

AGENDA

Development Control Committee

Monday, 18 August 2014 AT 10:00

In the Council Chamber, Civic Centre, Carlisle, CA3 8QG

SPECIAL MEETING

Apologies for Absence

To receive apologies for absence.

Public and Press

To agree that the items of business within part A of the agenda should be dealt with in public and the items of business within Part B of the agenda should be dealt with in private.

Declarations of Interest

Members are invited to declare any disclosable pecuniary interests, other registrable interests and any interests, relating to any items on the agenda at this stage.

PART A

To be considered when the Public and Press are present

A.1 CONTROL OF DEVELOPMENT AND ADVERTISING

To consider applications for:

- (a) planning permission for proposed developments
- (b) approval of detailed plans
- (c) consents for display of advertisements

10/1116

**3 -
412**

PART B

To be considered when the Public and Press are excluded from the meeting

Members of the Development Control Committee

Conservative – Bloxham, Earp, Mrs Parsons, Mrs Prest, Bowman S (sub), Collier (sub), Nedved (sub)

Labour – Mrs Bradley, Caig, McDevitt, Ms Patrick, Scarborough (Chairman), Mrs Warwick (Vice Chairman), Wilson, Bowditch (sub), Cape (sub), Mrs Stevenson(sub)

Liberal Democrat - Gee, Allison (sub)

**Enquiries, requests for reports, background papers,
etc to Committee Clerk: Sheila Norton - 817557**

Development Control Committee Main Schedule

Schedule of Applications for Planning Permission

18th August 2014

The Schedule of Applications

This schedule is set out in five parts:

SCHEDULE A - contains full reports on each application proposal and concludes with a recommendation to the Development Control Committee to assist in the formal determination of the proposal or, in certain cases, to assist Members to formulate the City Council's observations on particular kinds of planning submissions. In common with applications contained in Schedule B, where a verbal recommendation is made to the Committee, Officer recommendations are made, and the Committee's decisions must be based upon, the provisions of the Development Plan in accordance with S54A of the Town and Country Planning Act 1990 unless material considerations indicate otherwise. To assist in reaching a decision on each planning proposal the Committee has regard to:-

- relevant planning policy advice contained in Government Circulars, National Planning Policy Guidance Notes, Development Control Policy Notes and other Statements of Ministerial Policy;
- the adopted provisions of the North West of England and Regional Spatial Strategy to 2021 and Cumbria and Lake District Joint Structure Plan;
- the City Council's own statement of approved local planning policies including the Carlisle District Local Plan;
- established case law and the decisions on comparable planning proposals
- including relevant Planning Appeals.

SCHEDULE B - comprises applications for which a full report and recommendation on the proposal is not able to be made when the Schedule is compiled due to the need for further details relating to the proposal or the absence of essential consultation responses or where revisions to the proposal are awaited from the applicant. As the outstanding information and/or amendment is expected to be received prior to the Committee meeting, Officers anticipate being able to make an additional verbal report and recommendations.

SCHEDULE C - provides details of the decisions taken by other authorities in respect of those applications determined by that Authority and upon which this Council has previously made observations.

SCHEDULE D - reports upon applications which have been previously deferred by the Development Control Committee with authority given to Officers to undertake specific action on the proposal, for example the attainment of a legal agreement or to await the completion of consultation responses prior to the issue of a Decision Notice. The Reports confirm these actions and formally record the decision taken by the City Council upon the relevant proposals. Copies of the Decision Notices follow reports, where applicable.

SCHEDULE E - is for information and provides details of those applications which have been determined under powers delegated by the City Council since the previous Committee meeting.

The officer recommendations made in respect of applications included in the Schedule are intended to focus debate and discussions on the planning issues engendered and to guide Members to a decision based on the relevant planning considerations. The recommendations should not therefore be interpreted as an intention to restrict the Committee's discretion to attach greater weight to any planning issue when formulating their decision or observations on a proposal.

If you are in doubt about any of the information or background material referred to in the Schedule you should contact the Development Management Team of the Planning Services section of the Economic Development Directorate.

This Schedule of Applications contains reports produced by the Department up to the 04/08/2014 and related supporting information or representations received up to the Schedule's printing and compilation prior to despatch to the Members of the Development Control Committee on the 06/08/2014.

Any relevant correspondence or further information received subsequent to the printing of this document will be incorporated in a Supplementary Schedule which will be distributed to Members of the Committee 5 working days prior to the day of the meeting.

SCHEDULE A

SCHEDULE A

Applications Entered on Development Control Committee Schedule

Item No.	Application Number/ Schedule	Location	Case Officer	Page No.
01.	10/1116 A	Carlisle Lake District Airport, Carlisle, Cumbria CA6 4NW	<u>ARH</u>	*

10/1116

Date of Committee:

Parish:
Irthington

Ward:
Stanwix Rural

Location: Carlisle Lake District Airport, Carlisle, Cumbria CA6 4NW

Proposal: Erection Of A Distribution Centre (Inclusive Of Air Freight And Road Haulage, And Including Integrated +3 °C Chiller Chamber, +12°C Chiller Chamber, Workshop And Offices)(Use Classes B1 And B8), Gatehouse, Canteen/Welfare Facilities, Landscaping, New Access, Parking And Other Infrastructure Works (Such As Auxiliary Fire Station, Package Sewage Treatment Works, Fire Sprinkler System And Electrical Substation) And Raised And Re-Profiled Runway 07/25

26 Week Determination

Case Officer: Angus Hutchinson

The application has been considered afresh by officers in the light of advice from APD Ltd aviation consultants and recent case law. It is now considered that the proposed FDC accords with Proposal EC22 and the development plan as a whole. For the reasons more fully set out in the Conclusion section of this report the recommendation is to approve subject to conditions and a Section 106 Agreement.

- 1) Members accept and adopt the River Eden SAC, and Upper Solway Flats & Marshes SPA Appropriate Assessments (July 2014).

2) .Approval subject to:

a) The completion of a Section 106 Agreement covering:

i) Travel Plan obligations requiring: payment of a Travel Plan Bond to the Cumbria County Council as the Highway Authority calculated by using the cost of an annual Cumbria Mega rider Gold ticket multiplied by the proposed reduction in the number of

employee commuting trips multiplied by 5 years; the applicant designating a Travel Plan Co-ordinator to carry out annual monitoring and reporting of results to the County Council; the payment of £2725 per year for 5 years in respect of County Council staff; and the setting up of a Steering Group to oversee the frequency of the shuttle bus service; and

- ii) The payment of £100,000 in order to enable the undertaking of a habitat mitigation scheme to benefit breeding waders.

- b) The imposition of the identified conditions.

2. Main Issues

- 2.1 Whether and to what extent the application accords with the Development Plan;
- 2.2 To what extent the application and the relevant development plan policies accord with the Framework/ NPPF;
- 2.3 Highway network/safety;
- 2.4 Greenhouse gas emissions inclusive of the proposed Travel Plan/likely means of travel;
- 2.5 Impact on air quality and odour;
- 2.6 Noise;
- 2.7 Landscape and Visual impact (inclusive of the setting of Hadrian's Wall);
- 2.8 Ecology and nature conservation/biodiversity;
- 2.9 Archaeology;
- 2.10 Air safety including bird strike; and
- 2.11 Socio-economic impact (inclusive of the prospect of commercial aviation).

3. Application Details

The Site

- 3.1 Carlisle Airport lies approximately 8.5kms north-east of Carlisle and about 3.5kms west of Brampton and has a current operational area of approximately 176 hectares. The southern boundary of the Airport has a frontage onto the A689 that links the A69 west of Brampton to Junction 44 of the M6 at Kingstown on the northern fringe of Carlisle. The western, northern and eastern boundaries of the Airport front onto the minor roads serving the hamlet at Oldwall, and the villages of Laversdale and Irthington.
- 3.2 The Airport originally commenced use in 1941 as a wartime training base for pilots and was known as RAF Crosby-on-Eden. It currently comprises three asphalt runway strips, namely the principal instrument runway 07/25 (which is 1837 metres long); a small visual only runway 01/19 (938 metres in length) which has a north-south axis but with no lighting; and 13/31 which is disused and orientated south-east to north-west. The associated linking taxiways, aprons and hard standings/dispersals ("spectacles") also vary in condition. Work undertaken by Aviasolutions in 2008 described the existing airport infrastructure as being in a poor state of repair. Consultants presently advising the City Council ((Airport Planning and Development Ltd) consider the condition of 07/25 is such that major structural remedial work is

required, albeit that the runway surface is satisfactory to handle the type and number of current traffic activity.

- 3.3 The Airport related structures range in age, type and size inclusive of the control tower; a passenger terminal with three check-in desks and a cafe/bar; a single storey administration building; four hangars; a fuel station for aircraft; fire station; helipad; and three single storey buildings occupied by Solway Aviation Museum. In 2008 (application reference number 08/0131/FP) an application was submitted to comply with the Building Regulations concerning the erection of an aircraft hangar shell. The hangar appears to now be in use but with 921.6 square metres of unoccupied office space on the first floor.
- 3.4 Aerodromes where flights for the purpose of the commercial air transport of passengers or the public transport of passengers, and/or flying training in aircraft above a specified maximum total weight takes place, are required to be licensed by the Civil Aviation Authority (CAA). Carlisle Airport currently has a full CAA Public Use Licence with Public Use and flight training movements restricted to aircraft with a Maximum Take-off Weight of 12.5 tonnes. The Airport currently has an instrument aided approach on runway 07/25 using the available Non-Directional Beacon and Distance Measuring Equipment. However, the final approach is made on a visual basis.
- 3.5 Stobart Air has indicated that they currently have 12 full time and 12 part time staff at the Airport. There are a total of 6 full time staff and 3 part time staff employed by Border Air Training and Carlisle Flight Training, and 3-4 staff employed by the aircraft charter company Apollo based at the Airport.

Year	2009	2010	2011	2012	2013	2014 (Jan-Apr)
CARLISLE AIRPORT						
Total Movements*	21,395	18,419	14,911	17,349	17,280	4,626
of which:						
Air Taxi	558	449	376	117	155	142
Business Aviation	459	435	369	290	399	106
Aero Club	14,450	12,786	10,238	11,076	11,206	3,287
Private Flights	4,315	3,310	2,802	3,872	3,360	745
Other Movements	1,613	1,439	1,126	1,994	2,160	346

(*An air traffic movement can include either the taking off or landing of an aircraft)

**Table showing total aircraft movements at Carlisle Airport 2009 – 2014
(CAA)**

- 3.6 The records from the CAA show that since 2004 there has been a decline in total aircraft movements at the Airport from 25,000 to 18,419 in 2010; and 17,280 in 2013. Between January and April 2014 there were a total of 4,626 aircraft movements. The majority of movements were private light aircraft, flight training or helicopter movements including air ambulance. There were no scheduled commercial passenger or cargo services. The applicant has indicated that the current annual operating losses of Carlisle Airport are £313,600.
- 3.7 The Airport sits within a generally rolling and undulating agricultural landscape that is relatively open, with the only significant visual interest created by Watchclose Woods (at the western perimeter), relatively small farmsteads (such as Hurtleton), and industrial/commercial buildings to the west of the Laversdale road (close to Watchclose Woods) and immediately opposite the northern site boundary. Under the Cumbria Landscape Character Guidance and Toolkit (March 2011), the site falls within sub-type 5b – Low Farmland but immediately adjoins sub-type 8b – Broad Valleys.
- 3.8 The nearest settlements are the hamlets at Oldwall and Bleatarn, and the villages of Irthington and Laversdale that respectively lie about 0.2km, 1km, 0.5km and 0.6km to the north, north-west, north-east and north of the existing Airport perimeter. Irthington is identified as a Local Service Centre in the Local Plan and has approximately 70 households. In contrast, Laversdale is a smaller settlement of approximately 29 households.
- 3.9 The whole of the airport is within the “Buffer Zone” of the Hadrian’s Wall World Heritage Site and includes the Watch Close Roman Camp (a Scheduled Ancient Monument near the south-west boundary), and the remains of part of Stanegate Roman road. The course of Hadrian’s Wall runs between the northern perimeter of the Airport and Oldwall. The associated Hadrian’s Wall Path, which is a national trail, has interconnecting public rights of way running from Irthington, Laversdale, and Newtown Bank.
- 3.10 The airport is a County Wildlife Site (Cumbria Wildlife Trust, 1999) for its breeding bird populations. The Airport is 0.4km to the west of the River Irthing which forms part of the River Eden SAC and the River Eden & Its Tributaries SSSI.
- 3.11 The City Council is the freehold owner of the airport and granted (on the 31st May 2001) a 150 year lease to Haughey Airports Ltd, a lease which (since May 2009) is now held by the Stobart Group. The airport is currently under the management of Stobart Air Ltd as part of the Stobart Group. Under paragraphs 4.3.1 and 4.3.2 of the Lease the tenant can

“...not without the Landlord’s prior written consent (such consent not to be unreasonably withheld or delayed) to operate more than eight air traffic movements at the Premises during any night time period (which for these purposes shall be the period between 2300 hours (11.00 pm) and 0600 hours (6.00 am) on any day)..”[para. 4.3.1]

“the Tenant may accept during any such night time period the landing of any aircraft wishing to land on short notice (due to diversion from another airport or the wish to land due to adverse weather conditions or due to any other emergency) without the need for the consent of the Landlord on the basis that such landing in such circumstances would not count as or count towards an air traffic movement” [para. 4.3.2]

- 3.12 Under the terms of the current Lease there is a general user provision (clause 3.10.1) not to use the premises/any part thereof other than as an airport and/or for uses within Use Classes B1 (Business) – B8 (Storage or Distribution); C1 (Hotels and Boarding Houses); and/or for agricultural use. If after the expiry of the 10th year of the term (i.e. 31/5/11), the tenant is able to demonstrate to the reasonable satisfaction of the landlord that Carlisle Airport is not capable (in accordance with the terms of the lease) of economic operation as a commercial airport the tenant may close the Airport for “airport operations” (clause 3.11.1). There is common ground that rental income from the proposed freight distribution centre would be taken into account when assessing capability for such economic operation.

Background

- 3.13 In 2007 (reference number 07/1127) an application was submitted for a realigned runway, a new passenger terminal, warehousing and other associated airport development but it was withdrawn prior to determination when called in by the then Government Office for the North West.
- 3.14 A subsequent application (reference number 08/1052) for a freight storage and distribution centre with associated airport development undertaken under permitted development rights was approved by the Development Control Committee subject to the completion of a Section 106 Agreement. This decision was overturned in May 2010 following a Judicial Review which found that the associated airport development works had wrongly not been the subject of an Environmental Impact Assessment.
- 3.15 The current application was made valid on the 16th December 2010. The officers’ report to Members of the Development Control Committee Meeting on the 15th July 2011 recommended the refusal of permission. The applicants justification for the proposal being on the basis that the proposed distribution centre should be viewed as “enabling “ development that is essential to secure the future of the Airport by providing a revenue stream that enabled the runway works to be financed and facilitate the introduction of scheduled passenger and air freight services. However, paragraph 6.66 summarised the then position thus:

“....it is concluded that no convincing evidence that includes a breakdown of all costs, has been presented by the applicant regarding the effectiveness of the proposed FDC [Freight Distribution Centre] in enabling development in the light of the disputed costs regarding the runway works. No convincing evidence has been given showing that the forecast passenger flights and air freight movements are either realistic or achievable. The figures given by the applicant lack detailed supporting evidence and analysis. No evidence

in the form of extensive market research nor a business/master plan has been presented to substantiate these claims. Thus even if the Council were to impose a condition requiring the runway works to be carried out in advancement of commencement of the proposed FDC, there is no guarantee that flights will actually take place, nor that further building to raise sufficient revenue will not be required."

However, consideration of the application was deferred following a request from the applicant to be afforded time to submit further information.

- 3.16 The application was then the subject of an addendum Committee report for a Meeting on the 6th July 2012. Paragraph 1.60 of this addendum report highlighted the two key questions, in effect: (i) whether general aviation (non-scheduled services) use of the Airport, after the proposed development was carried out, would thereafter be economically viable and sustainable; and (ii) whether the development would be likely to result in scheduled/commercial air passenger and/or air freight services at the Airport in the short, medium or longer term. Paragraph 1.213 of the report summarised the position:

"Rather, the current proposal has the potential to enable the airport to remain open, involve the undertaking of work to the runway, and allow general aviation to operate at existing levels if nothing else, and with the prospect in at least the short term of commercial passenger services. This would make the Airport's immediate future more secure and thus help to safeguard the existing directly related jobs. Members may also view it as a means of retaining such a facility for future generations and in the hope rather than necessarily the expectation that circumstances may change in the longer term."

During the Meeting Members were informed that additional information had been submitted which updated the Environmental Statement. Consideration of the application was again deferred to a subsequent Meeting on the 3rd August 2012.

- 3.17 A second addendum report was prepared for the Committee Meeting on the 3rd August 2012 the conclusion to which, in paragraphs 1.232 and 1.233, was:

"As things stand, the current proposal has the potential to enable the Airport to remain open, involve the retention and enhancement of needed facilities, allow general aviation to operate and, if nothing else, raises the prospect in at least the short term of commercial passenger services. The application therefore would lead to the development and retention of infrastructure; and would make the Airport's immediate future more secure and thus help to safeguard the existing, and potential future, directly and indirectly related jobs. This is of benefit to the local economic and social prosperity of the area. The EKOS Report of June 2012 submitted on behalf of the applicant indicating that the Airport provides direct employment to the equivalent of 26 full time jobs with the net safeguarded employment being equivalent to 60 full time posts, and contributes £3m of GVA annually to the Cumbrian

economy.” [para. 1.232]

“Members will appreciate the difficulties in making forecasts but, nevertheless, may view the proposal as a means of at least retaining such a facility for future generations in the hope, rather than necessarily the expectation, that circumstances may change in the longer term.” [para. 1.233]

During the Meeting, the Case Officer advised Members that there had been no departure from the objective of achieving a commercially viable airport and the objective was not just keeping the airport open.

3.18 The Development Control Committee gave authority to issue approval on the 3rd August 2012 subject to:

1. the River Eden SAC Appropriate Assessment being “signed off”;
2. the completion of a section 106 agreement including
 - (i) an obligation on the applicant to keep the Airport open unless it can be shown that the Airport is no longer economically viable (even with the distribution centre rental income),
 - (ii) Travel Plan obligations requiring: payment of a Travel Plan Bond to the County Council as the Highway Authority calculated by using the cost of an annual Cumbria Mega rider Gold ticket multiplied by the proposed reduction in the number of employee commuting trips multiplied by 5 years; the applicant designating a Travel Plan Co-ordinator to carry out annual monitoring and reporting of results to the County Council; the payment of £2725 per year for 5 years in respect of County Council staff; and the setting up of a Steering Group to oversee the frequency of the shuttle bus service, and
 - (iii) the payment of £100,000 in order to enable the undertaking of a habitat enhancement scheme to benefit breeding waders;
3. the imposition of identified conditions.

3.19 A Committee report was prepared for the Meeting to be held on the 25th January 2013 (in the context of the receipt of additional information/comments from interested parties, and the preparation of the draft section 106 agreement) but the consideration of which was adjourned to the 31st January 2013 pending advice on State Aid. On the 31st January 2013, and following receipt of the legal advice on State Aid, the Committee authorised the granting of permission with the section 106 agreement completed on the 6th February 2013. The reasons for the decision were given as follows:

“...with the rental income from the proposed distribution centre, the Airport is viable for commercial services (without the distribution centre income, the Airport is not viable) the subsidy is in effect the rental income for the distribution centre. The provision of rental income; keeping the Airport open; updating the runway; and the prospect of commercial passenger services in the short/medium term representing tangible benefits.

There is a difference of views in the aviation forecasts between the applicant's, Council's and local resident's consultants. The difficulties in making forecasts are acknowledged and (because forecasts are unpredictable) there is recognition that the proposal may not secure viability in the longer term

...In conclusion, the proposed distribution centre is not per the development plan but the work to the runway is. There are recognised risks in that:

- If not economically viable the Airport could close;*
- But even with permission, no incentive to promote the airport for passenger movements/air freight if not particularly profitable – the rental income may far exceed expense of keeping the Airport open and may not be considered worthwhile to do more than keep the Airport open;*
- Alternatively, or first, there may be further applications for enabling development; and*
- Could result in simply an HGV distribution centre in the countryside. Nevertheless, on balance...the proposal will at least achieve runway renewal; keep the Airport open (unless demonstrated that it is not economically viable) when if planning permission were refused it could potentially close the day after; and the prospect of commercial passenger services in the short/medium term representing tangible benefits”.*

3.20 On the 10 April 2013, Mr Thomas Brown who farms agricultural land in the vicinity issued judicial review proceedings in the High Court to challenge the grant of permission. On 17 July 2013, Mr Justice Stewart granted permission to the Claimant to bring a challenge to the decision effectively based on five grounds one of which had two elements, namely:

- Ground 1 (a) – the enforceability of the then section 106 obligation/Deed of Variation and whether it followed Members’ understanding of the basis for granting planning permission with regard to viability of the Airport;
- Ground 1(b): whether the Committee were either misled, or based their decision on inappropriate advice from ASA (the independent aviation consultant advising the Council);
- Ground 2 regarding the National Planning Policy Framework;
- Ground 3: regarding the Appropriate Assessments and the conditions imposed under the Deed of Variation;
- Ground 4 regarding State Aid; and
- Ground 5 concerning the Environmental Statement and its approach to greenhouse gases.

3.21 The court hearing took place on the 18th – 20th February 2014 before Mr Justice Collins. In the subsequent judgment (21st March 2014), Mr Justice Collins, dismissed Grounds 1(a) and 2 to 5 but upheld Ground 1(b). He therefore quashed the decision to grant planning permission. In relation to ground 1(b), the judge expressed the view (in paragraph 24 of his judgment) that without the prospect of obtaining, if only in the short to medium term, a commercially viable airport permission would probably have been refused.

Mr Justice Collins said:

“Certainly, the recommendation of the officer would have been to refuse and to grant in these circumstances bearing in mind that the FDC was contrary to the plan would have been unsustainable. It is also accepted that permission would only have been justified if there was a real prospect of such commercial use. Thus it seems clear to me that a mere hope would have been insufficient.”

- 3.22 Mr Justice Collins, in paragraphs 31 and 32 of his judgement, made reference to the reasons given for the then grant of permission based upon which he stated:

“These showed that the committee were clearly persuaded by the officer’s recommendation and, while keeping the airport open was a material consideration, the prospect of commercial passenger services in the short/medium term was a factor which was particularly material in that with it there were tangible benefits.

I have had to consider whether the prospect of short to medium term commercial use of the upgraded airport does reasonably establish that there is a planning advantage which outweighs the development’s failure to accord with the material planning policies. The test to be applied is whether the decision was irrational in Wednesbury terms. It is worth bearing in mind the original view of the officer in 2011 that specialist advice cast ‘significant doubt on the realistic potential for either air freight or passenger flights’. However, it is for the committee to exercise its planning judgment and it is clear on authorities which I do not need to refer to specifically that the threshold is particularly high if a challenge to the exercise of a planning judgment is to succeed. The exercise by the committee of its judgment in favour of the development depended upon it being persuaded that there was a realistic prospect of at least medium to short term commercial operation of the airport. The upgrading of the runway and of the airport generally to enable passenger and freight traffic to use it could also be properly taken into account. While I am bound to say that to achieve no more than a limited period of commercial or any use is not a particularly substantial benefit, I do not think I can properly decide that the committee was not entitled to decide as it did.” [para. 47]

“But the decision can only, as I have said, be justified if the committee was properly entitled to conclude that there was a reasonable prospect of achieving commercial use for the sort of period identified by ASA in the spreadsheet [annexed to the ASA letter dated 21st June 2012] (which is now somewhat out of date). Since the officers’ recommendation was only just in favour of grant of the application, it is in my judgment necessary to see whether the advice given is in any way unreliable. Even a relatively minor error or failure to have regard to a factor could tip the balance in a case such as this.” [para.48]

- 3.23 Essentially, the judge found that the evidence was not reasonably capable of supporting the Committee’s decision that there was a real prospect of

commercial passenger services in the short to medium term. In particular he considered that the spreadsheet provided by the Council's advisers ASA failed to make clear that they did not include subsidies from the Airport operator to airlines, which were agreed to have been necessary to attract them to operate from Carlisle, and that the applicant's earlier insistence that it would not pay any such subsidies had not been taken into account. He said:

"ASA....has accepted that the need to pay subsidy to Aer Arran or to any airline to attract it to Carlisle was not specifically included in the spreadsheet. The IP [applicant] told Mr Forbes [ASA] that it had no intention to pay such subsidies, but ASA and Ms Congdon [York Aviation acting on behalf of Mr Brown] agreed that they would be needed. The IP did not indicate to the committee that it had changed its mind and so the figures in the spreadsheet have to take that into account. The subsidies needed would not necessarily mean an immediate lack of viability but could decrease the period over which commercial operation could be expected. Indeed, Ms Congdon has stated that they would mean that the estimated surpluses shown even in the initial years would disappear." [para. 49]

"....the committee's planning judgment has to be exercised on the basis that short to medium term commercial use was likely to occur. Whether or not it was entitled on the evidence to conclude that the likelihood existed was not a matter for its planning judgment but depended on the accuracy of the forecast put before it by ASA. It seems to me that the subsidy issue to which I have referred was not properly dealt with and since anything which went to show that commercial operation would not be likely to be feasible even for a shorter period than forecast might have tipped the balance, the failure becomes more important...." [para. 51]

3.24 Mr Justice Collins concluded that:

"...This was such a borderline decision that any material defect is of greater importance than it might have been otherwise. It cannot in my judgment be said that it could not have made any difference. For the reasons I have set out in Paragraphs 48 to 51, I am satisfied that the forecasts contained in the spreadsheet annexed to the 21 June 2012 letter were deficient and that deficiency may have tipped the balance." [para. 79]

In the circumstances, this claim succeeds on that ground alone and the planning permission must be quashed." [para. 80]

3.25 Whilst the High Court's decision quashes the planning permission, the planning application is still valid and actively pursued, and remains to be determined. As such this report supersedes the previous Committee reports, and Members need to consider everything afresh.

The Proposal

3.26 The current application primarily relates to approximately 28.6 ha in the south-eastern section of the Airport to the immediate north of the A689 and

west of the road to Irthington and seeks Full Permission for the development as described.

a) Freight Distribution Centre (FDC)

- 3.27 The submitted plans show the proposed distribution centre to approximately measure 241 metres by 151 metres with an eaves height of 14.25 metres and a ridge height of 15.6 metres comprising the distribution centre (internal area of 28,940 square metres); a workshop (3,000 square metres); two chiller chambers (combined floor area of 4,756 square metres); a warehouse office on the ground and first floors (444 square metres); and an operations office also having a ground and first floor (184 square metres).
- 3.28 The proposed distribution centre is shown to be constructed with five bays, externally finished in grey profiled sheet cladding on the walls and the roof having shallow pitched panels with roof lights. The western elevation (facing the southernmost section of runway 01-19) is blank apart from a centralised means of escape. The proposed eastern elevation (facing the southernmost section of runway 13/31) is shown to have ten indented loading bays to serve the chiller chambers, two level access doors for the workshop, and two technical services blocks. The proposed northern elevation has ten level access doors of which six are to serve the distribution centre. The proposed southern elevation also has ten level access doors of which two would serve a chiller chamber.
- 3.29 The proposed distribution centre relates primarily to road haulage although it can also accommodate any limited air freight that may arise.

b) Raised and Re-profiled Runway 07/25, Taxiways and Apron Layout

- 3.30 The proposed runway works are to be constructed to a minimum Pavement Classification Number (PCN) of 31 in order to meet the standard required to accommodate the aircraft predicted to use the airport as set out in the submitted Environmental Statement (ES).
- 3.31 Paragraph 13.4 of the accompanying Non-Technical Summary states that some taxiway resurfacing will be included and, although not mentioned in Part 1 of the ES, is pictorially represented in Figure 2.2 of Part 3 of the ES. The proposed new apron layout shows 11 aircraft stands adjacent to the freight terminal of which 4 are suitable for all aircraft sizes up to B747 types or similar, with the remainder appropriate for B737 size or similar. The provision of four stands for the larger aircraft appears contradictory to the submitted ES and the applicant's agreement to have a condition imposed restricting aircraft types. The applicant has, nevertheless, explained that any surplus stands might be used for the storage of aircraft belonging to airlines and leasing companies that are not in use during the current economic climate.

c) Gatehouse

- 3.32 The proposed Gatehouse building comprises two floors providing a total of

514 square metres of floor space i.e. 257 square metres per floor. The submitted plans show the ground floor to consist of four hatches controlling inbound and outbound traffic with 195 square metres of an open plan office. The proposed first floor has w.c. facilities, a meeting room, "tea station", two partitioned offices, an open plan office, and a boardroom. It is proposed to be externally finished in "albatross" microrib cladding panels and grey framed "ribbon" windows for the walls, and Kingspan panels on a curvilinear roof. The height of the proposed roof varies from 6.5 metres to 10.5 metres.

d) Canteen and Welfare Building

- 3.33 The proposed canteen and welfare building is single storey with an internal floor area of 192 square metres comprising a lounge/dining area, kitchen, w.c. and shower facilities, and a store. Externally it is shown to be constructed using "albatross" panels on the walls and Kingspan panels covering the roof. The proposed height of the curvilinear roof varies between 3.67 metres to 4.85 metres.

e) Vehicular Access

- 3.34 Access to the proposed site is to be provided by a new spur road off a roundabout junction with the northern side of the A689. The proposed road, which would follow part of the south-eastern boundary of the site, would provide access to a staff car park; the proposed gatehouse and FDC; trailer parking areas; the HGV wash/fuelling area; and the sprinkler tank and pump house.
- 3.35 The proposed roundabout will, amongst other things, involve the re-alignment of the A689, and the removal of a section of existing hedgerow and an electrical sub-station.

f) Car Parking, Cycle Parking, and HGV Parking

- 3.36 The development proposes a 223 space car park (including 9 disabled persons spaces and 8 taxi bays) for staff, visitors and drivers associated with the FDC. The aforementioned car park also includes provision of a cycle shelter. The submitted plans also annotate a second car park with 110 spaces to serve air passengers to the east of the existing passenger terminal.
- 3.37 Parking for 41 no. HGV cab units and standing space for 99 trailer units is proposed within the "secure" hard standing areas adjacent to the north-western, south-eastern and southern facades of the FDC.

g) Fire Station

- 3.38 The proposed fire station measures 16 m by 17 m with an eaves height of 5.45 m and ridge height of 7.2 m. Internally it comprises parking for two engines, w.c. facilities, a lecture and recreation room with kitchen facilities, plant room, store and watch room. Externally it is proposed to be

constructed in “albatross” cladding.

h) Foul Drainage Works, Sub-Stations and Surface Water Drainage

- 3.39 The originally submitted plans showed a proposed package treatment plant serving the FDC, gatehouse, canteen and welfare building, fire station, and the HGV wash area/refuelling facility. Following comments from the Environment Agency and United Utilities, the intention is now to connect to the recently upgraded Sewage Works at Irthington.
- 3.40 The intention is for the surface water drains to be connected to 2 balancing lagoons located either side of the proposed roundabout lying parallel with the A689. Interceptors will be installed to avoid contamination by oil and other material and attenuation will be provided to control the discharge rates from the lagoons to the receiving watercourse on the southern side of the A689.
- 3.41 The proposal includes an electricity sub-station and a future back-up generator located to the south-west of the canteen/welfare facilities and an intake substation compound and gas meter housing for gas supplies to the immediate south of the access road and east of a lagoon. An LPG store is proposed within the service yard to the FDC.

i) Landscaping

- 3.42 The application is also accompanied by a landscaping scheme which, in relation to the boundaries of the site, involves woodland mix planting fronting the road to Laversdale; to the north-east of the proposed FDC; and the sections of road frontage onto the A689 to the east and west of the proposed new roundabout. The proposed woodland mix will comprise species of Lime, Ash, Hazel, Silver Birch, Scots Pine and Oak trees.
- 3.43 The loss of sections of existing hedgerows will be mitigated by the planting of new hedging using Field Maple, Beech, Silver Birch, Hornbeam and Privet.
- 3.44 The proposed landscaping also includes the planting of Lime trees to line the access road; hedge planting with trees along the access road leading to the vehicle wash/fuel storage area; tree planting down to the yard areas to the south-east of the building and around the yard beyond the north-east gable.

j) Security Fencing and Lighting

- 3.45 The proposed means of security fencing comprise 2.4m high paladin fencing along the southern and western boundaries of the FDC; and 2.8m high welded mesh and barbed wire for the airside activities. The access road system will incorporate 10m high lighting columns with 150 watt light fixtures around the proposed new roundabout with the A689 but then reduce to 8m high columns with 100 watt lights for the internal road system. It is also proposed that the car park, HGV yard and circulation areas will be lit by

building or column mounted luminaires.

3.46 In addition to the submitted plans and letters from the agent, the application is accompanied by a range of material and documents including:

- An Environmental Statement (URS/Scott Wilson, 2010) as updated: Volume 1 - Environmental Statement, Volume 2- Technical Appendices, Volume 3 – Figures, and Non-Technical Summary;
- Planning Policy and Position Statement (URS/Scott Wilson, 2010);
- Design and Access Statement (URS/Scott Wilson, 2010);
- Transport Assessment and Travel Plan (URS/Scott Wilson, 2010);
- Flood Risk Assessment and Drainage Strategy (URS/Scott Wilson, 2010);
- Bird Hazard Management Plan Wintering Bird Surveys 2010/2011 (URS/Scott Wilson, 2011);
- Potential Odour Impacts report (Air Quality Consultants Ltd, 2011);
- Economic Impact Appraisal Report (EKOS Ltd, 2008);
- Economic Impact Appraisal Report: Update (EKOS Ltd, 2010);
- Economic Impact Appraisal Update: Carlisle Airport (EKOS Ltd, 2012);
- Archaeological Walkover and Evaluation Report No. CP/471/07 (North Pennines Archaeology Ltd, 2007);
- Archaeological Evaluation Report CP No. 1416/11 (North Pennines Archaeology Ltd, 2011);
- Technical Notes by Mott MacDonald;
- The Carlisle Airport – Runway Resurfacing Civil Engineering Specification V1 March 2010;
- An Indicative Terminal Layout (received 09.08.11);
- Letter from the Chief Financial Officer of Aer Arann (dated 29.02.12);
- A report on Carlisle Lake District Airport “The potential passenger and freight markets” (May 2009);
- A “Carlisle Airport Update” (June 2012) prepared by Stobart Air;
- A “Business Case” (June 2012) for an ATR42 airplane operating from Carlisle (e-mail 07.06.12);
- Diagrams showing how the various income streams will flow through to the Stobart Group (e-mail 11.06.12);
- A letter from the Deputy CEO of the Stobart Group (dated 05.07.12);
- URS letter dated 03.06.14 accompanied by Appendix A: Document status report, Appendix B: Supplementary financial information, Appendix C: Supplementary report examining recent traffic data, Appendix D: Supplementary report examining greenhouse gases, and Appendix E: Supplementary report examining changes to ecological habitats;
- Tables 1-3 providing a comparison of 2014 Link Flows received 08.07.14;
- staffing levels spreadsheets, organograms for July 2014 and the future, CAA ASD Audit Report Feb. 2013, and Stobart Air accounts 2011-2013 received 10.07.14.

3.47 Section 6.01 of the submitted Design and Access (D&A) Statement states that:

“....the best practicable technologies suited to the proposed development and its’ local context are considered to be tri-generation energy harnessing and rainwater collection systems. The introduction of such technologies is still at the inception stage and they are yet to be fully integrated into the design. They are however considered appropriate to the overall design and operation of the proposed development (and) will be taken forward in consultation with appropriate parties.

....the development proposals will incorporate further sustainability features designed to minimise the impact of the development. It is possible to install energy saving technologies and techniques across the onsite buildings, reducing the carbon footprint of the proposed development during operation. Throughout construction, we will seek to source local materials; supporting local businesses, minimising transportation miles and generating local jobs. Furthermore, during development construction wastes will be reused onsite wherever practicable; lessening the requirement for landfill and natural resources.”

- 3.48 Section 6.01 of the D&A Statement also confirms that the development will incorporate sustainable drainage techniques *where appropriate*; roof and hardstanding areas will drain directly to the stormwater attenuation lagoons; and opportunities for other sustainable measures *will be explored* during detailed design.

- 3.49 In a letter dated the 22nd June 2011, the agent has confirmed that *“the applicant aims to achieve a “good” BREEAM rating”*.

- 3.50 The applicant has confirmed their willingness to pay £100,000 towards the provision and management of a habitat scheme.

- 3.51 Interested parties have also submitted separate documentation such as: a letter from the Chairman of the Stobart Group dated the 12th May 2009; the Stobart Group Annual Report and Accounts 2010; a Notice of General Meeting dated the 26th April 2011; the CAA Licence for Carlisle Airport (30th May 2006); the Stobart Group’s interim results (26.10.11); the Stobart Estates “Strategic Property Portfolio” (2011); Stobart Air “Delivering Airside Solutions” (2011); the Chairman of the Stobart Group when addressing shareholders in The Placing and Open Offer Document (2011); a letter to shareholders from the Chairman of the Stobart Group dated 20th January 2012; a chart of the Stobart Group share price (06.07.12); a newspaper article titled “Investor returns must take priority” written by the Head of Investment at Invesco Perpetual (who are allegedly the largest shareholder in the applicant’s parent company); an article in The Independent on the 11th June 2012 on the regional airline Flybe; a Stobart Estates brochure, Stobart Group Annual Report and Accounts 2014, a transcript of Stobart Air’s video presented the Committee Meeting on the 3rd August 2012, and various reports/letters prepared by York Aviation and Dickinson Dees/Bond Dickinson. A DVD prepared by the Business School of The Open University on “Business organisations and their environments” has also been submitted by a third party within which the then Chief Executive of Tesco plc (Sir Terry Leahey) states.... *“We will transport less by air. We*

don't use it very much, it's only about 2% of our total shipments and we've said we'll halve that."

- 3.52 The City Council has commissioned independent advice from Lloyd Bore regarding ecology; Hyde Harrington (non-aviation construction cost and viability advice); Gleeds (aviation related construction cost advice); Economic Consulting Associates (financial modelling of airport businesses); and Alan Stratford Associates (ASA). Given the length of time processing this application, and without criticism of any previous consultants, it was considered sensible to have a fresh review of matters following the Judgment of the High Court. This review has been undertaken on the City Council's behalf by Airport Planning and Development (APD) Ltd.
- 3.53 The City Council is also aware of four further reports, namely: an "Appraisal of the potential economic benefits of NWDA support for Carlisle Airport: Supplementary Report (2005) prepared by York Aviation for the North West Development Agency; "Ideas and thoughts regarding the development of Carlisle Airport" (2006) prepared by Regenerate Cumbria; a "Network Development Report: A strategy for the development of air services from Carlisle Airport Version 1.2" (2006) by the Route Development Company; and "Property Portfolio Options: Business Plan" (2011) prepared by Montagu Evans for the City Council.

4. Summary of Representations

- 4.1 At the time of preparing the report for the Committee Meeting in July 2011, 1 petition regarding Solway Aviation Museum; correspondence from 7 individuals commenting on the proposal; 62 formal objections; and 67 letters/e-mails of support, had been received. The petition, signed by 11 signatories, from the Solway Aviation Society and Solway Aviation Museum request that any permission should include a Section 106 Agreement safeguarding the Museum from any resultant development at the airport.
- 4.2 By the time of the Committee Meeting on the 3rd August 2012 the total correspondence received from interested parties comprised: 13 petitions in favour; 11 e-mails/letters commenting on the proposal; 391 letters/e-mails of support; and 91 formal objections. We had also received a letter in support from the then Leader of Cumbria County Council.
- 4.3 The report presented to Members during their Meeting that commenced on the 25th January 2013 highlighted the receipt of a further 9 letters/e-mails either from those objecting to the proposal or those acting on their behalf.
- 4.4 Following the High Court's decision, and the receipt of the additional information from the applicant, the Council has received a further 5 letters of support, and 13 letters/e-mails objecting to the proposal. An e-mail has also been received from the Chairman of the Solway Aviation Society regarding the Solway Aviation Museum.
- 4.5 The petitions in favour of the proposal are based on the following issues: the development would create employment; good for the local economy and tourism; regional airport required to reduce travelling time to other airports;

regional airport long overdue; regional development has been blocked for too long by the farming community; if a vote was given to the wider community the development would undoubtedly be given to the wider community the development would undoubtedly be given the go ahead; the applicant should be able to decide if the business is viable not an independent expert; air transport helps to develop tourist destinations; if the development results in a high tech business park then it could only be good for the economy of the area; if successful local business is refused permission to develop airport, it would send out the wrong message to other companies thinking of relocating to Carlisle; Stobart's investment in Cumbria should be encouraged; Stobart's is a Cumbrian company who want to remain in Cumbria; development of the airport would secure existing businesses and boost the local economy; would create a new gateway to our region; and represents the last chance to secure a regional airport.

- 4.6 The main points raised in respect of those commenting (as opposed to necessarily objecting or supporting the proposal) centre on the existing use of the site; application procedure; noise pollution; and impacts on the highway network.

Existing Use of Site

- Welcome airport development to promote passenger services and general aviation use
- Stobart Group have withdrawn a 30 year lease and offered a 5 year lease with a get out clause which the Solway Aviation Association are unhappy about
- Request a condition be included within any successful decision notice ensuring the integrity of the Solway Aviation Museum – the future of the Museum is uncertain despite reassurances from Stobarts
- The proposed size of the scheme indicates that it would be impossible to be supported by air freight alone. What other uses are proposed?
- If Stobart is proposing to move their entire haulage network to the airport then it would be changing its use into an industrial estate which should not be endorsed
- Suggested number of flights that the airport could see in the future appears optimistic given the past levels of service and numbers of people using them
- There is not the population base to support a commercially viable passenger service from the airport
- Increase in charges has discouraged aviation based activities on the airport which has allegedly resulted in many of the private flyers relocating to Kirkbride airport

Application Procedure

- Request that the application is determined by the Planning Committee and not through Delegated Powers
- There was not robust discussion at previous Council Meetings
- Request that application is determined at a Public Inquiry
- Questions length of time for consultation period for Parish Council

responses and third parties

Noise Pollution

- Restrictions should be placed on flying hours e.g. not after 2100 hours and not before 0600 hours

Highway Network

- ES flawed with regard to the basis of the baseline, the introduction of the CNDR, growth figures over the next 13 years, and the Airport Masterplan.

4.7 The letters/e-mails of support centre on the following issues: economic benefits; improved transport links; environmental issues; existing use of site. These issues are summarised below:

Economic Benefits

- Development would have a positive impact on the local economy both in Cumbria and South West Scotland
- Development would create new employment opportunities and safeguard existing jobs
- Development would have the potential to attract new businesses into the area
- Airport is currently used frequently by customers and suppliers to neighbouring businesses, an airport is essential to economic sustainability and growth in the area
- Continued operation and development of the airport for dual use is required to sustain the costs of aviation operations at the airport
- Other airports have associated businesses running along side the airport
- The success of the application is essential to protect employment at the flying schools based at the airport
- Stobart Group is a Cumbria brand known throughout the World, it should be allowed to flourish and grow
- Stobart Group invests in Cumbria through sponsorship deals which may be lost if the Stobart Group relocates
- Essential to keep Stobart Group in Cumbria, if it were to relocate it would result in job losses and loss of spending revenue in the Cumbria economy as a whole
- 93% of Cumbrian businesses surveyed support the airport development with only 2% against
- Case for the development of the airport and its associated businesses is overwhelming. Delaying the decision is harming the economic progress of the area
- Knock on effect for other companies would help support the local economy and increase employment opportunities
- Airport development would raise the profile of the City allowing other businesses and individuals within the catchment area to benefit
- To lose the applicants investment in the area would be economic suicide
- Commonplace for non-aeronautical revenues to support airport
- Stobart Group has done a brilliant job at Southend Airport and will do the

same for Carlisle

- Significantly clear that the multiple benefits for the whole of the North of England and particularly the Lake District by far outweigh any possible shortcomings
- Airports have been shown to bring growth in their wake
- Carlisle need large organisations like Stobart's as anchors for smaller businesses
- Airport development will help to retain businesses in Carlisle and therefore better quality jobs
- Development would give a much needed boost to growth and vitality of Cumbria, sending a real signal to local and national and international businesses that Cumbria is committed to supporting and facilitating business growth
- Stobart's proposals, in line with their track record at Southend Airport, are the best and most realistic chance for the airport to succeed
- Stobart Group should decide what is commercially viable not consultants hired by the City Council
- Development has the potential to act as a catalyst for the economy of Cumbria
- A regional airport is essential for the area to compete with the rest of the country
- Cumbria's great issue is its relative remoteness and anything that can be done to alleviate this will be of benefit
- Commercial viability of proposals is not ordinarily a valid issue when dealing with applications. The Council should assess if the development complies with the local development plan, job creation, effect on local amenities and highways and whether the design is of acceptable standard

Improved Transportation Links

- The benefits of commercial passenger flights will impact positively on the business and tourist economies of the Cumbria and South West Scotland
- Good passenger transport links are a necessity for the preservation and creation of jobs in the area
- Should the airport development be unsuccessful, jobs may be lost and businesses forced to relocate to areas with better transport links
- The new transport link will help bring new investment from other businesses which would not normally come to Cumbria due to its lack of accessibility
- Any project which enhances the quality of Cumbria's infrastructure will help revitalise the areas connectivity to outside opportunities and provide a considerable boost to local and national supplier businesses
- Development would ensure more inward investment into the county through improved access
- Link to Southend could be marketed as a fast track link to The Lakes/Cumbria for business and leisure passengers
- Cumbria is already an important road and railway hub why can it not include air traffic?
- Decent air hub would be advantageous in attracting investment and

- people to the region
- Stobart are the leading firm in multi-modal freight, therefore, better placed than anyone to generate air freight traffic
- Carlisle airport would link Cumbria to the UK and beyond for business and holiday flights
- Improved logistics for entire North
- Recently opened Western by-pass would provide a great link to the Airport
- Flight prices fluctuate and are at the discretion of individual companies – difficult to make a direct comparison on the cost from Carlisle.
- An airport even if a lesser part of a distribution centre would be vastly better than no aviation facility at all.

Environmental Issues

- Other UK airports have villages and nature reserves in close proximity to runways
- Methane gas is a greater pollutant than carbon emissions
- The proposed increase in the number of aircraft is not a valid reason for people to object to the proposal
- The proposed new access would ensure that heavy traffic would be kept to a minimum around surrounding villages

Existing Use Of Site

- The airport has been used as an Airfield since World War Two
 - Aviation based businesses have no option to relocate if the airport is not allowed to develop
 - The Aviation Museum, based at the airport, is a valuable tourism asset which should be protected
- If the proposal is refused the airport will gradually deteriorate until the cost of making it operational again will become prohibitive

- 4.8 The letter (dated 08.05.12).from the then Leader of the County Council stated that the contribution that an operational airport could make towards strengthening this remote region's economy is recognised in numerous national, regional and local economic development strategies. Enhanced connectivity can increase business productivity and competitiveness, improve the attractiveness of the region for inward investment, help reach new markets, reduce perceptions of isolation, support the development of Britain's Energy Coast and stimulate an increase in high value tourists. It would also assist Carlisle realise its growth point status.

Equally the marked underperformance of the Cumbria economy between the mid 1990's and 2002 and the need for transformational activity to help drive up the County's Gross Value Added is well documented. The airport can be a driver of a step change in the area's economic growth and offers an opportunity to stimulate GVA through improved connectivity with the rest of the UK.

Transport and communications are an important and growing industrial sector in North Cumbria and the airport related freight activity will give Carlisle a

potential competitive edge to strengthen its role as a centre for distribution and logistics. Transferring haulage operations to the Airport and consolidating Stobart's corporate HQ, together with associated distribution facilities, will help ensure one of the UK's most prestigious transport and logistics companies' remains in Cumbria. This will secure a substantial number of highly paid jobs in Carlisle, create a significant number of new jobs and provide many opportunities for expansion. The loss of the Stobart brand to Cumbria would send out serious negative signals nationally about Cumbria as a place for business investment.

The current planning application, in directly supporting the development of air services will contribute to providing Cumbria with a "modern" business infrastructure and improve the competitiveness of the County's "offer" in a global market place. Cumbria has a heavy dependence on a number of multi-national branch plants and poor connectivity, which reduces profitability, has been cited over the years as a reason for businesses leaving the County. The Cumbria Business Survey 2010 by BMG cited that 19% of businesses felt the availability for suitable air linkages to Cumbria was perceived as a significant barrier to businesses' performance and efficiency locally.

He believes the proposed development at Carlisle Airport has the potential to positively transform Cumbria's image and dispel its popular perception as a peripheral business location; and urged that Members give due consideration to the above economic arguments in determining the application.

- 4.9 The objections highlight the following issues: use of building; location; environmental impacts; visual impacts; odour; highway/travel plan issues; noise impact; safety issues; Development Plan policies; economic impacts; application procedures, proposed passenger flights; airside works; and Lease/ownership/ compensation issues. The main points raised have been summarised below.

Use of Building

- No indication as to how much of the building would be used for road haulage and air freight
- If the air traffic movements (ATMs) taken at face value then the proportion of air freight within the building would be minimal
- Stobart Group documents indicate that the seven Stobart locations across Carlisle would be relocated to the airport into a single highly efficient facility. This is at variance with the EKOS report which states that existing staff at Stobart Haulage and Stobart Rail would not relocate to the airport

Location

- Opposed to relocation of what is essentially a haulage business to a rural area
- The building should be located at a strategic site such as Kingmoor Park which is closer to Junction 44 of the M6

- Given the relatively small amount of cargo planes envisaged by year 2025, the large building appears to be more related to relocation of the Stobart Group HGV operations than airport use
- An airfreight business handling 2 cargo flights per day does not justify a building roughly the size of The Lanes shopping centre
- The size of the building could interfere with radar and radio communications which would might impact on the future use of the airport for aviation purposes
- Information contained within Stobart Group documents highlight that the building is unlikely to be used for air freight purposes

Environmental Impacts

- Little technical supporting information within Environmental Statement as to how or if the air quality has been measured within Irthington
- Request that the Council stand up for the ecology of Carlisle rather than the economy
- Increased traffic would impact on climate change, eco-systems and produce more CO2 emissions
- The size of the development would have a detrimental impact on biodiversity
- Increased air traffic movements between Southend and Carlisle will increase air quality pollution
- Relocation from Kingstown would result in increased road mileage
- Measures should be put in place in respect of monitoring air quality or noise pollution
- Same concessions should apply to Carlisle Airport as those imposed at Southend Airport
- Application would support unnecessary air travel which is destroying our countryside and using valuable oil resources
- Already too many airports in the UK, opening of another one would lead to further environmental damage
- Cumbria County Council has a low carbon policy and this should be a serious consideration in regard to this application

Visual Impacts

- Size of the building will have a negative impact on the Hadrian's Wall Path
- Increase in light pollution in the rural area and along the A689 due to the proposed operating hours of the building
- An industrial site, which is what is proposed, does not belong among farms and rural hamlets
- Size of building is inappropriate in a rural location

Odour

- Distinct smell of aircraft odour below the existing flight path and concerned about the effect of the fumes on children's health
- Have not raised this issue with the airport direct as there appears no form

of communication between residents and airport. Aware that there is an airport forum but unaware when or where this forum meets

- Concerned that the agent has dismissed the potential for odour and would expect increased aircraft movements over the village of Irthington to create increased aircraft odour

Highway/Travel Plan Issues

- Increase in heavy goods vehicles using A689 and surrounding road network
- Insufficient infrastructure to support development
- Existing history of road accidents in the vicinity of the development
- The development could lead to possible transportation of nuclear waste fuel by road
- No restrictions on freight traffic through adjacent villages
- No assessment of the impact of traffic through Irthington as the village road connects the A689 with the A6071, key routes for traffic servicing the airport
- Travel Plan should adhere to nationally acceptable standards
- The Transport Assessment does not fully take into account the additional traffic along the A689 following the opening of the Carlisle Northern Development Route
- The A689's condition has deteriorated west of the Brampton roundabout, at Ruleholme and between the Linstock roundabout and Junction 44.
- Location of new roundabout will increase risk of road traffic accidents unless speed restrictions and high friction surfaces are used
- Location of new roundabout will increase risk of road traffic accidents unless speed restrictions and high friction surfaces are used
- Irthington Lane junction should be linked to the proposed roundabout on the A689
- Submitted Travel Plan is considered to be inadequate – need to be some staged plan, timescales and targets
- The data does not differentiate between cars and haulage vehicles, does not reflect seasonal changes which are evident on both the A69 and A689. No information on traffic flows which slow down the traffic and cause congestion. This congestion is experienced by residents seeking to gain access to the A689 from Irthington and Crosby. There are issues at junction 44 with traffic backing up.
- Plots 3, 4, 5, 6 and 7 at Kingmoor Park currently available – a railhead is located behind plot 5
- Information contained within “Carlisle Airport, Employment Land Masterplan” indicates that projected traffic figures in Transport Assessment are just the tip of the iceberg with traffic levels much higher than the applicant has indicated
- Travel Plan does not take into account how many employees or clients who will travel in a sustainable manner
- Traffic flows on the A689 have not been properly assessed – there has been a considerable increase in traffic since the northern bypass was opened. The potential for fatal accidents are numerous and these will include children given that school transport turns out of and into Newby

East, Irthington, Laversdale and Crosby. There is also the visitor attraction at Walby.

- Alleged that County Council is not insisting on a viable travel plan.
- Need for 180 parking spaces at any one time.
- The issue of increased traffic on rural roads and road safety concerns at the junctions of these roads with the A689 and A6071 have still not been addressed satisfactorily.

Noise Impact

- Increase in road traffic noise
- Increase in aircraft noise
- Increased air traffic movements between Southend and Carlisle will increase noise and pollution
- At present there is practically no night flying, therefore, any use of the airport at night would have a major impact on residents
- The Environmental Statement appears to concentrate on road noise; only makes passing mention to airside noise at Irthington school with the data provided more or less a straight crib from PPS24
- The ES does not appear to address the impact of night flights
- Restrictions should be imposed limiting operating hours between 9pm and 6am
- Query whether applicant has properly analysed noise

Safety Issues

- Increased danger to residents in surrounding villages from aircraft accidents
- Proposals would permit the operation of larger aircraft than those which currently operate from the airport
- Studies indicate that cargo planes are up to 16 times more liable to have air accidents than passenger planes
- As the runway is not to be repositioned, all flights will be directly over Irthington and the three places that people congregate; the Church, public house and school
- Has a risk assessment been undertaken in respect of the 4,000 tonnes of LPG which the applicant proposes to store on site?
- The submitted drawings do not indicate a fence around the curtilage of the airport, only the Distribution Centre. Deer are regularly seen within the confines of the airport
- Large flocks of geese and swans in the fields surrounding the airport would increase the risk of air strikes
- The existing runways due to their length and uneven topography would not be acceptable to the CAA

Development Plan Policies

- Conflicts with national, regional and local plans by proposing to locate an industrial estate in a position of poor sustainability

- Contrary to Policies within the Carlisle District Local Plan, therefore, should be referred to relevant Government Office and a Public Inquiry should ensue
- Application should be treated as a Departure from the Development Plan
- Apparent that applicant's true intentions are for a much bigger development than indicated in the application, and such a development would be a serious departure from City Plans
- Why should the Council grant consent to a road haulage distribution centre six miles out of town when there are other potential locations available congruent with the local development framework

Economic Impacts

- Information contained in a letter to Stobart's Shareholders recommends the move to the airport would generate "ongoing savings" as a result of "reduced labour". However, information submitted with the application envisages major job creation and a new airport for Carlisle
- Questions if the proposal is enabling development as the commercial case for developing the airport appears weak
- Documents from the Stobart Group to shareholders appear to highlight how a value can be extracted from the site but they do not contain commitments to airside works
- A timetable of airside works should be secured by a Section 106 Agreement
- An industrial site in vicinity of Hadrian's Wall would have a detrimental impact on tourism
- Questions employment figures outlined in ES as they appear to be extravagant use of staff and lorries for amount of cargo flights envisaged
- Commercial case for developing the airport appears weak
- In the absence of any enabling mechanism for the airport there is a risk that only an industrial estate in an unsustainable location will be built
- Alleged contradictions between the documents submitted with the planning application and documents produced by Stobart's for their shareholders and stakeholders
- Queries concerning actual costs of works
- Airside works remain unviable
- Queries why a profit seeking organisation would wish to invest in a loss making airport
- Flights from Carlisle to the States via Dublin inconvenient and more expensive
- Even if the airside works were carried out The Stobart Group would have a powerful incentive to close the Airport down..
- The benefit to the owner from closing the Airport down is greater.
- Submitted material contains inconsistencies within itself and appears to contradict statements made elsewhere by the applicant.
- Do not have the population to sustain commercial flights.
- A partial business case casts serious doubt on any projected claims,

resultant traffic assessments, travel plans or intentions of the whole development.

- The veracity of the information presented is brought into question and cannot reasonably consider it as being robust enough to be relied upon.
- Business case does not assess train options
- The fuel sale figures given are the equivalent of filling up 5 small aircraft training type every day 365 days of the year. This is unbelievable as there are only 14-18 small pleasure fixed wing aircraft stationed there most of whom refuel at Kirkbride because the fuel is 10-20% cheaper and landing fees are free if you refuel
- No evidence of the commitment of the Dutch Airforce
- Allegedly not demonstrated a commitment to the Solway Aviation Museum
- Irrational to assume that two airports will remain under common ownership.
- Cannot take offer of a subsidy seriously
- Southend Airport is now carrying just over 1 million passengers but is allegedly barely breaking even.
- It does not make business sense to be in a location that will drive up fuel, maintenance etc costs
- Assessment provided based on out of date information.
- It is alleged that the Stobart Group has indicated that the Airport is for sale.
- The Stobart Group has allegedly handed over, through financial sale, the majority share of the logistics business.
- Regional airports have closed across the country.

Application Procedures

- No consultation undertaken between developers and local residents
- Questions what technical aviation expertise has been employed by the Council to provide an independent assessment of the aviation elevation of the application
- No evidence as to whether the applicant has received, or applied for, the necessary CAA approval for this development
- Concerns about the information contained within the Environmental Statement. In particular, airport related businesses, employment figures and type of aircraft which would use the airport as no PCN figure has been mentioned
- The Pavement Classification Number (PCN) must be known as this determines the cumulative effect and possibilities in the future of aircraft types that could possibly land at the airport
- Within the Local Plan there is a commitment to prepare a Masterplan as

this has not been compiled there is no template against which to judge the application

- The same restrictions should be imposed as those imposed at Southend airport
- The application description is misleading as the runway is to be newly engineered runway not an upgraded runway
- The application should be referred to the Infrastructure Planning Commission
- The application outlines the willingness of the applicant to enter into a Section 106 Agreement in respect of airside works. This was the case in the previous application; however, during the intervening 14 month period between issuing of the decision and the subsequent quashing by the High Court, no programme of works was submitted by the applicant
- Appears that the applicant has not fully addressed the ambiguities within Stobart Group documents and the application, therefore until these have all been addressed it would be premature for the Council to consider the application
- Concerned that the viability of the airport and runway works remain unaddressed
- The application should be determined by the Infrastructure Planning Commission.
- Questions if English Heritage has been consulted specifically on the impact of the proposal on heritage assets
- Query whether applicant has complied with Statement of Community Involvement requirements.
- Complete lack of consultation over all the extra documents.
- The plane has changed from the ones assessed in table 2.2 of the ES which were Jetstream 41 or DHC-8Q400.
- The peaks and troughs scenario regarding passengers is not addressed anywhere in the EIA and it probably should have been even just to determine capacity issues – thus potentially flawed throughout.
- The EIA does not take account of “stand income” transferred from Southend nor any new business served by the proposed freight distribution centre.
- The Environmental Statement is incomplete because, amongst other things, it does not take account of the hazards posed by migrating geese; the hazard created by the closure of the North South runway; the importation of material to the Airport to upgrade all taxiways and parking areas; no maximum PCN has been stated by the applicant; there is no Public Safety Zone published which is alleged to be needed to properly assess the Human Rights implications; the noise and pollution sensors are mainly in the wrong location; there is no noise, pollution or vibration data provided; no assessment of the dangers of large aircraft flying over Irthlington Primary School or homes.
- Proposal will violate the European Convention of Human Rights.
- Proposal will violate the relevant Carbon Acts.
- No ALARP (“As Low As Reasonably Practicable”) on the balance of risk and societal benefit was properly conducted.

Proposed Passenger Flights

- The promise of passenger flights to Southend does not warrant the building of what is obviously a business park
- Previous attempts to offer passenger flights have failed as they were not financially viable
- People are more liable to use direct flights from Newcastle Airport as opposed to commuting to Southend then onwards
- People wishing to travel to London are more likely to travel by rail as opposed to flying to Southend

Airside Works

- No mention of the PCN (Pavement Classification Number) within the Environmental Statement to give an indication of the weight of aircraft that the runway will be able to accommodate
- The runway must be re-orientated to avoid over flight and protect home from danger, noise, pollution and vibration
- The advice of the CAA should be sought prior to determining the application in order to ascertain if they will be granted the necessary licenses
- Query absence of an Instrument Landing System and whether commercial airlines will use an airport that does not have one due to safety implications
- Question submitted costs associated with airside works
- If the CAA has had no input to date, then any approval given by the Council would be blind – decisions by CAA have implications for the whole of the environmental assessment, affecting planes used and environmental impacts; design of the runway and clearance for the distribution centre; aircraft approaches and runway capacity.
- Evidence is required from CAA before decisions are taken by the Council and it is currently lacking, so a full impact assessment cannot be made.

Lease/ownership and Compensation Issues

- What safeguards under the Lease does the Council have to keep the Airport open?
- Has there been no change to the Lease?
- The alteration of the leasehold effectively increases its development potential without any beneficial planning gain value recovered by the Council into the public purse.
- The Council's current disposal strategy is to only sell on the freehold to the owner of the leasehold. The consequences of this are that the 460 acre public asset will be offloaded with no benefit to the Council and none to the broader community.
- Part 1 of the Compensation Act 1973 allows payment of compensation where development proposals affect the value of properties through physical factors such as noise, pollution and vibration

Greenhouse Gases

- Less than 0,01% increase in emissions is still an increase in emissions at a time when effects of climate change are clear.
- The extra emissions from the lorries which will have further to travel to the motorway may well have been calculated but adding 0.05- 0.06kt of CO₂ is still a matter of concern when we should be reducing carbon emissions.

5. Summary of Consultation Responses

Allerdale Borough Council:- Would like to give its support to proposals which seek to achieve a viable future for Carlisle Airport. The economic benefits to West Cumbria, as well as to the county as a whole, of functioning airport at Carlisle cannot be under estimated. The current proposal offers a means by which this can be achieved, without unacceptable detriment to other material planning considerations (Letter dated 21.09.11)

Department for Communities and Local Government: - in the opinion of the SoS the proposals do not involve: conflict with national policies on important matters; have significant effects beyond their immediate locality; give rise to substantial regional or national controversy; raise significant architectural and urban design issues; or involve the interests of national security or of Foreign Governments. Nor does the SoS consider that there is any other sufficient reason to call the application in for his own determination. The SoS has decided not to call in the application (letter to Dickinson Dees 18.09.12).

British Horse Society: - no comments received.

Civil Aviation Authority: - no comments received.

Access Officer, Development Services: - there are a number of design issues concerning access and circulation space for the disabled within the proposed building. Policy CP15 of the Local Plan should be complied with as well as Approved Document M. Guidance can be sought from BS8300:2009. Applicant should be aware of the duties within the DDA (E-mail received 14.01.11).

Ministry of Defence/Defence Estates: - no safeguarding objections to the proposal (letter dated 20.12.10).

National Air Traffic Services: - no safeguarding objections to the proposal (Letter dated 20.12.10).

Northumberland County Council: - no comments received.

Dumfries and Galloway Regional Council: - no comments to make regarding the proposal (E-mail dated 10.01.11) .

Blennerhasset and Torpenhow Parish Council: - concerned as the Parish appears to lie under the flight path in particular concerned about night flights

and height of aircraft. Would seek controls over the aforementioned concerns (letter dated 25.02.11).

Brampton Parish Council:

- Letter dated 20.01.11 - support the application.
- E-mail 16.07.14 – Members support the application and would encourage on-going development of passenger flights.

Hayton Parish Council: – unanimously support this application.

Irthington Parish Council:

- 20.01.11 - re-iterate support for the continued operation of Carlisle Airport in the hope that it can be made to thrive as a small, local, commercial airport. Provides further comments in respect of: planning policy; airside developments; air freight distribution centre; lighting and noise; traffic and road safety; other environmental concerns; employment; and general issues.
- 05.07.12 – further to previous comments we would like to add the following:
 - 1 – one of the recommendations from the Audit Commission was to ensure that planning applications do not proceed to committee stage until supported by the information that planning officers require to properly report the matter to members. The current report is incomplete and without specific recommendation for approval with conditions which leaves it open to further investigation by the Audit Commission.
 - 2 – we are deeply concerned that the report has not addressed the concerns of the traffic on the A689 and associated junctions. Also there are no suggested HGV restrictions through the local settlements. In conclusion we suggest that the application is re-submitted and re-advertised as a distribution centre in the countryside rather than an airport which is clearly not viable from the financial information submitted to date.
- E-mail 30.07.14 - Irthington Parish Council wishes to re-iterate the previous comments dated 20.1.11 and 5.7.12 made regarding the aforementioned planning application. Further to those comments we would like to add the following:

Although we still support the development of Carlisle Airport in the hope that it can be made to thrive as a small local commercial airport, the size and scale of the distribution centre remains totally out of scale for such a rural location. Now that the developer has obtained planning permission for a similar sized distribution centre at Kingmoor Park with easy access to junction 44 of the M6 motorway, surely it makes economic and environmental sense to operate from that site.

Our primary concern is that no further consideration has been given to our concerns regarding the traffic safety issues on the A689 and associated junctions. The A689 remains not fit for purpose in its current state and problems will only be made worse by the proposed increase in traffic if this development goes ahead. It has been acknowledged by highways that the three junctions closest to the development need attention but we are told constantly that it is a budget issue. Why then has the developer not been approached to fund these improvements as we are sure a national business would be? Also, there are still no suggested HGV restrictions through the local settlements.

Before any decision is made on this application, a full traffic assessment must be carried out, to assess the risk impact of the increased traffic on the A689 and other minor roads in the surrounding area, which we feel will become rat runs for people trying to avoid the queues onto the A689 and will only become worse than they are now especially at peak times.

The submitted travel plan is substandard and should be revisited, it should seek to mitigate any extra pollution and congestion elements from the airport development with a viable and measurable scheme such as a staff bus scheme to cut down on staff and passengers using their own individual transport. This must however be carried out with published timetables, routes, pick up points etc.

- E-mail 04.08.14 – This proposal remains a clear departure from the Local Plan. A development that just happens to be at an airport as opposed to a development of an airport, and therefore we would recommend rejection of this proposal.

Scaleby Parish Council: - do not wish to make any representation on the proposal (E-mail received 07.01.11).

Stanwix Rural Parish Council: -

- Letter dated 20.01.11 - object to application as it stands.
- Letter dated 10.02.11 - objects to the proposal on the following grounds: concerns regarding consultation; air freight; passenger flights; other airside issues; non airport related activity; impact on local highways and highway safety; environmental and sustainability issues; climate change; hazard assessment; economic appraisal; and policy.
- Letters dated 09.07.14 & 17.07.14 - object on following grounds:

Planning Policy

- The proposal anticipates that the distribution centre would generate up to 342 HGV movements each day (171 inbound & 171 outbound); Department of Transport count point data for 2013 records the following

Annual Average Daily Flow of HGVs on the A689: 905 HGVs at count point 58365, west of Carlisle Road at Brampton and; 1043 HGVs at count point 28806 east of M6 J44 at Harker; 342 additional HGVs would increase their AADF by 37.7% at the Carlisle Road count point and by 32.7% at the Harker count point - these can only be described as significant increases.

- As one HGV can inflict up to 171,920 times more road wear than a car [Metropolitan Transport Research Unit]; the increase in road wear generated by 342 daily HGV trips would therefore approximate that from an additional 58,796,640 car trips each day, on what is essentially a road constructed to B class specification.
- The updated Officer Report to Committee, of 31 January 2013, and the Decision Notice it informs, are unequivocal in stating that the proposed HGV distribution centre is contrary to Local Plan policy, whilst acknowledging that the chances of it facilitating an improved commercial airport operation are at best uncertain and at worst - nil.
- Any new airport viability assessments submitted by the applicant must be as susceptible to unpredictable forecasts as their predecessors; yet it is the accuracy, or otherwise, of these forecasts, rather than a planning judgement – and one very much “on balance”, upon which the planning decision ultimately rests.
- As the proposal remains monumentally out of scale with existing infrastructure; is unable to return any provable sustained benefit to the airport; will generate significant HGV traffic movements and; as a departure is ultimately reliant upon a “*very much on balance*” decision informed by unpredictable viability forecasts, it entirely fails as an ‘enabling development’ and consent can only be refused.

Aviation Viability

- You cannot compare the actual travel times on a turn up and go basis, as detailed in the report. Although by train you can effectively turn up 5 minutes before departure and board your train, by air you have to include check in times and in airport transfer times. The times shown in the report do not include these. For a true like for like comparisons you have to factor in check in at Carlisle airport, 30 minutes and Southend airport 45 minutes (Aer Lingus Regional Carrier website). Plus transfer and baggage collection times at Southend, say another 30 minutes minimum. This will add at least 1 hour 45 minutes to the times shown to be realistic. Also this does not include a bus transfer from Carlisle out to the airport, for non car users, so you could add another 30 minutes at least. Thus your true total time could be + 2hours 35 minutes on the times shown.
- The figures provided show that Stobart Air will be working on a minimum 57% load factor i.e. 24 seats/41 seats. My partner is a regular weekly commuter between Carlisle and The City and travels on the trains used

for comparison. On average no more than 10/15 passengers board that train to travel up to London. This is far short of the figures required to meet the load factors quoted. Where are the substantiated statistics to prove that the demand is actually there and sustainable? Which companies can or will be able to provide daily passengers to support the route commercially to make it viable? Leisure traffic is certainly not there and is too reliant on outside factors to be guaranteed on a daily basis.

- In the report airport taxes are shown as being £37.00. A breakdown of this figure would need clarification and confirmation and to what extent are they subsidised?
- In the report it advises that, should cancellations occur, an aircraft would be flown from Southend to collect passengers at Carlisle. Very few airlines have spare aircraft standing by purely for that purpose; all aircraft are scheduled by yield management to be in the air as much as possible, they earn no money standing idly on the tarmac. Also it would not be viable to send an aircraft to Carlisle to pick up, say 10 passengers, it would be cheaper to reschedule them to a later flight or the next day. Bearing in mind there is only a morning and evening flight, so the day would be lost.
- The ATR aircraft does not, allegedly, have a good safety record in respect of air turbulence and could be of concern for passengers of a nervous disposition.
- As Carlisle will effectively be an international airport, Dublin being an international route, not domestic. What provision is being made for security fencing around the perimeter? Without adequate security, the airport will be an open opportunity for terrorism and other security issues such as theft and vandalism.
- What guarantee have we that Carlisle airport will meet the required CAA operational standards prior to commencing commercial passenger flights and will be fit for purpose?
- Have the City Council considered that the flight paths over fly a local school and have they taken the safety issue of this into account.
- We note that the air fare between Carlisle and London has now increased from the first quoted £100.00 to £200.00. Can Stobart Air tell us why the fares have doubled? The rail fares have virtually stayed the same.
- What guaranteed written long term contract have the City Council received from Stobart Air, stating that they will operate the schedules quoted for a given number of years irrespective of passenger numbers while the airport develops?

Emissions

- Aviation - The potential cost of carbon trading should be included in the viability assessments. However; the absence of reliable data on airport viability and aviation activity creates a Moebius loop of uncertainty and inaccuracy.
- Road Freight - Paragraph 6.6 of the Supplementary Greenhouse Gas Emissions Study, June 2014, states that relocating the depot is likely to increase CO2 emissions by between 0.48 kilo tonnes (kt) and 0.56 kt. (i.e. 480 – 560 tonnes of CO2) and representing a 4% increase in existing emissions, a figure approximating that of the average increase in trip distance. However; paragraph 6.9 states that It has not been possible to quantify the anticipated gains in efficiency and associated reduction in mileage and CO2 emissions that would be associated with operating out of a new facility, whilst a footnote, on page 19 of the study, states that natural turnover of the fleet will change emissions per vehicle. It is clear that as with the aviation emission assessments, those in respect of freight transport activity are based upon non empirical data and, as a result, will be susceptible to inaccuracy.
- It is equally clear that emissions will be increased in a way patently contrary to the stated aims of the European Commission White Paper (referred to at paras. 3.1 - 3.3 of the applicant's Supplementary Greenhouse Gas Emissions), and the European Parliament's 'Strategy for Reducing Heavy-Duty Vehicles' Fuel Consumption and CO2 Emissions', 21.5.2014.
- Table A2.1 of the applicant's Supplementary Greenhouse Gas Emissions Study shows that, with the exception of the trip between the airport the A69 at Brampton, re-locating to a Freight Distribution Centre (FDC) at the airport would result significant increases in mileage compared with the mileage associated with a FDC located at Kingstown – where the applicant acknowledges, at para.2.2 of the Supplementary Greenhouse Gas Emissions Study, that new state-of-the-art facilities could be developed on or near the existing site.
- Paragraph 3.11 of the Supplementary Greenhouse Gas Emissions Study refers to paras. 3.4 and 3.5 of the Draft National Policy Statement for National Networks, which sets out Governmental vision and policy regarding the future development of nationally significant road and rail network infrastructure projects. As The Government's view of greenhouse gas emissions arising from such nationally important projects will differ somewhat from that in respect of emissions arising from an entirely localised development, it would be disingenuous to accord the Draft National Policy any weight with regard to this application.
- The proposal would increase CO2 emissions. Whilst locally these increases may be relatively small, this does not diminish their wider significance in contributing to a cumulative National and European difficulty in achieving CO2 reduction targets. Yet the applicant admits that

it has not been possible to quantify the anticipated gains associated with operating out of the proposed facility. This flawed assessment in tandem with estimated aviation emissions based upon predictions admitted to be inaccurate, and on unpredictable financial viability forecasts, constitute little more than guesswork and will be heavily susceptible to error; therefore they cannot properly inform, and may even mislead, the decision making process.

- In view of the inherent unreliability of these assessments it would be wise to heed the opinion of Mr Justice Collins: *“Since the officers’ recommendation was only just in favour of grant of the application, it is in my judgment necessary to see whether the advice given is in any way unreliable. Even a relatively minor error or failure to have regard to a factor could tip the balance in a case such as this.”* [Brown v Carlisle City Council 2014]

Section 106 Agreement

- Section 106 agreements are used to make acceptable in planning terms, a development proposal that would otherwise be un-acceptable. Therefore; the absence of such an agreement, or an agreement which was inappropriate, or unenforceable, would therefore render the proposal unacceptable in planning terms
- Paragraph: 005 (Reference ID: 21a-005-20140306) of the Planning Practice Guidance website states *“Any proposed condition that fails to meet **any** of the six tests should not be used. This applies even if the applicant suggests it or agrees on its terms or it is suggested by the members of a planning committee or a third party.”* [Emphasis added]
- The six tests referred to being those found at paragraph 206 of the NPPF which states: *“Planning conditions should only be imposed where they are necessary, relevant to planning and to the development to be permitted, enforceable, precise and reasonable in all other respects.”*
- Carlisle City Council seeks a planning obligation by agreement pursuant to Section 106 in order to ensure that the airport is maintained for commercial flights in the short to medium term and would close only if its non- commercial use was not economically viable.
- However; Paragraph warns that; *“A condition precedent that does not meet the legal and policy tests may be found to be unlawful by the courts and therefore cannot be enforced by the local planning authority if it is breached.”* Paragraph: 016 states; *“It is not appropriate to require in a condition that a development/requirement should be carried out to the satisfaction of a third party as this decision rests with the local planning authority.”*
- Civil Aviation Authority (CAA) ‘Guidance on applying for an Aerodrome Licence’ states: *“The CAA considers that it would normally be appropriate*

for applicants to apply for planning permission, where required, and to have a reasonable expectation that such permission will be granted, before applying for an aerodrome licence.”

- CAA inspectors will determine the extent to which airport facilities; equipment and operational organisation meet the licensing requirements. Should a licence be granted, periodic follow-up inspections will be made to assess compliance with requirements, audit safety management and assess the competence of the responsible personnel.
- Paragraph 7.1 of CAP 168 (Conditions of Licence) states: “*Additional conditions may be added to a particular licence to take account of the conditions or circumstances at that aerodrome, and when appropriate this method will be considered by the CAA as a means of achieving a satisfactory level of safety by, **for example, limiting the type of flying activity which may take place when one or more of the criteria cannot be met.***” [Emphasis added]
- It is clear from the above that, irrespective of viability considerations, the ultimate decision, as to how, or even whether, the airport may be used for commercial air operations rests not with the applicant, nor Carlisle City Council but the Civil Aviation Authority i.e. a third party.
- Therefore; whether or not the Airport ever becomes operational for commercial passenger flights is beyond the control of either party to the Planning Agreement, thus making it impossible for that objective of the agreement to be enforced. The Planning Agreement also fails to meet the test of enforceability specified in the NPPF.
- The objective of the Planning Agreement is to make acceptable in planning terms, a development proposal that would otherwise be un-acceptable. However; the agreement is shown to be both inappropriate and unenforceable.
- As the Planning Agreement fails in its objective; the proposal remains unacceptable in planning terms and must be refused.

Kirkandrews Parish Council:- E-mail dated 26.07.14 – no comment.

Ramblers Association: - no comments received.

Royal Society for the Protection of Birds:

- Letter dated 19.01.11 and e-mail sent 29.03.11 - objects to the application on climate change grounds and due to insufficient information/analysis in the Environmental Statement (ES), which we believe needs to be provided to enable the Carlisle City Council to make an informed decision on this case.
- Letter dated 17.05.11 - Committee report 15.07.11 - maintain objection on climate change grounds and due to insufficient information/analysis

in the Environmental Statement, which the RSPB believe needs to be provided to enable the City Council to make an informed decision on this case. The RSPB also believe that the Appropriate Assessment needs to be updated.

Department Of Transport (Aviation Security): - no comments received.

Tynedale Council : - no comments received.

Cumbria Tourism:

- Letter dated 29.12.10 - strongly supports this application and considers that it is crucial to the economic regeneration of Cumbria and the visitor economy of both Carlisle and the wider sub-region.
- E-mail 04.07.14 - Maintains its support for this application. Cumbria Tourism has consistently pressed for an expansion of facilities at Carlisle Airport to enable it to commence commercial air services which would be attractive to inbound visitors to the area. A more detailed outline of the potential benefits from a Cumbria Tourism perspective was submitted at an earlier stage. In addition there will be benefits in terms of new jobs, image enhancement for Carlisle and Cumbria as a place to live, work and visit and the wider business investment that it would attract.

Scottish Enterprise: - support the proposals as the potential for growth is likely to be of complementary benefit to South West Scotland and may support local initiative to diversify the economy. Note that the proposal are considered to be necessary to secure the long-term future viability of the airport and may provide the platform for future air passenger and freight service development that could be of benefit to the wider regional economy in the longer term (letter dated 10.01.11).

Cumbria County Council - (Archaeological Services): -

- Letter dated 13.01.11 – Carlisle Airport contains an internationally recognised designated heritage asset and several important heritage assets that are not designated. It also has a high potential to contain currently unknown archaeological remains. It is therefore recommended that in line with Policy LE8 of the Local Plan that information is provided on the presence/absence of any heritage assets located in these areas and how their significance will be affected.
- Letter dated 06.04.11 - Aware of comments made by English Heritage in respect of the Roman camp Scheduled Monument. An archaeological evaluation has been undertaken which indicates that outside of the Scheduled Monument no significant archaeological remains will be affected by the proposed development.
- Letter dated 09.07.14 – The extensive archaeological work commissioned by the applicant indicates that no significant

archaeological remains will be disturbed by the proposed development outside of the Scheduled Monument area.

Cumbria County Council (Spatial Planning):

- Letter dated 22.12.10 – comments in respect of previous applications are still applicable to ensure that the developer enters into a Section 106 Agreement to secure: the continued improvements to airport infrastructure and that any future development is relation to the airport location; and the delivery of a Travel Plan and bus service to serve the development. The City Council should also undertake an assessment of the ecological impacts of the development and ensure that the proposed woodland belt on the southern boundary of the site is at least 15 metres wide.
- Letter dated 14.05.12 – we would like to take this opportunity to re-affirm the previous comments made by DC&R in relation to the current planning application for the site (10/1116). In this regard, in principal, the development proposed supports the development strategy of the Cumbria Sub-Regional Spatial Strategy, and could provide for the continued operation of the airport site. The economic benefits from the scheme alone are significant, and the potential to stimulate further growth in Carlisle area is also a key factor. We believe that the proposed development has the potential to positively transform Cumbria's image, and dispel its popular perception as a peripheral business location.

We would also reaffirm our previous comments in relation to providing a S106 Agreement to secure planned improvements to the airport infrastructure and ensure that future development is related to the airport location. Our Highways & Transport response of 23 May 2011 sets out 6 conditions that should be applied to any consent you may issue in relation to Highways & Transport matters. These deal with: the access of the A689; signage from the Trunk road/motorway network (both to be dealt with through a Highways Act 1980 Section 278 Agreement with this Authority); and measures to promote the use of sustainable transport, including a Travel Plan and monitoring thereof, (which will need to be secured by way of a Town & Country Planning Act 1990, Section 106 Agreement to ensure the delivery of the actions in the Travel Plan and a bus service to serve the development upon occupation).

These conditions are similar to those conditions outlined in Annex 1 of the DC&R report for application 08/1052. We would be grateful if the developer liaise with us as soon as practicable, following any consent being given so that the work involved in developing and agreeing the aforesaid Section 106 and 278 Agreements and can be managed in a timely fashion so the necessary infrastructure works can commence in early course as these would appear to be needed early in the constructional phases of the development.

In terms of environmental impacts, we would advise that the City Council need to ensure that they verify the effects of the proposed development on nature conservation interests and seek the developer to implement appropriate biodiversity prevention, mitigation, compensation and enhancement measures. The City Council will also need to be satisfied by the developer that the width of the proposed woodland belts on the northern and southern boundaries of the site is adequate and is at least 15m wide.

- Letter dated 09.07.14 – Cumbria County Council Economic Development retains its support for the airport development as it will bring economic benefits to the county. This project is referenced in the Cumbria LEP Strategic Economic Plan as important to the M6 corridor priority and to Cumbria as an international tourism/world class visitor destination.

Cumbria County Council - (Highway Authority):

- Letter dated 13.01.11 – Need to address further matters such as accident analysis, assumptions for construction traffic/air passenger traffic, growth factors, modelling of two roundabouts, the suitability of Irthington Road and Little Corby road for increased traffic, the Travel Plan should contain measures to overcome barriers to accessibility, and car parking. The junction to the east of the site (Irthington Road) should be stopped up for the first 400m. This will then provide the opportunity to create a link road through the airport.
- Letter dated 01.03.11 - the applicant has now shown that the issues surrounding this application from a highways point of view can be mitigated by conditions. The original recommendation of refusal to this application can therefore be withdrawn.
- Letter dated 23.05.11 – the Highway Authority has raised no objections to the impact that the development has on the highway network other than to require the roundabout, improved signing and the travel plan.
- Letter dated 09.07.14 – We can now confirm that the final version of the transport related items are now in order and that the Highway Authority has no objection to the data/findings. Previous comments made still apply.
- E-mail 28.07.14 – it will be appreciated if the advance signage for the Irthington and Laversdale junctions could be included in a condition.

Cumbria Constabulary - North Area Community Safety Unit (formerly Crime Prevention): - satisfied that a package of robust measures shall be implemented by the applicant, particularly in response to continuing offences committed against the road haulage industry. Security matters relating to airport activity are influenced by TRANSEC (E-mail dated 07.01.11).

Cumbria County Council (Ecology): - the RSPB response outlines that there is direct habitat loss of 23ha of County Wildlife Site. This loss would have to be fully compensated for.

Cumbria Fire Service: - no comments received.

Cumbria Wildlife Trust: - objects to the application on the grounds of: lack of a complete season of wintering bird information and analysis of results; absence of information regarding proposed compensation/enhancement for loss of part of the Carlisle Airport County Wildlife Site; and climate change and sustainability (Letter dated 21.01.11)

Department for Transport (Highways Agency): - Letter dated 01.07.14 – offers no objection.

Environment Agency (N Area (+ Waste Disp)): -

- Letter dated 25.01.11 – We object because it involves the use of a non-mains foul drainage system in a publicly sewered area.
- Letter dated 17.03.11 – Although no objection in principle to the majority of the development we still have concerns regarding the proposed package treatment plant and therefore maintain our current objection.
- Letter dated 10.05.11 – Given the proximity and availability of the foul sewer we consider it reasonable to connect to the foul sewer.
- Letter dated 24.06.11 - Confirm that through discussions with agent and subsequent receipt of letter and of Drawing Number D133593/PL/076A received 21st June, illustrating the proposed connection to public sewer, the Environment Agency are now in a position to remove its previous foul sewerage disposal objection subject to the imposition of conditions.
- Letter dated 23.06.14 – We have considered the conditions in the previous decision notice and would support the following being carried through to this decision: condition 10 (site management plan); condition 18 (drainage scheme); condition 20 (bundled areas); condition 21 (drainage); condition 23 (biodiversity management & enhancement plan); condition 24 (great crested newt method statement); condition 25 (contamination); condition 26 (unsuspected contamination).

English Heritage - North West Region:

- Letter dated 19.01.11 and e-mails dated 04.03.11, 20.04.11, 24.05.11, 09.06.11 & 29.06.11 - initial concerns with regard to the potential impact of the drainage and resurfacing of the runway on the scheduled remains of Watchclose Roman camp, and the potential implications with regard to the option to connect to the public sewer.

In relation to the drainage and resurfacing of the runway no objections have subsequently been made on the basis that the maximum depth of excavation for the drainage is 300mm below the present ground level; the imposition of conditions requiring further approval by the Council of a final drainage design and resurfacing; and (given the discovery of a probable defensive feature outside the northern entrance to the camp) the results the evaluation work are placed in the public domain, through a short publication in a local archaeological journal.

English Heritage has also confirmed that they have no issues with the works shown on the main sewer although the rising main route crosses the line of the Stanegate Roman road because it is in an area where this is unlikely to be well preserved, and the Agent's recommendation for this work to be covered by an archaeological watching brief is considered to be acceptable. In terms of other archaeological impacts, works outside the airport site involve the use of existing sewer pipes with no excavation. As such, the only remaining potential concern is with reference to United Utilities intention to 'upgrade the Irthington works' details of which would need to be resolved.

- Letter dated 14.05.12 - Committee report 03.08.12 - English Heritage's guidance on setting was developed in a process which, alongside many other issues, drew on the approach to setting issues we have developed over many years for the Hadrian's Wall. This process is based on the understanding that the contribution that setting makes to the Outstanding Universal Value of the Hadrian's Wall World Heritage Site, this being that which gives the Site its importance and which is detailed in the Unesco documentation accepting Hadrian's Wall as a World Heritage Site, is in allowed an appreciation and understanding of the Roman military planning and land use. It is therefore specifically this appreciation and understanding that we are trying to protect from harm in commenting on planning applications, and this approach allows us to distinguish between applications that cause harm to what is significant about Hadrian's Wall and those that are merely visible from it. This is not to downplay the other visual impact that a particular application might have, but just to highlight that it is these aspects rather than, for example, more general landscape impacts, that we need to limit our comments on.

It was in light of this approach that English Heritage provided its advice on the current application for the Airport site. This approach is also in line with the recently published English Heritage setting guidance. Although this clearly deals with the issue of setting across all historic assets and not just scheduled monuments/World Heritage Sites, its essential approach, which relies on understanding the role that the area around a historic asset plays in the significance of that asset is in line with that developed and applied on Hadrian's Wall.

As such, can confirm that English Heritage do not wish to revise our earlier advice, that the current application will not have an unacceptable impact on the Outstanding Universal Value of the World Heritage Site, in

light of the publication of our setting guidance

Council for Protection of Rural England/Friends of the Lake District:

- (i) Letter dated 24.01.10 - the proposal does not appear to have materially altered since the previous submissions in 2007 and 2008. The fundamental concerns raised are prematurity, the local environment, location, economic rationale, climate change and sustainability remain of relevance.
- (ii) Letter dated 23.06.14 – The fundamental objections to this proposed development in our previous response to this application with regard to prematurity (need for a Carlisle Airport Area Action Plan), the local environment, location, economic rationale, climate change, and sustainability remain of relevance

Friends of the Earth (Local Group Carlisle): - no comments received.

Health and Safety Executive: - no comments received.

Hadrians Wall Heritage Limited: - support the proposed development and the economic benefits associated with it. The development should increase job opportunities, visitor access to the World Heritage Site and, in particular, retain a very major employer within the Carlisle district, which all weigh heavily in favour of the development (E-mail received 13.01.11).

Local Environment - Environmental Protection (former Comm Env Services- Env Quality): - assessed the proposal with regards to the likelihood of the proposal resulting in a statutory nuisance to neighbouring properties, including noise and light etc. The statutory nuisance legislation does not include noise from aircraft or aircraft movements as this is enforced by the CAA; however, from the submitted information there are no objections to the proposal.

The design and location of the lighting should be such that it does not cause a nuisance, either directly or by glare to any neighbouring properties. Should any unforeseen contamination be encountered, the developer should contact the LPA before development continues. There are no concerns regarding air quality issues from the information provided.

Natural England:

- Letter dated 21.01.11 - The LPA must undertake an appropriate assessment regarding the River Eden SAC and Upper Solway Flats and Marshes SPA. It is our opinion that the proposed development will not materially or significantly affect the White Moss SSSI as long as high environmental protection measures are incorporated into the drainage strategy in order to safeguard the water quality of the surface water run-off entering Baron's Dike North from the airport. NE considers that the proposal will affect the County Wildlife Site therefore need to detail proposed mitigation and habitat enhancement. The

mitigation section of the ES pertaining to protected species should be ensured through appropriately worded conditions should permission be granted. All plants for the landscape planting should be sourced from disease free stock.

We consider that increases in greenhouse gas emissions from airport expansion and also from increased surface transport related to expansion should be investigated.

Having reviewed the Travel Plan, NE is disappointed to see only a 6% reduction in car traffic planned for 2014. We would have liked to see a higher percentage reduction aimed for (e.g. 10%)

- E-mail sent 23.06.11 - facilities for dealing with foul drainage must ensure that there is no adverse impact on the water quality of the River Eden SAC and this must be clearly documented in the City Council's River Eden SAC Appropriate Assessment. The relationship between the development (including timescales), requirement for treatment and disposal of foul drainage, and the availability and capacity of the public sewer system and upgraded facility at Irthington should be considered in the Appropriate Assessment in relation to the water quality assessment. If a satisfactory conclusion can be reached to meet UU and EA concerns, and the outcome secured through the planning process, then this can be documented in the AA.
- E-mails sent 13.05.11 - No further information requested. Whilst the Airport monitors use of fields by large flock forming birds, it is worth noting that there has been no significant historical bird hazard issues associated with the SPA species, nor are any envisaged in the future (including specifically in relation to airport safeguarding). Flocks of these birds feeding in overflowed fields are not disturbed into flight by aircraft movements, a fact that contributes to their relatively benign level of bird strike risk.
- E-mail sent 18.03.13 - subject to appropriate mitigation, as detailed in the appropriate assessments for the Upper Solway Flats and Marshes SPA and the River Eden SAC, being conditioned as part of the planning permission a conclusion of no adverse effect on the integrity of the European sites can be reached.

Obviously, the conditions should reflect the mitigation measures detailed in the appropriate assessments for each site, and it is my understanding that this is the case.

The appropriate assessments were carried out subject to the same guidance and principles as we would expect for any case, and were subject to numerous discussions throughout the process to ensure clarity. The role of the appropriate assessments in the Habitats Regulations process is to determine whether an adverse effect on the integrity of a European site is possible, and should take into account all mitigation proposed when considering the conclusion, which has

happened in this case.

- Letter dated 25.06.14 - The application site is 1.3km from the River Eden & Tributaries Site of Special Scientific Interest (SSSI). This SSSI is part of the River Eden Special Area of conservation (SAC). The site is also 13km from the Upper Solway Flats & Marshes SSSI, which is part of the Upper Solway Flats & Marshes Special Protection Area (SPA) & Ramsar and the Solway Firth SAC.

We have reviewed the updated information, and as there has been no material change to the previous application our previous responses are still valid. For the previous application Natural England signed off the Appropriate Assessments for both the Upper Solway Flats & Marshes SPA/Ramsar and the River Eden SAC. Both Assessments concluded no impact on site integrity.

Subject to appropriate mitigation, as detailed in these Appropriate Assessments, still being conditioned as part of the planning permission, a conclusion of no adverse effect on the integrity of these European sites can still be reached.

Specifically the following conditions from the previous permission should be applied:

Condition 10 - Construction Site Management Plan

Condition 14 – Service/haulage Yard Management Plan

Condition 23 – Biodiversity Management and Enhancement Plan

Our concerns regarding the potential impacts upon the aforementioned SSSI's coincide with our concerns regarding the potential impacts upon the European designated sites, and are detailed above.

We previously advised URS to update the Ecological surveys for the site due to the time that has elapsed since the previous application, which they have now completed. However we have not assessed this application and associated documents for impacts on protected species.

Natural England has published Standing Advice on protected species. The Standing Advice is a material consideration in the determination of applications in the same way as any individual response received from Natural England following consultation. You should apply our standing advice to this application.

- E-mail 10.07.14 - We agree with the conclusion in the River Eden SAC Appropriate Assessment report. We also agree that no in-combination assessment is required, and agree with the conclusion in the Upper Solway Flats & Marshes SPA Appropriate Assessment report. With regards to in-combination assessments with other relevant Plans and Projects Natural England advise that imposing the conditions and Section 106 Agreement/Deed of Variation referred to will rule out any residual effects, and therefore no in-combination assessment is

required.

