

Application for Determination

Parish:	Postwick	
Reference:	BA 2014/0011/FUL	Target Date: 15 April 2014
Location:	Compartment 17 – North bank of the River Yare, Postwick Marshes	
Proposal:	Flood defence improvements to the left bank of the River Yare including raising a concrete wall, rollback of floodbank and additional erosion protection work along with temporary site compound and associated engineering works	
Applicant:	Environment Agency	
Reason for referral:	Major application	
Recommendation:	Approve with conditions	

1 Description of Site and Proposal

- 1.1 The application site is in Compartment 17 and involves works on part of a 4.4 kilometre length of floodbank on the north side of the River Yare which separates the river from Postwick Marshes. Attached as Appendix 1 is a plan showing the extent of the application site. As the application is supported with an Environmental Statement, its provisions are summarised in a non technical summary. This non technical summary is attached as Appendix 2.
- 1.2 Compartment 17 is protected by a combination of earth floodbank, concrete wall and crest piling. In total these defences protect 142 ha of land, much of which is drained grazing marsh / grassland. The application site is outside any SSSI or County Wildlife Site. However on the south side of the River Yare is the Yare Broads and Marshes SSSI. In terms of heritage interest, the application site is outside any Conservation Area, has no Listed Buildings and the Environmental Statement identifies few archaeological features.
- 1.3 BESL have indicated that the existing condition of the floodbank defences vary but is generally declining, particularly lengths in the lower reaches of the compartment. The existing erosion protection comprises mainly rond with sections of steel sheet piling (now providing little bank protection), stone rip rap and gabions.

- 1.4 Discussions have been on-going for many years regarding flood defence proposals on the north bank of the river and in 2007 and 2008 applications were submitted for flood defence improvements. However as a result of concerns raised regarding the scale of works and potential indirect impact of works on nearby designated wildlife sites, these applications were withdrawn. Since that time BESL have confirmed that only localised maintenance works have taken place, with the approval of Natural England on sections of bank that has breached on several occasions (temporary repairs involving the use of crest piling).
- 1.5 The application proposes more limited works than the 2007 and 2008 applications and targets work at sections of defences at highest risk of breach or overtopping as follows:

Proposed Works	Length (m)
<u>Floodbank</u>	
Rollback	515
Strengthening*	202
Concrete wall crest piling	55
<u>Erosion Protection</u>	
Install gabion baskets	440

* since application submission in January 2014, the initial extent of strengthening works proposed has been reduced from 317 metres to 202 metres

- 1.6 BESL highlight in their non technical summary that the proposals have been formulated to target improvements to sections of floodbank considered being at high risk of breaching during overtopping events, in order to prevent uncontrolled flooding. The works will also provide improved protection to an Internal Drainage Board (IDB) pump. However over 3.5km of floodbank in the compartment will not be subject to any improvement works. They also state that Compartment 17 is an area of valuable floodplain storage which provides relief in high water events to a number of sensitive sites. Therefore improvement works have been limited to two very low sections which are currently at high risk of breach and uncontrolled flooding (plus an additional length of bank parallel to Ferry Lane where material will be placed behind the sheet piling in order to buttress the cross-wall).
- 1.7 In terms of the proposed erosion protection, two short areas are proposed in the western part of the compartment close to Cottage Barn and Postwick Hall. In addition stone filled gabions are proposed in a section in the eastern part of the compartment to provide long term protection along part of the river. BESL point out that gabions have been used extensively at Postwick in the past and the river is over 60 metres in width in the area where they propose this technique.
- 1.8 Material for most strengthening / roll back works will be sourced from excavating new or widened sokedykes. However for works along Ferry Lane, clay will need to be imported by road (due to the proximity of a poplar plantation). This will require some 665 tonnes of clay (some 35 lorry

deliveries in and out – using 20 tonne lorries). The stone fill for gabion baskets however will be transported to the site by river.

- 1.9 The proposed works will result in the following change to habitat as outlined below:

Habitat	Net Change (ha)
Rond	0.00
Floodbank	+ 0.44
Folding	+ 0.59
Wooded Folding	- 0.25
Soke dyke	+ 0.35
Marsh dyke	- 0.03
Grazing marsh	- 0.96

- 1.10 Only the existing floodbank in the western portion of the compartment forms a public right of way and no significant works are proposed in this area. Only very limited private mooring exists.
- 1.11 A site compound in the compartment is proposed south of Ferry Lane to provide office, welfare and material storage. In addition a separate 'compound' on Church Road is to be formed to unload clay (and the clay will be transported to the works compartment using 'dumpers' to avoid larger lorries using the weight restricted rail bridge on Church Road). Should planning consent be granted, BESL propose to start works in April 2014 and be completed this year.

2 Planning History

Application no	Description	Decision
BA2007/0280/FUL	Flood defence improvements	Withdrawn
BA2008/0367/FUL	Flood improvement works	Withdrawn

3 Consultations

- 3.1 Postwick Parish Council – Happy for the work to go ahead provided the roads are kept clean, especially Ferry Road.

Bramerton Parish Council – Awaited.

Surlingham Parish Council – No comment.

Broads Society – We are concerned about the use of gabions due to the navigation hazard as has been shown elsewhere. We note the statement that gabions have been used elsewhere in this Compartment but we would point out that these have been nearly vertical so that there is not the same

hazard. We therefore suggest that if gabions are permitted it is only with a condition that they are marked for as long as they are there. We also suggest that there is a condition that no work takes place on Sundays or Public Holidays.

NCC Highways –No objections to the proposals but would recommend the inclusion of the following conditions on any grant of permission your Authority is minded to make:

- Prior to the commencement of any works a Construction Traffic Management Plan and Access Route shall be submitted to and approved in writing with the Local Planning Authority in consultation with Norfolk County Council Highway Authority together with proposals to control and manage construction traffic using the 'Construction Traffic Access Route' and to ensure no other local roads are used by construction traffic. The applicant shall also enter into a Wear and Tear Agreement under Section 59 of the Highways Act 1980 for the said access route.
- For the duration of the construction period all traffic associated with the construction of the development will comply with the Construction Traffic Management Plan and use only the 'Construction Traffic Access Route' and no other local roads unless approved in writing with the Local Planning Authority in consultation with the Highway Authority.
- No works shall commence on site until the details of wheel cleaning facilities for construction vehicles have been submitted to and approved in writing by the Local Planning Authority in consultation with the Highway Authority.
- For the duration of the construction period all traffic associated with the construction of the development permitted will use the approved wheel cleaning facilities provided referred to in Part A.

Environment Agency – The proposal involves floodbank strengthening, increase the width and height of the crest, and rollback, moving the crest away from the river edge to two small areas in the compartment which are very low and at a high risk of breaching which would lead to uncontrolled flooding. The majority of the defences will be left untouched as Compartment 17 is an area of valuable floodplain storage.

The ES states that these proposed works will strengthen and raise the defences to provide the same pattern of overtopping throughout the Broads as existed in 1995. It will also reduce the risk of the floodbanks breaching to reduce the risk of uncontrolled flooding within the compartment. Hydraulic modelling has been undertaken to examine the effects on water levels elsewhere. The results show there will be no significant changes to water levels in the River Yare and consequently on patterns of flooding to property or designated sites.

The proposed works reduce the risk of flooding to the land within the compartment and will not increase flood risk elsewhere.

Under the terms of the Water Resources Act 1991, and the Anglian Region Land Drainage and Sea Defence Byelaws, our prior written Flood Defence Consent is required for any proposed works or structures, in, under, over or within nine metres of the top of the bank of the River Yare, designated a 'main river' or within nine metres of the defences.

