

**THIS IS SCHEDULE 4 REFERRED TO IN THE FOREGOING AGREEMENT
BETWEEN TIE AND THE INFRACO**

SCHEDULE 4

PART 1

BASE CASE ASSUMPTIONS

*[IN THE EVENT OF ANY INCONSISTENCY OR CONFLICT BETWEEN THIS SCHEDULE
AND THE INFRACO CONTRACT, THIS SCHEDULE SHALL PREVAIL]*

"Base Date Design Information" means, [save to the extent qualified by the Base Case Assumptions,] the design issued to the Infraco on or before 25th November 2007 in each case as identified in the Base Date Design Information Schedule excluding the Accommodation Works [others?];

"Base Date Design Information Schedule" means [●];

"Base Tram Information" means [●]¹;

"Bills of Quantities" means the bills of quantities set out in sections [●],[●] and [●] of the Infraco Proposals;

"Network Rail Possessions" means:

Date	Duration	Infraco Works
17 and 24 January 2009	18 hours each	erection of beams and crash decks at Carrick Knowe and Edinburgh Park Bridges as shown on [●]
8 and 22 May 2009	[●]	removal of crash decks, taking down safety fences, erection of OLE Poles and catenary wires at [●]
<i>[others TBA]</i>		

¹ This will cross refer to the design and specification (weight, width, rigidity etc) of the reference tram against which SDS prepared its design. Our understanding is that this is a generic tram design prepared in advance of selection of the Tram Supplier.

together with such further possessions as may be reasonably required by the Infraco to progress the works in accordance with the Programme;

“**Base Case Assumptions**” mean the following assumptions –

- (a) that the Design prepared by the SDS Provider will:
 - (i) be issued by the SDS Provider to Infraco Ready for Construction by no later than the earlier of (1) [[4] weeks] in advance of the [Programme], and (2) such longer period as shall be reasonably necessary to allow the Infraco to procure plant and materials in sufficient time to carry out and complete the Infraco Works in accordance with the Programme;²
 - (ii) not, in terms of design principle, shape, form and/or specification, be amended from the Base Date Design Information;
 - (iii) not be amended from the Base Design Information as a consequence of any Third Party Agreements; and
 - (iv) not be amended from the Base Design Information as a consequence of the requirements of any Approval Body.
- (b) work will be permitted outside the hours of working stated in the [Code of Construction Practice] to the extent reasonably necessary to enable the Infraco to progress the Infraco Works in accordance with the Programme;
- (c) the scope, extent, specification and duration of the Infraco Works does not exceed that detailed in the Infraco Proposals as at the Effective Date;
- (d) that in relation to Utilities:
 - (i) the Infraco shall not be required to undertake any diversions or protective works except in relation to the Picardy Place, York Place and London Road and [the Minor Utilities Diversions]³; and
 - (ii) that the MUDFA Contractor shall have completed all [MUDFA Works] in accordance with the MUDFA Completion Programme⁴

² See foot of page 1 of "Infraco Programming Assumptions" in the Wiesbaden Agreement. The second limb may not be required in the event that the Programme identifies the date for placing orders for long lead items.

³ These identified areas will be addressed through the provisional sum mechanism. The assumption, however, is that any works outside these identified areas is additional.

- (e) the Network Rail Possessions shall be available;
 - (f) the depth (to sub-formation) of track slab and grass track construction is based on cross sections included as figs 4.6a and 4.6b in the document entitled "Trackform Technology Review V6" prepared by the SDS Provider and dated 1 March 2007;
 - (g) road construction shall be 40mm or 25mm HRA on 60mm DBM binder course on 100mm DBM base as shown on [●];
 - (h) flexible footpath surfacing shall be 30mm HRA on 50mm DBM on 150mm type 1 base;
 - (i) that Consent shall be obtained (within a reasonable time having regard to the progress of the Infraco Works) for the use of [Railway Ballast from Markle Mains Quarry];
 - (j) that the Infraco shall not incur loss and expense in excess of £300,000 in complying with the requirements of the Archaeological Officer
 - (k) it shall not, in the carrying out and completion of the Infraco Works in accordance with the requirements of this Agreement, be necessary to undertake the following:
 - (i) any [work] to the Tower Place and/or Victoria Dock bridges;
 - (ii) [Lindsay Place retaining wall and associated highways works together with the Morrison Supermarket Retaining Wall];
 - (iii) *[OTHERS – discussion required. Note also that this should exclude items identified at Appendix A4 of the 20 December Agreement for Contract Price and needs to address the items listed at paragraph 3.6 of that Agreement.]*
- save to the extent shown on the Base Date Design Information;
- (l) that in carrying out this Infraco Works in accordance with this Agreement, it shall not be necessary to undertake any works below the "earthworks outline" (as defined in the Method of Measurement for Highway Works version [●])

