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Land at Oswestry Water Treatment Works Oswestry Shropshire

Archaeological Watching Brief

Report No. Y233/16

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| Commissioned by | C2Vplus |
| Date issued | June 2016 |
| Version | 1.0 |
| OASIS Reference | cfaarcha1-255417 |
| Planning Application No | PREAPP/14/00363 |
| Grid Ref | SJ 27829 29267 |

This document has been prepared in accordance with CFA Archaeology Ltd standard procedures.

Land at Oswestry Water Treatment Works Oswestry Shropshire

Archaeological Watching Brief

Report No. Y233/16

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Summary

An archaeological watching brief was undertaken between 19 August 2015 and 05 May 2016 on a topsoil strip during the extension of Oswestry Water Treatment Works, Oswestry, Shropshire. Three culverts, possibly associated with remains of Llanforda-isaf farmstead to the west, were recorded.

1. INTRODUCTION

1.1 General

This report presents the results of an archaeological watching brief undertaken by CFA Archaeology Ltd (CFA) between 19 August 2015 and 05 May 2016. The work was commissioned by C₂Vplus, a VolkerStevin and CH2M HILL joint venture employed by United Utilities, in order to discharge the requirements of the archaeological condition placed on planning permission ref. PREAPP/14/00363 for the extension of Oswestry Water Treatment Works. This included, but was not exclusive to, the construction of new access roads, perimeter fencing, inter-process pipeline, hydro transfer connection and a new service reservoir. The CFA code and project number for the work are OWTW2 and 2229 respectively.

All work was undertaken in accordance with a Written Scheme of Investigation issued by CFA (Appendix 4) and approved by Dr. Andy Wigley, Historic Environment Manager, Shropshire County Council on behalf of the LPA and Cifa standards and guidance documents (Cifa 2014a-c).

1.2 Site Location and Description

The site is located on the western outskirts of Oswestry (Fig. 1; SJ 27829 29267). The development area comprised the existing water works and fields to the west and north-west of Oswestry Water Treatment Works, excluding the woodland which houses the remains of Llanforda-isaf farmstead (Figs. 1 and 2). The proposed Clearwater Tank and Lime Building were constructed in the location of Victorian Filter Beds 1-4. The Floc-Sed Tank was in part constructed in the field to the north-west of the Water Treatment Works. The Upstream Hydrogeneration Building, inter-process pipeline, hydro transfer connection, additional services and footpaths were constructed within the western part of the Water Treatment Works, and therefore on previously developed land. The Car Park (Fig. 1) with a new access road into the site was constructed in the field to the west of the Water Treatment Works, in the south-west corner of the site.

The underlying bedrock consists of Pennine Lower Coal Measure Formations and Pennine Middle Coal Measure Formations (undifferentiated) beneath superficial deposits of Devensian-Diamicton Till (BGS 2016). Soils of the area are described as slowly permeable seasonally wet acid loamy and clayey soils (NERC 2016).

1.3 Historical and Archaeological Background

There is little documentary evidence for activity on the site prior to the construction of the water works; however, there is information for the surrounding area and for

Oswestry Town itself. The following is compiled from secondary sources. All sources consulted appear in the bibliography.

There are no records of prehistoric activity within the site. A single stone axe was found between the old medieval town of Oswestry and the new housing development to the east of the Water Treatment Works, listed in the HER (No. 05702). The Pegasus Stone (rare example of Late Prehistoric bas relief, Nash 2014) and Old Oswestry, one of the largest Welsh Borders Hill Forts (OOLAP 2007) are significant features of the prehistoric landscape of the area, to the north of Oswestry Town.

Oswestry Town is mentioned in the Domesday survey of 1086. It started as a nucleated settlement in the shadow of a motte and bailey castle, later, in the 13th century it was surrounded by a town wall with four gates, though did not incorporate St. Oswald's Chapel and well. The town rapidly expanded beyond the wall with suburbs along the roads out of town. By 1660 the wall no longer existed, and apparently no evidence of it survives, although a fragment of possible 'town wall' was found south-west of the site near Maes-y-Llan cottages (Hannaford 1995). The medieval street system partially remains in some places in the town.

The southern half of the site, and the area to the west and south, belonged to the Township of Llanforda. Llanforda Estate was purchased by Sir William Williams (1634-1700) from Edward Lloyds in 1675 (National Library of Wales 2013, ref: GB 0210 WYNNSTAY). The Baronets of the Williams-Wynn family owned the lands of Llanforda and some of those within the Liberties of Oswestry, including the site and wider study area. This includes the farmstead, Llanforda-isaf (see below), which lies due west of the Water Treatment Works, within the dense woodland area. These remains consist of some upstanding structures, man-made hollows and evidence of landscaping. The boundary walls surround the farmstead and access path, now part of a public footpath and survive to varying degrees of preservation (Hunt 2014).

Two ponds were identified during the walkover (Hunt 2014); one to the west and one to the south of Llanforda-isaf farmstead (Fig. 2; sites 1 and 2). These ponds appear on the first edition OS map, and pre-date the Oswestry Water Treatment Works.

Much of the information for the construction of the Liverpool Corporation Water Works can be found in the archive of the water works itself. In 1946, the Water Treatment Works is mentioned in the 'Report on Water Supply' by A. H. S. Waters. It mentions that water is passed through rapid gravity filters from three service reservoirs with the capacities of 140,000 gallons, 1,400,000 gallons and 3,300,000 gallons respectively into a clear water tank of 200,000 gallons capacity with top water level 640 feet AOD. Oswestry Water Treatment Works is the only one of its kind in the county, possibly in the country, to employ the methods it uses in the treatment of water.

1.4 Previous Archaeological work

An archaeological desk-based assessment on a 500m buffer around the study area set out by United Utilities PLC was undertaken by CFA in 2014 (Hunt 2014; Fig. 2). It consisted of consultation of the Shropshire HER, historic mapping and documentary resources, as well as a site walkover survey. Along with a number of other sites

identified outside the development boundary (Appendix 3), this assessment identified the upstanding remains, and possible below ground remains of the Llanforda-isaf farmstead, and two ponds in the fields and woodland to the west of the Water Treatment Works, dating from at least the 19th century (Fig. 2; Appendix 3). The Vyrnwy Aqueduct (SMR 21491) was not identified in the walkover survey, but subsequently identified during the watching brief through further inspection of the landscape (Fig. 6).

1.5 Project Aims

In general the project objectives were to:

- determine the form and function of any archaeological features encountered;
- determine the spatial arrangement of any archaeological features encountered;
- as far as practicable, recover dating evidence from the archaeological features, and;
- establish the sequence of any archaeological remains present on the site.

Specific objectives were to record, where possible, archaeological remains within the undeveloped area to the western side of the proposed development site.

2. WORKING METHODS

2.1 Watching Brief

All work was undertaken in accordance with the Chartered Institute for Archaeologists' Code of Conduct and relevant Standards and Guidance documents (CIfA 2014d) as well as the terms of the Written Scheme of Investigation (Appendix 4).

The mechanical removal of the grass from the car park area and the field to the north-west was undertaken by a dozer with no archaeological supervision. Further removal of topsoil and overburden was undertaken using a 360 mechanical excavator with a toothless bucket where possible, and under archaeological supervision. In these areas the overburden was removed down to the natural geology or archaeological horizon, whichever was uppermost.

