

J & D Skinner, 'White Mills Marina'

Pastures Farm

Grendon

Northampton

NN7 1JD

Environmental Statement (ES) Volume 2 – ES Assessments

for Proposed 141 Berth Inland Waterways Marina with ancillary minerals
extraction

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Vol 2 ENVIRONMENTAL STATEMENT CONTENTS

1. METHOD STATEMENT

- 1.1. The EIA team
- 1.2. Assessment programme
- 1.3. Alternatives
- 1.4. Assessment methodology

2. THE KEY ISSUES

- 2.1 Screening and scoping opinion

3. THE PROPOSED DEVELOPMENT

- 3.1. Background
- 3.2. The Development
- 3.3. Mineral extraction operations
- 3.4. Description of the site and its surroundings
- 3.5. Landscape and biodiversity enhancement
- 3.6. Community involvement

4. PLANNING POLICY FRAMEWORK

- 4.1. Introduction
- 4.2. National policy
- 4.3. Regional policy
- 4.4. Local Policy
- 4.5. River Nene Regional Park and Green Infrastructure

5. LANDSCAPE AND VISUAL IMPACT ASSESSMENT

- 5.2. Visual assessment
- 5.3. Landscape assessment

6. ECOLOGICAL ASSESSMENT

7. ARCHAEOLOGICAL AND CULTURAL HERITAGE ASSESSMENT

- 7.2. Cultural heritage assessment
- 7.3. Archaeological assessment

8. TRANSPORT ASSESSMENT

9. FLOOD RISK ASSESSMENT

10. HYDROGEOLOGICAL ASSESSEMENT

11. **SOIL AND LAND CLASSIFICATION ASSESSMENT**
12. **SUMMERY AND CONCLUSIONS**

APPENDICES

Chapter 1

SkinWM-DAS-Appendix A-Sequential Test Report Dec 2013
SkinWM-ES Vol 4 -Pastures Farm. Reedbed HLS Agreement . 2013-2023

Chapter 3

SkinWM ES-Vol 3-6108-01E-Prop Site Plan.
SkinWM ES-Vol 3-6108-03B-Building
SkinWM-ES-Vol 2 Ch 5 LVIA
SkinWM-ES Vol 4 -Pastures Farm. Reedbed HLS Agreement . 2013-2023
SkinWM-Aboricultural Method Statement

Chapter 5

SkinWM-ES-Vol 2 Ch 5 LVIA
SkinWM-ES- Vol 3 Ch 5 LVIA Figures Part 2
SkinWM-ES-Vol 2 Ch 5 LVIA Appendix A - Planning Policy
SkinWM-ES-Vol 2 Ch 5 LVIA Appendix B – Methodology

Chapter 6

SkinWM-ES-Vol 2 Ch 6 Ecology
SkinWM-ES-Vol 2 Ch 6 Ecology Appendix 6.1 Scoping
SkinWM-ES-Vol 2 Ch6 Ecology Appendix 6.2 HRA
SkinWM-ES-Vol 2 Ch 6 Ecology Appendix 6.3 - Otter and Water Vole

Chapter 7

SkinWM-ES-Vol 2 Ch 7 ACH
SkinWm-ES-Vol 2 Ch 7 Appendix 4 Archaeological DBA
SkinWM-ES-Vol 3 Ch 7 Fig 7.21 Heritage Assets Within 4km
SkinWM-ES-Vol 3 Ch 7 Fig 7.22 HER Data Within 1km

Chapter 8

SkinWM-ES-Vol 2 Ch 8 Transport

Chapter 9

SkinWM-ES-Vol 2 Ch 9 FRA
SkinWM-ES-Vol 3 Ch 9 Appendices 1-4

Chapter 10

SkinWM-ES-Vol 2 Ch 10 HRA

1 METHOD STATEMENT

1.1 The EIA Team

- 1.1.1 The EIA work has been co-ordinated by Mr S Rice BSc (Hons) (Agric) MRICS, of SBRice Consulting Ltd who is a qualified Chartered Surveyor with 20 years experience of planning and has produced a number of EIAs for development projects including marinas in the recent past. Expert contributions have been made by specialist consultants, engaged to consider the key issues that were identified by East Northamptonshire District Council in its scoping opinion. These issues are set out in section 3.
- 1.1.2 An initial phase 1 ecology survey and reporting was carried out by Karen Buckley MIEEM, CEnv of ERAs Consultancy. Subsequent ecological reporting and Environmental Impact Assessment input has been provided by Simon Boulter BSc (Hons), Msc, CEnv, MCIEEM of RSK Environment Ltd.
- 1.1.3 Soil assessment and impacts on the agricultural holding has been carried out by Stephen Rice of SBRice Consulting Ltd.
- 1.1.4 Flood risk assessment (FRA) and relevant liaison with the Environment Agency has been carried out by Ian Brazier BEng (hons) CEng MICE of Abington Consulting Engineers Ltd.
- 1.1.5 Hydrogeological Risk Assessment (HRA) has been completed by Chris Leake BSc, MSc, FGS of Hafren Water Ltd.
- 1.1.6 A Landscape and Visual Impact Assessment (LVIA) has been carried out by Michal Nowak MA PolSci, MSc SPUD (Dist), MA EPM AIEMA of Influence-cla Ltd, Chartered Landscape Architects.
- 1.1.7 Traffic assessment has been carried out by Simon Tucker BSc, MIHT of David Tucker Associates.
- 1.1.8 Archaeological and Cultural Heritage impacts has been assessed by Charlotte Walker BSc, AlfA of Northampton Archaeology.

1.2 **Assessment Programme**

- 1.2.1 Work commenced in June 2010 with initial site ecological survey work.
- 1.2.2 Individual experts have carried out consultations with appropriate bodies and with the landowner.
- 1.2.3 Prior to the commencement of detailed investigations, the preliminary proposals were discussed with representatives of the waterways division of the Environment Agency and planning officers at Northamptonshire County Council and the Borough Council of Wellingborough.

1.3 **Alternatives**

- 1.3.1 The applicant has no alternative siting for a marina within his farm holding and as this project is to enable him to diversify the range of activities within the farm, it is not appropriate to investigate alternative locations beyond his ownership. However it is recognised that a Sequential Test must be satisfied if planning permission is to be granted for this marina. The applicants have carried out a Sequential Test which can be found in **SkinWM-DAS-Appendix A-Sequential Test Report Dec 2013**.
- 1.3.2 Countryside, conservation and improving ecology and biodiversity have always been driving factors behind all of the diversification schemes that have been carried out on the farm, in particular the creation of the reedbed at Pastures Farm. A copy of the HLS agreement and management plan for the reedbed can be found in **SkinWM-ES Vol 4 - Pastures Farm. Reedbed HLS Agreement . 2013-2023**
- 1.3.3 From the outset when the applicants began discussing the potential for a river based marina with their professional advisor, enhancing the environment was just as important a consideration as providing suitable moorings for river based craft.
- 1.3.4 The applicants also wanted to avoid creating the type of river based development that can be seen elsewhere on the river whereby permanent residential boats are moored on the riverbank itself and have led to the creation of the residential paraphernalia adjacent to the river which is both unsightly and not beneficial or sympathetic to the local wildlife.

1.3.5 Initial ground investigations revealed the presence of minerals and the marina was therefore designed in a way that would allow the extraction of the minerals as an ancillary operation to the creation of the marina without sterilising valuable deposits. The marina has been designed with floating walkways and pontoons in order to ensure safe access away from the boats and the marina in the event of a flood and will provide full unhindered access for disabled.

1.4 **Assessment Methodology**

1.4.1 The approach taken to the assessment of the individual impacts of the proposal is presented separately in the technical reports produced by each expert consultant. These technical reports are included in full in the Appendices to this statement and summary statements of findings and proposed mitigation are set out in section 6 of this statement.

2 **KEY ISSUES**

2.1 **Screening and Scoping Opinion**

2.1.1 In a letter received on 02nd November 2011 by Northamptonshire County Council (NCC) they were requested to carry out a screening opinion to establish whether the proposed marina would require the preparation of an Environmental Impact Assessment. In a letter dated 08th November 2011, NCC responded that the application should be accompanied by an Environmental Statement, in accordance with the Environmental Impact Assessment Regulations 1999, due to the likelihood of significant environmental impacts.

2.1.2 In the screening opinion response, NCC stated that the proposal will exceed the threshold set out in paragraph 12 which is 1,000sqm and the excavation of the marina basin alone will cover an area of 1.5ha. It also considered that the proposed development would have the potential for significant impact on nearby sensitive receptors including the Upper Nene Valley Gravel Pits Special Protection Area (SPA), locally designated wildlife sites significant water resources, residential properties and sites of historic environmental interest and areas. The proposed works also have the potential to impact on the landscape and general character of the area as well as the capacity of the highways network.