⁴ A definition will be required. This will link to the MUDFA Programming Assumptions set out in Appendix B4 of the Agreement for Contract Price dated 21st December 2007.

and the Infraco shall not encounter any below ground obstructions or voids, soft materials or contamination;⁵

- (m) that in relation to [highways works], the Infraco shall be required (in carrying out the Infraco Works in accordance with this Agreement) only to plane back the existing road surface to a sound base and reconstruct from that base to suit the revised road surface profile;

Limbs (n) and (o) are proposed as a value for money alternative to the pricing of the mis-alignment of the SDS Agreement, the Tram Maintenance Agreement and the Tram Supply Agreement.

(n) that in the event that the Infraco suffers any loss, injury, damage or expense or incurs any liability (whether under this Agreement or otherwise) arising from:

(i) [the acts or omissions of the SDS Provider, the SDS Provider shall indemnify and "hold harmless"⁶ the Infraco];

(ii) [the acts or omissions of the Tram Supplier, the Tram Supplier shall indemnify and hold harmless the Infraco]; and

(iii) [the acts or omissions of the Tram Maintainer, the Tram Maintainer shall indemnify and hold harmless the Infraco],

(o) that in circumstances where performance of the Infraco under this Agreement is reliant upon performance by [the SDS Provider under the SDS Agreement, the Tram Maintainer under the Tram Maintenance Agreement or the Tram Supplier under the Tram Supply Agreement], the SDS Provider, Tram Maintainer and/or Tram Supplier (as the case may be) shall undertake and perform their obligations in such a manner and at such time as shall be necessary to ensure that:

(i) there is no adverse impact on the [Programme];

(ii) Infraco is not in breach of this Agreement (having regard without limitation to the timing of the Infraco's obligations under this Agreement);]

⁵ The relationship between this excluded item in the 20 December Agreement and the position previously discussed in the Infraco Contract requires refinement.

⁶ Drafting to be refined.

- (p) that the design of the Trams supplied by the Tram Supplier is consistent in all respects with the Base Tram Information;
- (q) there shall be no impact on the traction power supply system (as demonstrated by the power simulation modelling) as a consequence of a change to the vertical alignment of the track as compared against the alignment input into the [last simulation] ;
- (r) that the roads [as reconstructed in accordance with the SDS design] will be adopted by CEC prior to the Service Commencement Date and shall thereafter be maintained by CEC at no cost to Infraco;
- (s) that the Infraco shall not incur loss and expense in excess of £300,000 in complying with the requirements of the Archaeological Officer;
- (t) [special requirements for noise and vibration] shall not be required in order to carry out the Infraco Works in accordance with this Agreement;
- (u) that Asbestos shall not be discovered during the carrying out of the Infraco Works;
- (v) demolition shall only be required where necessary to allow Infraco to construct the Edinburgh Tram Network;
- (w) no protective measures are required in relation to [protected trees];
- (x) stray current protection proposals as contained within the Infraco Proposals shall be approved by all relevant Approval Bodies;
- (y) that the UTC will allow and have no adverse impact on the Tram operations, including Round Trip Times and punctuality of services as set out in the Employers Requirements;
- (z) all [road equipment]⁷ will be connected back to the nearest OTN node in either a substation or a Tramstop;
- (aa) the tram fleet shall not exceed 27 trams.

⁷ This will include, for example, CCTV and points.

Note : Base Price Assumptions for Phase 1b to be developed although note that this will require a "fixed" price for Phase 1b (and currently it is not anticipated that this will be available as at the Effective Date).

Note : tie to be responsible for all orders required to effect road closures including TROs TTROs etc.

For the avoidance of doubt, the Infraco Contract will require to recognise that there are certain works that Infraco will be relying on tie to procure by certain dates. The technical teams will need to agree the "tie obligations" which will include:

- (i) an obligation to procure that Scotrail move the [fuel tanks] neat Haymarket by [date];
- (ii) an obligation to procure that Scotrail undertakes the [immunisation works] by [date]; and
- (iii) [others].

"Ready for Construction" means that the design satisfies the following requirements:

- (i) it has been prepared in accordance with and satisfies the requirements of the Employer Requirements and the Third Party Obligations; and
- (ii) that the SDS Provider has procured that all Consents necessary to allow construction of the relevant part of the Infraco Works have been obtained including, without limitation, those necessary to satisfy the requirements of the Third Party Obligations.

