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Archaeological Investigations at York Central Phase 1 Infrastructure GI

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YAT Watching Brief Report 2018/181 March 2019



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Abbreviations

AOD	- Above Ordnance Datum
BGL	- Below Ground Level

- CBM - Ceramic Building Material
- WSI - Written Scheme of Investigation
- YAT - York Archaeological Trust

NON-TECHNICAL SUMMARY

Between the 12th November and the 13th December 2018 York Archaeological Trust conducted an archaeological watching brief at York Central Phase 1 Infrastructure GI (SE 58783 51986).

The work was undertaken for WYG to help investigate ground conditions for a proposed access route as well as to inform an outline planning application that was under consideration by the City of York Council (18/01884/OUTM). The work was based on a Written Scheme of Investigation produced by YAT. The works involved an archaeological watching brief during geotechnical investigations and the drilling of 5 archaeological windowless samples and the machine excavation of an archaeological test pit.

Archaeological observations revealed that there is an extensive buried landscape beneath the significant upheaval associated with the construction of the railways from the 19th century onwards. The limited area investigated restricts the level of interpretation possible, but the following has been tentatively identified;

- Buried plough soils with occasional fragments of pottery and brick and tile (CBM) from the medieval period and later.
- Remains of modern industrial buildings and yards.
- Areas with relatively shallow organic deposits, possibly linked with in-filled ponds, marshy areas and in one case a buried tree stump. These appear to be medieval or later in date.
- Areas with very deep organic deposits, possibly linked with prehistoric or glacial activity.
- It has also been possible to identify areas where all previous ground level have been completely removed during the landscaping of the railways

KEY PROJECT INFORMATION

Project Name	York Central Phase 1 Infrastructure GI
YAT Project No.	6104
Document Number	2018/181
Type of Project	Watching Brief plus Windowless Samples and Test Pit
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OASIS Identifier	Pending

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1 INTRODUCTION

Between 12th November and 13th December 2018 York Archaeological Trust conducted an archaeological watching brief at York Central Phase 1 Infrastructure GI (SE 58783 51986) (Figure 1 Site Location).

The work was undertaken for WYG to help investigate ground conditions for a proposed access route as well as inform an outline planning application that was under consideration by the City of York Council (18/01884/OUTM).

A full suite of geotechnical investigations, windowless samples, boreholes, test pits and CPTU starter pits, were monitored under archaeological watching brief conditions. In addition a further 5 archaeological windowless samples and one archaeological test pit were excavated.

The results revealed that significant landscaping has taken place across the site since the early 19th century. Although in some places this had truncated and/or removed the earlier archaeological sequence, over most of the site the previous ground levels were buried and preserved.

As the buried landscape is so well preserved it was possible to correlate the buried topography with early mapping which pre-dates much of the disturbance associated with the railways. In addition other hollows, ponds, or possibly early post-glacial features were identified.

The limited scale of the investigations which took place resulted in only a small number of finds being retrieved, and these were predominantly residual medieval tile and pottery from the buried ploughsoil.

No specifically identifiable Roman, Anglian or Anglo-Scandinavian, archaeological features were identified, but there is potential for their survival beneath medieval to post-medieval ploughsoils.

2 METHODOLOGY

The methodology followed the WSI (Appendix 4) except where logistical factors or archaeological considerations made it not possible or sensible to excavate as planned.

Where archaeological information was present from adjacent interventions, or below ground obstructions were encountered, the archaeological window samples (WSA prefix below) were moved or adjusted. This was based on the judgement of the lead archaeologist on site following confirmation from the City Archaeologist.

Once undisturbed natural deposits were encountered within the archaeological window samples, and confirmed by the lead geologist, they were ceased.

Test pits were excavated with a JCB 3CX back actor fitted with a toothless bucket, or by hand if small.

Recording on site was completed using written notes and a pro-forma test pit/borehole/window sample recording sheets. The standard YAT single context recording system was used for these purposes.

Measured and/or sketch sections were completed as appropriate.

Off site single context numbers were assigned where required, with the details logged into the Context List (see Appendix 2)

The written record was augmented by digital photography using scales as appropriate.

Finds were collected and samples were taken using archaeological judgement, where clear stratigraphic relationships had been established and lack of intrusive materials was confirmed.

Having reviewed the site-based data we propose not to process the samples for this stage of the works as any results obtained will be very isolated, both spatially and also within the deposit sequence, and thus offer little meaningful information to the overall picture. A further complication was raised by the presence or potential for contamination such as hydrocarbons and asbestos across the site. This risk was not quantified and our specialists could not process samples on this basis.

A comprehensive sampling strategy should be designed once the full scope of the scheme is determined.

2.1 Test Pits/Trenches

A total of 5 windowless samples and 1 test pit were archaeologically excavated. The test pit was required as it was not possible to penetrate layer of concreted industrial waste in what would have been a 6th window sample (Figure 2 Works Location):

WSA - Archaeological Windowless Sampling

WS - Windowless Sampling

TP - Test Pit

BH - Borehole (Cable percussion)

CPTU - Cone Penetration Test (1.2m Starter hole)

No.	Size (m)	Rationale
WSA 401	80mm x 3.0m deep	Investigate archaeological sequence in location.
WSA 402 TPA 402	0.6m x 2.3m x 4.1m deep	Investigate archaeological sequence in location. Moved from original location as it was adjacent to TP 401. Changed to test pit because of below ground obstructions.
WSA 403	80mm x 4.0m deep	Investigate archaeological sequence in location.
WSA 404	80mm x 4.0m deep	Investigate archaeological sequence in location. Moved due to obstructions in original location and to investigate possible southern edge of deep feature found in TP 407.
WSA 405	80mm x 4.0m deep	Investigate archaeological sequence in location.
WSA 406	80mm x 5.0m deep	Investigate archaeological sequence in location. Moved because of access limitations and to investigate possible northeast edge of deep feature found in TP 407.
WS 401	80mm x 1.3m deep	Engineering investigation. Refusal at 1.3m BGL.
WS 402	80mm x 5.45m deep	Engineering investigation.
WS 403	80mm x 5.45m deep	Engineering investigation.
WS 404	80mm x 4.45m deep	Engineering investigation.
WS 405	80mm x 6.0m deep	Engineering investigation.
WS 406	80mm x 8.45m deep	Engineering investigation.
WS 407	80mm x 8.45m deep	Engineering investigation.
WS 408	80mm x 7.0m deep	Engineering investigation.
WS 409	80mm x 5.0m deep	Engineering investigation.
WS 410 410a	80mm x 8.0m deep	Engineering investigation. Re dug in different location to reach depth.
WS 411	80mm x 4.0m deep	Engineering investigation.
WS 412	80mm x 3.45m deep	Engineering investigation.
WS 413 413a	80mm x 3.45m deep	Engineering investigation. Move due to access restrictions.
WS 414	80mm x 5.45m deep	Engineering investigation.
WS 415 was TP 411	80mm x 5.15m deep	Engineering investigation. Was originally a test pit, but changed to window sample to reduce disturbance on access road.
TP 401	0.6m x 2.0 + 2.5m x 3.6m deep	Engineering investigation. Extended to the north to avoid built structure.
TP 402	0.6m x 3.4m x 4.5m deep	Engineering investigation.
TP 403 CBR	0.6m x 3.0m x 4.5m deep	Engineering investigation.
TP 404 CBR	0.6m x 3.04m x 4.7m deep	Engineering investigation.

No.	Size (m)	Rationale
TP 405 CBR	0.6m x 2.7m x 3.5m deep	Engineering investigation.
TP 406	0.6m x 2.8m x 3.3m deep	Engineering investigation.
TP 407 CBR	0.6m x 2.2m x 4.5m deep	Engineering investigation.
TP 408	0.6m x 2.3m x 4.3m deep	Engineering investigation.
TP 409	0.6m x 3.3m x 4.0m deep	Engineering investigation.
TP 410	0.6m x 2.8m x 3.8m deep	Engineering investigation.
TP 411 see WS 415	-	-
TP 412	0.3m x 0.3m x 1.2m deep	Engineering investigation.
TP 413	0.3m x 0.45m x 1.5m deep	Engineering investigation.
TP 414	0.35m x 0.42m x 1.30m deep	Engineering investigation.
TP 415	0.4m x 0.4m x 0.82m deep	Engineering investigation.
TP 416	Various up to 0.3m x 0.4m x 0.98m deep	Engineering investigation.
TP 417	Various 0.4m x 0.8m x 1.05m deep	Engineering investigation.
TP 418	0.3m x 0.3m x 1.2m deep	Engineering investigation.
TP 419	0.7m x 3.4m x 4.5m deep	Engineering investigation.
TP 420	0.6m x 3.4m x 3.5m deep	Engineering investigation.
TP 421	Various 0.4m x 0.5m x 1.3m deep	Engineering investigation.
TP 422	0.3m x 0.3m x 0.8m deep	Engineering investigation.
BH 401	10.0m+ deep	Engineering investigation.
BH 402	10.0m+ deep	Engineering investigation.
BH 403	10.0m+ deep	Engineering investigation.
BH 404	10.0m+ deep	Engineering investigation.
BH 405	10.0m+ deep	Engineering investigation.
BH 406	10.0m+ deep	Engineering investigation.
CPTU 401	0.3m x 1.2m deep	Engineering investigation.
CPTU 402	0.3m x 1.2m deep	Engineering investigation.
CPTU 403	0.3m x 1.2m deep	Engineering investigation.

No.	Size (m)	Rationale
CPTU 404	0.3m x 1.2m deep	Engineering investigation.
CPTU 405	0.3m x 1.2m deep	Engineering investigation.
CPTU 406	0.3m x 1.2m deep	Engineering investigation.
CPTU 407	0.3m x 1.2m deep	Engineering investigation.
CPTU 408	0.3m x 1.2m deep	Engineering investigation.

All interventions, both for archaeological and engineering purposes, were located using a GPS system to +/- 10mm as per the base mapping supplied by the client. Any movement of excavation or reduction of size due to buried services was recorded on site using the same GPS system.

The excavations were backfilled and surfaces reinstated once recording had been completed.

Plate 1 Shows WSA401 during excavation. This was typical of the methodology across the site as well as the specific conditions encountered at the southern end of Millennium Green.

Plate 2 Shows BH406 during excavation. This illustrates the static freight and snowplough in the sidings as well as the live East Coast Mainline at the rear right of the image.

3 LOCATION, GEOLOGY & TOPOGRAPHY

The York Central site, specifically the Infrastructure Ground Investigations covered in these works, covers an irregular shape predominantly to the west of York station. The study area is bounded by;

- Severus Bridge and Water End to the northwest
- Holgate Beck, sidings adjacent to the East Coast mainline, the northern side of Leeman Road, various industrial units, the Bishopsfield Apartments and the National Railway Museum to the northeast.
- York Railways Station and Network Rail York Campus to the southeast
- Railtracks and siding to the southwest.

The underlying bedrock is comprised of Sherwood Sandstone Group - Sandstone, a sedimentary bedrock formed approximately 237 to 272 million years ago in the Triassic and Permian Periods when the local environment was dominated by rivers. The overlying superficial deposits are varied with Vale of York glacial till, York Moraine glacial sediments, Alne Glaciolacustrine sediments, Poppleton Glaciofluvial Member sediments and Alluvium from Holgate Beck (www.bgs.ac.uk).

More details of the underlying geology are presented within the preliminary geoarchaeological deposit model (Trent and Peak/YAT 199/2018)

Across the site the initial impression is that the topography is relatively flat, primarily due to the massive industrial upheaval during the modern period. The ground slopes gently from up to c.13m AOD in the southwest down to c.11m AOD in the northwest, and there is also a gentle slope down away from Leeman Road. However, closer inspection of survey mapping indicates that there are quite distinct variations where landscaping has not removed the former undisturbed ground levels.

The highest points were located at the extreme ends of the area under investigation, on the raised terrace at the northwest end of the site (13.86m AOD) and the naturally higher area under the car parking at the southeast end of the site (15.84m AOD). Across Millennium Green the relatively undisturbed topography ranges from c.11.4m AOD down to c.7.3m AOD, indicating that the Holgate Beck lies in a 'valley' over 4m deep.

Mapping from 1853 indicates contour lines for both 25ft and 50ft, so previously there will have been a range of topography lower than 7.62m AOD and higher than 15.24m AOD on the site. This will have been particularly pronounced across the middle of the site along the former line of Holgate Beck.

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1 Archaeological Background

Non-designated heritage assets within the site boundary and its nearby environs allow a limited picture of the chronology of the site. This has been discussed in more detail in the York Central Baseline Study (YAT 2018) and a summary is provided here. A preliminary geoarchaeological deposit model has been developed using previous site investigation data (Trent & Peak/YAT 199/2018). The results of this work will be incorporated into this model at a later date.

4.1.1 Prehistoric Period

Although relatively scarce in York as a whole there is limited evidence of prehistoric archaeology around the site, with stone tools, pottery and possibly a human burial of this period found nearby. Perhaps most significantly there were a number of stone tools found as a hoard near the outlet of Holgate Beck in the 19th century.

4.1.2 Roman Period

Positioned to the western side of the *colonia* the site has close proximity to the Roman civilian settlement of York. In addition the 19th century construction of the present railway station unearthed a significant Roman cemetery, with burials from this cemetery being found during further works in and around the station.

In addition there is also suggestion that a Roman road may project towards the northern section of the site.

4.1.3 Anglian and Anglo-Scandinavian Periods

There is a real paucity of definitive evidence of activity in the study area and its immediate environs during this period. This may be due to that there was little going on, and that the focus of activity in York was around major routes into the city alongside the former fortress and junction of the rivers Ouse and Foss.

Any activity from this period could simply be agricultural, with low impact cultivation and/or grazing taking place

4.1.4 Medieval Period

Archaeologically quiet, low-impact agricultural, use of the site definitely occurred in the medieval period. The first references of part of the site being called the Bishop's Fields originated in the latter part of the 14th century.

4.1.5 Post-medieval Period

Early mapping indicates the area was still open fields in the 17th century. This is backed up further by documentary evidence suggesting the area was used as a camp and potentially the location for an artillery battery (John Oxley Pers. Comm.).

Moving into the 18th and early 19th century significant developments began to take place within the study area. By the 1850s the earlier field system had been crossed by Thief Lane (running along the line of the current Leeman Road); smaller paths ran from this and serviced isolated buildings across the landscape. In addition the earliest station (1830s, outside the walls) second station (1839, inside the walls), and current station (1877, outside the walls)

again), coal depot and rail lines serving these and the Scarborough line had all been constructed.

Mapping from 1853 also shows the railway line to the north running northwest through the study. This was initially through a cutting, immediately to the north of Cleveland street in Holgate, and then on top of an embankment all the way through to Landing Lane at the northern end of the site. It also shows the route of Holgate Beck before it was culverted.

4.1.6 Modern Period

This period is typified by accelerated expansion of the railways and associated works across the study area into the 1950s. This has been followed by a slowing and contraction of activity and clearance in the last 70 years, with the seeds of redevelopment being sown in the last two decades.

5 RESULTS

The scale of the area covered during these investigations means that the results have been split into specific smaller areas. The areas have been chosen on the basis of the most logical physical and results-based boundaries across the site.

5.1 Severus Bridge

The construction of a major new bridge, Severus Bridge, which crossed the main railway line at the northwest of the site, took place at the start of the 1970s. Linked with this was additional upheaval from the reduction of the old bridge as well as redirection of roads and associated landscaping.

Investigations revealed that the terrace to the western side of the bridge was made ground rather than being cut into earlier natural topography. It also shows that the natural on this side was nearly 4m higher than to the east, thus following the natural slope up to the moraine of this side. The bridge itself had clearly disturbed material well beyond the limit of investigations against the abutments. On the eastern side of the bridge there was significant made ground linked with the approach ramp, but there is a possibility of previous ground surfaces being buried as seen in BH 401.

5.1.1 BH 402 *10m + deep on terrace at west of Severus Bridge*

In this borehole natural deposits were seen from 0.9m BGL (12.96m AOD). This was loose brownish orange sand and gravel. It is possible that this material had been disturbed during the landscaping and formation of the terrace that the intervention was positioned upon, but this was not possible to determine during the excavation process.

The top 900mm of the sequence was made ground. This was loose dark grey silt with rubble etc.

5.1.2 TP 412 *0.3m x 0.3m x 1.2m deep on terrace at the west of Severus Bridge*

The whole profile of this test pit was infill/made ground linked with the creation of the terrace behind the adjacent retaining wall. The material was orange and dark grey sandy silt.

5.1.3 TP 413-417 *Various up to 0.4m x 0.8m x 1.3m deep around Severus Bridge abutments*

These interventions were not archaeologically monitored as they were trackside and access was limited. They were highly unlikely to encounter undisturbed archaeological deposits.

Within the trenches the sequence was invariably landscaping sands and gravels overlain by track base that included clinker and ballast.

5.1.4 TP 418 *0.3m x 0.3m x 1.2m deep on bridge embankment east of Severus Bridge*

The lower 800mm of this test pit was clean hardcore. The uppermost 400mm was made ground and debris.

5.1.5 BH 401 *10.0m deep in rail compound southeast of Severus Bridge*

Natural sand was present from 2.5m BGL (9.05m AOD).

A buried soil deposit was present over the top of natural. This brownish grey silt clay was 900mm thick and brought the level up to 1.6m BGL. It may have included a subsoil component but this was not visible during drilling.

Sealing the buried soil was clayey silt landscaping and disturbance 1400mm thick.

The top 200mm was the current 200mm hardcore surface.

5.1.6 CPTU 401 1.2m deep on base of embankment southeast side of Severus bridge

From 0.5m BGL was a 700mm+ deep layer of silty clay landscaping and disturbance.

The landscaping and disturbance was sealed by 300mm of clinker and silt made ground then 200mm of introduced topsoil.

5.1.7 WS 401 1.3m deep on southeast of Severus Bridge embankment (sample was an immediate refusal beyond the hand dug pit in two separate locations)

Hardcore from the embankment structure was present from 1.3m to 0.15m BGL.

The uppermost 150mm of material was the current turf and made ground.

5.2 Millennium Green & Northwest Tracks and Sidings

Millennium Green, specifically the park, has its origins in 1999. However the northwest and southwest of the area was formally industrial in use. Adjacent to the railway lines a series of allotments were in existence up until 2014/2015.

The track and siding elements are similar to the Central Sidings (5.3 below). In this case these investigations are in close proximity to the, now culverted, line of Holgate Beck.

The earlier use of the area was apparent in many of the investigations and natural deposits were often relatively shallow. At the northern end of the area there were hints of the structures and yards that remained into the later part of the 20th century. To the east of Millennium Green there were also remains that could have been linked with earlier structures or the allotments which were situated there. The southern part of Millennium Green appeared to be relatively untouched, with only a relatively shallow covering of introduced soil, most probably from the landscaping during its creation.

5.2.1 WS 402 5.45m deep at the north of Millennium Green

Natural stiff brown clay was present at 0.7m BGL (10.69m AOD).

Sealing the natural was 400mm of mixed material which included brick fragments and was interpreted landscaping or disturbance. On top of this was 100mm of concreted industrial material, possibly forming a surface linked with the modern buildings which previously stood in this area.

The uppermost 200mm was turf and introduced topsoil from when the current Millennium Green was created.

5.2.2 CPTU 402 1.2m deep northwest end of Millennium Green

Natural sandy silt clay was present from 0.55m BGL (10.55m AOD).

Sealing natural was 200mm of grey brown clay subsoil and then 200mm of topsoil with debris from disturbance.

5.2.3 CPTU 403 1.2m deep in the southeast corner of the rail compound

At 0.66m BGL possible subsoil was revealed. This was an orangey grey brown silt clay and at the base (1.2m BGL/10.50m AOD) may have been changing to undisturbed natural.

Over the possible subsoil a 500mm of landscaping and disturbance which contained grit and other debris.

The top 160mm was hardcore from the recent landscaping works.

5.2.4 CPTU 404 1.2m deep central Millennium Green

Natural firm yellow grey clay was only 0.5m BGL (9.24m AOD).

Natural was sealed by 240mm of subsoil which contained an abraded CBM fragment. The upper 240mm in the sequence was topsoil.

5.2.5 CPTU 405 1.2m deep on former allotments west of central Millennium Green

Undisturbed natural clay with sand bands was 0.8m BGL (9.90m AOD).

Over natural was 400mm of greyish orange brown clay landscaping and disturbance.

The top 400mm was topsoil.

5.2.6 WS 403 5.45m deep central Millennium Green

Natural was encountered from 0.5m BGL (8.67m AOD). This was greyish yellow clay that became a firmer grey brown at depth.

On top of natural was 200mm of slightly brownish grey silty clay subsoil. It was unclear if the grey colouring was due to gleying.

The uppermost 300mm of grey brown sandy silt clay topsoil had clearly been disturbed in recent years. It contained animal bone, brick rubble and corrugated iron.

5.2.7 WS 404 4.45m deep within former allotments west of Millennium Green.

Natural stiff brown clay was present from 1.7m BGL (8.92m AOD).

On top of natural there was 600mm of soft grey sand. This was possibly a buried soil that had been altered by gleying.

From 1.1m to 0.12m BGL was landscaping or disturbance, possibly linked with the formation of the allotments which previously existed in this area. The lower half of this sand with clay patches had root disturbance and what appeared to be the base of a driven timber post at the edge. The upper half was a slightly more homogenous orangey brown/black clayey sand.

The uppermost 120mm was turf and topsoil.

5.2.8 CPTU 406 1.2m deep southern part of Millennium Green

Natural clay was 0.8m BGL (6.76m AOD).

Subsoil was the next 460mm in the intervention. It was a yellowy grey brown clay but looked as if it had been reworked. Topsoil made up the top 340mm.

5.2.9 CPTU 407 1.2m deep southern part of Millennium Green

Natural clay was only 500mm BGL (8.19m AOD).

Over natural was 200mm of yellowy grey silt clay buried soil. This contained a small fragment of abraded medieval pottery.

The current made ground surface was 300mm of introduced soil.

5.2.10 BH 403 10m + deep former allotments west of Millennium Green

Natural clay was present from 0.8m BGL (9.06m AOD).

Sealing natural was 400mm of buried soil. This was dark grey with orange staining possibly from waterlogging.

The uppermost 400mm was the current silt clay topsoil.

5.2.11 WS 414 5.45m deep adjacent to tracks and telecom mast southwest of Millennium Green

Stiff brown natural clay was recorded from 2.1m BGL (9.70m AOD).

No buried soil was present and the next deposit in the sequence was 950mm of orange grey brown sand landscaping.

On top of the landscaping was 500mm of clinker and ballast track base.

The uppermost 650mm was geotextile, ballast and then hardcore making up the recent resurfacing in this locality.

5.2.12 WSA 401 3m deep within landscaped Millennium Green (Water strike at 500mm BGL obscured lower deposits)

Undisturbed natural yellowy grey clayey sand was encountered at 800mm BGL (6.65m AOD). This was excavated to a depth of 3m BGL to confirm it was natural.

On top of natural there was 200mm of grey silty clay subsoil and then 200mm of orange mottled dark grey clayey silt buried topsoil.

The uppermost 400mm of material was the current turf surface and introduced topsoil which contained modern CBM fragments.

5.2.13 CPTU 408 1.2m deep southwest of Millennium Green

Natural yellowy grey brown clay was 0.76m BGL (6.56m AOD). This was possibly disturbed as there was a single fleck of CBM present.

Sealing natural was 380mm of very dark grey buried soil.

The top 380mm was dark grey brown silt clay. This soil appeared to have been introduced rather than formed in-situ.

5.2.14 BH 404 10m + deep southern corner Millennium Green

At only 0.4m BGL (7.10m AOD) was the sandy silty clay natural. This may have had a buried soil or subsoil but it was not possible to distinguish during excavation.

The current surface and topsoil was 400mm of dark grey brown clayey sandy silt.

5.3 Northwest Tracks and Sidings

The track and siding elements are similar to the Central Sidings (5.4 below). In this case these investigations are in close proximity to the, now culverted, line of Holgate Beck.

The earlier use was apparent in many of the investigations across the area, with a combination of buried soils and earlier industrial structures. The northwest of the area showed evidence of the 19th century gasworks, which was not removed until the middle of the 20th century (BH 405). Moving southeast undisturbed natural deposits dropped to a significant depth, potentially deeper than 5m BGL. This drop may have been linked with the original line of Holgate Beck or even disturbance during the process of it being culverted. The level of natural deposits then started to rise towards the southeastern end of this area.

Clearly significant landscaping, in the form of raising the ground level, had covered the area during the expansion of the railways.

5.3.1 *BH 405* *10m+ deep on sidings over former gasworks*

Natural laminated sand and clay was seen from 4.8m BGL (6.58m AOD). This was exceptionally deep, but this was as a result of truncation rather than natural land formation.

From 4.8m to 1.2m BGL was a brick structure. This was clearly from the modern period and most probably linked with the gasworks which previously stood in this area.

The top 1200mm of the borehole was mixed landfill debris and clinker, possible acting as track base.

5.3.2 *TP 419* *0.7m x 3.4m x 4.5m deep on sidings adjacent to building and over former gasworks*

The natural brownish pink clay was first seen at 2.0m BGL (9.23m AOD).

Over natural was 300mm of orange grey silt clay which was interpreted as subsoil. In turn this was covered by 400mm of grey silt clay with occasional root fragments. This was interpreted as buried soil and brought the level up to 1.3m BGL (9.93m AOD).

The buried soil had been covered by a 400mm thick layer of landscaping and disturbance. This was orange brown sand clay.

At the top of the sequence was a 900mm thick layer of landfill including railway sleepers and other debris. This material had been used to infill the large cut feature to the southeast.

5.3.3 *WS 405* *6.0m deep on sidings to west of former gasworks and adjacent to sleeper filled cut*

Natural soft light grey silty sand was seen at 5.6m BGL (5.46m AOD).

