 

Principal Designer Working Group (PDWG)

Working on behalf of HIGHWAY ENGLAND

Meeting No.11

**Minutes of the Principal Designer Working Group Meeting / Workshop No.11 – 24th January 2019**

**Location: Arcadis Offices, Cornerblock, 2 Cornwall Street, Birmingham. B3 2DX**

**Time: 10.00am to 3:30pm.**

**Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Initials** | **Position** | **Organisation** |
| Richard Wilson (Chair) | RW | H&S Director (Major Projects) | Highways England |
| Etienne De Toney | EDT | H & S Lead CIP (HE) | Highways England |
| Ian Scott | IS | NIP Health & Safety Lead | Highways England |
| Mark Lamport (Meeting Co-ordinator) | ML | Technical Director / Principal Designer Manager | Arcadis |
| Pav Singh  | PSi | Associate. Technical Director / Principal Designer Manager | Arcadis |
| Tim Bowes | TB | Principal Designer Manager | Atkins |
| Ed French | EF | Principal Designer Manager | Arcadis |
| Paul Brown  | PB | Technical Manager  | WSP Group |
| Nicola Knowles  | NK | Principal Designer Manager | Arcadis |
| Liz Bennett | LB | Director | Safety in Design |
| Jim Tod | JT | Director (Twf rep) (Presenting) | Tony Gee |
| Tom Bartley | TB | Principal Engineer (Presenting) | WSP |
| Roger Swainston  | RS | PD / CDM Advisor | Jacobs |
| John Migoski  | JM | H&S Manager | Network Rail |
| Malcolm Shaw | MS | Principal Designer SMP M1 23-25a | Arup |
| Toria Thomas | TT | Principal Designer | Arup |
| Nina Warminger | NW | H&S Manager SWAD | Highways England |
| Mark Bosence | MB | Design Production Manager | Highways England |
| Steve Davey | SD | Head of Technical Standards (Presenting) | Highways England |
| Dave Garton | DG | Portfolio Lead H&S, HE & RA | Jacobs |
| Richard Jones | RJ | Technical Solutions Manager | Balfour Beatty |
| Barry O’Driscoll (part) | BOD | H&S Lead SMP | Highways England |

**Apologies:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Initials** | **Position** | **Organisation** |
| Doug Potter (Secretary)  | DP | Principal Designer Manager | Arcadis |
| Julia Johnson | JJ | Director of Operations | Jacobs |
| Tim Goddard  | TG | Principal Designer Manager | Arcadis |
| Rob Butler | RB | PD & Q.A Manager | Highways England |
| Simon Wilkinson | SWi | Technical Director | AECOM |
| Andrew Finch  | AF | Director of Operations | Jacobs |
| Dave Morrow | DM | Principal Designer | WSP Group |
| Nick Boyle | NB | Technical Solutions Director | Balfour Beatty |
| Kevin McPherson | KM | AIG | TRL / Highways England |
| David Owens | DO | Senior Consultant - Digital Transformation | Costain |
| Peter Foster | PF | Principal Designer Area 9 & Section 278 Project Manager | Kier |
| Shirley Worrell | SWo | PCF Assurance Manager | Highways England |
| Steve Yates  | SY | Principal Designer | Jacobs |
| Rob Wood | RW | Associate Director | Amey |
| David Townsend  | DT | Head of Policy and Compliance, H&S Team | Highways England |
| Nigel Yeatman | NY | Area 12 Asset Manager | AOne+ |
| Jeremy Bird  | JB | Head of H&S Delivery | Highways England |
| Leventia Stoiou | LS | Structural Advisor | Highways England |
| John Winson | JW | Principal Designer | Atkins |
| Jonathan Giles | JG | Divisional Team Manager, Principal Designer | WSP Group |
| Jon Horrill | JH | Principal Designer / H & S | WSP Group |
| Simon Bourne | SB | Technical Director | Mott MacDonald |
| Chris Wearne | CW | Lean Practitioner | Jacobs |
| Liz Braithwaite  | LB | H&S Manager | Skanska |
| Libby Allport | LA | AIG | Highways England |
| Steve Hamer | SH | Technical Manager | Skanska |
| Emma Codrington | EC | AIG – BIM Lead | Highways England |

**Actions:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Ref** | **Topic** | **Action** **Owner** | **Deadline** |
| **1.0** | **Welcome and Safety Moment** |  |  |
| 1.1 | ML provided a brief welcome, attendees introduced and apologies for absentees noted. |  |  |
| 1.2 | **Safety Moment** (Presentation Attached)ML highlighted the Designer Close Call system which has been adopted by Network Rail Infrastructure Projects Southern• Close calls are managed by Rail Safety & Standards Board• All contractors feed into the system over the month through a number of mechanisms including* A dedicated App, the internet or via card submissions.

