



Environmental Report

HASKONING UK LTD.
WATER

Staithes Harbour Asset Refurbishment Scheme

1 Introduction

This report has been produced in support of an asset refurbishment scheme at Staithes Harbour, North Yorkshire. It provides an environmental baseline of the area and identifies receptors which may potentially be affected by the proposed works. This information has been used to identify key environmental constraints and opportunities to inform the options appraisal process and to appraise the preferred option, providing appropriate avoidance and / or mitigation measures, where required.

2 Baseline environment

2.1 Socio-economic context

Local community

The village of Staithes is located on the North Yorkshire coast, approximately 16km north of Whitby and 32km south of Middlesbrough. Staithes is a small settlement within the parish of Hinderwell, which at the time of the 2001 Census had a population of 2013 (North Yorkshire County Council 2010). The large majority of the parish population is split between Staithes and Port Mulgrave (North York Moors National Park Authority (NYMNPA) 2001). Many of the properties in Staithes are holiday homes or holiday let cottages and the village experiences a large influx of second home owners and holiday makers during summer months.

Staithes was once a busy fishing port but the village fleet has declined in size dramatically and is now made up of a small number of vessels (NYMNPA 2001, Scarborough Borough Council 2011). The economic base of the village today relies on tourism facilities and activities (NYMNPA 2001).

To the north of the village is Boulby mine, the UK's only potash mine, run by Cleveland Potash Ltd. The mine is the only remaining active industry in the area and is very important to both the national and regional economies (Royal Haskoning 2007). In addition to tourism and mining related employment, Staithes residents also commute to larger population centres for employment, including Middlesbrough (High Point Rendel 2000).

Tourism and recreation

Staithes offers holiday accommodation in the form of holiday cottages and hotels, including the Black Lion and Endeavour hotels situated on the High Street. A number of restaurants and cafes cater for tourists and visitors. The village has an art gallery whilst the Captain Cook and Staithes Heritage Centre displays a collection of memorabilia and antiquities related to the famous explorer, a former resident of the village. The area is a popular destination for geologists as it provides excellent sections through unusual and fossiliferous rock formations, discussed in **Section 2.6 Soils and Geology** below.



Staithes has a small beach which is 100m in length and is protected by breakwaters. The beach is backed by a promenade, tourist establishments, houses and holiday cottages, which are tightly packed onto the cliffs (EA 2011). The village is located within the North York Moors National Park (NYMNP) which has over 2300km of paths and tracks for walking, cycling and horse riding. Around 10 million people visit the park each year to explore its cliffs, valleys, waterfalls and villages (NYMNPA 2012a).

The Cleveland Way National Trail is a 176km walking route which starts at the market town of Helmsley and runs around the NYMNP and along the North Yorkshire coastline to Filey (National Trail 2012). The trail approaches Staithes from the west running through Cowbar, across Staithes Beck, through Staithes harbour and east towards Port Mulgrave.

Critical infrastructure

The A174 links Staithes with Loftus, Brotton and Middlesbrough in the north and Whitby in the south. This road is heavily trafficked with both local and regional usage (Royal Haskoning 2007). Staithes Lane branches off the A174 and runs towards the harbour, becoming the High Street in the main part of the village.

The harbour is defined by a series of sea walls, constructed and extended in stages in the past to protect the northern frontage of the village which regularly suffered damage from wave overtopping and erosion in the past. The harbour is sheltered by two extensive concrete breakwaters with rock armour on the outer face, which reduce wave climate in the harbour, preventing this damage. Staithes and Runswick RNLI Lifeboat Station is located on the north side of Staithes Beck. This inshore lifeboat station supports local commercial and recreational marine activity in the area.

2.2 Biodiversity, flora and fauna

There are no sites designated for nature conservation that would be affected by the proposed scheme.

Recommended Marine Conservation Zone

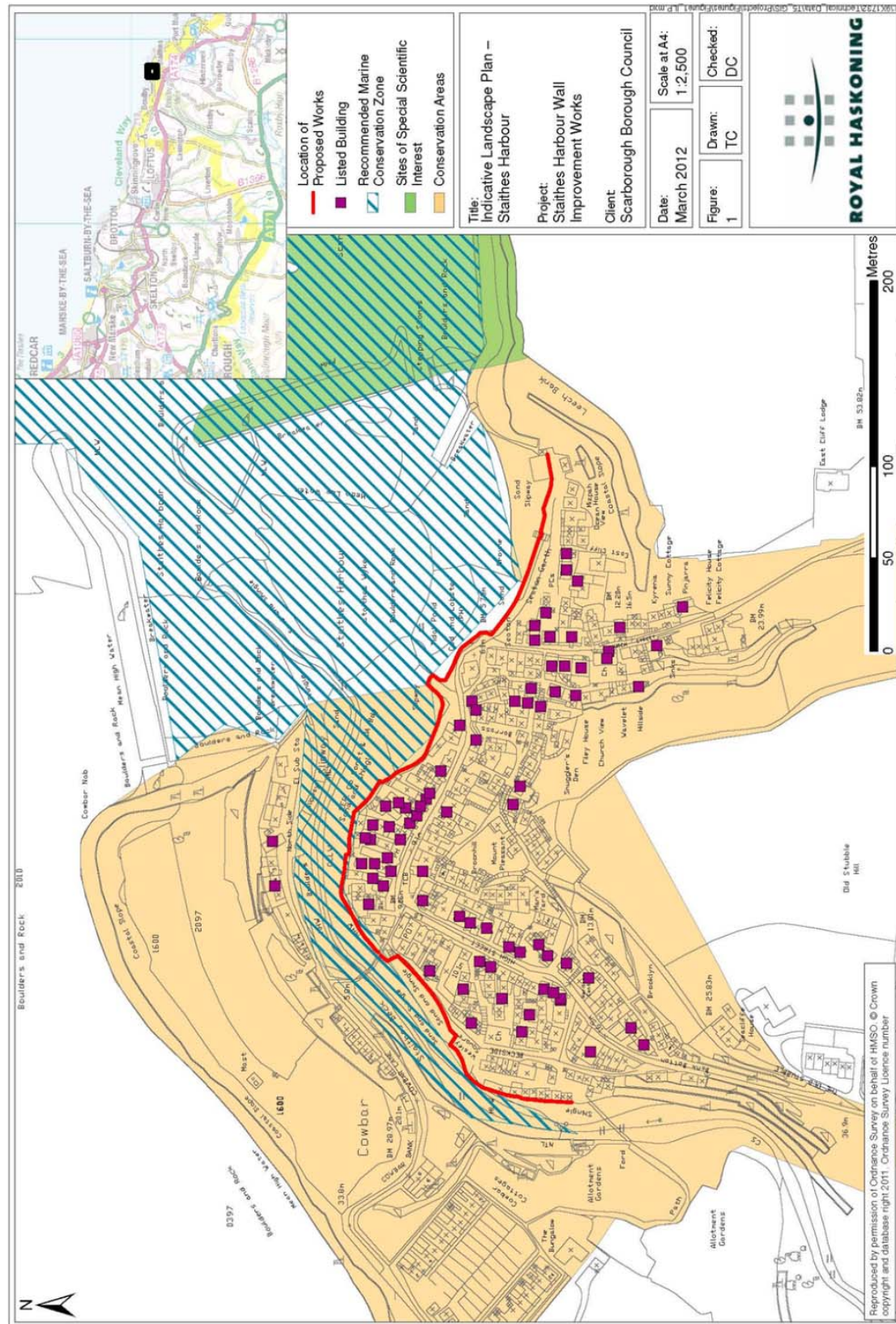
The Runswick Bay recommended Marine Conservation Zone (rMCZ) (NG11) extends from Staithes Harbour south east along the coast towards Sandsend, as shown **Figure 1**. The depth range of the site extends from 10m above mean low water mark to 30m deep and the seabed of the site is comprised of rock and sediment features, creating a mosaic of habitats (Net Gain 2011). These habitats support a diverse benthic community, fish spawning areas, habitat for marine mammals and foraging areas for seabirds that nest in the adjacent cliffs.