Ducting trenches and drainage trenches in the car park, and new footpaths within the Water Treatment Works were excavated using a combination of toothless and toothed buckets under constant archaeological supervision. A sample selection of lighting columns were monitored but no surviving archaeological remains were identified.

The full depth and length of the process pipework was monitored to assess the stratigraphic profile of the ground within the Water Treatment Works, using a 360 degree tracked excavator fitted with a toothless bucket under constant archaeological supervision.

All excavation and on-site recording was carried out according to standard CFA procedures, principally by drawing, photography and by completing standard CFA record forms.

2.2 Standards and Guidance

CFA Archaeology is a registered organisation (RO) with the Chartered Institute for Archaeologists (CIfA). All work was conducted in accordance with relevant CIfA Standards and Guidance documents (CIfA 2014d), Historic England guidance (EH 2008 and 2011), and CFA's standard methodology.

2.3 Monitoring

The project was monitored by Dr. Andy Wigley, Historic Environment Manager, Shropshire County Council, who was informed in advance of and during the works taking place.

2.4 Archiving

The project archive, comprising all CFA record sheets, plans and reports, will be deposited with the relevant museum according to an agreed timescale, and will be ordered according to current guidelines and to nationally recognised standards (CIfA 2014a-d). The OASIS reference for the project is cfaarcha1-255417.

3. RESULTS

A summary of contexts is presented in Appendix 1 and an index of the archive forms Appendix 2.

Conditions during the groundworks were generally cloudy with sunny intervals and occasional strong winds and heavy rain.

An initial inspection, monitoring and photographic record was undertaken during the demolition of Filter Beds 1-4. The demolition revealed the construction of the high quality Late Victorian Filter Beds and how layers of clean sand over perforated tile filtered water into the next set of beds via large cast iron pipes (Fig. 7). It also showed how the underlying ground which the filter beds had been cut into, was made up of a combination of redeposited/disturbed natural or made-ground.

To the east of the Floc-Sed Tank excavation of new service trenches, footpaths and the Upstream Hydrogeneration Building were monitored. Excavation of the service trenches and footpaths was undertaken with a narrow toothless bucket to the required depth. The footprint of the Hydrogeneration Building was excavated within a coffer dam, to a depth of 4m. Natural boulder clay was observed at 3.4m, below modern backfill. Monitoring of these areas suggested the ground had been subject to ground works in preparation for the construction of the Water Treatment Works.

The full length of the pipe diversion for the Floc-Sed Tank was monitored to establish the nature of the stratigraphic profile. The trench was 3m wide and varied between 2.5m and 3m in depth. The upper sections of the trench, with a minimum depth of

0.5m, were made up of redeposited blue clay and made-ground overlying the Devensian-Diamicton Till (Fig. 8). Disturbances in this stratigraphy could be seen where the existing pipework was present. A brick culvert was identified during clean up within the vicinity of the pipework trench (007; see below).

The north-west footprint of the Floc-Sed Tank comprised two zones, one of cut and one of fill according to the slope of the ground. The footprint extended into the field beyond the fence line of the Water Treatment Works and was stripped of all overburden down to the natural geology after the grass was stripped by a bull-dozer. The area inside the fence line had been partly disturbed by the insertion of services and pipework, and was a 'fill' area for the Tank, and as such was subject to limited excavation, with the exception of the removal of the old process pipe and tank. The field beyond it was part of the 'cut' area for the Tank. The lower land towards the woodland covering the Llandforda-isaf farmstead dipped, and as such had a greater accumulation of subsoil (0.6m) over orange-brown sandy clay and gravels. Working upslope towards the north, the underlying natural geology rose significantly, resulting in very shallow subsoil, and changed becoming more yellow in appearance. In the lower south-west of this area, a brick culvert was identified (010; see below).

The footprint of the car park was disturbed by heavy traffic following the stripping of the grass by a bull-dozer. Where possible the ground was stripped of all overburden down to the subsoil or natural geology which ranged from blue grey boulder clay in the east to a mix of orange-brown red sand and gravels mixed in with a red clay. To mitigate against the possible damage done by machine the ducting trenches and drainage trenches were monitored to a depth of 0.6m and 1-1.5m respectively, in addition to monitoring excavation on a sample of the lighting columns. No archaeological features were identified in this area of the site with the exception of a stone culvert (016; see below). A scattering of green-glazed medieval pottery was noted in the topsoil after the bull-dozer strip. A mound to the south of Site 2 was largely destroyed by the dozer strip, but it appears this was the up-cast from the pond.

The Culverts

Two brick culverts were identified to the south-west of the Floc-Sed Tank (Figs. 3, 4, 9 and 10) near the western corner of the woodland that covers the Llanforda-isaf farmstead. Culvert 007 was exposed to a length of 7.5m (Figs. 3 and 9), and continued west into the woodland. Where protected by the woodland, the culvert survived to a height of 0.46m, and a width of 0.66m. The majority of the culvert within the boundary of the Water Treatment Works had been subject to truncation by previous ground works and the insertion of cables and services. The culvert had silted up with a deposit 0.15m in depth containing post-medieval and modern material including glass and metal. The remains of at least one small mammal, thought to be a rodent were identified, though this is likely to have been post-depositional.

Culvert 010 was exposed to a length of 6m (Fig. 4 and 10), and was aligned from east to south-west with a north-west corner. It cut through the subsoil creating an internal depth of 0.37m and had fully silted up, with this silt breaching the brickwork of the culvert itself and containing fragments of the culvert fabric. The culvert had been subject to truncation due to landscaping works within the boundary of the Water Treatment Works.

Stone culvert (016) was identified in the cable trench along the access road from the car park (Fig. 5). A 1.4m² test pit was excavated across its length to aid identification as the excavation of the cable trench had released a build up of water caused by the removal of one of several clay plugs (015) along its length. The culvert was only part exposed and largely covered in wet clay. It consisted of two rows of stone, set 0.24m apart, which were two courses in height (0.28m) and which were capped with roughly shaped stone, with smaller stones used to fill in the gaps. The culvert was on the same orientation -south-west to north-east - as the outlet for Pond 2 (Hunt 2014).

4. CONCLUSIONS

The watching brief monitored the works associated with the expansion and upgrade of Oswestry Water Treatment Works, which included the construction of new access roads, perimeter fencing, inter-process pipeline, hydro transfer connection and a new service reservoir.

While the construction of the Water Treatment Works has had a considerable impact on the site, and truncated any archaeology within its vicinity; in those areas where construction work and landscaping is minimal there remains the possibility of surviving archaeological deposits.

Medieval green-glaze pottery was identified in the subsoil of the field where the Car Park was constructed, although no archaeology of this period or earlier was identified.

Three culverts were identified and recorded, and were associated with the cultural heritage sites identified in the desk-based assessment (Hunt 2014). These included two brick culverts from Llandforda-iasf farmstead and a stone culvert from Site 2 of the DBA (Pond). The farmstead and ponds are visible on maps since the 19th century. It can therefore be presumed these features are also of the same date, though the brick culverts may be later, corresponding with improvements in water management.

5. ACKNOWLEDGEMENTS

The project was commissioned by C₂Vplus – a VolkerStevin and CH2M HILL on behalf of United Utilities; Andy Wigley Historic Environment Manager, Shropshire County Council monitored the project, and; Martin Lightfoot managed the project for CFA Archaeology Ltd. The fieldwork and post-excavation was supervised by Rebecca Hunt assisted by Phil Mann. Thanks are also due to the employees of C₂Vplus, PLC Ltd and D. Morgan PLC for their co-operation in during the project.