- 2.1.3 Prior to seeking a formal scoping opinion and due to both the particular nature of the site and the planning experience of SBRice Consulting Ltd, further consultation and assessment was made to address some the larger potential know site issues and avoid any possible abortive work. As such, initial work and discussions began on addressing flood risk, ecology and transport.
- 2.1.4 With the site residing fully within the flood plain, initial formal discussion with the Environment Agency took place in the guise of a meeting on 15th October 2012. Extensive correspondence and a number of meetings sought to address the concerns the EA raised with regard to development in the flood plain. The EA deemed the proposal would be acceptable to them via an email received on 24th January 2013. They noted that level for level, volume for volume compensation could be achieved on site.
- 2.1.5 Due to the proximity of the site to the Upper Nene Valley Gravel Pits SPA and as part of the planning process, a Habitats Regulations Assessment (HRA) needed to be undertaken to determine if the proposals significantly affect the integrity of the SPA.
- 2.1.6 The HRA was screened in October 2012 and the results were discussed in a meeting with NCC on 01st March 2013. NCC concluded that potential for the SPA to be affected by the proposals could not be discounted based on the information provided. The scope of the additional work required was confirmed during that meeting.
- 2.1.7 A formal scoping opinion was then sought from NCC on 13th July 2013 via email. By 19th September 2013 all formal responses had been received and the main criteria sought to be addressed by the Environmental Statement had been confirmed by NCC. Formal scoping responses were received from:
- Environment Agency
 - Highways Agency
 - Natural England
 - English Heritage
 - Northamptonshire Highways
 - The Wildlife Trust

- RSPB (Senior Conservation Planner)
- Northamptonshire County Council (Principal Development Control Officer)
- Northamptonshire County Council (Senior Environmental Planner)
- Northamptonshire County Council (Archaeology Advisor)
- South Northamptonshire District Council
- Borough council of Wellingborough
- Canal and River Trust

3 THE PROPOSED DEVELOPMENT

3.1 Background

- 3.1.1 The applicants' family have farmed the land at Pastures Farm for the last 50 years. The family farm is run by the applicants themselves with one part time employee.
- 3.1.2 The farm comprises approximately 250 acres of land of which approximately 180 acres is arable, 40 acres grass and 35 acres grass/reed bed.
- 3.1.3 The applicants have diversified in order to supplement the agricultural income. The farm is relatively modest in size in relation to the average size of arable farms today and in order to supplement the agricultural income, alternative enterprises have been started on the farm.
- 3.1.4 These have included a bed and breakfast operation run from the farmhouse, a small building on the farm that is available for hosting arts and crafts workshops, more recently the applicants have started to rear rare breed sheep and pigs.
- 3.1.5 Full details of what is currently available at Pastures Farm can be found on the applicants' website www.pasturesfarm.co.uk.
- 3.1.6 They have also converted approximately 6,000 sq ft of buildings at Pastures Farm to commercial use and these are let out to a number of small local businesses.

- 3.1.7 They have entered approximately 35 acres of land into a Conservation Scheme known as the Higher Level Environmental Stewardship Scheme. This is operated by Natural England. The scheme runs for ten years from November 2013 to October 2023 and the reed bed which covers the 35 acres of land is located approximately 600 metres to the south east of the site.
- 3.1.8 The applicants first started to consider whether they had a site suitable for a marina development some ten years ago. They were considering proposals just at the point when there was an economic downturn and it was decided to postpone the project until there were signs of an economic recovery within the UK.
- 3.1.9 Discussions with the Local Planning Authority, Northamptonshire County Council as Waste and Minerals Planning Authority and the Environment Agency began again in 2010.
- 3.1.10 The grass field which is the subject of the application has always been marginal in terms of its agricultural productivity and it was finally decided to pursue a planning application for a marina development following publication of the River Nene Regional Park – Nene Valley Strategic Plan in October 2010.
- 3.1.11 The plan identified a need for additional offline moorings on the River Nene between Peterborough and Northampton and reference to the plan can be found in Section 4 of the Planning Statement.

3.2 **The Development**

- 3.2.1 The proposal is to construct a marina basin of approximately 1.4 hectares of water connected to the River Nene which will support 141 berths for recreational and leisure use. Of these berths, 116 will be for the recreational use of privately owned narrow boats or cruisers with the remaining 25 berths used for weekly hire or holiday use. The site is located adjacent to and directly north of the River Nene occupying approximately 3.24 hectares of pasture land. See Appendix **SkinWM ES-Vol 3-6108-01E-Prop Site Plan**.
- 3.2.2 In addition to the berths there will be a need for a facilities building which will provide an office for the marina administrative services, toilets, showers and a laundry room for use

- by the marina users. It will also include a small chandlery selling the basics supplies needed for boat owners.
- 3.2.3 The facilities building is to be constructed in a traditional manner incorporating brick, timber board cladding and feature stonework with pitched plain tiles. The building totals approximately 260sqm in size. See Appendix **SkinWM ES-Vol 3-6108-03B-Building**.
- 3.2.4 The development site, including the proposed facilities building is located in Flood Zone 3b which is deemed to be at a high risk of flooding, typically greater than 1 in 20 annual probability. In order to protect the facilities building the finished floor level has been set at the 100yrs plus climate change level of 48.21m AOD.
- 3.2.5 A 'high level' perimeter boardwalk surrounding the facilities building and linked to the marina jetties is to be constructed to the 100yr plus climate change level to form a safe access and egress route. This route will enable users of the marina to evacuate the site in the event of a severe flood to the safety of Station Road.
- 3.2.6 Flooding aside, the emergency services if called to the marina will be directed to the facilities building which will be the focal point for all emergency procedures associated with the safe functioning of the marina.
- 3.2.7 The building will be finished to a very high standard and will provide toilet, shower and washing facilities for both male and female. These will be accessible 24 hours a day for those users who have berths on the marina.
- 3.2.8 In addition there will be a reception area for boat owners, there is also covered secure storage for bicycles.
- 3.2.9 Facilities for disabled are provided along with a laundry and disposal for chemical toilets.
- 3.2.10 There are 57 car parking spaces including 03 disabled car parking spaces and 10 undercroft spaces adjacent to the facilities building as well as parking for motorcycles and undercover secure storage for 12 cycles.
- 3.2.11 All of the hot water and most of the electricity electricity will be provided by water source heat pump and photovoltaic solar panels on the roof of the facilities building to ensure that

the development is as close to “carbon neutral” as possible. It will be fully insulated to ensure that a minimum amount of energy will be required to heat it during the winter and it is provided with a significant number of openings to ensure that the ventilation will be satisfactory during the summer months in order to render air conditioning as unnecessary.

- 3.2.12 Rainwater will be harvested and used for washing in the laundry and flushing of toilets.
- 3.2.13 Foul water will be taken directly to a water treatment plant to be installed on site and surface water taken to soakaways which will allow surface water to percolate away naturally.
- 3.2.14 The boats will be accessed by way of a floating walkway and pontoons. The walkways will be designed to float so in the event of a flood they will provide a safe access and egress route from the boats.
- 3.2.15 The inclusion of a safe launching area for canoes and kayaks has also been included within the marina basin.
- 3.2.16 A cycle hire facility will be provided for marina users. The bikes will only be available to hire to the marina users and are provided as a facility to ensure that there is the option to travel neighbouring facilities and shops without the need to use a motor vehicle.
- 3.2.17 The intention is to create a marina that is highly sustainable in terms of its energy usage, furthermore encouraging a culture whereby boat owners using the marina are more likely to leave their car keys alone after arriving at the marina, given that there are alternative methods of transport including the cycle hire and also good footpath links to Cogenhoe and Earls Barton in particular.
- 3.2.18 Access to the marina will be by way of a new single access off of Station Road. During the construction phase of the development, this new access will be formed wider so as to safely facilitate the larger construction vehicles used during this time. Once the construction period has finished, the temporary wider access will be reduced to form a permanent less imposing access in line with the relevant standards.

3.2.19 The creation of the marina will provide employment for two full time and two part time employees. It is envisaged that one of the moorings within the marina basin will be occupied by an on-site manager, it is the intention to recruit a couple, one of whom will be responsible for the day to day admin and operation of the marina from the facilities building, the other will be responsible for on-site maintenance and repairs and also the operation of the refuelling station and pump out.

3.2.20 A significant number of local businesses would benefit from the creation of the marina. It has been identified that there are three types of marina user who will create additional demand for local services.

3.2.21 The first is the recreational boat owner who will moor their boat at the marina and visit at weekends or for longer periods as a holiday venue. They are likely to provide additional custom for the following facilities

- Whites Nurseries (local fruit & veg).
- Jeyes of Earls Barton (pharmacist, coffee shop, museum).
- The Old Swan (Earls Barton pub and Thai restaurant).
- The Stags Head (Earls Barton pub and live entertainment).
- St George Sporting (Earls Barton fly fishing specialists).
- The Half Moon (Grendon pub).
- Tredders (Castle Ashby footwear specialist including wellies & walking shoes).
- Castle Ashby Rural Shopping Yard (gifts, crafts, teas, coffees and afternoon teas)

3.2.22 In addition to those businesses identified above there are also shops, pubs and restaurants in other nearby villages which would also benefit from the additional visitors.

3.3 **Mineral extraction operations**

3.3.1 Prior to creation of the marina, the land (and mineral beneath) will need to be excavated. The works will therefore include two phases: the extraction of minerals and construction of the marina.