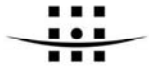
Runswick Bay has been recommended for MCZ designation for its infralittoral, circalittoral and subtidal habitats. The subtidal sands and gravels habitat of conservation importance (HOCI) and the bivalve ocean quahog *Arctica islandica*, a species of conservation importance (SOCI), are also recommended features of the site.

The waters of Runswick Bay rMCZ provide suitable spawning areas for herring *Clupea harengus* and lemon sole *Microstomus kitt*, and nursery areas for sprat *Sprattus sprattus*, cod *Gadus morhua*, whiting *Merlangius merlangus* and plaice *Pleuronectes platessa* (Coull, et al. 1998).



Figure 1: Overview of location of proposed works and environmental constraints





A Ministerial Statement in November 2011 announced that Natural England and the JNCC will provide formal advice on MCZ designation in July 2012 and that formal consultation on MCZs will be undertaken by the end of 2012 (Defra 2011). The first MCZ designations are planned to take place in 2013.

North York Moors National Park Coastal and Marine BAP, 2006

The NYMNP has a coastline covering 29 miles from Boulby cliffs to Cloughton, and which comprises high cliffs, steep wooded valleys, coastal slopes, sandy bays and rocky shores. The NYMNP Coastal and Marine BAP includes action plans for maritime cliff and slope, intertidal and marine habitats. For maritime cliff and slope habitats, actions include the re-introduction of grazing on coastal slopes, the mitigation of losses from coastal defence works and development of a 'one field back' policy; whilst for intertidal and marine habitats, the plan includes actions for monitoring the effects of coastal defence projects on rocky shore habitats.

Seabird populations

A significant number of seabirds breed on the cliffs along the coastline of Runswick Bay rMCZ and its coastal waters are important foraging grounds for kittiwake *Rissa tridactyla* (Net Gain 2011). Kittiwakes use the cliffs to the immediate north of the proposed works and a large population of the species has been recorded on the cliffs between Cowbar and Boulby, nesting between February and mid-August (High-Point Rendel 2000). Herring gulls *Larus argentatus* and common gulls *Larus canus* are also known to use the cliffs at Cowbar Nab for nesting (John Beech *pers. comm.* NYMNPA March 2012).

Staithes Harbour

Staithes Harbour comprises mostly intertidal sands with rocky outcrops, both natural and artificial. These rocky outcrops in the upper shore support populations of filamentous algae (*Enteromorpha* species), laverbread (*Porphyra* species), and wracks (*Fucus vesiculosus* and *F. spiralis*), and also limpets (*Patella vulgata*), barnacles (*Semibalanus balanoides*), rough winkles (*Littorina saxatilis*) and edible winkles (*Littorina littoria*) in pools. In the lower shore, red algae (*Lithothamnion* species), breadcrumb sponge (*Halichondria panacea*), barnacles, mussels (*Mytilus edulis*), dog whelks (*Nucella lapillus*) and topshells (*Gibbula* species) were recorded (High-Point Rendel 2000).

2.3 Water

Bathing waters

The objective of the Bathing Waters Directive (76/160/EEC) is to protect public health and the environment from faecal pollution in areas designated as bathing waters. Designated bathing waters require regular water quality monitoring, carried out by the Environment Agency, throughout the bathing season (15th May to 30th September) to ascertain whether they meet mandatory or guideline standards. Guideline standards are 20 times stricter than the mandatory standard, and meeting the guideline standard is one of the main criteria for the award of European Blue Flag status.

Staithes beach is a designated bathing water and is monitored by the Environment Agency annually (EA 2011). The beach has a history of failing to meet bathing water standards and the



Environment Agency has been quoted as attributing the failures to the fact that *'the bathing water is within a small enclosed harbour affected by a beck that drains a predominantly agricultural area, and can on occasion, receive diluted sewage from overflows during stormy conditions'* (BBC 2010).

The Environment Agency and Yorkshire Water have worked to improve bathing water quality at Staithes through investment in sewage infrastructure in the area. There are no outfalls discharging directly into the bathing water, however there are four outfalls in the vicinity of the bathing water (EA 2011). One storm overflow and one surface water outfall are located next to the harbour slipway, with another storm overflow discharges into Staithes Beck, and an emergency overflow discharging into the harbour. According to the Environment Agency the operation of the storm overflows may result in reduced bathing water quality (EA 2011).

Water Framework Directive

The Water Framework Directive (WFD) (2000/60/EC) establishes a legal framework to protect and restore clean water across Europe and to ensure its long term sustainable use. Staithes Beck (GB104027068760) runs from its source on the North Yorkshire Moors to the North Sea at Staithes Harbour. This waterbody does not have a hydromorphological designation and its current overall status is moderate (EA 2012a). No mitigation measures have been identified or put in place to improve the status of the waterbody.

Staithes and the surrounding area are within the Esk and Yorkshire Coast Ravenscar groundwater (GB40402G702300). The groundwater currently has good overall status (EA 2012a).

The sea at Staithes is within the Yorkshire North coastal waterbody (GB650301500003) which stretches from Hartlepool Headland south to Flamborough Head. Yorkshire North is a moderately exposed mesotidal coastal waterbody which is designated as heavily modified due to coastal defence structures (EA 2012b). The waterbody's current overall potential is classed as good. No mitigation measures have been identified for this waterbody.

2.4 Landscape / seascape character and visual amenity value

National Character Areas

England has been divided into 159 'National Character Areas' (NCA) (previously Joint Character Areas), which have similar landscape character at the national scale. Staithes is located within the North Yorkshire Moors and Cleveland Hills NCA (Natural England undated). The area is a clearly demarcated block of high land in the north east of Yorkshire and Cleveland. The most notable inland feature of the area is the expansive sweep of unenclosed, predominantly heather moorland, at low altitude, with long and panoramic views in all directions. The uplands extend eastwards to one of the highest stretches of cliff along England's North Sea coast. The coastline is dramatic with high precipitous cliffs, dipping down, in places, to sandy or rocky bays. Small fishing villages, including Staithes, are built on steep valley sides in sheltered locations.

