De Faoite Archaeology

Unit 10
Riverside Business Centre
Tinahely
Co. Wicklow

Monitoring Report

Sewage Scheme

Site Investigation Works

Whitegate/Aghada

Co. Cork

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Client Irish Water

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1 Introduction

Irish Water is progressing sewerage schemes at untreated towns/villages in Cork as part of its UTAS programme and to upgrade wastewater treatment facilities at Whitegate and Aghada in Co. Cork. The works are broken into two routes one at Whitegate which runs northeast and southwest of the village and one route which runs between Aghada and Rostellan.

An archaeological impact assessment report was completed by ACSU Ltd in March 2018. Archaeological monitoring of the SI works was recommended along with archaeological testing of green-field areas where the scheme is located. Archaeological test trenching of the green-field areas was completed under a separate licence and report duly submitted to the department.

This report details the monitoring of the SI works only on the Aghada/Rostellan and Whitegate scheme and recommends an appropriate archaeological mitigation for the main contract.

2 Location description:

The proposed works are located within the district of Cork County Council. Whitegate and Aghada are located at the eastern shoreline of the entrance to Cork. As one of the finest natural Harbours in the world, Cork Harbour has shaped the history and lives of the people of Cork City and surrounding towns and villages such as Blackrock, Cobh, Monkstown, Passage West, Whitegate and Aghada, amongst others. The topography of the landscape is gently undulating, with a mixed coastline consisting of built infrastructure, shallow cliffs, intertidal mudflats, reed beds, shingle and rocky foreshores, which are exposed by the tide.

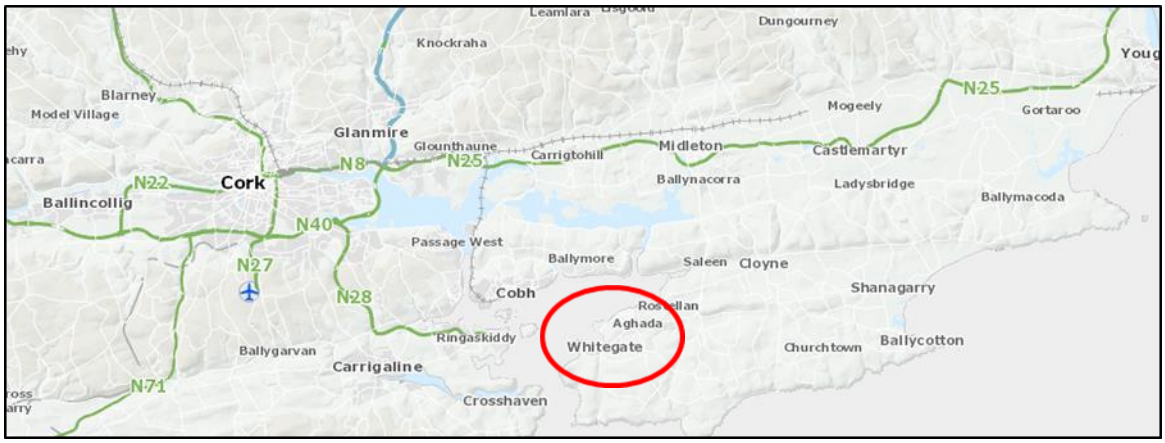


Figure 1: Location Map Whitegate.

The landscape around the study area consists of the collection of road networks serving the villages of Whitegate, Upper Aghada, Lower Aghada and Rostellan in County Cork. Whitegate, Lower Aghada and Rostellan are all located along the east coast of Cork harbour and are accessed by the R630. Upper Aghada is located on elevated ground to the northeast of Whitegate and south of Lower Aghada.

Whitegate (Irish: an Geata Bán) is a small village in East Cork on the eastern shore of Cork Harbour. Like the village of Whitegate, the village of Aghada was a small fishing village situated to the south-east of Cork city.