United Utilities: -

- (i) Letter dated 27.01.11 - In relation to the alternative drainage proposal which includes foul flow from the 'South-side', there seems to be potential way forward in developing a solution to allow foul drainage from both the North and South runway developments at Carlisle Airport (Irthington) entering the public sewer network. However the detailed design of the drainage scheme and confirmation of population equivalent loadings from the Airport will be the final determining factor in the feasibility of this new proposal. The sensible and appropriate approach to this matter is considered to be:
 - (a) if UU subsequently finds that connection to public sewer (with whatever design controls or additional measures agreed) is acceptable, this will allow foul waste to be treated (at Irthington);
 - (b) if UU finds it is unreasonable to connect to public sewer, despite incorporation of best and most feasible design measures, then the package plant will be the most reasonable option, and foul waste will similarly be treated (although this time, on site);
 - (c) in extremis, in the event that the EA and UU are unable to approve a foul drainage design (as submitted to them via the Council as a condition of planning permission) the scheme will not go ahead until another option is accepted.

The planned up-grades to Irthington WwTW will not be complete until May 2013. Therefore United Utilities will not be able to accept the full foul flows, until completion of the Irthington WwTW upgrades. If additional foul flows are expected from the development before this date, temporary treatment on site may be necessary until the flows can be transferred.

- (ii) E-mail sent 14.03.11 - UU have been able to secure funding from Ofwat to support the Carlisle Airport Development with a proposed transfer project to be delivered by May 2013. The scheme has been scaled to accommodate the growth as outlined in the planning application. Conditional non-objection to this application.
- (iii) E-mail sent 28.07.14 - The work on Irthington WwTW has been completed.

6. Officer's Report

Assessment

- 6.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that proposals be determined in accordance with the development plan, unless material considerations indicate otherwise. In this instance, the development plan comprises the saved policies of the Carlisle District Local Plan (CDLP) 2001-2016. The relevant policies of the CDLP (2001-2016)

are: DP1 DP3, DP7, CP1, CP2, CP3, CP4, CP5, CP6, CP9, CP10, CP11, CP12, CP15, CP16, CP17, EC22, LE2, LE3, LE4, LE5, LE6, LE7, LE8, LE9, and T1.

- 6.2 At a national level, other material considerations include the Community Infrastructure Levy Regulations 2010 as amended; the National Planning Policy Framework, March 2012 (the Framework/NPPF), Planning Practice Guidance (April 2014), and the Noise Policy Statement for England (March 2010).
- 6.3 Members also need to have regard to the Climate Change Act 2008; “Meeting the UK aviation target – options for reducing emissions to 2050” (December 2009) report by the Committee on Climate Change; “Mainstreaming sustainable development – The Government’s vision and what this means in practice” (2011) Defra; the “Aviation Policy Framework” (March 2013); “Travel Plans and the Planning Process in Cumbria: Guidance for Developers” (March 2011); the Cumbria Landscape Character Guidance and Toolkit (March 2011); and “Britain’s energy coast – a Masterplan for West Cumbria” produced by Cumbria Partners, Cumbria Vision, Allerdale BC, Copeland, Cumbria CC, NWDA and NDA. The Executive Summary of the Masterplan for West Cumbria, in relation to Carlisle Airport, states that:
- “Improvements to air access being taken forward by the private sector represent a significant opportunity for improving journey times to London and beyond as would air links to Manchester, Newcastle and Glasgow airports, including the potential for local airfield connectivity.” (p.32)*
- 6.4 The applicant’s agent has previously made reference to the “Airport Employment Land Masterplan – Development Strategy” (May 2010) prepared by AECOM et al. However, this document did not enter the planning process and therefore is not regarded as a document supporting the City Council’s Local Plan. The County Council has also confirmed that this Masterplan has no formal status as a County Council policy or strategy document.
- 6.5 When assessing this application it is considered necessary first to assess whether and to what extent the proposal accords with the policies of the Development Plan; to what extent the application and the relevant development plan policies accord with the Framework/NPPF; to look at the consequences of the proposal in terms of the highway network, the emission of greenhouse gases, air quality/odour and noise; discuss the impacts on the natural and historic environments; address specific concerns raised regarding air safety; and then assess the likely socio-economic benefits. Thus the principal issues are:
- whether and to what extent the application accords with the Development Plan;
 - to what extent the application and the relevant development plan policies accord with the Framework/NPPF;
 - the highway network/safety;
 - greenhouse gas emissions inclusive of the proposed Travel Plan/likely

- means of travel;
- the impact on air quality and odour;
- noise;
- landscape and visual impact (inclusive of the setting of Hadrian's Wall);
- ecology and nature conservation/biodiversity;
- archaeology;
- air safety including bird strike; and
- the socio-economic impact (inclusive of the prospect of commercial aviation).

6.6 As part of this assessment regard also has to be had to the ability of conditions and a Section 106 Agreement to make the proposed development acceptable and mitigate any harmful effects of the proposal. Under regulation 122(2) of the Community Infrastructure Regulations 2010:

“A planning obligation may only constitute a reason for granting planning permission for the development if the obligation is –

- a) necessary to make the development acceptable in planning terms;*
- b) directly related to the development; and*
- c) fairly and reasonably in scale and kind to the development.”*

These tests are echoed in para.204 of the NPPF.

Whether and to what extent the application accords with the Development Plan

6.7 Under the Carlisle District Local Plan 2001-2016 Policies DP1: Sustainable Development Locations and DP3: Carlisle Airport, and Proposal EC22: Employment and Commercial Growth Land Allocations are of direct relevance.

6.8 Policy DP1 requires all proposals for development to be assessed against their ability to promote sustainable development. Proposals will be considered favourably within the locations identified within the policy, provided they are in scale with the location and consistent with other policies of the Local Plan. The locations identified are prioritised as the City of Carlisle, the Key Service Centres of Brampton and Longtown, and the 20 Local Service Centres which include Dalston, Wetheral and Houghton. Outside those locations, development is required to be assessed against the need to be in the location specified. DP1 must of course be read alongside the policies that succeed it.

6.9 Policy DP3 provides that:

“Proposals for development at Carlisle Airport will be supported where they are related to airport activities and in scale with the existing infrastructure and minimise any adverse impact on the surrounding environment. Proposals for larger scale redevelopment to facilitate an improved commercial operation will have to take into account the impact of development on uses outside the perimeter of the airport including nature

conservation interests, the historic environment including Hadrian's Wall World Heritage Site and its Buffer Zone, the existing highway network and road safety. A strategic employment site has been allocated in Proposal EC22." [Underlining added].

- 6.10 At this stage, Members should note that policy DP3 does not require development to secure commercial air transport movements. The policy supports, in principle, airport-related development in scale with existing infrastructure. The Policy also notes the allocation of the Strategic Employment Site under related Proposal EC22 and the supporting text observes that *"the development of Carlisle Airport has the potential for supporting economic development throughout the region"*.
- 6.11 Under Proposal EC22, to...*"provide for employment development needs in addition to sites with planning permission, an additional 77 hectares are allocated for employment purposes, providing for a variety of employment needs including B1, B2, B8 industrial uses and A1 retail uses"*. Members will note that B8 industrial use here includes use for storage and distribution. The 77ha of employment land is disaggregated between the urban and rural areas of the District. However, with due regard to Policy DP1, the bulk of provision is made within the urban area of Carlisle. Of the rural allocation, 21.15 hectares is identified for a Strategic Employment Site at Carlisle Airport, that allocation broadly reflecting the extent of land subject to a previous planning permission in 1989, for employment development.
- 6.12 Although Members will appreciate that the former Regional Planning Guidance, Structure Plan and the Aviation White Paper are now no longer of direct relevance. Paragraph 4.88 of the reasoned justification for Proposal EC22, with regard to the Carlisle Airport allocation, reads as follows:
- "The 21.06 hectares of land allocated for development at Carlisle Airport were previously the subject of planning permission although this has now expired. The airport has potential as a strategic site for inward investment and would therefore be suitable for industrial or commercial development including development with a need to be located at the airport. Regional Planning Guidance, the Structure Plan and the Aviation White Paper recognise the value of airport related development in providing business and light aviation facilities. In addition, development that is airport or transport related with a requirement to be located at the airport, or which will meet the needs of local businesses in the Brampton area will be considered favourably. Although the airport is located over four kilometres from the centre of Brampton, the airport does provide an opportunity for extensive employment users such as hauliers, for which there is no provision in Brampton. A Masterplan is being prepared for the long-term airport development."*
- 6.13 The Court of Appeal has recently held (the case of Cherkley in May 2014) that the requirements of a local plan policy cannot be added to by the wording of its supporting text. The same would apply in law to local plan proposals.

6.14 On this basis the present planning application does not have to comply with the additional requirements of paragraph 4.88 of the Local Plan and it suffices in this respect that the proposed development accords with Proposal EC22. That Proposal, consistently with the Proposals Map, and as foreshadowed by Policy DP3 (above), allocates some 21 ha of land at Carlisle Airport as a strategic employment site.

6.15 Although the extent of the proposed development (excluding the car park to the east of the existing passenger terminal) is approximately 28.6 hectares when the various components are disaggregated, it is evident that the site area of the proposed FDC extends to just over 15 ha (excluding the connection to the main sewer and a surface water lagoon) with the remainder comprising infrastructure for the airport in the form of the plane stands and site of the proposed fire station. In effect the extent of the proposed FDC is less than 21.15 hectares and thereby does not extend beyond the area designated for employment under Proposal EC22. On this basis it is considered that the proposed FDC accords with Proposal EC22, and that the remaining land within the application site (to be used as parking aprons for aircraft etc) is in accord with Policy DP2 as airport related development.

6.16 In relation to the emerging Local Plan, the City Council has prepared the “Carlisle District Local Plan 2015 – 2030 Preferred Options Consultation – Stage Two” (POC) (Spring 2014). Chapter 4 of POC is headed the “Economy” and Policy 1 of which states with regard to the Airport that:

“In the rural area, within the boundary of Carlisle Airport, development that is related to airport activities will be acceptable. In addition, enabling employment development that would facilitate the further operational development of the airport will be acceptable. In the case of the latter, applicants will have to provide evidence of how their proposals will facilitate retention and/or expansion of aviation related activities.”

6.17 Paragraph 216 of the Framework states that:

“From the day of publication, decision- takers may also give weight to relevant policies in emerging plans according to:

- The stage of preparation of the emerging plan (the more advanced the preparation, the greater the weight that may be given);*
- The extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight may be given); and*
- The degree of consistency of the relevant policies in the emerging plan to the policies in this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given).”*

6.18 In this instance the emerging Local Plan has reached only the Preferred Options Stage, is the subject of objections (both ways) and has yet to be submitted to the Secretary of State for examination As such, given limited

progress through the process towards adoption and the existence of objections, it should not at this stage be attributed any significant weight.

To what extent the application and the relevant development plan policies accord with the Framework/NPPF

- 6.19 At a national level, other material considerations include the National Planning Policy Framework, March 2012 (the Framework/NPPF), and Planning Practice Guidance (April 2014). Paragraph 215 of the NPPF highlights that due weight should be given to policies in such existing development plans according to their degree of consistency with the Framework.
- 6.20 Paragraph 6 confirms that the policies set out in paragraphs 8 to 219 of the Framework, taken as a whole, constitute the meaning of sustainable development. Paragraphs 7 and 8 identify three dimensions (and consequent roles for the planning system) regarding sustainable development, namely: economic, social and environmental. These roles should not be taken in isolation, because they are mutually dependent. As an aside, it should also be noted that the Government's intention is for the Aviation Policy Framework (March 2013) to support sustainable development and be delivered in a way which is consistent with its principles (para.18).
- 6.21 The NPPF does not change the statutory status of the development as the starting point for decision making. Proposed development that accords with an up-to-date Local Plan should be approved, and proposed development that conflicts should be refused unless other material considerations indicate otherwise (para. 12).
- 6.22 Paragraph 14 of the NPPF highlights the presumption in favour of sustainable development which is referred to as "a golden thread". For decision-taking this means:
- "approving development proposals that accord with the development plan without delay; and*
- where the development plan is absent, silent or relevant policies are out-of-date, granting permission unless:*
- any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or*
- specific policies in this Framework indicate development should be restricted."*
- 6.23 Paragraph 17 of the NPPF identifies 12 core planning principles including taking account of the different roles and character of different areas; supporting the transition to a low carbon future; contribute to conserving and enhancing the natural environment and reduce pollution; and the conservation of heritage assets.

- 6.24 On the matter of promoting sustainable transport, paragraph 30 of the Framework puts the emphasis on local planning authorities supporting “*a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.*” Paragraph 31 goes on to say that:
- “Local authorities should work with neighbouring authorities and transport providers to develop strategies for the provision of viable infrastructure necessary to support sustainable development, including large scale facilities such as rail freight interchanges, roadside facilities for motorists or transport investment necessary to support strategies for the growth of ports, airports or other major generators of travel demand in their areas.”*
- 6.25 Planning for airports and airfields should take account of their growth and role in serving business, leisure, training and emergency service needs (para. 33 of the NPPF). Plans should, nevertheless, protect and exploit opportunities for the use of sustainable transport modes for the movement of goods and people. Therefore, developments should be located and designed where practical to, amongst other things, “*accommodate the efficient delivery of goods and supplies*” (para. 35).
- 6.26 When assessing this application in this context, it is recognised that one of the core principles of the NPPF is to support economic growth (economic growth being one of the three dimensions of sustainable development along with the social and environmental strands) but also that the need for sustainable development in its full sense is acknowledged. On this basis the need for economic growth does not in itself indicate that permission should be granted.
- 6.27 Under the NPPF the presumption in favour only applies to sustainable development. Whether considering this by reference to a test of whether adverse impacts would significantly outweigh benefits, or by way of a test of whether the development is in accordance with paragraphs 18-219 as a whole, and having regard to all the issues discussed later in this report, it is considered that the proposed development constitutes sustainable development.
- 6.28 In paragraph 6.15 above it is made clear that the proposal for the freight distribution centre is considered to comply with Policy EC22 of the development plan. The proposal in this location is considered to be consistent with the up-to-date spatial strategy of the development plan. The current Local Plan is neither absent nor silent, and the relevant policies are considered neither to be out-of-date nor inconsistent with the Framework. Due weight should be given to the relevant policies of the Local Plan.
- 6.29 The first sentence of Paragraph 14 of the NPPF (set out at paragraph 6.22 above) advises that “*development proposals that accord with the development plan*” should be granted.
- 6.30 ; The presumption in favour of granting permission therefore applies but officers are of the view that, even if a more conventional balancing exercise

were carried out, the development accords with the development plan and material considerations do not indicate that the decision should be other than in accordance with the development plan.

- 6.31 The report now considers the specific consequences of the proposal in terms of the highway network, the emission of greenhouse gases, air quality/odour, noise, visual impact, ecology/biodiversity, archaeology, and air safety.

Highway network

- 6.32 Paragraph 32 of the NPPF states:

“All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- *The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
 - *Safe and suitable access to the site can be achieved for all people; and*
 - *Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development.*
- Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.”*

- 6.33 In relation to traffic, and the information originally contained in the ES and Transport Assessment, ASA highlighted in May 2011 (“Review of Planning Application – final Rreport”) that the relevant section of the ES did not include the B6264 (Old Brampton Road) west of Linstock although this is likely to form the most direct route from the centre of Carlisle; the assessment is unclear with regard to traffic predictions that take account of the Carlisle Northern Development Route inclusive of Junction 44 of the M6; the time periods used for background analysis were 08.00 to 09.00 hours for the AM peak, and 17.00 to 18.00 for the PM peak, however these are not the peak hours for traffic generated by the development e.g. the PM peak 17.00 to 18.00 in 2025 (Table 5.22 of the ES) the development is said to generate 91 car trips and only 4 HGV trips compared to 14.00 to 15.00 where there are to be 123 cars out and 92 HGV trips; the FDC is scheduled to operate on a seven day week basis but no comment is made on the level of week-end traffic – it is likely that background traffic is much lower outside the weekday peak periods but this has not been demonstrated; a growth figure of 25% is used from 2012 to 2025 but it is not clear how this growth forecast is derived and whether this is the maximum possible growth; it appears from the agent’s letter dated 8th February 2011 that all passengers are assumed to park on-site generating one return vehicle trip – it is possible that a proportion would be dropped off and met either by taxi or family/friends generating two return vehicle trips; the average car occupancy assumption of 2.6 passengers per vehicle appears high; air passenger demand is spread throughout the day as opposed to taking account of peak periods; the AM and PM traffic flows on road links quoted in the ES and TA are shown as total two directional flows as opposed to an analysis of the number of vehicles in each direction.

6.34 ASA also pointed out that the submitted TA identifies “...an accident cluster at the A689/Houghton Road North staggered T-junction.” This is on the main route for HGVs between the FDC and the M6, however the significance of this is not addressed in either the TA or the ES. A letter from the agent dated the 11th February 2011, states:

“One accident cluster is evident at the A689/Houghton Road North staggered T-junction and this has been further analysed. There were 6 recorded accidents at this staggered T-junction during the period 1st January 2005-31st December 2009. Of the six recorded accidents none involved HGVs (>7.5t), however two of the recorded accidents involved light goods vehicles (<3.5t).”

6.35 However, section 2.23 of the Transport Assessment states:

“Analysis of accident location shows that there is an accident cluster at the A689/Houghton Road North staggered T-junction. Of the total recorded accidents, 4 involved Heavy Goods Vehicles (HGVs).”

6.36 In response to these comments, the agent has explained that: the study area network is relatively large and the nature of traffic on the A689 is known to comprise a high level of longer distance traffic; modelled flows with the Carlisle Northern Relief Route for the A689 between Junction 44 of the M6 and the Linstock roundabout forecasted a 30% drop in flow; the AM and PM peak hours have been assessed because this represents the network peak flow; there is no discrepancy between the TA and the agent’s letter dated the 8th February 2011 because the reference in the TA relates to 4 accidents involving HGV’s and covers the whole of the study area as opposed to just the A689/Houghton Road junction.

6.37 In response to concerns raised by local residents regarding the highway network following construction of the CNDR, URS confirmed the following:

- The robustness of the ES supporting the application has been tested by re-running capacity models using the most recent data, collected since opening the CNDR. This took account of the 5.1% uplift and concludes that: sufficient capacity remains at all junctions affected; calculations show no significant change; and the conclusions of the TA and ES remain as presented at the time the application was made.
- The assessment methodology had been undertaken to appropriate standards, as agreed with the Highway Authority, and has been revisited in light of data relevant to the opening of the CNDR.
- URS expect that the DfT would discuss the implications of any suggested increase in trailer length with highway authorities throughout the country, including Cumbria County Council. However, the A689 is a high capacity route designed to appropriate standards and they would not anticipate any issues associated with an increase in trailer length of up to 2.05m.

- 6.38 In July 2012 the Acting Highways/Transportation Manager wrote to explain that they had been able to compare traffic flows in May 2012 against recent years and, although not fully validated, they suggest that there might have been a slight reduction in traffic at Crosby Moor and a very slight increase at Houghton. The review by the developer based on observed traffic flows following the opening of the CNDR suggests that the junctions at the proposed new roundabout and at Linstock and Brampton will still operate effectively in 2025. The link capacities had also been re-assessed by the developer and this showed that there is adequate capacity to cater for projected growth. As a result of this, the Highway Authority did not raise any objections other than to require the roundabout, improving signage, and the travel plan.
- 6.39 The supplementary report of June 2014 and the traffic flow tables (July 2014) submitted on behalf of the applicant highlight that the proposed development remains identical and all construction and operational impacts predicted to result from the development therefore remain constant. The submitted tables identify a reduction by 10% in the AM peak on the A689 to the east and west of the site access; and an increase by 15% in the PM peak (from 894 to 1028 vehicles). However, this is in the context that the annual average daily traffic difference between the estimated 2014 Base Flow from the application data (10592) and the estimated flow from Cumbria CC data (10483) for the A689 to the east and west of the site is -1%. On this basis URS has concluded that the traffic assessment that was originally presented in the TA is robust and therefore no further assessment is required.
- 6.40 In response to this additional data the Highway Authority and Highways Agency have not raised any objections to the proposal.
- 6.41 In conclusion, this issue has been the subject of extensive scrutiny during all the various phases of processing this application, and the subject of updated information. This scrutiny has led the Highway Authority and Highway Agency not to raise any objections. This is in the context that the proposed development is considered to be consistent with the spatial strategy of the development plan.

Greenhouse gas emissions inclusive of the proposed travel plan/likely means of travel

- 6.42 The Climate Change Act 2008 imposed a duty on the Secretary of State to ensure that emissions in 2050 are at least 80 per cent lower than in 1990, and in January 2009 the then Government set a target that CO2 emissions from UK aviation in 2050 should be at or below 2005 levels (Parliamentary statement of Mr G Hoon MP in Hansard 15.01.09 vol. 486 No. 14 col. 359).
- 6.43 In relation to spatial planning and greenhouse gas emissions paragraphs 34, 93 and 95 of the NPPF state that plans and decisions *“should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes*

can be maximised” (para. 34)...[planning] “ plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions [and]This is central to the economic, social and environmental dimensions of sustainable development.” (para.93). To support the move to a low carbon future local planning authorities should “plan for new development in locations and ways which reduce greenhouse gas emissions..”(para. 95)

- 6.44 The Planning Practice Guidance reinforces this stance by explaining that *“effective spatial planning is an important part of a successful response to climate change as it can influence the emission of greenhouse gases.” (para. 001 on Climate change)*

- 6.45 The Aviation Policy Framework (APF) (March 2013) highlights that aviation's environmental impacts are both global (climate change) and local (primarily noise, as well as air pollution and surface access traffic congestion) (para.12). Nevertheless, in the short to medium term, a key priority *“is to work with the aviation industry and other stakeholders to make better use of existing runway capacity at all UK airports. We are pursuing a suite of measures to improve performance, resilience and the passenger experience, encourage new routes and services; support airports in Northern Ireland, Scotland, Wales and across England; and ensure that airports are better integrated into our wider transport network.” (para.10).*

- 6.46 The APF goes on to explain that, globally, the aviation sector is responsible for about 1-2% of greenhouse gas emissions. In the UK, domestic and international aviation emissions account for about 6% of total greenhouse gas emissions or 22% of the transport sector's greenhouse gas emissions. This compares to 40% of the transport sector's greenhouse gas emissions that are emitted by cars, 14% by heavy goods vehicles and 8% by domestic and international shipping. Aviation is, however, recognised as being likely to make up an increasing proportion of the UK's total greenhouse gas emissions, while other sectors decarbonise more quickly over time (para. 2.1).

- 6.47 Aviation's most significant contribution to climate change in the longer term is through emissions of carbon dioxide (CO₂) although non-CO₂ emissions from aviation can have both cooling and warming effects on the climate, with a likely overall warming impact on the atmosphere. Nitrogen oxides, sulphur oxides, and water vapour all contribute to the overall effect with nitrogen oxide emissions resulting in the production of ozone (APF para. 2.2). The Government's focus is to remain on actions to target CO₂ emissions, which may also help to reduce some of the non-CO₂ emissions (APF para. 2.3). The Government's emphasis is on action at a global level as the best means of securing their objective, with action within Europe the next best option (APF paras 14, 15 and 2.5). This is because taking action only at a national or regional level has the potential to create the risk of carbon leakage with passengers travelling via other countries and increasing emissions elsewhere (para. 2.8). In the absence of an ambitious legally binding global agreement to tackle aviation emissions, the Government's strategy is to strongly support action at a European level. Two of the key

components of the strategy are including aviation in the EU Emissions Trading System (EU ETS) from 2012 and improving EU airspace design through the single European Sky programme (para. 2.15).

6.48 The policy of the Government is that overall reductions in CO₂ emissions are to be achieved using internationally agreed means and can be achieved along with growth in the aviation sector including at regional airports. While climate change is a relevant consideration, Mr Justice Collins reiterated in paragraph 75 of his Judgment that there is authority which confirms that the Council is entitled to take the view that greenhouse gas emissions from aircraft resulting from an extension of use of an airport are best dealt with on a national rather than a local level, for example R(Griffin) v Newham BC (2011). Mr Justice Collins, however, went on to say that this does not necessarily apply to emissions from additional traffic to the FDC and the Airport.

6.49 Paragraphs 29, 30, 36 and 37 of the NPPF state:

“Transport policies have an important role to play in facilitating sustainable development but also contributing to wider sustainability and health objectives....The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel.” (para. 29)

“Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion.” (para. 30)

“A key tool to facilitate this will be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan.” (para. 36)

“Planning policies should aim for a balance of land uses within their area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities.” (para. 37)

6.50 In this context the Travel Plan (TP) accompanying the current application highlights that such plans are prepared to minimise the negative impact of travel and transport on the environment by reducing congestion, enhancing accessibility by non-car modes, and improving air quality. The TP highlights that the A689 is used by three bus operators running limited daily services between Carlisle and Hallbankgate, Brampton, Nenthead and Newcastle but the nearest bus stop to the Airport is over 400m away in Ruleholme. Travel to the Airport is not currently considered to be a viable option because of the limited service and lack of bus stops.

6.51 In response to the problems of access, the TP puts forward six measures: staff travel awareness; establish a staff travel database; introduce a staff car sharing scheme; provide travel information; and establish an airport passenger shuttle bus. In the case of the staff car sharing scheme, the incentive created is by having 10% of the best car parking bays reserved as

car share spaces. A sheltered and secure cycle storage facility will be provided as part of the proposal to encourage staff to cycle should future strategies permit cycling as a travel option. The TP also includes a shuttle bus for passengers linking the Airport with the City Centre that will be reviewed on a three monthly basis to establish viability based on a threshold of an average patronage of five per journey. As part of the TP, the applicant has indicated that the operational issues of maintaining an environment friendly haulage fleet will be considered including: the regular servicing of vehicles; the purchasing of replacement vehicles with good environmental ratings; and consideration of conversion to low emission fuels. This is reiterated in a letter from the applicant's agent dated the 22nd June 2011, which explains that the Stobart Group is very committed towards minimising its road haulage emissions through better fleet utilisation, more efficient driving practices, using alternatives to road transport, and the development of cross-dock facilities.

- 6.52 The TP points out that Government estimates suggest that a 20% reduction in car travel is possible in areas with good public transport provision but, given the site, a revised total target of 10% is set in the agent's letter dated the 22nd June 2011.
- 6.53 In a letter dated the 5th August 2011 the agent has also confirmed that the applicant is agreeable to:
- the appointment of a travel plan co-ordinator
 - a modal shift target from single occupancy car use will be retained at 10%;
 - the provision of a "travel plan bond";
 - the annual monitoring and reporting of results; and
 - the payment of £2725 per year for 5 years in respect of County Council staff time relating to monitoring and review of the travel plan can be the subject of conditions or a Section 106 Agreement.
- 6.54 The "Supplementary Greenhouse Gas Emissions Study" (SGGE) (June 2014) prepared on behalf of the applicant by Air Quality Consultants considers "tailpipe" CO₂ emissions (as opposed to any other potential sources, for example an increase in CO₂ burden of tyre manufacture) from road freight and commercial aviation. This Study notes that it has been undertaken in the context that there are currently no statutory criteria for assessing the relative effects of projects in relation to emissions of carbon; and planning guidance currently is not specific on how to appraise the impacts of developments in terms of carbon emissions. The European Commission's Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (2013) does, however, note that assessments should be context specific.
- 6.55 The SGGE Study (June 2014), in relation to aviation, concludes that the total annual CO₂ emissions from proposed new flights are predicted to be approximately 3.5kt/yr, which represents less than 0.01% increase in emissions from UK based civil aviation.

- 6.56 In the case of freight, the SGGE Study (June 2014) considers what the effect on recent emissions would have been if freight had been based at the Airport rather than Kingstown depot and warehouse. The results show that relocating the depot is likely to increase CO₂ emissions by between 0.5kt and 0.6kt per annum, and that these changes represent a 4% increase in existing emissions from the same journeys. The predicted changes in CO₂ emissions with freight based at the Airport representing approximately 0.002% of UK HGV emissions in 2010. The Study explains that:
- any increase in road freight emissions associated with the relocation will not, in itself, change the fact that current UK emissions are lower than those in recent years;
 - this accords with the approach taken by the DfT when assessing road and rail networks, which is that because the Government's overarching plan for reducing carbon emissions will ensure that any such increase do not compromise its overall CO₂ reduction commitments, there is no need for either the examining authority or the SoS to consider scheme specific changes;
 - it has not been possible to quantify the anticipated gains in efficiency and associated reduction in mileage and CO₂ emissions that would be associated with operating out of a new facility; and
 - it is acknowledged that a new facility, and its associated gains, could theoretically be developed on or near the existing Kingstown site.
- 6.57 When assessing this issue it is evident that climate change caused by additional flights is considered to be best addressed and is being addressed at the national level through the inclusion of aviation in the EU Emissions Trading Scheme. This aside, the submitted SGGE Study (June 2014) indicates that the emissions from the predicted commercial flights will represent an increase of 0.01% when compared against UK domestic civil aviation and UK based international aviation.
- 6.58 In the case of vehicle emissions, it is evident that the submitted SGGE Study (June 2014) neither included emissions from vehicles used by staff or passengers nor provided a comparison with the alternative site at Kingmoor, although strictly because of the compliance of the proposal with policy it is considered that there is no requirement to do so.
- 6.59 In response URS has, however, made the following six points.
- The relocation of Kingstown facilities to Kingmoor Park does not form part of the application, and would not support the wider proposals for which permission is sought. Any application made for facilities at Kingmoor Park are separate and distinct to those currently being considered, and have only been advanced by the applicant as a precautionary measure.
 - Nevertheless, it is evident that the potential Kingmoor Park site lies adjacent to the existing Kingstown Estate site, and that the relative differences in journey distances when comparing each of these to the Airport will therefore be very limited in extent. The greatest reduction in

journey length that could be realised when trips associated with Kingmoor Park are compared with those associated with Kingstown rely on the use of the Relief Road, where journeys to/ from the M6 or A7 are approximately 940 m shorter.

- A comparison of CO₂ emissions associated with potential road freight operations at Kingmoor Park (as opposed to the existing Carlisle facility at Kingstown) has been made with the proposed Airport facility. Only minor changes to the figures already reported in Appendix D (for Kingstown) result as a consequence. Specifically, when worst-case assumptions are applied (including consideration of only those routes where journey distances are lower for Kingmoor Park), the percentage increase in UK HGV greenhouse gas emissions that would be associated with operations being at the Airport instead of being at Kingmoor Park remains very small (0.003%), as is the case when the Airport and Kingstown were compared (0.002%). Since journeys will inevitably also be undertaken in directions other than those where Kingmoor Park would be closer, the increase in carbon emissions will be less than this worst-case scenario assessment.
- The percentage increase in UK HGV greenhouse gas emissions that would be associated with operations being at the Airport instead of being at either Kingmoor Park or Kingstown are not considered significant. Since both are so small, it can be concluded that neither is materially different from the other.
- With respect to any increase in greenhouse gas emissions that might be associated with additional staff vehicle mileage, this impact is not considered to be a significant consideration compared to the emissions of greenhouse gases from HGVs, which has already been demonstrated to be negligible. Even if all of the 223 roles to be transferred from Kingstown were to be associated with private vehicle movements, this would equate to a much lower proportion of equivalent vehicle greenhouse gas emissions than has been demonstrated, and discounted, for HGVs. Given also that passenger cars typically emit 6 to 7 times less CO₂ per km travelled than articulated HGVs, it can be seen that any additional contribution to private vehicle greenhouse gas emissions associated with staff movements to the Airport over and above existing contributions to Kingstown/ Kingmoor will not result in any significant increase.
- Even if these additional contextual factors are not taken into account, it has been calculated that the contribution to greenhouse gas emissions that the additional staff miles associated with a relocation to the Airport site would be between one and two orders of magnitude lower than that associated with additional HGV contributions (*i.e.* it would be imperceptibly small).

6.60 The LTP (page 31) explains that Cumbria is more remote from access to air services than any other part of the UK with a comparable population. There is an opportunity for air passengers to utilise Carlisle Airport, and thus reduce

the number of long distance journeys currently made, mainly by car. The significance of this issue is, however, dependent upon whether there is a reasonable prospect of the forecasted air movements to be realised.

- 6.61 The airport is not readily accessible other than by road (and there is no direct bus service at present). If the applicant's air movement forecasts are not reached then: (1) the reduction in longer distance movements will not materialise; and (2) the shuttle bus may not be viable and there may be pressure not to continue the service (and there is no commitment after the first five years to maintain a shuttle bus service).
- 6.62 There is an alternative, more accessible location for the proposed distribution centre at Kingmoor but as stated above, the current application accords with Proposal EC22.
- 6.63 The proposed development does have the potential to widen the choices for the transport of freight. As with public/passenger transport this is dependent on the forecasted air movements being realised. The ASA Report (May 2011) also recognises that much of the impact of the development on the road network will be from HGV traffic which will be unaffected by the Travel Plan mitigation measures, although a Designated Advisory HGV route is proposed to seek to ensure that all HGV traffic between the M6 and the proposed distribution centre uses Junction 44 of the M6 and the A689.
- 6.64 Although not strictly relevant, it is not surprising that there is an increase in length of the forecasted journeys when compared to the use of the existing premises at Kingstown. This increase in the length of vehicular based journeys consequently leads to an increase in greenhouse gas emissions.
- 6.65 However, this is an inevitable consequence of the location of the Airport and one that could materialise with other policy compliant development in this location. As noted in para. 6.15 above, 21.15 hectares is identified for a Strategic Employment Site at Carlisle Airport under Proposal EC22, whilst the site area of the proposed FDC extends to just over 15 ha.

The impact on air quality and odour

- 6.66 The NPPF identifies three dimensions to sustainable development: economic; social; and environmental. The environmental role of planning includes the minimisation of pollution (para. 7). Paragraphs 120, 122 and 124 go on to state:

"To prevent unacceptable risks from pollution and land instability, planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account." (para. 120)

"In doing so, local planning authorities should focus on whether the

development itself is an acceptable use of the land, and the impact of the use, rather than the control processes or emissions themselves where these are subject to approval under pollution control regimes. Local planning authorities should assume that these regimes will operate effectively.” (para.122)

“Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas.” (para. 124)

- 6.67 The Aviation Policy Framework (March 2013) explains that in the case of air pollution the Government’s overall objective is to ensure appropriate health protection by focussing on meeting relevant legal obligations (para. 19). Paragraphs 3.47, 3.48 and 3.51 go on to say:

“Emissions from transport, including at airports, contribute to air pollution. EU legislation sets legally binding air quality limits for the protection of human health. The Government is committed to achieving full compliance with European air quality standards.” (para. 3.47)

“Our policy on air quality is to seek improved international standards to reduce emissions from aircraft and vehicles and to work with airports and local authorities as appropriate to improve air quality, including encouraging HGV, bus and taxi operators to replace or retrofit with pollution-reducing technology older, more polluting vehicles.” (para. 3.48)

“Studies have shown that NO_x [oxides of nitrogen] emissions from aviation-related operations reduce rapidly beyond the immediate area around the runway. Road traffic remains the main problem with regard to NO_x in the UK.” (para. 3.51)

- 6.68 The two pollutants of greatest concern in respect of aircraft and motor vehicles are generally NO₂ (nitrogen dioxide) and PM₁₀ (airborne particulate matter less than 10 micrometres in aerodynamic diameter). Aircraft are also the source of odours from burnt and unburnt hydrocarbons from aviation fuel. The submitted ES sets out impacts with regard to national Air Quality Strategy objectives and the assessment focuses on dust (during construction only), NO₂, PM₁₀, PM_{2.5} and NO_x (nitrogen oxide) deposition from vegetation.
- 6.69 In terms of the effect on air quality and dust, the ES observes that existing conditions within the study area (an 8km radius from the site) are generally good but instances of the health objectives in relation to air quality being exceeded have been recorded alongside the A7 south of J44 of the M6 (i.e. on Kingstown Road) leading to the declaration of an Air Quality Management Area (AQMA). Construction works have the potential to create dust and it will therefore be necessary to apply a package of mitigation measures to minimise dust emissions but any effects will be temporary and short-lived. Overall the potential effects during the construction phase are classified as “minor adverse”.

- 6.70 The ES states that, in terms of operational impact on local air quality arising from the development, the changed road traffic flows will have impacts ranging from negligible benefits to minor adverse effects. The benefits will be to reduce traffic on the AQMA through the re-location of Eddie Stobart Group with minor adverse effects being experienced on the roads leading to the Airport. It adds that there will be no significant effect to minor adverse effect on ecosystems and that, while traffic sources may impact on greenhouse gas emissions, it is not possible to assess the significance of the local changes that will take place in the national context.
- 6.71 ASA consider the approach of identifying sensitive locations for pollution sources to be reasonable, although Figure 7.1 of the ES does not include receptors for some of the communities near the Airport such as Irthington and Newtown, and there is the likelihood of slight adverse impacts at one “receptor” as a consequence of considering uncertainty in modelling predictions. ASA go on to say that although inclusion of receptors in these locations would be unlikely to change the conclusions of the assessment, it would assist in understanding the likely magnitude of all potential impacts in all relevant areas.
- 6.72 Overall, the ASA review found that the methods used in the ES for assessment of air pollution impacts from construction, road traffic and airport sources are appropriate. The key conclusions are that potential effects during the construction phase are judged “negligible adverse” and that operational effects are judged to have no significant effect on human health or on vegetation and ecosystems. Adequate mitigation of construction dust would need to be dealt with by condition.
- 6.73 In response to criticism from ASA over the lack of any assessment with regard to odour impacts, the applicant commissioned a report from Air Quality Consultants Ltd. The subsequent report (June 2011) draws on research that suggests the odours are not directly associated with aviation kerosene itself, but a product of incomplete combustion. The greatest potential for odorous emissions is thus ground level emissions when the aircraft are on-stand with engines running, and during taxiing to and from the main runway. Air Quality Consultants Ltd conclude that it is highly unlikely the proposed development would cause any significant odour effects to occur because: the change in the number of air traffic movements is small; the prevailing wind will carry any emissions away from the closest properties to the south of the FDC for the majority of the time; residential properties in the prevailing downward direction are at least 0.5km away from the Airport operations; and evidence from other regional airports suggests that the number of odour complaints received is very low.
- 6.74 Prior to the August 2012 Committee Meeting, the applicant submitted updated data following the opening of the CNDR. URS explained that the data used in the air quality assessment contained in Chapter 7 of the ES are already slightly higher than those used for the Transport Assessment and thus represented a more greatly exaggerated worst-case scenario than was predicted elsewhere in the ES. With respect to health criteria, Chapter 7

found that concentrations of nitrogen dioxide and PM 10 (particles with a diameter of 10 micrometres or less) would not exceed the objectives as a consequence of the development at any of the receptors considered. Special consideration was given to Receptor 1 in the A7 Air Quality Management Area, where the background nitrogen dioxide levels are close to objective limits. URS predicts that there will be no perceptible change to the air quality parameters at this location as a result of the CNDR and the proposed development.

- 6.75 The ES finds that the magnitude of change in annual mean nitrogen dioxide concentrations are either small or imperceptible at all receptors, and the magnitude of changes in annual mean PM10 and PM2.5 (particles with a diameter of 2.5 micrometres or less) concentrations are imperceptible at all receptors. The air quality impacts of the proposed development from road traffic sources are negligible at all receptors.
- 6.76 In June 2014 the applicant submitted a supplementary report examining recent traffic data the findings of which have already been discussed in section 3 above. Following receipt of this traffic data URS has explained that since the updated AADT baseline levels have reduced at all locations, the predicted future pollutant levels with the proposed development (which has not changed) will therefore all be less than previously assessed, and sensitive receptors will all be affected to a lesser extent.
- 6.77 On the basis of the foregoing it is considered likely that any effects associated with air quality and odour will be within acceptable limits.

The potential impact of noise and vibration

- 6.78 The Noise Policy Statement for England (NPSE) (March 2010) highlights that the noise policy aims are to: avoid significant adverse impacts on health and quality of life; mitigate and minimise adverse impacts on health and quality of life; and where possible, contribute to the improvement of health and quality of life.
- 6.79 Paragraph 109 of the NPPF explains that the planning system should contribute to and enhance the local environment by, amongst other things, preventing new development from contributing to noise pollution. Paragraph 123 goes on to say that planning decisions should aim to:
- Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
 - Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
 - Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
 - Identify and protect areas of tranquillity.

6.80 The “Aviation Policy Framework” (March 2013) explains that the Government recognises that noise is the primary concern of local communities near airports (para.16). *“The Government expects airports to make particular efforts to mitigate noise where changes are planned which will adversely impact the noise environment. This would be particularly relevant in the case of proposals for new airport capacity, changes to operational procedures or where an increase in movements is expected which will have a noticeable impact on local communities. In these cases, it would be appropriate to consider new and innovative approaches such as noise envelopes or provision of respite to communities already affected.”* (para. 3.28)

6.81 The Planning Practice Guidance (March 2014) explains that local planning authorities should take account of the acoustic environment and in doing so consider:

- whether or not a significant adverse effect is occurring or likely to occur;
- whether or not an adverse effect is occurring or likely to occur; and
- whether or not a good standard of amenity can be achieved.

Airborne

6.82 Carlisle Airport is not particularly busy and handles a limited range of aircraft types. Aircraft noise is not currently considered to be a significant feature of the local noise environment.

6.83 In relation to the submitted ES, the ASA Report (May 2011) raised concerns on the following three grounds.

- The methodology and criteria used for airborne aircraft traffic noise are standard for fixed wing aircraft. However, people’s tolerance to noise from rotary aircraft (e.g. helicopters) has been shown to be far lower (by up to 15dB) than that for fixed wing aircraft. As such, it would have been more accurate to assess the impact of helicopter noise separately to that of fixed wing aircraft and against different criteria.
- The airborne aircraft noise predictions have been undertaken on the basis of a 90% westerly and 10% easterly modal split. A typical average modal split for a UK airport is nearer 70% westerly and 30% easterly. From the information provided, it is difficult to see why a 90%/10% modal split has been used, and no investigation has been carried out regarding the effect of changing wind conditions.
- The overall number of aircraft and helicopter movements is relatively low and, as such, it is possible that alternative methods of assessment are preferable than the standard 16-hour Leq used in noise impact assessment at most UK airports. For these activities a relative assessment method, such as that outlined in BS4142:1997, is a far more appropriate tool in establishing the noise impact, where events over a

one-hour period during the day or a 5 minute period during the night are compared with underlying ambient noise climate.

- 6.84 In response, Scott Wilson has stated that no agreement on a helicopter noise differential has been settled; the 90%/10% modal split was advised by the Airport as the typical split of air traffic movements on the main runway.
- 6.85 It is appreciated that an increase in air movements will lead to a loss of amenity. However, and irrespective of the above, ASA conclude that fixed wing aircraft and helicopter noise is likely to be below a level representative of the onset of annoyance.
- 6.86 In relation to the updated information submitted by the applicant in June 2014 and its own assessment, APD considers that the introduction of public transport movements would not have any adverse impact on noise (para. 2.20)
- 6.87 It is considered that the contents of the Noise Policy Statement for England, NPPF, Aviation Policy Framework (March 2013), and Planning Practice Guidance have not materially altered the consideration and conclusion reached regarding this issue.

Ground and Freight Handling Operations

- 6.88 ASA have highlighted that the use of a 16 hour average noise level for ground operations contained in the ES underestimates the noise impact. Activities such as operation of auxiliary power units, ground power units and engine maintenance runs on high power can produce high noise levels for a short period of time. Furthermore, the use of 60dB LAeq T at 152 metres taken from a different airport for operations at Carlisle overestimates the noise impact. ASA consider that the noise impact would be more accurately equated using a relative assessment method, where events over a one hour period during the day or a 5 minute period during the night are compared with the underlying ambient noise climate.
- 6.89 On the basis of the background noise survey data, ASA consider it possible that ground operations surrounding the Airport would be occasionally noticeable during the day and evening. ASA recommended that a detailed relative assessment of individual ground running operations should be undertaken in order that the impact can be reviewed fully.
- 6.90 In relation to the FDC, the ES refers to a topographical variation of approximately 8 metres between the finished floor level and the existing ground level to the east and north; and that this topographical variation provides "significant screening" to noise sensitive receptors. ASA confirm that there is a variation of around 8 metres between the centre of the site and the nearest properties to the east and north-east of the site. However, this variation is a gradual incline and as such would not provide any realistic topographical screening. To achieve significant screening of the order of 10dB or more, such a variation in height would have to occur rapidly near to either the source or receiver. Furthermore, it needed to be clarified that

working practices and machinery are such that machine driven flaps at the docking stations are to be used.

- 6.91 In response to the comments by ASA, the applicant's agent has explained that: a thorough assessment of the risk of ground noise impact was made using a reference noise level 60dB LA eq T which would lead to an overestimation of noise impact; no significant ground noise impacts were predicted because of the considerable separation between the aprons and local noise sensitive receptors; a 10 dB screening attenuation was adopted because the proposed FDC is to be built into the local topography such that the noise producing activities will be hidden from direct view; the noise impact assessment for the FDC was assessed at night time when background noise levels were lowest; and that assessment found that during this most critical time the proposal could operate without causing an unacceptable degree of disturbance.
- 6.92 It is recognised that Chapter 2, Table 2.2 of the ES refers to the use of Jetstream 41 and DHC-8Q400 "or current equivalents" aircraft for passenger services. The applicant's updated business plan now specifies the use of ATR 42/72 aircraft for passenger flights which are proposed as equivalent aircraft to those considered in the ES. ASA has confirmed their understanding that this is the case.
- 6.93 In conclusion, it is considered that the likelihood of the noise being noticeable outdoors during the evening and night-time is high, however none of the presented activity noise levels are likely to cause sleep disturbance when in operation. The changes in topography can be the subject of a relevant condition, and the applicant has confirmed the use of machine driven flaps at the docking stations.

Road Traffic

- 6.94 The submitted Transport Assessment refers to the level of traffic generated by the current use of the Airport as being "minimal". Whilst there will be limited occupation of the offices outside of "typical" work times i.e. circa 0800-1700 hours, the proposed FDC is intended to be a 24 hour operation 7 days per week, throughout the year with employees having a 3-shift work pattern with changeovers at 06.00, 14.00 and 22.00 hours. The Airport will operate between 06.00 to 23.00 hours with staff working in two shifts i.e. 04.00 – 13.30 and 13.30 – 23.00 hours. The aviation side of the Airport will occur between 09.00 – 1930 hours (Figures 12 and 17 of the TA, and paragraphs 5.13 and 5.14 of the ES).
- 6.95 Based on the forecasted growth in traffic movements, the submitted ES concludes, as summarised in Table 5.26, that the effects during construction, and operation at 2012 and 2025 range from being "negligible" to "negligible adverse".
- 6.96 On this issue ASA considered that there is nothing within the ES to question the accuracy of the road traffic noise predictions and assessment. ASA concluded that the noise impact from road traffic under such conditions

would be negligible.

- 6.97 In relation to road traffic noise following the construction of the CNDR, URS has pointed out that the original analysis is presented in Chapter 6 of the submitted ES. This assessment used slightly higher traffic assumptions than the Transport Assessment, and so represented a worse case scenario. Even so, in the context of the existing conditions, the proposed development was assessed to have an imperceptible increase in traffic noise. With regard to residential receptors, the relevant section of the ES concludes that the *“increased road traffic levels due to the proposed development will not give rise to any perceptible increase in vibration or noise levels at properties.”*
- 6.98 Specifically, in relation to the additional information submitted by the applicant in June 2014, URS has explained that the Environmental Statement has already reported that quite large changes (c. 20%) in baseline traffic flows would not result in any perceptible change in noise levels at sensitive receptors (i.e. they would result in a less than 1 dB increase) (see paragraph 6.65 of the ES). It can therefore be reasonably concluded that the relatively small reductions in baseline traffic flows associated with the up-to-date traffic data do not change any of the noise assessment conclusions previously reached (i.e. that increases in road traffic noise will be imperceptible and that any associated effects are of negligible significance). In summary, it can be concluded that the original assessment findings (being that there will be no significant effect from road traffic noise increases) remains unchanged in the light of the revised traffic baseline figures.
- 6.99 Officers consider, based on the updated data, that the increase in road traffic levels due to the proposed development will not give rise to any perceptible increase in vibration or noise levels.

Construction

- 6.100 The ASA Report concludes that construction noise may be noticeable but is regarded as within appropriate noise limits. In both these instances mitigation measures can usually be employed to reduce noise and light impact. Environmental Quality Officers also have some concerns relating to construction noise and the hours of construction though these may be addressed through the Construction Management Plan.

Landscape and visual impacts (inclusive of the setting of Hadrian's Wall)

- 6.101 Under the NPPF the planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes (para. 109). Paragraphs 125, 128, 129, 131, 132 and 134 of the NPPF also state that:

“By encouraging good design, planning policies and decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically

dark landscapes and nature conservation.” (para. 125)

“In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets’ importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.”(para. 128)

“Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset’s conservation and any aspect of the proposal.”(para. 129)

“In determining planning applications, local planning authorities should take account of:

- 1. the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;*
- 2. the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and*
- 3. the desirability of new development making a positive contribution to local character and distinctiveness.”(para.131)*

“When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.”(para.132)*

“Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.” (para. 134)

- 6.102 The Planning Practice Guidance highlights that one of the core principles in the National Planning Policy Framework is that planning should recognise the intrinsic character and beauty of the countryside. Local plans should include strategic policies for the conservation and enhancement of the natural environment, including landscape. This includes designated landscapes but also the wider countryside.
- 6.103 Under Proposal EC22 of the Local Plan 21.15 hectares is identified for a Strategic Employment Site at Carlisle Airport. Though much of the airport is grassland, the application site lies within an area designated in the Local Plan for development and cannot be regarded as countryside itself. However, Policy DP3 specifically considers the role of Carlisle Airport and the opportunity it offers to enhance the local economy. Policy DP3 stating that proposals for development will be supported where they are related to airport activities, in scale with the existing infrastructure and minimise any adverse impact on the surrounding environment.
- 6.104 Other relevant policies of the Local Plan include CP1 (landscape character), CP3 (trees and hedges), LE5 (Hadrian's Wall World Heritage Site), LE6 (Scheduled/nationally important monuments) , and LE7 (Buffer Zone on Hadrian's Wall World Heritage Site).
- 6.105 In relation to this issue there appear to be three distinct elements, namely:
- i) the setting of Hadrian's Wall and the ability to appreciate Roman military planning;
 - ii) landscape impacts that relate to the characteristics of the landscape; and
 - iii) visual impacts on receptor points (houses and rights of way etc) effects that relate to individual views within that landscape.
- 6.106 The submitted ES considers that by 2025 the proposed tree planting will have significantly reduced the adverse visual effects from the majority of viewpoints. However, the proposal will have a moderate/minor adverse effect on the landscape character with regard to the Buffer Zone of the Hadrian's Wall World Heritage Site; a moderate/minor adverse effect on visual amenity from the east (Netherfield and Irthington road); a moderate adverse effect on visual amenity for views from the south-east (Military Cottages); a moderate minor adverse effect on visual amenity for users of Hadrian's Wall National Trail from Oldwall to Chapel Field. Whilst no residential properties are assessed as being directly affected by the proposed lighting, the ES recognises that the section of the A689 adjacent to the proposed development is unlit, and this will result in an increase in ambient light levels to the wider area. The ES considers that the impact of the increased lighting levels locally will be restricted to users of the public rights of way.
- 6.107 English Heritage consider that the main built element, by virtue of its location and scale, to be unlikely to have an adverse impact on the ability to

comprehend and appreciate Roman military planning and land use in relation to Hadrian's Wall. Subsequent correspondence from a local resident has referred to more recent guidance from English Heritage on "Seeing the history in the view" (May 2011), and "The setting of heritage assets" (October 2011). In response, English Heritage has confirmed that the approach they adopted when commenting on the current proposal was consistent with the published setting guidance and therefore do not wish to revise their earlier advice. Officers accept this advice and are of the view that there will be no harm within the meaning of para 134 of the NPPF regarding the setting of Hadrian's Wall.

- 6.108 In regard to the impact on the landscape, the site falls within Type 5b Low Farmland and immediately adjoins Type 8b Broad Valleys (Insert 1 of the "Cumbria Landscape Character Guidance and Toolkit", 2011). The Low Farmland sub type being characterised by an undulating and rolling topography, intensively farmed agricultural pasture, patchy areas of woodland, large and rectangular fields, and hedges, hedgerow trees and fences bound the fields. The Broad Valleys sub type is characterised by wide and deep valleys with open flood plains, rural farmland with significant areas of improved pasture, pockets of scrub and woodland, hedges and stone walls forming the field boundaries, and roads and railway lines following the linear valley contours.
- 6.109 Correspondence from the applicant's agent (14.07.11, 28.07.11 and 05.08.11) has commented on the impact of the proposal on the landscape character and visual amenity by explaining that:
- It is the local area (not the wider area) where an increase in ambient light levels is expected. The "limited" effects of the lighting reflect the facts (1) that the existing public rights of way are all unlit and over rough ground and therefore unlikely to be used during the hours of darkness and that (2) otherwise only residential properties will be affected.
 - The submitted landscaping scheme proposes the planting of a large woodland area to the south and east of the distribution centre. The tree mix is dominated by species which will grow to a height in excess of the distribution centre and a mix of under-storey species and hedgerow planting to provide screening from ground level to the lower level of the canopy. At 13 years from the opening assessment year (2025) the tree planting will not be of a sufficient size to fully screen the development; they will ultimately grow to a height sufficient to provide full screening of the distribution centre when viewed from the south and east.
 - The submitted assessment is based on the future year of 2025 which only allows 13 years of growth to the landscaping scheme. Beyond this year further vegetation growth will occur and the effect on visual amenity at Military Cottages (regarded as a 'moderate adverse' effect and therefore, the applicant advises, 'significant' in EIA terms) will continue to reduce over time beyond 2025 until the landscaping scheme is matured sufficiently to mitigate the development. At such a time no significant effect associated with the proposed development will be experienced by

these receptors. No other significant landscape or visual effects were assessed as being likely to result from the proposed development.

- Due to the rolling and undulating nature of the landscape and the significant quantity of woodland blocks, hedgerows and hedgerow trees which provide intervening landscape elements, there are few direct and open views of the proposed development. This will naturally limit the effect of the proposed development on the landscape character.
- Two previous applications for larger developments have been approved by the Council. The Council has previously indicated that details previously submitted to discharge conditions attached to the 2008 application (prior to it being quashed) were acceptable in mitigating visual impacts.
- The proposed woodland will be characteristic of the local landscape both in terms of its size and species choice, and the proposed development does not result in the loss of any characteristic features of this landscape type.
- The proposal is considered to be in line with Policy E37 of the Structure Plan 2001-2016 and Policy CP1 of the Local Plan 2001-2016 in that it conserves and enhances the special features and diversity of the different landscape character areas.

6.110 When assessing the impacts on the landscape character of the area and visual amenity, it is apparent that the “Cumbria Landscape Character Guidance and Toolkit Part One Landscape Character Guidance” (2011) under the heading “Changes in the Landscape, Development” acknowledges that “creeping urbanisation” such as airport and warehouse development can degrade the traditional landscape characteristics (p.73). The proposal is also adjacent to Landscape Character Area 8B Broad Valleys – in this area it is considered that large scale developments could erode the rural character.

6.111 In overall terms, the proposal represents a large-scale development that will have a noticeable visual presence detached from the existing buildings at the Airport. Irrespective of the imposition of a condition, the required external lighting would compound matters.

6.112 It is appreciated that development is envisaged at the Airport. In the context of the conclusions reached in the Environmental Statement submitted by the applicant, it is considered that despite the proposed landscaping, the distribution centre, associated structures and parking (individually and cumulatively with existing development) would be prominent and visually intrusive features in such an exposed and highly visible location, and that this proposal will cause harm. This is a matter that weighs against the proposal but is not considered sufficient, on its own, to constitute a reason for refusal.

Ecology and nature conservation/biodiversity

6.113 Paragraph 118 of the NPPF explains that local planning authorities should aim to conserve and enhance biodiversity by applying principles that include the following:

- if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;
- development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;
- opportunities to incorporate biodiversity in and around developments should be encouraged;
- planning permission should be refused for development resulting in the
- loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and
- the following wildlife sites should be given the same protection as European sites: potential Special Protection Areas and possible Special Areas of Conservation; listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

6.114 The relevant policies of the Local Plan (2001-2016) include: DP7 (European Natura 2000 Sites), CP2 (Biodiversity), LE2 (Sites of Special Scientific Interest), and LE3 (Other Nature Conservation Sites).

6.115 The key issues in this case relate to the possible impacts of the proposal on significant nature conservation interests “off-site” together with the “on-site” effects upon features and habitats, including protected species. Although the application site does not lie within the major international or nationally designated areas such as the Upper Solway Flats and Marshes Special Protection Area, the River Eden Special Area of Conservation or either the Whitemoss, Crosby Moor SSSI or the River Eden & its Tributaries SSSI, it is in close proximity to the River Eden SAC/SSSI and is directly affected by the Airport's non-statutory status as a County Wildlife Site. In addition, birds (pink-footed geese and whooper swans) considered to be part of the Upper Solway Flats and Marshes SPA populations are known to use land around the application site; therefore, SPA interest features could also potentially be impacted by the proposed development.

6.116 In this context the Council appointed an ecological consultancy (Lloyd Bore)

to advise and undertake the relevant Appropriate Assessments with regard to the Upper Solway Flats and Marshes SPA (June 2011) and the River Eden SAC (August 2012). Lloyd Bore also prepared:

- White Moss, Crosby Moor SSSI Impact Assessment Review (March 2011);
- a Nature Conservation Impact Assessment Review (March 2011); and
- a Carlisle Lake District Airport Mitigation Opinion (October 2012).

6.117 Following the quashing of the planning permission by the High Court in March 2014 and the subsequent receipt of the additional information from the applicant in June 2014, Lloyd Bore undertook a review of the above documents; and amended the Upper Solway Flats and Marshes SPA (June 2011) and the River Eden SAC (August 2012) Appropriate Assessments accordingly.

6.118 The updated Upper Solway Flats and Marshes SPA Appropriate Assessment (July 2014) examines in detail the potential impacts of the proposed development during both construction and operation on the SPA interest features (pink-footed geese and whooper swans), such as potential impacts of bird-strike and disturbance. The Assessment concludes that the possible effects identified of the proposal on the relevant international conservation interests are:

- noise, vibration and lighting as a disturbance factor during construction/operation;
- habitat modification and loss during construction/operation;
- mortality due to bird-strike events during operation; and
- bird control and safe-guarding measures as a disturbance factor during operation.

It is concluded that “whilst there are still some shortcomings in the information and evidence base provided with the 2010 application, sufficient information has been provided by the applicant for the purposes of this assessment to show that the proposed development will not have an adverse effect on the integrity of the Upper Solway Flats and Marshes SPA. However, to be certain of no future adverse impacts on the integrity of Upper Solway Flats and Marshes SPA, several issues need to be conditioned in any planning permission that may be granted....It is therefore concluded that, providing the issues as highlighted in this assessment are adequately conditioned in agreement with Natural England, the proposed development (either alone or in combination with other plans or projects) will not lead to an adverse effect on the integrity of the Upper Solway Flats and Marshes SPA.” (para. 1.79)

6.119 The updated River Eden SAC Appropriate Assessment (July 2014) concludes that the likely effects of the proposal are:

- water quality issues and sources of pollution; and
- noise, vibration, lighting and increased traffic and disturbance factors.

- 6.120 It goes on to say that as the proposed development will not directly affect habitats likely to be used by otter, the assessment concluded that habitat modification and loss are unlikely to affect the international conservation interests for which the site was designated, either during construction or operational phases.
- 6.121 It is concluded that *“sufficient information has been provided by the applicant for the purposes of this assessment to show that there are not likely to be any major barriers to ensuring that the proposed development will not have an adverse effect on the integrity of the River Eden SAC. However, to be certain of no adverse impacts on the integrity of the River Eden SAC, a number of issues regarding potential impacts on the River Eden will need to be conditioned in any planning permission that may be granted...It is therefore concluded that, providing the issues as highlighted in the assessment are adequately conditioned in agreement with Natural England, the proposed development (either alone or in combination with other plans or projects) will not lead to an adverse effect on the integrity of the River Eden SAC.”* (para. 1.112)
- 6.122 Natural England has confirmed that they agree with the conclusions of both the Upper Solway Flats & Marshes SPA and River Eden SAC Appropriate Assessments (as updated).
- 6.123 In relation to the impacts on the County Wildlife Site (CWS), as discussed in the “Nature Conservation Impact Assessment Review”, March 2011, the key concern is the development of the existing grassland resulting in habitat clearance and permanent loss.
- 6.124 The applicant’s agent, in the light of the information accompanying the ES, is of the opinion that the loss of area to the County Wildlife Site does not need to be compensated for. However, in the context of the comments from Cumbria Wildlife Trust and RSPB, the applicant has agreed to make a payment of £100,000 in order to enable the undertaking of a habitat scheme.
- 6.125 In relation to the potential effect of the development on European Protected Species, Lloyd Bore has concluded that, based on the information that has been provided by the applicant and on responses received by Natural England and other consultees, it is considered possible that the proposed development may impact on populations of the following protected species:
- Bats
 - Great crested newts
 - Breeding/wintering birds (and the CWS)
 - Badgers
 - Otters

On the basis of the information supplied, and according to advice received by Natural England and others, several recommendations are made and issues regarding protected species suggested for conditioning

in any planning permission in the “Nature Conservation Impact Assessment Review”, March 2011.

- 6.126 The “Carlisle Lake District Airport Mitigation Opinion” (October 2012) concludes that the area of the CWS to be lost to the proposed development is larger than in the previous application (application number 08/1052); the potential harm to the CWS is likely to be somewhat greater; mitigation for the loss of part of the CWS should be provided; and that by using the payment of £100,000 in association with an existing site, as oppose to a stand-alone area, appropriate mitigation can be achieved. It is considered that this sum is justified and complies with 122(2) of the Community Infrastructure Regulations 2010.
- 6.127 The “White Moss, Crosby Moor SSSI Impact Assessment Review” (March 2011) explains that its interest features are lowland raised mire and lowland heath; and the possible effects of the proposal are water pollution (during construction and operation), and air pollution (during operation). The Review (March 2011) concludes that the proposed development is unlikely to have a significant impact on the interest features providing that high environmental protection measures are incorporated into the drainage strategy for the proposed development.
- 6.128 In a letter dated the 9th July 2014 Lloyd Bore confirmed that the conclusions and recommendations in the White Moss/ Crosby Moor SSSI Impact Assessment Review (March 2011), Nature Conservation Impact Assessment Review (March 2011), and the Carlisle Lake District Airport Mitigation Opinion (October 2012) remain valid for the purposes of re-determining the current application.
- 6.129 Providing that the recommendations are followed and the relevant issues are made the subject of conditions/section 106 Agreement, it is considered that the proposed development is unlikely to significantly impact on populations of protected species and other wildlife; interest features of the CWS and White Moss, Crosby Moor SSSI; and the proposed development will not have an adverse effect on the integrity of either the Upper Solway Flats and Marshes SPA or the River Eden SAC.

Archaeology

- 6.130 The Ancient Monuments and Archaeological Areas Act 1979 is the basis for the protection of nationally important archaeological sites. One of the core principles of the NPPF is to conserve heritage assets in a manner appropriate to their significance (para. 17). Paragraphs 128, 129 go on to state:

“Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.”
(para.128)

“Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset’s conservation and any aspect of the proposal”. (para.129)

“ When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification.” (para.132)

“ Local planning authorities should make information about the significance of the historic environment gathered as part of plan-making or development management publicly accessible. They should also require developers to record and advance understanding of the significance of any heritage assetsto be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible.³⁰ However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted”.(para. 141)

- 6.131 The relevant Local Plan policies include: LE7 (Archaeology on other sites); LE8 (Other known sites and monuments of archaeological significance); LE9 (archaeological field evaluation); LE10 enhancement of major archaeological sites); and LE11 (Scheduled/Nationally important Ancient Monuments).
- 6.132 In relation to this application, English Heritage initially raised concerns with regard to the potential impact of the drainage and resurfacing of the runway on the scheduled remains of Watchclose Roman camp, and the potential implications with regard to the option to connect to the public sewer.
- 6.133 In relation to the former, English Heritage has subsequently confirmed in an e-mail sent on the 9th June 2011 that they have no objections on the basis that the maximum depth of excavation for the drainage is 300mm below the present ground level; the imposition of conditions requiring further approval by the Council of a final drainage design and resurfacing; and (given the discovery of a probable defensive feature outside the northern entrance to the camp) the results the evaluation work are placed in the public domain, through a short publication in a local archaeological journal.
- 6.134 In the case of the latter, English Heritage has confirmed that they have no issues with the works shown on the main sewer although the rising main route crosses the line of the Stanegate Roman road because it is in an area where this is unlikely to be well preserved, and the Agent's recommendation for this work to be covered by an archaeological watching brief is considered

to be acceptable. In terms of other archaeological impacts, works outside the airport site involve the use of existing sewer pipes with no excavation.

Aviation safety

- 6.135 Paragraph 31 of the “Aviation Policy Framework” (March 2013) explains that maintaining and improving air transport safety, while ensuring that regulation is proportionate and cost-effective, remains of primary importance to the UK.
- 6.136 The application of “Public Safety Zones” (PSZ) criteria is of some assistance to assessment of risk in this case. DfT Circular 1/2002 “Control of Development in Public Safety Zones” indicates that:
- PSZ policy is based predominantly on individual risk;
 - PSZs are to be based on 1 in 100,000 risk contours, and within those zones there shall be no increase in the number of people living, working or congregating, and the number of people should be reduced over time as circumstances permit;
 - People living within the 1 in 10,000 risk contours should have their residences bought by the airport operator and move.
- 6.137 Based on the foregoing there is a general presumption against new development within a risk contour of 1 in 100,000; but there is no reference in the guidance to any restrictions to development outside that contour.
- 6.138 An alternative approach to risk assessment is that of the HSE based on tolerability of risk divided into the following categories:
- Unacceptable – risks regarded as unacceptable whatever their benefits, except in extraordinary circumstances such as war i.e. more than 1 in 10,000 per year;
 - Tolerable – risks that are kept as low as reasonably practicable, and tolerated to secure benefits i.e. between 1 in 10,000 and 1 in 1 million per year;
 - Broadly acceptable – risks that most people regard as insignificant i.e. less than 1 in 1 million per year.
- 6.139 The applicant’s baseline assessment of third party risk, set out in the ES, shows an increase in the size of the individual risk contours. For the baseline operations, it is estimated that the 1 in 100,000 per annum risk contour lies entirely within the Airport boundary. The 1 in a million per annum contour extends beyond the Airport boundary to include a haulage building to the south-west and the majority of Irthlington to the north-east. Based on the anticipated growth to 2025, the risk contours increase in size such that the 1 in a million per annum risk contour would increase in length and width and cut through a building on the A689 at Watch Cross, include another building slightly to the north at Watchclose, and include almost all of the village of Irthlington. These risks are potentially significant at these locations because the individual risks there would exceed the level 1 in a million per annum below which HSE would consider the risk to be “broadly acceptable” and *“are typical of the risks from activities that people are*

prepared to tolerate to secure benefits...” Such risks represent detrimental impacts to be weighed against any benefits arising from the proposed development.

- 6.140 On this basis ASA concluded that the risks encountered at Carlisle might be regarded as relatively modest i.e. below the level of 1 in 100,000 per annum, though not below the level of 1 in a million per annum at which they would generally be regarded as acceptable. ASA consider the level of risk that would arise from the proposal is not unusual in comparison to that encountered at other UK airports.
- 6.141 The estimated risk is also dependent upon the numbers of future movements of different aircraft types. Historical accident data indicates that different types of aircraft operation have different crash rates, for example freight operations have had higher crash rates per movement than civil passenger operations and executive jet aircraft typically have higher rates than commercial civil airliners. ASA consider the model used tends to overstate rather than underestimate risks for any given operations. Any concerns over growth above the level envisaged in the ES can be addressed by the imposition of a planning condition.
- 6.142 The ES recognises that there is potentially a risk of bird strike due to the presence of numbers of birds, including pink-footed geese, in the vicinity of the Airport. The CAA is responsible for ensuring that an airport has an appropriate bird management policy as part of its safety management systems as a condition of its licence. ASA realise that technically the risk of bird strike will increase as a result of higher traffic levels, but also consider that the Airport would still be able to apply the necessary preventative measures in order to meet CAA requirements.
- 6.143 In overall terms, ASA has confirmed that it is strictly the responsibility of the airport operator to ensure that safe operations are carried out in accordance with the conditions of the CAA Public Use Licence that the Airport possesses, or any variation to that which CAA authorises. Whilst there is a Carlisle Airport Safeguarding Map lodged with the City Council, this is to indicate where proposed development in the vicinity of the Airport should be subject of consultation with the airport operator. It does not, however, place any responsibility on the Council for aviation safety either within or outside of the Airport boundary. Similarly, although Public Safety Zones are in place at airports where the number of ATMs (Air Traffic Movements) by commercial aircraft is in excess of 30,000 ATMs per annum (when a statutory PSZ is required) this does not apply to Carlisle Airport. ASA point out that the level of future ATMs at Carlisle Airport will be significantly less than the 30,000 ATMs “trigger point” when a statutory PSZ is required but observe that it is *“nevertheless good practice to prepare a safety risk assessment for aviation-related planning applications”*.
- 6.144 Questions have been raised by interested parties concerning the safety benefit that might be gained from re-orientation of the main 25/07 runway. In order to justify not undertaking the re-orientation of the runway, the operator of the airport would need to show that the costs associated with the

runway re-orientation would be disproportionate to the risk reduction benefits that would be gained from it. It is to be expected that construction of a new, re-aligned runway would be more costly than resurfacing of the current runway and there may therefore be an argument that those additional costs would not be justified by the risk reduction benefit provided. ASA, in their report of May 2011 stated:

“Although previous Planning Applications for the development of Carlisle Airport have shown a re-alignment of the main runway, this is not included in the current Application. We do not believe that this would be justified as the additional third party risk safety benefits are minor in comparison to the likely cost and, in any event, the existing alignment can be regarded as ‘safe’ under Department for Transport criteria.” ((v) of Executive Summary). This was subject to caveat that it would be highly desirable to install an Instrument Landing System (ILS).

- 6.145 In May 2012, ASA clarified matters with regard to the need for an ILS by stating that:

“The need for an ILS is debateable....we believe that many airlines would be unhappy about the lack of an ILS and ground radar both from a safety management standpoint and in terms of the potential disruption due to flight delays in bad weather. We do not know Aer Arann’s view on this.”

- 6.146 The “Business Case” (June 2012) for an Aer Lingus Regional based aircraft at Carlisle Airport explained that Aer Arran flight operations have conducted an initial evaluation of the approach procedures and navigational equipment at Carlisle based upon which, it is considered that there does not appear to be an issue with scheduled operations although further discussions would be held to evaluate non radar procedures. The Case also states that Aer Arran currently operate to airports that do not have radar coverage. APD consider that it is not essential that the airport provides an Instrument Landing System (ILS). Although medium size jet operators are likely to ‘demand’ ILS facilities, for carriers such as Aer Arran although desirable it is not critical.
- 6.147 In conclusion, it is considered that that there is no sound basis, in terms of bird strike risk or any other hazard risk, to resist the current proposal. Overall, the risks associated with the proposal are considered to be within acceptable limits.

Socio-economic impact (inclusive of the prospect of commercial aviation)

- 6.148 From the outset Members will appreciate that the proposed FDC is considered to accord with Proposal EC22, and that the remaining land within the application site (to be used as parking aprons for aircraft etc) is in accord with Policy DP3 as airport related development. This represents a material change since the application was previously considered.
- 6.149 Nevertheless, the extensive material submitted by and on behalf of

interested parties, the applicants and the advice the City Council has received is set out below. This has revolved around two key questions: (i) whether general aviation (non-scheduled services) use of the Airport, after the proposed development was carried out, would thereafter be economically viable and sustainable; and (ii) whether the development would be likely to result in scheduled/commercial air passenger and/or air freight services at the Airport in the short, medium or longer term.

6.150 This is in the context that the Stobart Group has purchased Southend Airport and had a 42% interest in Aer Arran which, it is said, would create the possibility of a link to Southend and to Dublin. The suggested capital costs of the proposed airport infrastructure vary from £5.47m (Appendix B of URS letter dated 03.06.14); £9.7m (ASA spreadsheet attached to letter dated 26.06.12), and upwards to potentially £11.8m just for the runway (York Aviation letter dated 15.08.11).

6.151 Leading up to the August 2012 Committee, Officers took the view, following ASA's advice, that there could be no expectation that there would be sustainable commercial passenger movements but that the grant of permission was still supported very much on balance because it would at least prevent the closure of the Airport and maintain general aviation use, prevent the loss of existing employment and, by reason of the new runway and rental income, allow for the possibility of commercial passenger movements. It was recognised that ASA's advice was that the viability test in the section 106 agreement would have to exclude reference to the capital costs of the new infrastructure and related financing costs, otherwise the Airport would not be viable even for general aviation.

6.152 The ASA letter dated 26.06.12, under the heading of "Viability of air services from Carlisle airport", highlighted in the second sentence of the opening paragraph that:

"Aer Arann (operating as Aer Lingus Regional) has indicated that they are planning to introduce double daily service to London Southend airport and a daily service to Dublin." In the final paragraph of that section it explains that: "In summary, we believe that commercial passenger services from Carlisle are of borderline financial viability for Aer Arann (or any other operator). We recognise that Stobart Air may initially be prepared to subsidise these, either directly or by financial support to Aer Arann or by reduced airport charges at Carlisle and Southend. In the longer-term, however, we cannot see how either commercial passenger or air freight services from Carlisle could be financially viable or in the interests of Aer Arann or Stobart Air."

6.153 The ASA letter (26.06.12, p.5) went on to say:

"...our financial analysis indicates that, if the airport infrastructure capital and financing costs are treated as 'sunk costs'...then the potential rental received from the FDC would provide the necessary subsidy needed in order to maintain commercial services at the airport. The rental paid could be reduced (effectively to the level of the

airport's current operating loss) if it did not introduce (or discontinued) the commercial services proposed."

6.154 In effect, ASA's advice (as set out in their letter dated 26th June 2012) was that on their traffic forecasts neither the airport itself nor the full project (i.e. the development taken as a whole) would be financially viable (i.e. provide an appropriate internal rate of return to meet or exceed the cost of capital); but that, if infrastructure and financing costs could be disregarded/sunk possibly as a precondition of planning consent (i.e. removed from the viability test related to keeping the airport open), with the freight distribution centre there could be a positive cash flow to 2035, although the airport would make a loss on its commercial air services, so that it may seek to discontinue commercial air services but keep general aviation operations. Based on this officers indicated to Members that:

- there was no evidence that commercial scheduled services would be profitable in the longer term;
- ASA recognised that they would need subsidy though this would be possible in the short term; and
- there were concerns that the return on capital was too poor for Stobart to invest in facilities for scheduled airlines.

Equally, Officers correctly pointed out that there would be greater potential for Stobart to keep the Airport open for general aviation only, using rental income from the freight distribution centre.

6.155 Mr Justice Collins, on the basis that the proposal was then considered to be contrary (as a whole) to the development plan (as a whole), stated in his Judgment (March 2014) that *"..the prospect of obtaining if only in the short to medium term a commercially viable airport may have tipped the balance in favour of granting permission. Thus without that, in my judgment, permission would probably have been refused. Certainly the recommendation of the officer would have been to refuse and to grant in those circumstances bearing in mind that the FDC was contrary to the plan would have been unsustainable. It is also accepted that permission would only have been justified if there was a real prospect of such commercial use. Thus it seems clear to me that a mere hope would have been insufficient."* (para.25)

6.156 Following the High Court quashing the grant of permission, the applicant submitted an updated Business Plan (June 2014) showing how they consider viability would be affected by the payment of a £250,000 subsidy to any airline as well as some minor amendments to reflect current airport operating losses for the year ended February 2014, and the increased stake the Stobart Group now have in Aer Arann (Stobart Air). The Executive Summary of the updated Business Plan (June 2014) states, amongst other things, that:

- Stobart Air is the operator of two complementary facilities, London Southend Airport (LSA) and Carlisle Lake District Airport (CLDA);
- The Stobart Group has a 45% investment stake in Aer Arran (recently rebranded as Stobart Air);
- Once planning permission is obtained for the developments at CLDA, Stobart Air would invest in new Airport infrastructure including runway resurfacing and commence services from Carlisle to Southend and Dublin – the Dublin route will also mean that passengers can take advantage of transatlantic connections through Dublin on Aer Lingus flights to New York, Boston, Chicago and Orlando;
- The Stobart Group's rationale for the proposed developments at CLDA is centred around a two airport strategy, linking LSA and CLDA, every passenger travelling to LSA creates additional income streams for the Group in addition to the basic air fare;
- The Stobart Group has long had plans to relocate its' Transport and Warehousing Operations from Kingstown to more modern, efficient premises that will lead to operational savings by reducing vehicle waiting times and consolidating vehicle journeys – the Solway Business Centre offices would remain in addition to the facilities at CLDA;
- The Capital Investment proposed by Stobart Air is £20.36m spread across the FDC, aircraft stands, runway renovation, terminal and fire station;
- Funding would be by way of a mixture of debt (£10m) and equity;
- The Financial Appraisal shows that Carlisle Airport operation is profitable in its' own right after year 1 (due to 6 months rent free being granted on the new FDC);
- The IRR is calculated at 10.91% - although not an IRR of 20% additional returns would be generated by income earned on passenger throughput at Southend and also by operational savings by relocating the Group's Transport and Warehousing business to the Airport;
- With projected passenger levels of 60,000 pa (and based on the projected income and expenditure within the Business Plan) Carlisle would achieve an EBIT margin of 26.7%;
- Initial forecasted passengers of 40,000 pa for the Carlisle to London service is based on the number of visitors to Cumbria as per the 3009 report commissioned by the NWDA and on CLDA capturing 2.25% of this market;
- Forecast passenger numbers of 20,000 pa for the Carlisle to Dublin service based on the Aer Arran (Stobart Air) service between Newcastle and Dublin which has forecasted passenger numbers of 70,000;
- Based on a day return to London, booked 3 days in advance, the "air" costs would be between £222 and £246 return compared to £110 and £359 for standard and first class rail;
- In journey times to Central London, the "air" option is 1 hr 31 minutes quicker.

6.157 The EKOS (2012) Report concluded that the proposed development will safeguard 60 FTEs for the Cumbrian economy relating to existing activities

at Carlisle Airport; it is estimated that the development will create 156 FTEs for the Cumbrian economy of which 121 FTEs relate to the activities of the chilled docking station at the airport; and 35 FTEs relate to the introduction of scheduled flights. The construction spend will generate 94 construction jobs over the 11 month construction period. The Gross Value Added (GVA) of existing activity at Carlisle Airport is estimated to contribute £3m annually to the Cumbrian economy. The proposed development at the airport will generate an estimated £7.7m of new GVA annually to the Cumbrian economy of which £6m relates to the activities of the chilled docking station; and £1.7m relates to the introduction of scheduled flights. The construction spend at the airport is estimated to generate £4.6m to the Cumbrian economy during the construction period. The letter from URS dated 3rd June 2014 confirms that the material presented by EKOS still applies and no further consideration of the socio-economic benefits anticipated to be realised from the development is required.

6.158 York Aviation (YA), on behalf of their client, has submitted correspondence inclusive of an e-mail sent on 12.09.11, and letters dated 15.08.11, 16.03.12, 12.06.12, 24.07.12, and 27.06.14. In the most recent letter of the 27th June 2014, following the Judgment of Mr Justice Collins, YA identify a series of key principles that they consider have been established, namely:

- The Council has a duty to satisfy itself that there is *“a reasonable prospect of achieving commercial use for the sort of period identified by ASA in the spreadsheet”*, which was suggested to the Planning Committee in January 2013 as being the period up to 2035, i.e. some 20 years;
- The assessment needs to be based on up to date data;
- Allowance needs to be made for any subsidies necessary to secure the operation of commercial air services; and
- It is not appropriate to assume that there would be direct financial cross subsidy to Carlisle Airport by way of revenue earned from Southend Airport.

6.159 Y A is critical of the updated information submitted by URS because the alleged only material adjustment made to the original Business Plan submitted in 2012 is to show a limited allowance for the potential cost of the subsidy to support the operation of commercial services. YA point out that the updated Business Plan (2014) still relies on:

- Stobart Air's 45% ownership of Aer Arann;
- The asserted twin airport strategy;
- An un-amended calculation of Direct Operating Costs without reference to whether there have been operating cost increases in the meantime;
- A re-presentation of comparative air and rail journey times with only estimated rail fares updated;
- A letter from Aer Arann of February 2012 which relies on a demand assessment report prepared by/for Stobart Air in 2009;
- The unsubstantiated assertion that a service from Southend to Carlisle might capture 2.25% of all inbound visitors to Cumbria from all of the

South East of England and East Anglia;

- The specific demand projections taken from the High Level Business Case submitted by URS in June 2012, which are claimed to be based on CAA data from 2009;
- Unadjusted demand growth rates, which were considered to be already excessive when originally submitted as made clear in YA letter dated 12.06.12; and
- No reliance can be placed on the letter from Stobart Air dated 28.05.14 which simply endorses the previous analysis.

6.160 When assessing demand for a Carlisle to Southend service, using CAA Survey data for 2013, YA indicate that:

- There has been a substantial reduction in the size of the London market from an estimated 14,737 point to point passengers (with origins or destinations in Cumbria) in 2009 to 8,696 in 2013 – the total number of passengers (including transfer passengers) is tabled as 26,837;
- In general domestic air travel markets have been declining with all UK routes to London showing a reduction of 9% in passenger numbers – it is considered significant that easyJet has reduced its services from Southend Airport in 2014, offering 11% fewer flights in July 2014 than 2013;
- It is unrealistic to expect a Carlisle to Southend service to capture all of the point to point market identified as this includes all passengers travelling to three London airports;
- It is expected that the Southend to Carlisle service would capture around 30% of the total current passenger demand flying to/from a London airport arising in the Carlisle catchment area which suggests a market size of no more than 5,000 air passengers a year currently for the route;
- A return journey gives a travel time of 7 hours 20 minutes and a time in London of 6 hours – this offers no time advantage over rail, the cost differential to air is likely to be uneconomic, and the flights do not offer much flexibility, and travellers are likely to use the train to Oxenholme or Penrith when visiting the South Lakes.
- Assuming a maximum current realistic air market size of 5,000 passengers, diversion from rail might be expected to do no more than double this number giving a total market size of around 10,000 passengers a year;
- URS has resubmitted the original route viability assessment from June 2012 based on the asserted market of 40,000 passengers initially flying between Carlisle and Southend. This materially greater than ASA's 2012 assessment of 27,500 passengers per annum; and
- A realistic assessment of the current market for a service is of the order of 10,000 passengers per annum which would imply the airline operating at an initial load factor of under 15% with a twice a day service using an ATR42 aircraft and around 30% if the volume of passengers could be sustained with a once a day operation – the projected load factor is below any realistic threshold for service viability.

- 6.161 When assessing demand for a Dublin service YAs analysis of CAA data shows that there were 12,880 passengers flying to/from the Carlisle Airport catchment area to Dublin in 2013 excluding those flying via Prestwick on Ryanair. YA consider it doubtful that Aer Lingus would switch its once daily flight from Dublin to Blackpool to Carlisle because of the potential loss of volume. In addition, YA consider it to be unlikely that all of the 12,880 passengers would switch to a once a day service from Carlisle given the higher frequency offer from other airports i.e. Glasgow, Manchester, Newcastle and Edinburgh. YA also expect little US originating traffic to use the service as it is likely to be poorly timed for connections in Dublin – the earliest arrival in Dublin would be around 12.00 which would connect with only a relatively small number of the US services from Dublin. In practice, YA believe that the majority of passengers would be far quicker using the direct US services into Manchester.
- 6.162 In aggregate, YAs updated assessment of the demand on the Southend and Dublin routes from Carlisle suggests a patronage as low as 20,000 passengers pa. If the Southend route is not viable, as it would be with only 10,000 passengers pa for a twice daily service, then there would not be an aircraft available to operate the Dublin route, albeit it might still be possible to operate the Dublin service on its own by relocating the Blackpool service. In YAs view, the relocation of the Blackpool service does not appear to be a rational decision for the airline and would result in the Airport bearing the full burden of capital and operating costs for an even lower potential passenger throughput.
- 6.163 YA has pointed out that in 2013 the DfT issued updated demand forecasts for the UK showing that the growth in domestic and near Europe short haul markets is expected to be of the order of 2.1% pa over the period to 2030. With a maximum starting point of 20,000 passengers pa, a growth rate of 2.1% would result in overall demand levels of around 30,000 passengers by 2032.
- 6.164 When assessing viability, YA has explained that with 20,000 passengers split across the two routes, the net revenue would only be 560,000 euros which would fall short of covering direct operating costs by 828,000 euros and provide no contribution to aircraft costs or overheads. Based on the URS figures should the airline fail to attain 27,700 passengers on the Southend route and 18,000 passengers on the Dublin route, it will not be covering the direct operating costs.
- 6.165 YA has updated the original ASA Viability Assessment to show the effect of simply correcting the DfT growth rates to current values, allowing for the cost of airline subsidy as proposed by ASA (£250,000), and incorporating the lower current losses at the Airport. These three changes alone show that the Airport would be generating negative cash flows (excluding all capital related costs) by 2024. If the Airport's current losses are greater than reported by URS then the effect of adopting the original ASA assumption would be to reduce the Airport to a loss making position from the outset.

- 6.166 However, YA do not consider that the amendments in paragraph 6.165 alone are not sufficient. YA maintain that a properly updated analysis, which uses largely the same assumptions as set out by ASA in 2012 but based on the most up to date passengers demand data, shows that the Airport has no prospect of attaining the commercial viability threshold for the foreseeable future and could be closed by the applicant within 3 years if commercial services are operated or such services will simply not be operated at all as they will not be viable either for the airline or the airport.
- 6.167 YA conclude that even if the airline was willing to operate the services at the predicted levels of demand, an updated viability assessment, based largely on the principles set out by ASA in 2012, confirms the view that the commercial operation of the Airport is not viable over the next 20 years and more, even if the capital costs are treated as sunk.
- 6.168 YA's views are made in the context that their client has also, most recently in June of this year, made a number of points concerning the business case advanced by the applicant. The points made including, but not exclusively, the following:
- The Stobart Group's (TSG) exposure regarding the Airport is to the tune of £29m; TSG is not a benevolent fund. It is a business whose directors have a fiduciary duty to act in the interest of shareholders and as such will always seek to maximise profits;
 - There is a fundamental tension between the position adopted by the applicant to the City Council on the one hand and that adopted to investor communities on the other;
 - TSG'S two airport strategy is flawed because any additional net revenue to Southend should be allocated against that airport rather than Carlisle, and it would be irrational to assume that the two airports will remain under common ownership;
 - It is alleged that the site, or at the very least the RDC part of it, would be sold upon completion of the development;
 - The applicant states that the current annual operating losses of Carlisle Airport are £313,600 and previously the losses have been stated as £514,000, £1.2m, and £1.4m;
 - The financial appraisal submitted by the applicant is allegedly flawed because: there appears to be no inclusion of the costs incurred by the applicant since 2009;
 - capital costs that are included are at £20.36m significantly lower than the £25.29m suggested by ASA (letter dated 26.06.12), there is no sensitivity analysis, and imputed figures are in many instances disputed by ASA;
 - The applicant would be better off by £505,782 per annum in 2014 by closing the airport completely. This figure reduces to £483,999 in 2016; and
 - A significant proportion of the costs that ASA regarded as being "sunk" would be anything but and would need to be included in any viability assessment – the applicant considers that the recoverable amount of the land and buildings is £14,529,000 representing TSG's

estimate of its fair value less the costs to sell.

- 6.169 APD has separately undertaken on behalf of the Council an independent assessment of the submitted documentation and prepared a Finance Plan (Profit and Loss Account) for both general and business aviation with and without (scheduled) public transport operations.
- 6.170 In terms of aircraft movements, APD consider that the two principal routes (Southend and Dublin) would generate a maximum of circa 2,500 aircraft movements. Other routes may develop over the 20 year period and could generate a further circa 200 movements at Year 20.
- 6.171 In terms of passenger movements, APD has provided a 'LOW' forecast to be used for the purposes of cautious financial analysis, and a 'LIKELY' forecast of traffic levels over a 20 year period. By Year 20, it is estimated that passenger numbers would be in the order of 65,000 (LOW) – 74,000 (LIKELY), and the LOW figure has been used as the basis for their financial assessment. APD consider that when the routes are firmly established at 5 years, no appreciable annual growth is anticipated, given the airport's limited catchment area and medium/long haul alternatives at Newcastle and Manchester Airports.
- 6.172 APD's 'Likely' forecast indicates that for a Southend route, beyond Year 9, the load factor would be in excess of 58% and the 'LIKELY' Load Factor on Dublin/Irish Sea Routes would be in excess of 58%, beyond Year 4.(para. 2.9).
- 6.173 APD expect a daily service to Dublin (6 days per week) would generate about 14,300 passengers in Year 2, significantly less than Aer Arran's break-even point of 58% seat utilisation for a single daily rotation, but 'break even' would be achieved in Year 3 with 17,366 passengers. However, after the initial establishment of the route, by Year 4, the airline could consider the introduction of a double daily rotation to Dublin or a second daily rotation to an alternative destination on the Island (e.g. Belfast), in which case a 'break even Load Factor' of 58% on a double daily rotation may be achievable by Year 7, with over 33,000 passengers.(para. 2.14).
- 6.174 Other near summer holiday destinations, such as Jersey, Isle of Man, and the South West could be attractive routes, although the potential contribution to overall passenger numbers is limited to about 5,500 (weekly services only). Such a limited potential may not be seen as viable, on their own, by the airline (or the airport) (para.2.16).
- 6.175 APD consider that the rehabilitation costs, inclusive of any work to the terminal, are more likely to be in the range of the Stobart Group's estimate. This is because of: the fact that the Stobart's 'costings' are based on 'in-house' costs (i.e. within the Stobart Group's control, including its in-house contractor) as distinct from 'open market' estimates; and the potential difference in design specification (paras. 3.3 and 3.4). APD consider that the estimate of additional operating costs is likely to be higher than indicated by the Applicant, but their figures are not unduly optimistic (para. 3.7).

- 6.176 Furthermore, there are other significant differences between the figures APD use and those of YA and ASA, such as:
- ASA/YA include within costs a 'charge' of c£1.2m to c£1.8m (YA) C£2.9m (ASA) for additional staff costs to handle extra flights. APD consider that extra staff are not required to handle 'extra flights'. The Airport Manager has allowed for this in the submitted estimate of staff at 36.5FTE's, although APD has assumed 38.5 FTE's in their staff costs.
 - ASA/YA make provision for an "Airline Subsidy" in 'cost' but APD include a subsidy but in the form of costs for marketing and fuel benefits to support the airline. Nevertheless, APD recognise that the applicant has an option to make an additional direct subsidy to any airline.
- 6.177 At current prices, APD estimate of the Airport Operating costs (for both Public Transport and General/Business Aviation) for Year 1 and Year 2, are circa £2.2 million and £1.9 million, respectively, whilst Revenue is estimated at circa £2.4 million and £3.6 million; an operating profit (before taking account of Depreciation, Asset Replacement & Interest on the Loan) of circa £0.2 million and £1.7 million, respectively (para. 5.27). However, taking account of Depreciation, Asset Replacement and Interest on the Loan, Year 1 shows a loss of circa £0.8 million but Year 2 returns a profit of circa £0.7 million. Thereafter, including those additional items, the airport will return an annual profit over the remaining 18 years, rising from £1.1 million in Year 5 to over £1.6 million by Year 20 (at 2014 prices).
- 6.178 It should be noted that in Year 1, Stobart Air advises that £0.25 million will be provided to support Aer Arann in marketing and route development, and a further £0.29 million in Years 2 – 18, and this is included in APD's analysis. It may be that the Airport may wish to utilise some of these profits, particularly in Years 2 – 5, by supporting the airline's operating costs, in addition to the agreed contribution for marketing/route development, in order to provide sufficient time to achieve the airline's 'break- even' target of 58% seat utilisation, thereby safeguarding and retaining passenger routes.(paras 5.28 and 5.29)
- 6.179 However, taking the worst case of NO Southend Route, the net effect on the Profit (after Depreciation, Interest and Asset Replacement) would be to reduce the level of profit by circa £0.25m per annum (at 2014 prices) over the 20 year period. APD consider that this may lead to a reassessment by the airline of the frequency and validity of operating that (Southend) route, or to look at introducing routes to other destinations. (para. 5.30)
- 6.180 The alternative to commercial flights would be to operate solely a General/Business Aviation operation, with reduced Income, Costs and amended Profit levels, but which would deliver a viable proposition (para. 5,32).
- 6.181 In terms of General and Business Aviation activities, only, the respective figures of APD are, at Airport Operating costs (for Year 1 and Year 2) are circa £0.5m for each year, whilst Revenue is estimated circa £2.2m and

£3.3m; an operating profit (before taking account of Depreciation, Asset Replacement and Loan Interest, respectively). However, taking account of those items, Year 1 shows an overall profit of circa £0.8 million with Year 2 returning a profit after Depreciation, Asset Replacement and Interest of circa £1.9 million, and remains profitable for the remaining 18 years. (para. 5.33)

- 6.182 In relation to the various options for the Airport, APD consider that without aerodrome infrastructure improvement works, it is possible that CAA Safety Regulation Group (SRG) may take action to suspend, or even withdraw, the Aerodrome Licence. Whilst such action may not impact adversely on General Aviation (e.g. Aero Clubs, Training etc), it would have the effect of reducing confidence in the safety of the airfield (para. 3.12). This could adversely impact on Business Aviation and Air Taxi operations. Such operators may have much less confidence operating into an unlicensed airfield with expensive aircraft, and particularly there may be an increase in the cost of Insurance for those aircraft (para. 3.13). In APD's view, de-licencing of Carlisle Airport is likely to lead to a substantial loss of business and the inevitable closure of the aerodrome (para. 3.15).
- 6.183 APD consider that the overall air traffic passenger demand, rather than individual route estimates, identified by ASA in 2012 still seems realistic, and comparable with their total estimate of 65,300 – 74,000 passengers, possibly with a different emphasis on the potential of the two initial routes. Although using their LOW estimate (for financial purposes), the viability of double rotations daily on both Dublin/ Irish Sea routes and Southend routes may not achieve a 58% 'break even' in the short term, they would reach 58% based on our LIKELY estimate in the short/medium term. In APD's view, there is a realistic prospect of developing public transport (commercial) routes from Carlisle Airport with particular regard to the Dublin/Irish Sea Routes, to the benefit of the operators of both the airport and the airline (para 6.4).
- 6.184 APD consider that whilst the development of Carlisle for public transport operations has to start from a zero base, the proposed two routes alone will not be sufficient to move the airport into a satisfactory financial performance without continuing rental income from the FDC development. Over time, and in parallel to FDC rental income, it is felt that the airport will need to seek to grow its revenue streams from:
- an expansion of general and business aviation activities,
 - an expansion, gradually, of its PAX network,
 - a guaranteed rental income from the FDC of £0.35 million per annum following the opening of the FDC, AND
 - its property investment to secure a satisfactory long term future
- 6.185 When assessing the situation it is evident that Carlisle Airport is currently operating at a loss and previous reports have identified in particular the relatively short length of the main runway, its limited catchment area, and the limited nature of the in-bound market as the restricting factors affecting the

Airport's ability to deliver services. The absence of an Instrument Landing System (ILS) has also been noted although views differ as to its significance.

