Contaminated Land Register
## Summary

<table>
<thead>
<tr>
<th>Information on Register</th>
<th>Number of entries</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remediation notices</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>2. Appeals against remediation notices</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>3. Remediation declarations</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>4. Remediation statements</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Appeals against charging notices</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>6. Designation of special sites</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>7. Notification of claimed remediation</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Convictions for offences under Section 78M of the Act</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>9. Guidance issued under Section 78V(1) of the Act</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>10. Other matters prescribed by Regulations</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Annex A</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Annex B</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>
1. Remediation notices
There are currently no entries.

2. Appeals against remediation notices
There are currently no entries.

3. Remediation declarations
There are currently no entries.

4. Remediation statements
There are currently two entries.

Entry 1: Former Calder Chemical Works, Castleford (October 2010)
The Remediation Statement is for land associated with the former Calder Chemical Works off Pottery Street, Castleford. The remediation statement covers 20 residential gardens/yards of these properties. The statement can be found in Annex A.

Entry 2: Former Sowdill Works, Ossett (August 2013)
The Remediation Statement is for land associated with the former Sowdill Works, Ossett. The remediation statement covers 22 residential gardens of these properties. The statement can be found in Annex B.

5. Appeals against charging notices
There are currently no entries.

6. Designation of special sites
There are currently no entries.

7. Notification of claimed remediation
There are currently two entries of notification of claimed remediation.

Entry 1: Former Calder Chemical Works, Castleford (May 2011)
The following gardens/yards properties have been remediated in accordance with the specification detailed in the Remediation Statement of October 2010

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Property Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>River View, Castleford, WF10 1NG</td>
<td>1 to 10, 11 &amp; 14</td>
</tr>
<tr>
<td>Pottery Street, Castleford, WF10 1NL</td>
<td>96 to 103</td>
</tr>
</tbody>
</table>

The remediation has been verified, the details of which can be found within the following report held at Wakefield Council:
Entry 2: Former Sowdill Works, Castleford (May 2014)
The following gardens of properties have been remediated in accordance with the specification detailed in the Remediation Statement of August 2013.

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Property Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laurel Court, Ossett, WF5 8QA</td>
<td>2, 4, 6, 9, 11, 15, 17, 19, 21, 23, 25, 27, 29, 31</td>
</tr>
<tr>
<td>Pildacre Lane, Ossett, WF 8PX</td>
<td>75, 77, 79, 81, 83, 85, 87, 89</td>
</tr>
</tbody>
</table>

The remediation has been verified, the details of which can be found within the following report held at Wakefield Council:

Remediation Verification Report [Peak Environmental Solutions, Ref. 41627R1 Rev A1, May 2014]

8. **Convictions for offences under Section 78M of the Act**
There are currently no entries.

9. **Guidance issued under Section 78V(1) of the Act**
There are currently no entries.

10. **Other matters prescribed by Regulations**
There are currently no entries.
Annex A
REMEDIATION STATEMENT

Part 2A Environmental Protection Act 1990

Land at

Pottery Street & River View
Castleford

October 2010
Contents

Schedule 1 - Location & Extent of Contaminated Land To Which This Remediation Statement Relates

Schedule 2 - Description of Significant Pollutant Linkage

Schedule 3 - Remedial Options Appraisal

Schedule 4 - Remediation Summary
ENVIRONMENTAL PROTECTION ACT 1990, SECTION 78H(7)

The Contaminated Land (England) Regulations 2006 (S.I. 2006/1380)

Prepared by Wakefield Metropolitan District Council.

This remediation statement has been prepared by Wakefield Metropolitan District Council (“the Council”) in relation to Contaminated Land identified under section 78B of the Environmental Protection Act 1990 (“the Act”).

The location and extent of the Contaminated Land to which this Remediation Statement relates (“the Land”) is set out in Schedule 1.

The Council, as the enforcing authority for the land, is precluded by section 78H(5) of the Act from serving a Remediation Notice, and has therefore prepared this Remediation Statement in accordance with section 78H(7).