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Appendix 1: Context Summary

| Context no. | Fill of | Length (m) | Width (m) | Depth(m) | Type | Description |
|-------------|---------|-------------|-------------|-------------|------------------------|---|
| 000 | | Across Site | Across Site | Across Site | Natural | Car Park: a blue grey boulder clay in the east to a mix to orange-brown red sand and gravels mixed in with a red clay. Floc-Sed Tank: an orange-brown sandy clay and gravels Pipe-diversion: blue clay and typical Devensian-Diamicton Till |
| 001 | | Across Site | Across Site | max 0.3 | Topsoil | Mid yellow brown soil with a grey-dull hue supporting grass and hardy weeds with occasional stone inclusions and charcoal flecks and fragments of modern pottery. |
| 002 | | Across Site | Across Site | max 0.6 | Subsoil | Mid red brown silty clay to a mid-yellow brown silty clay with a grey hue heavily influenced by the natural, with stone inclusions and a diffuse horizon |
| 003 | | Across 007 | Across 007 | >1 | Redeposited Natural | Mid-light brown grey silty clay with a yellow hue and frequent fine gravel (0.02m) and sub-angular stone inclusions (max 0.9m). Very arid, very hard to hand excavate. No visible cut for culvert 007 was seen through it; may have diffused or have been redeposited natural over the top of the culvert during landscaping works for the construction of the Water Treatment Works - it is unclear. Where culvert is obvious, it is cut into it. |
| 004 | 007 | >7.5 | 0.4 | 0.15 | Silt of 007 | Moderately loose, mid-dark brown grey clay silt with frequent sub-angular to sub-rounded stones (max. 0.6m), formed by the silting up of the remains of a water culvert containing occasional charcoal and unidentifiable metal finds. Small mammal bones (rodent) were identified, possibly post-depositional and fragments of pale green glass and mortar bonding from the brickwork of 007. |
| 005 | 008 | >7.5 | 0.66 | ? | Backfill for 007 | Moderately compact mid grey brown silty clay with occasional to frequent fine gravels. Culvert backfill found externally between the bricks of 007 and 003, hard to identify whether a deliberate post-construction backfill or gradual build up. |
| 006 | 008 | >7.5 | 0.66 | 0.01 | Sand Bed for 007 | Moderate compact mid-light brown grey clay sand, becoming darker towards the top of the material with rare inclusions of stones (max. of 0.05m). Formed a sand bed for the construction of the culvert - where some of the culvert structures were no longer in existence their imprint was still visible. |
| 007 | 008 | >7.5 | 0.66 | >0.46 | Brick Culvert | Brick culvert with semi-circular with vaulted roof and curved base forming a squashed/weighted circle. Bricks are unfrosted man-made, tapered to fit the curve of the circle, therefore asymmetrical, becoming more symmetrical towards the central keystone. They were stamped with the word 'DRAIN', one was retained as a sample. Survives in full towards the woodland and Llandford-isaf, and heavily truncated within the grounds of the Water Treatment Works due to landscaping and the insertion of cables and services. |
| 008 | | >7.5 | 0.66 | >0.46 | Cut for Culvert 007 | Linear cut with concave base, orientated east to west. Sides are unclear due to formation or construction processes. Cut for the construction of the culvert 007. |
| 009 | 011 | >6 | 0.7 | 0.37 | Fill of Culvert 010 | Firm, mid brown yellow, humic clay with occasional sub-rounded to angular stones (0.02-0.1m), completely filling the culvert cavity, breaching the brick walls and becoming flush with the cut 011. Contained fragments of brick, mortar and stone collapsed in from 010. Subject to |

| | | | | | | |
|-----|-----|------|------|-------|------------------------|---|
| | | | | | | large amounts of bioturbation. |
| 010 | 011 | >6 | 0.7 | 0.37 | Brick Culvert | Brick culvert with an arched, vaulted roof, made up of seven rows of possible standard 9" brick, with the 4th row from the north and the 1st row from the south being narrower. All brickwork was on edge with a cement-like mortar bonding and gaps on the external arch were infilled with slate. The sides were made of four courses each and sloped to form a smooth V-shape, from a flat base made up of one row of brick. Only a small section survived as the rest had been heavily truncated by landscaping or dislodged by bioturbation. |
| 011 | | >6 | 0.7 | 0.37 | Cut for Culvert 010 | Curvilinear cut with moderately sloped sides and flat base, orientated from east to south-west with a north-west corner. Heavily disturbed by landscaping for the Water Treatment Works and bioturbation. Cut into the subsoil, seems to lead from the Llandford-isaf farmstead. |
| 012 | 013 | 0.47 | 0.27 | 0.14 | Fill of 013 | Firm, mid grey brown silty clay, becoming increasingly paler towards the interface with the natural. Very occasional small sub-angular stone inclusions were present with frequent flecks of charcoal, possible evidence of <i>in situ</i> burning, by discolouration of the clay natural. No finds. |
| 013 | | 0.47 | 0.27 | 0.14 | Small Pit | Sub-oval pit, with steep/irregular sides that had a shallow lip to the south and a concave base. Possibly burnt out vegetation bole, as it exists in isolation. |
| 014 | 017 | >1.4 | 0.24 | 0.26 | Silty Clay Fill of 016 | Very loose mid silvery-grey clay silt with occasional sub-angular stones (max. 0.5m). Formed by the silting up of culvert 017. Contained organic material, namely twigs etc., which appear to have been washed in. Variable clay deposits also exists forming plugs along its length reducing the water flow drastically. |
| 015 | 017 | >1.4 | 1.4 | >0.28 | Clay Fill of 016 | Moderately firm mid grey brown silty clay with occasional stone inclusions (max. 0.23m). Material surrounded stone culvert 016. Much more brown/grey than the yellow clay natural in the area, and contained a dense concentration of stone along the south-east edge of the culvert. Appears to be redeposited clay, forming a seal around the stone culvert. |
| 016 | 017 | >1.4 | 1.4 | >0.38 | Stone Culvert | Stone culvert orientated south-west to north-east formed of two rows of shaped stone set 0.24m apart, which were two courses deep at 0.28m, and a layer of roughly shaped capping stones with additional smaller stones to fill in the gaps. No bonding material, and not built to be seen, appears to line up with Site 2 (Hunt 2014). |
| 017 | | >1.4 | 1.4 | >0.56 | Cut for Culvert 016 | Linear cut with very steep sides, orientated north-east to south-west. Base was not exposed during the excavation, as this could not be cleared of water. In plan it was only visible along the south-east edge due to the incrementing water and clay mix. Appears in section, however, and as wide of that of the stone culvert 016 itself, possibly providing a working area for its construction. |

Appendix 2: Archive Summary

| File/Box No. | Description | Quantity |
|--------------|---|----------|
| File no. 1 | Context register sheets (A4) | 1 |
| | Context sheets (A4) | 18 |
| | Digital photographic register sheets (A4) | 4 |
| | Digital Photos (JPEG) | 136 |
| | Drawing register sheets (A4) | 1 |
| | Permatrace sheets (A3) | 2 |
| | Daily Site Recording Forms/Notes (A4) | 21 |
| | Daily Site Recording Notes (A3) | 3 |

