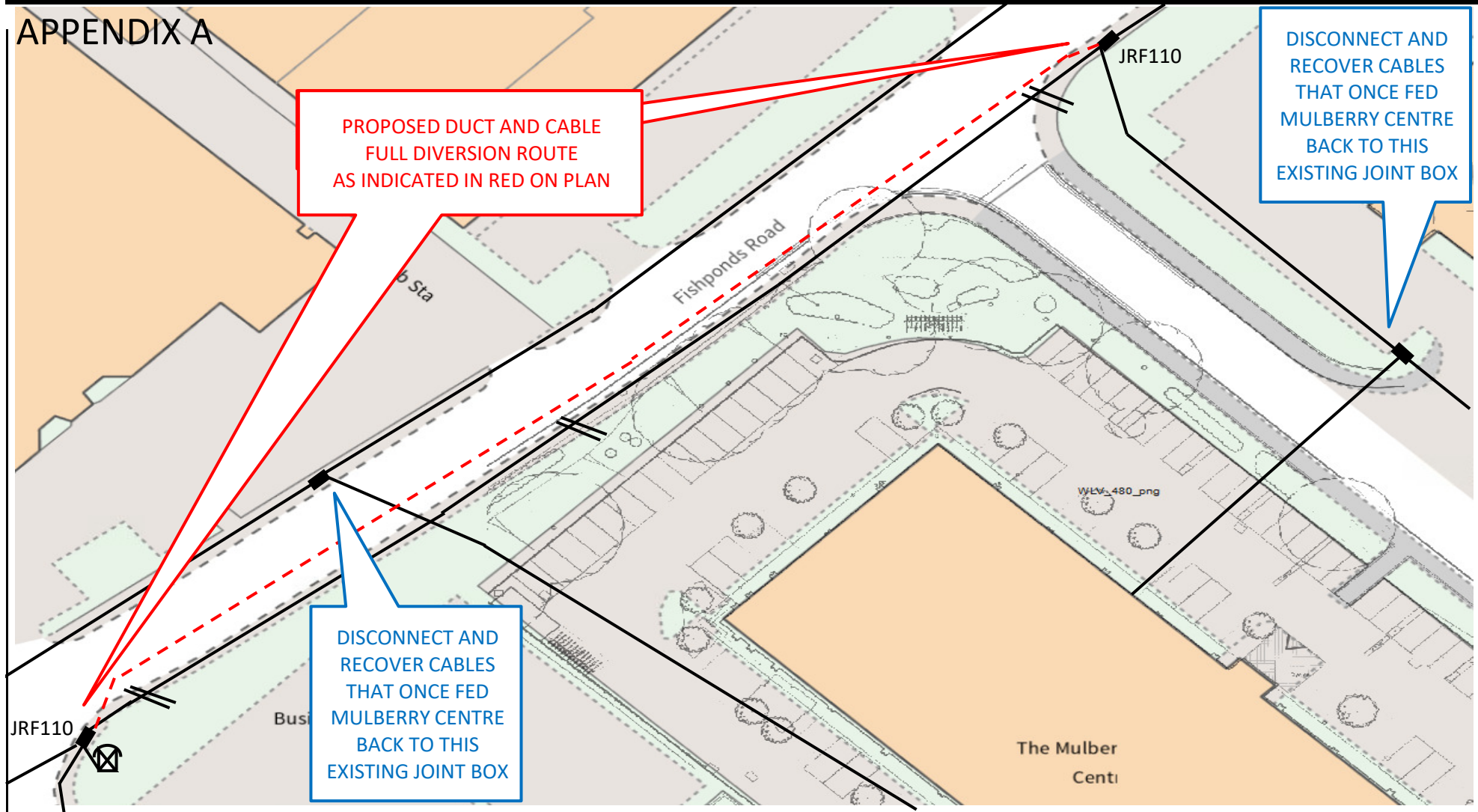
N.B. For either method of payment please complete this form and return with your order / letter of authorisation to the Project Engineer, address below. Please remember, however you pay, the works will not commence until this form and your payment have been received.

Title/Location of Work	C4 Enquiry, Mulberry Business Park
Project Engineer Name	Lee Povey
Postal Address	Reading Central ATE, PP203, 41 Minster Street, Reading, RG1 2JB
Openreach Reference	LP/BNSR11/896246
Company Name	The Cherwell Group Ltd
Client Contact	Paul Duddridge
Client Tel	020 7585 1110

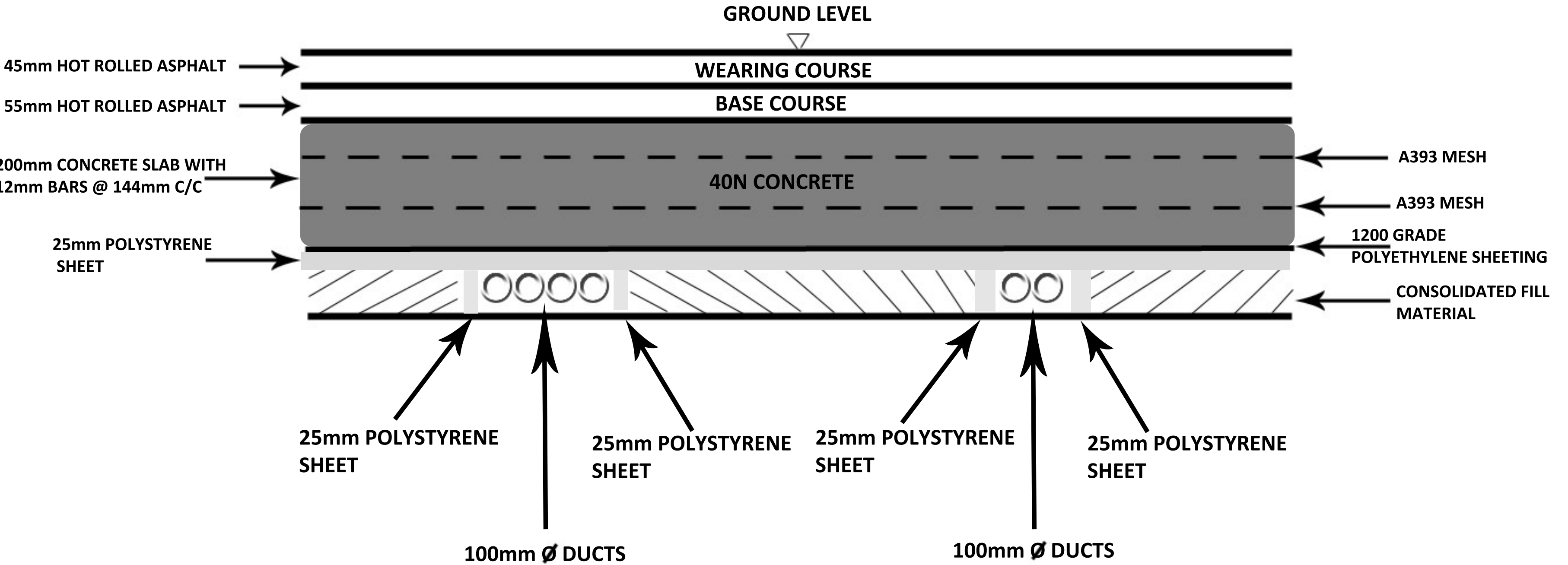
For advice or assistance in completing this form please call Jane Goodison 0131 345 0016
Our VAT number is **245719348**

Exchange:	WOKINGHAM	Prepared by:	LEE POVEY	openreach BT	Works Diagram	E-Mail
Record No:	896246			Address	MULBERRY BUSINESS PARK	
Date:	6-Jun-23	OUC:	BNSR11	Est No:		

APPENDIX A



DUCT PROTECTION DETAIL (CONCRETE SLAB)



Openreach Specification of Alteration Works

1. Project Title and Location

C4 Enquiry.
Mulberry Business Park.