Particulars of the substances and the significant harm by reason of which the land is Contaminated Land are set out in Schedule 2. The appraisal of the various options available to remediate the land is set out in Schedule 3. The things which are expected to be done by way of remediation and the time period within which each of these things are expected to be done are set out in Schedule 4.

The current use of the land is residential. The former use of the site is a chemical works.

The name and address of the person who is responsible to do each of the things set out in Schedule 4 of the Remediation Statement by section 78H(7)(b) is:

Wakefield Metropolitan District Council
Environmental Health
Newton Bar
Leeds Road
Wakefield
WF1 2TX

Any communication should be directed to the Contact Name given below.

Name and Position of Person Issuing the Statement on Behalf of the Council:
Diane Widdowson, Service Manager Environmental Health

Signed  Dated  20th October 2010

The contact name for the purposes of this remediation statement is:
David Jackson, Land Quality Officer
SCHEDULE 1 - LOCATION & EXTENT OF CONTAMINATED LAND TO WHICH THIS REMEDIATION STATEMENT RELATES

The location and extent of the contaminated land to which this Remediation Statement relates is known as the Former Calder Chemical Works, Castleford (National Grid Reference. 441920,425950). This Remediation Statement specifically relates to the gardens/yards at 1 to 10, 11 & 14 River View, Castleford, WF10 1NG and 96 to 103 Pottery Street, Castleford, WF10 1NL [Identified on the plan below as land within the blue boundary].

The Ordnance Survey mapping used is provided by Wakefield Metropolitan District Council under licence from the Ordnance Survey on behalf of the Controller of Her Majesty’s Stationery Office Crown Copyright. Licence Number 100019574 (2010).
A pollutant linkage is defined in the Statutory Guidance as a linkage between a source (i.e. contaminant) and a receptor (i.e. a resident) by means of a pathway (i.e. ingestion of soil). It is considered that the following significant pollutant linkages are present at the site:

<table>
<thead>
<tr>
<th>SPL 1</th>
<th>Source: Lead in the shallow soils</th>
<th>Pathways: Direct soil/dust ingestion, Indoor dust inhalation, Outdoor dust inhalation, Dermal contact with soil/indoor dust, Consumption of home-grown produce and soil, Consumption of soil attached to home-grown produce</th>
<th>Receptor: Young female child (age 0 - 6 years) potentially resident at the determined property</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPL 2</td>
<td>Source: Arsenic in the shallow soils</td>
<td>Pathways: Direct soil/dust ingestion, Indoor dust inhalation, Outdoor dust inhalation, Dermal contact with soil/indoor dust, Consumption of home-grown produce and soil, Consumption of soil attached to home-grown produce</td>
<td>Receptor: Young female child (age 0 - 6 years) potentially resident at the determined property</td>
</tr>
</tbody>
</table>

Based upon the above linkages the individual properties were determined as Contaminated Land on the 7th September 2010 due to a significant possibility of significant harm to human health.
SCHEDULE 3 - REMEDIAL OPTIONS APPRAISAL

URS Corporation Ltd was commissioned as part of the contract to investigate the site to prepare a ‘Remedial Options Appraisal’ in the event that the land was recommended to be determined as ‘Contaminated Land’.

The URS report looked at various remedial options including civil engineering methods, biological methods, chemical methods, physical methods, stabilisation / solidification and thermal methods. These options were then evaluated using the following criteria:

- Effectiveness
- Practicality
- Durability
- Efficiency (including cost)
- Reasonableness

The option that was considered most suitable for this site was:

- Excavation of contaminated soils and disposal to landfill.
- Construction of a cover system

This option has been approved by Wakefield Council and is considered to represent the Remediation Scheme for the site.
SCHEDULE 4 - REMEDIATION SUMMARY

Remediation Assessment Actions

No assessment actions are required. Sufficient information to characterise the Pollutant Linkage, decide on the remedial objectives; and establish the technical specification and design of the Remedial Treatment Actions, was provided by the following:

(i) “Phase I Desktop Study” Report. Wakefield Council, Ref. DJ/1065/MAS/DTS, June 2010 [revised]

(ii) “Phase 1B Site Inspection & Interpretation” Report. Wakefield Council, Ref. DJ/1065/MAS/SI, June 2010 [revised]

(iii) “Former Calder Chemical Works, Castleford – Part 2A B.20(C) Detailed Inspection” Report. URS Corporation Plc, Ref. 49309326 / LERP0002 / Final Issue No.2, 30 July 2010


Pre-Remedial Treatment Actions

The following actions will be undertaken prior to any remedial works being carried out at the site:

(i) Structural survey of all properties requiring remediation, to include the outhouses; and

(ii) Vibration monitoring before and during the work; and

(iii) Dust monitoring before and during the work

Remedial Treatment Actions

The Remedial Treatment Actions listed below have been considered appropriate to break the Significant Pollutant Linkage upon which the Determination was based, in the area defined in Schedule 2; considering Best Practical Technique (BPT) as specified by paragraph C19 of the Statutory Guidance Circular 01/2006.

The following Remedial Treatment Actions are required to ensure that the Significant Pollutant Linkages as identified in Schedule 3 are broken.
(i) Demolition of all partition walls between properties and wall at the end of the gardens [the outbuildings are intended to be left intact].

(ii) Removal of all topsoil/made ground in the garden/yard areas to a depth of 0.6m below ground level (bgl). There may be a requirement for deeper excavation across the main garden area should any gross contamination be identified during the excavation. The extent of any such excavation would be determined during the remedial works, based on risk assessment and cost benefit analysis.

(iii) Contaminated material will be disposed of at a suitably licensed landfill site.

(iv) Upon excavation, each garden will be backfilled with a cover system comprising the following:

**Grass Reinstatement**

- Non-woven Terram Geotextile layer at base;
- 150mm thick layer of gravel (capillary break layer)
- Geo-fabric layer (demarcation layer);
- 350mm thickness of subsoil
- 100mm of topsoil
- Placement of turf

**Paving Reinstatement**

- Non-woven Terram Geotextile layer at base;
- 150mm thick layer of gravel (capillary break layer)
- Geo-fabric layer (demarcation layer);
- 250mm thickness of subsoil
- 200mm of hardcore
- Placement of paving

(v) The above will be suitably validated by an environmental consultancy to ensure that remediation objectives are met. A Validation Report will be prepared to document this.

**Important Note:** An assessment will be made with the appointed environmental consultants and the Council, in consultation with the owner of the properties, to establish if the current hardstanding offers a similar level protection as the remedial treatment action. Where an agreement is made on this a decision will be made that no remedial action is warranted for that particular property. This will be formalised within the production of the verification reports.

The cover system is illustrated in the figure below:

**Figure 1**
Monitoring Actions

A structural survey will be completed at all properties on River View and Pottery Street prior to any works commencing to ensure that they are structurally sound. A post works completion survey will be undertaken to ensure that no damage to the properties have occurred.

During the works, environmental monitoring shall be completed in a number of locations to monitor the potential for dust. Mitigation measures and dust suppression measures shall be employed throughout the works and all trucks shall be sheeted, thereby reducing the risks further. A suite of chemical analysis shall be completed on the dust samples.

Work outside of the core working hours of 8am to 6pm Monday to Friday shall not be permitted, thereby reducing the potential for nuisance to the residents from noise.

Other surveys/monitoring shall be undertaken as specified in the Detailed Remediation Strategy.

Timescales

The above works should be completed by the 31st March 2011.
REMEDIATION STATEMENT

Part 2A Environmental Protection Act 1990

Land at

Laurel Court & Pildacre Lane
Ossett

August 2013
Contents

Schedule 1 - Location & Extent of Contaminated Land to Which This Remediation Statement Relates

Schedule 2 - Description of Significant Pollutant Linkage

Schedule 3 - Remedial Options Appraisal

Schedule 4 - Remediation Summary
ENVIRONMENTAL PROTECTION ACT 1990, SECTION 78H(7)

The Contaminated Land (England) Regulations 2006 (S.I. 2006/1380)

Prepared by Wakefield Metropolitan District Council.