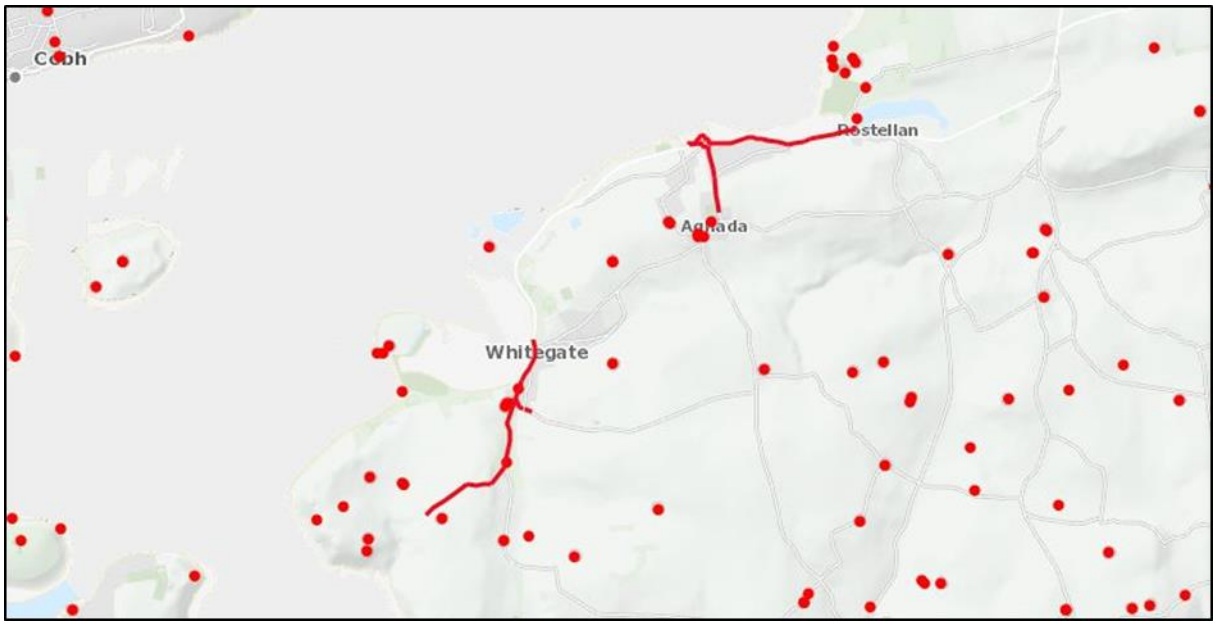


Figure 2: Site locations Whitegate and Aghada Rostellan.

3 Archaeological and Historical Background

3.1 Whitegate

Whitegate (Irish: an Geata Bán) is a small village in East Cork on the eastern shore of Cork Harbour. The village was originally a fishing village that appears to have developed in association with Whitegate House, which was built 1770-1790. The majority of the period buildings located within the village date 1820-1880.

The townlands within Whitegate and its surrounding landscape contains a relatively high distribution of Recorded Monuments that indicate that the study area has been subjected to human settlement from the prehistoric period through to the Late Medieval period. The results of this are contained within the archaeological assessment report and for the purposes of this application the focus is on the immediate Recorded Monument Sites.

The monuments in the immediate vicinity of the works date to the early medieval Christian period. The late fifth century saw the beginnings of extensive missionary activity in Ireland. St Patrick is the best known of the early missionaries. Christianity quickly took hold and the process of full conversion was complete by the seventh century. Archaeological evidence for early medieval Christianity includes cemeteries, hermitages, and pastoral church sites along with large and small monasteries. Additional monuments found in isolation and associated with ecclesiastical site are holy wells, souterrains, bullaun stones, fonts, ogham stones and crosses. There is an ecclesiastical site at Corkbeg containing the ruins of a late medieval church and two graveyards. A holy well is recorded in Corkbeg also.

Other monuments dating to this period in the vicinity of these works is a ringfort which broadly date from 500 to 1000 AD. There are two basic forms the rath and cashel. The one at Ballytigeen is a rath and is purported to have had two ditches. They functioned as residences and/or farmsteads and excavated examples have produced metalworking evidence. Some examples have two (bivallate) or three (trivallate) banks and fosses and have been equated with higher status sites belonging to upper grades of society.

The sites are discussed below in the following paragraphs in relation to proximity to proposed works.

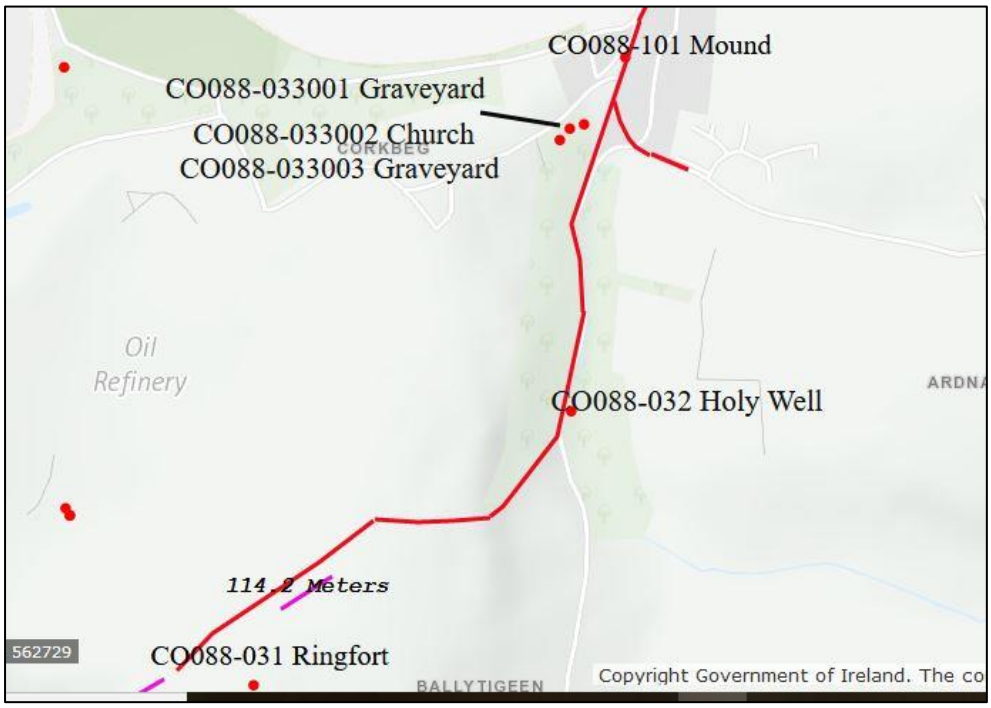


Figure 3: Recorded Monument Sites along the route of the upgrade works At Whitegate.

