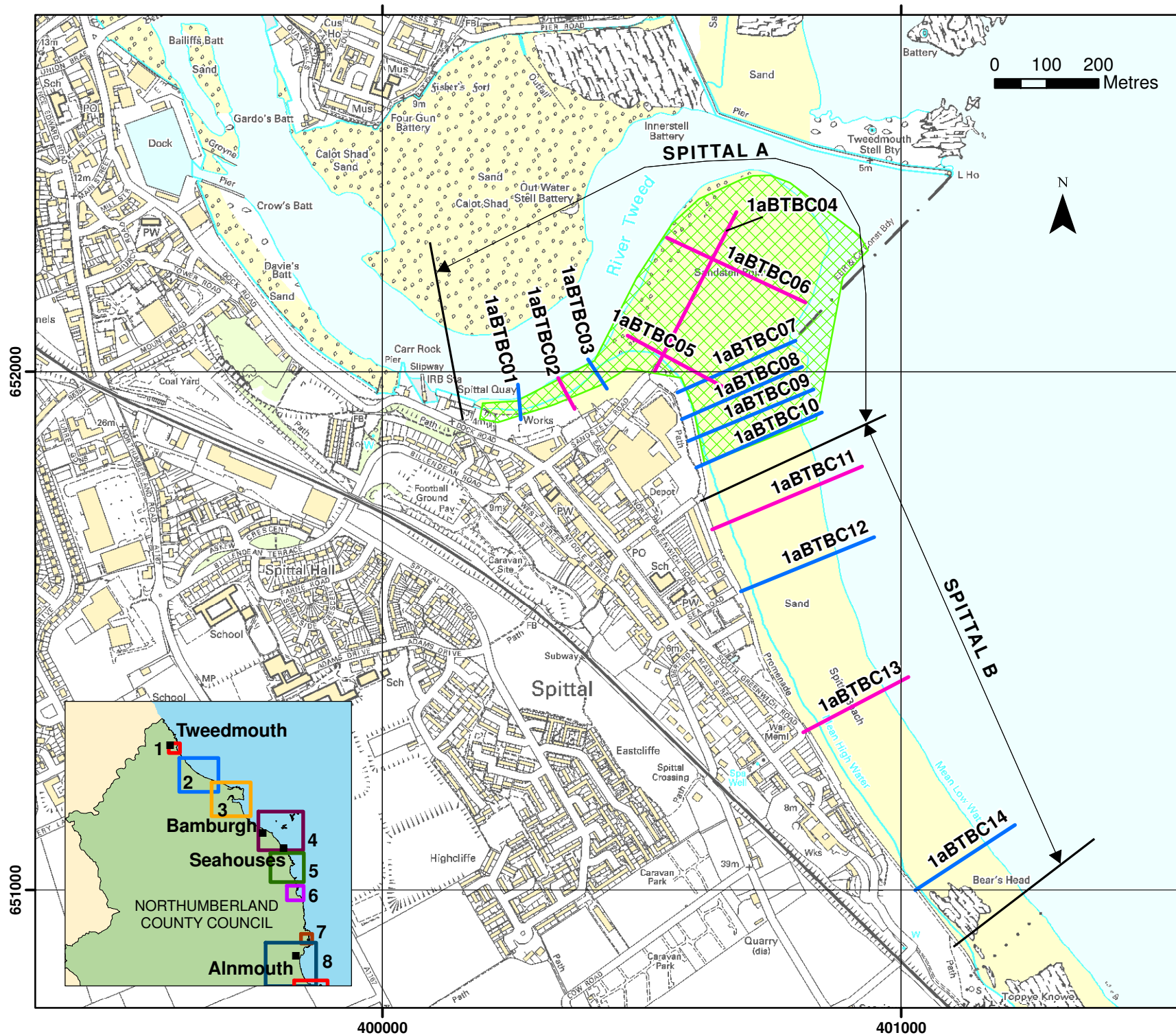


**Northumberland**



## SURVEY LOCATIONS

### Topographic Profiles

— Annual

— Bi-Annual

### Topographic Surveys

6 monthly

yearly

5 yearly

Cliff Top Edge Survey

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 1 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:10,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010

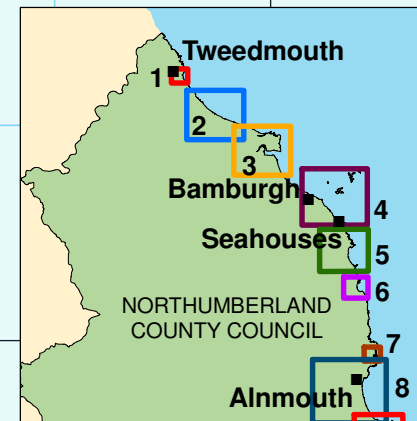
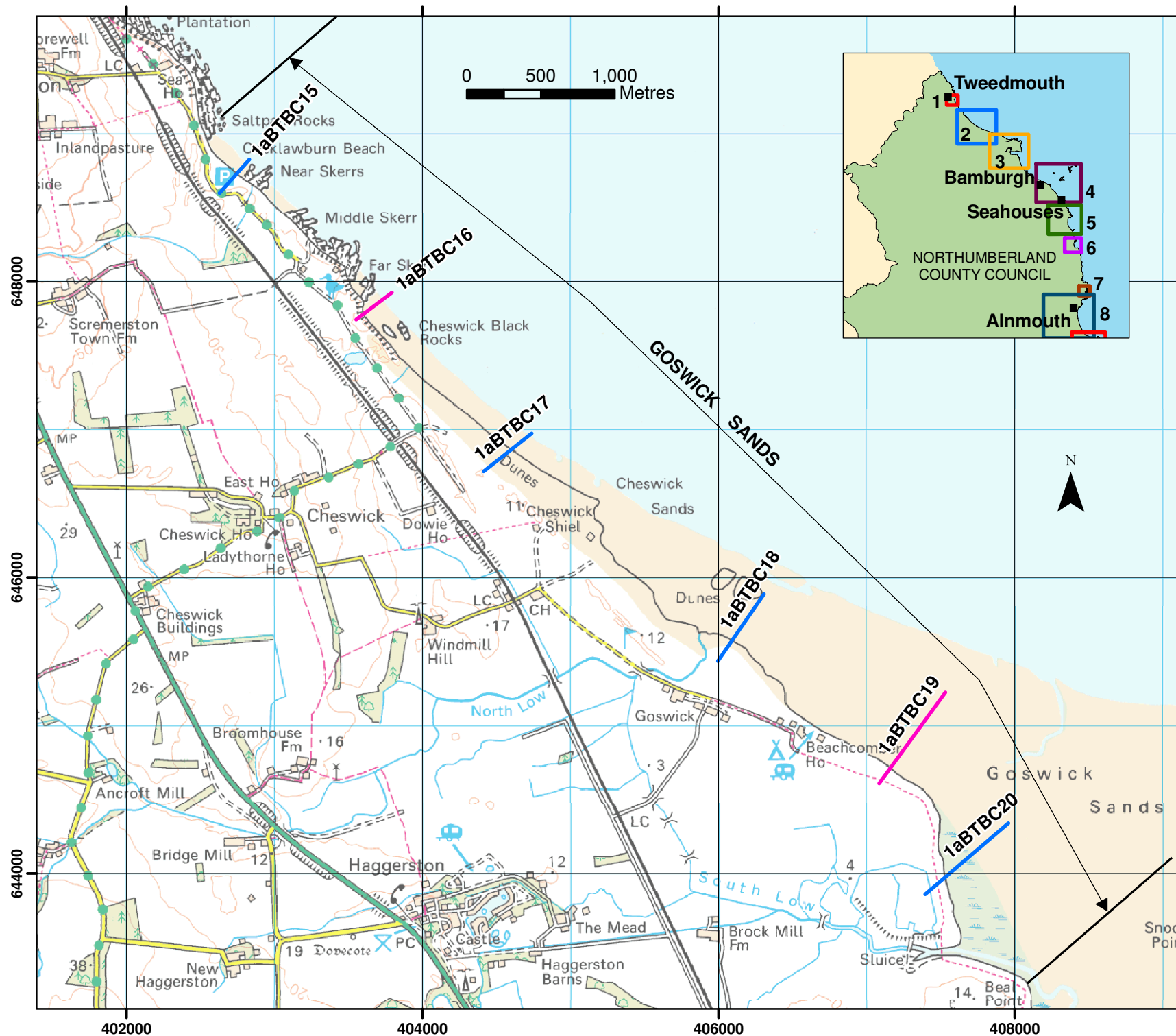


Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
[www.royalhaskoning.com](http://www.royalhaskoning.com)

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright.  
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings.  
Northumberland County Council.  
Licence No. LA 100021901





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal  
Monitoring Programme

## Figure 2 - Map 2 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:35,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

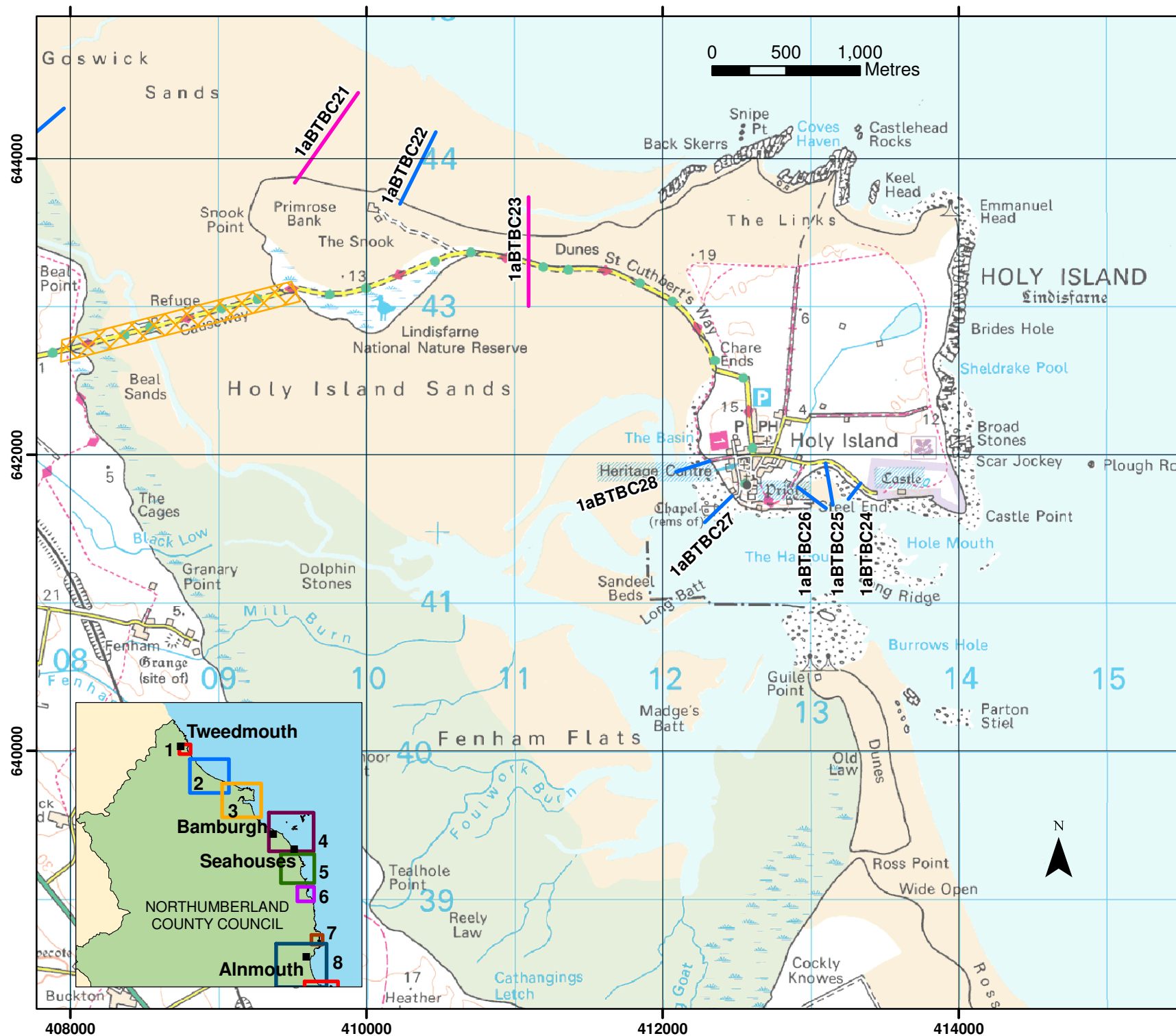
Approved by: NC Date: 05/11/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright.  
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings.  
Northumberland County Council.  
Licence No. LA 100021901



## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- X 6 monthly
- X yearly
- X 5 yearly

— Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 3 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:35,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

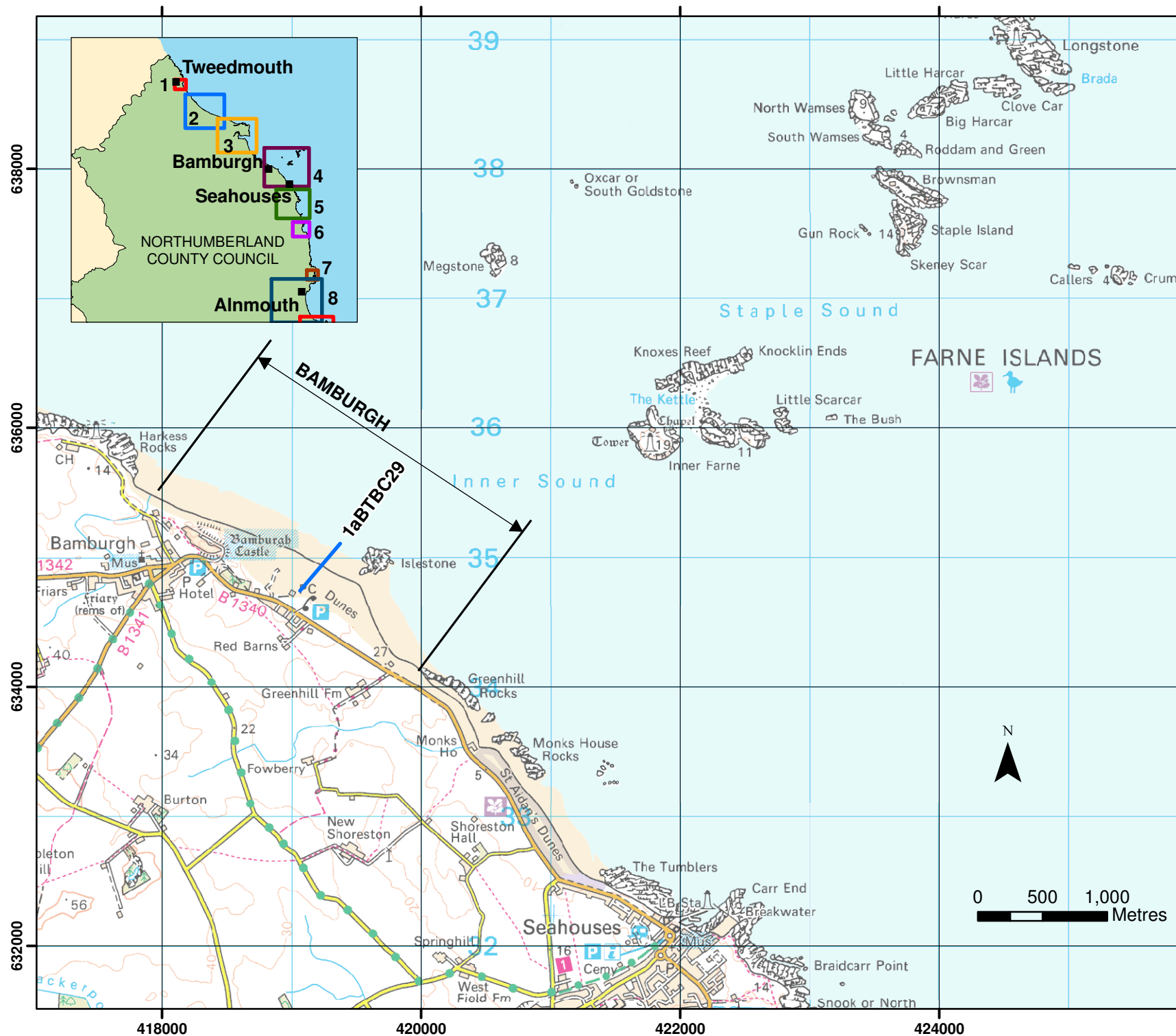
Approved by: NC Date: 05/11/2010



**ROYAL HASKONING**  
Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright.  
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings.  
Northumberland County Council.  
Licence No. LA 100021901



## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 4 Northumberland County Council Frontage

### Analytical Report 3 'Full Measures' Survey 2010

Drawing Scale 1:40,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010

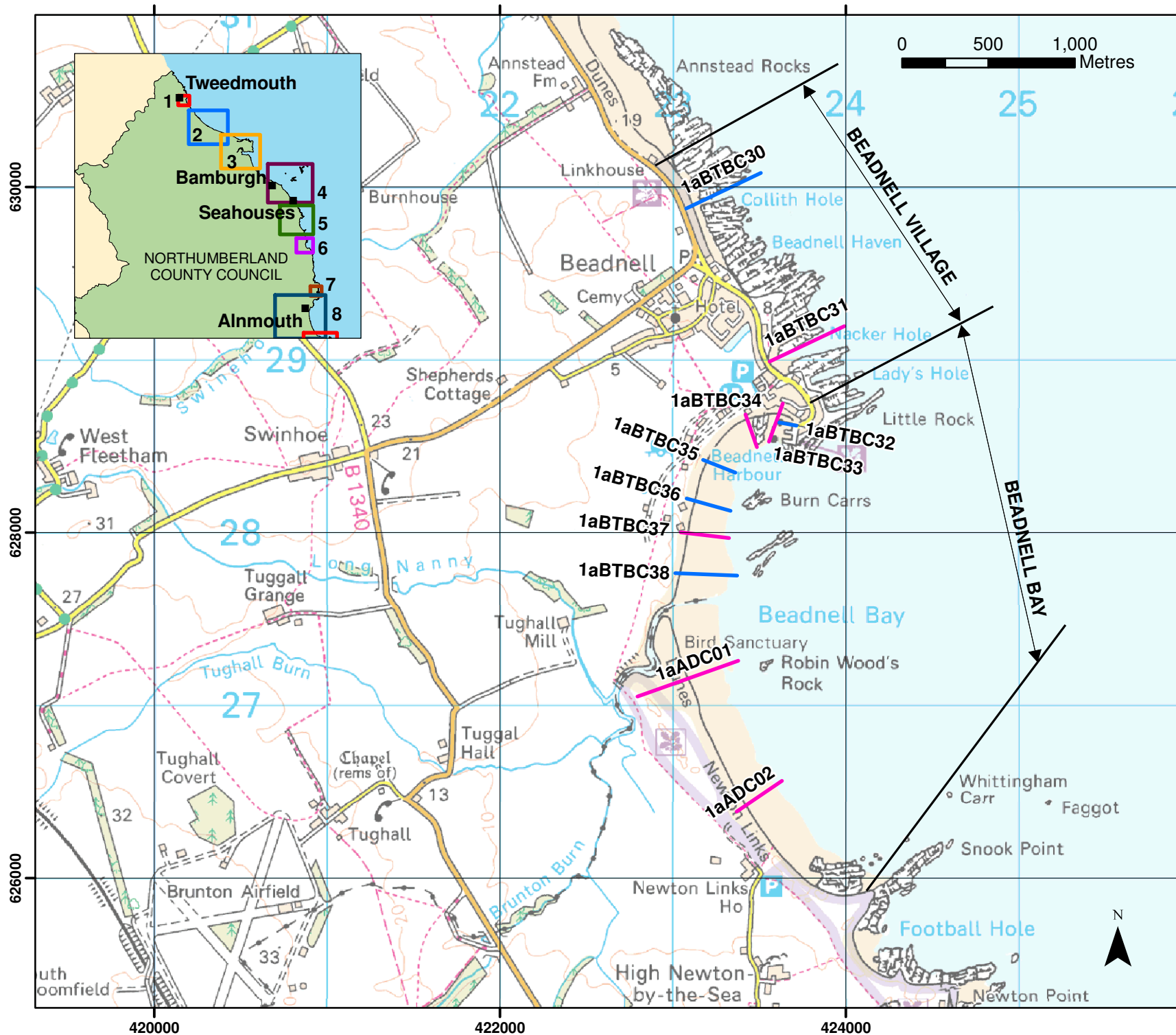


Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Northumberland County Council. Licence No. LA 100021901