2. Promoting Authority / Client for Works

Unspecified.

3. Legislation

3.1 *Legislation under which Client Working*

NR&SWA Sections 50/86(4), NR&SWA Sections 83/84/86, Highways Act 1980 Sections 184(9)/278, Private Legislation.

3.2 *Legislation under which Openreach Works are proposed*

NR&SWA Section 83.

4. Details of Existing Openreach Apparatus

Existing Openreach apparatus consists of underground cables and duct as shown in detail on the Clients drawings as defined in Appendix A which have been marked by Openreach.

5. Reasons Diversions Required

Existing Openreach apparatus will be affected by the construction of the C4 Enquiry scheme. Development.

6. Proposals for Openreach Works

The proposed diversionary works are shown on the drawings returned to the Client and marked by Openreach. Appendix A refers. These drawings show the existing and proposed duct layout. It should be noted that this specification details an estimate of the cost and nature of the work required (Appendix B). Changes to these proposals will be undertaken in accordance with the monitoring and control of this project (see section 11).

6.1 *Civil Engineering Works*

6.1.1 *Duct Diversion*

New ducts of an equivalent capacity to the affected plant (or the nearest alternative) will be installed as a replacement to the affected plant. The duct(s) will be installed at standard depths of cover wherever possible. All new apparatus provided for the purposes of diversionary works will be installed as specified by Openreach's current engineering policies and practices.

6.2 *Cabling Works*

6.2.1 *Underground Cables*

Where underground ducts and cable ducts are to be diverted, replacement cables will be installed into the new duct. The circuits affected by the construction of C4 Enquiry scheme include local distribution, main distribution and optical fibre cables.

6.2.2 *Recoveries*

On completion of the cable diversions, all redundant Openreach equipment (except underground ducts) will be recovered where possible. No allowance has been made for the recovery of redundant underground ducts as it has been assumed they will be recovered or demolished under the construction phase of the C4 Enquiry scheme and the associated works

by the Client main contractor. All jointing chambers and manholes made spare by the diversionary works will be demolished by Openreach and will be charged for.

7. Off-Site Works

The diversion of some cables and associated circuits (audio and digital trunk, coaxial, short haul data and fibre) will necessitate off-site works. These may include jointing and cabling works at locations other than those associated with the physical diversion and/or testing and balancing works at a telephone exchange or customer premises and will be charged for.

8. Materials / Methods of Construction / Non-Standard Construction

Standard Openreach materials and methods of construction will be used. Deviations from these standards could increase the cost base and the timescale of the work (see section 10).

9. Site Requirements

9.1 Traffic Management

Traffic management will be the responsibility of the Client and/or the Client appointed contractor. Openreach will be responsible for off-site traffic management, the estimated costs of which have been included in the cost estimate. Should additional traffic management costs be identified during the works these will be notified under change control.

9.2 Ground Conditions Including Contamination

Openreach has no information as to ground conditions or information as to any ground contamination and has prepared its Estimate and Specification on the basis that the ground conditions will not in any way impede or restrict the progress of Openreach works or involve Openreach in any way in incurring additional charges in dealing with ground conditions or ground contamination.

It is essential Openreach is informed of any ground contamination known or found whilst site works proceed. This will enable Openreach to ensure Health and Safety at Work Act and Construction Design and Management requirements are met for Openreach contractors and personnel. This will also enable any special materials, and/or construction methods to be utilised. This would involve additional costs, for which the Client will be responsible.

9.3 Compulsory Purchase / Wayleaves

Any compulsory purchases must be finalised before Openreach work starts on site. Openreach must be notified in writing of the legal status of any land subject to purchase orders compulsory or otherwise before any apparatus is installed in, under or over such land. Openreach will not install apparatus within private land without an agreed wayleave. Openreach will arrange all appropriate wayleaves to place plant within private property, whether on a temporary or permanent basis. Openreach will not commence any works that are subject to private wayleave(s) until such time as written acceptance has been obtained from the appropriate parties. Openreach will not be held responsible for any delays incurred whilst negotiating private wayleaves. Costs incurred in order to secure the appropriate wayleave(s) may be chargeable and passed on to the Client.

9.4 Access

24-hour physical and legal access will be required for all sites of diversionary works. As other Statutory Undertakers are expected to be working in close proximity, detailed co-ordination of all works will be required, see section regarding Construction Design Management. Any losses, expense or costs incurred by delays to Openreach programme of works by the obstruction of the works by other Statutory Undertakers or Client, or Client agents, contractors or sub-contractors will not be the liability of Openreach.

9.5 *Position of New Apparatus*

The positioning of all new overhead and underground apparatus has been assumed. The actual positioning will be dependent upon the ground being free from obstructions and the results of any trial excavations required for feasibility. If the proposed positions are subject to change, the cost base and the timescale of the work could be increased. This is especially important in the case of civil engineering work (e.g. lowering), where an obstruction will require the full diversion of the affected apparatus which would invalidate the provisional or agreed programme of Openreach specification of works. It is stressed that while trial excavations give a good indication of the feasibility of lowering, it cannot guarantee the lowering can be achieved. Should the diversion of other Undertakers or interested parties apparatus be required to enable Openreach to complete its operations, the required works will be notified to the Client and/or agent under the Change Control procedure (see section 11.2).

9.6 *Security Arrangements*

Openreach must be informed of any special security arrangements anticipated for the control of protestors. Openreach contractors and personnel will be instructed to avoid confrontation, wear visible identification and vacate any site should any protest become physical or violent. Whilst appreciating the role of private security personnel, should Openreach personnel or contractors be threatened on site and require protection, the police will be requested to provide assistance. Any additional charges incurred due to the disruption of works will be identified to the Client and/or agents under the Change Control procedure (see section 11.2).

9.7 *Lines and Levels*

Before any works can be started on site, a guaranteed mark and level of the proposed kerb line provided by the on site main contractor to a minimum standard of every 10m over the length of Openreach's diversions. All new Openreach apparatus will be installed in the line and level as directed by the main contractor. Only instructions issued by the Client or Client's agent will be acted upon.