3.1.1 Mound

RMP Number	Townland	Distance	Description
CO088-101	CORKBEG	0m	Mound, shown as small circular mound (diam. c. 15m) on 1935 OS 6-inch map. No visible surface trace; new road now on site.

The closest Recorded Monument which will be impacted by the works in the vicinity of Whitegate is a 'mound' CO088-101 (Figure 4). This mound is not visible today but is visible on the 1935 map as circular in plan with a diameter of 15m. A mound is classified on the RMP files as 'An artificial elevation of earth or earth and stone of unknown date and function which cannot be classified as any other known archaeological monument type on present evidence'.

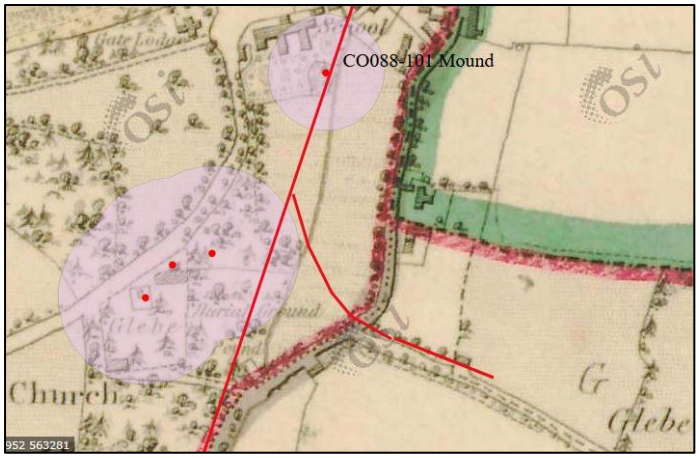


Figure 4: First edition map 1886 showing location of mound CO088-101 and red line is route of scheme.

3.1.2 Holy Well

RMP Number	Townland	Distance	Description
CO088-032	CORKBEG	14m	Ritual site - holy well: In narrow valley. According to Power (1940, 98) 'small open shallow basin...at bottom of the glen. Evidence of recent "rounds" on a cross-inscribed flagstone'. Unable to locate.

A holy well called Angel's Well on the first (1886) and third edition 1935 OS mapping is located 14m west of the road where the scheme will run. The works will not directly impact upon the holy well (Figures 3 and 5).

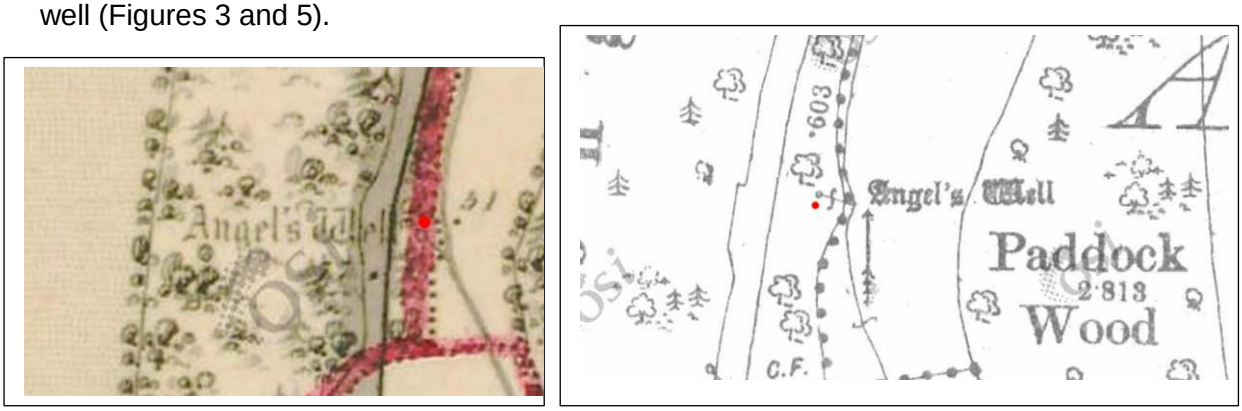


Figure 5: First and third edition OS mapping showing Angel's Well Corkbeg.

3.1.3 Ecclesiastical Site

RMP Number	Townland	Distance from Scheme	Description
CO088-033001	CORKBEG	50m	Graveyard- On S side of Whitegate Bay, 400m SSW of Whitegate village; roughly rectangular graveyard (c. 70m N-S; c. 60m E-W) with ruins of late medieval parish church of Corkbeg near NE corner (CO088-03302-); no trace of C of I church built in SW corner in 1843; immediately outside S boundary C of I church, built in 1881, and still in use. Near centre, square area enclosed by stone wall with entrance piers of cut limestone, plaque on pier with inscription "This Inclosure was Erected at / the Desire of Robert Uniacke /FitzGerald Esq. as a place / of Burial for him and his / Posterity A.D.1778"; this family lived at nearby Corkbeg House (5527). Many 19th century headstones in partially overgrown graveyard (Coleman 1904-6a); earliest headstones date from 1727; intricately carved stone with floriated tracery dated 1758, early 18th century plaque carved with 'Instruments of the Passion' (O'Shea 1988, 71-2 & 82) recently removed for safekeeping. In occasional use.
CO088-033002	CORKBEG	50m	Church- Near NE corner of graveyard (CO088-033001-), ivy-clad ruins of rectangular church (int. 16m E-W; 5.9m N-S). Door with pointed cut-stone arch, W of centre in S wall, set in lintelled embrasure; stone plaque with date 1587 set in S side of doorway. Human head carved in stone (H 0.2m; Wth 0.15m; D0.1m), much weathered, with bulbous eyes, set on exterior wall on E side of door arch. Central window in E wall, two rectangular lights divided by