Sealing the natural was a series of silting/waterlain deposits. 200mm of dark grey organic silt (2058) took levels up to 5.4m BGL. There was then 400mm of light grey silty sand followed by 600mm of grey brown silty sand. A 400mm void in the column completed the sequence to 4.0m BGL

From 4.0m to 2.7m BGL (7.06m to 8.36m AOD) were two deposits interpreted as subsoil and buried soil. The lowest 200mm of yellowy grey silty sand was possibly subsoil. The uppermost 1100mm of brownish grey sandy silt was possibly topsoil. This also contained possible flecks of organic material and a thin band of organic material. It was also possible that these were part of a continued sequence of silting/waterlain material as below, with partially formed soils in the uppermost sections.

The next 1100mm was sand with cobbles and pebbles landscaping and disturbance. This was followed by 800mm of further landscaping and disturbance, this time with clinker in the sand. This raised the ground up to 0.8m BGL.

The top 800mm of material was 340mm of lignite or mudstone and clinker and then 460 of just clinker track base.

5.3.4 *TP 420* *0.6m x 3.4m x 34.5m deep on sidings southwest of large in-filled cut*

Undisturbed natural or landscaping and disturbance, clay sand with cobbles and pebbles, was present from 2.2m BGL (8.97m AOD). If natural this was unusual compared to investigations

adjacent and it may be as a function of the culverting of Holgate Beck that seemingly natural deposits were seen relatively close to the surface.

No buried soils was visible so next in the sequence was 400mm of clinker landscaping and disturbance. This was then sealed by a further 700mm of clay sand landscaping and disturbance.

The top 1100mm of the pit was clinker track base, with larger concreted fragments towards the base.

5.3.5 WS 406 8.45m deep on sidings southwest of former gasworks and sleeper filled cut

Clear natural brown silty clayey sand was present from 6.8m BGL (4.34m AOD).

A clear band of more organic material was seen at c. 6.8m BGL (4.34m AOD). Further material which was probably natural in deposition, but potentially water/silting in origin, overlay natural. The deeper of these deposits was 1300mm of firm grey slightly sandy organic clay which took the level up to 5.5m BGL (5.64m AOD). A further 1800mm of soft greyish brown silty sand clay increased the level to 3.7m BGL (7.44m AOD).

Next in the sequence was a 2150mm thick layer of landscaping or disturbance. This was a mixed deposit of clinker and clay sand with cobbles. A cleaner sandy clay layer 350mm thick overlay this and was again interpreted as landscaping or disturbance.

The uppermost 1200mm included a buried sleeper at 1.2m BGL and then clinker track base.

5.3.6 WS 408 7.0m deep on sidings south of East Coast mainline

Stiff brown clay natural was present from 5.3m BGL (5.77m AOD).

Sealing natural was 1500mm of brownish grey silt clay, up to 7.27m AOD). This had a slightly organic odour and was possibly grey from gleying and/or waterlain at base. It was interpreted as subsoil and topsoil. This material may have been disturbance linked with the works from when Holgate Beck was culverted.

From 3.8m to 0.48m BGL was landscaping and disturbance deposits some of which contained clinker.

The uppermost 480mm in the profile were two ballast track base horizons with a layer of sand make-up between.

5.3.7 BH 406 10.0m on sidings south of East Coast mainline

Natural sandy silt clay was present from 2.6m BGL (8.65m AOD).

On top of natural was 1300mm of soft grey silt clay with occasional roots. This was possibly buried soil, but more likely to be waterlain/silting material.

The waterlain/silting deposit was sealed by 500mm of buried soil that raised the level to 800mm BGL (10.45m AOD). This was inorganic silt which contained more fibrous organic material at the top. This may indicate that this material had been disturbed.

Over the buried soil was a relatively thin, 300mm thick, layer of clayey sand with pebbles landscaping and disturbance.

The top 500mm of the borehole was ballast and clinker track base.

5.3.8 *WS 407* *8.45m deep sidings near possible line of culverted Holgate Beck.*

Undisturbed natural deposits were present from 3.86m BGL (7.28m AOD). Variations in this material meant it was observed as yellow grey clay, grey clay and orange brown laminated sand and clay.

From 3.86m to 2.56m BGL (8.58m AOD) was 1300mm of grey brown silty sand with a slightly organic content (2073) and a fragment of post-medieval brick. This was interpreted as buried soil, but obviously the significant thickness suggests there should also be subsoil and there may also be disturbance and gleying from when it was buried. As with WS 408 above, this may be linked with the culverting of Holgate Beck.

The next 2000mm in the sequence was landscaping and disturbance with the uppermost 1700mm having pebbles and coal flecks.

The top 560mm was clinker track base.

5.3.9 *TP 402* *0.6m x 3.4m x 4.5m deep sidings at east of area*

Firm natural clay with sand laminations was first observed at 2.9m BGL (8.42m AOD).

Sealing natural was 500mm of buried soil, up to 8.92m AOD. This was grey sandy silt with possible charcoal flecks and had been discoloured by gleying. The top of the deposit was at 2.4m BGL.

On top of the buried soil was 1200mm of clinker and then 820mm of sand and pebbles with mortar and brick rubble. This was landscaping and disturbance.

The uppermost 380mm of the sequence was ballast and clinker track base.

5.3.10 *WS 409* *5.0m deep on sidings at east end of area*

Soft orange sand natural was present from 3.6m BGL (7.79m AOD).

Sealing natural sand was 600mm of brownish grey clayey sandy silt. This was thought to be buried soil and the grey colouring was probably linked with gleying. It took deposits up to 3.0m BGL (8.39m AOD)

Over the buried soil was a 500mm void and then 2000mm of sand with rubble and clinker landscaping and disturbance. The 500mm void could easily have been a larger rubble fragment being forced down the column.

The top 500mm was clinker and then ballast track base.

5.4 Central Sidings

Over a century of railway and heavy industry activity had clearly impacted across the whole of the central sidings area. What was previously a gently sloping landscape had been reworked almost completely flat, usually burying the pre-industrial ground levels below.

During the site investigations the northernmost interventions gave a good indication of the previous buried landscape, particularly TP 401 with a buried tree stump. The landscaping deposits continued to raise the ground level across the whole of this area, with one exception. TP 406 did not have a buried soil deposit, and natural was relatively shallow at 1.2m BGL, clearly representing where the earlier ground level was reduced rather than raised.

An area of lower natural and lack of any buried soil in the northwest (WS 411 and WSA/TPA 402) may indicate an area of disturbance, possibly quarrying of material. It could also be a natural depression in the ground which was cleared before infilling.

5.4.1 TP 401 0.6m x 2.0 + 2.5m x 3.6m deep (extended to the north to avoid built structure) adjacent to Leeman Road goods entrance

Natural yellowy brown clay was encountered at 1.8m BGL (9.88m AOD). Immediately over the top for most of the intervention was a 400mm thick layer of intrusive organics. This was visible as a tree stump and root mass in the northern section and continued up to c.0.7m BGL, the same depth as the buried soil described below.

Over the root mass was 600mm of brownish orange sandy clay subsoil and then 100mm of brownish grey buried soil. This took the level up to 0.7m BGL (10.98m AOD).

At the southern end of the pit the remains of a building were revealed. These consisted of a 9" wall which continued for over 1m BGL and internal concrete floor. The building appears on aerial photography from 1936 and resembles an industrial shed.

Potentially linked with the building, but definitely associated with the overall landscaping of the railways, was a 300mm thick layer sandy silt with clinker lenses. This raised the ground to 0.4m BGL and sealed the tree stump discussed above.

In the centre of the deeper-excavated area a 600mm deep backfilled post hole or pit was present. This was seen at the same depth as a 100mm thick layer of clinker and brick rubble make-up. Any post which may have been present would have been removed during the formation of the surface above. Finally the current surface was a 300mm thick layer of debris and tarmac.

5.4.2 WSA 402/TPA 402 2.3m x 0.6m x 4.1m deep within old sidings (Originally intended to be a windowless sample but below ground obstruction could only be breached by machine)

Undisturbed natural firm grey orange clay was present from 3.7m BGL (8.40m AOD).

On top of natural was 700mm of soft grey silty clay buried soil (1023) up to 9.10m AOD. This may have been disturbed, particularly at the top and appeared to contain flecks of CBM and charcoal. The grey colour may have been due to gleying or possibly some waterlain origins of deposits.

The next 2000mm of deposits was loose black clinker and slag. The composition of this material would suggest that it is track base material, though the significant depth indicates it is should also be interpreted as landscaping.

The uppermost 1m of the deposit profile was 100mm of concreted industrial waste with 900mm of clinker and rubble. These would have both been track base which has been disturbed as the tracks/sidings have gone out of use.

5.4.3 TP 422 0.8m deep bund at northwest end of area

This was a test bit dug into a raised clinker and debris bund.

5.4.4 WS 411 4.0m deep sidings at northwest end of area

At 3.6m BGL (6.70m AOD) natural deposits took the form of soft yellowy grey orange clay and sand. This was very deep and was probably due to truncation.

No buried soil was observed during this intervention, natural was immediately overlain by 2000mm of clinker and industrial waste. This raised the ground level to 1.6m BGL. It may have been even deeper but there was a 400mm void in the column from 1.6m to 1.2m BGL. This material was similar to the track base seen across the site, but was also clearly acting as a landscaping deposit.

The uppermost 1200mm was cleaner clinker and industrial waste then ballast, both clearly deliberate track base.

5.4.5 WS 410a 8.0m deep sidings at northwest end of area (re-dug to reach depth)

Natural brownish orange sand with coarse sand lower down was present from 1.9m BGL (9.59m AOD).

As with WS 411 above no buried soil was observed over natural, instead it was landscaping and disturbance. This was brownish orange silty sand, 1100mm deep, and raised the ground to 800mm BGL.

The uppermost 800mm in the sequence was a series of clinker and rubble track base deposits topped by disturbed material.

5.4.6 TP 404 0.6m x 3.04m x 4.7m deep within sidings to southwest of car hire units

Natural was seen from 3.3m BGL (8.75m AOD). This was a firm orangey brown sandy clay which became laminated towards depth limit of 4.7m BGL.

On top of natural was 1240mm of brownish grey sandy clay buried soil. It took the ground up to 2.06m BGL (9.99m AOD). This was very deep so would have had a subsoil component that was not possible to see separately.

Sealing the buried soil was 1160mm of clay sand landscaping.

The top deposits were track base with 540mm of clinker and concreted industrial waste and 360mm of ballast and clinker.

5.4.7 WS 412 3.45m deep on sidings to the south of car hire and industrial units

At 2.5m BGL (9.75m AOD) natural clay and sand was observed.

Natural was covered by a grey sandy silt buried soil 1000mm thick, up to 10.75m AOD). This possibly included subsoil, but gleying had removed the possibility to identify this.

From 1.5m to 0.5m BGL landscaping and disturbance in the form of sandy silt with pebbles and gravel and then a sandy clay was present.

The top 500mm of the profile was clinker and then overgrown ballast track base.

5.4.8 TP 403 0.6m x 3.0m x 4.5m deep within sidings west of area

A definitively natural deposit of brown orange clay sand with gravel was seen at 3.6m BGL (8.37m AOD).

On top of this clear natural was a further 720mm of soft grey silty sand, bringing the level up to 2.88mm BGL (9.09m AOD). This may have been derived from silting or waterlain or may

have been discoloured natural. The next c.500mm was dark grey organic silt. This was not possible to sample or measure with 100% accuracy due to collapse and excavation depth.

The next 1000mm, from 2.38m to 1.38m BGL (10.59m AOD), was soft grey clay silt sand buried soil. This was a thick deposit and probably included an element of subsoil and had been discoloured by gleying. However, it also contained medieval tile and a fragment of pottery which was 18th century or later.

The uppermost two deposits were track base, with 500mm of clinker and then 380mm of clinker with other debris.

5.4.9 WSA 403 4.0m deep within sidings west of area

Soft yellowy brown orange sand natural was seen at 2.6m BGL (9.45m AOD). This was excavated to a total depth of 4.0m BGL to confirm.

On top of natural was 300mm of brown grey silty sand subsoil and then 200mm of grey brown silty sand buried soil. This came up to 2.1m BGL (9.95m AOD).

Sealing the buried ground was 300mm of loose clinker with brick rubble, 1100mm of brownish orange pebbly sandy clay and then 300mm of pebbly sandy clay with clinker mixed in. All of these deposits were linked with landscaping and disturbance across the site

The uppermost 400mm of material was clinker track base.

5.4.10 TP 408 0.6m x 2.3m x 4.0m deep on sidings northwest of helipads

Undisturbed natural clay sand was present from 1.7m BGL (10.63m AOD).

On top of the natural was 1000mm of brownish grey silt sand buried soil (3082) up to 11.63m AOD. This probably included a subsoil but it was not possible to distinguish during the excavation process. The deposit also included a fragment of medieval tile and a single small animal bone.

Sealing the buried soil was 300mm of landscaping and disturbance. This was a cobbly sand with clinker lenses.

The top 400mm was clinker and then ballast track base.

5.4.11 TP 405 0.6m x 2.7m x 3.5m deep in sidings northwest of rail sheds

Natural brownish orange sand and then clay was seen from 1.7m BGL (10.93m AOD).

Over natural was 540mm of brownish grey sandy silt buried soil. This had an uppermost height of 1.160m BGL (11.47m AOD).

Sealing in the previous ground level was 700mm of clay sand with cobbles landscaping and disturbance.

The top 460mm of the profile was ballast clinker and rubble track base.

5.4.12 TP 406 0.6m x 2.8m x 3.3m deep in sidings southwest of rail shed.

Undisturbed natural pebbles with sand and cobbles were observed at only 1.2m BGL (11.79m AOD).

On top of the natural was 500mm of landscaping and disturbance. This was similar to the natural below but more brown in colour and had clearly been disturbed.

The uppermost 500mm was clinker and then ballast track base.

5.4.13 WS 413 3.45m deep adjacent to National Railway Museum track and industrial buildings service road at east end of area

Natural was not encountered in this intervention as 3.0m BGL was the depth limit. The earliest material was possible subsoil and/or silting/waterlain grey silt sand. This was present for 500mm between 3.0 and 2.5m BGL, up to 10.22m AOD.

The next material was 300mm of dark grey brown sandy silt with a slightly organic odour. This was interpreted as a buried soil deposit and took the level up to 2.2m BGL (10.52m AOD).

On top of the buried soil was 1880mm of sand and gravel landscaping and disturbance.

On top of the disturbance was 200mm of clinker track base or disturbance and then 120mm of hardcore making up the current surface when used for storage of railway equipment.

5.5 Cinder Lane

Railway sidings and industrial works had also impacted upon Cinder Lane and its immediate vicinity. However, it may be that the landscaping in this area was potentially not as thorough as seen to the northwest.

The sequence of test pits and windowless samples showed a more complicated picture than just the raising of ground levels. At the southwestern end of the Freightliner sheds there was a depression in the ground (TP 407 and WSA 406) which was possibly 2m deeper than its surrounds. Test pits within the car park to the east showed that natural was relatively shallow even though the ground level in this area was clearly higher. There were clearly both low and high points in the topography before the railways and the changes it brought.

5.5.1 WSA 404 4.0m deep adjacent to Holgate footbridge (original location adjacent to rail sheds not possible so moved to investigate extent of deep feature in TP 407)

Natural brownish orange sand and gravel was present from 2.8m BGL (9.90m AOD). This was further confirmed by excavating to 4.0m BGL.

On top of natural was 1160mm of soft grey clayey sand buried soil (1043). This contained charcoal flecks and was cleaner, and more sandy towards the base. The top of this buried soil was at 1.64m BGL (11.06m AOD). The thickness of this suggests that there was probably a topsoil and subsoil, but it was not possible to differentiate between the two. It may also be that the thickness was exaggerated by gleying.

Sealing the buried soil was 1340mm of mixed grey brown and orange brown clayey sand landscaping and disturbance.

The uppermost 300mm was a 100mm thick compact clinker surface and then 200mm of soil and rubble disturbance.

5.5.2 WSA 405 4.0m deep within current car park

Natural was possibly first encountered at 2.94m BGL (9.39m AOD) and was made up of cobbles and pebbles. This was complicated by a 400mm deep void in the sample column below, with soft grey sand and gravel seen from 3.4m BGL down to the 4.0m final depth.

On top of what appeared to be natural cobbles and pebbles was 400mm of firm grey silty clay (1056). This contained a wood fragment which has been identified as *Corylus avellana* L. (Hazel) roundwood, one end cut, 88mm long, 17mm diameter, 7 years old and spring-felled (Steve Allen Pers. Comm). However, (1056) also contained intrusive material in the form of fragments of old treated sleeper. This material may have been silting/waterlain.

The next 280mm, up to 2.26m BGL (10.53m AOD), was soft dark grey organic silt (1055). This may have been a buried soil or further waterlain materials. This deposit may have been thicker, and compressed during sampling, as there was a 260mm void in the column immediately above.

From 2.0m BGL there was 600mm of brownish grey sandy silt clay buried soil (1054). This appeared to have been discoloured by gleying rather than being specifically waterlain. The top of this was at 1.40m BGL (11.39m AOD).

Sealing the previous ground surface was 800mm of mixed sand pebbles and clinker landscaping and disturbance.

On top of the landscaping was 300mm of clinker track base, which obviously pre-dated the current use as a car park.

The uppermost 300mm in the sequence was the current car park hardcore base and tarmac surface.

5.5.3 TP 407 0.6m x 2.2m x 4.5m deep on waste ground southeast of rail sheds

What appeared to be natural was seen from 4.0m BGL (8.99m AOD). This was blueish grey laminated clays with occasional gravel inclusions. It may have also been silting/waterlain material, still natural in origin but post-glacial in deposition.

On top of the possible natural were two silting/waterlain deposits. The lower 800mm, from 4.0m to 3.2m BGL (9.79m AOD) was dark grey organic clay silt (3074). The upper 1000mm, from 2.2m to 1.2m BGL (10.79m AOD), was brownish dark grey organic clayey silt (3073). No finds were seen in either deposit.

The next 1000mm in the sequence was orange brown sandy clay buried soil and subsoil. This brought the level up to 1.2m BGL (11.79m AOD).

On top of the buried soil was 600mm of silty sand landscaping and disturbance.

The final 600mm in the sequence was ballast and debris over clinker.

5.5.4 WSA 406 5.0m Deep adjacent to Cinder Land and fenced rail compound (moved as access not possible with original location to north, again targeting extent of deep feature in TP 407)

Natural soft grey clay on top of firm grey silt was definitely seen from 4.5m BGL (7.97m AOD) and excavated to depth of 500mm. On top of this was 500mm of void/collapse during the sampling process. Natural may have been as high as 3.9m BGL (8.57m AOD) as a further 100mm of light grey clay was seen in the next column up.

Sealing the natural deposits was 600mm of very soft brownish grey sandy silt (1067). This was interpreted as silting/waterlain material and went up to 3.3m BGL (9.17m AOD). Sampling was

again compromised with a further 300mm void in the top of the column. Next in the sequence was 200mm of firm brown organic clay (1066) between 3.0m and 2.8m BGL (9.67m AOD).

On top of the organic clay was 500mm of grey brown sand silt with occasional pebbles. This was interpreted as buried soil, but was clearly discoloured most probably from gleying. The top of this deposit was at 2.3m BGL (10.17m AOD). Again sampling was disrupted by another 300mm void in the column.

Landscaping and disturbance was present from 2.0m BGL all the way up to 0.3m BGL. This was predominantly brownish orange clay sand but also contained clinker and ballast in the uppermost 300mm.

The top 300mm of the profile was 300mm of clinker/ballast, degraded tarmac and debris.

5.5.5 TP 409 0.6m x 3.3m x 4.0m deep in car park

The deepest recorded material was at 2.5m BGL (13.34m AOD). This was only visible in southwest section and was a small irregular patch of slightly brownish white unknown material. It was well over 1000mm into the recognised natural and could just have been natural in origin. It was recorded independently as a precaution as it may be that the very edge of a feature was truncated by the engineering pit.

Natural was present 1.18m BGL (14.66m AOD). It was a brownish orange sand with clay patches higher up.

On top of natural was 500mm of buried soil, bring the level up to 0.68m BGL (15.16m AOD). This was brownish grey sandy silt with charcoal and coal flecks. Towards the base it appeared darker and slightly organic.

Over the buried soil a 180mm layer of landscaping or disturbance was present. This brownish pink clayey sand with cobbles was assumed to date from the wholesale landscaping associated with the development of the railways.

The uppermost deposits were linked with the construction of the extant car park. There was initially a 360mm thick construction spread, which included the insertion of a drain/duct at 1.65m BGL. This was topped by 40mm of hardcore and then 100mm of tarmac.

5.5.6 TP 410 0.6m x 2.8m x 3.8m deep in car park (excavation area reduced to avoid service)

At only 0.65m BGL (14.95m AOD) natural laminated sand and clay was present. This indicated that there has been significant ground reduction in the immediate vicinity.

No buried soil was seen in this intervention, so on top of natural was landscaping and disturbance. There were two different deposits with 150mm of grey brown clay with coal flecks covered by 240mm of brownish orange coarse sand with pebbles.

Sealing, and cutting into, the deposits below was 120mm of construction spread and also a 500mm+ deep service. The current car park surface was 40mm of hardcore topped by 100mm of tarmac.

5.5.7 WS 415 TP 411 5.15m deep located on Cinder Lane (switched from TP 411)

Natural clay was present at 1.2m BGL (13.07m AOD). This was slightly disturbed at the top which was possibly linked with landscaping above.

The 800mm thick brownish orange sand landscaping deposit also included brick rubble.

The uppermost 400mm of material was sand with clinker and brick rubble make-up below the current road surface.

6 DISCUSSION

This project and its combination of geotechnical and archaeological interventions across the site has given a very broad-brush window into the archaeological remains surviving. Clearly further investigations will be required to assess the significance of what has been revealed during these works. However, combined with the data from earlier investigations it is now possible to suggest a deposit model for much of the area.

Four basic categories of sequence were seen across the site;

Undisturbed area e.g. Millennium Green	Tracks and sidings cut into natural e.g. adjacent to Holgate	Tracks and siding over much of the site	Tracks and siding over wet areas, ponds or glacial features e.g. Holgate Beck & southeast of Freightliner sheds
	Track Base		
	Landscaping and Disturbance		
Topsoil		Buried Topsoil	
Subsoil		Natural Subsoil	
			Waterlain/Silting
Natural Glacial Deposits			

Mapping from the mid 19th century reflects a great deal of the buried topographic variations seen across the site. This is illustrated in Figure 3, where the 25ft and 50ft contour lines have been plotted in relation to the works undertaken. Further comparison can also be made with the georachaeological deposit modelling of the site (Trent and Peak/YAT 199/2018, Figure 5).

The northwest limits of the site have been significantly modified and thus it proved difficult to establish what, if any, archaeological potential was present. Severus Bridge and its associated landscaping had removed or significantly masked what was there earlier. Adjacent to the railway lines the ground was more accessible, but basically revealed the disturbances from the allotments and associated activities.

Moving into Millennium Green and the former allotments to the southwest there is the best representation of the original ground levels. There has obviously been disturbance and modification of the ground from buildings and agricultural landscaping, but this has had a low impact on the topography. The area immediately adjacent to Holgate Beck appears to be relatively untouched.

The northwest tracks and sidings have significant areas of the earlier landscape that has been buried, sometimes at a significant depth. The former, now assumed, line of Holgate Beck has the deepest covering of landscaping material. This corresponds with a possible shallow 'valley' seen in contour lines on mapping from 1853. It was not possible to determine if other glacial factors, such as kettle holes, were responsible for the variation in depth of the buried natural.

The former gasworks may still be present in the form of large underground obstructions from the gasometers, as found in one of the boreholes.

The central sidings area again suggests that there is potential for large areas of the former landscape to be buried and preserved. In this area the covering materials are not as deep, and this is due to the former topography raising upwards towards Leemen Road (formerly Thief Lane). In the southern limit of the area, to the south of the current Freightliner sheds, the ground raises significantly. There was no buried soil in this section and as seen on mid 19th century mapping landscaping has cut into the raised ground level towards Holgate.

At the far southeast of the study area is the most complex, and hardest to interpret, sequence. To the southeast of the Freightliner rail sheds there was a significant depression which extended all the way into the car park to the southeast. This contained different organic-rich deposits, including a fragment of cut wood, however there was also contamination and intrusive material. It is possible that this was a natural pond and/or a kettle hole glacial feature. Moving northeast along Cinder Lane the natural ground level rose significantly. This was to the point where at the northern end of Commuter Parking Overflow car park natural deposits were within 1m of the current ground level. This area is significantly higher than the surrounding area and indicates that the surrounding structures and roads are cut into natural, and thus have potentially removed any archaeological deposits. Again mid 19th century mapping indicates the ground previously sloped upwards in this area.

LIST OF SOURCES

Ordnance Survey Mapping 1852 onwards.