Internal Drainage Board – Awaited.

Natural England – Natural England has reviewed the information as submitted with this planning application and are satisfied that subject to conditions there are unlikely to be significant effects on the nearby internationally and nationally designated sites and therefore have no objections to these proposals.

We recommend that the mitigation measures as laid out in the Environmental Statement are secured as planning conditions should the application be granted permission. This will ensure that the development, as submitted, will not impact upon the features of special interest for which Bramerton Pits SSSI, Yare Broad and Marshes SSSI, Broadland SPA and Ramsar site, The Broads SAC and The Broads National Park are notified.

RSPB – We do not object to the scheme that has been outlined. The RSPB's concern is that flood defence works at this location should not result increase flood risk to the Yare Broads and Marshes Site of Special Scientific Interest (SSSI), Broadland Special Protection Area, The Broads Special Area of Conservation (SAC), and the Broadland Ramsar site. We recognise that BESL have undertaken a range of modelling on the effect creation of a washland would have and are pleased that this information has been used to inform the scheme.

The proposed scheme highlights that setback will take place. We accept that this has the potential to deliver some localised benefits, especially if the setback area is allowed to develop into swamp or fen habitat. However, the area should be protected from grazing to ensure that the development of habitat within the setback area is not limited. If grazing were permitted this would also cause erosion to the site and input sediment (and any associated nutrients) into the river. The RSPB recommends that a planning condition excluding livestock from the flood defences be applied should the application be consented.

The RSPB notes the information supplied on the agri-environment scheme areas adjacent to the proposed works. We recommend that options to support and enhance the agri-environment schemes in the area are provided. Where this promotes the improvement of grazing marsh for breeding waders and ditch improvements for aquatic flora and fauna this would accord with the Broads Plan (for example Policy BD1 and AL3). Options to enhance the schemes must not duplicate work that should be completed under the agreements, as this would be double funding from the public purse.

The RSPB notes that vegetation will be cleared in advance of the bird breeding season. We accept this should minimise the potential for works to be limited by the presence of active nests, but recommend that the works area still be surveyed prior to works commencing.

NCC Historic Environment Service – The proposed works, including the compound and unloading area, are located in areas where artefacts of Neolithic, Roman, Anglo-Saxon and medieval date have previously been recorded. The sites of two 19th century drainage pumps are also located immediately adjacent to the areas of works. There is also potential for previously unrecorded heritage assets with archaeological interest to be present within the areas of the proposed works and that their significance could be affected.

If planning permission is granted, we ask that this be subject to a programme of archaeological work in accordance with National Planning Policy Framework para. 135. We suggest that the following three conditions are imposed:-

- (a) *No groundworks shall take place until an archaeological written scheme of investigation has been submitted to and approved by the local planning authority in writing. The scheme shall include an assessment of significance and research questions; and 1) The programme and methodology of site investigation and recording, 2) The programme for post investigation assessment, 3) Provision to be made for analysis of the site investigation and recording, 4) Provision to be made for publication and dissemination of the analysis and records of the site investigation, 5) Provision to be made for archive deposition of the analysis and records of the site investigation and 6) Nomination of a competent person or persons/organization to undertake the works set out within the written scheme of investigation; and*
- (b) *no development shall take place other than in accordance with the written scheme of investigation approved under condition (A); and*
- (c) *The post investigation assessment should be completed in accordance with the programme set out in the archaeological written scheme of investigation approved under condition (A), and provision for the analysis, publication and dissemination of the results and archive deposition should be secured within six months of the completion of the fieldwork.*

In this instance the programme of archaeological work will comprise the monitoring of groundworks for the development under archaeological supervision and control for which a generic brief is attached. For the avoidance of doubt the archaeological monitoring should also include the groundworks for the site compound and unloading area.

BDC Environmental Protection Officer – Awaiting.

Norfolk and Suffolk Boating Association – The NSBA is supportive of the

application with the following provisos.

The section of the River Yare bounded on its left bank by Compartment 17 is extensively used by motor boats, by sailing craft and by rowing boats from clubs at Thorpe and Whitlingham. It can be particularly busy at weekends and Bank Holidays. There are rowing races in the section on a number of Saturdays and at least one sailing race passes through the whole section on a Sunday. The NSBA requests that, in order to meet development plan policy DP 28, a condition is imposed that no working is permitted at weekends or on Bank Holidays.

The NSBA also requests that an appropriate condition is imposed requiring, in accordance with core strategy policy CS3, that construction work involving the river is adequately marked and buoyed so as not to be a hazard to navigation.

4 Representations

- 4.1 The Navigation Committee considered this matter at their meeting on 27 February 2014. The report concluded:

Officers are confident that the floodbank works proposed by BESL will have minimal impact on the navigation. Officers therefore propose to raise no objections to the works set out in the planning application but to recommend that BESL be required to agree the details of the proposed gabion baskets, any channel marking required and erosion monitoring by planning condition.

- 4.2 Members supported officers' recommendation that planning conditions be imposed in relation to details of the gabion baskets and their support, channel marking and erosion monitoring.

- 4.3 In addition, representations have been received from (and on behalf of) two residents in Bramerton (on the south bank of the River Yare) and two of the landowners at Postwick (on north bank).

- 4.4 Mr Roger Smith has provided correspondence (objections reproduced in full in Appendix 2) on behalf of his parents at Kingfisher Old House, Bramerton. He highlights concerns regarding risk of flooding and the floor levels of two properties to the south of the river, many inconsistencies in BESL's submission and concludes in his correspondence received on 10 March 2014 by stating:

In conclusion, the application as it stands should be rejected because of its effect upon river levels and flooding patterns. Not least at Herons Reach, The Wherryman's Way and the moorings at Bramerton Common. BESL states twice in the application documents that 1.3 m is adequate protection "adequate protection of Postwick marshes is provided by a 1.3m floodbank" and "to provide a reasonable level of protection but still allow overtopping at higher events, the floodbanks need to broadly

correspond to a 1 in 7 flood event. In the case of Compartment 17 this level is approximately 1.3 m AOD."

It is clear that raising the floodbank to 1.4 m is taking completely unnecessary risks, for the purpose of protecting grazing land, and that BESL can't even know how that raising will impact on water levels on the opposite bank.

Compromise has been referred to in the documents, but notably without any attempt to engage those affected (by this proposal) in dialogue. Please note here that Herons Reach and Kingfishers are only about forty metres away from the proposed construction but the nearest property on the north bank (Postwick Hall Farm) is two thirds of a mile away.

Possibly the banks should be strengthened and raised to a level of 1.325 m (which allows for some annual settlement). However, even then the difference between Herons Reach's threshold and the crest would still be only four and a half inches. And that's without taking into account the depth of the overtopping water, which isn't zero inches, or the wash from cruisers. Moreover, even that level would be way above the 1995 levels opposite Herons Reach and Kingfishers, which are the levels that BESL is supposed to be restoring, not changing completely.

Which leads me to follow the money. BESL's reason for raising "strategic" defences appears to be profit. By raising earthworks BESL gets paid for them by the Environment Agency (in this case £300,000) and it is years before any maintenance of levels is required from BESL. However, if BESL doesn't raise the crest strategically BESL will have to do maintenance of levels, by topping up, possibly every year. This cost would be covered already in BESL's maintenance contract. It is, as they say, a no-brainer for a profit making business.