			mullion; upper part of E gable over window fallen. Small window, with pointed light and lintelled embrasure, near E end of N wall; similar window opposite in S wall E ingoing with E ingoing has collapsed with E end of S wall. Blocked open with round-arched embrasure head near W end of N wall probably inserted feature. Top of W gable 'chimney shaped' and may have supported bellcote. To S of E window, low projecting corbel with flat grooved top may have supported statue (see CO077-03702-). Interior overgrown, with numerous headstones, earliest noted dating from 1780s. Immediately outside E end of N wall is brick-vaulted mausoleum (6m N-S; 6.2m E-W), probably burial place of Roche family (Lewis 1837, vol. 1, 429). Parish church of Corkbeg, in repair 1615 but probably out of use by 1700 (Brady 1863, vol. 2, 180). New C of I church built in SW corner of graveyard 1843 (ibid. 181) but no longer evident. Replaced by new church built on site immediately to S of graveyard in 1881 (Cole 1903, 196), which is still in use.
CO088-033003	CORKBEG	50m	Graveyard- Associated with above graveyard and church no further description given.

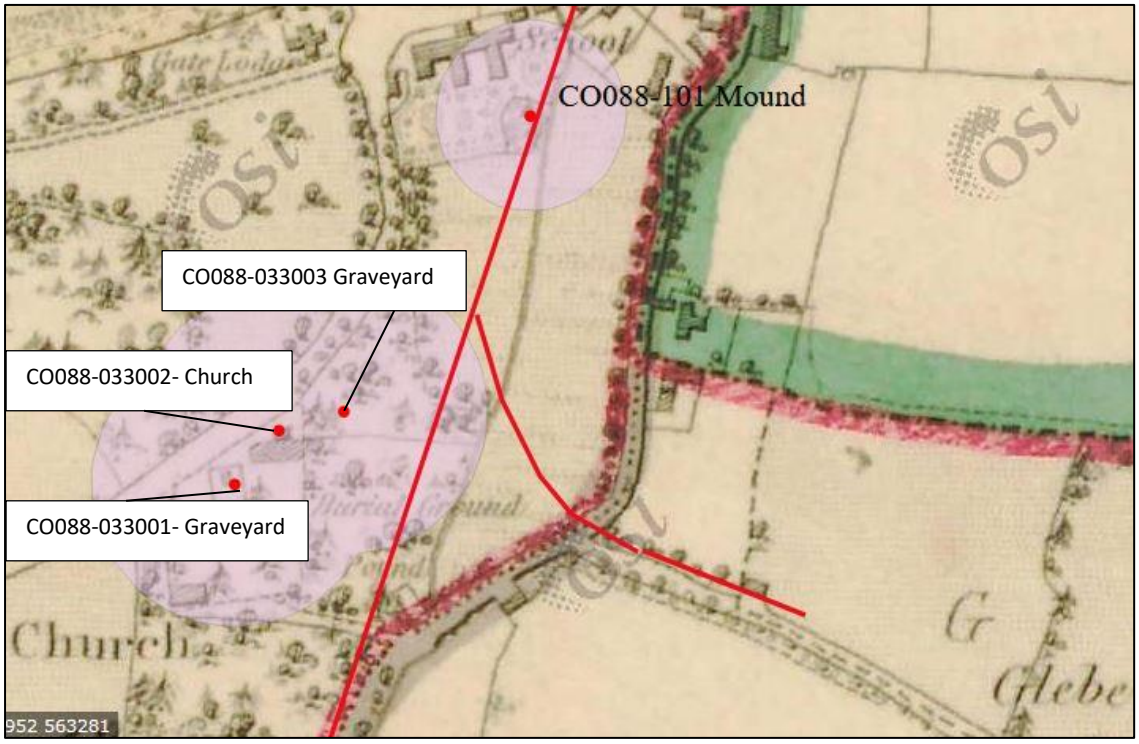


Figure 6: First edition OS Map with route of sewage line marked in red.

A cluster of three Recorded Monument Sites are within 50m of the proposed works. The surviving archaeological remains of the Corkbeg parish church date to pre 1615.

Cartographic analysis indicates that the site may date to the early medieval period and the line of the road visible on the first edition map above may be an ecclesiastical d-shaped enclosure (Figure 6). This is also a townland boundary (marked in red) and a parish boundary as illustrated by the green line indicating the antiquity of the site. Although the scheme will not impact on any

Recorded Monuments directly it runs through an area of archaeological potential and through the constraint area associated with these monuments.

3.1.4 Ringfort

RMP Number	Townland	Distance	Description
CO088-031	BALLYTIGEEN	70m	Ringfort-rath: In pasture, on N-facing slope. Shown 1842 OS 6-inch map as circular enclosure (diam. c. 28m). Levelled; no visible surface trace. According to Power (1940, 98) 'There were formerly two lioses, but these were levelled.