9.8 *CDM Regulations Requirements*

Openreach will comply with the current Construction Design and Management Regulations (CDM). Where CDM regulations apply method statements and risk assessments will be provided by Openreach or to Openreach. Please advise Openreach of the Client appointed Planning Supervisor.

9.9 *Claims for Compensation for Disruption of Businesses*

Any claims for compensation for disruption of business made against Openreach by a third party due to the required Openreach works will be forwarded to the Client for payment or settlement. This will apply except where claims arise from the negligence of Openreach.

10. *Programme / Timing of Works*

Subject to available resources, the timescales for each section have been estimated. The preparation of works instructions and formation of a detailed programme should start on receipt of the agreement to this specification and payment (Appendix C5 of Code of Practice). Openreach will endeavour to comply with the Client agreed timescales.

10.1 *Service Down Time*

Due to the nature of some customer's services, special contractual conditions exist and service down time will be dependent upon the requirements of the customer, which may cause delays in the execution of the programme. Negotiation with customers can only commence once the works instructions are issued to the Openreach works operatives and a definite programme of works is known.

10.2 Completion Dates

Due to the complex nature of Openreach diversions and the possible conflict between different Statutory Undertakers works, Openreach is not able to guarantee completion dates for its diversionary works.

10.3 NR&SWA Noticing Arrangements

The start dates for the work will be dependent upon the advance notice timescales required by the Highway Authority under the Traffic Management Act (TMA) / Transport Scotland Act (TSA) as applicable.

10.4 Extended Day Working

It should be noted that extended hours may be utilised as deemed necessary by Openreach in order to ensure the proposed timescales are achieved. Premium charges may apply.

11. Monitoring and Control

The project will be monitored and controlled at two separate levels:

11.1 Project Management

Openreach will employ project management techniques to monitor and control delivery of the agreed project. Charges relevant to project management time are included in the cost estimate of the works. Cost controls will be monitored on a +/-10% variance to the agreed cost and approval sought at the regular project review meetings. Variances greater than +/-10% to the agreed cost estimate will be referenced to the Client for approval.

11.2 Changes

Changes to the authorised project plan will be agreed with the Client to ensure time, cost and quality standards are maintained. Changes to this specification and Openreach works can only be authorised and agreed by the people referred to in section 13. Appendix C will be used by both parties to this agreement for Change Control authorisation. A Change Control register will be maintained by both parties. The form to be completed by either party to initiate a change to the agreed specification and faxed to the other party for a signature of agreement to the change request. The form then returned by fax to the originator. Any work that is the subject of a change request must not proceed until agreed by both parties using Appendix C.

12. Treatment of Disputes

If any dispute arises between Openreach and the Client or its representatives, the parties will use their reasonable endeavours to settle the dispute in accordance with the following procedures:

Any dispute, which has not been settled by the nominated representatives of both the Client and Openreach within 28 days of the matter being raised, may be escalated to the dispute first level, by notice of writing to the other party (NR Regional Delivery Manager / Client or Client nominated 1st tier representative).

If the dispute is not resolved at the first level within 21 days of the escalation either party may refer to the second level (Engineering Manager / Client or Client nominated 2nd tier representative).

The parties nominated representatives and the people to whom a dispute must be escalated at the first and second levels are detailed in the 'Dispute Levels' section of this specification. If a dispute is not resolved after the procedures set out have been followed then either party shall follow the resolution procedure in the New Roads and Street Works Act Diversionary Code of Practice.

13. Contacts

13.1 Client and Client Representative

Name Title Company Telephone Fax	Client Paul Duddridge The Cherwell Group Ltd 020 7585 1110	Client Representative
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13.2 Openreach Management Team

Project Manager Project Engineer(s)	Name Lee Povey	Telephone	Fax
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14. Dispute Levels

14.1 First Level

Name Title Telephone Fax	Openreach Mandy Moore NR Regional Delivery Manager	Client
---	---	---------------

14.2 Second Level

Name Title Telephone Fax	Openreach Harry Laurie Engineering Manager	Client
---	---	---------------

15. Issue Status

Issue 1 - 6th June 2023

16. Agreement

The above specification of the Openreach works required as a consequence of this scheme is agreed and the associated estimate of costs has been noted.

I agree to Openreach commencing the work in accordance with the provisional programme.

(*) A cheque / copy of my BACS remittance slip is attached / Please send an invoice for payment.

(*Delete as necessary)

(Note - except for a highway authority client, Openreach cannot start work until your payment is received)

	Openreach	Client
Signature		
Print Date	Lee Povey 6th June 2023	

DRAWING STATUS - APPENDIX A

Drawing Number	Revision	Address / Description	Date Received
896246		Proposed Openreach Diversionary Works at Mulberry Business Park	6th Jun 2023

DETAILED CLIENT ESTIMATE (PRO-FORMA) FORM: P10
APPENDIX B

Scheme Title: C4 Enquiry
Client Name: Paul Duddridge
Client Reference: Mulberry Business Park
Location of Work: Mulberry Business Park
Openreach Ref: LP/BNSR11/896246
Date: 6th June 2023
Issue: 1

	CREDIT	DEBIT
Direct Labour Costs		£84,934.28
Contract Costs		£41,700.84
Material Costs		£9,698.86
Other Costs		£0.00
Total Costs or Expenses		£136,333.98
TOTAL ESTIMATED COST (ex. VAT)		£136,333.98
VAT CONTENT		£27,266.80
TOTAL ESTIMATED COST (inc. VAT)		£163,600.78

This estimate is produced in accordance with the following:
1. New Roads and Street Works Act 1991.
2. Code of Practice: Measures Necessary where Apparatus is Affected by Major Works (Diversionary Works).



CA Telecom UK Ltd
Unit 2, CA Business Park
Colewood Road
Whitstable
Kent
CT5 2RP
www.catelecomuk.com
T 01227 768427

Dear **Paul McLaughlin**

12/06/2023

NRSA 1991 Section 83, 84 & 85 (S142, 143 & 144 Scotland) – C3 Budget Estimate for

Redwood Partnership

Thank you for your enquiry requesting a budget estimate at:

Mulberry Business Park, Fishponds Road, Wokingham, RG41 2GY

In accordance with *The New Roads & Street Works Act 1991 – Section 79(3) (Sect 138 Scotland) (*The Street Works (Northern Ireland) Order 1995 – Article 39), we have enclosed a drawing indicating the approximate locations of CityFibre apparatus, together with details of our proposed civils alterations.

As requested, a budgetary estimate for possible cost of diverting CityFibre apparatus (excluding VAT) is

£58,436.89

We would like to stress that this is a budgetary estimate and only intended as a guide. The final amount may differ from that shown and you will be charged the full amount for the required alterations. Any outstanding balance whether more or less will be debited or credited to you on completion of works.