North York Moors National Park

The NYMNP has diverse and distinctive landscapes, which have evolved through a combination of natural processes and human intervention. The North York Moors Landscape Character Assessment was completed in 2003 (WYG, 2003). It identifies the main landscape types within



the National Park, their key characteristics and potential positive and negative pressures. Each landscape type was subdivided into landscape character areas with a concise description of their local features. The coastline around Staithes is included within the Boulby to Whitby section of the Coast and Coastal Hinterland Landscape Character Area.

With specific reference to Staithes, the landscape character of the coast and hinterland was described as:

- Staithes and Runswick Bay are focal points for visitors to the area; at Staithes the village and small fishing harbour is confined to a narrow valley and breach in the cliffs. The village has extended onto the flatter land at the cliff top to include more recent development that bears little relation to the historic settlement cores; and,
- Ironstone mining has occurred in the cliffs south east and west of Staithes.

Local character

The older part of Staithes is clearly defined, following a band of low ground fronting the harbour around the foot of Old Stubble Hill and into the valleys of Gun Gutter and Staithes Beck (High Point Rendel 2000). Footpaths providing extensive views over the old village extend from the adjacent cliffs at Cowbar and above Gun Gutter, and follow the edge of Old Stubble Hill. Staithes Bank, Cowbar Bank and Cowbar Nab on the north side of the beck provide views over the rooftops of the old village and harbour.

The village has a compact structure with a short High Street, and steps and narrow lanes provide access to adjacent houses. The tightly packed houses and cottages darken the High Street but the harbourside is open to the North Sea with shelter to the north provided by the towering mass Cowbar cliff (NYMNPA 2012b). The higher ground towards Staithes Lane is more open in character and has more modern buildings than those around the harbour and High Street (High Point Rendel 2000).

Seascape character

Staithes is within the North Yorkshire and Cleveland Heritage Coast, which extends from Saltburn Beck south to Scalby Mills at Scarborough. The inland boundary of this Heritage Coast is, in most cases, the first road inland from the cliff top (NYMNPA 2008). The coastline is the seaward edge of the NYMNP and consists of high cliffs and headlands cut by bays and woodland (Natural England 2012), with steep sided clefts which shelter fishing harbours such as Staithes. This coastline is one of Britain's richest mineral and fossil coasts, the features of which are described in **Section 2.6 Soils and Geology** below.

2.5 Archaeology and cultural heritage

Most of the development of Staithes village took place in relatively recent times however there is evidence of settlement on higher ground from pre-historic times and from the Anglo-Saxon period, inland on the lower plateau. Bronze Age timber structures were recovered in the village during an archaeological excavation in 2002 (Palaeoecology Research Services 2002).

The old part of Staithes is a historic fishing village containing 81 listed buildings, representing 25% of the building stock (NYMNPA 2001, English Heritage 2012). Listed buildings are shown in



Figure 1. There are no Scheduled Ancient Monuments in or around the village and no Protected Wreck sites off the Staithes coastline.

Conservation Areas can be designated by Local Councils for “areas of special architectural or historic interest, the character or appearance of which is desirable to preserve or enhance”. The Staithes Conservation Area, designated in 1972, covers an approximate area of 15ha containing 319 buildings in the main historic core of the Conservation Area and a further 31 at Cowbar cottages (NYMNPA 2001). The village is heavily shaped by the surrounding coastal topography and the surrounding cliffs and headlands have limited settlement. Most of the village is 18th and 19th century with many buildings in the form of stone built cottages. The village has a historical link with Captain James Cook, who worked in the village prior to his career at sea.

There are a number of traditions in Staithes related to the villages fishing heritage. In the past families named their houses after their boats and many properties retain unusual names. Houses were also painted in the same colours as the family boat and there are a few examples where this custom is maintained (NYMNPA 2001).

2.6 Soils and Geology

The North Yorkshire coastline is one of Britain’s richest mineral and fossil coasts and the Staithes area in particular is of considerable geological interest for its coastal cliff formations (Royal Haskoning 2007).

The stretch of coast from Staithes to the small headland of Old Nab to the east provides an excellent section through sedimentologically unusual and fossiliferous Lower Jurassic marine succession (West 2010). The Cleveland Ironstone Formation of Middle Liassic age is very well exposed consisting of shales with prominent ironstone beds.

There is one Site of Special Scientific Interest (SSSI) in the vicinity of Staithes Harbour designated for geological interest features, the Staithes-Port Mulgrave SSSI which commences at the eastern breakwater at Staithes Harbour extending east to Port Mulgrave (as shown in **Figure 1**). The site is of international significance providing excellent exposures of the Pliensbachian-Toarcian stage boundary. The Ironstone 'Series', mainly of spinatum Zone age, gives place to the tenuicostatum Zone, including the Grey Shales which are particularly well exposed at the base. There are also good exposures of the highly fossiliferous Jet Rock 'Series'.

3 Environmental constraints

The following environmental constraints have been identified that could affect the options being considered:

- harbourside residential and commercial properties have been identified as at risk of collapse should the harbour walls fail;
- the harbour walls protect material assets and recreation and tourism amenities including the Cleveland Way National Trail, beach access and the footbridge that connects Staithes and Cowbar;
- Staithes is a working harbour and has a RNLI lifeboat station on the Cowbar side of the harbour, there is potential for there to be conflicts with users of the harbour during the construction of the works;



- the foreshore area is known to be well used by the public for tourism and recreational uses; therefore, the proposed works have the potential to affect the tourism and recreational value of the area;
- the Runswick Bay rMCZ is located adjacent to the proposed works;
- Staithes-Port Mulgrave SSSI is located to the east of Staithes, adjacent to the eastern breakwater;
- there are two WFD waterbodies that could be affected by the proposed works. Staithes beach is a designated bathing water beach;
- the proposed works have the potential to affect the local landscape / seascape character;
- the proposed works have the potential to affect Staithes Conservation Area;
- Staithes is within the North Yorkshire and Cleveland Heritage Coast;
- the proposed works have the potential to affect nesting seabird colonies, including kittiwakes, herring gulls and common gulls;
- a construction method statement will be required to ensure suitable mitigation for construction works (e.g. materials to be used, timing of works, prevention of pollution etc.);
- any construction project in England which started after 6 April 2008 and has a value of over £300,000 has a legal requirement to have a Site Waste Management Plan (SWMP) in place. The SWMP will detail how resources will be managed, and waste materials controlled, at all stages during the construction period; and
- **Appendix F** of the PAR provides an Indicative Landscape Plan showing the location of proposed works and key environmental constraints.