• This feeds into an end of month Lessons Learned workshop and helps capture site issues where design has been the root cause• ML asked that these be fed back to Designers through the PDWG through the PDWG webpage within the HE H&S Hub Website – here [HE hub website](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.highwayssafetyhub.com%2F&data=02%7C01%7CDoug.Potter%40arcadis.com%7Cfe256f748642417d445f08d68ac197dc%7C7f90057d3ea046feb07ce0568627081b%7C0%7C0%7C636848962649945433&sdata=J2TTTMGPeG%2Fq5HtYFNon%2FqljevllfgomoSoKi8MLPew%3D&reserved=0)RW highlighted a further Safety Moment which occurred whilst attending the funeral of a colleague – the message was - treat people with respect and respect the work life balance. It's the small things that count, the small things that matter. Have time for people. | **All** |  |
| **2.0**2.12.22.32.42.5 | **PDWG Governance and Action Plan 2019****(Richard Wilson) – Highways England**RW covered a number of key Highways England concerns* Discussed that there will be a new procurement approach where we are looking for prefabrication; Preassembly, efficiencies collaborative working.
* Service Strikes
	+ We need to do more during the Pre-Construction Phase by capturing better quality data and this needs to be shared across design teams and with the construction community.

 HE Regional approach is to try and improve information intelligence  to confirm what services are present, is the information accurate is  the design right first time and has it considered avoidance of cables.* + A Tier 1 meeting is going to take place with Peter Mumford to look at services. Feedback required

O Utilities Working Group - which Etienne sits on. This will feed back  on how HE is engaging with the Utility companies and designers – Best practice around services is being developed.O HE and the Utilities are taking a regional approach when reviewing  diversions.O A new Project Control Framework (PCF) product for Utilities is to be  created at Stage 2 and will continue to be updated and reviewed  throughout the life of the project.O BPAUS - Best Practice for avoiding Underground Services – checklist  has been produced for designers. Link here. [http://www.highwayssafetyhub.com/uploads/5/1/2/9/51294565/best\_practice\_kier\_designer\_check\_list.pdf](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.highwayssafetyhub.com%2Fuploads%2F5%2F1%2F2%2F9%2F51294565%2Fbest_practice_kier_designer_check_list.pdf&data=02%7C01%7CDoug.Potter%40arcadis.com%7Cfe256f748642417d445f08d68ac197dc%7C7f90057d3ea046feb07ce0568627081b%7C0%7C0%7C636848962649955443&sdata=Qc1AEATPnyiqcYuZv%2FsgO3eNAyqpj4ju%2FuyoURX9euQ%3D&reserved=0)O It is recognised that stats pose a problem for CDM in the sense that  the PD and Client roles blur when undertaking service diversions for example. Who pays the bill? * + It was proposed a PCF product could be developed to standardise the work undertaken on the management of stats and the clarification of the roles!
* Home Safe and Well – this will be formally rolled out shortly.

Issues: -* + HE expects designer's hours to be recorded on AIRSweb even if they are not on site.
	+ IAN128 - needs some simplification to make the instructions crystal clear, the language could be simpler to aid understanding of what is actually required.
	+ Safety Hub - RW is now chairing the Safety Hub – an updated Terms of Reference is due out for the Hub soon.
	+ NK suggested that RAG lists could contribute to the 'Encourage Innovation across the Highways Sector' initiative they could also contribute to the work of the Whole Life Safety Group to improve the management of both RED and GREEN innovation items.
	+ PB to consider incorporating within RtB 26.
* LB also suggested that training needed to be made more accessible