Appendix 3: Gazetteer of HER sites with a 500m buffer of Oswestry Water Treatment Works

| HER No. | Name | Source | Period | NGR |
|----------------|---|-------------------------------|---|--------------|
| 00335 | St Oswalds Well , Maserfield (south side) | Holy Well/ Well Head | Early Saxon – Post-Medieval | SJ 2840 2938 |
| 02877 | Find Spot before 1927 of a Roman coin at Llanforda. | Findspot | Roman | SJ 2801 2927 |
| 04590 | Ridge and furrow and other earthworks West of Broom Hall | Ridge and Furrow | Medieval | SJ 277 288 |
| 04626 | MaesyLlan field system | Field System | Medieval – Post-medieval | SJ 2832 2897 |
| 04627 | Possible house platforms at MaesyLlan | Building Platforms | Medieval- Post-medieval | SJ 2822 2891 |
| 04628 | MaesyLlan enclosure | Enclosure | Medieval | SJ 2813 2880 |
| 05702 | Find Spot before 1870 of a stone axe near Oswestry Grammar School | Findspot | Early Neolithic-Late Bronze Age | SJ 284 292 |
| 05709 | St Oswald's Chapel, Oswald's Well lane, Oswestry | Chapel | Medieval | |
| 05785 | Medieval street system, Oswestry | Road | Medieval | SJ 2894 2970 |
| 07621 | Broom Hall Park | Park | 19th Century | SJ 277 288 |
| 07631 | Park and Gardens at Llanforda Hall | Garden Park/ Walled Garden | 17th Century Early 19th– Early 20th Century Early-Mid 19th Century | SJ 266 288 |
| 08584 | Find of worked masonry, Broomhall Lane | Architectural Fragment | Post-Medieval | SJ 2833 2913 |
| 13109 | Headmasters House, Oswestry School | School House | Late 18th Century | SJ 2850 2925 |
| 15339 | Maes-Y-Lan Cottage | Toll House | Early 18th – Late 19th Century | SJ 280 288 |
| 16180 | Broom Hall | (Former) Country House | Unknown | SJ 2815 2899 |
| 18770 | Penyllan Hall, Trefonen Road | Villa | Early-Mid 19th Century | SJ 2801 2861 |
| 21491 | Vyrnwy Aqueduct | Aqueduct | Late 19th – 20th Century | SJ 3171 3441 |
| 26505 | Llanforda-isaf farmstead | Farmstead | Early 19th Century /Unknown | SJ 2746 2932 |
| 26506 | High Fawr Farm | Farmstead | Early 19th Century/ Unknown | SJ 2734 2985 |

Appendix 4: Written Scheme of Investigation

Oswestry Water Works, Oswestry, Shropshire

CFA Archaeology Ltd

Archaeological Watching Brief

27 April 2015

1. Background

This Written Scheme of Investigation has been produced by *CFA Archaeology* (CFA) on the recommendation of Andy Wigley (Planning Archaeologist for Shropshire Council Archaeology) for *Untied Utilities*. It details the programme of archaeological work to be undertaken and provides the method statement for an archaeological watching brief during ground work likely to have an impact on below-ground remains.

A desk-based assessment of Oswestry Water Treatment Works was produced in June 2014 by *CFA Archaeology* and reports on the condition and significance of potential archaeological remains and any mitigation that may be necessary on the site in relation to the proposed development.

The east of the site is occupied by the Oswestry Water Treatment Works. Water is passed through rapid gravity filters from three service reservoirs of capacities 1 400 00 gallons, 1 400 000 gallons and 3 300 000 gallons respectively into a clear water tank of 200 000 gallons capacity with top water level 640 feet above Ordnance Datum (A. H. S. Waters 1946). Oswestry Water Treatment Works is the only one of its kind in the county, possibly in the country, to employ the methods it uses in the treatment of water.

The site and the proposed development plans overlies the remains of the Llanforda-isaf farmstead. The remains consist of upstanding walls, buildings and possible subterranean structures. The presence of the visible remains indicate high potential for below ground preservation of the farmstead, though these may be damaged by the woodland cultivation and burrowing mammals. No detailed plans of the farmstead are currently known, though its general layout appears on maps since 1838.

Two ponds (Hunt 2014; sites 1 and 2) survive to the west and south of the site, likely to date from the 1800s, and could provide information on water management within the 19th century. Site 2, including its structural features, is highly likely to be affected by the proposed development. Its intrinsic value may be less than the Llanforda-isaf farmstead, though its value increases when taken into consideration as part of the wider 19th and 20th century landscapes.

The proposed works are to be undertaken as part of an extension of Oswestry Water Treatment Works. The works will involve a significant amount of excavation in the construction of three new structures, access roads, associated landscaping and site compounds (ref. to drawings 6127/80004116/01/97/10001 (Enclosure 1), et seq.).

2. Project Objectives

There is the potential for the disturbance of buried archaeological remains on the site.

In general the project objectives are to:

- determine the form and function of any archaeological features encountered;
- determine the spatial arrangement of any archaeological features encountered;
- as far as practicable, recover dating evidence from the archaeological features, and;
- establish the sequence of any archaeological remains present on the site.

Specific objectives are to record, where possible, the structural and below ground remains associated with the Llanforda-isaf and of those associated with Site 2, the pond:

- To investigate the evidence for and origins of the different phases of land use and enclosure;
- To place the results of the investigation within the wider context and contribute to an understanding of the pattern of land use

3. Watching Brief

All excavations will be monitored by an archaeologist and should archaeological remains be encountered then they will be excavated recorded and reported in accordance with the Institute for Archaeologists standards documents (CIFA 2014a and 2014b), English Heritage guidance documents (EH 2005, 2006, 2008 and 2011), and CFA standard procedures.

4. Methods Statement

All groundwork will be monitored by CFA Archaeology. If significant archaeological features are exposed, the client, Planning Archaeologists and the contractor will be informed immediately, and a strategy will be agreed for avoidance or further excavation and recording in accordance with current National and regional policy and guidance.

Archaeological recording will be undertaken by means of standard recording sheets, drawings and photographs. Site plans will be located on development plans supplied by the client. Archaeological sections will normally be drawn at 1:10 and plans at 1:20 or at an appropriate scale.

Significant archaeological remains will be photographed by digital photography. Photographs will include an appropriate scale and where necessary a north arrow. All photographs will be recorded on a photographic register detailing subject, location and direction of shot. The English Heritage Advisor for Archaeological Science will be consulted, and be invited to make a site visit if necessary.

Any human remains encountered will be reported to Planning Archaeologist and appropriate authorities and left *in situ*. If removal is necessary this will comply with the relevant Government regulations and guidance and the terms of the Ministry of Justice licence. Should deposits suitable for environmental sampling be encountered they will be sampled in accordance with current English Heritage Guidelines (2011), and advice from CFA's environmental specialist and English Heritage's Regional Scientific Advisor as necessary.

5. Analysis and reporting

The full report including all specialist assessments of artefact assemblages shall be completed within an agreed timescale and copies of the report will be supplied in to the Local Planning Authority and the Planning Archaeologist.

All finds, if appropriate, will be retained, washed and where appropriate, be marked with the site code and context number in accordance to accepted professional standards (CIFA 2014a).

A submission will be made to the index of archaeological investigations (OASIS).