REFERENCES

Trent and Peak/YAT, 2019. *York Central Redevelopment: A Preliminary Geoarchaeological Deposit Model*. Report No. 199/2018

YAT, 2018. *York Central Baseline Study*. YAT Baseline Study Report 2018/18

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APPENDIX 1 - INDEX TO ARCHIVE

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Sample register	1
Sample sheets	9
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Written Scheme of Investigation	1
Report	1

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APPENDIX 2 - CONTEXT LIST

Context	Intervention	BGL mm/AOD m	Depth mm	Description
1010	WSA 401	0/7.45	400	Surface/Made ground - Turf and topsoil, friable, grey brown, sandy clay silt with CBM fragments.
1011	" "	400/7.05	200	Buried soil - Friable, dark grey with orange mottle, clayey silt. * Water strike at 500mm BGL obscures view below.
1012	" "	600/6.85	200	Subsoil - Soft, grey, silty clay.
1013	" "	800/6.65	2200+	Natural - Soft yellow grey clayey sand.
1020	WSA 402 TPA 402	0/12.10	900	Disturbance/Track base - Firm to loose, dark grey/black clinker and rubble.
1021	" "	900/11.20	100	Track base - Compact, black and orange, concreted slag.
1022	" "	1000/11.10	2000	Track base - Loose, black, clinker and slag
1023	" "	3000/9.10	700	Buried soil - Soft, grey, silty clay with CBM and charcoal flecks. Possible gleying/waterlain * Sampled.
1024	" "	3700/8.40	300+	Natural - Firm, grey/orange, clay.
1030	WSA 403	0/12.05	400	Track base - Loose, black, clinker.
1031	" "	400/11.65	300	Landscaping/Disturbance - Soft, brownish orange, pebbly sandy clay with clinker.
1032	" "	700/11.35	1100	Landscaping/Disturbance - Soft brownish orange, pebbly sandy clay with clay patches.
1033	" "	1800/10.25	300	Landscaping/Disturbance - Loose, dark grey, clinker with brick etc rubble.
1034	" "	2100/9.95	200	Buried soil - Soft, grey brown, silty sand.
1035	" "	2300/9.75	300	Subsoil - Soft, brown grey, silty sand.
1036	" "	2600/9.45	1400+	Natural - Soft, yellowy brown orange, sand.
1040	WSA 404a	0/12.70	200	Surface/Disturbance - Friable, dark grey, soil and mixed rubble.
1041	" "	200/12.50	100	Surface - Compact, dark grey black, clinker.
1042	" "	300/12.40	1340	Landscaping/Disturbance - Mixed deposit, soft grey brown/orange brown clayey sand.
1043	" "	1640/11.06	1160	Buried soil - Soft, grey, clayey sandy silt with charcoal flecks. More sandy towards base. * Sampled.
1044	" "	2800/9.90	1200+	Natural - Friable, brownish orange sand and gravel.

Context	Intervention	BGL mm/AOD m	Depth mm	Description
1050	WSA 405	0/12.79	180	Road surface - Tarmac.
1051	" "	180/12.61	120	Road make-up - Hardcore.
1052	" "	300/12.49	300	Track base - Loose, black, clinker.
1053	" "	600/12.19	800	Landscaping/Disturbance - Mixed deposit, friable, orangey brown, sand with clinker, pebbles and CBM fragments.
1054	" "	1400/11.39	600	Buried soil - Soft, slightly brownish grey, sandy silt clay. Possible gleying/waterlain.
-	" "	2000/10.79	260	Void in column.
1055	" "	2260/10.53	280	Buried Soil - Soft, dark grey, organic silt. Possible gleying/waterlain * Sampled.
1056	" "	2540/10.25	400	Silting/Waterlain - Firm, grey, silty clay with wood fragment.* Sampled. * Intrusive material, possibly railway sleeper.
1057	" "	2940/9.85	60	Natural/Unknown - Solid, cobble and pebbles.
-	" "	3000/9.79	400	Void in column.
1058	" "	3400/9.39	600+	Natural - Soft, grey yellow, sand and gravel.
1060	WSA 406	0/12.47	100	Surface/Disturbance - Friable, brown, silt plus debris.
1061	" "	100/12.37	80	Surface - Degraded tarmac.
1062	" "	180/12.29	120	Surface make-up - Loose, ballast and clinker.
1063	" "	300/12.17	300	Landscaping/Disturbance - Mixed deposit, friable, brownish orange, clay sand and clinker/ballast.
1064	" "	600/11.87	1400	Landscaping/Disturbance - Soft, brownish orange, clay sand. Possibly disturbed laminated.
-	" "	2000/10.47	300	Void in column.
1065	" "	2300/10.17	500	Buried soil - Soft, light grey brown, sand silt with occasional pebbles. Possible gleying/waterlain.
1066	" "	2800/9.67	200	Silting/Waterlain - Firm, brown, organic clay.* Sampled.
-	" "	3000/9.47	300	Void in column.
1067	" "	3300/9.17	600	Silting/Waterlain - Soft, brownish grey, sandy silt.* Sampled.
1068	" "	3900/8.57	100	Natural - Firm, light grey, clay.
-	" "	4000/8.47	500	Void in column.
1069	" "	4500/7.97	500+	Natural - Soft, grey, clay. Lower down firm, grey, silt.
2010	WS 401	0/12.35	150	Surface/Made ground - Turf and topsoil, soft, grey brown sandy silt.

Context	Intervention	BGL mm/AOD m	Depth mm	Description
2011	" "	150/12.20	1150+	Bridge embankment - Yellow hardcore, larger fragments lower down.
2020	WS 402	0/11.39	200	Surface/Made ground - Turf and topsoil, soft, grey brown, silt.
2021	" "	200/11.19	100	Surface/Levelling - Concreted, iron slab fragments up to 150mm.
2022	" "	300/11.09	400	Landscaping/Disturbance - Mixed deposit, grey brown/orange, clay silt/sandy clay with brick fragments.
2023	" "	700/10.69	500+	Natural - Stiff, brown grey, clay.
2030	WS 403	0/9.17	300	Surface - Turf and topsoil, soft, grey brown, sandy silt clay. Contains animal bone, brick rubble and corrugated iron.
2031	" "	300/8.87	200	Possible subsoil - Friable/soft, slightly brownish grey, silty clay. Possible gleying/waterlain.
2032	" "	500/8.67	800+	Natural - Soft to firm, greyish yellow, clay. Firmer and grey brown at depth.
2040	WS 404	0/10.62	120	Surface - Turf and topsoil, friable greyish brown clayey sand silt.
2041	" "	120/10.50	400	Landscaping/Disturbance - Soft, orangey brown/black, clayey sand.
2042	" "	520/10.10	580	Landscaping/Disturbance - Firm, grey brown/yellow, sand with clay patches. Root disturbance and staining from timber at edge of hole.
2043	" "	1100/9.52	600	Possible buried soil - Soft, grey, sand. Possible gleying/waterlain.
2044	" "	1700/8.92	500+	Natural - Stiff, brown, clay.
2050	WS 405	0/11.06	460	Track base - Loose, black, clinker.
2051	" "	460/10.60	340	Track base - Friable, grey/black, lignite or mudstone with clinker.
2052	" "	800/10.26	800	Landscaping/Disturbance - Mixed deposit, loose, orange, sand and black clinker.
2053	" "	1600/9.46	1100	Landscaping/Disturbance - Soft, orange, sand with cobbles and pebbles. Some voids due to water.
2054	" "	2700/8.36	1100	Buried soil - Soft, brownish grey, sandy silt. Possible flecks of organic material and a thin organic band within it. Possible gleying/waterlain.
2055	" "	3800/7.26	200	Possible subsoil - Soft, yellowy grey, silty sand.
-	" "	4000/7.06	400	Void in column.
2056	" "	4400/6.66	600	Silting/Waterlain - Soft, grey brown, silty sand.

Context	Intervention	BGL mm/AOD m	Depth mm	Description
2057	" "	5000/6.06	400	Silting/Waterlain - Friable, light grey, silty sand.
2058	" "	5400/5.66	200	Silting/Waterlain - Friable, dark grey, organic silt. * Sampled.
2059	" "	5600/5.46	400+	Natural - Soft, light grey, silty sand.
2060	WS 406	0/11.14	1000	Track base - Loose, black, clinker with a band of orange sand and occasional cobbles.
2061	" "	1000/10.14	200	Buried sleeper.
2062	" "	1200/9.94	350	Landscaping/Disturbance - Friable, orange brown, sandy clay.
2063	" "	1550/9.59	2150	Landscaping/Disturbance - Mixed deposit, friable, grey purple, clinker and orange brown, sand clay with cobbles.
2064	" "	3700/7.44	1800	Natural/Silting/Waterlain - Soft, greyish brown, silty sand clay.
2065	" "	5500/5.64	1300	Natural/Silting/Waterlain - Firm, grey, slightly sandy silty organic clay. Visible organic band at c.6.8m BGL.
2066	" "	6800/4.34	1650	Natural - Loose, brown, silty clayey sand.
2070	WS 407	0/11.14	560	Track base - Loose, black, clinker.
2071	" "	560/10.58	1700	Landscaping/Disturbance - Friable, orangey brown, pebbly sand with occasional coal flecks.
2072	" "	2260/8.88	300	Landscaping/Disturbance - Friable, yellowish orange, sand.
2073	" "	2560/8.58	1300	Buried soil - Soft, grey brown, silty sand with slightly organic content and fragment of post-medieval brick.
2074	" "	3860/7.28	140	Natural - Stiff, yellow grey, clay.
2075	" "	4000/7.14	500	Natural - Firm, grey, clay.
2076	" "	4500/6.64	500	Natural - Soft/friable, orange brown, laminated sand and clay.
2080	WS 408	0/11.07	250	Track base - Ballast.
2081	" "	250/10.82	150	Track base/Make-up - Friable brownish orange sand.
2082	" "	400/10.67	80	Track base - Ballast.
2083	" "	480/10.59	2320	Landscaping/Disturbance - Friable, orange brown, sand and gravel.
2084	" "	2800/8.27	200	Landscaping/Disturbance - Friable, dark grey black, clinker.
2085	" "	3000/8.07	800	Landscaping/Disturbance - Friable, orange brown, sand.
2086	" "	3800/7.27	1500	Buried soil/Subsoil - Firm to soft, slightly brownish grey, silt clay with possible organic odour. Possible gleying/waterlain.

Context	Intervention	BGL mm/AOD m	Depth mm	Description
2087	" "	5300/5.77	500+	Natural - Stiff, brown grey, clay
2090	WS 409	0/11.39	150	Track base - Ballast.
2091	" "	150/11.24	350	Track base - Friable, black, clinker.
2092	" "	500/10.89	2000	Landscaping/Disturbance - Friable, orange brown sand with clinker and rubble.
-	" "	2500/8.89	500	Void in column.
2093	" "	3000/8.39	600	Buried soil - Soft, brownish grey clayey sand silt. Possible gleying/waterlain.
2094	" "	3600/7.79	500+	Natural - Soft, orange, sand.
2100	WS 410 & 410a	0/11.49	100	Surface/Disturbance - Soft, orangey brown, sandy silt with debris.
2101	" "	100/11.39	300	Track base - Friable, black, clinker.
2102	" "	400/11.09	200	Track base/make-up - Clinker and rubble.
2103	" "	600/10.89	200	Track base - Friable pinkish black clinker with rubble.
2104	" "	800/10.69	1100	Landscaping/disturbance - Soft, brownish orange, silty sand.
2105	" "	1900/9.59	500+	Natural - Soft, brownish orange, sand with coarse sand lower down.
2110	WS 411	0/11.30	250	Track base - Friable, black, clinker and ballast.
2111	" "	250/11.05	950	Track base - Friable, pinkish dark grey/black, clinker and slag.
-	" "	1200/9.10	400	Void in column.
2112	" "	1600/8.70	2000	Track base/Landscaping - Friable, pinkish dark grey clinker and slag. Contaminated at c. 2.5m BGL.
2113	" "	3600/6.70	500+	Natural - Soft, yellowy grey orange, clay and sand.
2120	WS 412	0/12.25	200	Surface/Disturbance - Turf and topsoil with ballast below.
2121	" "	200/12.05	300	Track base - Loose, black, clinker.
2122	" "	500/11.75	400	Landscaping/disturbance - Friable, brownish orange, sandy clay.
2123	" "	900/11.35	600	Landscaping/Buried soil - Friable, brownish grey, sandy silt with pebbles and gravel.
2124	" "	1500/10.75	1000	Buried soil - Soft, grey, sandy silt. Possible gleying/waterlain.
2125	" "	2500/9.75	500+	Natural - Firm, brownish yellow orange, clay and sand.
2130	WS 413a	0/12.72	120	Surface - Hardcore.
2131	" "	120/12.60	200	Track base/Disturbance - Friable, dark grey, clinker and gravel.
2132	" "	320/12.40	1880	Landscaping/Disturbance - Friable, orangey brown, sand with gravel and

Context	Intervention	BGL mm/AOD m	Depth mm	Description
				cobbles.
2133	" "	2200/10.52	300	Buried soil - Soft, dark grey brown, sandy silt. Slightly organic odour.
2134	" "	2500/10.22	500+	Subsoil/Silting/Waterlain - Very soft, grey, silt sand. Possible gleying/waterlain.
2140	WS 414	0/11.80	300	Surface - Hardcore.
2141	" "	300/11.50	350	Surface make-up - Ballast with geotextile at base.
2142	" "	650/11.15	500	Track base - Friable, black, clinker and ballast.
2143	" "	1150/10.65	950	Landscaping - Soft, orangey grey brown, sand.
2144	" "	2100/9.70	500+	Natural - Stiff, brown, clay.
2150	WS 415 was TP 411	0/14.27	200	Surface - Tarmac.
2151	" "	200/14.07	200	Surface make-up - Friable, orange brown, sand with clinker and brick rubble.
2152	" "	400/13.87	800	Landscaping - Soft, brownish orange, sand with pebbles and brick rubble.
2153	" "	1200/13.07	500+	Natural - Stiff, grey brown, clay with pebbles. This was slightly disturbed at the top, but not recorded as a separate layer.
3010	TP 401	0/11.68	300	Surface - Tarmac and debris.
3011	" "	300/11.38	100	Surface make-up/Levelling - Loose dark clinker and brick rubble.
3012	" "	300/11.38	600	Post hole - Rubble backfill within modern posthole.
3013	" "	400/11.28	300	Landscaping/Disturbance - Mixed deposit, grey brown, sandy silt with clinker lenses.
3014	" "	0/11.68	1000+	Building - 9" brick wall and concrete floor internally. Appears to backfill construction cut.
3015	" "	700/10.98	100	Buried soil - Soft, brownish grey, clayey sandy silt.
3016	" "	800/10.88	600	Subsoil/Natural - Firm, slightly brownish orange, sandy clay.
3017	" "	1400/10.28	400	Intrusive organics - Tree stump and root mass. Probably originally 700mm BGL.
3018	" "	1800/9.88	500+	Natural - Stiff, yellowy brown, clay.
3020	TP 402	0/11.32	380	Track base - Ballast and clinker.
3021	" "	380/10.94	820	Landscaping/Disturbance - Loose, grey yellow and brown orange, sand pebbles and mortar with brick rubble.
3022	" "	1200/10.12	1200	Landscaping/Disturbance - Loose,

Context	Intervention	BGL mm/AOD m	Depth mm	Description
				dark grey black, clinker.
3023	" "	2400/8.92	500	Buried soil - Soft, grey, sandy silt clay with possible charcoal flecks. Possible gleying/waterlain.
3024	" "	2900/8.42	1600+	Natural - Firm, brown/orangey yellow, clay with sand laminations
3030	TP 403 plus CBR	0/11.97	380	Track base - Loose, black, clinker with other debris.
3031	" "	380/11.59	500	Track base/Make-up - Friable, black orange, clinker.
3032	" "	880/11.09	500	Landscaping/Disturbance - Soft, brownish orange, clay sand.
3033	" "	1380/10.59	1000	Buried soil - Soft, grey, clay silt sand. Also contains medieval tile and 18 th century or later pot. Possible gleying/waterlain.
3034	" "	2380/9.59	500	Silting/Waterlain - Soft, dark grey, organic silt. Excavation depth meant unclear thickness and not possible to sample.
3035	" "	2880/9.09	720	Natural/Silting/Waterlain - Soft, grey, silty sand.
3036	" "	3600/8.37	900+	Natural - Firm, brown orange, clay sand with gravel.
3040	TP 404 plus CBR	0/12.05	360	Track base - Loose, dark grey/black ballast and clinker.
3041	" "	360/11.69	540	Track base - loose, black, clinker and concreted slag.
3042	" "	900/11.15	1160	Landscaping/Disturbance - Soft, brownish orange, clay sand.
3043	" "	2060/9.99	1240	Buried soil - Soft, brownish grey, clayey sand silt.
3044	" "	3300/8.75	1400+	Natural - Firm, orangey brown, sandy clay. Laminated towards base.
3050	TP 405 plus CBR	0/12.63	460	Track base - Loose, dark grey/black, ballast, clinker and rubble.
3051	" "	460/12.17	700	Landscaping/Disturbance - Soft, brownish orange, clay sand with cobbles.
3052	" "	1160/11.47	540	Buried soil - Soft, slightly brownish grey, sandy silt.
3053	" "	1700/10.93	1700+	Natural - Soft, brownish orange, sand with clay towards base.
3060	TP 406	0/12.99	700	Track base - Ballast over loose, black, clinker.
3061	" "	700/12.29	500	Landscaping/Disturbance - Friable, brownish orange, sandy clay with pebbles and cobbles.
3062	" "	1200/11.79	2100+	Natural - Friable, yellowy orange, pebbles and sand with cobbles.

Context	Intervention	BGL mm/AOD m	Depth mm	Description
3070	TP 407 CBR	0/12.99	600	Track base - Ballast and debris over loose, black, clinker.
3071	" "	600/12.39	600	Landscaping - Soft, orangey brown, silty sand.
3072	" "	1200/11.79	1000	Buried soil/Subsoil - Friable, orange brown, sandy clay.
3073	" "	2200/10.79	1000	Silting/Waterlain - Friable, brownish dark grey, organic clayey silt. *sampled.
3074	" "	3200/9.79	800	Silting/Waterlain - Soft, dark grey, organic clayey silt.
3075	" "	4000/8.99	500+	Natural/Silting/Waterlain - Soft, blueish grey, laminated clays with occasional gravel.
3080	TP 408	0/12.33	400	Track base - Ballast over loose, black, clinker.
3081	" "	400/11.93	300	Landscaping/Disturbance - Friable, orange, cobbly sand with clinker lenses.
3082	" "	700/11.63	1000	Buried soil - Soft, brownish grey, silt sand with medieval tile and animal bone.
3083	" "	1700/10.63	2600+	Natural - Friable, brownish orange, clay sand.
3090	TP 409	0/15.84	100	Surface - Tarmac.
3091	" "	100/15.74	40	Surface make-up - Hardcore.
3092	" "	140/15.70	360	Construction Spread - Mixed deposit, soft, brown orange, sand and loose, greyish yellow, coarse sand. Plastic duct at 1.65m BGL at northwest edge of pit linked with this activity.
3093	" "	500/15.34	180	Landscaping/Disturbance - Soft, brownish pink clayey sand with cobbles.
3094	" "	680/15.16	500	Buried soil - Soft, brownish grey, sandy silt with charcoal and coal flecks. Darker and slightly organic to the base.
3095	" "	1180/14.66	2820+	Natural - Soft, brownish orange, sand with clay patches higher up.
3096	" "	2500/13.34	na	Unknown - Soft, slightly brownish white, unknown material flecks. Seen in pit edge at c.2.5m BGL.
3100	TP 410	0/15.60	100	Surface - Tarmac.
3101	" "	100/15.50	40	Surface make-up - Hardcore.
3102	" "	140/15.46	500+	Service - Yellow plastic pipe in cut with backfill.
3103	" "	140/15.46	120	Construction spread - Friable, black, clinker.
3104	" "	260/15.34	240	Landscaping/Disturbance - Loose,


Context	Intervention	BGL mm/AOD m	Depth mm	Description
				brownish orange, coarse sand with pebbles.
3105	" "	500/15.10	150	Landscaping/Disturbance - Stiff, greyish light brown, clay with coal flecks.
3106	" "	650/14.95	3150+	Natural - Laminated, orange brown, sand, and light brown, clay.
-	TP 411	-	-	See WS 415
3120	TP 412	0/13.61	350	Surface/Made ground - Turf and topsoil, friable dark grey, sand silt with debris.
3121	" "	350/13.26	850	Infill - Friable, dark grey brown, sand silt.
3122	" "	1200/12.41	400+	Infill - Friable, brownish orange, sand.
-	TP 413	0/11.49	1500	Not observed trackside - Nothing of archaeological note from engineers logs.
-	TP 414	0/13.54	1300	Not observed trackside - Nothing of archaeological note from engineers logs.
-	TP 415	0/13.64	820	Not observed trackside - Nothing of archaeological note from engineers logs.
-	TP 416	0/11.51	980	Not observed trackside - Nothing of archaeological note from engineers logs.
-	TP 417	0/11.33	1050	Not observed trackside - Nothing of archaeological note from engineers logs.
3180	TP 418	0/13.63	400	Surface/Made ground - Friable, brownish grey, silt clay.
3181	" "	400/13.23	800+	Infill - Hardcore.
3190	TP 419	0/11.23	900	Infill/Landfill - Mixed vegetation, debris and railway sleepers.
3191	" "	900/10.33	400	Landscaping/Disturbance - Soft, orange brown, sand clay.
3192	" "	1300/9.93	400	Buried soil - Soft, grey, silt clay with root fragments. Possible gleying/waterlain.
3193	" "	1700/9.63	300	Subsoil - Soft, orange grey, silt clay.
3194	" "	2000/9.23	2500+	Natural - Stiff, brownish pink, clay.
3200	TP 420	0/11.17	1100	Track base - Loose, black, clinker with larger fragments towards the base.
3201	" "	1100/10.07	700	Landscaping/Disturbance - Soft, brownish orange, clay sand.
3202	" "	1800/9.37	400	Landscaping/Disturbance - Loose, purple dark grey, clinker.
3203	" "	2200/8.97	1300+	Natural/Landscaping/Disturbance -

Context	Intervention	BGL mm/AOD m	Depth mm	Description
				Friable, orangey brown, clay sand with cobbles and pebbles.
-	TP 421	0/11.44	1300	Not observed trackside - Nothing of archaeological note from engineers logs.
-	TP 422	0/13.22	800	Not observed into ballast pile - Nothing of archaeological note from engineers logs.
4010	BH 401	0/11.55	200	Surface - Hardcore
4011	" "	200/11.35	1400	Landscaping/Disturbance - Friable, dark brownish grey, clayey silt.
4012	" "	1600/9.95	900	Buried soil - Soft, brownish grey, silt clay.
4013	" "	2500/9.05	500+	Natural - Friable, reddish orange, sand.
4020	BH 402	0/13.86	900	Surface/Made ground - Turf plus loose, dark grey silt with brick rubble etc.
4021	" "	900/12.96	2000+	Natural - Loose, brownish orange, sand and gravel.
4030	BH 403	0/9.86	400	Surface - Turf and topsoil, soft, dark grey brown, silt clay.
4031	" "	400/9.46	400	Buried soil - Soft, dark grey black with orange veins, silt. Possible gleying/waterlain.
4032	" "	800/9.06	2000+	Natural - Soft, yellowy brown grey, clay.
4040	BH 404	0/7.50	400	Surface/Made ground - Turf and topsoil, friable, dark grey brown, clayey sandy silt.
4011	" "	400/7.10	2000+	Natural - Soft, orangey red mottled grey, sandy silty clay. Possible buried soil/subsoil but not visible during excavation.
4050	BH 405	0/11.38	1200	Track base/landfill - Loose, black, clinker with debris.
4051	" "	1200/10.18	3600	Structure - Brick structure, possibly gasometer footing.
4052	" "	4800/6.58	500+	Natural - Friable, orange brown, laminated sand and clay. Contaminated by structure above.
4060	BH 406	0/11.25	500	Track base - Ballast over loose, black, clinker.
4061	" "	500/10.75	300	Landscaping - Soft, brownish orange, clayey sand with pebbles.
4062	" "	800/10.45	500	Buried soil - Soft, grey, organic silt. Fibrous organic at top so possible buried vegetation or disturbed material.
4063	" "	1300/9.95	1300	Buried soil/Silting/Waterlain - Soft,

Context	Intervention	BGL mm/AOD m	Depth mm	Description
				grey, silt clay with occasional roots. Possible gleying/waterlain.
4064	" "	2600/8.65	2600+	Natural - Friable, brownish orange, clay sand.
5010	CPTU 401	0/11.09	200	Surface/Made ground - Turf and topsoil, friable, black, silt.
5011	" "	200/10.89	300	Disturbance/Made ground - Friable, black, clinker and silt.
5012	" "	500/10.59	700	Landscaping/Disturbance - Soft, brownish orange, clay sand.
5020	CPTU 402	0/11.10	350	Surface - Turf and topsoil, friable, brownish grey clay silt with debris.
5021	" "	350/10.75	200	Subsoil - Friable, grey brown, silt clay.
5022	" "	550/10.55	650	Natural - Firm, yellowy grey, slightly sandy silt clay.
5030	CPTU 403	0/11.16	160	Surface - Hardcore.
5031	" "	160/11.00	500	Landscaping/Disturbance/Made ground - Loose, dark grey brown/black, silt with grit and other debris.
5032	" "	660/10.50	540	Possible Subsoil - Friable, orangey grey brown, silt clay. May have natural deposits at base.
5040	CPTU 404	0/9.74	260	Surface - Turf and topsoil, friable, grey brown, clay silt.
5041	" "	260/9.48	240	Subsoil - Friable, yellowy grey, silt clay. Includes one small abraded CBM fragment.
5042	" "	500/9.24	700	Natural - Firm, yellow grey, clay.
5050	CPTU 405	0/10.70	400	Surface - Turf and topsoil, soft, brownish black, silt.
5051	" "	400/10.30	400	Landscaping/Disturbance - Firm, greyish orangey brown, clay.
5052	" "	800/9.90	400	Natural - Firm, orangey brown, clay with sand bands.
5060	CPTU 406	0/7.56	340	Surface - Turf and topsoil, soft, dark brown grey, clay silt.
5061	" "	340/7.22	460	Subsoil - Soft yellowy grey brown clay. Probably reworked/disturbed.
5062	" "	800/6.76	400	Natural - Firm, yellowy grey brown, clay.
5070	CPTU 407	0/8.69	300	Surface/Made ground - Turf and topsoil, soft, dark brown grey, clay silt.
5071	" "	300/8.39	200	Buried soil/Disturbance - Firm, yellowy grey, silt clay. Contained one very small fragment of very abraded medieval pottery.
5072	" "	500/	700	Natural - Firm, brownish grey, clay.