 and available to the right people at the right time. * + It was noted that LB had recently been a national judge on a health and safety competition. Highways England schemes made up 3 out of the 9 submissions. RW felt this was good news!
* PDWG - Terms of Reference – RW reviewed the current Terms of Reference
	+ PB proposed a minor amendment which was accepted. DP to update.
	+ Temporary Works – RS felt D&B contracts work well when the Temporary Works Co-ordinator and the permanent works designer work closely together.
	+ In respect to the new CDM Procedures - EDT suggested HE need to focus on the contractual arrangements accounting for CDM rather than retrofitting CDM to the contractual arrangements made.
	+ ML to discuss with DP the outstanding actions on the PDWG terms of Reference.
 | AllRWRW/ISAF/TGPBDPDP/ML |  |
| **3.0** | **Safety Alert HEi 062 Principal Designer Duties** |  |  |
| 3.1 | **Barry O’Driscoll – Highways England**Bo’D explained that Safety Alert HEi 062 had been issued in October 2018 following the discovery of a number of major safety issues in respect to an MS4 gantry on one of the Smart Motorway schemes.A detailed investigation had subsequently taken place which identified the following issues (not stated in the Safety Alert due to time pressures):* MS4 designer responsible for the original design of the sign and connections had produced a Design Check Certificate. This was dated 2007 - however the design check cert stated that the connection should not be load bearing!
* Unconscious bias towards what we have always done! As PD's are we checking that there won’t be a gap - either physically or in design responsibility?
* The Client had procured the signs on behalf of the contractor - was it made clear to the procurement team that the checks need not be made?
* Design and inspection check certificates need to be in place at all times.
* On the v2 and v3 signs the physical gap identified here would have always been present as a hazard. The potential structural failure / risk has arisen on a non- load bearing plate, as in this case the MS4 v3 has been fitted to a man access gantry, whereas v2 version would normally be fitted to a non-man access gantry. Non-standard use?
* This Safety Alert raises the importance of PD checking design and check certificates for all elements of design. How is this currently incorporated into the design change management processes in place?
* Secondary fix steelwork to gantries in this instance was not included in the Technical AIP process.
* As yet there has been no feedback from the operation/maintenance community in respect to this Safety Alert.
* More feedback on the frequency of maintenance requirements for this type of asset is required, in order to assess the reasonable measures for mitigating the risks associated with man access gantries and the associated sign faces. This should be feed back into future designs.
* BO’D asked that all review our projects and check for similar blind spots on interface points and particularly for modular elements.
* Other recent Safety Alerts
* CCTV columns – bolt failures – again several designers involved - i.e. column, CCTV head, holding-down bolts – Bo’D suggested a review of this potentially could indicate that the column and bolts should be designed to take the heaviest cameras and then any camera can be installed - designers need to consider best value for the client rather than the lowest cost. Designers need to challenge Clients on design decisions re best value rather than just opting for lower cost.
* Could we have done more?
	+ What are the unconscious safety risks?
	+ Are we checking further down the supply chain?
	+ How do we eradicate design roadworker risk?
	+ Can we demonstrate how we reviewed O&M risk through coordinated design reviews.
* How do we show the interdependencies of designers?
	+ These can include coordination meetings drawings and gap analysis; notes on drawings; trial installations
	+ What is reasonable
* Responsibility
	+ Who is responsible for overall design; decision making and authorisation?
* LB - we need to try to work together as a community and remove the contractual issues and blame culture in order to produce better solutions for our projects.
* Better co-ordination is required particularly as we move to more modular designed products – we need to understand how designer’s interface and work with each other and consider future functionality. PDWG to discuss how we approach this going forward as a separate discussion

Post Meeting Note. Suggest this issue is taken up by Whole Life Sub-group * ETD – questioned how we start to make changes to current processes in this area - Bo'D indicated he was already in discussions with SES on this matter. Is risk assessment carried out in a multidisciplinary way? Probably not - probably just as separate elements and this needs to change.
* RW / Bo’D to provide feedback.
 | **All****All****All****AF/TG****RW/BO’D** | **ASAP** |
| **4.0** | **Highways England CDM Processes – Update of IAN 105** |  |  |
| 4.14.24.34.44.5 | **Etienne De Toney – Highways England**Post-Meeting Note: Etienne has subsequently left HE and Ian Scott is taking this action forwardProposal is now to update IAN 105/08 – see slides attachedFollowing on from discussions at the last PDWG and the draft documents issued for consultation, the key changes to IAN 105 would be: -* To reflect the CDM 2015 Regulations;
* Health and Safety File template to be included as an appendix;
* Pre-Construction Information Pack to be included; and
* Include a 3-month transitional period from the old version of IAN 105 once issued to projects;

