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## "4 Infraco Default" (f): Gogarburn Retaining Walls (W14C)

### 1.1 Summary of issue

1.1.1 The failure of the Infraco to manage the Design at the Gogarburn Retaining Walls (W14C and W14D)<sup>1</sup> centres on the fact that the IFC drawings remain outstanding for these structures.

1.1.2 We note that the delay in the release of those drawings for retaining wall (W14C) is currently circa **31 months** later than originally planned date of 09/10/2008 (as detailed within the Rev.01 Programme). The Infraco has offered no reasonable explanation as to why 'workable' IFC drawings (which meet CEC and EAL approvals) were not submitted as programmed and why the Design has taken so long to be resolved.

### 1.2 Further background information

1.2.1 Our initial investigations indicate that the issues surrounding the release of the IFC drawings for these structures are as follows:-

- 1) alterations to the Edinburgh Tram Stop necessitated a revised design (**Doc01**<sup>[2]</sup>);
- 2) tie are of the opinion that the Infraco have been aware of the majority of the changes to the Edinburgh Tramstop since 23/04/2008 (including those outwith the LOD) – **Doc02**<sup>[3]</sup>;
- 3) other than '1)' above, subsequent changes to the Edinburgh Tram Stop have had no further impact on the Design of retaining wall (W14C);
- 4) the redesign was undertaken more than once by the Infraco / SDS<sup>4</sup> and included revisions to the shape of the retaining wall and the piling methodology;
- 5) the most recent design solution (which realigns the retaining walls)<sup>5</sup> has received no objection from EAL and as such CEC have granted an Approval in Principle (AIP);
- 6) Final Planning Approvals remain outstanding for the Edinburgh Tram Stop and Gogarburn Retaining Wall (W14C);
- 7) EAL are currently unable to remove their outstanding "Flooding Objection" until further analysis and discussions take place on the potential additional works to the

<sup>1</sup> W14C and W14D are now collectively known as W14C.

<sup>2</sup> Infraco letter ref: 25.1.201/JHi/261 dated 14/07/2008

<sup>3</sup> tie letter ref: PD.CORR.057SB/JS dated 23/04/2008

<sup>4</sup> Owing to the fact that it was rejected by tie, City of Edinburgh Council (CEC) and Edinburgh Airport Limited (EAL).

<sup>5</sup> Current alignment straightens the retaining wall, removing the "kink" to accommodate the kiosk and canopy at the Edinburgh Tram Stop. Drawing Number III F90130-07-PLG-00053 rev5 refers.

embankments and clarification on the functionality of the new upstream has been obtained. Notwithstanding the above, resolution to EAL’s “Flooding Objection” may be imminent;

- 8) Pending a resolution to the above (nr 6 refers), the Infraco has stated that it will require a Compensation Event (under cover of INTC 682) in order to close out any [potential] outstanding flood risk issues associated with the Gogar Burn (this includes work which may have to be undertaken outwith the LOD).

### 1.3 Outstanding issues attaching to INTC’s

1.3.1 To date, 9 INTC’s have been identified as having potential relevance to the Gogarburn Retaining Walls W14C (the table below refers):-

Section	INTC No.	Title
7	78	Alerations to Edinburgh Airport Tram Stop / Retaining Wall
7	80	Gogarburn Retaining Wall Finishes
7	155	BDDI to IFC changes for Gogarburn Retaining Walls 14D, 15A and 15C.
7	182	Edinburgh Airport Kiosk
7	275	EAL Tramstop: BAA Interface (DCR0135)
7	277	Design of Canopy and Boundary Treatment at Airport Kiosk
7	465	Redesign of Drainage at BAA/CCRC Interface DCR0205
7	541	Edinburgh Airport CEC changes DCR0234
7	682	Impact of Tram Infrastructure on Flood Risk at Gogarburn

1.3.2 INTC’s 78, 80, 155 (and potentially 682) are directly associated with the Gogarburn Retaining Walls<sup>6</sup>.

### 1.4 Further background detail for information

1.4.1 In light of the foregoing there are a number of matters which require to be considered by tie:-

- 1) We have recently been advised that a resolution to EAL’s “Flooding Objection” may be imminent. The resolution of same should result in the closure of INTC 682 and facilitate the Planning Application process for the Edinburgh Tram Stop and Gogarburn Retaining Wall (W14C) (which has been submitted as ‘one’ Planning Application);
- 2) It would appear (in the first instance) that there are circa 9 INTCS attaching to the Gogarburn Retaining Walls and the Edinburgh Airport Tramstop. The significance or otherwise of the matters attaching to same will require further analysis to close out potential tie liability on same. It is noted however that in the majority of cases the Infraco have provided a “Design Only” Estimate for these INTC’s. The “Construction Elements” still remain outstanding.
- 3) In its response to RTN 10 and its failure to manage the Design at the Gogarburn Retaining Walls W14C and W14D, the Infraco place considerable importance and commentary on the historical context of same. This has been responded to robustly and the

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<sup>6</sup> The remainder are associated with the Edinburgh Tramstop.