This figure can be taken as current for 3 months from the date of this letter.

Prior to any works involving CityFibre apparatus being undertaken we must provide a more Detailed Estimate of costs. The costs incurred in producing the specification and detailed estimate are chargeable and for this scheme is **£ 2,500.00** plus VAT. Payment is required in advance for the estimated cost of detailed design work and the charge applies whether or not your works proceed.

Your Order for the Detailed Estimate and Specification should be made by bank transfer:

CA Telecom UK Ltd
Sort code: 40-16-11
Account number: 62469375

Payment Reference CATCF1761

Please ensure that funds are sent directly to CA Telecom UK Ltd. Any monies sent to CityFibre will be returned which will delay the process.

Some of the materials needed for this diversion may have a long lead delivery time and may require advanced ordering. Consideration must be given to this when programming your works. For operational reasons, three months may be necessary to programme some works.

Yours sincerely

John Hollands
Senior Planner
CA Telecom UK Ltd

C3 Budget Estimate

Job Reference CATCF1761

Diversion Costs	£ 47,700.29
Direct Costs	£ 3,114.40
Contingencies	£ 7,622.20
Royalty Costs	£ -
Sub Total	£ 58,436.89
VAT	£ 11,687.38
Total Cost	£ 70,124.27



CA Telecom UK Ltd
Unit 2, CA Business Park
Colewood Road
Whitstable
Kent
CT5 2RP
www.catelecomuk.com
T 01227 768427

This C3 budget estimate has been prepared with due care and regard to the NRSWA Act 1991 Diversionary Works Code of Practice by CA Telecom UK Ltd, who accept no liability for errors or omissions. With works of this nature there can be unforeseen eventualities, which may affect the actual charges on completion of the works, you should therefore allow for such contingencies within your project budget.

We will not allow C9.2 discounts without providing a C4 detailed estimate and advanced payments prior to the ordering of materials or the start of works on site.

Timescales quoted are approximate and will be reviewed when we have an opportunity to view and understand the actual construction project plan. Please provide details of formal Construction (Design & Management) Regulations 1994 appointments for this project together with full details and risk assessments of any known hazards on or adjacent to the site unless you have previously provided these details.

Timescales:

Approximately **6** weeks for completion of works, following receipt of the C5 payment and AGREED PROGRAMME OF WORKS & START DATE with appointed site agent.

Legend

- Cables**
- Existing
 - Planned
- Underground Routes**
- CFH Existing
 - CFH Planned
 - 3rd Party
- Chambers**
- Existing Manhole
 - Planned Manhole

Mulberry Business Park,
Fishponds Road

Title:
CATCF1761

Description:

Network Protection

Civils Drawing		v1
Date:	08/06/2023	
Author:	J.Hollands	

CityFibre

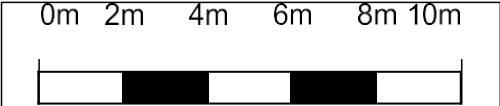
Head Office
15 Bedford Street
London
WC2E 9HE

www.cityfibre.com

Planning Office
Rutherford House
Warrington
WA3 6ZH

0845 293 0774

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FISHPONDS ROAD

Demolish Existing F4 Chamber
& Re-build F chamber Away from
New Access Road. Slew Road-crossing ducts
Into New F4 Chamber

Fibre Cabling Works
Move Existing Joint WOK-SJ-108
Pull New 3 x 12F cables from existing Joints
To New Joint and splice as audit

Slew & Lower Network to 1m Depth for
New Access Road
Approx 20m



DETAILED ESTIMATE

Name and Address:

Redwood Partnership Transportation Limited
Maritime House, Basin Road North
Portslade, Brighton
East Sussex
BN41 1WR

Page 1 of 6

Your Ref:

SGN Ref: D2429084

Date of Estimate: 25/05/2023

Project Title:

Mulberry Business Park, Fishponds Road, Wokingham, RG41 2GY

Description of Works:

SGN:- SGN to complete all the Works

Abandon - 16m of 6" ST, LP mains. Redevelopment Proposed

Lay - 20m of 180mm PE, LP mains. Total Proposed Lay: 20m

Detailed Estimate Summary:

Labour costs:	£	22,360
Materials costs:	£	955
Overheads:	£	4,998
Total Estimated Cost of Works:	£	28,313
Total Estimated Cost Plus VAT:	£	33,975.60

Routes and lengths are indicative and provided for order of works only.

Anticipated duration 1-3 weeks*, Lead Times: 22+ weeks**

The following items have not been included in this estimate:

1. Weekend working.
2. Excavations in excess of 1.2 metres deep.
3. Additional work associated with diverting other utilities plant, obstructing the proposed route.
4. Legal Costs – please see condition 2.
5. Water pumping and Associated costs.
6. Traffic Management and Associated Costs.

*Site visits have not been carried out in support of this design, which has been carried out as a desktop exercise only;

*Anticipated duration is subject to change due to site conditions.

** Estimated lead times is following receipt of order and advance payment. Lead times will be extended for specialist works, acquisition of governor apparatus, large diameter mains or HP/IP diversions. Also where any Wayleave/easements acquisitions or amendments are required or any operational constraints are identified.

A disturbance/remobilisation payment will charged if work is not continuous.

Estimate is based on assumed depths of cover of existing mains in accordance with IGEM/TD/3 unless trial holes have been undertaken.

Provided diversionary designs may require alterations due to changes in predicted network pressures or actual on site network pressures prior to commencement or during the course of works. Any required design changes will be notified as soon as possible after they are identified.

Page 2 of 6

D2429084

SGN to complete all the Works

		YES	NO
MAINLAYING inc cutting pipe,preparation,standard jointing		✓	
Protection Works			✓
Temporary Works			✓
SPECIALIST JOINTING large diameter PE and steel			✓
Replace Governor appartus/Commissioning			✓
Relocate existing Governor/Commissioning			✓
EXCAVATION Standard trench widths	430mm (Pipe Dia up to 180mm)	✓	
	500mm (Pipe Dia 250mm)		✓
	605mm (Pipe Dia 355mm)		✓
	650mm (Pipe Dia 400mm*)		✓
	Extra width* (outside diameter of the pipe plus 250mm)		✓
	Extra depth (above 1.0m cover on pipe)		✓
	Special Ground conditions. e.g. rock etc		✓
	Supply/Install sleeves or ducting(outside diameter of the pipe plus 250mm)		✓
CONNECTIONS			
	Installing,testing,purging	✓	
	Excavation	✓	
	Extra depth		✓
	Reinstatement	✓	
	Reinstatement extra depth		✓
	Specialist connections,e.g. Flow Stop		✓
	Riders greater than 2"/63mm diameter		✓
	Riders greater than 6m in length		✓
	Other		✓
REINSTATEMENT			
	Temporary Reinstatement		✓
	Permanent Reinstatement	✓	
	Extra depth Reinstatement		✓
	Specialist Surfacing e.g. Shellgrip		✓
	Removal of spoil		✓
	Abandon in Situ	✓	
EXTRAS			
	Specialist Plant:		✓
	Special requirements		✓
	Traffic management more than CHAPTER 8		✓
	Highway Orders		✓
	Specialist Fencing		✓
	Out of hours working		✓
	Installing Anode (Steel pipe protection)		✓
	Daywork		✓
	Other		✓



We provide estimates for Diversionary works, therefore the project will be reconciled after the works are complete and a Final Account will be provided.