HE viewpoint of CDM and role definitions of the PD will change - i.e. Client will view PD appointment more from an organisational perspective rather than an individual.Current thinking is that this would be agreed internally within HE by the end of the month (now early March). IAN to be issued externally asap after that. Date TBC. It will instruct the following:* All the current additional PD services for the Client duties will be taken back into HE;
* There will be an appointment of a Client Representative – the key person responsible for signing off health and safety related products within the project;
* A Pre-Construction Phase Plan will be developed on all projects - to demonstrate the planning, managing and monitoring of the pre-construction phase is in line with the CDM Regulations. This will eventually become a PCF product and is intended to be created by the Client at Stage 0;
* Client decision making needs to be recorded at Stage 0, 1 etc while the Client is still Client and PD;
* The HES and Assumptions and Decision Log will become a PCF product initiated at Stage 0 to create whole of life accountability from cradle to grave of every project;
* This will be part of project governance from the outset to ensure that this is delivered successfully; and
* The requirements for As-builts - section will be simplified.

ETD/IS will welcome further comments on IAN 105. ETD/IS to issue out the document for information and comment shortly.  | **IS****IS** |  |
| **5.0** | **Whole Life Design Safety Task Group** |  |  |
| 5.1.15.1.2 | **Andrew Finch sends his apologies as he has not been able to attend this meeting** Proposed future Whole Life Design Safety Task Group meetings:• Tuesday 30th April 2019• Wednesday 12th June 2019• Thursday 12th September 2019* November Date TBC

Attendees: Andrew Finch, Tim Goddard, Richard Wilson, Paul Brown – ANO’s to be confirmed * AF to issue invites

Post Meeting NoteAny other members of PDWG wishing to contribute to this group should contact Andrew Finch or Tim GoddardSource areas identified as being of interest to the WLD task group in addition to considerations of capital construction works, i.e.:• O&M providers• Traffic Officer Service (building on previous discussions)• Roadside assistance organisations* Developments in modular construction?

This will effectively form the agenda for future meetings along with items on design change and feedback from Safety Alerts, near misses and Lessons Learned. AF/TG to issue invites to Task Group members and arrange venue | **All****AF****AF/TG** |  |
| 5.25.2.1 | **RTB 26 update - Whole of Life design for Health and Safety - (Paul Brown - WSP)**PB indicated there had been no progress during this period due to:* RTB26 linkages with IAN 69 Design for Whole Life Safety.
* PB awaiting imminent sign off of the IAN69 update which will influence RTB26 and he did not wish to progress current draft until the contents of IAN 69 were known.
 |  |  |
| 5.35.3.1 | **RTB 13 Excavations protection, access and egress** – **(Liz Brathwaite – Skanska)**LB had sent her apologies – no update available |   |  |
| **5.4** | **Design Change Process Improvement**  |  |  |
| 5.4.15.4.25.4.3 | **(Tim Goddard / Doug Potter – Arcadis)** (No update as Tim and Doug had sent their apologies – Arcadis continue to manage the Design Change Tracker and will feedback any key issues at next WLD Task Group and PDWG)However as set out in minutes from the last PDWG meeting in October 2018 below – PDWG continue to work with HE H&S Hub to look to improve Safety Alert Reporting to better understand root causes. *‘TG explained that the idea is to improve the feedback loop from contractors to designers and designers to contractor etc.**• Highways England Safety Alerts are being used as the base for this process, but PDWG are looking to supplement this by the capture of Near Misses and Lessons Learnt from the Contractor and Designer community.**The issue of the limited information provided by Safety Alerts has already be raised.**• Cause – currently the SA does not normally go into the "root" cause.* *• Investigation processes – need to be improved** + *Principal Designer / Designer input – how often are they consulted in the investigation process?*