4 Environmental impacts of alternative options

The existing Phase 3 Harbour Improvement Scheme (breakwaters) has a minimum design life of 50 years and the economic case was assessed over a 50 year appraisal period. Therefore the options for addressing the issues at the harbour walls will be based on the same timescales. This will allow time for a strategy to be developed for the area and a comprehensive replacement scheme to be implemented to cover all aspects of the defences at Staithes (breakwaters and harbour walls) at the same time at the end of the 50 year appraisal period. The short listed options are:

Option 1: Do Nothing – the baseline case against which the other options are assessed. It is the ‘walk away’ option whereby no further maintenance or repair works would be carried out. The condition of the harbour walls would continue to deteriorate and the structures would fail within 4-8 years resulting in collapse of the walls and supported properties. Following collapse of the harbour walls, coastal erosion would take place and further properties would collapse.

Option 3: Wall Repair Works – the Sustain Standard of Service (SoS) option. The existing harbour walls would be repaired to prolong the residual life of these existing assets and maximise the previous investments. Works would include repairs to cracks, removal of vegetation, re-facing of concrete, re-pointing of masonry, in-filling of voids, replacement of damaged or missing masonry blocks, and placement of scour protection apron. The repairs would be targeted to areas where defects have been identified as posing a risk to the structural



integrity of the walls. The repair works would extend the residual life of the existing harbour wall assets until the end of the design life of the main breakwaters.

Option 4: Wall Replacement – the Do Something option. The existing harbour walls would be replaced by a new structure, approximately 450m in length and varying in height to match the existing harbour walls. The new wall would be constructed in front of the existing walls which directly support several properties and could not be removed and replaced along their exact current alignment. The replacement wall would therefore encroach into the harbour to a small degree. The new wall would be constructed of reinforced concrete with a masonry facing and some piling and/or ground anchors may be required depending on ground conditions. The structure would have a minimum design life of 50 years.

4.1 Environmental options appraisal

The potential key positive and negative environmental impacts of the detailed options being considered are presented in **Table 1**. Only the potential impacts that differ between the options are presented here allowing for a comparison of each option's positive and negative impacts against each other. Mitigation measures and enhancement opportunities have also been proposed, where required.

Table 1 Comparison of key positive and negative environmental impacts of the alternative options

Key Positive Impacts	Key Negative Impacts	Mitigation / Enhancement Opportunity
Option 1 – Do Nothing		
Natural geomorphological evolution of Yorkshire North coastal waterbody permitted.	Continued deterioration of harbour walls leading to structural failure and loss of property and eventual damage to High Street.	
	The degradation and failure of the defences would likely result in significant health and safety issues to the local community and visitors.	
	The Cleveland Way trail adjacent to Staithes Harbour would be lost following collapse of the harbour walls.	
	The erosion of the frontage would have a significant impact on the local landscape / seascape character.	
	The existing visual amenity value would be reduced due to collapse of the harbour walls and property.	
	Listed buildings within the Staithes Conservation Area would be lost following structural failure of the defences.	
	The failure of the walls and subsequent erosion would affect the status of the WFD waterbodies.	



Key Positive Impacts	Key Negative Impacts	Mitigation / Enhancement Opportunity
	through the potential release of contaminated material and fines.	
	Adverse effects to Runswick Bay rMCZ through the potential release of contaminated material and fines.	
	Loss of tourism value.	
Option 3 – Wall Repair Works		
Repair works would prolong the residual life of the existing assets, delaying the time for capital works by 40 years.	Disturbance to residents and tourists through noise and vibration, and visual impacts.	Major works should be undertaken outside of peak tourism period.
Prolonging the residual life of the walls is considered to be more sustainable as the time between capital works is maximised.	Disturbance to nesting seabird colonies.	Major works should be undertaken outside of the seabird breeding period (February to mid-August).
This option would align the residual life of the assets with that of the breakwaters, allowing for a strategy to be developed in the interim that would address all of the issues at Staithes and Cowbar, and allow a holistic solution to be implemented.		Construction works should follow industry best practice guidance (i.e. PPG and CIRIA).
This option would ensure that any potential future strategic options were not compromised.		Production of a construction method statement will ensure suitable mitigation for construction works (e.g. materials to be used, timing of works, prevention of pollution, etc.)
Option 4 – Wall Replacement		
Long term coastal defence solution (min 50 years), protecting residential and commercial properties, and features of historic interest.	Potential for assets requiring urgent work to deteriorate further and collapse during the 1 year capital works period, leading to significant health and safety dangers to the public using the promenade, beach and road and risk to harbourside properties.	Construction works should follow industry best practice guidance (i.e. PPG and CIRIA).
	Significant disturbance to residents and tourists during construction.	Works should be undertaken outside of peak tourism period.
	Potential reduction in water quality due to the release of potentially contaminated sediment.	Major works should be undertaken outside of the kittiwake breeding period (February to mid-August).
	Significant effects to landscape / seascape character.	Production of a construction method statement will ensure suitable mitigation for construction works (e.g. materials to be used, timing of works, prevention of pollution, prevention etc.)
	Significant effects to Conservation Area.	A SWMP will be produced and implemented prior to the commencement of works.
	The	



Key Positive Impacts	Key Negative Impacts	Mitigation / Enhancement Opportunity
	Significant disturbance to nesting seabird colonies	
	Residual life of existing walls not extended to their full potential, thus reducing the time between capital works.	
	Residual lives of the breakwaters and new walls not aligned, which could create difficulties when developing a strategy for future schemes.	

The Do Nothing option would result in the continued deterioration of the harbour walls and their eventual failure, leading to a loss of the identified assets. The principal positive effect of Option 3 over Option 4 is the extension of the sea wall's residual lives by 40 years, thereby delaying the requirement for capital works, allowing for a holistic strategy to be developed. In addition, Option 3 would not affect the landscape / seascape and Conservation Area characters. For these reasons, Option 3 is the environmentally preferred option.

5 Environmental effects of the preferred option

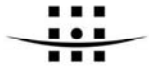
This section provides an overview of the potential effects that could arise as a result of implementing the preferred option and describes measures that have been identified to date to avoid or mitigate these effects throughout the development of the scheme, where appropriate.

Following the detailed option appraisal, Option 2 was considered to be the preferred option based upon economic, technical and environmental criteria. As described previously Option 2 proposes to make repairs to the existing harbour walls. The proposed repair works are presented in **Appendix A**. The repair works are anticipated to commence in September 2012 and last for approximately 1 year. Works will be constrained by tidal working as high tide reaches the harbour walls.

Given the nature and location of the proposed scheme, the following aspects are considered relevant:

- Coastal processes;
- Biodiversity, flora and fauna;
- Noise and vibration;
- Water;
- Archaeology and cultural heritage;
- Landscape, seascape and visual amenity value; and,
- Tourism and recreation.

In addition to the receptor specific measures set out below to avoid / mitigate any adverse effects that could arise through the implementation of the preferred option, best practice guidance will be adhered to, in particular:



- Pollution Prevention Guidelines - Works in, near or liable to affect watercourses: PPG 5 (EA 2007);
- CIRIA Coastal and Marine Environmental Management Site Guide (CIRIA report C584) (CIRIA 2003); and,
- CL:AIRE (Contaminated Land: Applications in Real Environments) Code of Practice.