- 6.186 Given the current stated losses it may be said that at present the Airport is not capable of economic operation and that it may be closed under clause 3.11.1 of the Lease. APD consider that without aerodrome infrastructure improvement works, it is possible that CAA Safety Regulation Group (SRG) may take action to suspend, or even withdraw, the Aerodrome Licence. In these circumstances the applicant could argue that if planning permission for the distribution centre is not granted, then it would be entitled to close the Airport; but that, in accordance with the general user provision under clause 3.10.1 of the Lease, it is seeking a B8 development that will cover the losses and enable it to be kept open, repairs carried out, and air passenger/freight services operate.
- 6.187 ASA and APD acknowledge that at worst the proposed development (taking account of the rent derived from the FDC) would enable the Airport to remain open for general/business aviation (as opposed to public transport/scheduled services) on the current level of use. APD also recognise that general/business services can increase over time.
- 6.188 When considering whether there is a realistic prospect of at least in the short to medium term of public transport/scheduled services, the independent work undertaken by APD is based on up to date data; takes account of any subsidies considered necessary; and does not take account of any direct financial cross subsidy to Carlisle Airport by way of revenue earned from Southend Airport.
- 6.189 The various consultants have used different approaches in terms of forecasts (individual figures compared to a range for set years); have come up with different numbers of passengers; differing growth rates, and different revenues and costs. Members will also appreciate the general difficulties in making forecasts.
- 6.190 When considering whether there is a realistic prospect of at least short to medium term of public transport/scheduled services the situation, the independent work undertaken by APD is based on up to date data; takes account of any subsidies considered necessary; and does not take account of any direct financial cross subsidy to Carlisle Airport by way of revenue earned from Southend Airport.
- 6.191 When looking at the viability of scheduled flights it is evident that the applicant is considering a double daily rotation on the Southend route and a single daily rotation on the Dublin route. In effect there are twice as many seats to fill on the Southend service compared to Dublin. In the case of Dublin, the LIKELY load factor would be in excess of the break even point of 58% of occupation beyond Year 4 and then grows significantly in the following Year 5. For Southend, with twice as many seats to fill, there is a longer time frame to achieve 58% occupancy which is likely to be beyond Year 9. In effect, and bearing in mind it can take time for a route to become viable, APD consider that the proposed Dublin route represents a realistic

prospect to an airline operator.

- 6.192 In overall terms, and based on the LIKELY estimate of passengers, APD consider that there is a realistic prospect of developing a public transport/commercial route, with particular regard to Dublin, for both the operators of the airline and airport in the short-medium term (para.6.4). Nevertheless, APD recognise that whilst the *“revenue projections are not unreasonable though as with all projections, they have a measure of uncertainty.”* (para.5.38) In addition, Members will appreciate that such a conclusion cannot be reached with regard to the LOW estimate provided by APD.
- 6.193 In effect, the opportunity exists for the applicant to use the rental income derived from the proposed FDC to enable the Airport to remain open for General and Business Aviation, involve the retention and enhancement of needed facilities, make the Airport’s immediate future more secure, and thereby help to safeguard the existing directly and indirectly related jobs. However, based on their LIKELY estimate of passengers, APD consider that there is a realistic prospect of developing a public transport/commercial route, with particular regard to Dublin, for both the operators of the airline and airport in the short-medium term.
- 6.194 However, the assessment is made in the context that the proposed FDC is already considered to accord with Proposal EC22, and that the remaining land within the application site (to be used as parking aprons for aircraft etc) is in accord with Policy DP3 as airport related development. As such, the foregoing discussion on the enabling role of the proposed rental from the FDC is academic to the extent that it is not considered reasonable (in these circumstances where there is no breach in policy) for the City Council to require the applicant to enter a Section 106 Agreement obligating them to keep the Airport open etc.

Other Matters

- 6.195 The Solway Aviation Museum has requested that any permission should include a Section 106 Agreement safeguarding the museum. These concerns are noted but are considered not to fall within the ambit of this application.
- 6.196 In considering the current proposal, and the observations made by representations by the applicant and interested parties, the provisions of the Human Rights Act 1998 have been taken into account.
- 6.197 The Council has also undertaken due consideration of the requirements under Regulation 122(s) of the Community Infrastructure Levy Regulations 2010 with regard to the remaining obligations concerning the Travel Plan and payment of a sum for habitat mitigation, and is satisfied that they are necessary. This is on the basis of consultee requirements of which the Council is supportive, and following the receipt of independent advice.
- 6.198 In relation to access by disabled people it is recognised that the applicant is

aware of the provisions of the Building Regulations and the DDA.

- 6.199 The issue of State Aid was raised before but the High Court dismissed this claim. There has been no material change in circumstances during the intervening period.

Conclusion

- 6.200 The proposed FDC is considered to accord with Proposal EC22 and the Development Plan as a whole, and the remaining land within the application site (to be used as parking aprons for aircraft etc) is in accord with Policy DP3 as airport related development. The development plan is neither absent nor silent and relevant policies are not out-of-date but are consistent with the NPPF.
- 6.201 When assessing the particular/potential impacts of the development, the Highway Authority and Highway Agency have not raised any objections on highway grounds. While climate change is a relevant consideration there is authority which confirms that the Council is entitled to take the view that greenhouse gas emissions from aircraft resulting from an extension of use of an airport are best dealt with at a national rather than a local level. To put this in context, as noted at paragraph 6.57 above, the total annual CO₂ emissions from proposed new flights are predicted to be approximately 3.5kt/yr, which represents less than 0.01% increase in emissions from UK based civil aviation. In the case of vehicular emissions the HGV emissions are predicted to increase by 4% (or approximately 0.5kt per annum). It is not surprising that the likely increase in the length of vehicular based journeys leads to an increase in greenhouse gas emissions. This is an inevitable consequence of the location of the Airport and one that could materialise with other policy compliant development in this location.
- 6.202 Furthermore, it is considered that any effects associated with air quality and odour are likely to be within acceptable limits. Any fixed wing aircraft and helicopter noise is likely to be below a level representative of the onset of annoyance. There is a high likelihood that noise from the ground freight operations will be noticeable outdoors during the evening and night-time, however none of the presented activity noise levels are likely to cause sleep disturbance when in operation. Based on the updated data, it is considered that the increase in road traffic levels due to the proposed development will not give rise to any perceptible increase in vibration or noise levels. Construction noise may be noticeable but is regarded as within appropriate noise limits. Appropriate mitigation measures can be made the subject of relevant conditions.
- 6.203 It is considered that despite the proposed landscaping, the distribution centre, associated structures and parking (individually and cumulatively with existing development) would be prominent and visually intrusive features in such an exposed and highly visible location, and that this proposal will cause harm. This is a matter that still weighs against the proposal but not considered sufficient, on its own, to constitute a reason for refusal.
- 6.204 Providing that the relevant issues are made the subject of

conditions/section 106 Agreement, it is considered that the proposed development is unlikely to significantly impact on populations of protected species and other wildlife; interest features of the CWS and White Moss, Crosby Moor SSSI; and the proposed development will not have an adverse effect on the integrity of either the Upper Solway Flats and Marshes SPA or the River Eden SAC.

- 6.205 English Heritage has confirmed that they have no issues with the works shown on the main sewer although the rising main route crosses the line of the Stanegate Roman road but the recommendation for this work to be covered by an archaeological watching brief is considered to be acceptable.
- 6.206 It is considered that there is no sound basis, in terms of bird strike risk or any other hazard risk, to resist the current proposal. Overall, the risks associated with the proposal are considered to be within acceptable limits.
- 6.207 Based on their “likely” estimate of passengers, the Council’s aviation consultant considers that there is a realistic prospect of developing a public transport/commercial route, with particular regard to Dublin, for both the operators of the airline and airport in the short-medium term. This latter point is, nonetheless, heavily disputed by the consultant acting on behalf of an interested party.
- 6.208 The proposed FDC is considered to accord with Proposal EC22, and the remaining land within the application site as airport related development. In these circumstances it is not considered reasonable for the City Council to require the applicant to enter a Section 106 Agreement obligating them to keep the Airport open etc.
- 6.209 The recommendation as set out in Section 1 of this report is therefore proposed for consideration.

7. Planning History

- 7.1 An application, reference number BA 2040, by Carlisle Corporation for planning permission to create a civil airport was made to Cumberland County Council in January 1959. Following an Appeal, against that Authority’s failure to give a decision within the statutory period the Minister of Housing and Local Government allowed the Appeal and granted planning permission subject to one condition that the siting, design and external appearance of any buildings, and the location and design of any accesses, and the extension or alteration of any existing buildings shall be as may be agreed with the Local Planning Authority.
- 7.2 In 1989, under application number 89/0898, outline planning permission was granted for the provision of small industrial units, flying training facilities, small business park, and a new airport terminal complex.

- 7.3 Also in 1989, planning application number 89/1140, full planning permission was granted for a new flying training facility incorporating small hangar, workshop and amenity facility, and the erection of a maintenance workshop.
- 7.4 In 1994, full planning permission was granted for the erection of a hangar to house and maintain police support aircraft and for the temporary siting of 3no. Portacabins for use as office and stores.
- 7.5 In 2001, under application numbers 01/1122 and 01/1123, full planning permission was granted for the erection of a new hangar to house aircraft; and an extension to the existing fire station, adding 3no. 6m bays, to house further fire vehicles.
- 7.6 In 2007, application number 07/1127, full permission was sought for a replaced and realigned runway and related aprons and taxiways, a new air traffic control tower, Instrument Landing System and other navigational aids including approach lighting, and an extensive building that was proposed to be used for warehousing, hangarage and as a Terminal. The Development Control Committee resolved to grant conditional permission but the application was withdrawn in July 2008 when called in by the then Government Office for the North West.
- 7.7 In 2008, application number 08/1052, full permission was sought for the erection of a freight storage and distribution facility (including chilled cross dock facility) with associated offices, gatehouse/office/canteen/staff welfare facilities, new vehicular access, car and lorry parking, landscaping, new vehicular access, and other infrastructure works. The applicant indicated that it intended only to repair/resurface rather than replace the existing main runway and to use an existing building as a passenger terminal; and to rely upon permitted development rights for these elements. The application was approved by the Development Control Committee subject to the completion of a Section 106 Agreement to secure the renewal of the runway (to last for about 20 years) and the provision of passenger terminal facilities, the latter to be kept open for at least 10 years provided it was, in the opinion of the applicant, commercially viable to do so. This decision was later overturned in May 2010 by the Court of Appeal following a Judicial Review that found all aspects of the development, i.e. including the airport works as opposed to just the freight distribution centre, should have been the subject of an Environmental Impact Assessment.

8. Recommendation:

1. The development shall be begun not later than the expiration of 3 years beginning with the date of the grant of this permission.

Reason: In accordance with the provisions of Section 91 of the Town and Country Planning Act 1990 (as amended by Section 51 of the Planning and Compulsory Purchase Act 2004).
2. The development shall be carried out in accordance with the approved documents for this planning permission that comprise:

- The submitted planning application form (as amended by the contents/attachment of the e-mail from the Stobart Group sent on the 23rd January 2013 concerning the size of the LPG tank), Certificate C and the Agricultural Holdings certificate;
- Drawing nos. PL-001 Rev A - Site Plan; PL-002- Development Plan; PL-010- Boundaries Plan; PL-020- Existing Site and Location Plan; PL-030- Detailed Site Plan Sheet 1 of 5; PL-031 -Detailed Site Plan Sheet 2 of 5; PL-032- Detailed Site Plan Sheet 3 of 5; PL-033- Detailed Site Plan Sheet 4 of 5; PL-034- Detailed Site Plan Sheet 5 of 5; PL-040- Site Access and Contractors Compound; PL-050- Proposed Runway Long Section; PL-051 - Typical Runway Cross Sections; PL-060- Fence and Gate Location Plan; PL-061 -Car Parks Paladin Fence; PL-070- S278 Works Levels and Drainage Proposed Layout; PL-071 - S278 Works Site Clearance; PL-072- HGV Forward Manoeuvres around S278 Works; PL-073- Existing Drainage and Catchment Areas; PL-075 - Proposed Surface Water Drainage Plan; PL-076 Rev A- Proposed Foul Water Drainage Plan; PL-090- Typical Plant and Equipment Images; PL-091 -Terminal Parking; LA-001 -Landscaping Planting Proposals Woodland Planting Sheet 1; LA-002 - Landscaping Planting Proposals Woodland Planting Sheet 2; LA-003- Landscaping Planting Proposals Woodland Planting Sheet 3; LA-004- Landscaping Planting Proposals Woodland Planting Sheet 4; LA-005- Landscaping Planting Proposals Woodland Planting Sheet 5; PL-1001 -Ground Floor Plan; PL-1002 - Roof Plan; PL-1003- Warehouse Elevations and Sections; PL-1004- Warehouse Office and Operations Office Plan; PL-1005- Gatehouse Plans and Elevations; PL-1006 - Welfare Plans and Elevations; PL-1007 - Fire Station Plans and Elevations; PL-5050- Proposed External Lighting and CCTV; D133185/F/Figure A EH; and D133185/F/Figure B EH;
- The Environmental Statement (URS/Scott Wilson, 2010) as updated: Volume 1 - Environmental Statement; Volume 2- Technical Appendices; Volume 3 - Figures; Non-Technical Summary;
- Planning Policy and Position Statement (URS/Scott Wilson, 2010);
- Design and Access Statement (URS/Scott Wilson, 2010);
- Transport Assessment and Travel Plan (URS/Scott Wilson, 2010);
- Flood Risk Assessment and Drainage Strategy (URS/Scott Wilson, 2010);
- Bird Hazard Management Plan Wintering Bird Surveys 2010/2011 (URS/Scott Wilson, 2011);
- Potential Odour Impacts report (Air Quality Consultants Ltd, 2011);

- Economic Impact Appraisal Report (EKOS Ltd, 2008);
- Economic Impact Appraisal Report: Update (EKOS Ltd, 2010);
- Economic Impact Appraisal Update: Carlisle Airport (EKOS Ltd, 2012);
- Archaeological Walkover and Evaluation Report No. CP/471/07 (North Pennines Archaeology Ltd, 2007);
- Archaeological Evaluation Report CP No. 1416/11 (North Pennines Archaeology Ltd, 2011);
- Supplementary financial information attached as Appendix B to the URS letter dated 03 June 2014;
- Supplementary traffic data attached as Appendix C to the URS letter dated 03 June 2014;
- Supplementary Greenhouse Gas Emissions Study (Air Quality Consultants, June 2014) attached as Appendix D to the URS letter dated 03 June 2014; and
- Updated Ecology Survey (URS, June 2014) attached as Appendix E to the URS letter dated 03 June 2014;

Reason: For the avoidance of doubt.

3. No construction operations on the new access from the A689 shall begin until full details (including a safety audit) of the proposed roundabout junction and associated internal junction and access routes have been submitted to, and approved in writing by, the Local Planning Authority. The proposed access junction with the A689, and any associated internal junction and access routes, shall be completed in accordance with the approved details prior to the occupation of any element of the development hereby permitted.

Reason: To ensure that the highway network can accommodate the traffic associated with the development and to support Local Transport Plan Policies S3, LD5, LD7 and LD8.

4. No construction of the carriageways, footways and footpaths to be provided within the site shall begin until full details of their specification (inclusive of surface treatment and drainage) and a programme for their implementation, have been submitted to, and approved in writing by, the Local Planning Authority. The construction of the carriageways, footways and footpaths within the site shall be completed in accordance with the approved details prior to the occupation of any part of the development hereby permitted.

Reason: To ensure a minimum standard of construction in the

interests of highway safety and to support Local Transport Plan Policies LD5, LD7 and LD8.

5. The development hereby permitted (or such lesser part of the development as may first be agreed with the Local Planning Authority) shall not be occupied until the lay-bys/bus stops, parking, turning and servicing areas for buses/coaches, lorries, cars, motor-cycles and cycles and the means of access thereto have been constructed, surfaced, drained and are available for use in accordance with details submitted to and approved in writing beforehand by the Local Planning Authority. All such facilities shall be kept available for such use at all times and shall not be used for any other purpose, unless otherwise approved in writing by the Local Planning Authority.

Reason: To ensure that vehicles can be properly and safely accommodated clear of the highway and to support Local Transport Plan Policies LD7 and LD8.

6. A traffic signage strategy (inclusive of the roundabout access, the passenger terminal access and the Irthington/Laversdale junctions either side of the site access) including safety audits and designers exception reports shall be submitted to and approved in writing by the Local Planning Authority and thereafter implemented prior to the occupation of any part of the development hereby permitted.

Reason: In the interests of road safety and to ensure the safe and free flow of emergency vehicles and to support Local Transport Policies LD5, LD6 and LD7.

7. No part of the development hereby permitted shall be occupied prior to implementation of the pre-occupation requirements of the Approved Travel Plan as amended by the letter from URS Scott Wilson dated the 5th August 2011. Those parts of the Approved Travel Plan that are identified therein as being capable of implementation after occupation shall be implemented in accordance with the timetable contained therein and shall continue to be implemented as long as any part of the development is occupied, unless otherwise approved in writing by the Local Planning Authority.

Reason: To ensure sustainable modes of transport are available and managed throughout the life of the development.

8. The landscaping scheme (inclusive of any bunds) shall be carried out in accordance with the approved details during the first available planting season following the completion of each stage of construction operations and shall be maintained for a period of not less than 5 years thereafter. Any trees or plants which within a period of 5 years from the completion of the development die, are removed or become seriously damaged or diseased shall be replaced in the next planting season with others of similar size and species, unless the Local Planning Authority otherwise first approves in writing variation to the landscaping scheme.

Reason: To ensure an appropriate and effective landscaping scheme is implemented and that it fulfils the objectives of Policy CP5 of the Carlisle District Local Plan 2001-2016.

9. Prior to the commencement of the hereby permitted works to runway 07/25 plans showing further details (at a larger scale) of the works shown on drawings 'PL D133593/PL/001 Rev A', 'PL D133593/PL/050' and 'PL D133593/PL/051' shall be submitted to the Local Planning Authority for approval and the works shall thereafter be carried out in accordance with the approved details and plans.

Reason: To ensure the completion of the runway works to achieve a Pavement Classification Number standard of not less than 31 and thereby enable the achievement of an airport related benefit in accordance with the timetable agreed by the applicant.

10. No development hereby permitted by this planning permission shall be initiated by the undertaking of a material operation as defined in section 56(4)(a)-(d) of the Town and Country Planning Act 1990 until a construction site management plan has been submitted to, and approved in writing by, the Local Planning Authority. The plan shall include:-

- the proposed date and sequence of works/construction phases;
- details of proposed normal working hours and intended start up and close down times;
- an outline of any work which may require construction outside of normal working hours (as above) together with any control that will be applied to mitigate against nuisance and complaints;
- details of measures to control noise emissions;
- the location of any proposed compounds, access points and the routes for construction vehicles, equipment and plant during construction;
- details of equipment and plant to be used (including type, make and expected number);
- the identification of any sensitive receptors (such as trees, watercourses, local residents and commercial businesses) which are likely to be affected by the works;
- the proposed method of delivery/removal of materials and plant;
- procedures (for all persons engaged in construction of the development) for dealing with major incidents, unexpected

occurrences or finds during construction particularly related to air quality (such as dust), ground quality (contamination issues), noise and vibration, light nuisance and water resources;

- procedures for handling external communication, liaison and complaints;
- measures to prevent siltation and chemical pollution of the River Eden SAC during construction;
- biological monitoring of watercourses before and during construction;
- details of proposed wheel cleaning facilities for construction vehicles, and measures to remove any material that is deposited within the site by such vehicles;
- the measures to be undertaken to prevent contamination of the River Eden SAC through surface water drainage during construction;
- full details of an "emergency plan" or similar to deal with any specific pollution events during construction to minimise the risk of potential pollutants reaching the River Eden SAC;
- the measures to be undertaken to minimise risk of toxic pollutants arising from contaminated ground being transferred to the River Eden SAC via surface and/or ground water during construction;
- a lighting mitigation plan to ensure any spread of light outside the development, including the River Eden SAC and SSSI, is minimised during construction and operation;
- directional vegetation clearance to enable a means of escape for Biodiversity 2020 species (brown hare, common toad and hedgehog);
- the results of a further precautionary badger survey;
- the covering up at night or provision of escape ramps for any holes excavated during development to prevent injury to any badgers, otters and other mammals;
- full details of appropriate construction management practices to minimise soil compaction and localised flooding during construction, to minimise the risk of potential pollutants reaching the River Eden SAC; and
- a noise management plan to ensure that noise and vibration during construction will not adversely affect the integrity of the River Eden SAC.

The development shall not be constructed other than in accordance with the approved construction site management plan or such variation to the plan as is first agreed in writing by the Local Planning Authority.

Reason: To protect the environment, biodiversity, protected species, River Eden SAC, and prevent statutory nuisance during construction.

11. Any vehicle travelling to and from the development, during its construction, which is carrying material that has the potential to give rise to dust, shall be covered in such a manner so as to minimise the emission of dust during transit.

Reason: To protect the environment, prevent dust nuisance, and in the interests of highway safety.

12. Any material which is stored on site, during construction of the development, and has the potential to give rise to dust shall be stored away from the site boundary, and any mounds of materials shall be profiled in order to minimise dust.

Reason: To protect the environment and prevent statutory nuisance.

13. No works of construction of any building hereby permitted shall begin until detailed plans, elevations and sections of that building (and any associated circulation area), together with a schedule and sample of finishes to be used on its external elevations, have been submitted to and approved in writing by the Local Planning Authority. The submitted details shall include any proposals intended to be employed to secure articulation of the principal facades, the intended site and finished floor levels to identify its physical relationship with the existing ground levels, the measures to be incorporated to secure a “good” BREEAM rating, and the intended use of appropriate materials and colour to assimilate the form and scale of the building within its rural setting. The development shall not be carried out otherwise than in accordance with the approved details.

Reason: To safeguard the visual amenity of the area and to comply with Policy CP5 of the Carlisle District Local Plan 2001-2016..

14. The development shall not be occupied until a service/haulage yard management plan has been submitted to, and approved in writing by, the Local Planning Authority. The plan shall include measures to:

- (a) minimise the use of audible reversing alarms on site between the hours of 2300 and 0700 on any day;
- (b) minimise the need to undertake loading and unloading of HGVs outside the service/haulage buildings;

- (c) ensure the installation and operation of machine driven flaps (inclusive of arresting valves) at all docking stations; and
- (d) ensure the installation of noise mitigation of the chillers at the external technical services building (TSB) units.

All haulage activities, including the unloading and loading of vehicles, shall be undertaken in accordance with the approved service/haulage yard management plan, or such other variation of the approved plan as is first agreed, in writing by the Local Planning Authority.

Reason: To protect the living conditions of residents and businesses living and/or operating in the immediate locality of the Airport and to prevent statutory nuisance.

15. The hereby permitted works to the runway within the area of Watchclose Roman Camp SAM shall not commence until implementation of an archaeological watching brief has been secured in accordance with a Written Scheme of Investigation submitted to and approved in writing by the Local Planning Authority. The area of Watchclose Roman Camp SAM shall be defined by all land within, and 10 metres beyond, the outer boundary of the SAM, whose location shall be marked out on the ground before works commence and are first agreed by the Local Planning Authority. The Written Scheme will include an archaeological watching brief to be undertaken during the course of the work; an archaeological recording programme; a post-excavation assessment and analysis; preparation of a site archive ready for disposition at a store approved by the Local Planning Authority; and completion of an archive report.

Any hereby permitted runway works within that agreed location shall subsequently be undertaken and completed in accordance with the approved Written Scheme of Investigation.

Reason: To ensure the successful preservation in situ of archaeological remains is achieved by avoiding the risk of damage to unrecorded archaeological features, advance the understanding of the significance of any heritage asset, and to make this evidence publicly accessible in accordance with Policy LE6 of the Carlisle District Local Plan 2001-2016 and paragraph 141 of the National Planning Policy Framework.

16. The hereby permitted development shall not be occupied until a report containing the results of archaeological fieldwork undertaken as part of this planning application has been produced in a form suitable for publication in a journal in accordance with details (inclusive of the journal) submitted to and approved in writing beforehand by the Local Planning Authority.

Reason: The site is located within an area of archaeological importance and the publication of the results will enhance understanding of and will allow public access to the work undertaken in

accordance with paragraph 141 of the National Planning Policy Framework.

17. No works hereby permitted within 15 metres of the Stanegate Roman Road shall commence until implementation of a programme of supervised archaeological excavation and recording has been undertaken in accordance with a Written Scheme of Investigation submitted to and approved in writing beforehand by the Local Planning Authority. The Written Scheme will include a detailed drawing showing the area for excavation.

Reason: To ensure a reasonable opportunity is provided to finalise a drainage scheme that reduces the potential for any impact upon Stanegate Roman Road in accordance with Policy LE6 of the Carlisle District Local Plan 2001-2016.

18. The hereby permitted development shall not be occupied until a drainage scheme has been completed in accordance with details previously submitted to, and approved in writing by, the Local Planning Authority or such other variation of the details as is first agreed in writing by the Local Planning Authority. The scheme shall:

- where relevant, be produced in accordance with the Environment Agency's greenfield run off criteria;
- include details for the collection/containment and means of disposal to the foul sewer for all foul waste including domestic sewage, trade effluents, vehicle washings, and chemical toilet waste;
- include details of appropriate drainage methods to manage surface water from buildings, roads, car parks and service yards, including attenuation lagoons, oil/silt interceptors, discharge rates and water quality monitoring, to minimise the risk of pollutants reaching the River Eden SAC;
- details of an "emergency plan" to deal with any specific pollution events (including fire and facilities for on-site chemical/fuel storage arrangements) during site operation to minimise the risk of potential pollutants reaching the River Eden SAC;
- include measures to minimise the risk of amphibians of falling into and becoming trapped in drainage structures and attenuation lagoons; and
- include details of water quality monitoring.

Reason: To prevent the increased risk of flooding, protect ground and surface waters, the biodiversity of the area and the River Eden SAC by ensuring the provision of a satisfactory means of foul and surface water disposal in accord with Policies CP10, CP11 and CP12 of the Carlisle District Local Plan 2001-2016.

19. Notwithstanding condition 18 (above) and with respect to the south western 200m length of Runway 07-25, no drainage works shall commence until a drainage scheme comprising detailed plans (including at least one cross section) and a construction methodology have been agreed with the Local Planning Authority identifying how drainage works will be undertaken without causing detrimental impact to the Watchclose Roman Camp SAM. The drainage works shall be implemented in accordance with the approved drainage scheme.

Reason: To ensure reasonable opportunity is provided to finalise a drainage scheme that avoids the risk of damage to Watchclose Roman Camp SAM in accordance with Policy LE6 of the Carlisle District Local Plan 2001-2016.

20. Any proposed liquid storage tanks shall be located within bunded areas having a capacity of not less than 110% of the largest tank. If tanks are connected by pipework in such a way to allow equalisation of the level of contents, then the bund capacity should be 110% of the largest combined volume. The floor and walls of the bund shall be impervious to oil and water (and resistant to any stored chemicals). Any inlet/outlet/vent pipes and gauges must be within the bunded area. The bunds to be installed shall be in accordance with details previously submitted to, and approved in writing by, the Local Planning Authority. The approved details must also include information on the frequency of maintenance. If contamination is found within the bund the contents shall be suitably disposed of. A record shall be made detailing the contamination, action taken and results of any investigation undertaken to identify the cause of the contamination.

Reason: To protect the environment/biodiversity and prevent harm to human health.

21. Prior to the commencement of use all freight loading/off-loading areas shall either incorporate effluent containment facilities or shall allow drainage from them to be connected to the foul sewer in accordance with details submitted to and approved in writing beforehand by the Local Planning Authority.

Reason: To prevent pollution of the water environment.

22. No vegetation suitable for nesting birds shall be cleared or removed during the period 1 March to 15 August in any calendar year unless a breeding bird survey of the area to be cleared or removed has been undertaken (in accordance with a scheme previously submitted to, and approved in writing by, the Local Planning Authority) and the findings of the survey satisfies the standards and/or measures set out in the approved scheme.

Reason: To ensure no impact on nesting birds.

23. No development hereby permitted by this planning permission shall be initiated by the undertaking of a material operation as defined in section 56(4)(a)-(d) of the Town and Country Planning Act 1990, until a Biodiversity Management and Enhancement Plan has been submitted to and approved in

writing by the Local Planning Authority. The Plan shall include:

- a timetabled programme for its implementation and review;
- proposals to identify, maintain and manage/monitor any features of biodiversity interest (inclusive of the lands designation as a County Wildlife Site; Biodiversity 2020 Species; all protected species such as badgers, otters, bats, amphibians and birds; and interest features of the Upper Solway Flats and Marshes SPA and the River Eden SAC);
- the recording and reporting to the Local Planning Authority of any otter and badger road traffic incidents and consequent mitigation action as necessary within the boundary of the development and the Airport;
- a noise management plan to ensure that noise and vibration from both the development and the airport will not adversely affect interest features of the Upper Solway Flats and Marshes SPA and the River Eden SAC;
- a lighting scheme, including a mitigation plan, that minimises any potential impacts of light spilling on land outside the airport; and
- the biological monitoring of watercourses after construction.

The Biodiversity Management and Enhancement Plan of such other variation of the Plan as is first agreed in writing by the Local Planning Authority shall be implemented and thereafter fully carried out as approved.

Reason: To ensure the provision of habitat enhancement measures that also safeguard the interest features of the Upper Solway Flats and Marshes PSPA and the River Eden SAC.

24. Prior to any works commencing within 500 m of waterbodies 1 and 2, a great crested newt method statement of those works shall be submitted to and approved in writing by the Local Planning Authority. The method statement shall include an assessment of the requirement for a European Protected Species Mitigation licence and details of habitat enhancement works. The works shall be carried out in accordance with the approved method statement.

Reason: To ensure the provision of habitat enhancement measures in accordance with Policies CP2 and LE3 of Carlisle District Local Plan 2001-2016.

25. No development hereby permitted by this planning permission shall be initiated by the undertaking of a material operation as defined in section 56(4) (a)-(d) of the Town and Country Planning Act 1990, until the

following components of a scheme to deal with the risks associated with contamination of the site have been submitted to and approved, in writing, by the Local Planning Authority or such other variation of the scheme as is first agreed by the Local Planning Authority:

- a) A document including:
 - a full report of the detailed site walk over;
 - a review of the previous contamination reports and conceptual model of the site indicating sources, pathways and receptors from previous works and its refinement following potentially unacceptable risks arising from contamination at the site; and
 - the results of any supplementary intrusive works and additional rounds of groundwater monitoring that are found to be necessary.
- b) A detailed assessment of the risk to all receptors that may be affected, including those off site, and a further site investigation where necessary for significant source/pathway linkages identified in (a).
- c) An options appraisal and remediation strategy (including the site investigation results and the detailed risk assessment) giving full details of the remediation measures required and how they are to be undertaken.
- d) A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in (c) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

Reason: To protect the environment and prevent harm to human health.

26. Notwithstanding the proposed measures identified within the application submission, in the event that contamination is found at any time when carrying out or during use of the approved development, it must be reported in writing immediately to the Local Planning Authority. An investigation and risk assessment must be undertaken and where remediation is necessary a remediation scheme must be prepared which shall be subject to the approval in writing of the Local Planning Authority. Following completion of measures identified in the approved remediation scheme a verification report must be prepared, which is subject to the approval in writing of the Local Planning Authority.

Reason: To protect the environment and prevent harm to human health.

27. The applicant (or successor in title) shall make known and publicise locally all new employment opportunities arising out of the construction and operation of the Development and to work with local employment and regeneration agencies in order to make known and publicise such employment opportunities.

Reason: To ensure sufficient opportunities are afforded to the employment of local people and allowing opportunities to encourage the use of sustainable modes of transport for employees.

28. The total number of passenger aircraft movements* per annum shall not thereafter exceed 3,650, and the total number of cargo air transport movements* per annum shall not exceed 1,560.

* For the purpose of this condition, an aircraft movement is defined as the taking-off or landing of an aircraft.

Reason: To protect the living conditions of residents and businesses living and/or operating in the immediate locality of the Airport; and to reflect that which has been assessed in the environmental information received.

29. Passenger and/or cargo fixed wing aircraft movements shall be limited to the following types of aircraft: Jetstream 41; DHC-8Q400; ATR 42; ATR 72; and RJ146 (or aircraft of equivalent characteristics in terms of size, weight, carrying capacity, noise, and other polluting emissions).

Reason: To protect the living conditions of residents and businesses living and/or operating in the immediate locality of the Airport; and to reflect that which has been assessed in the environmental information received.

30. Notwithstanding condition 28 (above) no Scheduled Air Transport Movements* permitted by the development will be scheduled to take place at the Airport between 23.00 hours and 06.00 hours.

*For the purposes of this condition, Commercial Air Transport Movements include both passenger carrying and cargo flights.

Reason: To protect the living conditions of residents in the immediate locality of the Airport; and to reflect that which has been assessed in the environmental information received.

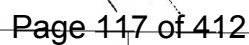
31. Notwithstanding the above condition 28, (and with the exception of diverted aircraft, those wishing to land due to adverse weather conditions or due to any other emergency) no more than eight general/business air traffic movements* shall take place at the Airport between 23.00 hours and 06.00 hours.

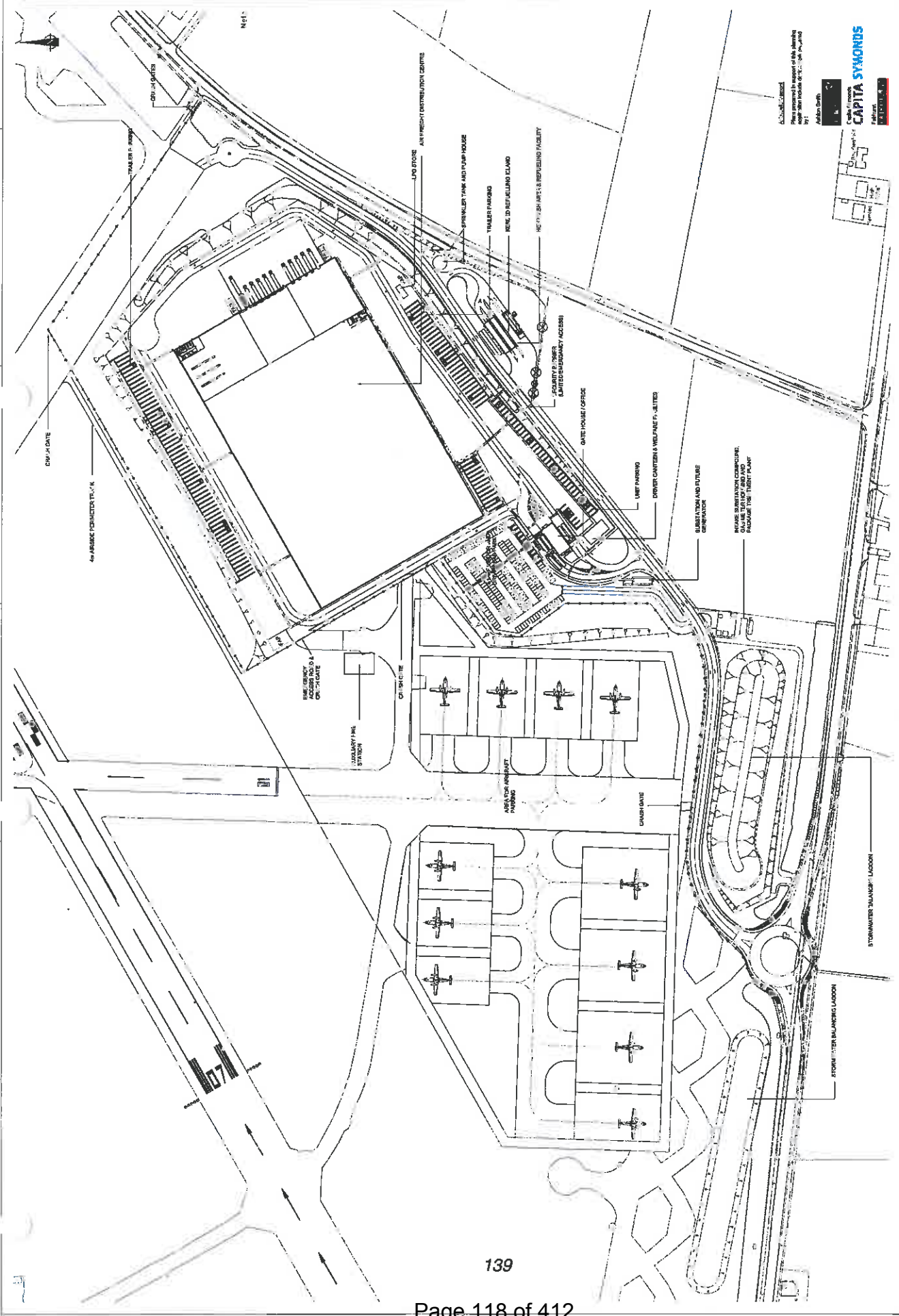
* For the purpose of this condition, an aircraft movement is defined as the taking off or landing of an aircraft.

Reason: To protect the living conditions of residents in the immediate locality of the Airport.

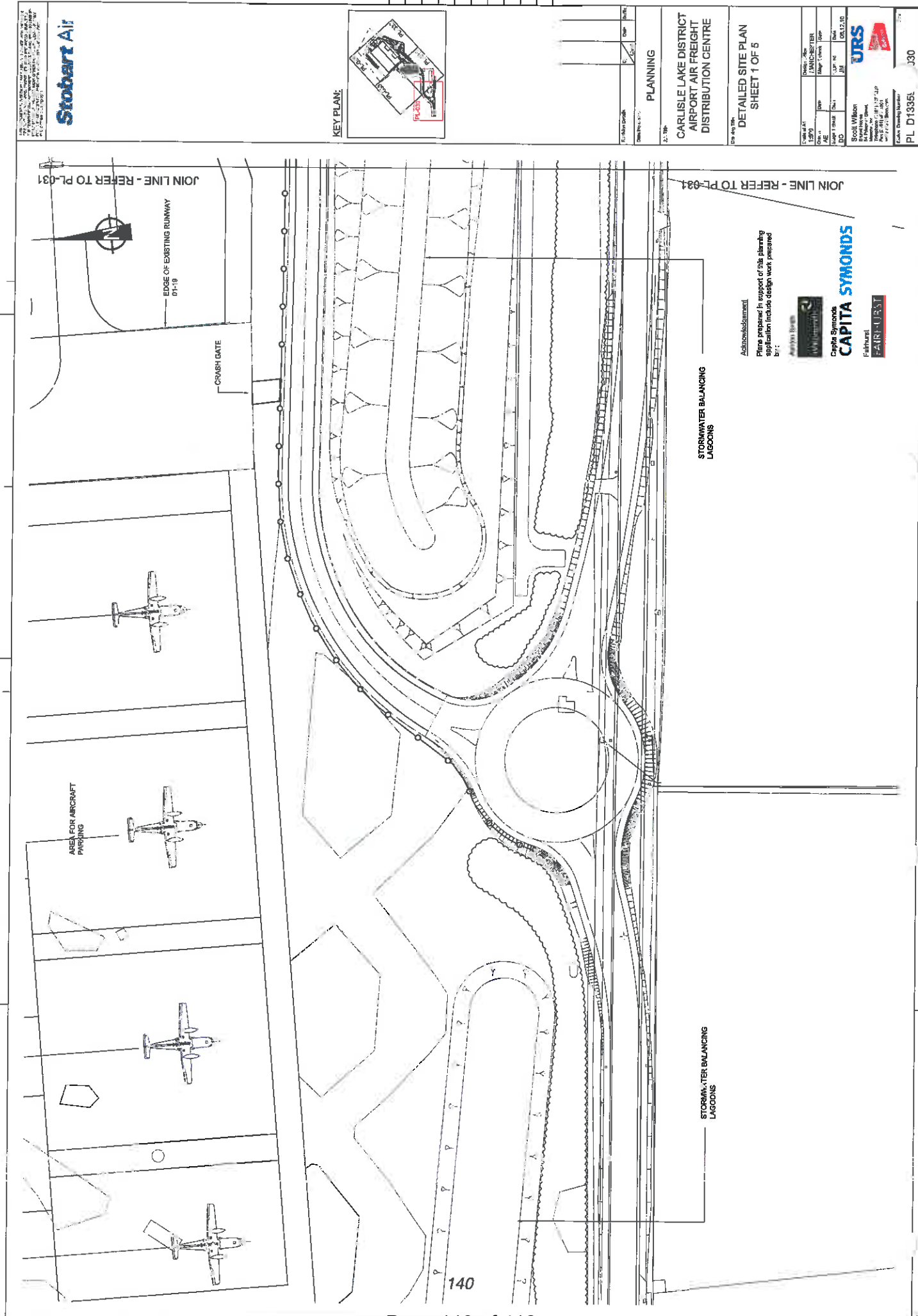
- 32 The development hereby permitted shall not use runway or aircraft de-icer without the prior approval of the Local Planning Authority.

Reason: To protect the environment.





CARLSLE LAKE DISTRICT AIRPORT AIR FREIGHT DISTRIBUTION CENTRE DEVELOPMENT PLAN



Stobart Air

KEY PLAN:



PLANNING

CARLISLE LAKE DISTRICT
AIRPORT AIR FREIGHT
DISTRIBUTION CENTRE

DETAILED SITE PLAN
SHEET 1 OF 5

Client	Stobart Air
Project	Carlisle Lake District Airport Air Freight Distribution Centre
Phase	Planning
Scale	1:1000
Date	08/12/10

Author	Scott Wilson
Checker	Scott Wilson
Approver	Scott Wilson
Project Manager	Scott Wilson
Project Engineer	Scott Wilson
Project Designer	Scott Wilson
Project Drafter	Scott Wilson
Project Checker	Scott Wilson
Project Approver	Scott Wilson

Client Drawing Number	PL D13361
Sheet Number	330

Advertisement

Plans prepared in support of this planning application include design work prepared by:

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- A. EXTERIOR WALLS & ROOF
- B. EXTERIOR WALLS TO WATER
- C. EXTERIOR WALLS TO WATER
- D. EXTERIOR WALLS TO WATER
- E. EXTERIOR WALLS TO WATER
- F. EXTERIOR WALLS TO WATER
- G. EXTERIOR WALLS TO WATER
- H. EXTERIOR WALLS TO WATER
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- S. EXTERIOR WALLS TO WATER
- T. EXTERIOR WALLS TO WATER
- U. EXTERIOR WALLS TO WATER
- V. EXTERIOR WALLS TO WATER
- W. EXTERIOR WALLS TO WATER
- X. EXTERIOR WALLS TO WATER
- Y. EXTERIOR WALLS TO WATER
- Z. EXTERIOR WALLS TO WATER

As per Architect's

Plans prepared in support of the planning application for the design work prepared by:

Capital Symonds
CAPITA SYMONDS
PLANNING

Planning
CAPITA SYMONDS
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ELEVATION 1

ELEVATION 2

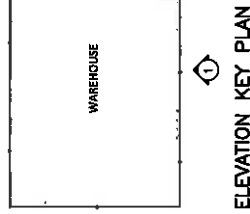
ELEVATION 3

ELEVATION 4

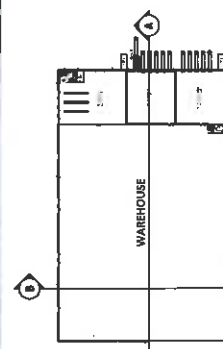
SECTION A-A

SECTION B-B

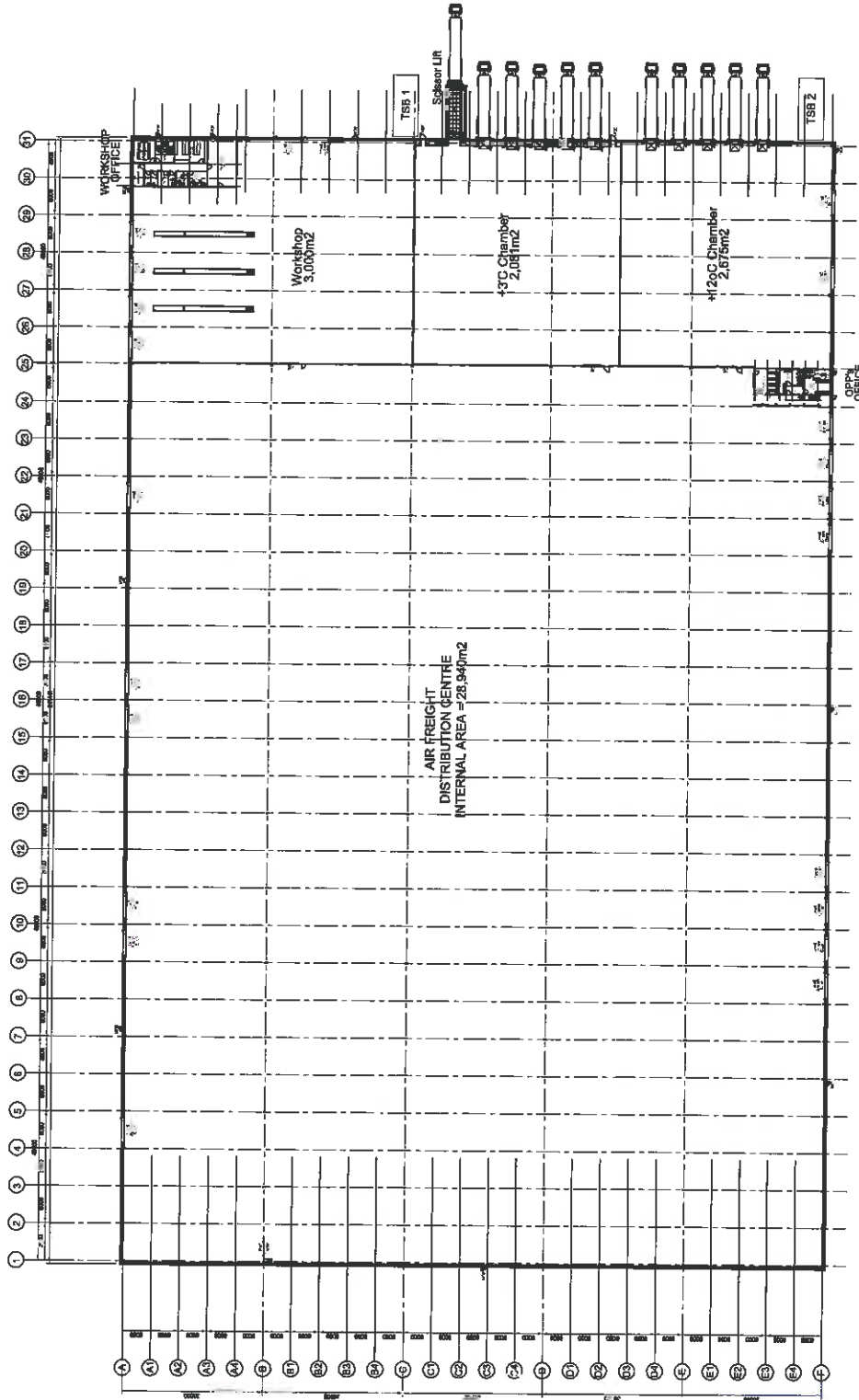
145



ELEVATION KEY PLAN



SECTION KEY PLAN



GROUND FLOOR PLAN
GROSS INTERNAL AREA = 36,697m²

Acknowledgement:

Plans prepared in support of this planning application include design work prepared by:

Action Smith

Capita Symonds

Capita Symonds

Capita Symonds

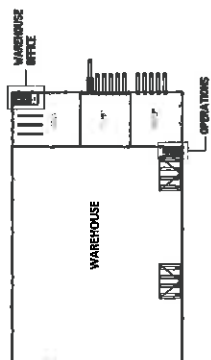
Capita Symonds

Capita Symonds

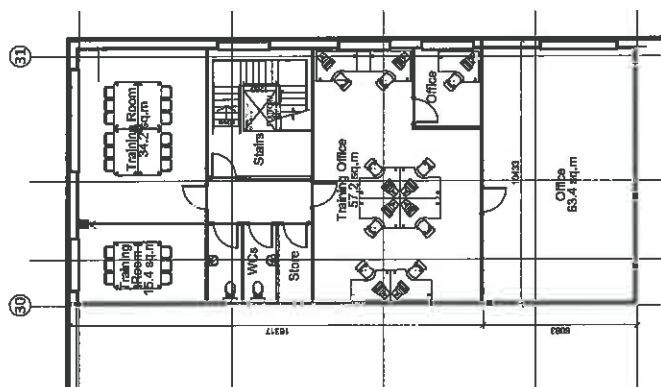
Capita Symonds

Capita Symonds

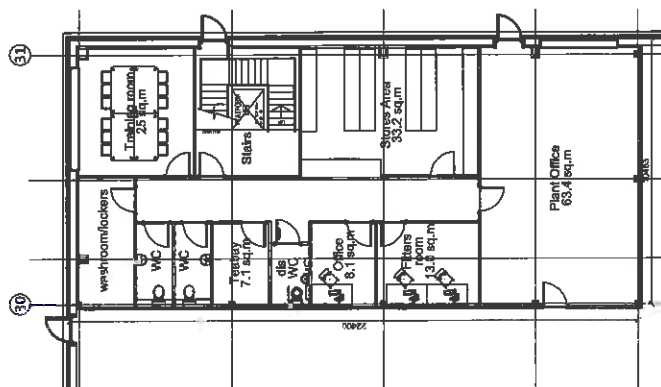
Project Name	Carlisle Lake District Airport Air Freight Distribution Centre
Drawing Title	GROUND FLOOR PLAN
Scale	1:500
Author	URS
Check	URS
Drawn	URS
Approved	URS
Date	10/12/2010
Revision	
Drawn By	
Check By	
Approved By	
Date	
Project No	D133593/A



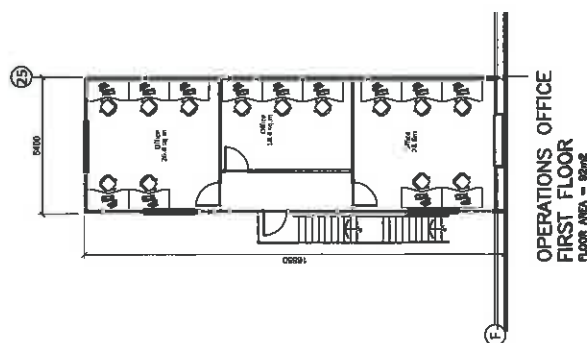
OFFICE LOCATION PLAN



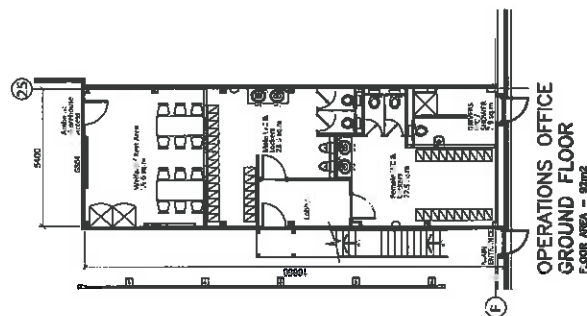
WAREHOUSE OFFICE
FIRST FLOOR
FLOOR AREA = 222m²



WAREHOUSE OFFICE
GROUND FLOOR
FLOOR AREA - 222m²



OPERATIONS OFFICE
FIRST FLOOR
FLOOR AREA = 92m²



OPERATIONS OFFICE
GROUND FLOOR
E.001R AREA - 92m²

Acknowledgements

Ashton Smith

Capita Symonds
CAPITA SYMONDS

1000

URS

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Drawling Number
D133593/A/1004

D133593/A/1004

PLANNING

**CARLISLE LAKE
DISTRICT AIRPORT
AIR FREIGHT
DISTRIBUTION CENTRE**

**AIR FREIGHT
DISTRIBUTION CENTRE
WAREHOUSE OFFICE
& OPERATIONS
OFFICE PLANS**

3-10-2014	WB	Stage 2 (10)	Collected	Crude
1-10-2014	WB	Stage 2 (10)	Collected	Crude

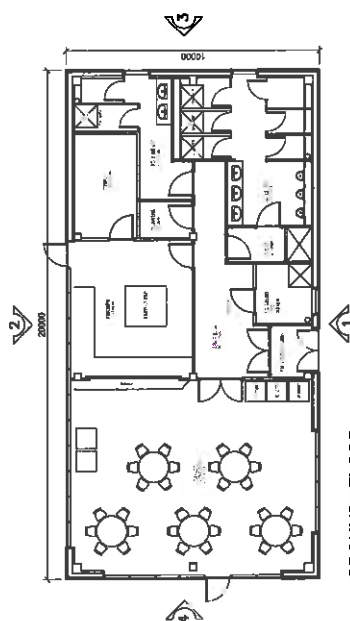
Plans prepared in support of this planning application include design work prepared by:

John Smith

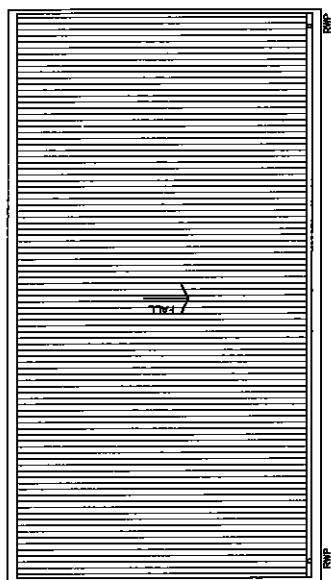
CAPITA SYMONDS

Feltrus

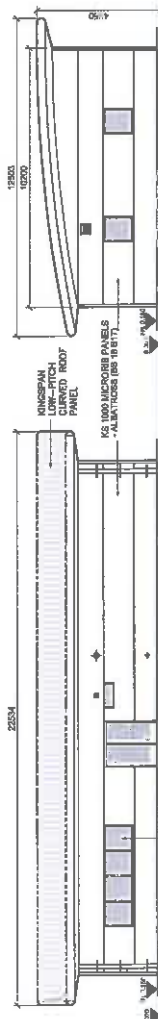
Abstract



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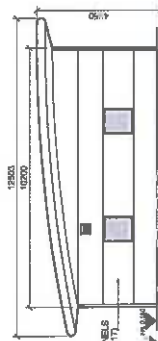
ROOF PLAN



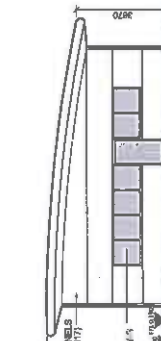
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ELEVATION 2

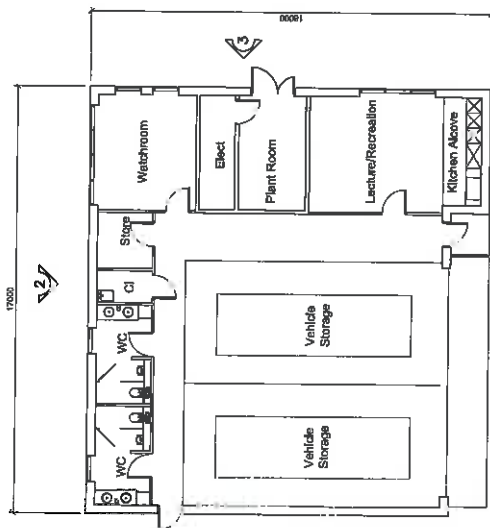


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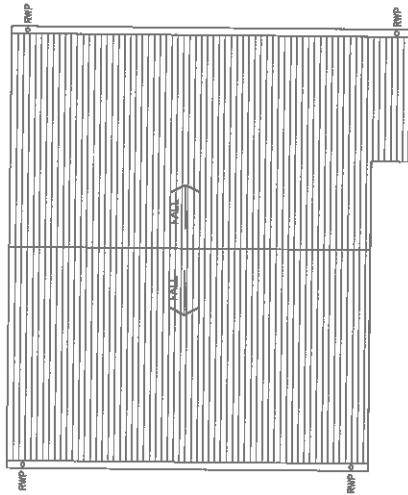


ELEVATION 4

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ROOF PLAN



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FLASHING COLOUR TO
MATCH CLADDING

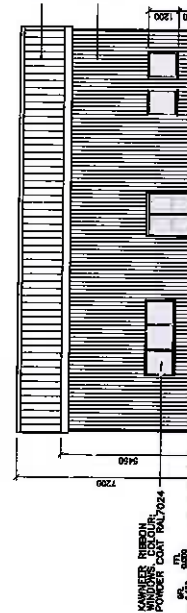


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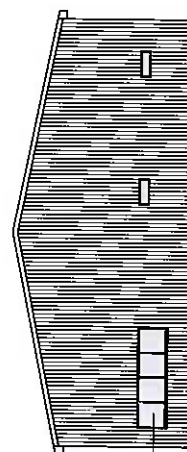
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COLOUR: FIRE DOOR
RED

ELEVATION 1



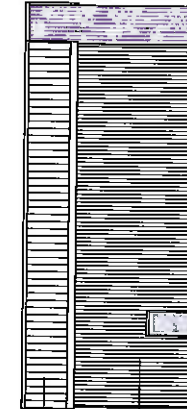
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18 817)

ELEVATION 3



CLADDING: ASI 1000 RW
COLOUR: ALBATROSS (BS
18 817)

ELEVATION 2



CLADDING: ASI 1000 RW
COLOUR: ALBATROSS (BS
18 817)

ELEVATION 4

Administrative

Plans prepared in support of the planning
application include design work prepared
by:

Ashdon Smith

Capita Symonds

Capita Symonds

Capita Symonds

Capita Symonds

Capita Symonds

Capita Symonds

Capita Symonds

Capita Symonds

Capita Symonds

Capita Symonds

PLANNING

CARLISLE LAKE
DISTRICT AIRPORT
AIR FREIGHT
DISTRIBUTION CENTRE

FIRE STATION
PLANS & ELEVATION

Scale of 1:100

1:100

1:100

1:100

1:100

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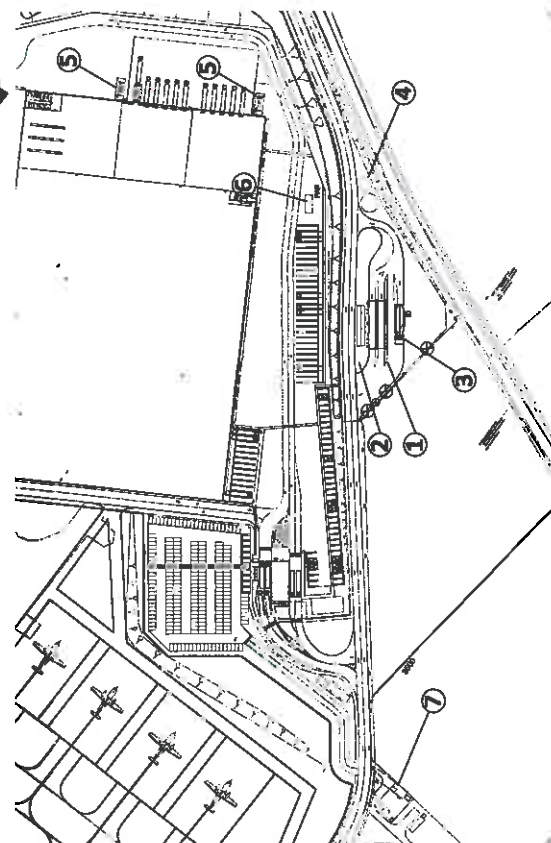
2) ABOVE GROUND FUEL TANKS



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② SPRINKLER TANK AND PUMP ROOM

© VEHICLE WASH AND FLINT MASON



⑦ SUBSTATION



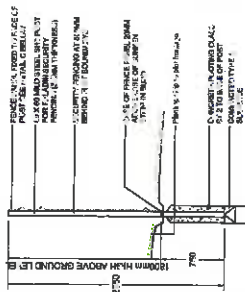
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Administrative Department
 Plans prepared in support of this planning application include design work prepared by :

Capita Symonds
FAIRFAX

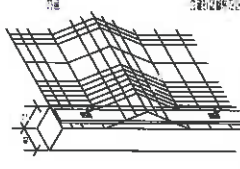
CAPITA SYMONDS
FAIRHURST

DISTRIBUTION CENTRE FENCING



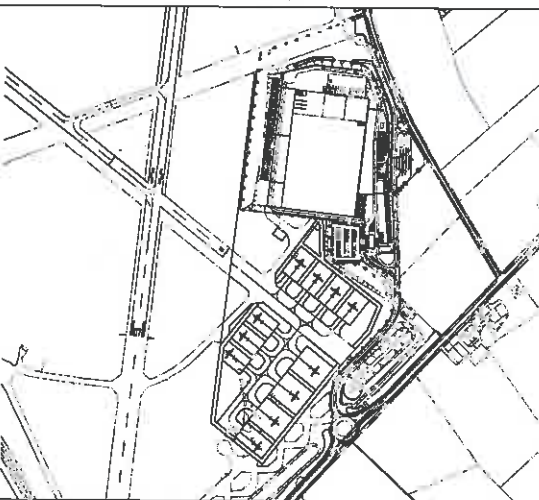
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SCALE 1:5

DISTRIBUTION CENTRE FENCING

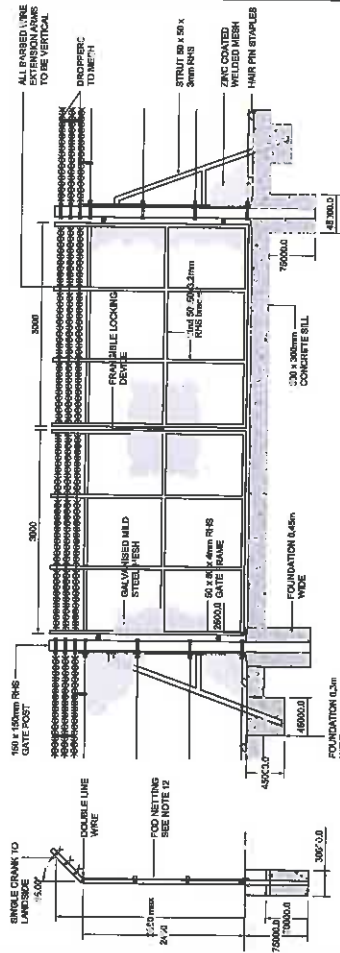


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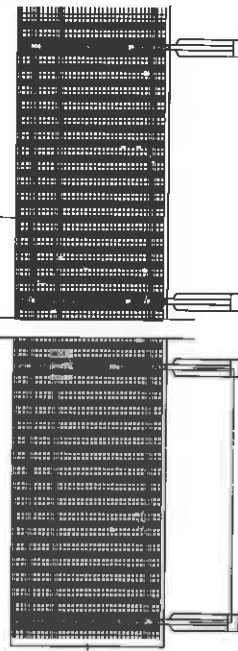


CRASH GATE ELEVATION
SCALE 1:25



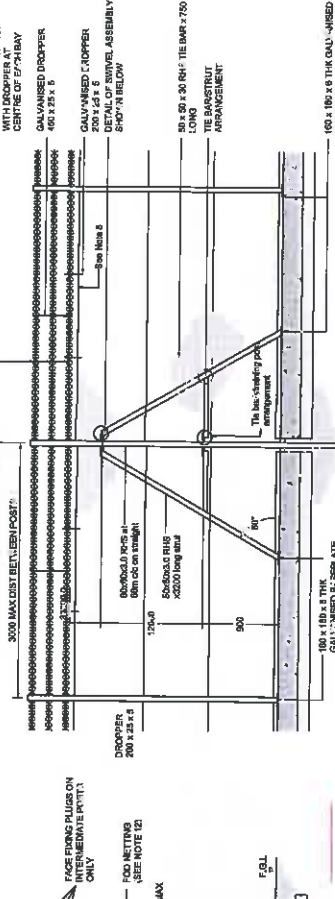
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SCALE 1:25

DISTRIBUTION CENTRE FENCING



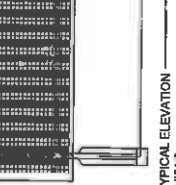
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SCALE 1:5

AIRPORT FENCING



CRASH GATE ELEVATION
SCALE 1:25

DISTRIBUTION CENTRE FENCING



TYPICAL ELEVATION
SCALE 1:5

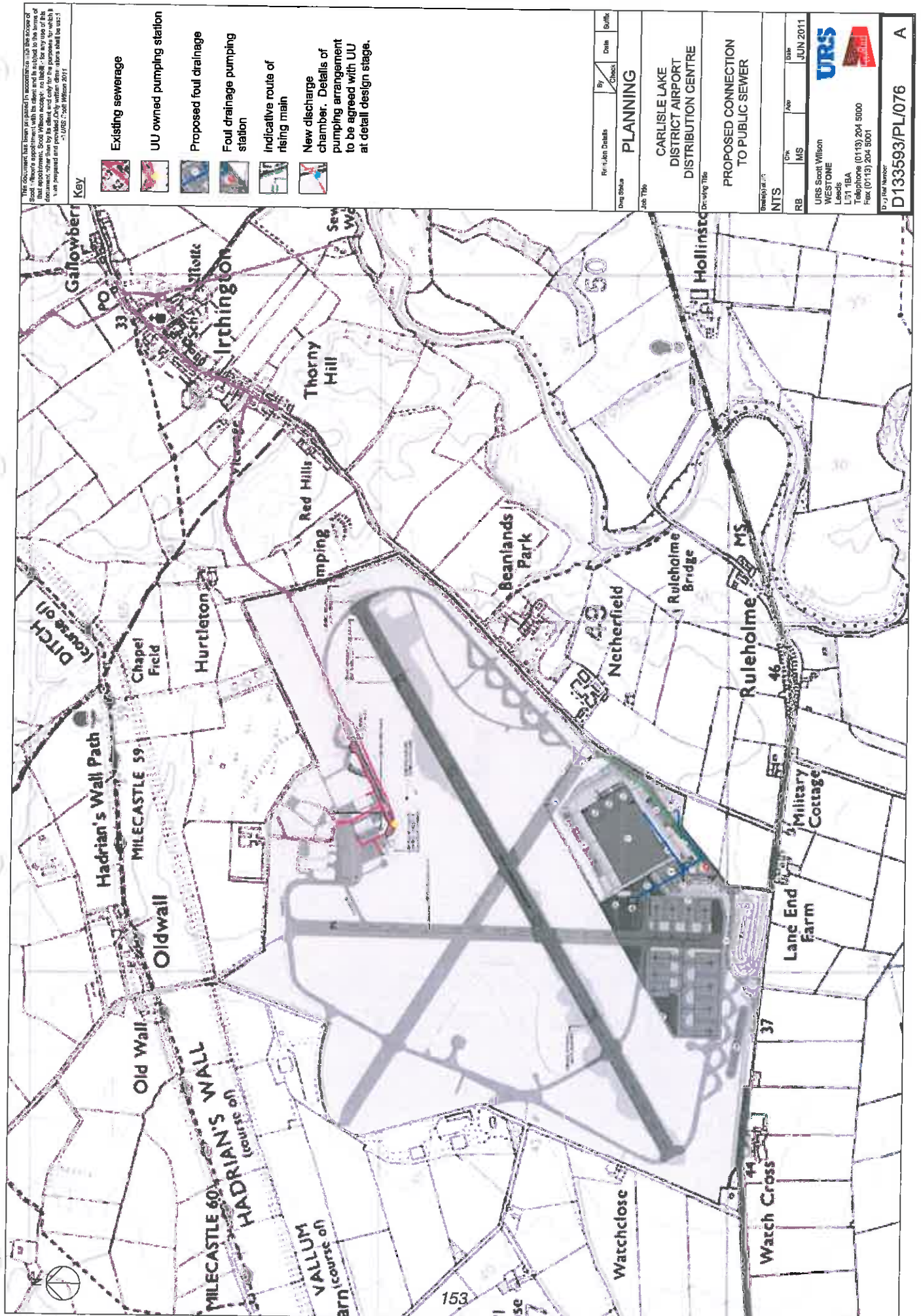
PLANNING

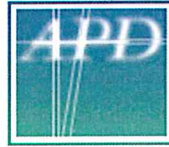
Job No: CARLISLE LAKE DISTRICT
AIRPORT AIR FREIGHT
DISTRIBUTION CENTRE

FENCE AND
GATE DETAILS

Drawn by: J. H. 10/01	Check by: J. H. 10/01	Scale: 1:50
Date: 10/01	Author: J. H. 10/01	Rev: 1.0
Project: CARLISLE LAKE DISTRICT AIRPORT AIR FREIGHT DISTRIBUTION CENTRE	Client: STOBART AIR	Drawn: J. H. 10/01
Checked: J. H. 10/01	Approved: J. H. 10/01	Scale: 1:50

Plans prepared in support of this planning application in aid of design work prepared by:
Aston Smith
Capita Symonds
FAIRFAX PARTNERS





Airport Planning and Development Ltd

**Review of Submissions in relation to the
Proposed Development of a Freight Distribution Centre at
Carlisle Airport:
Analysis of Operational and Financial Implications
of
Alternative Business Development Scenarios**

July 2014

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C O N T E N T S

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- Appointment
- Terms of reference

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- Aerodrome Services
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- Public Transport Demand
- Route Development
- Conclusions

5 FINANCIAL ANALYSIS

- Recent Financial Performance
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1 INTRODUCTION

Appointment

- 1.1 Airport Planning and Development (APD) Ltd was appointed on 7th July 2014 by Carlisle City Council to provide an independent assessment of the likely continued operation of Carlisle Airport, with or without, financial assistance from the parent company (Stobart Group) and/or to any airline company to support alternative levels of aviation activity by type and scale. The assessment is required to assist the Council in the determination of the extant planning application in August 2014.
- 1.2 This assessment is based on the analysis of submitted documentation, related to the current planning application (Application No. 10/1116) for the development of a Freight Distribution Centre and other facilities, including works to the main runway, at Carlisle Airport, by:
- the Applicant (Stobart Air Ltd), represented by Avia Solutions, Mott Macdonald and URS
 - Alan Stratford Associates (ASA), Economic Consulting Associates, Gleeds, and Hyde Harrington advising Carlisle City Council, and
 - Thomas Gordon Brown and interested parties, supported by York Aviation.

And APD's own knowledge of aviation activity in the UK and experience in airport management and operations.

- 1.3 APD was asked, also, to prepare an independent Financial Plan (Profit and Loss Account) for both General & Business Aviation with and without Public Transport Operations, in order to establish likely viability of the alternatives.

Terms of Reference

- 1.4 In the context of the original submitted documents accompanying the application and subsequent updates, as well as all the related information and comments submitted by interested parties, it was agreed with the Council's officers that the following issues should be addressed:
- Whether the airport concentrate, solely, on General and Business Aviation
 - What are the prospects for attracting and retaining public transport operations
 - What public transport route options have potential to be attracted to the airport
 - What are the capital expenditure/operating cost and revenue generation implications of either scenario – the impact on the current annual loss.
 - Is the airport financially viable for both options (with/without Public Transport), and would financial support required to establish public transport routes.
 - Should the airport continue to be the subject of a CAA Licence.
 - Would extra Scheduled Flights have an adverse effect on the noise, air quality, and water quality as assessed in the EIA.
- 1.5 Our Conclusions and recommendations are set out at Section 6.

2 ANALYSIS OF AIR TRAFFIC FORECASTS

Current Activity

- 2.1 Since 2009, the annual total of aircraft movements at Carlisle Airport has declined by about 30% by 2011, with a modest increase of about 16% in the period 2012-2013, as indicated in the following table. With aircraft movements of 4,626 in the first four months of 2014, it is estimated that, the annual number is likely to be in the order of the previous two years.

Table 2.1: Historic aircraft movements

Year	2009	2010	2011	2012	2013	2014 (Jan-Apr)
Total Movements	21,395	18,419	14,911	17,349	17,280	4,626
of which:						
Air Taxi	558	449	376	117	155	142
Business Aviation	459	435	369	290	399	106
Aero Club	14,450	12,786	10,238	11,076	11,206	3,287
Private Flights	4,315	3,310	2,802	3,872	3,360	745
Other Movements	1,613	1,439	1,126	1,994	2,160	346

- 2.2 As identified, there are no schedule public transport movements at Carlisle Airport although there are some limited Air Taxi operations, albeit that these numbers have declined over the last 5 years; 2009 to 2013. The statistics for the first part of 2014 suggest that this Air Taxi activity, together with other General and Business Aviation traffic may return to the 2009 level by 2016, if an annual growth rate is assumed of about 2.5% (excluding scheduled public transport services and cargo), as indicated by ASA. However, as indicated below, total UK aircraft movements have been declining.
- 2.3 The 2.5% growth rate is considered to be on the high side, when compared to the historic results, submitted by all UK wide Reporting Airports in their annual returns to CAA. The change in the number of aircraft movements in the period 2003-2013 is represented in the following table. This shows that total aircraft movements have declined in the last decade, including public transport, mainly as a consequence of the economic downturn. In the General Aviation sector the reduction in numbers has been substantial, although Air Taxi and Business Aviation activities have seen modest growth despite the economic conditions since 2008.

Table 2.2: UK Aircraft Movements

Year	2003	2008	2003-2008 % change	2009	2013	2009-2013 % change
Total Movements	3604114	3673446	1.92	3407519	3034042	-10.96
of which:						
Other Movements ¹	2540940	2790209	9.81	2564857	2366816	-7.72
<u>Carlisle type activity</u>						
Air Taxi	76218	87219	14.4	78768	80703	2.46
Business Aviation	48973	78122	59.52	92934	99431	6.99
Aero Club	682623	494561	-2.75	447269	312894	-30.04
Private Flights	255360	223335	-12.54	223691	174198	-22.12
<i>Sub Total</i>	<i>1063174</i>	<i>883237</i>	<i>-16.92</i>	<i>842662</i>	<i>667226</i>	<i>-20.82</i>

Note 1: Other Movements include all public transport movements excluding air Taxi

Public Transport Demand and Route Development

- 2.4 The submissions on Air Traffic Forecasts / Route Development made by the Applicant, ASA advising the City Council, York Aviation on behalf of the Third Party, and other parties have been examined. Initially, Avia Solutions in 2008 indicated a public transport passenger demand in the range 50,000 – 200,000 passengers per annum at Year 20, with a majority demand for a 'London Airport destination'.
- 2.5 In its May 2011 report to the City Council, ASA suggested a total passenger throughput of between 50,000 – 100,000 per annum. In May 2012 ASA indicated a total figure for public transport in the range 53,300 (Pessimistic) to 81,600 (Optimistic), with a more likely scenario of 67,800 passengers per annum at Year 20. In the case of the most likely scenario the Year 20 breakdown was 47,200 passengers with the Southend service; 17,200 associated with the Dublin service & 3,400 for the Isle of Man & Jersey services.
- 2.6 In June 2011 YA considered that by *"2025 the only possible route from Carlisle operated on a regular basis would be to London, perhaps delivering at best 40 – 50,000 passengers per annum, although provision of this service cannot be certain....Any specialised charter services, such as to Jersey may add another 1-3,000 passengers per annum..."* (Final Report, June 2011). In June/July 2012 YA indicated that services would be likely to attract around 30,000 passengers initially, potentially rising to 50,000 passengers per annum. YA, in their most recent letter dated 27th June 2014, has provided an update that indicates a current expectation that passenger numbers in 2025 (Year13) would now total 25,665, for Southend and Dublin.
- 2.7 Carlisle has looked to re-establish a London route since the demise of the "protected" route Dundee – Carlisle- Heathrow. Outline studies have looked at Gatwick, Stansted, London City and the short lived Carlisle – Liverpool – Biggin Hill. London remains an unfulfilled dream. A key factor is which 'main' London Airport would be available, and at what cost. None of the proposed London' routes have proved to be feasible or viable, mainly due to the availability and cost of 'slots', particularly Heathrow and Gatwick. However, Southend Airport provides a new option, and may provide some measure of solution to the problem since it has a main line railway station with its terminal adjacent to the main London Line and frequent trains. Traffic to London includes point to point (Centre of London) and the immediate Southend area. There is very limited interlining at Southend Airport since the routes are primarily European which are mostly served by Newcastle, Manchester and to some degree by Blackpool. Similarly a transfer from Southend to Heathrow or Gatwick produces little or no advantage to flying from Manchester or via Amsterdam/Newcastle.
- 2.8 There are difficulties in estimating how new traffic would develop from a zero base. Furthermore, any assessment should be based on Carlisle Airport on its own, notwithstanding Stobart's financial interest in Southend Airport and Aer Arran, also. APD has assessed the potential level of traffic that would use routes from Carlisle, particularly Southend and the Irish Sea routes, primarily based on Dublin. Our conclusions on passenger numbers are set out at Table 2.3 which identifies a 'LOW' forecast to be used for the purposes of cautious financial analysis at Section 5 and a 'LIKELY' forecast of traffic levels over a 20 year period.

Table 2.3 Annual passenger movements by route at Year 20.

	Year	1	5	10	15	20
LOW						
Carlisle - Southend		14568	29166	29532	29903	30279
Carlisle -Dublin		5386	29093	29458	29828	30203
Other Routes		0	2064	4712	4771	4831
TOTAL PASSENGERS		19954	63322	63702	64503	65313
	Year	1	5	10	15	20
LIKELY						
Carlisle - Southend		16,273	33,030	33,445	33,780	34,290
Carlisle -Dublin		6,192	32,947	33,361	33,696	34,205
Other Routes			2,468	5,369	5,437	5,505
TOTAL PASSENGERS		22,464	68,475	72,175	72,913	74,000

- 2.9 In terms of passenger movements, by Year 20, it is estimated that passenger numbers would be in the order of 65,000 (LOW) – 74,000 (LIKELY), and the LOW figure has been used as the basis for our financial assessment in Section 5. It should be noted that when the routes are firmly established at 5 years, no appreciable annual growth is anticipated, given the airport's limited catchment area and medium/long haul alternatives at Newcastle and Manchester Airports. The 'Likely' forecast indicates that for a Southend route, beyond Year 9, the load factor would be in excess of 58% and the 'LIKELY' Load Factor on Dublin/Irish Sea Routes would be in excess of 58%, beyond Year 4.
- 2.10 Whilst both the Applicant and ASA place emphasis on a London route, it is appropriate to consider the relevance and impact of a number of factors raised in the consultation/judicial process on the 'demand for air travel'. These include the following, together with our opinion on relevance (in italics):
- Interlining through Southend: Unless seeking a connection to Europe with EasyJet, Medium/Long Haul services involve additional journey times by rail/road to/from Heathrow or Gatwick, or Stansted (by road). *This would seem to generate only limited passenger traffic, given North of England alternatives at Newcastle (Emirates etc) and Manchester (A number of international carriers), for long haul and European destinations.*
 - 'Point to Point' traffic and UK Journey Times: In terms of journey times, there will be some time saving on a Carlisle-Southend air route over rail (Carlisle-Euston), and it would be in the order of one hour or so, depending on the origin/destination of passengers. *In our view, rail is a preferred option for passengers in South Cumbria. A further factor, would be cost of the rail/air alternatives, although it is noted that the applicant infers that the Carlisle/Southend route may be "cross-subsidised". It is considered that most demand from a Carlisle/Southend route will be business passenger based. In summary, it is considered that the actual demand may not be as high as that expected.*
 - Leisure Visitors to Cumbria: Mott Macdonald refer to the 2010 Visitor survey and quote 40 million visitors but only 5 million stay at least one night. *In our view, most if not all leisure visitors to the Lake District in particular will be car borne, whilst those international visitors will arrive through the main UK airports, and then use car hire.*

- Air Navigation Equipment at Carlisle: ASA raised the issue of the absence of air navigation equipment, particularly ILS, as a potential 'show-stopper'. *Aer Arran is a well respected operator, fully compliant with both Irish Aviation Authority and UKCAA regulations, and the lack of navigation equipment is not considered to be a negative impact. However, the need for runway rehabilitation work is essential, and if not undertaken it would be a flight safety consideration by Aer Arran or other operators.*
- 2.11 Having reviewed the submissions by Alan Stratford Associates and York Aviation, and applying our own experience of the UK Market, it is considered that there is some demand for a 'London route', but it may not be as high as forecast by the Applicant, ASA and (originally) York Aviation, given the factors raised in the above paragraph. Certainly, the traffic forecasts in the early years should be treated with a measure of caution, until the route(s) are well established. In principle, it is considered that ASA's high forecast of c55,000 at Year 20 is optimistic on a London route, and a range of c30,000 (LOW) – 36,000 (LIKELY) passengers at Year 20 is more probable, resulting in a 'break even' Load Factor' of 58%' for a double rotation being achieved at about Year 9.
- 2.12 It is noted that in YA's letter of 27 June 2014, a revised estimate for the total number of passengers (i.e. Southend and Dublin routes) at Year 1 is c20,000, and for this to rise to 29,684 by Year 20. This revised estimate is based on an update of CAA statistics, a greater emphasis on 'capturing 'point to point' traffic rather than interlining traffic, greater competition from rail, and reduced annual growth estimates. YA considers that a 'twice daily rotation' would not be viable, although its 29,684 per route is similar to APD's LOW forecast but nearly 5,000 less than APD's LIKELY estimate.
- 2.13 Traditionally, given the business, leisure, and Visiting Friends and Relatives (VFR) links between North West England and the island of Ireland have been strong. In our view, the Celtic Sea routes to both the Republic of Ireland and Northern Ireland, particularly Dublin, could offer a comparable level of demand to that for a London route. As referred to above, whilst Southend provides only limited routes for 'interlining' passengers, Dublin offers substantial choice of routes to North America and the Middle East/Asia with Aer Lingus, US airlines, Emirates, Etihad, etc. Also, for westbound passengers, Dublin offers easier access to the USA with US Border Control facilities at both Dublin and Shannon.
- 2.14 Contrary to the submissions on a London route, it is considered that a Dublin/Island of Ireland routes have much to offer. We would expect a daily service to Dublin (6 days per week) would generate about 14,300 passengers in Year 2, significantly less than Aer Arran's break-even point of 58% seat utilisation for a single daily rotation, but 'break even' would be achieved in Year 3 with 17,366 passengers. However, after the initial establishment of the route, by Year 4, the airline may wish to consider the introduction of a double daily rotation to Dublin or a second daily rotation to an alternative destination on the Island (eg Belfast), in which case a 'break even' Load Factor' of 58% on a double daily rotation may be achievable by Year 7, with over 33,000 passengers. In terms of Dublin, a twice daily service would be more attractive in terms of connections for interlining PAX, both westbound and eastbound. It is appreciated that YA has consistently expressed doubts about the Dublin route with particular regard to US connections.

- 2.15 APD estimate that Dublin/Irish Sea routes could produce a range of 18,000 – 34,000 passengers at Year 20, depending on a single daily rotation (58% Load Factor at Year 4) or double daily rotation (58% Load Factor) at Year 7. However, it should be noted that APD has applied a negligible annual growth rate from Year 5 onwards, whereas ASA/YA adopt a much higher annual growth rate. In summary, we disagree with YA's most recent total estimate of passenger numbers on the two routes (which are contrary to its earlier assessments), and believe that APD's 'LIKELY' passenger numbers offers greater potential for establishing feasible passenger services in the short/medium term.
- 2.16 Other near summer holiday destinations, such as Jersey, Isle of Man, and the South West could be attractive routes, although the potential contribution to overall passenger numbers is limited to about 5,500 (weekly services only). Such a limited potential may not be seen as viable, on their own, by the airline (or the airport).
- 2.17 Although the preceding paragraphs deal with 'LIKELY' passenger numbers, our Financial Analysis (Section 5) is based on the 'LOW' traffic level, as indicated at paragraph. Our suggested LOW and LIKELY traffic levels are summarised at Table 2.3, and assume that the aircraft to be operated on all routes will be ATR 42, with a 48 seat capacity.
- 2.18 In terms of aircraft movements, the two principal routes would generate a maximum of c2,500 aircraft movements (Table 2.4). Other routes may develop over the 20 year period and could generate a further c200 movements at Year 20. In the unlikely event that all non-Scheduled aircraft movements increase by 1% per annum over the 20 year period (ie c22,000), the total increase would be in the order of nearly 25,000 movements; a growth rate of about 0.5% per annum on the annual movements in the Base Year for the EIA (see also paragraph 2.13-2.14 below).

Table 2.4 Annual aircraft movements by route at Year 20.

	Carlisle-Southend		Carlisle-Dublin/Belfast		Total Movements	
Movements per day (6 day week)	1	2	1	2	2	4
Movement/week	12	24	12	24		
weeks	52	52	52	52		
Total Movements	624	1248	624	1248	1248	2496

Environmental impact

- 2.19 The base year for the purposes of the EIA was 2009 when total annual aircraft movements were 21,395.
- 2.20 For the purposes of the EIA assessment, it is not anticipated that there would be any significant rise in GA/BA (non scheduled) movements by Year 20 (ie less than 1,000 movements) over the 2009 Base Rate of 21,395. With the addition of public transport movements and some limited growth in GA/BA movements, the 2009 base level would not be reached until 2021, and by 2033 total movements would be only c3,600 above the 2009 Base Year. As such, it is considered that the introduction of public transport movements would not have any adverse impact on noise or air/water quality.

Conclusion

- 2.21 York Aviation in 2012 suggested 30,000 passengers initially, potentially rising to 50,000 passengers per annum, and that in the most recent correspondence this has markedly dropped to an expectation of 25,665 passengers in 2025 (Year 13) and 29,684 pa by 2032.
- 2.22 However, we consider that the overall air traffic passenger demand, rather than individual route estimates, identified by ASA in 2012 still seem realistic, and comparable with our estimate of a range of c65,000(LOW) - c74,000 (LIKELY)passengers at Year 20, possibly with a different emphasis on the potential of the two key routes, in the short/medium term. We also forecast that the 'LIKELY' Southend load factor of 58% will be reached in Year 7 and for Dublin/Irish Sea routes in Year 4 (single rotation) and Year 7 (double rotation), and thus viable for Aer Arran.

3 OPERATIONAL CAPABILITY

Aerodrome Licence

- 3.1 Carlisle Airport has the benefit of a 'Public Use' Licence to Operate issued by UK Civil Aviation Authority under the remit of CAP 168 Licensing of Aerodromes. However, some restrictions apply which limit the size of aircraft able to use the runway. Under the Licence, the weight limit is 12.5 tonnes on aircraft operating under the Licence. Further, the runway's Declared Distances, and width (30m) impose restrictions on the size of aircraft able to use the airfield, with Runway 25/07 being the longest albeit with displaced thresholds. However, if the aerodrome operator undertakes infrastructure rehabilitation and improvement works, there is no reason to suppose that CAA would not endorse such modification to the Aerodrome Licence.

Aerodrome Infrastructure

Aircraft Movement Areas

- 3.2 The airport has two runways – 25/07 (a Code 3 runway) and 19/01(a Code 2 runway). The condition of 25/07 is such that major structural remedial work is required, albeit that the runway surface is satisfactory to handle the type and number of current traffic activity. Certainly, if the opportunity to attract and retain new public transport operations is adopted, this rehabilitation work is an absolute necessity. If the 30m runway width is retained then the largest aircraft able to use the runway under the Licence would be a Code C aircraft (eg ATR 42/72). For use by Code D aircraft (eg B737/A321), the runway would need to be returned to its original 45m width, at substantial extra costs over and above that currently identified.
- 3.3 The 'Parties' have submitted information on costs of the required work and these differ, significantly (Table 3.1). These alternative costs have been reviewed, in order to identify the reasons for the wide variation. The principle reason for the discrepancy would appear to depend on the fact that the Stobart's 'costings' are based on 'in-house' costs (ie within the Stobart Group's control, including its in-house contractor) as distinct from 'open market' estimates.
- 3.4 Second, and less critical, is the potential difference in design specification. In that context, it is important to note that CAA Aerodrome Standards Division approval (which follows on from any grant of planning consent) will be to its approved standard of construction related to activity levels and aircraft types. Also, unlike many airports where overnight working is the norm, it is understood that the construction programme is 'costed' on the basis of the airport closing for a period of time to facilitate daytime working.

Table 3.1: Airport Infrastructure Capital Expenditure (£)

	Stobart*	York Aviation**	Alan Stratford Associates***
Runway Rehabilitation]	5.49	
Terminal Refurbishment] 5.47		
Fire Station etc]]		
Professional Fees	2.29	2.29	
Total	7.76	7.78	9.70

* Appendix B of URS letter dated 03.06.14

** YA letter dated 27.06.14, although earlier letters of 15.8.2011 & 16.3.2012 indicted a significantly higher figure 7.78 total

*** ASA letters dated 17.05.12 and 26.06.12

- 3.5 It is noted that the planning application Master Plan makes provision for an extensive Apron Development at the Freight Distribution Centre, some 11 stands for cargo aircraft, with an indication that part may be used for passenger aircraft. Whilst the potential to increase, substantially, the scale of cargo activity should be acknowledged, traditionally the activity level as Carlisle has been low and often was related to mail and special cargo (eg British Nuclear Fuels). In addition, if the proposed runway rehabilitation is implemented as currently 'costed', then large cargo aircraft would not be able to access the aerodrome, given the works as proposed would not increase the present day Declared Distances. Basically, the apron parking proposal seems to be exaggerated.
- 3.6 There is a suggestion that the cargo apron may be used, also, by passenger aircraft both for daytime flight operations and over-night parking. 'Bussing' of passengers between the terminal and the cargo apron will increase operational costs. This possible cost does not appear to have been included in the operational cost estimate. However, for the aircraft type (eg ATR 42) likely to operate on the specified routes, the need to use remote parking rather than terminal parking would seem unnecessary.
- 3.7 In summary, it is considered that the rehabilitation costs, inclusive of any work to the terminal, are more likely to be in the range of the Stobart Group's estimate.

Air Navigation Equipment

- 3.8 Currently, the only air navigation aids are DME/NDB. Airfield Lighting comprises minimum Approach lights and Edge Lighting for Runway 25/07 (at 22.5m not 15m from runway centreline) and taxiway edge lighting. The Stobart Group do not intend to add or replace any air navigation equipment. For public transport operations, as ASA identified, it is not essential that the airport provides an Instrument Landing System (ILS). Although medium size jet operators are likely to 'demand' ILS facilities, for carriers such as Aer Arran although desirable it is not critical. In any event, unless the proposed runway rehabilitation is extended to provide a Code 4 runway (1800+m x 45m wide), then use of the aerodrome by aircraft such as B737/A321 on scheduled services is unlikely. Also, as ASA pointed out, the development of GPS equipment is likely to make such equipment for small airfields unnecessary.

Terminal and Related Facilities

- 3.9 The Stobart Business Plan makes some financial provision for terminal improvements. Given the limitations of runway length/width and the likelihood of operations by small Code C aircraft (eg ATR 42), only, it is considered that the need is for cosmetic/minor work rather than any significant investment in expanding the facility.
- 3.10 In terms of terminal equipment, for public transport operations compliant with Department for Transport (DfT) security requirements, the appropriate range of Baggage and personal screening equipment must be provided. DfT would need to be satisfied at the security arrangements to be put in place prior to the commencement of any public transport operations. Discussion with the Airport Manager confirms that the required equipment would be transferred from Southend Airport, if and when scheduled services are confirmed. However, during the period of the 20-year Financial Plan, provision will need to be made for 'asset replacement', and this is taken into account in our financial analysis (Section 5).

Fixed and Mobile Equipment.

- 3.11 The introduction of public transport movements will require an upgrade in the Rescue and Fire Fighting Service (RFFS) to a minimum of CAT 4/5 for small aircraft operations (eg ATR 42/72), and CAT6 and above for larger aircraft, although as indicated earlier the proposed runway rehabilitation works are not of sufficient scale to permit use by large aircraft. In addition to existing RFFS and airfield vehicles, additional apron equipment will be required to service public transport aircraft, included tugs/baggage trolleys, 'water' vehicles etc. In a discussion with the Airport Manager, he confirmed that the existing (and well maintained) fire vehicles are able to deliver a CAT4/5 service, and no additional expenditure on fixed or mobile equipment is necessary for the 'start-up' of public transport activity. However, during the period of the 20-year Financial Plan, provision will need to be made for 'asset replacement'.