1.1 The Contract Price has been fixed on the basis of inter alia the Base Case Assumptions. If now or at any time the facts or circumstances differ in any way from the Base Case Assumptions (or any of them) the Infraco may (if it becomes aware of the same) notify tie of such differences (a "Notified Departure").

1.2 Following notification of a Notified Departure, the Parties shall seek to agree:-

- (a) whether relief from compliance with any of its obligations under this Agreement is required during or as a result of the implementation of the Notified Departure;

- (b) any impact on the performance of the Infraco Works and the performance of the Edinburgh Tram Network;
- (c) any impact on the Programme and any requirement for an extension of time;
- (d) any Consents, Land Consents and/or Traffic Regulation Orders (and/ or any amendment or revision required to existing Consents, Land Consents and/ or Traffic Regulation Orders) which are required as a consequence of the Notified Departure;
- (e) any new agreements with third parties which may be required to implement the Notified Departure;
- (f) proposals to mitigate the impact of the proposed Notified Departure; and
- (g) any increase or decrease in any sums due to be paid to the Infraco under this Agreement (including the value of any Milestone Payments and the scheduling of such Milestone Payments) as a consequence of the Notified Departure.

1.3 The valuation of any Notified Departure shall be carried out as follows:

- 1.3.1 by measurement and valuation at the rates and prices for similar work in Schedule 5 (Construction Works Pricing Schedules) or Schedule 7 (Maintenance Pricing Schedules) as the case may be in so far as such rates and prices apply;
- 1.3.2 if such rates and prices do not apply, by measurement and valuation at rates and prices deduced therefrom insofar as it is practical to do so;
- 1.3.3 if such rates and prices do not apply and it is not practicable to deduce rates and prices therefrom, by measurement and/or valuation at fair rates and prices; or
- 1.3.4 if the value of the **tie** Change cannot properly be ascertained by measurement and/or valuation, the value of the resources and labour employed thereon, as appropriate, in accordance with the basis of rates for provisional work set out in Schedule 5 (Construction Works Pricing Schedules) or Schedule 7 (Maintenance Pricing Schedules) as the case may be;

provided that where the Notified Departure arose at such a time or was of such content as to make it unreasonable for the alteration or addition to be so valued, the value of the Notified Departure shall be ascertained by measurement and/or valuation at fair rates and prices.

- 1.4 As soon as reasonably practicable after tie receives the information referred to in paragraph 1.3, the Parties shall discuss and agree the issues set out set out therein. If the Parties cannot agree on the any of the matters referred to in paragraph 1.3 within 28 days, then either Party may refer the matter for determination in accordance with the Dispute Resolution Procedure.
- 1.5 The Infraco shall take reasonable steps to mitigate the consequences of the Notified Departure and shall use reasonable endeavours to minimise any increase in costs and maximise any reduction in costs.
- 1.6 *[Provision entitling Infraco to such relief, payment and extension of time etc as shall be agreed or determined pursuant to this Schedule 4]*

PART 2

PROVISIONAL SUMS

[THIS REQUIRES A SIGNIFICANT AMOUNT OF FURTHER WORK]

The intention of the Provisional Sums drafting requires further discussion and agreement. "Traditionally" a provisional sum is a mere direction to the contractor to include in his price an allowance for anticipated expenditure on work of unknown character and extent or work due to some contingency which may or may not arise. It is inconsistent with this principle that the contractor should be bound to complete the works within a pre-agreed period of time (or be deemed to have allowed for the work within the programme) which is defined only by way of a value estimated by the employer because it is not known what if anything will be required.

If the sums identified below are to be treated as "provisional" which there appears to be agreement they should (subject to treating any of them as Base Case Assumptions), there needs to be a clear baseline description of each item of provisional work (i.e. "Additional Accommodation Works" – additional to what?). However, consideration will need to be given in relation to each item, whether it is truly a provisional sum (in the sense that the work may or not be required and, if it is, it will be on the instruction of tie) or simply an assumption on which the price is based. Where the work should not be "optional" (where it is required in

order to deliver the Infraco Works in accordance with the Agreement), it should be a Pricing Assumption or an Approximate Cost..