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

— Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 5 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:30,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010

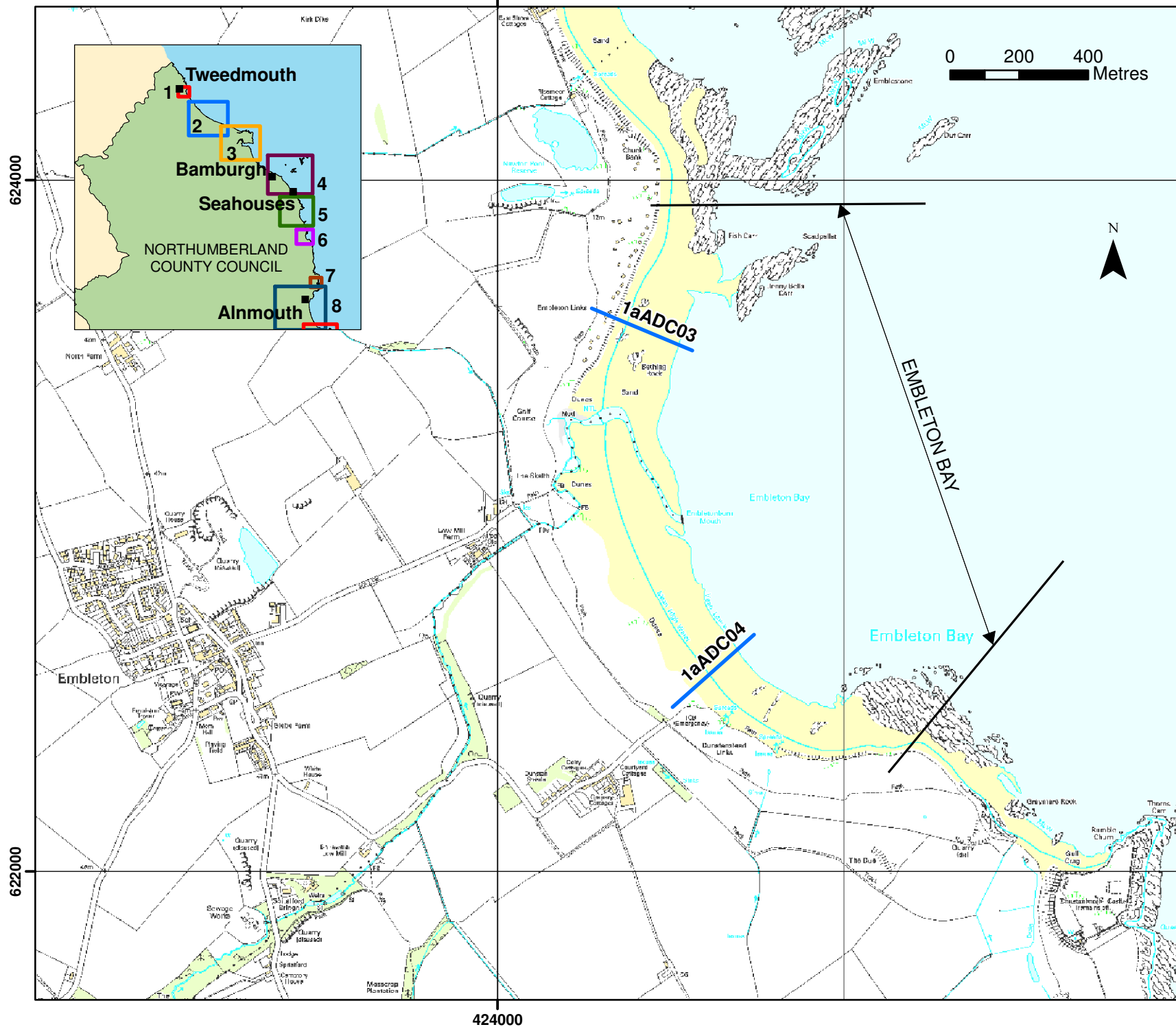


Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright.  
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings.  
Northumberland County Council.  
Licence No. LA 100021901





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly
- Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 6 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:15,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

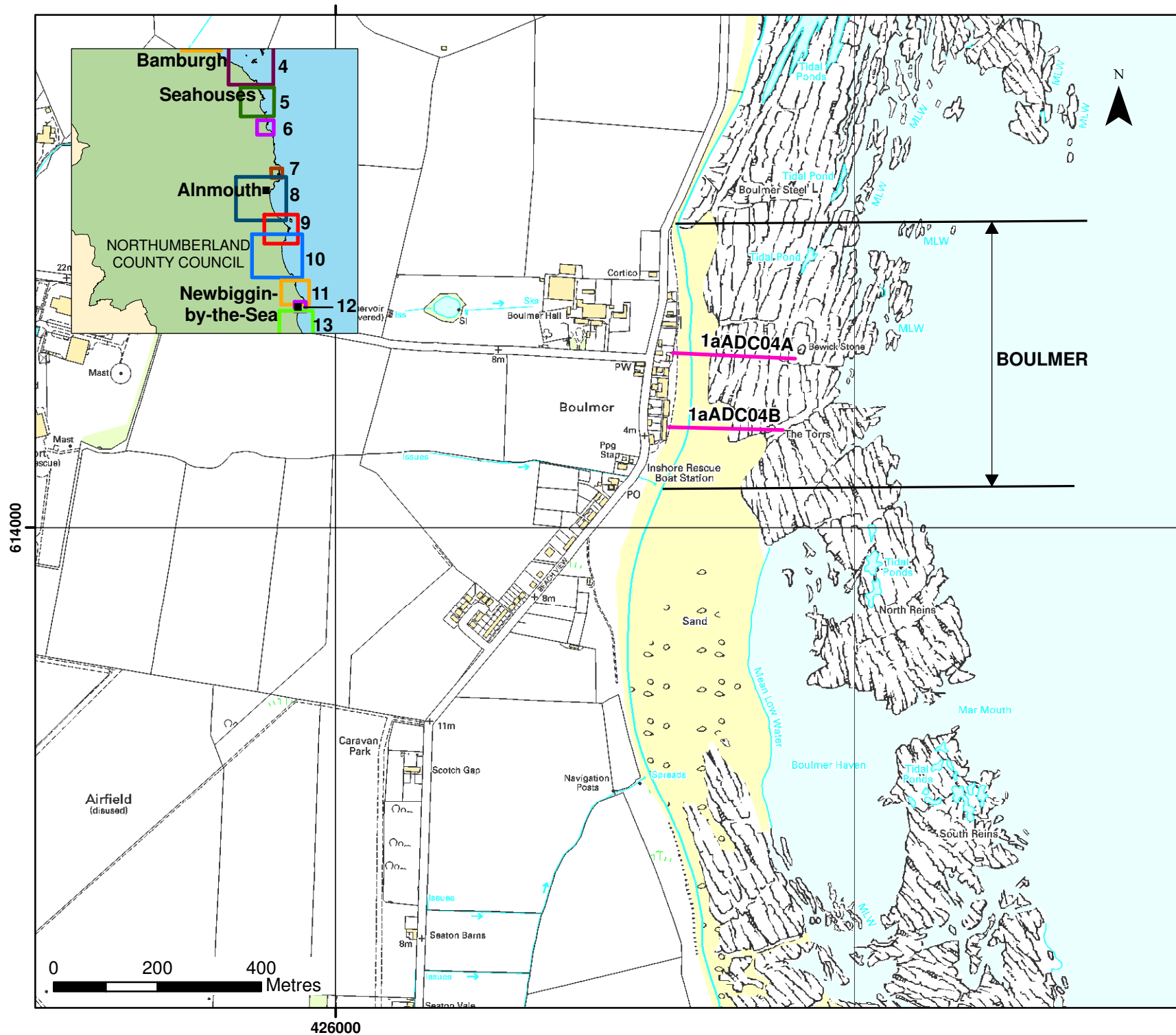
Approved by: NC Date: 05/11/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright.  
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings.  
Northumberland County Council.  
Licence No. LA 100021901



## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal  
Monitoring Programme

## Figure 2 - Map 7 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:10,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

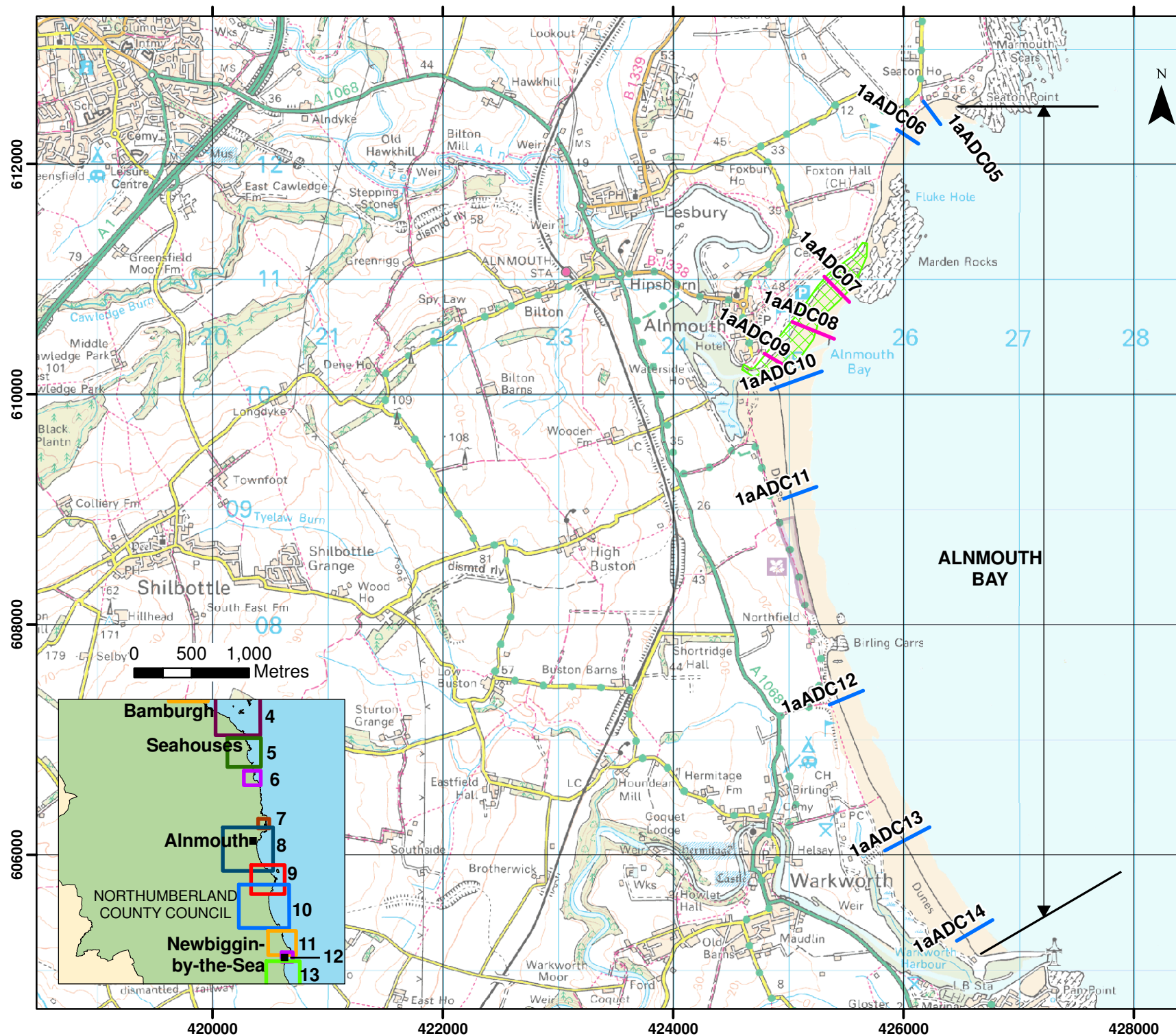
Approved by: NC Date: 05/11/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the  
permission of the Controller of Her Majesty's Stationery  
Office © Crown Copyright.  
Unauthorised reproduction infringes Crown Copyright  
and may lead to prosecution or civil proceedings.  
Northumberland County Council.  
Licence No. LA 100021901



## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly
- Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 8 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:45,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010

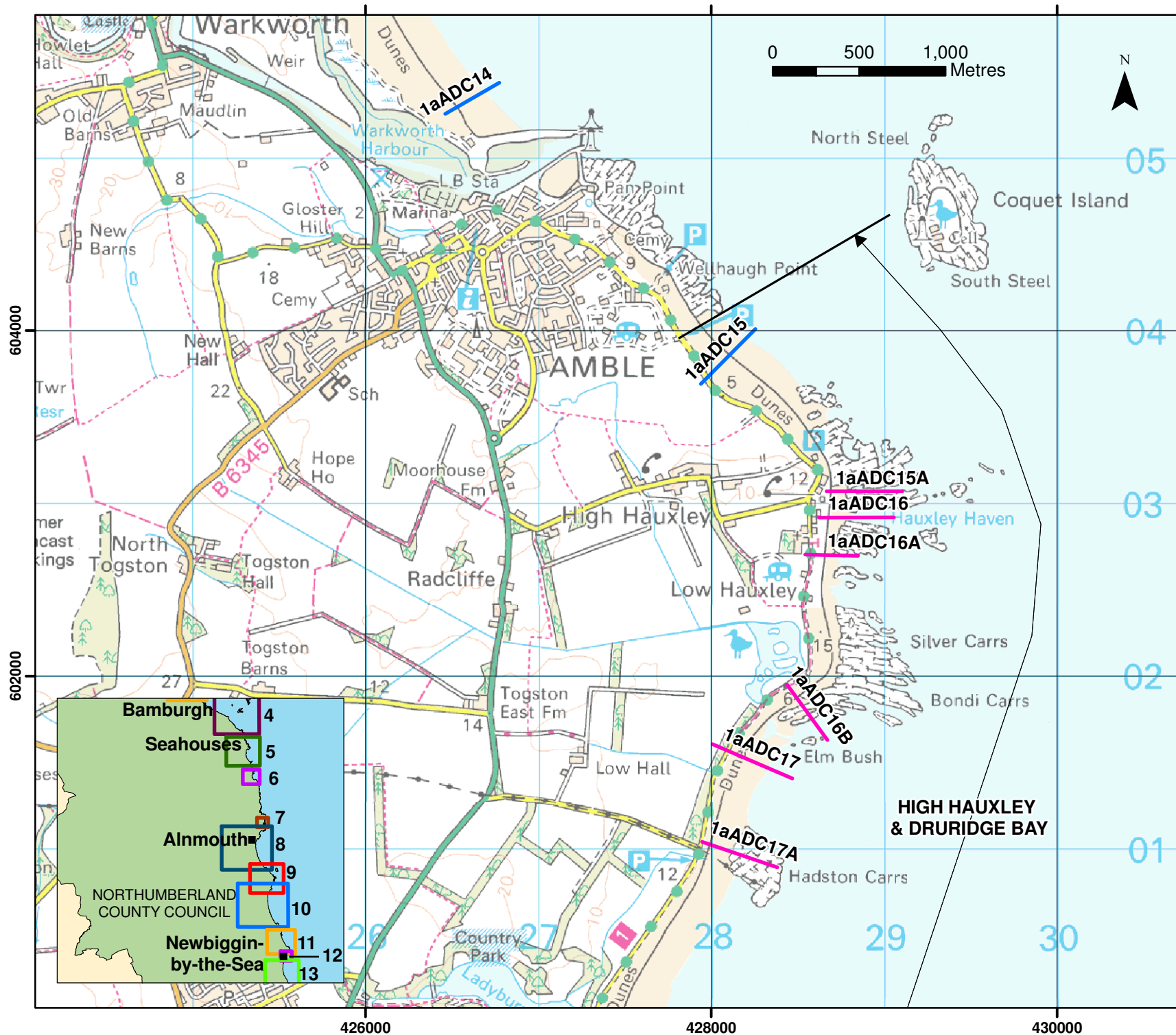


Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright.  
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings.  
Northumberland County Council.  
Licence No. LA 100021901





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 9 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:30,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010



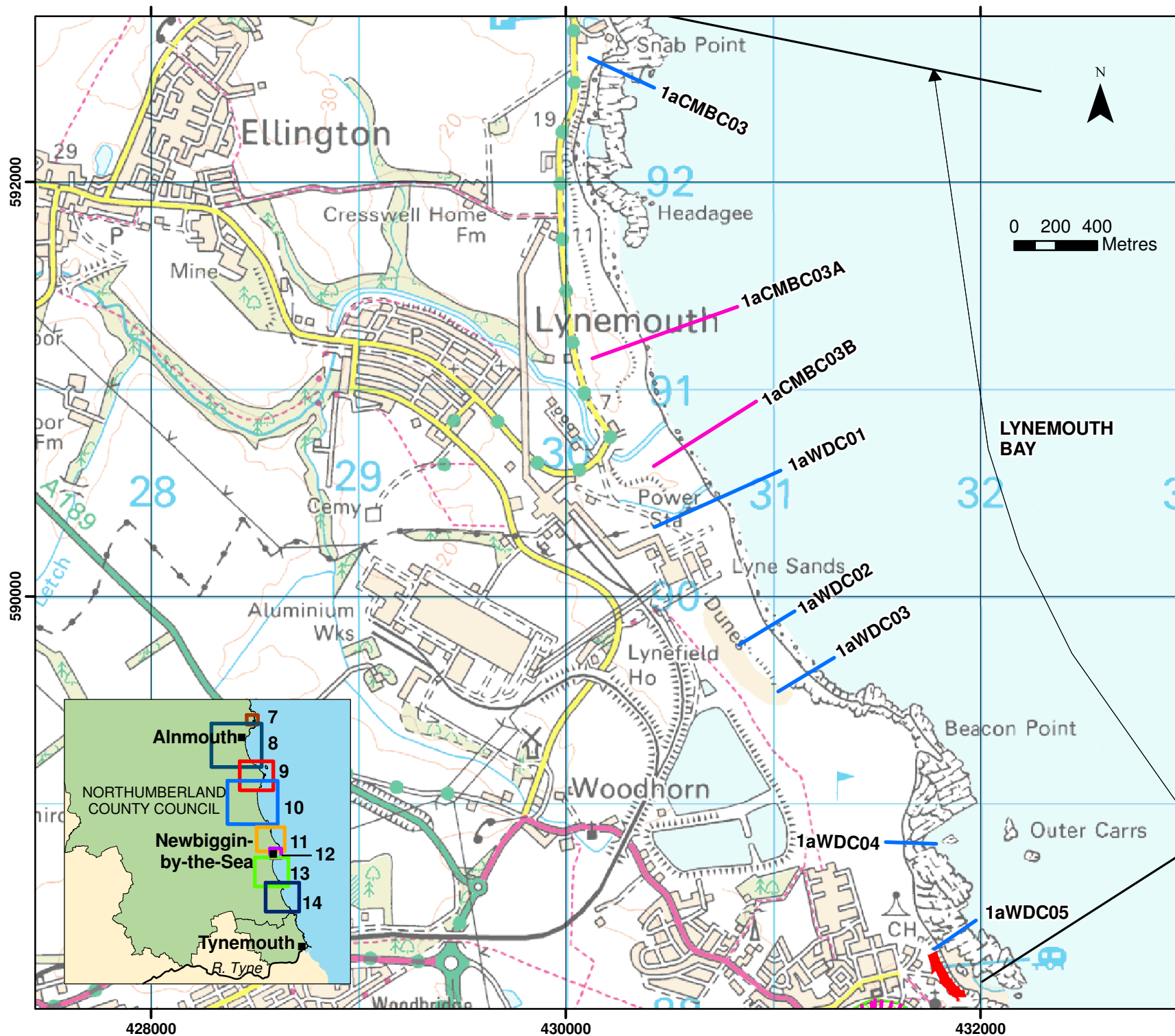
Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright.  
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings.  
Northumberland County Council.  
Licence No. LA 100021901







## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

— Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 11 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:25,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010



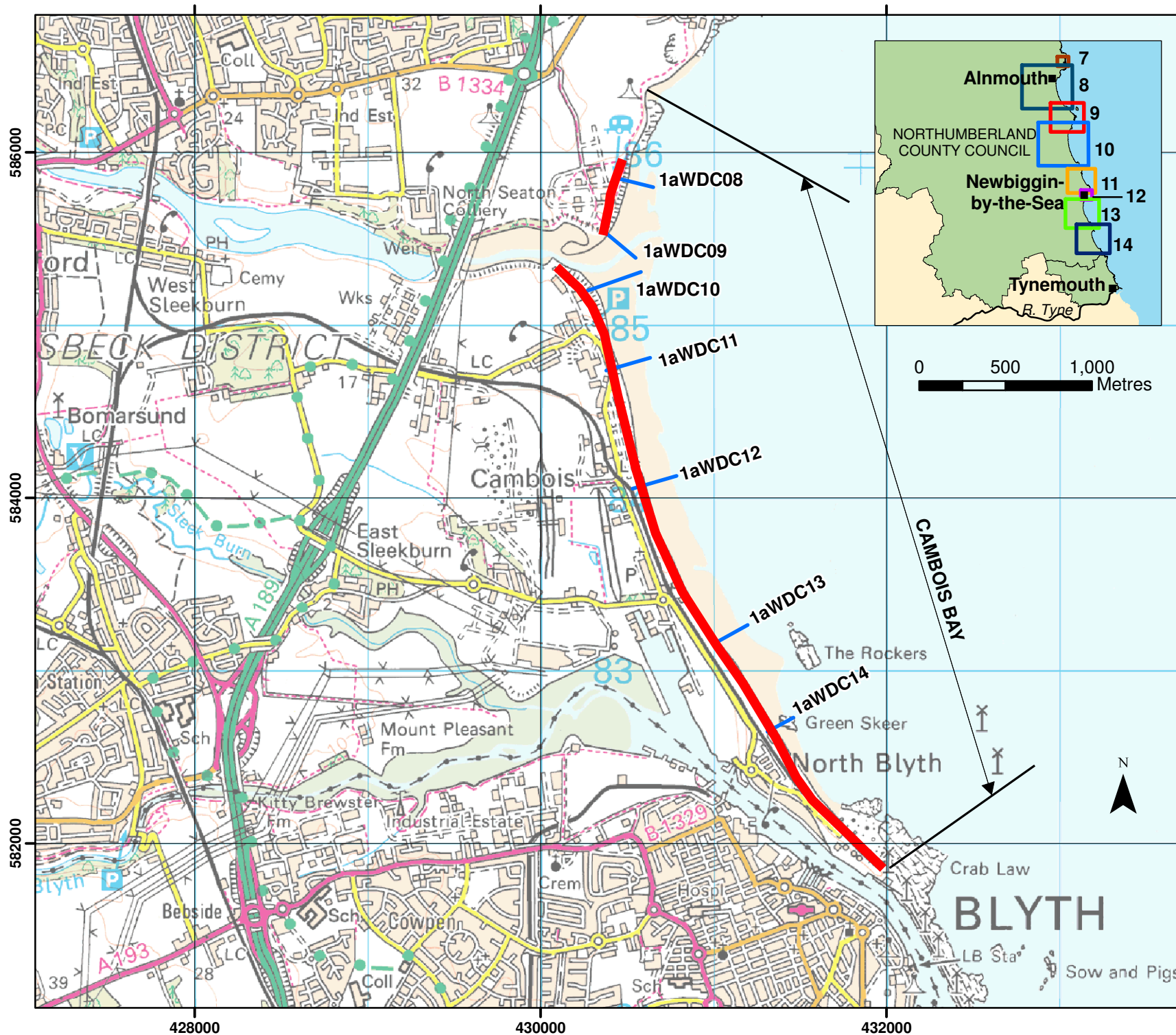
Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright.  
Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings.  
Northumberland County Council.  
Licence No. LA 100021901







## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal  
Monitoring Programme

## Figure 2 - Map 13 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:30,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010

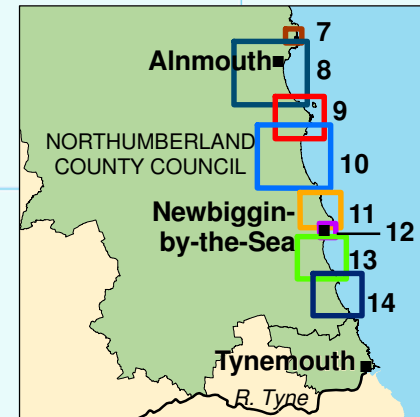
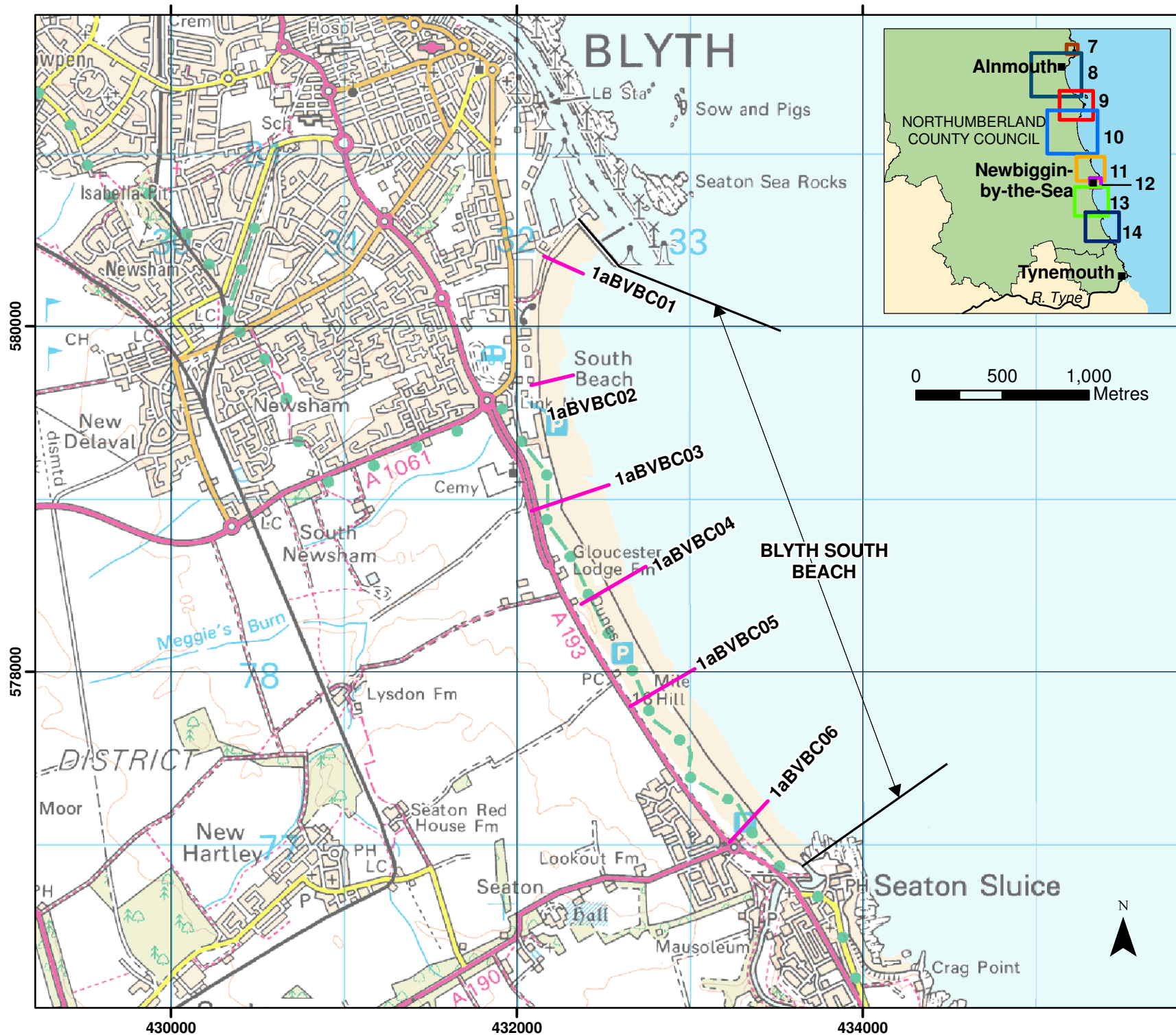


Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Northumberland County Council. Licence No. LA 100021901





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

Cliff Top Edge Survey  
(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal  
Monitoring Programme

## Figure 2 - Map 14 Northumberland County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:30,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Reproduced from Ordnance Survey mapping with the  
permission of the Controller of Her Majesty's Stationery  
Office © Crown Copyright.  
Unauthorised reproduction infringes Crown Copyright  
and may lead to prosecution or civil proceedings.  
Northumberland County Council.  
Licence No. LA 100021901

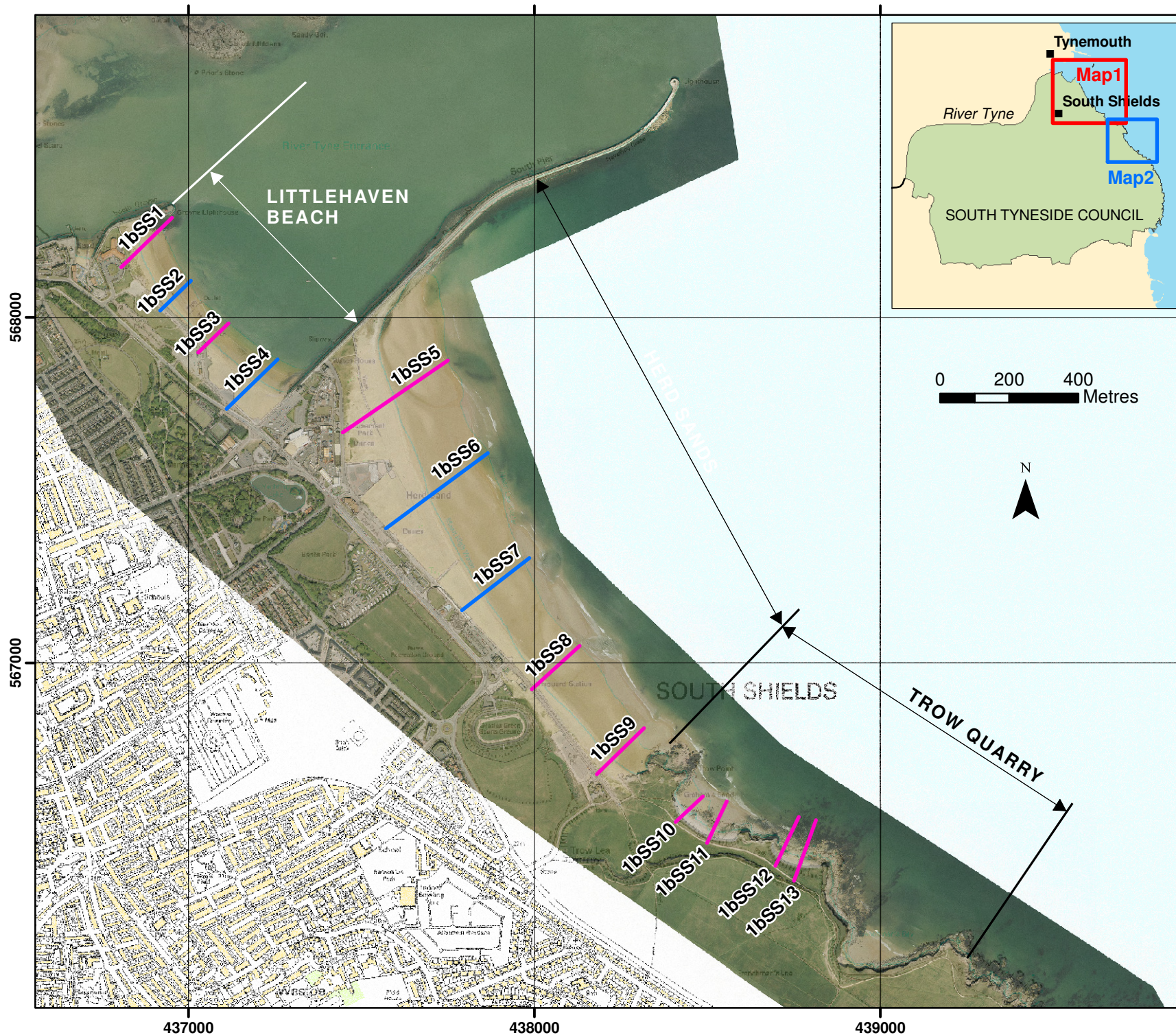
**North Tyneside**





**South Tyneside**





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 1 South Tyneside Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:15,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com



Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

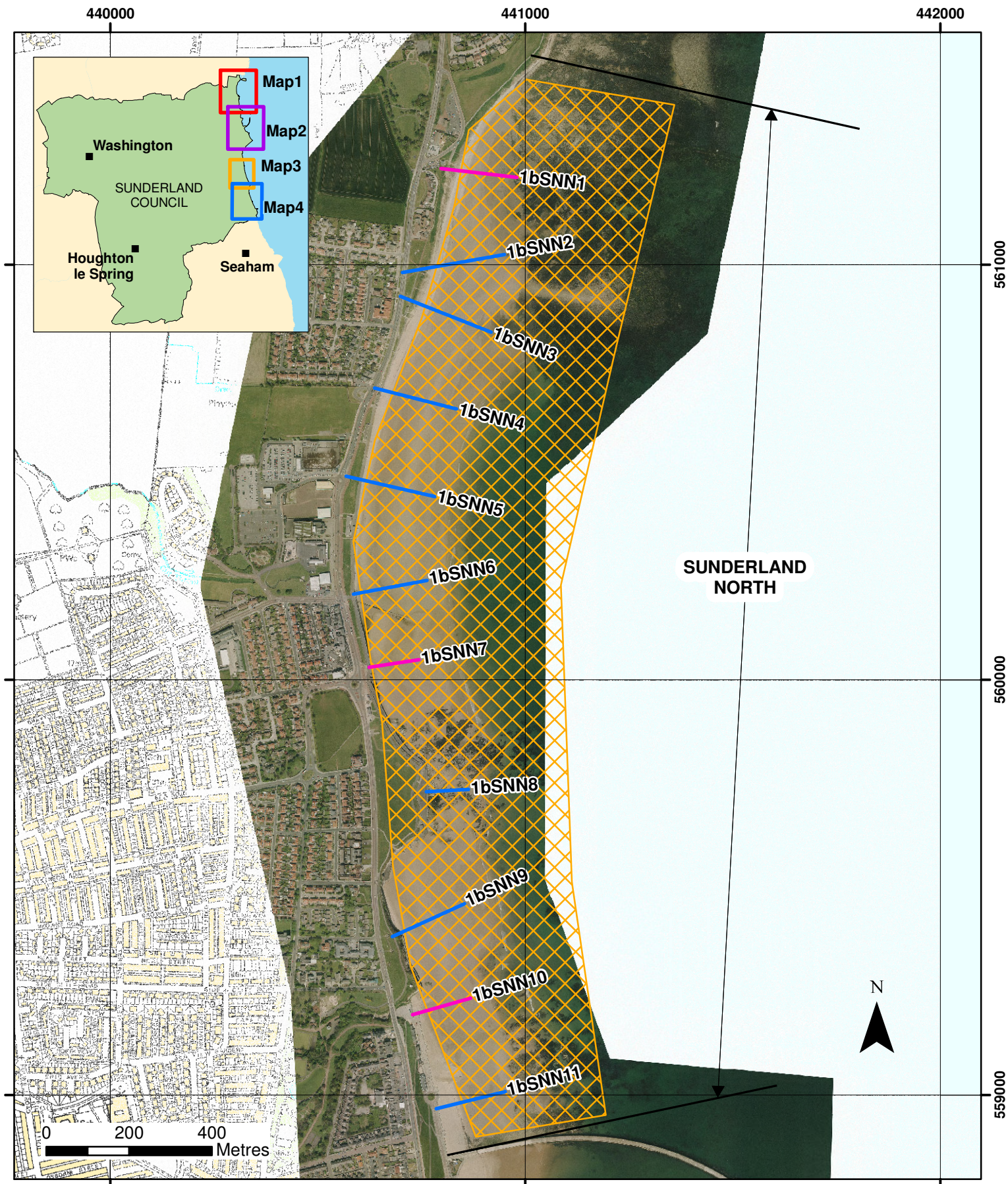
Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





**Sunderland**





#### TOPOGRAPHIC SURVEY LOCATIONS

- Annual Profile
- Bi-Annual Profile
- ⊠ 6 monthly Survey
- ⊠ Yearly Survey
- ⊠ 5 yearly Survey
- Cliff Top Survey @ 50 centres
- Cliff Top Survey @ 100 centres
- Cliff Top Survey @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group  
Project: Cell 1 Regional Coastal Monitoring Programme

### Figure 2 - Map 1 Sunderland Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:12,000 at A4



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com



Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)121 456 2345  
Fax: +44 (0)121 456 1569  
www.halcrow.com