- 3.3.2 The site lies within a flood-plain and so it will have to be dewatered to allow both phases to progress. This constraint means that excavation will proceed between March and October so that it is outside of the peak flooding period. As there is only approximately 20,000 tonnes of mineral to extract this would be dealt with in a 4-5 month period.
- 3.3.3 The site would then be kept dewatered and the marina would be constructed during the following 6-9 month period.
- 3.3.4 If there are problems dewatering the site during the winter then it would be allowed to flood after the mineral extraction phase and be dewatered the following spring. This would mean that marina construction would be completed by the following autumn.
- 3.3.5 The process to extract the material will be as follows:
- Strip existing topsoil, and remove off marina site
 - Remove overburden, and stockpile for re-use in the restoration to a Marina
 - Excavate material and remove off site
- 3.3.6 The mineral will be excavated from the basin directly into lorries that will take the mineral off site for processing.
- 3.3.7 There will be no stock piling on site. It is anticipated that the mineral will be processed at the adjacent established minerals processing site.
- 3.3.8 The planning application boundary includes a total area of 3.24ha of which 1.55ha around marina forms the marina and its associated bunds.

3.4 **Description of the site and its surroundings**

Site location

- 3.4.1 The site is located 1.5km to the south of the village of Earls Barton and circa 3.2km east of the outer suburbs of Northampton. The location of the site is shown on SkinWM-001 Site Location Plan. Access to the site is from a new access formed off of Station Road. The marina will lie adjacent to White Mills Locks and directly north of a canalised section of the River Nene which runs along the sites Southern boundary.

Landform

- 3.4.2 The site is located within the basin of the River Nene valley and within the Environment Agency's flood risk vulnerability classification of zone 3b. The land is generally level and the elevation of the site is at a level of 46.5m AOD. A 1 in 100yr including Climate Change flood event calculated as 48.21m AOD.

Land use

- 3.4.3 The site for the marina lies within the flood plain of the River Nene and floods seasonally. Therefore the land is only suitable for summer grazing.

Hydrology

- 3.4.4 Water strikes were recorded whilst drilling the two mineral evaluation boreholes at depths of 1.1mbgl in each. Whilst it is recognised that water strike data should be treated with caution, its occurrence within the first presence of sand/silt suggests that it represents the local water table.
- 3.4.5 Comparison of the groundwater levels and geology shown on the borehole logs indicates that the sand and gravel is fully saturated.

Sites of ecological interest

- 3.4.6 The western boundary of the 'Upper Nene Valley Gravel Pits' which is a Site of Special Scientific Interest (SSSI) is located approximately 60m east of the application site.
- 3.4.7 This SSSI covers 1,382.9 Ha of which 144.9 Ha is located within 2.5km of the application boundary. The majority of the SSSI within 2km of the site is located on the Southern bank of the River Nene. However 20.4 Ha is located on the North bank to the East of the application area
- 3.4.8 The 'Upper Nene Valley Gravel Pits' are also designated as a Special Protection Area (SPA) and Ramsar site. The SPA and Ramsar areas within 2km of the application site are located on the Southern bank of the River Nene and cover 124.5 Ha.

Cultural and geological heritage

- 3.4.9 There are no Historic Environment Record (HER) documented sites and monuments within 1km of the application site.
- 3.4.10 There are two designated heritage assets within 1km of the application site. The closest is Castle Ashby (Grade I Registered Park) situated 840m to the South. The second is Station Lodge (Grade II listed building) sited at the Northern tip of the park.
- 3.4.11 Within the wider context there are five Scheduled Monuments and six Grade I listed buildings. These lie between 1.7km and 3.6km of application area.
- 3.4.12 Six Conservation Areas lie within the 4km search area; these are associated with Grendon, Castle Ashby, Cogenhoe, Earls Barton, Great Doddinton and Ecton villages.

Summary of land use

- 3.4.13 Table 1 provides a summary of features of interest and land use in the area surrounding the site.

Land use	Distance to closest site boundary
Nearest residential property	30m East of the marina
Earls Barton village (nearest settlement)	1.5km to the North of the marina
Garden centre (residential and commercial property)	300m E of marina
Industrial warehousing, vehicle hire and container depot (nearest commercial property)	Adjacent to the N
Caravan storage depot	Adjacent to the NE
Earls Barton Pioneer Sports ground (Football & Rugby pitches)	Adjacent to the E
Pastures Farm (residential) (applicant's premises)	900m SE of marina
Station Lodge (Listed Building, Grade II)	900m SE of marina
Agricultural land	Adjacent to the W
Woodland	Adjacent to the E
Upper Nene Valley Gravel Pits (SSSI)	60m to the E
River Nene (nearest watercourse)	Adjacent to the S
Grendon Lakes - Fishing/Watersport lakes (nearest recreational waterbody)	700m E of marina

Table 1: Summary of features of interest and land use.

3.5 **Landscaping and biodiversity enhancement.**

- 3.5.1 From the original inception of the marina design one of the principle objectives has been to ensure that the development includes features that significantly improve the ecological diversity and enhance the visual landscape.
- 3.5.2 The impact of the development on the landscape has been fully assessed by way of an independent landscape and visual impact assessment which is included in **SkinWM-ES-Vol 2 Ch 5 LVIA**.
- 3.5.3 Ecological and biodiversity enhancement will be through the incorporation of new reed beds surrounding the marina.
- 3.5.4 The neighbouring Earls Barton Spinney and Western Extension quarries, Environmental Statement cites the UKBAP and lists reed beds as a priority habitat type. The creation of circa 1ha of reed beds at the marina will increase the amount of this priority habitat type within the local area and expand on the areas created by the two neighbouring quarries.
- 3.5.5 The creation of the marina as an open body of water will in itself attract and enhance the ecological value and complement bird species within the vicinity.
- 3.5.6 The applicants have a proven history of managing land in the region for the benefit of ecology and biodiversity. They own an area of land totalling approximately 10.83 hectares of which 7.86 hectares is managed as reed bed.
- 3.5.7 This land was previously included within an Environmental Stewardship Scheme operated by DEFRA and Natural England known as the Countryside Stewardship Scheme.
- 3.5.8 Since November 2013 however the land has been entered into a new Environmental Stewardship Scheme operated by Natural England known as the Higher Level Stewardship Scheme.
- 3.5.9 The land is managed in order to restore an area of wetland dominated by reeds.
- 3.5.10 The applicants are obliged to follow strict management guidelines as detailed within an agreement they have entered into with Natural England which entitles them to an annual

management payment for managing the land for the benefit of wildlife. See Appendix **SkinWM-ES Vol 4 -Pastures Farm. Reedbed HLS Agreement . 2013-2023**

3.5.11 The applicants therefore possess the necessary management skills to manage the one hectare of reed bed that will be created around the marina basin.

3.6 **Community involvement**

3.6.1 Since the initial inception of the marina proposal the landowner and his agent have carried out extensive consultation with relevant agencies, including the Environment Agency, East Northamptonshire District Council, Northamptonshire County Council, Natural England, RSPB, The Canal and Rivers Trust and the River Nene Regional Park.

3.6.2 On the 08th August 2013, there was a meeting held on site with Earls Barton parish council and they were made fully aware of the applicants proposals. In general terms the parish council seemed fairly receptive to the clients' proposals.

3.6.3 The general consensus of the Parish Council was that the development in principle was a good idea as it would provide a valuable facility for the local area and would encourage tourism which would be of benefit to local services such as shops, pubs and restaurants.

3.6.4 A number of issues were discussed which included the following:

- Potential impact of increased boat movements and fishermen;
- Vehicle movements along Station Road;
- Whether any trees would have to be felled in order to facilitate the development;
- Whether there would be any detrimental impact on wildlife.

- 3.6.5 The applicants and their agent were able to provide detailed information relating to the issues discussed.
- 3.6.6 The applicants confirmed that no trees would be felled as part of the development, however a small section of roadside hedge would have to be removed in order to create a safe access onto the highway. See Appendix **SkinWM-Aboricultural Method Statement**
- 3.6.7 The marina would not necessarily increase the number of boat movements on this section of river, it would simply provide a safe offline mooring for boats that are already using the river for recreational purposes and travelling elsewhere to moor.
- 3.6.8 Any increase in boat traffic would be offset by the benefit the marina basin would offer to the local fishing as the marina basin provides ideal habitat for fish to spawn. Therefore fish numbers are likely to increase in the locality.
- 3.6.9 Given the existing amount of vehicle movements along Station Road there would be no noticeable increase in vehicle movements due to the marina and the Transport Assessment submitted with the planning application would confirm this.
- 3.6.10 With regard to the impact on ecology and wildlife a considerable amount of work had been undertaken by the applicants to demonstrate that the development would not have an adverse impact on the nearby Special Protection Area. The marina basin would be surrounded by newly created reed bed which would not only screen the marina basin and boats from the road but also provide a valuable habitat for wildlife and biodiversity.
- 3.6.11 Overall the Parish Council confirmed their general support for the proposed development.

4 PLANNING POLICY FRAMEWORK

4.1 Introduction

- 4.1.1 The proposed marina development involving the ancillary extraction of minerals should be considered in the context of its compliance with national and local planning policies.

