

SCHEDULE 2

SCOPE OF WORKS

1. PRELIMINARIES

[TT to provide - including approval from tie for site establishment and local prelims for each Work Section/Sector]

2. PRE-CONSTRUCTION ACTIVITIES

"SMI INSPIRED PRE-CONSTRUCTION SERVICES"

1. Programme

1.1 Develop the pre-construction programme into an integrated master programme for acceptance by the Employer and the Project Consultants, to include the activities of the Project Consultants, the Contractor and sub-contractors and to be in sufficient detail to control the Pre-Construction Period activities and to indicate the proposed dates of possession and completion.

1.2 Preparing and agreeing with the Project Consultants a detailed package procurement programme with details of dates for the production of drawings, specifications, pricing schedules and all other relevant information including dates for preparation and despatch of tender documents, the tender period, a period for evaluation of tenders and target dates for the placement of each sub-contract order.

1.3 Advising on the availability of alternative materials and components. Preparing material and component flows. Identifying those materials and components which require advance ordering and processing and providing and monitoring a programme for advance ordering and processing.

1.4 [Managing the timeous preparation of scheme design, detailed design and production information, to ensure that the design, procurement and construction programme is maintained.]

2. Construction Advice

2.1 Advising on the practical implications ("**buildability**") of proposed drawings and specifications.

- 2.2 Advising on the relative suitability of alternative materials and components.
- 2.3 Formulating and agreeing construction methods with the Project Consultants and advising on time and cost implications of alternative solutions; initiating the requirements for temporary works and the programme for approvals and execution of them.
- 2.4 Advising on the provision and layout of site facilities and services to be provided or secured by the Contractor.
- 2.5 Advising on the potential impact of the Works upon neighbouring occupiers and users of nearby highways and planning the execution of the Works in such a way as to minimise disruption and prevent nuisance.

3. Cost/Contract

- 3.1 Collaborating with the Project Consultants providing costing advice and assisting in regularly updating the Cost Plan, including obtaining the budget costs of equipment and materials and advising on current pricing levels.
- 3.2 Checking and agreeing all Cost Plans, and confirming that each represents, a fair and reasonable projection of the, anticipated Contract Sum.
- 3.3 Participating in any benchmarking, risk management and value engineering process as required by the Employer.
- 3.4 Agreeing all of the terms of any project insurance with the Employer and his advisers.

4. Design

[Managing design development and] developing any Contractor design elements where they are required to progress the project, together with co-ordination of the same within the overall design process. [Performing the role of Design Manager.]

5. Procurement

- 5.1 Observing, in relation to all procurement activities, the breakdown of the Project into suitable packages for sub-contracts; in order to facilitate effective cost control and expeditious progress of the Project.

- 5.2 Preparing a detailed specific statement of the content of each package, its inter-relationship with other packages and the responsibilities at interfaces between packages.
- 5.3 Developing and agreeing the form of sub-contract and associated tender documents with the Cost Manager and Project Manager, ensuring that such documents are fully compatible with the Proposed Contract Documents.
- 5.4 Preparing in conjunction with the Project Consultants lists of sub-contractors for tendering and investigating and reporting on their capabilities and financial standing; arranging pre-tender interviews as required; advising on the necessity of performance bonds and/or parent company guarantees.
- 5.5 Receiving drawings, specifications and pricing schedules prepared by the Project Consultants; checking and taking responsibility for the completeness and adequacy of the same for the purpose of seeking sub-contract tenders which are capable of being priced with sufficient detail; preparing all other tender documents in parallel with the work of the Project Consultants and arranging the printing and collation of the tender documents including delivery/collection and obtaining tenders from sub-contractors and suppliers.
- 5.6 Evaluating tenders from sub-contractors and suppliers, negotiating as required, and making recommendations thereon with the Project Consultants to the Employer. Providing to the Employer at least five working days' notice of any pre-tender interviews, of any mid-tender interviews and of the date of opening of any tenders, permitting the Employer and any person(s) nominated by the Employer to attend and observe the same.
- 5.7 Keeping the Employer fully informed as to the progress of the tender process, providing to the Employer such information as the Employer may reasonably require for onward transmission by the Employer to the Tenant[s], including notes of pre-tender interviews, notes of any mid-tender interviews and any tender reports, including supporting documentation and analyses and copies of recommendations in respect of selection.
- 5.8 [Where appropriate, agreement of the appointment conditions with respect to design Consultants that will be novated to the Contractor.]

6. Liaison

- 6.1 Liasing with neighbouring owners and occupiers.
- 6.2 Liasing with any tenant and/or their respective representatives.

7. Management

- 7.1 Carrying out any enabling works and demolition works on site. Managing any archaeological works and site investigations. This role will include taking the lead in neighbour liaison matters and design and co-ordination of temporary works and co-ordination with permanent works.
- 7.2 Acting as Principal Contractor in relation to any on-site activities including demolition work.

ALLAN HILL TEXT

The basic assumption made is:

"SDS and MUDFA will be expected to work together, pro-actively, to achieve 'economically efficient buildability' within agreed time and budget constraints and to quality standards reasonably appropriate for the works being undertaken in their given environment and having regard for the need to balance the interests of all stakeholders."

1. Post-Appointment of MUDFA

2.1 Design Development Stage

- SDS / MUDFA to review work done up to appointment and planned, post-appointment. MUDFA's main interest will be to consider buildability and temporary works issues. MUDFA will also be expected to promote cost- and time-saving initiatives and to explore mitigation measures (reasonably) predictably required to protect the interests of third parties affected by the works.
- SDS / MUDFA shall liaise (as a team) with the utility companies and other key stakeholders throughout this phase, to optimise progress and ensure issues are addressed timeously, before they develop into problems.
- Whilst SDS is responsible for developing detailed designs and the utility companies are responsible for their ratification, MUDFA should be included in the communications loop to ensure any relevant construction-related issues are identified and addressed, e.g. temporary works, practical constraints, etc.
- The design process will include development of temporary traffic management measures. SDS and MUDFA should jointly progress agreement of measures required in consultation with CEC as roads and traffic authority. This responsibility will also include representations to

the Council-led RAUC Committee, which convenes quarterly.

- SDS / MUDFA should jointly develop strategies / procedures for dealing with unforeseeable events or circumstances, e.g the discovery of unidentified apparatus or unrecorded artificial obstructions. These should be agreed with the relevant key stakeholders, CEC, utilities, emergency services, etc.
- SDS / MUDFA should keep the Contract Programme under continuous review as designs evolve, to ensure its viability.
- SDS / MUDFA should similarly keep projected costs under review (in conjunction with relevant stakeholders) with regard to potential savings that may be possible. *{This might be suitable for ad hoc financial meetings.}*
- [include statement on development of necessary works outwith the LoD? See 2.2.2 below]

2.2 Implementation Stage

2.2.1 On-line Works

- These are works within the LOD, where tie has powers conferred under the Edinburgh Tram Acts.
- SDS, prior to commencement of works by MUDFA, shall convene (and chair) a pre-start meeting, which key stakeholders will be expected to attend. The Contractor will present his Programme proposals and stakeholders will respond (either at the meeting or within a specified time thereafter). Papers will have been circulated to all invitees at least 1 week prior to the meeting and pre-meeting responses will have been encouraged.

The pre-start meeting will set the scene for management of the works and the roles key stakeholders will be expected to fulfil. It will consider contingency plans to be implemented in the event of unforeseeable events or circumstances arising. It will also confirm the extent to which foreseeable constraints, such as the Festival, will affect the Contractor's Programme and facilitate appropriate measures to be implemented.

Dates for Progress and other regular meetings (traffic management, stakeholder liaison, etc) will be set, attendees identified and their roles and responsibilities agreed. Stakeholders' single points of contact will be identified and their response procedures confirmed.

- Monthly Works progress meetings will be held in the Contractor's compound (accommodation to be provided for the maximum numbers of attendees likely – say, 20). These will be chaired by SDS and the Contractor will review progress. The Contractor's monthly report, meeting agenda, plus any other relevant papers will be issued in advance (electronically) to all attendees and interested parties (the latter having been identified at the pre-start meeting). Minutes of these meetings will be issued by SDS within 48 hrs.
- Any ad hoc site meetings will be attended by representatives from both SDS and Contractor. Minutes will be taken and circulated widely. The policy should be to distribute information to all parties, unless they request otherwise.
- Regular Temporary Traffic Management, Utilities' and Stakeholder

Liaison Meetings, which will be chaired on behalf of tie by TSS {check} could also be held in the Contractor's conference room. The frequency of these meetings will depend on circumstances, but fortnightly might be appropriate.

2.2.2 [Off-line Works

- These are works outside the LOD, where tie has no powers and reliance must be placed on utility companies statutory powers and the provisions of NRSWA.
- SDS and MUDFA will develop proposals in conjunction with the utility companies, following the NRSWA procedures.
- [Note: Since the works will be project-related, there is probably a good chance that the utility companies will allow MUDFA to do the work to the same extent as within the LOD]. *{Contractual and legal issues need to be addressed by others, DLA?.}*]

DRAFT STRUCTURE INTO WHICH THE ABOVE TEXT WILL REQUIRE TO BE SLOTTED

2.1 Interaction with the SDS Provider

[◆]

2.2 Traffic Management and TTROs

[◆]

2.3 Programme (including agreement of Sector completion dates)

[◆]

2.4 Pricing - Agreement of Estimates for Sectors(?) and Value Engineering Incentive

[◆]

2.5 Identification and Ordering of Long Lead Materials

[◆]

2.6 Interaction with the Utilities (including agreement of the "Permits to Work" for each works section)

[◆]

2.7 Stakeholder and Communication Management:

The provider shall assist the Client to minimise the adverse impact of the implementation of the Edinburgh Tram Network Multi Utility Diversions on stakeholders (both statutory and non statutory) and the general public. This shall include:

Liaison with CEC, the Scottish Executive, Historic Scotland, world Heritage Trust, Scottish Natural Heritage and others as required by the Client in relation to the planning and execution of the works;

Participation, and the imparting and receiving of information, when requested by **tie**, at business and community liaison groups and public meetings

Ensuring that information received from stakeholders and public is included, where possible, in planning for works (e.g. working hours, entry, exit etc)

Participating in and imparting information, when requested by **tie**, at consultation meetings

Providing weekly updates on progress to Communication and Stakeholder managers

Providing proactive input, attendance, information and comment into all information initiatives including media releases, newsletters, website etc.