The proposed works are 70m to the west of a Ringfort in the townland of Ballytigeen. The RMP files record that although there is no trace now of the monument it was visible in 1842 with a diameter of 28m. Given that there is record that this ringfort may be bivallate its overall diameter would have been larger in antiquity. Furthermore the number of banks and ditches were equated with higher status sites belonging to upper grades of society.

3.2 Aghada

The village of Aghada is a small fishing village situated to the south-east of Cork city. Aghada (Irish: Áth Fhada, meaning "long ford"). The name Longford is an Anglicization of the Irish Longphort, from long (meaning "ship") and port (meaning"port" or "dock"). This name was applied to many Irish settlements of Viking origin and eventually came to mean fort or camp in the Irish language. So Longfort, the modern Irish spelling, is the name of this town, which was one of the only Gaelic Irish market towns to arise without first being founded by Vikings or Normans. This suggests that the village of Aghada may original date back to the early medieval or Viking period of settlement in Ireland. The current village of Aghada appears to have developed around 1710 with the development of recorded monument CO088-035002, a church and its associated graveyard, CO088-035001. The majority of the period dwellings within the village date to between 1810 and 1880.

The surrounding landscape contains a moderate distribution of Recorded Monuments that indicate that the study area has been subjected to human settlement from the prehistoric period through to the Late Medieval period. The results of this and previous archaeological excavations are contained within the archaeological assessment report. For the purposes of this archaeological monitoring application the focus is on the immediate Recorded Monument Sites through which the works will impact upon. There are no Recorded Monuments within the vicinity of the scheme at Aghada, however given its possible Viking origins there is always the possibility of stray finds or archaeological remains being uncovered in the site investigation or trial pit trenches.

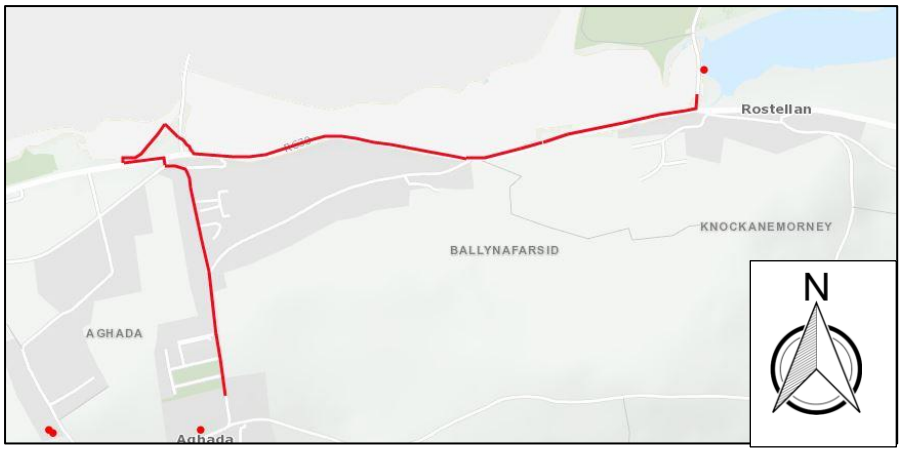


Figure 7: Sewage Scheme Aghada to Rostellan.

4 SI Monitoring Results (Figures 12-19, Appendix 1)

Given the results of the archaeological impact assessment and the potential for finds and features of archaeological significance to be exposed monitoring of the SI works was completed under licence 19E0316. A total of 28 slit trenches (ST 601- 628) and 38 trial pits (TCTP601- 638) were excavated by a 6t machine with a flat grading bucket and under archaeological supervision.

The SI works are carried out using a mini-digger and the trenches are excavated to a maximum depth of 2m depending on the services and no archaeological features were uncovered in any of the slit trenches or trial pits. This enables the stratigraphy to be recorded and confirms the presence/absence of archaeological material and the likelihood of such surviving. All trenches are photographed and recorded. Archaeological monitoring of the SI works will inform monitoring requirements for the main contract depending on the construction method used.

For ease of discussion the SI results will be discussed by area; Aghada to Rostellan and Whitegate.