4.5 Mrs Diana Shakir (Heron Reach, Bramerton) objects that:

As my property is set even lower than my neighbour's house (Kingfisher's Old House), I am very concerned that any work carried out across the river may affect the level of water which currently overlaps the garden occasionally during a very high tide.

I have owned this property for around 15 years, and to my knowledge nobody has ever visited to take measurements of levels.

I am attaching some photos taken in December 13 when the water came very close to the conservatory.

4.6 Mr Paddy Walker (Brundall Barn Farm) states:

I farm some 37 hectares of low moor peat marsh in Compartment 17. It is no longer part of an environment scheme the Broads ESA has terminated. I am a grassland agronomist grazing a herd of beef cattle. I was on the scene when, after the war, the current defences and drainage

pump were installed. My main concern is the concept of rollback. The levee of the Yare at this point is fairly narrow and Adriaan Den Engelse when he instigated this scheme recognised the unsoundness from a civil engineering viewpoint of basing a floodwall on peat. His solution was a brave attempt to copy with this with a lightweight wall anchored by steel hawsers to the clay levee. Time has not been kind to his efforts and the evidence of the dangers of rolling a flood wall back onto peat is very obvious. Unfortunately the prime objective of drainage protection has over the years been hijacked by the conservation bodies (Natural England, RSPB etc.) The folly of this is well illustrated by the current disaster in the Somerset Levels. The problem of the current scheme is that its primary objective is not flood protection but acceptance by the conservation lobby. This on the rolled back section of the wall will come at a price of increased frequency of topping up. This alone justifies the 1.4 metres objective to achieve a 1.3 metre wall. The RSPB's magnanimity in refraining from opposing the scheme indicates solely that the scheme has been sufficiently prejudiced from a land drainage viewpoint for their purposes. Their comments on the area next to the river which has never been grazed or indeed walked by human foot is derisory. In many ways the photos provided by Diana Shakir together with those of the overtopping of the Postwick Wall show that the system works very well. There is no intention to raise the general level of the wall and avoid overtopping. The main objective is to avoid a major breach in the section to be rolled back. Subject to the above, I welcome the scheme.

4.7 Chris Langridge (Postwick Hall) states:

As landowners and farmers located in the western section of the marsh I can't stress enough how very much in favour we are of the application. We would be extremely disappointed if permission were not forthcoming. The welfare of our grazing animals on the marsh, our livelihoods as farmers, and our safety as residents living in the flood plain is very much at risk without good flood defences. We look forward to swift and positive outcome to the process.

5 Planning Policy

- 5.1 The following policies have been assessed for consistency with the National Planning Policy Framework (NPPF) and have been found to be consistent and can therefore be afforded full weight in the consideration and determination of this application.

Core Strategy (CS) (2007)

[Core Strategy \(Adopted Sept 2007\).pdf](#)

Policy CS1 – Landscape protection and enhancement

Policy CS2 – Landscape protection and enhancement

Policy CS3 - Navigation

Policy CS4 – Creation of new resources

Development Management Plan DPD (DMP) (2011)

[DMP DPD - Adoption version.pdf](#)

Policy DP1 – Natural environment

Policy DP5 – Historic environment

Policy DP11 – Access to land

- 5.2 The policies below have also been assessed for consistency with the NPPF and have been found to lack full consistency with the NPPF and therefore those aspects of the NPPF may need to be given some weight in the consideration and determination of this application.

Development Management Plan DPD (DMP) (2011)

Policy DP13 – Bank protection

Policy DP28 - Amenity

Policy DP29 – Development on Sites with High Probability of Flooding

- 5.3 Material Planning Consideration

National Planning Policy Framework (NPPF) (2012)

[NPPF](#)

6 Assessment

- 6.1 Based on the application proposals, site specific considerations, planning policy principles and concerns raised by local residents, it is considered that the main issues relate to:

- Impact on people and property;
- Impact on habitat and ecological interest;
- Impact on recreation;
- Highway considerations;
- Other factors (including amenity and archaeology).

6.2 Impact on people and property

- 6.2.1 The proposed works have been devised to seek to enhance flood defences in short sections of vulnerable defences to Compartment 17. There has been some support for the proposed work from landowners in Postwick. However in contrast, strong objection has been raised regarding the potential impact on dwellings on the south side of the river, opposite where works are proposed, notably in relation with low lying dwellings sited close to the river (Herons Reach and Kingfisher Old House).

- 6.2.2 It is very clear from representations received from Mr Smith that he considers that BESL have provided contradictory and misleading supporting information. He considers that the height of floodbank proposed opposite

these two dwellings is excessive, will increase the risk of flooding of these two undefended properties and unacceptably alter the pattern of overtopping in the area (which has ensured that these dwellings have not been flooded).

- 6.2.3 It is recognised that one dwelling in Bramerton, Herons Reach, has a particularly low floor level (1.445m AOD) and the defences opposite are proposed to be raised to 1.4m AOD. However the improvements to defences in compartment 17 are limited and localised and they seek to protect vulnerable sections, but will still allow overtopping elsewhere to ensure the overall pattern of water levels will remain unchanged. As over 3500 metres in the compartment will be subject of no improvement works, the suggestion that the works will increase flood risk on the opposite bank (as a result of the increase channelling of water) is not justified, especially when considered in the context of the hydraulic modelling undertaken.
- 6.2.4 Mr Smith considers that the height of defences could be reduced to 1.3 metres to limit risk of flooding. This has been raised with BESL who have responded that they carefully consider the extent of the improvement works required and what an appropriate design and crest height. They accept that the level that is required to achieve the BESL contract in 2021 is 1.3m AOD. However, BESL highlight that due to the fact that banks naturally settle, their approach is always to construct them above the contractual level to allow for settlement and to minimise the number of times maintenance work is required. The potential impact of raising banks to the proposed 1.4 metres level (higher than the contractual level) is fully assessed using the hydraulic model. This modelling has demonstrated that the works proposed to build banks initially to a 1.4 metre AOD level will not result in unacceptable change in water levels and will not increase the flood risk to undefended properties either at Bramerton or elsewhere in the Yare valley.
- 6.2.5 In view of the above, it is considered that the scheme will deliver a key aim of securing more sustainable flood defence techniques and not increase the risk of flooding of people and property on the south side of the River Yare, consistent with the aims of development plan policy including DP29 and NPPF advice.

6.3 **Impact on Habitat and Ecological Interest**

- 6.3.1 The application site does not fall within any SSSI or County Wildlife Site (although the Yare Broads and Marshes SSSI is located on the opposite side of the river). The previous applications (withdrawn as a result of concerns raised regarding the potential indirect impact of works on nearby designated wildlife sites, notably down stream at Surlingham and Strumpshaw) have now been satisfactorily addressed with the more limited works proposed. Previous applications led to significant concern from Natural England and the RSPB. However both consultees have concluded that subject to conditions / mitigation measures, works will not impact unacceptably upon the features of special nature conservation interest meeting the aims of development plan policies CS1, CS2 and DP1.