Infraco has indeed failed to manage the design at Gogarburn Retaining Walls W14C and W14D.

- 4) The Estimate provided for INTC 078 is currently for "Design Only" works for all the Gogarburn Retaining Walls. A tie Change Order is yet to be issued for this work;
- 5) Since the IFC drawings for retaining wall (W14C) remain outstanding, consequently, the Estimate for the "construction element" of the works also remains outstanding (INTC 155c refers).
- 6) Both Parties agree that the delay to the completion of the Design for the Gogarburn Retaining Walls W14C, could materially and adversely affect the carrying out and/or completion of the Infraco works.

Our ref: 25.1.201/JHi/261

14<sup>th</sup> July 2008.

**Bilfinger Berger-Siemens-CAF  
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**For the attention of Mr Steven Bell Project Director – Edinburgh Tram**

Dear Sirs,

**Edinburgh Tram Network Infraco  
Airport Tramstop and Retaining Wall**

We enclose herewith SDS letter ref ULE90130-07-LET-00344 dated 19th June 2008, following workshop meeting with tie, SDS, BBS, and BAA an alteration to the retaining wall design at Jubilee Road and along Gogar burn at the rear of the airport kiosk

We request a tie Change Order for the design element only at this time.

Yours faithfully,

[REDACTED]

**Colin Brady**  
Project Director  
Bilfinger Berger Siemens Consortium

**Privileged and confidential – prepared in contemplation of mediation  
FOISA exempt**



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Fax: 44-(0)131-623-8601

Our Ref: ULE90130-07-LET-00344

19<sup>th</sup> June 2008

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Bilfinger Berger UK Limited EDI			
Date Received	26 JUN 2008	Scanned	
File Number			
Action	JHi - Order to Fe		
Distribution	TMu	JCu	DGou
	DTa	RBr	ARr
	JR	JDo	

Attention: Scott McFadzen

Dear Mr McFadzen,

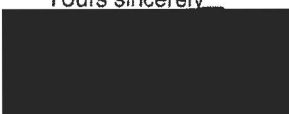
**Change Notice Request: DCR0015 Airport Tramstop and Retaining Walls**

As a result of attending the workshop meetings between tie, SDS, BBS and BAA there is an alteration to the retaining wall design at Jubilee Road and along the Gogar burn at the rear of the airport kiosk.

In accordance with Clause 15 of the SDS Agreement, it is considered that to comply with the instructions at the meeting amounts to a Client Change. We request that you forward to us your Client Notice of Change complete with a full and detailed scope at your earliest convenience.

Whilst we endeavour to work together to achieve completion of the project it is our duty to remind you that under clause 15.9 of the agreement we shall not commence work until we are in receipt of a Client Change Order.

Yours sincerely



Jason Chandler  
Parsons Brinckerhoff

cc. Alan Dolan  
David Gibb  
Kate Shudall

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Privileged and confidential – prepared in contemplation of mediation  
FOISA exempt

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Our Ref: PD.CORR.057SB/JS

Date: 23<sup>rd</sup> April 2008

Dear Steve,

### **Employer's Requirements Alignment Review**

tie instructed SDS to carry out reviews of its design against the Employer's Requirements version 3.5a "to identify areas of misalignment included in the SDS scope". SDS has subsequently been instructed to update that review to take account of version 4 of the Employer's Requirements (ERs).

SDS delivered its review to tie on 16 April.

As your review was conducted in parallel with the review of the Infraco proposals it highlighted a number of issues that have been tackled in the exercise to align the SDS design with the Infraco proposals. Those issues are dealt with in a separate letter.

The SDS review also raised comments about a number of areas that are not within the scope of work that SDS still needs to complete. Those comments are rendered redundant by agreement on the scope of work to complete and confirmation of omissions and so are not dealt with in this letter.

This leaves a small number of issues where tie needs to clarify issues and/or instruct SDS to change its current design.

### **Provision of a Standby Generator at the Depot**

I can confirm that it is no longer tie's intention to have a permanent diesel standby generator facility (including associated housing) at the depot. Instead there should be provision of hard standing for a temporary generator including the necessary service connections.

tie instructs SDS to update its drawings to reflect this situation.

### **Tram vehicle**

SDS has already had a large amount of information about the chosen CAF tram including DKE analysis, loading information for the vehicle and for structures and confirmation of the tram length.