You will also find enclosed a project acceptance form. This form must be signed and returned to SGN. Failure to complete and return this form may substantially delay the processing of your project.

Please include the signed acceptance form with the cheque or, if paying by BACS please forward onto the Diversions Team separately.

Please note, that if you are paying by cheque, please make the cheque payable to Southern Gas Networks, and address it to SGN, Accounts Receivable, PO Box 609, Horley, RH6 9HJ. Please ensure you include the **Diversion Project Reference Number** and If you are paying by BACS on the remittance advice for billing purposes.

If you are aware of any specific site conditions that may materially affect the cost of the scheme then please let us know by return. We recommend you take out trial holes to locate the exact position and depth of our gas apparatus for the full scope of your proposed works. All proposed trial holes and works should be registered on Linesearch <https://lsbud.co.uk/> and contact our plant protection team. Please also view our "Digging safely" web page which includes guidance on working within the vicinity of our gas apparatus "Dig safely Measures to avoid injury and damage to gas pipes" and "Know what's below".

Safe digging practices, in accordance with the Health and Safety Executive document "HSG47" must be used to verify and establish the actual position of mains, pipes, cables, services and other apparatus on site before any mechanical plant is used. Every possible precaution must be taken to avoid causing damage to the Companies plant. All the costs incurred by SGN for the repair of direct or consequential damage to the gas plant will be recharged to yourselves. Service pipes, valves, siphons, sub -connections etc may not be shown on our plans but their presence should be anticipated.

*Site visits have not been carried out in support of this design, which has been carried out as a desktop exercise only; Estimate is based on assumed depths of cover of existing mains in accordance with IGEM/TD/3 unless trial holes have been undertaken. A disturbance/remobilisation payment will be charged if work is not continuous.

Plant Protection Notes

i) If MP mains (Blue) are located within the vicinity of your works, you need to proceed with extreme care. No mechanical plant should be used within 0.5m of this main.

ii) If IP/HP mains (Green/Orange) are located within the vicinity of your works, you need to proceed with extreme care. No mechanical plant should be used within 3m of these mains.

iii) If a Gas Governor Pressure Reducing Station is in close proximity of your works, then SGN must be consulted prior to any planned excavations within 10m of the Governor Station. Extreme care must be taken when hand digging to avoid damage to valves, impulse lines and other gas apparatus.

You must contact us before starting any work activity within 3.0m of a gas valve.

Piling or boring should not be allowed within 15m of buried gas plant without an assessment of the vibration levels at the location of the gas plant.

Please contact our Plant Protection office on 0800 912 1722 or by email: plantlocation@sgn.co.uk to arrange for an SGN representative to attend site and provide further assistance and guidance.

CONDITIONS

1	This estimate should only be regarded as a guide, which has been prepared with all the information which it was reasonably possible to obtain beforehand. By confirming that construction shall proceed on the basis of this estimate the recipient indicates that it is clearly understood and agreed that charges will be based on actual costs reasonably incurred during the work necessary to achieve the objectives of the project whether above or below the estimate.
2	Where SGN has to divert apparatus, into land belonging to a third party (being a party that is not deriving any benefit from the apparatus), then you must initiate contact with this third party and agree terms relating to a deed of grant (of an easement) for SGN’s benefit. You must accept responsibility to pay all costs, and make any payments, that the said third party may incur and/or require in exchange for granting the deed of grant (of an easement) for SGN’s benefit. SGN will use reasonable endeavours to assist you with any negotiations that you enter into with the third party. If you should fail to agree terms with the said third party, within a reasonable period of time, then SGN is entitled to explore other options. The costs incurred will be chargeable and will be subject to a separate invoice raised by the SGN Legal Team.
3	Any variation to an accepted project i.e additional works that was not included in the original order may require a Variation to Contract Agreement form; the form will detail the additional work required and must be signed by the customers authorised representative. In all cases, whether a variation has been raised or not, the final charges will continue to be based on actual costs reasonably incurred during the work necessary to achieve the objectives of the project whether above or below the estimate. SGN will require payment for additional work to be carried out onsite. Where a variation has been raised (or total of variations) and is less than 10% of the original estimate works may continue onsite while the revised estimate is prepared. Once submitted the revised estimate must be accepted within 5 working days if work is to continue without interruption. For variations where it is identified to be greater than 10% of the original estimate, SGN may be unable to continue onsite unless additional payment is made and it is under SGN's sole discretion if works may continue before receipt of payment.
4	This estimate must be accepted by the party to whom the estimate is addressed to in order for the works to proceed. The estimate is valid for 90 days. If there is a requirement to provide more than one detailed estimate, we may charge for such additional estimates. An estimate of the Re-estimate fee will be provided with the estimate and updated at the time of the re-estimate request. All actual costs the applied rates and overheads will be the current applicable rates at the time the works are undertaken. The diversionary works may be undertaken by our direct labour teams which will have an effect on the actual charges. Further affirmation of the provided estimated costs within the estimate may be required after acceptance and during the course of the works.
5	SGN reserve the right to vary these conditions from time to time at their sole discretion.



PROJECT ACCEPTANCE FORM

SGN Ref: D2429084
 Your Ref:
 Date: 25/05/2023

Re: **Mulberry Business Park, Fishponds Road, Wokingham, RG41 2GY**

Estimated Sum: £ 33,975.60 (This sum is inclusive of VAT)

I the undersigned confirm on behalf of my company that I accept the above referenced estimate for the conduct of works as detailed therein, thus now request SGN to proceed with advance ordering of those materials which have long delivery periods and to undertake any works specified in the works order in advance of the main works, and understanding the estimate should only be regarded as a guide, which has been prepared with all the information which it was reasonably possible to obtain beforehand. By confirming that construction shall proceed on the basis of this estimate the recipient indicates that it is clearly understood and agreed that charges will be based on actual costs reasonably incurred during the work necessary to achieve the objectives of the project whether above or below the estimate. The project will be reconciled after the works are complete and a Final Account will be provided.

I hereby certify on behalf of my company that no additional terms and conditions (other than those set out in the estimate) are required. The estimated lead-time before work can commence on site is 22+ weeks** following receipt of order.*

Commencement

Permission to organise directly with site contact Yes / No
 Earliest date site ready for work to commence ____ / ____ / ____ or TBC

Site Contact(s) to arrange access:

1. Name: _____ Tel: _____ Mob: _____
 Email: _____

2. Name: _____ Tel: _____ Mob: _____
 Email: _____

Acknowledgement

This estimate must be accepted by the party to whom the estimate is addressed to in order for the works to proceed. If the estimate is accepted by another party, this will not constitute a valid acceptance and no contract will be formed in respect of the works. If another party wishes to have the works carried out in place of the party to whom the estimate is addressed, that other person must contact us for a new estimate.