The following policies and documents are relevant to this application.

4.2 National Planning Policy

- National Planning Policy Framework (NPPF) March 2012

4.3 **Regional Planning Policy**

- The Regional Spatial Strategies have been revoked and as such there are no regional planning policies that are relevant to this application.

4.4 **Local Policy**

- North Northamptonshire Core Spatial Strategy (Adopted June 2008)
 - Policy 1 – Strengthening the Network of Settlements
 - Policy 5 – Green Infrastructure
 - Policy 9 – Distribution and Location of Development
 - Policy 11 – Distribution of Jobs
 - Policy 13 – General Sustainable Development Principles
 - Policy 14 – Energy Efficiency and Sustainable Construction
- Northamptonshire Minerals and Waste Development Framework – Core Strategy, Development Plan Document Adopted May 2010
 - Policy CS4 – Spatial Strategy for Mineral Extraction
 - Policy CS11 – Safeguarding Waste Management and Minerals related Development from Alternative Uses
 - Policy CS12 – Development in the Vicinity of Minerals and Waste Development
 - Policy CS13 – Restoration and After Use of Minerals and Waste Development
- Northamptonshire Minerals and Waste Development Framework – Location for Minerals Development Plan Document (Adopted March 2011)

4.5 **River Nene Regional Park and Green Infrastructure**

- Nene Valley Strategic Plan – Published October 2010

4.6 The Planning Statement that forms part of this application contains a thorough evaluation of the development in the context of the relevant planning policies and we do not intend to repeat that evaluation within the ES.

5 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

- 5.1.1 A detailed Landscape and Visual Impact Assessment (LVIA) has been undertaken by Influence-CLA; the report is included in full in **SkinWM-ES-Vol 2 Ch 5 LVIA**. The main assessment criteria and findings are set out below.
- 5.1.2 The proposed development is for the excavation to form a marina/moorings for up to 141 craft with associated paths, parking, a facilities building and landscaping. The application site is bordered by a commercial industrial estate to the North, Station Road at the East, the River Nene at the South and applicant owned pasture land to the West.
- 5.1.3 The developed site is to be reached by boat from the River Nene and from the Station Road via a new entrance and access road situated in the North-East corner of the development site.
- 5.1.4 The intended development includes for the retention and reinforcement of the existing hedgerow vegetation, with additional new on-site and boundary planting areas to assist with the screening and visual integration of the proposals.

5.2 Visual Assessment

- 5.2.1 A computer-modelled Zone of Theoretical Visibility (ZTV) was initially run at a 15km radius to establish the theoretical visibility of the proposed development in the surrounding landscape and assist in the process of defining the LVIA study area. This theoretical (worst case scenario) visibility was then verified on site to account for screening factors other than topography, such as built form and vegetation.
- 5.2.2 The ZTV identifies that the biggest visual impact will occur along the valley floor, although dense riparian vegetation, short depth of view due to the flat topography, will provide a significant visual barrier. It indicates similar visibility for the villages of Earls Barton, Great Doddington, Grendon, Whiston, Congonhoe and Ecton. The reality is that only partial views may be possible from the site facing edges of these settlements but in most cases vegetation and intervening landforms obscure the views.

- 5.2.3 Following these initial desktop studies and subsequent site visit, it was found that the actual visibility of the site and the proposed development where landscape and visual impacts could occur would be restricted to a maximum 4km radius from the site.
- 5.2.4 Only landscape and visual receptors within the LVIA study area have been considered in this assessment as there is no potential for landscape and/or visual impacts beyond a 4km radius of the site.
- 5.2.5 In order to be effective the LVIA needs to consider landscape resources within the LVIA study area at an appropriate level of detail. Following the desk top study based analysis, site visits were carried out to assess and confirm the physical components and structure of the landscape with the LVIA study area.
- 5.2.6 Site visits were used to assess the potential viewpoint locations and their sensitivity towards the proposed development. Viewpoints were chosen to represent the key relevant visual receptor types, such as residents of nearby properties, users of Public Rights of Way, pedestrians or road users.
- 5.2.7 Northampton County Council was consulted in August 2012 in relation to the LVIA study area, documentation and policy relevant to the assessment, key sensitivities in the area and viewpoint selection.
- 5.2.8 Twelve viewpoints have been recorded to illustrate the general range of visibility of the application site within the LVIA study area. These viewpoints represent areas with the potential to suffer most visual impact due to the proposed development but also viewpoint locations illustrating more restricted views experienced by sensitive receptors.
- 5.2.9 Identified receptors with the potential to be affected by the proposed development and represented by these viewpoints include:
- Users of Public Rights of Way in the vicinity of the site, in particular to the East and West.
 - Few residents of the nearby settlement edges and some local farms.
 - Road users, including pedestrians, motorists and cyclists.
 - Canal and river users.

- 5.2.10 The twelve selected viewpoints and their relevant location plans can be seen in the full LVIA assessment produced by Influence-CLA. The figures can be found in **SkinWM-ES- Vol 3 Ch 5 LVIA Figures Part 2.**
- 5.2.11 Of these twelve selected viewpoints, when assessed and following the implementation of mitigation measures, there would be effects on only six represented viewpoints.
- 5.2.12 The proposed development would not be visible from any other viewpoint identified in the baseline views due to the topographic nature of the surrounding landscape and vegetation. Despite the scale of the development, the relatively low height (10m max) combined with intervening vegetation would prevent views other than those identified.
- 5.2.13 As mentioned above, adverse impacts on certain viewpoints can be mitigated for both during the construction phase and during operation. Intended mitigation methods during the construction phase include:
- Where possible, avoidance of security and task lighting and use of directional lighting to reduce stray upward light and minimise light pollution.
 - Retention of the boundary vegetation.
 - Fencing off of hedgerows and trees to be retained and their protection according to BS5837:2012.
 - Provision of appropriate stand-offs in order to safeguard perimeter vegetation adjacent to the site where possible.
 - Landscape and visual mitigation methods for during the operation include where possible, hedgerow reinforcement to increase low level screening of views from surrounding countryside.
- 5.2.14 As you would expect, of the six viewpoints effected by the proposed development, three of those are viewpoints either immediately adjacent to or on the site itself. These are views taken from Station Road from the PROW crossing the site. All effected views are less than 200m away from the development site.
- 5.2.15 Due to the close proximity of the proposed development in relation to viewpoints from Station Road and the PROW, the magnitude of effect on receptors has been assessed as a mix of medium to high adverse but temporary during the construction phase. During the

operation of the development visual impacts have been deemed medium adverse but permanent.

- 5.2.16 Three other views looking towards the development site from the PROW and from St Mary the Virgin Church have been assessed as being impacted.
- 5.2.17 These two views from the PROW and one from St Mary the Virgin Church are impacted mainly due to their significantly more elevated locations than that of the application area which is sited in the valley below. Whereas the proposed development lies at around +46.50AOD, these impacted views occur at +53.00AOD to +78.00AOD, some 6.5m – 31.5m more elevated.
- 5.2.18 Despite being elevated above the development, the two views from the above mentioned PROW and Church are significantly further away from the proposed site than the three impacted views from Station Road and the PROW running across the site.
- 5.2.19 The Church lies closest at 1.4km away with the PROW viewpoints further still at 1.9km and 3.54km respectively. Because of these distances adverse impacts on visual receptors have been assessed as temporary and low to negligible during the construction phase and permanent negligible effect during operation.
- 5.2.20 Due to the nature of the proposed development, its relatively low height, existing and proposed screening around its boundary within the flat landscape, the vast majority of people within the study area would remain unaffected.
- 5.2.21 As such, the visual effects due to the proposed development would be not significant.

5.3 **Landscape Assessment**

- 5.3.1 The proposed development is located within the National Character Area 89 Northampton Vale, and Regional Landscape Character Type Broad River Valley Floodplain and Local Landscape Character Area – The Nene - Billing Wharf to Woodford Mill LCA 18d.
- 5.3.2 During construction the proposed development would cause adverse and temporary impacts on localised landscape.
- 5.3.3 Agricultural land will be replaced by the marina, some hedgerows, trees and vegetation will be lost. Parts of the river bank will be lost as well as the footpath. Roads will experience increased traffic with site activities, although large vehicles already access the neighbouring industrial unit on the Northern boundary.
- 5.3.4 Views would change due to the construction processes involved in the build of the marina development through the stages. These will contrast with the existing movement within the landscape. Temporary buildings, site facilities, screening, lighting and movement of associated site traffic will form the principal characteristics of change.
- 5.3.5 There are a number of landscape designations within the LVIA study area and a number of heritage and nature conservation designations, all of which are outside the application site boundary.
- 5.3.6 Although the application site does not fall within any designation, it does border one Site of Special Scientific Interest (SSSI), the Upper Nene Valley Gravel Pitts approximately 50m east.
- 5.3.7 This registered Ramsar Site and Special Protection Area is likely to experience some temporary effects from the construction activities.
- 5.3.8 During construction the loss of arable land and some vegetation would have an adverse effect. There would be no loss of other landscape features, hedgerows or trees.
- 5.3.9 The construction processes, in particular the excavation will involve significant plant machinery and movement of vehicles to and from the site creating an adverse impact on landscape character albeit a temporary one lasting up to a year.