5.1 Coastal processes

The proposed scheme aims to repair the existing sea walls through repairs to cracks, removal of vegetation, re-facing of concrete, re-pointing of masonry, in-filling of voids, replacement of damaged or missing masonry blocks, and placement of scour protection apron, where required. There are only limited areas where walls or abutments will be extended. Replacement of missing masonry blocks of short sections of wall (see **Appendix A, Photographs 24 and 25** and **Drawing SK02**) will result in a seaward extension of approximately 200mm. The installation of scour protection to a bridge abutment (see **Appendix A, Photograph 20** and **Drawing SK03**) will extend the base of the structure by 0.9m (0.45m either side of the existing abutment). These changes are deemed to have a negligible effect on coastal processes.

5.2 Biodiversity, flora and fauna

The proposed scheme is located in close proximity to cliffs used by kittiwakes, herring gulls and common gulls for breeding. The works have the potential to disturb these seabirds through noise and vibration, created by construction machinery, and through visual impacts. However, it should be noted that Staithes is a working harbour with a small fishing fleet present. Consequently, the nature of the small repair works, including repairs to cracks, removal of vegetation, re-facing of concrete, re-pointing of masonry, in-filling of voids, replacement of damaged or missing masonry blocks, is not considered to disturb the breeding seabirds.

In order to minimise disturbance to breeding birds, no major works, that is those related to the replacement of the missing stone leaf and scour protection at the bridge abutment, would be undertaken during the kittiwake breeding season, February to mid-August (High Point Rendel 2000). In order to further reduce any adverse effects to breeding birds, measures to minimise potential noise and vibration impacts are recommended as described in **Section 5.3**. Consequently, the potential adverse effects to breeding seabirds are considered to be negligible.

Considering the small, localised, nature of the proposed works and with the adherence of best practice and pollution prevention guidance, negligible effects are anticipated to the intertidal habitats within Staithes Harbour. As such, no further impacts are anticipated to the Runswick Bay rMCZ.

5.3 Noise and vibration

In addition to the potential presence of breeding birds, there are a number of commercial and residential properties within close proximity to the proposed works. The beach area surrounding the proposed works is also a popular location for beach based activities. The most significant noise and vibration impacts would result from the breaking out of any existing walls, where required, and delivery of materials.



In order to minimise potential noise and vibration impacts to sensitive receptors, the following best practice measures are recommended:

- ensure plant machinery is switched off when not in use;
- ensure that covers and hatches are properly secured and that there are no loose fixings causing rattling;
- ensure equipment is properly maintained and operated by trained staff;
- use silenced equipment where possible, in particular silenced generators; and,
- provide local residents with contact details of a site representative in the event that noise or vibration nuisance is perceived, and that any complaints are dealt with pro-actively and resolutions communicated to the complainant.

5.4 Water

WFD compliance assessment

Due to the limited nature of the proposed works, the groundwater waterbody is not considered to have the potential to be affected by the proposed works.

The proposed scheme comprises repair works to existing structures, with no new defences being proposed. The extension to the defence line was described previously in **Section 5.1**. This change to the coastal waterbody's geomorphology is considered to be negligible.

Potential adverse effects to the coastal and river waterbodies could result through accidental spills and leakages and through the release of contaminants used for the repair works. The excavation works, in particular to repair the stone leaf and bridge abutment, are considered to be minimal; however, there is the potential for the release of material with a high organic content; however, due to the relatively small amount of material to be removed and the volume of water that flows into the harbour during high tide, any effects are considered to be minor. Works will ensure that disturbance to sediments are kept to a minimum.

Only material approved for use in the marine environment will be used for the repair works. In addition to this, best practice and pollution prevention guidance will be adhered to throughout the duration of the scheme. As such, no adverse effects are anticipated to the status of the WFD waterbodies present.

Bathing Water Directive

As for the WFD assessment, by minimising the disturbance to sediments and with the use of approved materials and the adherence of best practice and pollution prevention guidance, no adverse effects to bathing water quality are anticipated.

5.5 Archaeology and Cultural Heritage

Consultation with the NYMNPA has confirmed that the preferred option will not have an adverse effect on the character or appearance of the Staithes Conservation Area. This opinion is based upon the understanding that the stone replacement is carried out on a like for like basis in terms of colour, geology, block sizes and method of coursing (Edward Freedman, *pers. comm.* NYMNPA March 2012).



5.6 Landscape, seascape and visual amenity value

The repair works will temporarily affect the local landscape / seascape character and amenity value. In addition to adhering to best practice guidance, the following measures are proposed to minimise any adverse effects:

- locally advertising the proposed works;
- conducting the works outside of the peak tourism period, where possible; and,
- informing local residents of the proposed works.

5.7 Tourism and recreation

The repair works have the potential to effect recreational users of the area through increased noise and vibration, increased traffic, reduced access to the beach and visual impacts. With the avoidance and mitigation measures proposed for noise and vibration, and landscape, seascape and visual amenity value, the potential adverse effects to tourism and recreation are considered to be minor.

6 Review of regulatory requirements

6.1 Marine and Coastal Access Act 2009

Part 4 of the Marine and Coastal Access Act (MCAA) 2009 provides the framework for the current marine licensing system for works below the level of mean high water spring (MHWS) tides. Consultation with the Marine Management Organisation (MMO) has confirmed that a Marine Licence is required for the proposed scheme.

6.2 Town and Country Planning Act 1990

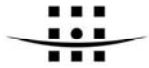
The Town and Country Planning Act 1990 is the principle legislation that governs planning permission and planning law in England and Wales. The procedural rules and regulations of this Act are set out in a number of statutory instruments. Consultation with NYMNPA has confirmed that planning permission is not required for the proposed scheme.

6.3 Wildlife and Countryside Act 1981

Under the terms of Section 28(4)b of the Wildlife and Countryside Act 1981 as amended by Schedule 9 to the Countryside and Rights of Way Act 2000, any operations within, or adjacent to, a SSSI require consent from Natural England. There are no SSSI's within the footprint of the proposed works. As the proposed works are considered to have a negligible effect on the existing coastal processes, no adverse effects are anticipated to Staithes-Port Mulgrave SSSI.

6.4 Land Drainage Act 1991 and Water Resources Act 1991 and associated byelaws

Prior written consent from the Environment Agency is required for any works in, under or near a watercourse or flood defence structure on any main river. Staithes Beck is not classified as a main river by the Environment Agency; therefore, it is considered that an application for 'Consent for Works affecting watercourses and / or flood defences' would not be required.



6.5 Habitats Regulations Assessment

The Conservation of Species and Habitats Regulations 2010 (the Habitats Regulations) implement EC Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (the Habitats Directive). In accordance with Section 61 of the Habitats Regulations, Appropriate Assessment (AA) is required for any plan or project, not connected with the management of a European site, which is likely to have a significant effect on the site either alone or in combination with other plans and projects. European sites comprise Special Protection Areas (SPAs), as designated under Council Directive 79/409/EEC (the Wild Birds Directive), or Special Areas of Conservation (SACs), as designated under the Habitats Directive. AA is also required as a matter of government policy for potential SPAs, candidate SACs and listed Ramsar sites for the purpose of considering development proposals affecting them (ODPM 2005).

