

**General Note:**

During the design stages of a project, designers are required to maintain a “**Hazard Elimination Checklist**” (part B of this document). The ‘checklist’ records the various significant (high risk) hazards identified by the designer(s) and, where they have been able, details of how they have been eliminated.

It is recognised that not every hazard can be ‘designed out’ and therefore the checklist will also be used to record the residual risks of which the designer(s) are aware.

The checklist provides an audit trail of the design process and may also be used as evidence in the event that a designer is required to defend his or her actions in any HSE investigation.

Copies of parts A and B should be passed to all members of the project team, especially the Principal Designer. Reference must also be made to GG104 Requirements for safety risk assessment.

**Part A: Designer’s Hazard Checklist**

<b>Project Title:</b>	A303 Newcott EB & WB 237.1-239.3	<b>Kier Highways Job No.:</b>	570122D
<b>Project Description:</b>	Coring, DCP and PAK testing of carriageway for Pavement VM requirements		
<b>Design Discipline:</b>	Highways		
<b>Project Type as determined by GG104 (if applicable)</b>	A	<b>Prepared By:</b>	██████

**Notes:**

1. This section of the document includes a list of potential hazards pertaining to a wide range of situations which may occur across Kier Highways’ activities. *Where particular categories do not ordinarily affect the scheme, **Part A should be edited/sections deleted to more accurately reflect the work carried out.***
2. An individual item or a whole section (by ticking the heading) can be noted as not applicable showing you have considered the hazard area and judged it to be not applicable.
3. The list of potential hazards is not exhaustive, and all sections can be added to, or additional sections added, as required. Reference to the Approved Code of Practice may be helpful.
4. All items considered by the designer as having a potential high risk must be addressed on the ‘Hazard Elimination Management Schedule’. Low risk activities can also be included if considered appropriate.
5. Consideration must be given to all populations that may be affected as follows -

<b>Population 1</b> – People directly employed by the Client and who work on the site e.g. Traffic Officers.	<b>‘Workers’</b>
<b>Population 2</b> – People in a contractual relationship with the client.	
<b>Population 3</b> – Other parties, including road users, the police and emergency services and non-motorised ‘Users’ such as equestrians, cyclists and pedestrians, as well as those others not in a contractual relationship with the client, such as privately contracted vehicle recovery and vehicle repair providers.	<b>‘Users’</b>
<b>Population 4</b> – Third parties includes any person or persons who could be affected by the works, but who are neither using it, nor working on it, i.e. living or working adjacent to the site.	<b>‘Other Parties’</b>



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Author: Highways CDM Team	Date: October 2018	Version: 1.0
As part of our systems review, this document is valid until: April 2021		



Potential Hazards Arising From:		Risk (without designer's elimination / management measures)			Comments
Ref:		Not Applicable	Low- NO Action Required	High – Action NEEDED	
1.	<b>Existing Environment</b>	✓			
1.1	Existing buildings	✓			
1.2	Previous/existing land/ structures		✓		HE structure ID 11710 retaining wall near MP 237.7 – no work nearby
1.3	Roadways		✓		Working near live traffic at night in an unlit, rural area.
1.4	Railways	✓			
1.5	Water course	✓			
1.6	Ground conditions:	✓			
	• Contamination				
	• Ground water				
	• Instability				
	• Mineral / mine workings				
1.7	Access restrictions		✓		Adjacent properties within 100m of works potentially affected by road closure. TTRO will require residents have access to properties.
1.8	Adjacent properties		✓		Adjacent properties within 100m of works potentially affected by noise disturbance.
1.9	Concurrent site activities		✓		No information has been supplied by the client about any proposed concurrent site activities.
1.10	Interface with the public		✓		Fully complaint Chapter 8 TM will be required
1.11	Occupied premises		✓		Adjacent properties within 100m of works potentially affected by road closure. TTRO will require residents have access to properties.
1.12	Structural instability	✓			
1.13	Fragile materials	✓			
1.14	Hazardous materials			✓	Potential hazardous materials from coring operations.