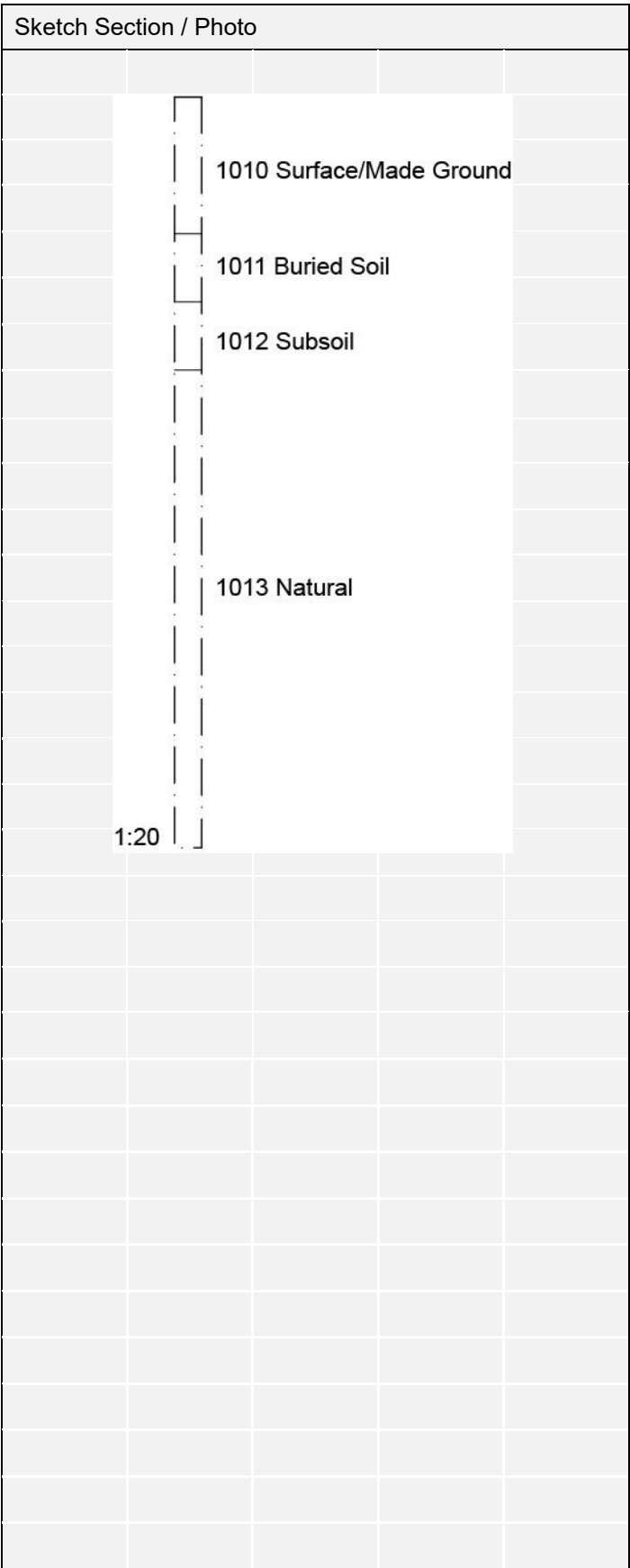
Context	Intervention	BGL mm/AOD m	Depth mm	Description
		8.19		
5080	CPTU 408	0/7.32	380	Surface - Turf and topsoil, soft, dark grey brown, silt clay.
5081	" "	380/6.94	380	Buried soil - Soft, dark grey black with orange veins, silt. Possible gleying/waterlain.
5082	" "	760/6.56	440	Natural - Soft, yellowy brown grey, clay. Possibly disturbed as one fleck of CBM present.


Table 2 Context list


 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WSA 401	Sheet - 1 of 1

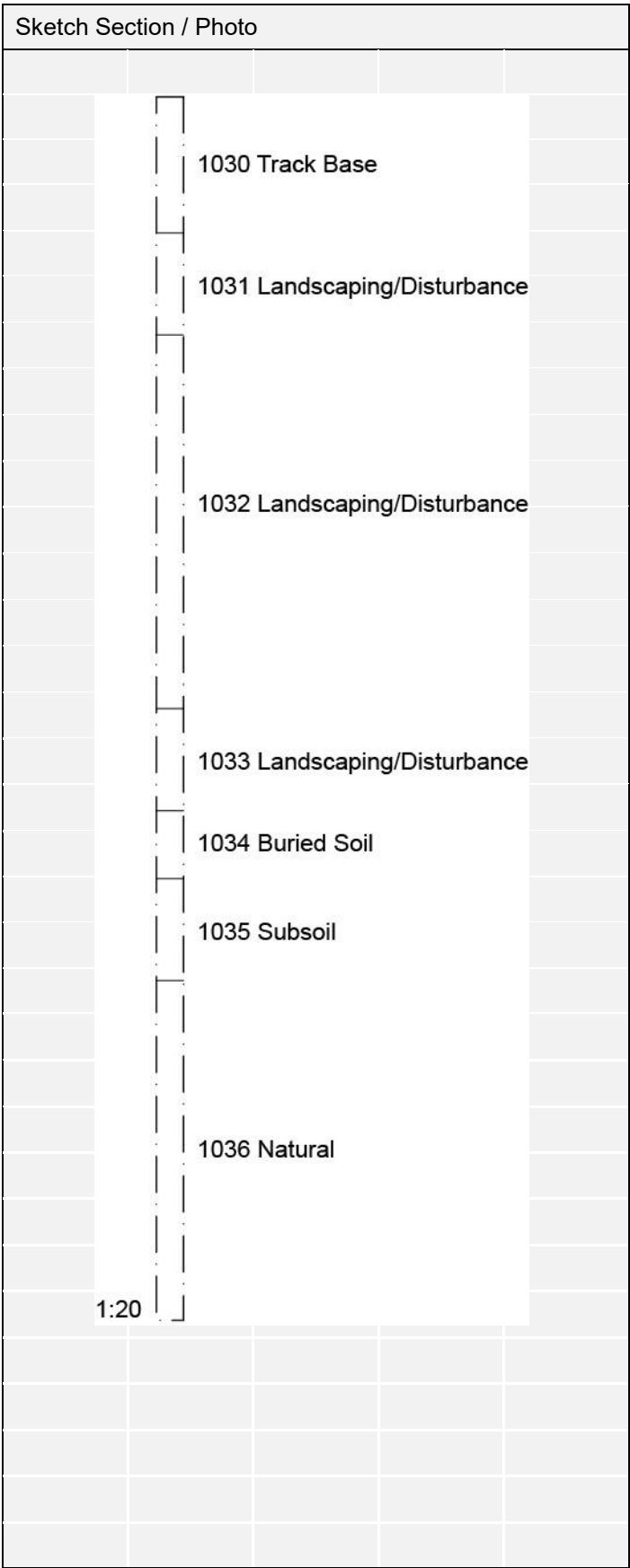
Intervention No. WSA 401	
Time/Date am 28/11/18	
Contexts / Numbers Assigned	
1010	Surface/Made ground - Turf and topsoil, friable, grey brown, sandy clay silt with CBM fragments.
1011	Buried soil - Friable, dark grey with orange mottle, clayey silt. * Water strike at 500mm BGL obscures view below.
1012	Subsoil - Soft, grey, silty clay.
1013	Natural - Soft yellow grey clayey sand.


Notes
3m Deep. Hand dug to 1200mm.

 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WSA 403	Sheet - 1 of 1

Intervention No. WSA 403	
Time/Date pm 15/11/18	
Contexts / Numbers Assigned	
1030	Track base - Loose, black, clinker.
1031	Landscaping/Disturbance - Soft, brownish orange, pebbly sandy clay with clinker.
1032	Landscaping/Disturbance - Soft brownish orange, pebbly sandy clay with clay patches.
1033	Landscaping/Disturbance - Loose, dark grey, clinker with brick etc rubble.
1034	Buried soil - Soft, grey brown, silty sand.
1035	Subsoil - Soft, brown grey, silty sand.
1036	Natural - Soft, yellowy brown orange, sand.
Notes	
4m Deep. Hand dug to 1200mm.	
	

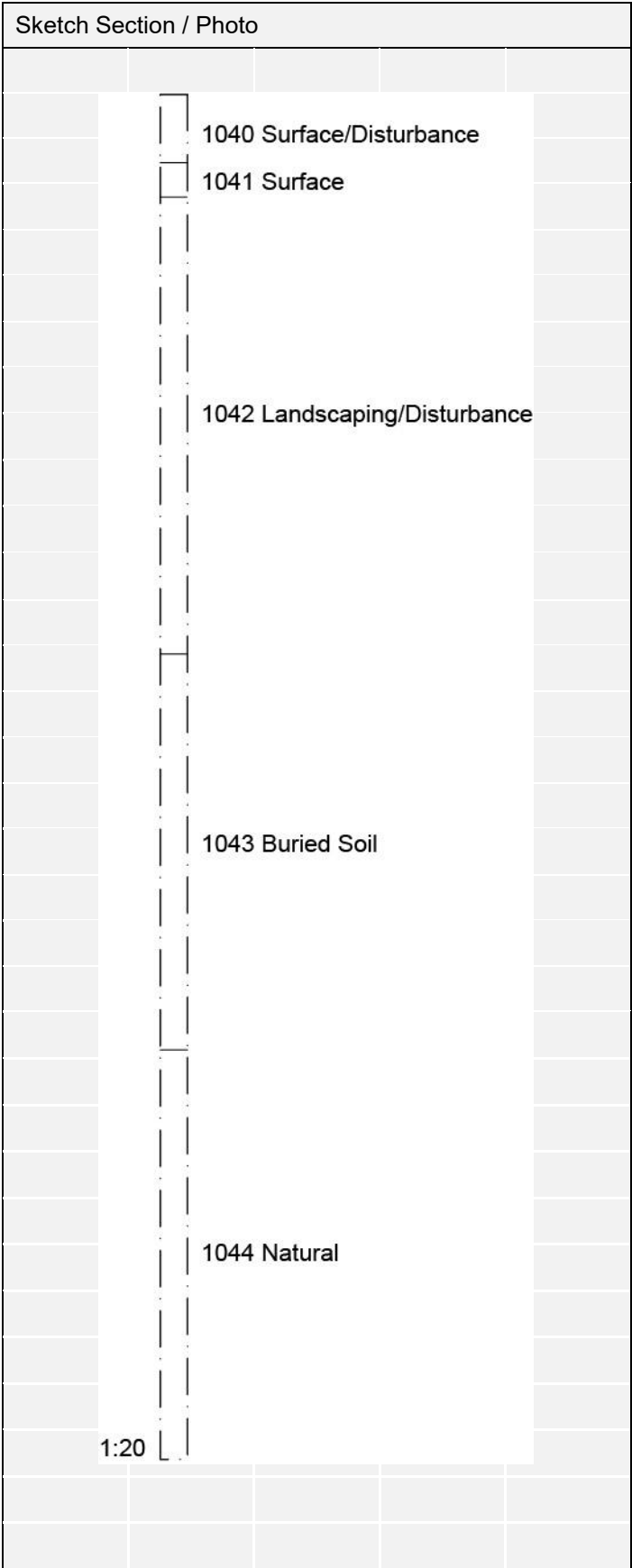



 YORK ARCHAEOLOGICAL TRUST		Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG		Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI		Trench/Area WSA 404	Sheet - 1 of 1


Intervention No. WSA 404a	
Time/Date pm 27/11/18	
Contexts / Numbers Assigned	
1040	Surface/Disturbance - Friable, dark grey, soil and mixed rubble.
1041	Surface - Compact, dark grey black, clinker.
1042	Landscaping/Disturbance - Mixed deposit, soft grey brown/orange brown clayey sand.
1043	Buried soil - Soft, grey, clayey sandy silt with charcoal flecks. More sandy towards base. * Sampled.
1044	Natural - Friable, brownish orange sand and gravel.

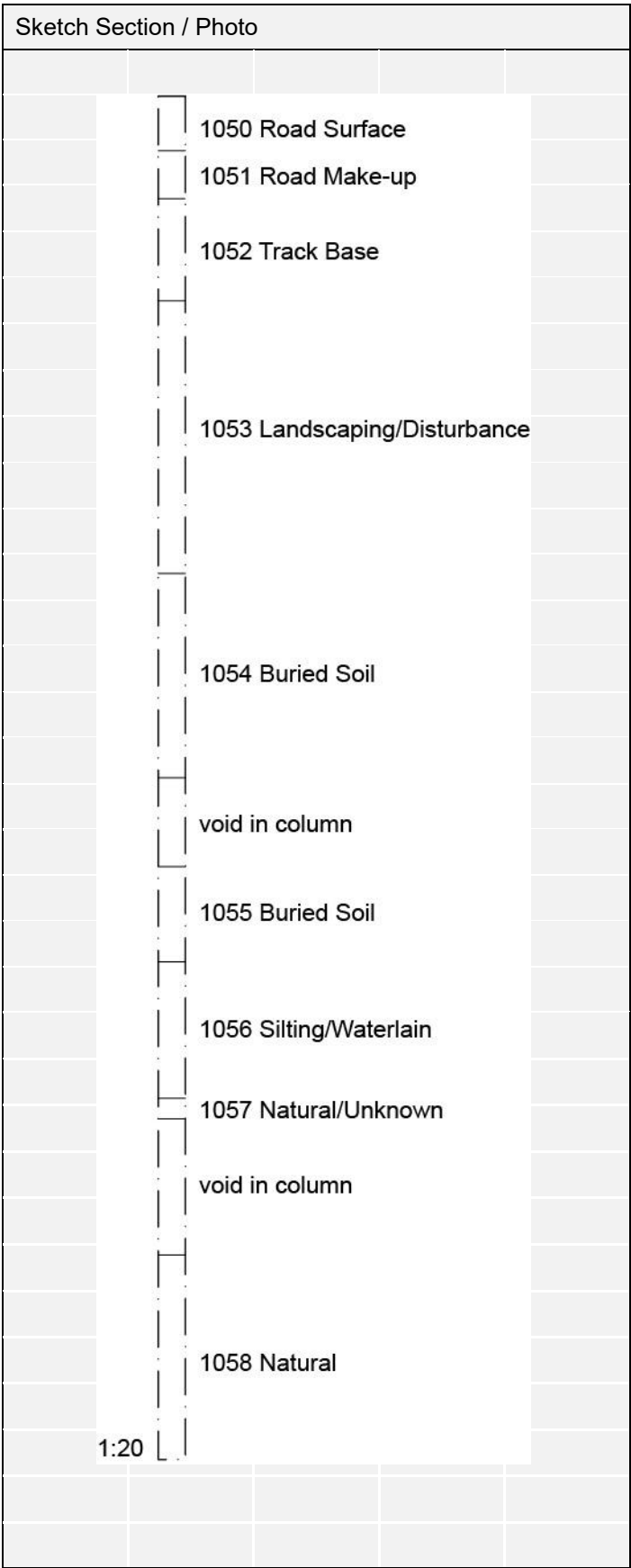
Notes


4m Deep. Hand dug to 1200mm.
 Moved due to obstructions.





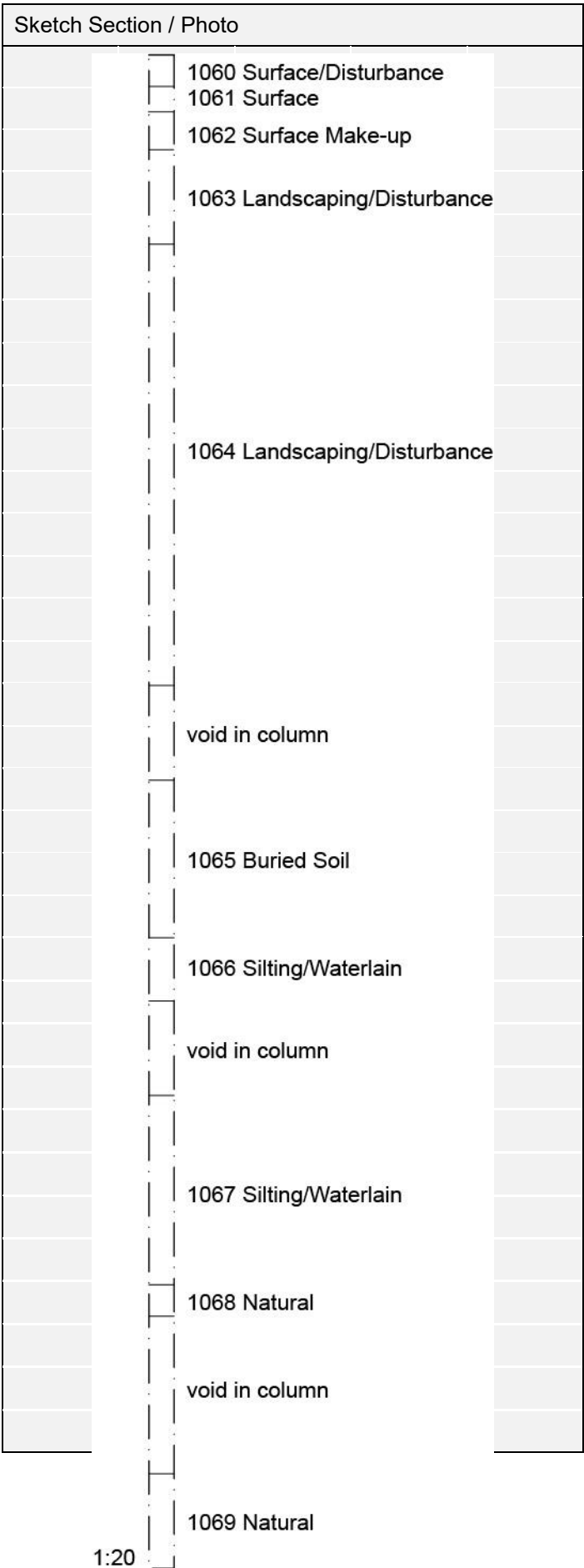
 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WSA 405	Sheet - 1 of 1


Intervention No. WSA 405	
Time/Date am 11/12/18	
Contexts / Numbers Assigned	
1050	Road surface - Tarmac.
1051	Road make-up - Hardcore.
1052	Track base - Loose, black, clinker.
1053	Landscaping/Disturbance - Mixed deposit, friable, orangey brown, sand with clinker, pebbles and CBM fragments.
1054	Buried soil - Soft, slightly brownish grey, sandy silt clay. Possible gleying/waterlain.
	Void in column.
1055	Buried Soil - Soft, dark grey, organic silt. Possible gleying/waterlain * Sampled.
1056	Silting/Waterlain - Firm, grey, silty clay with wood fragment.* Sampled. * Intrusive material, possibly railway sleeper.
1057	Natural/Unknown - Solid, cobble and pebbles.
	Void in column.
1058	Natural - Soft, grey yellow, sand and gravel.
Notes	
4m Deep. Hand dug to 1200mm.	
	



 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WSA 406	Sheet - 1 of 1

Intervention No. WSA 406a	
Time/Date am 27/11/18	
Contexts / Numbers Assigned	
1060	Surface/Disturbance - Friable, brown, silt plus debris.
1061	Surface - Degraded tarmac.
1062	Make-up - Loose, ballast and clinker.
1063	Landscaping/Disturbance - Mixed deposit, friable, brownish orange, clay sand and clinker/ballast.
1064	Landscaping/Disturbance - Soft, brownish orange, clay sand. Possibly disturbed laminated.
	Void in column.
1065	Buried soil - Soft, light grey brown, sand silt with occasional pebbles. Possible gleying/waterlain.
1066	Silting/Waterlain - Firm, brown, organic clay.* Sampled.
	Void in column.
1067	Silting/Waterlain - Soft, brownish grey, sandy silt.* Sampled.
1068	Natural - Firm, light grey, clay.
	Void in column.
1069	Natural - Soft, grey, clay. Lower down firm, grey, silt.
Notes	
5m Deep. Hand dug to 1200mm.	
Moved because of obstructions.	
	



 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WS 404	Sheet - 1 of 1

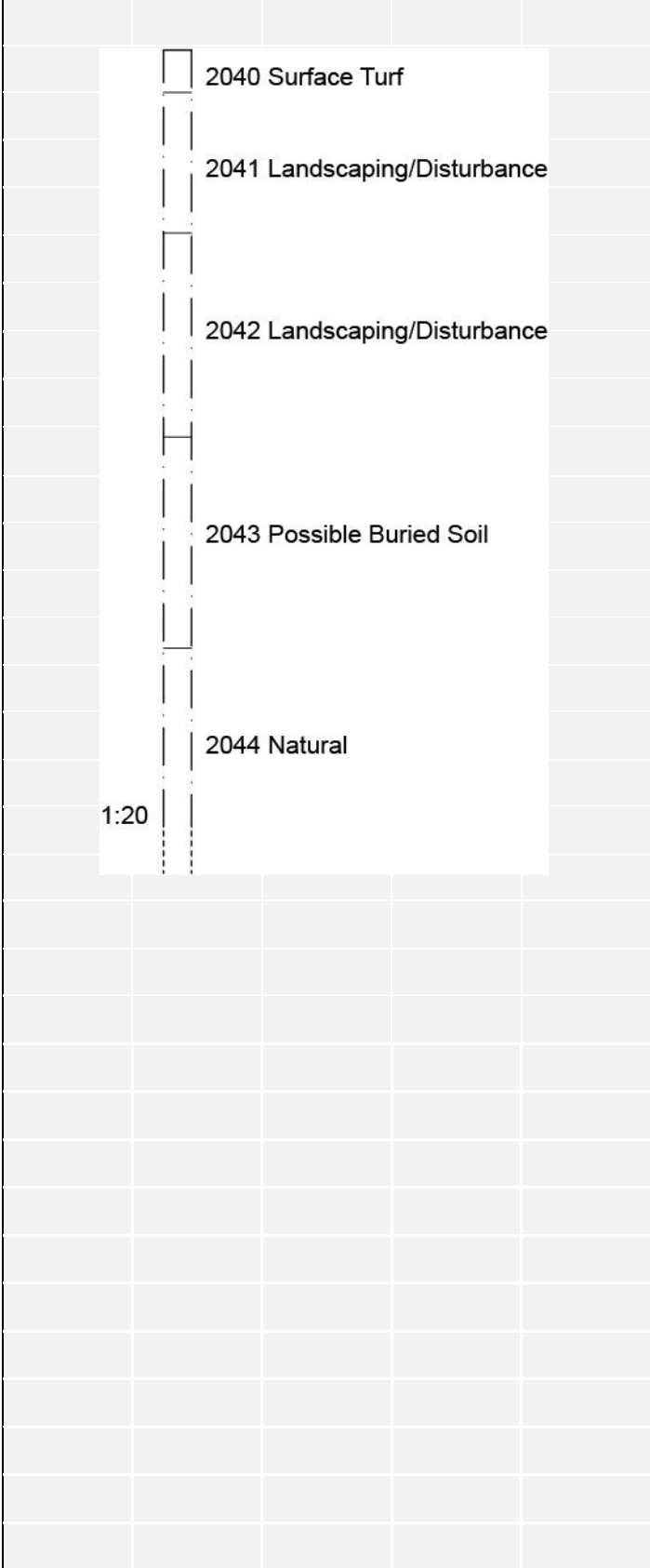
Intervention No. WS 404	
Time/Date pm 30/11/18	
Contexts / Numbers Assigned	
2040	Surface - Turf and topsoil, friable greyish brown clayey sand silt.
2041	Landscaping/Disturbance - Soft, orangey brown/black, clayey sand.
2043	Landscaping/Disturbance - Firm, grey brown/yellow, sand with clay patches. Root disturbance and staining from timber at edge of hole.
2044	Possible buried soil - Soft, grey, sand. Possible gleying/waterlain.
2045	Natural - Stiff, brown, clay.


Notes

5.45m Deep. Hand dug to 1200mm.