Assisting with the development of, adhering to and maintenance of a communications protocol for dealing with all stakeholders and general public affected by the design and utility diversion work

Informing **tie** communication and stakeholder relationship managers, in advance of, all plans for communication with stakeholders and public and gaining approval

Informing **tie** communications and stakeholder relationship managers, in advance of, all works planned

Setting up and manning of a call centre, to **tie**'s specification, covering information provision, question and answers, updates on works progress and emergency helpline information in the lead up to and during all works

Recruiting and providing 'City Helpers' to man each of the work sites during work to provide troubleshooting on site, a customer interface and to ensure that traffic flows, these people will be in direct contact with **tie**'s Communication and Stakeholder managers

Supply and use of approved branding materials, ppe kit and hoarding at all sites as requested by **tie**

Providing traffic re-routing maps for all affected areas and works in advance of work starting

Ensure all staff attends the **tie** induction programme and carry the information card required

2.8 **Confirmation of Approved Sub-Contractors and Supply Chain (should this sit with Site Establishment and Method Statements?)**

[◆]

2.9 **Health and Safety**



2.10 Method Statements



2.11 Risk

The MUDFA Contractor shall:

Required Action from the MUDFA Contractor	Timing/Frequency applicable to the MUDFA Contractor
<p>1. input to the project risk management plan developed by tie, to the extent requested by tie.</p> <p>This plan reflects the roles and responsibilities of the MUDFA Contractor, the risk management process instituted by tie in respect of the Edinburgh Tram Network and how the MUDFA Contractor will contribute to the ongoing development of tie's risk management plan. The input required of the MUDFA Contractor includes the provision of information on how the MUDFA Contractor intends to manage risk during the design, construction and commissioning process.</p> <p>This plan also indicates the critical success factors for the MUDFA Contractor, key areas of focus and individuals involved and the proposals for risk management controls for specific areas relevant to the Agreement.</p>	<p>Input to risk management plan within 1-month of the [Effective Date] and to inform tie accordingly of any amendments by the MUDFA Contractor throughout the Agreement. Updates and further information to be provided to tie within [5 Business Days] of request or such longer period as may be agreed between the Parties.</p>
<p>2. support tie with regard to the development of the project assumptions register to be developed or on behalf of tie in respect of the Edinburgh Tram Network. This register will record all capex, opex, lifecycle, revenue, programme, quality, functionality and approvability assumptions and consequent risks to the Edinburgh Tram Network throughout the scheme development, design procurement, construction and pre-operational phases of the [Project].</p>	<p>Input from the MUDFA Contractor to commence within 1 month of the [Effective Date] and continue throughout the term of the Agreement.</p>
<p>3. identify any risks specific to the Agreement which are identified after the Effective Date to tie.</p> <p>The project assumptions register will also be used by tie to contribute to the project risk register referred to below.</p>	<p>Input from the MUDFA Contractor to commence within 1 month of the [Effective Date] and continue throughout the term of the Agreement.</p>
<p>4. maintain close liaison with tie, the tie project team (which term shall include parties providing technical support services or system design services to tie) and tie's technical, legal, financial and other advisors or any other party notified to the MUDFA Contractor from time to time, regarding risk matters.</p>	<p>Monthly meeting with tie's project team (as notified to the MUDFA Contractor from time to time) and ongoing liaison with tie, tie's project team, tie's technical, legal</p>

Required Action from the MUDFA Contractor	Timing/Frequency applicable to the MUDFA Contractor
<p>Liaison to include attendance at risk management meetings facilitated by tie or any party designated by tie to support the scheme development, design, procurement, construction and pre-operational phases of the Edinburgh Tram Network.</p> <p>Liaison to include assistance with the risk identification procedure specific to the subject matter of the Agreement which will be carried out by tie and attendance at management workshops facilitated by tie or any other party identified by tie to allow a sharing of previous experience.</p>	<p>and other advisers or any other party notified to the MUDFA Contractor from time to time throughout the term of the Agreement.</p>
<p>5. liaise with tie to support tie's Owner Controlled Insurance Programme (OCIP) for the Edinburgh Tram Network. This shall include but shall not be limited to provision of support for review and comment on proposed strategy, input to OCIP procurement, meetings, leading the provision of claims management support et al.</p>	<p>Input from the MUDFA Contractor to commence within 1 month of the Effective Date and continue through the term of the Agreement.</p>
<p>6. support tie or any party designated by tie with contribution to the project risk register to be developed by tie. This register will detail all capex, opex, lifecycle, revenue, programme, quality, functionality and approvability risks to the Edinburgh Tram Network and the proposed mitigation of these risks.</p> <p>The project risk register will include analysis of each risk in terms of "likelihood" and 'impact' prior to and following mitigation, responsible owners of each risk and graphical summaries of risk profile. Risks to be addressed should include strategic, commercial, construction, economic, legal and regulatory, organisational, environmental, technical, operational and infrastructure risks.</p>	<p>Input from the MUDFA Contractor to commence within 1-month of the Effective Date and continue throughout the term of the Agreement.</p>
<p>7. inform tie or any party notified by tie of all risks that the MUDFA Contractor has identified that will affect it throughout the project. This shall also include informing tie or any party designated by tie of initial mitigation procedures for the risks that they have identified and proposing risk workshops with tie to confirm mitigation strategies and timeframes.</p>	<p>Input from the MUDFA Contractor to commence within 1-month of the Effective Date and continue throughout the term of the Agreement.</p>
<p>8. assist tie or any party in the quantification of risk pricing to ensure that adequate project contingencies are generated for risk pricing and programme risk contingencies (e.g. lead-in times, mobilisation, order periods et al).</p>	
<p>9. prepare and submit a risk progress report to tie on the status of risk management and mitigation, giving a summary of new risks and assumptions identified, key matters to be resolved and any risks that have been closed out during certain time limits.</p> <p>This report should indicate "Red-Amber-Green" (RAG) status areas including assumptions and key uncertainties, implementation of quality controls, implementation of risk</p>	<p>Agree format of the MUDFA Contractor's required monthly risk report with tie's designated risk manager (as notified to the MUDFA Contractor from time to time) within 1-month of the</p>

Required Action from the MUDFA Contractor	Timing/Frequency applicable to the MUDFA Contractor
management plan and the progression and development of risks relevant to the Agreement.	Effective Date and submit monthly report to tie throughout the term of this Agreement.
<p>10. create and submit a Construction Hazard Report that comprises both a Hazard Identification stage (HAZID) that brings contribution from the key parties including any relevant utility companies, his sub-contractors, tie, the Planning Supervisor and any other parties identified by tie. This process shall be professionally facilitated by the MUDFA Contractor to generate a clear and complete picture of the hazards pre-construction activity and identify the proposed mitigation strategies for all works to be undertaken by the MUDFA Contractor. The risks and assumptions shall also be relayed to tie for inclusion in the appropriate registers.</p> <p>The MUDFA Contractor must create and submit a Construction Hazard Report to tie prior to any construction activity taking place, including HAZOP/HAZID opportunities.</p> <p>The report shall include contributions from the MUDFA Contractor, tie and other advisors including the Planning Supervisor and any other contractors that will be involved in the construction activity involved with the Agreement based on workshops facilitated by the MUDFA Contractor.</p> <p>The report shall confirm in detail business continuity plans, mitigation plans and controls for all site risks including property damage, safety, utility damage etc.</p>	The MUDFA Contractor must submit the final Construction Hazard Report at least 4 weeks before any form of construction takes place. The report must be submitted to tie .

2.12 Meetings and Progress Reporting



3. CONSTRUCTION ACTIVITIES

3.1 Works to be carried out in respect of each Utility

MUDFA shared responsibility proposal for BT

Introduction:

This table proposes how responsibility for creating diversions to existing BT cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and BT.

It is recognised that BT are considering requiring that certain elements of the work will be undertaken by their own contracting division. BT will endeavour to operate in accordance with the programme developed by MUDFA. MUDFA will be the principal contractor under the CDM Regulations on all sites where it is operating at the same time as BT.

Design

The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with BT before being finally confirmed.

The specific design of the replacement cable, ducting and connections will be determined by BT. This specification will include material, dimensions and connection methods to be used.

Statutory Notices

The temporary traffic regulation orders (TTRO) will be the responsibility of MUDFA or SDS (to be confirmed) for work where MUDFA is the Principal Contractor.

Where BT is operating outwith a MUDFA-controlled site, BT will be responsible for the TTRO.

Any notifications to BT' customers will be the responsibility of BT.

Site management

Traffic management implementation will be the responsibility of MUDFA where the works are controlled by MUDFA, and of BT where BT undertake works outside of the MUDFA site at that time.

For aspects of work which BT require to manage themselves on MUDFA's site, they or their agents will act as directed by MUDFA in this respect as MUDFA will have the responsibility of Principal Contractor.

Site Investigation

Site investigation will be the responsibility of SDS. The information generated will be made available to BT on request.

SDS will use this information to design the route alignment.

BT may use this information to assist in designing the cabling (etc).

BT recognise that BT will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.

Existing apparatus

Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from BT (and other utilities) as appropriate. It will then be dealt with as described elsewhere.

Redundant apparatus will be decommissioned by BT

Cable laying

Cable laying will be the responsibility of either MUDFA or BT, to be decided.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by BT, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on BT's list of approved contractors for work of this nature, then approval from BT will be sought.

Should BT be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of BT for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of BT.

Commissioning and Testing

Commissioning and Testing will be the responsibility of BT.

Materials

Material purchasing will be the responsibility of MUDFA and BT, as appropriate to who is carrying out the work.

Materials will be purchased to a specification to be supplied by BT.

If the proposed materials supplier is not currently on the BT's list of approved suppliers for the appropriate materials, then approval from BT will be sought.

Should BT be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

BT may appoint a representative to ensure that their interests are met. The reasonable cost of BT's site representative will be reimbursed by tie, and suitable site accommodation will be provided (information will be required from BT in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of BT, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate BT's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at BT's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Long lead time issues > 3 months

Fibre optic cables may take up to 16 weeks from the time of ordering.

No other long lead items have been identified at the time of writing.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the BT will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, BT will inform tie.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to BT's network where affected, at BT's expense and subject to reasonable programme lead time.

This will require further discussion if BT wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between BT and tie if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with BT through the construction period. The presence of BT's site representative will facilitate this.

Design

The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with BT before being finally confirmed.

The specific design of the replacement cable, ducting and connections will be determined by BT. This specification will include material, dimensions and connection methods to be used.

Statutory Notices

The temporary traffic regulation orders (TTRO) will be the responsibility of MUDFA or SDS (to be confirmed) for work where MUDFA is the Principal Contractor.

Where BT is operating outwith a MUDFA-controlled site, BT will be responsible for the TTRO.

Any notifications to BT' customers will be the responsibility of BT.

Site management

Traffic management implementation will be the responsibility of MUDFA where the works are controlled by MUDFA, and of BT where BT undertake works outside of the MUDFA site at that time.

For aspects of work which BT require to manage themselves on MUDFA's site, they or their agents will act as directed by MUDFA in this respect as MUDFA will have the responsibility of Principal Contractor.

Site Investigation

Site investigation will be the responsibility of SDS. The information generated will be made available to BT on request.

SDS will use this information to design the route alignment.

BT may use this information to assist in designing the cabling (etc).

tie recognise that BT will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.

Existing apparatus

Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from BT (and other utilities) as appropriate. It will then be dealt with as described elsewhere.

Redundant apparatus will be decommissioned by BT

Cable laying

Cable laying will be the responsibility of either MUDFA or BT, to be decided.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by BT, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on BT's list of approved contractors for work of this nature, then approval from BT will be sought.

Should BT be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of BT for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of BT.

Commissioning and Testing

Commissioning and Testing will be the responsibility of BT.

Materials

Material purchasing will be the responsibility of MUDFA and BT, as appropriate to who is carrying out the work.

Materials will be purchased to a specification to be supplied by BT.

If the proposed materials supplier is not currently on the BT's list of approved suppliers for the appropriate materials, then approval from BT will be sought.

Should BT be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

BT may appoint a representative to ensure that their interests are met. The reasonable cost of BT's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from BT in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of BT, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate BT's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at BT's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Long lead time issues > 3 months

Fibre optic cables may take up to 16 weeks from the time of ordering.

No other long lead items have been identified at the time of writing.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the BT will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, BT will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to BT's network where affected, at BT's expense and subject to reasonable programme lead time.

This will require further discussion if BT wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between BT and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with BT through the construction period. The presence of BT's site representative will facilitate this.

MUDFA shared responsibility proposal for Cable & Wireless (C&W)

Introduction:

This table proposes how responsibility for creating diversions to existing C&W cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and C&W.

Design

The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with C&W before being finally confirmed.

The specific design of the replacement cable, ducting and connections will be determined by C&W. This specification will include material, dimensions and connection methods to be used.

Statutory Notices

The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).

Any notifications to C&W's customers will be the responsibility of C&W.

Site management

Traffic management implementation will be the responsibility of MUDFA.

Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.

MUDFA will have the responsibility of Principal Contractor.

Site Investigation

Site investigation will be the responsibility of SDS. The information generated will be made available to C&W on request.

SDS will use this information to design the route alignment.

C&W may use this information to assist in designing the cabling (etc).

tie recognise that C&W will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.

Existing apparatus

Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from C&W (and other utilities) as appropriate. It will then be dealt with as described elsewhere.

Redundant apparatus will be decommissioned by C&W (working to MUDFA's programme).

Cable laying

Cable laying will be the responsibility of MUDFA.

The work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by C&W to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on C&W's list of approved contractors for work of this nature, then approval from C&W will be sought.