- 5.3.10 Once the construction phase is completed and the marina operational, its static nature with transient boat traffic, relatively low height and natural enclosure of the site due to surrounding vegetation would have limited visual impact on the relevant receptors.
- 5.3.11 The construction would alter the local setting but not the character, reflecting on a larger scale existing features and movement within the study area.
- 5.3.12 The setting of the site along the valley floodplain, surrounded by dense riparian vegetation, areas of semi ancient broad leaf woodland, combined with the distance relative to other Landscape Character Areas also prevent any impact.
- 5.3.13 The residual landscape effects of the proposed development are very localised in scale and restricted to the agricultural land within the site and its immediate surroundings.
- 5.3.14 The magnitude of landscape effect on the landscape character and features of this area is assessed as being medium adverse and temporary during the construction phase. A low adverse and permanent effect has been assessed upon the completion and operation of the marina.
- 5.3.15 In the context of the overall study area, the impact on landscape, although adverse would be low and not significant.

6 ECOLOGICAL ASSESSMENT

- 6.1 Detailed discussions with Northamptonshire County Council and Natural England confirmed that impact on ecology was likely to be one of the most important considerations when determining whether the proposed marina should be granted permission, this was confirmed at the scoping stage. The evaluation has also taken place over a number of years between 2009-2013. Therefore a detailed Ecological Assessment has been undertaken by Simon Boulter of RSK Environment Ltd. The full chapter relating to the Ecological Assessment is included in **SkinWM-ES-Vol 2 Ch 6 Ecology** and associated appendices and reports. This chapter summarises the background to the development and the main findings of the ecological assessments.
- 6.2 The proposed development is to create a 141 berth marina with associated facilities building, new access, parking and landscaping following the extraction on site of mineral resources.
- 6.3 The site is located 48 m from the Upper Nene Valley Gravel Pits Special Protection Area (SPA).
- 6.4 The site was initially surveyed on 07th June 2010 by Karen Buckley (CEnv, MIEEM) of ERA's Consultancy. The site was then revisited by Richard Finch of RSK Environment Ltd on 11th April 2013 to determine if the site had changed significantly in the intervening three years. In addition to the site visits, records were requested from the Northamptonshire Biological Records Centre to put the results of the survey into the context of the surrounding area.
- 6.5 The site is approximately 3Ha and comprises a grass field to the North of the River Nene with a hedge along the East side and fences enclosing the Western and Northern boundaries.
- 6.6 Phase 1 habitat types recorded include, unimproved neutral grassland, ditches, swamp, scattered trees and inundation vegetation. No noteworthy or invasive plant species were recorded from the site.
- 6.7 There are no statutory or non-statutory designated sites in or immediately adjacent to the site boundary.

- 6.8 The grassland is an example of the Northamptonshire Biodiversity Action Plan (BAP) Priority Habitat 'Floodplain Grazing Marsh'. However it is in poor condition and therefore has only moderate local nature conservations value. Hedgerows are a UK and Northamptonshire BAP habitat. However the hedge on site does not qualify as 'important' based on the Hedgerow Regulation 1997 criteria. The wider River Nene is a Northants BAP habitat.
- 6.9 The construction of a marina on the site would result in the loss of moderately diverse grassland considered to be a poor example of the Northamptonshire Biodiversity Action Plan (BAP) Priority Habitat 'Floodplain Grazing Marsh'. Similar grassland does exist nearby but construction would reduce the overall extent of this habitat in the Nene river corridor.
- 6.10 The creation of a marina will also result in open water habitat and the creation of c.1 Ha area of reed bed. These habitats complement those within the SPA and those proposed as part of neighbouring quarries restoration plans. Therefore, creation of these habitats is seen as an enhancement in the context of the surrounding area.
- 6.11 The hedgerow and mature trees will be retained in the final development.
- 6.12 The ecological survey assessed the presence of protected species including mammals, reptiles and amphibians within the development site.

Mammals

- 6.13 The survey concluded that there was no evidence of any Badger field signs, foraging or evidence of sett building observed within 30m of the proposed development site. Therefore the proposals will not adversely affect Badgers.
- 6.14 The hedge, woodland and river along the boundary site are suitable for foraging and commuting bats. These features will not be directly affected by the proposals.
- 6.15 In addition these features will not be illuminated by the marina (once constructed) and as such, no impact on commuting bats is predicted.
- 6.16 The creation of areas of reed bed and open water are likely to attract more invertebrates into the area and will enhance the area for foraging bats.

- 6.17 The site contains one Ash tree with an open hollow base and smaller hollows with moderate bat roost potential. This tree will not be removed as part of the proposals and the features will not be illuminated. As such even if this tree is colonised by roosting bats, no impacts are predicted.
- 6.18 The main habitats on site which could be used for breeding birds (hedgerows and trees) will not be affected by the development in any way but it is acknowledged that ground-nesting birds are present in the area.
- 6.19 As such, top soil stripping will ideally take place outside the bird breeding season (March-September inclusive) but if this is not possible, a survey will be undertaken prior to any works commencing to determine if ground nesting birds are present.
- 6.20 If any active nests are found, works will not begin until all the young from the nest have fledged.
- 6.21 A site survey and a 2km stretch upstream and downstream was surveyed for the presence of Water Vole. No evidence of Water Vole was observed from the adjacent river and lock channel. In addition, livestock have trampled the river bank at the site and made it unsuitable for Water Vole burrows. As such this species will not be affected by the proposals.
- 6.22 A detailed Otter survey and search for signs of Otter activity along the River Nene was conducted for 5km both upstream and downstream of the site.
- 6.23 Two Otter spraints were found on site, a possible holt was found off site 750m to the west, but no direct evidence of Otters (hair, droppings or footprints) was seen at this location.
- 6.24 The level of Otter evidence found is consistent with there being a population of Otters present on the River Nene, and it is likely that more than one individual is present. This confirms assumptions made through some of the neighbouring Environmental Impact Assessments. However, despite Otters using the River Nene for foraging and commuting, no Otter holts or resting places were found on site or in the immediate vicinity. As such, no significant impacts on Otters are predicted.

- 6.25 The Upper Nene Valley Gravel Pitts located some 50m from the proposed site is designated a SPA due to its European ornithological importance, particularly as wintering habitat for wildfowl and wading birds:
- 2% of the Great Britain populations of Bittern *Botaurus stellaris* and Golden plover *Pluvialis apricaria*;
 - Used regularly by 2% or more of the biogeographical populations of Gadwall *Anas strepera*; and
 - Used regularly by over 20,000 waterbirds in any season of various species including Wigeon *Anas Penelope*, Crested Grebe *Podiceps cristatus* and Coot *Fulica atra*.
- 6.26 To this end, as part of the planning application process, a Habitat Regulations Assessment (HRA) was undertaken. The purpose of this is to determine if the development proposals will significantly affect the integrity of the SPA.
- 6.27 The first stage of the HRA involved a 'screening' exercise. This was undertaken in October 2012. The results of the screening were then discussed in a meeting with Northamptonshire County Council (the competent authority) on 1st March 2013.
- 6.28 The competent authority concluded that the potential for the SPA to be affected by the proposals could not be discounted based on the information provided. Therefore, more information regarding the nature of the proposals, and the potential impacts on the SPA, was required.
- 6.29 The 'scope' of this additional information was confirmed during the March meeting. The agreed assessment criteria and conclusions are included in full within the 10th July 2013, 'Statement to Inform an Appropriate Assessment' – the final stage of the HRA. This can be viewed in **SkinWM-ES-Vol 2 Ch6 Ecology Appendix 6.2 HRA**, but is summarised below.
- 6.30 A wintering bird survey was undertaken on 22nd February 2013 to inform the HRA. The survey established a baseline dataset of wintering birds using the proposed site of the marina, land surrounding the marina, areas of the SPA near to the site and land surrounding the SPA near to the site.

- 6.31 The survey comprised a visit by two surveyors. One surveyor walked the footpath along the River Nene to survey the birds using the proposed marina site and its surroundings. At the same time a second surveyor walked footpaths in the western end of the SPA to record birds using the SPA and land surrounding the SPA.
- 6.32 Each parcel of land surveyed was then given a unique identity and all birds using each parcel of land were recorded on a map. Flight lines of birds were also mapped.
- 6.33 Although qualifying species for the SPA were noted during the survey within the vicinity of the proposed site, they were not noted in significant quantities. This could be due to the operational quarries within the SPA at this location. However, the birds present did not appear to be 'disturbed' by the quarry workings.
- 6.34 Very few birds were recorded using the proposed marina site bar common species. Two qualifying species, Cormorant were recorded flying over the site and Mallard were seen using the River Nene adjacent to the site. None were recorded using the site or the surrounding fields.
- 6.35 Further to the site specific bird surveys, two recent and relevant Environmental Statements (produced for Earls Barton Spinney Quarry and Earls Barton Western Extension) have been reviewed to identify appropriate background records and to put the results of the 2013 wintering bird surveys into context.
- 6.36 The Earls Barton Spinney Quarry is an 82 ha application area, with 46 ha earmarked for mineral extraction. This area contains an estimated 1,099,000 tonnes of sand and gravel and will take 6.5 years to excavate. The site lies to the immediate west of the marina and comprises similar habitats to the marina site and surveys were undertaken during the winter of 2006/07.
- 6.37 The Earls Barton Western Extension involves a 153 ha site to the south of the River Nene (abutting it in places) which comprises arable fields and existing waterbodies. The latter actually form part of the Upper Nene Valley Gravel Pits SPA. The Extension does not involve the proposed marina site, but is very close to it and contains similar habitats. This project is labelled as MA5 in the Northamptonshire MWDF "*Locations for Minerals Development* –

Development Plan Document” and will result in the extraction of 3 million tonnes of sand and gravel, plus the deposition of silt into the existing lakes. This project received planning permission in 2009.