Potential Hazards Arising From:		Risk (without designer's elimination / management measures)			Comments
Ref:		Not Applicable	Low- NO Action Required	High – Action NEEDED	
1.15	Land use		✓		Mainly agricultural, some adjacent properties.
1.16	Traffic		✓		Live carriageway throughout scheme extents. Works to be carried out under full road closures.
1.17	Others (insert as necessary)				
<b>2.</b>	<b>Existing Services</b>				
2.1	Underground				
	<ul style="list-style-type: none"> <li>Electrical</li> </ul>			✓	Underground electrical cables are present in lay-by Section ref 7025A303/98. Please consult enclosed Statutory Undertaker plans. These should not be affected by the proposed works.
	<ul style="list-style-type: none"> <li>Gas</li> </ul>	✓			
	<ul style="list-style-type: none"> <li>Water (Asbestos pipes?)</li> </ul>		✓		Water apparatus is present throughout the site. Please consult enclosed Statutory Undertakers Plans. These should not be affected by the proposed works.
	<ul style="list-style-type: none"> <li>Telecommunications</li> </ul>		✓		Virgin Media and BT apparatus are present throughout the site. Please consult enclosed Statutory Undertakers plans. All areas of proposed coring/DCP testing to be CAT and Genny scanned prior to excavation starting.
	<ul style="list-style-type: none"> <li>Others (insert as necessary)</li> </ul>				
2.2	Overhead Services				
	<ul style="list-style-type: none"> <li>Electrical</li> </ul>			✓	Electrical O/H lines located within

Potential Hazards Arising From:		Risk (without designer's elimination / management measures)			Comments
Ref:		Not Applicable	Low- NO Action Required	High – Action NEEDED	
					scheme extents. . Please consult enclosed Statutory Undertaker plans However, these are not affected by the survey works
	<ul style="list-style-type: none"> <li>Telecommunications</li> </ul>		✓		BT O/H lines located within scheme extents. However, these are not affected by the survey works
	<ul style="list-style-type: none"> <li>Others (insert as necessary)</li> </ul>	✓			
<b>3.</b>	<b>Earthworks</b>	✓			
3.1	Deep excavations				
3.2	Slope / ground stability				
3.3	Ground water / water courses				
3.4	Plant movements				
3.5	Interface with services (refer 2)				
3.6	Contamination (ground / water) (refer 1.6)				
3.7	Adjacent structures (refer 1.8)				
3.8	Others (insert as necessary)				
<b>4.</b>	<b>Foundations</b>				
4.1	Adjacent buildings/structures		✓		HE structure ID 11710 retaining wall near MP 237.7 – no work nearby
4.2	Deep excavations	✓			
4.3	Plant movements	✓			
4.4	Interface with services	✓			
4.5	Contamination (ground / water)	✓			
4.6	Ground water	✓			
4.7	Confined spaces	✓			
4.8	Piling:	✓			
	<ul style="list-style-type: none"> <li>Noise</li> <li>Vibration</li> <li>Contamination</li> <li>Plant</li> </ul>				
4.9	Grouting:	✓			

Potential Hazards Arising From:		Risk (without designer's elimination / management measures)			Comments
Ref:		Not Applicable	Low- NO Action Required	High – Action NEEDED	
	• Drilling work				
	• Dust				
	• Pollution				
4.10	Stability of structure	✓			
4.11	Others (insert as necessary)				
<b>5.</b>	<b>Services Installation</b>	✓			
5.1	Excavations				
5.2	Ground water				
5.3	Ground conditions				
5.4	Existing services				
5.5	Testing operations				
5.6	Lifting operations				
5.7	Adjacent structures / activities				
5.8	Maintenance				
5.9	Contamination				
5.10	Others (insert as necessary)				
<b>6.</b>	<b>Drainage Works</b>	✓			
6.1	Excavations				
6.2	Ground water				
6.3	Ground conditions				
6.4	Confined spaces				
6.5	Leptospirosis / Weils disease				
6.6	Existing services (asbestos pipes?)				
6.7	Manual handling				
6.8	Lifting operations				
6.9	Maintenance				
6.10	Sewage				
6.11	Traffic				
6.12	Contamination (ground / water)				
6.13	Hepatitis B / Tetanus				
6.14	Others (insert as necessary)				
<b>7.</b>	<b>Highways</b>				

Potential Hazards Arising From:		Risk (without designer's elimination / management measures)			Comments
Ref:		Not Applicable	Low- NO Action Required	High – Action NEEDED	
7.1	Traffic management			✓	Full road closure required to undertake works.
7.2	Adjacent traffic			✓	Traffic from adjacent properties entering and exiting during road closure. Banksmen needed.
7.3	Construction materials			✓	Potential hazardous materials from coring operations. AAP to be consulted before works commence
7.4	Structural works	✓			
7.5	Adjacent structures		✓		HE structure ID 11710 retaining wall near MP 237.7 – no work nearby
7.6	Noise		✓		Works at night. Working adjacent to live traffic.
7.7	Vibration		✓		Works at night. Working adjacent to live traffic.
7.8	Coal TAR in pavement			✓	Potential hazardous materials from coring operations.
7.9	Others (insert as necessary)				
<b>8.</b>	<b>Steelwork Construction</b>	✓			
8.1	Working at height				
8.2	Lifting operations				
8.3	Temporary stability				
8.4	Connections				
8.5	Unusual sequence				
8.6	Materials, e.g. paints				
8.7	Consideration of future maintenance				
8.8	Others (insert as necessary)				
<b>9.</b>	<b>Concrete Construction</b>	✓			
9.1	Working at height				
9.2	Plant restrictions				
9.3	Lifting operations				
9.4	Noise				
9.5	Vibration				