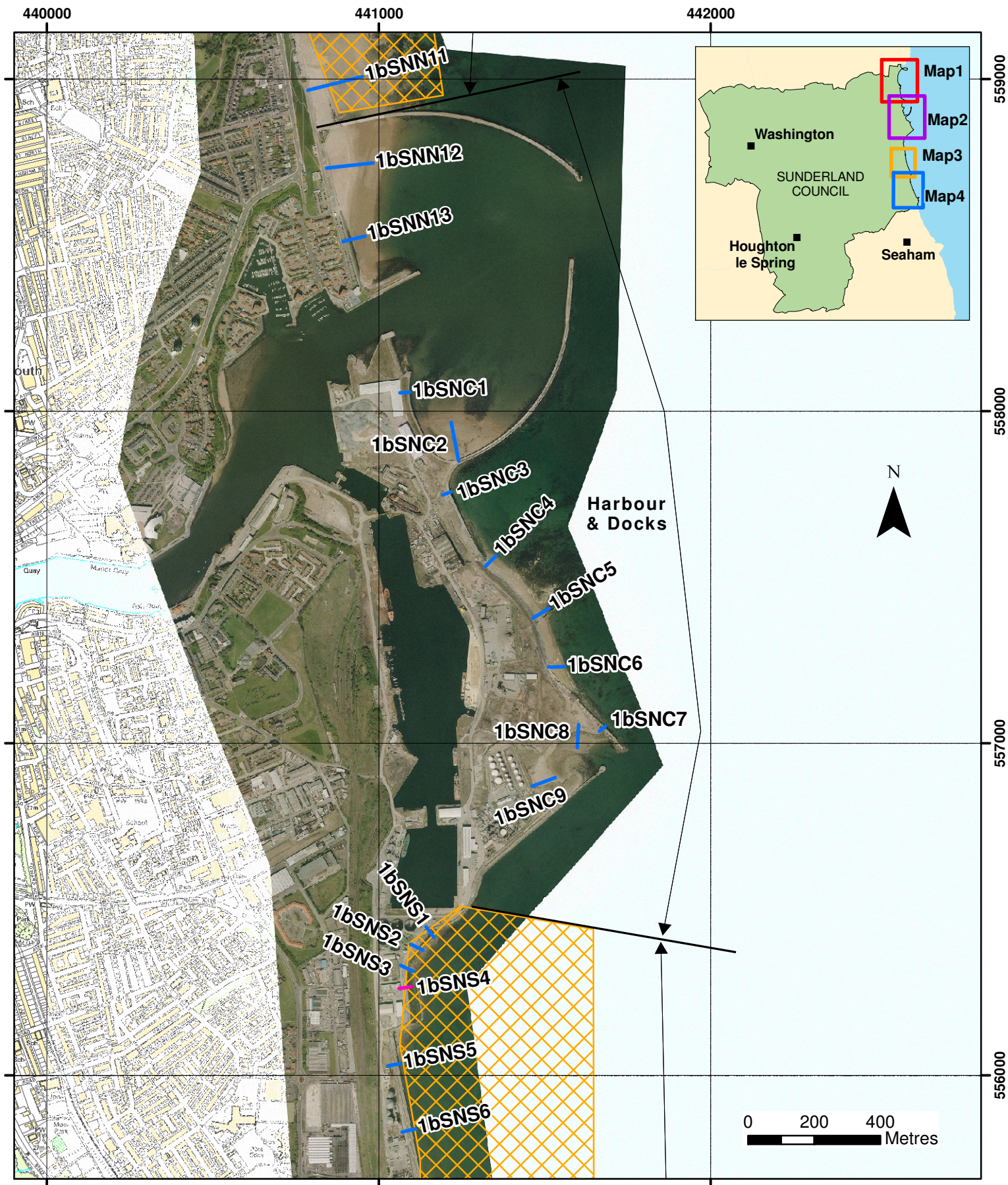
Drawn by: TC Date: 27/10/2010

Checked by: MD Date: 05/11/2010

Approved by: NC Date: 05/11/2010

Photography courtesy of  
North East Coastal Observatory  
[www.northeastcoastalobservatory.org.uk](http://www.northeastcoastalobservatory.org.uk)





#### TOPOGRAPHIC SURVEY LOCATIONS

- Annual Profile
- Bi-Annual Profile
- ⊠ 6 monthly Survey
- ⊠ Yearly Survey
- ⊠ 5 yearly Survey
- Cliff Top Survey @ 50 centres
- Cliff Top Survey @ 100 centres
- Cliff Top Survey @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group  
Project: Cell 1 Regional Coastal Monitoring Programme

### Figure 2 - Map 2 Sunderland Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:15,000 at A4



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com



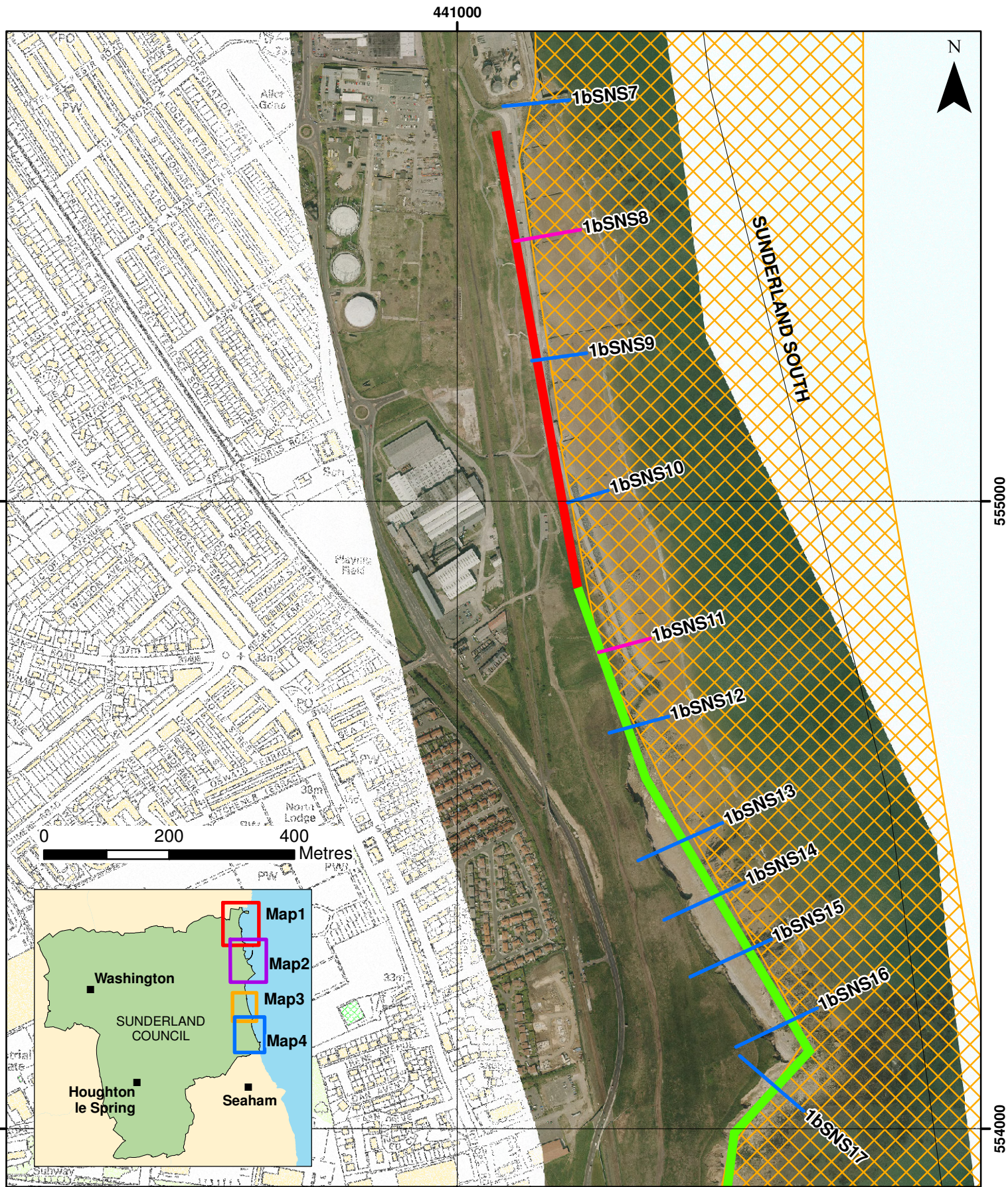
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)121 456 2345  
Fax: +44 (0)121 456 1569  
www.halcrow.com

Drawn by: TC Date: 27/10/2010  
Checked by: MD Date: 05/11/2010  
Approved by: NC Date: 05/11/2010

Photography courtesy of  
North East Coastal Observatory  
[www.northeastcoastalobservatory.org.uk](http://www.northeastcoastalobservatory.org.uk)





#### TOPOGRAPHIC SURVEY LOCATIONS

- Annual Profile
  - Bi-Annual Profile
  - 6 monthly Survey
  - Yearly Survey
  - 5 yearly Survey
  - Cliff Top Survey @ 50 centres
  - Cliff Top Survey @ 100 centres
  - Cliff Top Survey @ 300 centres
- (Indicative Survey Extents shown)

Client: North East Coastal Group  
Project: Cell 1 Regional Coastal Monitoring Programme

### Figure 2 - Map 3 Sunderland Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:8,000 at A4



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com



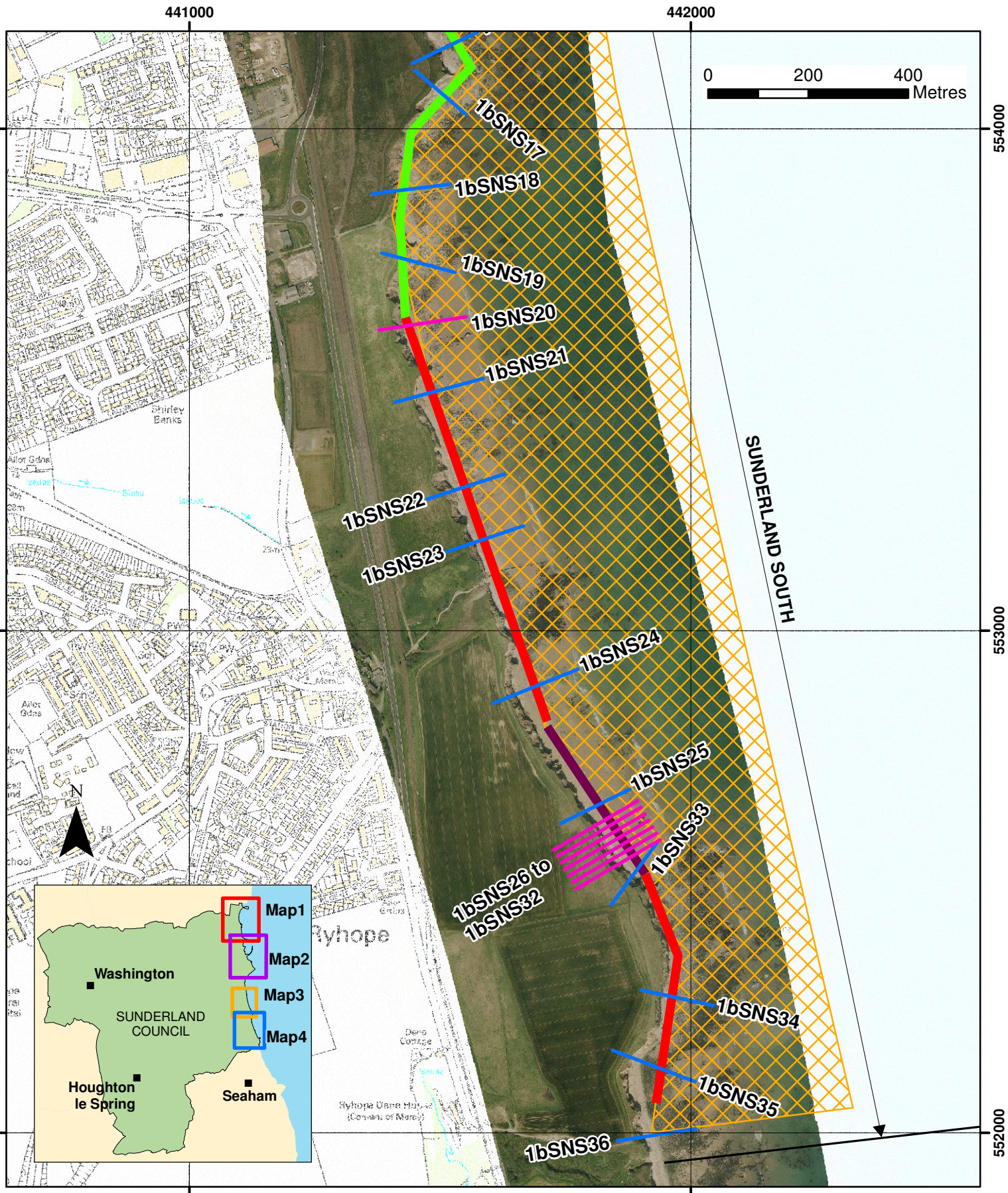
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)121 456 2345  
Fax: +44 (0)121 456 1569  
www.halcrow.com

Drawn by: TC Date: 27/10/2010  
Checked by: MD Date: 05/11/2010  
Approved by: NC Date: 05/11/2010

Photography courtesy of  
North East Coastal Observatory  
[www.northeastcoastalobservatory.org.uk](http://www.northeastcoastalobservatory.org.uk)





<p><b>TOPOGRAPHIC SURVEY LOCATIONS</b></p> <ul style="list-style-type: none"> <li>Annual Profile</li> <li>Bi-Annual Profile</li> <li>6 monthly Survey</li> <li>Yearly Survey</li> <li>5 yearly Survey</li> <li>Cliff Top Survey @ 50 centres</li> <li>Cliff Top Survey @ 100 centres</li> <li>Cliff Top Survey @ 300 centres</li> </ul> <p>(Indicative Survey Extents shown)</p>	<p>Client: North East Coastal Group Project: Cell 1 Regional Coastal Monitoring Programme</p> <p><b>Figure 2 - Map 4 Sunderland Council Frontage</b></p> <p>Analytical Report 3 'Full Measures' Survey 2010</p> <p>Drawing Scale 1:10,000 at A4</p>	<div> <p>Royal Haskoning Marlborough House Marlborough Crescent Newcastle upon Tyne NE1 4EE</p> </div> <div> <p>Halcrow Group Ltd Lyndon House 62 Hagley Road Edgbaston Birmingham B16 8PE</p> </div> <p>Tel: +44 (0)191 211 1300 Fax: +44 (0)191 211 1313 www.royalhaskoning.com</p> <p>Tel: +44 (0)121 456 2345 Fax: +44 (0)121 456 1569 www.halcrow.com</p>	<p>Drawn by: TC      Date: 27/10/2010</p> <p>Checked by: MD      Date: 05/11/2010</p> <p>Approved by: NC      Date: 05/11/2010</p> <p>Photography courtesy of North East Coastal Observatory www.northeastcoastalobservatory.org.uk</p>
--	---	--	---



**County Durham**

442000

443000

444000

0 200 400  
Metres

N

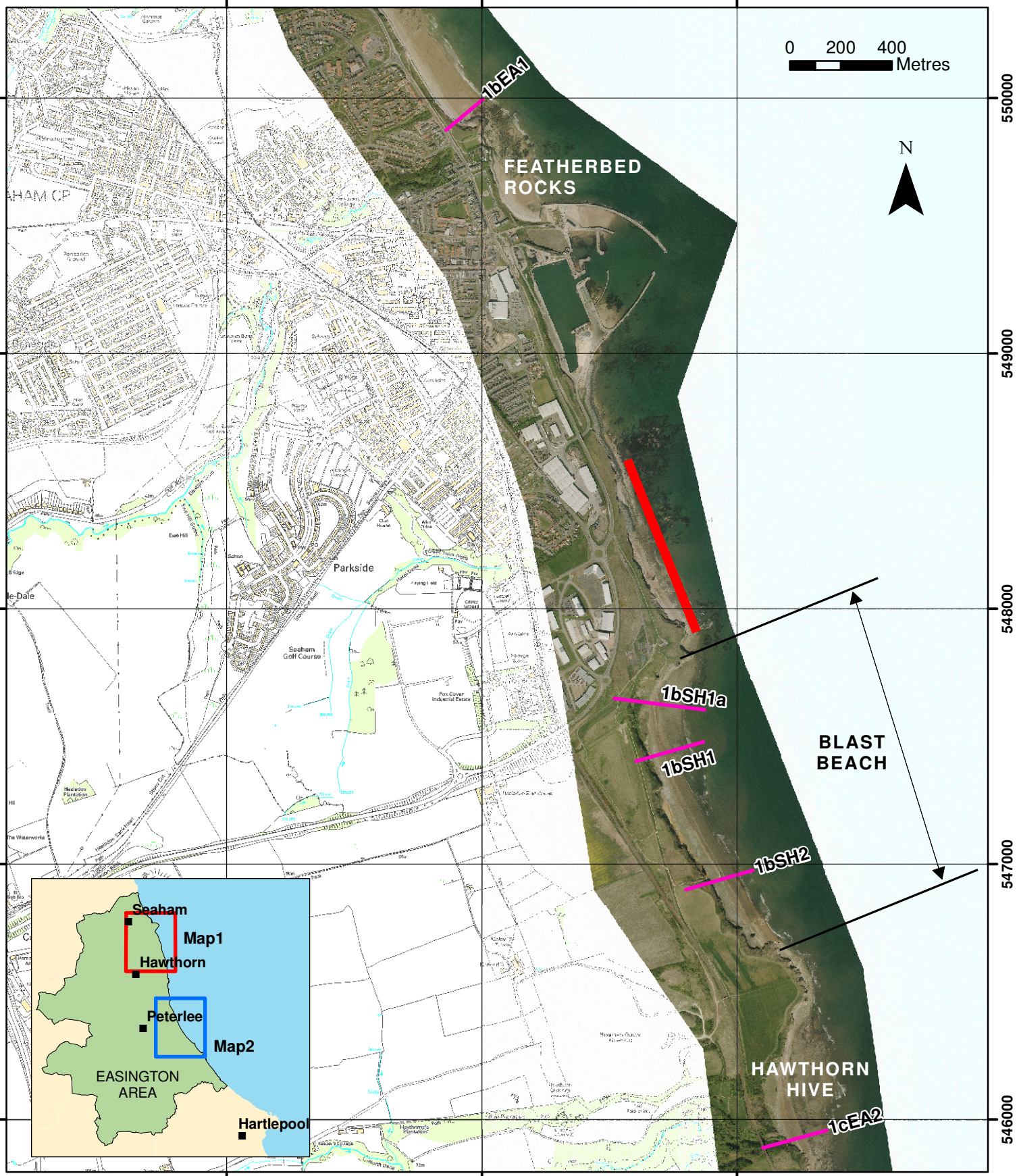
550000

549000

548000

547000

546000

**TOPOGRAPHIC SURVEY LOCATIONS**

- Annual Profile
  - Bi-Annual Profile
  - ⊠ 6 monthly Survey
  - ⊠ Yearly Survey
  - ⊠ 5 yearly Survey
  - Cliff Top Survey @ 50 centres
  - Cliff Top Survey @ 100 centres
  - Cliff Top Survey @ 300 centres
- (Indicative Survey Extents shown)

Client: North East Coastal Group  
Project: Cell 1 Regional Coastal Monitoring Programme