Should C&W be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of C&W for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with

BT specifications, subject to any variations from BT's specifications notified by C&W to tie, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on C&W's list of approved contractors for work of this nature, then approval from C&W will be sought.

Should C&W be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by C&W to tie, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on C&W's list of approved contractors for work of this nature, then approval from C&W will be sought.

Should C&W be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by C&W.

If the proposed materials supplier is not currently on the C&W's list of approved suppliers for the appropriate materials, then approval from C&W will be sought.

Should C&W be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

C&W may appoint a representative to ensure that their interests are met. The reasonable cost of C&W's site representative will be reimbursed by tie, and suitable site accommodation will be provided (information will be required from C&W in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of C&W, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate C&W's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at C&W's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements C&W have to differ from BT specification will be notified by C&W to tie.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks fro ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the C&W will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, C&W will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to C&W's network where affected, at C&W's expense and subject to reasonable programme lead time.

This will require further discussion if C&W wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between C&W and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with C&W through the construction period. The presence of C&W's site representative will facilitate this.

MUDFA shared responsibility proposal for Independent Pipelines Ltd (IPL)

Introduction:

This table proposes how responsibility for creating diversions to existing IPL networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and IPL.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with IPL before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by IPL. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to IPL's customers will be the responsibility of IPL; it is noted that these are unlikely to be required.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to IPL on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>IPL may use this information to assist in designing the pipes (etc).</p> <p>tie recognise that IPL will have no liability in this respect should the pipes (etc) design be based on information generated by SDS' site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from IPL (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by IPL (working to MUDFA's programme).</p>
<p>Pipe laying</p> <p>Pipe laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with Scotland Gas Networks (SGN)'s specifications subject to any variations from SGN's specifications notified by IPL to tie, either by MUDFA or a sub-contractor under MUDFA's management.</p> <p>In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.</p> <p>Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of IPL for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections, other than customer connections, will be the responsibility of MUDFA.

The work will be carried out in accordance with SGN's specifications subject to any variations from SGN's specifications notified by IPL to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

The responsibility for customer connections is to be confirmed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance with SGN's specifications subject to any variations from SGN's specifications notified by IPL to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to SGN's specifications subject to any variations from SGN's specifications notified by IPL to **tie**.

If the proposed materials supplier is not currently on the IPL's list of approved suppliers for the appropriate materials, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

IPL may appoint a representative to ensure that their interests are met. The reasonable cost of IPL's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from IPL in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of IPL, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate IPL's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at IPL's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to SGN specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to SGN specification.

"As built" record drawings will be provided to SGN specification.

Any requirements IPL have to differ from SGN specification will be notified by IPL to **tie**.

Long lead time issues >3 months

No long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the IPL will impose any other seasonal constraints, although it is acknowledged that many works on gas pipes are easier in the summer months when demand in the system is lower.

If there are any operational constraints affecting the timing of works, IPL will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to IPL's network where affected, at IPL's expense and subject to reasonable programme lead time.

This will require further discussion if IPL wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between IPL and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with IPL through the construction period. The presence of IPL's site representative will facilitate this.

MUDFA shared responsibility proposal for Easynet

Introduction:

This table proposes how responsibility for creating diversions to existing Easynet cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Easynet.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Easynet before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Easynet. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Easynet’s customers will be the responsibility of Easynet.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Easynet on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Easynet may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Easynet will have no liability in this respect should the cable (etc) design be based on information generated by SDS’ site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Easynet (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Easynet (working to MUDFA’s programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT’s specifications notified by Easynet to tie, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on Easynet’s list of approved contractors for work of this nature, then approval from Easynet will be sought.</p> <p>Should Easynet be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Easynet for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Easynet to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Easynet's list of approved contractors for work of this nature, then approval from Easynet will be sought.

Should Easynet be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Easynet to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Easynet's list of approved contractors for work of this nature, then approval from Easynet will be sought.

Should Easynet be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Easynet.

If the proposed materials supplier is not currently on the Easynet's list of approved suppliers for the appropriate materials, then approval from Easynet will be sought.

Should Easynet be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Easynet may appoint a representative to ensure that their interests are met. The reasonable cost of Easynet's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Easynet in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Easynet, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Easynet's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Easynet's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Easynet have to differ from BT specification will be notified by Easynet to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Easynet will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Easynet will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Easynet's network where affected, at Easynet's expense and subject to reasonable programme lead time.

This will require further discussion if Easynet wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Easynet and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Easynet through the construction period. The presence of Easynet's site representative will facilitate this.

MUDFA shared responsibility proposal for Energis

Introduction:

This table proposes how responsibility for creating diversions to existing Energis cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Energis.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Energis before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Energis. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Energis’s customers will be the responsibility of Energis.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Energis on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Energis may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Energis will have no liability in this respect should the cable (etc) design be based on information generated by SDS’ site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Energis (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Energis (working to MUDFA’s programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT’s specifications notified by Energis to tie, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on Energis’ list of approved contractors for work of this nature, then approval from Energis will be sought.</p> <p>Should Energis be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Energis for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Energis to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Energis' list of approved contractors for work of this nature, then approval from Energis will be sought.

Should Energis be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Energis to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Energis' list of approved contractors for work of this nature, then approval from Energis will be sought.

Should Energis be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Energis.

If the proposed materials supplier is not currently on the Energis' list of approved suppliers for the appropriate materials, then approval from Energis will be sought.

Should Energis be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Energis may appoint a representative to ensure that their interests are met. The reasonable cost of Energis' site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Energis in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Energis, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Energis' work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Energis' expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Energis have to differ from BT specification will be notified by Energis to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Energis will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Energis will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Energis' network where affected, at Energis' expense and subject to reasonable programme lead time.

This will require further discussion if Energis wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Energis and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Energis through the construction period. The presence of Energis' site representative will facilitate this.

MUDFA shared responsibility proposal for Geo

Introduction:

This table proposes how responsibility for creating diversions to existing Geo cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Geo.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Geo before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Geo. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Geo’s customers will be the responsibility of Geo.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Geo on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Geo may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Geo will have no liability in this respect should the cable (etc) design be based on information generated by SDS’ site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Geo (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Geo (working to MUDFA’s programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT’s specifications notified by Geo to tie, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on Geo’s list of approved contractors for work of this nature, then approval from Geo will be sought.</p> <p>Should Geo be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Geo for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Geo to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Geo's list of approved contractors for work of this nature, then approval from Geo will be sought.

Should Geo be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Geo to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Geo's list of approved contractors for work of this nature, then approval from Geo will be sought.

Should Geo be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Geo.

If the proposed materials supplier is not currently on the Geo's list of approved suppliers for the appropriate materials, then approval from Geo will be sought.

Should Geo be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Geo may appoint a representative to ensure that their interests are met. The reasonable cost of Geo's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Geo in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Geo, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Geo's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Geo's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Geo have to differ from BT specification will be notified by Geo to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Geo will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Geo will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Geo's network where affected, at Geo's expense and subject to reasonable programme lead time.

This will require further discussion if Geo wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Geo and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Geo through the construction period. The presence of Geo's site representative will facilitate this.

MUDFA shared responsibility proposal for Global Crossings

Introduction:

This table proposes how responsibility for creating diversions to existing Global Crossings cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Global Crossings.

Design

The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Global Crossings before being finally confirmed.

The specific design of the replacement cable, ducting and connections will be determined by Global Crossings. This specification will include material, dimensions and connection methods to be used.

Statutory Notices

The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).

Any notifications to Global Crossings' customers will be the responsibility of Global Crossings.

Site management

Traffic management implementation will be the responsibility of MUDFA.

Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.

MUDFA will have the responsibility of Principal Contractor.

Site Investigation

Site investigation will be the responsibility of SDS. The information generated will be made available to Global Crossings on request.

SDS will use this information to design the route alignment.

Global Crossings may use this information to assist in designing the cabling (etc).

tie recognise that Global Crossings will have no liability in this respect should the cable (etc) design be based on information generated by SDS' site investigation which subsequently proves to be inaccurate.

Existing apparatus

Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Global Crossings (and other utilities) as appropriate. It will then be dealt with as described elsewhere.

Redundant apparatus will be decommissioned by Global Crossings (working to MUDFA's programme).

Cable laying

Cable laying will be the responsibility of MUDFA.

The work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Global Crossings to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Global Crossings' list of approved contractors for work of this nature, then approval from Global Crossings will be sought.

Should Global Crossings be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Global Crossings for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Global Crossings to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Global Crossings' list of approved contractors for work of this nature, then approval from Global Crossings will be sought.

Should Global Crossings be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Global Crossings to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Global Crossings' list of approved contractors for work of this nature, then approval from Global Crossings will be sought.

Should Global Crossings be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Global Crossings.

If the proposed materials supplier is not currently on the Global Crossings' list of approved suppliers for the appropriate materials, then approval from Global Crossings will be sought.

Should Global Crossings be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Global Crossings may appoint a representative to ensure that their interests are met. The reasonable cost of Global Crossings' site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Global Crossings in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Global Crossings, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Global Crossings' work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Global Crossings' expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Global Crossings have to differ from BT specification will be notified by Global Crossings to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Global Crossings will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Global Crossings will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Global Crossings' network where affected, at Global Crossings' expense and subject to reasonable programme lead time.

This will require further discussion if Global Crossings wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Global Crossings and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Global Crossings through the construction period. The presence of Global Crossings' site representative will facilitate this.

MUDFA shared responsibility proposal for Independent Pipelines Ltd (IPL)

Introduction:

This table proposes how responsibility for creating diversions to existing IPL networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and IPL.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with IPL before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by IPL. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to IPL's customers will be the responsibility of IPL; it is noted that these are unlikely to be required.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to IPL on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>IPL may use this information to assist in designing the pipes (etc).</p> <p>tie recognise that IPL will have no liability in this respect should the pipes (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from IPL (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by IPL (working to MUDFA's programme).</p>
<p>Pipe laying</p> <p>Pipe laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with the specifications provided by IPL, either by MUDFA or a sub-contractor under MUDFA's management.</p> <p>In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.</p> <p>Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of IPL for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections, other than customer connections, will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by IPL, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

The responsibility for customer connections is to be confirmed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by IPL, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by IPL.

If the proposed materials supplier is not currently on the IPL's list of approved suppliers for the appropriate materials, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

IPL may appoint a representative to ensure that their interests are met. The reasonable cost of IPL's site representative will be reimbursed by tie, and suitable site accommodation will be provided (information will be required from IPL in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of IPL, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate IPL's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at IPL's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to IPL specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to IPL specification.

"As built" record drawings will be provided to IPL specification.

Long lead time issues >3 months

No long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the IPL will impose any other seasonal constraints, although it is acknowledged that many works on gas pipes are easier in the summer months when demand in the system is lower.

If there are any operational constraints affecting the timing of works, IPL will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to IPL's network where affected, at IPL's expense and subject to reasonable programme lead time.

This will require further discussion if IPL wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between IPL and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with IPL through the construction period. The presence of IPL's site representative will facilitate this.

MUDFA shared responsibility proposal for NTL

Introduction:

This table proposes how responsibility for creating diversions to existing NTL cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and NTL.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with NTL before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by NTL. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to NTL's customers will be the responsibility of NTL.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to NTL on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>NTL may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that NTL will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from NTL (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by NTL (working to MUDFA's programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by NTL to tie, either by MUDFA or a sub-contractor under MUDFA's management.</p> <p>In either case, if the contractor is not currently on NTL's list of approved contractors for work of this nature, then approval from NTL will be sought.</p> <p>Should NTL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of NTL for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by NTL to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on NTL's list of approved contractors for work of this nature, then approval from NTL will be sought.

Should NTL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by NTL to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on NTL's list of approved contractors for work of this nature, then approval from NTL will be sought.

Should NTL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by NTL.

If the proposed materials supplier is not currently on the NTL's list of approved suppliers for the appropriate materials, then approval from NTL will be sought.

Should NTL be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

NTL may appoint a representative to ensure that their interests are met. The reasonable cost of NTL's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from NTL in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of NTL, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate NTL's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at NTL's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements NTL have to differ from BT specification will be notified by NTL to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the NTL will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, NTL will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to NTL's network where affected, at NTL's expense and subject to reasonable programme lead time.