Conclusion

- 3.12 Without aerodrome infrastructure improvement works, it is possible that CAA Safety Regulation Group (SRG) may take action to suspend, or even withdraw, the Aerodrome Licence. Whilst such action may not impact adversely on General Aviation (eg Aero Clubs, Training etc), it would have the effect of reducing confidence in the safety of the airfield.
- 3.13 This could adversely impact on Business Aviation and Air Taxi operations. Such operators may have much less confidence operating into an unlicensed airfield with 'expensive aircraft, and particularly there may be an increase in the cost of Insurance for those aircraft.
- 3.14 It is important to recognise, also, that any decision to 'de-Licence' the aerodrome would result in very high costs if a decision is made to re-licence at a later date in order to accommodate public transport operations. Almost certainly, this will be due to CAA SRG imposing more extensive conditions than exist under the current Licence.
- 3.15 In summary, if the owners were to contemplate the 'de-licencing of the aerodrome', it is considered that such a decision would not be in the best interests of the long term operation of the airport either for GA/BA or for GA/BA with public transport. In our view, de-licencing is likely to lead to a substantial loss of business and the inevitable closure of the aerodrome.

4 AIRPORT SERVICES

Airport Services

- 4.1 The Operational hours are 0900-1800 (winter) and 0800-1700 (summer), and by prior arrangement. The Airport provides:
- Air Traffic Services, including Air Traffic Engineering,
 - Rescue and Fire Fighting Services, Category A1 and Category 2/3 can be provided by prior arrangement,
 - Aerodrome Operations Services, including aircraft handling,
 - Terminal and administrative support Services
 - Fuel Services, and
 - Other services (eg aircraft repair/maintenance provided by third parties), and airfield maintenance
- 4.2 Currently, those services support Air Taxi, General and Business Aviation functions, and ATS/RFFS is a prerequisite of maintaining the Aerodrome Licence. Clearly, if public transport operations are to be attracted to operate into/out of Carlisle, additional RFFS staff resources may be needed to provide a CAT 4/5 service for small aircraft such as ATR 42 and will be needed to provide CAT6 or above service for medium size aircraft. However, it should be noted that cargo operations do not require the same level of RFFS as public transport movements.
- 4.3 For Air Traffic Services, unless additional air navigation equipment is introduced (eg radar) or the hours of operation are extended (eg 0600-2200 hours), it is unlikely that any increase in staff will be required beyond the current staffing level of Full Time Equivalents (FTE).

Staffing

- 4.4 At April 2011, the airport employed 15.5 FTE's, and contracted 4 airfield engineers and 1 cleaner. This included 6 firefighters and 3 full time/1 part time Air traffic Staff. Currently in 2014, the total staff employed is 16 FTE'S (including 1 ATS vacancy), although the emphasis has changed to multi-tasking and flexible hours working with fire fighters undertaking a range of operational duties. The implementation of multi-tasking has led to some limited increase in operational costs, given the higher salary for fire fighters compared to aerodrome operations personnel.
- 4.5 The future staffing levels, based on the introduction of public transport movements and extended hours of operation (but not a 16 hour operating day) is estimated to be 36.5 FTE's (Full Time Equivalents), comprising 29 full time and 13 part time staff. This staff number envisages a 3 shift system to cover the total opening hours, albeit all shifts would mainly adopt split shift working. The staffing level increase anticipates Operations multi-tasking staff (mainly firefighters & security) increasing from 9 FTE's to 26 FTE's to enable the delivery of a CAT 4/5 RFFS although outside the morning and evening public transport movements, the Fire Category will revert to RFFS CAT1/2. It is anticipated that ATS personnel will increase from 2.5 FTE's to 6 FTE's, in order to provide cover for opening hours of 0600 - 1900, but again split shift working practices will be adopted.. From the numbers shown for each shift. Airport Manager has explained that holiday/sickness would be covered by split shift working, given the proposed public transport schedule.

- 4.6 In addition the proposed management/staff structure shows one Service Delivery Manager. It is felt that provision for each of the shifts should have a Shift Leader at an enhanced salary, and this is covered within the average salary shown. Also, for the purposes of APD's Financial Plan, it is assumed that staff levels will be increased by 2 FTE ATC Engineers.
- 4.7 The increased annual operating cost estimated by Stobart Air is considered to be in excess of c£ 0.5 million. APD's estimate is slightly higher at about £0.6 million, excluding financial support to Aer Arann of £0.25 million in year 1 and c£0.29 million in the following 17 years, in developing and operating public transport routes. It is noted that both ASA and YA suggest that annual payroll costs will increase from c£1.2 Million (Year 1) to c£1.8-£2.0 million in Year 20, based on 16 hour day and full shift working, which is not proposed by the Airport.
- 4.8 Although broadly in line with other small General/Business Aviation aerodromes with some public transport operations in terms of staff numbers, it is considered that salaries for multi-tasking personnel may be slightly on the low side. For example, at Durham Tees Valley airport the salary of multi-tasking firefighters is in the order of £25-26,000 with a total employment cost of c£30,000, rather than £23,000 (net Cost) as proposed at Carlisle. It is noted that York Aviation has quoted a salary of £35,000 for operational staff (ie multi-task staff), although it is not clear if that represents total employment cost per employee. In our view, this overestimates, significantly, the cost of such staff to ensure public transport services. Also, the actual total operational staff is 26 FTE's and not as suggested by York Aviation.
- 4.9 Given the level of salaries proposed by Stobart Air, it would also appear that payroll overheads (NI, Pension etc.) have not been included. This will also increase the proposed operational costs. This may add some 20% to the staffing costs, excluding additional Training costs for RFFS/ATC staff. This has been included in our Financial Analysis (Section 5).
- 4.10 Also, the Applicants salaries for ATS personnel would seem to be on the low side at £35,000 given UK wide vacancy levels at regional airports, which cannot be filled at this time. It is considered that York Aviation's suggested NET salary level of £45,000 for ATS personnel is broadly in line with our estimate, although it should be noted that the actual staff to be employed (6 FTE'S) is less than the 10 assumed by York Aviation. Our judgement is that the increased cost of delivering service functions to handle public transport operations is likely to be slightly higher than estimated by the Applicant, currently, and will be in the order of £75,000, excluding NI (13.8%) and Establishment costs (7.5%), and Training costs.
- 4.11 If the alternative scenario of retaining Carlisle Airport purely for General and Business Aviation is adopted, the above proposed staffing structure is not required and the staff levels would return to 2011 levels. Although there would be some redundancy costs involved if that decision is made, the operating cost of the airport could be reduced significantly to less than £0.5 million (cf c£1.9 million for public transport operations). However, there would be a significant reduction in public transport revenue generation of about £0.5 million.

Conclusion

- 4.12 In summary, it is considered that the estimate of additional operating costs is likely to be higher than indicated by the Applicant, but their figures are not unduly optimistic, whereas we believe ASA/YA's estimates to be excessive.

5 FINANCIAL ANALYSIS

Recent financial performance

- 5.1 Airports require both aeronautical and non-aeronautical/commercial revenues to achieve the optimum financial performance. Most, if not all, UK airports would make an annual loss without revenue generated from growing existing and developing new non-aeronautical sources. Major passenger airports achieve large revenue streams from both 'aviation related' and 'non aviation' businesses (eg retail, offices/services, industrial etc). In particular, medium/small regional airports traditionally face difficulty in maximising non aeronautical revenues and tend to rely to a greater extent on property rentals from development of land on/adjoining an airport as a major revenue source. For example, Exeter Airport Sky Park, Newquay Airport Aero Hub, Durham Tees Valley Airport Business Park, Staverton (Gloucester) Airport Industrial Estate.
- 5.2 Currently Carlisle has reasonable revenue levels from its general and other aviation activities, but operating cost exceed revenue resulting in sustained annual losses. It also has good levels of profitability on fuel sales whilst its other sources of revenue are limited given the aviation market sectors which operate there. However, rental income from non-aviation commercial property is very limited. The airport currently makes a loss and needs to generate additional revenues from increased aeronautical activity and/or major rental income from property development such as the Freight Distribution Centre and aviation related development, unless there is financial support from within the Stobart Group (or any other owner).
- 5.3 The existing GA/BA operation at Carlisle requires limited staff and as such limited operational costs. The scenario to concentrate on general aviation etc. in the future will involve little additional staff and only limited increases in costs.

Alternative Business Development Scenarios

- 5.4 This General Aviation scenario would be concentrated on general aviation, air taxi, and limited cargo operations reducing the investment required whilst limiting the growth of aeronautical revenues. In this scenario, the requirement to look at further commercial investment to produce rental flows would be increased. Again the types of investment would include non-aviation activities. Examples of this approach include Staverton Airport (Gloucester), where commercial property revenue streams enable the continuation of GA/BA and, recently, the introduction of limited public transport services.
- 5.5 The alternative scenario envisages the creation of passenger service routes with a major increase in staff and equipment as well as the capital investment. Against that the scenario projects growth of PAX with resulting larger revenue flows. Carlisle has a limited catchment area and route development will need to reflect the likely achievable traffic flows to those routes.
- 5.6 The FDC proposal would generate revenue income to the airport in the form of rental income. That rental income will provide the basis upon which the airport's finances become positive and the opportunity to support the airport's objectives to attract and establish increase revenue streams from the attraction of passenger services, together with property development. The principle of supporting aeronautical activity, financially, from property development rental streams is a well-established approach for small UK regional airports.

- 5.7 In relation to the current application, the level of capital expenditure proposed by the Applicant broadly appears to match the development objectives, and it is expected that generated rental income from the FDC will produce a significant profit which will more than cover any operational losses, from Year 2 onwards. This is illustrated at paragraphs 5.26 - 5.31.
- 5.8 At the future development of the airport's finances, as with all regional airports, it is recommended that Carlisle Airport should seek to invest in appropriate airport commercial facilities order to develop and increase revenue streams, although APD has not included such potential analysis in our financial analysis. Given the size of the catchment area, it is considered that Carlisle needs a mix of non-aeronautical revenues to support both General and Commercial operations in order to achieve growth in aeronautical income. Such investment may be for aviation related and non-aviation related facilities.

Profit & Loss Account

- 5.9 As already indicated, it is important that the financing of Carlisle Airport is looked at in its own right, and not as part of the Group's total financial activities. From Stobart Air, it is understood that the funding arrangement to be applied involves the Capital Expenditure Loan being incorporated within the Airport's Accounts, and the airport will be responsible for the Debt Charges and Interest payable. In looking at the Airport's P & L Account, it is recognised that it is part of a Group which currently, also, owns the airport at the other end of the proposed main route London to be developed and also the airline providing the service. As such, it is important that any financial support from the FDC is retained by Carlisle Airport, and should be reflected in any legal obligations. However, when establishing new public transport routes, it is common practice to give financial support to airlines, either through discounting aeronautical charges in the first year or so and/or through marketing assistance.
- 5.10 Similarly, the Group recognises that it will benefit from the move from old premises at Kingstown to new more efficient premises; such benefit of course passing to the Group. Overall the Group will seek to ensure that the financial performance of the Group is optimised, taking into account its interest in Carlisle Airport.
- 5.11 We have examined the P&L projections submitted by the Applicant, and reviewed the alternative scenarios submitted by the Council's consultants and by York Aviation, and our comments are discussed below (paragraphs 5.11 – 5.19). At the Council's request, APD has produced an independent P&L Forecast, which takes account of the comments below and applies our in-house airport management experience. The Applicant's projected P & L Account covers most elements in a realistic manner but with some issues highlighted in the following paragraphs.
- 5.12 Anticipated Revenues are based upon the projected 'LOW' PAX volumes in Table 2.3, and assume a Load Factor at slightly above the Aer Arran break-even load factor, over the medium/long term. Second, it is assumed that a figure of £8.25 per passenger is charged, initially, with increases annually. The £8.25 per PAX movement is produced at a slightly lower figure than the Southend figure and includes landing fees, passenger handling, baggage fees, catering, fuel retail etc. This figure does not seem unreasonable even though Carlisle is starting from a zero base in terms of PAX movements. Fuel sales and existing general landing and handling fees are projected to gradually increase over the period of the business plan. Given the scale of the increase, a cautious approach has been adopted which shows inflation but not growth in existing general aviation activities.

- 5.13 Comment is made earlier in this report by ASA and York Aviation regarding the uncertainty of the traffic projections relating to the Southend and Dublin routes. Whilst the projections of revenue per PAX appear achievable, there remains concern about the traffic levels on the routes being achieved. As indicated elsewhere in this Report, most if not all 'new' routes experience low Load Factors (ie seats occupied) at 'Start-Up' and in the initial Years of operation. The situation at Carlisle is no different and, given previous difficulties in establishing/retaining public transport routes, it is anticipated that airline operational viability may take longer to be achieved. In assessing viability (ie achieving a Load Factor of 58% seat utilisation to 'break even'), APD consider that financial support by the airport is likely to be required for a number of years before 'break even' is achieved, as indicated at Section 2, paragraph 2.22. This is why the FDC rental income is important to the viability of the airport and its airlines.
- 5.13 Against that we have more confidence in the Dublin route in terms of projected passenger movements. In fact, there may be a case for two rotations per day to Dublin or a single rotation to Dublin and a second single rotation to an alternative destination, in addition to some limited services to other Irish/Celtic Sea destinations. Care must be taken particularly with Anglo/Irish routes since the elements of traffic are business, leisure and VFR. In many cases the latter is the most important. Some years ago the Carlisle region had a small but regular traffic demand for Isle of Man due in some part to Border TV. This was satisfied by a Blackpool route. Similarly Gil Air who flew to both Belfast airports from Newcastle was looking at the demand to fly one of them via Carlisle. Overall whilst we have some doubts about the demand levels for Southend, specifically, we believe that total traffic levels from all scheduled routes, including Southend, can be achieved.
- 5.14 The projected Operating Costs also cover most areas, but it is necessary to highlight some issues where APD differs from the airport's proposals. These are covered in the following paragraphs, and adjustments made to our Financial Analysis.
- 5.15 The capital investment, interest rate and charges and depreciation projections look acceptable. Earlier in this report mention is made of the possible under provision of staff to cover holiday and sickness. The level of average annual salaries is also mentioned. The proposed management/staff structure shows only 1 Service Delivery Manager with no provision for a shift leader for each of the proposed 3 shifts.
- 5.16 Within the projection, levels of existing airport overhead costs are provided and appear to be inflation proofed. However there appears to be no provision for additional overhead costs (eg as telephones, stationery, insurance, power supplies, annual inspection etc). It is inevitable that such costs will increase, and the provision looks a little under provided.
- 5.17 With the development of 2 new routes, marketing will be important and possibly quite costly. It is unclear who will be providing and/or contributing to marketing costs. No provision is shown in the projections. A normal approach would be for both airports to either contribute with the airline or allow the airline a rebate against fees to partially support an agreed marketing plan.
- 5.18 The Airport intends to use multitasking for its staff in order to maximise efficiency and reduce costs. This is a normal approach for a small regional airport. The projections do allow for this but it must be recognised that whilst there is only 3 passenger aircraft rotations per day staff will need to keep the General Aviation services running at all times.

- 5.19 Use is planned of the RFFS staff but it must be recognised that ALL RFFS must be licensed, they are not interchangeable with non-licensed staff on RFFS duties. Similarly male and female staff is needed on each security shift.

APD's Financial Plan and P&L Forecast

- 5.20 The financial projections show a return on investment over the period of the Business Plan. However the major increase in revenue comes from rental income from FDC and increased aeronautical revenues primarily for the 2 new routes. Against those increases in revenues there are major financing costs of the FDC and a large increase in operational costs, largely due to increased staff. The Applicant is confident that the FDC and on-airport rehabilitation works can be constructed within cost.
- 5.21 At paragraphs 3.3 – 3.4, we considered the discrepancy in the cost of runway rehabilitation submitted by ASA/Gleeds & York Aviation, in response to the Stobart Cost projection. It is considered that the cost is more likely to be as indicated by Stobart Air.
- 5.22 Using the projected P & L figures, a comparison of the P & L Account relating to the airport operational activities is made. The Business Plan projections cover 20 years. Over the period the aeronautical operation is shown to remain at the two routes albeit with some PAX growth. The objective is to seek to examine the performances of the FDC and the aeronautical (airport) operations. In order to simplify the examination the financing costs of the runway etc. has been included in the total investment for the FDC.

FDC financial performance

- 5.23 The capital investment is shown at £20.36million, which includes runway and associated taxiway rehabilitation, apron construction and minor passenger terminal improvements.. Using the Stobart air 1st year projection a broad based P & L account would appear as:

Rental Income *	£1,005,742
Interest *	£400,000
<u>Depreciation</u>	<u>£ 509,000</u>
Gross Profit	£ 96,742

Note : In the 2nd and subsequent years interest charges reduce and the rental moves from a rent free period in the 1st year to a full year. The Gross profit figure for year two is £1,965,029. Interest charges continue to reduce annually with rental subject to rent reviews.

Aeronautical activities

- 5.24 APD reviewed the Stobart P & L projections for Year 2 which suggested the following broad based P & L account would appear as:

Revenue	£M	Expenditure	£M	Profit/ Deficit²
Aviation related		Existing staff		
Airport rental income		Existing overhead		
Fuel Sales (excl. Aer Arann)		Additional Staff		
Other landing / handling		Fuel costs (Excl. Aer Arann)		
Café & retail recharges		Café / retail costs		
MOD landing fees		MOD Landing fee		
Stand income				
Total Revenue¹	£1.82	Total expenditure	£2.08	-£0.265

Note 1: The financial support to the airport could cover such items as the passenger charges which are set at the average non aeronautical revenue per passenger movement. The projected Stobart charge/pax of £8.25 is lower than the actual charge at Southend, and it covers all charges. That level of charge is lower than traditional charges but the routes are new starts and should expect some temporary support or rebate. It is understood that Fuel is to be sold at cost to Aer Arann.

- 5.25 Whilst Stobart's revised operating cost of £2.08 Million reflects the changed organisation structure and staff levels, APD considers that the Stobart P & L has underestimated some costs (eg Payroll) and omitted some important elements (eg training costs, asset Replacement costs), these are highlighted paragraphs 4.7 and 5.12-5.13. York Aviation considers that the increased operating costs are significantly under-stated by Stobart in its submission of 2011.
- 5.26 Consequently, APD has undertaken a comprehensive re-examination of costs and income for airport activities (including FDC rental income) operations with and without public transport routes. Our projected P&L Accounts for either alternative are presented at Table 5.1 and 5.2, at the end of this Section. A number of assumptions of detail have been made:
- The Asset replacement costs are based on 'as purchased new' but it is expected that equipment will be 'cascaded down' from Southend, and would be purchased at current second hand value
 - A sum of £0.25 million has been set aside to support Aer Arann in the development and operation of new routes in Year 1, and a further £0.29 million has been set aside for further route development support over the following 17 years.
- 5.27 APD's Airport P & L for Public Transport and General/Business Aviation out-turn for Years 1 – 20 is set out at Table 5.1. In summary, at current prices, our estimate of the Airport Operating costs (for both Public Transport and General/Business Aviation) for Year 1 and Year 2, are c£2.2 million and £1.9 million, respectively, whilst Revenue is estimated at c£2.4 million and £3.6 million; an operating profit (before taking account of Depreciation, Asset Replacement & Interest on the Loan) of c£0.2 million & £1.7 million, respectively.
- 5.28 However, taking account of Depreciation, Asset Replacement & Interest on the Loan, Year 1 shows a loss of c£0.8 million but Year 2 returns a profit of c£0.7 million, as indicated at Table 5.1 Thereafter, including those additional items, the airport will return an annual profit over the remaining 18 years, rising from £1.1 million in Year 5 to over £1.6 million by Year 20 (at 2014 prices). It should be noted that in Year 1, Stobart Air advises that £0.25 million will be provided to support Aer Arann in marketing and route development, and a further £0.29 million in Years 2 – 18, and this is included in APD's analysis. It may be that the Airport may wish to utilise some of these profits, particularly in Years 2 – 5, by supporting the airline's operating costs, in addition to the agreed contribution for marketing/route development, in order to provide sufficient time to achieve the airline's 'break- even' target of 58% seat utilisation, thereby safeguarding and retaining passenger routes.
- 5.29 The increasing level of overall profit for the Airport, generated as a consequence of the FDC development, provide an option for the Airport (if it so wishes) to give additional financial assistance to the airline if the viability of one of the key routes 'fail' or if passenger numbers do not quite reach the required Load Factor of 58%. For example, such additional support could be provided to sustain a Southend Route or a Dublin route or both for a longer period than the initial years. Alternatively, if the Southend Route was to fail but Dublin/Ireland was nearly viable, such a profit element could be used to sustain that route, with a real prospect of achieving public transport (i.e. commercial) flights.

- 5.30 However, taking the worst case of NO Southend Route, the net effect on the Profit (after Depreciation, Interest and Asset Replacement) would be to reduce the level of profit by c£0.25M per annum (at 2014 prices) over the 20 year period; ie £0.24M Year 1, £0.24M Year 5, £0.48M Year 10, £0.45M Year 15 & £0.25M Year 20. This may lead to a reassessment by the airline of the frequency and validity of operating that commercial route, or to look at introducing routes to other destinations.
- 5.31 Table 5.3 compares APD's P & L Account to that presented earlier by ASA and YA, and applies inflation to 2014 prices to enable that comparison. There are some significant differences in the elements considered by APD/ASA and YA, most notably:
- APD's P&L is based on 2014 prices constant through the 20 year period, whereas ASA/YA figures are inflation linked, Table 5.3 adjusts the APD analysis for inflation at 2.9%pa (Income) and 3.9%pa (Costs) used by ASA/YA.
 - ASA/YA include within costs a 'charge' of c£1.2M to c£1.8M (YA) C£2.9M (ASA) for additional Staff costs to handle extra flights. Extra staff are not required to handle 'extra flights' Airport Manager has allowed for this in estimate of staff at 36.5FTE's, although APD has assumed 38.5 FTE's in our staff costs.
 - ASA/YA make provision for an "Airline Subsidy" in 'COST' BUT APD include only costs for marketing and fuel benefits to support the airline. As indicated at paragraph 5.28, the airport has an option to make an additional direct subsidy to the airline.
 - Unlike ASA/YA, APD has made provision in the P&L Account for Asset Replacement over the 20 year period.
- 5.32 The alternative to commercial flights would be to operate solely a GA/BA operation, with reduced Income, Costs and amended Profit levels, but which would deliver a viable proposition.
- 5.33 In terms of General and Business Aviation activities, only, the respective figures are, at Airport Operating costs (for Year 1 and Year 2) are c£0.5 million for each year, whilst Revenue is estimated c£2.2 million and £3.3 million; an operating profit (before taking account of Depreciation, Asset Replacement and Loan Interest, respectively. However, taking account of those items, Year 1 shows an overall profit of c£0.8 million with Year 2 returning a profit after Depreciation, Asset Replacement and Interest of c£1.9 million, and remains profitable for the remaining 18 years, as indicated at Table 5.2.
- 5.34 If planning permission is granted for the Freight Distribution Centre, then it should generate a level of finance to enable the continued operation of the airport in the short/medium term. However, the airport will need to consider the preparation and delivery of a long term Business Plan.

Conclusions

- 5.35 The Stobart group own 2 airports and an active airline. It follows that it makes sense to explore the potential to develop a route between the two airports using the airline, but Carlisle Airport and the FDC jointly stand independent of the Group's other interests. The proposal does represent a reasonable approach but one with potential problems and risks in the short term, if the proposed passenger routes are not successful.

- 5.36 It is felt that whilst the development of Carlisle has to start from a zero base, in PAX terms, the two routes proposed will not in the short/medium term be sufficient to move the airport into a positive financial performance, without continued support from the rental generated by the FDC. From this base, over time it is felt that the airport could seek to expand its general aviation, expand gradually its PAX network, and develop its aviation related activities to secure a satisfactory long term future.
- 5.37 The FDC appears to provide a modern facility which the Stobart Group can make better use of potentially freeing up their existing old facilities for other redevelopment. The airfield development will provide improved facilities for aircraft, including up to CAT 4/5. The intention is to move from a General Aviation Airport to a PAX Transport Airport with increased services and employment involved. The success of the aeronautical activities will depend upon the traffic levels particularly on the Southend and Dublin routes, and our view is that the projected traffic levels could be achieved. We have more confidence in the Dublin route and in fact a belief that other Irish and the Isle of Man routes should be examined. However, even if our fears about the Southend route are realised, we consider that the airport operation is viable in the medium/long term.
- 5.38 The revenue projections are not unreasonable though as with all projections, they have a measure of uncertainty. The operational costs projected are a little low in our view but do not massively change the overall finances. The project remains a logical project but one with some risks primarily from achieving acceptable Load Factors on its Carlisle / Southend route. How, and if, the airport wishes to assist the airline in 'operating the route(s)', it is a matter for the airport company to determine if a further subsidy of the airline's operating costs is required.
- 5.39 It is considered that the Stobart Group will need to 'cover' the airport losses over the period of the FDC construction. Subsequently, from Year 2, the FDC development will provide the airport with an annual rental income of over £2 million (at today's prices), at least. That income level will cover any losses on the airport operation, Debt Charges etc. and any financial support required by the airline(s) to establish passenger route development.
- 5.40 In summary, the figures used show that the aeronautical operation continues to show an operating deficit, but that the FDC rental income is such that the airport is able to maintain both Public Transport and/or General & Business Aviation activity over the 20 year period.

6 CONCLUSIONS

- 6.1 The key issues to be addressed are stated at paragraph 1.3. Our conclusions are summarised in the following paragraphs.

Environmental Impact

- 6.2 The addition of c2,500 public transport flights to the current level of air traffic movements (ie 17,280 in 2013) will not produce any adverse impact on noise or air/water quality. If the General and Business Aviation sectors grow by 1% per year, which seems unlikely, it would return to 2009 actual aircraft movements by 2023.

Whether the airport should be the subject of a CAA Licence.

- 6.3 If the owners were to contemplate the 'de-licencing of the aerodrome', it is considered that such a decision would not be in the best interests of the long term operation of the airport either for GA/BA or for GA/BA with public transport. In our view, in order to keep the airfield open, concentrating solely on maintaining General and Business Aviation would not be viable in the long term, without undertaking runway rehabilitation work as part of the FDC development. De-licencing of the aerodrome is likely to lead to a significant loss of business and accelerate the possible closure of the aerodrome.

Prospects for public transport operations, and on which routes

- 6.4 The overall air traffic passenger demand, rather than individual route estimates, identified by ASA in 2012 still seems realistic, and comparable with our total estimate of 65,300 – 74,000 passengers, possibly with a different emphasis on the potential of the two initial routes. Although using our LOW estimate [for financial purposes], the viability of double rotations daily on both Dublin/ Irish Sea routes and Southend routes may not achieve a 58% 'break even' in the short term, they would reach 58% based on our LIKELY estimate in the short/medium term. In our view, there is a realistic prospect of developing public transport (commercial) routes from Carlisle Airport, particularly the Dublin/Irish Sea Routes, to the benefit of the operators of both the airport and the airline.

Financial Considerations

- 6.5 In summary, it is considered that whilst the Applicant's estimate of additional operating costs is not unduly optimistic, there has been some underestimation given the points raised in Sections 4 and 5. APD's Financial Analysis summarised in the following paragraphs takes account of those underestimations.
- 6.6 It is considered that whilst the development of Carlisle for public transport operations has to start from a zero base, the proposed two routes alone will not be sufficient to move the airport into a satisfactory financial performance without continuing rental income from the FDC development. Over time, and in parallel to FDC rental income, it is felt that the airport will need to seek to grow its revenue streams from:
- an expansion of general and business aviation activities,
 - an expansion, gradually, of its PAX network,
 - a guaranteed rental income from the FDC of £0.35 million per annum following the opening of the FDC, AND
 - its property investment to secure a satisfactory long term future

- 6.7 At current prices, our estimate of the Airport's financial position is that in Year 1 there would be a LOSS of c£0.82 million after Depreciation, Asset Replacement and Loan Interest are taken into account.
- 6.8 At Year 2, the operation returns a profit after Depreciation, Asset Replacement and Loan Interest of c£0.69 million, as indicated at Table 5.1 (paragraph 5.26-5.27). Thereafter, including those additional items, the airport will return an annual profit over the remaining 18 years. It should be noted that in Year 1, Stobart Air advises that £0.25 million will be provided to support Aer Arann in developing the new routes.
- 6.9 terms of operating General and Business Aviation activities, only, and taking account of Depreciation, Asset Replacement and Loan Interest, Year 1 shows an overall profit of c£0.8 million with Year 2 returning a profit a of c£1.9 million, and for the remaining 18 years, as indicated at Table 5.2 (paragraph 5.28).

Recommendation

- 6.10 o summarise, it is considered that the future of the airport is dependent on the grant of planning permission for the Freight Distribution Centre. The proposed FDC rental income, together with increased operating revenue, will pay the costs of the initial capital expenditure and the Asset Replacement Programme, the existing deficit on the airport operation, assist the establishment of Scheduled Services, and support the Airport Travel Plan. This approach is consistent with the business strategies of many UK airports.
- 6.11 Without the FDC investment, which includes provision for runway rehabilitation and associated works necessary to generate public transport activity, APD considers that the airport's survival beyond the short term (ie 3-5 years) is highly doubtful.

Table 5.2: P & L Comparison

	Year	APD Ltd ^{1 & 3}					Alan Stratford Associates ^{1, 4 & 5}					York Aviation ^{1, 4 & 5}				
		1	5	10	15	20	1	5	10	15	20	1	5	10	15	20
<u>Income</u>																
Aeronautical Income		1,403	1,798	1,902	1,993	2,095	1,583	1,670	1,949	2,256	2,631	1,318	1,471	1,699	1,943	2,238
FDC Rental		1,006	2,062	2,062	2,062	2,062	800	1,938	2,183	2,481	2,807	900	1,938	2,183	2,481	2,807
APD Total Income at 2014 prices		2,409	3,860	3,964	4,055	4,157										
APD Income adjusted for 2.9% pa inflation		2,409	4,328	4,453	5,137	5,927	2,383	3,608	4,132	4,737	5,438	2,218	3,409	3,882	4,424	5,045
<u>Costs</u>																
Payroll/Overheads		1,284	1,189	1,189	1,189	1,189	953	1,053	1,190	1,347	1,525	1,205	1,347	1,562	1,768	2,028
Other Costs ⁶		887	637	633	669	672	1,817	2,125	2,578	3,160	3,865	1,727	1,934	2,157	2,441	2,763
Airline Subsidy ⁷		0	0	0	0	0	250	276	320	353	400	170	204	256	322	403
Total Costs		2,171	1,826	1,822	1,858	1,861										
APD Costs adjusted for 3.9% pa inflation		2,171	2,530	3,063	3,709	4,491	3,020	3,454	4,088	4,860	5,790	3,102	3,485	3,975	4,531	5,194
EBITBA		238	1,798	1,390	1,428	1,436	-637	154	44	-123	-352	-884	-76	-93	-107	-149
Depreciation		509	509	509	509	509	509	509	509	509	509	509	509	509	509	509
Asset Replacement		143	143	143	143	143	0	0	0	0	0	0	0	0	0	0
Interest		400	240	40	0	0	400	240	40	0	0	400	240	40	0	0
Total		1,052	892	692	652	652	909	749	549	509	509	909	749	549	509	509
Profit after Dep, Int & AR⁷		-814	906	698	776	784	-1,546	-595	-505	-632	-861	-1,793	-825	-642	-616	-658

- NOTES: 1 APD Figures at para 5.26-56.30 are at 2014 prices and adjusted to match ASA/YA Inflation prices for Years 5 to 20
2 ASA and YA figures for Years 5 to 20 are subject to inflation
3 APD's Airline Subsidy (£0) excludes Fuel and Marketing support benefits to Aer Arann
4 ASA/YA include costs of "Additional Staff Costs for Extra Flights" [(c£1.2M in Year 1 to £1.8M (ASA) & £2.0m (YA) in Year 20].
It is not clear why there is this addition, given that most staff are in post, and some ATC/RFFS staff are to be recruited.
These costs are included in APD's Payroll/Overhead costs. ASA/YA Payroll is overestimated by c£1M
5 ASA/YA assume higher staff numbers including 10 FTE's for AT. Airport Manager's staff forecast is 36.5 FTE's incl. only 6 FTE's
6 These APD costs include an airport contribution to the airline's marketing and route development costs, to the level of £0.25M in Year 1 and a further £0.29M over years 2 - 18
7 Any further subsidy to the airline from Profit would be a decision by the Airport

**UPPER SOLWAY FLATS &
MARSHES SPA -
APPROPRIATE ASSESSMENT
(REGULATION 61)
THE CONSERVATION OF HABITATS AND SPECIES
REGULATIONS 2010**

CARLISLE CITY COUNCIL
CARLISLE LAKE DISTRICT AIRPORT
CUMBRIA

REF. NO. C046

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ANNEX 3 - LOCATION OF THE PROPOSED DEVELOPMENT AREA IN RELATION TO THE UPPER SOLWAY FLATS AND MARSHES SPA

INTRODUCTION

- 1.1 This Appropriate Assessment has been undertaken for the proposed development at Carlisle Lake District Airport (ref 10/1116), to comply with The Conservation of Habitats and Species Regulations 2010 (these were amended in April 2011). Reference has been made to the good practice outline of an Appropriate Assessment record suggested in Natural England's (previously English Nature) Habitats Regulations Guidance Note (HRGN 1) (Appropriate Assessment) (1997). This assessment is conducted with reference to the Upper Solway Flats and Marshes SPA and its interest features. As a whole, this report also covers the Solway Firth Ramsar Site. Other designated sites are dealt with elsewhere.

1.2 LOCATION OF PROPOSED DEVELOPMENT

- 1.3 See plan showing site location in relation to the Upper Solway Flats and Marshes SPA (Annex 3). Within the Environmental Statement (ES) provided by the applicant, the Upper Solway Flats and Marshes SPA is described as lying 12.2km west of the site in the ES (dated December 2010).

INTERNATIONAL NATURE CONSERVATION SITE

- 1.4 The International Nature Conservation Site appropriate to this assessment is the Upper Solway Flats and Marshes Special Protection Area (SPA). As a whole, this report also covers the Solway Firth Ramsar Site. The SPA was classified in 1986. The draft Conservation Objectives for the Upper Solway Flats and Marshes SPA have been referred to for this assessment (Natural England, 12th February 2009) (Annex 2).
- 1.5 The Upper Solway Flats and Marshes (including Rockcliffe Marsh) qualifies as a SPA under the EU Birds Directive in that it supports the following interest features:
- populations of European importance of the following regularly occurring Annex 1 species: barnacle goose *Branta leucopsis*, bar-tailed godwit *Limosa lapponica*, whooper swan *Cygnus cygnus* and golden plover *Pluvialis apricaria*.
 - populations of European importance of regularly occurring migratory species; and
 - an internationally important assemblage of waterfowl.
- 1.6 The SPA features of relevance to the proposed development identified by Natural England, which are to be included in the Assessment are:
- the pink-footed goose (*Anser brachyrhynchus*) and
 - the whooper swan (*Cygnus cygnus*).
- 1.7 These species use land in proximity to the Airport (to the west and south west) for feeding. Pink-footed geese that regularly feed on land in close proximity to the Airport are considered by the RSPB (and the applicant) to be part of the SPA population, as they are known to make daily movements to the Upper Solway Flats and Marshes SPA. Whooper swans that use land around the Airport are considered by the RSPB to be part of the SPA whooper swan population, as the birds using land around the Airport make intermittent movements to the SPA. In connection with the 2007 application and in the 2010 ES (Chapter 8), Scott Wilson contend that the whooper swans using the land in proximity to the Airport are not likely to

be functionally linked to the SPA population; however, later in Chapter 8 of the ES it is stated (with respect to bird strike), that both pink-footed geese and whooper swans commute between the Eden floodplain and the SPA. In applying the precautionary principle, it is considered that it cannot be ruled out that the whooper swans using land near the Airport are part of the SPA population, as the SPA population takes a seasonal maximum count rather than a through season population count. If birds using the area near the Airport gather in the SPA pre- or post- migration they can be considered part of the SPA population and may contribute to the population counts that determine the conservation status of the site. In the absence of information as to where the whooper swans moved to after 10th March 2008 in the 2008 bird survey data provided (letter dated 20th March 2008), it cannot be ruled out that the birds did not move to the SPA pre-migration. Additionally no evidence has been provided to suggest that the birds migrated directly to the vicinity of the development area from their summering grounds. In the absence of evidence to the contrary, Natural England have advised that the whooper swans present in the vicinity of the development should be treated as part of the SPA population, in addition to the pink-footed geese.

DESCRIPTION OF PROPOSED DEVELOPMENT

- 1.8 Planning Application ref: 10/1116. Erection of an air freight distribution centre (for handling of air freight and road haulage, including integrated +3°C chiller chamber, +12°C chiller chamber, workshop and offices) (Use Classes B1 and B8), gatehouse, canteen/welfare facilities, landscaping, new access, parking and other infrastructure works (such as auxiliary fire station, package sewage treatment works, fire sprinkler system and electrical substation) and re-surfacing of the existing runway 07/25. Carlisle Lake District Airport, Carlisle, Cumbria CA6 4NW.

DATE APPROPRIATE ASSESSMENT RECORDED

- 1.9 The original Appropriate Assessment was recorded on 24th May 2011 for the planning application (10/1116) that was granted planning permission by Carlisle City Council on 6th February 2013. This updated Appropriate Assessment was recorded on 8th July 2014 (see 1.10 below).

METHODOLOGY

- 1.10 This is a record of the Appropriate Assessment, required by Regulation 61 of the Habitats Regulations 2010, undertaken by Carlisle City Council in respect of the proposed development at Carlisle Lake District Airport. Insufficient information was provided in the Environmental Statement (ES) to conclude that the Carlisle Lake District Airport development would not be likely to have a significant effect on the Upper Solway Flats and Marshes SPA and the proposed development was not directly connected with or necessary to the management of the site. Therefore, an Appropriate Assessment has been undertaken of the implications of the proposal in view of the site's conservation objectives.
- 1.11 Applications for development at the Airport were submitted previously, in October 2007 and September 2008; these proposals were also subject to EIA and Appropriate Assessment. Proposals in the 2007 (07/1127) application included a replacement (realigned) runway, warehousing, distribution centre, new passenger terminal, air traffic control centre (to the south), road junction and access arrangements from the A689, aviation fuel storage, local refuelling facility and drainage. The 2007 application was withdrawn after the Government Office for the North West called-in the application. Proposals in the 2008 application (08/1052) included a freight storage and distribution facility with associated offices, landscaping and car parking, with a number of airport related activities proposed under permitted development rights. Carlisle City Council granted planning permission for the 2008 application, but the decision was overturned in May 2010 on the basis

that improvements to the Airport (included within a Section 106 Agreement) should have been considered as part of the EIA. Therefore, the 2010 application comprises a 'composite' application, including an Air Freight Distribution Centre with runway resurfacing and associated infrastructure. **The 2010 application was granted planning permission by Carlisle City Council on 6th February 2013, but permission was subsequently quashed at Judicial Review on 21st March 2014 on grounds relating to forecasts contained within the business plan, which has since been revised and re-submitted by the applicant. The extant application (10/1116) remains identical to the previously consented scheme and is currently being redetermined by Carlisle City Council.**

- 1.12 Natural England was consulted under Regulation 61 on 16th December 2010 and their response was dated 21st January 2011. Natural England's representation from the 2010 application, to which Carlisle City Council has had regard, is attached at Annex 1.
- 1.13 The guidance provided in Natural England's (previously English Nature) Appropriate Assessment Guidance Note (HRGN 1) has been followed in the preparation of this document and all existing information available has been appraised. The Assessment considers all potential impacts arising during:
- The temporary phase, i.e. during construction works
 - The permanent development and long term operation of the site.

Existing Information Available

- 1.14 The existing information available upon which this Assessment has been based includes:
- Carlisle Lake District Airport: Air Freight Distribution Centre (application ref 10/1116) - Environmental Statement, Scott Wilson, December 2010 (including all volumes, figures and appendices).
 - Carlisle Lake District Airport Wintering Bird Surveys - Interim Results (January 2011).
 - Carlisle Lake District Airport Bird Hazard Management Plan Wintering Bird Surveys 2010/2011 (April 2011).
 - Annexe A: Response to RSPB regarding wintering bird survey data and extrapolation to estimate of utilisation by wildfowl and potential disturbance.
 - Letters and emails from URS Scott Wilson dated 9th and 24th February, 8th and 19th April 2011.
 - Review of Planning Application and Environmental Statement (re. aviation components) by Alan Stratford Associates (March 2011).
 - Information provided by Scott Wilson in connection with a previous planning application at the Airport in 2007, where appropriate.
- 1.15 Wintering and breeding bird surveys were undertaken on the Airport site in 2006/2007 to support the 2007 application; whooper swans and pink-footed geese were not observed to use land within the Airport site boundaries during winter. Subsequent to the submission of the ES in 2007, additional wintering bird surveys were undertaken by Dr Armstrong in January, February and March 2008 on land outside the Airport's boundaries where migratory bird species, including pink-footed geese and whooper swans are known to winter. The 2008 surveys confirmed the presence of whooper swans and pink-footed geese in the vicinity of the proposed development site. The ES submitted

with the latest application (10/116) by URS Scott Wilson was based on the 2008 bird survey data but also included a table of data (peak counts) from wintering bird surveys undertaken outside Carlisle Airport in October - December 2010 as part of the ongoing bird hazard management at the Airport (Chapter 8); however, the 2010 data was not assessed as part of the ES. Some additional bird survey information has since been provided by the applicant, as detailed above.

- 1.16 It is important to note that this Appropriate Assessment is specific to the proposals as currently presented. If the final works change/differ notably from the development project as currently proposed and assessed here, a further Appropriate Assessment will need to be undertaken.**

Further Information Required

- 1.17** In connection with the 2007 application (ref 07/1127) and the 2010 application at this site, Carlisle City Council requested further information from the applicant about potential impacts on the Upper Solway Flats and Marshes SPA, specifically regarding:

- bird survey data (4th, 18, 19 & 27th March 2008 and 11th & 20th January and 29th March 2011)
- bird strike records (19th March and 26th March 2008)
- numbers of flights approaching from the west/taking off westwards (26th March 2008)
- evaluation of 2010 bird survey data (20th January 2011)
- WeBS data (20th January 2011)

- 1.18** Since the 2010 application (ref 10/1116) was submitted additional data has since been provided by the applicant, as follows:

- Carlisle Lake District Airport Wintering Bird Surveys - Interim Results (January 2011).
- Carlisle Lake District Airport Bird Hazard Management Plan Wintering Bird Surveys 2010/2011 (April 2011).
- Annexe A: Response to RSPB regarding wintering bird survey data and extrapolation to estimate of utilisation by wildfowl and potential disturbance (including analysis of WeBS data).
- Letters and emails from Scott Wilson dated 9th and 24th February, 8th and 19th April 2011.

- 1.19** Some information from the applicant still remains outstanding, including:

- An assessment of significance of potential impacts on wintering birds, taking into account **all** survey data from 2010 and 2011 e.g. as an addendum to the ES, including extrapolation of goose numbers if possible.

- 1.20** Following on from the quashing of planning permission for application 10/1116 in March 2014, the applicant has submitted several documents in order that the extant application can be redetermined by Carlisle City Council. Of relevance to this assessment, the applicant submitted the following:

- **Supplementary Report Examining Changes to Ecological Habitats (URS, June 2014) - with reference to baseline habitat conditions and protected species on and around the proposed development site.**

- Redetermination Cover Letter (URS, 3rd June 2014) - with reference to any changes to the following (relevant) ES chapters/documents: 'ES: operational (baseline) activities', 'ES: traffic and transport', 'ES: noise and vibration (including amendment June 2012)', 'ES: air quality and dust', 'ES: ecology and nature conservation'.

1.21 The Supplementary Report Examining Changes to Ecological Habitats (June 2014) confirms that there have been no significant changes to ecological habitats within or around the airport since the Council last determined the application, and therefore that it is reasonable to conclude that baseline conditions remain as previously presented and that no further consideration of ecological effects is required before redetermination of the application.

1.22 The redetermination cover letter confirms that no changes to the various ES Chapters (including those listed above) are required on account of no significant changes from baseline conditions and/or no changes to the nature, extent or scale of the proposed development.

1.23 On account of the information provided by the applicant in 2014 as described above, it is considered that the Appropriate Assessment for the River Eden SAC (with all its conclusions and recommendations) produced in July 2012 for the 10/1116 application when it was originally submitted, remains valid for the purposes of redetermination of the extant application (10/1116). It is understood that the same planning conditions as those imposed on the application in February 2013, including those provisions in the Section 106 Agreement/Deed of Variation, will be imposed by Carlisle City Council on this application should it be granted planning permission (email from Angus Hutchinson, 7th July 2014).

POTENTIAL EFFECTS OF THE DEVELOPMENT AS PROPOSED

1.24 The site's conservation objectives have been taken into account, including consideration of the citation for the site and information supplied by Natural England. The potential effects of the proposal on the international conservation interests for which the site was designated (pink-footed goose and whooper swan) may be summarised as:

- Mortality through bird-strike events
- Noise, vibration, lighting and bird control and safe-guarding zone measures as disturbance factors
- Habitat modification and loss through construction works, operation and works in the 'safe-guarding' zone

1.25 All of the above potential effects are likely to be off-site impacts as no SPA bird species were observed to use land within the Airport boundaries during the winter bird survey for the ES (Chapter 8) and during 2010/11 survey work.

1.26 A summary of wintering bird survey data was provided for the vantage point bird survey undertaken on land outside the Airport boundaries between January 22nd and March 17th 2008 (13 visits) in the ES (Chapter 8). Based on this data, the maximum number of whooper swans observed during the survey was 33 and the maximum number of pink-footed geese was 150.

- 1.27 A summary of wintering bird survey data was also provided in the ES (Chapter 8), from the ongoing bird hazard management at the Airport, including land outside the Airport boundaries, undertaken between October 29th and December 6th 2010 (4 visits). Based on this data, the peak count of whooper swans observed during the survey was 13 and the peak count of pink-footed geese was 640.
- 1.28 As the 2008 survey period was relatively brief and only covered the later part of the winter season and therefore peak numbers of birds that may pass through the area early or late in the season may have been missed, it was requested (at a meeting on 12/11/2010 between Scott Wilson, NE, RSPB and CWT) that an addendum to the ES is submitted, including wintering bird survey data from 2010/2011 to complete a winter season, albeit spread across more than one year. Although wintering bird survey data from 2010 (until early December) was included in the ES and in the subsequent Interim Wintering Bird Survey Report (January 2011), no evaluation of the 2010 data in the context of the proposed development was provided. URS Scott Wilson confirmed in their letter dated 9th February 2011 that they would provide summaries showing the peak counts for the full 2010/2011 winter period from bird surveys undertaken for the bird hazard management plan for information, but that the data from these surveys will not form an addendum to the ES; they contend that the ES contains sufficient information on wintering birds to enable a robust assessment of the proposed development and it does not require additional baseline data. It should be noted, however, that the survey data on which the ES is based could be considered to be out of date, being over two years old. It is good practice to provide up-to-date survey information with which to support conclusions in the ES.
- 1.29 It was also requested at the meeting (on 12/11/2010) that WeBS data is included in the ES to provide additional background data; however, this information was not included in the ES. In their letter dated 9th February 2011, URS Scott Wilson state that they are considering WeBS data during their analysis of the current wintering bird survey and 'if air traffic movements were causing large flocks of geese or swans to take flight (i.e. aircraft were causing disturbance to wildfowl), such incidents would be reported to air traffic control and recorded, due to the potential risk of bird strike. Despite the variable aggregations recorded in the interim bird report and previous surveys, air traffic control has no evidence of any disturbance. Whilst WeBS data do provide context we do not consider it necessary to include this information in a supplement to the ES.'
- 1.30 WeBS data provided by the RSPB (letter dated 14th December 2007) in connection with the 2007 application includes peak counts for pink-footed geese for the Lower Eden floodplain of 1,200 birds in December for 2006/07, and according to Birds and Wildlife in Cumbria 2009 the most recent maximum peak count in Jan - Dec 2009 (including WeBS data) for the Lower Eden floodplain was 1,800 birds in January; these counts are significantly greater than the 640 birds observed during the 2010 survey. It is understood that the 2006/07 WeBS count was of birds using the field to the north-west of the M6 bridge and that no pink-footed geese were observed during WeBS counts in the Warwick Holme count sector that winter (pers. comm. Dave Shackleton 31st March 2008). However, occasional usage of the area has been recorded, for example 15 birds were seen by Natural England staff in the Warwick Holme area in November 2007 (Natural England records). The data provided by the RSPB also includes numbers of whooper swans using the Lower Eden floodplain, stating that a flock of between 20 and 70 birds use the area. Birds and Wildlife in Cumbria 2009 includes a maximum peak count (including WeBS data) for the Lower Eden floodplain in Jan - Dec 2009 of 52 whooper swans in March.

- 1.31 The additional wintering bird survey data from late December 2010 to mid-March 2011 from surveys undertaken on land around the Airport was submitted by URS Scott Wilson on 19th April 2011, in the 'Bird Hazard Management Plan Wintering Bird Surveys 2010/2011' report. This data included much higher peak counts of Whooper swans (82 birds on 1st February 2011) and pink-footed geese (3,980 birds on 29th December 2010, recorded outside the survey area approx. 5.7km from the airport and 3,400 birds within the survey area on 15th January) than were included in the previous wintering bird survey data submitted. The majority of the observations appear to be from land at a distance from the Airport; however, it is noted that large numbers of pink-footed geese were observed in fields adjacent to the south of the Airport site, directly adjacent to the south of the A689 on 15th January 2011 (counts of 3400, 450, 150 and 210 birds).
- 1.32 On 19th April 2011, URS Scott Wilson also submitted an analysis of the wintering bird survey data from surveys undertaken in October to early December 2010, including comparisons with available WeBS data, in their report 'Annexe A: Response to RSPB regarding wintering bird survey data and extrapolation to estimate of utilisation by wildfowl and potential disturbance'. Reference is also made in this document to a separate study on bird responses at River Idle Washlands SSSI to aircraft taking off and landing at Robin Hood Airport between 2004 and 2009, when assessing likely disturbance impacts on SPA species. However, an analysis of the wintering bird survey data collected from the second part of the season (i.e. from late December to late March) was not included in the Annexe.
- 1.33 Whilst it was expected that the original shortcomings in the bird survey information and evidence base would be addressed in the latest Airport application, it is considered that sufficient information has been provided for the purposes of this assessment to assess likely impacts on SPA bird species using land close to the Airport.
- 1.34 Therefore, from the survey data supplied from Scott Wilson and from available WeBS data (from the RSPB), it is possible to calculate the percentage of the SPA populations for each species using the areas near the Airport and thus the percentage of the SPA populations that could be subject to potential impacts of the proposed development (using guidance from Natural England, email dated 26th March 2008 and data provided by the RSPB in an email dated 4th March 2011¹) (NB. it should be noted that the SPA populations below are likely to be under-estimated, as WeBS counts do not pick up the scattered birds that feed over a wide geographic area):
- Whooper swans - using the most recent WeBS data provided by the RSPB (email from Tim Youngs dated 4th March 2011); 5 year (03/04 – 07/08) mean WeBS counts for the Solway Estuary as the current SPA population of whooper swans (276) and assuming that the maximum peak count from the bird surveys undertaken in association with the Airport (in 2008 and 2010/11) of 82 birds is the local population, the proposed development could impact on 29.7% of the whooper swan SPA population.
 - Pink-footed geese – using the most recent 5 year mean (03/04-07/08) provided by the RSPB (4th March 2011) of a background population of 10,417 birds and assuming that the maximum peak count from the bird surveys undertaken in association with the Airport (in 2008 and 2010/11) of 3,400 birds is the local population, the proposed development could impact on 32.6% of the pink-footed geese SPA population.

¹ Holt, C.A. et al 2009. *Waterbirds in the UK 2007/8*

Temporary Phase – Construction Works: noise and lighting as disturbance factors

- 1.35 It is possible that the construction works could result in disturbance of SPA features (pink-footed geese and whooper swan) that use the land in close proximity to the Airport. The relevant Conservation Objective for these SPA interest features is disturbance in roosting and feeding areas, with the target of 'no significant displacement of birds from feeding and roosting areas at appropriate times of year due to noise or visual disturbance by human activities.'
- 1.36 Research has been undertaken on the effects of disturbance on birds, such as pink-footed geese and whooper swans. For example, a study showed that pink-footed geese *Anser brachyrhynchus* and greylag geese *A. anser* flocks in Scotland were distributed further from roads when feeding in agricultural fields than would be expected at random and the study demonstrated that geese close to roads took flight in response to passing cars² (Keller, 1991).
- 1.37 It is understood from Natural England (27th March 2008, in connection with the 2007 application) that research suggests that pink-footed geese can be visually disturbed at a distance of up to 200m, and swans may be visually disturbed at a distance slightly less than this as they are not hunted. However, swans need a run up in order to take off so they are often wary of disturbance and their disturbance threshold may be affected by conditions, such as wind direction. It is also understood from Natural England (27th March 2008) that with regard to windfarms and disturbance, 700m is usually quoted as the maximum disturbance distance.
- 1.38 The information provided in the ES (chapters 5, 6 and 8) and in subsequent information regarding potential disturbance impacts to SPA bird species during construction activities has been reviewed for this assessment.
- 1.39 It is stated in the ES (Chapter 8) regarding indirect impacts (including noise and vibration) generated by construction activities, that 'wildfowl and other bird species therefore currently occupy these fields (within 4km of the Airport) concurrently with existing ambient noise levels. Any construction related noise, which has been demonstrated to not exceed ambient levels beyond 25m distance from the proposed development area, will therefore have no effect on the off-site wintering bird population'. In their review of the ES, Alan Stratford Associates state that 'there is nothing within the report to question the accuracy of the construction noise impact assessment.' The ES (Chapter 6) also states that construction should be carried out in accordance with a construction environmental management plan, which will include measures to ensure noise emissions are minimised and conform to the necessary legislation and guidelines.

¹ Keller, V.E. 1991. The effect of disturbance from roads on the distribution of feeding sites of geese (*Anser brachyrhynchus*, *A. anser*), wintering in north-east Scotland. *Ardea* 79: 229–232

- 1.40 With regards to impacts of visual disturbance on SPA species during the construction phase, some relevant information is provided in the ES (Chapter 8). It is understood that visual disturbance during construction, such as increased movements of personnel and plant including high visibility clothing and warning lights will be constrained to the development area and the highways. Additionally, the trees and golf course that lie between the Airport boundaries and the fields most frequented by the SPA species are likely to act as a screen, which may help to minimise visual disturbance.
- 1.41 Therefore, on the basis of the information available, it is considered that disturbance impacts during the construction of the proposed development are unlikely to have a significant impact on populations of pink-footed geese and whooper swans in the locality.

Temporary Phase – Habitat modification and loss

- 1.42 It is understood from the ES that the physical elements of the proposed development will be constrained within the existing operational Airport's boundary. Therefore, it is understood that the habitat outside the Airport that may support wintering SPA bird species will remain unaffected during construction works. Pink-footed geese or whooper swans were not found to be present on the Airport site during the wintering bird survey work undertaken in 2008 and 2010/11, so it is considered unlikely that the proposed habitat modification works within the site boundary during construction will have a significant impact on SPA bird species.

The Permanent Development and Long Term Operation of the Site - Bird-strike events

- 1.43 The site operation could result in disturbance of SPA features (pink-footed geese and whooper swan) that use the land in close proximity to the Airport. The relevant Conservation Objective for these SPA interest features is disturbance in roosting and feeding areas, with the target of 'no significant reduction in numbers or displacement of birds from an established baseline subject to natural change.'
- 1.44 No information was presented in the ES regarding the potential impact of bird-strike on SPA bird species with regard to the 2007 application; this issue was therefore addressed subsequent to the submission of the 2007 ES. Some information on the potential risk of bird-strike was provided in the 2010 ES (Chapter 8), along with a table showing the bird-strike records from Carlisle Airport from 2003 to present (Table 8.20). The conclusion of Scott Wilson is that there will be no significant impact of bird-strike on SPA bird species. It was noted that when comparing Table 8.20 in the ES with a table of bird-strike events provided in connection with the 2007 application (29th January 2008), a number of records were missing from Table 8.20; therefore, including the missing records, the total should be 17 events rather than 12. None of the bird strike records included involve pink-footed geese or whooper swans.
- 1.45 It is understood from information provided by Scott Wilson in connection with the 2007 application that observations of whooper swans were made on 13 survey visits in 2008, between 22nd January and 17th March on the field just to the east of Warwick Holme Cottages, to the south west of the Airport, where a total of between 31-33 individuals have been seen on 11 of the visits. Swans were only observed to move on two occasions, both at a height of <10m to areas in the locality. It would appear from the data supplied that the flock of whooper swans is loyal to the site but that some individual movement does occur. According to the report of wintering bird surveys provided in April

2011, whooper swans were observed on nine of the eleven survey visits undertaken between 29th October 2010 and 15th March 2011, mainly in fields adjacent to the River Eden, to the south-west of the Airport, with a peak count of 82. From the figures provided with the report (April 2011) it appears that some of the fields in which whooper swans were observed lie under the flight path of aircraft. No airbourne movements of whooper swans were observed during the 2010/11 surveys.

1.46 During the wintering bird survey work in 2008, a maximum count of 60 pink-footed geese were observed in fields near the Airport. During the 2010/11 survey work, a maximum of 3,400 pink-footed geese were observed on land near the Airport. The geese were observed to fly at a height of about 100 feet/30m during the survey on 22nd January 2008. Natural England advised in 2008 that it should be noted that these birds were moving between sites and not apparently approaching a site to land. On approach to a potential foraging field geese will often circle at altitude, presumably to assess if it is safe to land. These flights may be at higher altitude than the 30m recorded during the survey. Flocks of pink-footed geese ranging in size from 2 - 300+ geese were observed flying overhead during perimeter and vantage point surveys of the Airport on 29th December 2010, 15th January, 17th January and 12th February 2011. During the transect surveys of land outside the Airport, only one airbourne movement of pink-footed geese was observed on 29th October 2010. No information on altitudes or direction of flying geese was provided with the survey data from 2010/11.

1.47 Carlisle CC received anecdotal evidence (including a photograph of geese overflying the Airport) from a local resident (emails dated 1st, 2nd, 8th & 11th February 2011 from Dale Ransley) about geese observed flying over the Airport and nearby land (e.g. Irthington) and the potential risk of bird-strike, which he believed had not been fully addressed in the ES. A letter was also received by Carlisle CC from Peter Elliott dated 21st March 2011 regarding the risk of death to Irthington residents and geese by potential bird-strike and a request to re-align the runway to minimise the risk. These comments primarily relate to safety issues and the species of geese seen flying over the Airport have not been identified; i.e. there is no evidence that the geese observed were an SPA species (pink-footed geese). Regarding the emails from the local resident, the RSPB commented (email dated 2nd February 2011) that it would depend on what species the geese are; they are not aware of pink-footed geese feeding to the east of the Airport (i.e. overflying it on the way from the Solway every day) and that they could be feral greylag geese, which are common and not of conservation concern. They also reiterated that they would like additional information from the developer on the full bird survey and whether any goose dropping counts were undertaken, to help to fill any gaps in their knowledge. Regarding the emails from the local resident, NE commented (email dated 11th February 2011) that in their opinion the potential impact on SPA bird populations remains low, although they recognise that there may be risks to individual birds, which may have implications for the Airport. With regard to the letter about the risks of death to Irthington residents and geese, NE commented (email dated 23rd March 2011) that their view remains that while there may be a health and safety issue (which is beyond NE's remit), risks to the SPA populations are low; however, this would change if there was off-site management proposed as mitigation.

- 1.48 It is stated in the ES (Chapter 8) that aircraft will be between 1,000 and 1,500 feet by the time they reach the Eden and around 85% of bird-strikes occur below 800 feet. However, it is also stated in Chapter 2 of the ES that approximately 90% of aircraft approaches are from the east due to the prevailing winds, and that approximately 10% of aircraft approaches are from the west and fly over areas used by whooper swans at a lower altitude than departing flights (c. 1000 feet), with military aircraft undertaking low altitude flights over these areas (as low as 250 feet). It would appear from the data provided for the 2007 application that local movements of whooper swans and pink-footed geese in the area are likely to be at a low height (<10m/33 feet and c. 30m/100 feet respectively), and well below the height of approaching aircraft in this area (c. 1000 feet or 250 feet).

Air traffic movements

- 1.49 It is stated in the ES (Chapter 8) that based on the predicted increase in ATMs of 35% by 2025, the predicted total average bird strikes per year would be 2.3. This number is very small when considered in context with the total SPA populations of pink-footed geese and whooper swans. However, it should be noted that the figure of 2.3 is presumably based on the 12 bird-strike records included in Table 8.20, rather than on the total of 17 records, which include those from the table provided in 2008. It is also stated in Alan Stratford Associate's review of the ES that they believe that the passenger and cargo ATMs forecast in the ES are too high.
- 1.50 Therefore, based on the information provided that shows no recorded instances of bird strike with pink-footed geese or whooper swans in the area around the airport, despite current use of the area, and the birds' recorded flight heights when moving around the area which are lower than the heights of approaching aircraft, it is considered that bird-strike is unlikely to significantly impact the SPA bird species.

The Permanent Development and Long Term Operation of the Site - Noise, vibration and lighting as disturbance factors

- 1.51 It is stated by Scott Wilson in connection with the 2007 application (email dated 26th March 2008) regarding potential disturbance to SPA bird species on land around the Airport, that during the SPA bird species survey period (22nd January and 10th March 2008) 'a total of 886 flights used the runway 25 westwards (inbound and outbound) between this period, 623 take-offs and 263 approaches. The unusually high number of approaches from the west is due to a 10 day period of easterly winds which is very unusual. It should be noted that these numbers do not include helicopter movements or movements using the north-south runway.' The percentage of approaches from the west during this period was considerably greater (42%) than the usual 10% of approaches from the west as stated previously by Scott Wilson, due to the wind pattern. During this period whooper swans were consistently recorded using fields under the flight path associated with this runway.

Noise and vibration

- 1.52 There is potential for site operations to result in disturbance of SPA bird species that are present in the areas around the Airport. Information is provided in a letter dated 9th February 2011 from Scott Wilson regarding potential disturbance impacts during operation, which states that the increase in flights will be small and over time (a maximum of an extra 5 passenger aircraft/10 ATMs and 2 freight aircraft/4 ATMs per day by 2025). It is stated that the swans observed in the bird surveys must see and hear overflying aircraft regularly and if they were disturbed sufficiently to take flight, it would be reported to air traffic control due to the hazard to aircraft; there are no such reports despite a requirement to report such incidences and by inference the birds must be habituated to

the aircraft. With regard to geese, it is stated that they may have less opportunity to habituate to the aircraft if they are less often in close proximity to the Airport; however, there is no evidence from air traffic control of any disturbance of flocks on the ground nor of any problems with geese arriving or departing fields that they use. Whilst the increase in ATMs means the presence of geese in fields near the Airport is more likely to coincide with an aircraft arriving or departing, it also means that the birds are more likely to be habituated by more regular events.

- 1.53 The information provided in the ES (Chapter 8) regarding altitudes of aircraft overflying pink-footed geese and whooper swan wintering areas in the Eden Valley (see 1.46 above for details) concludes that the birds are habituated to regular noise and visual disturbance by aircraft. This is because the birds are subject to baseline levels of aviation disturbance from approaching and departing aircraft, including low altitude flights (c. 250 feet) by military aircraft, and they seem not to be adversely affected as they continue to be regularly recorded in these areas.
- 1.54 Information provided by Scott Wilson in connection with the 2007 application (letter dated 29th January 2008) includes data on air traffic movements (ATMs); historical (1995), baseline (2007) and predicted (2016). The letter from the RSPB (dated 14th December 2007) includes data (Annex 2 of the letter) for historical peak counts for pink-footed geese from 1995 and 1996 in the Lower Eden floodplain area, which are from the same period as the historical baseline of ATMs referred to in Scott Wilson's letter (i.e. for 1995). It appears that numbers of pink-footed geese using the Lower Eden floodplain have decreased since the historical baseline, as 3,500 birds were recorded in the area in January 1995 and 1996, but only 1,800 birds were recorded as the WeBs peak count in 2008/09. Therefore, it would appear that large numbers of pink-footed geese were using the Lower Eden floodplain during the period when the Airport had the highest number of ATMs, which would indicate that the birds were habituated to the levels of noise and vibration caused by the aircraft. As the predicted number of ATMs for 2025 are expected to be very similar to (and slightly lower than) the historical ATMs for 1995, it is possible to conclude that pink-footed geese using the area will not be significantly affected by noise and vibration and will become habituated to it. It should also be noted that Alan Stratford Associates believe that the passenger and cargo ATMs forecast in the ES have been over-estimated.
- 1.55 Further information regarding potential disturbance impacts on SPA species was provided by URS Scott Wilson in the Annexe A document (April 2011), where a comparison was undertaken of wintering bird survey data from 2008 and from October to December 2010 with WeBS data (from the two nearest monitored areas of the Airport, one of which overlaps with the transect survey area around the Airport). Analysis of the data found that both WeBS data and the survey data indicate that occurrence of pink-footed geese is sporadic within each of the survey sites (Airport transects and WeBS sites) and by contrast whooper swans were recorded more consistently within the sites. The report states that the study area around the Airport appears to have similar sporadic occurrence of geese as the WeBS sites, rather than a reduced frequency or abundance, which might be expected if existing ATMs (>20,000 per year) were actually causing any significant disturbance to the birds.
- 1.56 Within the Annexe A document, data from the 2010 wintering bird survey was also used in conjunction with a previous study on bird responses associated with Robin Hood Airport, to examine potential impacts of disturbance on SPA species in detail. The bird survey data was examined with: the predicted number of ATMs during the winter period (October - March inclusive), the available hours during the winter period, the probability of a disturbance response (1 in 500, based on the previous study at Robin Hood Airport) and the likelihood of the SPA species being present on land around the Airport. It is apparent that any potential disturbance of SPA species is likely to be of a small

magnitude (i.e. 1.3 hours disturbance per winter for whooper swans and <14 minor disturbance events per winter for pink-footed geese, each of only a few minutes duration; both compared to a total of 4,380 hours in the winter period). The Annexe A document concludes that whooper swans are recorded regularly on land around the Airport and previous studies have shown that they rarely respond to aircraft; pink-footed geese move around within the Eden Valley and the probability of an aggregation of geese being present in a field at the same time it is overflowed by an aircraft that may cause disturbance is very low; any such disturbance would be of short duration and is not likely to have a significant effect on the available feeding time or energy balance of individual geese and certainly not on the population as a whole; and, types of aircraft movement that would arise from the development are the least likely types to cause disturbance to wildfowl. It is noted, however, that the Robin Hood Airport study does not appear to have been peer reviewed and is not entirely transferable to the situation at Carlisle Airport, due to the difference in species and aircraft involved and in the local landscape context.

- 1.57 It is noted that the analyses in Annexe A do not include bird survey data from the second part of the winter season (i.e. late December to mid-March), which includes notably greater peak counts of whooper swans and pink-footed geese. URS Scott Wilson make reference to the fact that the maximum number of pink-footed geese recorded in this wintering season is higher than that recorded in the 2008/2009 season in their covering email dated 19th April 2011, and state that when considered against the WeBS data for the sector which lies entirely within the transect survey area, variability of this kind is not unexpected (given the large variations also observed over the survey period between 2005 and 2009). They also state in their email that 'we would highlight that the presence of large numbers of geese within fields that are regularly overflowed by aircraft approaching and departing Carlisle Airport further strengthens the conclusions in the ES' i.e. that pink-footed geese are habituated to regular noise disturbance from aircraft including that currently using the airfield.
- 1.58 Chapter 6 of the ES concludes that no significant effects regarding noise and vibration during operation are predicted associated with the road traffic noise or future aircraft noise and therefore that mitigation is not necessary. It also states that conventional noise control will be employed where necessary e.g. attenuators, acoustic screening, to mitigate any adverse effects that may result from the external components of the chiller units. It is stated in Alan Stratford Associates' review of the ES, that they believe that the passenger and cargo ATMs forecast in the ES are too high and that the airbourne noise impacts can be considered as negligible, particularly if the ATM forecasts are not attained. It is also stated that there is nothing within the ES to question the accuracy of the airborne aircraft noise predictions, sensitivity tests or road traffic noise and vibration predictions in the ES. However, ASA consider that the noise levels from ground operations (particularly for the HGV docking bays) and for HGV drive-bys may have been under-estimated.
- 1.59 *Therefore, in line with the precautionary principle, to ensure that noise and vibration will not adversely affect interest features of the Upper Solway SPA in the future, a noise management plan to control noise nuisance from the freight activities is to be conditioned.*

Lighting

- 1.60 With regard to impacts of lighting on SPA species during operation, some relevant information is provided in the ES (Chapter 8), which is in regard to potential impacts of lighting on the River Eden SAC but which could also be applied to potential impacts on SPA bird species. Visual disturbance impacts could be caused by external lighting on and around the Air Freight Distribution Centre, associated with the buildings, roads, parking and hardstanding areas. Temporary mobile lighting will be used when necessary on the apron. The existing approach lighting and aircraft ground lighting (as part of the runway resurfacing) will be upgraded as per the current alignment with no additional lighting to the current baseline; however, the frequency of use may increase alongside the predicted increase in ATMs.
- 1.61 It is stated in Chapter 8 that exterior lights will be downward facing to minimise the spillage of light onto adjacent habitats and will not encroach into the River Eden SAC or its tributaries. Chapter 8 also states that runway approach lighting and aircraft ground lighting will be at the existing locations and therefore will not result in a change from the baseline conditions; however the lighting could potentially be used more frequently with the potential increase in ATMs. It is also stated that the lights are only used for very short periods of time and are directed upwards towards approaching aircraft, away from habitats on the ground.
- 1.62 It is stated in Chapter 9 regarding operational lighting impacts that, 'the proposals will introduce new sources of light within the area immediately adjacent to the Air Freight Distribution Centre in the form of the downward directional lighting located at a maximum height of 10m. No residential properties are assessed as being directly affected by the new lighting, however an increase in ambient lighting levels within the local area is expected. However, it is not anticipated that this will result in an increase in ambient light levels to the wider area'. The distances associated with the 'local' and 'wider' areas have not been included in the ES. It is also stated in Chapter 9 that no measures to mitigate the assessed effects of the proposed development on visual amenity are recommended due to the inclusion of landscaping in the proposed development design, and that the strategic use of tree planting will significantly reduce the adverse visual effects identified at opening from the majority of representative viewpoints.
- 1.63 No information has been submitted with the application to indicate how SPA species (particularly pink-footed geese) may use the land around the Airport during the night or whether they move around during dusk and dawn; these are the times when light disturbance from the Airport may have an impact on the birds, due to the low ambient light levels. However, information that was gathered from a nearby area with regard to potential impacts of another proposed development on Upper Solway SPA species, including pink-footed geese, has been provided by the RSPB (email dated 13th May 2011) as anecdotal evidence; data from two winters of surveys has shown that pink-footed geese are only active nocturnally in the area very occasionally. It could therefore be assumed that the geese using land near the Airport are also likely to behave this way, only being present on land near the Airport during the daytime and therefore unlikely to be impacted by light disturbance. Also, on the basis of the wintering bird survey data provided by URS Scott Wilson and of the comments from the RSPB (email dated 2nd February 2011), there is no evidence that SPA species use land to the east of the Airport so it is unlikely that birds would overfly the Airport (and therefore its associated lighting) when commuting to/from their roosts on the estuary.
- 1.64 Therefore, on the basis of the information provided (including the anecdotal evidence supplied by the RSPB), it is unlikely that light disturbance would significantly impact on SPA species that use land around the Airport.

*The Permanent Development and Long Term Operation of the Site - Habitat modification/loss and bird control and safe-guarding measures**On-site operation*

- 1.65 It is understood from the ES that the physical elements of the proposed development during construction and operation will be constrained within the existing operational Airport's boundary. Therefore, as the presence of SPA bird species has not been recorded on the Airport site, it is assumed that there will be no significant impact on these species through operational Airport habitat management work.

Bird control and safe-guarding zone measures

- 1.66 Information regarding the Airport's bird control and safe-guarding measures (including the Airport site and the 13km safe-guarding zone) were supplied with Scott Wilson's letter dated 29th January 2008 in connection with the 2007 application, which included a copy of the Bird Hazard Control policy and procedures, and some information is included in Chapter 8 of the 2010 ES. It is stated in the ES that 'as the airport is currently an operational aerodrome, safeguarding is already undertaken in accordance with CAA guidance, and will continue to be undertaken regardless of the proposed development. It is therefore concluded that the proposed development will not affect current safeguarding operations, and no further consideration is given to this issue in this chapter'. As this issue forms part of the ongoing Airport management, it is not assessed formally in this Appropriate Assessment; **however, it is recommended that a requirement is included in any planning permission that may be granted that the applicant consults with Natural England and the RSPB should any changes be proposed to the bird control and safe-guarding activities, in order to ensure such measures are subject to the necessary assessment under the Habitats Regulations.**
- 1.67 Whilst there are still some shortcomings in the information and evidence base provided with the 2010 application, it is considered that sufficient information has been provided to make the assessment that:
- there are not likely to be any on-site impacts during construction or operation on SPA bird species.
 - the risk of off-site impacts on SPA bird species such as bird-strike, noise, vibration and lighting during operation is likely to be low. However, in order to be certain of no future significant impact it is recommended that a noise management plan is agreed and that a requirement is placed on the applicant to consult with Natural England if any changes to the bird control and safe-guarding measures are proposed.

IMPLICATIONS FOR CONSERVATION OBJECTIVES

- 1.68 The potential impacts of the proposed development that were identified as potentially having significant effects on the relevant Conservation Objective of the Upper Solway Flats and Marshes SPA features – pink-footed geese (~32.6% of the total SPA population¹) and whooper swans (~29.7% of the total SPA population¹) (with the target of ‘no significant reduction in numbers or displacement of birds from an established baseline subject to natural change’) - and were therefore included in this assessment, include the following:

During Construction

- Impacts from noise, vibration and lighting
- Impacts from habitat modification and loss

During Operation

- Impacts from noise, vibration and lighting
- Impacts from bird-strike
- Impacts from habitat modification and loss
- Impacts from bird control and safe-guarding measures

- 1.69 From the information provided for the purposes of this assessment, it is possible to conclude that the above impacts are not likely to significantly affect the Upper Solway Flats and Marshes SPA features; pink-footed geese and whooper swans. However, when applying the precautionary principle, it is recommended that conditions are included in any planning permission granted to ensure no future significant impact on the SPA features (see below).

‘In Combination’ Effect

- 1.70 When considering whether the proposed development of Carlisle Airport (either alone or in combination with other plans or projects) would adversely affect the integrity of the Upper Solway Flats and Marshes SPA in the light of the conservation objectives, the ‘in combination’ effect needs to be examined if the proposed development is considered likely to have a significant impact on the European site. Therefore, information about other proposed or recent developments was requested from Carlisle City Council.
- 1.71 Carlisle City Council assessed their records of current applications and extant permissions and responded with the following plans/projects that may be of relevance to this assessment:
- Beck Burn Peat Works Wind Farm (9 turbines) (10/1102)

¹ using the most recent 5 year (03/04 – 07/08) mean WeBS counts for the Solway Estuary as the current SPA population.

- 1.72 It is understood from the information available on Carlisle City Council's website that planning permission for this proposed development has not yet been decided. From the information available on the website, there appears to have been no appropriate assessment undertaken for the proposed development, there are objections from RSPB and CWT regarding potential impacts on the interest features of the Upper Solway SPA and NE have requested further information on the proposals. In this assessment it is concluded that the proposed development at Carlisle Airport as presented is unlikely to have a significant impact on the Upper Solway Flats and Marshes SPA interest features, and therefore, it is not likely to act 'in combination' with other plans/projects, such as the Beck Burn Peat Works Wind Farm.
- 1.73 **Carlisle City Council re-assessed their records of current applications and extant permissions in July 2014 with regard to the redetermination of the planning application for Carlisle Airport, and identified the following plans/projects that may act in combination with the proposed development at Carlisle Airport on the River Eden SAC (email from Angus Hutchinson, 8th July 2014):**
- **Hallburn Farm Wind Farm (13/0865)**
 - **Beck Burn Wind Farm (13/0866)**
- 1.74 **It is understood that the original application for a wind farm at Hallburn Farm (11/0118) was re-submitted following an Appeal and that the Council currently have authority to issue an approval for Hallburn Farm Wind Farm (13/0865). An Assessment of Likely Significant Effect (ALSE) was undertaken for the proposed wind farm at Hallburn Farm (Lloyd Bore, August 2012) and it was concluded that the proposed development (11/0118) was unlikely to have a significant impact on the interest features of the Upper Solway Flats and Marshes SPA. It is understood that the re-submitted application for Beck Burn Wind Farm is yet to be considered by the Council. In this assessment it is concluded that the proposed development at Carlisle Airport as presented is unlikely to have a significant impact on the Upper Solway Flats and Marshes SPA interest features, and therefore, it is not likely to act 'in combination' with other plans/projects, such as Hallburn Farm Wind Farm or Beck Burn Peat Works Wind Farm.**

AVOIDING ADVERSE EFFECTS

- 1.75 Natural England's (previously English Nature) Habitats Regulations Guidance Note 1 (HRGN 1) states that, if the proposal would adversely affect the integrity of the site then, having regard to Natural England's advice, Carlisle City Council should consider the manner in which it is proposed to be carried out and whether the plan or project could be modified, or whether conditions or restrictions could be imposed, so as to avoid the adverse effects. Carlisle City Council would then need to reassess the conclusions in the light of any such modifications, conditions or restrictions that may be agreed or imposed.
- 1.76 The integrity of the site has been defined as such; 'coherence of the site's ecological structure and function, across its whole area, that enables it to sustain the habitats, complex of habitats and/or the levels of populations of the species for which the site is classified' (ODPM Circular 06/2005). An adverse effect on integrity is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of its designation (HRGN 1). The wording used in Regulation 48(5) implies that a precautionary approach should be taken in considering effects on integrity, in line with the Government's principles for sustainable development. Regulation 48(5) says that (subject to Regulation 49) projects may only proceed if the competent authority has ascertained that it **will not adversely affect** the integrity of the European site.

1.77 From the information provided for the purposes of this assessment, it is possible to conclude that the potential impacts as assessed previously are not likely to impact significantly on the Upper Solway Flats and Marshes SPA features, pink-footed geese and whooper swans, and therefore that the proposed development will not have an adverse effect on the integrity of the Upper Solway Flats and Marshes SPA. However, when applying the precautionary principle, it is recommended that the following issues would need to be conditioned in any planning permission that may be granted to be certain of no future adverse affect on the integrity of the Upper Solway Flats and Marshes SPA features:

1. Noise and vibration disturbance – conditioning is required in order to maintain favourable condition of the Upper Solway Flats and Marshes SPA with regard to pink-footed geese and whooper swans, by achieving the target of ‘no significant reduction in numbers or displacement of birds from an established baseline subject to natural change’ i.e. by:
 - The production and implementation of an approved noise management plan, including measures to minimise the risk of disturbance to SPA bird species from both the airport and freight activities.
2. Bird control and safe-guarding -
 - A requirement is included in any planning permission that may be granted that the applicant consults with Natural England and the RSPB should any changes be proposed to the bird control and safe-guarding activities, in order to ensure such measures are subject to the necessary assessment under the Habitats Regulations.

CONCLUSIONS AND RECOMMENDATIONS

1.78 Taking into account the Conservation Objectives of the Upper Solway Flats and Marshes SPA, the possible effects identified of the proposal on the relevant international conservation interests for which the site was designated (whooper swan and pink-footed goose) may be summarised as:

- Noise, vibration and lighting as a disturbance factor during construction/operation
- Habitat modification and loss during construction/operation
- Mortality due to bird-strike events during operation
- Bird control and safe-guarding measures as a disturbance factor during operation

1.79 It is concluded that whilst there are still some shortcomings in the information and evidence base provided with the 2010 application, sufficient information has been provided by the applicant for the purposes of this assessment to show that the proposed development will not have an adverse effect on the integrity of the Upper Solway Flats and Marshes SPA. However, to be certain of no future adverse impacts on the integrity of Upper Solway Flats and Marshes SPA, several issues need to be conditioned in any planning permission that may be granted, as detailed above. It is therefore concluded that, providing the issues as highlighted in this assessment are adequately conditioned in agreement with Natural England, the proposed development (either alone or in combination with other plans or projects) will not lead to an adverse effect on the integrity of the Upper Solway Flats and Marshes SPA.

ANNEX 1 - NATURAL ENGLAND'S REPRESENTATIONS

21 January 2011

Our ref: NW 13032

Your ref: 10/1116



Angus Hutchinson
Planning Services
Carlisle City Council
Civic Centre
Carlisle
CA3 8QG

Juniper House
Murley Moss
Oxenholme Road
Kendal
Cumbria LA9 7RL

BY EMAIL ONLY

T 0300 060 6000

Dear Mr Hutchinson

Proposal: Erection Of An Air Freight Distribution Centre (for Handling Of Air Freight And Road Haulage, Including Integrated +3°C Chiller Chamber, +12°C Chiller Chamber, Workshop And Offices)(Use Classes B1 And B8), Gatehouse, Canteen/Welfare Facilities, Landscaping, New Access, Parking And Other Infrastructure Works (Such As Auxiliary Fire Station, Package Sewage Treatment Works, Fire Sprinkler System And Electrical Substation) And Re-Surfacing Of The Existing Runway 07/25
Location: Carlisle Lake District Airport, Carlisle, Cumbria CA6 4NW
Application Ref: 10/1116

Thank you for your consultation on the above dated 16 December 2010, which was received by Natural England on 16 December 2010.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

We have considered the proposal against the full range of Natural England's interests in the natural environment. Based on the information provided with the application, our comments are as follows:

The River Eden Special Area of Conservation (SAC) and Upper Solway Flats and Marshes Special Protection Area (SPA)

The proposal is close to The River Eden SAC and may indirectly affect the Upper Solway Flats and Marshes SPA, both of which are European sites protected under the Habitats Regulations. From the information you have provided, it is Natural England's view that **this proposal is likely to have a significant effect on these European sites**. The River Eden and Tributaries is also a Site of Special Scientific Interest (SSSI).

This response sets out Natural England's advice on the requirements of Regulation 61 of the Conservation of Habitats and Species Regulations 2010 (known as "the Habitats Regulations"). Regulation 61 requires your authority, before deciding to give any consent to a project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects), and (b) not directly connected with or necessary to the management of the site, to make an appropriate assessment of the implications for the site in view of its conservation objectives.

In this case, the proposal is not directly connected with or necessary to the management of the site. We therefore advise that the Local Planning Authority (LPA), as decision-taker and competent authority, **must undertake an appropriate assessment** to fully assess these implications against the

site's conservation objectives. Natural England should be re-consulted on this assessment and be given a reasonable period within which to respond.

Part I B of *ODPM Circular 06/2005 Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System* describes the procedure for the consideration of plans and projects that may affect European and Ramsar sites.

The scope of the appropriate assessment should include the issues that we have previously advised on and that were considered in the appropriate assessments carried out for planning application no. 07/1127. They must however be relevant to this planning application and be based on the most up-to-date information available. To this end, it is Natural England's advice that the Environmental Statement (ES) should be updated in order to include the 'Interim Wintering Bird Survey Results' (received 14/01/11) in its assessment of the impacts of the proposal on populations of wintering SPA bird species. It is disappointing that an addendum updating the ES wasn't submitted to Carlisle City Council at the same time (or shortly after) the interim data was received. We appreciate that the purpose of these additional surveys is to inform the bird hazard management operations but as discussed in the meeting held on 12/11/10 it is Natural England's view that as this data is available, it should be used to inform the current assessment as a matter of good practice and to address the shortfall of data provided with the previous application.

White Moss Site of Special Scientific Interest

The proposal is close to White Moss Site of Special Scientific Interest (SSSI), but it is our opinion that the proposed development will not materially or significantly affect it as long as high environmental protection measures are incorporated into the drainage strategy (ES, 8.362) in order to safeguard the water quality of the surface water run-off entering Baron's Dike North from the airport.

Carlisle Lake District Airport County Wildlife Site

County Wildlife Sites are the responsibility of Cumbria Wildlife Trust and therefore our general advice is that the Trust should be consulted and their views taken into account. Natural England considers that from the information provided the proposal will affect the above site. Approximately 23 ha of semi-improved and improved grassland (ES, 8.286) will be lost as a result of the proposed development. This loss falls within the boundary of the above County Wildlife Site which was designated as such for its breeding bird populations. A number of potential impacts on the CWS interest features are considered and although overall they are assessed as not significant, the ES does acknowledge that habitats contribute towards the ecological value of the CWS and that the development will result in a minor adverse effect significant at a local level (ES, 8.365).

The 'Mitigation and Habitat Enhancement' proposed for the loss of CWS area is briefly set out in paragraph 8.366 of the ES. Carlisle City Council's duties towards County Wildlife Sites are embedded in Local Plan policy LE4 and Policy E35 of the Cumbria & Lake District Joint Structure Plan as well as national planning policy such as PPS9. Ensuring that the proposal to enhance habitats elsewhere (ES, 8.366) goes ahead would be consistent with these plans and policies. Therefore, it is Natural England's recommendation that this measure should be more detailed in terms of its aims and structure in order to be included as an enforceable condition or legally binding agreement, should planning permission be granted.

We would also remind you that it is recommended good practice to look for opportunities for biodiversity enhancement through the planning process, rather than simply mitigating or compensating for loss or damage.

We recommend that you consult the County Ecologist for her view and contact Cumbria Wildlife Trust and the RSPB and take into account any comments on the nature conservation implications of the proposals.

Protected Species

We note that the information provided identifies that a number of legally protected species, including great crested newts and bats, will be affected by the proposal. Such protected species are a **material consideration** in planning terms as stated in Part IV paragraphs 98 and 99 of *Circular 06/2005* which accompanies PPS9, '*Biodiversity and Geological Conservation*'. We recommend that the local Authority consider the requirements of protected species in the determination of this application.

We have the following comments and recommendations to make in relation to protected species:

In response to one of the previous airport planning applications, Cumbria County Council suggested that a condition should be placed upon the planning permission for the applicant to produce a Biodiversity Management and Enhancement Plan, to be approved by the LPA with Natural England, CWT and RSPB, for implementation during the lifetime of the Airport. We support this recommendation and give examples of how such a plan may be used in the following comments.

In the case of badgers, past concerns have been primarily about potential off-site impacts through collision with traffic. The ES (8.531) suggests that the installation of a roundabout will slow traffic and thereby improve existing collision rates. We would like to see the applicants commit to monitoring badger casualties around the site, and taking action as appropriate to deal with any increased trend of collisions. This could be part of the Biodiversity Management and Enhancement Plan.

The new infrastructure will be partially lit (ES, 8.266) around buildings, parking areas and access roads. We are pleased to note that all lighting will be downward directional to minimise light spill onto adjacent areas. We recommend that use of further light-directing applications e.g. shuttering, is considered in order to maintain dark corridors for wildlife along the newly planted hedgerows and green areas where applicable. It is particularly important to minimise such impacts along the eastern boundary and new access roads where the removal of old hedgerows will already have had an adverse effect on commuting and foraging bats (ES, 8.319) and birds.

Two potential operational threats to great crested newts have emerged from the information contained in the ES. Newts are known to breed in the existing fire ponds and we assume that the proposed rise in air traffic movements (ATMs) may increase the likelihood of a fire incident and of these ponds being used. Furthermore, the ES acknowledges the possibility that newts may extend their range to the proposed new attenuation lagoons (ES, 8.316). There is a chance that these lagoons may become contaminated with fire fighting foam if an incident occurs (ES, 10.165). Clearly in such situations there is a risk to any amphibians present in these water bodies. Therefore, we recommend that a strategy for minimising these and other risks to great crested newts and other amphibians should be included in the airport's Biodiversity Management and Enhancement Plan.

The recommendations set out in the Mitigation and Habitat Enhancement section of Chapter 8 of the ES pertaining to breeding birds, bats, clearance of vegetation and great crested newts should be ensured through appropriately worded conditions, should planning permission be granted. (ES, 8.367 – 8.380)

Please note that if planning permission is granted, the applicants should be informed that this does not absolve them from complying with the relevant law protecting species, including obtaining and complying with the terms and conditions of any licences required, as described in Part IV B of *Circular 06/2005*.

Landscape Planting

Natural England advises that all plants should be sourced from disease-free stock. This is particularly important in where there is connectivity with water courses in order to prevent the spread of pathogens such as species of *Phytophthora*, which are readily transported and dispersed by running water.

We recommend that planting schemes close to designated areas should only use native species that are within their natural range in that locality. Even if they are native but are not found within e.g. north Cumbria, this could have implications for their bio-geographic interest as such species are increasingly used as indicators of environmental change.

Ornamental plants are acceptable if they are well away from designated sites and especially river corridors - on condition that they are non-invasive. This applies to plants that can become quickly established either vegetatively or by viable seed dispersal. If the intention is to benefit wildlife then locally native species are generally more appropriate. As it is claimed that the ecological value of those existing hedgerows that will be lost during this development, will be compensated for by the planting of new and additional hedgerows, then we question the inclusion of species such as *Ligustrum vulgare*, *Carpinus betulus* and *Fagus sylvatica*.

We therefore recommend that the planting scheme is scrutinised to ensure that this advice is followed where appropriate.

Airport source pollution

We do have a concern that the ES does not consider greenhouse gas emissions from airport sources. We consider that increases in greenhouse gas emissions from airport expansion and also from increased surface transport related to expansion should still be investigated. Recent forecasts suggest that aviation could be responsible for 10-15% of the UK's carbon dioxide emissions by 2020 (and, by implication, a greater proportion of its environmental damage). Even conservative estimates suggest that it would account for the equivalent of between 63% and 170% of the total proposed emissions budget for 2050. Between 1990 and 2000, carbon dioxide emissions from air transport doubled. In contrast the carbon dioxide emissions from other UK activities dropped by about 9% in the same period.

The ES at paragraph 7.40 states 'Greenhouse gas emissions are relevant in a national and global context and not in a local one. It is not appropriate to assess these impacts at specific locations within the study area.'

Whilst we accept that specific impacts on climate cannot be directly linked to specific emissions from specific locations, it could be argued that no scheme can ever be held accountable for the emissions it produces, because no scheme's emissions can be directly linked to specific climatic effects, or be deemed 'significant' when viewed at the global scale. We therefore are disappointed that an assessment of greenhouse gas emission has not been undertaken as part of the ES. We acknowledge that the Government's main measure for addressing aviation emissions is their inclusion in the EU Emissions Trading Scheme (ETS). However we believe that inclusion in the EU ETS can provide a partial, but not the whole, solution to managing emissions from aviation.

Surface Access

We are pleased to see that mitigation measures at paragraphs 5.104 and 5.106 of the ES include implementation of a travel plan to ensure that the Airport minimises the use of the private car through the promotion of alternative travel modes to single occupancy car trips. Having reviewed the Travel Plan Natural England is disappointed to see only a 6% reduction in car traffic planned for 2014. We would have liked to see a higher percentage reduction aimed for (e.g. 10%).

We are however pleased to see the introduction of a shuttle bus linking to Carlisle City Centre. It will be important that the travel coordinator maintains close links with Cumbria County council to get the best out of these services.

We would also point out that the improved environmental performance of airports can be facilitated through the development of environmental management plans and systems. These should address both specific issues associated with airport buildings (for example, waste and energy) as well as wider

environmental issues (landscape character, biodiversity and recreation) associated with the operation of the whole airport e.g. making contributions to the delivery of national, regional and local biodiversity targets.

This concludes our comments at this stage. Natural England will comment on the Appropriate Assessment in due course and will be happy to give further scoping/review advice if required. We wish to reiterate that under the Habitats Regulations the application must not be determined until the local authority is satisfied that the proposal will not adversely affect the integrity of the European sites. The scope should be the same as for previous applications but the assessment must take into account any updated survey information and any other relevant changes.

The advice given by Natural England in this letter is made for the purpose of the present consultation only. In accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England expects to be consulted on any additional matters, as determined by the Local Authority, that may arise as a result of, or are related to, the present proposal. This includes alterations to the application that could affect its impact on the natural environment. Natural England retains its statutory discretion to modify its present advice or opinion in view of any and all such additional matters or any additional information related to this consultation that may come to our attention.

Should you wish to discuss this response please do not hesitate to contact me at the above address.

Yours sincerely

Via e-mail

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*ANNEX 2 - UPPER SOLWAY FLATS AND MARSHES SSSI/SPA CONSERVATION OBJECTIVES
(FEBRUARY 2009)*

Conservation objectives and definitions of favourable condition for designated features of interest



These Conservation Objectives relate to all designated features on the SSSI, whether designated as SSSI, SPA, SAC or Ramsar features.

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Name of Site of Special Scientific Interest (SSSI)	
Upper Solway Flats and Marshes	
Names of designated international sites	
Special Area of Conservation (SAC)	Solway Firth
Special Protection Area (SPA)	Solway Firth
Ramsar	Solway Firth
Relationship between site designations	
This site is partly in Scotland. It is adjacent to Sillioth Dunes and Mawbry Banks SSSI and River Eden and Tributaries SSSI and SAC.	

Version control information	
Status of this Version (Draft, Consultation Draft, Final)	Consultation Draft
Prepared by	Karen Slater/Bart Donato
Date of this version	12 February 2009
Date of generic guidance on favourable condition used	Geology – August 2006 Marine and coastal - 11 August 2005, Vascular plants - February 2004 Invertebrates - CSM 2008
Other notes/version history	Draft 1 25 March 2008. Invertebrates added by Alex Ramsay March 2008. Updated 28 September 2008 and by BJD 2 Feb 2009.
Quality assurance information	
Checked by	Name Karen Slater Date 12 February 2009
	Signature Karen Slater

Conservation Objectives and definitions of Favourable Condition: notes for users

Conservation Objectives

SSSIs are notified because of specific biological or geological features. Conservation Objectives define the desired state for each site in terms of the features for which they have been designated. When these features are being managed in a way which maintains their nature conservation value, then they are said to be in 'favourable condition'. It is a Government target that 95% of the total area of SSSIs should be in favourable condition by 2010.

Definitions of Favourable Condition

The Conservation Objectives are accompanied by one or more habitat extent and quality definitions for the special interest features at this site. These are subject to periodic reassessment and may be updated to reflect new information or knowledge; they will be used by Natural England and other relevant authorities to determine if a site is in favourable condition. The standards for favourable condition have been developed and are applied throughout the UK.