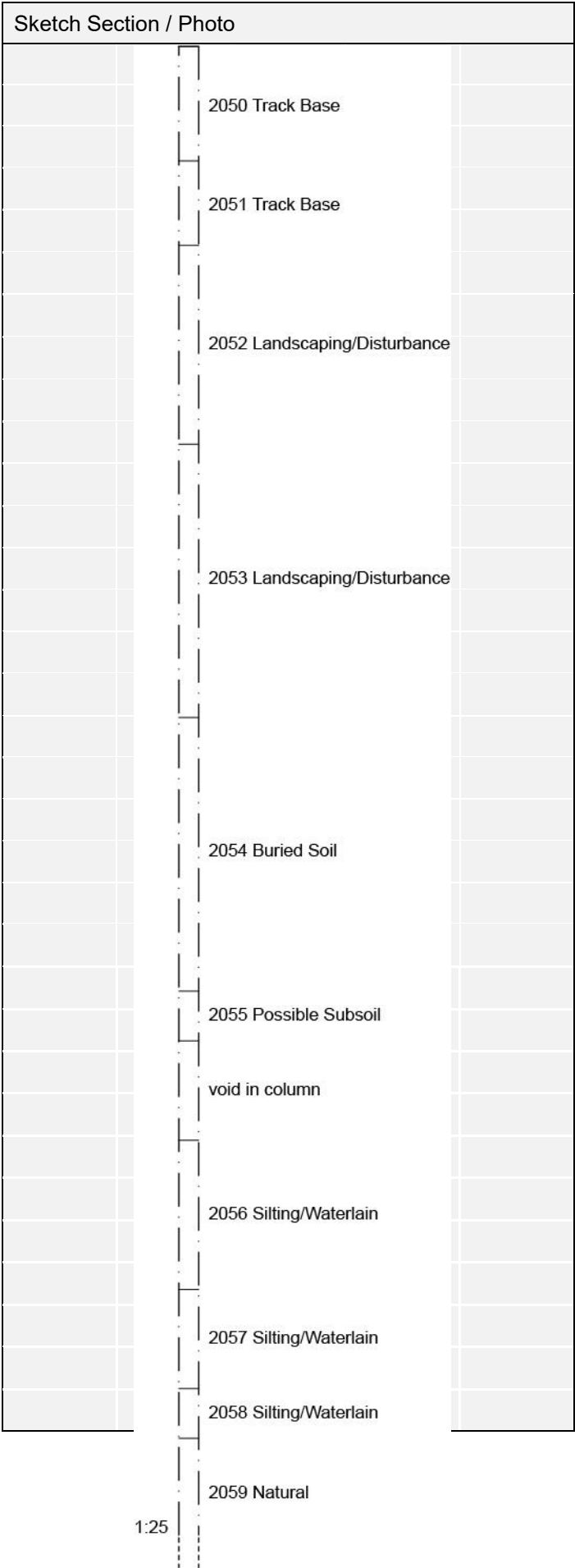
Sketch Section / Photo




 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WS 405	Sheet - 1 of 1

Intervention No. WS 405	
Time/Date am 07/12/18	
Contexts / Numbers Assigned	
2050	Track base - Loose, black, clinker.
2051	Track base - Friable, grey/black, lignite or mudstone with clinker.
2052	Landscaping/Disturbance - Mixed deposit, loose, orange, sand and black clinker.
2053	Landscaping/Disturbance - Soft, orange, sand with cobbles and pebbles. Some voids due to water.
2054	Buried soil - Soft, brownish grey, sandy silt. Possible flecks of organic material and a thin organic band within it. Possible gleying/waterlain.
2055	Possible subsoil - Soft, yellowy grey, silty sand.
	Void in column.
2056	Silting/Waterlain - Soft, grey brown, silty sand.
2057	Silting/Waterlain - Friable, light grey, silty sand.
2058	Silting/Waterlain - Friable, dark grey, organic silt. * Sampled.
2059	Natural - Soft, light grey, silty sand.

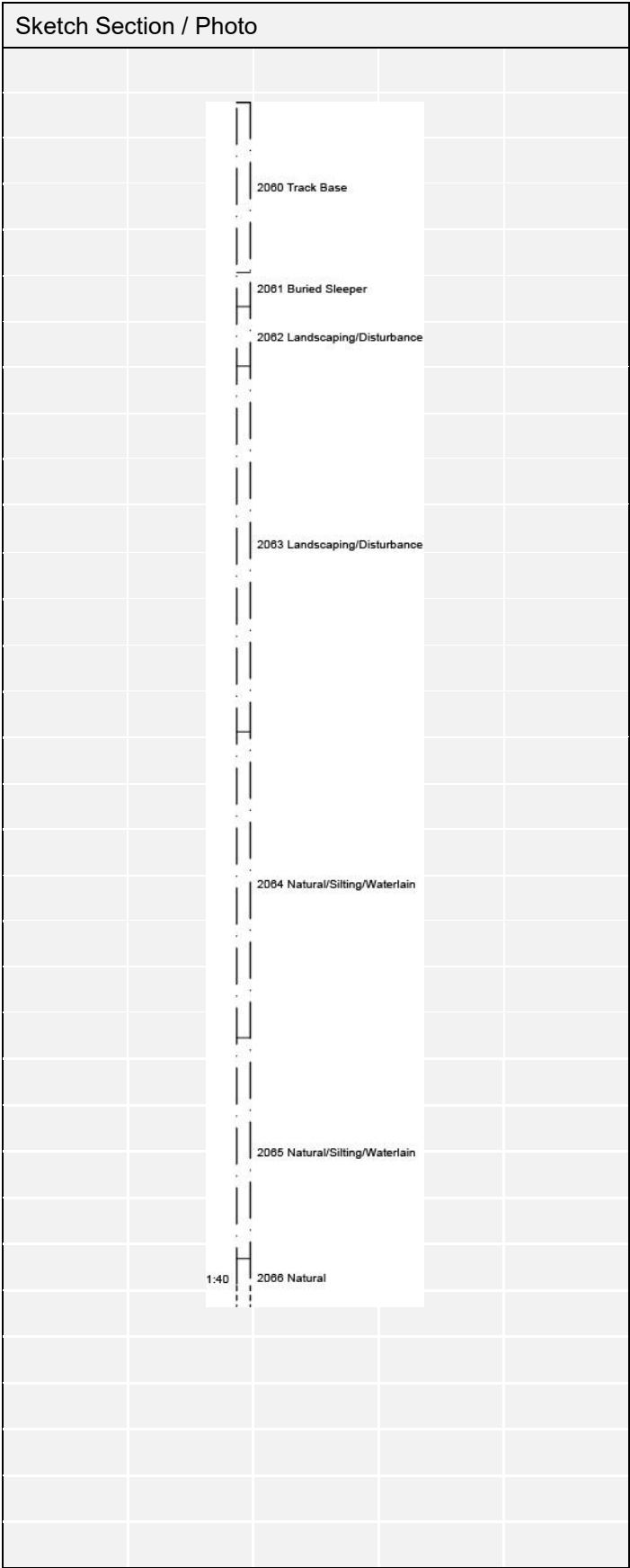
Notes
6m Deep. Hand dug to 1200mm.






 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WS 406	Sheet - 1 of 1

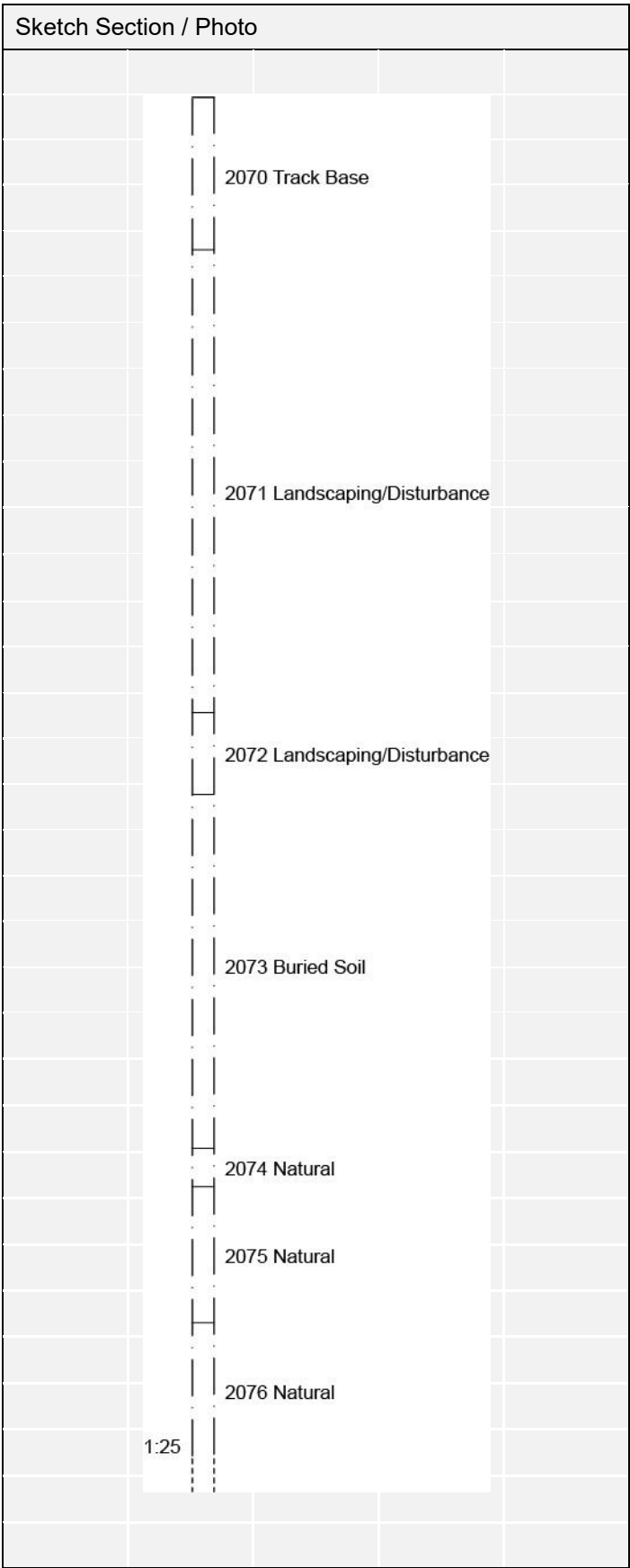
Intervention No. WS 406	
Time/Date am 14/11/18	
Contexts / Numbers Assigned	
2060	Track base - Loose, black, clinker with a band of orange sand and occasional cobbles.
2061	Buried sleeper.
2062	Landscaping/Disturbance - Friable, orange brown, sandy clay.
2063	Landscaping/Disturbance - Mixed deposit, friable, grey purple, clinker and orange brown, sand clay with cobbles.
2064	Natural/Silting/Waterlain - Soft, greyish brown, silty sand clay.
2065	Natural/Silting/Waterlain - Firm, grey, slightly sandy silty organic clay. Visible organic band at c.6.8m BGL.
2066	Natural - Loose, brown, silty clayey sand.


Notes
8.45m Deep. Hand dug to 1200mm.

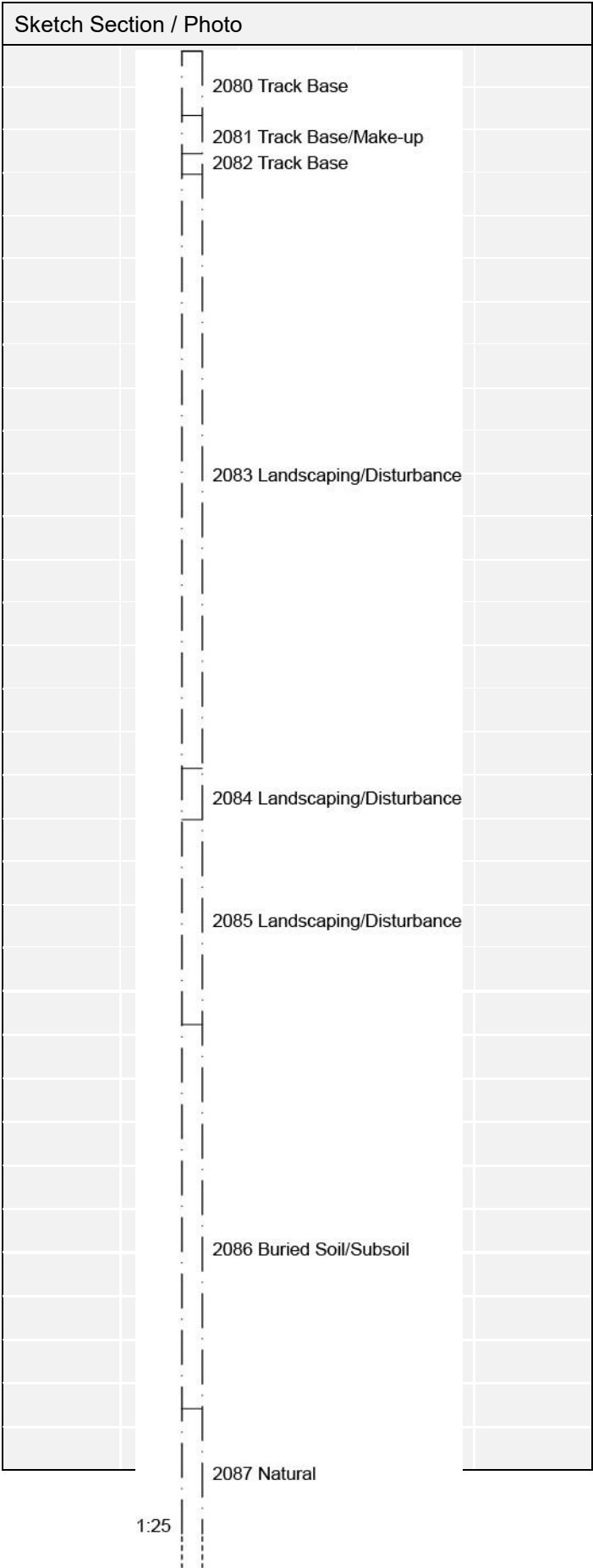
 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WS 407	Sheet - 1 of 1


Intervention No. WS 407	
Time/Date am 15/11/18	
Contexts / Numbers Assigned	
2070	Track base - Loose, black, clinker.
2071	Landscaping/Disturbance - Friable, orangey brown, pebbly sand with occasional coal flecks.
2072	Landscaping/Disturbance - Friable, yellowish orange, sand.
2073	Buried soil - Soft, grey brown, silty sand with slightly organic content and fragment of post- medieval brick.
2074	Natural - Stiff, yellow grey, clay.
2075	Natural - Firm, grey, clay.
2076	Natural - Soft/friable, orange brown, laminated sand and clay.
Notes	
8.45m Deep. Hand dug to 1200mm.	
	




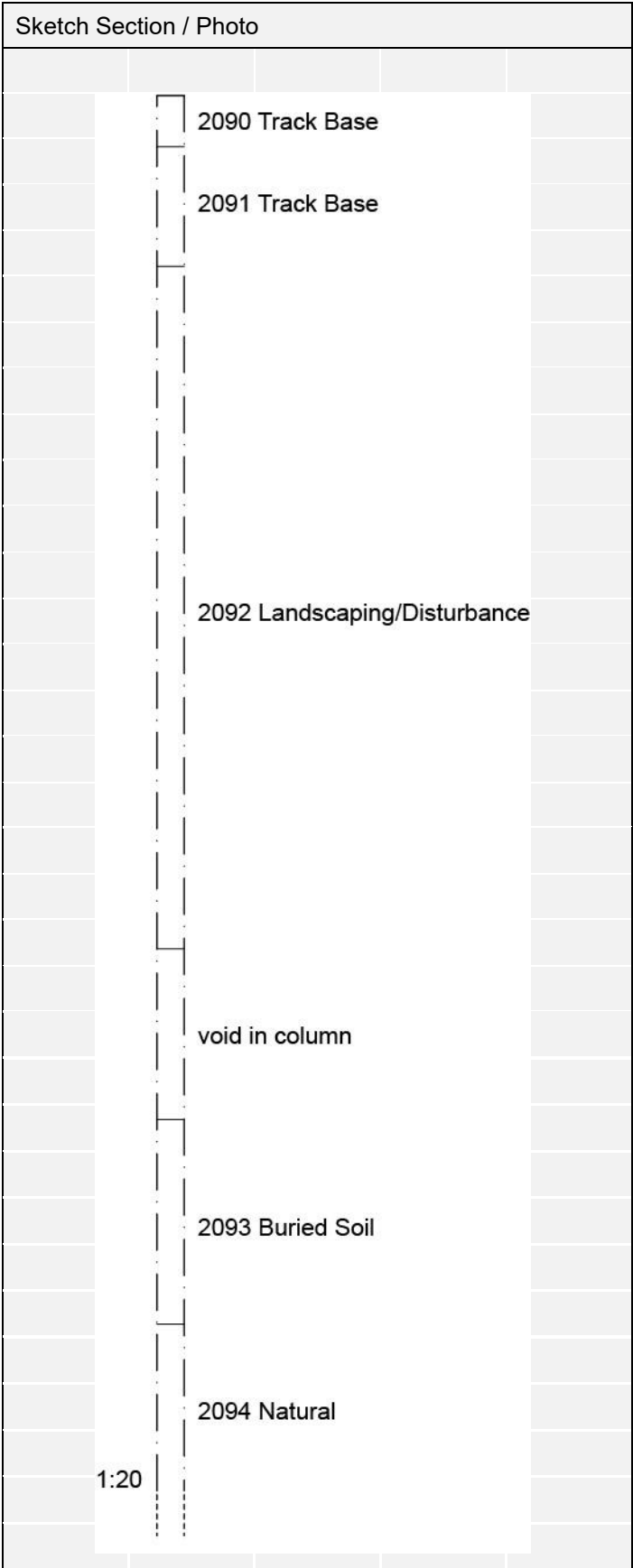
 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WS 408	Sheet - 1 of 1


Intervention No. WS 408	
Time/Date am 06/12/18	
Contexts / Numbers Assigned	
2080	Track base - Ballast.
2081	Track base/Make-up - Friable brownish orange sand.
2082	Track base - Ballast.
2083	Landscaping/Disturbance - Friable, orange brown, sand and gravel.
2084	Landscaping/Disturbance - Friable, dark grey black, clinker.
2085	Landscaping/Disturbance - Friable, orange brown, sand.
2086	Buried soil/Subsoil - Firm to soft, slightly brownish grey, silt clay with possible organic odour. Possible gleying/waterlain.
2087	Natural - Stiff, brown grey, clay
Notes	
7m Deep. Hand dug to 1200mm.	



 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WS 409	Sheet - 1 of 1

Intervention No. WS 409	
Time/Date pm 06/12/18	
Contexts / Numbers Assigned	
2090	Track base - Ballast.
2091	Track base - Friable, black, clinker.
2092	Landscaping/Disturbance - Friable, orange brown sand with clinker and rubble.
	Void in column.
2093	Buried soil - Soft, brownish grey clayey sand silt. Possible gleying/waterlain.
2094	Natural - Soft, orange, sand.
Notes	
5m Deep. Hand dug to 1200mm.	
	



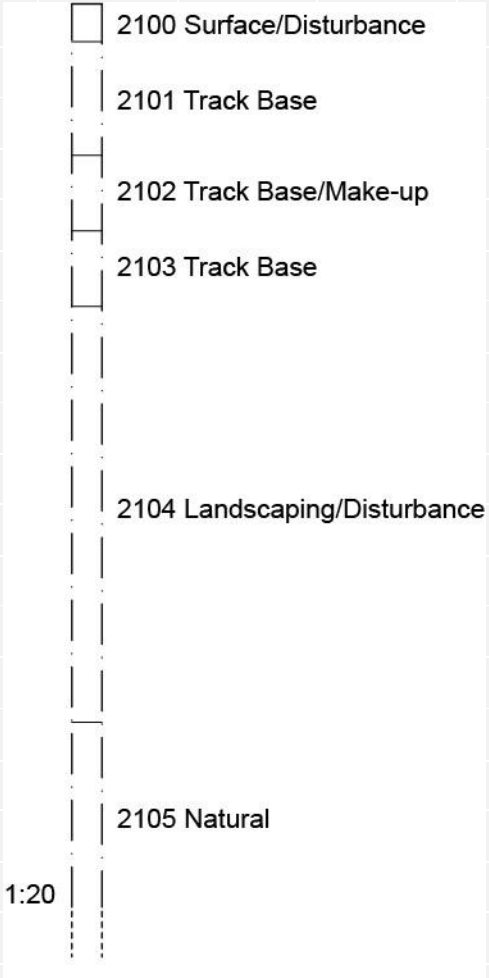
 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WS 410	Sheet - 1 of 1

Intervention No. WS 410a	
Time/Date pm 11/12/18	
Contexts / Numbers Assigned	
2100	Surface/Disturbance - Soft, orangey brown, sandy silt with debris.
2101	Track base - Friable, black, clinker.
2102	Track base/make-up - Clinker and rubble.
2103	Track base - Friable pinkish black clinker with rubble.
2104	Landscaping - Soft, brownish orange, silty sand.
2105	Natural - Soft, brownish orange, sand with coarse sand lower down.

Notes
8m Deep. Hand dug to 1200mm.



Sketch Section / Photo



1:20



Intervention No. WS 411

Time/Date pm 26/11/18

Contexts / Numbers Assigned

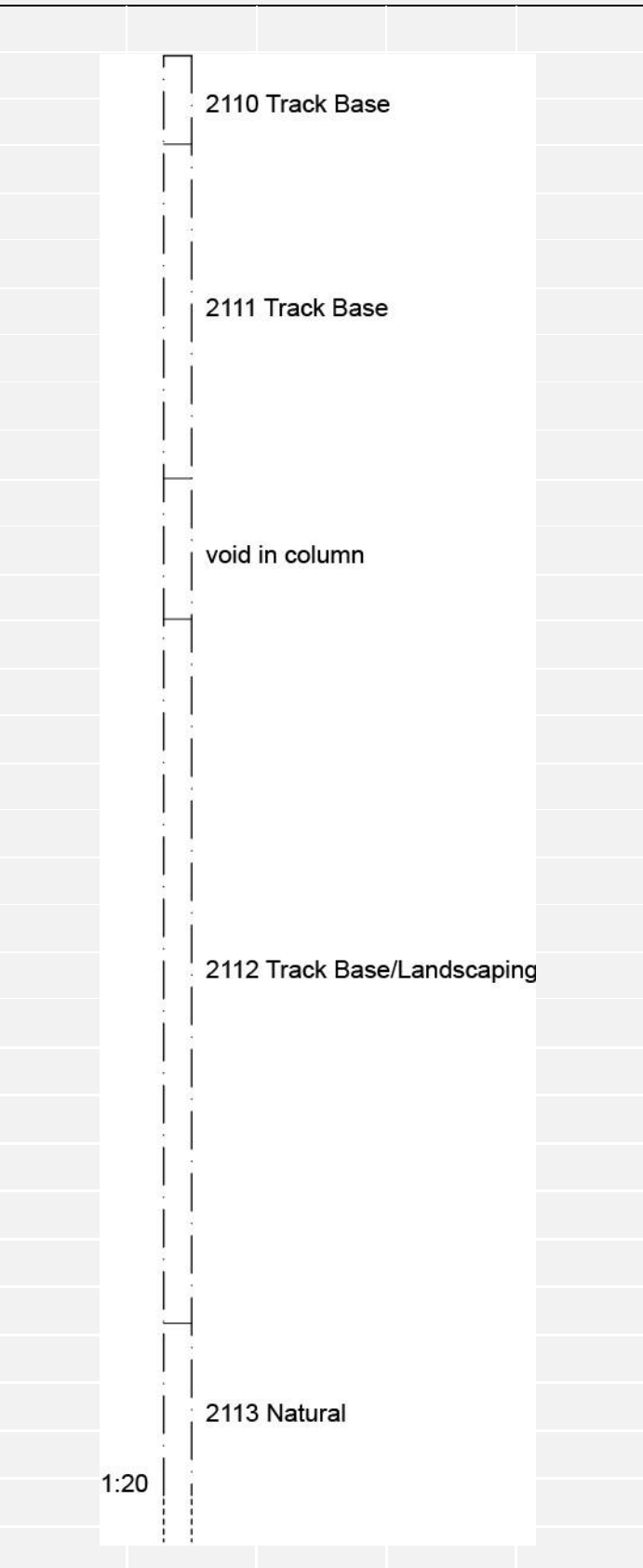
2110	Track base - Friable, black, clinker and ballast.
2111	Track base - Friable, pinkish dark grey/black, clinker and slag.
	Void in column.
2112	Track base/Landscaping - Friable, pinkish dark grey clinker and slag. Contaminated at c. 2.5m BGL.
2113	Natural - Soft, yellowy grey orange, clay and sand.


Notes


4m Deep. Hand dug to 1200mm.

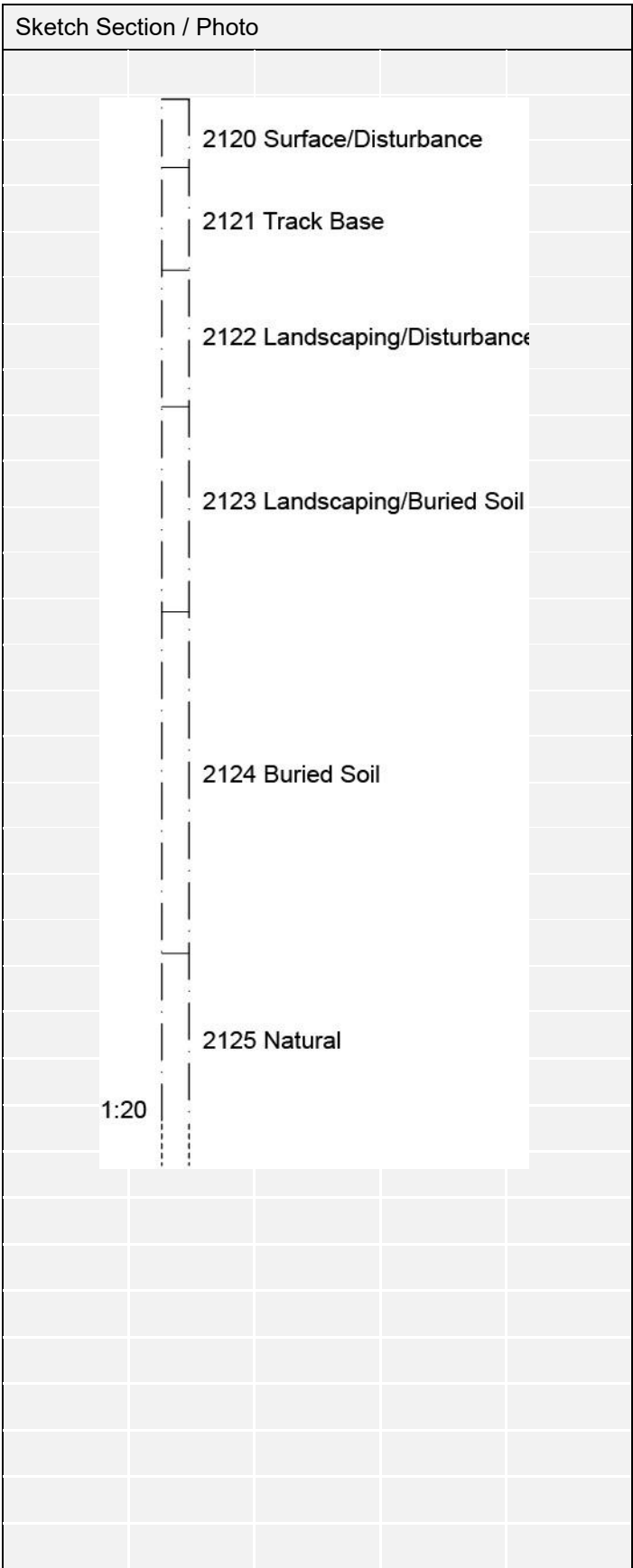



Sketch Section / Photo



 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WS 412	Sheet - 1 of 1

Intervention No. WS 412	
Time/Date am 26/11/18	
Contexts / Numbers Assigned	
2120	Surface/Disturbance - Turf and topsoil with ballast below.
2121	Track base - Loose, black, clinker.
2122	Landscaping/disturbance - Friable, brownish orange, sandy clay.
2123	Landscaping/Buried soil - Friable, brownish grey, sandy silt with pebbles and gravel.
2124	Buried soil - Soft, grey, sandy silt. Possible gleying/waterlain.
2125	Natural - Firm, brownish yellow orange, clay and sand.
Notes	
3.45m Deep. Hand dug to 1200mm.	
	