The report will contain:

- a concise non-technical summary of the project results;
- the site code and project number;
- dates when the field work took place;
- the site location given as an 8 figure grid reference;
- a location plan of the site at a scale of at least 1:10 000;
- plans and sections of archaeology located at a scale of 1:10, 1:20, 1:50 or 1:100, as appropriate (including an overall plan of the site, the location of trenches, individual trench plans and sections);
- a statement and analysis of the results;
- An assessment of the significance of any findings and a costed model for any further analysis;
- a table summarising the deposits, features, classes and numbers of artefacts encountered;
- Separate interpretative statements including phasing and dating of finds supported by appropriate photographs and drawings;
- an assessment of each category of artefacts/ecofacts recovered, to 'MoPHE' standard, an assessment of significance, and recommendations for future work;
- conservation assessment, and;
- copies of specialist reports and a copy of the Project Design as an appendix

Should there be significant results, appropriate press releases or outreach will be considered (subject to the approval of the client).

6. Archiving

The project archive, comprising all CFA record sheets, plans and reports, will be deposited at the relevant museum within an agreed timescale. Appropriate conservation of finds will be conducted before disposal. The archive will be ordered, indexed and conform to the requirements of the depositing museum and to all relevant professional guidance (Brown 2011).

7. Monitoring

Close contact will be maintained with the client and the planning archaeologist for the purposes of managing the project. Important or unexpected discoveries will be communicated to the client and the planning archaeologist as soon as is practicable.

8. Project Personnel

Martin Lightfoot (BA MA MCIfA) is a Regional Manager for CFA. Martin has project managed numerous archaeological projects of all periods throughout the country including those undertaken for large infrastructure projects.

The **Site Archaeologist** for CFA will be selected from CFA's pool of staff, all of whom have appropriate experience.

CFA's **Graphic's Manager** is Shelley Werner BA MPhil PhD MCIfA, who is responsible for the organisation and management of all GIS, CAD and Illustrative material. She is an experienced illustrator with specialist knowledge in GIS consultancy and standing building survey.

Post-excavation will be managed by CFAs post-excavation manager Melanie Johnson MA PhD FSA Scot MCIfA; CVs for CFAs 'in house' specialists or external consultants can be supplied on request.

9. List of Specialists

| | |
|---|--|
| Conservation | Ian Panter York Archaeological Trust |
| Palaeoenvironmental Scientist | Mike Cressey HND BA MSc PhD MCIfA |
| Archaeobotany | Mhairi Hastie BSc MSc ACIfA (CFA Archaeology) |
| Archaeozoology | Sean Bell BA MSc |
| Soil Micromorphology | Clare Ellis BA PhD MCIfA |
| Lithics | Paul Preston BSc M.Phil D.Phil Martin Lightfoot BA MA MCIfA |
| Mollusca and fish remains | Ruby Ceron-Carrasco MA PhD (Freelance) |
| Medieval and post-medieval pottery | Christopher Cumberpatch BA PhD (Freelance) |
| Prehistoric pottery | Christine Howard-Davies (University of Lancaster) |
| Palynology | Robert McCulloch BA PhD (University of Stirling) |
| Industrial and domestic waste analysis, archaeological materials and residue analysis | David Starley BSc PhD |

The above list is not exhaustive, should unusual or locally specific archaeological materials be discovered; appropriate specialists will be sort on the advice of the Regional English Heritage scientific Advisor.

10. Health and Safety

All CFA staff have been inducted into CFA's Health and Safety Policy, which can be supplied on request. All site staff have current relevant CSCS cards (archaeological technician).

11. References

Brown, D H., 2011, *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation*, Institute for Archaeologists

CIfA, 2014a, *Standard and Guidance for an Archaeological Watching Brief*, Institute for Archaeologists, December 2014

CIfA, 2014b, *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials*, Institute for Archaeologists, December 2014

EH 2005, *Management of Research Projects in the Historic Environment*, English Heritage

EH 2006, *Management of Research Projects in the Historic Environment (MoRPHE):Project Managers' Guide*, English Heritage

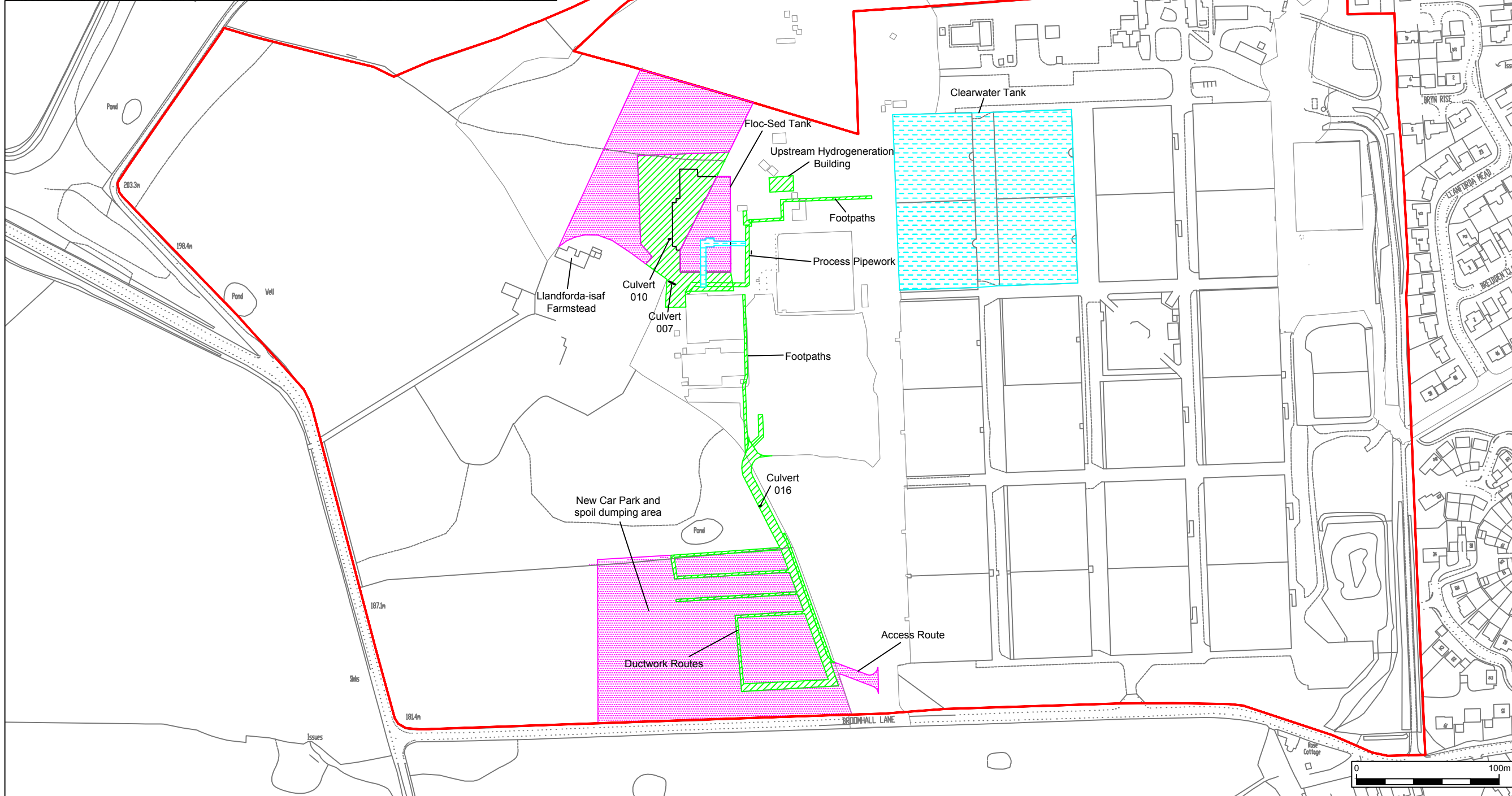
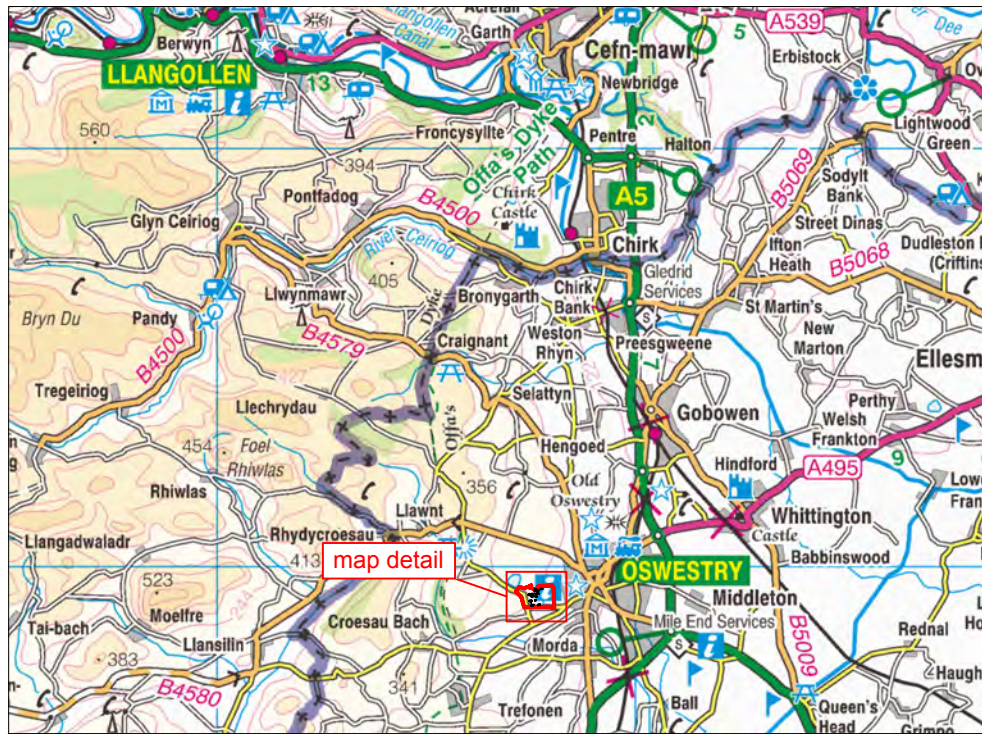
EH 2008, *Investigating Conservation: Guidelines on how the detailed examination of artefacts from archaeological sites can shed light on their manufacture and use*, English Heritage