This remediation statement has been prepared by Wakefield Metropolitan District Council (“the Council”) in relation to Contaminated Land identified under section 78B of the Environmental Protection Act 1990 (“the Act”).

The location and extent of the Contaminated Land to which this Remediation Statement relates (“the Land”) is set out in Schedule 1.

The Council, as the enforcing authority for the land, is precluded by section 78H(5) of the Act from serving a Remediation Notice, and has therefore prepared this Remediation Statement in accordance with section 78H(7).

Particulars of the substances and the significant harm by reason of which the land is Contaminated Land are set out in Schedule 2. The appraisal of the various options available to remediate the land is set out in Schedule 3. The things which are expected to be done by way of remediation and the time period within which each of these things are expected to be done are set out in Schedule 4.

The current use of the land is residential. The former use of the site is a paint manufacturing works.

The name and address of the person who is responsible to do each of the things set out in Schedule 4 of the Remediation Statement by section 78H(7)(b) is:

Wakefield Metropolitan District Council
Environmental Health
Wakefield One
P.O. Box 700
Burton Street
Wakefield
WF1 2EB

Any communication should be directed to the Contact Name given below.

Name and Position of Person Issuing the Statement on Behalf of the Council:

Diane Widdowson
Service Manager - Environmental Health

Signed & Dated the 28th August 2013
The contact name for the purposes of this remediation statement is: David Jackson, Land Quality Officer
The location and extent of the contaminated land to which this Remediation Statement relates is known as the Former Sowdill Works, Ossett (National Grid Reference. 427330 , 420750). This Remediation Statement specifically relates to the gardens at 2, 4, 6, 9, 11, 15, 17, 19, 21, 23, 25, 27, 29, 31 Laurel Court, Ossett, WF5 8QA and 75, 77, 79, 81, 83, 85, 87, 89 Pildacre Lane, Ossett, WF5 8PX [Identified on the plan below as land within the red line boundary].
SCHEDULE 2 - DESCRIPTION OF SIGNIFICANT CONTAMINANT LINKAGE

A contaminant linkage is defined in the Statutory Guidance as a linkage between a source (i.e. contaminant) and a receptor (i.e. a resident) by means of a pathway (i.e. ingestion of soil). It is considered that the following significant contaminant linkage is present at the site:

<table>
<thead>
<tr>
<th>Significant Contaminant Linkage 1</th>
<th>Source: Elevated levels of polyaromatic hydrocarbons [specifically benzo[a]pyrene] in the top 700mm of soil from the garden areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathways:</td>
<td>Direct ingestion, Dermal adsorption, Inhalation of dust [indoor &amp; outdoor], Indirect ingestion through home grown fruit/vegetables, Direct ingestion of soil attached to vegetables/fruit, Infiltration of water supply pipes</td>
</tr>
<tr>
<td>Receptor:</td>
<td>Residents [critical receptor 1-6yr old female child]</td>
</tr>
</tbody>
</table>

Based upon the above linkages the individual properties were determined as Contaminated Land on the 8\textsuperscript{th} August 2013 due to a significant possibility of significant harm to human health.
SCHEDULE 3 - REMEDIAL OPTIONS APPRAISAL

WSP Environmental Ltd was commissioned as part of the contract to investigate the site to prepare a ‘Remedial Options Appraisal’ in the event that the land was recommended to be determined as ‘Contaminated Land’.

The Remedial Options & SPOSH Assessment Report [WSP, April 2013] looked at various remedial options including civil engineering methods, biological methods, chemical methods, physical methods, stabilisation / solidification and thermal methods. These options were then evaluated using the following criteria:

- Effectiveness, Practicality, Durability & Efficiency
- Health and environmental impacts of the chosen remedial options;
- Financial cost which is likely to be involved; and
- Benefits of remediation with regard to the seriousness of the harm in question.