- 6.38 The 3 ha proposed marina site was not found to support significant bird species or significant bird assemblages. In addition, it was not considered to be a significant resource for the local bird population or the assemblage using the SPA. Therefore, the site is not considered essential to the integrity of the SPA in any way. This was not unexpected due to the size of the site, the habitats present and the abundance of comparable or better quality habitats in the surrounding area.
- 6.39 Detailed surveys and background searches for the neighbouring Earls Barton Quarry Western Extension (153 ha) and Earls Barton Quarry Spinney (82 ha) support the above conclusion. These sites contained comparable/similar habitats to the marina site, but on a much larger scale, and neither was considered important for the local bird population (or the assemblage using the SPA).
- 6.40 Even the nearest waterbodies to the proposed marina site, which are within the SPA, were not considered to be of significant value to the SPA species.
- 6.41 This assumption was echoed in the 2013 surveys. In fact, both Environmental Statements concluded that the main areas of ornithological interest within the SPA, which contributed significantly to the integrity of the SPA, were approximately 1 km to the east of the proposed marina site.
- 6.42 A thorough assessment of the likelihood and severity of impacts has concluded that the creation of the proposed marina will not adversely affect the integrity of the SPA.

Reptiles

- 6.43 There is currently no suitable reptile habitat on site. Therefore the development will not adversely affect any existing Grass Snakes or other reptiles.

Amphibians

- 6.44 There are no ponds on site and no records of Great Crested Newts found within 500m of the site boundary. In addition, surveys of ponds to the West of the site undertaken in connection with Earls Barton Spinney Quarry did not find any Great Crested Newts. As such this species will be unaffected by the development proposals.
- 6.45 To thus summarise the entire ecological status and potential impacts, the site has not changed in any way since the Phase 1 survey undertaken in 2010 and based on the further information collected to date and site surveys, no significant negative impacts on local flora or fauna are predicted due to the creation of a narrow boat marina at the site.

7 ARCHAEOLOGICAL AND CULTURAL HERITAGE ASSESSMENT

- 7.1.1 A thorough archaeological desk based heritage assessment of the land at the proposed site has been undertaken by Northamptonshire Archaeology in October 2013. The full findings are in **SkinWM-ES-Vol 2 Ch 7 ACH** and summarised below.
- 7.1.2 The Northamptonshire Historic Environment Record (HER) was consulted for documented sites and monuments within the proposed development area.
- 7.1.3 As with the above LVIA, a search area of 1km radius surrounding the site was applied for Historic Environment Record data and Grade II listed buildings and a 4km search area for other designated heritage assets (Listed Buildings Grade I and II*, Conservation Areas, Scheduled Monuments, Registered Parks and Battlefields).

7.2 Cultural Heritage Assessment

- 7.2.1 No designated heritage assets fall within the application area. There are two designated heritage assets within the 1km search area. The closest designated asset is Castle Ashby, a Grade I Registered Park, situated c 840m to the south. At the northern tip of the park is Station Lodge which is grade II listed. No undesignated heritage assets recorded on the HER database lie within or adjacent to the site.
- 7.2.2 In the wider search area, there are five scheduled Monuments (ranging from 1.7km – 2.6km away from the application site), six Grade I listed buildings (ranging from 1.5km – 3.6km away) and six Conservation Areas.
- 7.2.3 Much of the previous archaeological investigation in the area had been undertaken prior to gravel extraction, primarily in the 1970s and 1980s. The extensive site at Clay Lane, 750m to the west, was excavated in response to the construction of the A45 and subsequent borrow pits either side of the road corridor (Windell 1982). Extensive geophysical survey and fieldwalking was undertaken in the fields surrounding the Clay Lane site in 2003 (Masters and Fisher 2003), followed by trial trench excavation (Walsh 2003). Further afield, significant areas of archaeology were excavated at Grendon Quarry before mineral extraction (Gibson and McCormick 1985 and Jackson 1995), as well as barrow to the east of the site, also ahead of quarrying (Jackson 1984). A watching brief was maintained at Earls

Barton Quarry Southern extension just over 1km south-east of the site (Jones and Chapman 2005).

- 7.2.4 The proposed development will comprise initial excavation and mineral extraction. After mineral extraction has taken place the new marina basin and perimeter edges will be formed using material from the site. The footprint of the marina will cover an area of 1.55ha. The entrance to the marina will be to the west of the locks; neither the existing river channel nor the locks will be altered during the development.
- 7.2.5 As mentioned above and also in the LVIA, there are a number of designated heritage assets in the vicinity of the study area. Within the 1km search area is part of the Grade I Registered Park of Castle Ashby with the associated grade II listed Station Lodge. Within the 4km search area are a number of Scheduled Monuments, Grade I and II* listed buildings, Conservation Areas and much of the rest of Castle Ashby Park.
- 7.2.6 In assessing the impact of the proposed development against the heritage assets it has concluded that the site is situated on the valley floor and is therefore not in a prominent position; there will be no change to any skylines. The scale of the site is small, especially when the distance from the designated heritage assets is taken into account, and the nature of both phases of development will not introduce prominent elements into the existing landscape.
- 7.2.7 Many of the views of the valley are extensive and not focussed; therefore the development would be a minor element. The marina phase of the development would create a new focus of public activity and would add amenity value to the historic context of the Nene Valley.
- 7.2.8 There are no designated heritage assets within the study area. There will be no direct impact on any designated heritage assets in the search area. There will be at most a very minor impact upon the setting of parts of the Grade I Registered Park of Castle Ashby and the Grade I listed church at Whiston during the mineral extraction phase of the development, although screening provided by existing tree cover to the south of the site will mean only glimpsed views are seen. This will become negligible during the marina

phase. There will be no impact to any other designated heritage assets identified during this assessment.

7.3 **Archaeology Assessment**

- 7.3.1 The current assessment has collated readily available information from a number of sources including Northamptonshire Historic Environment Record, Northamptonshire Record Office and relevant topographical and historical land-use information in order to assess the likely archaeological potential and heritage significance of the study area at the proposed White Mills Marina, Earls Barton, Northamptonshire.
- 7.3.2 The site lies within an extensive landscape of prehistoric and Roman activity, although many of the known archaeological find spots and sites lie on the first terrace gravels overlooking the River Nene. This part of the Nene valley was subject to seasonal flooding and the natural gravel lies under a considerable accumulation of alluvial clay. The area is likely to have been marginal land, which has been shown in the past to have limited potential for the survival of major monuments.
- 7.3.3 It is considered that there is a low/moderate potential for prehistoric or Roman remains of low/local significance to be present, although these are likely to be buried beneath alluvial deposits.
- 7.3.4 It is also possible that dateable palaeo-environmental remains may be present within any waterlogged alluvial deposits on site. The significance of any surviving palaeo-environmental evidence is currently unknown, but may be of regional significance, especially if any sequences could be related to the development of the funerary complex at Grendon.
- 7.3.5 Geophysical survey of the site would probably not be ideal, since the response on alluvial deposits can be very variable depending on their depth, masking archaeological features. Recent geotechnical survey suggests that alluvial deposits on site range from 0.80m to 2.00m thick. Similarly, trial trench excavation may be unproductive with such deep deposits and the likelihood that deep trenches would rapidly fill with water.

- 7.3.6 It's recommended that the best option would be to carry out archaeological investigation in the form of strip, map and observation during controlled stripping of the alluvial clays with a provision for additional work as necessary.

8 TRANSPORT ASSESSMENT

- 8.1 A comprehensive Transport Statement has been prepared by David Tucker Associates, transport planning consultants to review the transportation and highways implications of the proposed development of land adjacent to the River Nene for a 141 berth Marina, associated facilities building, new highways access and associated infrastructure and car parking. The full report, assessment, figures and data is attached at **SkinWM-ES-Vol 2 Ch 8 Transport** but the key issues and findings are set out below.
- 8.2 The site is situated approximately 1.5km to the south of Earl's Barton on the southern side of the A45. The site comprises a permanent pasture grass field and is located immediately to the west of Station Road and to the north of the River Nene. To the west of the site is an adjacent field and to the north is a site occupied by MAM Transport Services with access from Station Road.
- 8.3 Station Road is a minor road measuring approximately 6.5 metres with a footway of around 1.5m provided on the eastern side adjacent to the site boundary. There is access to a caravan park from Station Road on the eastern side adjacent to the north eastern site boundary. This footway narrows to less than 1.0m towards the caravan park access.
- 8.4 The road crosses the River Nene adjacent to the south eastern corner of the site boundary. The bridge over the river is restricted to single-lane traffic only and is controlled by traffic signals.
- 8.5 To the north of the site Station Road becomes Grendon Road and links with Junction 10 of the A45. The A45 provides access to Northampton located approximately 7km to the west and continues north east to link directly with the A14 south of Thrapston.
- 8.6 Footways on both sides of the road are provided on the bridge over the River Nene. From the northern side of the bridge, a public footpath runs west from the bridge to the village

of Cogenhoe. Immediately to the south of the footway continues north east linking to Earls Barton and Great Doddington.