Ref:	Potential Hazards Arising From:	Risk (without designer's elimination / management measures)			Comments
		Not Applicable	Low- NO Action Required	High – Action NEEDED	
9.6	Temporary instability				
9.7	Pre/post tensioning				
9.8	Materials				
9.9	Maintenance				
9.10	Joints (scabbling should not be undertaken)				
9.11	Others (insert as necessary)				
<b>10.</b>	<b>Masonry Construction</b>	✓			
10.1	Manual handling				
10.2	Lifting operations				
10.3	Materials				
10.4	Temporary stability				
10.5	Working at height				
10.6	Dust				
10.7	Durability				
10.8	Catastrophic collapse				
10.9	Others (insert as necessary)				
<b>11.</b>	<b>Timber Construction</b>	✓			
11.1	Materials				
11.2	Working at height				
11.3	Temporary stability				
11.4	Lifting operations				
11.5	Manual handling				
11.6	Fire				
11.7	Dust				
11.8	Others (insert as necessary)				
<b>12.</b>	<b>Cladding</b>	✓			
12.1	Lifting operations				
12.2	Manual handling				
12.3	Maintenance / cleaning				
12.4	Others (insert as necessary)				
<b>13.</b>	<b>Glazing</b>	✓			
13.1	Manual handling				

Potential Hazards Arising From:		Risk (without designer's elimination / management measures)			Comments
Ref:		Not Applicable	Low- NO Action Required	High – Action NEEDED	
13.2	Lifting operations				
13.3	Cleaning / maintenance				
13.4	Others (insert as necessary)				
<b>14.</b>	<b>Mechanical/Electrical Systems</b>	✓			
14.1	Access				
14.2	Existing services (asbestos?)				
14.3	Manual handling				
14.4	Materials / substances				
14.5	Confined spaces				
14.6	Pressure systems				
14.7	Testing operations				
14.8	Fixings				
14.9	Working at height				
14.10	Maintenance				
14.11	Others (insert as necessary)				
<b>15.</b>	<b>Railway Activities</b>	✓			
15.1	Train movements				
15.2	Overhead lines				
15.3	Electrified track				
15.4	Underground services				
15.5	Adjacent structures				
15.6	Ground stability				
15.7	Contamination				
15.8	Others (insert as necessary)				
<b>16.</b>	<b>Demolition of Existing Structures</b>	✓			
16.1	Services				
16.2	Adjacent / adjoining structures				
16.3	Materials:				
	<ul style="list-style-type: none"> <li>Hazardous i.e. asbestos in permanent shuttering, waterproofing to bridge decks, joints etc.</li> <li>fragile</li> </ul>				
16.4	Working at height				

Potential Hazards Arising From:		Risk (without designer's elimination / management measures)			Comments
Ref:		Not Applicable	Low- NO Action Required	High – Action NEEDED	
16.5	Temporary stability				
16.6	Pre/post tensioning				
16.7	Noise				
16.8	Vibration				
16.9	Dust				
16.10	Effect on usage of demolition materials				
16.11	Others (insert as necessary)				
17.	<b>Future Demolition / decommissioning of new structure/installation</b>	✓			
17.1	Unusual sequence				
17.2	Pre/post tensioned element				
17.3	Materials				
17.4	Adjacent/adjoining structure				
17.5	Temporary stability				
17.6	Contamination during usage of demolition material.				
17.7	Others (insert as necessary)				
18.	<b>Maintenance and Operation of Facility / Structure etc.</b>	✓			
18.1	Access				
18.2	Safety equipment				
18.3	Testing / inspection				
18.4	Procedure				
18.5	Contamination during usage of demolition material.				
18.6	Others (insert as necessary)				
19.	<b>Use of the structure as a workplace</b>	✓			
19.1	Does the proposed use of the structure / premises include the intention for it to be made available to any person as a place of work				
19.2	If yes; the design and materials used must take in to account the provisions of the Workplace (Health, Safety and Welfare) Regulations 1992				

