

**Report of Director of City Development**

**Report to Executive Board**

**Date: 16 October 2019**

**Subject: Bridgewater Place Wind Monitoring**

Are specific electoral wards affected? If yes, name(s) of ward(s): Beeston and Holbeck, Hunslet and Riverside	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Has consultation been carried out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are there implications for equality and diversity and cohesion and integration?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Will the decision be open for call-in?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the report contain confidential or exempt information? If relevant, access to information procedure rule number: Appendix number:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Summary**

**1. Main issues**

1. The construction of Bridgewater Place Building (“the Building”) was completed in April 2007. The Council had required as a condition of the original planning consent that *“Prior to the construction of the development a detailed assessment of the micro climate including wind tunnel tests shall be carried out and submitted to the Local Planning Authority. The recommendation of the assessment/test shall be incorporated into the design of the development prior to construction.”*

The assessment carried out by BRE Ltd on behalf of the developer concluded that *“the wind conditions are generally acceptable for activities likely to take place around the development (objective business walking, workers around buildings and pedestrian walking)”*.

Notwithstanding, it became apparent shortly after the completion of the building works that the impact of the Building was accelerating wind speeds within its vicinity to the extent that highway users were being placed at risk, or in some cases actually harmed. As these conditions were created by the building and were such as to cause a public nuisance on the highway, the responsibility to ameliorate them and to return the highway to its previous safe condition lay with the Building Owners. Officers immediately started working with the Building owners to identify and ensure the delivery of the optimum solution to ameliorate the wind conditions. Tragically, in March

2011 before this could be achieved, Dr Slaney was killed as a result of a lorry being blown over on to him by a greatly accelerated gust of wind at the junction of Victoria Road and Water Lane.

2. On 3<sup>rd</sup> December 2013 the Deputy Coroner at the Inquest touching the death of Dr Slaney recommended:

*“.....to prevent more loss of life and until such time as mitigation scheme ‘AH’ was delivered by the building owners, Leeds City Council should ensure the junction with Water Lane, Neville Street and Victoria Road is closed to all highway users as soon as wind speeds reach 20 metres per second.”*

3. The Council, sought and acted upon expert advice to develop and implement a “high wind protocol” at this site. Pursuant to this:

- 3.1.1. When wind speeds exceed 35 mph high sided vehicles are diverted from Victoria Road, Neville Street and Water Lane

- 3.1.2. When wind speeds exceed 45 mph a vehicular road closure is implemented and

- 3.1.3. Pedestrians are diverted to walk behind a screen on Victoria Road.

4. On 10 February 2016, Executive Board considered the proposals for the Bridgewater Place Wind Amelioration Scheme (Wind Amelioration Scheme) and an associated Development Agreement which sought to address the identified issues arising from the Building on the surrounding highway.

5. It noted that based on specialist advice received (from Buro Happold acting on behalf of the Building owner and peer reviewed by RWDI acting on behalf of the Council) officers have been advised that the proposed Wind Amelioration Scheme installations *“have been found to be effective in mitigating the local ground level wind speeds as far as practically possible within the confines and restrictions on site”*. It authorised the Council to enter into the Development Agreement to enable the Wind Amelioration Scheme to be installed.

6. The implementation works to install the wind mitigation scheme were completed in summer 2018. A robust programme of wind monitoring and testing following this installation (carried out by Buro Happold and peer reviewed by RWDI) has now been completed and the results reported to Leeds City Council. The wind monitoring has shown that the mitigation has successfully removed the pedestrian safety fail points (measured against the 15m/s criteria of the Lawson criteria) around the junction of Victoria Road / Neville Street / Water Lane.

7. The Council has continued to operate the high winds protocol to ensure that the protective measures implemented around the building remained in place until such time as robust and reliable monitoring of the wind conditions around the modified Building could take place, and to ensure that wind conditions around the building as monitored and modelled were replicated for highway users ‘on the ground’ over a sufficiently lengthy and representational period of time. No complaints or adverse incidents have been recorded since the amelioration scheme works have been completed. Conversely, the Council has received complaints from users of the highway around the Building whose journeys have been disrupted or extended by the diversions created by the high winds protocol.

