2 Site Description and Proposals

2.1 *Site Description*

Compartment 4 comprises 1050m of floodbank that protects Clayrack Marshes, Crome's Broad and marshes and property at Sharp Street (WNBCLA/400/001). The floodbank has a permissive footpath running along part of its length and the area behind it forms part of the How Hill Nature Reserve, owned and managed by the Broads Authority. The habitat here includes fen, rush pasture, species-rich dykes, woodland and open water.

The majority of the compartment forms part of the Ant Broads and Marshes Site of Special Scientific Interest (SSSI), which itself is a component of the Broads Special Area of Conservation (SAC), Broadland Special Protection Area (SPA) and Broadland Ramsar sites. The How Hill reserve has recently been declared a National Nature Reserve.

The floodbank along most of the compartment has a relatively narrow (<2m) crest and is fronted by a narrow rond apart from short sections where piling is present (Figure 2, photo 7). To the rear there is little or no folding, with the soke dyke located very close to the toe of the bank. The rear face and folding is covered in dense scrub in places with clearance undertaken along approximately 400m of the bank in March 2008. The marshes beyond the soke dyke support species-poor reedswamp, rush pasture and species-rich fen plant communities.

The River Ant forms an important and very well used part of the Broads navigable waterways. There are no formal moorings within compartment 4 but a very popular Broads Authority 24-hour mooring exists immediately downstream. Other sources of visitors to the area are from the How Hill Residential Centre (adult and school groups) and the Broads Authority car park.

2.2 *Requirement for improvements*

a) Historical flooding

Approximately 120ha of land at Clayrack Marshes and within Compartment 5 flooded on the 21st February 1993, with similar flooding occurring on the 3rd January 2003 (figure 1, photo 4). More recently, minor overtopping occurred during the winters of 2006 and 2007, predominantly along the section of floodbank adjacent to the boathouse.

b) Existing condition of flood defences

Assessment of the existing flood embankment has shown that the bank standards have progressively reduced over time due to settlement. The lack of maintenance has resulted in the development of significant areas of scrub and trees, which affect the integrity of the defences. The flood defences are themselves essential for maintaining the freshwater nature of the designated site and its associated features. Improvement works are essential in order to maintain the flood defence benefit of the embankment, to prevent breach and increased overtopping frequency and to allow essential maintenance works to be carried out.

In order to improve the standard of defence to the designated site it will be necessary to strengthen the existing bank through widening the crest and placing material on the rear and/or front face. Additionally, there will be a need to increase the height of the floodbank to achieve the appropriate level of protection for the designated site features. Due to the close proximity of the soke dyke from chainage 39m to 627m this length will have to be in-filled.

The only alternative to in-filling the soke dyke would be to realign the River Ant and build a new floodbank at least 8m in front of the existing bank. This is not sustainable and would have impacts on the designated fen on the opposite side of the river.

2.3 *Habitat Regulation issues*

Under Regulation 48 of The Conservation (Natural Habitats &c) Regulations, 1994 (the "Habitat Regulations") an appropriate assessment is required in respect of any plan or project which:

- either alone or in combination with other plans or projects would be likely to have a significant effect on a European site, and
- is not directly connected with the management of the site for nature conservation.

A European site is any classified SPA and any SAC from the point where the European Commission and Government agree the site as a Site of Community Importance. Government policy also requires an appropriate assessment to be undertaken for the purposes of considering development proposals affecting Ramsar sites.

All BFAP improvement works have to be considered under Regulation 48 for their potential direct and/or indirect impacts on European sites. Appropriate assessments are undertaken for those schemes where Natural England advise either that there is likely to be a significant effect or the works are not directly connected with the management of the site.

With respect to Compartment 4 the works will be wholly within a site that forms part of the Broads SAC, Broadland SPA and Broadland Ramsar sites. Of particular significance is the presence of aquatic plant communities in the soke dyke, which represent one of the qualifying features of the SAC. The proposed improvement works require that the soke dyke is in-filled and an 8m wide folding created in order to provide stability to the floodbank. Natural England has advised that this would represent a significant effect and probably an adverse affect on the integrity of the site due to a loss in the area of an SAC habitat.

2.4 ***Avoiding an adverse affect***

Where there is likely to be an adverse affect the next consideration is whether compliance with conditions or restrictions would avoid that adverse effect. If so, then permission may be granted subject to the imposition of the condition or obligation.

In order to avoid the adverse effect on the soke dyke communities it was therefore proposed to provide a replacement dyke in advance of the existing one being in-filled. The existing soke dyke could then only be in-filled once Natural England are satisfied that the replacement dyke has acquired the relevant features. The new dyke was excavated during the phase 1 works undertaken in autumn 2006. Since then a comprehensive monitoring programme covering macrophytes, diatoms, macro-invertebrate and water quality has been undertaken on both the existing and new dykes. Monitoring results from 2007 indicate the new dyke is developing well; it is currently anticipated that results from 2008 spring and summer monitoring will demonstrate a dyke plant community of equivalent quality to the existing. Only when Natural England judge that the replacement dyke has achieved its target quality will phase 2 works proceed.

2.5 ***The Proposed Scheme***

A description of the proposals (WNBCLA/400/001-004) that are subject to the planning application is set out below:

Description of proposal

Flood alleviation improvements comprising:

- 810m of rear-face (landward) strengthening;
- 49m of sheet steel piling;
- 478m of erosion protection; and
- A new sluice on the Crome's Dyke

A temporary site compound will be located within the existing car park area