### Figure 2 - Map 1 Durham County Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:20,000 at A4



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com



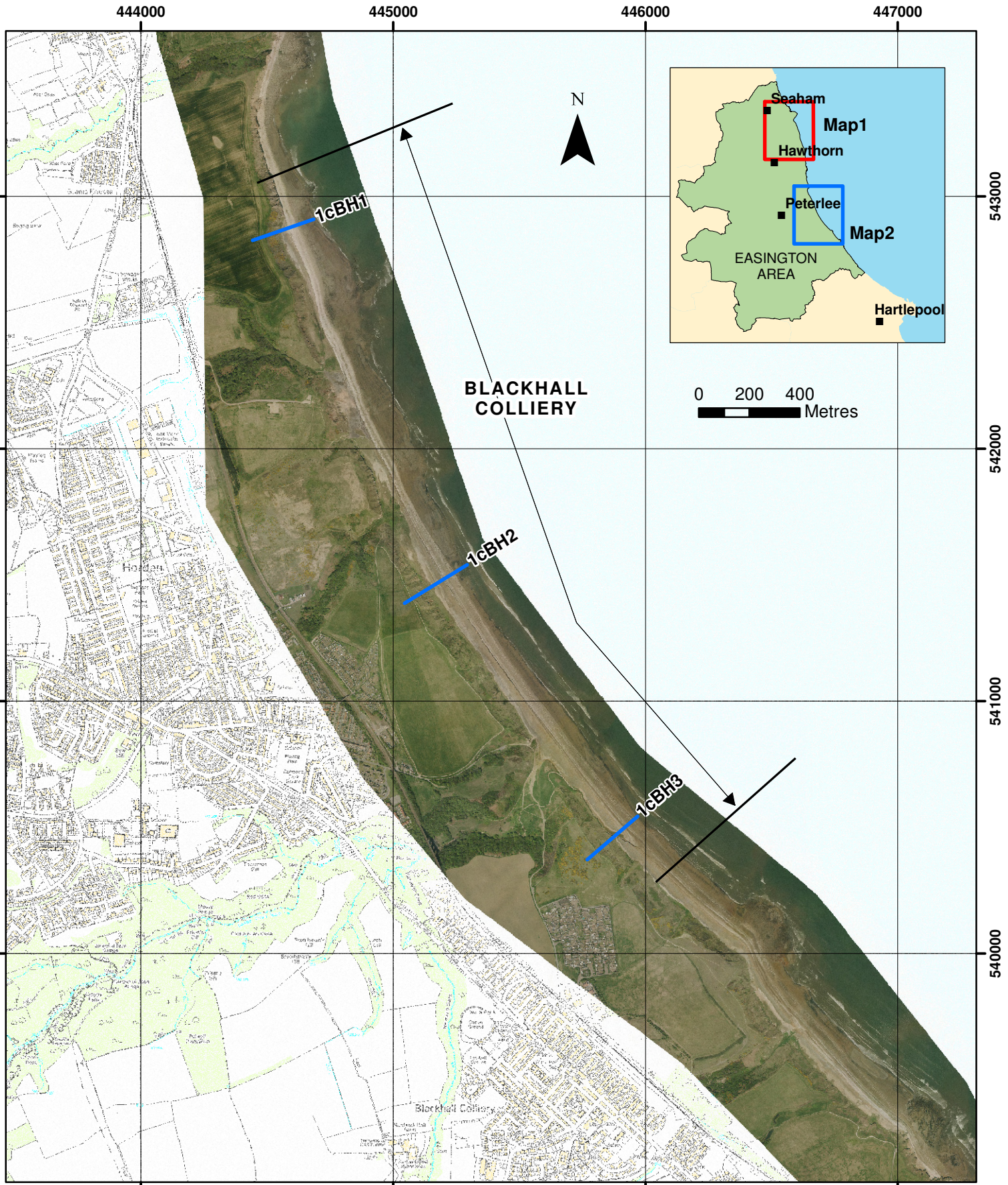
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)121 456 2345  
Fax: +44 (0)121 456 1569  
www.halcrow.com

Drawn by: TC Date: 28/10/2010  
Checked by: MD Date: 05/11/2010  
Approved by: NC Date: 05/11/2010

Photography courtesy of  
North East Coastal Observatory  
[www.northeastcoastalobservatory.org.uk](http://www.northeastcoastalobservatory.org.uk)



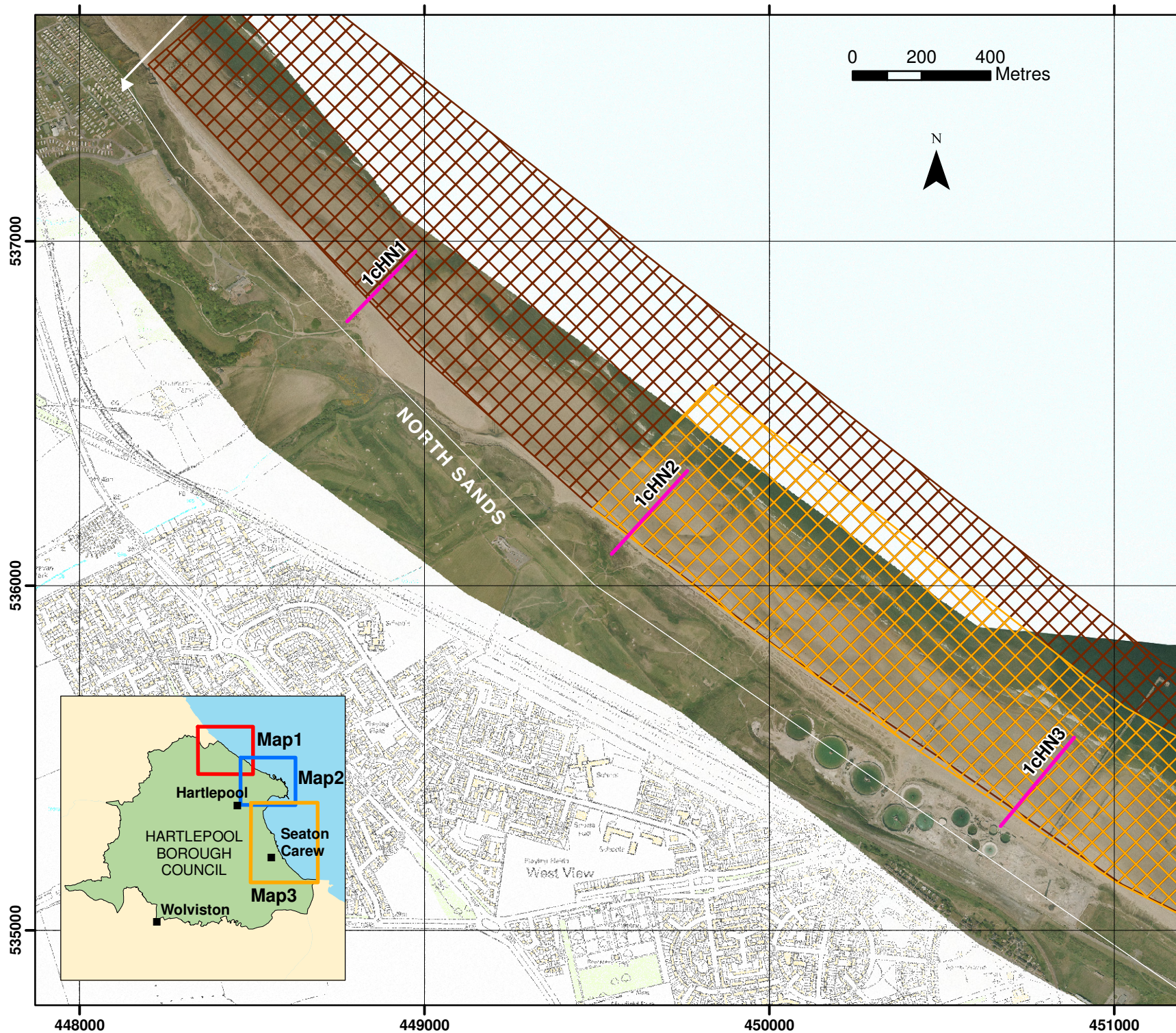


<p><b>TOPOGRAPHIC SURVEY LOCATIONS</b></p> <ul style="list-style-type: none"> <li>Annual Profile</li> <li>Bi-Annual Profile</li> <li>6 monthly Survey</li> <li>Yearly Survey</li> <li>5 yearly Survey</li> <li>Cliff Top Survey @ 50 centres</li> <li>Cliff Top Survey @ 100 centres</li> <li>Cliff Top Survey @ 300 centres</li> </ul> <p><i>(Indicative Survey Extents shown)</i></p>	<p>Client: North East Coastal Group          Project: Cell 1 Regional Coastal Monitoring Programme</p> <p><b>Figure 2 - Map 2          Durham County Council Frontage</b></p> <p>Analytical Report 3          'Full Measures' Survey 2010</p> <p>Drawing Scale 1:20,000 at A4</p>	<div> <p>Royal Haskoning              Marlborough House              Marlborough Crescent              Newcastle upon Tyne              NE1 4EE</p> </div> <div> <p>Halcrow Group Ltd              Lyndon House              62 Hagley Road              Edgbaston              Birmingham              B16 8PE</p> </div> <p>Tel: +44 (0)191 211 1300              Fax: +44 (0)191 211 1313              www.royalhaskoning.com</p> <p>Tel: +44 (0)121 456 2345              Fax: +44 (0)121 456 1569              www.halcrow.com</p>	<p>Drawn by: TC      Date: 28/10/2010              Checked by: MD      Date: 05/11/2010              Approved by: NC      Date: 05/11/2010</p> <p>Photography courtesy of              North East Coastal Observatory  <a href="http://www.northeastcoastalobservatory.org.uk">www.northeastcoastalobservatory.org.uk</a></p>
---	---	---	---



**Hartlepool**





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- ▨ 6 monthly
- ▨ yearly
- ▨ 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 1 Hartlepool Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:15,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE



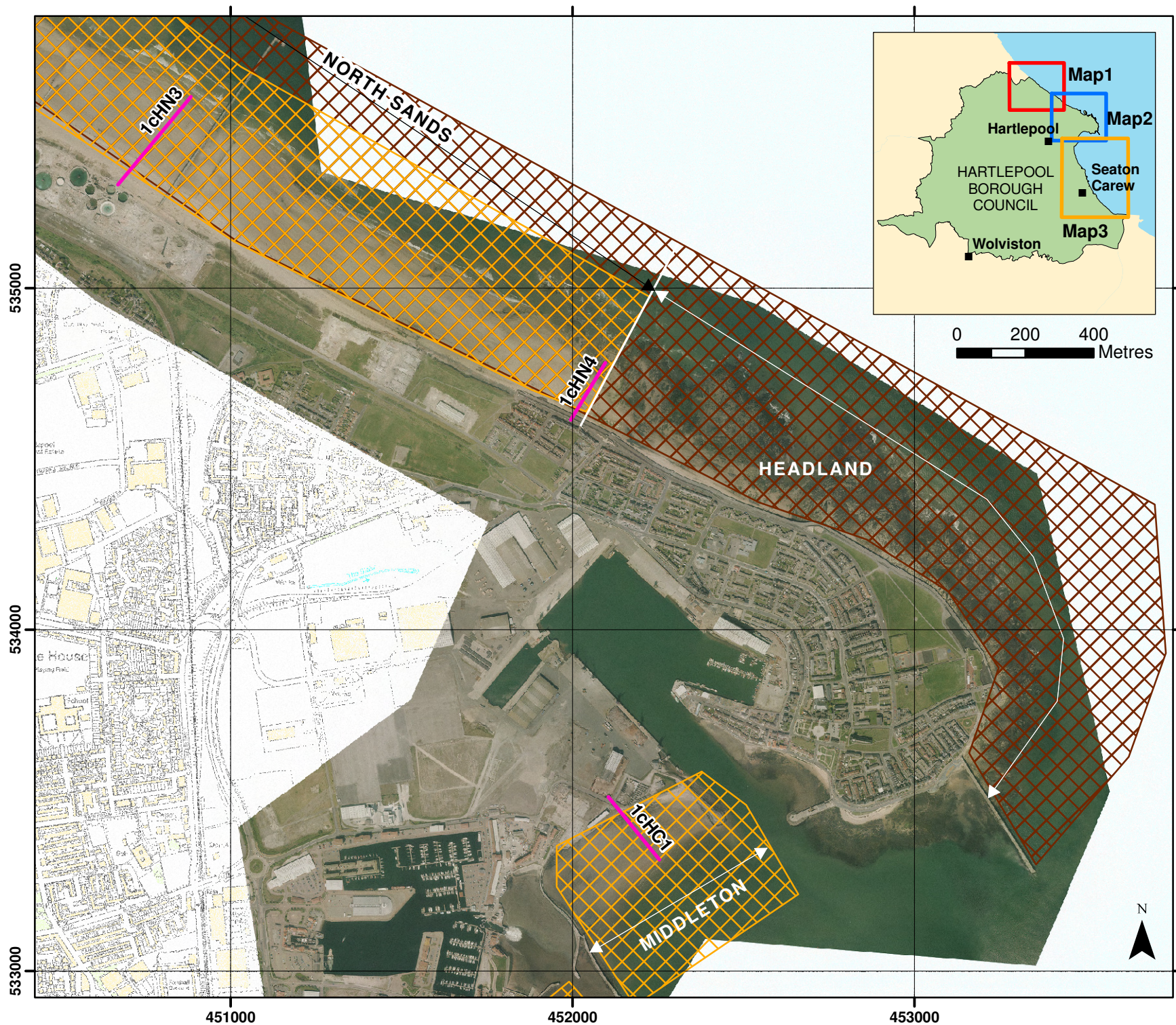
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of  
North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- ▨ 6 monthly
- ▨ yearly
- ▨ 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 2 Hartlepool Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:15,000 at A4

Drawn by: TC Date: 28/10/2010

Checked by: NC Date: 05/11/2010

Approved by: NC Date: 05/11/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE



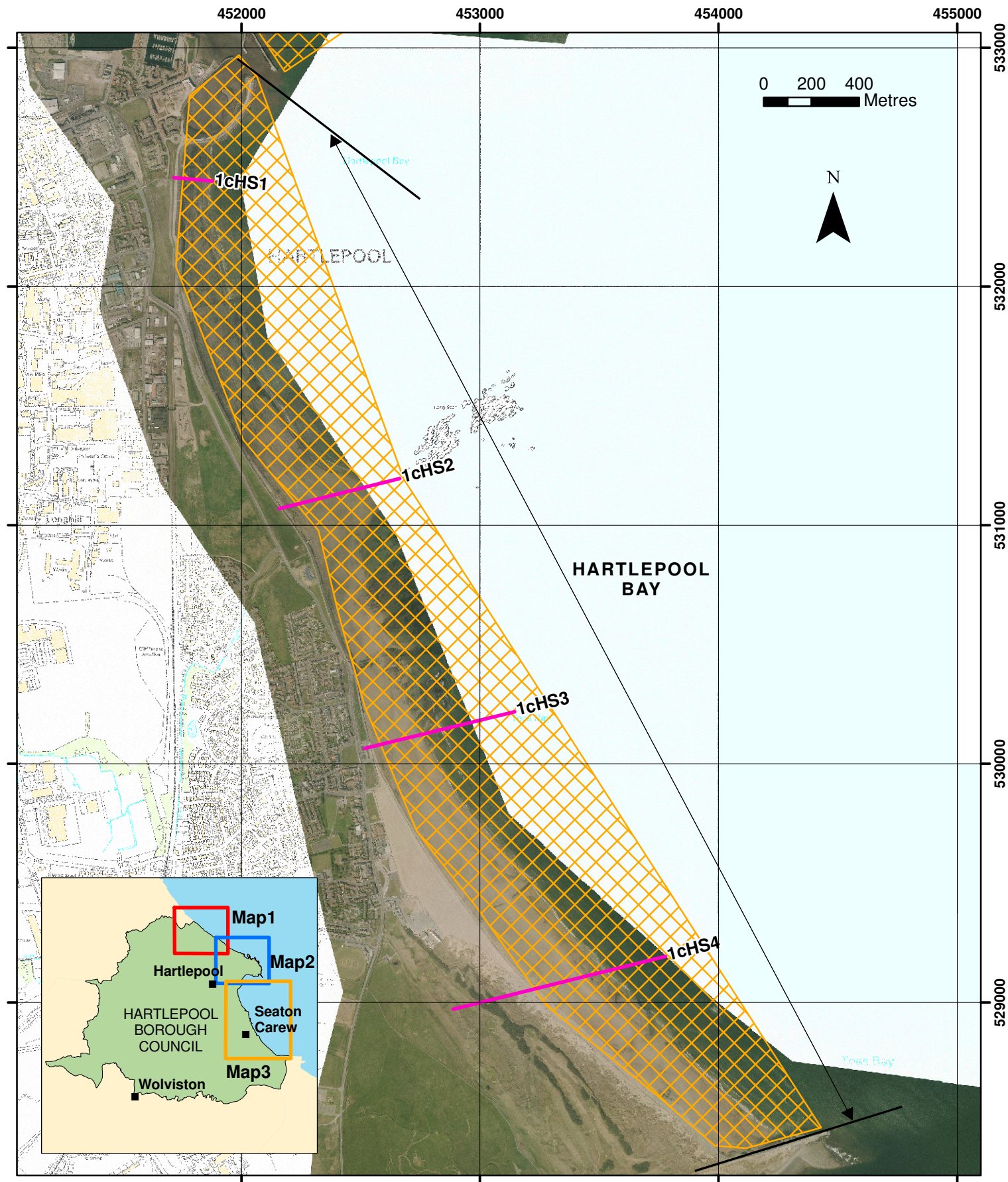
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of  
North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





#### TOPOGRAPHIC SURVEY LOCATIONS

- Annual Profile
  - Bi-Annual Profile
  - ⊠ 6 monthly Survey
  - ⊠ Yearly Survey
  - ⊠ 5 yearly Survey
  - Cliff Top Survey @ 50 centres
  - Cliff Top Survey @ 100 centres
  - Cliff Top Survey @ 300 centres
- (Indicative Survey Extents shown)

Client: North East Coastal Group  
 Project: Cell 1 Regional Coastal Monitoring Programme

### Figure 2 - Map 3 Hartlepool Borough Council Frontage

Analytical Report 3  
 'Full Measures' Survey 2010

Drawing Scale 1:21,000 at A4



Royal Haskoning  
 Marlborough House  
 Marlborough Crescent  
 Newcastle upon Tyne  
 NE1 4EE

Tel: +44 (0)191 211 1300  
 Fax: +44 (0)191 211 1313  
[www.royalhaskoning.com](http://www.royalhaskoning.com)



Halcrow Group Ltd  
 Lyndon House  
 62 Hagley Road  
 Edgbaston  
 Birmingham  
 B16 8PE

Tel: +44 (0)121 456 2345  
 Fax: +44 (0)121 456 1569  
[www.halcrow.com](http://www.halcrow.com)