Use under the Habitats Regulations

The Conservation Objectives and definitions of favourable condition for features on the SSSI may inform the scope and nature of any 'appropriate assessment' under the Habitats Regulations. An appropriate assessment will also require consideration of issues specific to the individual plan or project. The habitat quality definitions do not by themselves provide a comprehensive basis on which to assess plans and projects as required under Regulations 20-21, 24, 48-50 and 54 - 85. The scope and content of an appropriate assessment will depend upon the location, size and significance of the proposed project. Natural England will advise on a case by case basis.

Following an appropriate assessment, competent authorities are required to ascertain the effect on the integrity of the site. The integrity of the site is defined in paragraph 20 of ODPM Circular 06/2005 (DEFRA Circular 01/2005) as the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified. The determination of favourable condition is separate from the judgement of effect upon integrity. For example, there may be a time-lag between a plan or project being initiated and a consequent adverse effect upon integrity becoming manifest in the condition assessment. In such cases, a plan or project may have an adverse effect upon integrity even though the site remains in favourable condition.

The formal Conservation Objectives for European Sites under the Habitats Regulations are in accordance with paragraph 17 of ODPM Circular 06/2005 (DEFRA Circular 01/2005), the reasons for which the European Site was classified or designated. The entry on the Register of European Sites gives the reasons for which a European Site was classified or designated.

Explanatory text for Tables 2 and 3

Tables 2, 2a and 3 set out the measures of condition which we will use to provide evidence to support our assessment of whether features are in favourable condition. They are derived from a set of generic guidance on favourable condition prepared by Natural England specialists, and have been tailored by local staff to reflect the particular characteristics and site-specific circumstances of individual sites. Quality Assurance has ensured that such site-specific tailoring remains within a nationally consistent set of standards. The tables include an audit trail to provide a summary of the reasoning behind any site-specific targets etc. In some cases the

requirements of features or designations may conflict; the detailed basis for any reconciliation of conflicts on this site may be recorded elsewhere.

Conservation Objectives

The Conservation Objectives for this site are, subject to natural change, to maintain the following habitats and geological features in favourable condition (*), with particular reference to any dependent component special interest features (habitats, vegetation types, species, species assemblages etc.) for which the land is designated (SSSI, SAC, SPA, Ramsar) as individually listed in Table 1.

Habitat Types represented (Biodiversity Action Plan categories)

- Estuaries
- Inshore sublittoral sediment
- Intertidal mudflats and sandflats
- Reefs
- Saltmarsh including pioneer saltmarsh
- Dune grassland
- Coastal shingle vegetation
- Maritime cliff woodland (in Scotland only)

Geological features (Geological Site Types)

- Active process geomorphological (IA)

Species represented

- Aggregations of breeding birds
- Aggregations of non-breeding birds
- Assemblage of non-breeding birds
- Breeding bird assemblage
- Natterjack Toad
- Great crested newt
- Vascular Plant assemblage
- Invertebrate assemblage

(*) or restored to favourable condition if features are judged to be unfavourable.

Standards for favourable condition are defined with particular reference to the specific designated features listed in Table 1, and are based on a selected set of attributes for features which most economically define favourable condition as set out in Table 2, Table 2a and Table 3

Table 1 Individual designated interest features

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
Estuaries	Estuary including subtidal sandbanks, intertidal mudflats and sandflats, reefs, saltmarsh and pioneer saltmarsh	Estuary		*				*			
Inshore sublittoral sediment	Sand banks that are slightly covered by sea water all of the time: Infra littoral sand and gravel communities – IGS; IGS.FaS; IGS.FaS.Ncir.Bat; IGS.FaS.Mob	Subtidal sandbanks		*							
Intertidal mudflats and sand flats	Mudflats and sandflats not covered by sea water at low tide: Various LSa communities & LMu.MEst.HedMac	Intertidal mudflats and sand flats	*	*							
Reefs	Littoral and Sublittoral rock : Honeycomb worm <i>Sabellaria alveolata</i> reefs (LBR.Sab.Salv); Biotopes supporting common mussel <i>Mytilus edulis</i> (SLR.MytX)	Reefs – <i>Sabellaria</i> reefs and mussel beds		*							
Saltmarsh	<i>Salicornia</i> and other annuals colonising mud and sand: SM2 <i>Ruppia maritima</i> community SM8 Annual <i>Salicornia</i> saltmarsh community SM10 Transitional low-marsh vegetation with <i>Puccinella maritima</i> , annual <i>Salicornia</i> species and <i>Suaeda maritima</i>	Saltmarsh, pioneer saltmarsh and transitions to freshwater marsh and swamp communities	*	*							

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
	SM15 <i>Juncus maritimus</i> - <i>Triglochin maritima</i> community SM19 <i>Blysmus rufus</i> community (Scotland) <u>Atlantic saltmeadows:</u> SM13a <i>Puccinellia maritima</i> salt-marsh community SM16 <i>Festuca rubra</i> salt-marsh community SM18 <i>Juncus maritimus</i> salt-marsh community <u>Transition communities:</u> S4 <i>Phragmites australis</i> swamp and reedbeds S12 <i>Typha latifolia</i> swamp SM28 <i>Elymus repens</i> community M23 <i>Juncus effuses/acutiflorus</i> – <i>Galium palustre</i> rush pasture MG11 <i>Festuca rubra</i> – <i>Agrostis stolonifera</i> – <i>Potentilla anserina</i> grassland										
Sand dune	SD 5 <i>Ammophila arenaria</i> mobile dune (Scotland) SD 7 <i>Ammophila arenaria</i> – <i>Festuca rubra</i> semi-fixed dune (Scotland) SD8 <i>Festuca rubra</i> – <i>Galium verum</i> fixed	Dune grassland	*								

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BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
	dune grassland SD9 <i>Ammophila arenaria</i> – <i>Arrhenatherum elatius</i> dune grassland ? SD12 <i>Carex arenaria</i> – <i>Festuca ovina</i> – <i>Agrostis capillaris</i> dune grassland										
Coastal shingle	? SD1 <i>Rumex crispus</i> - <i>Glaucium flavum</i> shingle community	Shingle and transitions to other communities	*								
Active process geomorpholog ical (IA)	IA Saltmarsh morphology	Saltmarsh morphology	*								
Estuary	Internationally important populations of regularly occurring migratory species: <i>Anser brachyrhynchus</i> , <i>Tringa tetanus</i> , <i>Numenius arquata</i> , <i>Haematopus ostralegus</i> , <i>Calidris canutus</i> , <i>Tadorna tadorna</i> , <i>Calidris alba</i> , <i>Arenaria interpres</i>	Aggregations of non- breeding breeding birds: pink-footed goose, redshank, curlew, oyster catcher, knot, shelduck, sanderling, turnstone	*			*					*

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
Estuary (saltmarsh)	Internationally important populations of regularly occurring Annex 1 species ¹ : <i>Branta leucopsis</i> <i>Pluvialis apricaria</i> <i>Cyngus columbianus</i>	Annex 1 species: Barnacle goose Golden Plover Whooper swan	*		*						
Estuary	Internationally important assemblage of waterfowl (<i>Branta leucopsis</i> , <i>Pluvialis apricaria</i> , <i>Cyngus columbianus</i> , <i>Cyngus columbianus bewickii</i> , <i>Limosa lapponica</i> , <i>Anser brachyrhynchus</i> , <i>Tringa tetanus</i> , <i>Numenius arquata</i> , <i>Haematopus ostralegus</i> , <i>Calidris canutus</i> , <i>Tadorna tadorna</i> , <i>Calidris alba</i> , <i>Arenaria interpres</i> , <i>Anas acuta</i> , <i>Anas pemelope</i> , <i>Bucephala clangula</i> , <i>Aythya marila</i> , <i>Charadrius hiaticula</i> , <i>Pluvialis squatarola</i> , <i>Calidris alpina</i> , <i>Phalacrocorax carbo</i> , <i>Podiceps cristatus</i> , <i>Vanellus vanellus</i>)	Wintering waterfowl assemblage: (Barnacle goose, Golden Plover, Whooper swan, Berwick swan, bar-tailed godwit, pink-footed goose, redshank, curlew, knot, shelduck, sanderling, turnstone, pintail, wigeon, goldeneye, scaup, ringed plover, grey plover, dunlin, cormorant, great	*				*			*	

¹ Berwick swan and bar-tailed godwit no longer qualify, however they will still be part of the waterfowl assemblage

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
		crested grebe, lapwing)									
Estuary	Assemblage of breeding birds	Breeding bird assemblage	*								
Sand dune and saltmarsh	<i>Bufo calamita</i>	Natterjack toad	*						*		
Sand dune and saltmarsh	<i>Triturus cristatus</i>	Great crested newt	*						*		
Saltmarsh and sand dune	<u>Vascular plant assemblage:</u> <i>Rhynchosynapsis monensis</i> <i>Centaureum litroale</i> <i>Hierochloe odorata</i> (Scotland only) <i>Lychnis viscaria</i> (Scotland only)	Vascular plant assemblage: Isle of Man cabbage Seaside centuary Holy grass (Scotland only) Sticky catchfly (Scotland only)	*								
Estuary	<u>Invertebrate assemblage:</u> (Broad Assemblage Type: W53: saltmarsh estuary and mudflats Specific Assemblage Types W531 saltmarsh and transition brackish marsh)	Invertebrate assemblage of saltmarsh and brackish marsh (including scarce species with high habitat fidelity)	*								

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
Estuary	<i>Lampetra fluviatilis</i>	River lamprey		*							
Estuary	<i>Petromyzon marinus</i>	Sea lamprey		*							

NB. Features where asterisks are in brackets (*) indicate habitats which are not notified for specific habitat interest (under the relevant designation) but because they support notified species.

NB. Features that are only present on the Scottish side of the Solway have not been included.

Table 2 Habitat extent objectives

Conservation Objective for habitat extent	To maintain the designated features in favourable condition, which is defined in part in relation to a balance of habitat extents (extent attribute). Favourable condition is defined at this site in terms of the following site-specific standards.
Extent - Dynamic balance	On this site favourable condition requires the maintenance of the extent of each habitat type (either designated habitat or habitat supporting designated species). Maintenance implies restoration if evidence from condition assessment suggests a reduction in extent.

Habitat Feature (BAP Broad Habitat level, or more detailed level if applicable)	Estimated extent (ha) and date of data source/estimate	Site Specific Target range and Measures	Comments
Estuaries	Approx 19,814ha (English part of site) Cutts and Hemingway 1996	No change in extent of whole feature, subject to natural change	Where there is a change outside the expected variation or a loss of the conservation interest of the site (e.g. due to anthropogenic activities which interrupt natural coastal processes such as hard sea defences, land reclamation etc or unrecoverable natural losses) then condition should be considered as unfavourable.
Inshore sublittoral sediment	Approx 5,870ha (English part of site) Cutts and Hemingway 1996	No change in extent of inshore sublittoral sediment habitat	Where there is a change outside the expected variation or a loss of the conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. <u>Changes in extent would be considered unfavourable, if attributable to activities which remove parts of the feature i.e. dredging, aggregate extraction. Site is considered to be naturally accreting, so net loss of area in favour of intertidal habitats expected over time. Note extent variable due to mobile nature of estuary and proportion of feature in Scotland</u>
Intertidal mudflats and sand flats	Approx 10,620ha including non-sabellaria rocky skears (English part of site) Cutts and Hemingway 1996	No decrease in extent of intertidal mudflats and sand flats, subject to natural change.	Where there is a change outside the expected variation or a loss of the conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. <u>Changes in extent would be considered unfavourable if attributable to activities which interrupt natural coastal processes e.g. hard sea defences. Site is considered to be naturally accreting, so net increase of area at expense of subtidal areas and net loss to saltmarsh expected over time.</u>

Habitat Feature (BAP Broad Habitat level, or more detailed level if applicable)	Estimated extent (ha) and date of data source/estimate	Site Specific Target range and Measures	Comments
Reefs	Approx 32ha intertidal. Subtidal extent needs to be established Cutts and Hemingway 1996	No change in extent of reefs.	Changes in extent would be considered unfavourable if attributable to activities which interrupt natural coastal processes such as coastal protection schemes or coastal development.
Saltmarsh	Approx 3,404ha (English part of site) Cutts and Hemingway 1996	No decrease in extent from the established baseline, subject to natural change.	Extent may be subject to periodic and seasonal variation, particularly pioneer saltmarsh. Extent should be measured at low tide. A reduction in extent could be further indicated by ground survey to assess signs for erosion- toppled vegetation blocks; stepping of saltmarsh edge; signs of stress/damage to plants. <u>Site is considered to be naturally accreting, so net increase of area at expense of intertidal areas expected over time.</u> <u>Note extent variable due to mobile nature of estuary and proportion of feature in Scotland</u>
Sand dune grassland	2.6 ha for Grune Point : (Baseline NVC maps of the sand dune survey of Great Britain 1990 for Grune point). Total area including mesotrophic fixed dune communities and shingle communities approx 19ha based on interpretation of aerial photographs	No net decrease in extent from the established baseline, subject to natural change: 2.6 ha for Grune Point. Additionally use the most recent aerial photographs. A comparison with the baseline should be made through maps and/or photographs, checked during the structured walk.	If loss (or gain) of area is from natural causes this is not a decline in condition, but any significant loss due to human interference (e.g. sand extraction, visitor impacts, ploughing or conversion to improved grassland) is to be regarded as unfavourable. Increase in area is favourable unless related to coast protection or at the expense of other sand dune features. <u>Note extent variable due to mobile nature of estuary and erosion/accretion patterns along coastline.</u>
Coastal shingle	Need to determine but see Sand Dune comment above	No decrease in extent of shingle, subject to natural change.	Shingle has a very limited extent within Upper Solway Flats and Marshes and, where found, there are transitions to mesotrophic grassland which in some instances will be degraded shingle. <u>Note extent variable due to mobile nature of estuary and erosion/accretion patterns along coastline.</u>

Audit Trail	
Rationale for habitat extent attribute	
(Include methods of estimation (measures), and the approximate degree of change which these are capable of detecting).	
Rationale for site-specific targets (including any variations from generic guidance)	
Other Notes	
<p>The species interests of the site are dependent on no significant loss of extent of these habitats.</p> <p>References: Cutts, N. & Hemingway, K., 1996. The Solway Firth: broad scale habitat mapping. Scottish Natural Heritage Research, Survey and Monitoring Report No. 46.</p>	

Table 2a Species population objectives

Conservation Objective for species populations	To maintain the designated species in favourable condition, which is defined in part in relation to their population attributes. Favourable condition is defined at this site in terms of the following site-specific standards.
Population balance	On this site favourable condition requires the maintenance of the population of each designated species or assemblage. Maintenance implies restoration if evidence from condition assessment suggests a reduction in size of population or assemblage.

Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
Aggregations of non-breeding birds	Estuary	Variety of Species	Maintain assemblage diversity: Number of wintering and passage species must be at least 75% of the baseline numbers. Whole site baselines based on SPA 1992-1996 data (JNCC 2006) gives 19 species with significant populations.	Much data may already be available. If the number of wintering species falls by 25% or more then the feature is in unfavourable condition (winter is November to February). If the number of passage species falls by 25% or more then the feature is in unfavourable condition (passage periods are August to October and March to April).
		Numbers of Annex 1 wintering bird populations	Maintain the numbers of Annex 1 species (barnacle goose, golden plover, whooper swan): Numbers of birds must be at least 75% that of baseline. Whole site baselines based on SPA 1992-1996 data (JNCC 2006): Barnacle Goose: 13595 Golden Plover: 6121 Whooper Swan: 117	

Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
		Total number of non wintering and passage birds	Maintain the total numbers of wintering and passage birds at least 75% of baseline. Whole site baselines based on SPA 5-year mean to 1998 data (JNCC 2006) and 19 species listed gives a population of 13440 waterfowl.	
		Maintain assemblage diversity: Number of wintering and passage species must be at least 75% of the baseline numbers. Need to determine baseline	Much data may already be available. If the number of wintering species falls by 25% or more then the feature is in unfavourable condition (winter is November to February). If the number of passage species falls by 25% or more then the feature is in unfavourable condition (passage periods are August to October and March to April).	Some habitats are present only in Scotland. At least 85 species are regular winterers on the English parts of the site and an additional 25 species regular migrants. With additional species recorded every year

Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
Breeding bird assemblage	Saltmarsh and sand dune	Assemblage score for breeding birds	<p>Maintain assemblage diversity: If the total score calculated for a breeding bird assemblage falls by the equivalent of 25% or more in points then the assemblage is in unfavourable condition. Baseline score based on species listed below at notification is 29.</p> <p>Species that made up the breeding bird assemblage at notification included black headed gull (no longer breeds), lapwing, arctic tern (very few left), common tern (very few left), oystercatcher, redshank, shelduck (no longer breeds), snipe, dunlin (no longer breeds), ringed plover, black-tailed godwit (no longer breeds), reed bunting, sedge warbler.</p>	<p>Much data may already be available.</p> <p>Breeding must be confirmed as proven or probable according to generic proof of breeding codes. A count of the numbers of breeding pairs/units in a site is not needed.</p> <p>Additional scoring species recorded breeding in recent years include: Little Tern, Curlew, Stonechat, Wheatear, Grasshopper Warbler & Linnet giving a possible score of 39.</p>
		Toadlet production (metamorphs emerging from breeding ponds ¹)	For at least 1 year in every 4 years, each breeding pond to have baseline toadlet production 2 +/- 1 order of magnitude. Fail if zero production at all breeding ponds for 3 consecutive years.	<p>¹ Breeding pond = a pond in which spawn is laid and successful metamorphosis is likely to occur at least 1 in every 4 years.</p> <p>² Baseline toadlet production = the number of emerging toadlets recorded at designation or in best year within 3 years of designation, if higher. Because of ephemeral nature of many breeding ponds individual breeding ponds may be gained and lost over time. Maintenance of suitable ponds in each unit where natterjacks are present is appropriate target. Core populations at present are on Grune Peninsular and at Anthorn.</p>

Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
Great crested newt	Saltmarsh and sand dune	Eggs	Present in all or sample ¹ breeding ponds ² at least once every 4 years. (i.e. acceptable for eggs to be absent from individual ponds 3 years out of 4; fail if any breeding pond lacks eggs for 4 years)	Considerable between-year variation is frequent. See Appendix 2 for further information. Need to establish which breeding ponds are of key importance.
		Adults	At least 20% of peak ³ count for 4 consecutive years (i.e. fail if total falls below 20% of peak for 4 consecutive years).	Need to establish which breeding ponds are of key importance.
Vascular plant assemblage	Saltmarsh and sand dune	Presence/absence	Presence of Isle of Man cabbage <i>Rhynchosynapsis monensis</i> and Seaside centuary <i>Centaureum littorale</i>	The species only occurring in Scotland are not included here. Listed species are both very localised in site.
Invertebrate assemblage	Saltmarsh	Direct monitoring of assemblage score based on presence/absence of specified proportion of species typical of habitat listed in ISIS	Using defined invertebrate sampling protocols, threshold to be met: W531 saltmarsh and transition brackish marsh: Weighted species score: 10	There are no specific invertebrate monitoring schemes in place for Upper Solway Flats and Marshes SSSI This attribute is to be assessed via direct monitoring through specialist survey at least once in every 6 years
River lamprey	Estuary	Presence/absence	Presence of river lamprey <i>Lampetra fluviatilis</i>	River lamprey and sea lamprey are included within the SAC features for the Solway Firth on account of their inclusion in River Eden and Tributaries SAC. Being migratory species, with a period spent in brackish/saline waters, they will spend at least part of their life cycle in the estuary, as well as the river. The River Eden is one of the main rivers feeding into the Solway.
Sea lamprey	Estuary	Presence/absence	Presence of sea lamprey <i>Petromyzon marinus</i>	

Audit Trail
Rationale for species population attributes (Include methods of estimation (measures), and the approximate degree of change which these are capable of detecting).
Rationale for site-specific targets (including any variations from generic guidance)
Other Notes
Reference: JNCC (2006) Natura 2000 Standard Data Form [Upper Solway Flats and Marshes SPA]. Available from JNCC website.

Table 3 Site-Specific definitions of Favourable Condition

CONSERVATION OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE	To maintain the habitats, species and saltmarsh morphology at Upper Solway Flats and Marshes in favourable condition, with particular reference to relevant specific designated interest features. Favourable condition is defined at this site in terms of the following site-specific standards:
Site-specific details of any geographical variation or limitations (where the favourable condition standards apply)	
See conservation objectives map.	

Formatted Table

Summary of Site-specific standards defining favourable condition (further details are found in Annexes 1, 2, 3)			
Habitat	Location (units)	Objective	Summary of attributes
Estuary (breeding and non-breeding birds)	Whole site	To maintain a near estuary with a high water quality, a variety of different habitats and their dependant species.	<ul style="list-style-type: none"> Maintain the variety of habitats (littoral and sublittoral sediment and reefs, together with their associated biotopes) allowing for natural succession/known cyclical change. Maintain the pattern of distribution of littoral and sublittoral sediments and reefs, together with their associated biotopes, subject to natural change. Average temperature and salinity gradient throughout the estuary should not deviate significantly from an established baseline, subject to natural change. Need to define baseline Phytoplankton levels should not deviate from predetermined baseline levels. Extent of algal mats should not deviate from predetermined baseline levels. Need to determine baseline levels.
Saltmarsh	See map and matrix. Largest areas with fullest zonation include: Rockcliffe (unit 5), Burgh (units 8&9), Skinburness/Calvo (unit 21), Newton	To maintain the different zonations of saltmarsh with their characteristic species (including species sensitive to grazing) with appropriate structural variation of the vegetation.	<ul style="list-style-type: none"> Realignment of creeks absent or rare. No further anthropogenic alteration of creek patterns or loss of pans compared to an established baseline. Maintain the range of variation of zonations typical of the site. Maintain site-specific structural variation in the sward as follows: Grazed marsh - tussocky vegetation at least 30 cm high in a mosaic with short turf (5-10 cm). Towards the back of this marsh there should be about 50% tussocks and 20% short turf.

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Summary of Site-specific standards defining favourable condition (further details are found in Annexes 1, 2, 3)			
Habitat	Location (units)	Objective	Summary of attributes
	(units 18-20), Cardurnock – Bowness on Solway (unit 12- 13)		<ul style="list-style-type: none"> • Maintain frequency of characteristic species of saltmarsh zones in the Pioneer zone, Low-mid marsh, Mid-upper marsh and Terrestrial transition • No recent evidence of expansion of <i>Spartina anglica</i> into pioneer saltmarsh leading to community shift. • No obvious signs of pollution. • Turf cutting rare. Note well managed small scale turf cutting can enhance interest of units. • No increase in bare substrate as a result of anthropogenic activities such as vehicle use or trampling at vulnerable locations (tracks, access points) • Poaching damage from stock or horses rare, with bare mud extent <25% • Artificial drainage channels adversely affecting hydrology are absent or rare • In relevant units presence of Isle of Man cabbage and seaside centauray which are included in the criteria vascular plant assemblage.
Littoral sediments		<p>To maintain the extent and quality of littoral sediment with its abundance of characteristic species.</p> <p>Need to establish site-specific baselines.</p>	<ul style="list-style-type: none"> • Organic carbon content should not increase in relation to an established baseline. • Average depth to the top of the black layer should not increase in relation to baseline. • No change in composition of sediment type across the feature, allowing for natural succession/known cyclical change. • No change in topography of the littoral sediment, allowing for natural responses to hydrodynamic regime. • No change in extent of the littoral sediment biotopes, allowing for natural succession/known cyclical change. • Maintain the distribution of biotopes, allowing for natural succession/ known cyclical change. • Maintain the variety of biotopes identified for the site, allowing for natural succession/ known cyclical change. • No decline in biotope quality due to changes in species composition or loss of notable species, allowing for natural succession/known cyclical change. • Maintain age/size class structure of common cockle <i>Cerastoderma edule</i> • Maintain abundance of Baltic tellin <i>Macoma balthica</i>, lugworm <i>Arenicola marina</i>, ragworm <i>Hediste diversicolor</i>, cockle <i>Cerastoderma edule</i>, mud shrimp

Summary of Site-specific standards defining favourable condition (further details are found in Annexes 1, 2, 3)			
Habitat	Location (units)	Objective	Summary of attributes
			<p><i>Corophium volutata</i>, and other invertebrate bird-prey species.</p> <ul style="list-style-type: none"> No increase in presence or abundance of negative indicator species
Sublittoral sediments		<p>To maintain the extent and quality of sublittoral sediment.</p> <p>Need to establish site-specific baselines and determine communities present.</p>	<ul style="list-style-type: none"> No change in composition of sediment types across the feature, allowing for natural succession/ known cyclical change. No alteration in topography of the inshore sublittoral sediment, allowing for natural responses to hydrodynamic regime. Note SAC not SSSI feature
Reef	Silloth to Dubmill Coast (Unit 25 in part)	To maintain the extent and quality of reefs with their abundance of characteristic species.	<ul style="list-style-type: none"> No change in the extent of the biotopes which include SLR.MytX, MLR.Salv, allowing for natural succession/ known cyclical change. Maintain the distribution and/or spatial arrangement of biotopes, including SLR.MytX, MLR.Salv, allowing for natural succession/known cyclical change Maintain the variety of biotopes identified for the site, allowing for natural succession or known cyclical change. Maintain the presence of the specified biotopes allowing for natural succession/ known cyclical change. No decline in biotope quality due to change in species composition or loss of notable species allowing for natural succession/ known cyclical change. Maintain age/size class structure of common mussel <i>Mytilus edulis</i> and the nationally scarce honeycomb worm <i>Sabellaria alveolata</i> (extensive reef off Silloth. Note mussel biogenic-reef features in the Solway are ephemeral and individual beds will vary in mussel population and age-structure from year to year Maintain presence of nationally scarce honeycomb worm <i>Sabellaria alveolata</i>; maintain abundance of common mussel <i>Mytilus edulis</i>, common shore crab <i>Carcinus maenas</i> and other invertebrate bird-prey species. Absence of undesirable non-native species.
Shingle	Grune point (Units 23 & 24)	To maintain the different zonations of shingle with their characteristic species.	<ul style="list-style-type: none"> No increase in linear constraints to mobility in active foreshore zone e.g. introduced structures, or active shingle management such as beach recycling for coastal defence Maintain the range of vegetation zones and transitions typical of the site Maintain frequency of characteristic species of the vegetated shingle zone: perennial vegetation of stony banks (SD1)

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Summary of Site-specific standards defining favourable condition (further details are found in Annexes 1, 2, 3)			
Habitat	Location (units)	Objective	Summary of attributes
			<ul style="list-style-type: none"> Species not typically associated with communities that define the feature (i.e. undesirable 'weed' species, species uncharacteristic of typical shingle communities or non-native invasive species) should be no more than occasional or < 5% in cover. No loss of vegetated substrate within the habitat as a result of anthropogenic activities Maintain populations of sea kale and Ray's knotgrass, as features of local distinctiveness. Stands along Silloth-Dubmill coast should be considered a feature of the Silloth Dunes And Mawbray Bank SSSI as they are above MHW. Presence of strandline debris is an important feature for natterjack toads.
Sand dune	Grune point (Units 23 & 24)	Maintain dune grassland communities in favourable condition.	<ul style="list-style-type: none"> Zonation from beach to fixed dune intact over at least 95% of coastal frontage. 50-70% of the sward to comprise species rich turf, 2-10cm tall. Bare ground or sand present, but no more than 10% of area. Typical species present. Non-native species no more than rare. Negative indicator species no more than 5% cover. Scrub/trees must be less than 15%. Flowering and fruiting of dune grassland to be at least frequent. Vehicle damage or trampling should be absent or rare. Transitions to, and presence of mobile sand dune communities. Presence of Isle of Man Cabbage. Note in fixed dune areas habitat structure for natterjack toad interest may be more important than species-richness.
Breeding bird assemblage	Mainly Rockcliffe Marsh	Maintain diversity of breeding bird assemblage and availability of their habitat.	<ul style="list-style-type: none"> Maintain the area of habitats that are used by the feature in the site within acceptable limits: Extent of all habitats used by the feature should be maintained - losses of 5% or more of any relevant habitat type unacceptable unless due to natural process. Maintain assemblage diversity: If the number of breeding species falls by 25% or more then the feature is in unfavourable condition. No significant disturbance of nesting birds due to human activities.
Aggregations	Inner Solway.	Maintain abundance of non-	<ul style="list-style-type: none"> Maintain the area of habitats that are used by the feature in the site within

Comment [BD1]: Is this a copy and paste from Morecambe Bay. Both species are present along Grune coast but are not notified as interest. Are they listed as features of local distinctiveness?

Summary of Site-specific standards defining favourable condition (further details are found in Annexes 1, 2, 3)			
Habitat	Location (units)	Objective	Summary of attributes
and assemblages of non-breeding birds	Principal feeding areas include Rockcliffe and Moricambe Bay	breeding birds and availability of their habitat	<p>acceptable limits: Extent of all habitats used by the feature should be maintained - losses of 5% or more of any relevant habitat type unacceptable.</p> <ul style="list-style-type: none"> Maintain assemblage diversity:- If the number of wintering species falls by 25% or more then the feature is in unfavourable condition (winter is November to February). If the number of passage species falls by 25% or more then the feature is in unfavourable condition (passage periods are August to October and March to April). No significant displacement of birds from feeding and roosting areas at appropriate times of year due to noise or visual disturbance by human activities. Roost areas are particularly sensitive to disturbance. Main roost areas are found on seaward saltmarsh edges. Other main roosts include Rockcliffe Marsh (all species), Port-Carlisle island (waders) and Campfield Marsh (waders & ducks), and Moricambe Bay (Geese)
Natterjack toad	Anthorn, Grune, Skinburness, North Plain	Maintain good populations of natterjacks in at least their current locations.	<ul style="list-style-type: none"> Presence of warm, shallow (c. 15cm water depth) seasonal ponds on the upper marsh at Grune/Skinburness, Anthorn, and on Grune Point, with limited vegetation. The ponds should have water in until the end of July and occasional inundation (particularly in winter) is acceptable.
Great crested newt	?	Maintain good populations of great crested newt in at least their current locations.	<ul style="list-style-type: none"> "Good" cover of marginal vegetation, emergent, submerged and/or floating vegetation to be present in at least 50% of breeding ponds. Little shading of ponds by scrub and trees. Presence of suitable terrestrial refuge habitat. Presence of permanent and temporary ponds. No loss or fragmentation of terrestrial habitat. Fish and wildfowl problems absent from ponds used by great crested newts. Ponds persisting into the summer with at least 10cm of water depth.
Invertebrate assemblage	Saltmarsh: Rockcliffe, Burgh, Skinburness, Newton, Calvo, Glasson-Port Carlisle. (Additional areas	Assemblage criteria must be met	<ul style="list-style-type: none"> Maintain area and diversity of microhabitats within saltmarsh zones including creeks, freshwater and saltwater seepages, pools and saltpans Extensive saltmarshes should be managed to maximise heterogeneity of habitats If assemblage criteria not met then assemblage is in unfavourable condition Grazed and ungrazed saltmarsh will contain slightly different invertebrate

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Summary of Site-specific standards defining favourable condition (further details are found in Annexes 1, 2, 3)			
Habitat	Location (units)	Objective	Summary of attributes
	in Wampool estuary also important)		assemblages; each assemblage will require to meet assemblage criteria

Audit Trail
Rationale for limiting standards to specified parts of the site
Rationale for site-specific targets (including any variations from generic guidance)
Some of the generic targets for saltmarsh morphology have been excluded as they are inappropriate for this site.
As far as possible all of the habitat requirements for species (breeding and wintering birds, natterjack, vascular plants and invertebrates) have been included within the relevant habitat.
NB Invertebrate assemblages associated with saline sand in estuaries are not covered by any of the current attributes.
Rationale for selection of measures of condition (features and attributes for use in condition assessment)
(The selected vegetation attributes are those considered to most economically define favourable condition at this site for the broad habitat type and any dependent designated species).
A high quality assemblage of coastal invertebrates has been recorded from the sandflats adjacent to Whitrigg bridge in the Wampool estuary; consideration should be given to extending the SSSI to include this area. The Tadpole Shrimp <i>Triops cancriformis</i> has been recently recorded from upper saltmarsh pools in Caerlaverock; survey should be undertaken to locate additional colonies present within the SSSI.
Other Notes

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APPENDIX 1: Site-specific standards defining favourable condition for SSSI, Marine SAC, SPA and Ramsar features

Comment [BD2]: Tables cover all interests not just SAC and SPA?

Table 3a Site-Specific definitions of Favourable Condition: Estuary, aggregation of non-breeding birds, river and sea lamprey (whole site)

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
ESTUARY; aggregation of non-breeding birds; river and sea lamprey	Extent	Assessment of extent should be measured periodically against a baseline map/aerial image or through the review of any known activities that may have caused an alteration in extent. <i>Possible sources of baseline data are archive remote sensing, aerial photographs and intertidal resource mapping.</i>	No change in extent of estuary feature – aggregations of non-breeding birds No change in extent of sub-littoral feature – lamprey species	Where changes in extent are attributable to cyclical natural processes, then the attribute should be judged as favourable, and should be reflected in the target. Where there is a change outside the expected variation or a loss of the conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. Changes in extent would be considered unfavourable if attributable to	YES

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Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
				activities which interrupt natural coastal processes (e.g. hard sea defences, land reclamation). Note table 2 comments re extent.	
ESTUARY; aggregation of non-breeding birds; river and sea lamprey	Distribution/spatial pattern of habitats	Assessment of the distribution and quality of habitats identified for the site.	Subject to natural variation maintain the pattern of distribution of predominant habitats throughout the feature (as shown on the map). These are intertidal mud and sandflats, subtidal sandbanks, reefs, saltmarsh, <i>Salicornia</i> colonising mud and sand.	These habitats are interest features in their own right and considered in more detail in the relevant section. Where changes in distribution/spatial pattern are clearly attributable to cyclical succession or expected shifts in distribution, or they occur as a consequence of natural geomorphological changes in the estuary (e.g. change in the position of the low water channel) then the target value should accommodate this variability. Where there is a change in distribution/ spatial pattern outside the expected variation or a loss of the conservation interest of the site, possibly as a consequence of anthropogenic developments, then condition should be considered as unfavourable. River and sea lamprey populations are also susceptible to loss and disturbance of estuarine habitats (particularly muddy sediments). Both the outer and inner parts of the Solway are highly mobile and feature distribution is accordingly variable. Loss/gain of areas to Scottish part of the site is also acceptable	YES
ESTUARY	*Morphological equilibrium	The TP/CS ratio of selected sites along the estuary	Maintain the characteristic physical form and flow of the	Intra- and inter- estuarine TP/CS ratio/relationship should not deviate	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
		should periodically be assessed. The horizontal boundary of mudflats/saltmarsh interface and the distribution of sandbanks and drainage channels should be measured periodically against an aerial image.	estuary and maintain the planimetric form (width as defined by its mudflats and its saltmarshes). Need to determine areas (ha)	significantly from an established site-specific baseline. The horizontal boundary of mudflats/saltmarsh interface and the topography of sedimentary features, including the distribution of sandbanks and drainage channels, should not deviate significantly from a baseline. Where changes are attributable to cyclical natural processes, the feature's condition would be favourable where it is certain that the conservation interest of the feature is not compromised by the failure of this attribute to meet its target condition. Where there is a change outside the expected variation or a loss of the conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. <u>Note that overall the site is considered to be accreting and features such as channel locations are highly mobile.</u>	
ESTUARY	Salinity	Assessment of salinity at key locations in the estuary, measured periodically throughout the reporting cycle <i>Confirm the presence of named species/ biotopes at selected locations along the length of the estuary. The species/ biotopes will be</i>	Salinity gradient throughout the estuary should not deviate significantly from an established baseline, subject to natural change and taking into account natural change in the area of transition from fully marine to freshwater environments. Need to	Where changes in salinity are due to natural processes, such as high rainfall, then this will be considered to be a normal change to the feature and condition may be considered favourable if it does not compromise the conservation interest of the feature. Where changes in salinity through adverse impacts (e.g. industrial discharges, water abstraction) cause a loss or shift in	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
		<i>representative of a range of estuarine environments from fully marine to freshwater. The sites will be selected to represent the limits of the range of the species/biotopes on the salinity gradient of the estuary.</i>	determine baseline.	community structure, such that the conservation interest is adversely affected, then condition should be judged as unfavourable.	
ESTUARY	Water quality - water density (water temperature and salinity)	Average water temperature and salinity (encompassing the salinity gradient) measured periodically throughout the reporting cycle.	Average temperature and salinity gradient throughout the estuary should not deviate significantly from an established baseline, subject to natural change. Need to define baseline.	Water quality standards are currently being established by the environmental protection agencies for European Directives (Water Framework Directive, Urban Waste Water Treatment Directive) and the OSPAR Convention. Monitoring data are or will be available from these agencies to support feature assessment under common standards monitoring. In all cases, local measurements should be compared with regional or national assessments to establish whether any local changes are part of a wider trend. Eutrophication due to effluent discharge or agricultural run-off will result in the condition of the attribute being designated as unfavourable.	YES
ESTUARY; river and sea lamprey	Nutrient status	Average phytoplankton concentration in summer. Chlorophyll A level of water samples from specified points (at set times in tidal and diurnal cycle) to be assessed. Extent and	Phytoplankton levels should not deviate from predetermined baseline levels. Extent of algal mats should not deviate from predetermined baseline levels. Need to determine	Water quality is also important for the river and sea lamprey populations.	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
		seasonal abundance of macro algal mats on the foreshore to be periodically assessed.	<i>baseline levels.</i>		
ESTUARY; and river and sea lamprey	Features of local distinctiveness: river and sea lamprey populations	Visual assessment at site visit, EA monitoring	There should be no barriers present, particularly in the river mouths, that would prevent migration of river and sea lamprey	River and Sea lamprey spend much of their lives in the estuary. Most of the objectives for lamprey are in the habitat attributes, but more detailed objectives can be found in the objectives for River Eden and Tributaries SAC/SSSI. Lampreys have recently become popular in the UK as bait for pike fishing. There are also indications that UK populations are sought after as a delicacy in Europe, where stocks are declining. Adult lamprey are usually caught by trapping whilst juvenile lampreys can be removed by netting or sieving.	YES
			There should be no exploitation of river and sea lamprey in the estuary, and stocks of their food source (white fish) adequate.		
NOTE Where changes in extent are known to occur due to cyclical natural processes, then the target value should accommodate this variability. If required a declining value may be established where sufficient information is available to predict a trend. Where the field assessment judges extent to be unfavourable, and subsequent investigation reveals the cause is clearly attributable to cyclical natural processes, the final assessment will require expert judgement to determine the reported condition of the feature. The feature's condition could be declared favourable where it is certain that the conservation interest of the feature is not compromised by the failure of this attribute to meet its target condition. Where there is a change outside the expected variation or a loss of the conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. Changes in extent would be considered unfavourable, if attributable to activities which remove parts of the feature i.e. dredging, aggregate extraction.					

Table 3b Site-Specific definitions of Favourable Condition: Inshore sublittoral sediment (sandbanks which are slightly covered by sea water all of the time), **aggregations of non breeding birds.**

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Inshore sublittoral sediment (sandbanks which are slightly covered by sea water all of the time)	Extent of identified inshore sublittoral sediment(s)	Extent should be assessed and compared periodically against the baseline map (Cutts and Hemingway 1996) or through the review of any known activities which may have caused an alteration in extent.	No change in extent (aprox 5,870ha) of inshore sublittoral sediment habitat, allowing for natural succession/known cyclical change. Need to determine baseline levels.	Area of specified inshore sublittoral sediment habitat assessed using point sample techniques and work in Cutts and Hemingway 1996.	YES
Inshore sublittoral sediment (sandbanks which are slightly covered by sea water all of the time)	Topography	Assessment of the depth distribution/profile of the inshore sublittoral sediment and periodic comparison with baseline conditions.	No alteration in topography of the inshore sublittoral sediment, allowing for natural responses to hydrodynamic regime. Need to determine baseline.	The depth distribution of the sediment has a direct influence on the structure and function of the system.	YES
Inshore sublittoral sediment (sandbanks which are slightly covered by sea water all of the time)	Sediment character: sediment type	Distribution of sediment types should be assessed across the whole feature and compared with baseline conditions.	No change in composition of sediment types (including mud, silt, stone and outcrops of underlying hard bed rock amongst sand) across the feature, allowing for natural succession/ known cyclical change. Need to determine baseline.	Distribution of sediment type is found in Cutts and Hemingway 1996. Particle size composition varies across the feature and can be used to indicate spatial distribution of sediment types, thus reflecting the stability of the feature and the processes supporting it. Condition could be judged unfavourable if a change in sediment type is detected, causing a shift in sediment and community structure which is not attributable to natural processes.	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Inshore sublittoral sediment (sandbanks which are slightly covered by sea water all of the time)	Distribution of biotopes	Assessment of the distribution of the inshore sublittoral sediment communities (MNCR IGS)(Cutts and Hemingway 1996).	Maintain the distribution of the infralittoral gravel and sand communities (MNCR IGS.FaS, IGS.Fas.Ncir.Bat, IGS.Fas.Mob) allowing for natural succession/ known cyclical change.	The distribution of the infralittoral gravel and sand communities is an important structural aspect of the sublittoral sediment. Changes in extent and distribution may indicate long term changes in the physical conditions of the site.	YES
Inshore sublittoral sediment (sandbanks which are slightly covered by sea water all of the time)	Extent of sub-feature or representative/ notable biotope(s)	Assessment of the extent of the sublittoral gravel and sand communities(MNCR IGS)	No change in extent of the sublittoral sand and gravel communities (MNCR IGS.FaS, IGS.Fas.Ncir.Bat, IGS.Fas.Mob), allowing for natural succession/ known cyclical change.	Where there is a change in the extent outside the expected variation leading to a loss of the conservation interest of the site, then this should be considered as unfavourable.	YES
Inshore sublittoral sediment (sandbanks which are slightly covered by sea water all of the time); aggregations of non breeding birds	Species composition and population in of the sublittoral sands and gravels	Assessment of biotope quality through assessing species composition where the biotope is representative of the site or contains a number of species of conservation importance.	No decline in the quality of the sublittoral sands and gravels, due to change in species composition or loss of notable species, allowing for natural succession/known cyclical change. Expect to find the following characterising species or abundance of common or greater: polychaete worm <i>Nephtys cirrosa</i> and the amphipod <i>Bathyporeia elegans</i> , the polychaete <i>Magalona mirabilis</i> , the	The positive indicator species selected may have an important role in the structure and function of the biological community. Increased abundance of negative indicator species i.e. those indicative of stressed habitats or polychaete worms indicative of organic pollution, which would be detrimental to the feature as a whole, would also cause the condition of the feature to be considered unfavourable.	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
			bivalves <i>Fabulina fabula</i> , <i>Spisula subtruncata</i> and <i>Angulus tenuis</i> and juvenile horse mussel <i>Modiolus modiolus</i> (Cutts and Hemingway, 1996).		
<p>NOTE</p> <p>Where changes in extent are known to occur due to cyclical natural processes, then the target value should accommodate this variability. If required a declining value may be established where sufficient information is available to predict a trend. Where the field assessment judges extent to be unfavourable, and subsequent investigation reveals the cause is clearly attributable to cyclical natural processes, the final assessment will require expert judgement to determine the reported condition of the feature. The feature's condition could be declared favourable where it is certain that the conservation interest of the feature is not compromised by the failure of this attribute to meet its target condition. Where there is a change outside the expected variation or a loss of the conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. Changes in extent would be considered unfavourable, if attributable to activities which remove parts of the feature i.e. dredging, aggregate extraction.</p> <p>Aggregations of non-breeding birds: principle interest species in this habitat are scaup and goldeneye.</p>					

Table 3c Site-Specific definitions of Favourable Condition: Littoral sediment (mudflats and sandflats not covered by sea water at low tide); **aggregations of non-breeding birds; breeding bird assemblage.**

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Extent	Extent should be assessed periodically against a baseline map showing the distribution of littoral sediment, or through the review of any known activities that may have caused an alteration in extent.	No decrease in extent of littoral (approx 10,620ha if rocky skears without <i>Sabellaria</i> are included) sediment from the established baseline, allowing for natural succession/known cyclical change (aerial photographs 1997, Cutts and Hemingway 1996).	Where there is a change in the extent outside the expected variation leading to a loss of the conservation interest of the site, then this should be considered as unfavourable.	YES
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Topography	Tidal elevation and shore slope to be assessed periodically.	No change in topography of the littoral sediment from the established baseline, allowing for natural responses to hydrodynamic regime. Baseline to be determined	Obvious changes in topography in terms of an overall lowering (shallowing) of the shore slope may act as a trigger for further investigation. Scouring adjacent to sea defences, which lowers the shore slope, should be considered unfavourable. A suitable period over which to ascertain trends resulting in a net lowering of shore profiles is 5 years.	YES
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Sediment character: sediment type	Distribution of sediment types should be assessed across the whole feature and compared to baseline conditions.	Maintain the distribution of muddy sand, sandy mud and gravel and sand across the feature, allowing for natural processes. Baseline to be confirmed with reference to IECS 1996 &	Where changes in sediment type are known to be clearly attributable to natural processes (e.g. winter storm/flood events, changes in supporting processes) then the target value should accommodate this variability. Where extreme events cause a change in sediment type, then this may have caused a change in the structure of	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
			2004).	the feature, which may lead to the condition of the feature being considered as unfavourable.	
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Sediment character: Organic carbon content	Organic carbon content assessed in specified area.	Organic carbon content should not increase in relation to an established baseline. Baseline to be determined.	An increase in organic carbon due to natural events such as floods or storms is a normal change to the feature and may be considered favourable if it does not compromise the conservation interest of the feature. An increase in organic content due to sewage effluent or nutrient enrichment, causing a change in the infaunal community of the sediment and thus the functioning of the littoral sediment, will be considered unfavourable. Organic carbon content is likely to be assessed by specialists.	YES
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Sediment character: Oxidation-reduction profile (Redox layer)	Sediment character: Oxidation-reduction profile (Redox layer)	Average depth to the top of the black layer should not increase in relation to baseline. Baseline to be determined.	An increase in anoxic conditions due to natural events such as mass deposition of organic material following floods or storms is a normal change to the feature and condition may be considered favourable if it does not compromise the conservation interest of the feature. An increase in anoxic conditions due to sewage effluent or nutrient enrichment, causing a change in the infaunal community of the sediment and thus the functioning of the littoral sediment, should be considered unfavourable. Degree of oxidation/reduction reflects the oxygen availability within the sediment that	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
				critically influences the infaunal community and the mobility of chemical compounds.	
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Nutrient status	Area of green algal mats present	No increase in the extent of green algal mats from and established baseline. Baseline to be determined.	Nutrient status is a key functional factor that influences biota associated with the sediments. Ephemeral green macroalgae indicate elevated nutrient levels which reduce the quality of the sediments and their communities, mainly through smothering and deoxygenation.	YES
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Sediment character: Organic carbon content	Organic carbon content assessed in specified area.	Organic carbon content should not increase in relation to an established baseline. Baseline to be confirmed with IECS 2004.	An increase in organic carbon due to natural events such as floods or storms is a normal change to the feature and may be considered favourable if it does not compromise the conservation interest of the feature. An increase in organic content due to sewage effluent or nutrient enrichment, causing a change in the infaunal community of the sediment and thus the functioning of the littoral sediment, will be considered unfavourable. Organic carbon content is likely to be assessed by specialists.	YES
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Sediment character: Oxidation-reduction profile (Redox layer)	Sediment character: Oxidation-reduction profile (Redox layer)	Average depth to the top of the black layer should not increase in relation to baseline. Baseline to be determined.	An increase in anoxic conditions due to natural events such as mass deposition of organic material following floods or storms is a normal change to the feature and condition may be considered favourable if it does not compromise the conservation interest of the feature. An increase in anoxic conditions due to sewage effluent or nutrient enrichment, causing a change	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
				in the infaunal community of the sediment and thus the functioning of the littoral sediment, should be considered unfavourable. Degree of oxidation/reduction reflects the oxygen availability within the sediment that critically influences the infaunal community and the mobility of chemical compounds.	
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Nutrient status	Area of green algal mats present	No increase in the extent of green algal mats from and established baseline. Baseline to be determined.	Nutrient status is a key functional factor that influences biota associated with the sediments. Ephemeral green macroalgae indicate elevated nutrient levels which reduce the quality of the sediments and their communities, mainly through smothering and deoxygenation.	YES
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Distribution of biotopes	Assessment of the distribution of the muddy sand, sandy mud and gravel and sand communities	Maintain the distribution of muddy sand, sandy mud and gravel and sand communities, allowing for natural succession/known cyclical change. (Baseline to be confirmed with reference to Hemmingway and Cutts, 1996, IECS 1996 & 2004))	Where changes in distribution are known to be clearly attributable to cyclical succession or expected shifts in distribution (for example due to a movement of a drainage channel) then the target value should accommodate this variability. Where there is a change in biotope distribution outside the expected variation, or a loss of the conservation interest of the site, then condition should be considered unfavourable.	YES
Littoral sediment (mudflats and sandflats not covered by sea	Biotope composition of littoral sediment	Repeated assessment of overall biotope composition or a subset of biotopes identified for the site.	Maintain the variety of biotopes - muddy sand, sandy mud and gravel and sand communities, allowing for natural	As above.	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
water at low tide)			succession/ known cyclical change. Expect to find the following biotopes: LMU.MU.HedOI, LMU.Smu.HedMac, LMU.SMu.HedMac.Pyg, LMU.SMu.HedMac.Are, LMU.SMu.HedMac.Mare, LMS.MS.BatCor, LMS.MS.PCer, LMS.MS.MacAre, LGS.Sh.Bar.sh, LGS.S.Bar.Snd, LGS.S.AP, LGS.S.AP.P, LSS.S.AP.Pon, LGS.Est.OI.		
Littoral sediment (mudflats and sandflats not covered by sea water at low tide)	Extent of sub-feature or represent-ative/ notable biotopes	Assessment of the extent of mudflats and sheltered muddy gravels.	No change in extent of the mudflats and sheltered muddy gravels (xha), allowing for natural succession/known cyclical change. (Baseline to be confirmed with reference to Hemmingway and Cutts, 1996, IECS 1996 & 2004).	Where there clearly established natural variation in extent or in cyclical succession between biotopes, then the target value should accommodate this variability. Where there is a change in extent outside the expected variation or a change in the structure of the biotope leading to a loss of the conservation interest of the site, then condition should be considered unfavourable.	YES
Littoral sediment (mudflats and	Species population measures - Population structure	Population structure should be assessed in terms of viability of cockles <i>Cerastoderma edule</i> .	Maintain age/size class structure of cockles <i>Cerastoderma edule</i> .	Where there is a sizeable shift in the age/size class structure (i.e. loss of mature adults or recruitment failure) or if	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
sandflats not covered by sea water at low tide); Wintering bird populations and assemblage	of a species			disturbance causes a species of nature conservation importance to be lost, or if there is a significant reduction in abundance, then condition would be considered unfavourable. The measure of cockles is of interest in its own right and is indicative of the structure of the following biotopes: Polychaetes and <i>Cerastoderma edule</i> in fine sand and muddy sand shores and <i>Hediste diversicolor</i> , <i>Macoma balthica</i> and <i>Arenicola marina</i> in muddy sand or sandy mud shores. Changes in the species may indicate cyclic change/trend in the host biotope and sediment communities as a whole. Cockles are also a vital food source for the overwintering bird populations.	
Littoral sediment (mudflats and sandflats not covered by sea water at low tide); aggregations of non-breeding birds	Species population measures -Presence or abundance of specified species	Assessment of the presence or abundance of cockles <i>Cerastoderma edule</i> .	Cockles <i>Cerastoderma edule</i> to be at least abundant.	As above.	YES
Littoral sediment (mudflats and sandflats not	Species composition of representative or notable biotopes	Assessment of the quality of mudflats and sheltered muddy gravels through assessing species composition.	No decline in the quality of the mudflats (LMU.MU.HedOI) and sheltered muddy gravels	The extent of the biotope, lugworms, Baltic tellins and soft shelled clams in muddy sand is a key structural component of the sediments, and is particularly important	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
covered by sea water at low tide); aggregations of non-breeding birds		Assessing this attribute will require specialist taxonomic expertise.	(check MNCR communities) due to changes in species composition or loss of notable species, allowing for natural succession/known cyclical change. Expect to find the following characterising species at abundance of common or greater: lugworm <i>Arenicola marina</i> , cockle <i>Cerastoderma edule</i> , Baltic tellin <i>Macoma baltica</i> , ragworm <i>Hediste diversicolor</i> , soft shelled clams.	due to it being sensitive to disturbance. These species are also important prey species for the overwintering bird populations.	
<p>NOTE Where changes in extent are known to occur due to cyclical natural processes, then the target value should accommodate this variability. If required a declining value may be established where sufficient information is available to predict a trend. Where the field assessment judges extent to be unfavourable, and subsequent investigation reveals the cause is clearly attributable to cyclical natural processes, the final assessment will require expert judgement to determine the reported condition of the feature. The feature's condition could be declared favourable where it is certain that the conservation interest of the feature is not compromised by the failure of this attribute to meet its target condition. Where there is a change outside the expected variation or a loss of the conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. Changes in extent would be considered unfavourable, if attributable to activities which remove parts of the feature i.e. dredging, aggregate extraction.</p> <p>Aggregations of non-breeding birds: Littoral sediments are the primary feeding grounds of most waders and wildfowl most of the 19 species on the SPA notification. Species <i>not</i> dependant on this habitat for feeding are Barnacle and Pink-footed Goose (saltmarshes), Whooper Swan (inland fields), Wigeon (saltmarsh), teal (saltmarsh). Most species are predominantly associated with the inner estuary, however, the outer estuary hold the majority of turnstone and significant numbers of oystercatcher. Some species with lower populations such as bar-tailed godwit and purple sandpiper are mainly found on the outer</p>					

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
coast.					
References:					
Cutts, N. & Hemingway, K., 1996. The Solway Firth: broad scale habitat mapping. Scottish Natural Heritage Research, Survey and Monitoring Report No. 46.					
ICES (2004) Biological Survey of the intertidal sediments of the Solway Firth. Report for English Nature					

Table 3d Site-Specific definitions of Favourable Condition: Inshore sublittoral rock; wintering bird populations and assemblage

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Inshore sublittoral rock; wintering bird populations and assemblage	Extent	Extent should be assessed periodically against a baseline map/aerial image or through the review of any known activities that may have caused an alteration in extent.	No change in extent (xha) of inshore sublittoral rock, allowing for natural succession/known cyclical change. (Hemmingway and Cutts 1996). Need to determine baseline.	See standard comment re natural processes/change.	YES
Inshore sublittoral rock	Distribution of biotopes: Spatial arrangement of biotopes at specified locations	Assess the geographic distribution of the specified biotopes identified for the site. Assess the zonation pattern or the juxtaposition of specified biotopes.	Maintain the distribution and/or spatial arrangement of biotopes, allowing for natural succession/known cyclical change. The biotopes present are LR.L.YG, MLR.BF.PelB, MLR.Eph.Ent, MLR.Sab.salv, SLR.F.Pel, SLR.F.Fspi, SLR.F.Fves, SLR.F.Asc.Asc, SLR.F.Fcer, SLR.FX.BLit, SLR.FX, FvesX, SLR.FX.FcerX, SLR.FX.EphX, SLR.MX.MytX.	See standard comment re natural processes/change.	YES

Comment [BD3]: Not-sublittoral

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Inshore sublittoral rock; aggregations of non breeding birds	Presence and/or abundance and population structure of specified species	Assessment of the presence/absence or abundance and population structure of mussels	Mussels to be at least abundant in their locations, subject to natural change. The percentage of sexually mature and newly recruited mussels on beds should not fall below the Sea Fisheries levels targets (what are these - define).	<p>Mussels are a vital food source for the wintering waders. They are also play an important role in the functioning of the ecosystem. A range of age classes is an important indicator of mussel recruitment and growth. Abundance and age/size class profile of mussels should be assessed annually, using a quantitative technique.</p> <p>Mussel reefs on the outer Solway coast are highly variable in population size and structure, with many beds being ephemeral. When intertidal beds are present sufficient stock should be present to satisfy bird interest in locations where anthropogenic disturbance is not an issue before fisheries should be active. Truly sub-littoral beds, eg in Silloth channel are of low direct importance, but their ecosystem role is poorly understood.</p>	YES
Inshore sublittoral rock	Species composition of representative or notable biotopes	Assessment of the quality of <i>Sabellaria aveolata</i> reefs, <i>S. spinulosa</i> reefs and <i>Mytilus edulus</i> beds through assessing species composition. Assessing this attribute will require specialist taxonomic expertise.	No decline in the quality of the <i>Sabellaria aveolata</i> reefs, <i>S. spinulosa</i> reefs and <i>Mytilus edulus</i> beds due to change in species composition or loss of notable species allowing for natural succession/known cyclical change. Expect to find the	Where changes in species composition are known to be clearly attributable to natural succession, known cyclical change or mass recruitment or dieback of characterising species, then the target value should accommodate this variability. Where there is a change in biotope quality outside the expected variation or a loss of the conservation interest of the site, then condition should be considered	YES

Comment [BD5]: Not-subtidal

Comment [BD4]: I'd remove this.

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
			following species at least of common occurrence: edible mussel <i>Mytilus edulis</i> , brown fucoid seaweeds (including <i>Fucus ceranoides</i> at Southernness), <i>Sabellaria alveolata</i> (intertidal), <i>S. spinulosa</i> (subtidal), common limpets <i>Patella vulgata</i> , barnacles <i>Semibalanus balanoides</i> and <i>Elminius modestus</i> and dog whelk <i>Nucella lapillus</i> .	unfavourable. Where beds are fished, fisher should recreate natural process eg removal of seed mussel should only take place on beds in exposed locations known to be highly susceptible to natural loss. However, loss of seed mussel from intertidal/shallow sub-littoral areas is anecdotally linked to mussel establishment in deeper sub-tidal areas so may be important for sub-littoral ecosystems. This relationship needs better quantifying Where sub-littoral <i>Sabellaria</i> has been identified to species <i>S. alveolata</i> has been found. Consequently presence or absence of <i>S. spinulosa</i> needs to be established.	
Inshore sublittoral rock; aggregations of non breeding birds	Extent of sub-feature or representative/notable biotopes	Assessment of the extent of <i>Sabellaria alveolata</i> reefs, <i>S. spinulosa</i> reefs and <i>Mytilus edulis</i> beds.	No change in the extent of <i>Sabellaria alveolata</i> reefs, <i>S. spinulosa</i> reefs and <i>Mytilus edulis</i> beds, allowing for natural succession/ known cyclical change.	See standard comment re natural processes/change. The extent of these notable biotopes listed are an important structural aspect of the feature. Changes in extent and distribution may indicate long-term changes in the physical conditions of the site. Mussel beds are a vital food source for the wintering waders (especially oystercatcher and knot). All biogenic reef features in the Solway are known to be highly cyclical in nature, although their location is predictable.	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
				Where sub-littoral <i>Sabellaria</i> has been identified to species <i>S. alveolata</i> has been found. Consequently presence or absence of <i>S. spinulosa</i> needs to be established.	
<p>NOTE Where changes in extent are known to occur due to cyclical natural processes, then the target value should accommodate this variability. If required a declining value may be established where sufficient information is available to predict a trend. Where the field assessment judges extent to be unfavourable, and subsequent investigation reveals the cause is clearly attributable to cyclical natural processes, the final assessment will require expert judgement to determine the reported condition of the feature. The feature's condition could be declared favourable where it is certain that the conservation interest of the feature is not compromised by the failure of this attribute to meet its target condition. Where there is a change outside the expected variation or a loss of the conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. Changes in extent would be considered unfavourable, if attributable to activities which remove parts of the feature i.e. dredging, aggregate extraction.</p> <p>Reference: Cutts, N. & Hemingway, K., 1996. The Solway Firth: broad scale habitat mapping. Scottish Natural Heritage Research, Survey and Monitoring Report No. 46.</p>					

Table 3e Site-Specific definitions of Favourable Condition: Pioneer saltmarsh: SM8, ; Low-mid marsh communities: SM10, SM13a; Mid-upper marsh communities: SM13d, SM16, SM18; Transitions: including mesotrophic grassland and swamp communities (S4, 12, MG23); Aggregations of non breeding and breeding birds; natterjack toad

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Pioneer saltmarsh: SM8, ; Low-mid marsh communities: SM10, SM13a; Mid-upper marsh communities: SM13d, SM16, SM18; Transitions: including mesotrophic grassland and swamp communities (S4, 12, MG23)	Extent of habitat	A baseline map should be prepared to show the distribution of saltmarsh vegetation, using aerial photography or existing NVC survey data. See extent key in 5	No decrease in extent from the established baseline, subject to natural change. Area of all types combined is approx 3404ha.	Extent may be subject to periodic and seasonal variation, particularly pioneer saltmarsh. Extent should be measured at low tide.	YES
Pioneer saltmarsh: SM8, ; Low-mid marsh communities: SM10, SM13a; Mid-upper marsh communities: SM13d, SM16, SM18; Transitions: including mesotrophic grassland and swamp communities	Physical structure: creeks and pans	Aerial photographs can be used, combined with information gathered from the site visit.	No further anthropogenic alteration of creek patterns or loss of pans compared to an established baseline. Realignment of creeks absent or rare. Baseline to be determined.	Creeks and pans vary in size and density. Creeks absorb tidal energy and assist with the delivery of sediment into saltmarshes. Major erosion of saltmarsh is indicated by internal dissection and enlargement of the drainage network, ultimately leading to the creation of mud basins.	YES

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Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
(S4, 12, MG23)					
Pioneer saltmarsh: SM8, ; Low-mid marsh communities: SM10, SM13a; Mid- upper marsh communities: SM13d, SM16, SM18; Transitions: including mesotrophic grassland and swamp communities (S4, 12, MG23) Aggregations of non breeding and breeding birds	Vegetation structure: zonation of vegetation	The width of zones can be estimated using one or more transects extending from strand to lowest continuous marsh. The GPS information can be collected and marked on a map.	Maintain the range of variation of zonations typical of the site - pioneer saltmarsh dominated by <i>Salicornia</i> spp, low-mid marsh (characterised by abundant <i>Puccinellia maritima</i>), mid upper marsh (with abundant <i>Festuca rubra</i> , <i>Armeria maritima</i> and <i>Agrostis stolonifera</i>) through to freshwater grazing marsh, wet grassland and swmap communities along the majority of the landward edge.	The pattern of saltmarsh zonation varies across the site. Saltmarsh has up to five main zones: pioneer, low-mid marsh, mid-upper marsh, saltmarsh strand plus transitions.	YES
Pioneer saltmarsh: SM8, ; Low-mid marsh communities: SM10, SM13a; Mid- upper marsh communities: SM13d, SM16, SM18; Transitions: including mesotrophic grassland and swamp communities	Vegetation structure: sward height	This can be assessed by taking average sward height from the quadrats forming part of the structured walk	Maintain the range and distribution of varying heights of vegetation (suitable for feeding, wintering and breeding birds): A diverse structure of small to medium scale mosaic of short turf (less than 10cm) and tussocky vegetation (20-50cm) in a ratio of approximately 1:3 on the upper marsh and 3:1 on the lower marsh.	Stocking levels need to be appropriate to the interest of the site. Over-grazing can lead to loss of rare plant species and affect bird breeding and feeding habitats and under-grazing can lead to a loss of plant diversity by competitive exclusion. A varied vegetation structure is important for maintaining invertebrate diversity. Changes in saltmarsh unit size as	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
(S4, 12, MG23) Aggregations of non breeding and breeding birds				<p>a consequence of erosion and accretion will affect area available for grazing and consequently stock impact on vegetation structure. Condition of sward should be assessed with reference to this process and the condition of other units.</p> <p>Sward structure of mid-upper marsh communities is vital for the maintenance of breeding bird interest of the site, particularly waders. This is most important on Rockcliffe which has the highest numbers of saltmarsh-breeding waders in the site.</p> <p>Sward structure of mid-lower marsh communities is vital for the maintenance of wintering bird interest of the site, particularly wintering geese. Principle goose marshes include Rockcliffe, Brough, Newton and Skinburness/Calvo.</p>	
Pioneer saltmarsh: SM8, ; Low-mid marsh communities: SM10, SM13a; Mid-	Vegetation composition: characteristic species	Visual assessment of cover, using structured walk	Maintain frequency of characteristic species of saltmarsh zones as follows:	Communities may be dynamic in their distribution and are linked to the physical processes operating at the site, including topography, creek patterns etc. The species	YES
			Pioneer zone: At least one of the following species frequent and		

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
upper marsh communities: SM13d, SM16, SM18; Transitions: including mesotrophic grassland and swamp communities (S4, 12, MG23) Isle of Man Cabbage, Seaside Century			another occasional (<i>Salicornia</i> spp., <i>Suaeda maritima</i> , <i>Puccinellia maritima</i> , <i>Aster tripolium</i>)	composition and type of saltmarsh varies across the site.	
			Low-mid marsh: At least one of <i>Puccinellia maritima</i> , <i>Atriplex portulacoides</i> or <i>Salicornia</i> spp. dominant., and two other species from the following list at least frequent (<i>Triglochin maritima</i> , <i>Plantago maritima</i> , <i>Aster tripolium</i> , <i>Spergularia maritima</i> , <i>Suaeda maritima</i>). Mid-upper marsh: At least one of the following species abundant and three frequent (<i>Festuca rubra</i> , <i>Juncus gerardii</i> , <i>Armeria maritima</i> , <i>Agrostis stolonifera</i> , <i>Limonium vulgare</i> , <i>Glaux maritima</i> , <i>Seriphidium maritimum</i> , <i>Plantago maritima</i> , <i>Aster tripolium</i> , <i>Juncus maritimus</i> , <i>Triglochin maritima</i> , <i>Blysmus rufus</i> , <i>Eleocharis uniglumis</i> , <i>Artemisia maritima</i> , <i>Leontodon autumnalis</i> , <i>Carex flacca</i> , <i>Carex extensa</i> , turf fucoids).		
			Terrestrial transition: transition to communities dominated by speceis such as <i>Filipendula ulmaria</i> , <i>Iris pseudoacorus</i> , <i>Phalaris aruniinacea</i> , <i>Phragmites</i>	A variety of communities may occur at the transition zone at the top of the salt marsh. These include mesotrophic grassland communities (e.g. M23) together	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
			<i>australis</i> , <i>Scirpus maritimus</i> .	with swamp communities (e.g. S4, S12). In addition stands of tall fen community with <i>Filipendula ulmaria</i> and <i>Iris pseudacorus</i> (M28) can locally be prominent.	
Mid-upper marsh communities: SM13d, SM16, SM18; Transitions: including mesotrophic grassland and swamp communities (S4, 12, MG23) Vascular Plant assemblage	Indicators of local distinctiveness: presence of scarce species	Visual assessment during site visit	Presence of Isle of Man Cabbage <i>Rhynchosinapis monensis</i> and Seaside century <i>Centaureum littorale</i> at known locations.	Isle of Man Cabbage known from Bowness-on-solway area in this habitat. Seaside century present in Campfield area and historically present in other areas around Whampool Estuary.	YES
Pioneer saltmarsh: SM8, ; Low-mid marsh communities: SM10, SM13a;	Vegetation composition: negative indicator species <i>Spartina anglica</i>	Aerial photographs, together with visual assessment of cover, using structured walk	No recent evidence of expansion into pioneer saltmarsh (less than 10 % expansion in last 10 years)	<i>Spartina anglica</i> is a species that is considered undesirable in intertidal habitats where it is expanding at the expense of mudflats. However it can be a precursor to the development of saltmarsh where sediments are accreting. Natural die-back has occurred in some areas. <i>Spartina</i> is currently colonising the Solway, but at present (2009) is at most rare. See 2002 report 'The genus <i>Spartina</i> in the Solway Firth European Marine	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
				Site'.	
Pioneer saltmarsh: SM8, ; Low-mid marsh communities: SM10, SM13a; Mid- upper marsh communities: SM13d, SM16, SM18; Transitions: including mesotrophic grassland and swamp communities (S4, 12, MG23)	Other negative indicators	Visual assessment during site visit	No obvious signs of pollution.	Small scale turfcutting is acceptable in suitable locations as it increases saltmarsh structure and benefits bird interest.	
			Turf cutting rare		
			No increase in bare substrate as a result of anthropogenic activities such as vehicle use or trampling at vulnerable locations (tracks, access points) and no more than 5%.		
			Poaching damage from stock or horses rare, with bare mud extent <25%		
			Artificial drainage channels adversely affecting hydrology are absent or rare		
			Species indicative of eutrophication (ragwort, nettle, thistles) to be rare.	Presence of species associated with eutopication is acceptable around seabird colony sites, e.g. gull colonies on Rockcliffe Marsh where it is a product of natural enrichment.	
Pioneer saltmarsh: SM8, ; Low-mid marsh communities:	Indicators of local distinctiveness: breeding habitat	Visual assessment during site visit	Presence of warm, shallow (c. 15cm water depth) seasonal ponds on the upper marsh at Grune/Skinburness. Anthorn.		

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
SM10, SM13a; Mid-upper marsh communities: SM13d, SM16, SM18; Transitions: including mesotrophic grassland and swamp communities (S4, 12, MG23) Natterjack toad	for natterjack toad		Caelaverock, with limited vegetation. The ponds should have water in until the end of July and occasional inundation (particularly in winter) is acceptable.		
Pioneer saltmarsh: SM8, ; Low-mid marsh communities: SM10, SM13a; Mid-upper marsh communities: SM13d, SM16, SM18; Transitions: including mesotrophic grassland and swamp communities (S4, 12, MG23)	Indicators of local distinctiveness: presence of scrub	Visual assessment during site visit	Scrub to be present, but at no more than 5% cover. The scrub present (e.g. gorse) to have a diverse age structure.	The scrub present is of particular value for breeding and wintering passerines, but should not be allowed to expand at the expense of saltmarsh habitats.	YES
<p>NOTE Where changes in extent are known to occur due to cyclical natural processes, then the target value should accommodate this variability. If required a declining value may be established where sufficient information is available to predict a trend. Where the field assessment judges extent to be unfavourable, and subsequent investigation reveals the cause is clearly attributable to cyclical natural processes, the final assessment will require expert judgement to determine the reported condition of the feature. The feature's condition could be declared favourable where it is certain that the conservation interest of the feature is not compromised by the failure of this attribute to meet its target condition. Where there is a change outside the expected variation or a loss of the</p>					

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
<p>conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. Changes in extent would be considered unfavourable, if attributable to activities which remove parts of the feature i.e. dredging, aggregate extraction.</p> <p>References: Cutts, N. & Hemingway, K., 1996. The Solway Firth: broad scale habitat mapping. Scottish Natural Heritage Research, Survey and Monitoring Report No. 46 Anon (2002) The genus <i>Spartina</i> in the Solway Firth European Marine Site.</p>					

Table 3f Site-Specific definitions of Favourable Condition: Aggregations of non-breeding birds (non-breeding, wintering or passage).

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Aggregations of non-breeding birds (non-breeding, wintering or passage).	Variety of Species	Record presence/absence of all species (not just waterbirds) within the site during the relevant periods.	Maintain assemblage diversity: Number of wintering and passage species must be at least 75% of the baseline numbers. Whole site baselines based on SPA 1992-1996 data (JNCC 2006) gives 19 species with significant populations.	Much data may already be available. If the number of wintering species falls by 25% or more then the feature is in unfavourable condition (winter is November to February). If the number of passage species falls by 25% or more then the feature is in unfavourable condition (passage periods are August to October and March to April).	YES
Aggregations of non-breeding birds (non-breeding, wintering or passage).	Numbers of Annex 1 wintering bird populations	Record presence/absence of all species (not just waterbirds) within the site during the relevant periods.	Maintain the numbers of Annex 1 species (barnacle goose, golden plover, whooper swan): Numbers of birds must be at least 75% that of baseline. Whole site baselines based on SPA 1992-1996 data (JNCC 2006): Barnacle Goose: 13595 Golden Plover: 6121 Whooper Swan: 117		YES
Aggregations of non-breeding birds (non-breeding, wintering or passage).	Total number of non wintering and passage birds	Record presence/absence of all species (not just waterbirds) within the site during the relevant periods.	Maintain the total numbers of wintering and passage birds at least 75% of baseline.		YES

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Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
wintering or passage).			Whole site baselines based on SPA 5-year mean to 1998 data (JNCC 2006) and 19 species listed gives a population of 13440 waterfowl.		
Aggregations of non-breeding birds (non-breeding, wintering or passage).	Disturbance in feeding and roosting areas	Reduction or displacement of birds measured using 5 year peak mean information on populations and visual assessments.	No significant reduction in the numbers or displacement of birds from an established baseline, subject to natural change.	Excessive disturbance can cause stress and result in reduced food intake in wintering and passage birds and/or increased energy expenditure.	YES
<p>NOTE</p> <p>Where changes in extent are known to occur due to cyclical natural processes, then the target value should accommodate this variability. If required a declining value may be established where sufficient information is available to predict a trend. Where the field assessment judges extent to be unfavourable, and subsequent investigation reveals the cause is clearly attributable to cyclical natural processes, the final assessment will require expert judgement to determine the reported condition of the feature. The feature's condition could be declared favourable where it is certain that the conservation interest of the feature is not compromised by the failure of this attribute to meet its target condition. Where there is a change outside the expected variation or a loss of the conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. Changes in extent would be considered unfavourable, if attributable to activities which remove parts of the feature i.e. dredging, aggregate extraction.</p> <p>Reference: JNCC (2006) Natura 2000 Standard Data Form [Upper Solway Flats and Marshes SPA]. Available from JNCC website.</p>					

APPENDIX 2: Site-specific standards defining favourable condition for terrestrial features within SSSI

Table 3g: Site-specific standards defining favourable condition: dune grassland; natterjack toad, vascular plant assemblage

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Dune grassland SD8, 9, 12 - Grune Point	Extent of feature	Refer to the baseline NVC maps of the sand dune survey of Great Britain 1990 for Grune point. Additionally use the most recent aerial photographs. A comparison with the baseline should be made through maps and/or photographs, checked during the structured walk.	No net decrease in extent from the established baseline, subject to natural change: 2.6 ha for Grune Point attributable to NVC SD8, 9 & 12 sand dune communities. Total extent, including shingle communities and mesotrophic grassland on fixed dunes at Grune point, is approx 19ha based on interpretation of aerial photographs.	If loss (or gain) of area is from natural causes this is not a decline in condition, but any significant loss due to human interference (e.g. sand extraction, visitor impacts, ploughing or conversion to improved grassland) is to be regarded as unfavourable. Increase in area is favourable unless related to coast protection or at the expense of other sand dune features.	YES
Dune grassland SD8, 9, 12 - Grune Point	Vegetation structure: range of zones	The width of zones could be estimated using one or more transects extending from strandline to landward features. Aerial photographs should be used as an aid, where available.	Zonation from beach to fixed dune intact over at least 95% of coastal frontage.	Points may change due to natural dynamism but the overall diversity should not diminish. Mosaics on hindshore systems may make the width of the fixed dune grassland difficult to assess	YES
Dune grassland SD8, 9, 12 - Grune Point; Natterjack toad	Vegetation structure: sward height	Assessment during structured walk or transects.	50-70% of the sward to comprise species rich short turf, 2-10 cm tall.	The grassland on Grune point is important for natterjacks, therefore the target for the area of short turf is higher - this is an important habitat requirement for natterjacks.	YES
Dune grassland SD8, 9, 12 -	Vegetation structure: bare ground	Visual assessment of cover during structured walk or transects. Aerial photographs should be used as an	Bare ground or sand present, but no more than 10 % total area.	Patches of bare sand are essential for natterjacks and a wide range of dune invertebrates. Areas of bare sand	YES

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Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Grune Point; Natterjack toad		aid, where available.		created by human induced disturbance should not increase.	
Dune grassland SD8, 9, 12 - Grune Point	Vegetation composition: typical species	Visual assessment of cover (modified DAFOR scale), using structured walk or transects.	<p>For calcareous dune grasslands (SD7, SD8, SD9, SD19), at least eight of the following typical species present at more than occasional level: <i>Aira praecox</i>, <i>Astragalus danicus</i>, <i>Carex arenaria</i>, <i>C. flacca</i>, <i>Cerastium fontanum</i>, <i>Crepis capillaris</i>, <i>Cladonia</i> spp, <i>Erodium cicutarium</i>, <i>Euphrasia officinales</i>, <i>Festuca rubra</i>, <i>Galium verum</i>, <i>Geranium molle</i>, <i>Hypnum cupressiforme</i>, <i>Hypochaeris radicata</i>, <i>Linum catharticum</i>, <i>Lotus corniculatus</i>, <i>Luzula campestris</i>, <i>Odontites verna</i>, <i>Ononis repens</i>, <i>Peltigera</i> spp, <i>Pilosella officinarum</i>, <i>Plantago lanceolata</i>, <i>Prunella vulgaris</i>, <i>Rhinanthus minor</i>, <i>Rhytidadelphus squarrosus</i>, <i>R. triquetrus</i>, <i>Thymus praecox</i>, <i>Tortula muralis</i>, <i>Trifolium repens</i>, <i>Sedum acre</i>, <i>Veronica chamaedrys</i>, <i>Viola canina</i>, <i>V. riviniana</i>, <i>V. tricolor</i>, <i>Geranium sanguineum</i>.</p> <p>For <u>acidic dune grasslands</u> (SD12), at least six of the following typical species present at more than rare level: <i>Aira praecox</i>, <i>Agrostis capillaris</i>, <i>Astragalus danicus</i>, <i>Carex arenaria</i>, <i>C. pilulifera</i>, <i>Cladonia</i> spp, <i>Deschampsia</i></p>	NEED TO CHECK AND DEFINE FOR THIS SITE	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
			<i>flexuosa</i> , <i>Dicranium scoparium</i> , <i>Festuca ovina</i> , <i>Galium saxatile</i> , <i>Hylocomium splendens</i> , <i>Hypochaeris radicata</i> , <i>Lotus corniculatus</i> , <i>Luzula campestris</i> , <i>Pilosella officarum</i> , <i>Polygala serpyllifolia</i> , <i>Platnago lanceolata</i> , <i>Pleurozium schreberi</i> , <i>Potentilla erecta</i> , <i>Scleropodium purum</i> , <i>Thymus praecox</i> , <i>Trifolium repens</i> , <i>Veronica chameadrys</i> , <i>Viola canina</i> .		
Dune grassland SD8, 9, 12 - Grune Point	Vegetation composition: negative indicator species	Visual assessment of cover (modified DAFOR scale), using structured walk or transects. % cover measured is cover of the entire feature.	Non-native species, including sea buckthorn <i>Hippophae rhamnoides</i> where introduced, no more than rare.	Sea buckthorn is not present on the grune and should not be allowed to establish.	YES
Dune grassland SD8, 9, 12 - Grune Point	Vegetation composition: negative indicator species	Visual assessment of cover (modified DAFOR scale), using structured walk or transects. % cover measured is cover of the entire feature.	Any one of the other negative indicators no more than frequent throughout the sward, or singly or together the cover of negative indicator species no more than 5%.	<i>Urtica dioica</i> and <i>Cirsium</i> spp. are indicative of poor condition Negative indicator species: <i>Senecio jacobaea</i> , <i>Rosa</i> spp., <i>Cirsium arvense</i> , <i>Cirsium vulgare</i> , <i>Urtica dioica</i> , <i>Lolium perenne</i> , <i>Arrhenatherum elatius</i> (not SD9), <i>Pteridium aquilinum</i> , <i>Rubus fruticosus</i> . Abundance of <i>Senecio jacobaea</i> indicates overgrazing in summer. <i>Lolium perenne</i> is indicative of agricultural improvement.	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Dune grassland SD8, 9, 12 - Grune Point	Vegetation composition: scrub/trees	Visual assessment of cover (modified DAFOR scale), using structured walk or transects. % cover measured is cover of the entire feature.	Scrub/trees must be less than 15%.	Grune Point is an important site as a resting point for birds on migration and well as a breeding site for various species, therefore a greater area of scrub is acceptable. See comments above about <i>Hippophae rhamnoides</i> .	YES
Dune grassland SD8, 9, 12 - Grune Point	Vegetation structure: flowering/fruitleting	Visual assessment (modified DAFOR scale) during structured walk or transects.	Flowering and fruiting of dune grassland to at least frequent level – depending on the time of year visited (May-Oct).	Level and timing of stock grazing should be sufficient to allow adequate seed production. Flowering is also important for many invertebrates (e.g. for nectar).	YES
Dune grassland SD8, 9, 12 - Grune Point	Other negative indicators	Visual assessment during site visit	Vehicle damage or trampling, throughout the dune grassland and at vulnerable locations (tracks, access points) should be absent or rare.		YES
Dune grassland SD8, 9, 12 - Grune Point	Indicators of local distinctiveness: presence of other dune habitats	Visual assessment during site visit	Presence of embryo and mobile typical sand dune communities (with <i>Elymus farctus</i> , <i>Leymus arenaria</i> and marram).	There is more detail on objectives for natterjacks in the relevant section. The habitat requirements for natterjack are covered in the vegetation structure targets above.	YES
Dune grassland SD8, 9, 12 - Grune Point Vascular Plant assemblage	Indicators of local distinctiveness: presence of scarce species	Visual assessment during site visit	Presence of Isle of Man Cabbage <i>Rynchosinapis monensis</i>		YES
Dune grassland	Indicators of local	Visual assessment during site visit	Presence of a breeding population of natterjack toad	See table 2b for specific species measures.	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
SD8, 9, 12 - Grune Point Natterjack Toad	distinctiveness: natterjacks		Presence of warm, shallow (c. 15cm water depth) seasonal ponds, with limited vegetation. The ponds should have water in until the end of July and occasional inundation (particularly in winter) is acceptable.	Habitat requirements (vegetation structure are included above).	YES

Table 3h: Site-specific standards defining favourable condition: shingle; vascular plant assemblage

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Shingle (SD 1)	Habitat extent	Comparison to baseline map. Aerial photography/other remote sensing can help with assessing shingle structure and perennial vegetation, but may not pick up driftline vegetation.	No decrease in extent from the established baseline subject to natural change. See also sand dune target comments.	Location and extent subject to periodic and seasonal variation, and will need to be assessed over a period of time. Natural processes may result in re-distribution of shingle sediments and changes in sediment composition. Such changes are usually acceptable.	YES
Shingle (SD 1)	Physical structure: functionality and sediment supply	Aerial photographs can be used combined with information gathered from the site visit	No increase in linear constraints to mobility in active foreshore zone e.g. introduced structures, or active shingle management such as beach recycling for coastal defence	An important aspect of this habitat is the ability to respond to natural coastal processes, which may result in changes in extent and distribution of the substrate that can subsequently be colonised by pioneer species. Ensure that natural processes govern system. Location of shingle communities at the Grune is affected by coast protection works at Skinburness impacting on sediment supply, however, functionality at Grune point ensures community presence based on locally reworked material.	YES
Shingle (SD 1)	Vegetation structure: zonation of vegetation	Transects extending from beach to stable vegetated shingle can be used to estimate the width of the driftline and perennial vegetation	Maintain the range of vegetation zones and transitions typical of the site		YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
		zones at points described by GPS and marked on a map.			
Shingle (SD 1)	Vegetation composition: positive indicators	Visual assessment using structured walk	Maintain frequency of characteristic species of the vegetated shingle zones as follows: perennial vegetation of stony banks (SD1): At least two listed species abundant and two frequent; <i>Glaucium flavum</i> , <i>Rumex crispus</i> , <i>Beta vulgaris</i> ssp. <i>maritima</i> , <i>Silene uniflora</i> , <i>Crambe maritima</i>		YES
Shingle (SD 1)	Vegetation composition: negative indicators	Aerial photographs, together with visual assessment of cover, using structured walk	Species not typically associated with communities that define the feature (i.e. undesirable 'weed' species, species uncharacteristic of typical shingle communities or non-native invasive species) should be no more than occasional or < 5% in cover.	Negative species will include non-native species (e.g. <i>Lupinus arboreus</i> , <i>Centranthus ruber</i> , <i>Tamarix gallica</i>), invasive species indicative of changes in nutrient status (e.g. <i>Senecio jacobaea</i> , <i>Cirsium vulgare</i>) and species not characteristic of typical communities (e.g. <i>Pteridium aquilinum</i>).	YES
Shingle (SD 1)	Other negative indicators: signs of disturbance	Visual assessment of disturbance such as vehicle damage or trampling at vulnerable locations (tracks, access points) during site visit	No net loss of vegetated substrate within the habitat as a result of anthropogenic activities	Where recycling schemes have been consented these should comply with conditions of the licence. It is possible that despite licence conditions damage to the site has occurred, which needs to be considered at licence renewal	YES
Shingle (SD 1) Vascular plant assemblage	Indicators of local distinctiveness	The presence of indicators of local distinctiveness to be confirmed during visit at appropriate season.	Maintain populations of sea kale and Isle of Man cabbage		YES

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Table 3i: Site-specific standards defining favourable condition: great crested newt

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Great crested newt <i>Triturus cristatus</i>	Eggs	Record presence by one day or night visit Mid-March – Mid-May. Survey for 4 consecutive years within 6 year reporting cycle. 1 visit per assessment year required.	Present in all or sample ¹ breeding ponds ² at least once every 4 years. (i.e. acceptable for eggs to be absent from individual ponds 3 years out of 4; fail if any breeding pond lacks eggs for 4 years)	Eggs normally laid starting mid-February (southern England) but increasing numbers present (and therefore easier to find) through spring. Best to combine with visit for adult attribute. ¹ “sample ponds” applies at sites with high numbers of ponds (say >20), meaning that regular monitoring at each pond is prohibitive; select at least 20 individual breeding ponds or 10% of the total number of breeding ponds (whichever is larger) as a sample, to represent geographic spread and variation in pond type plus immediate terrestrial habitat across the site. Sample ponds should ideally support a majority of the breeding population (i.e. select ponds with high counts). ² Breeding pond = a pond in which egg-laying and successful metamorphosis is likely to occur at least 1 in every 4 years.	YES
Great crested newt <i>Triturus cristatus</i>	Adults	Record sum total of number of adults detected in all or sample ¹ ponds in spring. Record for 4 consecutive years within each 6 year reporting cycle. 3 visits per year required. Timing based on known peak season for the area, and in-year weather conditions;	At least 20% of peak ³ count for 4 consecutive years (i.e. fail if total falls below 20% of peak for 4 consecutive years).	Considerable between-year variation is frequent. ³ Peak count to be taken as the highest site total from monitoring data in the 3 years leading up to designation.	

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
		likely to be Mid-April to Mid-May in central areas. Derive peak by summing counts across site on "best" night for each season.			
Great crested newt <i>Triturus cristatus</i>	Aquatic macrophyte cover	Visual assessment between May and mid-September. Record for 4 consecutive years within each 6 year reporting cycle. 1 visit per year required. "Good" defined as: 25% - 100% of margin covered by marginal and emergent species, and 25% - 75% of pond bottom/ midwater/ surface covered by submerged or floating species.	"Good" cover of marginal vegetation, emergent, submerged and/or floating vegetation to be present in at least 50% of breeding ponds.	This attribute allows for considerable variation in aquatic vegetation, but should prohibit a majority of ponds becoming overgrown, or suffering severe macrophyte die-back. Short-term algal blooms and duckweed <i>Lemna</i> coverage not normally problematic. Attribute should also serve as a proxy for detecting eutrophication, toxic spills, catastrophic reduction in invertebrate community, or underlying water quality issues; however if other evidence confirms one of these is a serious problem in >50% of ponds and the vegetation cover measures are nonetheless acceptable, then the attribute should fail.	YES
Great crested newt <i>Triturus cristatus</i>	Pond shading by scrub/trees	Visual assessment of extent and orientation of pond margin solidly shaded by scrub/trees directly overhanging or adjacent to margin (not floating or emergent macrophytes). Assess April to June. Record once every 3 years. Shade should only be counted if relatively solid (and therefore likely to cause lower light levels and lower water	Sites with <20 breeding ponds: <25% of breeding ponds to have >20% of southern margin solidly shaded. Sites with >20 breeding ponds: Use above target in most cases, but if the habitat type and previous newt monitoring suggest a higher extent of shading is acceptable, <50% of breeding ponds to have >20% of southern margin solidly shaded. NEED TO DETERMINE	Shading of southern margin is detrimental. Some shading of northern margin is often beneficial. Note that site context is important to consider (eg woodland sites should have higher threshold for shading than sand dune sites).	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
		temperatures).			
Great crested newt <i>Triturus cristatus</i>	Terrestrial refuge habitat - structure and quality	Visual assessment at any time of year. Record once every 3 years.	Presence of suitable terrestrial refuge habitat – define on site basis.	High inter-site variation; dependent on site context. Record key features at time of designation and define components providing refuge potential; mark on map. May include discrete features or patches of habitat. Base on habitat structure that (i) provides refuge from extremes of climate (hot, cold, or dry); (ii) provides daytime shelter; (iii) is conducive to invertebrate prey populations. Most important close (<50m) to main breeding ponds. Most often provided by shrub layer, tussocky grass/rushes/sedges, scrub, woodland, leaf litter, cracked clay, quarry spoil, rubble, heaped brash, deadwood, log piles.	YES
Great crested newt <i>Triturus cristatus</i>	Presence of ponds (permanent and temporary)	Record number of ponds present. Record once every 3 years. Any time of year.	Give minimum figure, to be selected on site basis. No net loss of ponds from date of designation.	Ponds to include breeding ponds as well as non-breeding ponds, since the latter may be used for foraging or for sustaining prey populations. In exceptional cases, a net loss may be acceptable if enhancements are made to remaining ponds.	YES
Great crested newt <i>Triturus cristatus</i>	Terrestrial habitat extent	Determine area by walking site and comparing with map or aerial photo; most semi-natural habitats within 500m of breeding pond to be included. Assess presence of fragmentation. Any time of year. Record once every	No loss of area or fragmentation of site (through significant barriers to newt dispersal), compared with status at designation. NEED TO DETERMINE	Can be modified if there have been major, beneficial habitat alterations since designation	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
		3 years. Fragmentation refers to significant barriers to movement such as walls, buildings, and not, for instance, footpaths or tracks.			
Great crested newt <i>Triturus cristatus</i>	Fish and wildfowl	Visual assessment, March-September. Record for 4 consecutive years within each 6 year reporting cycle. 1 visit per year required. Look for fish and stocked wildfowl, or evidence of their presence: characteristic disturbance at water surface for fish, high turbidity, nests, droppings at pond margin, major loss of aquatic macrophytes, presence of algal blooms, heavily grazed grasses on bank. Numbers required to fail target: Fish: any number of individuals (need only to determine presence). Wildfowl: > 4 pairs/ha of open water.	Sites with fewer than 5 breeding ponds: Fish and wildfowl problems absent from all ponds. Sites with > 5 breeding ponds: Fish and wildfowl problems absent from >75% of ponds. NEED TO DETERMINE WHICH	Fish refers to all species known to be predators of great crested newt larvae, including stickleback, goldfish, orfe, rudd, pike, roach, perch. Target can be adjusted downwards if regular desiccation is likely, or (exceptionally) if larval survival is high despite fish presence. Target may be adjusted upwards if site is especially vulnerable (eg all ponds linked by ditches). "Wildfowl" refers to stocked ducks, swans or geese, and not natural populations of moorhens etc (which are not problematic).	YES
Great crested newt <i>Triturus cristatus</i>	Pond persistence	Record approximate depth of water in identified breeding ponds between mid-August and mid-September. Visual assessment is suitable. Record once every 3 years.	Generic target for most sites: Minimum summer water depth 10cm for at least 50% of all or sample1 breeding ponds on each year of assessment. Note: the target may be adjusted downwards at sites where early desiccation is a natural feature (eg sand dunes, with many small, shallow ponds in close proximity) and where previous records	High inter-site variation. Note the requirement for setting site-specific objectives with deviation from the standard target at sites where ponds naturally desiccate more frequently and earlier in the season without negatively affecting population viability. Target setting may require examination of historical site records and weather conditions to assess normal desiccation pattern.	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
			demonstrate this is consistent with population viability. Target may be adjusted upwards at sites supporting ponds that do not normally dry out in summer.		