Following finalisation of the Tram Supply Agreement (which will coincide with signature of the Infraco contract and SDS Novation) tie will issue with SDS with the technical information that accompanies the signed Tram Supply Agreement. Where there are subsequent changes to that tram vehicle technical information that impact on the infrastructure design tie will instruct the relevant changes.

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## Tram Stop Equipment

tie confirms that the tram stop equipment to be included in the design is as set out in the Schedule attached to Scott Ney's e-mail to Neil Renilson of 28 January 2008 at 1346 with the following changes:

- Public Announcement system to be provided at Edinburgh Airport tramstop with the capability of announcements being relayed from the Tram control centre and from the kiosk at Edinburgh Airport
- Cycle parking to be provided at Gogarburn tramstop as part of the detailed design to be undertaken following provision of concept design by the Royal Bank of Scotland
- Ticket machine numbers shall be changed at the following stops:
  - \* Ingliston Park & Ride to be 6 not 2
  - \* Shandwick Place to be 6 not 4
  - \* McDonald Road to be 4 not 2
  - \* Balfour Street to be 4 not 2

tie instructs SDS to complete its design including the changes set out above.

## Network diagram – ballasted track at tramstops

SDS has commented that the Network diagram issued by Siemens on 22 February 2008 includes ballasted track within certain tramstops. Following earlier consultations with HMRI and the Independent Competent Person SDS does not consider ballasted track at a tramstop to be acceptable and so the SDS design does not align with the network diagram in that respect. tie considers that this is in all probability an issue caused by the scale of the network diagram. However, for the avoidance of doubt, tie instructs SDS to continue with its existing design without ballasted track at tramstops.

## Depot staffing

SDS has sought clarification on the number of staff to be allowed for at the depot. tie confirms that the 361 staff (rising to 403 once Phase 1b is in operation) would be spread across 3 shifts. tie understands that as a result the SDS design is compliant with the ERs.

## Crew relief facilities

SDS has sought confirmation of the requirements for crew relief facilities at Ocean Terminal and Edinburgh Airport. At Ocean Terminal tie confirms that it is the intention that crew should use existing facilities within the Ocean Terminal complex.

tie formally withdraws Change Notice CNS109 Rev 1 for Edinburgh Airport Tram Kiosk. Instead tie instructs SDS as follows to align with the ERs:

SDS to design facilities at Edinburgh Airport tram stop as follows:

- CONOURSE –
  - area within barriers is the "paid area";
  - whole platform and exit area to be barriered to enable ticket checking of all arriving and departing passengers;
  - standing capacity for 100 passengers within paid area;
  - 2 closable gates required in barrier at entrance point;
  - 2 closable gates required in barrier at exit point
- TRAVEL SHOP/INFORMATION/TICKET OFFICE

- \*minimum 12 sq m incorporating –
  - 2 Customer Service hatches;
  - mains power;
  - lighting;
  - heating;
  - communications cabling connections;
  - 1 external access door from within "paid area";
  - 1 internal access door to adjacent staff toilet
- STAFF TOILET
  - \*additional to 12 sq m Travel Shop –
    - coterminous with Travel Office;
    - single cubicle;
    - wheelchair accessible;
    - wash hand basin;
    - hot and cold water;
    - direct "internal" access door to/from Travel Shop;
    - separate external access door from "paid area"
- TICKET VENDING MACHINES –
  - minimum 3 on exit route (within paid area);
  - minimum 6 on entrance route (outwith paid area)
- TROLLEY PARK –
  - minimum capacity 150 trolleys (stacked)

Design of these facilities (but not track) may extend beyond the Limits of Deviation where necessary up to a nominal 5 metres. This design information is required in the first instance to inform a workshop with BAA to deal with design interfaces and construction methodologies north of Eastfield Road.

Any further change to the SDS design required following that workshop shall be a tie change.

#### **Picardy Place**

Following further consideration of development opportunities in the Picardy Place area of Edinburgh, City of Edinburgh Council has instructed tie to proceed with a variant to the SDS design for a gyratory. I enclose a letter and drawings provided by CEC.

tie instructs SDS to amend its design for Picardy Place in accordance with the CEC letter and drawings with the following further clarifications and instructions arising from further discussions between CEC and stakeholders since their original letter:

- tie instructs SDS to incorporate the technical information supplied from TSS to develop the finalised roads design
- tie instructs SDS to incorporate the updated bus stop locations at Picardy Place received from TEL

tie instructs SDS urgently to prepare a revised approval plan for Picardy Place that minimises the impact of this change on the production of Issue for Construction drawings for Section 1C. This plan would need to be agreed with tie, BBS and CEC; tie would facilitate the necessary discussions to secure that agreement.