4.1 Aghada to Rostellan (Figures 12-15, Appendix 1)

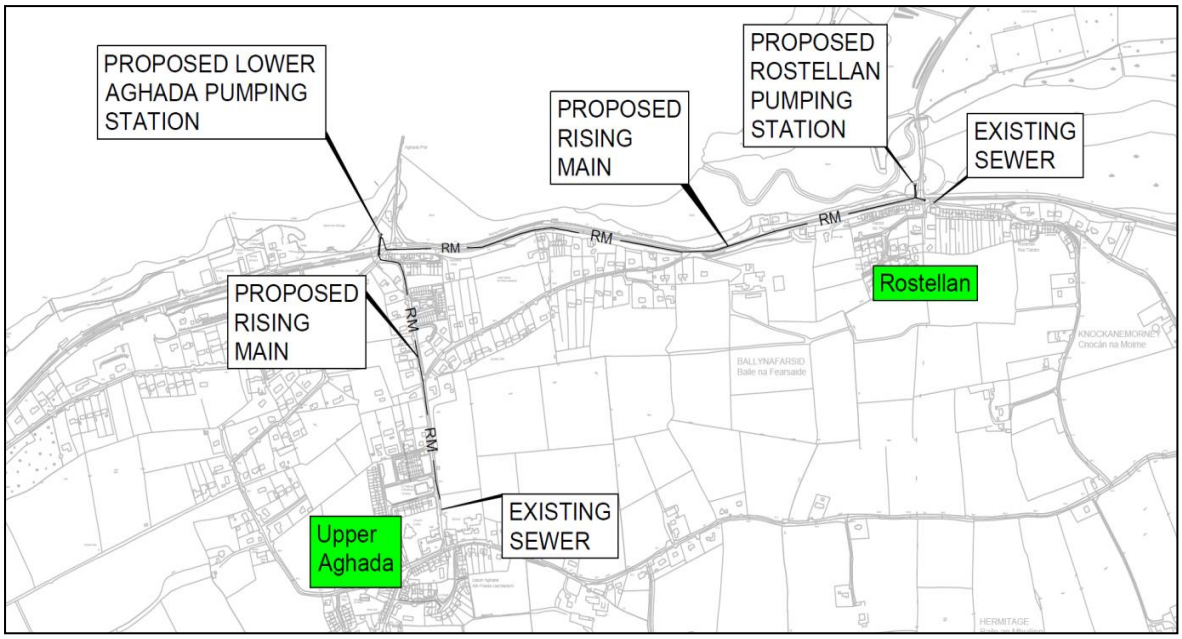


Figure 8: Route of scheme from Aghada to Rostellan.

Number	ST or TCTP	Length	Width	Depth	Summary
613	ST	8.0m	0.6m	1.2m	No Archaeological Significance.
613	TCTP	2.0m	0.5m	2.0m	No Archaeological Significance.
614	ST	8.0m	0.65m	1.8m	No Archaeological Significance
614	TCTP				No Archaeological Significance.
615	ST	7.7m	0.73m	1.7m	No Archaeological Significance
615	TCTP	2.0m	0.5m	1.8m	No Archaeological Significance.
616	ST	8.0m	0.95m	1.7m	Services traversed ST including wavin pipe, concrete pipe and disused manhole. No Archaeological Significance.

616	TCTP	See TCTP 617			No Archaeological Significance
617	ST	8.0m	0.7m	1.55m	Water Main and PVC service pipe both traversed the trench. No Archaeological Significance.
617	TCTP	2.0m	0.5m	1.9m	No Archaeological Significance. Modern debris in topsoil.
618	ST	5.0m	0.48m	1.7m	WM (watermain) traversed trench. No Archaeological Significance.
618	TCTP	2.0m	0.5m	1.8m	No Archaeological Significance.
619	ST	3.0m	0.6m	1.5m	No Archaeological Significance.
619	TCTP	2.0m	0.5m	1.7m	No Archaeological Significance.
620	ST	3.3m	0.63m	1.55m	No Archaeological Significance
620	TCTP	2.0m	0.7m	1.4m	Concrete pipe running parallel with TCTP. No Archaeological Significance.
621	ST	8.0m	0.54m	1.5m	Services traversed ST (Water Main).
621	TCTP	2.0m	0.5m	2.0m	No Archaeological Significance
622	ST	8.0m	0.65m	1.6m	Services traversed ST at 6.5m (Water Main) and 2.0m (PVC pipe) in from coastal wall. At 2.85m from the coastal wall the road surface terminated and in its place was a layer of topsoil and undisturbed natural - the former 0.25m thick mid brown silty clay and the underlying natural being dark brown medium silty sand. No Archaeological Significance.
622	TCTP	2.0m	0.5m	1.6m	No Archaeological Significance.
623	ST	6.0m	0.7m	1.6m	No Archaeological Significance.
624	ST	8.0m	0.68m	1.7m	Old ceramic pipe traversed ST at 1.0m depth. No Archaeological Significance.
624	TCTP	See TCTP 625			No Archaeological Significance. No Archaeological Significance.
625	ST	9.2m	0.6m	1.4m	Thomas Kent Monument. No Archaeological Significance.
625	TCTP	1.8m	0.50m	1.6m	No Archaeological Significance. No Archaeological Significance.
626	ST	7.7m	0.4m	1.6m	No Archaeological Significance
626	TCTP	1.6m	0.5m	0.7m	No Archaeological Significance

627	ST	6.0m	0.7m	1.6m	Gas and water main traversing ST. No Archaeological Significance.
627	TCTP	2.0m	0.5m	1.0m	No Archaeological Significance.
628	ST	6.0m	0.7m	1.8m	No Archaeological Significance.
628	TCTP	2.0m	0.5m	0.7m	No Archaeological Significance.
629	TCTP	2.0m	0.5m	1.45m	Wavin pipe at edge of trench. No Archaeological Significance.
630	TCTP	2.6m	0.76m	1.3m	No Archaeological Significance.
631	TCTP	1.9m	0.5m	1.7m	No Archaeological Significance.
632	TCTP	1.8m	0.72m	1.6m	No Archaeological Significance.
633	TCTP	2.0m	0.6m	0.6m	No Archaeological Significance.
634	TCTP	1.8m	0.6m	1.5m	No Archaeological Significance.
635	TCTP	2.1m	0.52m	2.0m	No Archaeological Significance.
636	TCTP	2.0m	0.72m	1.15m	No Archaeological Significance.
637	TCTP				Thomas Kent Monument.
638	TCTP	2.0m	0.5m	2.0m	No Archaeological Significance.