Table 3j: Site-specific standards defining favourable condition: Assemblages of breeding birds

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Assemblages of breeding birds	Assemblage score (BTO index)	Record presence/absence of breeding species within the assemblage Breeding must be confirmed as proven or probable according to generic proof of breeding codes. A count of the numbers of breeding pairs/units in a site is not needed. On the basis of presence/absence recalculate the assemblage score using the SSSI Guidelines for the relevant habitat. The species present at designation and each monitoring event do not need to be the same as this is a score-based assessment only.	Maintain assemblage diversity: If the total score calculated for a breeding bird assemblage falls by the equivalent of 25% or more in points then the assemblage is in unfavourable condition. Baseline score for the site is 29 based on species listed at notification.	Much data may already be available Species that made up the breeding bird assemblage at notification included black headed gull (no longer breeds), lapwing, arctic tern (very few left), common tern (very few left), oystercatcher, redshank, shelduck (no longer breeds), snipe, dunlin (no longer breeds), ringed plover, black-tailed godwit (no longer breeds), reed bunting, sedge warbler. Additional scoring species recorded breeding in recent years include: Little Tern, Curlew, Stonechat, Wheatear, Grasshopper Warbler & Linnet giving a possible score of 39.	YES
Assemblages of breeding birds	Variety of Species	Record presence/absence of breeding species within the site. Breeding must be confirmed as proven or probable according to generic proof of breeding codes. A count of the numbers of breeding pairs/units in a site is not needed.	Maintain assemblage diversity: If the number of breeding species falls by 25% or more then the feature is in unfavourable condition.	Much data may already be available. English portion of Site does not include full habitat suite, so restricted target appropriate. 40 species would be more appropriate baseline for English part of the site. Key areas include Rockcliffe Marsh (Saltmarsh breeding species, seabird colonies), Port Carlisle island (tern colony) and Grune point (Shingle and scrub nesting species).	YES

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Assemblages of breeding birds	Disturbance	Breeding success not disrupted by disturbance.	No significant disturbance of nesting birds due to human activities.	Shingle nesting species are at particular risk in areas such as the Grune.	YES

Table 3k: Site-specific standards defining favourable condition: Invertebrate assemblage

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
Invertebrate Assemblage: saltmarsh and brackish transition	Sample based: Vegetation heterogeneity Diverse surface topography of vegetation types	Record Structural Recording Surveys (SRS) of 6m radius at sample stops to determine number of structural surfaces and representation of preferred surfaces within the assessed unit.	Single surface present in not more than 50% of SRSs >2 different surfaces present in at least 20% of SRSs Tussock forming rushes present in <50% and at least 5% of SRSs Preferred surfaces for this site are: Surface 1: Bare saline mud or sand Surface 2: Algal mats on mud (less than 100% cover with intervening bare ground) Surface 3: Salt pans or brackish pools with unvegetated margins Surface 4: Short species-rich sward >5cm high including Sea Plantain but not exceeding 50% of SRS area Surface 5: Sea Club-rush tussocks Surface 7: Tall flowering plants including Sea Lavender (this surface may be absent from grazed saltmarsh).	<i>Preferred features</i> are micro-habitat features which should always be targeted during an assessment. These should be recorded and mapped. <i>Preferred features</i> for Upper Solway Flats & Marshes are: <ul style="list-style-type: none"> ▪ Salt pans ▪ Brackish pools and ditches ▪ Patches of bare sediment (mud or sand) ▪ Clifflots with exposed sediment less than 30cm in height ▪ Tidal creeks with vegetated margins and exposed mud margins ▪ Freshwater and saline seepages ▪ Tussock-forming vegetation ▪ Tall flowering plants Negative features for this site are >60% bare mud Uniform low sward height	YES

Conservation Objectives: Upper Solway Flats and Marshes Consultation Draft
12 February 2009 Format Version 2.1

Site-specific standards defining favourable condition					
Feature	Attribute	Method of assessment/ measure	Target	Comments	Use for CA?
<p>NOTE 1: Where changes in extent are known to occur due to cyclical natural processes, then the target value should accommodate this variability. If required a declining value may be established where sufficient information is available to predict a trend. Where the field assessment judges extent to be unfavourable and subsequent investigation reveals the cause is clearly attributable to cyclical natural processes, the final assessment will require expert judgement to determine the reported condition of the feature. The feature's condition could be declared favourable where it is certain that the conservation interest of the feature is not compromised by the failure of this attribute to meet its target condition. Where there is a change outside the expected variation or a loss of the conservation interest of the site, (e.g. due to anthropogenic activities or unrecoverable natural losses) then condition should be considered unfavourable. Changes in extent would be considered unfavourable, if attributable to activities which remove parts of the feature i.e. dredging, aggregate extraction.</p> <p>NOTE 2: Preferred Habitat features for an invertebrate assemblage outwith the SSSI (within the Wampool Estuary; mapped) are covered by existing preferred habitat features</p>					

APPENDIX 3: Site-specific standards defining favourable condition for saltmarsh morphology

Criteria feature	Attribute	Measure	Site-specific Targets	Comments	Use for CA?
ACTIVE PROCESS GEOMORPHOLOGICAL (IA): Saltmarsh morphology	Condition of features of interest	Visual / fixed-point photography	The saltmarshes remain intact and are evolving naturally, including erosion and accretion, no realignment of creeks.	Some of the dynamic nature of the saltmarshes and their relationship with the intertidal mud and sandflats are covered in the targets for estuaries.	Yes
	Tipping or landfill	Visual / fixed-point photography	There is no unconsented tipping or landfill obscuring or damaging the saltmarshes and intertidal mud and sandflats.		Yes
	Tree planting	Visual / fixed-point photography	There is no unconsented tree planting on the saltmarshes		Yes
	Engineering works	Visual / fixed-point photography	There are no unconsented engineering works obscuring or damaging the saltmarshes.		Yes
	Quarrying	Visual/ fixed-point photography	The saltmarshes of interest have not been damaged or removed by quarrying.		Yes
	Natural processes	Visual / fixed-point photography	There is no impediment to active geomorphological processes.		Yes
	Capacity for re-creation	Visual / fixed-point photography	The saltmarshes can be re-created by natural processes where they have been damaged or destroyed.		Yes
	Context and surroundings	Visual / fixed-point photography	The context and relationship of the features of interest to the surroundings have not been diminished through physical damage and use of the surrounding land does not lead to changes that might detrimentally affect the features of interest.		Yes

Table 4 a: Unit and Interest Feature matrix – habitats and geological interest

Notes:

The boundary between some interest features is variable due to coastal processes. Where unit boundary reflects transitions eg from salt marsh to intertidal, the interest should be monitored according to the unit appropriate to the feature, not necessarily the unit in which it is currently mapped.

For SAC subtidal features (sub littoral sediment, reefs (inpart) and lamprey species) interest is located outside SSSI units

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Unit	Salt marsh - Upper	Salt marsh - Mid	Salt marsh - lower	Salt marsh - pioneer	Shingle	Mobile Dune Communities	Fixed Dune Communities	Intertidal muds and sands	Rocky skears / reefs		Salt marsh and estuary
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13				?							
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22											
23											
24											
25											
26											
27											
28											

Key:

 = Feature present

 = Feature absent

 = Status uncertain

Table XXb: Unit and Interest Feature matrix – species

Unit	Breeding Bird interest	Wintering Bird Interest - roosts	Wintering bird interest - feeding	Natterjack Toads	Great Crested Newt	Invertebrate assemblage	Isle of Man Cabbage	Seaside Century
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								?
13		?						?
14								
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Key:

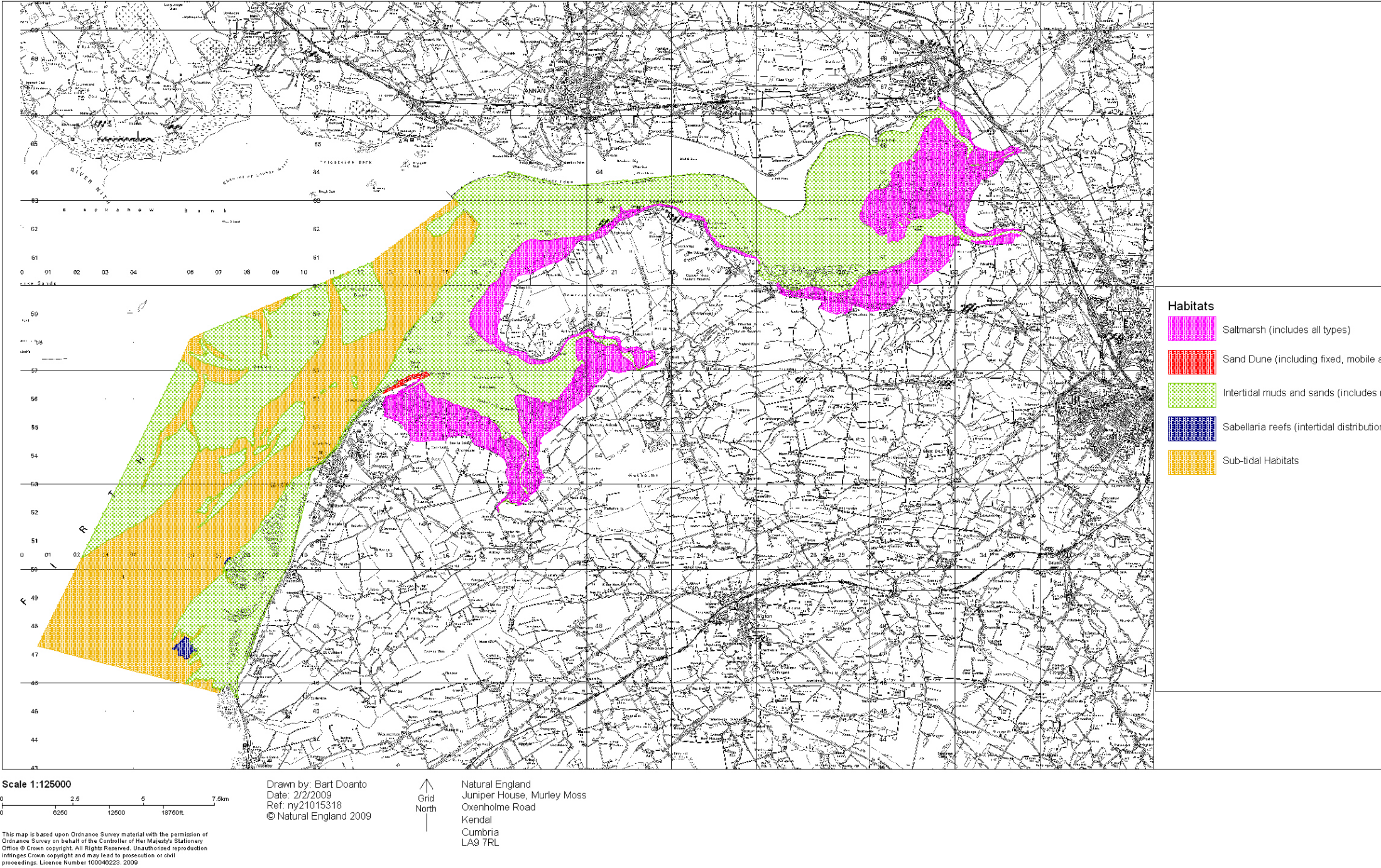
 = Feature present

 = Feature absent

 = Status uncertain



Upper Solway Flats and Marshes SSSI
Habitats Map (Note: map only approximate, many areas are mobile)



***ANNEX 3 - LOCATION OF THE PROPOSED DEVELOPMENT AREA IN RELATION TO THE
UPPER SOLWAY FLATS AND MARSHES SPA***

**RIVER EDEN SAC -
APPROPRIATE ASSESSMENT
(REGULATION 61)
THE CONSERVATION OF HABITATS AND SPECIES
REGULATIONS 2010**

CARLISLE CITY COUNCIL
CARLISLE LAKE DISTRICT AIRPORT
CUMBRIA

REF. NO. C046

JULY 2014

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ANNEX 1 - NATURAL ENGLAND'S REPRESENTATIONS

ANNEX 2 - RIVER EDEN SAC AND RIVER EDEN AND TRIBUTARIES SSSI CONSERVATION OBJECTIVES (MARCH 2010)

ANNEX 3 - LOCATION OF THE PROPOSED DEVELOPMENT AREA IN RELATION TO THE RIVER EDEN SAC AND RIVER EDEN AND TRIBUTARIES SSSI

INTRODUCTION

- 1.1 This Appropriate Assessment has been undertaken for the proposed development at Carlisle Lake District Airport to comply with The Conservation of Habitats and Species Regulations 2010. Reference has been made to the good practice outline of an Appropriate Assessment record suggested in Natural England's (previously English Nature) Habitats Regulations Guidance Note (HRGN 1) (Appropriate Assessment) (1997). It is also based on the draft appropriate assessment scoping document regarding the River Eden SAC that Natural England produced specifically for the development of Carlisle Lake District Airport proposed previously (application 07/1127, which includes aviation components), dated 21st February 2008.

LOCATION OF PROPOSED DEVELOPMENT

- 1.2 See plan showing site location in relation to the River Eden SAC (Annex 3). Within the Environmental Statement (ES) provided by the applicant, the closest part of the River Eden SAC (the River Irthing) is described as lying within 400m of the site in the ES (dated December 2010).

INTERNATIONAL NATURE CONSERVATION SITE

- 1.3 The International Nature Conservation Site appropriate to this assessment is the River Eden Special Area of Conservation (SAC), which is also designated as River Eden and Tributaries Site of Special Scientific Interest (SSSI). The SAC was notified on 1 April 2005 and the SSSI was notified on 29 May 1997. The site covers 2463.23 ha. The most recent Conservation Objectives for the River Eden SAC and the River Eden and Tributaries SSSI interest features are included in Annex 2.
- 1.4 The Designated European features present in the River Eden SAC are:
- Fens & wet habitats not acidification sensitive – alder woodland on floodplains.
 - Riverine habitats – water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation*
 - Standing waters acidification sensitive – oligotrophic to mesotrophic standing water.
 - Anadromous fish – sea lamprey (*Petromyzon marinus*), Atlantic salmon (*Salmo salar*), river lamprey (*Lampetra fluviatilis*)*
 - Non-migratory fish & invertebrates of rivers – white-clawed crayfish (*Austropotamobius pallipes*), bullhead (*Cottus gobio*), brook lamprey (*Lampetra planeri*)*
 - Mammals of riverine habitats – otter (*Lutra lutra*)*

* indicates those features of relevance to the Assessment for this project.

River Eden and Tributaries SSSI (additional features)

- 1.5 In order to comply with the requirements of the Wildlife and Countryside Act 1981, as incorporated by the Countryside and Rights of Way (CROW) Act 2000, this assessment also considers the additional interest features of the River Eden and Tributaries SSSI, which are:
- Invertebrate assemblage of exposed river sediment *

- Breeding birds associated with the river and adjacent habitats *
- Schelly *Cregonus lavaretus*
- Aquatic Flora other than *Ranunculus* Communities such as River Jelly Lichen *Collema fluviatile* *
- Incorporated Geological SSSIs

DESCRIPTION OF PROPOSED DEVELOPMENT

- 1.6 Planning Application ref: 10/1116. Erection of an air freight distribution centre (for handling of air freight and road haulage, including integrated +3°C chiller chamber, +12°C chiller chamber, workshop and offices) (Use Classes B1 and B8), gatehouse, canteen/welfare facilities, landscaping, new access, parking and other infrastructure works (such as auxiliary fire station, package sewage treatment works, fire sprinkler system and electrical substation) and re-surfacing of the existing runway 07/25. Carlisle Lake District Airport, Carlisle, Cumbria CA6 4NW.

DATE APPROPRIATE ASSESSMENT RECORDED

- 1.7 The original Appropriate Assessment was recorded on 23rd July 2012 for the planning application (10/1116) that was granted planning permission by Carlisle City Council on 6th February 2013. This updated Appropriate Assessment was recorded on 8th July 2014 (see 1.9 below).

METHODOLOGY

- 1.8 This is a record of the Appropriate Assessment, required by Regulation 61 of the 2010 Regulations, undertaken by Carlisle City Council in respect of the proposed development at Carlisle Lake District Airport. As the proposed development is not directly connected with or necessary to the management of the River Eden SAC, an Appropriate Assessment has been undertaken to assess the information provided with the planning application and the implications of the proposal in view of the site's conservation objectives.
- 1.9 Applications for development at the Airport were submitted previously, in October 2007 and September 2008; these proposals were also subject to EIA and Appropriate Assessment. Proposals in the 2007 (07/1127) application included a replacement (realigned) runway, warehousing, distribution centre, new passenger terminal, air traffic control centre (to the south), road junction and access arrangements from the A689, aviation fuel storage, local refuelling facility and drainage. The 2007 application was withdrawn after the Government Office for the North West called-in the application. Proposals in the 2008 application (08/1052) included a freight storage and distribution facility with associated offices, landscaping and car parking, with a number of airport related activities proposed under permitted development rights. Carlisle City Council granted planning permission for the 2008 application, but the decision was overturned in May 2010 on the basis that improvements to the Airport (included within a Section 106 Agreement) should have been considered as part of the EIA. Therefore, the 2010 application comprises a 'composite' application, including an Air Freight Distribution Centre with runway resurfacing and associated infrastructure. The 2010 application was granted planning permission by Carlisle City Council on 6th February 2013, but permission was subsequently quashed at Judicial Review on 21st March 2014 on grounds relating to forecasts contained within the business plan, which has since been revised and re-submitted by the applicant. The extant application (10/1116) remains identical to the previously consented scheme and is currently being redetermined by Carlisle City Council.

- 1.10 Natural England was consulted under Regulation 61 on 16th December 2010 and their response was dated 21st January 2011. Natural England's representations from the 2007, 2008 and 2010 applications, to which Carlisle City Council has had regard, are attached at Annex 1 (letters dated 14th December 2007 and 28th February 2008 in response to application 07/1127, 23rd October 2008 in response to application 08/1052 and 21st January 2011 in response to this application).
- 1.11 The guidance provided in Natural England's (previously English Nature) Appropriate Assessment Guidance Note (HRGN 1) has been followed in the preparation of this document and all existing information available has been appraised. The Assessment considers all potential impacts arising during:
- The temporary phase, i.e. during construction works
 - The permanent development and long term operation of the site.

Existing Information Available

- 1.12 The existing information available upon which this Assessment has been based includes:
- Carlisle Lake District Airport: Air Freight Distribution Centre (application ref 10/1116) - Environmental Statement, Scott Wilson, December 2010 (including all volumes, figures and appendices).
 - Review of Planning Application and Environmental Statement (re. aviation components) by Alan Stratford Associates (March 2011).
 - Additional information re. foul drainage proposals provided by URS Scott Wilson (emails dated 25 May 2011, 27th May 2011, 31st May 2011, 1st June 2011, 28th May 2012 and 1st June 2012 and letters dated 22nd February, 20th April, 20th May and 21st June 2011).
 - Schedule of Conditions from Carlisle City Council (sent by email on 23rd July 2012). In this assessment, where a recommendation for mitigation has been incorporated into a condition, the relevant condition number is referred to in brackets e.g. '(SoC 2)'.
- 1.13 **It is important to note that this Appropriate Assessment is specific to the proposals as currently presented. If the final works change/differ notably from the development project as currently proposed and assessed here, a further Appropriate Assessment will need to be undertaken.**

Further Information Required

- 1.14 In connection with the 2007 application (ref 07/1127) at this site, Natural England highlighted the need for further information in order to complete the necessary assessment under Reg. 48(2) of the Habitats Regulations 1994 on several occasions between December 2007 and March 2008. This was specifically to inform the assessment of potential impacts on the River Eden SAC regarding:
- water quality issues and sources of pollution
 - noise, vibration, lighting and general activity as disturbance factors
 - habitat modification and loss
- 1.15 In connection with the 2007 application (ref 07/1127) at this site, Carlisle City Council also requested further information about potential impacts on the River Eden SAC from the applicant regarding:
- treatment of de-icer contaminants (6th February 2008)

- ground investigations results (18th March 2008)
- agreement in principle from the EA to proposed drainage strategy (19th March 2008)

1.16 After the 2007 application (ref 07/1127) was withdrawn by the applicant, further information (which was missing from the 2007 application) was gathered by the applicant and submitted with the 2008 application in the ES, including:

- ground investigations results

1.17 Since the 2010 application (ref 10/1116) was submitted, Carlisle City Council requested further information regarding the proposals for foul sewage disposal. Additional information has since been submitted (letters dated 22nd February, 20th April and 21st June 2011 in response to the EA) by the applicant on issues including:

- foul sewerage disposal
- development and flood risk
- contaminated land/pollution to controlled waters

1.18 Following on from the quashing of planning permission for application 10/1116 in March 2014, the applicant has submitted several documents in order that the extant application can be redetermined by Carlisle City Council. Of relevance to this assessment, the applicant submitted the following:

- Supplementary Report Examining Changes to Ecological Habitats (URS, June 2014) - with reference to baseline habitat conditions and protected species on and around the proposed development site.
- Redetermination Cover Letter (URS, 3rd June 2014) - with reference to any changes to the following (relevant) ES chapters/documents: 'ES: operational (baseline) activities', 'ES: traffic and transport', 'ES: noise and vibration (including amendment June 2012)', 'ES: air quality and dust', 'ES: ecology and nature conservation', 'ES: water quality, flood risk and drainage', 'ES: ground contamination', 'flood risk assessment and drainage strategy'.

1.19 The Supplementary Report Examining Changes to Ecological Habitats (June 2014) confirms that there have been no significant changes to ecological habitats within or around the airport since the Council last determined the application, and therefore that it is reasonable to conclude that baseline conditions remain as previously presented and that no further consideration of ecological effects is required before redetermination of the application.

1.20 The redetermination cover letter confirms that no changes to the various ES Chapters (including those listed above) are required on account of no significant changes from baseline conditions and/or no changes to the nature, extent or scale of the proposed development.

1.21 On account of the information provided by the applicant in 2014 as described above, it is considered that the Appropriate Assessment for the River Eden SAC (with all its conclusions and recommendations) produced in July 2012 for the 10/1116 application when it was originally submitted, remains valid for the purposes of redetermination of the extant application (10/1116). It is understood that the same planning conditions as those imposed on the application in February 2013, including those provisions in the Section 106 Agreement/Deed of Variation, will be imposed by Carlisle City Council on this application should it be granted planning permission (email from Angus Hutchinson, 7th July 2014).

POTENTIAL EFFECTS OF THE DEVELOPMENT AS PROPOSED

- 1.22 The SAC's conservation objectives have been taken into account, including consideration of the citation for the site and information supplied by Natural England (see Annex 2). The likely effects of the proposal on the international conservation interests for which the site was designated may be summarised as:
- Water quality issues and sources of pollution; it should be noted that Unit 230 (mid-Irthing section) of the SAC was recently upgraded from 'unfavourable no change' to 'unfavourable recovering' in the latest condition assessment undertaken by Natural England in March 2010.
 - Noise, vibration, lighting and general activity (including increased traffic) as disturbance factors
 - Habitat modification and loss

Temporary Phase – Construction Works: water quality issues

Siltation

- 1.23 Siltation could occur during construction works and may result in the smothering of fish spawning areas (salmon, bullhead, lamprey), aquatic macrophyte beds and any invertebrate habitats as well as increased suspended sediment loads. According to the River Eden SAC Conservation Objectives for maintaining favourable condition of rivers and streams, the upper reaches of the main Eden and all tributaries have a suspended solids target of $\leq 10\text{mg L}^{-1}$ and the lower Eden that supports salmon passage, but not spawning or nursery areas has a target of $\leq 25\text{mg L}^{-1}$ (annual mean). The siltation target in the River Eden SAC Conservation Objectives is 'no excessive siltation. Channels should contain characteristic levels of fine sediment for the river type'.
- 1.24 The zone of hydrological influence for surface water runoff was identified in Chapter 10 of the ES and includes a number of water bodies to the south of the proposed development, such as Unnamed Ditch 4, Baron's Dike South, the River Irthing and the River Eden. The River Irthing is the principal watercourse within close proximity to the Airport. There are a number of small, unnamed tributaries of the River Irthing arising approximately 500m to the east and south of the Airport (Baron's Dike South and unnamed ditches 3 and 4). These water courses could all be potential pathways for siltation and pollution events leading to impacts on the River Eden SAC. Some details are provided in the ES (Chapter 10) regarding prevention of siltation in watercourses during construction activities through temporary storage and drainage methods, such as directing runoff from earthworks, spoil heaps and stockpiles to settlement lagoons before discharge into any watercourse, with water discharge quality being agreed with the EA beforehand. *In order to ensure that siltation will not adversely affect the integrity of the River Eden SAC, a construction environmental management plan is to be conditioned, to include full details of siltation prevention (SoC 10(k)).* The issue of any potentially contaminated sediment is included below.

Disturbance of contaminated ground

- 1.25 This could lead to the potential for transfer of toxic contaminants to the River Eden SAC via surface and/or groundwater, which may affect the Conservation Objectives of all SAC interest features and additional SSSI features, through contaminated siltation or chemical pollution. Toxic contamination could result in lethal or sub-lethal effects on the interest features of the SAC. The nature of the effect would depend upon the particular contaminants present, their concentrations, bioavailability

and environmental conditions. Sub-lethal effects may include effects on reproduction, physiology, genetics and health, ultimately reducing fitness for survival. Many compounds, present at low levels, can also be bio-accumulated in the food chain, with effects noticed in higher predators, such as otters. In some species a certain stage in the life cycle may be affected, e.g. lamprey nursery areas affected by accumulations of toxins in the sediments. The conservation objectives for the River Eden SAC therefore set a target for no increase in potentially toxic pollutants and require that there should be no exceedance of the relevant Environmental Quality Standards (or Predicted No Effect Concentrations) for potentially toxic substances (in addition to a range of targets for other water quality parameters).

1.26 Potential and actual sources of ground contamination were investigated for the previous planning applications for the site, by a combination of methods, including intrusive ground investigations (in October and November 2007, April 2008) and chemical testing data. Since these works were completed there have been no significant changes to uses in the proposed development area; therefore, the findings of the investigations are still considered valid for this assessment (Chapter 12 of the ES). The main findings of the ES (Chapter 12) regarding these issues include:

- no potential source of significant contamination in the desk study findings which could impact on the water quality of the River Eden SAC, notably during construction works.
- two EQS exceedances (copper - at 3 locations up to a maximum of 21µg/l and zinc - at 4 locations up to a maximum of 140 µg/l) recorded in the perched groundwater. This is baseline data and reflects the current quality of the perched groundwater already entering the SAC and not the perched groundwater quality during and post-development.
- no significant contamination identified by the ground investigation data in soil samples to date. In the unlikely event that contamination which could cause an impact on water quality is identified, an appropriate remediation strategy would be implemented to negate the identified hazards.
- the site is underlain, at a very shallow depth, by high permeability gravels and therefore there is an existing direct pathway between the at-surface soils (i.e. where any ground contamination might exist), the underlying perched groundwater and surface water, and thus the River Eden, therefore any development activities (e.g. piled foundations) will not open or develop new pollutant pathways between the site, perched groundwater and the SAC.

1.27 The zone of hydrological influence for surface water runoff includes a number of possible pathways with potential for transfer of contaminants to the River Eden SAC as detailed in 1.24 above. It is stated in the ES that it was not possible to accurately define the zone of hydrological influence for ground water as there was insufficient data available at the time the ES was prepared (Chapter 10). Therefore, an area of 3km was considered in the ES to define the zone of hydrological influence for ground water; further data would be required for a more accurately defined zone.

1.28 Regarding the potential for disturbance of contaminated ground during construction, it is stated in Chapter 12 of the ES that in the event that contamination is identified during site works, appropriate remediation measures will be taken to protect future site users, the underlying aquifer and surface waters, structures and services.

- 1.29 For the 2007 application at this site, in the absence of a final detailed report and risk assessment concerning the potential for effects on the SAC derived from contaminated land on site, Natural England's contaminated land specialist reviewed the preliminary ground investigation results provided in March 2008. The EA were also contacted to find out if there were any exceedences of metal/HC EQS's in the river downstream of the site with regards to the 2007 application. The EA provided information in an email dated 25th March 2008, which stated that no exceedences of metals (River Irthing and River Eden) or HCH (River Eden) were recorded in the period 2005-2007. The EA were also contacted regarding the 2010 application to obtain sample data from the river downstream of the site since 2007; they provided information in an email dated 2nd February 2011, which stated that no exceedences of metals (River Irthing and River Eden) or HCH (River Eden) were recorded in the period 2007-2010 and these determinands comply with the WFD classification. This provided information on the current position and a baseline from which to assess any impacts that may be derived from the development through future disturbance of contaminated land and transfer via various pathways to the SAC.
- 1.30 The EA objected to the proposed development on account of insufficient information in the ES regarding contaminated land/pollution to controlled waters, as detailed in their letter dated 25th January 2011. URS Scott Wilson provided further information to address the issues raised by the EA in their letter and emails dated 22nd February 2011, including confirmation that, for example, the following works will be undertaken:
- a review of previous works including the Phase 1 Conceptual Site Model and a reassessment of the potential risks to the development site and identified receptors
 - supplementary intrusive works in the area to the southwest of the site that was previously not investigated and in any areas identified as part of the review process
 - additional rounds of groundwater monitoring to provide additional data to inform the Quantative Risk Assessment (QRA)
 - a QRA to assess potential contamination risks to controlled waters, using an approved model to complete the QRA and to provide details on further work/remediation if required.
- 1.31 The EA have since removed their objection regarding contaminated land/pollution to controlled waters (letter dated 17th March 2011). For the purposes of this assessment, therefore, it is considered that the ground investigation results and the interpretation supplied by URS Scott Wilson in the ES indicate that the risk to the River Eden SAC of contaminated ground disturbance during construction activities is likely to be low. The information supplied suggests that any risks (if present) can be identified and managed. However, in order to ensure that ground contamination will not adversely affect the integrity of the River Eden SAC, *additional works need to be conditioned and undertaken before development works commence, including a review of previous works, supplementary intrusive site investigations, further rounds of groundwater monitoring, and a QRA and production of an approved remediation strategy in the event of identification of any contamination during construction (SoC 10 (r), 26 and 27).*

Chemical pollution

- 1.32 Chemical pollution could affect any of the interest features of the SAC and the additional SSSI features. Pollution could arise during construction activities from a variety of sources including any use and storage of potentially polluting construction materials (e.g. concrete, timber treatments), leakage from vehicles, fuel and oil spills etc. The conservation objectives for the River Eden SAC set a target for no increase in potentially toxic pollutants and require that there should be no exceedence of the relevant Environmental Quality Standards (or Predicted No Effect Concentrations) for potentially toxic substances (in addition to a range of targets for other water quality parameters).
- 1.33 Details of pollution prevention measures during the construction phase, such as locating spoil and temporary stockpiles on hardstanding and implementing runoff, drainage and containment features, flow attenuation and pollution or accident response procedures have been provided in the ES (Chapter 10). It is stated (Chapter 2) that all mitigation measures included in the ES will be recorded and implemented through a construction environmental management plan (to be prepared). It is also stated in the ES (Chapter 2) that the attenuation lagoons will be constructed first in order to prevent downstream contamination during subsequent construction activities. Mitigation for pollution events from foul drainage/waste during construction will include (Chapter 10) discharge to sewer if consent is obtained from United Utilities (UU) if required or collection of foul drainage by a tanker to be taken to a waste water treatment works. In Chapter 10 it is stated that groundwater and watercourses receiving Outfalls 1 - 4 will be monitored before construction and during construction at locations adjacent to and downstream of the working areas. In order to ensure that potential pollution events will not adversely affect the integrity of the River Eden SAC, *a construction environmental management plan is to be conditioned, to include full details of an 'emergency plan' or similar to deal with any specific pollution events during construction to minimise the risk of potential pollutants reaching the River Eden SAC (SoC 10 (l) and (p)). Biological monitoring of watercourses before, during and after construction is also to be undertaken and conditioned (SoC 10 (m)).*
- 1.34 With regards to a potential flooding incident causing contaminated runoff from the site to enter watercourses during construction, information in the ES (Chapter 10) and in the Flood Risk Assessment incorporating Drainage Strategy states that the site lies in Flood Zone 1 (< 0.1% chance of flooding in any given year) and is therefore not at risk from fluvial or tidal flooding and also that there is only a low risk of flooding at the site from groundwater. Chapter 10 identifies a potential impact of increased localised flooding due to compaction of soil from construction plant, which is deemed to be of no significance if appropriate construction management practices are implemented. In order to ensure that potential pollution events will not adversely affect the integrity of the River Eden SAC, *a construction environmental management plan is to be conditioned, to include full details of appropriate construction management practices to minimise soil compaction and localised flooding during construction, to minimise the risk of potential pollutants reaching the River Eden SAC (SoC 10 (o)).*

*Temporary Phase – Construction Works: Noise, vibration, lighting and general activity
(including increased traffic) as disturbance factors*

- 1.35 The construction works could result in disturbance of SAC features, specifically otter, that are present in the area using local watercourses and other suitable habitat. The River Eden SAC Conservation Objectives for maintaining favourable condition for otters are ‘population maintained or increasing’ and ‘otter populations not significantly impacted by human induced kills’ and for rivers and streams ‘maintenance and enhancement of connective corridor along river for otter movement. No net loss in quiet river stretches not affected by access or other disturbance activities such as lighting and noise’. The following section is also of relevance to the additional SSSI feature, breeding birds associated with the river and adjacent habitats, and similar conclusions for this additional feature can be drawn with regard to impacts of noise, vibration and lighting. The Conservation Objectives for maintaining favourable condition for the assemblage of breeding birds and sand martins include ‘minimise disturbance or damage to breeding habitats both during occupation, and to ensure continuity of habitat availability as future breeding sites.’
- 1.36 No specific otter survey was undertaken on or around the site for the ES, but it was assumed for the ES that otters are present in the closest section of the River Eden SAC to the development area (Chapter 8). It was acknowledged in Chapter 8 that the minor drainage ditches surrounding the Airport boundaries have potential for foraging and dispersing otters (but not for resident otter populations). Signs of otters, such as spraints and potential resting up sites were therefore sought on site during the Phase 1 habitat survey for the ES (Chapter 8); no signs of otters were found. It is understood that Phase 1 Habitat survey visits were undertaken for this application and previous applications in 2006, 2007, 2008 and 2010. According to information provided in the ES, there are records of otters within 2km of the survey site, including one record of an otter road casualty from 1985 noted to be at ‘Carlisle Airport’. The proposed development may have both on-site and off-site impacts on otters. The information provided in the ES (chapters 5, 6 and 8) regarding potential disturbance impacts to otters during construction activities has been reviewed for this assessment.

On-site Impacts

- 1.37 In the ES (Chapter 8), it is stated that ‘it is extremely unlikely, on the basis of published knowledge about terrestrial otter movements, that otter would attempt to enter the airport boundary, especially to any regular, or predictable degree. This conclusion is supported by the lack of sightings of otter and the extremely low incidence of road mortality in close proximity to the Airport, as would perhaps be expected if otters were making regular terrestrial movements through this area.’ It is also stated in Chapter 8 that ‘the site is dominated by large expanses of open grassland and hardstanding with little cover’. It is also understood that security fencing will be installed around the proposed development area. From the information provided in the ES, it is considered unlikely that otters would be present on the site. Therefore, any risks that may be associated with the proposed development on site are not likely to be of significance with regard to otter populations in the locality during construction. *In any event, following the precautionary principle, the construction management plan (to be conditioned) should include measures to ensure that there is no risk to otters entering the construction area e.g. by covering up at night or the provision of escape ramps for any holes excavated during works to prevent injury to any otters and other mammals (SoC 10 (v)).*

Off-site Impacts

- 1.38 In the absence of detailed otter survey data in the ES from the site and its surrounds, and as otters are known to use the area in close proximity to the Airport from existing records, it is considered essential that the precautionary principle is applied with regards to potential off-site impacts on otters:

Noise and vibration

- 1.39 The conclusion of the ES (Chapter 8) regarding impacts of noise generated by construction activities on otters is that there will be no significant impact; it is stated that noise levels at the River Irthing during construction are predicted to be similar to existing ambient noise levels, as construction related noise has been demonstrated to not exceed ambient levels beyond 25m distance from the proposed development area. It is also stated that the vegetation, including riparian woodland, and the difference in elevation between the Airport and the river valley are likely to act as barriers to any acoustic emissions (Chapter 8). In their review of the ES, Alan Stratford Associates state that 'there is nothing within the report to question the accuracy of the construction noise impact assessment.' The ES (Chapter 6) also states that construction should be carried out in accordance with a construction environmental management plan, which will include measures to ensure noise emissions are minimised and conform to the necessary legislation and guidelines. *Therefore, as a precaution and to ensure that noise and vibration during construction will not adversely affect the integrity of the River Eden SAC, a construction management plan, to include a noise management plan, is to be conditioned (SoC 10 (d) and (s)).*

Increased road traffic

- 1.40 With regards to potential impacts of increased road traffic on the number of otter road casualties, relevant information is included in the ES (Chapters 5 and 8). Tables included in Chapter 5 show that the percentage impact of traffic movements predicted during the construction phase is up to 1.2% over a 24 hour period, which is of 'negligible adverse significance'. Tables in Chapter 5 also indicate that traffic associated with construction works will only be generated during the day (between 06.00 and 19.00), when otters are less likely to be active. In Chapter 5 of the ES it is stated that a Traffic Management Plan will be implemented to minimise the impact of construction traffic. On the basis of the information provided in the ES, it is considered unlikely that the small increase in traffic movements during the construction phase will impact on otter populations in the locality.

Lighting and visual disturbance

- 1.41 With regards to impacts of visual disturbance on otters during the construction phase, some relevant information is provided in the ES (Chapter 8). It is understood that visual disturbance during construction, such as increased movements of personnel and plant including high visibility clothing and warning lights will be constrained to the development area and the highways, that no works will take place any closer than 400m to any element of the River Eden SAC and that such works will be of a temporary nature and will be predominantly undertaken during hours of daylight.

- 1.42 Further information about lighting and visual impacts is provided in Chapter 9 of the ES. It states that 'the local area has low levels of lighting, with no street lighting on the A689 or surrounding roads outside the settlements'. Later in the chapter it is stated that 'construction operations are only likely to be taking place during the daylight hours, it is considered that the impact of lighting during the construction phase will not be significant'. Visual effects at viewpoints 3 (residential property (Netherfield) and road to Irthington) and 4 (residential property (Military Cottages) on A689) were examined for the purposes of this assessment, as these viewpoints are located to the east and south-east of the development area, between the site and the River Irthing. The relative significance of visual effects during construction at these viewpoints have been assessed in the ES (Chapter 9) as 'moderate adverse' (viewpoint 3) and 'major adverse' (viewpoint 4). However, the River Irthing lies at a height of at least 20m below viewpoints 3 and 4 and the proposed development area, so otters moving along the River Irthing are likely to be afforded some shelter from visual impacts by the topography of the relatively steeply sloping land to the west, between the river and the development area. It is stated in the mitigation section of Chapter 9 that lighting required during the construction of the development will be downward-directional located at a maximum height of 10m to minimise light spill and that an increase in ambient lighting levels within the local area is expected, but not in the wider area. There is no definition of 'local' and 'wider' within this context.
- 1.43 In accordance with the precautionary principle and in view of the known population of otters in the area, *the construction management plan (to be conditioned) needs to include a lighting mitigation plan to ensure any spread of light outside the Airport site is minimised during construction (SoC 10 (s)).*
- 1.44 In summary, on the basis of the information presented in the ES, it is considered that:
- on-site impacts during the construction of the proposed development are unlikely to be of significance to populations of otters in the locality. However, as a precaution it is recommended that the construction management plan (to be conditioned) includes provision of suitable fencing around the site boundaries to prevent otters from entering the construction area.
 - the risk of off-site impacts on otters such as noise, vibration and lighting during the construction of the proposed development is likely to be low. However, applying the precautionary principle in the absence of robust otter survey data, it is recommended that the construction management plan includes mitigation for lighting and noise/vibration. For the purposes of assessing the proposed development under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), this conclusion also applies to the additional SSSI feature, breeding birds associated with the river and adjacent habitats.

Temporary Phase – Construction Works: Habitat modification and loss

- 1.45 The relevant River Eden SAC Conservation Objectives for habitat modification and loss for the SAC feature (otter) and for the SSSI feature (breeding birds) are referred to previously in **1.35**.

On-site Impacts

- 1.46 As stated above in **1.37**, it is considered that otters are unlikely to be present on site and therefore that habitat clearance and modification works during construction of the proposed development on-site are unlikely to impact significantly on otters in the area.

Off-site Impacts

- 1.47 It is understood that the physical elements of the proposed development will be constrained within the development area, including any construction activity associated with controlling and managing water quality and runoff, as the existing outfalls will be used with no alteration or disturbance of riparian habitat. It is stated in the ES (Chapter 8) that the nearest area of riparian habitat which may be considered to represent suitable foraging habitat for otter (the River Irthing) is ~0.7km away from the proposed development site. This distance appears to be incorrect (refer to previous comments above regarding the distance of the proposed development area from the River Irthing, which has been measured to be ~0.4km. The small watercourse at Beanlands Park is also approximately 0.4km away from the proposed development site).
- 1.48 Therefore, as it is understood that there will be no off-site habitat modification works, it is considered that impacts of habitat modification and loss during the construction of the proposed development are unlikely to be of significance to populations of otters in the locality. This conclusion also applies to the additional SSSI feature, breeding birds associated with the river and adjacent habitats.

*Permanent Phase - Long Term Operation of the Site: Water Quality Issues**Contaminated surface water drainage*

- 1.49 If contaminated surface water from the site (in particular 'trade effluent', such as runoff contaminated with vehicle washing chemicals) during operation reaches the River Eden SAC it may pose a serious risk to the water quality, with potential significant impacts on all of the SAC features and the additional SSSI features. The conservation objectives for the River Eden SAC set a target for no increase in potentially toxic pollutants and require that there should be no exceedence of the relevant Environmental Quality Standards (or Predicted No Effect Concentrations) for potentially toxic substances (in addition to a range of targets for other water quality parameters).
- 1.50 Information included in the ES (Chapters 8 and 10) and in the Flood Risk Assessment incorporating Drainage Strategy provides details about the proposed alterations to drainage during operation, to prevent any risks to water quality in the River Eden SAC. These will comprise:
- drainage from the building and hard-standing to Outfall 4 via attenuation lagoons (that will discharge at Greenfield runoff rates)
 - all flows from trafficked and parking areas will pass through an oil interceptor prior to entering a balancing lagoon
 - lower allowable discharge rates than the existing peak discharge rates (due to a 20% reduction in existing discharge, requested by the EA), leading to an overall improvement on the impact on the receiving watercourse
 - incorporation of oil interceptors into airfield drainage strategy (including the runway)
- 1.51 There appear to be inconsistencies in the ES regarding the proposed number of attenuation/balancing lagoons; in Chapter 10 (10.129) it states that there will be three stormwater balancing lagoons, in Chapter 8 (8.363) it states that there will be two balancing lagoons and on the proposed site plan (drawing no. PL D133593/PL/001) two attenuation/balancing lagoons are shown. It is assumed that there will be two lagoons and that the reference to three lagoons in Chapter 10 is an error.

- 1.52 In Chapter 10 it is stated that watercourses receiving Outfalls 1 - 4 will be monitored periodically during operation, which will form part of the Airport's Environmental Management Plan. The monitoring will include a combination of chemical and biological water quality sampling and details of the required monitoring will be agreed with the EA.
- 1.53 It is stated in the ES (Chapter 10) that 'the site is not at risk of flooding from fluvial or tidal sources, overland flow or drainage. However, measures will still be implemented to reduce the probability of flooding, i.e. the residual risk, and reduce the impact of flooding in the unlikely event that it were to occur.'
- 1.54 It is also stated in Chapters 8 and 10 that runway and aircraft de-icer will continue to not be used; instead the runways will be closed to air traffic if the temperature is too low. ***It should be noted that if this situation was to change and de-icing chemicals were going to be used, the applicant would need to re-consult CCC/NE as the change would need to be assessed against the Habitats Regulations again (SoC 2).***
- 1.55 Chapter 10 states that runoff from the HGV washdown facility will be directed to the proposed sewage package treatment plant for treatment before discharge into the existing Outfall 4. However, it is now understood that as a sewage package treatment plant will no longer be incorporated into the proposals, vehicle washings will be disposed of via the foul sewer; *details of the collection/containment of vehicle washings and means of disposal to the foul sewer are to be included in the drainage scheme (SoC 18).*
- 1.56 The EA objected to the proposed development on account of the Flood Risk Assessment (FRA) not providing a suitable basis for assessment to be made of management and disposal of surface water arising from the proposed development (letter dated 25th January 2011). They requested additional information regarding the existing surface water run-off rates from existing impermeable surfaces and also regarding the allowable surface water discharge rates. URS Scott Wilson subsequently amended the relevant paragraphs in Chapter 6 of the FRA (February 2011) to provide the information requested by the EA and the EA have since removed their objection regarding the Flood Risk Assessment (letter dated 17th March 2011).
- 1.57 Therefore, in order to ensure that contaminated surface water will not adversely affect the integrity of the River Eden SAC during operation, *a detailed drainage strategy is to be conditioned, to include full details of appropriate drainage methods to manage surface runoff, including attenuation lagoons, oil/silt interceptors, discharge rates and water quality monitoring, to minimise the risk of potential pollutants reaching the River Eden SAC (SoC 18).*
- 1.58 The full details of the drainage strategy will need to go through the usual Environment Agency consenting process and this will also be subject to Appropriate Assessment. For the purposes of this assessment, a potentially acceptable technical solution for contaminated surface water drainage has been identified and agreed in principle but any planning approval must therefore be subject to the approval and future consenting of a satisfactory detailed scheme to deal with any contaminated surface water drainage.

Sewage effluent/foul drainage

- 1.59 Sewage effluent/foul drainage discharge arising during site operation would need to meet the water quality targets for the River Eden SAC; if targets were not met there would be potential significant impacts on all of the SAC features and the additional SSSI features. The water quality target for total reactive phosphorous in the River Eden SAC Conservation Objectives for rivers and streams is $\leq 0.02, 0.04, 0.06$ or 0.1 mgL^{-1} as an annual mean depending on reach type. It is understood from the Environment Agency (email dated 17th March 2008 with regard to application 07/1127) that the River Irthing has a guideline phosphorus standard of $60 \mu\text{g/l}$ and this is confirmed by Natural England. It is understood that upgrading works have been undertaken recently at Brampton WwTW to achieve phosphorus removal to 4 mg/l to ensure the phosphorus target is met on the Irthing.
- 1.60 The ES (Chapter 10) states that foul drainage from the terminal building in the north of the Airport will continue to discharge via the main sewer to Irthington Waste Water Treatment Works (IWwTW) at Brampton for treatment. It is also stated that United Utilities (UU) has indicated that future capacity at Irthington will be sufficient to treat the relatively small increase with no negative impact on the quality of effluent discharging from it. It is understood that improvement works at IWwTW are scheduled for 2013.
- 1.61 Chapter 10 of the ES states that any chemical toilet waste associated with passenger flights will be considered separately, taking into account volume and components (i.e. the chemicals associated with it) and that discussions with UU have indicated that appropriate methods to deal with chemical toilet waste can be agreed, but that these methods will vary according to the character of the specific waste arising. *Therefore, the agreement with UU must be made in advance of commencing passenger services to ensure that there is no adverse impact to the quality of effluent produced by the relevant treatment process (SoC 15 (b)).*
- 1.62 It is also stated in Chapter 10 that foul waste water from the proposed Air Freight Distribution Centre and associated areas (including HGV wash down facilities) in the south of the Airport will discharge via a proposed package sewage treatment plant to the existing Outfall 4 and that the minimum quality of treated effluent shall be:
- Biochemical Oxygen Demand (BOD): 20 mg/l
 - Ammonia (as NH_3): 20 mg/l
 - Total Suspended Solids (TSS): 30 mg/l
- 1.63 The EA objected to the proposal because it involves the use of a non-mains foul drainage system in a publicly sewerage area, with no justification provided for this method of foul sewage disposal (letters dated 25th January, 17th March and 10th May 2011). It is understood that there is a greater risk of failures with private treatment works, leading to pollution of the water environment compared to public sewerage systems. CCC also requested further information/justification for the use of a private sewage treatment works in an email dated 17th February 2011 and letter dated 29th March 2011. URS Scott Wilson provided further information regarding these concerns in their letters dated 22nd February and 20th April 2011, where they justified the use of a private sewage treatment plant and provided a breakdown of costs for three options: connection to the foul sewer via the existing pumping station to the north of the runway (involving the rising main crossing the runway), connection to the foul sewer to the north-east of the runway (involving the rising main following the airfield boundary and connection at the eastern site boundary), and construction of a package sewage treatment works at the site. URS Scott Wilson concluded that 'we do not believe it is

reasonable to connect to the public foul sewer on the grounds of cost and practicability, in line with DETR Circular 03/99'. URS Scott Wilson also addressed concerns raised over phosphate levels in the River Irthing by CCC (email dated 17th February) by stating in their letter 'since the proposed works will primarily treat domestic effluent, phosphate levels in the effluent will be very low. We do not consider that tertiary phosphate removal will be necessary'.

- 1.64 As the EA continued to maintain their objection to the proposed use of a non-mains foul drainage system, URS Scott Wilson investigated the possibility of connecting to the mains foul drainage system via a rising main directed around the eastern site boundary. Concerns were raised by UU that the planned upgrade of Irthington WwTW may not have the capacity to treat flow from both the north and south parts of the Airport post-development. However, URS Scott Wilson have since confirmed that the planned upgrade of Irthington WwTW would more than accommodate the demand that would arise from both the north and south of the Airport and they have provided UU with population figures following development to illustrate this (letter dated 21st June 2011). UU have confirmed in an email that they 'consider there is a strong prospect that United Utilities would be able to accommodate flow and loads from both the North and South run-way developments at Carlisle Airport (in-line with discussions and correspondence had associated with surface water discharge and expected population equivalents). The detailed design of the drainage network connection points from the Airport will need to be considered and agreed by United Utilities before construction starts to ensure that there is no significant increase risk to properties from sewer flooding and environmental damage. The planned up-grades to Irthington WwTW will not be complete until May 2013. Therefore United Utilities will not be able to accept the full foul flows, until completion of the Irthington WwTW upgrades. If additional foul flows are expected from the development before this date, temporary treatment on site may be necessary until the flows can be transferred' (email from Martin Williams dated 6th July 2011). It is understood that the applicant now intends to dispose of foul sewage via Irthington WwTW (as per their drawing no. D133593/PL/076 A dated June 2011) through a connection at the eastern site boundary, rather than by a package treatment plant as previously proposed.
- 1.65 The EA were able to remove their original foul sewerage disposal objection following confirmation from Scott Wilson of the proposed connection to the public sewer and following confirmation that UU are satisfied that the upgrade of Irthington WwTW will be capable of taking the load from the whole of the Airport site (letter dated 24th June 2011). However, it is noted by the EA that if works are to commence before the foul sewerage can be permanently connected to Irthington WwTW (i.e. before the planned upgrade works are completed) then an interim scheme to deal with foul waste will need to be agreed and put in place up until a time when a connection to the main sewer is possible. It is now understood that an interim foul waste scheme will not be required, as 'Irthington should be able to accept all reasonably anticipated foul waste before its upgrade in 2013 (i.e. full passenger services will not have been achieved by this time)' (email from URS Scott Wilson dated 1st June 2012).
- 1.66 The full details of the permanent drainage strategy (in addition to an interim scheme if necessary) for the proposed development will need to go through the usual Environment Agency consenting process and this will also be subject to a Habitats Regulations Assessment. For the purposes of this assessment, a potentially acceptable technical solution has been identified and agreed in principle. *Any planning approval must therefore be subject to the approval and future consenting of a satisfactory detailed scheme to deal with any sewage effluent/foul drainage (SoC 18).*

Pollution events/spillage incidents

- 1.67 This could result in the pollution of the River Eden, particularly with respect to heavy metals, hydrocarbons, salt and suspended solids. All of the SAC interest features as well as the additional SSSI features would be susceptible to such pollution. The conservation objectives for the River Eden SAC set a target for no increase in potentially toxic pollutants and require that there should be no exceedence of the relevant Environmental Quality Standards (or Predicted No Effect Concentrations) for potentially toxic substances (in addition to a range of targets for other water quality parameters).
- 1.68 Information included in the ES (Chapter 10) provides details about measures that will be undertaken to prevent pollution events during operation from impacting on the water quality of the River Eden SAC, including,
- storage of all oils (including diesel) and other liquid chemicals in appropriate spill containment, to be provided in accordance with the relevant guidance (e.g. PPG2) and inspected regularly to ensure it is being used properly
 - emergency spill protocols will form part of the proposed development's site management procedures
 - the inclusion of an appropriately sized class 1 full retention interceptor in the drainage system prior to the balancing lagoon, including an overflow alarm
 - spill kits will be provided on site at sensitive locations to help contain any spillage
 - interceptors will be regularly maintained
 - a document setting out the Emergency Procedures will be in place, stating how the Airport management will minimise environmental effects associated with a major incident such as a fire or plane crash e.g. measures to prevent spills reaching watercourses and the mitigation measures to be employed to reduce the impact of such an occurrence
 - inclusion of the capacity to close outlet valves on the stormwater balancing lagoon in the drainage design, in the event of the spillage of noxious substances other than oil or fuel. Staff training will be given to ensure that necessary emergency procedures are followed to minimise impacts on water quality
- 1.69 *In order to ensure that pollution events/spillage incidents during operation will not adversely affect the integrity of the River Eden SAC, details of an 'emergency plan' or similar to deal with any specific pollution events, including fire and facilities for on-site chemical/fuel storage arrangements during site operation to minimise the risk of potential pollutants reaching the River Eden SAC is to be conditioned if the final surface-water strategy is not sufficient to deal with these issues/risks (SoC 18 and 21).*

Contaminated ground

- 1.70 The Conservation Objectives of all of the SAC interest features as well as the additional SSSI features could be affected by pollution from contaminated ground during site operation. Within this assessment, information has been reviewed to ascertain whether there may be any long-term risk to the River Eden SAC from the presence of contaminated ground on site (refer to relevant section in construction phase above for details). As stated previously, for the purposes of this assessment, therefore, it is considered that the ground investigation results and the interpretation in the ES (Chapter 12) indicate that the risk to the River Eden SAC of contaminated ground

disturbance during operation is likely to be low. The information supplied suggests that any risks (if present) can be identified and managed. *However, in order to ensure that ground contamination will not adversely affect the integrity of the River Eden SAC, further works are to be conditioned and undertaken before works commence, including the production of an approved remediation strategy in the event of identification of any contamination during operation, is to be conditioned (see 1.30/1.31 above for details).*

Permanent Phase - Long Term Operation of the Site: Noise, vibration, lighting and general activity (including increased traffic) as disturbance factors

- 1.71 The site operation could result in disturbance of SAC features, specifically otter, that are present in the area using local watercourses and other suitable habitat. The following section is also of relevance to the additional SSSI feature, breeding birds associated with the river and adjacent habitats, and similar conclusions for this additional feature can be drawn with regard to impacts of noise, vibration and lighting.
- 1.72 Reference should be made to 1.35 and 1.36 above regarding the relevant Conservation Objectives etc. The information provided in the ES (chapters 5, 6, 8 and 9) regarding potential long term disturbance impacts to otters during operation has been reviewed for this assessment. Similarly to construction impacts, potential impacts during the operation phase can be split into on-site and off-site.

On-site Impacts

- 1.73 As stated previously, it is considered that otters are unlikely to be present on site, and it is also stated in the ES (Appendix 8F) that it is unlikely that otters will be attempting to enter the site following completion of construction. It is recommended that fencing is installed around the site to exclude otters as a precaution (see 1.37 above). Therefore, it is considered that any on-site impacts during operation are unlikely to impact significantly on otters in the area.

Off-site Impacts

- 1.74 As otters are known to use the area in close proximity to the Airport, it is considered possible that the proposed development may have some off-site impacts during operation on this species.

Noise and vibration

- 1.75 Information provided in the ES (Chapter 8) states that the majority of noise disturbance during operation will be generated by Air Traffic Movements (ATMs), but that noise disturbance may also arise from the warehouse activities, such as the loading and unloading of haulage wagons, an increase in road freight traffic using the A689 and an increase in car traffic from employees based at the depot. It is stated in Chapter 6 that the chiller units will produce noise levels (just less than 40dB(A)) necessitating additional sound attenuation measures to be applied to the equipment. The conclusion of the ES (Chapter 8) regarding impacts of noise generated by operational activities on otters is that noise disturbance arising from the increase in ATMs will not introduce any further significant noise to the River Eden SAC. Chapter 6 concludes that no significant effects regarding noise and vibration during operation are predicted associated with the road traffic noise or future aircraft noise and therefore that mitigation is not necessary. It also states that conventional noise control will be employed where necessary e.g. attenuators, acoustic screening, to mitigate any adverse effects that may result from the external components of the chiller units. It is stated

in Alan Stratford Associate's review of the ES, that they believe that the passenger and cargo ATMs forecast in the ES are too high and that the airbourne noise impacts can be considered as negligible, particularly if the ATM forecasts are not attained. It is also stated that there is nothing within the ES to question the accuracy of the airborne aircraft noise predictions, sensitivity tests or road traffic noise and vibration predictions in the ES. However, ASA consider that the noise levels from ground operations (particularly for the HGV docking bays) and for HGV drive-bys may have been under-estimated.

- 1.76 *Therefore, in line with the precautionary principle, to ensure that noise and vibration will not adversely affect the integrity of the River Eden SAC in the future, a noise management plan to control noise nuisance from the freight activities is to be conditioned (SoC 14).*

Lighting and visual disturbance

- 1.77 With regard to impacts of lighting and visual disturbance on otters during operation, relevant information is provided in the ES (Chapter 8). Visual disturbance impacts on otters could be caused by external lighting on and around the Air Freight Distribution Centre, associated with the buildings, roads, parking and hardstanding areas. Temporary mobile lighting will be used when necessary on the apron. The existing approach lighting and aircraft ground lighting (as part of the runway resurfacing) will be upgraded as per the current alignment with no additional lighting to the current baseline; however, the frequency of use may increase alongside the predicted increase in ATMs.
- 1.78 It is stated in Chapter 8 that exterior lights will be downward facing to minimise the spillage of light onto adjacent habitats and will not encroach into the River Eden SAC or its tributaries; 'it is evaluated that the increase in lighting associated with the Air Freight Distribution Centre will not result in significant effects on the River Eden SAC/SSSI or its interest features, particularly otter.'
- 1.79 Chapter 8 also states that runway approach lighting and aircraft ground lighting will be at the existing locations and therefore will not result in a change from the baseline conditions; however the lighting could potentially be used more frequently with the potential increase in ATMs. It is concluded that increased usage of approach lights will not result in any significant effects on otter, as the lights are only used for very short periods of time and are directed upwards towards approaching aircraft, away from habitat that may be used by otter.
- 1.80 Reference should be made to 1.42 above regarding information in Chapter 9 and viewpoints 3 and 4. It is also stated in Chapter 9 that the strategic use of tree planting will significantly reduce the adverse visual effects identified at opening from the majority of representative viewpoints and the relative significance of visual effects will be reduced to 'moderate/minor adverse' (viewpoint 3) and 'moderate adverse' (viewpoint 4). As the River Irthing lies at a height of at least 20m below viewpoints 3 and 4 and the development site, otters moving along the River Irthing are likely to be afforded some shelter from visual impacts during operation by the topography of the relatively steeply sloping land to the west, between the river and the development area.

- 1.81 It is stated in Chapter 9 regarding operational lighting impacts that, 'the proposals will introduce new sources of light within the area immediately adjacent to the Air Freight Distribution Centre in the form of the downward directional lighting located at a maximum height of 10m. No residential properties are assessed as being directly affected by the new lighting, however an increase in ambient lighting levels within the local area is expected. However, it is not anticipated that this will result in an increase in ambient light levels to the wider area'. The distances associated with the 'local' and 'wider' areas have not been included in the ES. It is also stated in Chapter 9 that no measures to mitigate the assessed effects of the proposed development on visual amenity are recommended due to the inclusion of landscaping in the proposed development design.
- 1.82 *With regard to the potential for off-site light spillage as included in the above paragraph (from Chapter 9 of the ES), in order to be certain of no significant impact on otters, it is recommended that a condition is included to require the permanent lighting scheme for the proposed development to be designed to minimise any potential impacts of light spilling on land outside the Airport (SoC 10 (s) and 24).*

Increased road traffic

- 1.83 With regard to potential impacts of increased road traffic on the number of otter road casualties, relevant information is included in the ES (Chapters 5 and 8). Tables included in Chapter 5 show that the percentage impact of traffic movements predicted during the operational phase is up to 8.7% over a 24 hour period, which is of 'negligible adverse significance'.
- 1.84 Information regarding predicted road traffic in relation to badger road casualties is included in Chapter 8, which may also be relevant to impacts on otters; the addition of a new roundabout at the entrance junction to the Airport is likely to result in a reduction in traffic speeds along this stretch of the A689 during operation. However, it is understood that there will also be HGV movements on roads during the night; in the ES (Chapter 5) the estimated 24-hour HGV flow in 2025 will be 342, with almost a third of the HGVs operating within the night-time period (midnight to 06:00). In their review of the ES, Alan Stratford Associates consider that the trip generation assumptions forecast in the ES may have been underestimated. They also acknowledge that due to the nature and location of the development, little in the way of mitigation measures is possible.
- 1.85 It is considered that a 8.7% increase in traffic, when combined with the predicted HGV movements (particularly at night), may be of significance to otters in the locality, particularly if the increase has been under-estimated, as suggested by Alan Stratford Associates. In light of this and in the absence of robust survey data for otter in the area, it will be important to monitor and manage potential impacts of increased traffic on otters in line with the precautionary principle, through conditioning and mitigation. *It is therefore recommended that the applicant monitors and records any otter road traffic incidents around the Airport site and reports the outcomes to Natural England/ Carlisle City Council, taking appropriate mitigation action as necessary if any trend in increased collisions is observed to minimise the risk of increased traffic having a significant impact on otters (SoC 24).*
- 1.86 On the basis of the information presented in the ES, in summary it is considered that:
- on-site impacts during operation are unlikely to be of significance to populations of otters in the locality.
 - the risk of off-site impacts on otters such as noise, vibration and lighting during operation is likely to be low. However, (in line with the precautionary principle in the absence of robust sur-

vey data) in order to be certain of no future significant impact it is recommended that a noise management plan is agreed and that the permanent lighting scheme includes mitigation for potential lighting impacts on land outside the site boundary. This conclusion also applies to the additional SSSI feature, breeding birds associated with the river and adjacent habitats.

- The risk of impacts on otters arising from road casualties linked to additional traffic generated by the development is to be kept under review by monitoring, with a view to implementing mitigation measures as necessary.

Permanent Phase - Long Term Operation of the Site: Habitat modification and loss

- 1.87 The relevant Conservation Objectives for habitat modification and loss for the SAC feature (otter) and for the SSSI feature (breeding birds) are referred to above in 1.35.

On-site Impacts

- 1.88 Please refer to comments made in 1.75 above under 'on-site impacts'.

Off-site Impacts

- 1.89 Please refer to comments made in 1.47 above under 'off-site impacts', which also apply to otters and breeding birds associated with the river and adjacent habitats (SSSI feature) during operation.

IMPLICATIONS FOR CONSERVATION OBJECTIVES

- 1.90 It is considered that on the basis of the information supplied in the ES and in light of the precautionary principle (in the absence of robust otter survey data), the proposed development may impact on the River Eden SAC during construction and operation (as listed in the previous section) and therefore that the proposed development of Carlisle Airport may adversely affect the integrity of the River Eden SAC in the light of the conservation objectives. The River Eden SAC Conservation Objectives (Annex 2) include high standards for water quality which reflect the site's designation as a SAC. The Conservation Objectives relating to water quality include targets for un-ionised ammonia, suspended solids, total reactive phosphorous, toxic chemicals and siltation.
- 1.91 Potential impacts of the proposed development that have been identified in this assessment that may have a significant effect on the Conservation Objectives of the River Eden SAC include the following:

During Construction

- Contaminated and uncontaminated siltation (water quality impacts – SAC targets for suspended solids, siltation and toxic chemicals)
- Disturbance of contaminated ground (water quality impacts – SAC targets for suspended solids, siltation and toxic chemicals)
- Chemical pollution (water quality impacts – SAC targets for toxic chemicals)
- Off-site disturbance through increased construction traffic noise, vibration and lighting (SAC targets for otter and SSSI targets for breeding birds disturbance impacts)

During Operation

- Contaminated surface water drainage (water quality impacts – SAC targets for toxic chemicals)

- Sewage effluent/foul drainage (water quality impacts – SAC targets for total reactive phosphorous)
- Pollution events/spillages (water quality impacts – SAC targets for toxic chemicals)
- Contaminated ground (water quality impacts – SAC targets for suspended solids, siltation and toxic chemicals)
- Off-site disturbance through noise, vibration and lighting impacts associated with operational activities and increased traffic movements (SAC targets for otter and SSSI targets for breeding birds disturbance impacts)
- Potential increased road mortality due to increased traffic (SAC targets for otter – anthropogenic mortality)

'In Combination' Effect

- 1.92 When considering whether the proposed development of Carlisle Airport (either alone or in combination with other plans or projects) would adversely affect the integrity of the River Eden SAC in the light of the conservation objectives, the 'in combination' effect needs to be examined if the proposed development is considered likely to have a significant impact on the European site. Therefore, information about other proposed or recent developments in the area was requested from Carlisle City Council.
- 1.93 Carlisle City Council assessed their records of current applications and extant permissions and responded with the following plans/projects that may be of relevance to this assessment:
- The Carlisle Northern Development Route
 - Flood defences at Low Crosby
 - Sands Centre Development in Carlisle
- 1.94 Although the above plans/projects lie within the River Eden drainage catchment, it is considered that it is very unlikely that there will be an 'in combination' effect with the proposed development at Carlisle Airport, as the Low Crosby flood defences and Sands Centre are located at a distance (> c. 7km) downstream of the proposed development. It is also understood that there is currently no water quality failure in the River Eden itself. An Assessment of Likely Significant Effect (ALSE) has been completed for the flood defence works (by the EA) and for the development of the Sands Centre (by CCC); both documents concluded that there will be no significant effect alone or in combination on the River Eden SAC and its interest features. The Notice of Planning Consent for the Carlisle Northern Development Route was examined for the purposes of this assessment; measures had been included in the document to protect the River Eden and its interest features. It is understood that there are no other plans or projects in the area that would be of relevance for this Assessment.
- 1.95 Carlisle City Council re-assessed their records of current applications and extant permissions with regard to the redetermination of the planning application for Carlisle Airport, and they are not aware of any other plans/projects that may act in combination with the proposed development at Carlisle Airport on the River Eden SAC (email from Angus Hutchinson, 8th July 2014).**
- 1.96 On the basis of the information supplied by Carlisle City Council, it is considered that there are no other plans or projects in the area that may act 'in combination' with the proposed development to adversely affect the integrity of the River Eden SAC.

AVOIDING ADVERSE EFFECTS

- 1.97 Natural England's (previously English Nature) Habitats Regulations Guidance Note 1 (HRGN 1) states that, if the proposal would adversely affect the integrity of the site then, having regard to Natural England's advice, Carlisle City Council should consider the manner in which it is proposed to be carried out and whether the plan or project could be modified, or whether conditions or restrictions could be imposed, to avoid the adverse effects. Carlisle City Council would then need to reassess the conclusions in the light of any such modifications, conditions or restrictions that may be agreed or imposed.
- 1.98 The integrity of the site has been defined as such; 'coherence of the site's ecological structure and function, across its whole area, that enables it to sustain the habitats, complex of habitats and/or the levels of populations of the species for which the site is classified' (ODPM Circular 06/2005). An adverse effect on integrity is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of its designation (HRGN 1). The wording used in Regulation 48(5) implies that a precautionary approach should be taken in considering effects on integrity, in line with the Government's principles for sustainable development. Regulation 48(5) says that (subject to Regulation 49) projects may only proceed if the competent authority has ascertained that it **will not adversely affect** the integrity of the European site.
- 1.99 As stated previously, several impacts have been assessed as potentially impacting significantly on the River Eden SAC and SSSI. It is therefore considered that in the absence of adequate, formalised agreements and conditions, the proposed development may adversely affect the integrity of the site in light of the conservation objectives (as detailed in the previous section). In order to be certain of no significant impact and to avoid future adverse effects on the integrity of the River Eden SAC, it is considered that the following issues would need to be agreed before any planning permission is granted, or conditioned in any planning permission that may be granted:

Issues during construction:

- 1.100 Siltation – Conditioning is required in order to maintain favourable condition of the River Eden SAC, by achieving the suspended solids target of $\leq 10\text{mg L}^{-1}$ (for upper reaches of the main Eden and all tributaries) and $\leq 25\text{mg L}^{-1}$ (annual mean) (for the lower Eden that supports salmon passage, but not spawning or nursery areas) and the siltation target of 'no excessive siltation. Channels should contain characteristic levels of fine sediment for the river type', *i.e. by:*
- *the production and implementation of an approved construction management plan, to include full details of siltation prevention in the River Eden SAC.*
- 1.101 Disturbance of contaminated ground – Conditioning is required in order to minimise the risk of toxic pollutants arising from contaminated ground being transferred to the River Eden SAC via surface and/or groundwater which may affect the Conservation Objectives of all SAC interest features and additional SSSI features (through contaminated siltation or chemical pollution), *i.e. by:*
- *the completion of further works as detailed above in 1.30 & 1.31, including the production of an approved remediation strategy in the event of identification of any contamination.*

1.102 Chemical pollution - Conditioning is required in order to maintain favourable condition of the River Eden SAC, by no exceedence of the relevant Environmental Quality Standards (or Predicted No Effect Concentrations) for potentially toxic substances (in addition to a range of targets for other water quality parameters), *i.e. by:*

- *biological/chemical monitoring of watercourses before, during and after construction*
- *the production of an approved construction management plan, including details of an 'emergency plan' to deal with any specific pollution events during construction and measures to reduce soil compaction during construction, to minimise the risk of potential pollutants reaching the River Eden SAC.*

1.103 Noise, vibration and lighting disturbance – Conditioning is required in order to maintain favourable condition of the River Eden SAC and SSSI with regard to otters and breeding birds, by achieving the targets relating to minimising disturbance along the river corridor, *i.e. by:*

- *the production and implementation of an approved construction management plan to minimise risks of injury to otters during construction*
- *mitigation for lighting during construction*
- *mitigation measures to reduce noise disturbance to otters and breeding birds on the River Eden SAC.*

Issues during operation:

1.104 Contaminated surface water drainage – Conditioning is required in order to maintain the favourable condition of the River Eden SAC, of no increase in potentially toxic pollutants and no exceedence of the relevant Environmental Quality Standards (or Predicted No Effect Concentrations) for potentially toxic substances (in addition to a range of targets for other water quality parameters), *i.e. by:*

- *the production and implementation of a detailed drainage strategy, to include full details of appropriate drainage methods to manage surface runoff, including attenuation lagoons, oil/silt interceptors, discharge rates and water quality monitoring, to minimise the risk of potential pollutants reaching the River Eden SAC. The drainage strategy will need to go through the usual Environment Agency consenting process and will be subject to further scrutiny through an Appropriate Assessment. De-icing chemicals are not to be used at the Airport, in accordance with information provided in the ES.*

1.105 Sewage effluent/foul drainage - Conditioning is required in order to maintain the favourable condition of the River Eden SAC, by achieving the target for total reactive phosphorus ($\leq 0.02, 0.04, 0.06$ or 0.1 mgL^{-1} as an annual mean depending on reach type), more specifically, the guideline phosphorus standard of $60 \mu\text{g/l}$ for the River Irthing, *i.e. by:*

- *the production and implementation of an approved, full permanent drainage strategy to include sewage effluent/foul drainage. The drainage strategy will need to go through the usual Environment Agency consenting process and will be subject to further scrutiny through a Habitats Regulations Assessment.*

- 1.106 Pollution events/spillage incidents – Conditioning is required in order to maintain the favourable condition of the River Eden SAC, no increase in potentially toxic pollutants and require that there should be no exceedence of the relevant Environmental Quality Standards (or Predicted No Effect Concentrations) for potentially toxic substances (in addition to a range of targets for other water quality parameters), *i.e. by:*
- *including an ‘emergency plan’ in the final drainage strategy (see 1.99 and 1.100 above) to deal with any specific pollution events, including fire and facilities for on-site chemical/ fuel storage arrangements during site operation to minimise the risk of potential pollutants reaching the River Eden SAC.*
- 1.107 Contaminated ground - Conditioning is required in order to minimise the risk of toxic pollutants arising from contaminated ground being transferred to the River Eden SAC via surface and/ or groundwater which may affect the Conservation Objectives of all SAC interest features and additional SSSI features (through contaminated siltation or chemical pollution), *i.e. see 1.100 above.*
- 1.108 Noise, vibration and lighting disturbance – Conditioning is required in order to maintain the favourable condition of the River Eden SAC and SSSI with regard to otters and breeding birds, by achieving the targets relating to minimising disturbance along the river corridor, *i.e. by:*
- *The production and implementation of an approved noise management plan, including measures to minimise the risk of disturbance to otters and breeding birds on the River Eden SAC from freight activities.*
 - *A permanent lighting plan to include mitigation measures to minimise impacts of lighting during operation outside the site boundary.*
- 1.109 Increased road traffic – Conditioning is required in order to maintain favourable condition of the River Eden SAC, by achieving the target ‘otter populations not significantly impacted by human induced kills’, *i.e. by:*
- *submitting a Biodiversity Management and Enhancement Plan prior to works commencing for approval by Carlisle City Council, NE, CWT and RSPB, to include monitoring and recording of any otter road traffic incidents around the Airport site and taking appropriate action as necessary if any trend in increased collisions is observed.*

CONCLUSIONS AND RECOMMENDATIONS

- 1.110 Taking into account the site's conservation objectives and having undertaken this assessment, the likely effects of the proposal on the international conservation interests for which the site was designated may be summarised as:
- Water quality issues and sources of pollution
 - Noise, vibration, lighting and increased traffic as disturbance factors
- 1.111 As the proposed development will not directly affect habitats likely to be used by otter, the assessment concluded that 'habitat modification and loss' are unlikely to affect the international conservation interests for which the site was designated, either during construction or operational phases.
- 1.112 It is concluded that sufficient information has been provided by the applicant for the purposes of this assessment to show that there are not likely to be any major barriers to ensuring that the proposed development will not have an adverse effect on the integrity of the River Eden SAC. However, to be certain of no adverse impacts on the integrity of the River Eden SAC, a number of issues regarding potential impacts on the River Eden will need to be conditioned in any planning permission that may be granted, as detailed in the previous section above. It is therefore concluded that, providing the issues as highlighted in this assessment are adequately conditioned in agreement with Natural England, the proposed development (either alone or in combination with other plans or projects) will not lead to an adverse effect on the integrity of the River Eden SAC.

ANNEX 1 - NATURAL ENGLAND'S REPRESENTATIONS

Date: 14th December 2007
Your ref: AMT/DC/07/1127

Alan Taylor
Development Control Manager
Carlisle City Council
Civic Centre
Carlisle
Cumbria CA3 8QG

Dear Alan

Proposals: Planning Application ref: 07/1127. Construction of replacement runway with associated instrument landing equipment and reconfigured taxiways and hard standing; New development to the south of the runway including warehousing and distribution facilities, new passenger terminal, offices, hangars, new air traffic control centre, aircraft apron and car parking, with new road junction and access from the A689 and other associated infrastructure and facilities, including aviation fuel storage, local refuelling facility for the distribution operations and improved drainage.

Location: Carlisle Lake District Airport, Carlisle, Cumbria

Thank you for consulting Natural England on this planning application and for agreeing to an extension of the consultation period.

Natural England was formed in October 2006 by bringing together English Nature, the landscape, access and recreation elements of the Countryside Agency and the environmental land management functions of the Rural Development Service.

Our stated purposes are that we will work for people, places and nature, to enhance biodiversity, landscapes and wildlife in rural, urban, coastal and marine areas; promoting access, recreation and public well-being, and contributing to the way natural resources are managed so that they can be enjoyed now and in the future.

We are working towards the delivery of four strategic outcomes, which together deliver on our purpose to conserve, enhance and manage the natural environment for the benefit of current and future generations.

- A healthy natural environment: England's natural environment will be conserved and enhanced.
- Enjoyment of the natural environment: more people enjoying, understanding and acting to improve, the natural environment, more often.
- Sustainable use of the natural environment: the use and management of the natural environment is more sustainable.
- A secure environmental future: decisions which collectively secure the future of the natural environment.

Natural England is a statutory consultee where a development:

- is in, or is likely to affect, a Site of Special Scientific Interest (SSSI);
- is in a consultation area around an SSSI (an area named by the local Natural England Area Team as being important to protecting an SSSI);
- is in, or is likely to affect a European protected site (SPA, SAC, RAMSAR) and an assessment under the Habitats Regulations might be required;

- requires an Environmental Impact Assessment (EIA);

In addition, Natural England has a duty to inform the Secretary of State of developments prejudicial to natural beauty in National Parks and Areas of Outstanding Natural Beauty (AONBs).

Natural England must also assess whether the proposal has any significant impacts upon our other interests, including National Trails, Access Land, or the areas of search for new national landscape designations.

Natural England advises on issues relating to species protected under national and international legislation including survey requirements to identify whether there are likely to be any impacts in this respect and any acceptable mitigation measures that may be proposed.

Comments on the proposed development

Natural England's detailed comments are set out in the attached annexes and summary table. The key areas of concern relate to:

- Nationally and internationally designated sites (nature conservation)
- Biodiversity and protected species
- Landscape and amenity
- Traffic and transport

We would advise the City Council that the Environmental Statement (ES) contains insufficient information relating to several elements of the environmental baseline and as a result it is not possible to make a robust assessment of the potential impacts. **Natural England therefore objects to the application until this information is provided after which time we will review our position.**

As our comments will explain, the assessment of environmental impacts has been in places incomplete and/or inadequate in our view. We are disappointed that there was very little direct communication with Natural England prior to submission of the application as we believe it would have been beneficial to have detailed discussions between the applicants' consultants and the relevant staff from Natural England whilst preparing the Environmental Statement.

It is our view that the proposals have not been shown to be in accordance with national, regional and local planning policy and do not meet the requirements of key legislation.

It will be necessary to discuss the scoping for the Habitats Regulations Assessment with the City Council in due course. However, please do not hesitate to contact me, in any event, if you would like further clarification of Natural England's position.

Yours sincerely

Alison McAleer
NW Region, Government Team (Cumbria)

Annex 1 – Natural England's detailed comments

Annex 2 – International and national legislation/statutory protection

Annex 3 – Important Notes to Local Planning Authority – biodiversity duties and protected species

Annex 1:

Natural England's Detailed Comments

1. Nationally and Internationally Designated Sites (Nature Conservation)

1.1 Legislation

As stated in the ES, the development site is not located on land designated nationally or internationally for nature conservation, (although Natural England emphasises that the site is a designated *County Wildlife Site* and this should therefore be a key consideration in the assessment of environmental effects.) However, the development is located in close proximity to nationally and internationally designated sites, and by virtue of the nature of its operations, has potential to effect the interest features of those sites within a zone of influence through various mechanisms and pathways.

Due to the nature and scale of the development proposed and in view of the potential for impacts upon nationally (Sites of Special Scientific Interest) and internationally designated sites (Special Areas of Conservation, Special Protection Areas and Ramsar sites), Natural England advises that the proposals need to be fully assessed under the relevant legislation:

- ***The Wildlife and Countryside Act 1981, as incorporated by The Countryside and Rights of Way Act 2000***

Further information on the statutory protection afforded to SSSIs is described in Part II of Circular 06/2005 and **Annex 2** to this letter.

- ***The Habitats Regulations (The Conservation (Natural Habitats, &c.) Regulations 1994)***

Paragraph 6 of PPS 9 explains the statutory protection afforded to SPAs and SACs and appropriate weight should be attached to internationally important sites in decision making. The statutory protection is explained further in **Annex 2** to this letter and in Circular 06/2005. Specific advice relating to Appropriate Assessment under the Habitats Regulations is provided below.

1.2 Habitat Regulations

The Habitats Regulations require competent authorities (in this case, Carlisle City Council as local planning authority) to carry out an Appropriate Assessment (under Regulation 48 of the Conservation (Natural Habitats &c) Regulations 1994) of any plan or project which is likely to have a significant effect on a European site, either alone or in combination with other plans or projects and which is not directly connected with or necessary to the management of the site for nature conservation.

Natural England's guidance on Habitats Regulations Assessment states that whilst the Habitats Regulations Assessment is not the same as the Environmental Impact Assessment (EIA) process as derived through the various Environmental Assessment Regulations, it would be appropriate to use the information assembled for the Environmental Assessment when carrying out the Habitats Regulations Assessment. The EIA should assist the Habitats Regulations Assessment process by identifying the internationally designated sites within varying distances from the site and potential pathways for effects derived from the proposed development project with any likely significant effects that may result. If no effects are anticipated then the EIA should supply clear reasoning and evidence why this is considered to be the case.

The Habitats Regulations Assessment is required to assess any likely significant effects on European Sites, with reference to the site conservation objectives for the European interest features. The Habitats Regulations Assessment needs to look at any potential affects of the proposed development project, both alone and in combination with other plans or projects. If likely significant effects are identified then the City Council is required to carry out an Appropriate Assessment under the Habitats Regulations and Natural England can provide scoping advice at this stage.

Circular 06/2005 makes it clear (Paragraph 20): *'It is not for the decision-taker to show that the proposal would harm the site, in order to refuse the application or appeal. It is for the decision-taker to consider the likely and reasonably foreseeable effects and to ascertain that the proposal will not have an adverse effect on the integrity of the site before it may grant permission. If the proposal would adversely affect integrity, or the effects on integrity are uncertain but could be significant the decision-taker should not grant permission, subject to the provisions of regulations 49 and 53.'*

The Environmental Impact Assessment has correctly identified and listed the relevant statutory designated sites for nature conservation within the specified potential area of influence.

As stated in para 13.1 of the ES "The Airport's operations extend beyond the physical boundary of the operational Airport's real estate." The most likely impacts on designated sites in Natural England's view are:

- Water quality issues and sources of pollution
- Air quality issues
- Noise, vibration, lighting and general activity as disturbance factors
- Bird strike
- Habitat modification and loss

We note the statement made in 8.16 regarding 'routine airport maintenance and normal operations' but advise the City Council that for the purposes of assessing impacts on SSSIs and for the Habitats Regulations Assessment, all activities associated with the proposed development must be considered, including ongoing management, where they are likely to have a significant effect on the sites' interest features.

Whilst chapter 8 'Ecology and Nature Conservation' and its related Appendices attempt to cover the main issues, Natural England has also referred to information presented in the separate chapters on, noise & vibration, air quality & dust, water quality, flood risk and drainage, ground contamination and airspace management, landscape & visual effects and associated figures.

1.3 Impacts on River Eden SAC/River Eden & Tributaries SSSI:

1.3.1 Water quality issues and sources of pollution

Water quality is a fundamental issue in terms of the conservation objectives for the River Eden SAC and this will therefore be a key aspect of the Habitats Regulations Assessment for the development. Para 10.57 of Chapter 10 rightly emphasises that the River Eden SAC has the highest category of importance ('very high') attached to it as a water resource. The River Eden SAC requires very high levels of protection against any significant deterioration in water quality arising from the proposals, particularly in view of the close proximity of the river and the pathways that exist to transfer any potential pollutants.

There are several key issues:

- The ES states that the foul drainage strategy is not yet confirmed, but that the alternatives still under consideration are a purpose-built facility at the airport or disposal via the local Waste Water Treatment Works (WWTW).
- The current surface water drainage system at the Airport is described and an outline drainage design presented in the FRA but a detailed scheme will need to be drawn up and agreed.
- There is clear potential for the presence of contaminated ground on the site for which intrusive site investigations are essential to obtain the necessary information required for completion of the assessment. The airport site is also located above a major aquifer and para 10.30 explains that it is not known whether there is hydrological continuity between the perched groundwater and the River Irthing.
- There will need to be measures/a strategy in place to deal with any specific pollution events such as fuel spills and accidents.

As water quality is such a fundamental issue for the River Eden SAC, NE is concerned that further information on all the above must be available in order to adequately inform the Habitats Regulations Assessment. We do not consider that the current information we have seen is adequate for such an assessment.

Water quality is dealt with briefly in Chapter 8 (8.268) under 'Pollution' but is concluded to have 'no significant effect'. Likewise in Appendix 8G – Summary Impacts Table – the worst case scenario for the internationally designated River Eden SAC is described as 'total damage of habitat and 100% species mortality downstream from pollution source' and 'likely outcome would be somewhere in between minimal and total damage to ecosystem' and yet the conclusion is 'Not significant' and confidence is 'certain'. There is insufficient information in the ES to justify this conclusion.

Chapter 10 illustrates the range of potential sources of impact on water quality however NE is particularly concerned at some of the statements made in relation to the assessment of potential effects on the designated sites: For example 10.90 states that the dilution factor in the River Irthing would be extremely high and therefore even at the worst case scenario only an overall minor effect would be suffered as a result of a pollution source/event. The same conclusion is drawn in relation to the potential for pollution arising from contaminated land at 10.97 and also again in relation to potential pollution from foul drainage and waste storage and accidental spillages. It is our view that this is not a robust conclusion, particularly when dealing with an internationally designated river system which requires a Habitats Regulations Assessment. At 10.104 the ES concludes that the River Eden SAC could not be affected by suspended solids contamination because of its distance from the airport. Again, we do not consider this to be a robust conclusion.

Appendix 8F (8F.38) discusses pollution prevention, drainage and flow attenuation measures stating that they will be 'an early priority in the construction programme' and 'it is likely that they will become effective during the construction phase'. This does not provide the certainty and guarantees that will be required to ensure protection of the River Eden SAC, particularly in view of the fact that intrusive ground investigations have been recommended as part of the process of addressing the risk of ground contamination on site. In order to meet the stringent requirements of the HRA process in assessing potential impacts, this will need to be a more robust plan than at present. 8F.39 for example – "With appropriate mitigation the potential for pollution events during the construction phase to affect the River Eden SAC are considered unlikely". This appropriate mitigation needs to be set out in detail and confirmed as part of the development project.

Therefore, NE advises that the contents of Chapter 10 (Water Quality, Flood Risk and Drainage) do not provide adequate information to allow the City Council to conclude 'no likely significant effect' on the River Eden SAC under the Habitats Regulations. The information required must be sufficient, based on the precautionary principle, to assess the standard of the resultant discharges reaching the River Irthing/River Eden SAC and impacts on its water quality and designated interest features. Some aspects may require separate discussion with and consents from the Environment Agency which are also subject to Habitats Regulations Assessment. We also advise that the EA is fully consulted on these issues.

1.3.2 Noise, vibration, lighting and general activity as disturbance factors/Habitat modification and loss

In terms of the River Eden SAC the interest feature most likely to be affected by these impacts is otter. Otter is an internationally protected species and protection of the species and its habitat is of high nature conservation importance. The summary in 8.191 suggests that there has not been any consideration of habitats which may be used by otters outside the immediate river corridor. 8F.41 states that potential impacts on otters might be minimised by the fact that 'otters are largely constrained to movements along the banks of watercourses'. Otters frequently range beyond the riverbanks onto surrounding land and therefore this assumption is incorrect. The ES should therefore indicate the likely impacts on otters based on a clear understanding of their local range. Currently there is no evidence to suggest that we have a clear understanding of how otters use this area.

Potential impacts to consider include noise, vibration, lighting and general activity as disturbance factors; water quality issues (as discussed above), habitat modification and loss and any mitigation measures to minimise those effects.

In 8.191 otter is appraised as being of 'local value' to nature conservation but NE emphasises that otter is a European protected species and an interest feature of a European designated Special Area of Conservation and therefore strictly protected under the relevant European and national legislation.

1.4 Impacts on White Moss, Crosbymoore SSSI

1.4.1 Water quality issues and sources of pollution

White Moss, Crosbymoore SSSI appears to be given very little consideration in the ES despite the fact that Baron's Dike runs through the edge of this site and it is identified in 10.32 as part of the zone of hydrological influence. 10.80 records White Moss, Crosbymoore SSSI as 'very high' importance. It is not considered in Appendix 8F which consider only European sites and not specifically mentioned in 8G. Para 10.92 states that it 'is situated at a great distance from the Airport' when in fact is only 1km from the western boundary. 10.92 states that pollution could only reach this area through the aquifer but there is no explanation as to why Baron's Dike (which drains unnamed ditches 1 and 2 – ref 10.72) could not act as a pathway to the site also. We note in 10.86 Baron's Dike North is described as having the highest risk of contamination. At 10.104 the ES concludes that White Moss, Crosbymoore SSSI could not be affected by suspended solids contamination because of its distance from the airport. NE does not consider this conclusion has been justified..

We would have liked to see a much clearer analysis of the likely air quality impacts on this SSSI (particularly in relation to critical loads for N), as it is located so close to the take-off/landing points of the new runway alignment and contains sensitive habitat types. Table 7.16 *Predicted baseline concentrations of NOx and nitrogen deposition rates to potentially sensitive ecosystems* – and following tables 7.19 and 7.20 omits to mention White Moss, Crosbymoore SSSI and focuses mainly on road-based sources? Critical loads are shown to be already exceeded at these points. Para 7.35 states that the assessment is not site-specific. It is also unclear whether the assessment presented represents a worst case scenario.

1.5 Impacts on Upper Solway Flats and Marshes SPA

Whilst the boundary of the SPA is just over 12km away from the airfield, Annex 1 bird species for which it is designated are known to come inland regularly to feed on land in close proximity to the airport. Some information is included in the ES at 8.124 to 8.127. NE can confirm that large numbers of Whooper Swan and Pink-Footed Geese are known to be using this area.

We refer specifically to the RSPB publication 'Wind Turbines and Sensitive Bird Populations: A Spatial Planning Guide for on-shore wind farm development in Cumbria' (November 2007) which has defined and identified 'bird sensitive areas'. These are shown on a series of bird sensitivity maps, including the Outer South Solway/Inner South Solway/Lower Esk/Lower Eden. Some of the areas are used for feeding and roosting and other are flight zones. Whilst this work has been done in connection with windfarm development, the information is entirely relevant to the current proposal.

SPA bird species are protected when they are in these areas known to be 'functionally linked' to the SPA and potential impacts upon them must be assessed under the Habitats Regulations. The ES as it stands does not in our view provide sufficient information in order to fully assess potential impacts on SPA bird species for the following reasons:

- Firstly there is insufficient survey information to quantify the potential effects on the birds due to disturbance factors, impacts on habitats or risk of bird strike. Such information is necessary to provide a full spatial analysis linking data on bird distributions and bird species to flight lines of aircraft and related impacts etc. Targeted surveys would identify use of the area by SPA bird species, particularly focussing on identifying feeding and roosting areas and patterns of bird

movements through the area. Such survey information would also be required to fully identify any mitigation measures that may be required.

- Secondly, the ES does not present detailed information on the implications of the 13km 'Safeguarding Zone' in terms of bird management measures and avoidance of bird strike. There is no discussion of whether a risk assessment will be carried out by the developers in relation to the airport development following increase in flights and runway realignment etc and/or whether there will be the development of some form of "bird control plan". The developer should therefore provide information setting out clearly what the Safeguarding Zone currently means for nature conservation interests within the 13km radius and whether these activities will intensify or change in any way in the short, medium and longer term compared with the recent situation. What would be most helpful is a detailed plan, based on robust data and linked to projected aircraft movements and flight paths, identifying precise areas outside the airport where bird control measures and land use management would be employed.
- Thirdly, NE does not consider that the impacts of lighting have been fully assessed, in particular the potential effects of the approach lights beyond the existing airfield which will be of very high intensity as well as lighting around the main development site. Approach lights by design will be very intrusive – even if only utilised for short periods of time. There is no indication of how frequently or for what cumulative duration the lights will be used for or to what distance around the airfield they might have an impact. It would be necessary to have information on the scale and geographical spread of impact. There has been an attempt to describe the lighting impacts in relation to landscape considerations in chapter 9 (9.131 onwards) but no similar treatment in relation to sensitive nature conservation receptors.

NE can advise further in relation to the Habitats Regulations Assessment and the conservation objectives for the SPA relating to the threshold for increases above baseline mortality. We would emphasise that this must be considered 'in combination' with other plans and projects that are currently affecting or are likely to affect SPA bird species. In this respect we draw the City Council's particular attention to windfarm developments in and around the Solway, many of which are currently subject to Habitats Regulations Assessment in relation to SPA bird species.

1.6 North Pennine Moors SPA

The ES rightly identifies the presence of golden plover, an SPA species, on, around and migrating on routes close to the airfield site. The detailed bird survey work described above would assist in determining the nature and extent of any impacts arising from the development proposal which is required for the Habitats Regulations Assessment. Also, with reference to the information in 8.17, we are not clear whether the issues relating to the 13km Safeguarding Zone (99% of bird strike occurring when planes are under 2000ft) take account of the local topography including rising land to the east of the airport around the North Pennines. If planes approach over the Pennines we are not clear whether they will be below this height at a greater distance than the standard. The ES does not appear to include any flight paths and height information which would enable assessment of potential effects.

1.7 Future Growth and Development of the Site

The ES reflects the fact that the future operation of the site following the proposed development is based on various predictions, estimation and assumptions. It is not clear how accurately these define future upper limits on development and activity, for example in terms of the number and size of planes or expansion of the haulage facility. There are elements of the original plans first presented at the meeting in May 2007 which do not form part of the current planning application such as potential to further extend the new runway from 1800 to 2300m and inclusion of a Luxury Hotel and Conference facilities (The "Hadrian's Wall" Hotel). For any elements not subject to planning permission or other formal consenting procedure, it would be important to know what controls there would be on the level and nature of use of the site in order to accurately identify potential impacts on nature conservation interests and for the purposes of the Habitats Regulations Assessment which must be able to address a 'worst case scenario'.

The ES refers to a 'Masterplan' for the airport which, from the standard guidance, should help provide more detailed information on the airport's longer term plans for development. NE is aware that Carlisle is not on the list of airports where a Masterplan is formally required as it is not large enough - however this may be an issue of good practice and the 'Masterplan' approach would be appropriate in addressing current uncertainties and improving understanding.

1.8 Additional Comments on Designated Sites:

We note that Table 8.9 contains errors including an incorrect list of features for the River Eden SAC. The list should **not** include

- Tilio-Acerion forests
- Old sessile oak woods.
- Margaritifera margaritifera (Freshwater pearl mussel)
- Alosa alosa.(Allis shad)

Accurate lists are contained in Appendix 8F.

The percentage of the whole SAC within 1km of the airport is not relevant in this context in terms of judging effects in relation to the site conservation objectives.

The SAC and SSSI are 410km long – not 910km long. For the SAC and legal policy context there should be some reference to the need for assessment of plans and projects under the Habitats Regulations.

1.9 Appropriate Assessment

Natural England advises the City Council that the proposals, alone and in combination with other plans and projects, may be likely to have a significant effect on the River Eden SAC, Upper Solway Flats and Marshes SPA and North Pennine Moors SPA. As the proposals are not directly connected with the management of these sites for nature conservation, under Regulation 48 of the Habitats Regulations, we advise that an Appropriate Assessment for each site will be required **before** the Council decides to grant permission.

The Council is required to consult Natural England as part of the assessment and have regard to any representations made (Regulation 48(3) of the Habitats Regulations and paragraph 17 of Circular 06/2005). The Council may also consult the public, as you feel is appropriate (Regulation 48(4) of the Habitats Regulations and paragraph 19 of Circular 06/2005). It is important to note that this kind of consultation would be specifically on the Council's Appropriate Assessment and would be a separate consultation to that on the planning application and EIA.

It is our view that the information provided by the applicants is not sufficient to fulfil the requirements of an Appropriate Assessment and we provide more detailed comments below.