"Additional Accommodation Works" means [●];

"Additional Spares" means [●];

Item	Description of Provision Sum	Total
1	Additional Accommodation Works	£1,000,000
2	SDS Design – post novation [this amount may be adjusted] ⁸	£2,000,000
3	Pumped surface water outfall at A8 underpass (by depot) ⁹	£100,000
4	Additional spares	£175,000
5	Scottish Power connections to the Depot and Ingliston Park & Ride ¹⁰	£750,000
6	Relocation of Ancient Monuments – this relates to those monuments noted on the route [SDS drawings ULE 90130-01-HRL 0003B, 6B, 7B, 10B, 12B, 13B, 14B, 15B & 24B refer] – it does not include cleaning and/or restoration	£54,000
7	Allowance for minor utility diversions	£750,000
8	Archaeological Officer – impact on productivity ¹¹ [this amount may be adjusted]	£300,000
9	Additional cost of Network Rail compliant ballast	£300,000
10	Extra over for revised alignment to Picardy Place,	£6,340,000

⁸ It is not clear that this should truly be a provisional sum. Whilst this sum has been included in the BBS price, the actual outturn cost is a pass through to tie. Would it not be more appropriate to deal with this as a pass through cost? Note that SDS shall be required to assume responsibility for the integration between the SDS design and the systems design by BBS.

⁹ Is it necessary to carry out this work in order to complete the Infraco Works. If it is, then this should be an approximate cost.

¹⁰ This should be a pass through cost. tie have no option not to proceed with this work.

¹¹ Such a Provisional Sum would never be instructed. BBS accordingly considers this should be a Pricing Assumption.

	York Place and London Road junctions [this amount to be adjusted when BBS come back on Picardy Place]	
11	Extra over for shell grip at junctions	£319,000
12	Allowance for Scottish Power connections to new street lights and new traffic signals	£115,000
13	PICOPS / COSS as Network Rail possession support when undertaking works adjacent or over the railway	£755,000
14	Allowance for demolition of existing Leith Walk substation (if required)	£56,000
15	Additional Crew Relief Facilities at Haymarket	£50,000
16	Amendments as Burnside Road	£1,000,000
17	[Others] [Note : the cost of the M&E element of the traffic signals including integration with the UTC remains provisional] [11Kv supply is also a provisional sum - £550,000]	
Total		£15,170,000

PART 3

APPROXIMATE COSTS

This part of Schedule 4 to be developed.

BBS consider that these items would be better dealt with as a Base Case Assumptions.

Item	Description of Approximate Cost Item	Base Cost	OH&P	Total
1	Highway Works			
2	Any agreed material			
3				
4				

5			
6			
Total	£0,000,000	£0,000,000	£0,000,000

PART 4

PROVISIONAL VALUE ENGINEERING

Again, this requires discussion. It is noted that tie have previously indicated that these are "not simply targets but are fixed and firm reductions save for the conditions noted".

On the other hand, we understand that BBS are not prepared to accept the risk of these being delivered but rather they are "design to price" items. Our understanding of this description is that if the SDS are capable of designing in the saving then this will be delivered to tie but not otherwise. If this is the arrangement then the following points need to be addressed:

- (i) there needs to be a clear detailed description of the item that was originally priced in order that there is a benchmark against which savings can be measured.*
- (ii) BBS need to consider the risk aspects of this. As BBS will be aware, BBS carries the risk that the Infraco Works meet the Employer's Requirements. A "slimmed down" design may be a less robust solution in terms of long term performance and therefore may create a greater risk of failure in the future.*

The mechanism for VE "reductions" must be as follows:

- (a) the Contract Price will be increased by the difference between the assumed VE reduction and the actual VE reduction following the "design to cost" exercise [the Contract Price currently assumes that the VE reductions will be delivered in full]; and*
- (b) the Employers Requirements and Infraco Proposals will be amended to reflect the VE design after it has been through the Design Management Process. If there is no "saving" the Contractor's proposals will reflect the Base Date Design prepared by the SDS and the whole "saving" shall be added back to the Contract Price. Once the VE reduction is known, tie shall have the option to proceed [see mechanism in Clause 81 of Infraco Contract – although Clause 81 shall not apply to VE items in this Schedule 4]. [The Base Date Design will need also to be Ready for Construction at the time tie makes its election so as to ensure that there is no prejudice to the Programme.]*

- (c) if either consent [Planning?] cannot be obtained to ensure that there is no Notified Departure to Pricing Assumption (a)(i) or if tie does not notify the Infraco of its decision in sufficient time to enable the Infraco to complete the Infraco Works so as to meet the Sectional Completion Dates, then the VE "reduction" will be abandoned and the Contract Price will be increased by the amount of the VE reduction (and the Base Date Design will apply). Any costs incurred by the Infraco in seeking to deliver the VE reductions will be reimbursed by tie whether or not the VE reduction can be delivered.
- (d) the VE "reduction" will be net of the cost of the design work undertaken by the SDS [or any other design costs associated with the VE design and the original Base Case Design developed to be Reads for Construction as an alternative.]