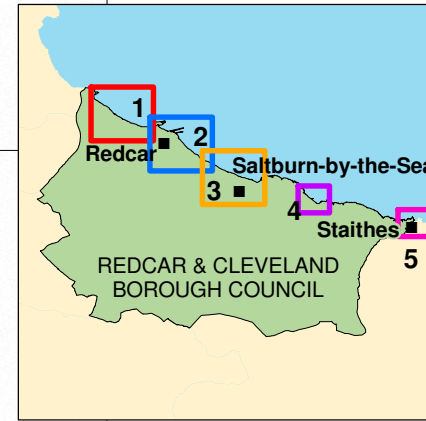
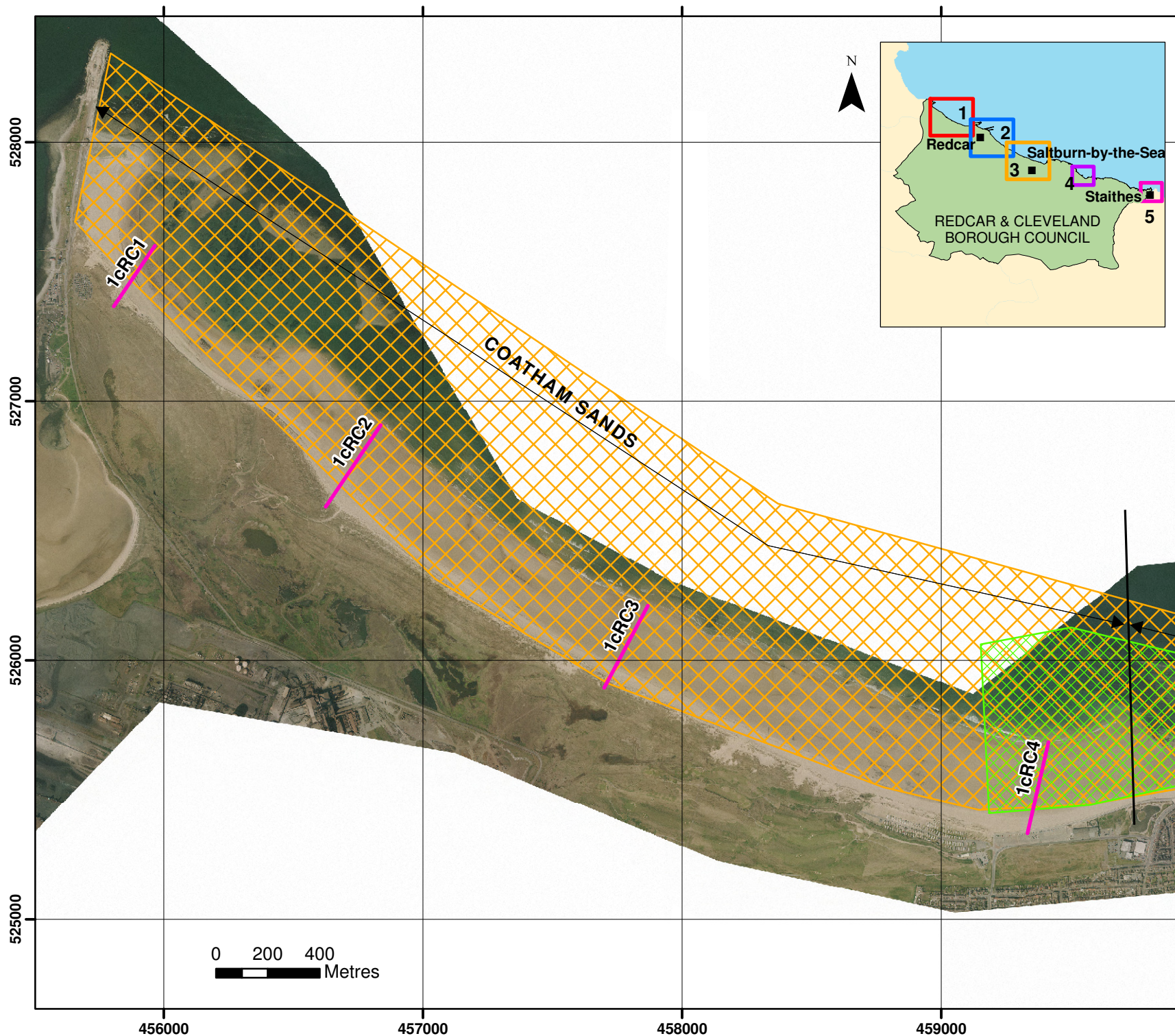
Drawn by: TC Date: 28/10/2010  
 Checked by: MD Date: 05/11/2010  
 Approved by: NC Date: 05/11/2010

Photography courtesy of  
 North East Coastal Observatory  
[www.northeastcoastalobservatory.org.uk](http://www.northeastcoastalobservatory.org.uk)



**Redcar and Cleveland**





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal  
Monitoring Programme

## Figure 2 - Map 1 Redcar & Cleveland Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:20,000 at A4

Drawn by: TC Date: 29/11/2010

Checked by: NC Date: 29/11/2010

Approved by: NC Date: 06/12/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE



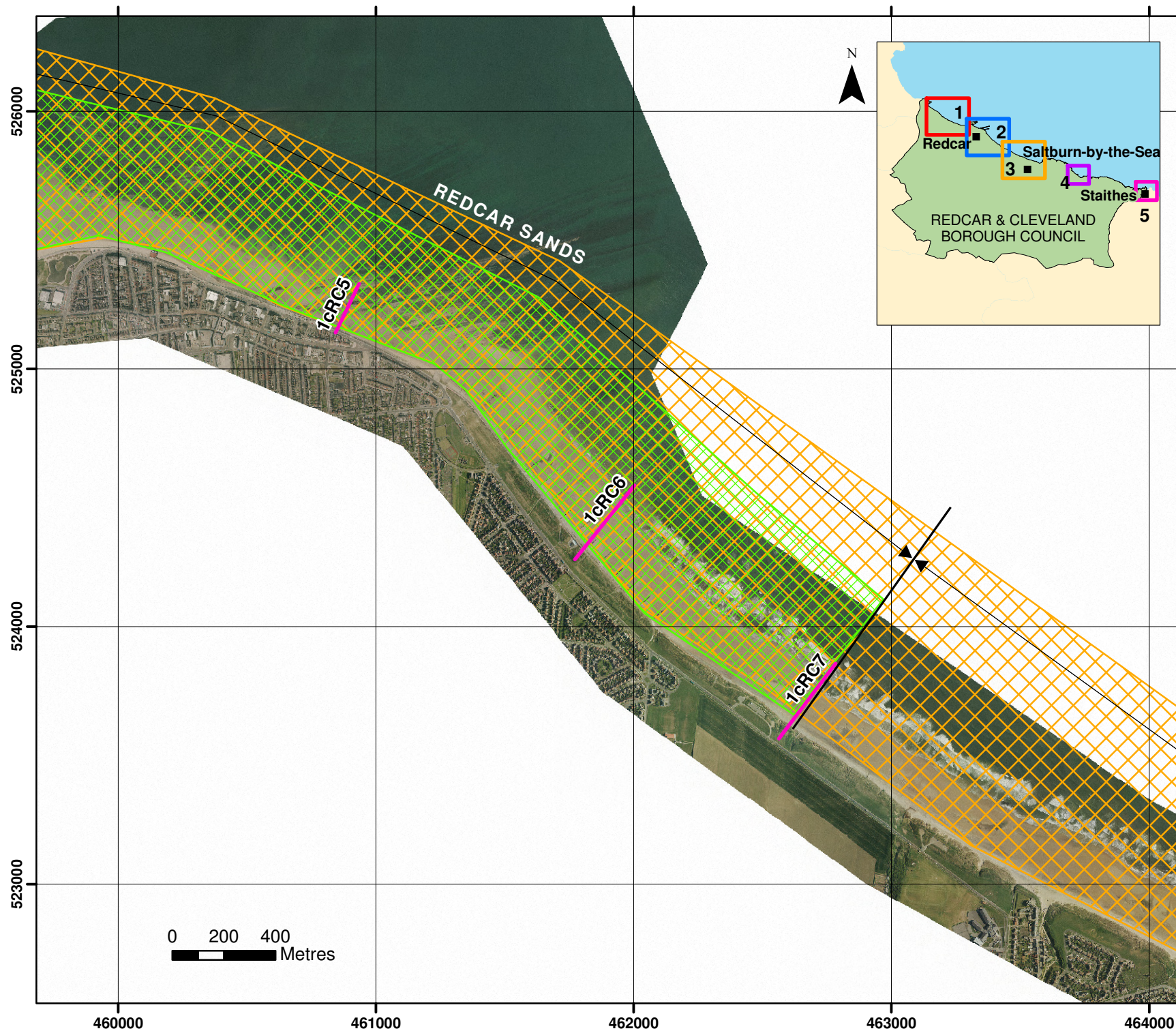
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal  
Monitoring Programme

## Figure 2 - Map 2 Redcar & Cleveland Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:20,000 at A4

Drawn by: TC Date: 29/11/2010

Checked by: NC Date: 29/11/2010

Approved by: NC Date: 06/12/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

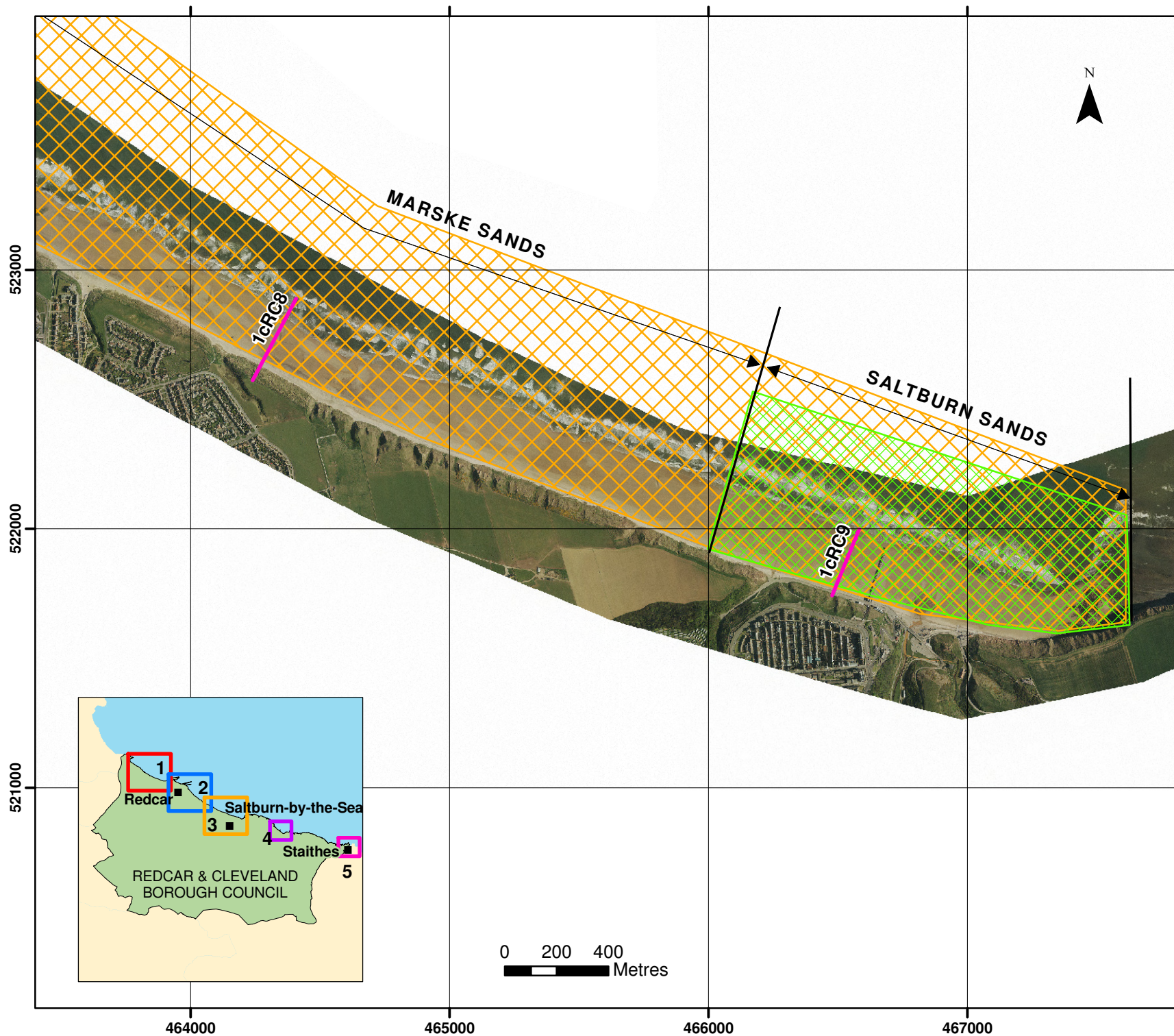


Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- ▨ 6 monthly
- ▨ yearly
- ▨ 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal  
Monitoring Programme

## Figure 2 - Map 3 Redcar & Cleveland Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:20,000 at A4

Drawn by: TC Date: 29/11/2010

Checked by: NC Date: 29/11/2010

Approved by: NC Date: 06/12/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

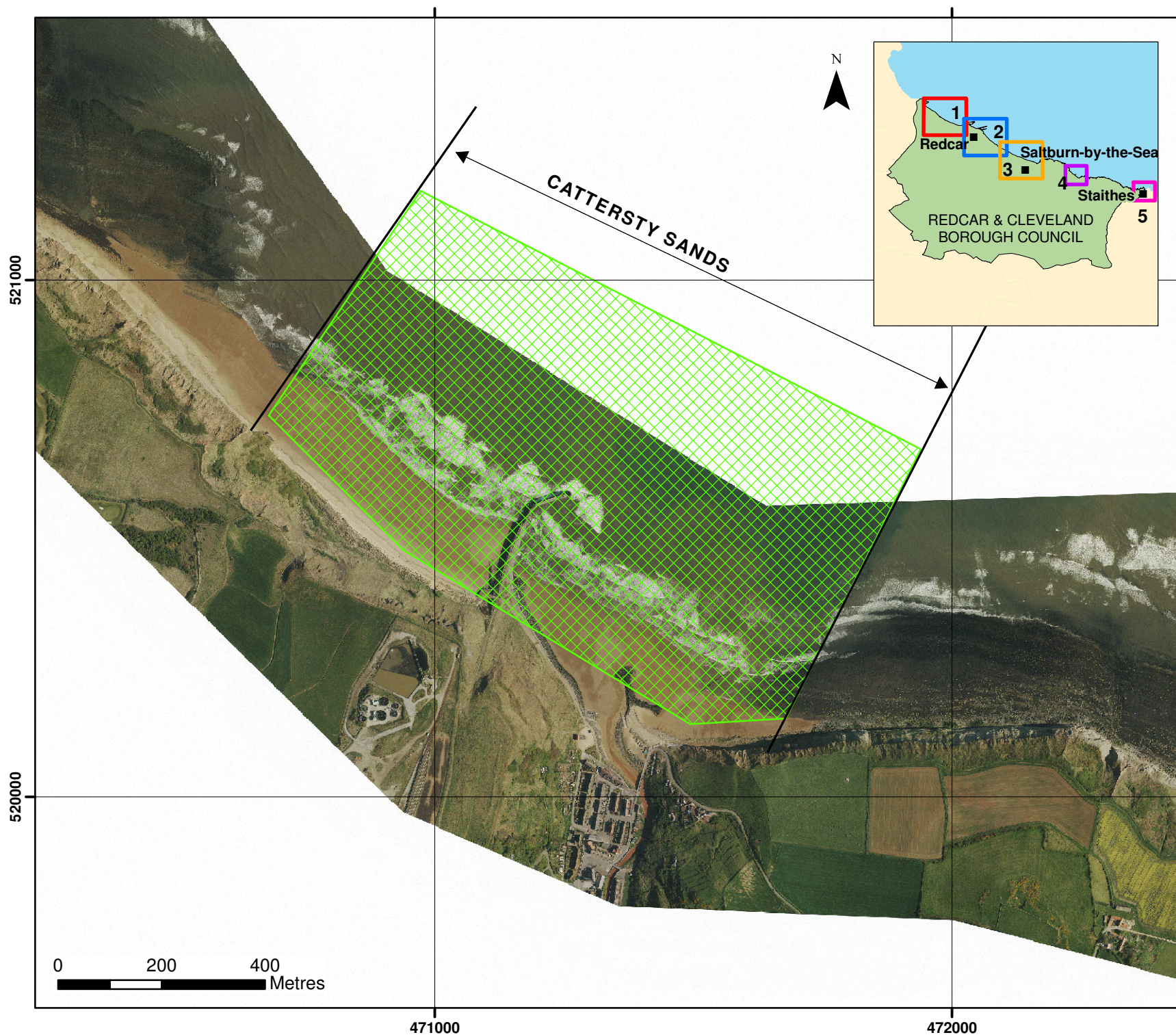


Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal  
Monitoring Programme

## Figure 2 - Map 4 Redcar & Cleveland Borough Council Frontage

### Analytical Report 3 'Full Measures' Survey 2010

Drawing Scale 1:10,000 at A4

Drawn by: TC Date: 29/11/2010

Checked by: NC Date: 29/11/2010

Approved by: NC Date: 06/12/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

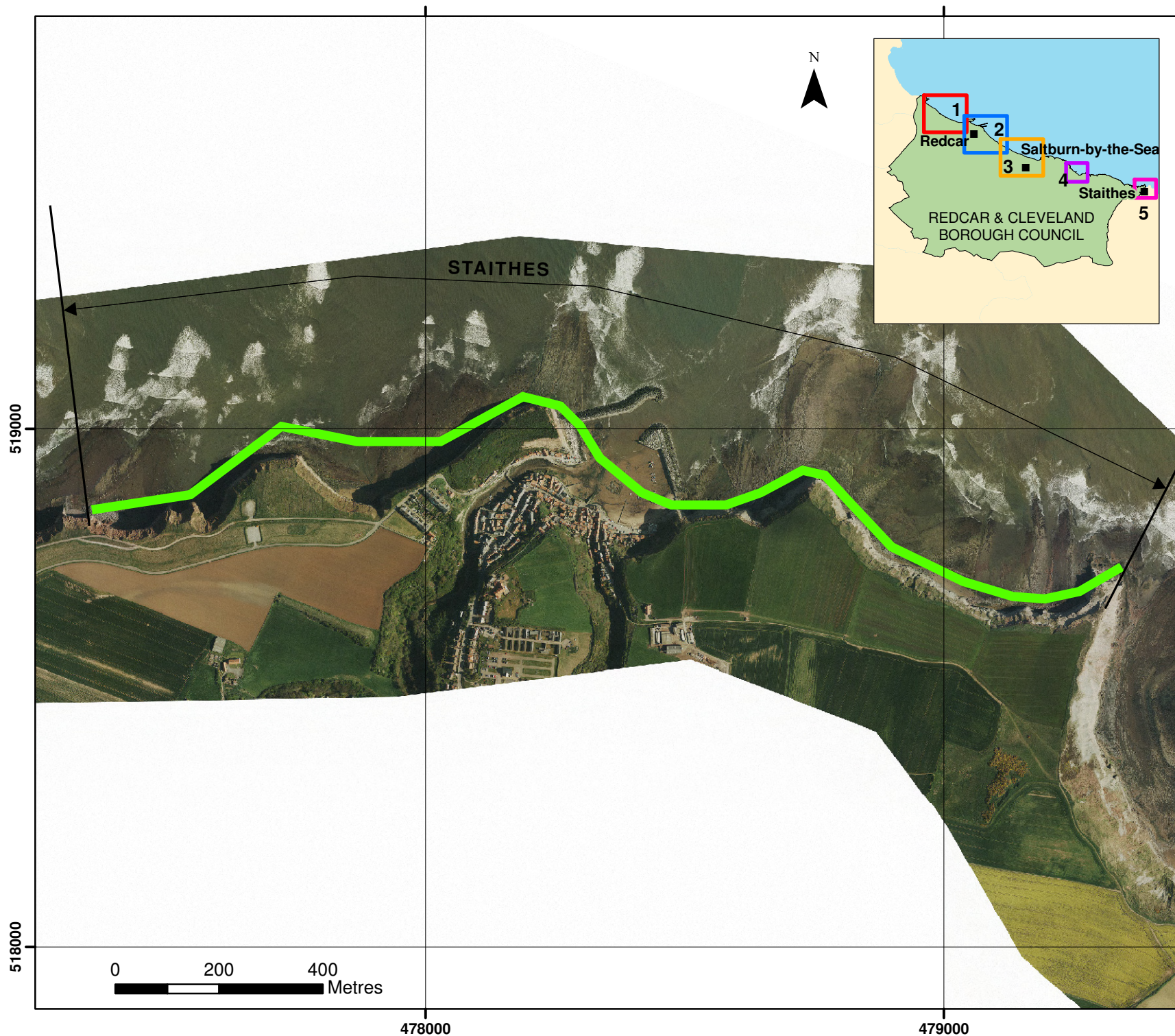


Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- ⊠ 6 monthly
- ⊠ yearly
- ⊠ 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 5 Redcar & Cleveland Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:10,000 at A4