Please note, if paying by BACS we will still require a copy of this form to be sent, or emailed to diversionssouth@sgn.co.uk. This will delay your project if a signed copy is not received.

Signed on behalf of _____

Signed: _____

Print Name: _____

Date: _____

If you are signing this acceptance on behalf of a business, company, local authority or government body, please provide your job title below (if not leave blank).

Job Title: Company Date

where the works are not undertaken as planned the costs may not be refunded, unless they can be put to an alternative use. Cancellation charges may also be billed.



Bank Name	Barclays Bank plc
Branch Address	1 Churchill Place London E14 5HP
Sort Code	20-00-00
Account Number	90544574
Account name	Southern Gas Networks
IBAN Number	GB73 BARC 2000 0090 5445 74
SWIFTBIC	BARCGB22
VAT Number	GB 864 4162 18
CIS Information	
Unique Tax Ref(UTR)	94627 00997
Company Reg. Number	0516 7021
SGN	
Accounts Receivable	
PO Box 609	
Horley	
RH6 9HJ	
email: ARbanking@sgn.co.uk	
Tel: 0345 078 6752	

Please include the Project reference with all payments.
Failure to include this will delay your project.



Plant Protection Guidance

Plant Protection working advice and SR18 ed2 extracts.

Areas covered:

- Working in the vicinity of an IP main, SR18 ed2
- Working in the vicinity of a MP gas main
- Work in proximity to an associated gas installation, for example a PRI
- Action in the case of damage to a pipeline

Activities – Work in easements and private land

- Excavation in proximity of gas plant
- Crossing over a pipeline
- Crossing below a pipeline
- Positioning of excavating equipment
- Piling and boring
- Increase of cover
- Safety

Working in the vicinity of an IP main, SR18 ed2

- Removal of bituminous or concrete highway surface layer by mechanical means should be restricted to a depth of 300 mm.
- The use of chain trenchers should not be permitted within 3 m of the pipeline. The operator should consider the risk any work may have on the integrity of the pipeline and, hence, determine the level of monitoring that is required to be carried out by the operator.
- Removal of the bituminous or concrete highway surface layer below 300 mm deep should be by hand-held power assisted tools under the supervision of the operator's responsible person unless, in exceptional circumstances, and following a risk assessment, the operator relaxes these conditions.
- Excavation with a powered mechanical excavator should not be carried out closer than 3 m to a located pipeline and, with hand-held power assisted tools, no closer than 1.5 m. Any fitting, attachment or connecting pipework should be

exposed by hand. All other excavation should be by hand.

- Consideration may be given to a relaxation of these limits by agreement with the operator and while the operator remains on site.
- “No dig” techniques should not be used to cross a pipeline, unless it has been exposed to enable the safe passage of the new service to be observed.
- Any new service running parallel to a pipeline should be laid no closer than 600 mm.
- Where a new service is to cross above or below a pipeline, a clearance of 600 mm should be maintained.
- Whenever a pipeline is exposed, it should be protected by matting and timber cladding. The exposed pipeline should be suitably supported. Where lengths greater than 5 m are to be exposed and unsupported, the promoter/contractor should discuss with the operator the need to undertake a stress analysis to determine support requirements. All temporary supports should be removed prior to backfill.
- Contractors should give operators at least 48 hours of intent to backfill over, under or alongside a pipeline. Any damage to the pipeline coating should be reported immediately to the operator so that repairs can be made prior to backfilling.
- All reinstatement materials and techniques must comply to NRSWA.
- A pipeline should not be encased in concrete.
- Will the gas mains be exposed or not?

If yes, any damage to the coating of the IP however small must be reported to SGN for inspection and repair. This won't be charged for if it is a minor scrape, if it is not reported and a fault is found at a later date then this will be reported to the HSE as it is a criminal offence to knowingly damage a gas main.

Working in the vicinity of a MP gas main.

- Hand dug trial holes should be undertaken to determine the exact location of pipeline. All excavations within 500 mm of the pipeline should be by hand.
- Where a new service crosses above or below a pipeline, or runs parallel, a clearance of 1.5 times the diameter of the pipeline or 300 mm, whichever is the greater, should be maintained.

Note: This distance may be reduced at the discretion of the operator and subject to adequate

protection being provided.

- The effects of deep excavations around and below a pipeline should be considered in conjunction with the pipe material and MOP.
- All protection requirements should be considered before work commences on site and then reviewed during site operations.
- Any scoring or marking of PE pipes should be reported to the operator who should assess any damage to determine if replacement is required.
- Work in proximity to a ductile iron pipeline should be reported to the operator who should assess any damage to determine if replacement is required.
- Care should be taken to ensure that any cast iron pipeline is suitably protected and supported during works (due to the susceptibility of the material to fracture).
- Extreme care should be taken when working in close proximity to any asbestos or PVC pipeline (due to the susceptibility of the materials to fracture). It is imperative that these are satisfactorily protected and supported.
- All reinstatement materials and techniques must comply with NRSWA.
- A pipeline should not be encased in concrete.
- All unidentified or redundant plant should be considered live until proven otherwise.

Work in proximity to an associated gas installation, for example a PRI

- Where excavations are to be made within 10 m of the perimeter of an associated gas installation, appropriate protection methods should be determined and recorded by the operator.
- Access to the gas plant should be maintained at all times.

Action in the case of damage to a pipeline

If a pipeline is damaged, even slightly, the following precautions should be taken immediately:

- Shut down all plant and machinery and extinguish any potential sources of Ignition.
- Evacuate all personnel from the vicinity of the damage.
- Notify the operator immediately using the contact telephone number provided or by using the gas emergency number.

- Ensure no one approaches the pipeline.
- Provide assistance as requested by the operator, or emergency services, to safeguard persons or property.
- Ensure no attempt is made to try to stop any leaking gas.

ACTIVITIES – WORK IN EASEMENTS AND PRIVATE LAND

Excavation in proximity of gas plant

- Excavation with a powered mechanical excavator should not be carried out closer than 3 m to a located pipeline and, with hand-held power-assisted tools, no closer than 1.5 m. Any fitting, attachment or connecting pipework should be exposed by hand. All other excavation should be by hand.

Consideration may be given to a relaxation of these limits by agreement with the operator. (PPO decision onsite)

When relaxation is applied, a powered mechanical excavator should not be allowed to excavate closer than 600 mm to the nearest part of the pipeline. This should only be undertaken while the operator's responsible person remains on site.

Where sufficient depth of cover exists following evidence from hand dug trial holes, light, tracked vehicles may be permitted by the operator to strip topsoil to a depth of 250 mm.