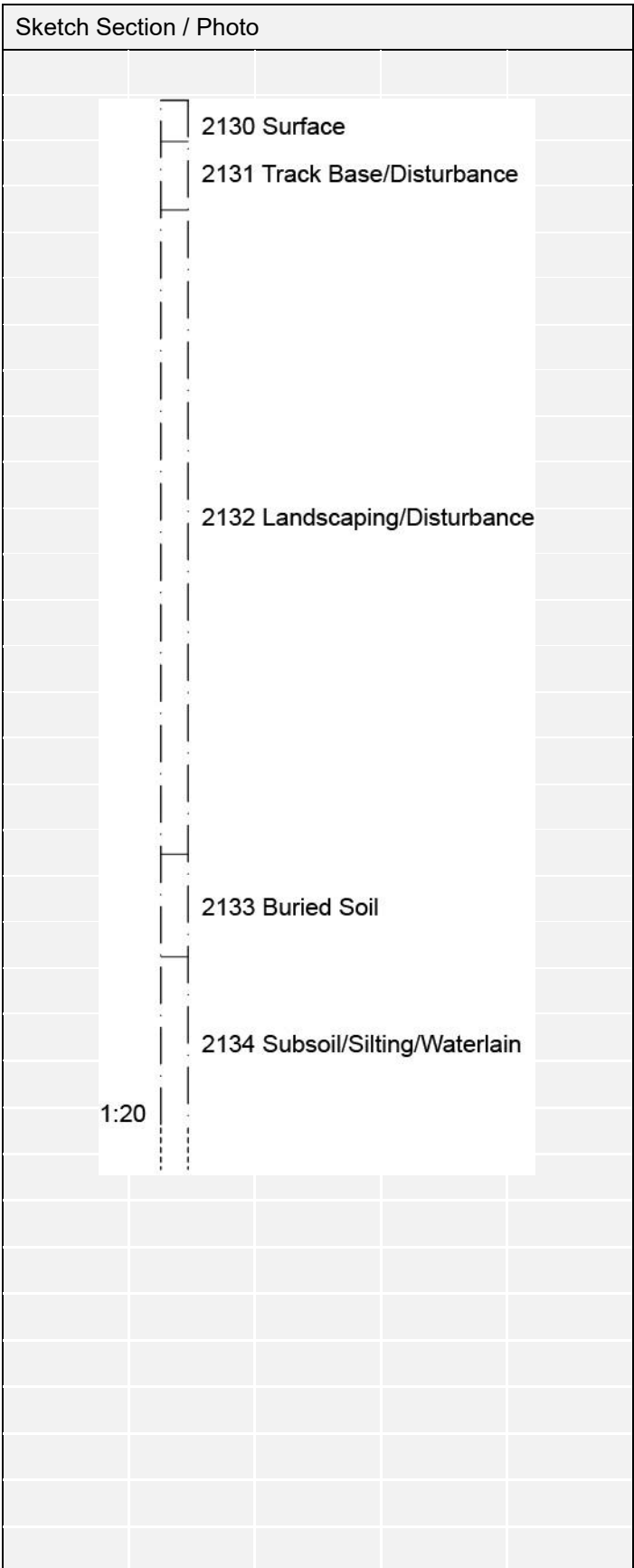



 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area WS 413	Sheet - 1 of 1

Intervention No. WS 413a	
Time/Date am 27/11/18	
Contexts / Numbers Assigned	
2130	Surface - Hardcore.
2131	Track base/Disturbance - Friable, dark grey, clinker and gravel.
2132	Landscaping/Disturbance - Friable, orangey brown, sand with gravel and cobbles.
2133	Buried soil - Soft, dark grey brown, sandy silt. Slightly organic odour.
2134	Subsoil/Silting/Waterlain - Very soft, grey, silt sand. Possible gleying/waterlain.

Notes

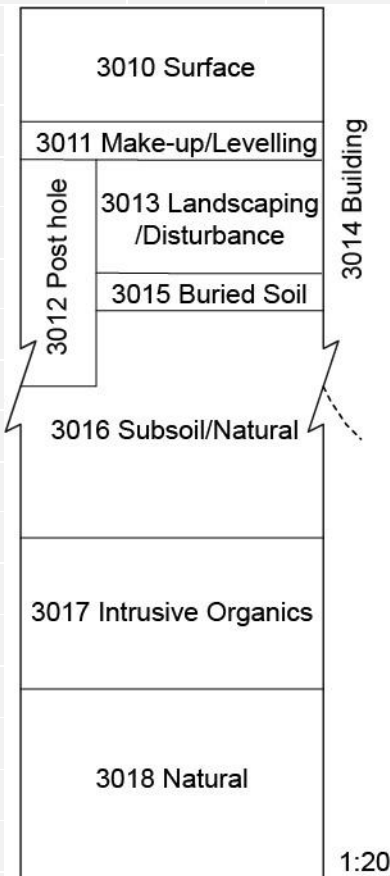
3.45m Deep. Hand dug to 1200mm.


 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 401	Sheet - 1 of 1


Intervention No. TP 401	
Time/Date pm 13/12/18	
Contexts / Numbers Assigned	
3010	Surface - Tarmac and debris.
3011	Surface make-up/Levelling - Loose dark clinker and brick rubble.
3012	Post hole - Rubble backfill within modern posthole.
3013	Landscaping/Disturbance - Mixed deposit, grey brown, sandy silt with clinker lenses.
3014	Building - 9" brick wall and concrete floor internally. Appears to backfill construction cut.
3015	Buried soil - Soft, brownish grey, clayey sandy silt.
3016	Subsoil/Natural - Firm, slightly brownish orange, sandy clay.
3017	Intrusive organics - Tree stump and root mass. Probably originally 700mm BGL.
3018	Natural - Stiff, yellowy brown, clay.
Notes	
2000mm + 2500mm x 600mm and up to 3600mm deep.	
Aligned north-south.	
Extended to the north to avoid structure.	

Sketch Section / Photo



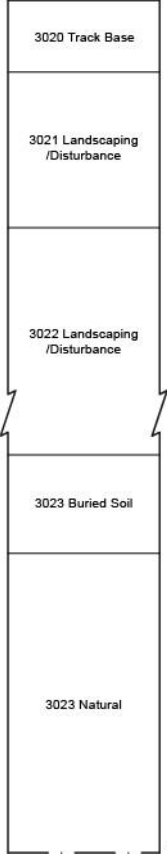
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 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 402	Sheet - 1 of 1

Intervention No. TP 402	
Time/Date am 19/11/18	
Contexts / Numbers Assigned	
3020	Track base - Ballast and clinker.
3021	Landscaping/Disturbance - Loose, grey yellow and brown orange, sand pebbles and mortar with brick rubble.
3022	Landscaping/Disturbance - Loose, dark grey black, clinker.
3023	Buried soil - Soft, grey, sandy silt clay with possible charcoal flecks. Possible gleying/ waterlain.
3024	Natural - Firm, brown/orangey yellow, clay with sand laminations
Notes	
	3400mm x 600mm and up to 4500mm deep.
	Aligned northeast-southwest.

Sketch Section / Photo



3020 Track Base


3021 Landscaping /Disturbance


3022 Landscaping /Disturbance

3023 Buried Soil

3023 Natural

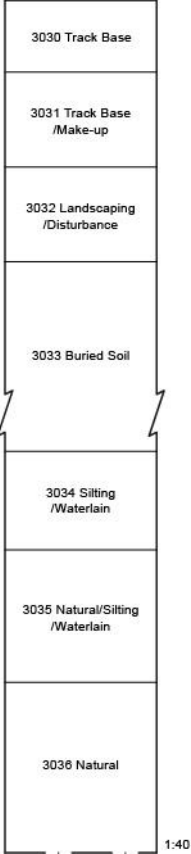
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 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 403	Sheet - 1 of 1


Intervention No. TP 403	
Time/Date am 20/11/18	
Contexts / Numbers Assigned	
3030	Track base - Loose, black, clinker with other debris.
3031	Track base/Make-up - Friable, black orange, clinker.
3032	Landscaping/Disturbance - Soft, brownish orange, clay sand.
3033	Buried soil - Soft, grey, clay silt sand. Also contains medieval tile and 18 th century pot. Possible gleying/waterlain.
3034	Silting/Waterlain - Soft, dark grey, organic silt. Excavation depth meant unclear thickness and not possible to sample.
3035	Natural/Silting/Waterlain - Soft, grey, silty sand.
3036	Natural - Firm, brown orange, clay sand with gravel.
Notes	
3000mm x 600mm and up to 4500mm deep.	
Aligned northwest-southeast.	

Sketch Section / Photo



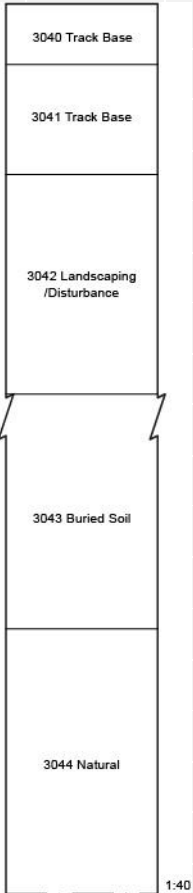
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 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 404	Sheet - 1 of 1

Intervention No. TP 404	
Time/Date pm 19/11/18	
Contexts / Numbers Assigned	
3040	Track base - Loose, dark grey/black ballast and clinker.
3041	Track base - loose, black, clinker and concreted slag.
3042	Landscaping/Disturbance - Soft, brownish orange, clay sand.
3043	Buried soil - Soft, brownish grey, clayey sand silt.
3044	Natural - Firm, orangey brown, sandy clay. Laminated towards base.
Notes	
3040mm x 600mm and up to 4700mm deep.	
Aligned northwest-southeast.	

Sketch Section / Photo



3040 Track Base


3041 Track Base


3042 Landscaping /Disturbance

3043 Buried Soil

3044 Natural

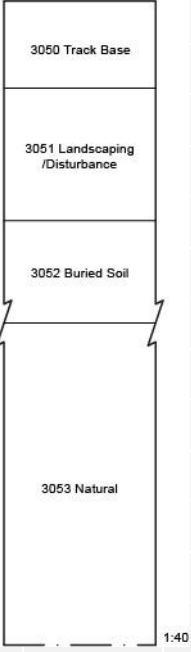

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 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 405	Sheet - 1 of 1

Intervention No. TP 405	
Time/Date pm 20/11/18	
Contexts / Numbers Assigned	
3050	Track base - Loose, dark grey/black, ballast, clinker and rubble.
3051	Landscaping/Disturbance - Soft, brownish orange, clay sand with cobbles.
3052	Buried soil - Soft, slightly brownish grey, sandy silt.
3053	Natural - Soft, brownish orange, sand with clay towards base.
Notes 2700mm x 600mm and up to 3500mm deep. Aligned northwest-southeast. Excavation stopped due to collapsing.	

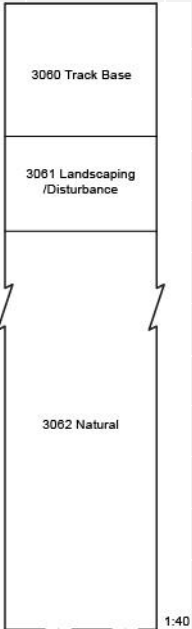

Sketch Section / Photo





 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 406	Sheet - 1 of 1

Intervention No. TP 406	
Time/Date pm 21/11/18	
Contexts / Numbers Assigned	
3060	Track base - Ballast over loose, black, clinker.
3061	Landscaping/Disturbance - Friable, brownish orange, sandy clay with pebbles and cobbles.
3062	Natural - Friable, yellowy orange, pebbles and sand with cobbles.
Notes	
2800mm x 600mm and up to 3300mm deep.	
Aligned northwest-southeast.	


Sketch Section / Photo


 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 407	Sheet - 1 of 1


Intervention No. TP 407	
Time/Date pm 12/11/18	
Contexts / Numbers Assigned	
3070	Track base - Ballast and debris over loose, black, clinker.
3071	Landscaping - Soft, orangey brown, silty sand.
3072	Buried soil/Subsoil - Friable, orange brown, sandy clay.
3073	Silting/Waterlain - Friable, brownish dark grey, organic clayey silt. *sampled.
3074	Silting/Waterlain - Soft, dark grey, organic clayey silt.
3075	Natural/SiltingWaterlain - Soft, blueish grey, laminated clays with occasional gravel.
Notes	
2200mm x 600mm and up to 4500mm deep.	
Aligned east-west.	

Sketch Section / Photo

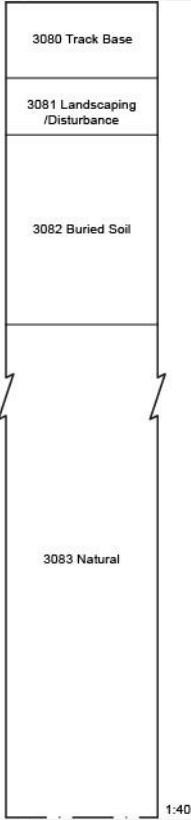




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 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 408	Sheet - 1 of 1

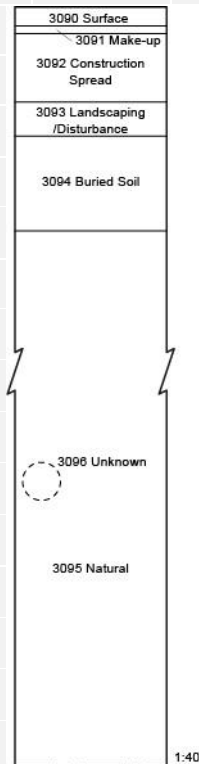

Intervention No. TP 408	
Time/Date pm 20/11/18	
Contexts / Numbers Assigned	
3080	Track base - Ballast over loose, black, clinker.
3081	Landscaping/Disturbance - Friable, orange, cobbly sand with clinker lenses.
3082	Buried soil - Soft, brownish grey, silt sand with medieval tile and animal bone.
3083	Natural - Friable, brownish orange, clay sand.
Notes	
	2300mm x 600mm and up to 4300mm deep.
	Aligned northeast-southwest.


Sketch Section / Photo	
	
	

 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 409	Sheet - 1 of 1

Intervention No. TP 409	
Time/Date am 10/12/18	
Contexts / Numbers Assigned	
3090	Surface - Tarmac.
3091	Surface make-up - Hardcore.
3092	Construction Spread - Mixed deposit, soft, brown orange, sand and loose, greyish yellow, coarse sand. Plastic duct at 1.65m BGL at northwest edge of pit linked with this activity.
3093	Landscaping/Disturbance - Soft, brownish pink clayey sand with cobbles.
3094	Buried soil - Soft, brownish grey, sandy silt with charcoal and coal flecks. Darker and slightly organic to the base.
3095	Natural - Soft, brownish orange, sand with clay patches higher up.
3096	Unknown - Soft, slightly brownish white, unknown material flecks. Seen in pit edge at c.2.5m BGL.
Notes	
3300mm x 600mm and up to 4000mm deep.	
Aligned northwest-southeast.	

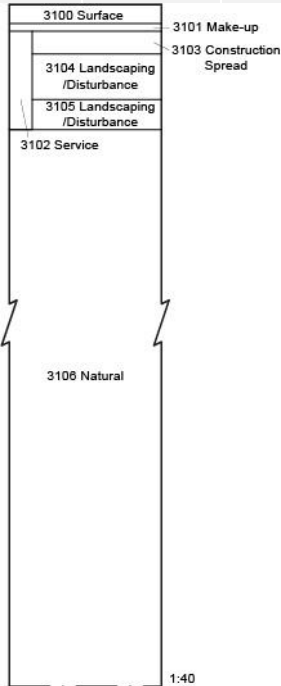

Sketch Section / Photo





 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 410	Sheet - 1 of 1

Intervention No. TP 410	
Time/Date pm 10/12/18 12/12/18	
Contexts / Numbers Assigned	
3100	Surface - Tarmac.
3101	Surface make-up - Hardcore.
3102	Service - Yellow plastic pipe in cut with backfill
3103	Construction spread - Friable, black, clinker.
3104	Landscaping/Disturbance - Loose, brownish orange, coarse sand with pebbles.
3105	Landscaping/Disturbance - Stiff, greyish light brown, clay with coal flecks.
3106	Natural - Laminated, orange brown, sand, and light brown, clay.
Notes	
2800mm + 800mm x600mm and up to 3800mm deep.	
Aligned northeast-southwest.	
Extended to northeast to avoid service.	

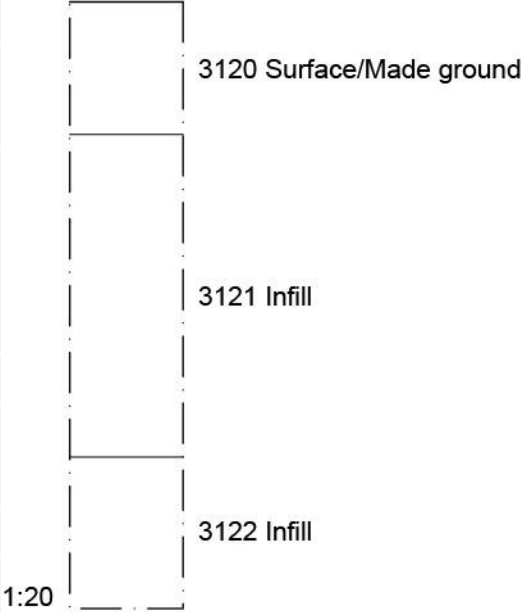
Sketch Section / Photo

 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 412	Sheet - 1 of 1

Intervention No. TP 412	
Time/Date pm 03/12/18	
Contexts / Numbers Assigned	
3120	Surface/Made ground - Turf and topsoil, friable dark grey, sand silt with debris.
3121	Infill - Friable, dark grey brown, sand silt.
3122	Infill - Friable, brownish orange, sand.
Notes	
	300mm square and up to 1200mm deep. All hand dug.
	Deposits over retaining wall structure.

Sketch Section / Photo





3120 Surface/Made ground

3121 Infill

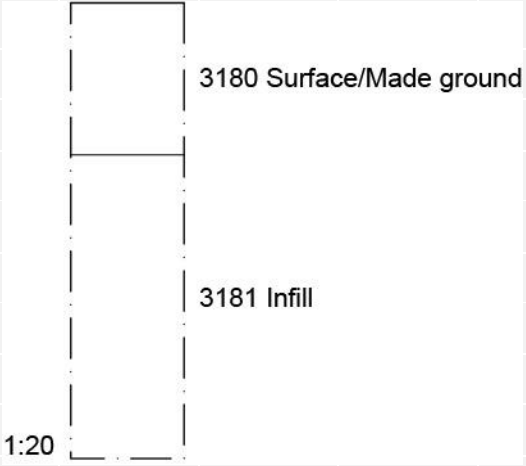

3122 Infill


1:20



 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 418	Sheet - 1 of 1

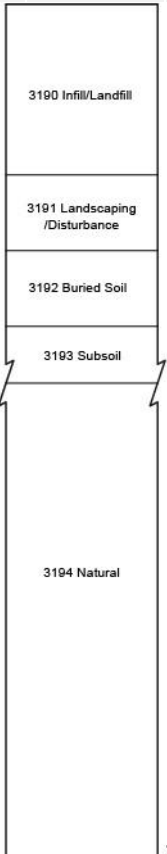
Intervention No. TP 418	
Time/Date pm 23/11/18	
Contexts / Numbers Assigned	
3130	Surface/Made ground - Friable, brownish grey, silt clay.
3131	Infill - Hardcore.
Notes	
300mm square and up to 1200mm deep. All hand dug.	
Deposits up to retaining wall structure.	

Sketch Section / Photo	
	
	

 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 419	Sheet - 1 of 1

Intervention No. TP 419	
Time/Date pm 13/11/18	
Contexts / Numbers Assigned	
3190	Infill/Landfill - Mixed vegetation, debris and railway sleepers.
3191	Landscaping/Disturbance - Soft, orange brown, sand clay.
3192	Buried soil - Soft, grey, silt clay with root fragments. Possible gleying/waterlain.
3193	Subsoil - Soft, orange grey, silt clay.
3194	Natural - Stiff, brownish pink, clay.
Notes	
3400mm x 700mm and up to 4500mm deep.	
Aligned northwest-southeast.	

Sketch Section / Photo



3190 Infill/Landfill


3191 Landscaping /Disturbance


3192 Buried Soil

3193 Subsoil

3194 Natural

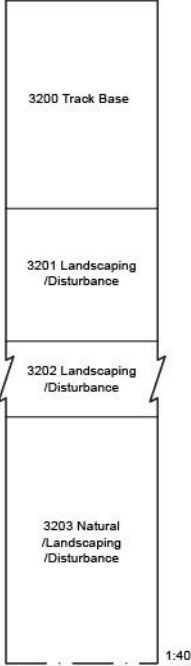

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 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area TP 420	Sheet - 1 of 1

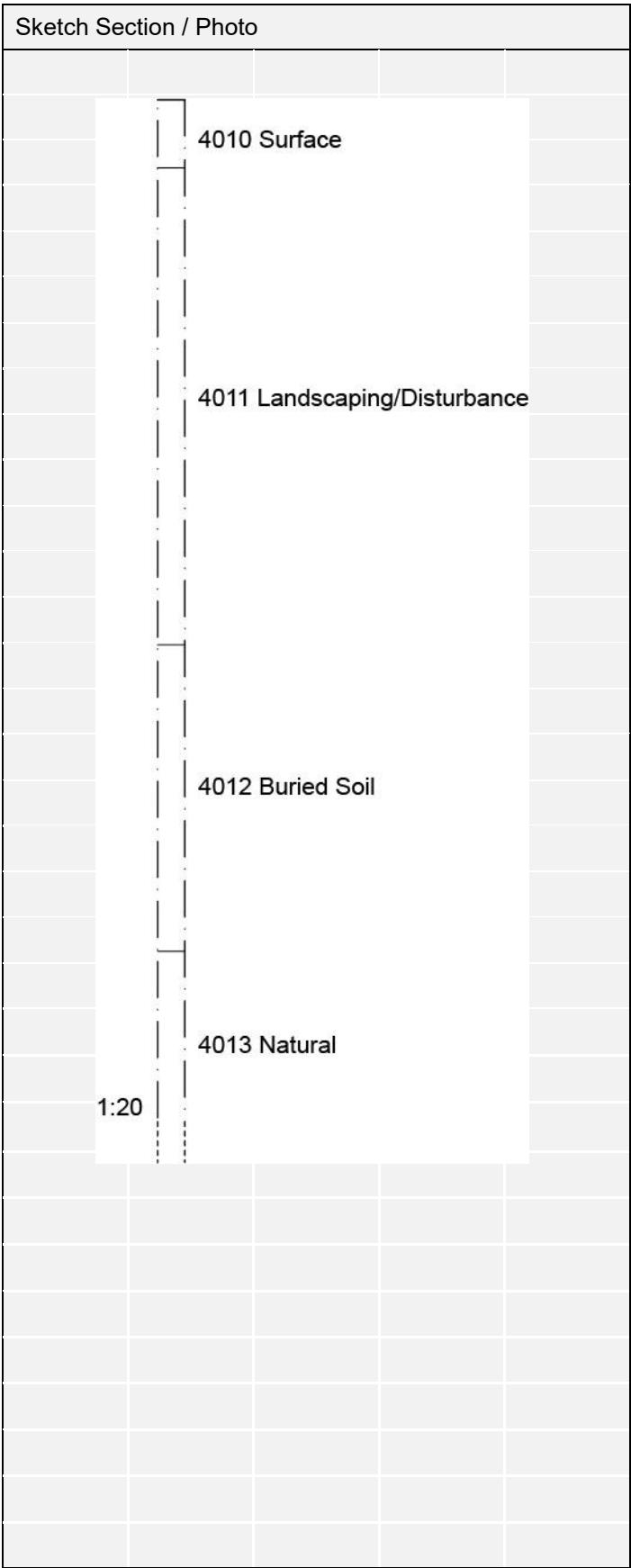
Intervention No. TP 420	
Time/Date pm 13/11/18	
Contexts / Numbers Assigned	
3200	Track base - Loose, black, clinker with larger fragments towards the base.
3201	Landscaping/Disturbance - Soft, brownish orange, clay sand.
3202	Landscaping/Disturbance - Loose, purple dark grey, clinker.
3203	Natural/Landscaping/ Disturbance - Friable, orangey brown, clay sand with cobbles and pebbles.
Notes	
	3400mm x 600mm and up to 4500mm deep.
	Aligned east-west.

Sketch Section / Photo

 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area BH 401	Sheet - 1 of 1

Intervention No. BH 401	
Time/Date pm 23/11/18	
Contexts / Numbers Assigned	
4010	Surface - Hardcore
4011	Landscaping/Disturbance - Friable, dark brownish grey, clayey silt.
4012	Buried soil - Soft, brownish grey, silt clay.
4013	Natural - Friable, reddish orange, sand.
Notes	
10m+ Deep. Hand dug to 1200mm.	
	