The proposed works area does not contain or lie adjacent to any European designated sites. As such, AA is considered unlikely to be required.

6.6 Water Framework Directive

The WFD establishes a legal framework to protect and restore clean water across Europe to ensure its long-term, sustainable use. One of the aims of the WFD is to ensure that all European waterbodies are of Good Ecological Status/Potential by 2015 by the setting of Environmental Quality Objectives (EQO's), including water chemistry, ecological and hydromorphological quality needs. The Environment Agency has a duty to consider the implications of proposals under the WFD. Consideration of the implications of the proposed scheme under the WFD has been undertaken (see **Section 5.4**). With the adherence to best practice guidance, no adverse effects are anticipated to the status of the WFD waterbodies present.

6.7 Requirement for Environmental Impact Assessment

The requirement for Environmental Impact Assessment (EIA) is established by the European Directive 85/33/EEC (as amended by 97/11/EC, 2003/35/EC and 2009/31/EC) on the assessment of the effects of certain public and private projects on the environment (the EIA Directive). The EIA Directive, as amended, is implemented via various Regulations; the following is applicable to the proposed scheme:

Marine Works (EIA) Regulations 2007

The Marine Works (EIA) Regulations 2007, as amended, transpose the EIA Directive in relation to activities which are regulated under the MCAA. A screening opinion has been requested and received from the MMO. The MMO do not consider that a statutory EIA needs to be undertaken for the proposed scheme.



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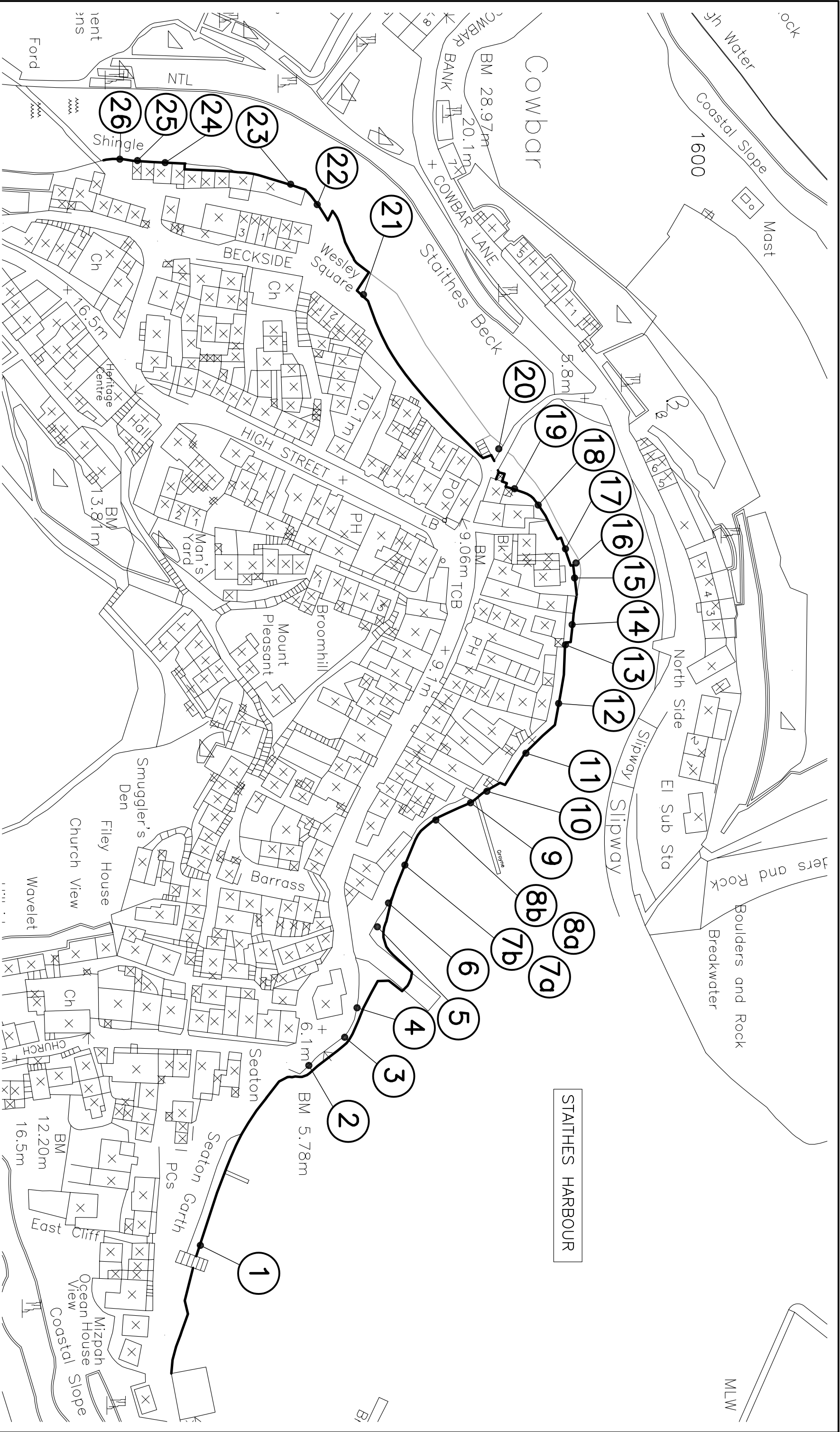
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Appendix A
Proposed Works