8. Expert advice in relation to the effectiveness of the Wind Amelioration Scheme received from Buro Happold acting for the Building owner recommends,

*“Based on the Lawson Safety Criteria, the wind mitigation measures have been assessed by wind tunnel, CFD and onsite measurement. In all measurement points along Water Lane and the Victoria Road junction the results indicate that there are no locations that exceed the criteria of 15m/s mean wind speed... this is the limit above which the wind presents a safety risk, especially to more vulnerable members of the public and cyclists”....and ... “we are satisfied that ... the risk to pedestrians, cyclists and therefore vehicles is sufficiently reduced to allow the traffic restrictions to be lifted”.*  
(emphasis added)

This opinion has been peer reviewed and is agreed by RWDI who are the specialist experts instructed to act on behalf of the Council. A robust expert analysis of the modelled conditions supported by evidence of experience of conditions around the Building is therefore now available on which to base decisions to lift the restrictions currently imposed by the high winds protocol. The Executive Summary and Final Summary Wind Report relating to this advice from Buro Happold along with the peer review letter of the Council’s wind advisor RWDI is included in Appendix A to this report.

9. On 10 February 2016 Executive Board further noted that post installation there would be a need for further street level works to be carried out to identify the locations and ameliorate the effects of any “hotspot” areas where (at times of high winds) wind speeds may still exceed safe levels. It noted that the precise extent, nature and location of these works would be identified and agreed based on expert advice following post installation testing by wind experts.
10. Further testing has identified a further three “hotspot” points to the south of the building which fall within privately owned Bridgewater Place land or within the highway. None of these 3 residual hotspot areas have any proximity to or co-relation to the area of highway that is impacted by the high winds protocol.

At these points modelling by Buro Happold has demonstrated that wind speeds could (at times of high winds) exceed those recommended by the Lawson criteria for pedestrian safety. In relation to the hotspot points, two of which fall within privately owned land, one of these is being addressed by a management regime devised and operated by the Bridgewater Place building owners within their service yard access area. The management plan will be implemented as and when conditions require. In relation to the second location on private land within the public realm, further street level structures have been designed to mitigate the localised wind speed. The proposed structures have been tested and modelled; the results demonstrate that effective hotspot amelioration will be achieved by their installation. The owner of Bridgewater Place will apply for planning permission to erect the requisite structures as soon as possible; they will be installed at their cost as soon as possible after the permission has been granted.

11. The third hotspot area identified by the post installation modelling is within the highway and is a marginal Lawson safety fail only both in terms of the maximum wind speeds predicted and in terms of their duration. The location of the fail, Back Row, is a cul de sac which is not heavily used by pedestrians or other highway users. The mitigation which has been designed for this location would have to be installed in the highway, and is disproportionate in scale to the marginal wind conditions exceedance currently

indicated. Further on site testing at this location is to be carried out by Buro Happold on behalf of the Building owner (in a manner approved by RWDI) to verify whether the modelled results do in fact represent the “on the ground” wind conditions. If this testing demonstrates that there is in fact no safety failure then it is proposed that the Council will not require any further action to be taken.

If the testing verifies the marginal failure then it is proposed that rather than require installation of the mitigation scheme in the highway, the conditions at this location should be kept under review with the Council retaining the option to require that amelioration works are carried out at this location at the Building owner’s cost if a need to do so arises.

## **2. Best Council Plan Implications** (click [here](#) for the latest version of the Best Council Plan)

- The recommendations support the priority of improving the city’s transport and digital infrastructure and tackling climate change risks

## **3. Resource Implications**

- The proposed removal of the high winds protocol will remove the need for specialised and bespoke Bridgewater Place wind forecasts to be obtained.
- The current close management of the highways around this site by the Council’s Highways Maintenance Team will no longer be necessary.
- The costs to the Council of these past measures are in the amount of £1.223m They will be recharged to the owners of Bridgewater Place in accordance with the Settlement Agreement reached with full reimbursement being achieved.
- The additional measures proposed will be fully funded by the Developer and will not be a cost to the Council.