TEST PIT/BOREHOLE/WINDOW SAMPLE LOG

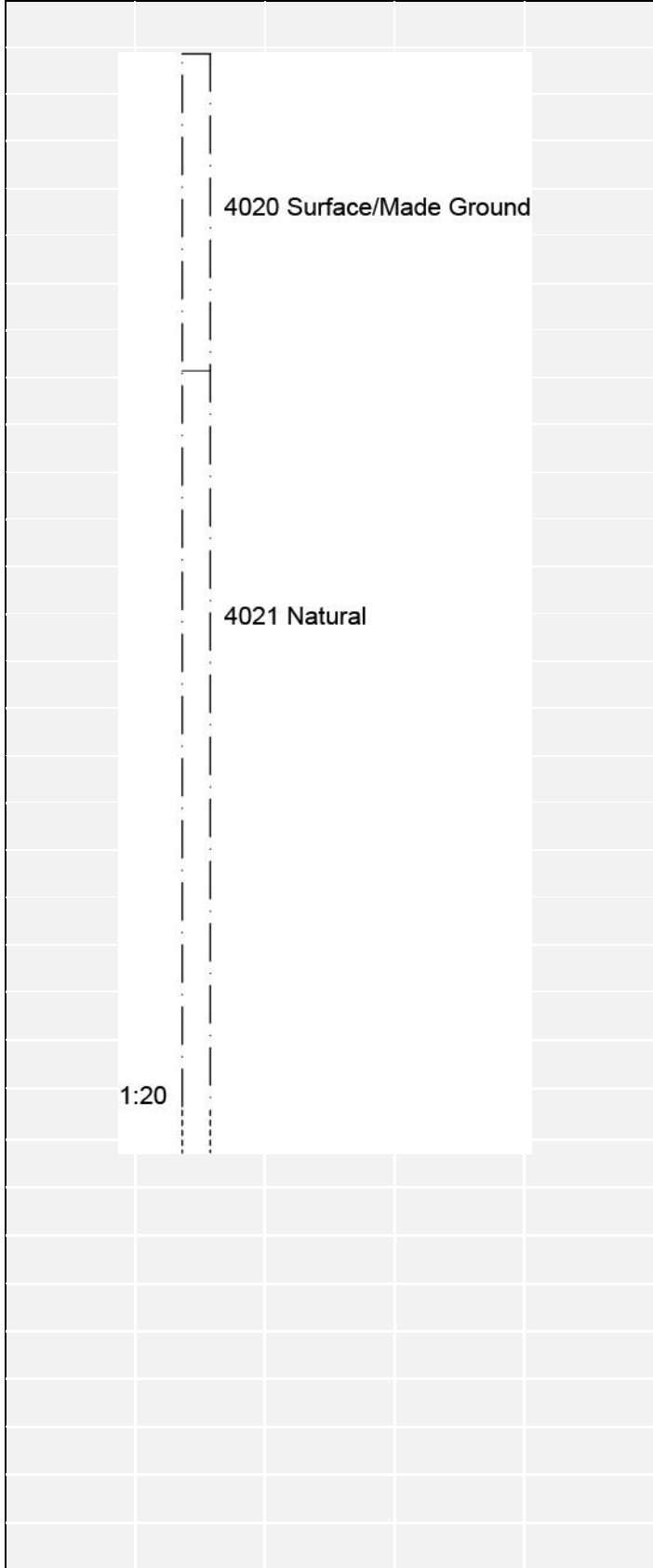
Intervention No. BH 402	
Time/Date am 21/11/18	
Contexts / Numbers Assigned	
4020	Surface/Made ground - Turf plus loose, dark grey silt with brick rubble etc.
4021	Natural - Loose, brownish orange, sand and gravel.


Notes

10m+ Deep. Hand dug to 1200mm.

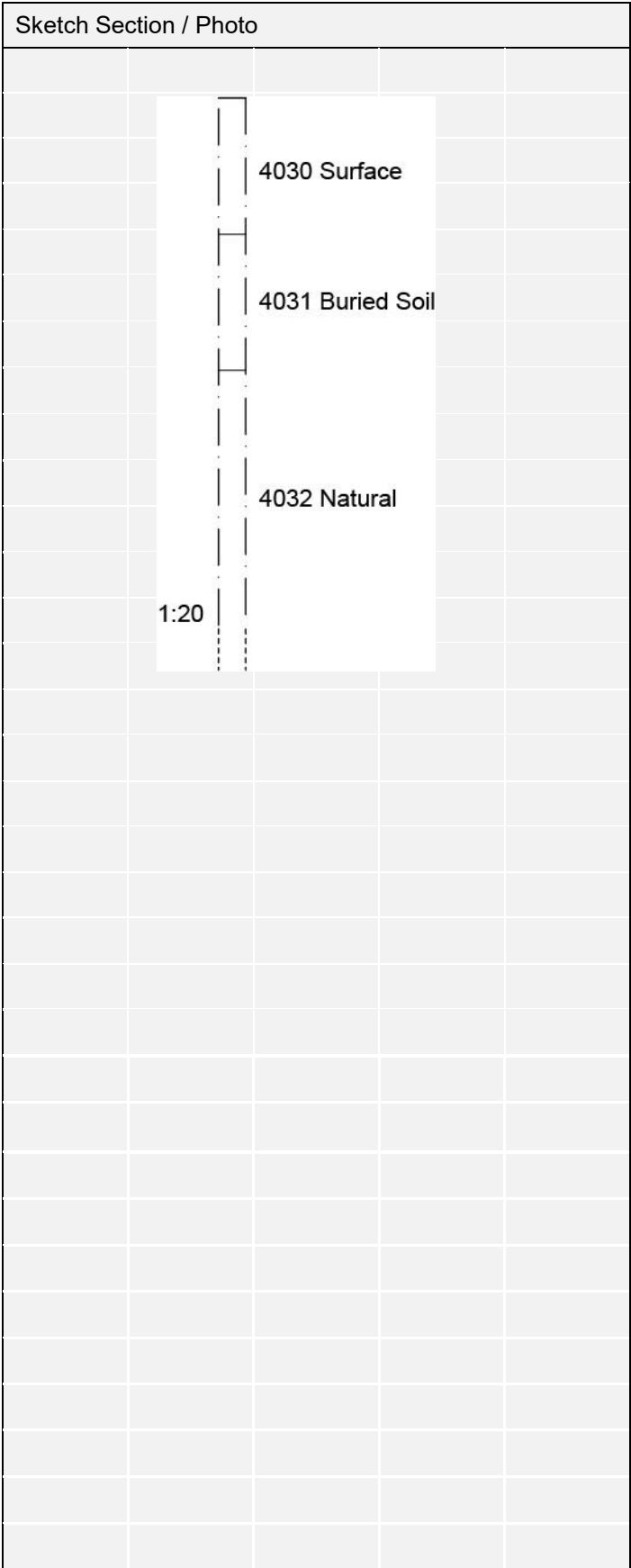



Sketch Section / Photo



 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area BH 403	Sheet - 1 of 1

Intervention No. BH 403	
Time/Date am 03/12/18	
Contexts / Numbers Assigned	
4030	Surface - Turf and topsoil, soft, dark grey brown, silt clay.
4031	Buried soil - Soft, dark grey black with orange veins, silt. Possible gleying/waterlain.
4032	Natural - Soft, yellowy brown grey, clay.
Notes	
10m+ Deep. Hand dug to 1200mm.	




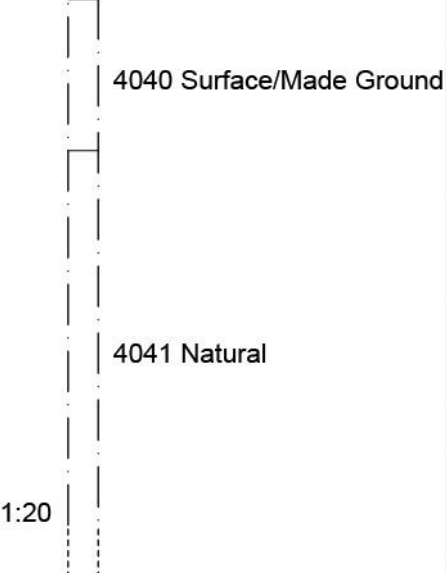
 YORK ARCHAEOLOGICAL TRUST		Site Code -
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG		Project Number- 6104
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area BH 404	Sheet - 1 of 1

Intervention No. BH 404	
Time/Date am 03/12/18	
Contexts / Numbers Assigned	
4040	Surface/Made ground - Turf and topsoil, friable, dark grey brown, clayey sandy silt.
4041	Natural - Soft, orangey red mottled grey, sandy silty clay. Possible buried soil/subsoil but not visible during excavation.

Notes

10m+ Deep. Hand dug to 1200mm.

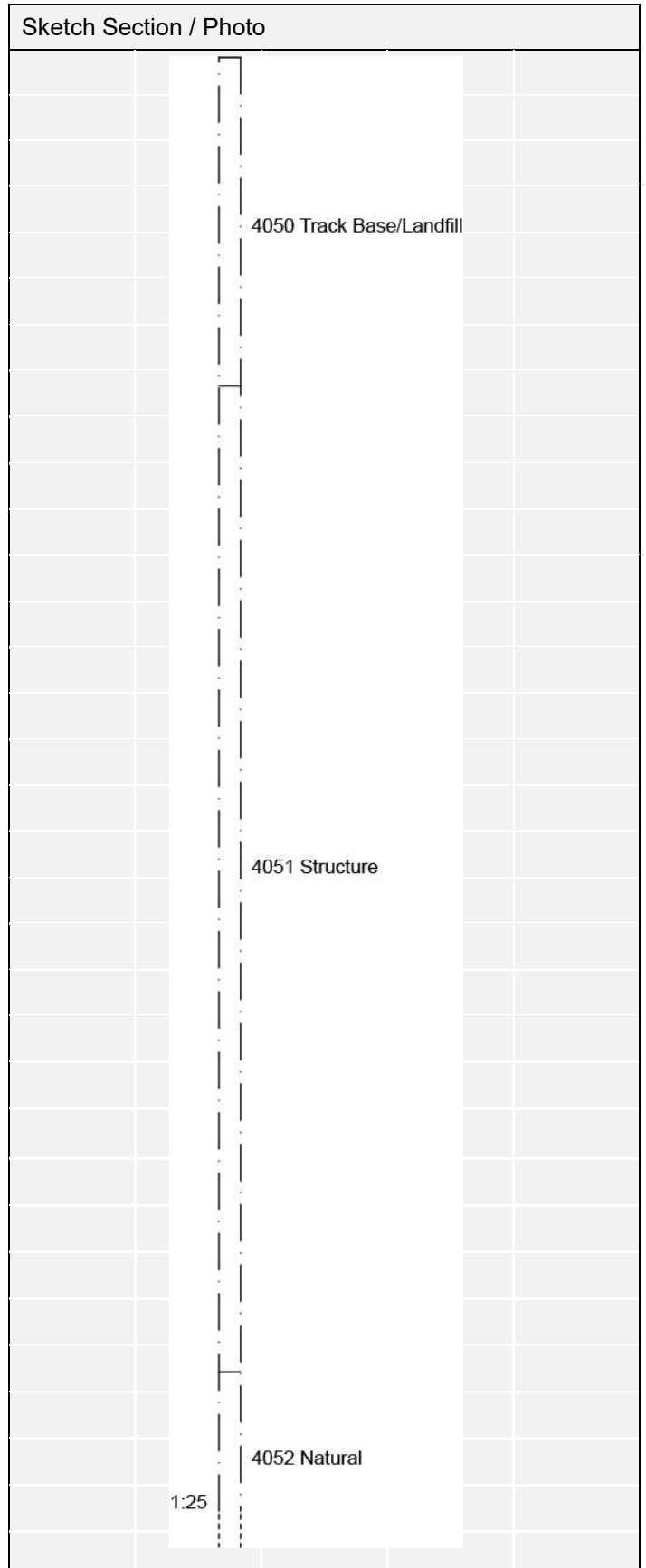



Sketch Section / Photo		
		




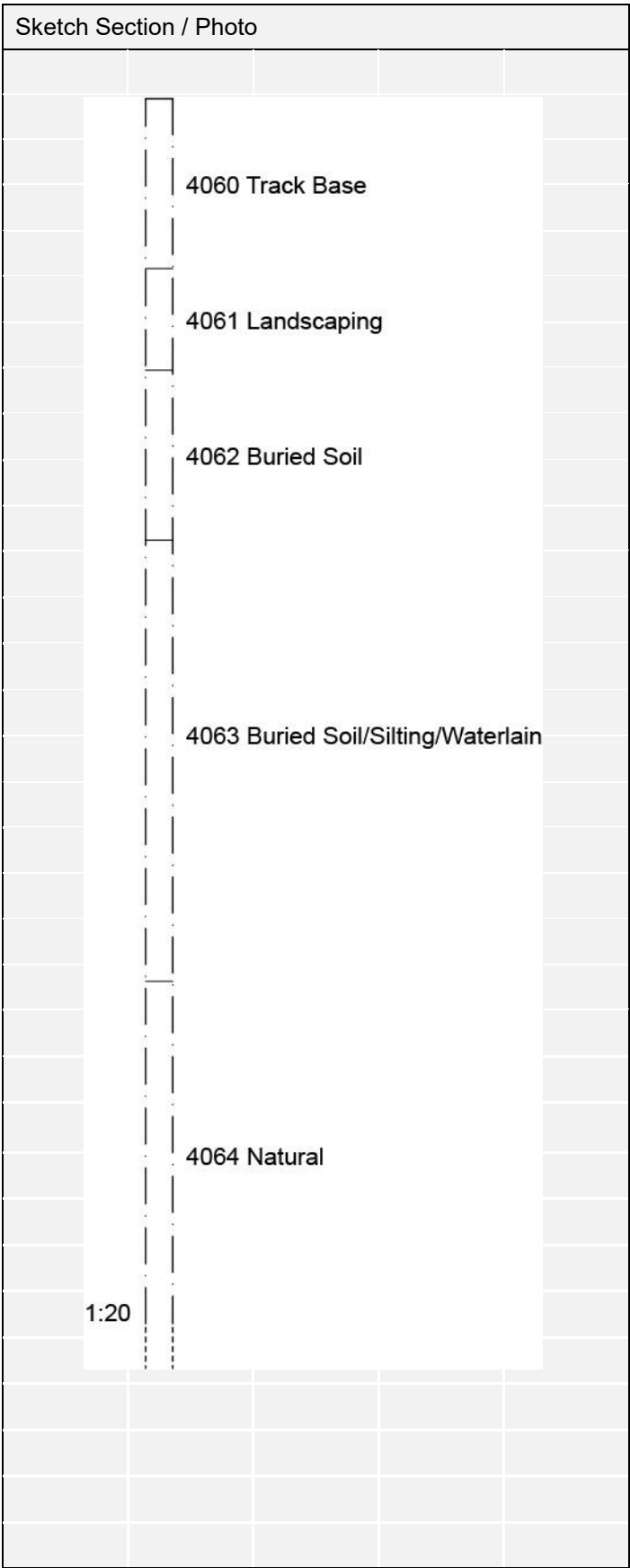
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG


Intervention No. BH 405	
Time/Date am 14/11/18	
Contexts / Numbers Assigned	
4050	Track base/landfill - Loose, black, clinker with debris.
4051	Structure - Brick structure, possibly gasometer footing.
4052	Natural - Friable, orange brown, laminated sand and clay. Contaminated by structure above.
Notes	
10m+ Deep. Hand dug to 1200mm.	



 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area BH 406	Sheet - 1 of 1

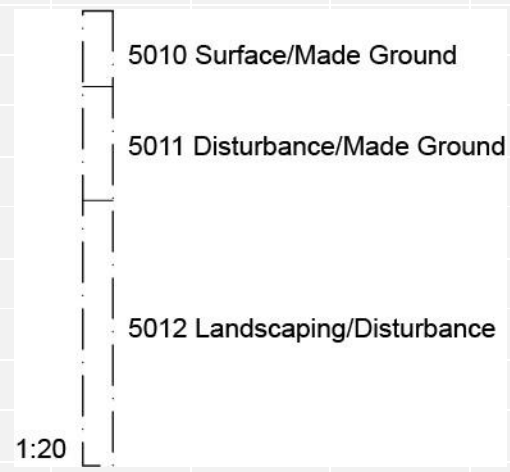

Intervention No. BH 406	
Time/Date am 19/11/18	
Contexts / Numbers Assigned	
4060	Track base - Ballast over loose, black, clinker.
4061	Landscaping - Soft, brownish orange, clayey sand with pebbles.
4062	Buried soil - Soft, grey, organic silt. Fibrous organic at top so possible buried vegetation or disturbed material.
4063	Buried soil/Silting/Waterlain - Soft, grey, silt clay with occasional roots. Possible gleying/waterlain.
4064	Natural - Friable, brownish orange, clay sand.
Notes	
10m+ Deep. Hand dug to 1200mm.	
	




 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area CPTU401	Sheet - 1 of 1

Intervention No. CPTU 401	
Time/Date am 22/11/18	
Contexts / Numbers Assigned	
5010	Surface/Made ground - Turf and topsoil, friable, black, silt.
5011	Disturbance/Made ground - Friable, black, clinker and silt.
5012	Landscaping/Disturbance - Soft, brownish orange, clay sand.
Notes	
200-300mm Diameter. Hand dug to 1200mm.	

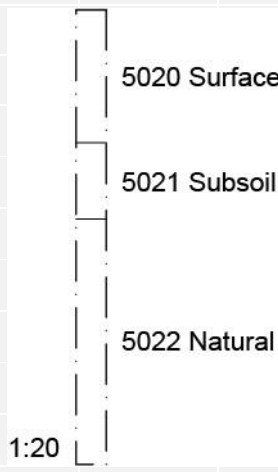
Sketch Section / Photo

 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area CPTU402	Sheet - 1 of 1


Intervention No. CPTU 402	
Time/Date am 23/11/18	
Contexts / Numbers Assigned	
5020	Surface - Turf and topsoil, friable, brownish grey clay silt with debris.
5021	Subsoil - Friable, grey brown, silt clay.
5022	Natural - Firm, yellowy grey, slightly sandy silt clay.
Notes	
200-300mm Diameter. Hand dug to 1200mm.	


Sketch Section / Photo



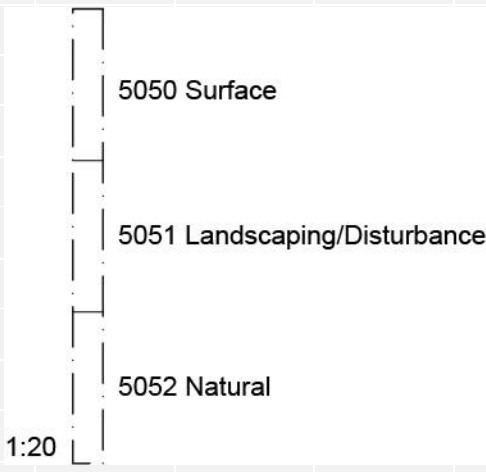

5020 Surface
5021 Subsoil
5022 Natural


1:20



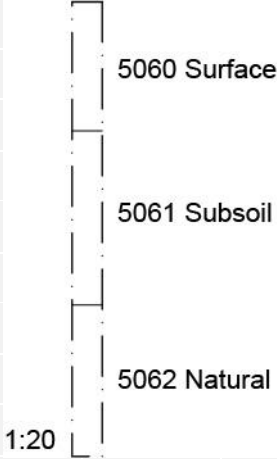

 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area CPTU405	Sheet - 1 of 1

Intervention No. CPTU 405	
Time/Date am 22/11/18	
Contexts / Numbers Assigned	
5050	Surface - Turf and topsoil, soft, brownish black, silt.
5051	Landscaping/Disturbance - Firm, greyish orangey brown, clay.
5052	Natural - Firm, orangey brown, clay with sand bands.
Notes	
200-300mm Diameter. Hand dug to 1200mm.	

Sketch Section / Photo	
	
	

 YORK ARCHAEOLOGICAL TRUST	Site Code -	
TEST PIT/BOREHOLE/WINDOW SAMPLE LOG	Project Number- 6104	
Site Name - York Central Phase 1 Infrastructure GI	Trench/Area CPTU406	Sheet - 1 of 1

Intervention No. CPTU 406	
Time/Date pm 22/11/18	
Contexts / Numbers Assigned	
5060	Surface - Turf and topsoil, soft, dark brown grey, clay silt.
5061	Subsoil - Soft yellowy grey brown clay. Probably reworked/disturbed.
5062	Natural - Firm, yellowy grey brown, clay.
Notes	
200-300mm Diameter. Hand dug to 1200mm.	

Sketch Section / Photo	
	
	

APPENDIX 4 - WRITTEN SCHEME OF INVESTIGATION



YORK ARCHAEOLOGICAL TRUST

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL INVESTIGATIONS, YORK CENTRAL PHASE 1 INFRASTRUCTURE GI

Site Location: York Central Phase 1 Infrastructure GI
NGR: SE 58783 51986
Proposal: Site Investigation works and archaeological evaluation
Planning ref: 18/01884/OUTM
Prepared for: WYG Ltd
Document Number: 2018/155

Version	Produced by		Edited by		Approved by	
	Initials	Date	Initials	Date	Initials	Date
1	TK	08/11/18	IDM	09/11/18	IDM	09/11/18

1 SUMMARY

- 1.1 York Archaeological Trust has been commissioned by WYG to undertake a programme of archaeological evaluation and watching brief during SI works at York Central Phase 1 Infrastructure GI (SE 58783 51986).
- 1.2 The scheme will consist of the following elements:
- i) an archaeological window samples including palaeoenvironmental assessment and recording ;
 - ii) an archaeological watching brief on all other intrusive works for the development.
 - iii) A full report, including a deposit model, tabulated data and a catalogue of the archive
- 1.3 The work will be carried out in accordance with this WSI, and according to the principles of the Chartered Institute for Archaeology (CIfA) Code of Conduct and all relevant standards and guidance.

2 SITE LOCATION & DESCRIPTION

- 2.1 The proposal site is located at York Central Phase 1 Infrastructure GI (Figures 1-3). The site is an irregular shape but is bounded by Water Lane to the northwest, Holgate Beck and Leeman Road to the northeast, York Station to the southeast and then railtracks to the southwest.
- 2.2 The underlying bedrock is comprised of Sherwood Sandstone Group - Sandstone, a sedimentary bedrock formed approximately 237 to 272 million years ago in the Triassic and Permian Periods when the local environment was dominated by rivers. The overlying superficial deposits are varied with Vale of York glacial till, York Moraine glacial sediments, Alne Glaciolacustrine sediments, Poppleton Glaciofluvial Member sediments and Alluvium from Holgate Beck (www.bgs.ac.uk).

3 DESIGNATIONS & CONSTRAINTS

- 3.1 Area of Archaeological Importance
- The eastern extent of the site lies within the Area of Archaeological Importance under Part 2 of the 1979 Ancient Monuments and Archaeological Areas Act.
- 3.2 Scheduled Monuments
- No scheduled monuments are present on the site. The City Walls and their gates are part of a single scheduled monument (National Monument No 13280) which is immediately adjacent to the eastern site boundary.
- 3.3 Conservation Areas
- The York Central Historic Core Conservation Area is one of the largest and most complex in England with 24 character areas forming the whole of the conservation

area. Each one is considered in a separate character statement. The eastern part of the site is within Character Area Twenty Two: Railway Area. This area takes in the old and the current railway areas, covering an area both inside and outside the city walls up to the river Ouse to the north. The southern boundary of the study area borders Conservation Area Four: St Pauls Square/Holgate Road. This area encompasses York's only formally laid out square, St Paul's, which dates from the 1850s, as well as formal urban properties of a similar date which grew up on the road linking York with the hamlet of Holgate and the village of Acomb.

3.4 Listed Buildings

Listed buildings are present on the site and its immediate surrounds. However, the archaeological sampling and other GI will not impact upon these.

3.5 Local Listing

Local listing heritage assets are present within the study area, but will not be impacted upon by these works.

4 ARCHAEOLOGICAL INTEREST

4.1 Archaeological Background

Non-designated heritage assets within the site boundary and its nearby environs allow a limited picture of the chronology of the site. This has been discussed in more detail in the York Central Baseline Study (YAT 2018).

4.1.1 Prehistoric Period

Although relatively scarce in York as a whole there is prehistoric archaeology around the site, with stone tools, pottery and possibly a human burial found nearby. Perhaps most significantly there were a number of stone tools found near the outlet of Holgate Beck in the 19th century.

4.1.2 Roman Period

Positioned to the west of the *colonia* the site has relatively close proximity to the Roman civilian settlement of York. In addition the 19th century construction of the present railway station unearthed a significant Roman cemetery.

In addition there is also evidence that a Roman road may project towards the northern section of the site.

4.1.3 Anglian and Anglo-Scandinavian Periods

There is a real paucity of definitive evidence of activity in the study area during this period. This may indicate that there was little going on, and that the focus of activity in York was around major routes into the city alongside the former fortress and junction of the rivers Ouse and Foss. However, archaeology of these periods may be present, although this is likely to be open and agricultural in nature.

4.1.4 *Medieval Period*

The quiet, low impact, potentially agricultural, use of the site continued into the medieval period. The first references of part of the site being called the Bishop's Fields originated in the latter 14th century.

4.1.5 *Post-medieval Period*

Mapping indicates the area was still open fields in the 17th century. This is backed up further by documentary suggesting the area was used as a camp and potentially the location for an artillery battery.

Moving into the 18th and early 19th century is when significant developments began to take place within the study area. By the 1850s the earlier field system had been punctured by Thief Lane (running along the line of Leeman Road), smaller paths ran from this and serviced isolated buildings. In addition the earliest station (outside the walls) second station (inside the walls), coal depot and rail lines serving these and the Scarborough line had all been constructed.