This will require further discussion if NTL wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between NTL and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with NTL through the construction period. The presence of NTL's site representative will facilitate this.

MUDFA shared responsibility proposal for Orange

Introduction:

This table proposes how responsibility for creating diversions to existing Orange cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Orange.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Orange before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Orange. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Orange’s customers will be the responsibility of Orange.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Orange on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Orange may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Orange will have no liability in this respect should the cable (etc) design be based on information generated by SDS’s site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Orange (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Orange (working to MUDFA’s programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT’s specifications notified by Orange to tie, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on Orange’s list of approved contractors for work of this nature, then approval from Orange will be sought.</p> <p>Should Orange be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Orange for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Orange to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Orange's list of approved contractors for work of this nature, then approval from Orange will be sought.

Should Orange be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Orange to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Orange's list of approved contractors for work of this nature, then approval from Orange will be sought.

Should Orange be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Orange.

If the proposed materials supplier is not currently on the Orange's list of approved suppliers for the appropriate materials, then approval from Orange will be sought.

Should Orange be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Orange may appoint a representative to ensure that their interests are met. The reasonable cost of Orange's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Orange in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Orange, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Orange's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Orange's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Orange have to differ from BT specification will be notified by Orange to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Orange will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Orange will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Orange's network where affected, at Orange's expense and subject to reasonable programme lead time.

This will require further discussion if Orange wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Orange and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Orange through the construction period. The presence of Orange's site representative will facilitate this.

MUDFA shared responsibility proposal for Scotland Gas Networks (SGN)

Introduction:

This table proposes how responsibility for creating diversions to existing SGN networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and SGN.

SGN have a network of low, medium and intermediate pressure mains around Edinburgh that will be affected by the tram construction; this document refers only to these. There is also a high pressure gas main at Gogar which will be affected. This high pressure main is the subject of separate discussions and this document will have no application to it.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with SGN before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by SGN. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to SGN's customers will be the responsibility of SGN; it is noted that these are unlikely to be required.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to SGN on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>SGN may use this information to assist in designing the pipes (etc).</p> <p>tie recognise that SGN will have no liability in this respect should the pipes (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from SGN (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by SGN (working to MUDFA's programme).</p>

Pipe laying

Pipe laying will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by SGN, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SGN's list of approved contractors for work of this nature, then approval from SGN will be sought.

Should SGN be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of SGN for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections, other than customer connections, will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by SGN, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SGN's list of approved contractors for work of this nature, then approval from SGN will be sought.

Should SGN be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

The responsibility for customer connections is to be confirmed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by SGN, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SGN's list of approved contractors for work of this nature, then approval from SGN will be sought.

Should SGN be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by SGN.

If the proposed materials supplier is not currently on the SGN's list of approved suppliers for the appropriate materials, then approval from SGN will be sought.

Should SGN be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

SGN may appoint a representative to ensure that their interests are met. The reasonable cost of SGN's site representative will be reimbursed by tie, and suitable site accommodation will be provided (information will be required from SGN in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of SGN, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate SGN's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at SGN's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to SGN specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to SGN specification.

"As built" record drawings will be provided to SGN specification.

Long lead time issues >3 months

No long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the SGN will impose any other seasonal constraints, although it is acknowledged that many works on gas pipes are easier in the summer months when demand in the system is lower.

If there are any operational constraints affecting the timing of works, SGN will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to SGN's network where affected, at SGN's expense and subject to reasonable programme lead time.

This will require further discussion if SGN wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between SGN and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with SGN through the construction period. The presence of SGN's site representative will facilitate this.

MUDFA shared responsibility proposal for ScottishPower PowerSystems

Introduction:

This table proposes how responsibility for creating diversions to existing SPPS electricity networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinkerhof) and Scottish Power Power Systems (SPPS).

It is recognised that SPPS are considering requiring that certain elements of the work will be undertaken by their contracting division, Core. It is understood in principle that, should that requirement arise, Core will be able to operate in accordance with the programme developed by the MUDFA contractor. Consideration will be given to Core acting as a sub-contractor to MUDFA should that prove more efficient. In any case, MUDFA will have the role of Principal Contractor for the site under the C(DM) Regulations.

<p>Design</p> <p>The alignment of the replacement pipework will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with SPPS before being finally confirmed.</p> <p>The specific design of the replacement pipe and the connections will be determined by SPPS. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to SPPS' customers will be the responsibility of SPPS.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>For aspects of work which SPPS require to manage themselves, they or their agents will act as directed by MUDFA in this respect as MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to SPPS on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>SPPS may use this information to assist in designing the cabling.</p> <p>tie recognise that SPPS will have no liability in this respect should the cable design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from SPPS (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by SPPS / Core (working to MUDFA's programme).</p>

Cable laying

Cable laying will be the responsibility of either MUDFA or Core (working to MUDFA's programme or under MUDFA's direction), to be decided.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by SPPS, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SPPS's list of approved contractors for work of this nature, then approval from SPPS will be sought.

Should SPPS be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of SPPS for electricity-specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of either MUDFA or Core (working to MUDFA's programme or under MUDFA's direction), to be decided.

It is understood that SPPS are more likely to require that Core carries out customer connections than other connections.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by SPPS, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SPPS's list of approved contractors for work of this nature, then approval from SPPS will be sought.

Should SPPS be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of either MUDFA or Core (working to MUDFA's programme or under MUDFA's direction), to be decided.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by SPPS, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SPPS's list of approved contractors for work of this nature, then approval from SPPS will be sought.

Should SPPS be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by SPPS.

If the proposed materials supplier is not currently on the SPPS's list of approved suppliers for the appropriate materials, then approval from SPPS will be sought.

Should SPPS be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

SPPS may appoint a representative to ensure that their interests are met. The reasonable cost of SPPS's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from SPPS in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of SPPS, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate SPPS's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at SPPS's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to SPPS specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to SPPS specification.

"As built" record drawings will be provided to SPPS specification.

Long lead time issues >3 months

High voltage 275kV cables, overhead cables - typically up to 16 weeks for supply. The latter unlikely to be required.

Cable Sealing End Equipment. max lead time 26 weeks – also unlikely to be required.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the SPPS will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, SPPS will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to SPPS's network where affected, at SPPS's expense and subject to reasonable programme lead time.

This will require further discussion if SPPS wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between SPPS and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with SPPS through the construction period. The presence of SPPS's site representative will facilitate this.

MUDFA shared responsibility proposal for Scottish Water (SW)

Introduction:

This table proposes how responsibility for creating diversions to existing SW networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and SW.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with SW before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by SW. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to SW's customers will be the responsibility of MUDFA, in accordance with instructions to be issued by Scottish Water.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to SW on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>SW may use this information to assist in designing the pipes (etc).</p> <p>tie recognise that SW will have no liability in this respect should the pipes (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from SW (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by MUDFA, workign to SW's specification.</p>
<p>Pipe laying</p> <p>Pipe laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with the specifications provided by SW, either by MUDFA or a sub-contractor under MUDFA's management.</p> <p>In either case, if the contractor is not currently on SW's list of approved contractors for work of this nature, then approval from SW will be sought.</p> <p>Should SW be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of SW for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by SW, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SW's list of approved contractors for work of this nature, then approval from SW will be sought.

Should SW be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Certain customer connections will require the replacement of lead pipework. The responsibility for paying for this is to be confirmed (either tie or SW).

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by SW, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SW's list of approved contractors for work of this nature, then approval from SW will be sought.

Should SW be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by SW.

SW will facilitate the registration of MUDFA on its approved contractors list, which will allow MUDFA to source materials through SW's supply chain.

If the proposed materials supplier is not currently on the SW's list of approved suppliers for the appropriate materials, then approval from SW will be sought.

Should SW be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

SW may appoint a representative to ensure that their interests are met. The reasonable cost of SW's site representative will be reimbursed by tie, and suitable site accommodation will be provided (information will be required from SW in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of SW, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate SW's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at SW's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to SW specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to SW specification.

"As built" record drawings will be provided to SW specification.

Long lead time issues >3 months

Certain valves and fittings may have a long lead time. This will be identified in SW's material supply frameworks.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the SW will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, SW will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to SW's network where affected, at SW's expense and subject to reasonable programme lead time.

This will require further discussion if SW wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between SW and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with SW through the construction period. The presence of SW's site representative will facilitate this.

MUDFA shared responsibility proposal for Telewest

Introduction:

This table proposes how responsibility for creating diversions to existing Telewest cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Telewest.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Telewest before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Telewest. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Telewest’s customers will be the responsibility of Telewest.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Telewest on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Telewest may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Telewest will have no liability in this respect should the cable (etc) design be based on information generated by SDS’s site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Telewest (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Telewest (working to MUDFA’s programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT’s specifications notified by Telewest to tie, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on Telewest’s list of approved contractors for work of this nature, then approval from Telewest will be sought.</p> <p>Should Telewest be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Telewest for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Telewest to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Telewest's list of approved contractors for work of this nature, then approval from Telewest will be sought.

Should Telewest be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Telewest to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Telewest's list of approved contractors for work of this nature, then approval from Telewest will be sought.

Should Telewest be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Telewest.

If the proposed materials supplier is not currently on the Telewest's list of approved suppliers for the appropriate materials, then approval from Telewest will be sought.

Should Telewest be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Telewest may appoint a representative to ensure that their interests are met. The reasonable cost of Telewest's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Telewest in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Telewest, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Telewest's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Telewest's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Telewest have to differ from BT specification will be notified by Telewest to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Telewest will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Telewest will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Telewest's network where affected, at Telewest's expense and subject to reasonable programme lead time.

This will require further discussion if Telewest wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Telewest and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Telewest through the construction period. The presence of Telewest's site representative will facilitate this.

MUDFA shared responsibility proposal for Thus

Introduction:

This table proposes how responsibility for creating diversions to existing Thus cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Thus.

It is recognised that Thus are considering requiring that certain elements of the work will be undertaken by their own contracting division. Thus will endeavour to operate in accordance with the programme developed by MUDFA. MUDFA will be the principal contractor under the CDM regulations on all sites where it is operating at the same time as Thus.

Design

The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Thus before being finally confirmed.

The specific design of the replacement cable, ducting and connections will be determined by Thus. This specification will include material, dimensions and connection methods to be used.

Statutory Notices

The temporary traffic regulation orders (TTRO) will be the responsibility of MUDFA or SDS (to be confirmed) for work where MUDFA is the Principal Contractor.

Where Thus is operating outwith a MUDFA-controlled site, Thus will be responsible for the TTRO.

Any notifications to Thus' customers will be the responsibility of Thus.

Site management

Traffic management implementation will be the responsibility of MUDFA where the works are controlled by MUDFA, and of Thus where Thus undertake works outside of the MUDFA site at that time.

For aspects of work which Thus require to manage themselves on MUDFA's site, they or their agents will act as directed by MUDFA in this respect as MUDFA will have the responsibility of Principal Contractor.

Site Investigation

Site investigation will be the responsibility of SDS. The information generated will be made available to Thus on request.

SDS will use this information to design the route alignment.

Thus may use this information to assist in designing the cabling (etc).

tie recognise that Thus will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.

Existing apparatus

Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Thus (and other utilities) as appropriate. It will then be dealt with as described elsewhere.

Redundant apparatus will be decommissioned by Thus

Cable laying

Cable laying will be the responsibility of either MUDFA or Thus, to be decided.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by Thus, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Thus's list of approved contractors for work of this nature, then approval from Thus will be sought.

Should Thus be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Thus for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of Thus.

Commissioning and Testing

Commissioning and Testing will be the responsibility of Thus.

Materials

Material purchasing will be the responsibility of MUDFA and Thus, as appropriate to who is carrying out the work.

Materials will be purchased to a specification to be supplied by Thus.

If the proposed materials supplier is not currently on the Thus's list of approved suppliers for the appropriate materials, then approval from Thus will be sought.