## **Recommendations**

Executive Board is requested to:

- a) Note the updated information in relation to the installation and efficacy of the Wind Amelioration Scheme since this matter was last reported upon.
- b) Note the results of the post installation wind monitoring exercise and of the expert advice received thereon
- c) Confirm that on the basis of the expert advice the implementation of the high winds protocol can be stopped on the expiry of the call in period.
- d) Note and support the agreement reached with the owners of Bridgewater Place to seek planning permission and implement the additional structures to ameliorate the wind conditions at the hot spot sites on privately owned land to the south of Bridgewater Place as soon as possible.
- e) Note the minor safety exceedance within the highway at Back Row. Note the further investigations that will be carried out at this location and further note that if this minor safety exceedance remains unmitigated the Council will seek that the Building Owner takes appropriate remedial action .

## **1. Purpose of this report**

- 1.1 To update Executive Board in relation to the wind amelioration scheme that has been carried out subsequent to the approvals that it gave in February 2016;
- 1.2 To request that Executive Board notes the results of the further wind safety testing that has been carried out post installation of the Wind Amelioration Scheme
- 1.3 To request that Executive Board authorises the lifting of the high winds protocol on the basis of the Wind Amelioration Scheme works that have been carried out and on the basis of the peer reviewed independent expert evidence received upon their efficacy.
- 1.4 To update Executive Board in relation to the subsequent agreement achieved in relation to the further works required to ameliorate the hotspots in the private land to the south of Bridgewater Place.
- 1.5 To request that Executive Board notes the minor safety fail in the highway on Back Row; and notes that further investigations will be carried out at this location. It is requested to note that no mitigation will be implemented at this location unless continued monitoring indicates that there is in fact a need for it at this location.

## **2. Background information**

- 2.1 Planning permission for Bridgewater Place was granted in November 2001. The permission imposed a condition that an assessment of the building's impact on the microclimate was carried out and submitted prior to the building being constructed. The assessment carried out on behalf of the developer by BRE Ltd did not identify any unacceptable impacts caused by the proposed building or require any design modifications and concluded that *"the wind conditions are generally acceptable for activities likely to take place around the development (objective business walking, workers around buildings and pedestrian walking)"*. The condition was therefore discharged and the development proceeded without modification.
- 2.2 The building was completed in late 2007. It became apparent shortly thereafter that the Building was having the effect of accelerating wind speeds within its vicinity to the extent that highway users were being placed at risk, or in some cases actually harmed. In January/February 2008 the Council received complaints from local residents and office workers about the severity of the wind conditions being experienced around the building. As these conditions were created by the building and were such as to cause a public nuisance on the highway, the responsibility to ameliorate them and to return the highway to its previous safe condition lay with the Building Owners. Officers immediately started working with the Building owners and took a very robust approach to identify and compel the delivery of the optimum solution to ameliorate the wind conditions. Pending and without prejudice to the outcome of detailed investigations, Leeds City Council (as Highway Authority) implemented interim safety measures which included the installation of pedestrian guardrails, a pedestrian screen, warnings for motorists and "risk of gusty winds" signs for pedestrians.
- 2.3 Tragically, in March 2011 before effective wind mitigation at this site could be achieved, Dr Slaney was killed as a result of a lorry being blown over on to him by a greatly accelerated gust of wind at the junction of Victoria Road and Water Lane.
- 2.4 On 3<sup>rd</sup> December 2013 the Deputy Coroner at the Inquest touching the death of Dr Slaney recommended:

*“.....to prevent more loss of life and until such time as mitigation scheme AH was delivered by the building owners, Leeds City Council should ensure the junction with Water Lane, Neville Street and Victoria Road is closed to all highway users as soon as wind speeds reach 20 metres per second.”*

2.5 In response to this recommendation the Council, sought and acted upon specialist expert advice. It developed and implemented a “high wind protocol” at this site. Pursuant to this:

2.5.1 When wind speeds exceed 35 mph high sided vehicles are diverted from Victoria Road, Neville Street and Water Lane

2.5.2 When wind speeds exceed 45 mph a vehicular road closure is implemented and

2.5.3 Pedestrians are diverted to walk behind a screen on Victoria Road.

2.5.4 To implement this high wind protocol the Council obtained specialised wind forecasts for Bridgewater Place and had highway maintenance staff monitoring the winds when forecasts suggested high winds were expected. In total there were 32 road closures implemented with an additional number of high sided vehicle diversions.