- 6.3.2 The proposal to provide a more sustainable form of flood defence will result in a modest change in habitat in the compartment with the loss of over 0.96 ha of grazing marsh area (to be replaced by a combination of sokedyke, folding and floodbank). This will create new habitat of some bio-diversity interest (but not of the same high ecological value as long established grazing marsh).
- 6.3.3 The grazing marsh to be lost is not considered by BESL to be of BAP priority habitat quality and therefore no replacement habitat is proposed. Where good quality grazing is to be lost as a result of the proposed works, replacement to meet the regional target for replacement habitat (for example by conversion of arable field) is normally required (to ensure no net loss of grazing marsh). However it should be noted that Natural England have not on this occasion suggested that the 0.96 ha of habitat to be lost requires replacement (based on its quality) so therefore it is considered the approach suggested by BESL where no replacement habitat is provided is acceptable.
- 6.3.4 Planning conditions need to be imposed to ensure work is undertaken in accordance with the approach promoted in the Environmental Statement. Whilst RSPB suggest that a condition should be imposed to prevent cattle grazing on the floodbank, it is not considered necessary or reasonable to control this especially as most floodbanks are separated from the farmland by new or widened sokedykes.
- 6.2.5 In view of the above, it is considered that the approach adopted in this application will accord with the conservation management and sustainable development aims of the NPPF and development plan policies including CS4 and DP1.

6.4 **Impact on Recreation**

- 6.4.1 The River Yare is wide where it abuts compartment 17, has limited walking opportunities but is important for boating and recreational use.
- 6.4.2 The application proposes limited change but includes an element of rollback and strengthening of the floodbank; techniques used elsewhere on the River Yare.
- 6.4.3 This application proposes erosion protection through the provision of gabion baskets in the eastern part of the compartment. It is recognised that gabion baskets have not always been successfully used in flood defence works. However in this case, it is considered that as gabions already provide an element of erosion protection in the area and this, coupled with the width of the river in this location (some 60 metres), it will not result in any unacceptable risk or impact on navigation or the extent of navigable area in the river.
- 6.4.4 Notwithstanding the width of the river, it is considered important that

safeguards are in place to ensure that this method of erosion protection is implemented successfully and therefore it will be necessary to impose planning conditions to require:

- A full method statement, detailing the manner in which the gabion baskets will be sited and supported, is submitted and approved by the Authority; and
- A mitigation strategy is submitted detailing how gabions will be removed and / or other action take place, should they not be secured successfully to avoid unacceptable harm to navigation interests.

6.4.5 In addition, it is considered that other conditions associated with the works proposed, including detailing timing of works and erosion monitoring / remediation, are required to limit impact on navigation interests. Should approval be forthcoming, it is considered that the following conditions are also justified and necessary to be imposed:

- Timing of works (including gabion installation) to be agreed
- Navigation / channel / hazard markers to be installed linked to gabion provision
- Phasing of works to be agreed (to avoid any water based works during peak season)
- Erosion monitoring to accord with an agreed specification

6.4.6 In view of the above, it is considered that the proposal will not unacceptably impact on navigation or water space and subject to the suggested conditions will provide the necessary control to meet the aims of development plan policies CS3 and DP13.

6.5 Highway Considerations

6.5.1 The road network after it leaves the A47 uses some routes of limited width. In addition, to normal construction traffic, the application proposes some importation of clay. Given the proximity to the A47 and the routing of vehicles to Church Road, it is considered the 35 additional movements in each direction required to deliver clay for this scheme will not have an unacceptable impact on the local road system. Clay will be unloaded away from the works compartment and then delivered to the site using smaller 'dumper' vehicles. This approach is welcomed as it will ensure lighter vehicles will use the weight restricted rail bridge on Church Road. Subject to the conditions proposed by the Highway Authority, including wheel washing, it is considered the impact on highways will not be unacceptable, even for a short period only, and the benefit of delivering improved flood defences outweighs any short term impact of vehicles or movements on Church Road.

6.5.2 Based on the above and subject to the suggested condition, the proposal will meet the highway safety aims of policy DP11 of the Development Management Policies DPD.

6.6 Other Considerations

- 6.6.1 The compartment has limited heritage and archaeological interest. NCC Historic Environment Service still considers that any archaeological / heritage interest can be safeguarded with the imposition of a planning condition to protect and record archaeological interest. It is considered with the imposition of the condition that the aims policy DP5 of the Development Management Policies DPD will be met when considered in conjunction with NPPF advice.
- 6.6.2 The application site has only a limited number of properties close by, including to the south of the River Yare. However given the quiet nature of the area, as suggested by the Broads Society, it is considered appropriate to seek to impose a restriction on hours of working to limit impact on the amenities of local residents and meet the aims of development plan policy DP28.
- 6.6.3 The proposed works will have an impact on the landscape as a result of the construction activities and the appearance of bare floodbanks. This will only be short term and experience has demonstrated that banks re-vegetate during the first growing season after BESL complete works. Therefore it is considered that there will be no long term unacceptable impact on the landscape appearance of the area as a result of completed works, consistent with the aims of development plan policy CS1 and NPPF advice. However to secure early establishment, it is considered necessary to impose a planning condition to secure planting at an early stage.

7 Conclusion

- 7.1 It is considered that the proposed works are acceptable and will provide targeted flood defence improvements in a sustainable manner that will protect nature conservation and landscape value; recreation and navigation use; and agricultural land interests. Furthermore they will not change water levels or increase flood risk for people and property.
- 7.2 Subject to the conditions outlined below, the scheme is acceptable and meets the key tests of development plan policies and NPPF advice.

8 Recommendation

- 8.1 Subject to no other substantive representation/comment being raised, this planning application be approved subject to the following conditions:
- (i) Standard time limit condition
 - (ii) Submitted plans / details
 - (iii) Mitigation to accord with Environmental Statement details
 - (iv) Landscape/planting
 - (v) Archaeological investigation
 - (vi) Hours of working
 - (vii) Timing / phasing

- (viii) Navigation / channel / hazard markers
- (ix) Erosion monitoring
- (x) Gabion details
- (xi) Gabion mitigation strategy
- (xii) Site access / delivery route / timing of importation
- (xiii) Construction Management Plan
- (xiv) Wheel cleaning / washing

8.2 The following informative be specified on the decision notice of the planning application:

- The permission shall be granted in the context of the Memorandum of Understanding between the Broads Authority and the Environment Agency on 25 April 2003
- Under the terms of the Water Resources Act 1991, and the Anglian Region Land Drainage and Sea Defence Byelaws, our prior written Flood Defence Consent is required for any proposed works or structures, in, under, over or within nine metres of the top of the bank of the River Yare, designated a 'main river' or within nine metres of the defences
- The applicant shall also enter into a Wear and Tear Agreement under Section 59 of the Highways Act 1980 for the said access route

Background papers: Application File BA/2014/0011/FUL

Author: Andy Scales
Date of report: 12 March 2014

Appendices: APPENDIX 1 – Location Plan
APPENDIX 2 – Environmental Statement – Non technical summary
APPENDIX 3 – Full representations from Mr Roger Smith

APPENDIX 1

BA/2014/0011/FUL - Compartment 17, Postwick Marshes, Postwick
Flood defence improvements to the left bank of the River Yare including raising a concrete wall, rollback of floodbank and additional erosion protection works along with a temporary site compound and associated engineering works.



Broadland Environmental Services Limited

A Joint Venture Company of
BAM Nuttall Ltd and Halcrow Group Ltd



Broadland Flood Alleviation Project Compartment 17 (River Yare)

Flood alleviation improvements for Postwick Marshes

Environmental Statement Non-Technical Summary

January 2014



Broadland Environmental Services Ltd
Compartment 17

Flood alleviation improvements for
Postwick Marshes

River Yare

Environmental Statement
Non-Technical Summary

January 2014

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Contents Amendment Record
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This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Final	06/01/14	J M Halls

Introduction

Broadland Environmental Services Limited (BESL) is working on behalf of the Environment Agency to carry out a programme of improvement and maintenance works to the flood defences in Broadland. This work forms part of the Broadland Flood Alleviation Project (BFAP), a long-term 20-year programme of sustainable flood defence improvements in the area.