Table 1: Summary of Stratigraphy in Slit Trenches (ST) and Test Pits (TCTP) on route from Aghada to Rostellan.

A total of 16 Slit Trenches (ST 613-ST 628) and 26 Test Pits (TCPT 613- 638) were excavated between Aghada and Rostellan. The SI works were excavated through existing road surfaces and grass. Historical analysis suggests that the village of Aghada may original date back to the early medieval or Viking period of settlement in Ireland. The current village of Aghada appears to have developed around 1710 with the development of recorded monument CO088-035002, a church and its associated graveyard, CO088-035001. The majority of the period dwellings within the village date to between 1810 and 1880. No RMP sites were impacted upon by the SI works and the results of the monitoring confirmed that the location of the proposed pipe route is through ground that has been disturbed in recent times from existing services. No finds or features of archaeological significance were exposed in any of the ST or TCTP trenches as summarized in Table 1 above and detailed in Appendix 1.

Plate 1: ST 613 note disturbance.

Plate 2: TCTP 632 note disturbance and re-deposited natural.

Plate 3: TCTP 633 note service pipe in base.

4.2 Whitegate (Figures 16-19, Appendix 1)

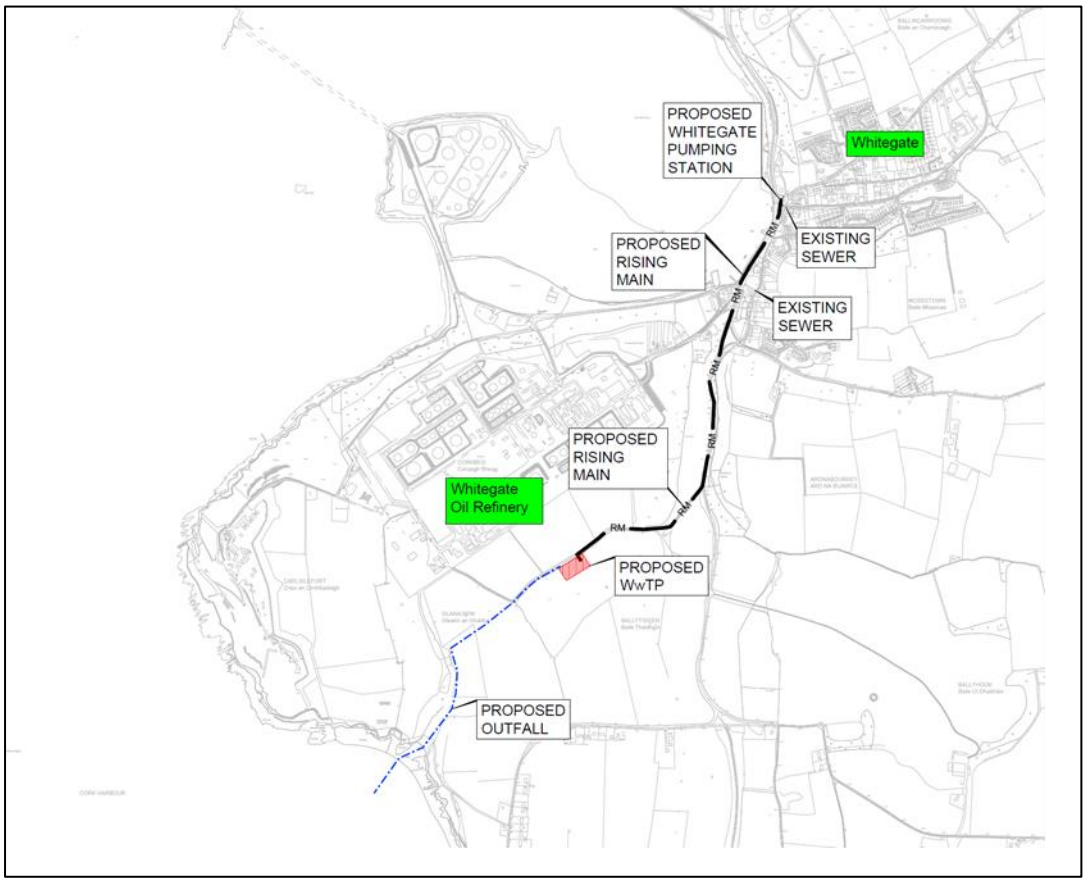


Figure 9: Route of scheme Whitegate.