Should Thus be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Thus may appoint a representative to ensure that their interests are met. The reasonable cost of Thus's site representative will be reimbursed by tie, and suitable site accommodation will be provided (information will be required from Thus in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Thus, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Thus's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Thus's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to Thus specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to Thus specification.

"As built" record drawings will be provided to Thus specification.

Long lead time issues >3 months

Fibre optic cables may take up to 16 weeks from the time of ordering.

No other long lead items have been identified at the time of writing.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Thus will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Thus will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Thus's network where affected, at Thus's expense and subject to reasonable programme lead time.

This will require further discussion if Thus wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Thus and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Thus through the construction period. The presence of Thus's site representative will facilitate this.

MUDFA shared responsibility proposal for Your Communications (YC)

Introduction:

This table proposes how responsibility for creating diversions to existing YC cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and YC.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with YC before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by YC. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to YC's customers will be the responsibility of YC.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to YC on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>YC may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that YC will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from YC (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by YC (working to MUDFA's programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by YC to tie, either by MUDFA or a sub-contractor under MUDFA's management.</p> <p>In either case, if the contractor is not currently on YC's list of approved contractors for work of this nature, then approval from YC will be sought.</p> <p>Should YC be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of YC for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by YC to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on YC's list of approved contractors for work of this nature, then approval from YC will be sought.

Should YC be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by YC to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on YC's list of approved contractors for work of this nature, then approval from YC will be sought.

Should YC be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by YC.

If the proposed materials supplier is not currently on the YC's list of approved suppliers for the appropriate materials, then approval from YC will be sought.

Should YC be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

YC may appoint a representative to ensure that their interests are met. The reasonable cost of YC's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from YC in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of YC, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate YC's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at YC's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements YC have to differ from BT specification will be notified by YC to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the YC will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, YC will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to YC's network where affected, at YC's expense and subject to reasonable programme lead time.

This will require further discussion if YC wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between YC and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with YC through the construction period. The presence of YC's site representative will facilitate this.

3.2 Interaction with the SDS Provider

[◆]

3.3 Traffic Management and TTROs

[◆]

3.4 Programme

[◆]

3.5 Pricing (any requirements?)

[◆]

3.6 Materials ?

[◆]

3.7 Stakeholder and Communication Management

The provider shall assist the Client to minimise the adverse impact of the implementation of the Edinburgh Tram Network Multi Utility Diversions on stakeholders (both statutory and non statutory) and the general public. This shall include:

Liaison with CEC, the Scottish Executive, Historic Scotland, world Heritage Trust, Scottish Natural Heritage and others as required by the Client in relation to the planning and execution of the works;

Participation, and the imparting and receiving of information, when requested by **tie**, at business and community liaison groups and public meetings

Ensuring that information received from stakeholders and public is included, where possible, in planning for works (e.g. working hours, entry, exit etc)

Participating in and imparting information, when requested by **tie**, at consultation meetings

Providing weekly updates on progress to Communication and Stakeholder managers

Providing proactive input, attendance, information and comment into all information initiatives including media releases, newsletters, website etc.

Assisting with the development of, adhering to and maintenance of a communications protocol for dealing with all stakeholders and general public affected by the design and utility diversion work

Informing **tie** communication and stakeholder relationship managers, in advance of, all plans for communication with stakeholders and public and gaining approval

Informing **tie** communications and stakeholder relationship managers, in advance of, all works planned

Setting up and manning of a call centre, to **tie**'s specification, covering information provision, question and answers, updates on works progress and emergency helpline information in the lead up to and during all works

Recruiting and providing 'City Helpers' to man each of the work sites during work to provide troubleshooting on site, a customer interface and to ensure that traffic flows, these people will be in direct contact with **tie**'s Communication and Stakeholder managers

Supply and use of approved branding materials, ppe kit and hoarding at all sites as requested by **tie**

Providing traffic re-routing maps for all affected areas and works in advance of work starting

Ensure all staff attends the **tie** induction programme and carry the information card required

3.8 **Health and Safety**

[◆]

3.9 **Method Statements (requirements ?)**

[◆]

3.11 **Risk**

The MUDFA Contractor shall:

Required Action from the MUDFA Contractor	Timing/Frequency applicable to the MUDFA Contractor
<p>11. input to the project risk management plan developed by tie, to the extent requested by tie.</p> <p>This plan reflects the roles and responsibilities of the MUDFA Contractor, the risk management process instituted by tie in respect of the Edinburgh Tram Network and how the MUDFA Contractor will contribute to the ongoing development of tie's risk management plan. The input required of the MUDFA Contractor includes the provision of information on how the MUDFA Contractor intends to manage risk during the design, construction and commissioning process.</p> <p>This plan also indicates the critical success factors for the MUDFA Contractor, key areas of focus and individuals involved and the proposals for risk management controls for specific areas relevant to the Agreement.</p>	<p>Input to risk management plan within 1-month of the [Effective Date] and to inform tie accordingly of any amendments by the MUDFA Contractor throughout the Agreement. Updates and further information to be provided to tie within [5 Business Days] of request or such longer period as may be agreed between the Parties.</p>
<p>12. support tie with regard to the development of the project assumptions register to be developed or on behalf of tie in respect of the Edinburgh Tram Network. This register will record all capex, opex, lifecycle, revenue, programme, quality, functionality and approvability assumptions and consequent risks to the Edinburgh Tram Network throughout the scheme development, design procurement, construction and pre-operational phases of the [Project].</p>	<p>Input from the MUDFA Contractor to commence within 1 month of the [Effective Date]and continue throughout the term of the Agreement.</p>
<p>13. identify any risks specific to the Agreement which are identified after the Effective Date to tie.</p> <p>The project assumptions register will also be used by tie to contribute to the project risk register referred to below.</p>	<p>Input from the MUDFA Contractor to commence within 1 month of the [Effective Date]and continue</p>

Required Action from the MUDFA Contractor	Timing/Frequency applicable to the MUDFA Contractor
	throughout the term of the Agreement.
<p>14. maintain close liaison with tie, the tie project team (which term shall include parties providing technical support services or system design services to tie) and tie's technical, legal, financial and other advisors or any other party notified to the MUDFA Contractor from time to time, regarding risk matters.</p> <p>Liaison to include attendance at risk management meetings facilitated by tie or any party designated by tie to support the scheme development, design, procurement, construction and pre-operational phases of the Edinburgh Tram Network.</p> <p>Liaison to include assistance with the risk identification procedure specific to the subject matter of the Agreement which will be carried out by tie and attendance at management workshops facilitated by tie or any other party identified by tie to allow a sharing of previous experience.</p>	Monthly meeting with tie's project team (as notified to the MUDFA Contractor from time to time) and ongoing liaison with tie , tie's project team, tie's technical, legal and other advisors or any other party notified to the MUDFA Contractor from time to time throughout the term of the Agreement.
<p>15. liaise with tie to support tie's Owner Controlled Insurance Programme (OCIP) for the Edinburgh Tram Network. This shall include but shall not be limited to provision of support for review and comment on proposed strategy, input to OCIP procurement, meetings, leading the provision of claims management support et al.</p>	Input from the MUDFA Contractor to commence within 1 month of the Effective Date and continue through the term of the Agreement.
<p>16. support tie or any party designated by tie with contribution to the project risk register to be developed by tie. This register will detail all capex, opex, lifecycle, revenue, programme, quality, functionality and approvability risks to the Edinburgh Tram Network and the proposed mitigation of these risks.</p> <p>The project risk register will include analysis of each risk in terms of "likelihood" and 'impact' prior to and following mitigation, responsible owners of each risk and graphical summaries of risk profile. Risks to be addressed should include strategic, commercial, construction, economic, legal and regulatory, organisational, environmental, technical, operational and infrastructure risks.</p>	Input from the MUDFA Contractor to commence within 1-month of the Effective Date and continue throughout the term of the Agreement.
<p>17. inform tie or any party notified by tie of all risks that the MUDFA Contractor has identified that will affect it throughout the project. This shall also include informing tie or any party designated by tie of initial mitigation procedures for the risks that they have identified and proposing risk workshops with tie to confirm mitigation strategies and timeframes.</p>	Input from the MUDFA Contractor to commence within 1-month of the Effective Date and continue throughout the term of the Agreement.
<p>18. assist tie or any party in the quantification of risk pricing to ensure that adequate project contingencies are generated for risk pricing and programme risk contingencies (e.g. lead-in times, mobilisation, order periods et al).</p>	

Required Action from the MUDFA Contractor	Timing/Frequency applicable to the MUDFA Contractor
<p>19. prepare and submit a risk progress report to tie on the status of risk management and mitigation, giving a summary of new risks and assumptions identified, key matters to be resolved and any risks that have been closed out during certain time limits.</p> <p>This report should indicate “Red-Amber-Green” (RAG) status areas including assumptions and key uncertainties, implementation of quality controls, implementation of risk management plan and the progression and development of risks relevant to the Agreement.</p>	<p>Agree format of the MUDFA Contractor's required monthly risk report with tie's designated risk manager (as notified to the MUDFA Contractor from time to time) within 1-month of the Effective Date and submit monthly report to tie throughout the term of this Agreement.</p>
<p>20. create and submit a Construction Hazard Report that comprises both a Hazard Identification stage (HAZID) that brings contribution from the key parties including any relevant utility companies, his sub-contractors, tie, the Planning Supervisor and any other parties identified by tie. This process shall be professionally facilitated by the MUDFA Contractor to generate a clear and complete picture of the hazards pre-construction activity and identify the proposed mitigation strategies for all works to be undertaken by the MUDFA Contractor. The risks and assumptions shall also be relayed to tie for inclusion in the appropriate registers.</p> <p>The MUDFA Contractor must create and submit a Construction Hazard Report to tie prior to any construction activity taking place, including HAZOP/HAZID opportunities.</p> <p>The report shall include contributions from the MUDFA Contractor, tie and other advisors including the Planning Supervisor and any other contractors that will be involved in the construction activity involved with the Agreement based on workshops facilitated by the MUDFA Contractor.</p> <p>The report shall confirm in detail business continuity plans, mitigation plans and controls for all site risks including property damage, safety, utility damage etc.</p>	<p>The MUDFA Contractor must submit the final Construction Hazard Report at least 4 weeks before any form of construction takes place. The report must be submitted to tie.</p>

3.12 Meetings and Progress Reporting



4. GENERAL

MUDFA shared responsibility proposal for BT

Introduction:

This table proposes how responsibility for creating diversions to existing BT cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and BT.

It is recognised that BT are considering requiring that certain elements of the work will be undertaken by their own contracting division. BT will endeavour to operate in accordance with the programme developed by MUDFA. MUDFA will be the principal contractor under the CDM Regulations on all sites where it is operating at the same time as BT.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with BT before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by BT. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders (TTRO) will be the responsibility of MUDFA or SDS (to be confirmed) for work where MUDFA is the Principal Contractor.</p> <p>Where BT is operating outwith a MUDFA-controlled site, BT will be responsible for the TTRO.</p> <p>Any notifications to BT' customers will be the responsibility of BT.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA where the works are controlled by MUDFA, and of BT where BT undertake works outside of the MUDFA site at that time.</p> <p>For aspects of work which BT require to manage themselves on MUDFA's site, they or their agents will act as directed by MUDFA in this respect as MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to BT on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>BT may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that BT will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from BT (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by BT</p>

Cable laying

Cable laying will be the responsibility of either MUDFA or BT, to be decided.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by BT, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on BT's list of approved contractors for work of this nature, then approval from BT will be sought.

Should BT be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of BT for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of BT.

Commissioning and Testing

Commissioning and Testing will be the responsibility of BT.

Materials

Material purchasing will be the responsibility of MUDFA and BT, as appropriate to who is carrying out the work.

Materials will be purchased to a specification to be supplied by BT.

If the proposed materials supplier is not currently on the BT's list of approved suppliers for the appropriate materials, then approval from BT will be sought.

Should BT be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

BT may appoint a representative to ensure that their interests are met. The reasonable cost of BT's site representative will be reimbursed by MUDFA, and suitable site accommodation will be provided (information will be required from BT in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of BT, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate BT's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at BT's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Long lead time issues > 3 months

Fibre optic cables may take up to 16 weeks from the time of ordering.