STAITHES HARBOUR



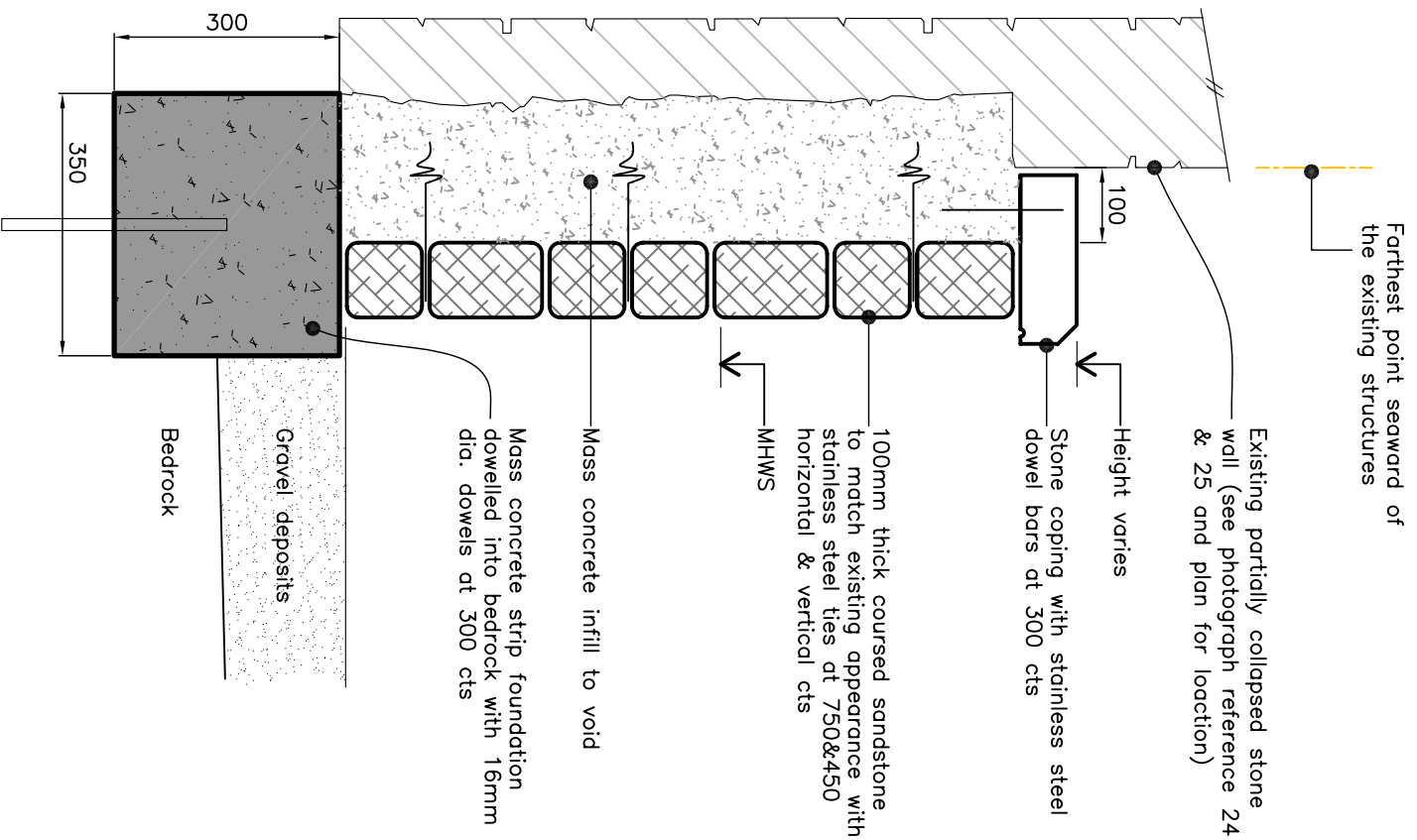
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COUNCIL
REGENERATION AND PLANNING SERVICES

TOWN HALL
ST. NICHOLAS STREET
SCARBOROUGH
YO11 2HG
TELEPHONE 01723 232323
FAX 08701 913997



PROJECT
STAITHES URGENT HARBOUR WALL
IMPROVEMENTS

DRAWING TITLE
PLAN ON STAITHES HARBOUR
INDICATING LOCATION OF WORKS

DRAWN	INITIALS	DATE	1:1000 @ A3
ML		Jan 2012	SK 01 Rev B

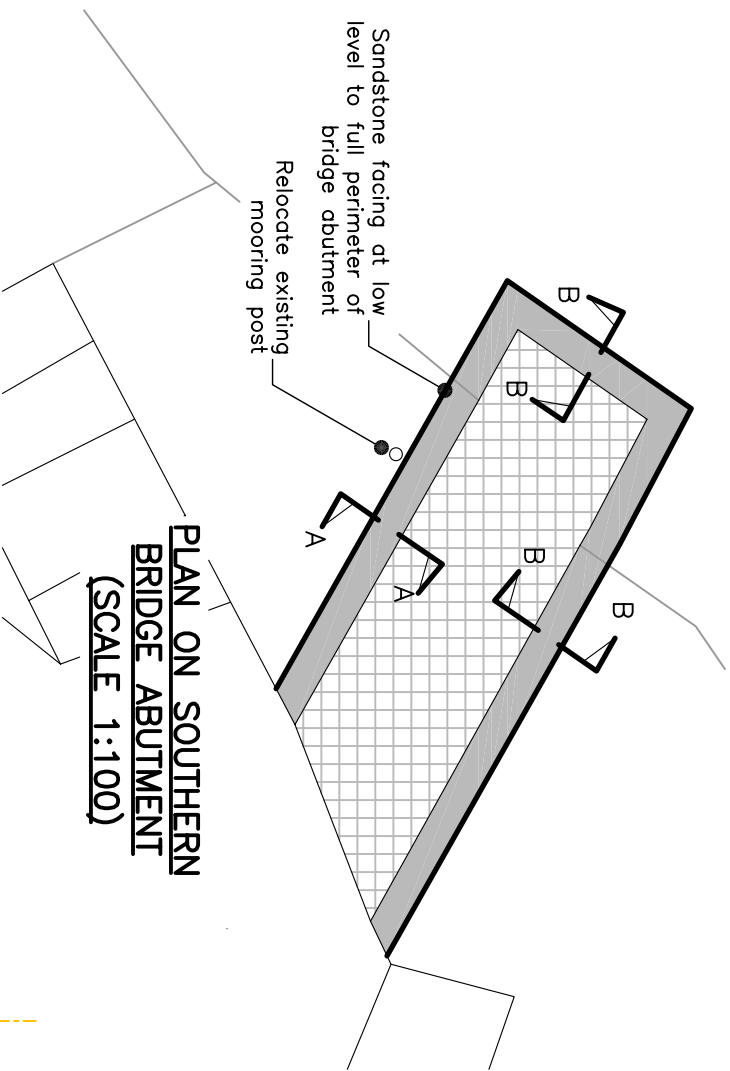


TYPICAL SECTION AT WALL REPAIR TO PHOTOGRAPH REFERENCES 24&25 (SCALE 1:10)