In our view, the Environmental Statement (Appendix 8F) identifies most of the key issues and sources of impacts in relation to the proposals, but fails to provide a robust assessment of the issues and impacts to back up the conclusions, most often as a result of a lack of information. As a result issues are missed or considered insignificant with inadequate justification. Appendix 8G is particularly unsatisfactory in terms of reflecting the nature and scale of the environmental impacts of the development on European sites (and indeed the overall impact on wider biodiversity interests). By way of an example, the potential for water quality impacts on the River Eden SAC is considered 'not significant' despite the lack of presentation of any detailed information on pollution prevention, no thorough investigation of contaminated land issues, and no detailed plans for site drainage and wastewater/sewerage treatment.

2. Biodiversity and Protected Species:

2.1 Biodiversity

2.1.1 NERC Act and PPS9

Protection and enhancement of biodiversity should be a central issue in this and any such development proposals. In this respect we draw the City Council's attention to Section 40 of the Natural Environment and Rural Communities Act 2006 which places a New Biodiversity Duty on all Public Bodies:

"Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity".

PPS9 emphasises that "Development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design. When considering proposals, local planning authorities should maximise such opportunities in and around developments, using planning obligations where appropriate".

In this respect NE is concerned that the development as proposed appears to result in a significant net loss in biodiversity. We are particularly concerned about the loss of habitats such as broadleaved woodland (72.7% inside airport and 100% in the study area), scrub, marshy grassland and hedgerows (67% within site and 56% outside- total of 4.94km lost) – and species impacts including red and amber listed wintering and breeding birds. As explained below, we need to see further information to fully identify potential effects on Great crested newts, bats, reptiles, hares and badgers.

The cumulative result of all the information presented suggests an overall picture of biodiversity loss with little evidence of minimisation, mitigation and enhancement opportunities having been fully explored. This alone is unlikely to meet the requirements of Section 40 of the NERC Act and PPS9 but there should also be additional concern in view of the County Wildlife Site status of the airfield. Under PPS9, it is the duty of Local Authorities to "aim to maintain, and enhance, restore or add to biodiversity and geological conservation interests." Natural England advises that more consideration is given to how this may be achieved in such a large scale development.

2.1.2 County Wildlife Site

Natural England notes that the current airport is designated as a County Wildlife Site for its bird interest. Whilst this is not a statutory designation, it is afforded protection through Policy E35 of the Cumbria and Lake District Joint Structure Plan 2001-2016 and Policy LE4 of the Carlisle Local Plan. We emphasise the need for the City Council to ensure that the proposals are fully assessed in relation to potential impacts on the County Wildlife Site and the advice and views of the Cumbria Wildlife Trust and RSPB are taken fully into account.

2.2 Protected species:

Natural England's concerns relate specifically to the likely impact upon species protected by national and international legislation. The protection afforded these species is explained in Part IV and Annex A of *Circular 06/2005 'Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.'*

2.2.1 Bats

All of our species of bat are of international importance and are protected by UK, European and international law. Bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and under Schedule 2 of the Conservation (Natural Habitats, etc) Regulations 1994. Natural England advises that the City Council must consider the potential impacts on bats when determining the planning application. Overall there is a lack of detail about the survey methodology employed. As an example, for the bat survey work undertaken there appears to be no (or very little) reference to:

- the number of surveyors taking part
- surveyor's qualifications and experience
- the equipment used

- a table or spreadsheet of the findings
- an annotated plan of the survey area, including transect routes and stops
- the times of and weather conditions during the surveys
- details and plans of the woodland survey in relation to bat roosting potential
- a baseline plan showing current proven usage, areas of potential usage/value, connectivity pathways and which areas are to be lost through development

(Currently, best practice for bat surveys can be found in Bat Conservation Trust (2007). *Bat Surveys- Good Practice Guidelines*. Bat Conservation Trust, London.)

Details such as these are commonly included in survey reports in order to substantiate conclusions and recommendations. Without this level of detail Natural England advises that there is currently insufficient information to demonstrate whether or not the development would have an adverse effect on bats. On these grounds, we therefore recommend that the local planning authority refuse planning permission.

2.2.2 Great Crested Newts

Great Crested Newts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and under Schedule 2 of the Conservation (Natural Habitats, etc) Regulations 1994. Natural England advises that the City Council must consider the potential impacts on Great Crested Newts when determining the planning application. The above comments relating to bats similarly apply to the great crested newt survey and mitigation measures, e.g.

- No detailed information on survey and findings.
- No maps with the location of the ponds.
- No maps illustrating the location and extent of potential habitat that will be impacted upon.
- Insufficient details on potential impact on great crested newts, e.g. loss of connectivity, loss of habitat, will the new lagoons near Watchclose Wood be accessible to great crested newts?
- Insufficient details on proposed mitigation.

We wish to know whether all ponds outside the site boundary, but within 500 m of the development boundary been identified and surveyed?

Again, with out this level of detail, Natural England advises that there is currently insufficient information to demonstrate whether or not the development would have an adverse effect on great created newts. On these grounds, we therefore recommend that the local planning authority refuse planning permission.

2.2.3 Reptiles

All reptiles are protected under the Wildlife and Countryside Act 1981 (as amended) against killing and injuring. The site should be assessed for its suitability for reptiles and for potential impacts of works on any reptiles that may be present. If the site is suitable for reptiles and proposed works could result in killing or injuring reptiles, a reptiles survey and mitigation plan should be submitted as part of the planning application.

Natural England advises that there is currently insufficient information to demonstrate whether or not the development would have an adverse effect on reptiles. On these grounds, we therefore recommend that the local planning authority refuse planning permission.

2.2.4 Badgers

The Environmental Statement does not include any maps of badger setts in the area and potential foraging areas/routes of badgers. Although it is stated that there may be an increase in badger road deaths, there appears to be no consideration on how this could be mitigated against.

Badgers may move into the development site before development commences (or even during development). It may be advisable to undertake another survey for badger setts immediately before development commences.

Natural England advises the local planning authority to request further information and clarification in regards to badgers before determining the planning application.

2.2.5 Brown hares

Section 8.261 – is there going to be any mitigation for Brown Hares?

2.2.6 General comments - Appendix 8G Summary Impact Table.

NE does not consider that this table provides a valuable reference point in illustrating the overall or specific nature and scale of impacts, whether referring to protected species, designated sites and/or biodiversity. The information presented does not reflect the importance of species and habitat protection and biodiversity enhancement which should be key considerations. The table should at least have included a column indicating the legislative protection afforded to features were relevant. The table would also need to be reviewed in the light of the additional information requirements as set out in this letter.

2.2.7 Conclusion

NE considers there is currently insufficient information to demonstrate whether or not the development would have an adverse effect on a number of protected species. On these grounds, we therefore register an objection to the planning application.

Please note that according to PPS9 survey and mitigation reports **should not be conditioned** as part of a planning permission unless there are exceptional circumstances. Natural England would not consider a delay in determining planning permission to fall under the 'exceptional circumstances' category.

2.2.8 Additional comments

Surveys, assessments and recommendations for mitigation measures should be undertaken by suitably experienced persons holding any relevant licences and at an appropriate time of the year.

Further information on protected species surveys can be found on pages 48-50 of the *Guide to Good Practice* accompanying PPS9. Guidelines on mitigation can also be downloaded from the publications section of Natural England's website at www.naturalengland.org.uk.

We also recommend that the local planning authority considers all the points made in the attached annex. This provides guidance on survey requirements and information on how the authority should fulfil its **duty** on biodiversity issues under Section 40(1) of the *Natural Environment & Rural Communities Act 2006*, Regulation 3(4) of *The Conservation (Natural Habitats &c.) Regulations 1994* and Section 74 of the *Countryside & Rights of Way Act 2000* to ensure that the potential impact of development on species and habitats of principal importance is addressed.

The developer should provide evidence that all measures have been taken to identify the possible presence of a nationally or European protected species or Biodiversity Action Plan species. The local planning authority should request survey information from the applicant before determining the application in line with paragraph 99 of *Circular 06/2005 to PPS9 Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*.

The protection afforded these species is explained in Part IV and Annex A of *ODPM Circular 06/2005*. Paragraph 98 of the *Circular* states that *"the presence of a protected species is a **material consideration** when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat."*

Planning permission, if granted, does not absolve the applicant/developer from complying with the relevant law, including obtaining and complying with the terms and conditions of any licences required as described in Part IV B of the *Circular 06/2005*.

If the application is amended with additional information, Natural England should be re-consulted for a further 21 days.

3. Landscape and Amenity

We have the following concerns in relation to landscape and amenity:

3.1. Full Consideration of Alternatives

Wording in the Cumbria and Lake District Joint Structure Plan Policy E31 is aimed at protecting important features of national and international importance. Due to the proximity of Hadrian's Wall Military Zone World Heritage Site this policy is relevant and states that:

Development and other land use changes in areas or features of national or international conservation importance, or within their settings, and that are detrimental to their characteristics will not be permitted.

Exceptions will only be made where:

1 there is an overriding need for development required to meet local infrastructure needs which cannot be located elsewhere and which is sited to minimise environmental impacts and meet high standards of design.

Although the ES states these policies, it does not go on to describe the overriding need for the development or whether it could be located elsewhere. We are aware, for example, that other potential locations for Stobarts are being considered. These alternative options should be considered alongside each other to allow comparison of the environmental impacts and the most sustainable option to be chosen.

3.2 Effect on Hadrian's Wall National Trail

We are concerned that the EIA contains no reference to the Hadrians Wall National Trail which is a nationally important recreation trail and offers an important recreational experience of Hadrian's Wall World Heritage Site. The Trail lies, in places, as close as 150m to the airport development.

We are concerned that that the experience of tourists and recreational users of Hadrian's Wall National Trail could be adversely impacted by the development. This is a key tourist attraction of the area and we are concerned that the potential impact on the experience of users of the National Trail has not been assessed in full. For example, there is no baseline information on the number of people who use the trail and no assessment of the impacts on tranquillity along the National Trail.

We would like to see a full assessment of the visual and noise impacts of the development on the National Trail, so that appropriate mitigation measures can be included in the design.

Although the visual assessment considers the impact from viewpoints along the trail - Viewpoints 1, 7, 8 and 9 we consider that the photomontages are of a low quality in terms of resolution, scale and detail, and are not complete. For example:

- Viewpoint 11 is missing from the location map in figure 9.4.
- Before and after comparison photomontages are missing altogether for viewpoints 3,6 and 10.
- There are no viewpoints chosen which demonstrate the impact of the developments (and in particular the impact of the removal of screening woodland which currently blocks views of the

site, and the site of the terminal building), from the Milecastle 60 to Bleatarn Park section of the Hadrians Wall Trail.

- There is no viewpoint from the point at which the trail is closest to the airport.
- The 3.2m high fencing is missing from all the photomontages.

3.3 Assessment of Effect on Landscape

It is our view that the assessment of the effect on landscape is incomplete and may therefore have underestimated the effect that the development will have on the landscape. The ES assesses the effect on the landscape as **moderate adverse**. We consider that this may be an underestimate, and that a more thorough assessment, using the most up to date methods, is needed, given:

- the high sensitivity of the landscape within its wider context of the Hadrian's Wall Military Zone World Heritage Site Buffer Zone.
- the large magnitude of the change, based on the scale of the development (Warehouse and Hangar facilities – 19 m high and approaching 50,000 m², plus a 30m high tower), together with a 3.2m high fence proposed to surround the airport, which is excluded from the visual assessment;
- the impact on views from Hadrian's Wall National Trail. (As noted in 2.1.2, we consider that the visual assessment of views is incomplete.)
- the lack of assessment of the impacts on the two Areas of Outstanding Natural Beauty that lie within 15km of the development– Solway Coast and North Pennines.

It is important to note that in Appendix 6 of the Guidelines for Landscape and Visual Impact Assessment (Second Edition), the criteria applied to significance and sensitivity state 'where a sensitive viewpoint or feature is subject to great or moderate change, then the impact is described as significant'. This ES does not appear to have taken this into account in its assessment of the significance of the landscape effects.

In addition there will be loss of local landscape features. The Environmental Statement proposes the removal of 73% of all broadleaved woodland on site, the loss of 0.83ha of scrub and 2.47km hedgerow, as well as the loss of 40% of all total breeding bird territories. This removal of nearly all landscape features contributing vertical elements to the local landscape, is a significant loss locally.

The only landscape mitigation measure proposed is the thin strip of planting to the North of the site which we consider inadequate to achieve its desired screening effect. Also there are no details given of species composition. We would like to see further consideration given to landscape mitigation measures, particularly in relation to screening.

3.4 Effects on Tranquillity of Surrounding Countryside

Tranquillity means the remoteness and sense of isolation, or lack of it, within the landscape. This can be affected and often determined by the absence or presence of built development and intrusion from traffic (including air traffic).

The proposed development is expected lead to changes in the number and type of aircraft using the airport as well as the associated traffic. These changes will have an effect on noise levels in the area. Noise is a key detractor from tranquillity as shown by CPRE research¹. Peace and tranquillity are key elements of the local landscape character.

As well as the issues mentioned above in relation to Hadrians Wall National Trail, there are also two AONBs that lie within 15km of proposal – Solway Coast AONB and North Pennines AONB. Aircraft would be passing at relatively low levels over both as they take off or land. Given that the AONBs are designated in part for their tranquillity and relative wildness and currently have very low noise levels, they are highly sensitive receptors and the impact of the proposed development on the protected areas needs to be clearly demonstrated in order to assess significance. This has not been done.

Currently the document only looks at the impact of noise and visual impact in the immediate area of the airport. There is no evidence given to show the impact of flightpaths for take off and landing, or the

impact of turning circles or holding patterns on the wider local area regarding either noise or visual impact. Given the prevailing westerly winds and suggestion that most take offs will be in a Westerly direction, the flight path would appear to take nearly all aircraft directly over the Solway Coast AONB as they take off. Likewise aircraft approaching to land from the East will probably pass over the North Pennines AONB during their descent. Whilst this might not be so much of an issue for light aircraft, the impact of the proposed larger aircraft (up to 80 seater) might well be significant, but this cannot be assessed from the level of information given. Paragraph 9.14 mentions that a desk-based study of the flightpaths and trajectories was undertaken, but no results are shown for this study. In order to assess likely impact on the AONBs, the results of this flight study in relation to the AONBs needs to be explored.

To address these points, the ES should undertake a more thorough consideration of the impacts of the development on tranquillity, in particular in relation to Hadrian's Wall National Trail and the two AONBs.

3.5 Effects of Noise

We are concerned that the noise assessment does not give any consideration to the impacts of noise on the wider countryside and recreational resource of the area. As noted above, noise generation has implications for the tranquillity of the surrounding countryside. Natural England considers that the EIA has underestimated the contribution the peace and tranquillity make to local tourism – a key driver for the airport is to bring people into the area to experience the area's peace and tranquillity!

The noise assessment focuses only on noise nuisance at residential properties. However properties are not the only sensitive noise receptor in the environment. The extent of noise pollution in rural areas such as this part of Cumbria, appreciated for their peace and tranquillity, and areas used for outdoor recreation are not considered even though a change in noise levels of a given magnitude are likely to be more significant in these locations due to the existing low baseline.

Noise pollution guidelines PPG 24² take a fairly narrow view, setting thresholds for 'community annoyance'. The noise level at which tranquillity in the wider rural areas could be compromised can be significantly lower than 57 dB (A).

Natural England would want to see the identification of non-residential noise sensitive receptors, including key areas used for quiet outdoor recreation such as Hadrian's Wall National Trail and the two AONBs. Monitoring should be undertaken at these locations to identify baseline noise levels and noise impacts predicted and interpreted at these locations. Noise contours in dB (A) should be mapped over a wider area to assess the impact of increased noise over these sensitive areas. Bearing in mind that these areas may be sensitive to lower levels of noise than residential standards. Criteria for assessing impacts on tranquillity should be developed drawing on WHO guidelines³, appropriate research and professional technical knowledge.

3.6 References

1. Mapping Tranquillity: Defining and assessing a valuable resource, CPRE and Countryside Agency (2005)
2. Planning Policy Guidelines 24: Planning and Noise, ODPM (1994)
3. World Health Organisation Guidelines for community Noise (1999)

4. Traffic and transport

4.1. Surface Access

4.1.1 Vehicle Movements and AADT Figures

We are concerned that the impact of the development on the surrounding access roads has been underestimated and have concerns relating to the exceedance of AADT design flows on access roads.

We are concerned that although the report states that the surrounding roads have capacity to accommodate further growth, table 5.20 shows that the Design Flow AADT of 13000 will be exceeded on the A69 (13440 with development) in 2016, and will be approaching capacity on the A689 (12502) in 2016. We are also concerned that the figures in Table 5.20 do not cover the total vehicle movement in a day. Based on Table 5.17 there are 606 vehicles in and 606 vehicles out. This totals 1212 vehicle movements per day. Table 5.20 shows development flow for a 24 hour period on the A689 (the only immediate access road to the site) as only 606. This leaves 606 vehicle movements excluded from the table. The figures for the A689 and A69 also look low in comparison with the figures given in table 5.16 for the opening year of 2009.

As well as our concerns about the data, we are also concerned that the vehicle movement predictions are not based on a 'worst case' scenario. For example the passenger car movement predictions in Table 5.2 are based on 10 ATMs per day, 70 seater planes, at 65% occupancy with people travelling to and from the airport at an occupancy of 2.6 persons per vehicle. In earlier discussions at 2.57 there is reference to the fact that passenger flights may increase as demand grows. We would like to know what this growth could be in terms of number of ATMs and size of planes? We would like to see modelling of a high growth scenario, which takes predicts the effects of high rates of growth of the airport and the haulage business.

We would also like to know how the occupancy rate of 2.6 persons per vehicle has been settled upon? Has access data from other similar sized airports been used to inform this? Again we would like to see modelling of a range of scenarios including a worst case where there were a higher proportion of single occupancy cars accessing the airport. The effect of this on AADT figures would need to be examined.

The provision of car parking spaces for 150 short stay and 250 long stay vehicles suggests that the predicted level of 95 car passenger movements into and out of the airport per day is expected to be higher in future years.

4.1.2 Sustainable Access

We are pleased to see the provision of cycle parking and that other access modes to the airport are considered in the transport assessment. We are pleased to see that travel planning is included in the TA. We would like to see targets set for the percentage of surface access made by a range of modes, including non-motorised modes and public transport modes. We would also like to see consideration given to the provision of other facilities such as cycle lanes and showers, as well as information on how to access the airport by public transport.

5. Overall Conclusions

In the light of our comments above, the need for further information and the requirements for a Habitats Regulations Assessment, Natural England wishes to register an objection to this planning application. It would be helpful, in any event, to discuss the scoping for the Appropriate Assessment with the City Council in due course.

Annex 2

1. The Requirements of the Habitats Regulations

- 1.1 Given the proximity of the proposal site to the River Eden SAC and the potential for impacts on the interest features of this site and those of the Upper Solway Flats and Marshes SPA and North Pennines Moors SPA, the Habitats Regulations¹ must be applied by the Council when considering whether to grant planning permission. Government Circular (6/2005 (ODPM) 1/2005 (DEFRA))² accompanying Planning Policy Statement 9, *Biodiversity and Geological Conservation*³ explains in detail how the Regulations should be applied. An adaptation of the flowchart in the Circular is reproduced in Figure 1 below, numbers having been added to the boxes to aid cross-referencing.
- 1.2 The Habitats Regulations require all plans or projects with the potential to affect a SPA or SAC and not directly connected with or necessary to its management for nature conservation, to be assessed to see if effects are likely to be significant (Boxes 1 and 2 Figure 1 and paragraphs 12 – 16 of Circular 06/2005). Those that are likely to have a significant effect on the site, alone or in combination with other plans or projects, must be subject to a more detailed assessment in order to ascertain if the proposal would adversely affect the integrity of the site (Boxes 3 - 6 Figure 1 and paragraphs 17 – 22 of Circular 06/2005).
- 1.3 If the proposal would be likely to have a significant effect on the SPA or SAC, alone or in combination with other plans or projects, the planning authority must undertake an 'Appropriate Assessment' of the implications of the proposal, in light of the site's conservation objectives. Natural England must be consulted as part of such an assessment (Box 3 Figure 1). The Regulations restrict the grant of permission if it can not be ascertained that the proposal, alone or in combination with others, would not have an adverse effect on the SPA or SAC (Box 4 and 6 Figure 1).
- 1.4 It should be noted that, unlike other planning decisions, the Habitats Regulations apply the precautionary principle as a matter of law. The Appropriate Assessment in Boxes 3 - 6 Figure 1 should conclude that the development proposal will **not** have an adverse effect on the integrity of the SPA or SAC before it is given consent. If the effects are uncertain but could be significant, the precautionary principle applies and it must be assumed that the proposal will have an adverse effect on the site (paragraphs 17 – 22 of Circular 06/2005).
- 1.5 Measures to avoid or reduce the effects of a development proposal on the SPA or SAC, here referred to as **avoidance measures** and **mitigation measures** respectively,⁴ can be proposed as part of the planning application and should be taken into account by the planning authority in the initial assessment as to whether there would be likely to be any significant effects (Box 2 Figure 1) and throughout the rest of the assessment process (Boxes 3 - 12 Figure 1).
- 1.6 Planning permission should not be granted for projects that
 - a) are likely to have a significant effect and have not been assessed to determine whether there would be an adverse effect on the integrity of the site; or
 - b) have been assessed and it can not be concluded that there will be no adverse effect on integrity;unless the project passes further stringent tests set out in Regulation 49 (see Boxes 8 – 15 in Figure 1).
- 1.7 Where it can not be concluded that there will be no adverse effect on integrity the planning authority must first consider whether there are alternative solutions that will have a lesser effect or avoid an adverse effect (Box 8 Figure 1 and paragraphs 23 – 24 in Circular 06/2005). If such alternatives exist, planning permission can not be granted as a matter of law⁵. For most proposals, it will be clear that there are alternative solutions that will have a lesser effect, or avoid an adverse effect on the SPA or SAC.

¹ *The Conservation (Natural Habitats &c) Regulations 1994* Regulation 48(1)

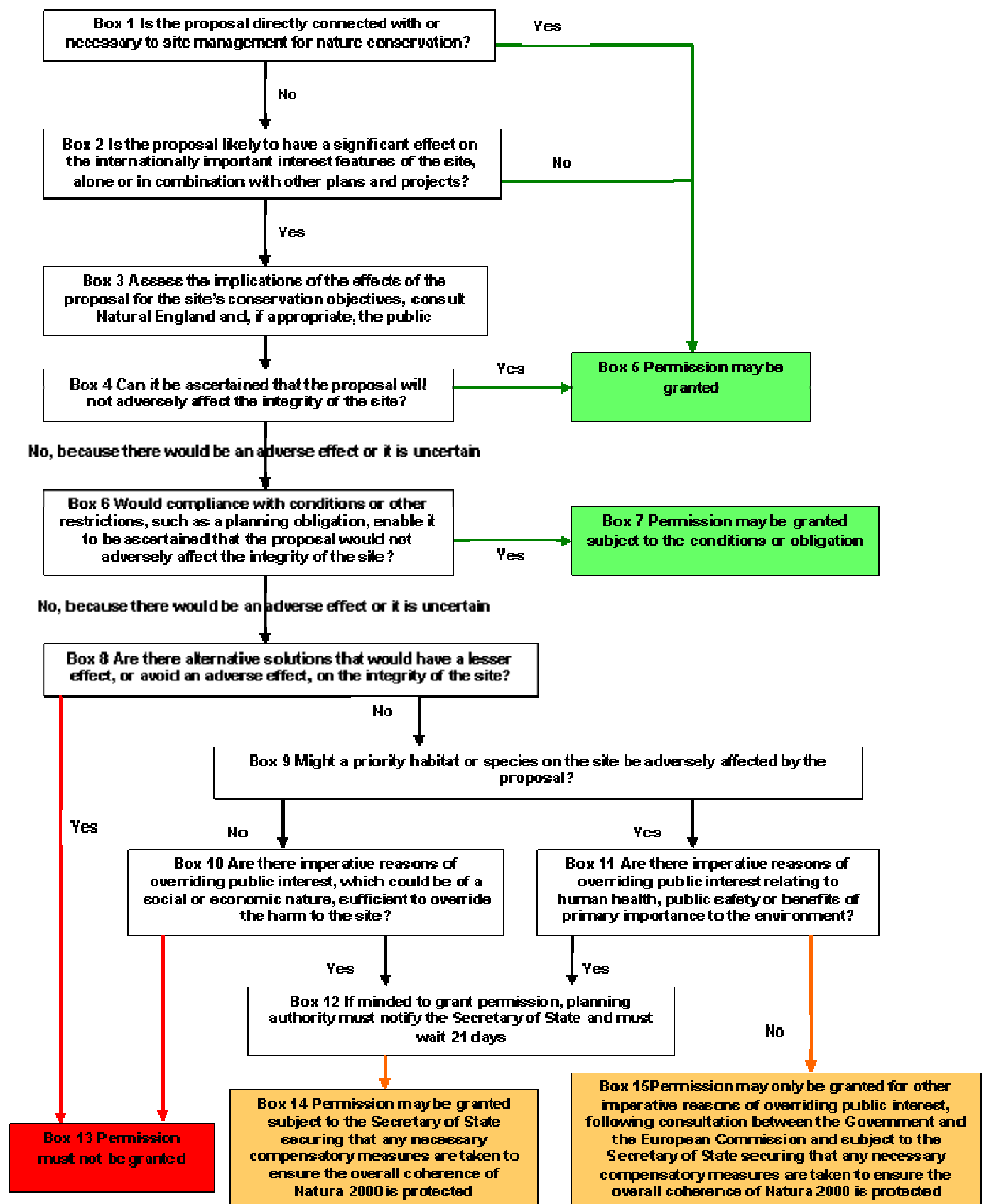
² ODPM Circular 06/2005. *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*.

³ Office of the Deputy Prime Minister, 2005. *Planning Policy Statement 9 Biodiversity and Geological Conservation*.

⁴ The principle of a step-wise policy approach (starting with avoidance then considering mitigation then compensation measures) is also incorporated into the key principles of PPS 9, at paragraph 1(vi).

⁵ *The Conservation (Natural Habitats &c) Regulations 1994* Regulation 49(1)

FIGURE 1 FLOWCHART OF THE WHOLE DECISION MAKING PROCESS UNDER THE HABITATS REGULATIONS 1994



2. Protection afforded to Sites Of Special Scientific Interest

- 2.1 The local planning authority is a 'Section 28G authority' under the provisions of S.28G of the Wildlife and Countryside Act 1981, inserted, together with other new sections, by section 75 and Schedule 9 of the Countryside and Rights of Way Act 2000. Part II of Circular 06/2005 explains the implications of S.28G in the planning system.
- 2.2 All section 28G authorities have duties "*to take reasonable steps, consistent with the proper exercise of their functions, to further the conservation and enhancement*" of the features of SSSIs, so far as the exercise of their functions is likely to affect the special interests. The Defra Code of Guidance on SSSI⁶ indicates that "*The Secretary of State expects that all public bodies will take full account of their responsibilities under this duty whenever their actions may affect SSSIs.*"
- 2.3 Further duties arise under Section 28I of the Wildlife and Countryside Act, as amended. The local planning authority has a duty to take account of Natural England's advice (Section 28I(5)). If minded to permit both or either of the applications against Natural England's advice, section 28I sets out specific requirements that would need to be followed. These procedures are set out in paragraphs 62 – 64 and 66 – 67 and Figure 4 of the Circular.
- 2.4 Government policy for the protection of SSSI is set out in PPS 9 at paragraphs 7 - 8. It should be noted that as a matter of policy expressed in PPS 9 the 'in-combination' test should be applied to the interest features of the SSSI as well as a matter of law to the SPA and SAC.

⁶ *Sites of Special Scientific Interest Encouraging Positive Partnerships* Code of Guidance DEFRA 2003 available at <http://www.defra.gov.uk/wildlife-countryside/wd/sssi/sssi-code.pdf>

Annex 3

Important note to local planning authority

1. Local Planning Authorities and their biodiversity duty

We would urge the Council to note that local authorities have many and varied responsibilities and duties on biodiversity matters, including as owners of land designated as Sites of Special Scientific Interest (SSSI) (i.e. as section 28G bodies), and in respect of European protected species and habitats. Under section 40(1) of the *Natural Environment & Rural Communities Act 2006* a **duty** is placed on public authorities, including local planning authorities, to have regard to biodiversity in exercising their functions. Further, the potential impact of development on certain species and habitats of principal importance is addressed in detail under regulation 3(4) of *The Conservation (Natural Habitats &c.) Regulations 1994* and section 74 of the *Countryside & Rights of Way Act 2000*.

These duties and others are set out in detail in the legal *Circular 06/2005 to PPS9 'Biodiversity and Geological Conservation'* and we would urge the Council to bear this in mind in the execution of its nature conservation related functions.

2. Protected species

Paragraph 98 of *Circular 06/2005* accompanying *PPS9* states that “*the presence of a protected species is a **material consideration** when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.*” Natural England therefore advises local planning authorities to direct developers to commission an ecological survey of the proposal site ‘prior’ to determination of an application so this material consideration is fully addressed in making a decision. The survey should be carried out by suitably experienced persons holding any relevant licenses and aim to identify the following information:

- **Description of the proposal** – details of the type, scale, location, timing and methodology of the proposed works, including relevant plans, diagrams and schedules;
- **Survey for protected species** – thorough and robust survey of the development site and any other areas likely to be affected by the proposals for protected species;
- **Impact assessment** – clear assessment of the likely impacts of the proposal upon protected species;
- **Mitigation strategy** – to clarify how the likely impact will be addressed in order to ensure no detriment to the maintenance of the population at a favourable conservation status of the protected species. This should be proportionate to perceived impacts and must include clear site-specific prescriptions rather than vague, general or indicative possibilities; and
- **Delivery mechanisms** – to include additional information as appropriate to the mitigation strategy that will be required to ensure that the proposed mitigation works are feasible and deliverable e.g. architects plans, licenses, planning agreements, contractors’ precautionary method statements.

It is the responsibility of the developer to provide this information to enable Natural England to make a substantive response and for the local planning authority to fully assess the proposal. *Circular 08/2005* states that the 21 day consultation period for statutory consultees will not start until receipt of adequate information to make a substantive response.

3. Designing biodiversity into site layouts

We would further recommend that opportunities for enhancement of nature conservation interests should be considered in the preparation of detailed site layouts or landscape schemes. The *Town and*

Country Planning Association's (TCPA) 'Biodiversity By Design' Guide 2004 produced in conjunction with Natural England provides further information on this issue and can be accessed via our website.

Date: 28th February 2008
Your ref: AMT/DC/07/1127



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Dear Alan

Proposals: Planning Application ref: 07/1127. Construction of replacement runway with associated instrument landing equipment and reconfigured taxiways and hard standing; New development to the south of the runway including warehousing and distribution facilities, new passenger terminal, offices, hangars, new air traffic control centre, aircraft apron and car parking, with new road junction and access from the A689 and other associated infrastructure and facilities, including aviation fuel storage, local refuelling facility for the distribution operations and improved drainage.

Location: Carlisle Lake District Airport, Carlisle, Cumbria

In our letter of 14 December 2007 we advised the City Council that the Environmental Statement (ES) contained insufficient information relating to several elements of the environmental baseline. As a result it was not possible to make a robust assessment of the potential impacts on a number of issues within Natural England's remit. Natural England therefore objected to the application until this information is provided after which time we stated that we would review our position.

As you are aware there has been an ongoing dialogue with Scott Wilson since mid-January as we have sought further information and clarification of potential impacts on features of nature conservation importance on the site. As I write this, we still lack all of the information that we would normally expect to make a judgement on likely impacts, this is particularly true of protected and priority species and biodiversity generally. Based on our experience to date, we do not consider that a continuing piecemeal dialogue with Scott Wilson to seek further information and clarity will necessarily be fruitful within the sort of timescales that are being pressed upon all parties in this case. We have had great difficulty keeping track of all the sometimes conflicting information that has been provided by Scott Wilson, and rather than continued cross-referencing to previous reports and emails, we feel a different approach is now needed. This would involve Scott Wilson being asked to provide the planning authority with a self-contained package of information in respect of certain of the features of nature conservation interest where there is still uncertainty about impacts. This relates primarily to the protected species.

Our intention in this letter is to provide the City Council with clear guidance as to the information that we feel is needed and the weight that should be attached to it in order to help you in making a recommendation to your planning committee. We do not intend to engage in further discussion with the applicants and their consultants, but we will of course be happy to discuss the case further with you if you would find that helpful.

I must emphasise just how unsatisfactory is the position we find ourselves in at this stage in the planning process when there is so much pressure from the applicants and their supporters to reach a determination of the application. This situation could have been avoided if the applicants and their consultants had carried out pre-application consultations and discussions with Natural England and the voluntary conservation bodies. The minutes of the meeting chaired by Kate Willard of Cumbria Vision on 1 May 2007 record that my colleague Alison McAleer outlined the key aspects of Natural England's remit that would require consideration in the Environmental

Assessment. This was the first contact we had with the applicants. Alison requested a separate meeting with Natural England but this was never forthcoming. At the next meeting hosted by Cumbria Vision on 4 September, we once again expressed concern about the lack of consultation. If the pre-application discussions had taken place, we would have been able to explain the issues that needed to be addressed, the survey requirements, and the nature of the assessment required. In these circumstances we have been subject to most unreasonable pressure exerted by the applicants and consultants, while we have done our utmost to provide quick responses within the constraints of other demands upon our time.

1. Impacts on River Eden SAC

Further information has been provided to Natural England in relation to the potential impacts on the River Eden SAC, specifically to inform the Habitats Regulations Assessment. Whilst this has been helpful, some additional information is still outstanding in relation to water quality issues, including the final agreement of United Utilities to the proposed temporary treatment facility at Irthington Wastewater Treatment Works (with confirmation of arrangements for treatment of trade effluent arising in surface run-off) and also full details of the results of ground investigations to consider the potential risk arising from contaminated land on site. NE advises that should this further information be provided then the City Council should be in a position to complete the Habitats Regulations Assessment for these aspects. Further detailed assessment will be undertaken as part of the necessary Environment Agency consents. If the Habitats Regulations Assessment concludes that there will be no adverse effect upon the integrity of the River Eden SAC, then Natural England will of course withdraw its objection.

In relation to otter, Natural England's original concerns were that, in the absence of any otter survey information and thereby a clear understanding of how otters use the area, it was not possible to fully assess potential impacts on otter, either as a SAC interest feature or as a European Protected Species. We know that there is extensive use of the river corridor by otters in this area and the bridge at Ruleholme is a national otter monitoring site as well as an EA otter monitoring site. In our discussions with the EA they have confirmed that they have installed an artificial otter holt on Brunstock Beck and have evidence of otters using even the smallest drains in the area with potential for them to range significant distances from the main river channels. They are therefore not confined to the main Irthing channel. We maintain that we would have expected a comprehensive survey of otter in the area around the airport site to provide a basis for a robust assessment of impacts, particularly in view of the proposals as submitted at the time of the application which included habitat modification and loss outside the airport boundary as well as potential disturbance factors and increased traffic. However, the information submitted by Scott Wilson in their letter to NE dated 18 February 2008 suggests that they have subsequently given this matter more detailed consideration and the habitat management proposals have 'evolved' since the original submission. They present the view that 'no potential for direct impacts exists' during the construction and operational phases of the development' and that 'physical elements of the proposed development will be constrained within the existing operational Airport's boundary'. They state, additionally, that 'there is no risk of direct impact to holts or couches'. Whilst they do not provide any specific otter survey information, they are 'confident in their conclusion that whilst otters are present within the watercourses, there are no mechanisms or pathways by which impacts associated with the proposed development may adversely affect them'. In view of the above statement that the changed habitat management proposals do not provide any mechanisms or pathways that could result in impacts on otters, Natural England will not request further information on this subject. Should the current proposal undergo any further changes, than impacts on otters should be reconsidered. We would like to emphasise though, that Natural England considers that the assessment of potential impacts on otters has not followed best practice in this instance.

We would reiterate that otters are protected by the Wildlife and Countryside Act 1981 and the EU Habitats Directive as transposed into domestic law through the Conservation (Natural Habitats &c.) Regulations 1994. Under the Habitats Regulations, otters are classed as European Protected Species and therefore given the highest level of protection.

In conclusion, NE has provided you with a draft scoping for the necessary Habitats Regulations Assessment and we would be happy to discuss this further as necessary.

2. Impacts on White Moss, Crosbymoore SSSI

NE's main concerns relating to White Moss, Crosbymoore SSSI were the potential for pollution arising from surface water run-off via the various drains leading from the site to Baron's Dyke and also the potential for nitrogen deposition from aircraft emissions. Scott Wilson has informed us that there is no surface water connection to the site due to the differing levels of the connecting watercourses. We have also received further information relating to air quality and calculation of emissions and Nitrogen deposition values for White Moss relating these to standards for raised bogs. NE does not have in-house expertise to review these figures and is unable to commission such a review. Therefore, subject to the City Council's own expert consultants agreeing to the air quality data provided, then we are satisfied that there would be no adverse effects on the SSSI from the proposals as described.

3. Impacts on Upper Solway Flats and Marshes SPA

Bart Donato is our case officer for the SPA and has been considering further information provided by Scott Wilson in relation to potential impacts on SPA bird species in the area – namely Whooper Swan and Pink-footed Geese. To date he has not been provided with the comprehensive survey data upon which the consultants have based their conclusions and instead has received interpretations of the data in the various letters. His current view is that, based on the interpretations of the data provided, it would be possible to conclude no adverse effect on the SPA bird species, but advises that Carlisle City Council will need to see all the original data upon which the consultants have based their assessment in order to ensure that this is fully supported. He is also concerned about the longer term measures that could be implemented in the 'Safeguarding Zone' and potential effects on SPA bird species. We are not aware of any established mechanisms for ensuring such measures are subject to the necessary assessment under the Habitats Regulations and therefore he has asked whether it would be possible to condition the requirement for full consultation with Natural England should such measures be considered necessary.

4. Impacts on protected species and priority BAP species

The Airport site is in a sensitive position located close to European Wildlife Sites, it is a County Wildlife Site and a substantial number of protected species and priority BAP species have been recorded on site in association with woodlands, hedgerows, marshy grasslands, semi-improved grasslands and other features on the site. The application is for major redevelopment of the airport site with likely impacts across a whole range of species and their habitats. We have therefore given considerable attention to the species issues concerned with this redevelopment of the airport site to ensure that they are given appropriate and proportionate attention in the consideration of the application.

In the case of badgers the concern has been primarily about potential off-site impacts through collision with traffic. In their letter of 18 February Scott Wilson have sought to assure us that the agreed installation of a roundabout will slow traffic and thereby improve existing accident rates. They also assure us that traffic movements will peak at times when badgers are least active. If all these predictions are accurate, then Natural England has no remaining concerns in respect of the effect of the development on this protected species. We would, however, like to see the applicants commit to monitoring badger casualties around the site, and taking action as appropriate to deal with an increased trend of collisions. This could be part of the Biodiversity management and enhancement plan referred to in section 5 below.

As regards other protected and priority species, it has been particularly difficult to keep track of the position as further information has been provided and the scheme has continued to evolve. While some of our questions have been answered, others have not. We would therefore like to clarify the type of information that we would normally expect a planning authority to have received prior to determining a planning application of this nature. Provision of this information would allow the planning authority then to assess the impact on priority and protected species and would indicate what conditions should be attached to any planning permission granted consistent with government policy. While the applicants have already provided some of this information, we have indicated earlier that it is not in a self-contained form, but rather is scattered across a range of reports, letters and emails relating to a scheme that has evolved since the application was first submitted. We strongly urge that the City Council request the applicants provide you with an up to date and self-contained document that brings together all of the information on the development, the locations and habitats used by the protected and priority species, expected impacts on them of the development and proposed mitigation and delivery mechanisms. The paragraphs below

summarise the information we consider is required. Our advice is that it should be possible through suitable design, mitigation and possibly off-site compensation to minimise effects on species populations. We confirm that if the City Council is satisfied that they have sufficient information to determine the application with suitable mitigation and, if necessary, off-site compensation, then Natural England will withdraw its objection in respect of protected and priority species.

The presence of protected species is of course a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to a species or its habitat (ODPM Circular 06/2005, para 98). The Circular also gives specific advice regarding European Protected Species (para 103-117), and UK protected species (para 118-124). The Joint Structure Plan Policy E35 also affords protection to protected and priority species in the planning process.

The following is the information that we would normally expect to be provided and which we recommend should be in the self-contained report referred to above.

Description of Proposal

Details of the type, scale, location, timing and methodology of the proposed works, including relevant plans, diagrams and schedules.

Survey for protected and priority BAP species

Thorough and robust survey of the development site and any other areas likely to be affected by the proposals for protected species.

All surveys undertaken should be specific to the species that is being investigated. It is not sufficient to say for instance that brown hare were not observed in the course of other surveys. Whilst incidental results might show presence, the lack of incidental results should not be interpreted as absence.

The survey should include the entire site and consideration of the wider area.

All surveys undertaken should follow the best practice guidance for the species in question (as far as best practice guidance exists).

The raw data for each set of surveys should be submitted, including all the standard information such as dates, timing, duration, number of surveyors, experience of surveyors, location, exact coverage of survey area, details of finding etc.

If any potential areas have been excluded from a survey, the reasons for this should be given and justified by the results of a desk study and initial walk-over. For example, a woodland might be excluded from a survey for roosting potential, if it was established that all of the trees were of an age and structure that would not provide potential bat roosts.

Maps should be provided showing the following information for protected and priority species:

- Any potential areas or features that may be utilised by the species and the type of activity e.g. foraging, breeding, resting, commuting.
- Any survey routes taken and/or any areas covered by the survey.
- Any sightings or signs recorded.

Please note, that any other areas likely to be affected by the proposals for protected species should also be included in the survey and these areas could include off site impacts, e.g. increased road deaths due to increased traffic or the removal of hedgerows on site leading to disruption of bat commuting routes in the wider landscape.

Planning policy (ODPM Circular 01/06, para 99) states that it is essential that ecological surveys be undertaken **prior** to determining the planning application. If the City Council consider there to be an over-riding need to grant planning permission before all survey information has been received,

we suggest this could be dealt with through the following approach: identify all areas potentially used by the species, assume the species is present at its carrying capacity and then proceed with the Impact Assessment, Mitigation Strategy and Delivery Mechanism as described below. Please note though that this is not regarded as good practice and would not normally be endorsed by Natural England.

Impact Assessment

Clear assessment of the likely impact of the proposal upon protected species.

A robust and thorough survey should provide information on the usage of the site by the species, an indication of population size and the importance of the site to the species. This information should then be used to assess the likely impact of any part of the development on the species.

Just to give a few examples:

- Disturbance/loss of habitat used for resting/roosting, breeding or foraging by priority and protected species;
- Reduction in the connectivity of areas utilised by a species;
- Impacts such as light on the movement of bats;
- Creation of new balancing ponds that could be harmful to newts.

The impact assessment should include all aspects of the planning application, including currently on-going management. For instance, if the fire ponds containing the great crested newts are continued to be used as fire ponds, then this impact needs to be assessed as part of this application.

Again, an impact assessment should include all areas that are impacted upon by the development, both on site or off site.

Mitigation strategy

To clarify how the likely impact will be addressed in order to ensure no detriment to the maintenance of the population at a favourable conservation status of the protected species. This should be proportionate to perceived impacts and must include clear site-specific prescriptions rather than vague, general or indicative possibilities.

Once a thorough and robust survey has been undertaken and a clear impact assessment has been made, a mitigation strategy needs to be drawn up. The mitigation strategy needs to clearly say what 'will' happen and must not include terms like 'is likely to' or 'should'.

For European Protected Species, full details of the mitigation strategy can be worked out during the licence application process, however an outline of mitigation should be provided detailing the type of mitigation work that will be undertaken and broad timing. An outline with broad timings of the European Protected Species mitigation proposal is required at this stage, to ensure that the mitigation will actually be deliverable and not result in any conflicts with any other aspects of any planning permission granted.

As there is no licensing process for priority species and species protected under the Wildlife and Countryside Act 1981 (as amended), full mitigation details for these species would normally be provided at this stage and conditioned as part of any planning permission granted.

If it is not possible to fully mitigate for impacts on site, off site mitigation should be provided as an alternative. Mitigation areas need to be safe-guarded in the long-term. If this cannot be guaranteed on site, for instance due to operational needs of the airport, secure off site compensation needs to be provided.

Again, both on site and off site impacts on species should be mitigated for.

Delivery mechanisms

To include additional information as appropriate to the mitigation strategy that will be required to ensure that the proposed mitigation works are feasible and deliverable, e.g.

architects plans, licences, planning agreements, contractors' precautionary method statements.

Details of how the mitigation strategy will be practicably implemented should be provided.

5. Impacts on the County Wildlife Site and Biodiversity considerations generally

It has been difficult to piece together what the precise overall effect will be upon the general biodiversity of the site, though it seems clear that there will be a substantial reduction in the extent and quality of habitats and species that are using the site. The recent episode of tree clearance on the grounds of the risk to aviation from a pair of buzzards using the trees does not give us confidence that any new woodland planting will be allowed to mature on the airport site. The extent to which any new planting can therefore be said to offset the loss of areas cleared or cut to ground level is questionable. The biodiversity value of some of the proposed hedgerow and woodland planting is also questionable, the choice of species being influenced by the desire not to attract birds, and the value of non-local or non-native species for invertebrates is likely to be limited.

In our comments to date we have focused our comments on the safeguard of statutory wildlife sites, protected species and Biodiversity Action Plan species. Through agreement with the Cumbria Wildlife Trust, we do not normally comment in detail on effects upon County Wildlife Sites. We have consistently advised the applicants and their consultants that they should be having a dialogue with CWT and the RSPB concerning the County Wildlife Site that has been notified for its breeding bird populations, and lowland breeding waders in particular. It has been disappointing that the applicants have apparently disregarded this advice until very recently, and have given little weight to the interest of the County Wildlife Site. In this respect, we draw your attention to Local Plan policy LE4 and Policy E35 of the Cumbria & Lake District Joint Structure Plan that afford protection to County Wildlife Sites. We also refer you to PPS9 Key Principle (vi) that requires that where a planning decision would result in significant harm to biodiversity interests which cannot be prevented or adequately mitigated against, appropriate compensation measures should be sought. We understand that Cumbria Wildlife Trust and the RSPB are now negotiating with the applicants as to what suitable compensation would be required. We urge that the provision of compensation is confirmed through appropriate conditions or S106 agreement to ensure its long term security and sustainability. We would also remind you that it is recommended good practice to look for opportunities for biodiversity enhancement through the planning process, rather than simply mitigating or compensating for loss or damage.

Cumbria County Council have suggested that a condition should be placed upon the planning permission for the applicant to produce a Biodiversity Management and Enhancement Plan, to be approved by the LPA with Natural England, CWT and RSPB, for implementation during the lifetime of the Airport. We support this recommendation.

Finally, I trust these comments are helpful. We shall of course be happy to discuss them with you further if you would find that helpful.

Dr Paul Glading
Team Leader
Cumbria Government Team

Date: 23rd October 2008
Your ref: AMT/DC/08/1052



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Dear Alan

Proposals: Planning Application ref: 08/1052. Freight Storage and Distribution Facility – Stobart Air Ltd
Location: Carlisle Lake District Airport, Carlisle, Cumbria

Thank you for consulting Natural England on this planning application.

As you are aware, Natural England has commented on the previous planning application by Stobart Air Ltd for development on this site (Application ref 07/1127). Detailed responses were given in our letters dated 14.12.07 and 28.2.08 and in meetings and discussions with the City Council, the developers and consultants. The key areas of concern included:

- Nationally and internationally designated sites for nature conservation
- Biodiversity and protected species
- Landscape, recreation and amenity
- Traffic and transport

We note that the current application has removed the aviation elements of the previous proposals and now concentrates on the freight storage and distribution component of the development in the south-east corner of the site.

Natural England would advise the City Council to refer to our previous advice in relation to development on this site, where this remains relevant to the current proposals. Unfortunately, my staff do not have the capacity to review or discuss the new application in detail at this time and we must therefore reiterate our previous comments in relation to the non-aviation element of development on this site.

Alison McAleer has separately discussed the need for a new Habitats Regulations Assessment with your ecological consultant and will review this in due course.

Please do not hesitate to contact me, in any event, if you would like further clarification of Natural England's position.

Yours sincerely

21 January 2011

Our ref: NW 13032

Your ref: 10/1116



Angus Hutchinson
Planning Services
Carlisle City Council
Civic Centre
Carlisle
CA3 8QG

Juniper House
Murley Moss
Oxenholme Road
Kendal
Cumbria LA9 7RL

BY EMAIL ONLY

T 0300 060 6000

Dear Mr Hutchinson

Proposal: Erection Of An Air Freight Distribution Centre (for Handling Of Air Freight And Road Haulage, Including Integrated +3°C Chiller Chamber, +12°C Chiller Chamber, Workshop And Offices)(Use Classes B1 And B8), Gatehouse, Canteen/Welfare Facilities, Landscaping, New Access, Parking And Other Infrastructure Works (Such As Auxiliary Fire Station, Package Sewage Treatment Works, Fire Sprinkler System And Electrical Substation) And Re-Surfacing Of The Existing Runway 07/25
Location: Carlisle Lake District Airport, Carlisle, Cumbria CA6 4NW
Application Ref: 10/1116

Thank you for your consultation on the above dated 16 December 2010, which was received by Natural England on 16 December 2010.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

We have considered the proposal against the full range of Natural England's interests in the natural environment. Based on the information provided with the application, our comments are as follows:

The River Eden Special Area of Conservation (SAC) and Upper Solway Flats and Marshes Special Protection Area (SPA)

The proposal is close to The River Eden SAC and may indirectly affect the Upper Solway Flats and Marshes SPA, both of which are European sites protected under the Habitats Regulations. From the information you have provided, it is Natural England's view that **this proposal is likely to have a significant effect on these European sites**. The River Eden and Tributaries is also a Site of Special Scientific Interest (SSSI).

This response sets out Natural England's advice on the requirements of Regulation 61 of the Conservation of Habitats and Species Regulations 2010 (known as "the Habitats Regulations"). Regulation 61 requires your authority, before deciding to give any consent to a project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects), and (b) not directly connected with or necessary to the management of the site, to make an appropriate assessment of the implications for the site in view of its conservation objectives.

In this case, the proposal is not directly connected with or necessary to the management of the site. We therefore advise that the Local Planning Authority (LPA), as decision-taker and competent authority, **must undertake an appropriate assessment** to fully assess these implications against the

site's conservation objectives. Natural England should be re-consulted on this assessment and be given a reasonable period within which to respond.

Part I B of *ODPM Circular 06/2005 Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System* describes the procedure for the consideration of plans and projects that may affect European and Ramsar sites.

The scope of the appropriate assessment should include the issues that we have previously advised on and that were considered in the appropriate assessments carried out for planning application no. 07/1127. They must however be relevant to this planning application and be based on the most up-to-date information available. To this end, it is Natural England's advice that the Environmental Statement (ES) should be updated in order to include the 'Interim Wintering Bird Survey Results' (received 14/01/11) in its assessment of the impacts of the proposal on populations of wintering SPA bird species. It is disappointing that an addendum updating the ES wasn't submitted to Carlisle City Council at the same time (or shortly after) the interim data was received. We appreciate that the purpose of these additional surveys is to inform the bird hazard management operations but as discussed in the meeting held on 12/11/10 it is Natural England's view that as this data is available, it should be used to inform the current assessment as a matter of good practice and to address the shortfall of data provided with the previous application.

White Moss Site of Special Scientific Interest

The proposal is close to White Moss Site of Special Scientific Interest (SSSI), but it is our opinion that the proposed development will not materially or significantly affect it as long as high environmental protection measures are incorporated into the drainage strategy (ES, 8.362) in order to safeguard the water quality of the surface water run-off entering Baron's Dike North from the airport.

Carlisle Lake District Airport County Wildlife Site

County Wildlife Sites are the responsibility of Cumbria Wildlife Trust and therefore our general advice is that the Trust should be consulted and their views taken into account. Natural England considers that from the information provided the proposal will affect the above site. Approximately 23 ha of semi-improved and improved grassland (ES, 8.286) will be lost as a result of the proposed development. This loss falls within the boundary of the above County Wildlife Site which was designated as such for its breeding bird populations. A number of potential impacts on the CWS interest features are considered and although overall they are assessed as not significant, the ES does acknowledge that habitats contribute towards the ecological value of the CWS and that the development will result in a minor adverse effect significant at a local level (ES, 8.365).

The 'Mitigation and Habitat Enhancement' proposed for the loss of CWS area is briefly set out in paragraph 8.366 of the ES. Carlisle City Council's duties towards County Wildlife Sites are embedded in Local Plan policy LE4 and Policy E35 of the Cumbria & Lake District Joint Structure Plan as well as national planning policy such as PPS9. Ensuring that the proposal to enhance habitats elsewhere (ES, 8.366) goes ahead would be consistent with these plans and policies. Therefore, it is Natural England's recommendation that this measure should be more detailed in terms of its aims and structure in order to be included as an enforceable condition or legally binding agreement, should planning permission be granted.

We would also remind you that it is recommended good practice to look for opportunities for biodiversity enhancement through the planning process, rather than simply mitigating or compensating for loss or damage.

We recommend that you consult the County Ecologist for her view and contact Cumbria Wildlife Trust and the RSPB and take into account any comments on the nature conservation implications of the proposals.

Protected Species

We note that the information provided identifies that a number of legally protected species, including great crested newts and bats, will be affected by the proposal. Such protected species are a **material consideration** in planning terms as stated in Part IV paragraphs 98 and 99 of *Circular 06/2005* which accompanies PPS9, '*Biodiversity and Geological Conservation*'. We recommend that the local Authority consider the requirements of protected species in the determination of this application.

We have the following comments and recommendations to make in relation to protected species:

In response to one of the previous airport planning applications, Cumbria County Council suggested that a condition should be placed upon the planning permission for the applicant to produce a Biodiversity Management and Enhancement Plan, to be approved by the LPA with Natural England, CWT and RSPB, for implementation during the lifetime of the Airport. We support this recommendation and give examples of how such a plan may be used in the following comments.

In the case of badgers, past concerns have been primarily about potential off-site impacts through collision with traffic. The ES (8.531) suggests that the installation of a roundabout will slow traffic and thereby improve existing collision rates. We would like to see the applicants commit to monitoring badger casualties around the site, and taking action as appropriate to deal with any increased trend of collisions. This could be part of the Biodiversity Management and Enhancement Plan.

The new infrastructure will be partially lit (ES, 8.266) around buildings, parking areas and access roads. We are pleased to note that all lighting will be downward directional to minimise light spill onto adjacent areas. We recommend that use of further light-directing applications e.g. shuttering, is considered in order to maintain dark corridors for wildlife along the newly planted hedgerows and green areas where applicable. It is particularly important to minimise such impacts along the eastern boundary and new access roads where the removal of old hedgerows will already have had an adverse effect on commuting and foraging bats (ES, 8.319) and birds.

Two potential operational threats to great crested newts have emerged from the information contained in the ES. Newts are known to breed in the existing fire ponds and we assume that the proposed rise in air traffic movements (ATMs) may increase the likelihood of a fire incident and of these ponds being used. Furthermore, the ES acknowledges the possibility that newts may extend their range to the proposed new attenuation lagoons (ES, 8.316). There is a chance that these lagoons may become contaminated with fire fighting foam if an incident occurs (ES, 10.165). Clearly in such situations there is a risk to any amphibians present in these water bodies. Therefore, we recommend that a strategy for minimising these and other risks to great crested newts and other amphibians should be included in the airport's Biodiversity Management and Enhancement Plan.

The recommendations set out in the Mitigation and Habitat Enhancement section of Chapter 8 of the ES pertaining to breeding birds, bats, clearance of vegetation and great crested newts should be ensured through appropriately worded conditions, should planning permission be granted. (ES, 8.367 – 8.380)

Please note that if planning permission is granted, the applicants should be informed that this does not absolve them from complying with the relevant law protecting species, including obtaining and complying with the terms and conditions of any licences required, as described in Part IV B of *Circular 06/2005*.

Landscape Planting

Natural England advises that all plants should be sourced from disease-free stock. This is particularly important in where there is connectivity with water courses in order to prevent the spread of pathogens such as species of *Phytophthora*, which are readily transported and dispersed by running water.

We recommend that planting schemes close to designated areas should only use native species that are within their natural range in that locality. Even if they are native but are not found within e.g. north Cumbria, this could have implications for their bio-geographic interest as such species are increasingly used as indicators of environmental change.

Ornamental plants are acceptable if they are well away from designated sites and especially river corridors - on condition that they are non-invasive. This applies to plants that can become quickly established either vegetatively or by viable seed dispersal. If the intention is to benefit wildlife then locally native species are generally more appropriate. As it is claimed that the ecological value of those existing hedgerows that will be lost during this development, will be compensated for by the planting of new and additional hedgerows, then we question the inclusion of species such as *Ligustrum vulgare*, *Carpinus betulus* and *Fagus sylvatica*.

We therefore recommend that the planting scheme is scrutinised to ensure that this advice is followed where appropriate.

Airport source pollution

We do have a concern that the ES does not consider greenhouse gas emissions from airport sources. We consider that increases in greenhouse gas emissions from airport expansion and also from increased surface transport related to expansion should still be investigated. Recent forecasts suggest that aviation could be responsible for 10-15% of the UK's carbon dioxide emissions by 2020 (and, by implication, a greater proportion of its environmental damage). Even conservative estimates suggest that it would account for the equivalent of between 63% and 170% of the total proposed emissions budget for 2050. Between 1990 and 2000, carbon dioxide emissions from air transport doubled. In contrast the carbon dioxide emissions from other UK activities dropped by about 9% in the same period.

The ES at paragraph 7.40 states 'Greenhouse gas emissions are relevant in a national and global context and not in a local one. It is not appropriate to assess these impacts at specific locations within the study area.'

Whilst we accept that specific impacts on climate cannot be directly linked to specific emissions from specific locations, it could be argued that no scheme can ever be held accountable for the emissions it produces, because no scheme's emissions can be directly linked to specific climatic effects, or be deemed 'significant' when viewed at the global scale. We therefore are disappointed that an assessment of greenhouse gas emission has not been undertaken as part of the ES. We acknowledge that the Government's main measure for addressing aviation emissions is their inclusion in the EU Emissions Trading Scheme (ETS). However we believe that inclusion in the EU ETS can provide a partial, but not the whole, solution to managing emissions from aviation.

Surface Access

We are pleased to see that mitigation measures at paragraphs 5.104 and 5.106 of the ES include implementation of a travel plan to ensure that the Airport minimises the use of the private car through the promotion of alternative travel modes to single occupancy car trips. Having reviewed the Travel Plan Natural England is disappointed to see only a 6% reduction in car traffic planned for 2014. We would have liked to see a higher percentage reduction aimed for (e.g. 10%).

We are however pleased to see the introduction of a shuttle bus linking to Carlisle City Centre. It will be important that the travel coordinator maintains close links with Cumbria County council to get the best out of these services.

We would also point out that the improved environmental performance of airports can be facilitated through the development of environmental management plans and systems. These should address both specific issues associated with airport buildings (for example, waste and energy) as well as wider

environmental issues (landscape character, biodiversity and recreation) associated with the operation of the whole airport e.g. making contributions to the delivery of national, regional and local biodiversity targets.

This concludes our comments at this stage. Natural England will comment on the Appropriate Assessment in due course and will be happy to give further scoping/review advice if required. We wish to reiterate that under the Habitats Regulations the application must not be determined until the local authority is satisfied that the proposal will not adversely affect the integrity of the European sites. The scope should be the same as for previous applications but the assessment must take into account any updated survey information and any other relevant changes.

The advice given by Natural England in this letter is made for the purpose of the present consultation only. In accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England expects to be consulted on any additional matters, as determined by the Local Authority, that may arise as a result of, or are related to, the present proposal. This includes alterations to the application that could affect its impact on the natural environment. Natural England retains its statutory discretion to modify its present advice or opinion in view of any and all such additional matters or any additional information related to this consultation that may come to our attention.

Should you wish to discuss this response please do not hesitate to contact me at the above address.

Yours sincerely

Via e-mail

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***ANNEX 2 - RIVER EDEN SAC AND RIVER EDEN AND TRIBUTARIES SSSI CONSERVATION
OBJECTIVES (MARCH 2010)***

Conservation objectives and definitions of favourable condition for designated features of interest



These Conservation Objectives relate to all designated features on the SSSI, whether designated as SSSI, SPA, SAC or Ramsar features.

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Name of Site of Special Scientific Interest (SSSI)	
River Eden and Tributaries	
Names of designated international sites	
Special Area of Conservation (SAC)	River Eden
Special Protection Area (SPA)	N/A
Ramsar	N/A
Relationship between site designations	
The River Eden and Tributaries SSSI and SAC boundaries co-inside throughout. This SSSI is adjacent to Birk Fell, Gowbarrow Park, Brothers Water, Low Wood, Eden Gorge, Skiddaw Group, Upper Solway Flats and Marshes, Irthing Gorge, Geltsdale and Glendue Fells, Sunbiggin Tarn and Moors and Little Asby Scar, Spadeadam Mires, King Water, Janny Wood Section, Swindale Beck, Appleby Fells, Smardale Gill, Scandal Beck and Stone Gill Sites of Special Scientific Interest.	

Version control information	
Status of this Version (Draft, Consultation Draft, Final)	Consultation draft (but note that the phosphorus targets need to be set for each tributary of the river, river targets need to be checked against new rivers and streams guidance and the invertebrate/river shingle targets need further work)
Prepared by	Alison McAleer/Jane Lusardi/Karen Slater
Date of this version	22 March 2010
Date of generic guidance on favourable condition used	September 2005 – January 2006
Other notes/version history	Numerous drafts on Dec 2005, 12/7/06, 3/8/06, 5/10/06, 6/12/06, 10/8/07, 12/1/08, 23/1/08, 1 st April 2008. There has also been some consultation with the Environment Agency.
Quality assurance information	
Checked by	Name Karen Slater Date 17 March 2009
	Signature Karen Slater

Conservation Objectives and definitions of Favourable Condition: notes for users

Conservation Objectives

SSSIs are notified because of specific biological or geological features. Conservation Objectives define the desired state for each site in terms of the features for which they have been designated. When these features are being managed in a way which maintains their nature conservation value, then they are said to be in 'favourable condition'. It is a Government target that 95% of the total area of SSSIs should be in favourable condition by 2010.

Definitions of Favourable Condition

The Conservation Objectives are accompanied by one or more habitat extent and quality definitions for the special interest features at this site. These are subject to periodic reassessment and may be updated to reflect new information or knowledge; they will be used by Natural England and other relevant authorities to determine if a site is in favourable condition. The standards for favourable condition have been developed and are applied throughout the UK.

Use under the Habitats Regulations

The Conservation Objectives and definitions of favourable condition for features on the SSSI may inform the scope and nature of any 'appropriate assessment' under the Habitats Regulations. An appropriate assessment will also require consideration of issues specific to the individual plan or project. The habitat quality definitions do not by themselves provide a comprehensive basis on which to assess plans and projects as required under Regulations 20-21, 24, 48-50 and 54 - 85. The scope and content of an appropriate assessment will depend upon the location, size and significance of the proposed project. Natural England will advise on a case by case basis.

Following an appropriate assessment, competent authorities are required to ascertain the effect on the integrity of the site. The integrity of the site is defined in paragraph 20 of ODPM Circular 06/2005 (DEFRA Circular 01/2005) as the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified. The determination of favourable condition is separate from the judgement of effect upon integrity. For example, there may be a time-lag between a plan or project being initiated and a consequent adverse effect upon integrity becoming manifest in the condition assessment. In such cases, a plan or project may have an adverse effect upon integrity even though the site remains in favourable condition.

The formal Conservation Objectives for European Sites under the Habitats Regulations are in accordance with paragraph 17 of ODPM Circular 06/2005 (DEFRA Circular 01/2005), the reasons for which the European Site was classified or designated. The entry on the Register of European Sites gives the reasons for which a European Site was classified or designated.

Explanatory text for Tables 2 and 3

Tables 2, 2a and 3 set out the measures of condition which we will use to provide evidence to support our assessment of whether features are in favourable condition. They are derived from a set of generic guidance on favourable condition prepared by Natural England specialists, and have been tailored by local staff to reflect the particular characteristics and site-specific circumstances of individual sites. Quality Assurance has ensured that such site-specific tailoring remains within a nationally consistent set of standards. The tables include an audit trail to provide a summary of the reasoning behind any site-specific targets etc. In some cases the

requirements of features or designations may conflict; the detailed basis for any reconciliation of conflicts on this site may be recorded elsewhere.

Conservation Objectives

The Conservation Objectives for this site are, subject to natural change, to maintain the following habitats and geological features in favourable condition (*), with particular reference to any dependent component special interest features (habitats, vegetation types, species, species assemblages etc.) for which the land is designated (SSSI, SAC, SPA, Ramsar) as individually listed in Table 1.

Habitat Types represented (Biodiversity Action Plan categories)

- Rivers and Streams
- Broadleaved, mixed and yew woodland (Wet woodland)
- Fen, marsh and swamp (Lowland wetland)
- Standing Open Water

Species represented

- Atlantic salmon *Salmo salar*
- River lamprey *Lampetra fluviatilis*
- Brook lamprey *Lampetra planeri*
- Sea lamprey *Petromyzon marinus*
- Bullhead *Cottus gobio*
- White-Clawed crayfish *Austropotamobius pallipes*
- Schelly *Coregonus lavaretus*
- Otter *Lutra lutra*
- Invertebrate Assemblage
- Breeding bird assemblage
- Sand martins (breeding)

Geological features (Geological SiteTypes)

- KARST (IK)

(*) or restored to favourable condition if features are judged to be unfavourable.

Standards for favourable condition are defined with particular reference to the specific designated features listed in Table 1, and are based on a selected set of attributes for features which most economically define favourable condition as set out in Table 2, Table 2a and Table

3

Table 1 Individual designated interest features

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
Rivers and Streams	<p>Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation</p> <p>'Whole River' SSSI</p> <p>Type VI Rivers on sandstone, mudstone and hard limestone in England and Wales.</p>	Whole river ecosystem including characteristic aquatic and riparian habitats and species.	*	*							
Standing open water	<p>Oligotrophic to mesotrophic standing water with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoetes-Nanojuncetea</i></p>	Oligotrophic to mesotrophic lake ecosystem.		*							
Broadleaved, mixed and yew woodland:	<p>Alluvial forests with <i>Alnus glutinosa</i> and</p>	Alder woodland on floodplains	*	*							

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
Wet Woodland	<p><i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)</p> <p>Including the following NVC types:</p> <p>W5 <i>Alnus glutinosa-carex paniculata</i> woodland</p> <p>W6a <i>Alnus glutinosa-Urtica dioica</i> woodland (Typical sub-community),</p> <p>W6d (<i>Sambucus nigra</i> sub-community)</p> <p>S7 (<i>Carex acutiformis</i> swamp) in association with alluvial wet woodland types W5 & 6.</p> <p>Additional SSSI wet woodland* types:</p>	<p>*These wet woodlands are included within the SSSI boundary as they are intimately linked to the river and dependent upon</p>									

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
	W7a <i>Alnus glutinosa</i> - <i>Fraxinus excelsior</i> - <i>Lysimachia nemorum</i> woodland (<i>Urtica dioica</i> sub-community), W7b (<i>Carex remota</i> sub-community), W7c (<i>Deschampsia cespitosa</i> sub-community), W8f <i>Fraxinus excelsior</i> - <i>Acer campestre</i> - <i>Mercurialis perennis</i> woodland (<i>Allium ursinum</i> sub-community).	it for their continued existence.									
Fen. Marsh and swamp: Lowland Wetland	SSSI Adjacent Wetlands: S7 (<i>Carex acutiformis</i> swamp M23 (<i>Juncus effusus</i> – <i>Galium palustre</i> rush pasture)	Floodplain fen These adjacent wetlands are included within the SSSI boundary as they are intimately linked to the river and dependent upon	*								

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
		it for their continued existence.									
Rivers and streams	<i>Salmo salar</i>	Atlantic salmon	*	*							
Rivers and streams	<i>Lampetra fluviatilis</i>	River lamprey	*	*							
Rivers and streams	<i>Lampetra planeri</i>	Brook lamprey	*	*							
Rivers and streams	<i>Petromyzon marinus</i>	Sea lamprey	*	*							
Rivers and streams	<i>Cottus gobio</i>	Bullhead	*	*							
Rivers and streams	<i>Austropotamobius pallipes</i>	White-Clawed crayfish	*	*							
Rivers and streams	<i>Lutra lutra</i>	Otter	*	*							
Open water	<i>Coregonus lavaretus</i>	Schelly	*								
Rivers and streams	Invertebrate assemblage of Exposed Riverine Sediments: (Broad Assemblage Type: W11: fast-flowing water Specific Assemblage Types W111 shingle bank W112 stony river margin	Invertebrate assemblage associated with river shingles and sandbanks. Note: At least 30 rare (RDB) and national BAP species currently identified (2006)	*								

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
Rivers and streams, open water	Breeding bird assemblage	Assemblages of breeding birds typical of upland waters and their margins.	*								
Rivers and streams	Isolated bird colony: Sand Martins	Breeding Sand Martins	*								
Surface karst (IK)	Permio-Triassic Riverside Outcrops	Stenkrith- Type locality for coarse desert rocks for the Stenkrith Brockram series. River Belah Section- Penrith Sandstone Formation and the younger Eden Shales Formation, which lies on top of the former. Overlying this is Belah Dolomite, a magnesium-rich limestone. Hilton Beds- red sandstones and brockram of the Penrith	*								

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	SSSI designated interest features	SAC designated interest features	SPA bird populations dependency on specific habitats			Ramsar criteria applicable to specific habitats			
					Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
		Sandstone Formation. Overlying this are a series of grey sandstone and siltstones known as the Eden Shale Formation.									

NB. Features where asterisks are in brackets (*) indicate habitats which are not notified for specific habitat interest (under the relevant designation) but because they support notified species.

Table 2 Habitat extent objectives

Conservation Objective for habitat extent	To maintain the designated features in favourable condition, which is defined in part in relation to a balance of habitat extents (extent attribute). Favourable condition is defined at this site in terms of the following site-specific standards.
Extent - Dynamic balance	On this site favourable condition requires the maintenance of the extent of each habitat type (either designated habitat or habitat supporting designated species). Maintenance implies restoration if evidence from condition assessment suggests a reduction in extent.

Habitat Feature (BAP Broad Habitat level, or more detailed level if applicable)	Estimated extent (ha) and date of data source/estimate	Site Specific Target range and Measures	Comments
SSSI Area = 2491.09ha SAC Area = 2463.23ha Areas of lowland wetland and wet woodland which are not Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) are excluded from the SAC.			
Rivers and Streams	410km length Area to be measured	No loss of extent	NB. The designated boundaries of the river do not include the full area of influence which includes the wider River Eden catchment as a whole.
Standing open water	Area to be measured	No loss of extent of standing water.	Changes caused by active management, such as infilling or channel diversion should be assessed. Changes due to drying out or successional change are covered under other attributes.

Habitat Feature (BAP Broad Habitat level, or more detailed level if applicable)	Estimated extent (ha) and date of data source/estimate	Site Specific Target range and Measures	Comments
Wet Woodland - Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)	Area to be measured	No reduction in the total combined extent of wet woodland and maximise potential for floodplain woodland development in all suitable areas.	Wet woodland occurs as part of a dynamic and mobile habitat in association with gravel deposition and channel migration, and their precise locations will change over time. A dynamic and mobile mosaic with other habitats (fen, swamps and unvegetated shingle shoals) needs to be maintained.
Additional Wet woodland – not included within SAC	Area to be measured		
Lowland Wetland – not included within SAC	Area to be measured	There should be no reduction in the total combined extent of wetlands and their component communities in relation to the established baseline.	The wetland habitats are intimately linked to the river and dependent upon it for their continued existence. They are the result of a dynamic river system. Curtailing the natural processes inhibits their ability to form, succeed and re-form throughout the catchment as a whole. These habitats are under-represented due to management and modification of the river system, drainage and reversion of wetlands for other uses.

Audit Trail
Rationale for habitat extent attribute (Include methods of estimation (measures), and the approximate degree of change which these are capable of detecting).
Rationale for site-specific targets (including any variations from generic guidance)
Other Notes
Gravel extraction is a threat to invertebrate assemblages associated with riverine shingle.

Table 2a Species population objectives

Conservation Objective for species populations	To maintain the designated species in favourable condition, which is defined in part in relation to their population attributes. Favourable condition is defined at this site in terms of the following site-specific standards.
Population balance	On this site favourable condition requires the maintenance of the population of each designated species or assemblage. Maintenance implies restoration if evidence from condition assessment suggests a reduction in size of population or assemblage.

Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
Atlantic salmon <i>Salmo salar</i>	Rivers and streams/open water	Population size Multi-sea–winter component Juvenile populations	Meeting Minimum Biological Acceptable Level for 4 years out of 5 at a sub-catchment level. The Management Target is 20.6 Million eggs/annum for the whole river system*. Maintenance of the multi-sea-winter component. Juvenile population densities should not differ significantly from those expected for this river system	See Annex 2 for more details. *The whole river system includes areas not within the SSSI. Comprehensive guidance on determining favourable condition in relation to juvenile salmon population parameters can be obtained in *Cowx, 2002. (*Cowx, I. (2002) <i>A Standardised Survey and Monitoring Protocol for the Assessment of Atlantic Salmon, Salmo salar, Populations in SAC Rivers in the UK. Life in UK Rivers Project</i>)

Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
Bullhead <i>Cottus gobio</i>	Rivers and streams	Adult population density	There should be no reduction in densities from existing levels, and in any case no less than 0.2 m ⁻² in upland rivers (source altitude >100m) and 0.5 m ⁻² in lowland rivers (source altitude ≤100m).	Routine Environment Agency monitoring is not capable of providing suitable data. A least-cost methodology for monitoring this attribute has been developed by the LIFE in UK rivers project, involving the sampling of representative reaches within the SAC. However, due to practical limitations, there is currently a lack of comprehensive information
		Population distribution	Bullhead should be present in all suitable reaches. As a minimum, no decline in distribution from current extent.	Bullhead are widespread in any flowing water at an altitude of less than 300 m. Well oxygenated water over a gravel / pebble / cobble substrate is preferred (and is essential for successful reproduction). Riffles are a favoured microhabitat. Very sluggish water with a clay / silt substrate or cold, steep-gradient upland sections with numerous cascades and boulder / bedrock substrate should be viewed as sub-optimal. Bullhead can occur in very small channels (<1 m wide) where they may be the only fish species present
		Reproduction/age structure	Young-of-year fish should occur at densities at least equal to adults.	Young-of-year (Y-O-Y) fish should be easily identifiable using length-frequency analysis. In September they are typically less than 30 mm long. Young-of-year are often much more numerous than adults, so the current target is rather conservative (to allow for natural variation in recruitment and habitat type). A ratio of 3 or 4:1 for Y-O-Y adults is not unusual. It may be necessary to refine this target at a site-specific level.

Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
White-Clawed crayfish <i>Austropotamobius pallipes</i>	Rivers and streams	Population and health	<p>These should not differ significantly from those expected for the river type/reach under conditions of high physical and chemical quality, and in any case should not drop below levels recorded in previous surveys.</p> <p>Absence of individuals infected with crayfish plague.</p> <p>Thelohaniasis (Porcelain Disease) should not affect >10% population.</p>	<p>Several surveys are available for the River Eden. Densities vary between different tributaries due to natural factors, so a typical density for the whole river can not be set.</p> <p>Monitoring units would be expected to average at least "moderate" abundance according to monitoring category protocols. Determination of unfavourable condition should only be made where low densities are known to be related to an impact of some kind, or where historical survey data suggest that higher densities should be present. Regular monitoring on different tributaries and upper main river, using the standard protocol, will provide data on which targets can be produced in the future.</p> <p>Crayfish plague can be introduced by the entry of non-native crayfish species into a site, but also by a variety of other routes, including contaminated equipment (nets, boots, etc.) and stocked fish from infected waters¹. Outbreaks of crayfish plague typically result in 100% mortalities, unless there are isolated headwaters with crayfish in the catchment. This target requires that the utmost care be taken in terms of fish stocking and general surveying/monitoring to ensure that plague vectors are not introduced. Disinfection or thorough drying of equipment (or perhaps dedicated equipment for use only in native crayfish rivers) and stocking fish from uninfected waters are vital elements. (1. See notes in Annex 10)</p> <p>This disease rarely causes mass mortalities and may be present in a population at low levels without apparent harm. However, a prevalence exceeding 10% is of concern.</p>

Conservation Objectives: River Eden and Tributaries Consultation Draft

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Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
Otter <i>Lutra lutra</i>	Rivers and streams/open water	Population size	Population maintained or increasing.	The EA three year survey shows otter to be present on all parts of the catchment.
Schelly <i>Coregonus lavaretus</i>	Open water	Presence/spawning Juvenile fish	Schelly are present and spawning successfully. Juvenile fish (0+ and 1+) should comprise 70% of individuals in surveys carried out using quantitative hydroacoustics.	Targets for overall fish density will be set once reference values are calculated for Ullswater. Protection of known spawning sites is a priority. Discernible age classes up to at least 9+ years but may extend up to 13+; no loss of age classes; usually a domination of 3+ and 4+ individuals in gill net catches but older fish should also be well represented; pattern of consistent recruitment should be visible.
Invertebrate Assemblage: shingle banks and stony river margins	Rivers and streams	Direct Monitoring of assemblage score based on presence/ absence of specified proportion of species typical of habitat listed in ISIS	Monitor the assemblage once in every 6 year monitoring cycle Using defined invertebrate sampling protocols, threshold to be met W111 shingle bank: Weighted Species Score: 9 W112 stony river margin: Weighted Species Score: 4	The River Eden shingle banks are not currently covered by any specific invertebrate monitoring schemes, but a survey of River Eden shingle banks was conducted in 2005. Regular monitoring needs to be secured. This attribute is to be assessed via direct monitoring through specialist survey at least once in every 6 years (Invertebrate Index 450)

Species Feature (species or assemblage)	List supporting BAP Broad Habitats	Population Attribute (eg presence/absence, population size or assemblage score)	Site Specific Target range and Measures (specify geographical range over which target applies ie site, BAP broad habitat or more specific)	Comments
Breeding bird assemblage and breeding sand martins	Rivers and streams/open water	Assemblage score Presence	Maintain assemblage diversity, with the assemblage score >25. Presence of breeding sand martins.	At notification the assemblage score was 33. If the total score calculated for a breeding bird assemblage falls by the equivalent of 25% or more in points then the assemblage is in unfavourable condition. The river system acts as one unit to support the largest numbers of breeding sand martins in Cumbria

Audit Trail
<p>Rationale for species population attributes (Include methods of estimation (measures), and the approximate degree of change which these are capable of detecting).</p> <p>Some population targets will be subject to periodic review as additional survey data becomes available.</p>
<p>Rationale for site-specific targets (including any variations from generic guidance)</p>
<p>Other Notes</p> <p>Whilst large amounts of population data exist for certain species such as Salmon, there are other species for which we currently have relatively little population size and distribution data. Population targets must therefore be subject to ongoing review as additional survey data becomes available.</p> <p>Standard ERS survey techniques should be employed when surveying shingle banks; these are detailed in Drake et al. 2007 (NERR 005).</p>

Table 3 Site-Specific definitions of Favourable Condition

CONSERVATION OBJECTIVE FOR THIS HABITAT / GEOLOGICAL SITE-TYPE	To maintain the habitats and species at River Eden and Tributaries in favourable condition, with particular reference to relevant specific designated interest features. Favourable condition is defined at this site in terms of the following site-specific standards:
Site-specific details of any geographical variation or limitations (where the favourable condition standards apply)	
Refer to ANNEXES	

Site-specific standards defining favourable condition
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Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
REFER TO ANNEXES					

Audit Trail
Rationale for limiting standards to specified parts of the site
Rationale for site-specific targets (including any variations from generic guidance)
Rationale for selection of measures of condition (features and attributes for use in condition assessment) (The selected vegetation attributes are those considered to most economically define favourable condition at this site for the broad habitat type and any dependent designated species).

Other Notes

Annexes: Details of Site-specific standards defining favourable condition

Annex 1	Rivers and Streams	Page 18
Annex 2	Standing open water	Page 34
Annex 3	Wet woodland	Page 40
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Annex 5	Additional targets Atlantic Salmon	Page 47
Annex 6	Additional targets for sea, river and brook lamprey	Page 48
Annex 7	Additional targets for Bullhead	Page 51
Annex 8	Additional targets for Schelly	Page 53
Annex 9	Additional targets for otter	Page 54
Annex 10	Additional targets for White-clawed crayfish	Page 55
Annex 11	Additional targets for invertebrate assemblage of exposed river sediments TO BE UPDATED	Page 57
Annex 12	Additional targets for assemblage of breeding birds and sand martins	Page 58
Annex 13	Geology – surface karst (IK)	Page 60
Annex 14	Maps – to be included when available	Page

ANNEX 1 Rivers and Streams (details of site-specific standards defining favourable condition)

GUIDANCE ON CONSERVATION OBJECTIVES FOR MONITORING DESIGNATED SITES: SSSI / SAC RIVERS

Modified from UK Common Standards guidance for use in England

Interest feature: Rivers

Equivalent Phase 1 type: G2 running water (part)

Annex I habitats included: H3260 Water courses of plain to montane levels with *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation

Reporting category: Rivers and streams

NB All attributes listed are mandatory unless indicated as discretionary or site specific (e.g. for SACs only) by *.

Attribute	Targets	Method of assessment	Comments
Habitat functioning: water flow	Flow regime should be characteristic of the river. Levels of abstraction should not exceed Generic River Flow Thresholds as laid down in Table 1c in relation to daily naturalised flows except where detailed site-specific hydro-ecological studies of habitat-flow relationships provide robust evidence to justify deviation from those Generic Thresholds.	Data on gauged and naturalised flows, flow accretion methods, and the Resource Assessment Method (RAM) Framework. Site-specific hydro-ecological studies.	Naturalised flow is defined as the flow in the absence of abstractions and discharges. River flow affects a range of habitat factors of critical importance to characteristic flora and fauna, including current velocity, water depth, wetted area, substrate quality, dissolved oxygen levels and water temperature. The maintenance of both flushing flows and seasonal base flows, based on natural hydrological processes, is vital. The generic targets vary according to the specific sensitivity of the reach type to abstraction. Within the CAMS programme the headwaters of the main River Eden and its tributaries are defined as 'very high' and the main river is defined as 'high' sensitivity to abstraction. A more or less stringent threshold may be appropriate for other specified reaches following the completion of robust hydro-ecological investigations undertaken during the Review of Consents process. Detailed and ecologically robust

Attribute	Targets	Method of assessment	Comments
	<p>Ecological flow criteria already laid down for the river (e.g. for passage of migrating salmon) should also be complied with. There should be >5 cm water depth over riffles in summer to maintain suitable conditions for bullhead.</p> <p>There should be no obvious problems with water availability within the monitoring unit.</p> <p>Springs should be maintained.</p>	<p>Field observations; further investigations; ongoing review under CAMS.</p> <p>Field observations</p>	<p>investigations of habitat-flow relationships in Stage 3 of the Review of Consents have identified that the River Eamont will be allowed to deviate from table 1c at moderate flows only.</p> <p>Any relaxation of generic targets on the regulated stretches of the SSSI should relate to the desirability and ecological sustainability of regulating structures.</p> <p>The availability and reliability of data is patchy – long-term gauged data can be used until adequate naturalised data become available, although the impact of abstractions on historical flow records should be considered.</p> <p>Headwater sections are particularly vulnerable to abstraction, and downstream migration of perennial heads, other than in drought conditions, is a sign of unfavourable condition.</p> <p>Springs are characteristic of the limestone streams in the upper Eden. Their flow should be maintained.</p>
Habitat functioning: water quality (General assessments)	<p>Biological GQA Class: A or B depending on reach type (see Table 1d). In addition, no drop in class from existing situation</p> <p>Chemical GQA Class: a or b depending on reach type (see Table 1d). In addition, no drop in class from existing situation.</p>	<p>EA standard monitoring protocols</p> <p>EA standard monitoring protocols</p>	<p>A wide range of water quality parameters can affect the status of interest features, but standard biological monitoring techniques provide a reasonably integrated picture in relation to many parameters.</p> <p>The Biological Module of the Environment Agency's General Quality Assessment scheme is based on assessment of the macroinvertebrate community. All classified reaches within the site should comply with the targets given. The chemical module of the GQA scheme sets standards for dissolved oxygen, biochemical oxygen demand and total ammonia. It therefore</p>

Attribute	Targets	Method of assessment	Comments
	The upper reaches of the main Eden and all tributaries have a GQA target of A/a. The lower main Eden supporting salmon passage, but not spawning or nursery areas has a target of B/b.		covers a number of water quality parameters that commonly cause problems within river systems. Where modelling has been undertaken, the river should comply with the targets at all points along its length except within effluent mixing zones of acceptable size.
Habitat functioning: water quality	Un-ionised ammonia <0.021 mg L ⁻¹ as a 95-percentile	EA monitoring	The un-ionised form of ammonia is highly toxic to freshwater fauna. This target is the same as the EQS used by the EA. Where modelling has been undertaken, the river should comply with the targets at all points along its length except within effluent mixing zones of acceptable size.
Habitat functioning: water quality	Suspended solids No unnaturally high loads. The upper reaches of the main Eden and all tributaries have a suspended solids target of ≤10mg L ⁻¹ . The lower main Eden supporting salmon passage, but not spawning or nursery areas has a target of ≤25mg L ⁻¹ (annual mean).	EA monitoring	Many characteristic species of different river types are susceptible to elevated solids levels, through reduced light availability (for photosynthesis), the clogging of respiratory structures, impaired visibility or siltation of coarse substrates. Suspended solids measurements are also essential to the estimation of particulate loads within the river network (in combination with gauged flow data), to provide an indication of the risk of siltation.
Habitat functioning: water quality	Total Reactive Phosphorus as an annual mean depending on reach type (see Table 1e and separate reach-specific target spreadsheet which is in	EA monitoring	Elevated phosphorus levels interfere with competitive interactions between higher plant species and between higher plants and algae, leading to dominance by attached forms of algae, deterioration of vegetative habitat, and declines in abundance and/or diversity of characteristic plant species (which

Attribute	Targets	Method of assessment	Comments
	<p>preparation).</p> <p><i>Where existing site-specific TRP concentrations are consistently lower than the standard appropriate for the geology/flow category, a lower target should be applied to prevent significant deterioration from current status.</i></p>		<p>may include lower plants such as mosses and liverworts). The respiration of artificially large growths of benthic or epiphytic algae may generate large diurnal sags in dissolved oxygen in the water column and/or substrate fish and invertebrate species. Excessive benthic algal growth can also enhance the trapping of fine sediments within riverine gravels, enhancing siltation and exacerbating poor substrate conditions.</p> <p>Where modelling has been undertaken, the river should comply with the targets at all points along its length except within effluent mixing zones of acceptable size.</p>
Habitat functioning: water quality	<p>Toxic contamination</p> <p>No increase in potentially toxic pollutants and no exceedence of the relevant Environmental Quality Standards (or Predicted No Effect Concentrations) for potentially toxic.</p>	<p>Monitoring by Environment Agency. Specialist group to meet at intervals to identify national trends and extract information on individual SACs.</p> <p>Specialist targeted studies (desk-based and intrusive ground investigations) – for example as part of pre-application work and EIA for development proposals.</p>	<p>Liaison between NE and EA staff essential.</p> <p>Toxic contamination could result in lethal or sub-lethal effects on the interest features of the SAC. The nature of the effect would depend upon the particular contaminants present, their concentrations, bioavailability and environmental conditions. Sub-lethal effects may include effects on reproduction, physiology, genetics and health, ultimately reducing fitness for survival. Many compounds, present at low levels, can also be bio-accumulated in the food chain, with effects noticed in higher predators, such as otters. In some species a certain stage in the life cycle may be affected, eg lamprey nursery areas affected by accumulations of toxins in the sediments.</p> <p>Otters are particularly at risk from bio-accumulating toxic pollutants.</p> <p>Typically (eg for development proposals), in order to assess the risk to the SAC, a robust and thorough identification of any potential contaminants present on a site is required, through desk-based studies and intrusive ground investigations, to identify any pathways for transfer and measures that may be</p>

Attribute	Targets	Method of assessment	Comments
			<p>necessary to prevent such transfer of contaminants to the River Eden SAC. The type of Information required includes:</p> <ul style="list-style-type: none"> • Site investigation to determine presence and levels of all potential toxic contaminants. Sampling should be at a level to ensure a high degree of confidence in the results, with additional sampling around any areas with high levels of contamination to identify any 'hotspots'. • Conceptual site model of all possible pathways to the SAC including surface water, groundwater and blown dust. • Results of the modelling should be expressed in relation to the relevant Environmental Quality Standards (EQS) where appropriate. Some potentially toxic substances have no EQS. In these instances a Predicted No Effect Concentration (PNEC) may need to be derived in conjunction with the Environment Agency. • Risk assessment and full details of all proposed remediation measures. • Reference should be made to the EA guidance on Remedial Targets Methodology for assessing hydrological risks to groundwater for further details. • Reference should be made to the EA Ecological risk framework assessment for contaminated land (due out 2008) for further details.
Habitat structure: substrate	Siltation No excessive siltation. Channels should contain characteristic levels of fine sediment for the river type.	Field observations Fluvial audit	Siltation levels vary naturally, depending upon the reach type and hydrodynamic regime. Most sites should have a variety of channel substrates. Localised accumulations of silt on the inside of bends or in back channels do not necessarily indicate a problem and may provide suitable habitat for lamprey ammocoetes. However, widespread siltation of riverine

Attribute	Targets	Method of assessment	Comments
			<p>sediments, caused by high particulate loads and / or reduced scour within the channel (due to artificial channel modifications, is a major threat to interest features.</p> <p>Many characteristic species of fish, invertebrates and even plants are susceptible to siltation at some stage in their life-cycle. Mechanisms of impact can relate to reduced interstitial spaces in coarse substrates, reduce water flow-through the substrate leading to poor quality of interstitial waters, and reduced sediment surface 'roughness' that eliminates refugia for animals with epibenthic habitats and prevents plant seeds and fragments from lodging in the substrate and taking root. Elevated levels of fines can interfere with survival of salmon, lamprey and bullhead eggs, due to suffocation. It can also cause loss of interstitial refugia for salmon and bullhead fry and clog the respiratory structures of crayfish.</p> <p>For river types characterised by extensive <i>Ranunculus</i> beds, there should be a predominance of 'clean' gravels, pebbles and cobbles, with relatively low cover by silt-dominated substrates. Maximum fines content should not be too great to prevent establishment of new plants. Fines are defined as particles <0.83 mm.</p> <p>Siltation may occur due to activities in the channel and banks as well as in the wider catchment. Sources of silt include run-off from agricultural land, sewage and industrial discharges, erosion, trampling of banks by livestock, in-channel works etc. A fluvial audit is recommended where specific problems have been identified, e.g. where there is a perceived risk of damage occurring or where species characteristic of the habitat are already believed to be in decline. Fluvial audit is not a monitoring tool but can deliver an understanding of geomorphological problems unattainable by any other method, and help to</p>

Attribute	Targets	Method of assessment	Comments
			discriminate between problems of sediment delivery and problems of channel structure.
Habitat structure: channel and banks	<p>Channel form Channel form should be generally characteristic of river type, with predominantly unmodified planform and profile.</p> <p>For planform the target is a score for the assessment unit of at least 3 (<i>see Appendix 4 of the monitoring protocol in CSM Guidance for Rivers Version March 2005 JNCC</i>).</p> <p>For naturalness of the profile using transect data the target is a score for the assessment unit of 4 or 5 (<i>see Appendix 5 of the monitoring protocol</i>). No RHS site to have any of the eight categories of bank profile modification (Section I in RHS 2003 form) recorded as 'extensive'.</p> <p>Maintain natural hydrogeomorphological processes: Where possible the formation</p>	<p>Assess river morphology using RHS (<i>see text and Appendices 4 and 5 of the monitoring protocol for details</i>).</p> <p>In addition, for planform: map data, aerial survey data, historical records and local knowledge.</p>	<p>The river should support all of the habitat features necessary for characteristic flora and fauna to thrive, in characteristic proportions. Operations that widen, deepen, and/or straighten the channel reduce variations in habitat. New operations that would have this impact are not acceptable within the SAC whilst restoration may be needed in some reaches. Headwater sections are particularly vulnerable to reprofiling.</p> <p>The new version of Habitat Modification Score (HMS) enables a more sophisticated assessment to be made, based on the nature of modifications to a river and their estimated persistence. A guideline target might be 90% or more of condition monitoring sites should fall within the <i>semi-natural</i> HMS class 1, with the remainder <i>predominantly unmodified</i> (class 2).</p> <p>Physical targets will need to be adjusted to be compatible with river restoration plans to be developed according to EN's national River Restoration Strategy currently under development. Where appropriate channel restoration requirements have been identified, such as at Goldrill Beck, such opportunities should be taken.</p> <p>Watercourses with a high degree of naturalness will be governed by dynamic processes which result in a variety of physical habitat features, including a range of substrate types, variations in flow, channel width and depth, in-channel and side-channel sedimentation features, erosion features and both in-channel and bankside vegetation cover. The characteristic channel morphology provides the habitat features necessary to fulfil the spawning, juvenile and dispersal requirements of salmon, bullhead and lamprey</p>

Attribute	Targets	Method of assessment	Comments
	<p>and reworking of sedimentary features should be uninhibited as part of the natural functioning of the system.</p> <p>Maximize the ecological potential of the modified urban areas of Carlisle, Penrith and Appleby</p>		<p>species. The close proximity of different physical habitat features facilitates movement to new preferred habitats with age. These features should be left undisturbed except where shown to be essential in specific locations for flood risk management or water supply purposes. In areas with white-clawed crayfish, any in-channel works should at least replace the pre-works availability of crayfish refuges.</p> <p>The River Restoration Strategy also requires an analysis of unmodifiable physical constraints to restoration, relating to essential flood protection to people and the built environment. The urban areas of Carlisle, Penrith and Appleby have extensive modifications present, however these should maximise river functioning and habitat availability for all interest features. There should be no net loss of habitat quality. This should be taken into account during condition assessment of those units which include these urban areas.</p>
	<p>Woody debris Woody debris removal should be minimised, and restricted to essential activities such as flood defence where infrastructure, human life or property is under threat</p>	Routine statutory agency consenting process	<p>Coarse woody debris should not be removed from rivers as it plays a significant role in the formation of new gravel beds. Bullheads are particularly associated with woody debris in lowland reaches, where it is likely that it provides an alternative source of cover from predators and floods. It may also be used as an alternative bullhead spawning substrate. Fallen trunks and branches are used extensively by crayfish as refuge, particularly where other forms of refuge are in short supply.</p>
	<p>Bank and riparian zone vegetation Bank and riparian zone vegetation structure should be near-natural.</p> <p>For bank vegetation the target</p>	For bank vegetation: a simplified Phase I habitat survey, carried out at 10 RHS transect locations or as part of the sweep-up survey (<i>see Appendix 6 of the monitoring protocol</i>).	<p>Note: The <i>protocol in Appendices 6 and 7</i> used to assess bank and riparian zone naturalness incorporates a modification due to negative indicator species.</p> <p>Extent of submerged and marginal vegetation: These provide important cover, flood refuge and feeding opportunities for crayfish, bullhead and juvenile lamprey and salmon. Vegetation</p>

Attribute	Targets	Method of assessment	Comments
	is a mean score for the assessment unit of 4 or 5. For riparian zone vegetation the target is a mean score for the assessment unit of 4 or 5.	For the riparian zone: RHS transect data, assessed using the protocol in <i>Appendix 7 of the monitoring protocol</i> .	<p>management should be limited to no more than 50% of the channel width (submerged plants) and 50% of bank length (marginal fringe). Extent of overhanging riparian vegetation: this should cover at least 10% of bank length throughout the year, distributed in patches along the margins, and considerably more where other forms of refuge are in short supply. Emergent vegetation provides important nursery habitat for lamprey.</p> <p>Bankside tree cover: This helps to provide temperature micro-gradients within the channel, which provides greater flexibility in habitat selection. Overhanging trees provide valuable shade and food sources, whilst tree root systems provide important cover and flow refuge for white-clawed crayfish, juvenile salmon and lamprey and adult and juvenile bullhead. In lowland reaches without any riparian trees, it may be desirable to introduce a limited amount of cover.</p> <p>Thick vegetation cover, riverside woodland and vegetated islands are important holt habitats and areas for otters to shelter and rest during the day. Any opportunities should be taken to increase suitable habitat. Old trees, dead wood and wood trash should be retained.</p>
Plant community: species composition and abundance	(i) <u>Species Composition</u> The following should all occur: for the relevant river type; at least 60% of species with abundance V or IV in the constancy table should be present, AND at least 25% of	Survey the macrophytes of representative stretches at intervals of <i>ca.</i> 5 km, using the method of Holmes (1983) and a standard check-list of macrophyte species (<i>see Appendix 2 of the monitoring</i>	In-channel vegetation of SSSI/SAC rivers should be dominated by characteristic species. Species composition and abundance should be assessed using data from two 500 m stretches in each assessment unit where possible. When assessing targets (ii) and (iii), the data from all macrophyte survey sites in the assessment unit should be pooled and compared against pooled baseline data/reference condition.