Drawn by: TC Date: 29/11/2010

Checked by: NC Date: 29/11/2010

Approved by: NC Date: 06/12/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

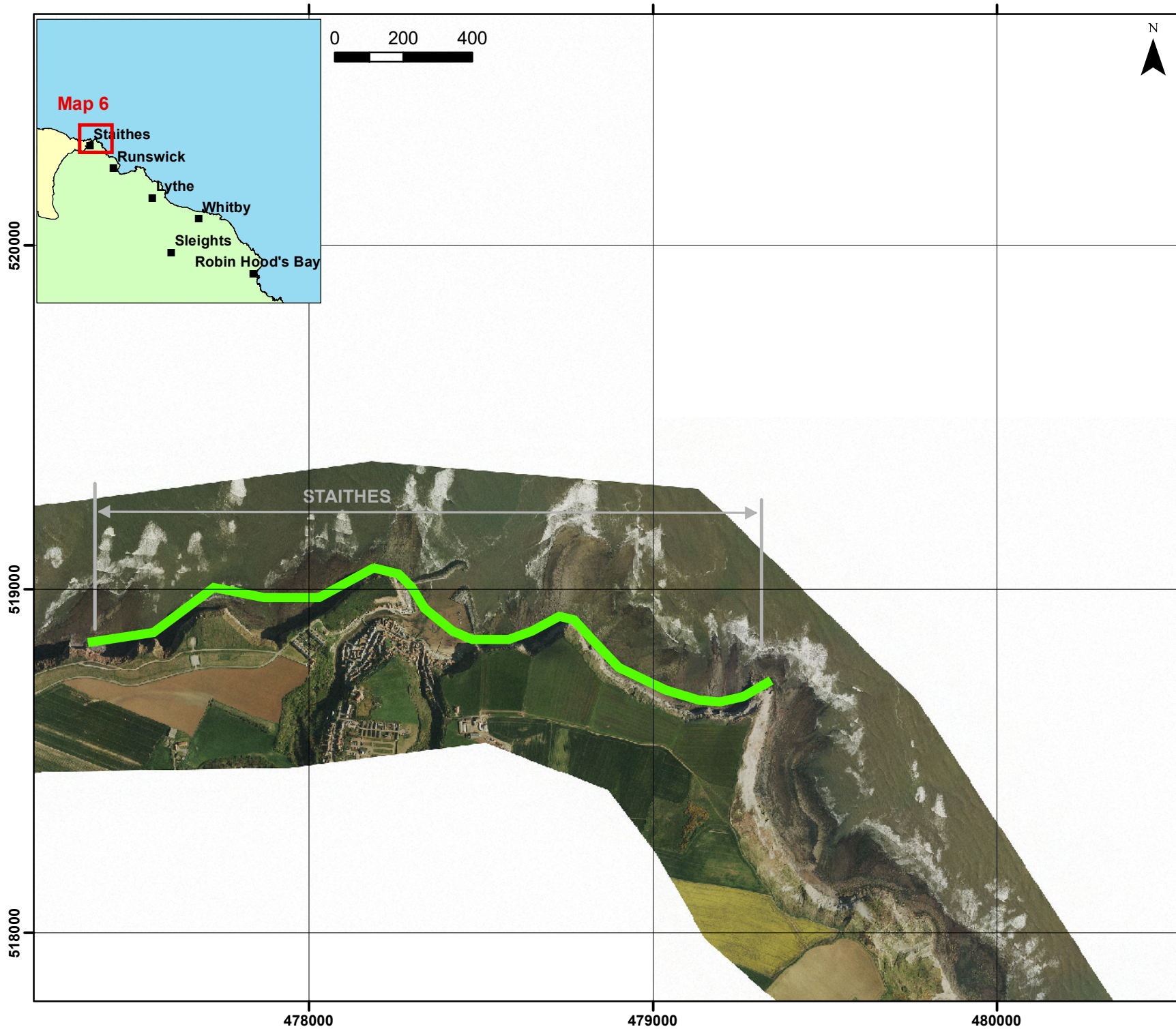


Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





### SURVEY LOCATIONS

**Topographic Profiles**

—

—

**Topographic Surveys**

6

5

**Cliff Top Monitoring Pegs**

50

100

300

*(Indicative Survey Extents shown)*

1

**Figure 2 - Map 6**

**Redcar & Cleveland**

**Borough Council Frontage**

3

2010

1 15,000 4

01/12/2010

01/12/2010

01/12/2010

ROYAL HASKONING

Halcrow

14

62

16 8

+44 (0)1 1 211 1300

+44 (0)1 1 211 1313

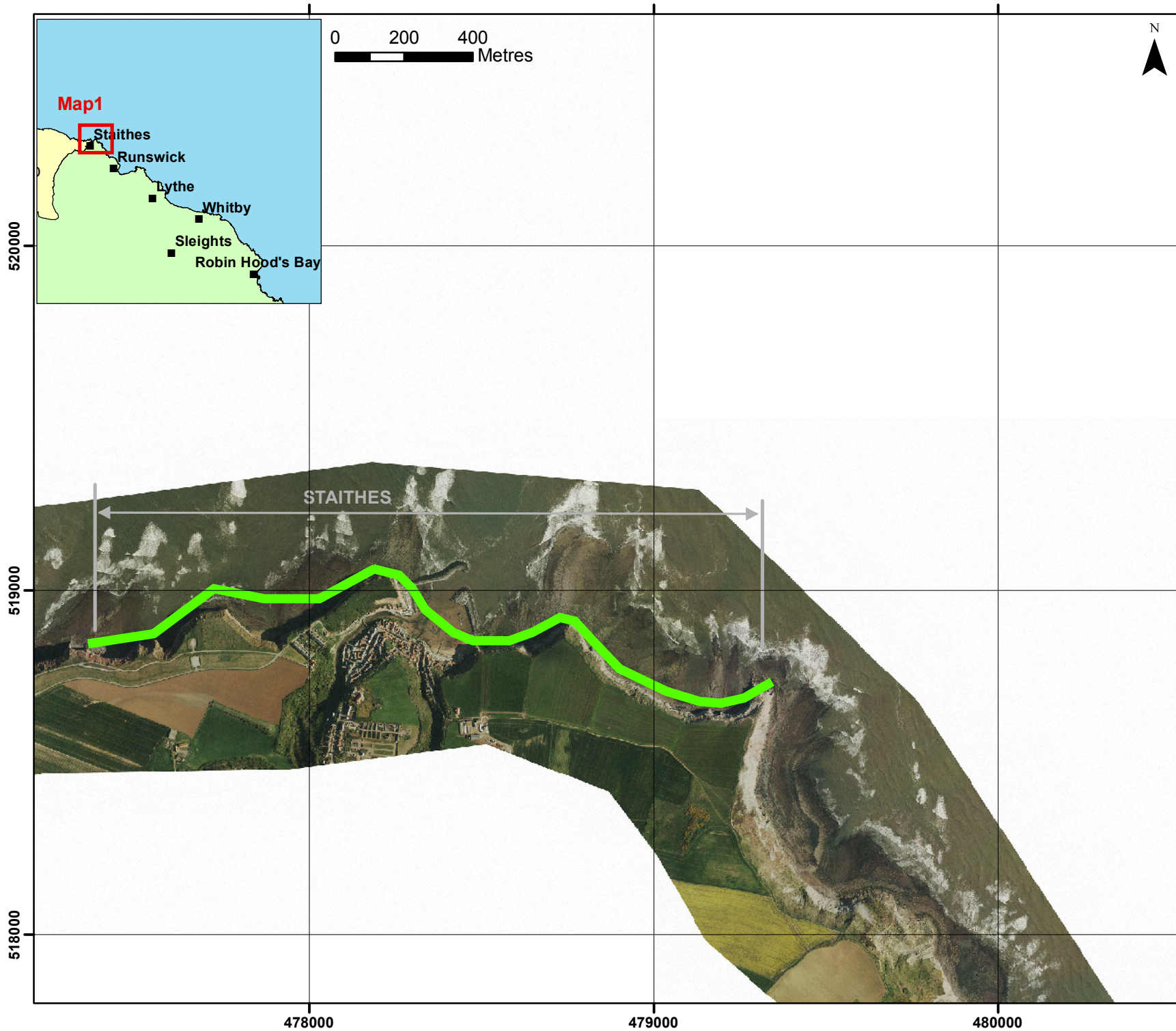
+44 (0)121 456 2345

+44(0)121 456 156



**Scarborough**





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 1 Scarborough Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:15,000 at A4

Drawn by: AW Date: 01/12/2010

Checked by: RJ Date: 01/12/2010

Approved by: RJ Date: 01/12/2010

**ROYAL HASKONING**  
Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

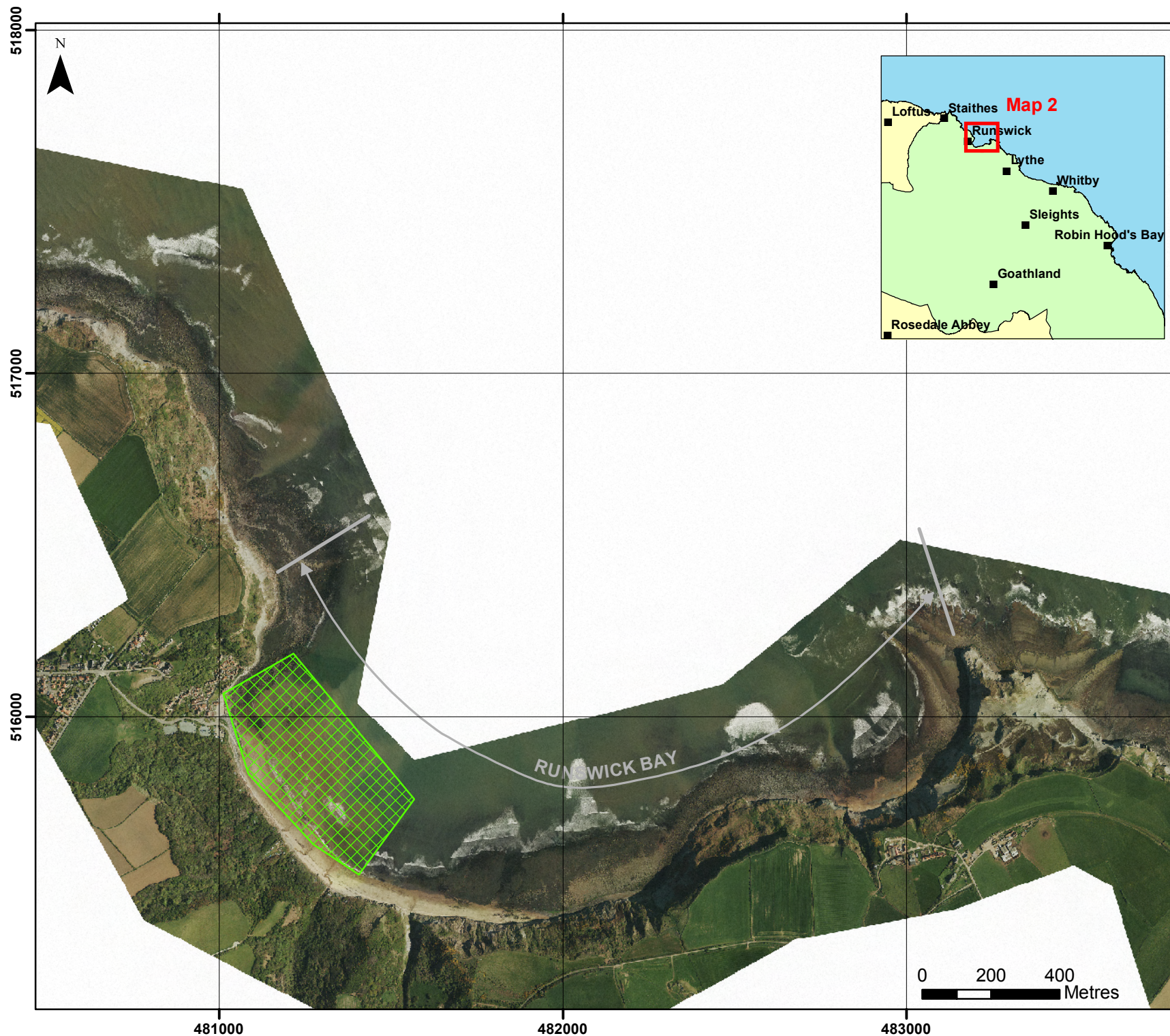
**Halcrow**  
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 2 Scarborough Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:15,000 at A4

Drawn by: AW Date: 01/12/2010

Checked by: RJ Date: 01/12/2010

Approved by: RJ Date: 01/12/2010

**ROYAL HASKONING**  
Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

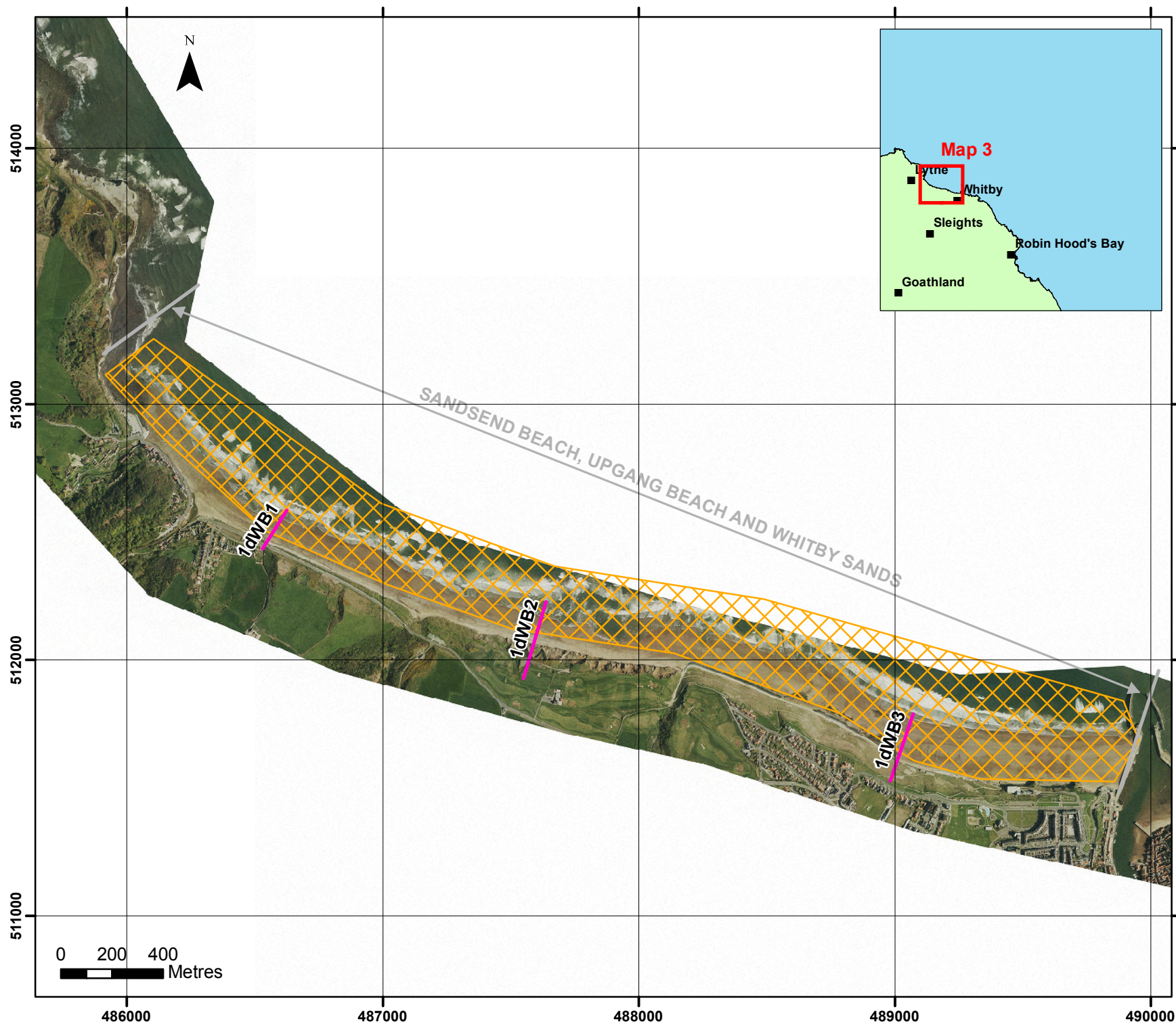
**Halcrow**  
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 3 Scarborough Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:20,000 at A4

Drawn by: AW Date: 01/12/2010

Checked by: RJ Date: 01/12/2010

Approved by: RJ Date: 01/12/2010

**ROYAL HASKONING**  
Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

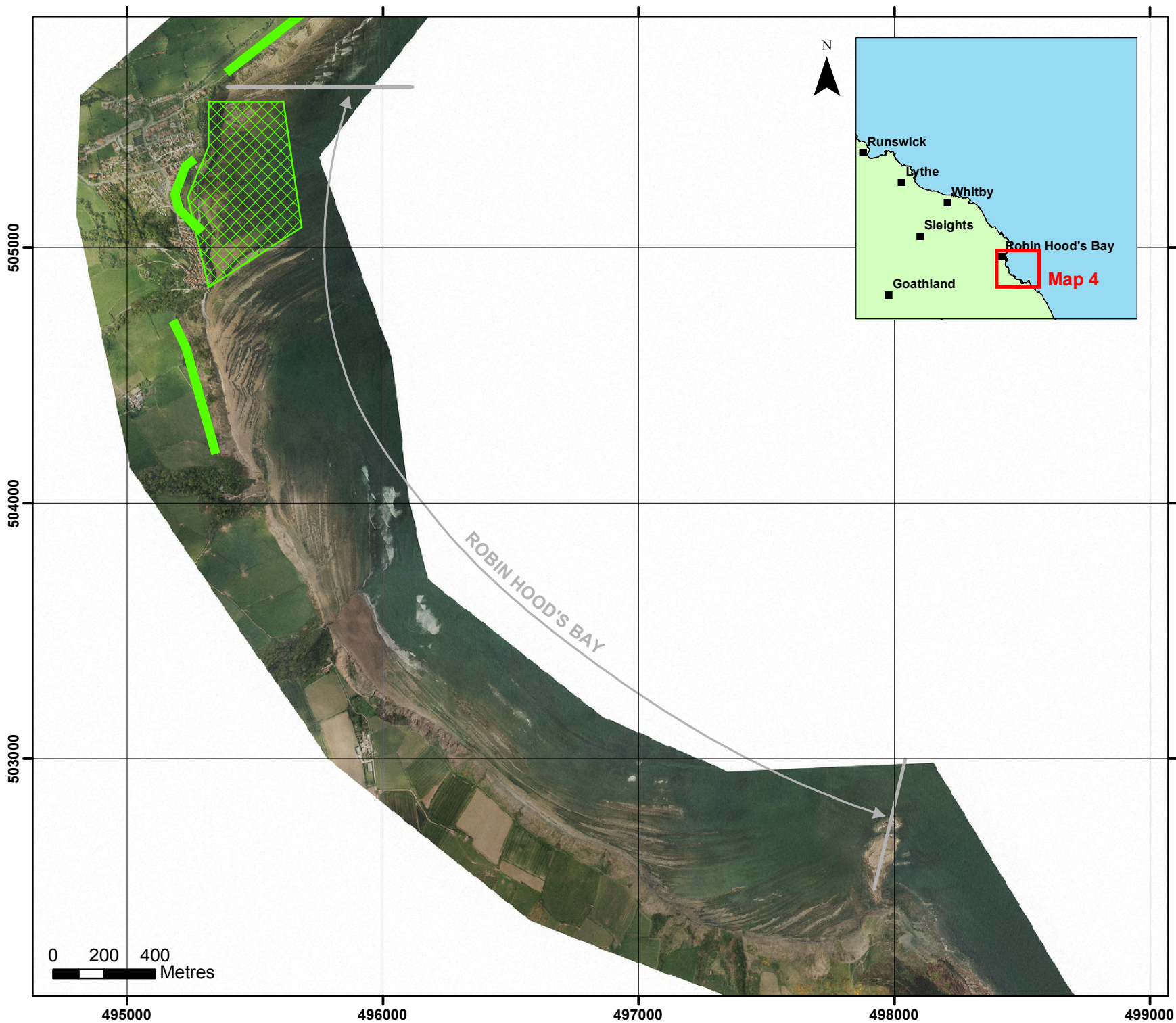
**Halcrow**  
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- ▤ 6 monthly
- ▤ yearly
- ▤ 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