The following is extracted from the draft Schedule 4 prepared by Bob Dawson of tie.

Item	Description of Identified VE Saving	Base Cost	OH&P	Total	Comments
1	Delete depot pumping station / storm tanks by utilizing existing gravity system			-£193,526	If a small pump is needed then this to be added as a tie Change.
2	Build part of Depot now with provision to expand in the future / reduce size of car park facilities			-£230,000	Agreed initial supply is 100 car park spaces.
3	Delete under floor lift plant to Depot and utilize mobile jacks (including mobile future proofing)			-£250,000	
4	Delete split vehicle accommodation system at Depot - requirement dependant on tram vehicle selection – don't we know this firm one way or the other?			-£27,500	Accommodation bogies are in CAF sub-contract.
5	Rationalise scope requirement Track Maintenance Equipment at Depot and consider renting			-£27,500	
6	Deletion of one pavement (inner) to Depot			-£36,000	As shown on SDS drawing insert.
7	Delete requirement for concrete			-£6,080	

	apron to security fence at Depot					
8	Delete compressed air system to Depot and utilize 1 or 2 local / mobile compressors				-£54,400	
9	<p>Consolidated VE items including those which result from changes to initial design driven by proximity to BAA runway and EARL decision as follows:</p> <ul style="list-style-type: none"> • changes to initial Depot design driven by proximity to BAA runway (reduced bulk excavation) • reductions in structural loadings (gantry crane reduced in capacity and size impacting on building frame and envelope) • reduction in staff accommodation provision (reduced operational workforce reducing messing facilities, changing rooms, locker space, etc.) • reduction in fit out specification • reduction in domestic utility capacity (reduced building volume and accommodation provision) 				-£2,200,000	
10	Delete standby generator and substitute with hardstanding and power connection for portable generator				-£150,000	
11	Material recovery and reprocessing (Infracore); 2 options - reconstituted planings & Type 1R				-£500,000	Level of saving is subject to adjustment of quantity of this item base on the final design.
12	Reduce kerb and associated re-instatement of pavement				-£100,000	Level of saving is subject to

				adjustment of quantity of this item base on the final design.
13	Reduce drainage run from guideway			Level of saving is subject to adjustment of quantity of this item base on the final design. -£100,000
14	Rationalise specification for overhead contact system – switchgear is considered "quite onerous" – need to review description for contract			Price changes requested for manual, three position cubicle mounted isolators throughout, with exception of the Depot where they can be pole mounted. Status of isolator to be shown via SCADA. -£160,000
15	Edinburgh Park Viaduct 7 spans reduced to 2 with steel beams utilized in lieu of concrete			Subject to approval of NEL / CEC -£1,470,000
16	Carricknowe Bridge parapet – downgrade from P6 / P5 to N2 (reduce cost of parapet plus knock on effect on deck design / cost)			Subject to approval of design by Network Rail -£85,000
17	A8 Underpass – various initiatives			Change to a contiguous piled wall / leaner design. -£850,000
18	Roseburn Street Viaduct – various initiatives			Subject to approval of stakeholders – Network Rail and SRU. -£1,375,000
19	Water of Leith initiatives			-£150,000
20	Eight maintenance walkway structures – delete or reduce			-£250,000
21	Class 7 material conversion			Level of saving is subject to -£300,000

				adjustment of quantity of fill required by the final design.	
22	Optimize the work site lengths wherever practical to ensure efficient construction outputs			-£300,000	
23	Accept more disruption over shorter period to maximize efficiency of construction operations			-£100,000	
24	Option to lease UPS provision from supplier rather than purchase			-£300,000	Subject to agreement of Operator / TEL
25	Rationalizing spares supplied with the Infracore bid			-£300,000	Subject to agreement of Operator / TEL
26	PM integration including shared resources and co-location			-£1,000,000	Subject to BBS / tie agreeing savings in resources and facilities items from BBS and tie costs. – we must have detailed preliminaries build up to verify this
27	Noise attenuation (outside of Roseburn Corridor) 3,650m of fencing			-£50,000	Subject to property owners' protests.
28	Reduce ballasted track thickness from 300mm to 200mm			-£200,000	
29	Power supply (up to passenger operation) – possible over allowance in DFBC			-£300,000	Subject to tie demonstrating evidence.
30	Space for any others?			-£ ,000	
Total				-£11,065,006	