EH, 2011, *Environmental Archaeology: A Guide to the Theory and Practice of Method, from Sampling and Recovery to Post-Excavation*, English Heritage

Hunt, R. 2014 *Land at Oswestry Water Works, Oswestry, Shropshire: archaeological desk-based assessment*, CFA Archaeology Report No. Y160/14

Waters, A. H. S., 1946, Report on *Water Supply*. Salop Council

Figures 1-10



Key:

- Development boundary
- Watching Brief Area not monitored
- Monitored Watching Brief Area
- Monitored Demolition Area

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Title:
Site Location and Plan

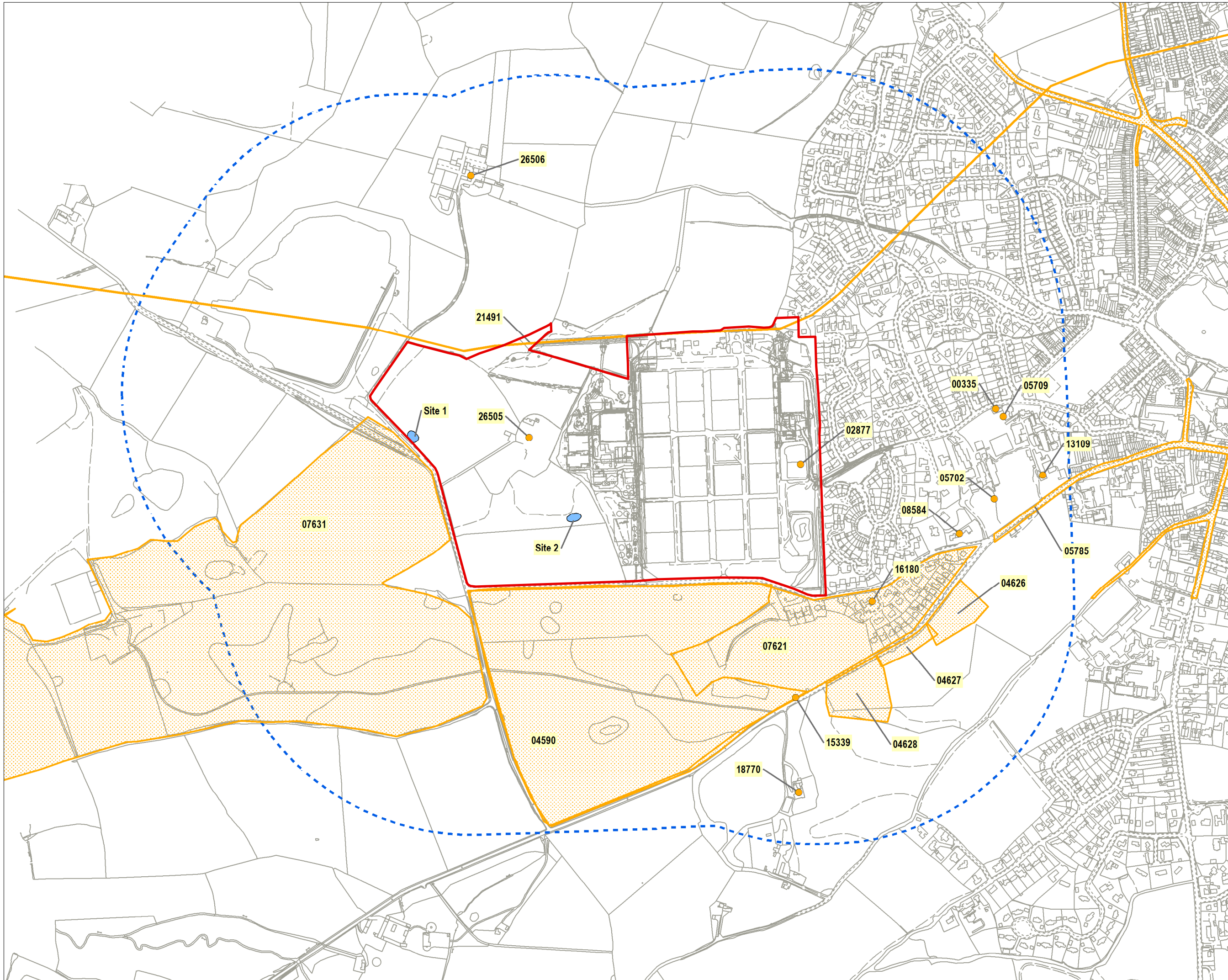
Project:
Land at Oswestry Water Treatment Works, Shropshire