As part of this project BESL has prepared a scheme for flood defence improvements to approximately 887m of bank that protect Postwick Marshes along the left bank of the River Yare at Postwick Marshes. This area represents "Compartment 17" of the BFAP. The flood defences protect approximately 142ha of low-lying land, the majority of which is agricultural marshes.

The proposed improvement works need planning permission from the Broads Authority. To comply with planning legislation BESL has prepared an Environmental Statement in order to inform the public and decision-makers of the likely environmental effects of this scheme. This shorter report has been prepared as part of the Environmental Statement as a non-technical summary.

Need for the scheme

The standard of protection provided by floodbanks along the Broadland rivers is continually reducing because of settlement, deterioration over time, insufficient maintenance in the past and sea level rise. This makes the banks more vulnerable to erosion and at risk of breaching at times of high level flood events. Such breaches can cause widespread uncontrolled flooding which can have serious implications for the agricultural and wildlife value of the marshes.

The floodbanks within Compartment 17 have previously overtopped during high water level events, most recently during November 2006, January and November 2007 and December 2013. Unless improvement works are undertaken the condition of the defences will continue to deteriorate and, as a consequence, they will become more vulnerable to overtopping and breach (collapse).

Planning applications to improve the flood defences at Postwick were previously submitted in 2007 (planning reference BA/2007/0280) and 2008 (BA/2008/0367). These were for more extensive works compared to the current application and both were withdrawn due to unresolved concerns about the potential indirect impacts on nearby designated wildlife sites. Since then BESL has undertaken a number of maintenance schemes, with the approval of Natural England, to secure the most vulnerable sections of bank at Postwick. However, a more sustainable solution (principally through rolling back 515m of bank) is now required. The potential indirect impacts of any changes to water levels at other locations (designated sites and

properties) during flood events has been assessed through the use of the Broadland hydraulic model (see *Water environment* below).

The site is located wholly within the Broads Authority Executive Area, part of a nationally important landscape that is valuable for wildlife, agriculture, cultural heritage, the local economy and people's recreational enjoyment of the area.

Public consultation

A pre-application consultation exercise was undertaken in October 2013 through the circulation of a plan and details of the proposed improvements. These were sent to all landowners within the compartment and the organisations shown below.

Bramerton Parish Council	Norfolk County Council
Broads Authority	Norfolk Landscape Archaeology
Broads Internal Drainage Board	Postwick Parish Council
Broads Society	Surlingham Parish Council
Natural England	RSPB
Norfolk & Suffolk Boating Association	

Additionally a meeting was held with Natural England officers to discuss the scheme in relation to land management and the hydraulic modelling that had been done to assess impacts on nearby designated sites.

During the consultation a number of issues were raised in relation to the proposed scheme. Most of the responses were supportive of the proposals; concerns related mainly to the potential for changes in flooding patterns at nearby locations and impacts on the local road network. Full details of the issues raised by the consultation exercise are reported in the Environmental Statement that has been submitted with the planning application.

The proposed scheme

The proposals comprise:

- 317m of floodbank strengthening (225m of which will be along the cross wall parallel to Ferry Lane);
- 515m of floodbank rollback;

- 55m of raising a concrete wall by the Internal Drainage Board pump house;
- 440m of gabion basket installation to provide erosion protection

There will be a temporary site compound to provide site offices, welfare facilities and materials storage. This will be located next to a private agricultural access track.

The proposals target improvements to sections of floodbank considered to be at high risk of breaching during overtopping events, in order to prevent uncontrolled flooding. The works will also provide improved protection to the Internal Drainage Board (IDB) pump. Approximately 3.5km of floodbank in the compartment will not be subject to any improvement works.

Compartment 17 is an area of valuable floodplain storage which provides relief in high water events to a number of sensitive sites. Therefore improvement works have been limited to two very low sections which are currently at high risk of breach and uncontrolled flooding. An additional length of bank parallel to Ferry Lane will have material placed behind the sheet piling in order to buttress the cross-wall. There is also the need to improve the erosion protection along several lengths of bank that are starting to erode laterally and around 'Cottage Barn' close to Postwick Hall. Stone-filled gabion baskets have been selected as the most suitable method as they provide stable, long-term protection and along a stretch of river which is over 60m wide. Gabions have been used extensively at Postwick in the past.

Floodbank **strengthening** involves improving floodbanks along their existing alignment by placing material on the rear face. Strengthening creates a wider crest and broader profile, which reduces the likelihood of the banks breaching when high level flood events overtop them. **Rollback** involves constructing a new bank landward of the existing one and in this case is being done because of the poor structural condition of the existing bank.

Material for the improvement works will be sourced by excavating new or extended dykes in the marshes. The exception is for the works along Ferry Lane where it is not possible to source material due to the proximity of a poplar plantation. For this location it will be necessary to import approximately 855 tonnes of clay. The stone fill for the gabion baskets will be brought to site by river as this is more cost effective and will help minimise the amount of traffic movements on the local roads.

Programme

All the improvement works are planned to commence in April 2014 and be completed before the end of the year. Advance vegetation clearance will be undertaken within the working corridor in February to reduce the risk of nesting birds being present.

Scope of the Environmental Assessment

The key topics that have been considered as part of the formal Environmental Impact Assessment process (i.e. those where there is likely to be a significant effect) are:

- land use and local community;
- ecology and nature conservation (biodiversity); and
- water environment.

The following technical topics were not considered to require further assessment due to either no predicted significant impact:

- Cultural heritage and archaeology
- Landscape and visual
- Recreation and navigation
- Noise
- Air and climate

Although no further assessment in these areas has been undertaken, some have been identified as requiring management measures during construction. These measures have been incorporated into an Environmental Action Plan (EAP) for implementation on site. The EAP is the responsibility of the contractor but is delivered with support from a dedicated Environmental Site Supervisor.

Land use and local community

The proposed works will have a major beneficial effect in protecting the agricultural land of Postwick Marshes and its value for local informal recreation.

There will be a permanent loss of 0.96ha of grazing marsh due to material sourcing. The loss of productive agricultural land is regrettable but is small compared to the extent of land that will be afforded protection from the impacts of prolonged flooding were there to be a breach.

There will be some disruption to farming close to the works corridor during construction. BESL will provide landowners with appropriate compensation for both temporary and permanent effects. Any land, including access tracks and roads damaged by the construction process, will be returned to their original state upon completion of the works.

The main impact will be on local residents and road users as a consequence of the additional traffic that will be generated during the construction period. The contractor will operate a Project Management Plan that contains provisions for minimising

disturbance and disruption through ensuring routes are adequately signed, speed limits are adhered to and public information boards are provided at access routes. The working period will be limited to Monday to Friday (07.00-18.00) and Saturday mornings (07.00-13.00) with no Sunday or Bank Holiday working.

The volume of daily construction traffic on the local road network, including through Postwick, will be relatively small and mainly comprise vans and 4x4 vehicles. However, there will be a need for lorries and low loaders to deliver machinery and material, particularly at the beginning of the project. The clay that is required for Ferry Lane will be delivered via Brundall Low Road and Church Lane (east) to avoid going through Postwick. However, this means that it will have to be deposited north of the railway due to the weight restriction on the bridge, with the material transferred down to Ferry Lane on dumpers. Deliveries will be restricted to the period 0930-1600 Monday to Friday to avoid the main commuting times along Brundall Low Road, especially as it is used by relatively large numbers of cyclists.

