From: Shudall, Kate

Sent: 01 December 2006 09:56

To: Wilson, Paul (Edinburgh Tram); Ney, Scott; Jory, Anthony; Jones, Carla; Bloe, Jonathan;

Stacy, Mungo; Clement, Gavin; Cox, Eleanor; Dolan, Alan; Chandler, Jason

Subject: FW: Roads Programme

Importance: High

FYI - I will hopefully meet Malcolm early next week, if anyone else needs to speak to him let me know.

Kate

From: Shudall, Kate

Sent: 01 December 2006 09:44

To: Bissett, Malcolm

Cc: Perry, Kevin; Dorrington, Kim (Edinburgh Tram)

Subject: Roads Programme

Importance: High

Delivery of Roads RE: urgent MX model for... rogramme issue sec.

Malcolm,

As discussed last week at the IDR meeting I am concerned that Ian does not appear to have the resource available to complete all the tasks on the programme, as per the agreed protocol including the track/roads iteration process. See attached emails and text, highlighted in red below.

Can we meet ASAP to discuss the programme and how we take this forward.

I am also concerned that he is not aware how important the deliverables are for each section, track, stops, etc. He is not just working towards his roads deliverable date.

Can we meet Monday/Tuesday please to discuss this? I can come over to you - I have a meeting with Colin at 1pm on Tuesday at your office, maybe before or after that?

Thanks,

Kate

From: Astbury, Ian [mailto:AstburyIH@halcrow.com]

Sent: 01 December 2006 08:45

To: Gillespy, Mike

Cc: Stacy, Mungo; Shudall, Kate; Farrell, Timothy; Bissett, Malcolm; Cook, David

Subject: RE: South Gyle Broadway Junction - Vertical Differences

Mike, sorry you haven't been able to get hold of me I have been away from my home office since Monday, but I'm back today if you want to call me then. The purpose of the email from David Cook was simply to give you the earliest possible warning that we will (probably) require an adjustment to the vertical alignment of the eastbound track at South Gyle broadway. This informal arrangement using emails has worked well with the Godalming alignment team, a prime example being Section 3A (Roseburn Corridor) track alignment which has undergone numerous iterations on an informal email basis. We would not have been able to fix this alignment by now if we had adopted a rigid approach. However we will now undertake the MX surface modelling of the new road surface you recommend below and get back to you. Having visited the location and knowing that the road has a constant crossfall and almost no longfall, I strongly suspect that the result of this will be a request to adjust the level of the track as per David Cook's previous email. I believe it is possible for the eastbound and westbound tracks to have slightly different vertical profiles, so you should be able to accommodate this request, but please correct me if I wrong.

FYI, we are finding working to the numerous Roads release dates in the programme (and the protocol) difficult. This requires Roads to undertake the several release stages. I understand that Malcolm Bisset and Tony Jory are in the process of agreeing a simplified arrangement.

Regards Ian

From: Gillespy, Mike [mailto:gillespym@pbworld.com]

Sent: 30 November 2006 12:29

To: Astbury, Ian

Cc: Stacy, Mungo; Shudall, Kate; Farrell, Timothy

Subject: RE: South Gyle Broadway Junction - Vertical Differences

lan, I've tried to ring you about this but you where unavailable. David Cook's PDFs do illustrate the current relationship between the track design and the existing road's surface and so go some way to illustrate the Roads Team design task at this tram/road intersection. I should say that to get to this stage the track designers have already given a lot of thought to the relationship between the tracks and the road surface! To get the tracks within 150mm of the road surface in a long skew crossing such as this is in my experience pretty good! That said I'm not saying we could not tweak things further but you will appreciate that the track geometry has constraints in terms of gradients at tramstops, interaction between horizontal and vertical geometry, difference between track levels at stops etc which limit what we can do. I would suggest that we ALL try to work to our "Process for Integration of Track Alignment Design and Roads Alignment Design" and the Project Design Programme in order to resolve this issue, viz:- David needs to work up first pass Roads Vertical Design (ROV1) in MX and establish a roads design that ties in as far as possible with the PW2REV rail levels (ie the model you have) across the road. The skew angle here will make this a changing piece of work. From experience it is only when you have considered the road channel alignments for the entire length if the road effected by the rail crossing, considered the cross falls between these and the rail head levels and looked at tie-ing back to the existing road profile either side of the crossing that can really understand if the Rail and Roads levels are compatible or not. It is not necessarily simply a case of hugging the existing road profile with the track centrelines. Triangulating the combined channel and track model in MX will enable X-falls to be checked. If having done this it is still necessary to change the VA of the Inbound (Eastbound) track them we can look at the implications of this but the important thing is that any further refinements need to be made against the Roads design levels which are unlikely to be the same as the existing. The Integration Process provides for further refinement of the track alignment to agree with the Roads Vertical Design Model "ROV1" but to to this we need the Roads MX model. The Design Programme reflects this:- For Section 5C (including South Gyle Broadway) Activity Ref SDS 30310 "Roads 1st Pass Vertical Design" is due to finish 6/12/06 you will then issue us with an MX model and where necessary (and feasible) we will adjust the track design to match the roads model. We are due to complete Activity Ref SDS 30300 "Revise Alignment to Match Roads 1st Pass Vertical" on 12/12/06 but obviously this is dependent on us receiving the Roads MX Model in time. I'm sure we will find a solution here but we need to work to our programme and integration process to achieve this. Please feel free to ring me to discuss further if you require. Regards,

Mike Gillespy

Principal Engineer
Parsons Brinckerhoff
Manchester Technology Centre
Oxford Road
Manchester
M1 7ED
United Kingdom



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From: Astbury, Ian [mailto:AstburyIH@halcrow.com]

Sent: 29 November 2006 19:03

To: Gillespy, Mike

Cc: Stacy, Mungo; Shudall, Kate; Farrell, Timothy

Subject: FW: South Gyle Broadway Junction - Vertical Differences

From:

Sent: 29 November 2006 17:46 **To:** (gillespym@pbworld.com)

Cc: Kate Shudall (shudallk@pbworld.com); Stacy, Mungo; Cook, David; FarrellT@pbworld.com

Subject: FW: South Gyle Broadway Junction - Vertical Differences

Mike

Can you respond to the below please.

lan

From: Cook, David

Sent: 28 November 2006 08:42

To: Astbury, Ian

Subject: South Gyle Broadway Junction - Vertical Differences

lan,

Please find attached the following pdf files:

South Gyle Broadway

South Gyle Broadway - Eastbound

South Gyle Broadway - Westbound

The attached pdf files show the junction in plan and longsection with the differences between track and existing road levels indicated.

The plan indicates the westbound track matches the existing road profile very well. Also attached is a long section, see westbound.pdf, this also indicates vertical differences between the track and carriageway levels, the maximum being 60mm.

The eastbound track shows a different picture. The track is below existing road level at approx CH.530599 (-133mm) and above exisiting road level at approx CH.530649 (+126mm). It appears to pivot about the central reserve, see eastbound.pdf. Could there be scope to adjust the eastbound track independently of the westbound track to 'hug' the exisiting road profile?

Regards

David Cook

Senior Engineer

Halcrow Group Limited

Transportation business group One Kingsway Cardiff CF10 3AN

Tel + Fax

www.halcrow.com

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