#### **Provision of survey/setting out equipment**

tie confirms that, following the recent changes to clause 3.9.3 of the ERs, SDS is required to meet its existing obligation of providing Issue for Construction drawings with setting out information but SDS is not required to provide any survey or setting out equipment – that is the responsibility of Infracore.

#### **Systems branding**

tie instructs SDS to continue with its existing design that allows for future branding details to be incorporated once these are confirmed and accepts that incorporation of final branding into SDS design in the future will be a tie change.

#### **Design life**

Further to Damian Sharp's letter of 11 March (DES-ADM-1251) on design life and for the avoidance of doubt, tie instructs that no change is required to the SDS design as a result of the relaxation of the design life criteria.

#### **Ingliston Park & Ride**

tie instructs SDS to design pedestrian access between Phase 2 of the Ingliston Park & Ride presently under construction and the tram stop in its revised location. tie further instructs SDS to design vehicular and pedestrian access between Phase 2 of the park & ride and the substation building. This design shall allow horizontal latitude for a future turnback halt on the Newbridge line.

#### **Quality management**

tie confirms that SDS's existing accreditation to ISO9001, if maintained, is sufficient compliance with the Quality Management requirements of the ERs. In particular, tie accepts that [ISO14001] is not appropriate to the SDS scope of work and that it is therefore not required.

#### **Environmental Management Plan**

SDS has expressed concern at the inclusion of a specific sustainability obligation in the ERs which could be interpreted as adding to SDS's existing obligations. SDS already has an obligation to design in accordance with industry good practice which includes consideration of sustainability issues and SDS considers that it has reflected this obligation in its design.

tie accepts that the inclusion of sustainability in Clause 17.3.2 of the ERs as an explicit obligation does not extend SDS's existing obligations to follow industry good practice.

#### **Cabinets**

tie clarifies that the use of "cabinets" within Section 19 of the ERs should be read to include what SDS has previously described as "panels" and "cubicles" and the associated housings.

## Tramstop platform length

tie has reviewed its specification for platforms in the light of the CAF tram selected by tie and does not instruct any change to the SDS design on these grounds.

## Standards

Section 8 of the ERs covers standards in general. In addition there are specific references to particular standards throughout the technical sections of the complete document.

Sections 8.1 to 8.3 of the final version of the ERs make clear the obligations of Infracore in delivering the Edinburgh Tram Network as to the use of either nominated standards or, in the event that no specific UK tram standard exists, the requirement to choose an appropriate standard and to justify that choice as being applicable to tramways and to ETN in particular.

The wording of these clauses has been accepted by both BBS and CAF.

There then follows a long list of "Applicable Standards". It is noted that these standards come from a variety of organisations and sources. Originally these standards were only within the main body of the technical sections of the earlier versions of the ERs (v1.2 for example). At a later revision they were gathered together in this table for convenience. However they also remain in their original place in the main document. Therefore the original source and selection of these appropriate standards was made by SDS as a deliverable to tie.

This list has exhaustively been discussed with BBS. Initially it was proposed to alter this table to reflect the actual standards contained within the BBS Technical Proposals. This applied in the main to the Systems (Siemens) part of the proposals. However it was agreed that the table should be left substantially as it was but that elsewhere in the systems requirements part of the ERs alternatives would selectively be allowed. This is reflected in the revised text of later sections.

Separately at Section 17.2.6 Infracore is required to abide by the requirements of ROGS in particular for Safety Verification. Our Independent Competent Person has made the selection and justification of standards a prime issue in the assurance of tie's Safety Verification process. This is no different to the approach the HMRI would have taken under the previous legislation. However it will have to be addressed thoroughly.

Therefore when SDS presents its Design Assurance Statements the following must apply:

- SDS are required to list all of the standards from whatever source they have used in the development of their infrastructure design.
- SDS must further justify the choice of each particular standard or any proposed derogations from them as required by section 8 of the ERs v3.6b. This shall include those standards which SDS may have employed specifically to design the interfaces with the several M&E Systems together with the Trackform and the Trams. All of this will form a part of the Safety Documentation to be provided by SDS as a part of the Inter Disciplinary Checks of the Design Packages.

BBS will be required to do likewise in developing the detailed design of the trackform and M&E Systems from that in their current proposals. CAF are required to do likewise for the tram.

It will be a BBS responsibility to ensure that overall the choice of standards will give the required System Engineering and Integration of the ETN.

If to meet these overall requirements SDS are required to review or change any standards which up to that point they have used then a Change may be appropriate. However, this will depend on SDS demonstrating that their original choice of applied standard was appropriate given their knowledge and instructions at that time.

Yours sincerely,

A black rectangular redaction box covering the signature of Steven Bell.

Steven Bell  
**Project Director – Edinburgh Tram**

Copy to: Damian Sharp, Dennis Murray, Tony Glazebrook, Andy Steel – TSS