Ecology and nature conservation

The Broadland river corridors and marshes support a large variety of species, some of which are nationally rare. Consequently surveys have been undertaken to identify any important habitats and species that need to be considered as part of both the scheme design and the construction methods. Signs of **water voles** were noted while the range of habitats provides suitable nesting conditions for many species of **birds** including lapwing on the marshes and sedge warblers in the reedy margins either side of the bank. A small number of **grass snakes** were recorded during the baseline surveys whilst the only notable **plant** species present is hair-like pondweed, which grows in some of the dykes.

The main potential impacts of the construction works on habitats and species are:

- risk of killing or injuring protected species including water vole and grass snake;
- disturbance to breeding birds or destruction of active nests; and
- loss of vegetation on the floodbank, folding, and within dykes

These impacts will be avoided or reduced through scheme design and adoption of mitigation measures that have been successfully used on previous schemes e.g. discouraging nesting birds within the working corridor by cutting vegetation before the bird breeding season begins; vegetation cutting and sustained water-drawn down to displace water voles.

The net changes in habitats that will result from implementation of the scheme are listed in the table below.

Net Habitat Change

Habitat	Net change (ha)
Rond	0
Floodbank	+0.44
Folding	+0.59
Wooded folding	-0.25
Soke dyke	+0.35
Marsh Dyke	-0.03
Grazing Marsh	-0.96

Grazing marsh is a national and local Biodiversity Action Plan priority habitat. However, the grazing marsh that will be directly affected by the proposals is not considered to be of Biodiversity Action Plan (BAP) quality. Consequently the loss of grazing marsh habitat in this case is not therefore considered significant. The excavation of material will create larger dykes that are good for wildlife and the overall improvements will provide ongoing protection to some of the valuable freshwater habitats in the wider compartment.

The potential for the improvement works to alter flooding patterns elsewhere in the valley during high level events¹, including downstream designated sites that do not have flood defences, has been investigated using the Broadland hydraulic model. Modelling for previous proposals at Postwick and elsewhere in this part of the valley has investigated whether the impact of flooding on undefended areas could be reduced by creating storage reservoirs or 'washlands' in one or more compartments. The conclusion has been that no significant benefit could be derived, mainly because of the tidal dominance of the system. A formal assessment of likely significant effects of the proposals on the designated wildlife sites has been undertaken as part of the EIA and is reported in the Environmental Statement.

Water environment

The main concerns and issues raised by some consultees on the original application related to the potential effects that improving the banks could have on water levels on the undefended areas on the opposite side of the river, specifically:

- Would there be an increase in flood risk to low-lying properties because less water would go on to Postwick Marshes at times of high events;

¹ Events that have a probability of occurring once every seven years and once every 20 years.

- Would the proposals exacerbate flooding on the areas of designated fen site;
- Could a lower level of defence at Postwick, to create a washland, provide some alleviation to high water levels on the designated site and close to low-lying properties.

A key requirement of the Project is that the pattern of over-topping of floodbanks in the whole system should remain the same as that which existed in 1995 (i.e. the relative height of banks between different compartments should remain the same). A hydraulic model has been developed to examine the effects on flooding patterns and river flows as a result of undertaking improvements so that design levels can be modified as required. It has been used to examine the effects of this scheme together with others already completed in other parts of the Yare valley. The model has looked at scenarios involving major flood events i.e. those with a 1 in 20 year probability of occurring. The results show that there will be no significant changes to water levels in the River Yare and consequently on patterns of flooding to either property or designated sites.

Standard pollution prevention methods will be used to minimise the risk of an incident occurring that could affect the water environment. If an incident does occur (e.g. fuel spillage) then emergency procedures are in place to deal with and report it. Soke dykes and marsh dykes will have clay bunds constructed at appropriate locations to keep the working area completely separate from the majority of the marsh network and avoid impacts on water quality and/or levels.

Conclusions

Flood defence improvement works comprising a combination of bank strengthening, rollback and installation of erosion protection have been identified as the most appropriate solutions to provide ongoing protection to the low-lying marshes at Postwick. The focus of the work is on those parts of the defence that are currently at risk of breach (collapse) during major flood events due to the height and/or condition being inadequate.

The proposed works comprise a combination of bank strengthening, rollback, concrete wall raising and installation of erosion protection. These are considered to be the most appropriate sustainable solutions for providing ongoing protection to the area. The work will not exacerbate flooding in any nearby 'undefended' areas as the banks will still overtop during a major event. The primary aim is to ensure that when the defences do overtop they do not collapse and result in uncontrolled and potentially prolonged flooding.

The EIA process has identified several adverse environmental impacts that could occur as a result of the works. These are all confined to the construction period and can be successfully mitigated so that they will either be avoided completely or can be

reduced to 'minor' significance. The main impact will be from the increase in traffic on local, relatively minor roads. In order to minimise impact on local residents and road users a Traffic Management Plan will be implemented, which will include signage of routes; speed limits; and timing restrictions.

The impacts on people and the environment will be confined to the construction period and can be successfully mitigated at the time so that there will be no significant long-term effects. The implementation of recommended mitigation and monitoring measures, directed by an Environmental Action Plan, will minimise any adverse effects and ensure that environmental benefits are delivered.

Further information

The Environmental Statement and associated planning drawings will be available to view, by prior arrangement, at the Broads Authority Offices, Yare House, 62-64 Thorpe Road, Norwich. Tel. 01603 610734.

Alternatively, for those with access to the Internet, visit the Broads Authority's planning web pages <http://www.broads-authority.gov.uk/planning/public-access.html> from where a link can be selected to the "Application Search" page. Select the "Advanced" tab and enter PP-03031273 under Planning Portal reference. All of the documentation including consultation responses will be available under the "Documents" tab.

Scales, Andy

From: Roger Smith [roger-b-smith@hotmail.co.uk]
Sent: 10 March 2014 09:39
To: Scales, Andy
Subject: Postwick Marshes concerns/objections

Good morning Mr. Scales,

Re BA/2014/0011/FUL Postwick Marshes

The following is a list of concerns and objections on behalf of Kingfishers Old House and Herons Reach, which are on the opposite bank to Compartment 17 at chainage 2300 approx.

Please also include as further concerns/objections, not included below, my two earlier emails (dated 9 Feb and 10 Feb, the ones that were forwarded to Mark King) and Mrs Shakir's email, and my latest queries for BESL (10 March) subject Compartment 17 and Bramerton).

In very brief form and with no particular significance in the order...

1. Please note that the threshold level of Herons Reach is lower than ALL of the other properties surveyed by BESL in both Postwick and Surlingham (and listed in 7. Land Use).
2. Please note that the threshold level of Kingfishers Old House is lower than ALL of the other properties surveyed by BESL in Postwick and Surlingham (and listed in 7. Land Use) apart from Postwick Hall.
3. Please note that BESL is proposing to push overtopping up to a level that is above 1.4 m even though BESL states in response to a consultee that a) "adequate protection of Postwick marshes is provided by a 1.3 m floodbank" b) "To provide a reasonable level of protection but still allow overtopping at higher events, the floodbanks need to broadly correspond to a 1 in 7 flood event. In the case of Compartment 17 this level is approximately 1.3 m AOD."
4. Please note that the purpose of the proposal is to make the existing floodbank breach-proof, not to heighten it more than necessary, and that strengthening can be perfectly well achieved without raising the crest.
5. Herons Reach conservatory threshold level is 1.445m (BESL's own survey). The proposed rollback floodbank (raised defence) immediately opposite Herons Reach is 1.4m. The difference between the two levels is one and three-quarter inches! In an overtopping that difference would disappear completely and Herons Reach would

be inundated. Moreover, the wash from a cruiser/barge is commonly 10" and according to speed and size can be considerably more. The wash would inundate Herons Reach even more. Please note the following statement by BESL "The work will not exacerbate flooding in any nearby "undefended" areas as the banks will still overtop during a major event." Obviously, overtopping opposite Herons Reach wouldn't be at 1.4m. if the crest wasn't raised in height further than is required for defence.