**Part B: Hazard Elimination Checklist**

<b>Project Title:</b>	A303 Newcott EB & WB 237.1-239.3		<b>Kier Highways Job No.:</b>	570122D	
<b>Project Description:</b>	Coring, DCP and PAK testing of carriageway for Pavement VM requirements				
<b>Design Discipline:</b>	Highways	<b>Prepared By:</b>	P Rees	<b>Checked By:</b>	M Owen

**Note: If GG104 applies to your contract, the checklist must be approved by an appropriate person: For a Type A project the Scheme PD must approve, for a Type B projects the Senior Manager must approve and for a Type C project the Kier Highways Service Director must approve.**

Reviewed and approved by:

<b>Name</b>	[Redacted]
<b>Signature</b>	[Redacted]
<b>Position</b>	[Redacted]

\* **Persons at Risk: (1) Workers** Other parties

\*\* **Action by:**  
 Principal Designer – Include within the H&S file  
 Designer – include in the pre-construction information  
 Principal Contractor – manage risk during the construction phase  
 Other designer – take into consideration when preparing their designs  
 Client – pass information to designers / Principal designer

Ref.	Activity	Hazard	Persons at Risk *	Design Measures taken, or being taken to eliminate or reduce the hazard	Information on the Residual Risk	Principal Designer Review	Action Req'd by: **
1.	Working adjacent to / within live carriageway.	Operatives / plant struck by moving vehicles	Workers	Use of appropriate traffic management to provide safe working zone and enforce lane and/or complete closure of carriageway for duration of works or work element.		No further comment.	PC



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Author: Highways CDM Team	Date: October 2018	Version: 1.0
As part of our systems review, this document is valid until April 2021		



Ref.	Activity	Hazard	Persons at Risk *	Design Measures taken, or being taken to eliminate or reduce the hazard	Information on the Residual Risk	Principal Designer Review	Action Req'd by: **
2.	Night-time working	Operatives / plant struck by moving vehicles	Workers & users	Where HE restrictions dictate night-time working the scheme steward shall ensure adequate shielded task lighting is provided for the duration of the works and that it does not cause undue glare to residents and road users.		No further comment.	PC
3.	Traffic Management	Alignment. Risk of loss of control accidents due to temporary alignment changes leading to personal injury / fatalities to operatives and motorists.	Workers	Temporary alignment changes are necessary to install TM arrangements cannot be eliminated. The TM design will minimise the risk to road users. Speed restrictions to be in place. Advanced warning signs to be in place prior to the works. TM to be in accordance with TSM Chapter 8.		No further comment.	PC
4.	Statutory Undertakers Returns	Outdated STATS returns	Workers & users	STATS returns become outdated every 3 months. Prior to works, liaison with the relevant utility companies is again necessary to ensure a current STATS plan is produced.		No further comment.	PC
5.	Hazardous materials from coring operations.	Presence of coal tar.	Workers	Contractor to ensure that all workers wear appropriate PPE at all times during construction works and any tar arisings will be disposed off to licensed tips and in line with the Company policy and the requirements for materials containing tar.		No further comment.	PC
6.	Hand Arm Vibration at Work (HAVS)	Hand Arm Vibration – risk of percussive injury to operatives.	Workers	Working hours for operatives using plant to be restricted as appropriate. Appropriate PPE to be provided and worn.  A detailed method statement is to be produced by the Contractor prior		No further comment.	PC

Ref.	Activity	Hazard	Persons at Risk *	Design Measures taken, or being taken to eliminate or reduce the hazard	Information on the Residual Risk	Principal Designer Review	Action Req'd by: **
				to the works and routinely checked during works operations.			
7.	Dust	Exposure to excessive dust levels	Workers, Users & other parties	<p>Operations that produce dust, shall control exposure not only for the workforce but also all possible groups and not create an environmental nuisance.</p> <p>Dust exposure shall be limited in line with the COSHH 2002 regulations.</p> <p>Where possible water suppression should be used to reduce dust and the extent of exposure to operatives.</p>		No further comment.	PC
8.	Noise	Excessive noise levels from plant / site activities, damage to operative hearing, nuisance to residents	Workers	<p>Proposed survey works are to be undertaken during night time. Residents are located within 100m of planned activities, hence all plant to be fitted with sound suppression devices.</p> <p>A detailed method statement is to be produced by the Contractor prior to the works and routinely checked during works operations. All plant is to be checked prior to use.</p>		No further comment.	PC