Client:
C2V Plus

Scale at A3:
1:3000

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| Drawn by: GC | Checked by: SW | Date: 22/06/2016 |
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| Report No: Y233/16 | Fig. No: 1 |
|-----------------------|---------------|



Key:

- Development Boundary
- Buffer 500m
- HER Points
- HER Areas
- HER Linears
- Pond

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Title:
HER sites within a 500m buffer of Oswestry Water Treatment Works

Project:
Land at Oswestry Water Treatment Works, Oswestry, Shropshire

Client:
C2V Plus

Scale at A3:
1:6,959

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| Drawn by: KH | Checked by: SW | Date: 22/06/2016 |
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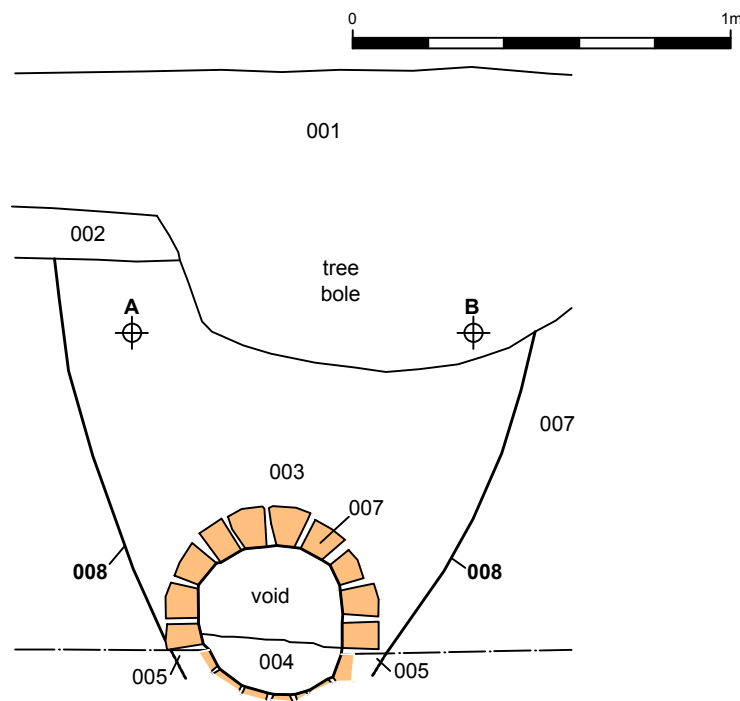