- Topsoil or other materials should not be stored within the easement without the written permission of the operator. Topsoil or other materials should not be stored over the pipeline.
- Following works, the level of cover over a pipeline should be the same as that prior to works commencing, unless agreed otherwise with the operator.
- A new service should not be laid parallel to a pipeline, within an easement. In special circumstances, and with the written permission of the operator, this may be relaxed for short excursions in which case the service should be laid no closer than 600 mm to the side of the pipeline.
- Whenever a pipeline is exposed, it should be protected by matting and timber cladding. The exposed pipeline should be suitably supported. Where lengths greater than 5 m are to be exposed and unsupported, the promoter/contractor should discuss with the operator the need to undertake a stress analysis to determine support requirements. All temporary supports should be removed prior to backfill.

Crossing over a pipeline

- Where a new service is to cross over a pipeline, a clearance of 600 mm between the crown of the pipeline and underside of the service should be maintained. If this cannot be achieved; the service should cross below the pipeline.

Consideration may be given to a relaxation by agreement with the operator and be undertaken while the operator's responsible person remains on site. Where relaxation applies, the clearance should not be less than 300 mm.

Crossing below a pipeline

- Where a new service is to cross below a pipeline, a clearance of 600 mm between the crown of the service and underside of the pipeline should be maintained.
- An exposed pipeline should be suitably supported. Such support should be removed prior to backfilling.
- An exposed pipeline should be protected by matting and suitable timber cladding.

Positioning of excavating equipment

- Mechanical excavators should not be sited or moved above a pipeline unless written authority has been given by the operator.
- Mechanical excavators should not be sited or moved above a pipeline with the cab positioned on the other side
- Mechanical excavators and other traffic should be positioned far enough away from the trench to prevent trench wall collapse.

Piling and boring

Note: The peak particle velocities indicated apply to all types of seismic and vibration inducing activities.

- Piling or boring should not be allowed within 15 m of buried gas plant without an assessment of the vibration levels at the location of the gas plant.
- For welded steel or PE plant, the peak particle velocity at the plant should be limited to a maximum of 40 mm sec⁻¹.
- Where the peak particle velocity is predicted to exceed 40 mm sec⁻¹, assessment of pipeline stress state, which includes the incremental load due to vibration should be carried out. The vibration loads should be considered as additional to all other relevant and transient loads affecting the pipeline. In addition, an assessment of cyclic loading should be carried out. Where the peak particle velocity is predicted to exceed 30 mm sec⁻¹, the ground vibration should be monitored.

- On a ductile or cast-iron pipeline, the peak particle velocity should not exceed 25 mm sec⁻¹ and leakage surveys should be undertaken at appropriate intervals during the works.
- Where ground conditions are of submerged granular deposits of silt and sand, an assessment of the effect of vibration on settlement and liquefaction at the pipeline should be made.

Increase of cover

- An assessment of pipeline integrity should be made where the depth of cover is increased to 2.4 m or more.

Note: No action is required for an existing pipeline buried at 2.4 m or more except where a change in operating conditions, such as uprating, adding cover, etc. is proposed.

Safety

IF YOU CAUSE or FIND A GAS LEAK OR SMELL GAS

If you cause a gas leak, or suspect that gas pipe or equipment is leaking, you must take the following actions immediately:

- Inform the National Gas Emergency service immediately on 0800 111 999 (all calls are recorded and may be monitored)
- Stop work and get everyone away from the immediate vicinity of the escape.
- Do not attempt to stop the escape or repair by filling the hole.
- Do not attempt to operate any valves (unless directed by the call centre staff to close emergency control valves at domestic properties)
- Prohibit smoking and extinguish all naked flames or other ignition sources for at least 15m from the leakage.
- If escaping gas is entering properties, advise the occupants to leave until it is deemed safe to return by SGN emergency personnel onsite. Damage to a gas main or service supplying a building may result in gas entering the building.
- Prevent any approach to the immediate vicinity of the escape.

Assist SGN and the Emergency services as requested.

Your Reference:
Our Reference: VM/CIP/447371



Paul McLaughlin
Director
Redwood Partnership Transportation Limited
Maritime House
Basin Road North
Portslade
Brighton
East Sussex
BN41 1WR

Virgin Media
1 Dove Wynd
Strathclyde Business Park
Bellshill
ML4 3AL
Tel: 0800 408 0088
Fax: 01698 565 551

12/06/2023

Dear Mr McLaughlin,

NRSA 1991 Section 83, 84 & 85 (S142, 143 & 144 Scotland) – C4 Detailed Estimate

Mulberry Business Park, Fishponds Road, Wokingham RG41 2GY

Thank you for your enquiry requesting a C4 detailed estimate for diversionary works associated with the above site. We are pleased to provide this detailed estimate and specification of works below and on the attached documents.

How Much Will this cost?

The estimated cost of altering Virgin Media apparatus is **£11,554.33 (including VAT)**.

Please be aware that in line with Virgin Media policy that if any additional costs are required due to any changes in circumstances then correspondence will be sent and agreement must be made before any additional work commences. If no additional costs are required then the estimate is deemed acceptable as the full and final cost of the works upon payment. Subsequent reconciliations are only permissible in accordance with the three exception rule as outlined in Virgin Media's cost recovery statement in relation to private developers.

The estimate is valid for 3 months from the date of this letter and a breakdown of costs is provided.

What's included in this Pack?

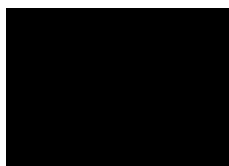
1. A copy of the detailed estimate for the works
2. A plan of our existing infrastructure annotated to show proposed diversionary works
3. A detailed specification of works which should be signed and returned to Virgin Media
4. Our special requirements and precautions documents
5. Payment information

What Happens Next?

Virgin Media require payment to be made before works commence. You can pay by Cheque, BACS or Purchase Order. Please note that if paying by Purchase Order that no works will start until the invoice is paid. We also require the detailed specification of works to be signed and returned to indicate agreement with the proposals.

Upon receipt of payment, our planning team will order materials and begin preparation of work instructions for our build partners. Timescales will be detailed on the attached estimate and specification.

When works are programmed, our Build Engineer will be available to liaise on site and be your point of contact for these works. If making payment by BACS or cheque please quote our **VM/CIP/447371** number at the top of the page as your payment reference.