*Going forward the proposal is to review the top ten issues in the quarter to share design concerns and improvements and identify areas for further investigation. TG to coordinate.**TG asked all to provide feedback on Near Misses, Lessons Learned and Safety Alerts which impacted on the design processes so that these could be actioned/improved and shared across PDWG.’* | **DP/TG****TG****All** |  |
| **5.5** | **Temporary Works Forum (Jim Tod)** |  |  |
| 5.5.15.5.25.5.35.5.4 | **Jim Tod – Temporary Works Forum** – Presentation attachedJim had very kindly attended to provide a brief introduction to the work of the TWf. More information on the TWF can be access here <https://www.twf.org.uk/>* + Any project that HE commissions involves temporary works
	+ Historically the TW designer was closely guarded by Contractors to provide a competitive edge.
	+ From circa 2000 it was decided that this shouldn't be the case and that a more collaborative approach should be adopted.
	+ The TWf is an open forum and membership is open to everybody. Cost of membership depends on the size of the organisation.
	+ Aim of the TWf is to provide guidance and leadership to the construction industry.
	+ TWf provides input into educational guidance material.
	+ They have been closely involved in the development of new standards such as BS5975, PAS8811 and PAS8812.
	+ TWf work with others including CPA, CIRIA, British Precast and IStructE.
	+ Membership offers multiple benefits - including networking, influencing industry, CPD, discussion and debate.
	+ Permanent Works Designers need to consider constructability and the importance and complications of bringing pre-cast or pre-made units to site. Where are the lifting points? Are there lifting areas? What temporary supports are required? Are permanent works or temp works loading platforms required? What about reinforcement stability?
	+ Standards require a Designated Temporary Works person in all organisations. Who is your designated person? BS5975 has required this since 1982!
	+ It is important to note that the UK is the only country to have a TW standard in place.
	+ Current related CIRIA publications include:
	+ C755 [Here](https://na01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ciria.org%2FItemDetail%3FiProductcode%3DC755%26Category%3DBOOK&data=02%7C01%7CDoug.Potter%40arcadis.com%7Cb8fe938cd0854b0b98af08d676fd0247%7C7f90057d3ea046feb07ce0568627081b%7C0%7C1%7C636827226450701563&sdata=NknOFZEmp9gBGf%2FItqspY1iUJv8DgV0LHY4t65VTGKY%3D&reserved=0)
	+ C756 [Here](https://na01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ciria.org%2FItemDetail%3FiProductCode%3DC756%26Category%3DBOOK%26WebsiteKey%3D3f18c87a-d62b-4eca-8ef4-9b09309c1c91&data=02%7C01%7CDoug.Potter%40arcadis.com%7Cb8fe938cd0854b0b98af08d676fd0247%7C7f90057d3ea046feb07ce0568627081b%7C0%7C1%7C636827226450701563&sdata=En1wXMaVaQKGMhPjTkyDHgikScJZ8VCdNJYtzoRiCG8%3D&reserved=0)

Post Meeting NotesPDWG are looking to work more closely with the TWf in the future and will whenever possible have attendance at their regular meetings. PS has attended the last few meetings and the intention is to give a presentation from the PDWG at their next meeting in May 2019. PDWG are working with TWf to better capture and understand examples of poor permanent works design which may, for example, have led to overly complex and potentially unsafe temporary works issues. Note:There is now a link to the TWf website on the HE H&S Hub website.  | **All****PS****DP/PS/JT** |  |
| **5.6** | **Highways Sector RAG Lists** |  |  |
|  | NK had covered earlier – agreed action to add as part of the Whole Life Safety Task Group and update RAG lists for innovation plus process and agree what does Red, Amber and Green require in terms of management arrangements?  | **AF/TG** |  |
| **6.0** | **DMRB Update** **Tom Bartley (WSP)**(See attached presentation) |  |  |
| 6.16.26.36.46.56.66.76.86.96.106.116.126.136.14 | Steve Davey had previously presented to the group with regard to the DMRB update. Today’s presentations will focus on:* DMRB Review - progress update and future digital design support
* JIRA - word/access style interface for creation and update
* MCHW likely to be updated soon also

DMRB outputs will include:* Requirement and Advice document status
* New structure and numbering system
* National application annexes

Approximately 400 docs are being reviewed and will be published by March 2020. * 11 have already been published.
* 34 have been revoked.
* 70% have reached review, approval or publication stage.
* 23% are at pre-review stage.
* New RSA document coming out in Jan/Feb
* Further documents are due out in the next 3 months.