No other long lead items have been identified at the time of writing.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the BT will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, BT will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to BT's network where affected, at BT's expense and subject to reasonable programme lead time.

This will require further discussion if BT wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between BT and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with BT through the construction period. The presence of BT's site representative will facilitate this.

Design

The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with BT before being finally confirmed.

The specific design of the replacement cable, ducting and connections will be determined by BT. This specification will include material, dimensions and connection methods to be used.

Statutory Notices

The temporary traffic regulation orders (TTRO) will be the responsibility of MUDFA or SDS (to be confirmed) for work where MUDFA is the Principal Contractor.

Where BT is operating outwith a MUDFA-controlled site, BT will be responsible for the TTRO.

Any notifications to BT' customers will be the responsibility of BT.

Site management

Traffic management implementation will be the responsibility of MUDFA where the works are controlled by MUDFA, and of BT where BT undertake works outside of the MUDFA site at that time.

For aspects of work which BT require to manage themselves on MUDFA's site, they or their agents will act as directed by MUDFA in this respect as MUDFA will have the responsibility of Principal Contractor.

Site Investigation

Site investigation will be the responsibility of SDS. The information generated will be made available to BT on request.

SDS will use this information to design the route alignment.

BT may use this information to assist in designing the cabling (etc).

tie recognise that BT will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.

Existing apparatus

Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from BT (and other utilities) as appropriate. It will then be dealt with as described elsewhere.

Redundant apparatus will be decommissioned by BT

Cable laying

Cable laying will be the responsibility of either MUDFA or BT, to be decided.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by BT, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on BT's list of approved contractors for work of this nature, then approval from BT will be sought.

Should BT be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of BT for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of BT.

Commissioning and Testing

Commissioning and Testing will be the responsibility of BT.

Materials

Material purchasing will be the responsibility of MUDFA and BT, as appropriate to who is carrying out the work.

Materials will be purchased to a specification to be supplied by BT.

If the proposed materials supplier is not currently on the BT's list of approved suppliers for the appropriate materials, then approval from BT will be sought.

Should BT be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

BT may appoint a representative to ensure that their interests are met. The reasonable cost of BT's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from BT in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of BT, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate BT's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at BT's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Long lead time issues > 3 months

Fibre optic cables may take up to 16 weeks from the time of ordering.

No other long lead items have been identified at the time of writing.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the BT will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, BT will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to BT's network where affected, at BT's expense and subject to reasonable programme lead time.

This will require further discussion if BT wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between BT and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with BT through the construction period. The presence of BT's site representative will facilitate this.

MUDFA shared responsibility proposal for Cable & Wireless (C&W)

Introduction:

This table proposes how responsibility for creating diversions to existing C&W cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and C&W.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with C&W before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by C&W. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to C&W's customers will be the responsibility of C&W.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to C&W on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>C&W may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that C&W will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from C&W (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by C&W (working to MUDFA's programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by C&W to tie, either by MUDFA or a sub-contractor under MUDFA's management.</p> <p>In either case, if the contractor is not currently on C&W's list of approved contractors for work of this nature, then approval from C&W will be sought.</p> <p>Should C&W be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of C&W for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by C&W to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on C&W's list of approved contractors for work of this nature, then approval from C&W will be sought.

Should C&W be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by C&W to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on C&W's list of approved contractors for work of this nature, then approval from C&W will be sought.

Should C&W be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by C&W.

If the proposed materials supplier is not currently on the C&W's list of approved suppliers for the appropriate materials, then approval from C&W will be sought.

Should C&W be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

C&W may appoint a representative to ensure that their interests are met. The reasonable cost of C&W's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from C&W in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of C&W, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate C&W's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at C&W's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements C&W have to differ from BT specification will be notified by C&W to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the C&W will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, C&W will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to C&W's network where affected, at C&W's expense and subject to reasonable programme lead time.

This will require further discussion if C&W wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between C&W and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with C&W through the construction period. The presence of C&W's site representative will facilitate this.

MUDFA shared responsibility proposal for Independent Pipelines Ltd (IPL)

Introduction:

This table proposes how responsibility for creating diversions to existing IPL networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and IPL.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with IPL before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by IPL. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to IPL's customers will be the responsibility of IPL; it is noted that these are unlikely to be required.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to IPL on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>IPL may use this information to assist in designing the pipes (etc).</p> <p>tie recognise that IPL will have no liability in this respect should the pipes (etc) design be based on information generated by SDS' site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from IPL (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by IPL (working to MUDFA's programme).</p>
<p>Pipe laying</p> <p>Pipe laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with Scotland Gas Networks (SGN)'s specifications subject to any variations from SGN's specifications notified by IPL to tie, either by MUDFA or a sub-contractor under MUDFA's management.</p> <p>In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.</p> <p>Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of IPL for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections, other than customer connections, will be the responsibility of MUDFA.

The work will be carried out in accordance with SGN's specifications subject to any variations from SGN's specifications notified by IPL to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

The responsibility for customer connections is to be confirmed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance with SGN's specifications subject to any variations from SGN's specifications notified by IPL to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to SGN's specifications subject to any variations from SGN's specifications notified by IPL to **tie**.

If the proposed materials supplier is not currently on the IPL's list of approved suppliers for the appropriate materials, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

IPL may appoint a representative to ensure that their interests are met. The reasonable cost of IPL's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from IPL in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of IPL, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate IPL's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at IPL's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to SGN specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to SGN specification.

"As built" record drawings will be provided to SGN specification.

Any requirements IPL have to differ from SGN specification will be notified by IPL to **tie**.

Long lead time issues >3 months

No long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the IPL will impose any other seasonal constraints, although it is acknowledged that many works on gas pipes are easier in the summer months when demand in the system is lower.

If there are any operational constraints affecting the timing of works, IPL will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to IPL's network where affected, at IPL's expense and subject to reasonable programme lead time.

This will require further discussion if IPL wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between IPL and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with IPL through the construction period. The presence of IPL's site representative will facilitate this.

MUDFA shared responsibility proposal for Easynet

Introduction:

This table proposes how responsibility for creating diversions to existing Easynet cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Easynet.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Easynet before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Easynet. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Easynet’s customers will be the responsibility of Easynet.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Easynet on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Easynet may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Easynet will have no liability in this respect should the cable (etc) design be based on information generated by SDS’ site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Easynet (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Easynet (working to MUDFA’s programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT’s specifications notified by Easynet to tie, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on Easynet’s list of approved contractors for work of this nature, then approval from Easynet will be sought.</p> <p>Should Easynet be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Easynet for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Easynet to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Easynet's list of approved contractors for work of this nature, then approval from Easynet will be sought.

Should Easynet be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Easynet to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Easynet's list of approved contractors for work of this nature, then approval from Easynet will be sought.

Should Easynet be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Easynet.

If the proposed materials supplier is not currently on the Easynet's list of approved suppliers for the appropriate materials, then approval from Easynet will be sought.

Should Easynet be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Easynet may appoint a representative to ensure that their interests are met. The reasonable cost of Easynet's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Easynet in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Easynet, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Easynet's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Easynet's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Easynet have to differ from BT specification will be notified by Easynet to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Easynet will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Easynet will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Easynet's network where affected, at Easynet's expense and subject to reasonable programme lead time.

This will require further discussion if Easynet wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Easynet and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Easynet through the construction period. The presence of Easynet's site representative will facilitate this.

MUDFA shared responsibility proposal for Energis

Introduction:

This table proposes how responsibility for creating diversions to existing Energis cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Energis.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Energis before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Energis. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Energis’s customers will be the responsibility of Energis.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Energis on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Energis may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Energis will have no liability in this respect should the cable (etc) design be based on information generated by SDS’ site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Energis (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Energis (working to MUDFA’s programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT’s specifications notified by Energis to tie, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on Energis’ list of approved contractors for work of this nature, then approval from Energis will be sought.</p> <p>Should Energis be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Energis for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Energis to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Energis' list of approved contractors for work of this nature, then approval from Energis will be sought.

Should Energis be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Energis to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Energis' list of approved contractors for work of this nature, then approval from Energis will be sought.

Should Energis be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Energis.

If the proposed materials supplier is not currently on the Energis' list of approved suppliers for the appropriate materials, then approval from Energis will be sought.

Should Energis be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Energis may appoint a representative to ensure that their interests are met. The reasonable cost of Energis' site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Energis in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Energis, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Energis' work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Energis' expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Energis have to differ from BT specification will be notified by Energis to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Energis will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Energis will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Energis' network where affected, at Energis' expense and subject to reasonable programme lead time.

This will require further discussion if Energis wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Energis and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Energis through the construction period. The presence of Energis' site representative will facilitate this.

MUDFA shared responsibility proposal for Geo

Introduction:

This table proposes how responsibility for creating diversions to existing Geo cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Geo.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Geo before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Geo. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Geo’s customers will be the responsibility of Geo.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Geo on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Geo may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Geo will have no liability in this respect should the cable (etc) design be based on information generated by SDS’ site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Geo (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Geo (working to MUDFA’s programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT’s specifications notified by Geo to tie, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on Geo’s list of approved contractors for work of this nature, then approval from Geo will be sought.</p> <p>Should Geo be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Geo for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Geo to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Geo's list of approved contractors for work of this nature, then approval from Geo will be sought.

Should Geo be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Geo to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Geo's list of approved contractors for work of this nature, then approval from Geo will be sought.

Should Geo be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Geo.

If the proposed materials supplier is not currently on the Geo's list of approved suppliers for the appropriate materials, then approval from Geo will be sought.

Should Geo be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Geo may appoint a representative to ensure that their interests are met. The reasonable cost of Geo's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Geo in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Geo, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Geo's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Geo's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Geo have to differ from BT specification will be notified by Geo to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Geo will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Geo will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Geo's network where affected, at Geo's expense and subject to reasonable programme lead time.

This will require further discussion if Geo wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Geo and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Geo through the construction period. The presence of Geo's site representative will facilitate this.

MUDFA shared responsibility proposal for Global Crossings

Introduction:

This table proposes how responsibility for creating diversions to existing Global Crossings cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Global Crossings.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Global Crossings before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Global Crossings. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Global Crossings' customers will be the responsibility of Global Crossings.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Global Crossings on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Global Crossings may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Global Crossings will have no liability in this respect should the cable (etc) design be based on information generated by SDS' site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Global Crossings (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Global Crossings (working to MUDFA's programme).</p>

Cable laying

Cable laying will be the responsibility of MUDFA.

The work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Global Crossings to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Global Crossings' list of approved contractors for work of this nature, then approval from Global Crossings will be sought.

Should Global Crossings be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Global Crossings for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Global Crossings to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Global Crossings' list of approved contractors for work of this nature, then approval from Global Crossings will be sought.

Should Global Crossings be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Global Crossings to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Global Crossings' list of approved contractors for work of this nature, then approval from Global Crossings will be sought.

Should Global Crossings be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Global Crossings.

If the proposed materials supplier is not currently on the Global Crossings' list of approved suppliers for the appropriate materials, then approval from Global Crossings will be sought.

Should Global Crossings be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Global Crossings may appoint a representative to ensure that their interests are met. The reasonable cost of Global Crossings' site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Global Crossings in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Global Crossings, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Global Crossings' work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Global Crossings' expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Global Crossings have to differ from BT specification will be notified by Global Crossings to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Global Crossings will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Global Crossings will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Global Crossings' network where affected, at Global Crossings' expense and subject to reasonable programme lead time.

This will require further discussion if Global Crossings wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Global Crossings and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Global Crossings through the construction period. The presence of Global Crossings' site representative will facilitate this.