David Humphries
Planner

Your Reference:
Our Reference: VM/CIP/447371



Virgin Media
1 Dove Wynd
Strathclyde Business Park
Bellshill
ML4 3AL
Tel: 0800 408 0088
Fax: 01698 565 551

C4 Detailed Estimate – Private Developer or Non Highways Authority

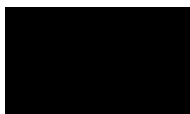
Client: Redwood Partnership Transportation Limited
Clients Project: Mulberry Business Park, Fishponds Road, Wokingham
RG41 2GY
Clients Representative: Paul McLaughlin
Date Estimate Prepared: 12/06/2023 *Valid for 12 weeks*

	Direct Labour:	£396.60	
	Specialist Consultants:	£0.00	
	Project Management:	£363.60	
	Civil Contracts:	£6,061.72	
	Cabling/Activation Contracts:	£0.00	
	Miscellaneous:	£0.00	
	Materials:	£0.00	
	Overheads:	£2,806.69	
	Sub Total:	£9,628.61	
Less:			
	Deferment of Renewal:	£0.00	Appendix E
	Betterment:	£0.00	Appendix F
	Recovered Materials:	£0.00	
	Design Fees:	£0.00	
	Total Cost:	£9,628.61	
	Total (Inc. VAT):	£11,554.33	PAYMENT IN ADVANCE (SEE BELOW)

Legal Stuff

Any works adjacent to our plant must be undertaken in accordance with Health & Safety guidance HS(G)47.
Some of the materials needed for this diversion may have a long lead delivery time and may require advanced ordering. Consideration must be given to this when programming your works. For operational reasons, six months may be necessary to programme some works.
This C4 budget estimate has been prepared with due care and regard to the NRSWA Act 1991 Diversionary Works Code of Practice by Virgin Media, who accept no liability for errors or omissions.
With works of this nature there can be unforeseen eventualities which may affect the actual charges on completion of the works, you should therefore allow for such contingencies within your project budget.
If the works under this C4 detailed estimate are carried out over a duration longer than 12 months from the start date or are carried out over a period that includes the 1st of April of each year, we may add a rate increase to this charges on 1 April of each year. The rate increase shall be determined by us through a rate review mechanism using 'Baxter Indices' in the Civil Engineering Formula – '1990 SERIES' and shall in any event not exceed 2.5%.
We will not allow C9,2 discounts without providing a C4 detailed estimate and advanced payments prior to the ordering of materials or the start of works on site.
Timescales quoted are approximate and will be reviewed when we have an opportunity to view and understand the actual construction project plan.
Please provide details of formal Construction (Design & Management) Regulations 2007 appointments for this project together with full details and risk assessments of any known hazards on or adjacent to the site unless you have previously provided these details.
Your request for a C4 detailed estimate should be marked for the attention of the project planner.
This C4 detailed estimate is an estimate only and should you (for any reason) alter the original scheme and/or programme of works instruct us to suspend and/or cancel any works following their commencement, we reserve the right to charge any reasonably incurred and properly evidenced additional costs resulting from such alteration and/or instruction to you on completion of the works. For the avoidance of doubt, such additional costs shall include, but not be limited to, properly evidenced mobilisation and demobilisation costs that we are liable to pay our supply chain as a direct result of your alteration and/or instruction
Timescales:
Approximately 10 weeks for completion of works, following receipt of the C5 payment and AGREED PROGRAMME OF WORKS & START DATE with appointed Site Agent.
NOTE: ANY alteration to original scheme and/or programme of works may result in a revaluation of timescale and will require agreement between the Virgin Media project Planner and clients appointed Site Agent.

Estimate Prepared by: David Humphries - Planner



Signature: _____
Contact No: 07847 757478
Virgin Media Limited. Registered Office: 500 Brook Drive, Reading, RG2 6UU

Your Reference:
Our Reference: VM/CIP/447371



Paul McLaughlin
Director
Redwood Partnership Transportation Limited
Maritime House
Basin Road North
Portslade
Brighton
East Sussex
BN41 1WR

Virgin Media
1 Dove Wynd
Strathclyde Business Park
Bellshill
ML4 3AL
Tel: 0800 408 0088
Fax: 01698 565 551

Project Title & Location: Mulberry Business Park, Fishponds Road, Wokingham RG41 2GY

Authority/Client for Works: Redwood Partnership Transportation Limited

Legislation under which Client Working: New Roads and Street Works Act 1991, Highways Act 1981

Details of existing Virgin Media apparatus: Virgin Media have 2 x cabled 96mm ducts, and a chamber (on a road crossing) in the footpath where a new entrance is being installed

Reasons Diversion Required: New site access

Proposal for Virgin Media Works

Civil Engineering Works: The chamber is to be demolished and rebuilt as a carriageway chamber, and the ducts lowered to 600mm below the new surface level. Note: It is assumed that works can take place within the developer's traffic management.

Cabling Works: No cabling works are required

Methods of Construction / Non-Standard Construction: Virgin Media will use project management techniques throughout to assist in monitoring timescales for various activities.

Materials

Long Lead Time: See Attached Detailed Estimate

Delivery/Storage: Materials for civil works will be delivered to site by Virgin Media Contractor or Virgin Media on the instruction of Virgin Media supervision staff as and when required.

Cabling and splicing materials will be stored at Virgin Media or Virgin Media premises until such time that they are required on site.

Traffic Management: All Traffic Management shall be undertaken in accordance with chapter 8, Traffic Management Act.

Any requirements over and above those laid down in Chapter 8 to be agreed on site between Highways Department and Virgin Media contractor.

Ground Conditions inc. Contamination: Ground contamination has not been identified, but it is essential Virgin Media is informed. This will enable Virgin Media to ensure H&SAWA requirements are met for Virgin Media, also to allow the provision for any special materials, and/or construction standards.

Access: Virgin Media Personnel and Contractors working on site will be instructed to observe site security and safety procedures.

In cases of damage to Virgin Media Plant on site or emergency situations, access may be required at very short notice.

Programme/Timing of Works: In order for these works to be completed on agreed timescales, Virgin Media's programme of work is detailed on the attached Detailed Estimate.

The quoted timescales are from receipt of your formal acceptance of costs and AGREED PROGRAMME OF WORKS & START DATE with appointed Site Agent.

Monitoring & Control: The project will be monitored and controlled at two separate levels.

1. With client/Contractor to ensure agreed timescales are met and to resolve on-site problems. Changes to this specification and Virgin Media's works can only be authorised by the Virgin Media personnel referred to in the list of contacts in this document.

All changes must be documented and agreed between the Client/Contractor and Virgin Media, within 7 days of the change.

2. In-house Project Management in order to ensure resource allocation for continuity of work and financial control.

Additional or Unforeseen Works: **Please be aware that should the need for any unforeseen works arise, Virgin Media will re-appraise the existing budget. If the cost of the additional work is deemed to be significantly higher, Virgin Media may stop works and require additional funds prior to recommencing works on site.**

Contacts: Virgin Media Planning & Design
David Humphries
tel: 07847 757478

Virgin Media Civils - (Delivery & Compliance)
Franklyn Sammut
tel: 07814 082953

Redwood Partnership Transportation Limited
Paul McLaughlin
tel: 01273 421521

Repayment Works: Full detailed breakdown on attached Detailed Estimate

Signed

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Date

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On behalf of Redwood Partnership Transportation Limited