2.5.5 Planning permission for the Wind Amelioration Scheme “AH” which resolved the adverse wind micro climate issues both around the Building and within the adjacent highway was granted on 21<sup>st</sup> November 2014. Construction began on site in January 2017 and concluded during the summer of 2018. It was built and paid for by the owners of the Bridgewater Place building. Within the Agreements negotiated by officers provision was made for extensive and robust on site testing of the post mitigation conditions to be undertaken. A detailed and comprehensive data set of evidence collated by experts instructed by the Building Owner (Buro Happold) and peer reviewed at each stage by experts instructed by the Council (RWDI) is now available. It demonstrates the effectiveness of the installed wind mitigation and the agreed expert evidence recommends that

*“Based on the Lawson Safety Criteria, the wind mitigation measures have been assessed by wind tunnel, CFD and onsite measurement. In all measurement points along Water Lane and the Victoria Road junction the results indicate that there are no locations that exceed the criteria of 15m/s mean wind speed. Based on the Lawson Safety Criteria, this is the limit above which the wind presents a safety risk, especially to more vulnerable members of the public and cyclists” and ...“we are satisfied that ...the risk to pedestrians, cyclists and therefore vehicles is sufficiently reduced to allow the traffic restrictions to be lifted” (emphasis added)*

This advice contains the caveat that,

*“It must be recognised that there is a residual risk, like anywhere in the city that is based on the same Lawson Criteria, where a combination of scenarios could coincide and result in a safety risk and an accident and we cannot warrant that this will not occur”*

2.5.6 The results of the expert testing are supported by the “all seasons” experience of both pedestrian and vehicular highway users since the summer of 2018. Since this time the Council has not received any complaints from highway users who have been affected by the effects of high wind. Conversely, the Council has received negative feedback from vehicle users complaining about its continued operation of the high winds protocol which increases journey times, congestion and expense for

vehicle users. It therefore appears to be the case that there is a high level of assurance of the current wind micro climate conditions around the Building.

- 2.5.7 Further work has been undertaken to identify and ameliorate isolated “hotspots” which remain present within the highway and within privately owned Bridgewater Place land to the south of the building. A further three “hotspot” points to the south of the building which fall within privately owned Bridgewater Place land or within the highway have been identified. (None of these 3 residual hotspot areas have any proximity to or co-relation to the area of highway that is impacted by the high winds protocol.) At these points modelling has demonstrated that wind speeds could (at times of high winds) exceed those recommended by the Lawson criteria for pedestrian safety. In relation to the hotspot points which fall within privately owned land, these are being addressed by a management regime devised and operated by the Bridgewater Place building owners. The management plan will be implemented as and when conditions require. In relation to the highway, further street level structures have been designed to mitigate the localised wind speed in one of the two hotspot areas. The proposed structures have been tested and modelled; the results (which have been agreed by the Council’s independent expert) demonstrate that effective hotspot amelioration will be achieved by their installation. The owner of Bridgewater Place will apply for planning permission to erect the requisite structures as soon as possible. They will be installed as soon as possible after the permission being granted.
- 2.5.8 The third hotspot area identified by the post installation modelling is a marginal Lawson safety fail only both in terms of the maximum wind speeds predicted and in terms of their duration. On site testing is to be carried out to verify whether the modelled marginal fail projections are in fact verified by the “on the ground” conditions. If this testing demonstrates that this area is not in fact a safety fail then it is proposed that no further amelioration will be required at this location.

The location of the fail, Back Row, is a cul de sac which is not heavily used by pedestrians. The mitigation which has been designed for this location would have to be installed in the highway, and is disproportionate in scale to the marginal wind conditions exceedance. If the on site testing does confirm a marginal wind exceedance at this location it is proposed that this scheme is not installed at this time and that the conditions at this location are kept under review with the Council retaining an option to require that amelioration works are carried out at this location at the Building Owner’s cost if a need to do so arises. This approach is agreed as being appropriate by the Council’s own independent wind expert.