6. Dr. Charles Beardall, Environment Agency Area Manager, Eastern Region was interviewed on BBC Look East on Thursday 24 January 2014 about flood defences in Norfolk/Suffolk (and their funding). He said "our first priority is to protect people and property".

7. Lord Chris Smith, Chairman of The Environment Agency was interviewed on the BBC's R4 Today programme on Tuesday 28 January and stated that The Agency has a legal duty to protect lives and property.

8. The current proposal is not protecting Kingfishers Old House or Herons Reach. It is, in fact, threatening those homes. There is a clear dichotomy between what Dr. Beardall and Lord Smith have stated and what BESL is proposing; and how this proposal sits with the Environment Agency's legal duty.

9. Quoted from BESL's document... "Postwick Marshes already function as a washland." and "Postwick marshes will, however, still act as a floodplain..."

Postwick Marshes flood because they always have and they are meant to. This proposal is to raise defences to a higher level so that Postwick Marshes flood less frequently. It has nothing to do with people or residential properties. It is about grazing land for cattle. How does this sit with Dr. Charles Beardall's statement that "our first priority is to protect people and property".

10. BESL makes statements (unsubstantiated) in a number of places that the works will have result in no change to water levels. However, in an email to Andy Scales about Compartment 17, Jeremy Halls wrote "... long before any flood bank starts to affect levels". Please note, therefore, that by BESL's own admission this proposal will affect water levels regardless of BESL's protestations to the contrary.

11. "The Broadland hydraulic model has also guided the final design to ensure that the proposed improvement works have no detrimental effects on... land users... elsewhere in the Yare valley." Are those who live in Herons Reach and Kingfishers Old House not "land users"?

12. Does the expression "land users" (in 8. above) include people's gardens? Why has the hydraulic model been designed to protect "land users" but not residential properties? Why has the hydraulic model been designed to protect grazing land (that has always been a floodplain) but not public footpaths, public moorings or gardens?

13. In its "conclusions" BESL states "The focus of the work is on those parts of the defence that are currently at risk of breach (collapse)...". How does a focus on the north bank only, fit with Dr. Beardall and Lord Smith's statements?
14. Why did BESL measure the garden flood level of three properties in Surlingham but did not measure the garden flood levels of Kingfishers Old House and Herons Reach, both of which are more low-lying than any of the aforementioned three Surlingham properties?
15. Please note that the Wherryman's Way long distance public footpath (35 miles, Norwich to Great Yarmouth) runs through the garden of Kingfishers Old House: it runs along the river bank edge of it. This makes it doubly puzzling (to us) that BESL has shown no interest in the flood level of the garden of Kingfishers Old House.
16. Please refer to 5.3.2. "If no improvements are carried out to the existing floodbanks, land behind the defences will be at increasing risk from flooding... Failure to protect this land would have a number of long term consequences: damage or loss of residential properties." Properties plural. This is very puzzling. There are no residential properties within Compartment 17. The lowest threshold level is Herons Reach. The second lowest is Postwick Hall, third lowest is Kingfishers Old House and fourth lowest is Walton Lodge, Surlingham. Only one of these properties is "behind the defences". Herons Reach is about 4" lower than Postwick Hall and 13" lower than Walton Lodge and Kingfishers Old House is about 1 1/2" lower than Walton Lodge. Does this not demonstrate that by raising the defences BESL is, in fact, threatening damage and/or loss to Herons Reach and Kingfishers Old House? If not, I'd we'd appreciate an explanation before the Committee meeting.
17. Please now refer to 9.3.11., the subject of which is "the River Yare adjacent to the Compartment". The following statement is made... "The 1 in 20 (T20) events... is 1.31m AOD. How would "failure to protect" Postwick Marshes cause damage or loss of residential properties that are all higher than 1.31 m. ?
18. Please note that BESL's "predicted peak fluvial (F20) flood level" is "1.53 m AOD for a 1 in 100 year event" and that in 9.3.11 (which is about residential properties including Herons Reach) BESL states that "the property thresholds are above the predicted peak fluvial (F20) flood level of 1.53 m...". However, BESL's own survey (which is in section 7 not 6 as stated) found that the threshold to Herons Reach conservatory (and living accommodation) is 1.445 m. This is 3 1/2" lower than the 1.53 m figure that BESL believes Herons Reach to be above. Has this kind of incorrect information been input to the hydraulic model?
19. The proposal includes a significant length of floodwall raising that is not shown on the Proposed Solution Plan (and other drawings) and also is not mentioned at all in the Paragraph which describes (and is entitled) "The Proposed Scheme".

20. It is very easy to say that there will be no change in water levels but, of course, it depends on which levels are being referred to. If there is a crest at 1.4 and an event at 1.4 then clearly the crest is making zero difference. However there are two sides of the same coin. Raising the crest so that overtopping occurs at a higher level than it does currently means, quite simply, that the water level will rise higher before it can release itself into Postwick Marshes. This will impact on the public moorings at Bramerton Common, The Wherryman's Way, Heron's Reach and Kingfishers Old House.

21. It is the myriad intermediate events between the 1995 defence heights and the proposed defence height, both fluvial and tidal, that are where the changes in levels and frequency of flooding occurs.

However... "The hydraulic model that we use compares 1995 levels and proposed levels. Intermediate levels are not necessarily required."

Email from Neil Smith BESL Project Engineer to D&J Smith Tuesday 15 January 2008

22. Please note that the 1995 level is a fabrication by BESL as per my mail of 10 March asking for responses by BESL

23. "Strengthening the banks means the reduction of the risk of breaching... Undefined areas will return to their original flood risk level because, in recent years, they have had the benefit of extra protection afforded by bank breaching which reduces water levels in the river system".

Page 6 Broadland Flood Alleviation Strategy - a publication by the National Rivers Authority

That is a very specific statement which confirms that water levels will rise as a consequence of BESL's bank strengthening. Why does BESL say that this is not so?

"Discussions as to how best to alleviate flooding at Brundall Riverside area have been be-devilled by a disagreement over whether the problems here have or have not been exacerbated by the work carried out over the past few years on the flood defences downstream. BESL point out that their hydraulic model of the system has demonstrated that this has definitely not happened. Local residents on the other hand claim that the relief flooding which used to take place when an embankment downstream was breached can no longer occur now that the banks have been strengthened. They deduce from this that more water is being channelled upstream now than in the past and that Brundall is therefore more susceptible to flooding that it used to be. It is far from clear how this argument can be resolved." **Extract from The Broads Flood Alleviation Project - A Progress Report by Martin George. Summer 2007. Issued as a supplement to The Broads Society's magazine "Harnser"**.

This appears to demonstrate that the National Rivers Authority (part of The Environment Agency) and the residents of Brundall are in agreement and only the interpreters of BESL's hydraulic model think otherwise.

24. "There has always been overtopping in severe flood events and this can generally be evacuated by the drainage pumps relatively quickly."

The Environment Agency in answer to a public FOI request about Compartment 17

25. "People who live along the river know how the river works".