A question was raised as to how the HE will ensure communication of the new standards is readily available?GG101 has an implementation clause which shows how the changes to requirements will be disseminated. These will need to be reviewed as part of PQMP's.Temporary Information Notes (TIN) will have a 12-month shelf life.Health and safety documentation will always sit under the G classification – the guidance and governance section."The DMRB will in the future place responsibility for design justification with the supply chain designers". This may mean that the HE is the designer on all projects. This would be the point on a project where departures will be put in place to recognise design changes have occurred. Requirements will include Statutory, Performance and Method. This will have CDM implications as the HE will formally become a designer. However, the DMRB will provide some consistency for maintenance though for example. * Advice will be split into 3 types - Recommendation, Permissible Option/Approach, or Clarification of Concept.

What is the PD role in designer justification?* By April 2020 IAN 105 will be part of DMRB as IANs technically are no longer current. ETD felt this could be carried out using the TIN mechanism in the short term.
* Departures will be subject to a refresh during 2019
* What is a Departure
	+ A formal approval mechanism for works on SRN that do not comply with standards.
	+ Departures occur when – for example there is a non-standard value engineering proposal, compliant design often just isn't possible, particularly when the designer is seeking to do something that hasn't been done before.
	+ This process has now been reviewed.
* Key changes will:
1. Reduce end to end processing time
2. Improve the timeliness of submission of the Departure
3. Improve the quality management systems
4. Improve visibility to help manage workloads.

A new departures manual will be published to coincide with the new Departures Appraisal System (DAS)The aspiration is that this will promote collaboration throughout the lifecycleWhat's changing? I. Register of anticipated departuresii. PM approval process to be streamlined - approvals will happen in parallel.iii. Enhanced focus on quality management in the supply chain - review of 'proposers' role.iv. There will be minor tweaks to submission formv. Treatment of departures will be proportionate to the project delivery.vi. A 'Provisional agreement' mechanism will be allowed for early project stages so SES can review significant departures early in the programme and risk consideration management.webDAS will be replaced with DAS. This will be a single application on the HE website.O Designers responsibilities - see slidesO Proposer role – see slides  |  |  |
| **7.0** | **Feedback from H&S HUB and H&S Groups** |  |  |
| 7.17.2 | • H&S HUB – Richard Wilson & Paul Brown * proposed outputs for 2019 still require publishing
* Mark Byard to decide on format of Hub going forward.
* HE passport update - <http://www.highwayssafetyhub.com/safety-passport.html>
* RTB template under discussion - any comments to be passed back to Mark Bridges ASAP.
* All new or updated RTB's will be published on the hub website. <http://www.highwayssafetyhub.com/raising-the-bar-guidance.html>

• H&S Groups – RIP/NIP/CIP/SMP- No Feedback   | **All** |  |
| **8.0** | **Afternoon Workshop – Improving the Risk Management Process – Pav Singh** |  |  |
| 8.1 | PS felt that greater standardisation of the Risk Management Process was essential to improve risk management across the sector. – See Appendix A. |  |  |
| **9.0** | **Issues and Action Tracker** (Not discussed, DP to review and update post meeting) |  |  |
| **10.0** | **AOB**None |  |  |
| **11.0** | **Next meeting:** **Thursday – 10.00 am until 3.00pm – 16th May 2019:****Venue: WSP Offices, The Mailbox, 100 Wharfside Street, Birmingham, B1 1RT**  |  |  |

**Appendix A – Risk Management Workshop Outputs**

• A consistent application of the Principles of Prevention (POP) is required.

O Encourage designers to start with the ERIC acronym and write their mitigation starting at Eliminate.

O Ask designers - Is it technically possible to eliminate this hazard?

O If it is technically possible it should be considered SFARP.

• Key risk management tools included

O HES template

O Hazard triangles

• Good guidance currently available

O Safe by design - Network Rail document

O Health by design - useful document for designers

• Examples of good practice

O Architects - visual examples of residual risks.

O DRMS - Paul Brown - concurs with requirements of HES and shares the ethos of what is required to demonstrate the HES process throughout the project. Arcadis Example attached.

• Key to using the HES was to ensure clarification of exactly what the hazard is and what is its impact. Multiple hazards arising from a single issue should be separated out within the HES – essential to have one line per hazard, otherwise you cannot sort out the mitigation.

• LB – it is essential that a note is included to identify what the consequences are of eliminating or reducing a risk – so consideration of any new hazards that may arise can be made – for example the introduction of pre-cast or modular units eliminating cast in-situ.