## **2 Main issues**

- 3.1 The high wind protocol has remained in place following the completion of the Wind Amelioration Scheme to enable the post installation wind monitoring to be completed and reported to Leeds City Council. This wind monitoring and modelling has now been completed and has shown that the installation of the Scheme has significantly improved the pedestrian wind environment around the Victoria Road / Neville Street / Water Lane junction. There are no remaining pedestrian safety fail points identified at this location.
- 3.2 Officers have taken and relied upon expert analysis, interpretation and advice on the post installation site test results. The advice received from the experts retained

by the owners of Bridgewater Place which has been peer reviewed and validated by an independent expert retained by the Council is to the effect that

*“the mitigations have improved the wind environment around the building, at ground level, to a safe level of wind speed.....Based on the Lawson Safety Criteria, the wind mitigation measures have been assessed by wind tunnel, CFD and onsite measurement in all measurement points along Water Lane and the Victoria Road junction. The results indicate that there are no locations that exceed the criteria of 15m/s mean wind speed. This is the limit above which the wind presents a safety risk, especially to more vulnerable members of the public and cyclists.*

*In the absence of accredited principles for wind speed for vehicles, assumptions have been made on the basis that those appropriate for cyclists are also appropriate for vehicles.*

*As this meets the requirement required for any planning application in the City, we are satisfied that the risk to pedestrians, cyclists and therefore vehicles is sufficiently reduced to allow the traffic restrictions to be lifted”*

3.3 The advice contains the caveat that,

*“It must be recognised that there is a residual risk, like anywhere in the city that is based on the same Lawson Criteria, where a combination of scenarios could coincide and result in a safety risk and an accident, and we can not warrant that this will not occur”.*

3.4 The expert analysis of the wind conditions carried out on behalf of the Building Owners and the conclusions drawn from them has been peer reviewed at each stage by an independent wind analyst expert retained to act on behalf of the Council. The recommendations made on behalf of the Building Owner are agreed by the expert acting on behalf of the Council. Their respective summary advices are attached at Appendix A.

3.5 On the basis of this advice, it is recommended that the high wind protocol pursuant to which high sided vehicles are diverted, and on occasions the roads are totally closed to vehicles is no longer necessary.

3.6 Notwithstanding the above, it is suggested that the pedestrian guard railing; pedestrian screen on the eastern side of Victoria Road; electronic vehicle sign and the road signage for pedestrians and cyclists warning of ‘risk of gusty wind’ are retained for a further 3-5 years to provide an additional precautionary safeguard to be reviewed thereafter.

3.7 With regard to the residual hotspot areas where testing and modelling have demonstrated isolated failure points within the highway and privately owned Bridgewater Place land to the south of the building, it is recommended that

(i) The agreement of the Building Owners to obtain planning permission and



install additional screens as soon as possible is noted and supported;

- (ii) The agreement of the Building Owners to develop and implement a management plan to mitigate the wind exceedance on their own land is noted and supported;
- (iii) The agreement to continue to monitor the marginal wind exceedance on Back Row and to require the Building Owner to install additional wind mitigation features at this site if wind conditions require this measure is noted and supported

## **4 Corporate considerations**

### **4.1 Consultation and engagement**

- 4.1.1 Executive Board last considered this matter on 10 February 2016 when it noted the nature and extent of the principal Wind Amelioration Scheme, the consequential testing and the hotspot works that would be carried out. Due to the unique and high profile nature of the issues presented by the Bridgewater Place Building it is appropriate that this matter is now referred back to Executive Board.
- 4.1.2 The Executive Member was briefed on the report on 9 September. Ward Members: Councillors for Beeston and Holbeck, and Hunslet and Riverside Wards were consulted by email on 11 September.
- 4.1.3 External Consultation: The proposals detailed in this report have been prepared in consultation and agreement with the owners of Bridgewater Place. An appropriately qualified and independent Wind Analyst has undertaken the testing and modelling work which has been peer reviewed by a further independent expert on behalf of the Council. No further consultation has been undertaken.
- 4.1.4 Internal Consultation: Relevant officers within the Council have been consulted and have reviewed the test results, analysis and advice and the recommendations for further hotspot works.

### **4.2 Equality and diversity / cohesion and integration**

- 4.2.1 The Council has taken account of all users of the highway around the Bridgewater Place site including the elderly and frail by adopting the pedestrian safety criteria that is relevant to all.

### **4.3 Council policies and the Best Council Plan**

- 4.3.1 These proposals are in accordance with Council Policies and City Priorities of improving the city's transport and digital infrastructure and tackling climate change risks and keeping people safe from harm and promoting community respect and resilience.

#### 4.3.2 Climate Emergency

4.3.3 The area around Bridgewater Place has suffered from high winds which were greatly exacerbated by the Building. High wind conditions are a forecast feature of climate change. Cutting edge and innovative mitigation structures have been designed and implemented to ensure that the effects of wind in this location are safely managed and that this location within the City is resilient and protected from these conditions.