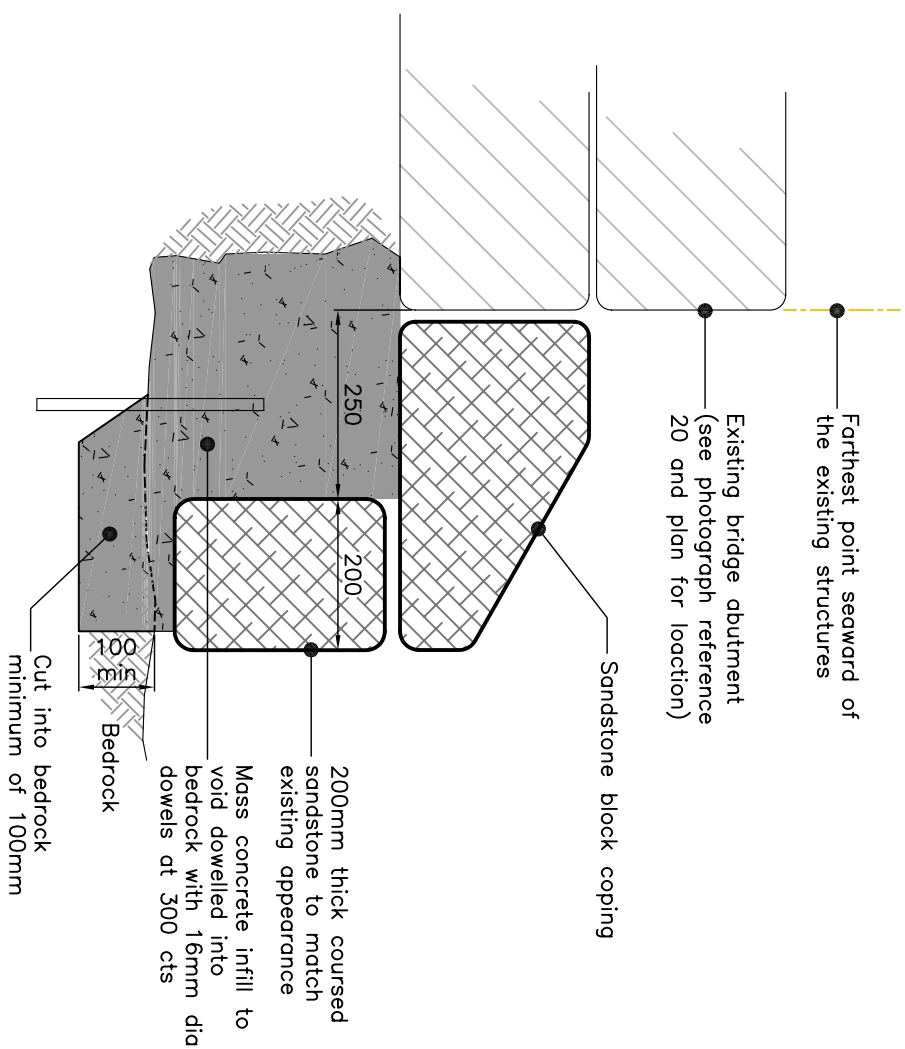
SCARBOROUGH BOROUGH COUNCIL REGENERATION AND PLANNING SERVICES		PROJECT STAITHE'S URGENT HARBOUR WALL IMPROVEMENTS		INITIALS		DATE			
 TOWN HALL ST. NICHOLAS STREET SCARBOROUGH YO11 2HG TELEPHONE 01723 232323 FAX 08701 913997		DRAWING TITLE REMEDIAL WORKS DETAIL		DRAWN		M.LLOYD		MARCH 2012	
				CHECKED					
				APPROVED					
 TOWN HALL ST. NICHOLAS STREET SCARBOROUGH YO11 2HG TELEPHONE 01723 232323 FAX 08701 913997		DRAWING TITLE REMEDIAL WORKS DETAIL		SCALES		@ A4		DRAWING NUMBER SK02	



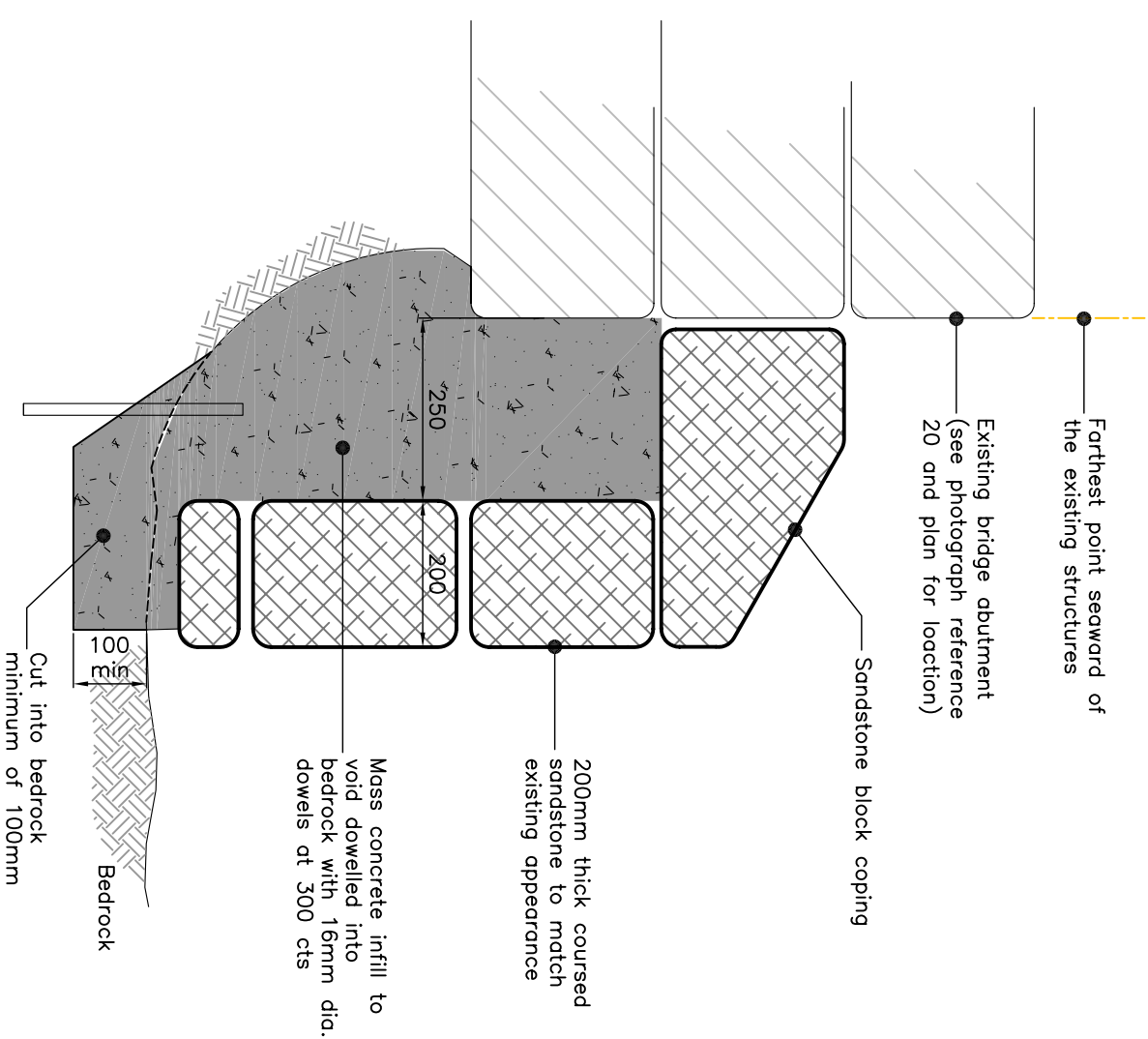
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**PLAN ON SOUTHERN
BRIDGE ABUTMENT
(SCALE 1:100)**



**SECTION A-A
(SCALE 1:10)**



**SECTION B-B
(SCALE 1:10)**



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PROJECT
STAITHES URGENT HARBOUR WALL
IMPROVEMENTS

DRAWING TITLE
SOUTHERN BRIDGE ABUTMENT
REMEDIAL WORKS

INITIALS

DATE

DRAWN

ML

Mar 2012

As noted @ A3
SCALES

DRAWING NUMBER

SK 03