*(Indicative Survey Extents shown)*

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 4 Scarborough Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:20,000 at A4

Drawn by: AW Date: 01/12/2010

Checked by: RJ Date: 01/12/2010

Approved by: RJ Date: 01/12/2010

**ROYAL HASKONING**  
Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

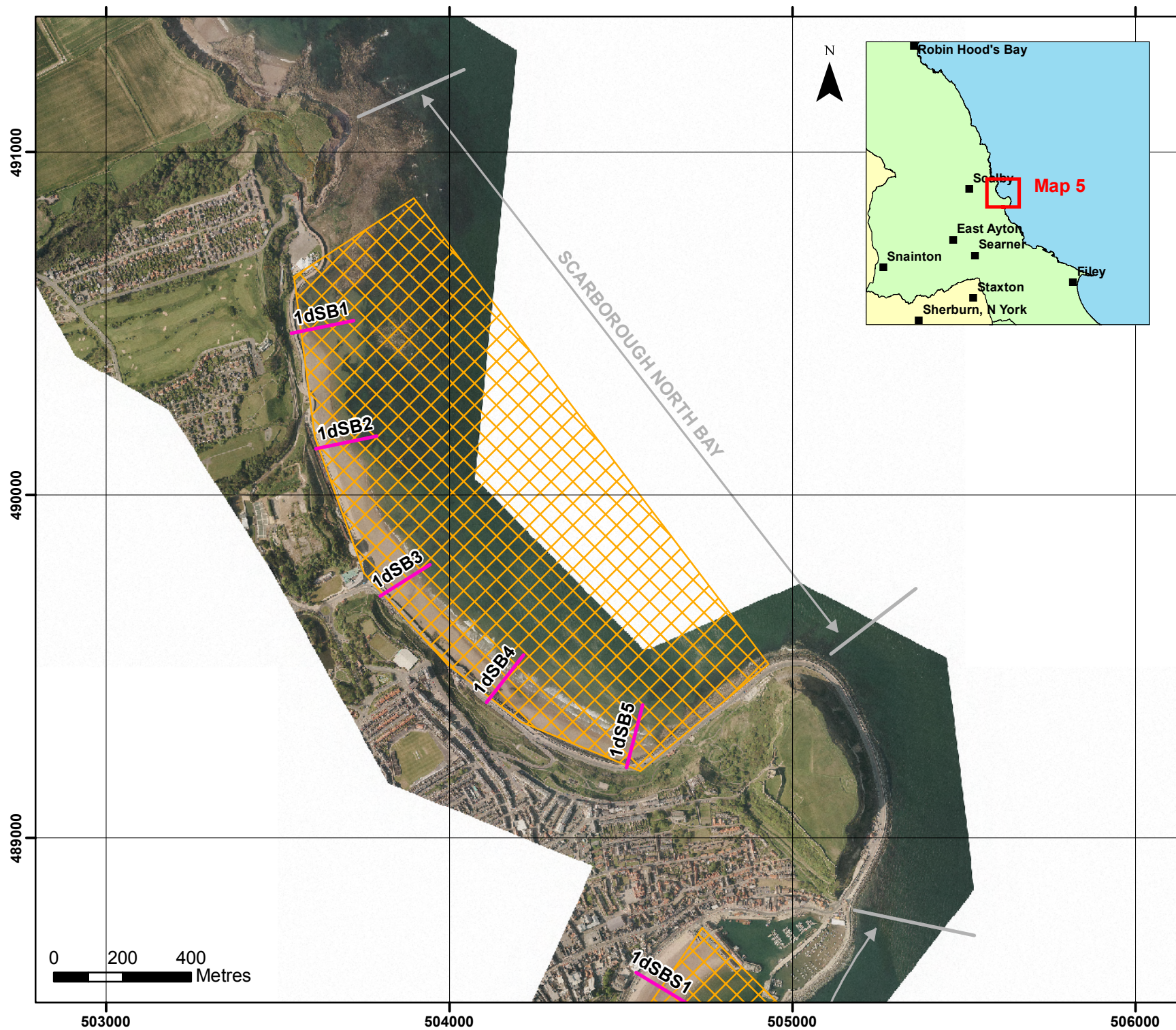
**Halcrow**  
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- ▨ 6 monthly
- ▨ yearly
- ▨ 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 5 Scarborough Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:15,000 at A4

Drawn by: AW Date: 01/12/2010

Checked by: RJ Date: 01/12/2010

Approved by: RJ Date: 01/12/2010

**ROYAL HASKONING**  
Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

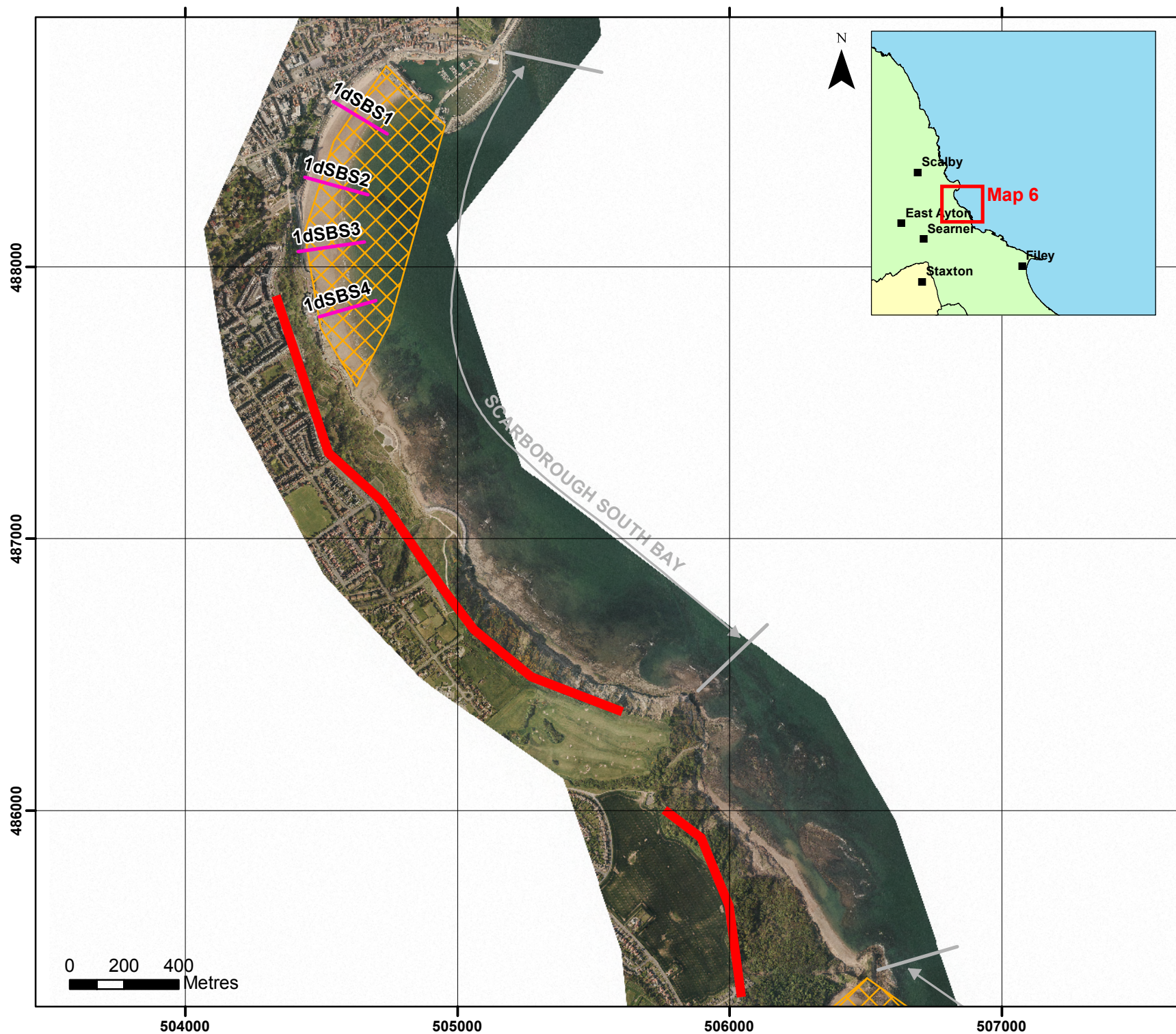
**Halcrow**  
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 6 Scarborough Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:19,000 at A4

Drawn by: AW Date: 01/12/2010

Checked by: RJ Date: 01/12/2010

Approved by: RJ Date: 01/12/2010



Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

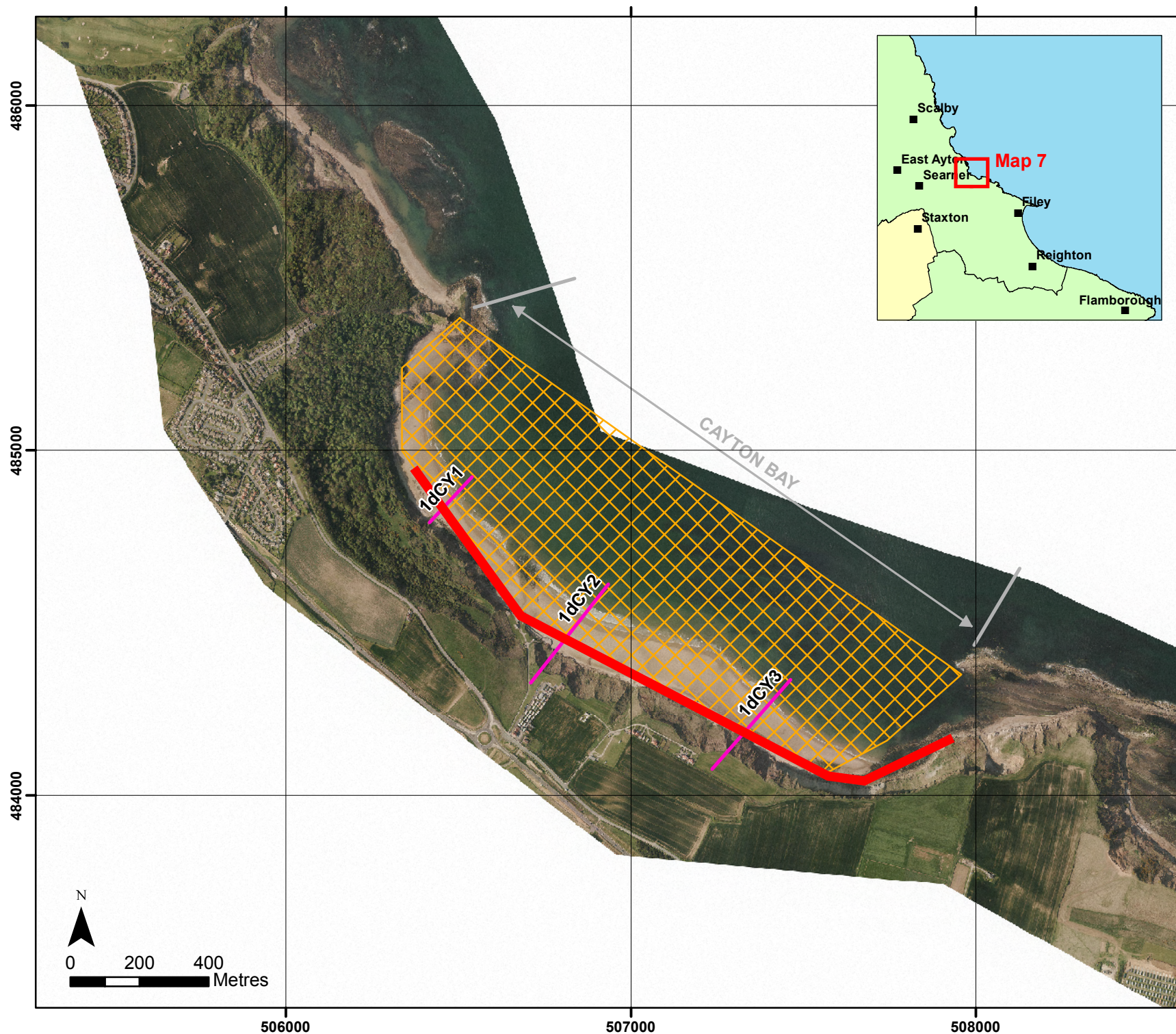


Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 7 Scarborough Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:15,000 at A4

Drawn by: AW Date: 01/12/2010

Checked by: RJ Date: 01/12/2010

Approved by: RJ Date: 01/12/2010

**ROYAL HASKONING**  
Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

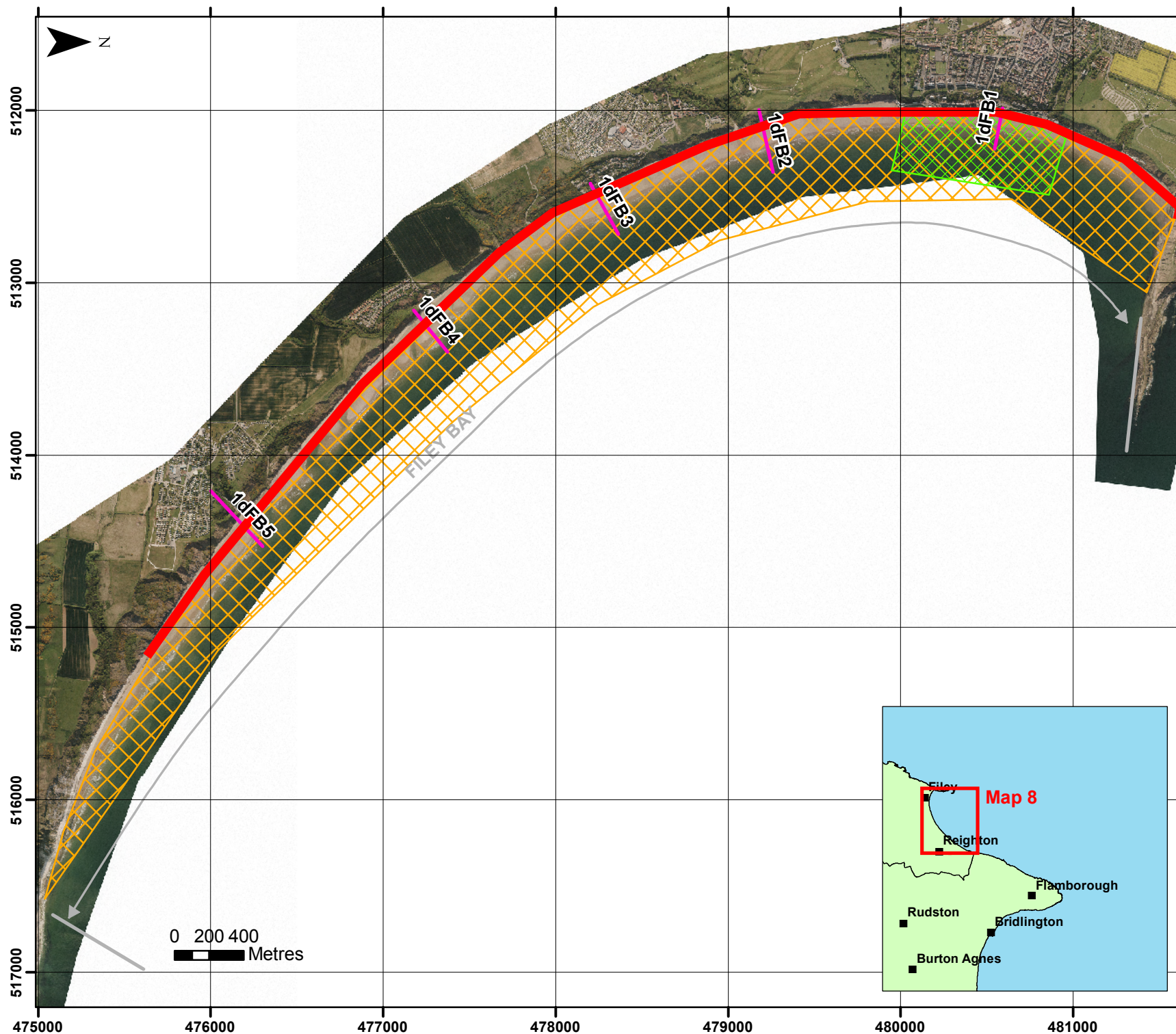
**Halcrow**  
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk





## SURVEY LOCATIONS

### Topographic Profiles

- Annual
- Bi-Annual

### Topographic Surveys

- 6 monthly
- yearly
- 5 yearly

### Cliff Top Monitoring Pegs

- @ 50 centres
- @ 100 centres
- @ 300 centres

(Indicative Survey Extents shown)

Client: North East Coastal Group

Project: Cell 1 Regional Coastal Monitoring Programme

## Figure 2 - Map 8 Scarborough Borough Council Frontage

Analytical Report 3  
'Full Measures' Survey 2010

Drawing Scale 1:30,000 at A4

Drawn by: AW Date: 01/12/2010

Checked by: RJ Date: 01/12/2010

Approved by: RJ Date: 01/12/2010

**ROYAL HASKONING**  
Royal Haskoning  
Marlborough House  
Marlborough Crescent  
Newcastle upon Tyne  
NE1 4EE

**Halcrow**  
Halcrow Group Ltd  
Lyndon House  
62 Hagley Road  
Edgbaston  
Birmingham  
B16 8PE

Tel: +44 (0)191 211 1300  
Fax: +44 (0)191 211 1313  
www.royalhaskoning.com

Tel: +44 (0)121 456 2345  
Fax: +44(0)121 456 1569  
www.halcrow.com

Photography courtesy of North East Coastal Observatory  
www.northeastcoastalobservatory.org.uk