The option that was considered most suitable for this site was:

- Excavation of all contaminated soils/made ground to an average depth of 700mm and disposal to landfill; and
- Replacement with clean imported soils.

This option has been approved by Wakefield Council and is considered to represent the Remediation Scheme for the site.
SCHEDULE 4 - REMEDIATION SUMMARY

Remediation Assessment Actions

No assessment actions are required. Sufficient information to characterise the Significant Contaminant Linkage, decide on the remedial objectives; and establish the technical specification and design of the Remedial Treatment Actions, was provided by the following:

2. Phase 1B Site Inspection & Interpretation Report [Wakefield Council, Ref. JR/1482/MAS/SI, May 2012]
3. Land Quality Site Investigation – Factual Report (Report 1) [WSP Environmental Ltd, April 2013 Ref. 34295]
4. Land Quality Site Investigation – Interpretive Report (Report 2) [WSP Environmental Ltd, April 2013 Ref. 34295]
5. Remedial Options and SPOSH Assessment - [WSP Environmental Ltd, April 2013 Ref. 34295]

Pre-Remedial Treatment Actions

The following actions will be undertaken prior to any remedial works being carried out at the site:

1. Structural survey of all properties requiring remediation, to include any garages or other permanent structures; and
2. Vibration monitoring before and during the work; and
3. Dust monitoring before and during the work

Remedial Treatment Actions

The Remedial Treatment Actions listed below have been considered appropriate to break the Significant Contaminant Linkage upon which the Determination was based, in the area defined in Schedule 2; considering Best Practicable Technique (BPT) as specified by paragraph 6.22 of the Contaminated Land Statutory Guidance [2012].

The following Remedial Treatment Actions are required to ensure that the Significant Contaminant Linkages as identified in Schedule 3 are broken:
1. Removal of all soil/made ground down to weathered bedrock in the garden areas to a depth of on average 0.7m below ground level (bgl). There may be a requirement for deeper excavation in some areas should any gross contamination be identified during the excavation. The extent of any such excavation would be determined during the remedial works, based on risk assessment and cost benefit analysis.

2. Contaminated material will be disposed of at a suitably licensed landfill site.

3. Upon excavation, each garden will be backfilled with subsoil and topsoil/aggregate comprising the following:

**Grass Reinstatement**
- 400mm thickness of subsoil [on average]
- 300mm of topsoil
- Placement of turf

**Border Reinstatement**
- 400mm thickness of subsoil [on average]
- 300mm of topsoil

**Paving Reinstatement**
- Subsoil [depth to be agreed with the contractor]
- Hardcore [depth to be agree with the contractor]
- Placement of paving

4. The above will be suitably validated by an environmental consultancy to ensure that remediation objectives are met. A Validation Report will be prepared to document this.

**Important Note:** An assessment will be made with the appointed principal contractor and the Council, in consultation with the owner of the properties, to establish if the current hardstanding offers a similar level protection as the remedial treatment action. Where an agreement is made on this a decision will be made that no remedial action is warranted for that particular area. This will be formalised within the production of the verification reports.

**Monitoring Actions**

A structural survey will be completed at all affected properties on Laurel Court and Pildacre Lane prior to any works commencing to ensure that they are structurally sound. A post works completion survey will be undertaken to ensure that no damage to the properties have occurred.
During the works, environmental monitoring shall be completed in a number of locations to monitor the potential for dust. Mitigation measures and dust suppression measures shall be employed throughout the works and all trucks shall be sheeted, thereby reducing the risks further.

Work outside of the core working hours of 8am to 6pm Monday to Friday shall not be permitted, thereby reducing the potential for nuisance to the residents from noise.

Other surveys/monitoring shall be undertaken as specified in the Detailed Remediation Strategy.

**Timescales**

The above works should be completed by the 31st March 2014.