#### **4.4 Resources, procurement and value for money**

4.4.1 The removal of the high wind protocol will remove the need for specialised Bridgewater Place wind forecasts and for close management of the wind by the Council's Highway Maintenance Team.

4.4.2 The Council has incurred £1.223m in monitoring, managing and implementing the high winds protocol. All costs incurred will be re-charged to the owners of Bridgewater Place in accordance with the Settlement Agreement reached and full reimbursement will be achieved.

#### **4.5 Legal implications, access to information, and call-in**

4.5.1 Agreement to the recommendations of this report is being sought on the basis of the robust testing, analysis and a strong body of peer reviewed independent expert evidence based on modelled, tested and peer reviewed data; and 'on all-seasons on the ground' experience of the mitigated Building. The recommendations made within this report are fully supported by and entirely in accordance with the specialist independent expert advice received from two highly respected and specialist consultancies of international repute. On this basis and for these reasons, it is recommended that the Council has a reliable and robust basis on which to place reliance and on which to safely base its decisions.

4.5.2 Agreement to the recommendations of this report is in accordance with the Section Agreement negotiated with the Building Owner

4.5.3 The decision is a key decision and as such is eligible for call in.

#### **4.6 Risk management**

4.6.1 The Wind Amelioration Scheme was completed in the summer of 2018. Since that date there have been no complaints from members of the public or highway users due to the adverse impacts of wind speeds in this location.

4.6.2 The wind testing and modelling undertaken has confirmed that "the mitigations have improved the wind environment around the building at ground level to a safe level of wind speed" based on the Lawson Safety Criteria.

4.6.3 There remains a residual risk that "a combination of scenarios could coincide and result in an accident", but the test results and advice received all confirm that the conditions around Bridgewater Place have been returned to those of safety for highway users.

4.6.4 An agreement has been reached with the building owners to obtain planning permission and implement localised wind amelioration measures on their own land

to the south of Bridgewater Place as soon as possible to protect the safety of pedestrians accessing it.

- 4.6.5 A minor safety fail within the highway at Back Row will continue to be monitored and significant further mitigation implemented only if required.

## **5 Conclusions**

- 5.1 The implementation of the Wind Amelioration Scheme around Bridgewater Place has been completed and is working as expected around the Victoria Road / Neville Street / Water Lane junction. All pedestrian safety fail points have been removed from the junction and on Water Lane. The high wind protocol is therefore no longer required.
- 5.2 There are three remaining pedestrian safety fail points to the south of the building which fall within the highway and privately owned Bridgewater Place land which require further mitigation. An agreement has been made with the building owner who will apply for planning permission to install bespoke and specially designed porous screens and complete their installation as soon as possible after each permission has been granted to remove one safety fail point within privately owned public realm land. A second safety fail point within the access to the service yard will be dealt with by a management arrangement to prevent public access. The third fail point is a marginal safety fail within the highway and this will be tested further and monitored to see if mitigation is required in future.

## **6 Recommendations**

- 6.1 Executive Board is requested to:
- i) Note the updated information in relation to the installation and efficacy of the Wind Amelioration Scheme since this matter was last reported upon.
  - ii) Note the results of the post installation wind monitoring exercise and of the expert advice received thereon
  - iii) Confirm that on the basis of the expert advice the implementation of the high winds protocol can be stopped on the expiry of the call in period.
  - iv) Note and support the agreement reached with the owners of Bridgewater Place to seek planning permission and implement the additional structures to ameliorate the wind conditions at the hot spot sites on privately owned land to the south of Bridgewater Place as soon as possible.
  - v) Note the minor safety exceedance within the highway at Back Row. Note the further investigations that will be carried out at this location and further note that if this minor safety exceedance remains unmitigated the Council will seek that the Building Owner takes appropriate remedial action

## **7 Background documents<sup>1</sup>**

- 7.1 None.

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<sup>1</sup> The background documents listed in this section are available to download from the council's website, unless they contain confidential or exempt information. The list of background documents does not include published works.

## **8 Appendices**

- 8.1 Appendix A - Executive Summary and Final Summary Wind Report, Buro Happold supported by the peer review of RWDI.