Philip Hammond on BBC Newsnight 12 Feb 2014.

26. "We're going to listen to the local people".

Philip Hammond on BBC Newsnight 12 Feb 2014.

27. "BESL has indicated that there will be no change to water levels or flooding patterns as a result of the works".

Report by the Broads Authority's Senior Waterways and Recreation Officer. Navigation Committee. 12 December 2013. Agenda Item No 14. Broadland Flood Alleviation Project: Consultation on Flood Defence Works for Compartment 17 – Postwick Marshes

However, Raising the defences so that overtopping occurs at a higher level than currently occurs (and has ever occurred here) means, quite simply, that the water level on the opposite bank will be higher than could occur currently, or did occur at 1995 levels. This will impact on the public moorings at Bramerton Common, The Wherryman's Way, Heron's Reach and Kingfishers Old House.

In conclusion: the Application as it stands should be rejected because of its effect upon river levels and flooding patterns. Not least at Herons Reach, The Wherryman's Way and the moorings at Bramerton Common.

BESL states twice in the application documents that 1.3 m is adequate protection. "adequate protection of Postwick marshes is provided by a 1.3 m floodbank" and "To provide a reasonable level of protection but still allow overtopping at higher events, the floodbanks need to broadly correspond to a 1 in 7 flood event. In the case of Compartment 17 this level is approximately 1.3 m AOD."

Quoted from BESL's response to a consultee in 2013/14.

It is clear that raising the floodbank to 1.4 m. is taking completely unnecessary risks, for the purpose of protecting grazing land, and that BESL can't even know how that raising will impact on water levels on the opposite bank.

Compromise has been referred to in the documents, but notably without any attempt to engage those affected (by this proposal) in dialogue. Please note here that Herons Reach and Kingfishers are only about forty metres away from the proposed construction but the nearest property on the north bank (Postwick Hall Farm) is two thirds of a mile away.

Possibly the banks should be strengthened and raised to a level of 1.325 m. (which allows for some annual settlement). However, even then the difference between Herons Reach's threshold and the crest would still be only four and a half inches. And that's without taking into account the depth of the overtopping water, which isn't zero inches, or the wash from cruisers. Moreover, even that level would be way above the 1995 levels opposite Herons Reach and Kingfishers, which are the levels that BESL is supposed to be restoring, not changing completely.

Which leads me to follow the money. BESL's reason for raising "strategic" defences appears to be profit. By raising earthworks BESL gets paid for them by the Environment Agency (in this case £300,000) and it is years before any maintenance of levels is required from BESL. However, if BESL doesn't raise the crest strategically BESL will have to do maintenance of levels, by topping up, possibly every year. This cost would be covered already in BESL's maintenance contract. It is, as they say, a no-brainer for a profit making business.

It is noteworthy that BESL's promotion video, which is ten and a half minutes long, mentions business (a lot) recreation, tourism and even adders... but not once are people's homes mentioned.

Thank you.

Kind regards,

Roger

Scales, Andy

From: Roger Smith [roger-b-smith@hotmail.co.uk]
Sent: 09 February 2014 18:48
To: Scales, Andy
Subject: Postwick Marshes... no need for defences to be over 1.3 m

Dear Mr Scales,

Postwick Marshes

The following six statements are made in BESL's documents.

1. Adequate protection of Postwick Marshes is provided by a 1.3 m AOD floodbank.
2. To provide a reasonable level of protection but still allow overtopping at higher events, the floodbanks need to broadly correspond to a 1 in 7 flood event. In the case of Compartment 17 this level is approximately 1.3 m AOD.
3. ... the current proposal looks to raise two areas of defence to 1.4m AOD.
4. Design levels in excess of 1.3 m AOD are for strategic purposes... rather than defence purposes.
5. Banks will be well compacted during construction to minimise the effect of future settlement.
6. Crest levels will be monitored post construction with topping up maintenance works as necessary to maintain the 1995 levels.

In a nutshell, BESL proposes to spend taxpayers money on raising the defences to 1.4 m even though 1.3 m is all that is required.

BESL proposes to:

1. compact the banks during construction so that they don't settle
2. build the defences higher than necessary for "strategic purposes" because they might settle regardless of compacting
3. carry out yearly surveys in case the compacting job wasn't done properly (and even though the banks are already strategically higher than necessary anyway)
4. top up to 1.4m if required, even though the banks are already strategically higher than necessary, so topping up won't be required, in fact, because it's already been accounted for "strategically" in advance of any settlement.

Not only does this make no economic sense but, in other words, there is absolutely no necessity for the banks to be higher than 1.3 m.

The banks could be built at 1.3 m. (well compacted, of course) and topped up as necessary at the annual surveys that are going to be carried out anyway.

BESL has demonstrated absolutely no necessity for the banks to be higher than 1.3 m.

Many thanks.

Kind regards,

Roger

Scales, Andy

From: Roger Smith [roger-b-smith@hotmail.co.uk]
Sent: 10 February 2014 07:22
To: Scales, Andy
Subject: Postwick. Inconsistencies & contradictions.

Dear Mr Scales,

Re BA/2014/0011/FUL

The following numbered statements are all from BESL's application documents. If you'd like the page numbers please let me know.

The statements are contradictory. They aren't the only contradictory statements but I'm covering the others in my main list of points of concern later.

1. a) Do nothing and do minimum have not been considered as they were appraised and discounted as part of the 1995 strategy.

b) It has been decided the best approach on Compartment 17 due to previous correspondence and consultations is to adopt a do minimum approach.

2. a) A key requirement of the project is that the pattern of over-topping of floodbanks in the whole system should remain the same as that which existed in 1995...

b) The rollback length of bank will be built up with crests slightly higher than the 1995 level...

3. a) The project must not exacerbate the upstream movement of the saline limit in the rivers.

b) Overtopping of the bank at Postwick will be predominantly freshwater, which will increase saline water drawn upstream during tidal events.

4 a) This option will maintain the pattern of flooding that existed in 1995... when the system was surveyed in that year...

b) The 1995 levels represent the amount of overtopping that was in place in 2001...

5. a) Bramerton Threshold Levels - Herons Reach conservatory 1.445 m.

b) ... property thresholds are above the predicted peak fluvial (F20) flood level of 1.53 m...

6. a) The work will not exacerbate flooding in any nearby "undefended" areas as the banks will still overtop during a major event.

b) A number of undefended properties that qualify for the provision of first time defences are located on the opposite side of the river at Surlingham.

Are you surprised by these contradictions?

I hope not to appear to be impolite, but questions must be asked. As I find it, the written documents are self-evidently unreliable, inaccurate, inconsistent and untruthful. How is the Planning Committee supposed to know what the facts are and whether BESL's work is even competent?

How can we, on the opposite bank, have any confidence in BESL? If we can believe neither what they

write, nor what they "draw", how can we have confidence in anything they propose?

It would be wonderful to believe statements such as "The project must not result in significant change in river water levels" but it isn't possible, is it (?) as, evidentially, it may be just another meaningless statement like those above.

And what does "significant" mean?! There has been a noticeable impact on river levels at Bramerton since BESL started works downstream a decade ago. Is that "significant"?

Based on the standard of the drawings and text (take 5 a. and b. for example) how do we know that the information that was input to the hydraulic model wasn't inaccurate, woolly minded and careless as well... and not even checked? Have the interpretations of the results of the modelling been carried out as carelessly as the Environmental Statement suggests?

I will much appreciate your thoughts.

Many thanks again.

Kind regards,

Roger