Attribute	Targets	Method of assessment	Comments
	<p>species with abundance III should be present.</p> <p>(ii) <u>Loss of Species</u> 60% of species with cover >1 in the initial baseline survey should be at least present and all species recorded as dominant in the initial baseline survey should still be present.</p> <p>(iii) <u>Abundant Species</u> At least 25-35% of species recorded as dominant in the initial baseline survey should still recorded as dominant.</p>	<p><i>protocol</i>).</p> <p>Evaluate the community against the target community in the constancy tables (<i>see Appendix 8 of the monitoring protocol</i>).</p> <p>Record measures of species composition and abundance on the form in <i>Appendix 9 of the monitoring protocol</i>.</p> <p>Alien species, filamentous green algae (including <i>Cladophora</i>, <i>Vaucheria</i>, and <i>Enteromorpha</i>) and other species indicative of eutrophication are not included in these targets and are dealt with in separate targets below.</p>	<p>Cover values are expressed using a simplified DAFOR 3-point scale. Where necessary, 5-point scale data converts into the 3-point scale as follows: 5/4 = 3, 3 = 2, 2/1 = 1. Any sections classified as Type IV are considered to be in unfavourable condition.</p> <p>Comparisons in (ii) and (iii) should be made with the initial baseline survey/reference condition, not with survey data from the previous monitoring cycle.</p> <p>The text under <i>Targets</i> summarises the suggested specific targets for each of the criteria. These should be used to guide those undertaking the condition assessment, but because of local variation it cannot be expected that all elements will 'pass'. This is especially likely where sites are on the edge of their 'type' – e.g. upstream sites where downstream seeding of species may be limited. Loss or gain of species can be indicative of either deterioration or improvement, so assessment needs to take account of the reasons for change.</p> <p>Non-native species are not considered under this attribute, but are covered under <i>Negative indicators</i>. Rare species are not considered under this attribute, but are taken account of under <i>Indicators of local distinctiveness</i>.</p>
Plant community: reproduction	Aquatic macrophytes should be allowed to reproduce in suitable habitat, unaffected by river management practices.	Field observations during macrophyte survey.	Flowering outside the normal period and weed cutting or other activities that do not leave patches of plants to flower and set seed are indicators of unfavourable condition.

Attribute	Targets	Method of assessment	Comments
Negative indicators: native species	<p>(i) For blanketweed, epiphytic or other algae, <i>Potamogeton pectinatus</i> or <i>Zannichellia palustris</i>:</p> <p>Cover values over 25% should be considered unfavourable, and should trigger further investigation.</p> <p>Cover values should not increase significantly from an established baseline.</p> <p>ii) For taxa with Species Trophic Ranks (STRs) as follows:</p> <p>River Types V, VI, VII – STR 1-3</p> <p>Cover values over 25% should be considered unfavourable, but should trigger further investigation.</p> <p>Cover values should not increase significantly from an established baseline.</p>	Survey the macrophytes of representative stretches at intervals of ca. 5 km, using the method of Holmes (1983) and a standard check-list of macrophyte species (see Appendix 2 of the protocol).	<p>Targets are set to register high or increasing cover as unfavourable:</p> <p>Thresholds may vary according to tributary or river reach.</p> <p>Taxa typically associated with enrichment are considered negative indicators of favourable condition. The species will vary depending on the River Community Type. Species that are characteristic of enrichment, or have atypically low Species Trophic Ranks (STRs) in the Mean Trophic Rank (MTR) system (Holmes <i>et al.</i>, 1999) and that are recorded as dominant (3), are used as indicators. Note: in using MTR, each species is allocated a score dependent on its tolerance to eutrophication; this system cannot be used to assess acidification.</p> <p>Expert judgement will be important in assessing the ecological significance of cover values of these species. At some sites, it may be appropriate to set more stringent targets. Occasionally thresholds may need to be raised, according to wider conservation objectives.</p> <p><i>Alien species are assessed within the Negative indicators: alien/ introduced species attribute instead.</i></p>
Negative indicators: alien/ introduced species	<p>No impact on native biota from alien or introduced species.</p> <p>Aquatic and marginal</p>	<p>For aquatic and marginal</p>	<p>Non-native species constitute a major threat to many river systems. For example, species such as signal crayfish have been responsible for much of the decline of native crayfish through competition, habitat damage and the introduction of</p>

Attribute	Targets	Method of assessment	Comments
	<p>macrophytes: The mean SERCON score for naturalness (derived from individual survey sites) should be 4 or 5 (<i>see Appendix 10 of the monitoring protocol</i>).</p> <p>Other organisms No alien/introduced species present at levels likely to be detrimental to the characteristic biological community.</p> <p>Absence of non-native crayfish</p>	<p>macrophytes the presence of alien species listed in Appendix 10 of the monitoring protocol should be noted during the macrophyte survey and the scoring system for naturalness applied.</p> <p>Field observations; external organisations (e.g. EA, SEPA, EHS, fisheries trusts and boards); local reports on alien or introduced species.</p> <p>Determined during population monitoring, during routine monitoring by EA e.g. for GQA, or specific search arising from information from anglers and public. Specific crayfish surveys in catchments thought to be at risk</p>	<p>crayfish plague. Note: 'Introduced species' include species that are native to the UK but outside of their natural range.</p> <p>The SERCON scoring system for naturalness of aquatic and marginal macrophytes is used to assess alien plant species.</p> <p>Note: This protocol applies to negative indicator species of the channel and channel margins. Negative indicator species found on banks and the riparian zone are assessed as part of the naturalness of banks and naturalness of riparian zone assessment and form part of the CSM structure attribute. Himalayan Balsam <i>Impatiens glandulifera</i> and Japanese Knotweed <i>Fallopia japonica</i> have become well established in the Eden catchment with some particularly extensive stands of Himalayan Balsam along riverbanks. The aim should be to target the eradication of both species through a strategic plan working downstream from the upstream extent of both species.</p> <p>Expert judgement will be needed to determine whether there is sufficient evidence to generate an unfavourable condition assessment. For example, for signal crayfish, presence alone would constitute unfavourable condition.</p> <p>Once non-native crayfish species are established in a water body, native populations are usually eliminated quite rapidly, if not by competition and predation then by crayfish plague. If already present in an SAC, measures should be taken to control the spread of alien species and, reduce their numbers.</p> <p>Bullhead densities have been found to be negatively correlated with densities of non-native crayfish in the River Great Ouse, suggesting competitive and/or predator-prey interactions.</p>

Attribute	Targets	Method of assessment	Comments
Negative indicators: barriers to migration and movement through SAC	<p>No artificial barriers significantly impairing characteristic migratory species from essential life-cycle movements, including between reaches.</p> <p>No entrainment by intakes/offtakes.</p>	<p>Strategic assessment of barriers affecting the characteristic species of the SSSI on a site specific basis</p> <p>Survey, bridge survey by</p>	<p>Barriers may take the form of weirs, or intakes/off-takes that entrain characteristic species. Species may be anadromous (e.g. salmon, sea and river lamprey), catadromous (e.g. eels) or migrate over relatively short distances within the river system (e.g. bullhead, brook lamprey and invertebrates without flying life stages). Lamprey can pass some potential barriers by attaching themselves to structures of river banks by their suckorial discs and creeping up by strong bursts of swimming.</p> <p>A range of data sources may be used and brought together to make this assessment. Specific studies may be required in relation to some barriers where impacts are uncertain and remedial costs are potentially high.</p> <p>All suitable habitat should be accessible above man-made weirs. Fish passes may be used to make artificial barriers accessible to migratory species where the impact of the removal of a barrier is assessed as undesirable and/or impractical, e.g. the mill weir at Maulds Meaburn on the River Lyvennet and lamprey access to River Caldeu upstream of Holmehead Weir. Natural barriers to potentially suitable spawning areas should not be circumvented.</p> <p>Vertical drops of >18-20 cm are sufficient to prevent upstream movement of adult bullheads. They will therefore prevent recolonisation of upper reaches affected by lethal pollution episodes, and will also lead to constraints on genetic interactions that may have adverse consequences.</p> <p>New instream structures should be avoided, whilst the impact of existing structures needs to be evaluated</p> <p>Intakes/off-takes should be adequately screened where there is potential to impact on the designated species.</p>

Attribute	Targets	Method of assessment	Comments
	Maintenance and enhancement of connective corridor along river for otter movement No net loss in quiet river stretches not affected by access or other disturbance activities such as lighting and noise.	Highway's Agency and LAs.	Bridges and modified stretches of river, particularly at high water, can prevent passage along the river corridor. These stretches should be identified and measures taken to remedy the problem. Otters are found in close proximity to public areas, but they do require areas for resting and breeding. Disturbance due to human activity, such as light and noise, particularly at times of day when otters are most active, can also prevent passage.
Negative indicators: Fish introductions	Fish introductions should not interfere with the ability of the river to support self-sustaining and healthy populations of characteristic native species. No introductions, or stocking of other species or sub-species , at excessively high densities	Assessment of stocking consents in relation to guidance on acceptable stocking levels.	Many characteristic species can be affected by fish introductions, through increased predation, competition or genetic introgression, or through disease transfer. Guidance is being generated on the levels of stocking deemed to be ecological acceptable within SSSIs. The presence of artificially high densities of other fish creates unacceptable high levels of predatory and competitive pressure on juvenile salmon, lamprey and bullhead and adult brook lamprey and bullhead. No stocking/transfers of lampreys unless agreed to be in the best interests of the population. It is uncertain whether there are significant genetic differences between lamprey populations of the same species. The degree of fidelity to natal spawning grounds is unclear. Any agreed introductions should involve local stock as a precaution.
Indicators of local distinctiveness	Ox bow lakes and back channels should be maintained as a feature of the river with associated semi-natural vegetation	Reference to the CSM favourable condition tables will be required for the relevant communities such as:	Ox bow lakes and back channels are found at Great Salkeld, Briggie Beck and Kingwater. The vegetation composition will change over time and should be allowed to undergo natural succession. These features are susceptible to drainage, infilling, and agricultural improvement.

Attribute	Targets	Method of assessment	Comments
	For rare and national BAP species of invertebrates associated with river shingles and sandbanks. - no net loss of population size and distribution across the site or loss and damage of dependent habitat.	<p>S7 – <i>Carex acutiformis</i> swamp M23 – <i>Juncus effuses/acutiflorus</i> – <i>Galium palustre</i> rush pasture (See separate tables below)</p> <p>Specialist survey and monitoring of condition of available habitat. (See separate Favourable Condition Table – when available)</p> <p>Specialist survey</p>	<p>However, account will need to be taken of successional processes as well as current or target NVC communities.</p> <p>The finest development of riparian habitats is found on the River Irthing. Swamp dominated by lesser pond-sedge <i>Carex acutiformis</i>, with bittersweet <i>Solanum dulcamara</i>, gypsywort <i>Lycopus europaeus</i> and water mint <i>Mentha aquatica</i>, is in integral component of the Irthing floodplain. This swamp occurs at the base of natural amphitheatres formed by previous meanders of the river and the Irthing sites are the most extensive in Cumbria.</p> <p>Rare invertebrates associated with the River Eden whose presence and distribution should be maintained and enhanced include:- <i>Saluda fucicola</i>, <i>Hydrothassa hannoveriana</i>, <i>Bembidion schuepelli</i>, <i>Bembidion fluviatile</i>, <i>Asaphidion pallipes</i>, <i>Lonchoptera mejeri</i>, <i>Camspicnemus marginatus</i>, <i>Rhaphium fractum</i>, <i>Tachydromia edenensis</i>, <i>Negastrius sabulicola</i>, <i>Arctoconopa melampodia</i>, <i>Rhabdomastix inclinata</i>, <i>Tachydromia acklandi</i>, <i>Tachydromia costalis</i>, <i>Tachydromia woodi</i>, <i>Rhaphium penicillatum</i>, <i>Parasyrphus nigratarsis</i>, <i>Bledius terebrans</i>, <i>Hydrosmecta delicatula</i>, <i>Neobisnius prolixus</i>, <i>Stenus fossulatus</i>, <i>Psilocephala rustica</i>, <i>Thereva lunulata</i>, <i>Dyschirius angustatus</i>, <i>Bembidion testaceum</i>, <i>Thinobius newberyi</i>, <i>Psilocephala rustica</i>, <i>Spiriverpa lunulata</i>, <i>Lipsothrix errans</i>, <i>Lipsothrix nigristigma</i>. This list will be updated as further survey information becomes available. (Full lists are contained in survey reports) However, the key issue is the need to ensure that the range of suitable habitat for these species is protected as fully as possible from damaging anthropogenic activities such as gravel extraction, compaction from vehicles and trampling and dunging by stock.</p> <p>River jelly lichen is a UK BAP species.</p>
	Maintain extent and		

Attribute	Targets	Method of assessment	Comments
	<p>distribution of <i>Collema fluviatile</i> (river jelly lichen).</p> <p>Maintain the river as a habitat which supports over 1% of the British whooper swan population.</p>	Cumbria Bird Club survey.	Although the birds feed away from the SSSI, the river is an important roosting area.

Table 1c. Generic River Flow Thresholds for the River Eden and Tributaries SSSI/River Eden SAC

RAM Environmental Weighting band (sensitivity)	Maximum % reduction from daily naturalised flow			Location
	<Qn50 (average flows)	Qn50-95	>Qn95 (low flows)	
Very High	10	10	1-5	All tributaries and main channel above Scandal Beck confluence.
High	15	10	5-10	Main channel from Scandal Beck confluence to Solway.

Table 1d. GQA General Chemistry and Biology targets for the River Eden and Tributaries SSSI/River Eden SAC

Dominant catchment geology				
		1. Headwater	2. River	3. Large river
A	Hard upland geologies (all land over 330 m) - impermeable poor geologies.	A/a	A/a	A/a
B	Other Cambrian-Devonian geologies - hard mudstones and sandstones	A/a	A/a	B/b
C	Jurassic and Cretaceous limestones - soft limestone and chalk.	A/a	A/a	A/a
D	Triassic sandstones and mudstones - soft sandstones and mudstones in lowland areas.	A/a	B/b	B/b

Table 1e. Total Reactive Phosphorus targets for the River Eden and Tributaries SSSI/River Eden SAC

Soluble Reactive Phosphorus: annual mean ($\mu\text{g L}^{-1}$)

INDIVIDUAL P TARGETS WILL BE SET FOR EACH TRIBUTARY OF THE SSSI/SAC

Dominant catchment geology		Soluble Reactive Phosphorus: annual mean (mg L^{-1})		
		1. Headwater	2. River	3. Large river
A	Hard upland geologies (all land over 330 m) - impermeable poor geologies.	≤ 0.02	≤ 0.04	≤ 0.06
B	Other Cambrian-Devonian geologies - hard mudstones and sandstones	≤ 0.06	≤ 0.06	≤ 0.10
C	Jurassic and Cretaceous limestones - soft limestone and chalk.	≤ 0.04	≤ 0.06	≤ 0.06
D	Triassic sandstones and mudstones - soft sandstones and mudstones in lowland areas.	≤ 0.06	≤ 0.06	≤ 0.10

Note: TRP targets for category A and B rivers are under review and some may be revised downwards

Table 1f Species Depth and Substrate Habitat Requirements

Species	Spawning Habitat		Nursery Habitat		Adult Refugia
	Substrate	Water Depth	Substrate	Water Depth	Water Depth
Salmon	Stable pebble-cobble substrate without an armoured layer 16-256mm with majority <150mm	15-75 cm	Gravel-cobble	<20 cm for fry 20-40 cm for parr	>1.5m depth Pools with cover such as undercut banks, vegetation, submerged objects and surface turbulence.
Lamprey	Well oxygenated gravel-pebble dominated 15-110 mm	20-150cm River and sea lamprey typically spawn in deeper water than brook lamprey although in larger rivers brook lamprey also spawn in deep water	Open structured, aerated, silty-sandy substrates. Emergent vegetation stabilises substrate and increases suitability.	Optimally 2-40 cm and typically less than 50 cm. In deeper water, up to 220 cm, sea lamprey likely to dominate	
Bullhead	Unsilted gravel/pebble/cobble dominated. Spaces beneath larger stones on a hard substrate are used to attach sticky eggs that are guarded by males				>5 cm depth Slack water refugia important in high flows e.g. pools, submerged tree roots and marginal vegetation
White-clawed crayfish	Spaces beneath cobbles, boulders and within the river bank. Submerged aquatic/emergent plants and overhanging riparian vegetation				

ANNEX 2 Standing open water (details of site-specific standards defining favourable condition)

Interest feature: Oligotrophic standing open water

Equivalent Phase 1 category: G1 Standing water (part)

Annex 1 types: Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoeto-Nanojuncetea*

Reporting category: Standing open water and canals (ULLSWATER)

All attributes listed are mandatory.

Attribute	Target	Method of Assessment	Comments
Habitat extent	No loss of extent of standing water	Assessment against baseline map. Aerial photographs may be useful.	This attribute is to assess changes caused by active management, such as infilling or channel diversion. Changes due to drying out or successional change are covered under other attributes.
Vegetation composition: macrophyte community composition	<p>i) Characteristic species which should be present are: <i>Littorella uniflora</i>, <i>Isoetes lacustris</i>, <i>Elatine hexandra</i>, <i>Nitella</i> sp, <i>Sparganium natans</i>, <i>Potamogeton alpinus</i>, <i>P.perfoliatus</i>, <i>P.gramineus</i>, <i>P.nitens</i>, <i>P.berchtoldii</i>, <i>P.natans</i>, <i>Callitriche hamulata</i>, <i>Myriophyllum alterniflorum</i>, <i>Menyanthes trifoliata</i>.</p> <p>ii) 6 out of 10 sample spots (boat or wader survey) should include at least one characteristic species recorded from the site.</p>	Fixed point sector/transect sampling (boat or shore-based methods)	<p>The macrophyte community characteristic of Ullswater reflects a number of environmental factors including geology, altitude, basin morphometry and proximity to other water bodies. In general the background nutrient status of the lake (determined by catchment geology) is the major natural factor affecting both species composition and species richness.</p> <p>The characteristic species are distributed in specific bays. There should be no loss of species richness of individual bays. Baseline information is provided in Table 1 - Changes in plant species in bays on Ullswater between 1980 and 1997 in <i>Draft Report on Aquatic Macrophytes Ullswater 1997</i>.</p>

Annex 2 Standing open water (details of site-specific standards for defining favourable condition)

Attribute	Target	Method of Assessment	Comments
	iii) there should be no loss of characteristic species recorded from the site.		
Vegetation composition: negative indicator species	<p>Non-native species should be absent or present at low frequency.</p> <p>Cover of benthic and epiphytic filamentous algae should be less than 10%.</p>		<p>Introduced species should be identified. A number of non-natives have such invasive potential that they should be assessed separately. Species of particular concern are: <i>Crassula helmsii</i>, <i>Hydrocotyle ranunculoides</i>, <i>Myriophyllum aquaticum</i> and <i>Azolla filiculoides</i>. If any of these species are present, a water body should be considered as being in unfavourable condition. This list is not exhaustive and should be updated as new threats become apparent. <i>Crassula helmsii</i> has potential to interfere with schelly spawning habitat if introduced</p> <p>Occurrence of <i>Elodea nuttallii</i> or <i>Elodea canadensis</i> at >40% frequency in unproductive waters, is indicative of unfavourable condition.</p> <p>Excessive growths of filamentous algae on lake substrate or macrophytes are indicative of nutrient enrichment. Cover of benthic and epiphytic filamentous algae should be less than 10%.</p>
Vegetation composition: macrophyte community structure	<p>Characteristic zones of vegetation should be present.</p> <p>Maximum depth distribution should be maintained.</p> <p>At least the present structure should be maintained.</p> <p>No loss of marginal vegetation</p>	<p>Fixed point sector/transect sampling (boat or shore-based methods)</p> <p>Shoreline walk</p>	<p>The maximum depth at which submerged vegetation is able to grow is a direct indicator of water clarity and also a general indicator of the status of the macrophyte community. A decrease in the maximum depth of macrophyte colonisation along a fixed point transect of greater than 10% indicates a site moving out of favourable condition. Consideration should be given to e.g. <i>Isoetes</i> species, charophytes and <i>Potamogeton</i> species.</p> <p>Generally, both emergent and floating/submerged vegetation should be present in the littoral zone. However, areas with exposed shorelines and coarse stony substrates may lack emergent littoral vegetation.</p> <p>Grazing or erosion from boat wash may reduce marginal vegetation cover.</p>
Water quality	Mean annual total phosphorus concentration less	Existing data from Environment	Mean annual TP concentrations (based on at least quarterly

Annex 2 Standing open water (details of site-specific standards for defining favourable condition)

Attribute	Target	Method of Assessment	Comments
	<p>than 15µg/l P</p> <p>Stable pH/ANC above 5.5</p> <p>Adequate dissolved oxygen levels for health of characteristic fauna: the hypolimnion should not become anoxic and the oxygen levels should exceed 4mg/L.</p> <p>No excessive growth of cyanobacterial or green algae.</p> <p>No exceedence of EQS for heavy metals.</p>	<p>Agency monitoring programme. (Sampling should be carried out quarterly, ideally monthly. As a minimum samples should be taken in early spring.)</p> <p>Existing data or temperature/dissolved oxygen profiles</p> <p>Existing data, shoreline walk, sample of bloom.</p> <p>EA monitoring programme.</p>	<p>measurements), or spring TP levels, should meet the target. Where existing, TP concentrations are consistently lower than the standard appropriate for the habitat type, a lower target should be applied to prevent deterioration from current status.</p> <p>Sediment input should be minimised due to potential knock-on effect on water quality. Disturbance and redistribution of sediment may have knock-on effects on water quality.</p> <p>Upland lakes in catchments with hard rock geology have limited buffering capacity and are thus susceptible to acidification. There may be impacts on invertebrate and fish populations at pH levels lower than 5.5.</p> <p>Deep or sheltered lakes exhibit seasonal stratification of temperature and oxygen levels. In eutrophic lakes in which thermal stratification occurs, summer oxygen levels in the hypolimnion may be very low, encouraging phosphorus release from the sediments and impacts upon the biota. Specific targets for the schelly are maintenance of littoral and pelagic zones with no barriers to movement between them with a well-oxygenated hypolimnion > 20m deep in summer.</p> <p>There should be no evidence of excessive blue-green or green algal blooms. In low nutrient waters, blooms would not be expected to occur.</p> <p>Historic heavy metal input to the lake sediments could easily be disturbed by dredging and other operations.</p>
Hydrology	<p>There should be a natural hydrological regime which maintains the natural flushing rate, seasonal water-level fluctuations and lake residence times.</p>	<p>Existing data collection and hydrological modelling. This should be linked to flow regimes in the River Eamont through the Eden and Esk CAMS and its review cycle.</p>	<p>The artificial fluctuation of the lake level should not extend beyond the current range and frequency, other than by natural means or by reduced volume of abstraction. This is necessary to maintain the natural flushing rate, seasonal water-level fluctuations and lake residence times.</p> <p>Inflow streams: abstractions in accord with thresholds for 'very high' RAM Environmental Weighting band (Table 1c. Generic River Flow Thresholds for SSSI/SAC)</p>

Annex 2 Standing open water (details of site-specific standards for defining favourable condition)

Attribute	Target	Method of Assessment	Comments
		Modelling, Bathymetry Surveys and Shoreline walk	<p>Data to assess the targets should be available from the Environment Agency:</p> <p>There should be no evidence of impact from lowered or artificially raised water levels. Evidence of lowered water levels include: loss of marginal or littoral vegetation or large areas of exposed lake substrate. Artificially raised water levels may result in the drowning of trees and other terrestrial vegetation above the lake shore.</p>
Lake structure and substrate	<p>Maintain natural shoreline.</p> <p>Maintain natural and characteristic substrate.</p> <p>No loss or disturbance of known schelly spawning sites. Areas of clean gravel or winter macrophyte growth should be available for spawning during winter.</p>	<p>Shoreline walk</p> <p>Monitoring of spawning areas for egg deposition</p>	<p>No more than 5% of lakeshore should heavily modified.</p> <p>Recreational, domestic or industrial uses of lakes may result in areas of the shoreline and littoral being concreted or modified. Close proximity of infrastructure such as roads can also lead to modifications on the lakeshore. Such areas should be limited to a very small proportion of the lake shore as assessed during the walk. Recreation and boat use should not impact on undisturbed areas and any opportunities to restore modified areas should be pursued.</p> <p>Increased sediment loads may result in smothering of coarse substrates with fine sediments. Fine sediments will be readily disturbed by movements in the overlying water column or passage of a plant sampling grapnel.</p> <p>Changes in plant community may result from enriched sediments without an accompanying change in water chemistry.</p> <p>Sediment input and disturbance should be minimised due to potential knock-on effect on spawning habitat. Known spawning sites are:- Gowbarrow Bay, between Skelly Nab and Kailpot Crag. Strandings have occurred at Waterfoot Bay, which suggests spawning in the locality. Other spawning sites have not yet been identified, information is particularly lacking of spawning sites on the eastern shore. Further survey work is required.</p>
Sediment load	Maintain natural sediment load.	Observe areas of increased erosion and deposition. [Establish sedimentation rates	Increases in siltation could result from increased lake productivity, changes in catchment land-use (particularly over-grazing on steep hillsides in the catchment), modified inflow streams such as Goldrill

Attribute	Target	Method of Assessment	Comments
		from cores or sediment traps where problems are suspected] Fluvial audit of inflow streams.	Beck, lake level fluctuations, climatic fluctuations, or changes in sewage treatment.
*Negative indicators: Fish Introductions	No introduction of predatory fish (e.g. ruffe or pike or ferox trout) or competitors (e.g. roach). No fish stocking, use of live bait or fish farm development.		The impact of introduced plant species may be readily assessed but the impact of introduced fauna may be indirect and difficult to identify. Known problems with introduced species should be addressed through management action. The problem of introduced animals is most acute in relation to the fish community in standing waters which can have a major influence on trophic structure and ecosystem functioning. The removal of piscivorous fish or the introduction of benthic-feeding species, such as carp both have the potential to cause switches to phytoplankton-dominated states in lakes with moderate nutrient loads. Fish stocking and/or illegal introductions have the potential to alter natural fish communities and alter the lake food web.
*Negative indicators: Barriers to fish movement	No increase in artificial structures that will impact on schelly spawning/passage areas.		Any proposals for artificial structures should be assessed in relation to potential impacts on habitat, fish movement and spawning area access.
Indicators of local distinctiveness	Maintain Schelly <i>Coregonus lavaretus</i> population. Investigate restoration of Arctic Charr <i>Salvelinus alpinus</i> population Maintain <i>Elatine hexandra</i> (Six-stamened waterwort)	As appropriate (through links to species monitoring or from other recording at the site) (see separate species targets in FCT for Schelly)	There should be available littoral/benthic flora (including <i>Asellus</i> , bivalves, chironomid larvae and gastropods) and open water zooplankton (especially <i>Daphnia</i> and <i>Bosmina</i> sp.) These are the food source of the schelly. When monitoring suggests that conditions are suitable (for example levels of heavy metals in lake sediments have declined), then the reintroduction of Arctic Charr should be explored.

Aspects of environmental disturbance	
Attribute	Comments
Recreational use	Recreational use in many forms may impact upon ecological integrity. Possible negative impacts include: species introduction through angling; disturbance through boat traffic; pollution from boat marinas; physical destruction of plant communities.
Artificial structures	A wide range of artificial structures could impact upon standing water ecosystem function. In particular water level control structures alter hydrology and shoreline construction or hardening reduces habitat availability and may alter sediment dynamics.

ANNEX 3 Wet woodland (details of site-specific standards defining favourable condition)

Interest feature: Residual alluvial forests with *Alnion glutinosa-incanae*

Equivalent Phase 1 type:

Annex 1 Habitats Included: H91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)

Reporting category: Broadleaved, mixed and yew woodland.

Includes NVC types:

W5c *Alnus glutinosa-arex paniculata* woodland (*Chrysosplenium oppositifolium* sub-community),

W6a *Alnus glutinosa-Urtica dioica* woodland (Typical sub-community),

W6d (*Sambucus nigra* sub-community)

Attribute	Targets	Method of assessment	Comments	
Structure and Natural processes	<p>Maximise potential for floodplain woodland development in all suitable areas.</p> <p>NVC types also represented are: W5 <i>Alnus glutinosa-carex paniculata</i> woodland, W7a <i>Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum</i> woodland (<i>Urtica dioica</i> sub-community), W7b (<i>Carex remota</i> sub-community), W7c (<i>Deschampsia cespitosa</i> sub-community), W8f <i>Fraxinus excelsior-Acer campestre-Mercurialis perennis</i> woodland (<i>Allium ursinum</i> sub-community).</p> <p>Canopy cover along the River Irthing as a whole should reflect all successional stages.</p> <p>Isolated areas of existing woodland (for</p>	Assess by field survey using structured walk and/or transects.	<p>These adjacent wet woodlands are an integral hydrological component of the river system. All community types represented are intimately linked to the river and dependent upon it for their existence. They occur as part of a dynamic and mobile habitat in association with gravel deposition and channel migration.</p> <p>Their structure and function are best maintained within a larger habitat mosaic that includes the open communities of fen, swamp and unvegetated gravel shoals.</p> <p>Throughout the length of the River Eden stands of alder <i>Alnus glutinosa</i> and willow <i>Salix</i> spp occur associated with backwaters and seasonally flooded channels. The least disturbed stands are on the River Irthing where they occur on the shingles and gravels of actively moving channels. The Irthing stands are considered to be the most extensive surviving</p>	YES

Attribute	Targets	Method of assessment	Comments	
	<p>example along Briggie Beck) should be managed to achieve succession through regeneration.</p> <p>Understorey should be present where conditions permit.</p> <p>All dead wood should be retained.</p> <p>Ground cover should reflect all successional stages.</p>		<p>fragments of river floodplain vegetation in the county. Other notable locations include the Kingwater, Briggie Beck, Crowdundle & Milburn Becks and the Troutbeck system.</p> <p>Thick vegetation cover, riverside woodland and vegetated island are important holt habitats and areas for otters to shelter and rest during the day. Any opportunities should be taken to increase suitable habitat. Old trees, dead wood and wood trash should be retained.</p> <p>Browsing/grazing is undesirable. Woods should be stockproof.</p> <p>Understorey is generally poorly represented due to periodic flooding.</p> <p>Dead wood in this habitat is important for specialist invertebrates such as the crane fly <i>Lipsothrix</i> spp.</p> <p>Ground flora is varied according to community type, stage of succession, period of inundation and water table. Stands are typically dominated by common nettle <i>Urtica dioica</i>, butterbur <i>Petasites hybridus</i> and greater tussock-sedge <i>Carex paniculata</i>. This habitat also, typically, has large areas of bare ground.</p>	
Composition	<p>No non-native species present.</p> <p>A programme of eradication of Himalayan balsam should be devised and implemented.</p>	<p>Assess by field survey using structured walk and/or transects.</p> <p>Regular assessment of Himalayan Balsam cover and distribution is</p>	<p>These floodplain woodlands are susceptible to invasion by Himalayan balsam <i>Impatiens glandulifera</i>. A catchment-wide strategy is required to ensure a programme of ongoing control is put in place.</p>	YES

Attribute	Targets	Method of assessment	Comments	
		required.		
Indicators of local distinctiveness	<p>The ground flora cover should be referable to NVC type W5/6/7/8 depending on locality.</p> <p>Maintain the current diversity of invertebrate species.</p>	<p>Assess by field survey using structured walk and/or transects, or as appropriate to feature.</p> <p>Specialist invertebrate survey.</p>	<p>These woodland habitats support numerous rare invertebrates.</p>	YES
Regeneration potential and expansion	<p>Allow expansion into suitable areas that would support the habitat.</p>	<p>Mapping of extent of wet woodland.</p> <p>Aerial photography.</p>	<p>This habitat only occurs in suitable areas/conditions. The potential for expansion of the habitat should be realised where such conditions exist. Current barriers to succession include conversion to agricultural management.</p>	YES

ANNEX 4 Fen and swamp (details of site-specific standards defining favourable condition)

SSSI Interest Feature: Adjacent Wetlands (Floodplain Fens)

Includes NVC types:

S7 (*Carex acutiformis* swamp),

M23 (*Juncus effusus* – *Galium palustre* rush pasture)

(In association with alluvial wet woodland types W5, 6, 7 and 8.)

Reporting Category: Fen, marsh and swamp

Attribute	Target	Measure	Comments	Use for CA?
Habitat extent	<p>There should be no reduction in the total combined extent of wetlands and their component communities in relation to the established baseline.</p> <p>Extension of range of wetland habitats onto suitable areas associated with the river, including the floodplain.</p>	<p>A baseline map showing the boundary of the habitat should be used to assess any changes in extent. Extent of these habitats should be assessed over the river as a whole.</p>	<p>The wetland habitats are intimately linked to the river and dependent upon it for their continued existence. They are the result of a dynamic river system. Curtailing the natural processes inhibits their ability to form, succeed and re-form throughout the catchment as a whole.</p> <p>The finest development of riparian habitats is found on the River Irthing. Swamp dominated by lesser pond-sedge <i>Carex acutiformis</i>, with bittersweet <i>Solanum dulcamara</i>, gypsywort <i>Lycopus europaeus</i> and water mint <i>Mentha aquatica</i>, is in integral component of the Irthing floodplain and occurs at the base of natural amphitheatres formed by previous meanders of the river. The Irthing sites for lesser pond-sedge swamp are the most extensive in Cumbria. The S7 swamp community is also</p>	YES

Attribute	Target	Measure	Comments	Use for CA?
			<p>represented on the floodplains of Brampton Beck and Mill Beck on the Troutbeck system.</p> <p>These habitats are under-represented due to management and modification of the river system, drainage and reversion of wetlands for other uses.</p>	
Habitat structure	<p>Natural succession of these communities should be occurring as far as possible (including transitions from fen to wet grassland and wet floodplain woodland).</p> <p>Less than 10% exposed substrate present across the areas, in established fens and swamps.</p> <p>Less than 25% extent of litter in established fens and swamps.</p>	Visual estimate of % cover.	<p>A high frequency and cover of exposed substrate will usually be undesirable and may indicate, inter alia, over-grazing, and water scour. Patches of exposed substrate are likely to be more typical/desirable for S7.</p> <p>More than 25% litter cover indicates insufficient removal of biomass by grazing.</p>	YES
Habitat composition	<p>No loss of the component types.</p> <p>The following NVC communities should be present:- Nunwick (Great Salkeld), Ox Bow; (with affinities to Standing Water Type 10) , Ousenstand Ox Bow, Briggie Oxbow and Beck – S7, M23b, W5 & W7. Crowdundle & Milburn Beck – W7 principle component but with associated back channels. Trout Beck – S7, W8 River Irthing- S7</p>	A baseline map showing the boundary of the components (where appropriate), should be used to assess any changes in extent. Such changes should be assessed at sub-catchment level.	<p>Variety within these wetland types is determined by water supply mechanism, hydroseral succession and land management practices.</p> <p>Retention and extension of the component types is therefore dependent on land management within the catchment. Impacts that restrict the extent of the component wetland types include flood management practices and other river engineering work, agricultural conversion, drainage and development.</p>	YES

Attribute	Target	Measure	Comments	Use for CA?
Vegetation composition: positive indicators	<p>The S7 should be dominated by <i>Carex acutiformis</i>.</p> <p>In the M23 areas: At least 2 of the following species should be frequent and 4 species frequent throughout the sward (<i>Achillea ptarmica</i>, <i>Berula erecta</i>, <i>Caltha palustris</i>, <i>Cardamine pratensis</i>, <i>Cisium dissectum</i>, <i>Eupatorium cannabinum</i>, <i>Filipendula ulmaria</i>, <i>Galium palustre</i>/G. <i>uliginosum</i>, <i>Geum rivale</i>, <i>Hydrocotyle vulgaris</i>, <i>Lotus pedunculatus</i>, <i>Lychnis flos-cuculi</i>, <i>Mentha aquatica</i>, Orchid spp, <i>Potentilla palustris</i>, <i>Ranunculus flammula</i>, <i>Carex flacca</i>, <i>C. nigra</i>, <i>C. panicea</i>, <i>Succisa pratensis</i>, <i>Thalictrum flavum</i>, <i>Valeriana dioica</i>, <i>Viola palustris</i>.</p>	Visual assessment of cover, using structured walk or transects and recording quadrats. Comparison against accurate baseline maps, assessments of whether a certain percentage of sample points laid out upon a grid conform to the community or not, shifts in the position of community interfaces along permanent transects.	The key communities are: S7 & M23. These are often found in association with Alder woodland (W5,6 and,7) as part of a habitat mosaic or as a successional sequence. The habitat may be some distance from the river depending on hydrological connectivity and historic planform.	YES

Attribute	Target	Measure	Comments	Use for CA?
Vegetation composition: indicators of negative change	<p>No deterioration in quality or extent due to anthropogenic activity.</p> <p>Invasive alien species present at a level that does not affect the native flora.</p> <p>Species indicative of enrichment/agricultural improvement should be no more than occasional throughout the sward and <10% cover.</p>	<p>Assessment of NVC community and species composition against indicators of negative change due to management rather than succession.</p> <p>Visual assessment of alien species presence/abundance using structured walk or transects and recording quadrats.</p>	<p>Grazing and enrichment due to agricultural management can result in an impoverished community. Removal of hydrological connectivity, e.g. through under-drainage or flood banks can result in changes in the habitat through lack of water supply.</p> <p>Spread of invasive alien spp. can be very rapid once established. Invasive aliens within fens may include <i>Crassula helmsii</i> (New Zealand pygmyweed), <i>Acorus calamus</i> (sweet flag), <i>Mimulus</i> spp. (eg Monkey flower), <i>Impatiens glandulifera</i> (Himalayan balsam), <i>Fallopia japonica</i> (Japanese Knotweed), <i>Heracleum mantegazzianum</i> (Giant hogweed).</p>	YES

ANNEX 5 Atlantic salmon (details of site-specific standards defining favourable condition)

Additional Species Targets

Annex II Species: Atlantic salmon (*Salmo salar*)

Reporting Category: Fish

Attribute	Target	Measure	Comments	Use for CA?
Adult run	<p>Meeting Minimum Biological Acceptable Level for 4 years out of 5 at a sub-catchment level.</p> <p>The Management Target is 20.6 Million eggs/annum.</p> <p>Maintenance of the multi-sea-winter component.</p>	Fish counters; Rod catch data	<p>Comprehensive guidance on determining favourable condition in relation to adult salmon population parameters can be obtained in *Cowx, 2002.</p> <p>MBAL met for 4 years out of 5 equates to 'Management Target' as defined by the EA biological reference points recommended by ICES and NASCO. It is more precautionary than the Conservation Limit which could fail to meet the MBAL for 50% of the time. Failure of MBAL for 4 years out of 5 requires controls of exploitation. The choice of control depends on degree of non-compliance of MBAL and causes.</p> <p>Control of exploitation includes migratory passage. The Eden currently (2006) has a Net Limitation Order to limit exploitation but currently is failing to meet the Management Target. Further measures are required to meet favourable condition for this interest feature.</p>	Yes
Juvenile population densities	These should not differ significantly from those expected for the river type/reach under conditions of high physical and chemical quality.	Electrofishing	Comprehensive guidance on determining favourable condition in relation to juvenile salmon population parameters can be obtained in *Cowx, 2002.	Yes

*Cowx, I. (2002) - *A Standardised Survey and Monitoring Protocol for the Assessment of Atlantic Salmon, Salmo Salar, Populations in SAC Rivers in the UK. Life in UK Rivers Project*

ANNEX 6 Sea, river and brook lamprey (details of site-specific standards defining favourable condition)

Annex II Species: Brook lamprey (*Lampetra planeri*), river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*)

Reporting Category: Fish

Attribute	Target	Measure	Comments	Use for CA?
Population a. Age structure (<i>Lampetra</i> sp. only)	For samples of 50 or less, at least two distinct size classes should normally be present. If more than 50 ammocoetes are collected, at least three size classes should be present.	Electrofishing of suitable habitat using quadrats. See the LIFE project methodology for details of the protocol.	Lamprey ammocoetes grow at a reasonably steady rate and distinct size classes are usually apparent. Ammocoetes typically range from 10 – 150 mm, corresponding to up to six year classes. The largest ammocoetes are usually brook lampreys (river lampreys metamorphose at about 100 – 120 mm), while the smallest individuals are likely to be young-of-year sea lampreys, since this species spawns later in the year than <i>Lampetra</i> . The full range of age classes of ammocoete larvae, from 0+ up to metamorphosis should be present. However, sampling error may make these difficult to discern unless large samples are taken. If more than 100 lampreys are collected, at least three size classes should be present. Suitable habitat includes silt and sand beds in the river, either at the margins or in the main channel.	Yes
Population b. Distribution within catchment	Lampreys should be present at not less than 2/3 of sites surveyed. As a minimum, there should be no reduction in the	Electrofishing of suitable habitat using quadrats. See the LIFE project methodology for details of the protocol.	Distribution in the catchment should be appropriate to the natural geomorphology. Any accessible silt beds should be expected to contain ammocoetes of <i>Lampetra</i> spp, although in practice some beds are likely to be naturally	Yes

Attribute	Target	Measure	Comments	Use for CA?
	distribution of ammocoetes within the catchment. Where barriers to migration or pollution issues are thought to be a problem, the population should be classed as being in unfavourable condition and targets for an appropriate increase should be set.		unoccupied (e.g. due to washout). Any silt beds adjacent to or downstream of known <i>Petromyzon</i> spawning sites should contain <i>Petromyzon</i> ammocoetes. Lampreys should be present at not less than 2/3 of sites surveyed. As a minimum, there should be no reduction in the distribution of ammocoetes within the catchment. Where barriers to migration or pollution issues are thought to be a problem, the population should be classed as being in unfavourable condition and targets for an appropriate increase should be set. Petromyzon distribution varies widely from year to year depending on flow.	
Population c. Ammocoete density	<i>Lampetra</i> spp: In optimal habitat: >10 per square metre	Electrofishing of suitable habitat using quadrats. See the LIFE project methodology for details of the protocol.	Suitable habitat includes silt and sand beds in the river, either at the margins or in the main channel.	Yes
Population c. Ammocoete density (contd.)	<i>Petromyzon</i> : Ammocoetes should be present in at least four sampling sites, each not less than 5 km apart.	Electrofishing of suitable habitat using quadrats. See the LIFE project methodology for details of the protocol.	<i>Lampetra</i> ammocoetes cannot be distinguished in the field, so it will not normally be possible to set separate targets for <i>L. fluviatilis</i> and <i>L. planeri</i> . However, lampreys upstream of a natural barrier to migration will always be <i>L. planeri</i> . <i>Petromyzon</i> ammocoetes can be distinguished in the field, but typically occur at very much lower densities than <i>Lampetra</i> – approximately 1 ammocoete in 50 in UK rivers is normally <i>Petromyzon</i> . Setting of density targets for this species is therefore impractical. Suitable habitat includes silt and sand beds in	Yes

Attribute	Target	Measure	Comments	Use for CA?
			the river, either at the margins or in the main channel.	
Population d. Spawning Activity (Sea Lamprey only)	No reduction in extent of spawning activity year on year	Direct observation or redd counts	Sea lamprey ammocoetes are typically much less numerous than river / brook lamprey ammocoetes, so this may be the only cost-effective means of determining that a healthy spawning population is present. Sea lampreys spawn in June – August (depending on the river) and are usually easily observed at traditional spawning sites during these months. Spawning return varies from year to year depending on flow and other environmental factors.	Yes
Exploitation	Zero exploitation	Fishery byelaw and angler education	Lampreys have recently become popular in the UK as bait for pike fishing. There are also indications that UK populations are sought after as a delicacy in Europe, where stocks are declining. Adult lamprey are usually caught by trapping whilst juvenile lampreys can be removed by sieving, netting or digging out nursery habitat. Anecdotal evidence of adult trapping suggest heavy losses of fish on some rivers. It may take 8-10 years for an ammocoete to reach maturity. In the absence of adequate knowledge of population dynamics and sustainable yields exploitation is not acceptable within the SAC.	

ANNEX 7 Bullhead (details of site-specific standards defining favourable condition)

Annex II Species: Bullhead (*Cottus gobio*)

Reporting Category: Fish

Attribute	Target	Measure	Comments	Use for CA?
Population	See sub-attributes below	Single-pass electrofishing in August / September. Data analysis as in a-c. below.	For details see the LIFE in UK Rivers Project protocol	Yes
a. Adult population densities	There should be no reduction in densities from existing levels, and in any case no less than 0.2 m ⁻² in upland rivers (source altitude >100m) and 0.5 m ⁻² in lowland rivers (source altitude ≤100m).	Density estimates	Routine Environment Agency monitoring is not capable of providing suitable data. A least-cost methodology for monitoring this attribute has been developed by the LIFE in UK rivers project, involving the sampling of representative reaches within an SAC.	Yes
b. Distribution within SAC/SSSI	Bullheads should be present in all suitable reaches. As a minimum, no decline in distribution from current extent	GIS analysis of distribution within catchment	In the UK, bullhead are widespread in any flowing water at an altitude of less than 300 m. Well oxygenated water over a gravel / pebble / cobble substrate is preferred (and is essential for successful reproduction). Riffles are a favoured microhabitat. Very sluggish water with a clay / silt substrate or cold, steep-gradient upland sections with numerous cascades and boulder / bedrock substrate should be viewed as sub-optimal. Bullheads can occur in very small channels (<1 m wide) where they may be the only fish species present. Bullhead are very poor colonists, to the extent that catchments may contain many individual subpopulations. It is not feasible to assess each of these individually, but it is very	

Attribute	Target	Measure	Comments	Use for CA?
			important that there is no loss of these populations, and that access routes between them are not impeded (see environmental disturbance notes below).	
c. Reproduction/ Age Structure	Young-of-year fish should occur at densities at least equal to adults.	Length-frequency analysis of selected samples	Young-of-year fish should be easily identifiable using length-frequency analysis. In September they are typically less than 30 mm long. Young-of-year are often much more numerous than adults, so the current target is rather conservative (to allow for natural variation in recruitment and habitat type). A ratio of 3 or 4:1 for Y-O-Y: adults is not unusual. It may be necessary to refine this target at a site-specific level.	Yes

ANNEX 8 SCHELLY (details of site-specific standards defining favourable condition)

SSSI Interest Feature: *Coregonus lavaretus* (Schelly,)

Reporting Category: Fish

Attribute	Targets	Method of assessment	Comments	Use for CA?
Age class structure	Minimum requirement should be confirmation that Schelly are present and spawning successfully. Juvenile fish (0+ and 1+) should comprise 70% of individuals in surveys carried out using quantitative hydroacoustics. Targets for overall fish density will be set once reference values are calculated for Ullswater. Protection of known spawning sites is a priority.	Spatially targeted and short-duration gill netting using NORDIC design nets in conjunction with quantitative hydroacoustics.	<p>Comparisons with European populations have shown that those subject to commercial exploitation have a larger proportion of young fish.</p> <p>Discernible age classes up to at least 9+ years but may extend up to 13+; no loss of age classes; usually a domination of 3+ and 4+ individuals in gill net catches but older fish should also be well represented; pattern of consistent recruitment should be visible.</p> <p>NB: Catch returns cannot strictly be used as it is illegal to fish for these species. However, if the fish was caught as part of an otherwise legal activity, and returned, then this is not a W&CA offence. Incidental catch data of this type can be very valuable. For example, the EA can ask that anglers record this type of incidental catch on their rod licence returns.</p>	Yes
* Food supply	Available littoral/benthic fauna (including <i>Asellus</i> , bivalves, chironomid larvae and gastropods) and open water zooplankton (especially <i>Daphnia</i> and <i>Bosmina</i> sp.)	If population trend shows decline, then availability of food supply may be a factor requiring specific survey.	Availability of zooplankton immediately after hatching is a critical factor in determining year class strength. Secondary production may show considerable inter-annual variation and is dependant on a variety of limnological factors.	

ANNEX 9 OTTER (details of site-specific standards defining favourable condition)

Annex II Species: Otter

Reporting Feature: Otter

Attribute	Target	Measure	Comments	Use for CA?
Population density and distribution	Population maintained or increasing.	Regular surveys. Use LIFE monitoring scheme	The EA three year survey shows otter to be present on all parts of the catchment.	Yes
Anthropogenic mortality	Otter populations not significantly impacted by human induced kills.	Road and rail casualties. Deaths due to fishing gear etc. Any site where there is a feature causing otter mortality. Data from EA's reporting system. Obtain views from EA on implications of recent data. JNCC otter data on the CITES database.	Monitoring this attribute, where appropriate should provide data for installing mitigation if required.	

ANNEX 10 White-clawed crayfish (details of site-specific standards defining favourable condition)

Annex II Species: White-clawed crayfish (*Austropotamobius pallipes*)

Reporting Category: Invertebrates

Attribute	Target	Measure	Comments	Use for CA?
Population densities and health	These should not differ significantly from those expected for the river type/reach under conditions of high physical and chemical quality, and in any case should not drop below levels recorded in previous surveys.	Refer to the Life in UK Rivers standard survey and monitoring protocol for white clawed crayfish	Several surveys are available for the River Eden. Densities vary between different tributaries due to natural factors, so a typical density for the whole river can not be set. Monitoring units would be expected to average at least "moderate" abundance according to monitoring category protocols. Determination of unfavourable condition should only be made where low densities are known to be related to an impact of some kind, or where historical survey data suggest that higher densities should be present. Regular monitoring on different tributaries and upper main river, using the standard protocol, will provide data on which targets can be produced in the future.	Yes
Population densities and health	Absence of individuals infected with crayfish plague. Awareness to be raised in angling and canoe groups.	Determined during population monitoring.	Crayfish plague can be introduced by the entry of non-native crayfish species into a site, but also by a variety of other routes, including contaminated equipment (nets, boots, etc.) and stocked fish from infected waters ¹ . Outbreaks of crayfish plague typically result in 100% mortalities, unless there are isolated headwaters with crayfish in the catchment. This target requires that the utmost care be taken in terms of fish stocking and general surveying/monitoring to ensure that plague vectors are not introduced. Disinfection or thorough drying of equipment (or perhaps dedicated equipment for use only in native crayfish rivers) and stocking fish from uninfected waters are vital	

Attribute	Target	Measure	Comments	Use for CA?
			elements. (1.Nationally agreed EN/EA policy on stocking fish into crayfish SSSIs/SACs should prevent stocking from catchments containing signal crayfish or known to have experienced plague. However, given that SAFFA S. 30 does not apply to fish farms, fish from high risk farms could conceivably be introduced, via apparently risk-free farms. EA/EN are addressing this issue at present.)	
Population densities and health	Thelohaniasis (Porcelain Disease) should not affect >10% population.	Determined during population monitoring	This disease rarely causes mass mortalities and may be present in a population at low levels without apparent harm. However, a prevalence exceeding 10% is of concern.	

ANNEX 11 Invertebrate assemblage of exposed river sediments (details of Site-specific standards defining favourable condition)

The following targets are provisional and need further refinement and discussion.

Site-specific standards defining favourable condition					
Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
Invertebrate Assemblage of shingle bank and stony river margin	Sample based: Vegetation heterogeneity Diverse surface topography of vegetation types	Record Structural Recording Surveys (SRS) of 6m radius at sample stops to determine number of structural surfaces and representation of preferred surfaces within the assessed unit.	<p>Single surface present in no more than 50% of SRSs</p> <p>>2 different surfaces present in at least 20% of SRSs</p> <p>Preferred surfaces for this site are:</p> <p>Surface 1: Exposed large stones at the river margin</p> <p>Surface 2: Exposed mixed shingle/gravel</p> <p>Surface 3: Exposed fine sand</p> <p>Surface 4: Sparsely vegetated sediment</p> <p>Surface 4: Small pools (not always present on shingle bar)</p> <p>Surface for White-Clawed Crayfish Austropotamobius pallipes: Large stones on the river bed. This feature has been added as it will</p>	<p><i>Preferred features</i> are micro-habitat features which should always be targeted during an assessment. These should be recorded and mapped.</p> <p><i>Preferred features</i> for River Eden shingle banks and margins are:</p> <ul style="list-style-type: none"> Extensive areas of bare shingle with a range of sorted sediment sizes from large stones to fine sand Small pools on the shingle bar High connectivity with a number of shingle banks present both upstream and downstream <p><i>Negative features:</i></p> <ul style="list-style-type: none"> Impacted areas by trampling or vehicles High nutrient enrichment from dung 	Yes

Criteria feature	Attribute term in guidance	Measure	Site-specific Targets	Comments	Use for CA?
			not be picked up by other features.	<ul style="list-style-type: none"> Cover of algae on exposed surface Tall vegetation on shingle bars 	
Invertebrate Assemblage of shingle bank and stony river margin	Early successional surfaces horizontal ('bare' rock)	Record % cover of bare rock/shingle/sand. Visual assessment of cover of the whole unit, using structured walk or transects	At least 80-90% of areas of bare rock in unit; all different surfaces should be assessed	<i>Preferred features:</i> <ul style="list-style-type: none"> Areas of bare sediment of all grades from rocks through to sand 	Yes

Audit Trail

Rationale for limiting standards to specified parts of the site

Shingle banks are present throughout the course of the River Eden; mapped area indicates shingle bars with outstanding ERS (Exposed Riverine Sediment) invertebrate assemblages based on recent survey. These areas are also well-connected with a number of shingle banks which will maintain fauna throughout this area and prevent local extinction.

Rationale for site-specific targets (including any variations from generic guidance)

PROVISIONAL Gravel extraction is currently the major threat to the shingle bank invertebrate assemblage present on the River Eden. Current extraction rates have an indirect effect by compaction of sediments on shingle banks, but more importantly the current threshold for removal of 30% from any shingle bank is sufficient to entirely eradicate a surface (see Table 3) from the shingle bank leading to local extinction for some invertebrates. It is suggested that gravel extraction is entirely prevented within the mapped area in order to prevent degradation of the current assemblage and loss of habitat connectivity. A permit system could be introduced to monitor gravel extraction. **TO BE CONSIDERED FURTHER.**

Rationale for selection of measures of condition (features and attributes for use in condition assessment)

(The selected vegetation attributes are those considered to most economically define favourable condition at this site for the broad habitat type and any dependent designated species).

Other Notes

If gravel extraction continues unchecked within the River Eden catchment it is likely that the invertebrate assemblage will become non-notifiable; regular monitoring will be required to assess this.

ANNEX 12 Assemblage of breeding birds and sand martins (details of site-specific standards defining favourable condition)

SSSI Feature/ Reporting Category: Assemblage of breeding birds and sand martins

Attribute	Target	Measure	Comments	Use for CA?
Habitat extent	<p>Maintain, and where possible extend, the area of habitats that are used by the breeding assemblage.</p> <p>Over the river system as a whole maintain the area of eroding sandy banks for sand martin breeding.</p>	<p>No net loss of habitats associated with the river as measured by the condition assessment for whole river type. (RHS scoring, SERCON, HABSCORE etc)</p> <p>Cumbria Bird Club Records.</p>	<p>The habitat extent for breeding birds associated with rivers is covered by the rivers habitat objectives, e.g. ensuring gravel side bars are retained. Many of the species associated with rivers are dependent on habitats beyond the SSSI boundary. Any opportunity to enhance other habitats required by these species should be pursued.</p> <p>The natural sandy banks of the Eden act as one unit which collectively supports the largest number of breeding sand martins in Cumbria.</p>	Yes
Assemblage score (BTO index)	Maintain assemblage diversity. If the total score calculated for a breeding bird assemblage falls by the equivalent of 25% or more in points then the assemblage is in unfavourable condition.	Record presence/absence of breeding species within the assemblage. Methods of survey will be a combination of those given in Part 2 depending on the species within the assemblage. Breeding must be confirmed as proven or probable according to generic proof of	The River Eden qualified for selection as an SSSI on the basis of its assemblages of breeding birds typical of upland waters and their margins. Densities of breeding common sandpiper, dipper and grey wagtail are notably high and kingfishers breed in moderate density. The river system acts as one unit to support the largest numbers of breeding sand martins in Cumbria. The River Eden valley supports over 1% of the national population of wintering Whooper swan. Other species noted in the assemblage include little grebe, grey heron,	Yes

Attribute	Target	Measure	Comments	Use for CA?
		breeding codes (Appendix 1). A count of the numbers of breeding pairs/units in a site is not needed. On the basis of presence/absence recalculate the assemblage score using the SSSI Guidelines for the relevant habitat. The species present at designation and each monitoring event do not need to be the same as this is a score-based assessment only.	teal, tufted duck, goosander, oystercatcher, snipe, curlew and redshank.	
Disturbance and damage	Minimise disturbance or damage to breeding habitats both during occupation, and to ensure continuity of habitat availability as future breeding sites.	Observation, reporting by bird clubs, public, anglers etc.	Intentional disturbance during breeding is covered by other legislation, but small-scale disturbance, particularly on open habitats such as gravel and shingle point bars e.g. by dogs and stock access also affects breeding success.	
Predation	Removal of mink from catchment.	Survey.	Mink predate on ground nesting birds, eggs and chicks.	

ANNEX 13 GEOLOGY – SURFACE KARST (details of site-specific standards defining favourable condition)

SSSI features (Geological Site Types): SURFACE KARST (IK)

Reporting Category: Permian-Triassic Riverside Outcrops

Explanatory description of the feature for clarification:

STENKRITH

Stenkrith Brockram consists of angular blocks of limestone set in pinkish coloured sandstone. The exposure consists of the banks and bed of the River Eden 250m either side of the road bridge. It is a very important site for examining coarse desert rocks formed during the Permian period, 250 million years ago. The vale of Eden was a basin in a mountainous desert landscape. Limestone was deposited near the mouth a valley by flash flooding. The Brockram shows the limestone was carried for only a short distance before being deposited.

This outcrop is the type locality for the Stenkrith Brockram.

RIVER BELAH SECTION

The rock exposure consists of 2 formations – Penrith Sandstone Formation and the younger Eden Shales Formation, which lies on top of the former. The rocks are of the Permian period, about 280 million years old. The Penrith Sandstone Formation has brockrams and dune sandstones interbedded with each other, showing that the area was dominated by migrating fields of sand dunes with rare flood events. The Eden Shales Formation consists of sandstones and siltstones. Overlying this is Belah Dolomite, a magnesium-rich limestone that contains marine bivalved molluscs. The site is important for studying the climate, geography and environment of the Permian period.

HILTON BEDS

The rock exposure at Hilton Beck consists of red sandstones and brockram of the Penrith Sandstone Formation. Overlying this are a series of grey sandstone and siltstones known as the Eden Shale Formation. The siltstones contain several species of fossilised plants known as the Hilton Plant Beds. They are important for aging rocks and as an indicator of climate change and sea level rises.

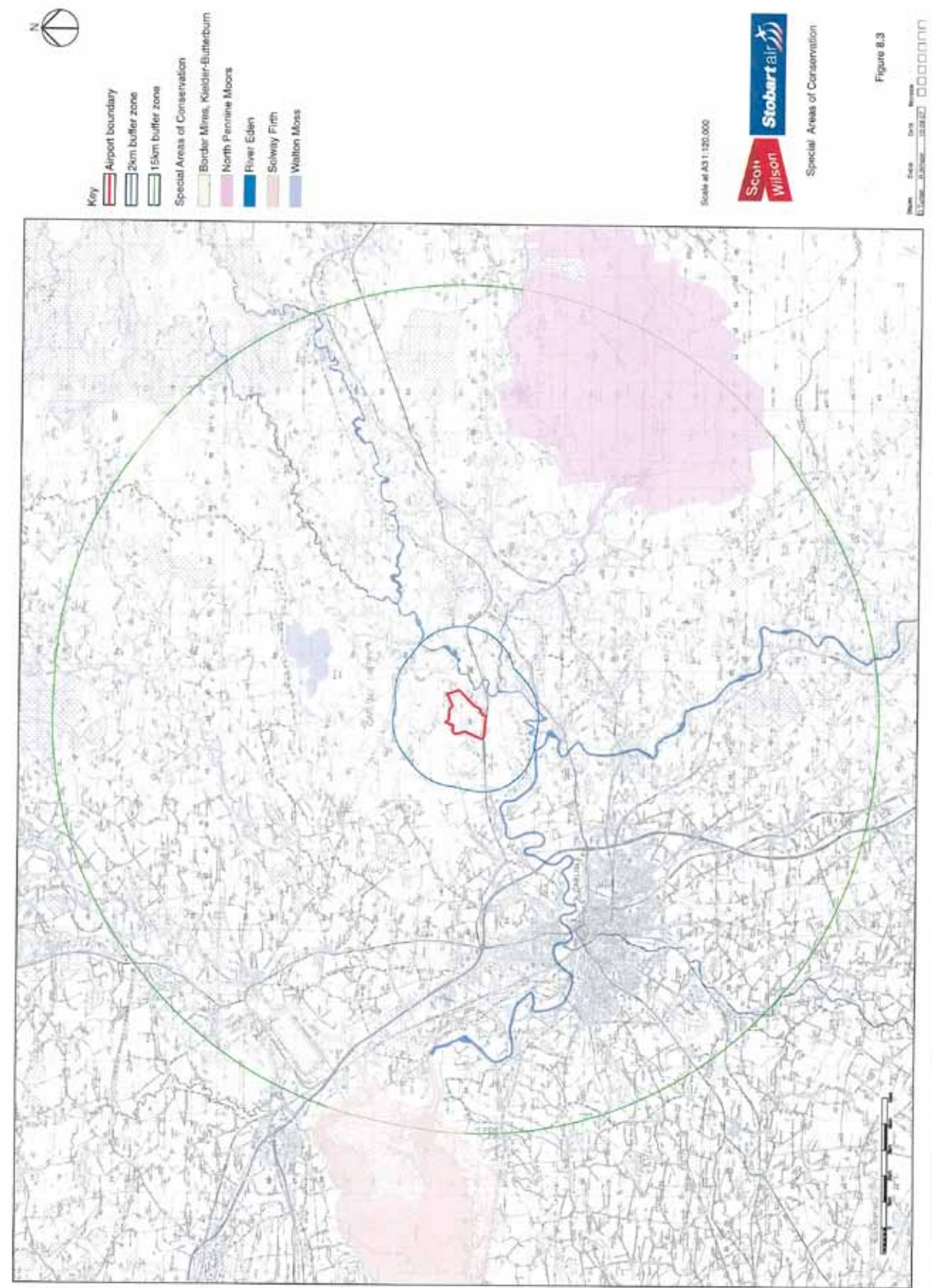
Attribute	Targets	Measure	Comments	Use for CA?
Exposure of features of interest	The features of interest are exposed or can practically be re-exposed if required	Visual/ fixed-point photography		Yes
Vegetation	Vegetation is not obscuring or damaging the features of interest. Vegetation growth will have little impact on the rock outcrop.	Visual/ fixed-point photography	Natural tree growth occurs adjacent to the rock outcrop, however, the majority of the outcrop is exposed as it is subject to flashy river flows. No conifers. The biological interest of the River Eden and Tributaries SSSI should not be compromised by vegetation control to expose the geological interest.	Yes
Tipping or landfill	There is no unconsented tipping or landfill obscuring or damaging the features of interest	Visual/ fixed-point photography		Yes
Tree planting	There is no unconsented tree planting obscuring or damaging the features of interest	Visual/ fixed-point photography		Yes
Engineering works	There are no unconsented engineering works obscuring or damaging the features of interest	Visual/ fixed-point photography	A foot and road bridge and span the site.	Yes
Natural processes	Fluvial processes, which cause erosion, are not constrained within or adjacent to the site.	Visual/ fixed-point photography		Yes
Drainage	There are no unconsented drainage works on the site	Visual/ fixed-point photography		Yes
Specimen collecting	There is no irresponsible or inappropriate specimen collecting			Yes

Attribute	Targets	Measure	Comments	Use for CA?
Removal of material	There is no unconsented removal of rock from the site			Yes

Annex 14 Maps

To be completed

***ANNEX 3 - LOCATION OF THE PROPOSED DEVELOPMENT AREA IN RELATION TO THE
RIVER EDEN SAC AND RIVER EDEN AND TRIBUTARIES SSSI***



DATED

2014

(1) THE COUNCIL OF THE CITY OF CARLISLE

- and -

(2) CUMBRIA COUNTY COUNCIL

- and -

(3) STOBART AIR LIMITED

- and -

(4) BANK OF LONDON AND MIDDLE EAST PLC

**PLANNING OBLIGATIONS BY
AGREEMENT**

entered into pursuant to under section 106
Town and Country Planning Act 1990 Section
111 Local Government Act 1972 and Section 1
Localism Act 2011 relating to Land at Carlisle
Lake District Airport

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BETWEEN:

- (1) **THE COUNCIL OF THE CITY OF CARLISLE** of Civic Centre Carlisle CA3 8QG (the "**Council**");
- (2) **CUMBRIA COUNTY COUNCIL** of the Courts Carlisle Cumbria CA3 8NA (the "**County Council**");
- (3) **STOBART AIR LIMITED** (company number 4185647) whose registered office is at 22 Soho Square, London W1D 4NS (the "**Owner**"); and
- (4) **BANK OF LONDON AND MIDDLE EAST PLC** (company number 5897786) of Sherborne House, 119 Cannon Street, London EC4N 5AT (the "**Mortgagee**").

BACKGROUND:

- A Words and phrases used in this Deed are defined in clause 1.1.
- B The Owner has the benefit of the Lease.
- C The Mortgagee has the benefit of a legal charge over the Land dated 28 May 2010 and is a party to this Deed in order to give its consent to binding its interest in the Land with the obligations in this Deed on terms set out herein.
- D The Council is the local planning authority for the purposes of Part 1 of the Act for the area within which the Land is situated and is entitled to enforce the obligations contained in this Deed.
- E The County Council is the local highway authority for the purposes of the Highways Act 1980 for the area within which the Land is situated and is entitled to enforce certain of the obligations contained in this Deed.
- F The Council has resolved to grant Planning Permission subject to the completion of this Deed and is satisfied that but for the provision of the planning obligations under this Deed the Planning Permission would not be acceptable in planning terms, that they are directly related to the Development, and are fairly and reasonably related in scale and in kind to the Development for the purposes of Regulation 122 of the Community Infrastructure Levy Regulations 2010.

IT IS AGREED:

1. OPERATIVE PROVISIONS INTERPRETATION

- 1.1 In this Deed where the context so admits the following expressions shall have the following meanings:

"**Act**" means the Town and Country Planning Act 1990 as amended;

"**Airport**" means Carlisle Lake District Airport and its facilities and services required to operate Carlisle Lake District Airport in accordance with the Civil Aviation Authority Public Licence and shown edged red on the Plan for identification purposes;

"Civil Aviation Authority Public Licence" means the public aerodrome licence with No.P855 issued by the Civil Aviation Authority on 27 September 2011 or such other superseding public aerodrome licence authorising at least the same nature and extent of aviation-related activities as that licence No.P855 as may be issued by the Civil Aviation Authority (or its successor body, as the case may be, from time to time) to the Owner or such other operator of the Airport from time to time;

"Commencement of Development" means (save for Clause 5.5.2) the date when a material operation is carried out in respect of the Development within the meaning of Section 56 of the Act provided that for the purposes of this Deed and the obligations contained herein none of the following operations shall constitute a material operation:

- (a) works of demolition;
- (b) site clearance and de-vegetation;
- (c) environmental (including archaeological) investigation;
- (d) ground investigation or site survey works;
- (e) remediation;
- (f) laying of services or service media;
- (g) erection of boundary fencing or hoardings;
- (h) erection of site offices for construction workers who will construct the Development;
- (i) erection of the contractors' work compound; and
- (j) scraping and levelling of the site (not including the exportation/removal from site nor importation of any earth or ground material);

and **"Commence Development"** shall be construed accordingly. The term **"Commencement of Development"** for the purposes of Clause 5.5.2 shall mean a material operation carried out in respect of the Development within the meaning of Section 56 of the Act save that only those operations detailed in (a), (c), (d) and (g) to (i) above shall be taken to not constitute a material operation;

"Council" means the Council of the City of Carlisle or such successor body from time to time;

"County Council" means Cumbria County Council or such successor body from time to time;

"Deed" means this Deed of Agreement;

"Development" means the development authorised by the Planning Permission for the erection of a distribution centre (inclusive of air freight and road haulage, Integrated +3 Centigrade Chiller chamber, +12 Centigrade Chiller Chamber, workshop and offices) (use classes B1 and B8), gatehouse, canteen/welfare facilities, landscaping new access, parking and other infrastructure works (such as auxiliary fire station, fire sprinkler system and electrical substation) and raised and re-profiled runway 07/25 and includes any part thereof;

"Fund Period" means the period of 5 years from Occupation;

"Habitat Contribution" means the sum of £100,000 as a contribution towards the cost of provision and/or maintenance of a Habitat Scheme;

"Habitat Scheme" means an off-site habitat scheme to be determined by the Council to deliver, maintain and manage one or more projects benefitting breeding waders or other birds within the County of Cumbria together with a programme for its implementation;

"Index" means the All In Tender Price Index published by the Building Cost Information Service of the Royal Institution of Chartered Surveyors or any successor organisation;

"Land" means all that land bound by this Agreement shown for identification purposes edged in red on the Plan and comprising the land registered under the Lease;

"Lease" means the lease of the Land granted by the Council on 31 May 2001 for a term expiring on 31 May 2151 as registered at HM Land Registry on 12 June 2001 under title number CU166618 (including all amendments modifications or variations of it);

"Mortgagee" means Bank of London and the Middle East Plc or any successor in title or assignee;

"Monitoring and Surveying Costs Contribution" means the sum of five (5) instalments of £2,725 payable annually in accordance with the terms of this Deed as a contribution to the costs of the County Council:

- (a) monitoring the implementation and maintenance of the Travel Plan by the Travel Plan Co-ordinator; and
- (b) undertaking field survey work including car park accumulation and occupancy surveys, airport passenger modal split observations, shuttle bus and occupancy checks to validate the annual monitoring report that will be provided by the Airport operator to demonstrate the effectiveness of the Travel Plan in delivering the targets set out in the Travel Plan ("**Field Survey Work**");

"Occupation" means the first day that the Development is occupied for purposes authorised by the Planning Permission which, shall (where the context in which this term is referred to elsewhere in this Deed is relevant) include the use of the raised and re-profiled runway comprising part of the Development but shall otherwise in generality exclude fitting-out, security and decoration and "**Occupy**" and "**Occupied**" shall be construed accordingly;

"Planning Permission" means planning permission for the Development granted by the Council pursuant to the Planning Application;

"Owner" means Stobart Air Limited or its successor in title;

"Parties" means the parties to this Deed and their respective successors in title or any person deriving title under them;

"Plan" means the plan which is attached to this Deed;

"Planning Application" means the application for full Planning Permission submitted to the Council on 16 December 2010 allocated reference number 10/1116;

"Planning Permission" means full planning permission for the Development granted by the Council pursuant to the Planning Application;

"Shuttle Bus Service" means a shuttle/transfer service (including but not limited to a mini-bus) at appropriate times of the day linked to flight arrival and departure times to transfer passengers of the Airport to and from the Airport and Carlisle City Centre to complement any existing public bus services which are in operation from time to time;

"Travel Plan" means the travel plan in respect of the Development prepared and submitted by the Owner as part of the Planning Application and approved by the Council as part of the Planning Permission and required to be implemented pursuant to a planning condition of the Planning Permission;

"Travel Plan Bond" means a form of bond to be procured by the Owner for the benefit of the County Council in a form to the reasonable satisfaction of the County Council from a bondsman the identity of which is to be first approved by the County Council (acting reasonably) for the Travel Plan Fund Amount enforceable by the County Council for the purposes identified in clause 7;

"Travel Plan Fund Amount" means the sum of One hundred and Eighty Nine Thousand Three hundred and Ninety Three Pounds and Seventy Five Pence (£189,393.75) calculated as the total of the cost to the County Council of purchasing annual North West Mega-rider Gold tickets for 10% (representing the target modal shift required as an output of the Travel Plan) of direct employees at the Airport for five (5) years plus 5% representing administration costs;

"Travel Plan Co-ordinator" means the travel plan co-ordinator appointed by the Owner for the purposes of implementing and maintaining the aims and objectives of the Travel Plan as set out therein and undertaking the role of Travel Plan Co-ordinator as described therein; and

- 1.2 Words in this Deed importing the singular meaning shall where the context so admits include plural meaning and vice versa.
- 1.3 Words in this Deed of the masculine gender shall include the feminine and neuter genders and vice versa and whether denoting natural persons shall include corporations and vice versa.
- 1.4 Any reference to any enactment regulation order or Government guidance includes any statutory modification or re-enactment thereof or any replacement guidance (as the case may be) for the time being in force.
- 1.5 References to any Recital clause Schedule or Paragraph (or any part of them) shall unless the context otherwise requires be references to a recital clause schedule or paragraph (or any part of them) of this Deed.
- 1.6 Headings are for ease of reference only and are not intended to be construed as part of this Deed.
- 1.7 References in this Deed to the Owner and the Mortgagee shall include or constitute reference to any successor in title or assigns to their respective interests in the Land.
- 1.8 References in this Deed to the Council shall include any successor to its functions as the local planning authority for the area within which the Land is situated and anybody to which all or part of the functions of the Council may lawfully have been transferred.

2. STATUTORY PROVISIONS

This Deed is entered into pursuant to Section 106 of the Act, Section 111 of the Local Government Act 1972, Section 1 of the Localism Act 2012 and all other enabling powers. This Deed is a planning obligation for the purposes of section 106 of the Act with intent to bind the Land (and each and every part of it) subject to the provisions of clause 3 (as to conditionality) clause 8.2 (circumstances in which the Deed shall fall away) and clause 8.3 (release upon parting with interest) and the Deed is intended to be enforceable by the Council and, where appropriate, the County Council as planning obligations.

3. CONDITIONALITY

3.1 Save for clauses 4, 5.2.3 to 5.2.5 and 8 of this Deed (all of which shall take effect upon completion of this Deed unless otherwise stated elsewhere in this Deed), the obligations in this Deed shall not take effect unless and until:

3.1.1 Planning Permission has been granted; and

3.1.2 Commencement of Development.

4. COSTS OF THIS AGREEMENT

4.1 Upon completion of this Deed the Owner is to pay forthwith to the Council:

4.1.1 its reasonable and proper legal costs in connection with the preparation, negotiation and completion of this Agreement in the sum of £ 570; and

4.1.2 the sum of £300 for the Council's reasonable costs of processing of the Agreement.

4.2 Upon completion of this Deed the Owner is to pay to the County Council the sum of £500 representing the County Council's reasonable and proper legal costs in connection with the negotiation and completion of this Deed.

5. THE OWNER'S OBLIGATIONS

The Owner covenants with the Council and County Council (as appropriate) as follows:

5.1 Triggers

5.1.1 To notify the Council and County Council in writing of the Commencement of Development having occurred within seven (7) days of the Commencement of Development; and

5.1.2 To provide the Council and County Council with no less than seven (7) days' prior written notice of Occupation.

5.2 Travel Plan

5.2.1 Without prejudice to the generality of the requirement of any planning condition of the Planning Permission, within six (6) months of Occupation of the Development to submit to the County Council for approval an updated Travel Plan which shall incorporate any measures identified from staff surveys (to encourage more sustainable transport modes) pursuant to the actions to be

undertaken by Travel Plan Co-ordinator under the Travel Plan and thereafter to implement the approved Travel Plan thereafter for the operational life of the Development;

- 5.2.2 To pay to the County Council the Monitoring and Surveying Costs Contribution on each of the following dates:
 - 5.2.2.1 on or prior to Occupation; and
 - 5.2.2.2 the 1st, 2nd, 3rd and 4th anniversaries of Occupation.
- 5.2.3 Not to Commence Development until a notice has been served on the County Council by the Owner to confirm whether the Owner intends to procure a Travel Plan Bond or to pay the Travel Plan Fund Amount (in lieu of a Travel Plan Bond) prior to Occupation.
- 5.2.4 In the event that the Owner elects to procure a Travel Plan Bond, the Owner will not Commence Development until the Travel Plan Bond is secured and is in place for the benefit of the County Council. For the avoidance of doubt the Travel Plan Bond will remain in place until the County Council has assessed whether or not the Owner has met its targets in the Travel Plan after 5 years in Occupation and has notified the Owner of the level of funds which need to be drawn down from the Travel Plan Bond (if any) relative to the extent to which relevant targets are not met. This assessment will be undertaken by the County Council as soon as reasonably practicable at the expiry of the Fund Period.
- 5.2.5 In the event that the Owner elects to pay the Travel Plan Fund Amount to the County Council or the Owner is unable to procure a Travel Plan Bond in a form acceptable to the County Council (acting reasonably) before the Commencement of Development, the Owner shall not be required to procure a Travel Plan Bond and will not Occupy the Development until the Travel Plan Fund Amount has been paid to the County Council.

5.3 Travel Plan Co-ordinator

- 5.3.1 Not to Occupy the Development until a person or organisation with experience of travel plans has been appointed to act as the Travel Plan Co-ordinator for the duration of the operational life of the Development.
- 5.3.2 The Travel Plan Co-ordinator shall provide to the County Council an annual report of the findings and outcomes of the implementation of the Travel Plan on not less than 5 years from Occupation on each anniversary of Occupation.

5.4 Shuttle Bus Service

- 5.4.1 To operate the Shuttle Bus Service from first use of the Development by air traffic passengers and for as long as the Airport is in operation during hours to be first agreed by the County Council taking into account any comments made by the Travel Plan Co-ordinator unless or until:
 - 5.4.1.1 the Shuttle Bus Service is deemed by the County Council (acting reasonably) taking into account any comments made by Travel Plan Co-ordinator to be no longer viable pursuant to a review in accordance with clause 5.4.4; or

- 5.4.1.2 an alternative bus service provided by a commercial bus operator is secured to the reasonable satisfaction of the County Council taking into account any comments made by the Travel Plan Co-ordinator.
- 5.4.2 Prior to first use of the Development by air traffic passengers to agree the hours of operation of the Shuttle Bus Service (to be reviewed from time to time under clause 5.4.4 below) with the County Council taking into account any comments made by the Travel Plan Co-ordinator.
- 5.4.3 To procure that the Travel Plan Co-ordinator reviews the operation of the Shuttle Bus Service within 2 months of the anniversary of first Occupation by commercial air traffic passengers and taking into account any comments made by the Travel Plan Co-ordinator thereafter.
- 5.4.4 To procure that the Travel Plan Co-ordinator reviews and determines the frequency and duration of the Shuttle Bus Service having regard to operations at the Airport and the viability of the Shuttle Bus Service (defined as meeting a threshold of an average (mean) patronage of 5 per journey over the period of assessment to be considered from time to time).
- 5.4.5 To provide details of the Shuttle Bus Service and other public transport information to users and visitors to the Airport in a form and in a medium to be first approved by the County Council taking into account any comments made by the Travel Plan Co-ordinator as may be varied from time to time with the approval of the County Council.
- 5.4.6 To use reasonable endeavours to secure the diversion of a service and/or introduction of a new service from a commercial bus operators to serve the Airport and if such service is sufficient to the satisfaction of the County Council taking into account any comments made by the Travel Plan Co-ordinator to be entitled to discontinue the Shuttle Bus in accordance with clause 5.4.1.1 above.
- 5.4.7 For the avoidance of doubt the Shuttle Bus Service shall only be discontinued while any commercial bus service is in operation. In the event that a commercial bus service is withdrawn, the Shuttle Bus Service will be re-instated.

5.5 Habitat Scheme

To pay to the Council the Habitat Contribution on or prior to the date, whichever is the earlier of:

- 5.5.1 Occupation; or
- 5.5.2 the expiration of 14 days from receipt of written notice from the Council to the Owner that it requires the Habitat Contribution imminently to secure the transfer of land in pursuance of the purposes in clause 6.2.

6. THE COUNCIL'S OBLIGATIONS

The Council covenants with the Owner as follows:

- 6.1 The Council may at its election provide some or all of the Habitat Contribution to one or more nature conservation organisations with ornithological enhancement objectives but only on the basis that the use of the Habitat Contribution is subject to the terms of this clause 6;

- 6.2 Not to use the Habitat Contribution (or any part of it) otherwise than towards the provision (including acquisition, if necessary) and management of a habitat for breeding waders or other birds;
- 6.3 Upon receipt of a written request from the Owner to provide the Owner with an account identifying how the Habitat Contribution (or any part of it) has been spent;
- 6.4 To return to the person who makes the Habitat Contribution any part of the Habitat Contribution not expended in accordance with this Deed within five (5) years of the date on which the Habitat Contribution was received by the Council together with accrued interest on that part of the unspent Habitat Contribution at the Public Works Loan Board New Maturity 1 Year rate.

7. THE COUNTY COUNCIL'S OBLIGATIONS

The County Council covenants with the Owner as follows:

- 7.1 Not to use the Monitoring and Surveying Costs Contribution (or any part of it) otherwise than towards the purposes of monitoring the implementation and maintenance of the Travel Plan by the Travel Plan Co-ordinator and carrying out of the Field Survey Work;
- 7.2 Upon receipt of a written request from the Owner to provide the Owner with an account identifying how the Monitoring and Surveying Costs Contribution (or any part of it) has been spent;
- 7.3 To appoint and thereafter maintain the appointment of a suitable representative of the County Council to engage with the Travel Plan Co-ordinator as required by the terms of this Deed and to consider approvals required pursuant to the obligations upon the Owner in clauses 5.2.1 and 5.2.3 and clause 5.4.
- 7.4 To use and/or exercise the Travel Plan Fund only for the purpose of implementing measures in the area affected by the Development to mitigate the impact of the Owner's failure to meet the target modal shift as set out in the Travel Plan.
- 7.5 If the Owner has provided a Travel Plan Bond, upon the expiration of the Fund Period, the County Council will as soon as reasonably practicable assess whether or not the Owner has met its Travel Plan targets and will confirm this in writing to the Owner. Upon receipt of this confirmation, if the Travel Plan targets have been met in full, the Travel Plan Bond will terminate. If the Travel Plan targets have not been met in part or whole, the County Council will be entitled to (on demand) and no later than 3 months (after notifying the Owner that it has not met some or all of the Travel Plan targets) draw down the level of funds which the County Council will be entitled to receive to mitigate the impact of the Owners failure to meet the Travel Plan targets and the Travel Bond shall then terminate. For the avoidance of doubt the County Council is entitled to draw down a sum equivalent of one per cent (1%) of the Travel Plan Fund Amount for every point one of a percent (0.1%) shortfall in the said 10% Travel Plan target.
- 7.6 If the Owner has paid the Travel Plan Fund Amount to the County Council:
 - 7.6.1 at the end of the Fund Period, the County Council will as soon as reasonably practicable assess whether or not the Owner has met its Travel Plan targets and will confirm this in writing to the Owner. If the Travel Plan targets have been met in full, the County Council will return the Travel Plan Fund Amount to the Owner as soon as reasonably practicable and no later than 3 months (after

notifying the Owner that it has met all of the Travel Plan targets). If the Travel Plan targets have not been met in part or whole, the County Council will return any sums due to the Owner as soon as reasonably practicable and no later than 3 months (after notifying the Owner that it has not met some or all of the Travel Plan targets) and will retain the remainder to mitigate the impact of the Owners failure to meet the Travel Plan targets. For the avoidance of doubt the County Council is entitled to retain a sum equivalent of one per cent (1%) of the Travel Plan Fund Amount for every point one of a percent (0.1%) shortfall in the said 10% Travel Plan target.

7.6.2 on the expiry of 10 years from the date of Occupation, the Council will return any unexpended element of the Travel Plan Fund Amount (which it has retained in accordance with clause 7.6.1 together with any interest accrued to the Owner.

7.7 Upon receipt of a written request from the Owner to provide the Owner with an account and/or details identifying how the Travel Plan Fund Amount (or any part of it) has been spent or required to be performed.

8. AGREEMENTS AND DECLARATIONS

8.1 Registration as Local Land Charge

This Deed shall be registered in the Council's register of local land charges for the purposes of the Local Land Charges Act 1975.

8.2 Lapse

This Deed shall lapse and its obligations shall cease to have effect in any of the following circumstances:

8.2.1 if the Planning Permission shall be revoked, quashed or modified other than at the request of the Owner; or

8.2.2 if the Planning Permission shall lapse before the Commencement of Development.

8.3 Release

8.3.1 Any person (including without limitation the Owner and the Mortgagee) shall upon parting:

8.3.1.1 with its interest in any part of the Land be released from all obligations and duties under the terms of this Deed in so far as they relate to or are binding on that part of the Land; and

8.3.1.2 with the entirety of its interest in the Land be released from all liabilities whatsoever under the terms of this Deed

8.3.2 The releases provided for in sub-clause 8.3.1 shall not apply to any prior or existing breach of this Deed as at the date of disposal.

8.4 Discharge by Performance

Upon the performance discharge or other fulfilment of the obligations (or any of them) under the terms of this Deed such covenant obligation or obligations shall absolutely cease and determine save in respect of any antecedent breach.

8.5 Future Development

Nothing in this Deed shall prohibit or limit the right to develop the Land (or any part of it) in accordance with a planning permission (other than the Planning Permission) granted (whether or not on appeal or pursuant to the Order) after the date of this Deed.

8.6 Change in Ownership

The Owner agrees to provide the Council with written notice of any change in ownership of its interest in the Land that occurs before all the obligations contained within this Deed have been discharged within seven (7) days of any such change occurring PROVIDED THAT such notice shall include details of the transferee's full name and registered office (if a company or usual address if not) together with a plan identifying the relevant area of the Land or area of occupation (as the case may be).

8.7 Notices

Any notice to be given to any party pursuant to the terms of this Deed shall be deemed to be sufficiently served if delivered personally or sent recorded delivery service or by facsimile to the following officials or people at the respective addresses specified unless otherwise directed in writing by the recipient party:

In respect of the Council

Civic Centre

Carlisle

CA3 8AG

(marked for the attention of The Director of Governance)

In respect of the Owner

22 Soho Square

London

W1D 4NS

(marked for the attention of the Company Secretary)

In respect of the Mortgagee

Sherborne House

119 Cannon Street

London

EC4N 5AT

(marked for the attention of the Company Secretary)

In respect of the County Council

Development Control Officer

Highways

Transport and Fleet

Environment and Community Services Parkhouse Building

Carlisle

CA6 4SJ

8.8 Interest

If any payment due under this Deed is paid late interest shall be payable from the date payment is due to the date of payment at the Public Works Loan Board New Maturity 1 Year rate.

8.9 Contracts (Rights of Third Parties) Act 1999

8.9.1 Unless the right of enforcement is expressly granted it is not intended that a third party should have the right to enforce a provision of this Deed pursuant to the Contracts (Rights of Third Parties) Act 1999;

8.9.2 This Deed may be rescinded or varied without the consent of a third party to whom an express right to enforce any of its terms has been provided.

8.10 Land Ownership

Nothing in this Deed shall require the performance by the Owner of any obligation on over or under land which is not within the ownership or control of the Owner unless the said land shall comprise public highway.

8.11 Perpetuities

For the purpose of such part of this Deed as may be subject to the law against perpetuity this Deed shall remain in force for the period of eighty (80) years from the date of this Deed or (if sooner) for so long as any of the covenants conditions or obligations set out in this Deed may not have been performed.

8.12 Consents and Approvals

Where any consent approval or expression of satisfaction is required to be given under the terms of this Deed then it shall not be unreasonably withheld or delayed.

8.13 Dispute Resolution

8.13.1 If agreement cannot be reached on any matters contained in or referred to in this Deed that matter shall be referred and settled by a single expert to be nominated by the President of the Royal Institution of Chartered Surveyors on the application of any party after notice in writing to the other;

8.13.2 The person to be appointed pursuant to sub-clause 8.13.1 shall be a person having five (5) years or more post qualification experience of developments of the scale and nature of the Development under the terms of an agreement similar in nature to this Deed;

8.13.3 Reference to the expert shall be on terms that determination shall take place within ten (10) days of the expert accepting his instructions;

8.13.4 The expert shall have the power to award the costs of the determination in favour of either party at the expense of the other;

8.13.5 The expert shall be limited in his findings to the proposal put by either party or a proposal falling between both of them and shall provide written reasons for his decision;

- 8.13.6 The findings of the expert shall (other than in the case of a manifest material error) be final and binding on the Parties.

8.14 Mortgagee's Consent

The Mortgagee agrees to its interest in the Land being subject to the obligations contained within this Deed provided that the Mortgagee shall not be liable pursuant to this Deed unless and until it enters into possession of the Land (or any part of it) as if it were a person deriving title from the Owner to the extent that such obligations are outstanding and continue to bind the Land as at the date that the Mortgagee exercises its powers.

8.15 Indexation

Any sum referred to in this Deed shall be increased by an amount equivalent to the increase in the Index from the date hereof until the date on which such sum is paid.

8.16 Non Fetter of Discretion

Nothing (contained or implied) in this Deed shall fetter or restrict the Council's and/or the County Council's statutory rights, powers, discretions and responsibilities.

8.17 Waiver

No waiver (whether express or implied) by the Council and/or the County Council of any breach or default by the Owner in performing or observing any of the covenants, restrictions or obligations of this Deed shall constitute a continuing waiver and no such waiver shall prevent the Council and/or the County Council from enforcing any of the relevant terms or conditions contained in this Deed or acting on any subsequent breach or default of this Deed.

8.18 Severance

8.18.1 If any court or competent authority finds that any provision of this Deed (or part of any provision) is invalid, illegal or unenforceable, that provision or part-provision shall, to the extent required, be deemed to be deleted, and the validity and enforceability of the other provisions of this Deed shall not be affected.

8.18.2 If any invalid, unenforceable or illegal provision of this Deed would be valid, enforceable and legal if some part of it were deleted, the parties shall amend such provision so that, as amended, it is legal, valid and enforceable, and, to the greatest extent possible, achieves the parties' original commercial intention.

8.19 Governing Law and Jurisdiction

This Deed and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the law of England.

8.20 Delivery

The provisions of this Deed (other than this clause which shall be of immediate effect) shall be of no effect until this Deed has been dated.

This document has been executed as a deed and is delivered and takes effect on the date stated at the beginning of it.

EXECUTED as a deed, and delivered when)))))
dated, by affixing the **COMMON SEAL** of
THE COUNCIL OF THE CITY OF
CARLISLE, in the presence of:

SEAL

Signature

Name (block capitals)
Authorised Officer

EXECUTED as a deed, and delivered when)))))
dated, by affixing the **COMMON SEAL** of
CUMBRIA COUNTY COUNCIL, in the
presence of:

SEAL

Signature

Name (block capitals)
Authorised Officer

SIGNED as a deed by **STOBART**))
AIR LIMITED acting by two)
directors or by one director and the
secretary, and delivered when
dated:

Signature

Name (block capitals)
Director

Signature

Name (block capitals)
Director/Secretary

SIGNED as a deed by **BANK OF LONDON**
AND THE MIDDLE EAST PLC acting by
an authorised officer in the presence of:

Signature

Name (block capitals)
Authorised Signatory