- 8.7 The nearest bus stops are situated to the south of the site on Whitston Road. Bus service 43 operates between Bozeat – Wollaston – Cogenhoe – Northampton and is managed by Roy's Minibuses and is subsidised by Northamptonshire County Council. The bus runs 4 times a day Monday-Saturday. The bus stops are however unmarked and more than 400m from the site.
- 8.8 There are currently no cycle routes within the vicinity of the site. National Route 536 is a National Lottery funded scheme developed with Sustrans and there are proposals to provide a cycle link which would run past the site. This would connect with the existing route east of Northampton and north of Rushden.
- 8.9 It is proposed that the development will be served from a single point of access from Station Road formed as a simple priority junction. Internally, the access will reduce to 4.8m wide and will provide direct access into the car park, which will also provide the service vehicle access to the rear of the buildings.
- 8.10 Independent traffic surveys undertaken on Station Road adjacent to the proposed entrance recorded 85th percentile speeds requiring visibility splays of 4.5m x 59m to the North and 4.5m x 120m to the South. These visibility splays are achievable.
- 8.11 Personal Injury Accident (PIA) data has been obtained from Northamptonshire County Council for the period 01/07/2007 – 30/06/12, the most recent five year period available.
- 8.12 A total of 13 recorded personal injury accidents occurred on the local network, plus an additional accident which was damage only. Of the 13 accidents, 2 were classed as "fatal" and 5 were classed as "serious". The remaining 6 accidents were classed as "slight".
- 8.13 Of the two fatal and five serious accidents in that five year period all were recorded or occurred on the main A45 carriageway or at the junction of the A45 with Grendon Road.

- 8.14 Only one accident occurred on Station Road within the search area. This was classed as “slight” and was attributed to travelling too fast for conditions, slippery road, impaired by alcohol and distractions in the vehicle.
- 8.15 There are no existing highway layout or design deficiencies which need to be addressed as a result of the development.
- 8.16 The Local Plan policy relating to car parking provision is included in Northamptonshire County Council’s Supplementary Planning Guidance adopted in March 2003. There is however no parking standard for this type of use included within this document.
- 8.17 In order to establish car parking provision therefore, reference has been made to the British waterways publication “Road traffic generation & car parking requirements of marinas briefing note - November 2008”.
- 8.18 Referencing this document and given there will be no café/restaurant on site, the provision of 57 car parking spaces is deemed acceptable and consistent with likely demand.
- 8.19 The traffic generation of the site when in operation has been based and assessed using two established databases, firstly the British Waterways report as referred to above and secondly the TRICS database. In both cases these represent peak summer flows and flows during the winter months are likely to be significantly lower.
- 8.20 It can be seen that the TRICS assessment is somewhat higher than the BW assessment. The TRICS data therefore provides a worst case scenario and working on an assumed traffic generation of around 26 - 27 peak hour movements is appropriate. It is clear that overall level of flow is extremely low and unlikely to have any material impact.
- 8.21 It is not likely that the modest increase in traffic will be detrimental to the operation of the existing slip roads onto the A45 from Grendon Road. On this basis the traffic generation cannot be considered significant and is not “severe” in accordance with guidance set out in NPPF.
- 8.22 The daily flows to the site will remain below 500 vehicles per day and therefore there is no need to consider the provision of a right turn lane at the site access.

- 8.23 It is expected that the construction period will be around 9 months in duration. During that time there will also be a small tonnage of mineral extraction from the site of approximately 20,000 tonnes. Based on 20 tonne lorry loads, this would equate to 1,000 lorry loads. Over a 4 month period this equates to 250 lorry loads per month (500 movements) and 13 loads per day (26 movements).
- 8.24 It is anticipated that all of the material will be transported directly into Hansons mineral extraction and processing plant to the south of the site accessed via Station Road. Hansons is located less than 1km from the proposed site.
- 8.25 The construction phase is estimated to last for up to 36 week in duration. It has been assessed that overall the construction phase of the site will generate significant lower movements than the operational phase. For a period of around 4 weeks, HGV loads will increase but will remain low in absolute terms (on average around 1 or 2 per hour). In the context of the local highway network this is not material. If necessary advance warning signs ("LORRIES TURNING" etc) could be provided during this phase.
- 8.26 The Transport Assessment has demonstrated the following:
- The A45 is less than 500m from the Marina site and this provides a convenient link to the wider strategic highway network.
 - The site access junction will be via a simple priority junction with Station Road. Visibility from the site access junction meets the requirements of Manual for Streets.
 - The 5 year personal injury accident data shows that there is no accident problem on Station Road and no example of an accident involving a traffic movement within the vicinity of the proposed site access location.
 - The impact of the marina during the peak summer months would involve an increase in traffic flows of around 7% on Station Road. This would have no material impact on the operation of the A45.

- The mineral extraction will take place over a short time period and will not result in a significant number of HGV movements. The extraction material will be transported less 1km from the site.

8.27 It is therefore concluded, for the reasons set out in the Transport Statement and summarised above, that the proposed scheme will not have a severe traffic or highway safety impact. On this basis, there are no highway grounds for the refusal of the application.

9 FLOOD RISK ASSESSMENT

- 9.1 An assessment of the potential for the site to flood or to contribute to flooding elsewhere was carried out by Abington Consulting Engineers in July 2013. The full report is included in **SkinWM-ES-Vol 2 Ch 9 FRA**. Its results, findings and conclusions are as follows:
- 9.2 The Environment Agency's flood plain map shows the site falls within Flood Zone 3 which is described as having a 'high probability' of flooding as defined in Table 1 in the NPPF technical guidance.
- 9.3 Using the Sequential Test set out in the NPPF, Water Compatible uses are permitted in Flood Zones 3a and 3b and therefore the development site will comply with planning policy and pass the Sequential Test.
- 9.4 The following mechanisms have been identified as potential sources of flooding:
- Fluvial flooding from the River Nene.
 - Fluvial flooding from the watercourse crossing the site and adjacent to the site.
 - Ground water.
 - Surface water run-off from the development.
 - Surface water run-off from areas adjacent to the site.
- 9.5 There are no public surface water sewers, reservoirs or canals in the area.
- 9.6 There are two brick culverts running approximately east to west through the site. The applicants believe that these are owned by Anglian Water as they have in the past maintained the culverts when sections of them have collapsed. There are no third party rights relating to these culverts attached to the title as registered at the Land Registry.
- 9.7 The applicants contacted Anglian Water in 2009 during the early stages of the feasibility appraisal to clarify what purpose the culverts served.

- 9.8 Anglian Water confirmed that there were two brick culverts passing through the field, one of 750mm diameter and another adjacent to it of 450mm. Both carried land drainage flows from fields adjacent to the sewage treatment works at Great Billing. Both discharge into the River Nene to the east of Station Road.
- 9.9 Unfortunately Anglian Water had no further information regarding these pipes other than the brick culvert is shown on the sewage treatment works plans dated 1906.
- 9.10 The applicants were provided with the contact details of the treatment manager at Great Billing. Anglian Water were duly contacted again and the treatment works manager confirmed that the land drains were serving the fields onto which Anglian Water previously used to pump treated sewage in order to let the natural gravel beds effectively filter.
- 9.11 As they had ceased pumping the treated sewage onto these fields some time ago the land drainage system no longer had to deal with the significant amount of water that it previously had to.
- 9.12 It was recommended at the time that there would be two solutions to enable the culverts to still discharge ground water drainage into the river if the marina were constructed.
- 9.13 The first would be to construct a silt trap to the west of the marina which would trap any sediment coming down the culvert and then simply discharge the water from the silt trap directly into the marina basin. The marina being connected to the river would then simply allow the land drainage water to disperse through the river network as it already does.
- 9.14 The second option would be to divert the culvert through the installation of a new drainage pipe around the northern end of the marina and link back up to the drainage ditch and culvert underneath Station Road into which the existing culver discharges.
- 9.15 Either solution would be acceptable and could be dealt with by way of a planning condition.
- 9.16 Pre-planning application consultation has been undertaken with the Environment Agency to establish the issues which needed to be considered relating to flood risk.