MUDFA shared responsibility proposal for Independent Pipelines Ltd (IPL)

Introduction:

This table proposes how responsibility for creating diversions to existing IPL networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and IPL.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with IPL before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by IPL. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to IPL’s customers will be the responsibility of IPL; it is noted that these are unlikely to be required.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to IPL on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>IPL may use this information to assist in designing the pipes (etc).</p> <p>tie recognise that IPL will have no liability in this respect should the pipes (etc) design be based on information generated by SDS’s site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from IPL (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by IPL (working to MUDFA’s programme).</p>
<p>Pipe laying</p> <p>Pipe laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with the specifications provided by IPL, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on IPL’s list of approved contractors for work of this nature, then approval from IPL will be sought.</p> <p>Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of IPL for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections, other than customer connections, will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by IPL, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

The responsibility for customer connections is to be confirmed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by IPL, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on IPL's list of approved contractors for work of this nature, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by IPL.

If the proposed materials supplier is not currently on the IPL's list of approved suppliers for the appropriate materials, then approval from IPL will be sought.

Should IPL be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

IPL may appoint a representative to ensure that their interests are met. The reasonable cost of IPL's site representative will be reimbursed by tie, and suitable site accommodation will be provided (information will be required from IPL in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of IPL, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate IPL's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at IPL's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to IPL specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to IPL specification.

"As built" record drawings will be provided to IPL specification.

Long lead time issues >3 months

No long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the IPL will impose any other seasonal constraints, although it is acknowledged that many works on gas pipes are easier in the summer months when demand in the system is lower.

If there are any operational constraints affecting the timing of works, IPL will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to IPL's network where affected, at IPL's expense and subject to reasonable programme lead time.

This will require further discussion if IPL wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between IPL and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with IPL through the construction period. The presence of IPL's site representative will facilitate this.

MUDFA shared responsibility proposal for NTL

Introduction:

This table proposes how responsibility for creating diversions to existing NTL cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and NTL.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with NTL before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by NTL. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to NTL's customers will be the responsibility of NTL.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to NTL on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>NTL may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that NTL will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from NTL (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by NTL (working to MUDFA's programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by NTL to tie, either by MUDFA or a sub-contractor under MUDFA's management.</p> <p>In either case, if the contractor is not currently on NTL's list of approved contractors for work of this nature, then approval from NTL will be sought.</p> <p>Should NTL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of NTL for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by NTL to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on NTL's list of approved contractors for work of this nature, then approval from NTL will be sought.

Should NTL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by NTL to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on NTL's list of approved contractors for work of this nature, then approval from NTL will be sought.

Should NTL be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by NTL.

If the proposed materials supplier is not currently on the NTL's list of approved suppliers for the appropriate materials, then approval from NTL will be sought.

Should NTL be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

NTL may appoint a representative to ensure that their interests are met. The reasonable cost of NTL's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from NTL in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of NTL, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate NTL's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at NTL's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements NTL have to differ from BT specification will be notified by NTL to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the NTL will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, NTL will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to NTL's network where affected, at NTL's expense and subject to reasonable programme lead time.

This will require further discussion if NTL wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between NTL and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with NTL through the construction period. The presence of NTL's site representative will facilitate this.

MUDFA shared responsibility proposal for Orange

Introduction:

This table proposes how responsibility for creating diversions to existing Orange cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Orange.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Orange before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Orange. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Orange’s customers will be the responsibility of Orange.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Orange on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Orange may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Orange will have no liability in this respect should the cable (etc) design be based on information generated by SDS’s site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Orange (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Orange (working to MUDFA’s programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT’s specifications notified by Orange to tie, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on Orange’s list of approved contractors for work of this nature, then approval from Orange will be sought.</p> <p>Should Orange be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Orange for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Orange to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Orange's list of approved contractors for work of this nature, then approval from Orange will be sought.

Should Orange be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Orange to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Orange's list of approved contractors for work of this nature, then approval from Orange will be sought.

Should Orange be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Orange.

If the proposed materials supplier is not currently on the Orange's list of approved suppliers for the appropriate materials, then approval from Orange will be sought.

Should Orange be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Orange may appoint a representative to ensure that their interests are met. The reasonable cost of Orange's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Orange in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Orange, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Orange's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Orange's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Orange have to differ from BT specification will be notified by Orange to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks fro ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Orange will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Orange will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Orange's network where affected, at Orange's expense and subject to reasonable programme lead time.

This will require further discussion if Orange wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Orange and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Orange through the construction period. The presence of Orange's site representative will facilitate this.

MUDFA shared responsibility proposal for Scotland Gas Networks (SGN)

Introduction:

This table proposes how responsibility for creating diversions to existing SGN networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and SGN.

SGN have a network of low, medium and intermediate pressure mains around Edinburgh that will be affected by the tram construction; this document refers only to these. There is also a high pressure gas main at Gogar which will be affected. This high pressure main is the subject of separate discussions and this document will have no application to it.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with SGN before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by SGN. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to SGN's customers will be the responsibility of SGN; it is noted that these are unlikely to be required.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to SGN on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>SGN may use this information to assist in designing the pipes (etc).</p> <p>tie recognise that SGN will have no liability in this respect should the pipes (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from SGN (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by SGN (working to MUDFA's programme).</p>

Pipe laying

Pipe laying will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by SGN, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SGN's list of approved contractors for work of this nature, then approval from SGN will be sought.

Should SGN be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of SGN for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections, other than customer connections, will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by SGN, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SGN's list of approved contractors for work of this nature, then approval from SGN will be sought.

Should SGN be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

The responsibility for customer connections is to be confirmed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by SGN, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SGN's list of approved contractors for work of this nature, then approval from SGN will be sought.

Should SGN be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by SGN.

If the proposed materials supplier is not currently on the SGN's list of approved suppliers for the appropriate materials, then approval from SGN will be sought.

Should SGN be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

SGN may appoint a representative to ensure that their interests are met. The reasonable cost of SGN's site representative will be reimbursed by tie, and suitable site accommodation will be provided (information will be required from SGN in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of SGN, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate SGN's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at SGN's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to SGN specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to SGN specification.

"As built" record drawings will be provided to SGN specification.

Long lead time issues >3 months

No long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the SGN will impose any other seasonal constraints, although it is acknowledged that many works on gas pipes are easier in the summer months when demand in the system is lower.

If there are any operational constraints affecting the timing of works, SGN will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to SGN's network where affected, at SGN's expense and subject to reasonable programme lead time.

This will require further discussion if SGN wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between SGN and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with SGN through the construction period. The presence of SGN's site representative will facilitate this.

MUDFA shared responsibility proposal for ScottishPower PowerSystems

Introduction:

This table proposes how responsibility for creating diversions to existing SPPS electricity networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinkerhof) and Scottish Power Power Systems (SPPS).

It is recognised that SPPS are considering requiring that certain elements of the work will be undertaken by their contracting division, Core. It is understood in principle that, should that requirement arise, Core will be able to operate in accordance with the programme developed by the MUDFA contractor. Consideration will be given to Core acting as a sub-contractor to MUDFA should that prove more efficient. In any case, MUDFA will have the role of Principal Contractor for the site under the C(DM) Regulations.

<p>Design</p> <p>The alignment of the replacement pipework will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with SPPS before being finally confirmed.</p> <p>The specific design of the replacement pipe and the connections will be determined by SPPS. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to SPPS' customers will be the responsibility of SPPS.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>For aspects of work which SPPS require to manage themselves, they or their agents will act as directed by MUDFA in this respect as MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to SPPS on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>SPPS may use this information to assist in designing the cabling.</p> <p>tie recognise that SPPS will have no liability in this respect should the cable design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from SPPS (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by SPPS / Core (working to MUDFA's programme).</p>

Cable laying

Cable laying will be the responsibility of either MUDFA or Core (working to MUDFA's programme or under MUDFA's direction), to be decided.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by SPPS, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SPPS's list of approved contractors for work of this nature, then approval from SPPS will be sought.

Should SPPS be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of SPPS for electricity-specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of either MUDFA or Core (working to MUDFA's programme or under MUDFA's direction), to be decided.

It is understood that SPPS are more likely to require that Core carries out customer connections than other connections.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by SPPS, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SPPS's list of approved contractors for work of this nature, then approval from SPPS will be sought.

Should SPPS be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of either MUDFA or Core (working to MUDFA's programme or under MUDFA's direction), to be decided.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by SPPS, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SPPS's list of approved contractors for work of this nature, then approval from SPPS will be sought.

Should SPPS be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by SPPS.

If the proposed materials supplier is not currently on the SPPS's list of approved suppliers for the appropriate materials, then approval from SPPS will be sought.

Should SPPS be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

SPPS may appoint a representative to ensure that their interests are met. The reasonable cost of SPPS's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from SPPS in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of SPPS, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate SPPS's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at SPPS's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to SPPS specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to SPPS specification.

"As built" record drawings will be provided to SPPS specification.

Long lead time issues >3 months

High voltage 275kV cables, overhead cables - typically up to 16 weeks for supply. The latter unlikely to be required.

Cable Sealing End Equipment. max lead time 26 weeks – also unlikely to be required.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the SPPS will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, SPPS will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to SPPS's network where affected, at SPPS's expense and subject to reasonable programme lead time.

This will require further discussion if SPPS wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between SPPS and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with SPPS through the construction period. The presence of SPPS's site representative will facilitate this.

MUDFA shared responsibility proposal for Scottish Water (SW)

Introduction:

This table proposes how responsibility for creating diversions to existing SW networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and SW.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with SW before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by SW. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to SW's customers will be the responsibility of MUDFA, in accordance with instructions to be issued by Scottish Water.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to SW on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>SW may use this information to assist in designing the pipes (etc).</p> <p>tie recognise that SW will have no liability in this respect should the pipes (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from SW (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by MUDFA, workign to SW's specification.</p>
<p>Pipe laying</p> <p>Pipe laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with the specifications provided by SW, either by MUDFA or a sub-contractor under MUDFA's management.</p> <p>In either case, if the contractor is not currently on SW's list of approved contractors for work of this nature, then approval from SW will be sought.</p> <p>Should SW be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of SW for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by SW, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SW's list of approved contractors for work of this nature, then approval from SW will be sought.

Should SW be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Certain customer connections will require the replacement of lead pipework. The responsibility for paying for this is to be confirmed (either tie or SW).

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance with the specifications provided by SW, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on SW's list of approved contractors for work of this nature, then approval from SW will be sought.

Should SW be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by SW.

SW will facilitate the registration of MUDFA on its approved contractors list, which will allow MUDFA to source materials through SW's supply chain.

If the proposed materials supplier is not currently on the SW's list of approved suppliers for the appropriate materials, then approval from SW will be sought.

Should SW be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

SW may appoint a representative to ensure that their interests are met. The reasonable cost of SW's site representative will be reimbursed by tie, and suitable site accommodation will be provided (information will be required from SW in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of SW, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate SW's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at SW's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to SW specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to SW specification.

"As built" record drawings will be provided to SW specification.

Long lead time issues >3 months

Certain valves and fittings may have a long lead time. This will be identified in SW's material supply frameworks.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the SW will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, SW will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to SW's network where affected, at SW's expense and subject to reasonable programme lead time.

This will require further discussion if SW wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between SW and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with SW through the construction period. The presence of SW's site representative will facilitate this.

MUDFA shared responsibility proposal for Telewest

Introduction:

This table proposes how responsibility for creating diversions to existing Telewest cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Telewest.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Telewest before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by Telewest. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to Telewest’s customers will be the responsibility of Telewest.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to Telewest on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>Telewest may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that Telewest will have no liability in this respect should the cable (etc) design be based on information generated by SDS’s site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Telewest (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by Telewest (working to MUDFA’s programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT’s specifications notified by Telewest to tie, either by MUDFA or a sub-contractor under MUDFA’s management.</p> <p>In either case, if the contractor is not currently on Telewest’s list of approved contractors for work of this nature, then approval from Telewest will be sought.</p> <p>Should Telewest be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Telewest for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by Telewest to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Telewest's list of approved contractors for work of this nature, then approval from Telewest will be sought.

Should Telewest be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by Telewest to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Telewest's list of approved contractors for work of this nature, then approval from Telewest will be sought.

Should Telewest be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by Telewest.

If the proposed materials supplier is not currently on the Telewest's list of approved suppliers for the appropriate materials, then approval from Telewest will be sought.