• Buildability and operation/maintenance must be considered as part of the assessment process considered by a designer when looking to eliminate or reduce a risk. This input is essential in the pre-construction stage.

• Further comments with regard to hazard identification / elimination / reduction included:

o TT - Designers need to improve the recording of their thought process when implementing hazard reduction – better visualisation / pictures will help engagement

o ML - Stats hazard identification and the processes by which we deal with stats need to improve.

o LB - designers not great at designing for health. Designers need the right attitude and need to challenge more. Innovation route should be encouraged - challenge the way we have always done it – we need to capture and account for all changes which may have occurred on a project.

O TB - echoes other points made. Integrated design teams have better visibility of steps to follow. We need to understand how the project will engage with other designers further down the supply chain - need better engagement and more support. Is there consistency across the design community engaged on a project - are they all using the same templates required by HE?

O How can we demonstrate Safety Alerts have been considered and addressed in the HES? – This should be integral with the Design Change Process

O JT - thinks both examples of the HES are good, TW designers look at HES from permanent works designers, details on constructability or access constraints is the information that needs to be communicated. Make it easier to build = safer to build - relates back to the value-added conversation that was had earlier re costs to project long term.

**Issue**

HE specifies stainless steel tying wire which causes multiple issues in practice on site. Annealed wire is better. This is an example of where a minor specification requirement can cause issues on site.

O ETD - advocates use of graphics for communication of residual risks.

O Dust as an example of a hazard which may not be referenced as a main risk as it is part of many activities.

O EF - the two examples of the HES have slightly different approaches in terms of risks and complex, unusual, unlikely to be obvious to a competent contractor. However, there is value in identifying the lower level risks if they are frequent in nature, even if maybe slightly isolated on the project in question. But as a community they will be very frequent.

O NK - Safety Alert - looking for the gaps! i.e. like Barry O'Driscoll mentioned. Potential move to PowerAPPs format.

O JM – Key to capture all O&M risks as well as risks present in the construction phase.

O DG – we need to move towards electronic hazard identification. Secondly, DG feels that the approach is a sticking plaster to the main issue of designer competency.

O Huge gap of SKATE in the designer community. Designer training should include targets to encourage new designers to think about the risk exposure.

O PS - reduce the total amount of site work (e.g. through modular off-site construction) = reduction in the quantum of site risk.

O RS (Jacobs) - uses a similar HES schedule. Not keen on risk matrix being numerical. Struggles to get meaningful input into the spreadsheet. GIS approach being introduced to pinpoint a location and add H&S data as part of the asset tagging.

O RW - Large spreadsheets are not easy to manage. Contractors need to use this information to produce SSOW. This must be born in mind when communicating residual risks and the fact that the final person that the info needs to be communicated to are the site operatives. Is it sufficient? Is it understandable? Network Rail use Life Saving Rules (JM to provide) pictograms to append to the residual risks. There doesn't seem to be any significant evidence of learning being transferred between schemes - communication and capture of lessons learned needs to improve.

O MS - not keen on numerical matrix for assessing risk. Uses the 5 steps to RA. Desire to use BIM to provide good information but constrained by quality of info to input into the model - i.e. stats. Danger of giving false security with the information provided.

O RW - Learning from other projects needs to be shared. KISS principle - Keep It Simple, complex filing systems sometimes make the audit trail extremely difficult when previous decisions and assumptions are sought on the projects. Simple consistent approaches are required.

 O NK - Design change needs to be captured at all stages of the project. Design change occurs frequently in the construction phase and can often introduce new hazards which need to be reviewed. The HES process needs to be managed on site

O LB - Professor Oliver Broadbent of Thinkup! <https://thinkup.org/> Provides training for Designers. LB to provide a contact email. LB suggested it was worth working with Oliver to develop training material for designers. LB felt that the numerical matrix is a useful tool to gauge low frequency, high impact event as they need to be handled slightly different. Use the Safety Alert process to stress test your processes and procedures to see what changes need to be made.

Use different vocabulary to challenge designers and encourage onboarding of health issues.

**Actions**

1. PS to review the meeting notes regarding risk management –

 a. PS will create a summary of key issues and develop next steps for normal risk management.

2. There will be a review of future developments in risk management including GIS and DRA approach

• RW - Thanked everyone for their input to the meeting, sharing ideas and thoughts and for being open and honest.