4.1.6 *Modern Period*

This period is typified by the rapid expansion of the railways and associated works across the study area into the 1950s. This has been followed by a contraction of activity and clearance in the last 70 years, with the seeds of redevelopment being sown in the last two decades.

5 AIMS

5.1 The aims of the evaluation are:

- to determine the extent, condition, character, importance and date of any archaeological remains present
- Establish a deposit model for the area examined
- to provide information that will enable the remains to be placed within their local, regional, and national context and for an assessment of the significance of the archaeology of the proposal area to be made
- to provide information to enable the local authority to decide any requirements for further archaeological mitigation for the site

6 EXCAVATION METHODOLOGY

6.1 The evaluation will comprise of **6 windowless samples**.

Please note that further stages of work or other mitigation measures could be required by the local authority, depending upon the results of the evaluation.

6.2 The locations of all investigations will be accurately plotted using an EDM Total station, by measurement to local permanent features shown on published Ordnance Survey maps or by GPS as appropriate. All measurements will be accurate to +/-10cm, and the trenches locatable on a 1:2500 Ordnance Survey map. This is to ensure that the trenches can be independently relocated in the event of future work.

6.3 Hand excavation will be completed for the uppermost 1200mm of the sample, with the sampling rig used for greater depths.

6.4 Undisturbed samples from any organic, water-logged deposits, if encountered, will be cut from the cores and sealed prior to specialist assessment by **Geolabs Ltd**, who provide triaxial permeability testing, porosity/bulk density/moisture content testing, particle size distribution analysis and chemical redox potential testing. This permits assessment of the condition of any organic deposits, to inform later decision making.

6.5 The programme will also include a programme of archaeological monitoring of all intrusive ground works. During the watching brief a YAT archaeologist will be in attendance at such times during the excavation for the ground works as he or she considers appropriate and necessary. Recording and sampling will be completed as outlined below and in;

York Central

Appendix D Scope of services for Archaeological Evaluation and Watching Brief

\\GLOBAL\EUROPE\LEEDS\JOBS\250000\251869-00\0 ARUP\0-03 GROUND ENGINEERING\0-03-07 CALCS-SPECS\GI SPEC\ISSUE 2\APPENDIX D - ARCHAEOLOGICAL REQUIREMENTS\ARCHAEOLOGICAL REQUIREMENTS.DOCX

6.6 Specific elements and how these will be achieved are listed are;

- the AC's method for implementing archaeological watching brief;

Section 6.5

- the AC's method of bulk excavation, and topsoil/subsoil transport and storage;

Not applicable for these works.

- the AC's method for disposal of water from areas of excavation and trenches;

Not applicable for these works.

- the AC's method for surveying and establishing the site grid;

Section 6.2

- the AC's retention and disposal policies for samples and artefacts recovered during the works;

Sections 7.6 - 7.8

- the AC's method for excavating and recording inhumations and cremations;

Section 7.10

- the AC's method for palaeo-environmental site sampling and processing procedures (to include recovery of samples for chronometric dating);

Sections 6.4 and 7.8

- the AC's methods and procedures for quality control and assurance;

As established in the PQQ completed by YAT in August 2015.

- the AC's methods for environmental protection including, but limited to soil handling, measures to prevent and deal with fuel spillages;

Not applicable for these works - soil handling is under the remit of the Principal Contractor.

- A Site Archive that shall be prepared, conforming to Section 3 of the 'Management of Research Projects in the Historic Environment, PPN 3: Archaeological Excavation' (English Heritage 2008, 'MoRPHE Project Planning Note 3') and agreed with the Principal Archaeologist, City of York Council.

7 RECORDING METHODOLOGY

- 7.1 All archaeological features will be recorded using standardised pro forma record sheets and notebooks as appropriate. Plans, sections and elevations will be drawn as appropriate and a comprehensive photographic record will be made where archaeological features are encountered.
- 7.2 Archaeological deposits will be recorded at depths below ground level. This will then be adjusted top depth above ordnance datum following survey.
- 7.3 Each context will be described in full as appropriate. Each context will be given a unique number. These field records will be checked and indexes compiled.
- 7.4 Photographs will include general views of entire features and of details such as sections as considered necessary. All site photography will adhere to accepted photographic record guidelines.
- 7.5 Areas which do not contain any archaeological deposits will be photographed and recorded as being archaeologically sterile. The natural stratigraphic sequence within these areas will be recorded.
- 7.6** All finds will be collected and handled following the guidance set out in the ClfA guidance for archaeological materials. Unstratified material will not be kept unless it is of exceptional intrinsic interest. Material discarded as a consequence of this policy will be described and quantified in the field. Finds of particular interest or

fragility will be retrieved as Small Finds, and located on plans. Other finds, finds within the topsoil, and dense/discrete deposits of finds will be collected as Bulk Finds, from discrete contexts, bagged by material type. Any dense/discrete deposits will have their limits defined on the appropriate plan.

- 7.7 All artefacts and ecofacts will be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication *First Aid for Finds*, and recording systems must be compatible with the recipient museum. All finds that fall within the purview of the Treasure Act (1996) will be reported to HM Coroner according to the procedures outlined in the Act, after discussion with the client and the local authority.
- 7.8 Other samples will be taken, as appropriate, in consultation with York Archaeological Trust specialists and the Heritage England Regional Science Advisor, as appropriate (e.g. dendrochronology, soil micromorphology, monolith samples, C14, etc.). Samples will be taken for scientific dating where necessary for the development of subsequent mitigation strategies. Material removed from site will be stored in appropriate controlled environments.
- 7.9 In the event of human remains being discovered during the evaluation these will be left *in-situ*, covered and protected, in the first instance. The removal of human remains will only take place in compliance with environmental health regulations and following discussions with, and with the approval of, the Ministry of Justice. If human remains are identified, the Ministry of Justice and the City of York Archaeologist will be informed immediately. An osteoarchaeologist will be available to give advice on site.
- If **disarticulated** remains are encountered, these will be identified and quantified on site. If trenches are being immediately backfilled, the remains will be left in the ground. If the excavations will remain open for any length of time, disarticulated remains will be removed and boxed, for immediate reburial by the Church if practicable.
 - If **articulated** remains are encountered, these will be excavated in accordance with recognised guidelines (see 7.10) and retained for assessment.
 - Any grave goods or coffin furniture will be retained for further assessment.
- 7.10 Where a licence is issued, all human skeletal remains must be properly removed in accordance with the terms of that licence. Where a licence is not issued, the treatment of human remains will be in accordance with the requirements of Civil Law, ClfA Technical Paper 13 (1993) and Historic England guidance (2005).

8 SPECIALIST ASSESSMENT

- 8.1 The stratigraphic information, artefacts, soil samples, and residues will be assessed as to their potential and significance for further analysis and study. The material will be quantified (counted and weighted). Specialists will undertake a rapid scan of all excavated material. Ceramic spot dates will be given. Appropriately detailed specialist reports will be included in the report.
- 8.2 Materials considered vulnerable should be selected for stabilisation after specialist recording. Where intervention is necessary, consideration must be given to possible investigative procedures (e.g. glass composition studies, residues on or in pottery,

and mineral-preserved organic material). Allowance will be made for preliminary conservation and stabilization of all objects and a written assessment of long-term conservation and storage needs will be produced. Once assessed, all material will be packed and stored in optimum conditions, in accordance with Watkinson and Neal (1998), ClfA (2014) and Museums and Galleries (1992).

- 8.3 All finds will be cleaned, marked and labelled as appropriate, prior to assessment. For ceramic assemblages, any recognised local pottery reference collections and relevant fabric Codes will be used.
- 8.4 Allowance will be made for the recovery of material suitable for scientific dating and contingency sums will be made available to undertake such dating, if necessary. This will be decided in consultation with the City of York Archaeologist.

9 REPORT & ARCHIVE PREPARATION

- 9.1 Upon completion of the site work, a report will be prepared to include the following:
- a) A non-technical summary of the results of the work.
 - b) An introduction which will include the planning reference number, grid reference and dates when the fieldwork took place.
 - c) An account of the methodology and detailed results of the operation, describing structural data, archaeological features, associated finds and environmental data, and a conclusion and discussion.
 - d) A selection of photographs and drawings, including a detailed plan of the site accurately identifying the areas monitored, trench locations, selected feature drawings, and selected artefacts, and phased feature plans where appropriate.
 - e) A deposit sequence for each trench, test pit and window sample, illustrating the stratigraphic sequence of deposits and any noted archaeological features or remains (at an appropriate and recognised scale)
 - f) An interpretative deposit model of each area if appropriate.
 - g) Where appropriate, an appendix containing specialist assessment /analysis reports (artefacts; palaeoenvironmental) or their equivalent.
 - h) An assessment /conclusion and a statement of potential with recommendations for post-excavation, analysis and publication, if appropriate
 - i) Details of archive location and destination (with accession number, where known), together with a catalogue of what is contained in that archive.
 - j) A copy of the key OASIS form details
 - k) Copies of the Brief and WSI
 - l) Additional photographic images may be supplied on a CDROM appended to the report

- 9.2 Three copies of the report will be submitted to the commissioning body. A bound and digital copy of the report will be submitted direct to the City of York Council for planning purposes, and subsequently for inclusion into the SMR/HER.
- 9.3 A field archive will be compiled consisting of all primary written documents, plans, sections and photographs. Catalogues of contexts, finds, soil samples, plans, sections and photographs will be produced. York Archaeological Trust will liaise with the appropriate museum prior to the commencement of fieldwork to establish the detailed curatorial requirements of the museum and discuss archive transfer and to complete the relevant museum forms. The relevant museum curator would be afforded access to visit the site and discuss the project results.
- 9.4 The owner of the Intellectual Property Rights (IPR) in the information and documentation arising from the work, would grant a licence to the Local Authority and the museum accepting the archive to use such documentation for their statutory functions and provide copies to third parties as an incidental to such functions. Under the Environmental Information Regulations (EIR), such documentation is required to be made available to enquirers if it meets the test of public interest. Any information disclosure issues would be resolved between the client and the archaeological contractor before completion of the work. EIR requirements do not affect IPR.
- 9.5 Upon completion of the project an OASIS form will be completed at <http://ads.ahds.ac.uk/project/oasis/>.

10 POST EXCAVATION ANALYSIS & PUBLICATION

- 10.1 The information contained in the evaluation report will enable decisions to be taken regarding the future treatment of the archaeology of the development site and any material recovered during the evaluation.
- 10.2 If further archaeological investigations (mitigation) take place, any further analyses (as recommended by the specialists, and following agreement with the City of York Archaeologist) may be incorporated into the post-excavation stage of the mitigation programme unless such analysis are required to provide information to enable a suitable mitigation strategy to be devised. Such analysis will form a new piece of work to be commissioned.
- 10.3 In the event that no further fieldwork takes place on the site, a full programme of post excavation analysis and publication of artefactual and scientific material from the evaluation may be required by the City of York Archaeologist. Where this is required, this work will be a new piece of work to be commissioned.
- 10.4 If further site works do not take place, allowance will be made for the preparation and publication in a local and/or national journal of a short summary on the results of the evaluation and of the location and material held within the site archive.
- 10.5 The results of the work will be publicised locally e.g. by presenting a paper and talking to local societies, as appropriate.
- 10.6 A summary report accompanied by illustrations will be presented in digital format for publication in an appropriate volume depending on the results.

11 HEALTH AND SAFETY

- 11.1 Health and safety issues will take priority over archaeological matters and all archaeologists will comply with relevant Health and Safety Legislation.
- 11.2 A Risk Assessment will be prepared prior to the start of site works.

12 PRE-START REQUIREMENTS

- 12.1 The client will be responsible for ensuring site access has been secured prior to the commencement of site works, and that the perimeter of the site is secure.
- 12.2 The client will mitigate against all buried services.
- 12.3 The client will be responsible for ensuring that any existing reports (e.g. ground investigation, borehole logs, contamination reports) are made available to York Archaeological Trust prior to the commencement of work on site.

13 REINSTATEMENT

- 13.1 Following excavation and recording the spoil from the trenches will be backfilled unless requested otherwise.

14 TIMETABLE & STAFFING

- 14.1 The timetable will be agreed with the client prior to work commencing.
- 14.2 Specialist staff available for this work are as follows:
- Human Remains - Malin Holst
 - Palaeoenvironmental remains - Oxford Archaeology (North)
 - Head of Curatorial Services - Christine McDonnell
 - Finds Researcher - Nicky Rogers
 - Pottery Researcher - Anne Jenner
 - Finds Officers - Nienke Van Doorn
 - Archaeometallurgy & Industrial Residues - Rachel Cubitt and Dr Rod Mackenzie
 - Conservation - Ian Panter

15 MONITORING OF ARCHAEOLOGICAL FIELDWORK

15.1 As a minimum requirement, the City of York Archaeologist will be given a minimum of one week's notice of work commencing on site, and will be afforded the opportunity to visit the site during and prior to completion of the on-site works so that the general stratigraphy of the site can be assessed and to discuss the requirement any further phases of archaeological work. York Archaeological Trust will notify the City of York Archaeologist of any discoveries of archaeological significance so that site visits can be made, as necessary. Any changes to this agreed WSI will only be made in consultation with the City of York Archaeologist.

16 COPYRIGHT

York Archaeological Trust retain the copyright on this document. It has been prepared expressly for WYG, and may not be passed to third parties for use or for the purpose of gathering quotations.

17 KEY REFERENCES

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For the latest Historic England guidance documents see:

[HTTPS://HISTORICENGLAND.ORG.UK/ADVICE/LATEST-GUIDANCE/](https://historicengland.org.uk/advice/latest-guidance/)

* Figures from WSI omitted

PLATES



Plate 1 WS402 facing southeast



Plate 2 BH402 facing northwest

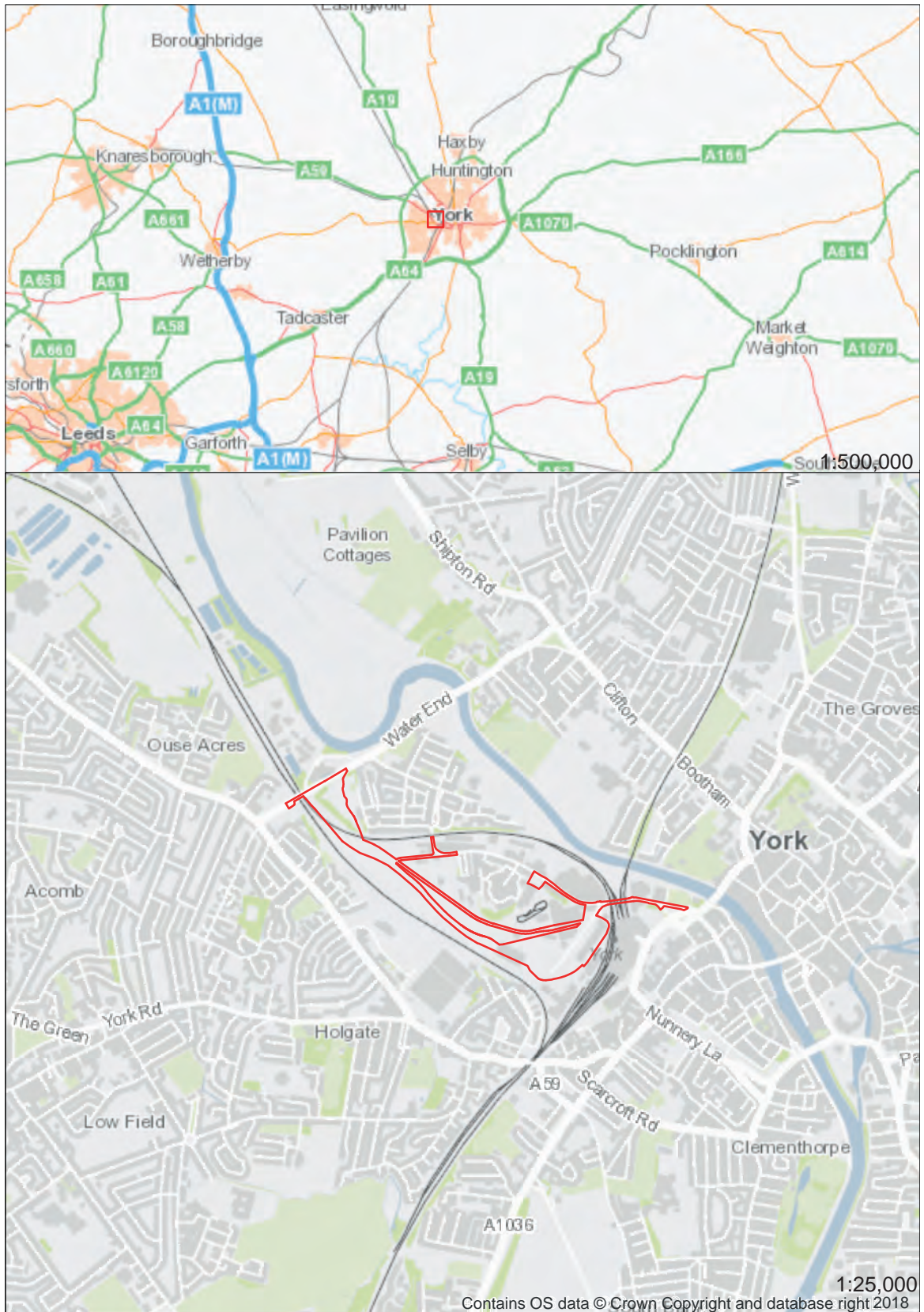


Figure 1 Site Location

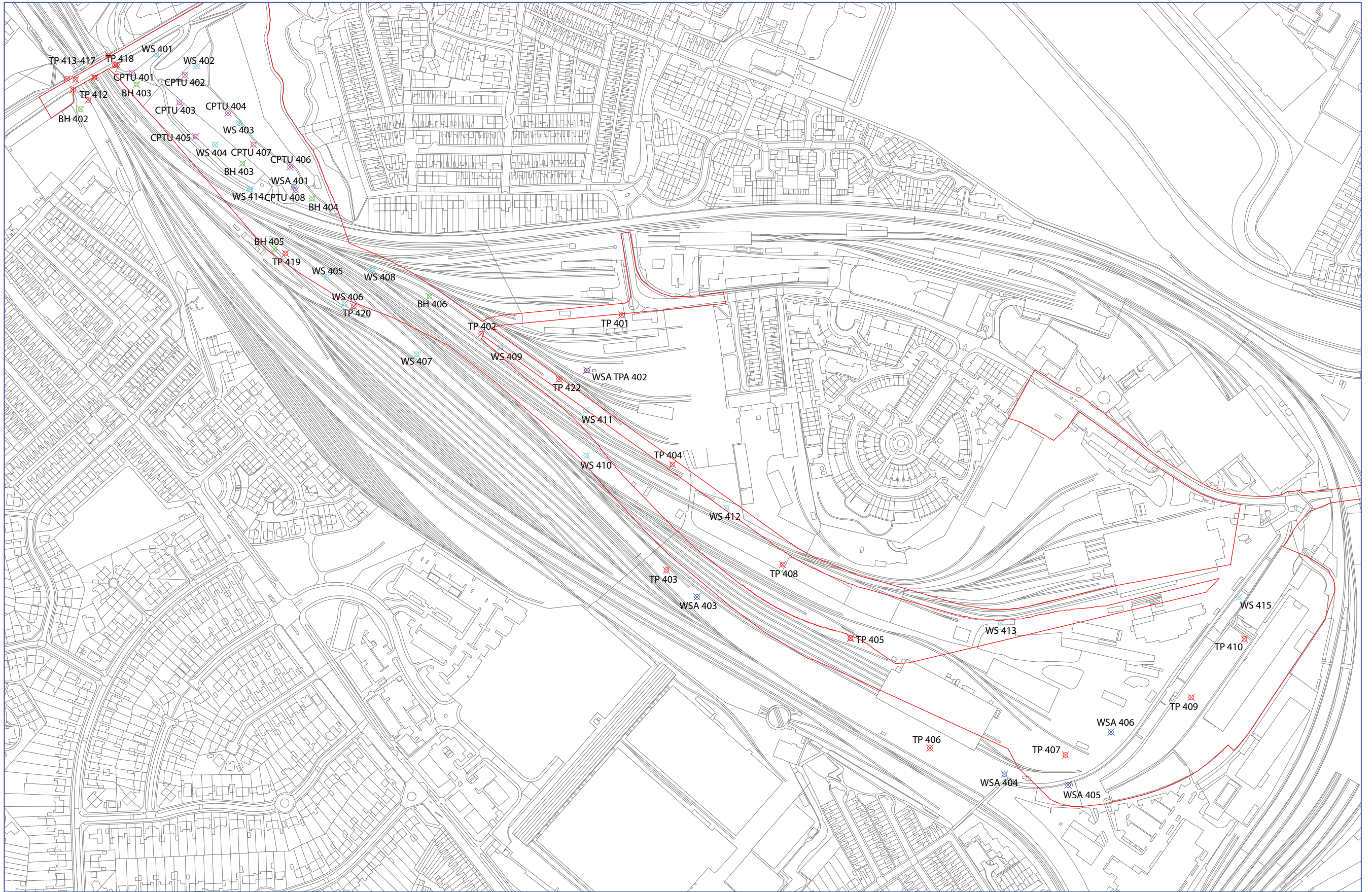
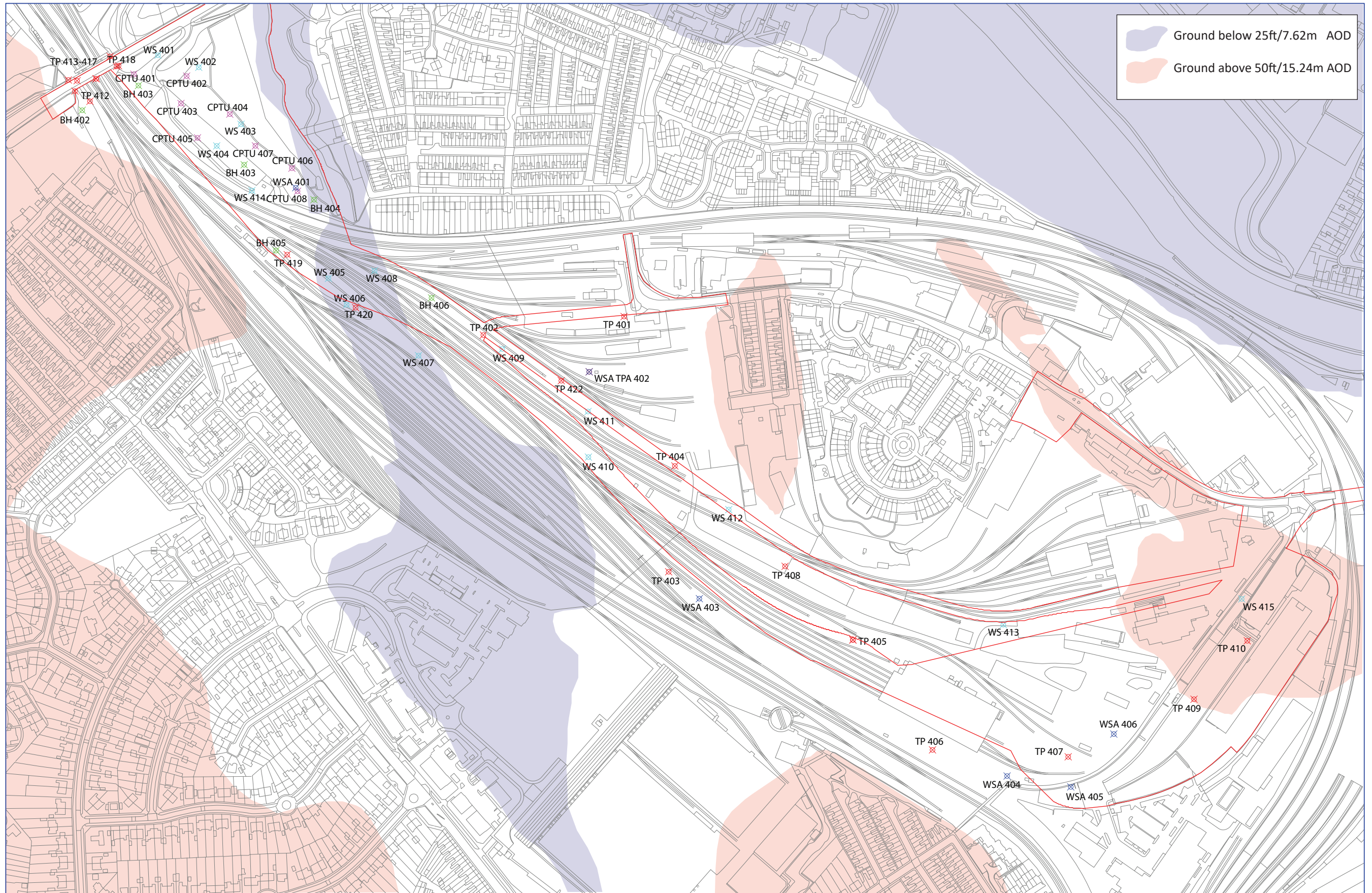


Figure 2 Works location 1:4000



Ground below 25ft/7.62m AOD
 Ground above 50ft/15.24m AOD

Figure 3 Ground Levels from the 1853 Ordnance Survey Mapping 1:4000



YORK ARCHAEOLOGICAL TRUST

York Archaeological Trust undertakes a wide range of urban and rural archaeological consultancies, surveys, evaluations, assessments and excavations for commercial, academic and charitable clients. We manage projects, provide professional advice and fieldwork to ensure a high quality, cost effective archaeological and heritage service. Our staff have a considerable depth and variety of professional experience and an international reputation for research, development and maximising the public, educational and commercial benefits of archaeology. Based in York, Sheffield, Nottingham and Glasgow the Trust's services are available throughout Britain and beyond.



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