Should Telewest be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Telewest may appoint a representative to ensure that their interests are met. The reasonable cost of Telewest's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from Telewest in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Telewest, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Telewest's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Telewest's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements Telewest have to differ from BT specification will be notified by Telewest to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Telewest will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Telewest will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Telewest's network where affected, at Telewest's expense and subject to reasonable programme lead time.

This will require further discussion if Telewest wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Telewest and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Telewest through the construction period. The presence of Telewest's site representative will facilitate this.

MUDFA shared responsibility proposal for Thus

Introduction:

This table proposes how responsibility for creating diversions to existing Thus cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and Thus.

It is recognised that Thus are considering requiring that certain elements of the work will be undertaken by their own contracting division. Thus will endeavour to operate in accordance with the programme developed by MUDFA. MUDFA will be the principal contractor under the CDM regulations on all sites where it is operating at the same time as Thus.

Design

The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with Thus before being finally confirmed.

The specific design of the replacement cable, ducting and connections will be determined by Thus. This specification will include material, dimensions and connection methods to be used.

Statutory Notices

The temporary traffic regulation orders (TTRO) will be the responsibility of MUDFA or SDS (to be confirmed) for work where MUDFA is the Principal Contractor.

Where Thus is operating outwith a MUDFA-controlled site, Thus will be responsible for the TTRO.

Any notifications to Thus' customers will be the responsibility of Thus.

Site management

Traffic management implementation will be the responsibility of MUDFA where the works are controlled by MUDFA, and of Thus where Thus undertake works outside of the MUDFA site at that time.

For aspects of work which Thus require to manage themselves on MUDFA's site, they or their agents will act as directed by MUDFA in this respect as MUDFA will have the responsibility of Principal Contractor.

Site Investigation

Site investigation will be the responsibility of SDS. The information generated will be made available to Thus on request.

SDS will use this information to design the route alignment.

Thus may use this information to assist in designing the cabling (etc).

tie recognise that Thus will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.

Existing apparatus

Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from Thus (and other utilities) as appropriate. It will then be dealt with as described elsewhere.

Redundant apparatus will be decommissioned by Thus

Cable laying

Cable laying will be the responsibility of either MUDFA or Thus, to be decided.

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with the specifications provided by Thus, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on Thus's list of approved contractors for work of this nature, then approval from Thus will be sought.

Should Thus be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of Thus for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of Thus.

Commissioning and Testing

Commissioning and Testing will be the responsibility of Thus.

Materials

Material purchasing will be the responsibility of MUDFA and Thus, as appropriate to who is carrying out the work.

Materials will be purchased to a specification to be supplied by Thus.

If the proposed materials supplier is not currently on the Thus's list of approved suppliers for the appropriate materials, then approval from Thus will be sought.

Should Thus be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

Thus may appoint a representative to ensure that their interests are met. The reasonable cost of Thus's site representative will be reimbursed by tie, and suitable site accommodation will be provided (information will be required from Thus in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of Thus, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate Thus's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at Thus's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to Thus specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to Thus specification.

"As built" record drawings will be provided to Thus specification.

Long lead time issues >3 months

Fibre optic cables may take up to 16 weeks from the time of ordering.

No other long lead items have been identified at the time of writing.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the Thus will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, Thus will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to Thus's network where affected, at Thus's expense and subject to reasonable programme lead time.

This will require further discussion if Thus wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between Thus and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with Thus through the construction period. The presence of Thus's site representative will facilitate this.

MUDFA shared responsibility proposal for Your Communications (YC)

Introduction:

This table proposes how responsibility for creating diversions to existing YC cable networks will be split between **tie** Limited (the client body responsible for procuring the tram system), MUDFA (Multi Utilities Diversion Contractor – to be appointed), SDS (designers & engineers of the multi utilities diversion scheme – Halcrow and Parsons Brinckerhoff) and YC.

<p>Design</p> <p>The alignment of the replacement cabling will be determined by SDS, who can take account of the location of other underground services at the same time; the proposed alignment will be agreed with YC before being finally confirmed.</p> <p>The specific design of the replacement cable, ducting and connections will be determined by YC. This specification will include material, dimensions and connection methods to be used.</p>
<p>Statutory Notices</p> <p>The temporary traffic regulation orders will be the responsibility of MUDFA or SDS (to be confirmed).</p> <p>Any notifications to YC's customers will be the responsibility of YC.</p>
<p>Site management</p> <p>Traffic management implementation will be the responsibility of MUDFA.</p> <p>Temporary traffic regulation orders will be the responsibility of MUDFA / SDS.</p> <p>MUDFA will have the responsibility of Principal Contractor.</p>
<p>Site Investigation</p> <p>Site investigation will be the responsibility of SDS. The information generated will be made available to YC on request.</p> <p>SDS will use this information to design the route alignment.</p> <p>YC may use this information to assist in designing the cabling (etc).</p> <p>tie recognise that YC will have no liability in this respect should the cable (etc) design be based on information generated by SDS's site investigation which subsequently proves to be inaccurate.</p>
<p>Existing apparatus</p> <p>Where existing apparatus is found having not been identified through plans and site investigation, MUDFA will take advice from YC (and other utilities) as appropriate. It will then be dealt with as described elsewhere.</p> <p>Redundant apparatus will be decommissioned by YC (working to MUDFA's programme).</p>
<p>Cable laying</p> <p>Cable laying will be the responsibility of MUDFA.</p> <p>The work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by YC to tie, either by MUDFA or a sub-contractor under MUDFA's management.</p> <p>In either case, if the contractor is not currently on YC's list of approved contractors for work of this nature, then approval from YC will be sought.</p> <p>Should YC be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.</p>

General Civils

General civil engineering works, including excavation, chamber construction, etc, will be the responsibility of MUDFA.

This will be based on a specification to be developed by SDS, which will be based on the specification of YC for their specific requirements, and will take account of all affected utilities' requirements where there is an overlap.

Connection to existing apparatus and to customers.

Connections will be the responsibility of MUDFA

If discretionary responsibility remains with MUDFA, the work will be carried out in accordance with BT specifications, subject to any variations from BT's specifications notified by YC to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on YC's list of approved contractors for work of this nature, then approval from YC will be sought.

Should YC be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Commissioning and Testing

Commissioning and Testing will be the responsibility of MUDFA.

The work will be carried out in accordance BT specifications, subject to any variations from BT's specifications notified by YC to **tie**, either by MUDFA or a sub-contractor under MUDFA's management.

In either case, if the contractor is not currently on YC's list of approved contractors for work of this nature, then approval from YC will be sought.

Should YC be unwilling (with good reason) to grant such approval, an alternative sub-contractor will be employed.

Materials

Material purchasing will be the responsibility of MUDFA.

Materials will be purchased to a specification to be supplied by YC.

If the proposed materials supplier is not currently on the YC's list of approved suppliers for the appropriate materials, then approval from YC will be sought.

Should YC be unwilling (with good reason) to grant such approval, an alternative supplier will be used.

Site Supervision

The construction will be supervised by site staff appointed by SDS.

YC may appoint a representative to ensure that their interests are met. The reasonable cost of YC's site representative will be reimbursed by **tie**, and suitable site accommodation will be provided (information will be required from YC in this respect).

This representative will not have contractual authority to instruct MUDFA; any concerns arising should be dealt with through liaison with the SDS site supervision staff.

Emergency Repairs

Emergency repairs arising as a consequence of this work will be the responsibility of YC, at MUDFA's expense if appropriate.

MUDFA will provide such resources as it can reasonably make available to facilitate YC's work in this respect.

MUDFA will also assist and co-operate as appropriate with any emergency repairs that are not a consequence of this work, at YC's expense if appropriate.

Specifications

As stated in various sections above:

Construction will be to BT specification, altered if necessary to suit the requirements of excavating for several utilities at once.

Materials used will be to BT specification.

"As built" record drawings will be provided to BT specification.

Any requirements YC have to differ from BT specification will be notified by YC to **tie**.

Long lead time issues >3 months

Fibre Optic cable supply may take up to 16 weeks from ordering.

No other long lead items have been identified at this time.

Seasonal and operational constraints (other than roads authority imposed)

The roads authority (Edinburgh Council) restricts streetworks during the Christmas & New Year period, and during the time of the Festival.

It is not anticipated that the YC will impose any other seasonal constraints.

If there are any operational constraints affecting the timing of works, YC will inform **tie**.

Additional Works/betterment

There is scope for MUDFA to carry out minor improvements to YC's network where affected, at YC's expense and subject to reasonable programme lead time.

This will require further discussion if YC wishes to take advantage of this opportunity.

Betterment, as defined in the New Roads and Streetworks Act, will be dealt with as set out in that act, or as set out in a separate agreement between YC and **tie** if such an agreement has been made.

Other

Stray current: it is expected that stray current issues will be minimised by using a favourable design of tram tracks.

There will be a regular utilities forum meeting, at which this and other issues can be discussed.

There will be ongoing liaison with YC through the construction period. The presence of YC's site representative will facilitate this.

Shared responsibility matrix - MUDFA

DRAFT - current responsibility distribution based on discussions and assumptions to date, subject to confirmation with utility companies.

This shows primary responsibility for management of the issue - acknowledging that most areas will require an element of input from both MUDFA/SDS and the utility.

This also assumes that the MUDFA contractor, or its employed subcontractors, will be accepted as competent by the relevant utility. Some utilities may insist on their usual contractor in this role.

Area of work	Scotland Gas Networks	ES Pipelines	Independent Pipelines	Scottish Water	Scottish Power	BT	Thus	Telewest	NTL	C&W	Easynet	Energis	Geo	Orange	Global Crossings	Your Comms
	Gas			Water and Waste water	Electricity	Telecommunications										
Design - alignment	SDS	SDS	SDS	SDS	SDS	SDS	SDS	SDS	SDS	SDS	SDS	SDS	SDS	SDS	SDS	SDS
Design - specification	SGN	ESP	IPL	SDS	SP	BT	Thus	TW	NTL	C&W	Easynet	Energis	Geo	Orange	GC	YC
Notices - Road	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA
Notices - utility specific	n/a	n/a	n/a	MUDFA	tbc	BT	Thus	Shared	Shared	Shared	Shared	Shared	Shared	Shared	Shared	Shared
Traffic Management	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA
Testign existing	tbc	tbc	tbc	MUDFA	SP	BT	Thus	TW	NTL	C&W	Easynet	Energis	Geo	Orange	GC	YC
Makign dead/decommissioning redundant	MUDFA	MUDFA	MUDFA	MUDFA	SP	BT	Thus	TW	NTL	C&W	Easynet	Energis	Geo	Orange	GC	YC
General civils	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA
Ducts and chambers etc	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA
Pipelay/cable install	MUDFA	MUDFA	MUDFA	MUDFA	tbc	BT	Thus	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA
Diversion connections	MUDFA	MUDFA	MUDFA	MUDFA	tbc	BT	Thus	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA
Customer connections	tbc	tbc	tbc	MUDFA	SP	BT	Thus	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA
Commissioning and testing	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	BT	Thus	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA
Materials	tbc	tbc	tbc	MUDFA	MUDFA	BT	Thus	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA	MUDFA
Site supervision	SGN	ESP	IPL	SW	SP	BT	Thus	TW	NTL	C&W	Easynet	Energis	Geo	Orange	GC	YC
Emergency repairs	SGN	ESP	IPL	MUDFA	SP	BT	Thus	TW	NTL	C&W	Easynet	Energis	Geo	Orange	GC	YC
Specification status	Headlines received			received	received	received	received	to follow								
Seasonal and operational constraints (other than for roads authority)	Some activities easier in summer			none	none (duplicates Xmas as roads authority)	none	none	none								
Temporary works	Minor - design issue when req.			MUDFA	Ducts for future use. Temp bridge possible but undesirable.	tbc	tbc	tbc								
Protection	Sometimes used - as spec			As in specification	As in specification	tbc	tbc	tbc								
Other issues	Stray current			SW to operate major valves	Core are SPs owned and retained contractor.	May need to overlap BT's connection operations with Infracore construction period.		Co-axial cables								
				May need confirmation of applicability to waste water network.				Shallow fibre optics								