Fig 3a SE-facing section through culvert 007

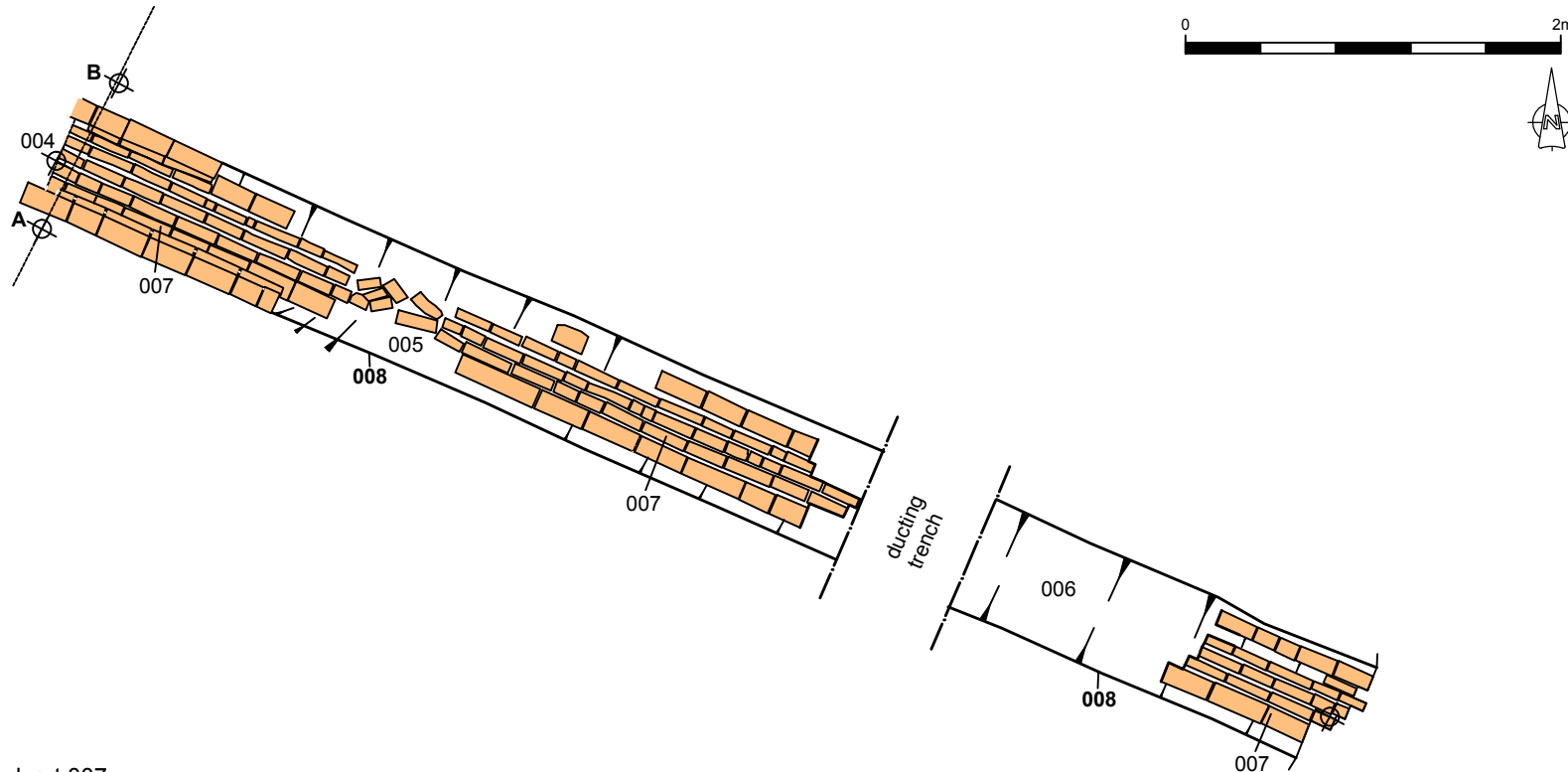


Fig 3b Plan of culvert 007

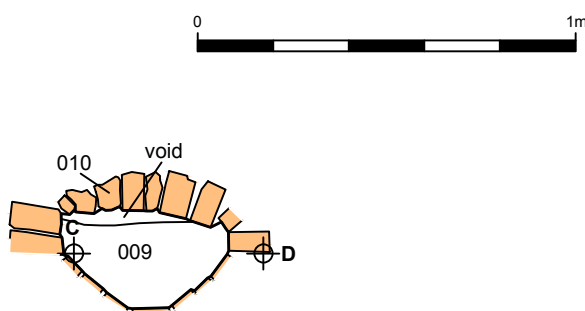


Fig 4a W-facing section through culvert 010

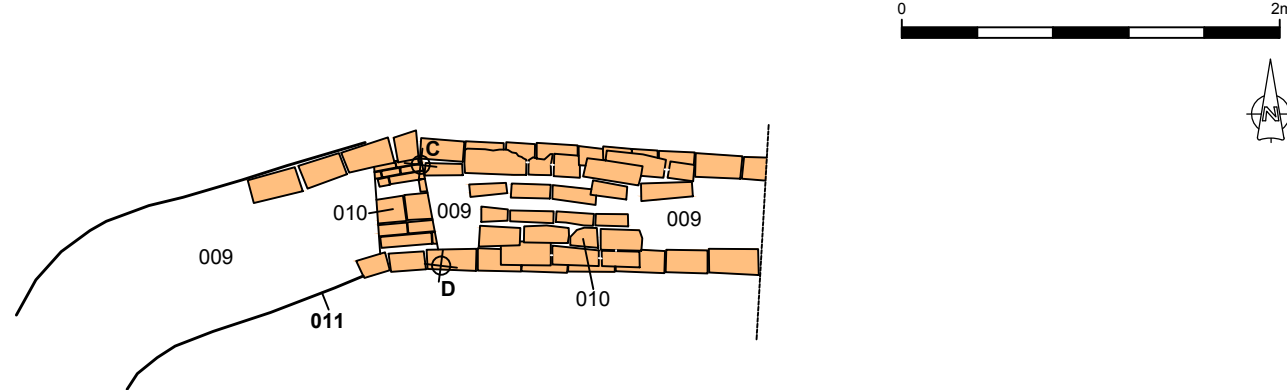


Fig 4b Plan of culvert 010

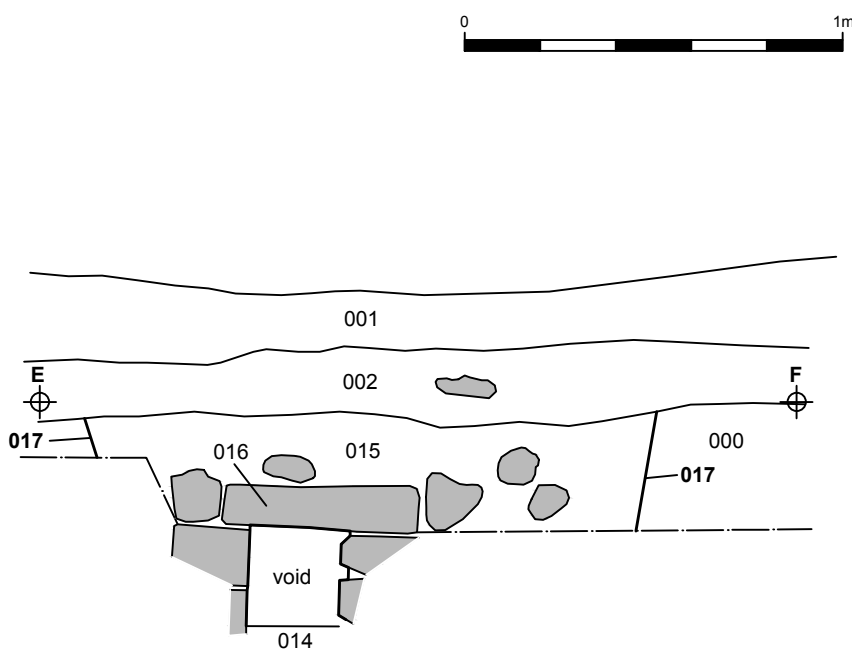


Fig 5a SW-facing section through culvert 016

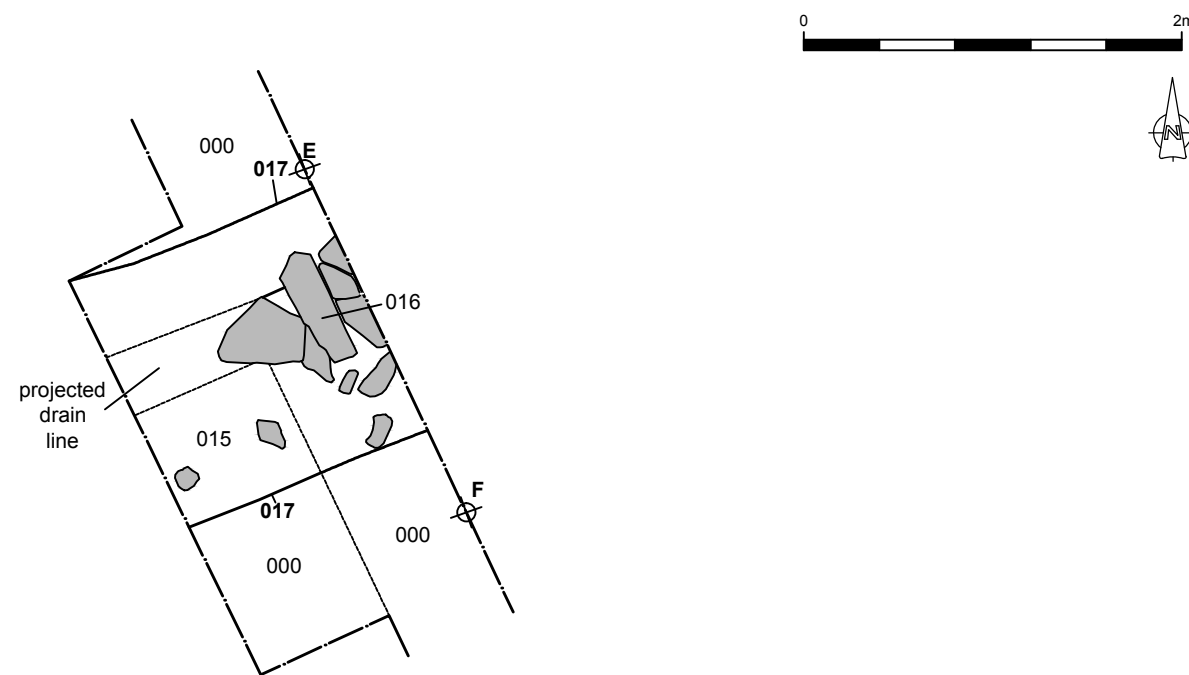


Fig 5b Plan of culvert 016

Key:

- Brick
- Stone

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Title:
Sections and plans

Project:
Land at Oswestry Water
Treatment Works, Shropshire

Client:
C2V Plus

Scale at A3:
Sections @1:20, Plans @ 1:40

| | | |
|-----------------|----------------|---------------------|
| Drawn by: GC | Checked: SW | Date: 22/06/2016 |
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| Report.No: Y233/16 | Fig. No: 3 - 5 |
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Fig. 6 The Vyrnwy Aqueduct, as viewed from the Filter Beds of Oswestry Water Treatment Works



Fig. 7 Example of the stratigraphy of the Filter Beds

Project:
Land at Oswestry Water Treatment Works, Oswestry, Shropshire



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C2V Plus

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| Report No: Y233/16 | | Fig. No: 6 - 7 |



Fig. 8 Stratigraphic profile of the process pipework diversion



Fig. 9 Culvert 007

Project:
Land at Oswestry Water Treatment Works, Oswestry, Shropshire



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Client:
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Fig. 10 Culvert 010

Project:
Land at Oswestry Water Treatment Works, Oswestry, Shropshire



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| Report No: Y233/16 | | Fig. No: 10 |