- 9.17 The Environment Agency has provided detailed flood mapping of the area and flood model levels for the River Nene. Model node L5-021RL is located on the upstream side of White Mills Lock and the flood levels at this location are as follow:
- 25 year return period 48.04m AOD
 - 100 year return period 48.13m AOD
 - 100 year return period including climate change 48.21m AOD
 - 1000 year return period 48.31m AOD
 - 1000 year return period including climate change 48.33m AOD
- 9.18 The site levels shown on the topographical survey are predominantly around 46.5m AOD. The modelling extents mapping provided by the Environment Agency shows the 25 year return period flood would cover the whole site.
- 9.19 Potential flood risks from minor watercourses, groundwater and surface water run-off both from the site and areas adjacent to it have been concluded to not be significantly affected by the development. This is due to the risk from flooding by the River Nene to be so high and the clear overriding flood risk influence of this site.
- 9.20 The proposed earth embankment adjacent to the sheet piling will displace part of the flood plain and could exacerbate flooding off site. In order to mitigate against this, flood compensation is proposed on a level for level basis.
- 9.21 Compensation areas are predominantly located around the northern end of the site where levels will be reduced by approximately 200mm. A small area of compensation is also proposed at the south western end of the site on the embankment adjacent to the River Nene.
- 9.22 The flood compensation proposals were presented to the Environment Agency who have subsequently approved the scheme as stated in their email of 24th January 2013.

- 9.23 In order to protect the facilities building, the finished floor level shall be set at the 100 year plus climate change level of 48.21m AOD. Electrical fuse boxes, sockets and switches, and telecomponts will be mounted at least 1m above floor level. Foul drainage chambers and tanks will have lockable sealed lids and vent points set at least 1m above the 100 year flood level.
- 9.24 The marina nominal water level has been set at 47.36m AOD which is the same level as the River Nene. This is regulated by the slots in White Mills Lock and the embankment located on the outer perimeter of the sheet piling will terminate at this level. For flood events exceeding this level, some seepage from the sheet piling can be expected. Above the top of the sheet piling, the River Nene will also overtop and the entire area will be flooded.
- 9.25 During periods when the marina is flooded, the boats will remain secured to the piles adjacent to the jetty. The jetty will be designed to float and therefore will provide an adequate means of escape for pedestrians leaving their boats. This will be linked to an elevated walkway which will be set at a level equivalent to the 100 year plus climate change flood level. The walkway will then ramp down to Station Road.
- 9.26 Provided the proposed and recommended Flood Management Plan procedures are followed, evacuation from Station Road should be achieved prior to significant flooding to the site occurring. However, in the event that this is not achieved, evacuation by emergency services should be carried out at the base of the ramp on the elevated walkway in Station Road.

10 HYDROGEOLOGICAL ASSESSMENT

- 10.1 The Hydrogeological Risk Assessment (HRA) has been completed by Hafren Water and can be viewed in its entirety as **SkinWM-ES-Vol 2 Ch 10 HRA**. A brief summary of the site status and potential impacts can be read below.
- 10.2 Following early consultation, response back from the Environment Agency was to recommend the completion of a HRA for the construction period to ascertain if any groundwater users/features would be affected by any dewatering operations.
- 10.3 A mineral evaluation programme was undertaken by Hanson Aggregates in September 2004, during which eleven trial pits were excavated, of which five were located within the area of the proposed marina. This also proved thickening sand and gravel deposits southwards.
- 10.4 The geology comprises a variety of superficial deposits situated above the laterally extensive Whitby Mudstone Formation. The superficial deposits are designated by the Environment Agency as Secondary Aquifer – A. The underlying Whitby Formation is designated as Unproductive Strata.
- 10.5 An indication of groundwater levels can be gained from data within the borehole logs. Water strikes were recorded whilst drilling the two mineral evaluation boreholes at depths of 1.1 mbgl, in each. Whilst it is recognised that water strike data should be treated with caution, the coincidence of its occurrence with the first presence of silt/sand suggests that it represents the local watertable.
- 10.6 Comparison of the groundwater levels and geology shown on the borehole logs indicates that the sand and gravel to be extracted will be fully saturated.
- 10.7 To allow safe and efficient excavation, the superficial deposits will be dewatered. The water ingressing to the site will be derived from both groundwater inflow and rainfall, both from the footprint of the site itself and its surface water catchment.

- 10.8 During the de-watering process, water will be discharged to the adjacent River Nene, following settlement to ensure that its quality complies with the conditions stipulated on the Environmental Permit, which will be obtained from the Environment Agency.
- 10.9 All of the water which ingresses to the void during construction of the marina will require discharge off-site. It is proposed to create settlement and balancing capacity within the Application Area at an initial stage of site development. Water would be pumped from a sump within the floor of the developing marina to the proposed settlement lagoons from where it would weir over to enter the River Nene by gravity drainage.
- 10.10 A 9-10 m buffer strip will be retained between any excavations and the River Nene during construction of the marina. This will ensure that no sediment from the excavations enters the river. This buffer will also mean that machinery will not be working on the banks of the River Nene for the majority of construction. Therefore, the probability of adverse impact from any spills/leaks from machinery is significantly reduced. The only time machinery will work close to the river is when the entrance to the marina is finally created, and no machinery will be refuelled adjacent to the river. These works, and all works close to the River Nene, will be undertaken through consultation with the EA and following best practice guidelines. Therefore, no impacts on water quality during construction of the marina are predicted and the impact of magnitude is deemed to be 'negligible' with a significance of 'minor'.
- 10.11 The absence of abstractions in close proximity and on the same side of the River Nene to the site, either licensed or unlicensed, combined with the small impact of the construction of the marina on the water environment is such that the impact is defined as 'negligible' and the significance as 'none'.
- 10.12 Dewatering will locally decrease the elevation of the water table, and could thereby lead to a reduction of shallow groundwater availability for groundwater dependent eco-systems. The proximity of Upper Nene Valley Gravel Pits SSSI to the Application Area is such that the potential for adverse impact has to be considered carefully. The 'worst case' indicated radius of influence of dewatering, 173 m, would impinge upon the western boundary of the SSSI.

- 10.13 The marina will be 700 m from the nearest wetland area and over 1 km from confirmed wetlands of ornithological importance. In addition, references to the SPA state that the water bodies are reliant on sporadic flooding rather than constant water levels in the river or groundwater supplies. Therefore, excavation of the marina is highly unlikely to directly affect the main sources of water to the SPA. Taking all of the assessed criteria into account the impact magnitude on sites of ecological interest is considered to be 'minor' and the impact significance 'minor' to 'none'.
- 10.14 The potential impacts of the proposed development, both during construction and operational phases have been fully considered. A series of tables have been used so that the impact magnitude and its significance is assumed in a systematic manner. None of the identified potential impacts require specific mitigation measures other than the adoption of standard good-practice methods relating to storage of contaminants and fuelling and maintenance of mobile plant.

11 SOILS AND AGRICULTURAL LAND CLASSIFICATION ASSESSMENT

- 11.1 The applicants have not commissioned an Agricultural Land Classification survey as the land is subject to regional flooding and as such would be classified as Grade 4 agricultural land.
- 11.2 As such the development of the marina would not result in the loss of good quality agricultural land (i.e. Grade 3A and above).

12 SUMMERY AND CONCLUSION

- 12.1 The proposed marina will address the general shortfall in mooring provision on the River Nene, particularly visitor mooring facilities and associated infrastructure including, chemical toilet disposal, refuse disposal, pump-out, water and electric. The marina will address the Association of Inland Navigation Authority (AINA) waterway standards shortfalls.
- 12.2 The design of the marina provides a facility that combines the functionality of berths, parking and associated facilities with enhanced habitats for biodiversity action plan species and will complement mitigation enhancements that are also planned for adjacent mineral extraction developments.

- 12.3 Although the development is located within identified Flood Zone 3 it is designated as water compatible development, furthermore the marina has been designed to ensure that there is no net loss of operational flood plain.
- 12.4 Approximately 1 hectare of land surrounding the marina basin, car parking and facilities building will be used for the creation of a reed bed which will provide a significant and valuable ecological enhancement to the area.
- 12.5 A thorough Ecological Assessment has been carried out and concludes that the development will not have an adverse impact on the Upper Nene Valley Gravel Pits Special Protection Area.
- 12.6 The development will provide a valuable recreational facility within the region and will help to deliver some of the 1,000 additional berths that have been identified by the River Nene Regional Park as required on the River Nene between Peterborough and Northampton.
- 12.7 The development will require the creation of at least one permanent full time and two part time jobs and will create the opportunity for other service businesses in the area to benefit from an increase in visitor and tourist numbers.
- 12.8 Hire boats will be provided as part of the development which will allow customers to enjoy the River Nene without having to own their own boat.
- 12.9 The operation of the marina will contribute to the farm income for the landowner and help to sustain the family farm through the creation of another diversification project that does not rely on agricultural income for its economic viability.
- 12.10 The construction of the marina will require the extraction of minerals to prevent their sterilisation. The amount of mineral to be extracted is small in relative terms when compared to the total tonnage of mineral to be extracted from the region from identified mineral deposit sites.
- 12.11 The mineral extraction phase will be completed within nine months. The minerals will be transported offsite in an unprocessed state to a nearby processing plant.

- 12.12 The temporary nature of the construction period means that the environmental impacts will be short lived. There will be no aspects of the project that will have a significant adverse impact on local residents, highways network or the natural ecological and archaeological environments.
- 12.13 The construction and operation of the marina with associated mineral extraction comply with planning policy.