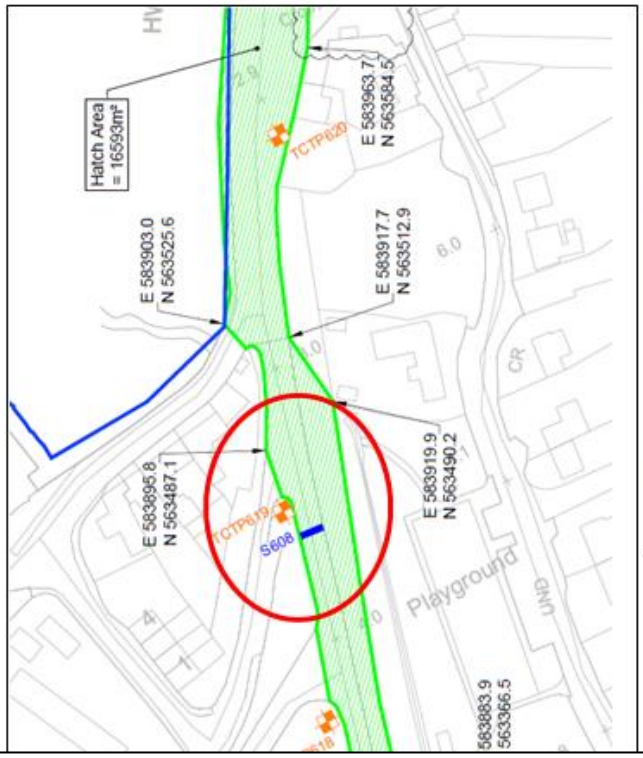
Number	ST or TCTP	Length	Width	Depth	Summary
601	ST	14.5m	0.6m	1.35m	No Archaeological Significance.
601	TCTP				No Access.
602	ST	7.9m	0.60m	1.35m	No Archaeological Significance.
602	TCTP				No Access.
603	ST	Gas Line			No Archaeological Significance.
603	TCTP	2m	2m	0.50m	Bedrock undulating highest in centre of trench 0.50m below surface.
604	ST	8.0m	0.6m	1.7m	Several modern services traversing here. No Archaeological Significance.
604	TCTP	2m	2m	050m	No Archaeological Significance.
605	ST	7.5m	0.7m	1.8m	No Archaeological Significance.
605	TCTP	2m	2m	2m	No Archaeological Significance.

606	ST	8.0m	0.7m	1.7m	ST traversed by several services on both sides of road. No Archaeological Significance.
606	TCTP	Bedrock			No Archaeological Significance.
607	ST	7.0m	0.7m	1.1m	No Archaeological Significance.
607	TCTP	2m	2m	1.1m	No Archaeological Significance.
608	ST	3.5m	1.7m	1.5m	No Archaeological Significance.
608	TCTP	2m	2m	1.3m	No Archaeological Significance.
609	ST	8.0m	0.8m	0.95m	Cast iron pipe traversing ST. No Archaeological Significance.
609	TCTP	2m	2m	1.50m	No Archaeological Significance.
610	ST	5.0m	0.7m	0.7m	No Archaeological Significance.
610	TCTP	Hit Rock 0.10m			No Archaeological Significance.
611	ST	2.0m	1.3m	0.5m	No Archaeological Significance.
611	TCTP	Hit Rock 0.20m			No Archaeological Significance.
612	ST	8.0m	0.74m	1.8m	No Archaeological Significance.
612	TCTP	Rock			No Archaeological Significance.

Table 2: Summary of Stratigraphy in Slit Trenches (ST) and Test Pits (TCTP) on Whitegate Route.

A total of 12 Slit Trenches (ST 601-ST 612) and 12 Test Pits (TCPT 601- 612) were excavated at Whitegate. The SI works were excavated through existing road surfaces and grass.

The following figures are extracts from the SI trench and test pit locations which impact upon or are within constrain areas associated with Recorded Monument Sites. No finds or features of archaeological significance were exposed in any of the Slit Trenches (ST) or Test Pits (TCTP) as summarized in Table 1 above and detailed in Appendix 1.



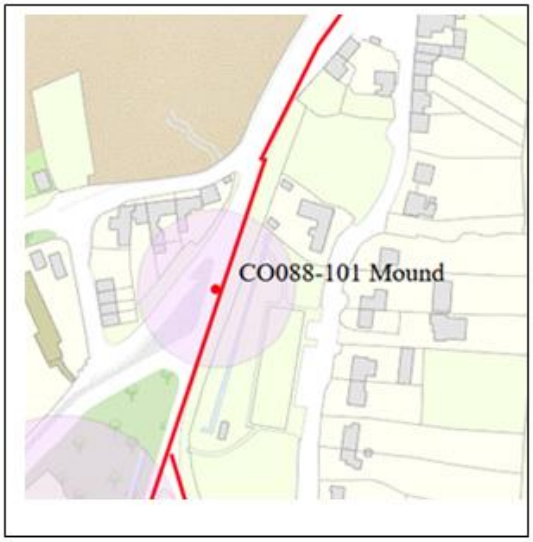


Figure 10: Recorded monument site CO088-101 in relation to ST Trench 608 and TCTP 619 locations (extract from IW-10015229-01-09-004 Appendix 1).

The closest Recorded Monument impacted by the works in the vicinity of Whitegate is a 'mound' CO088-101 (Figure 4 and 10). This mound is not visible today but is visible on the 1935 map as circular in plan with a diameter of 15m. The main fill of Slit Trench 608 was a re-deposited natural: orange-brown silty clay with frequent angular pebble inclusions which had a depth of 1.34m. Natural ground was not exposed and there was no trace of any features of archaeological significance in this trench. The main fill of TCTP 619 was also a re-deposited natural an orange-brown silty clay with moderate angular cobble inclusions which was 1.4m in depth. There was no trace of the mound or ditches within the fill of Slit Trench 608 which was located within the constraint area foe the mound.

Plate 4: ST 608 at RMP Site CO088-101.

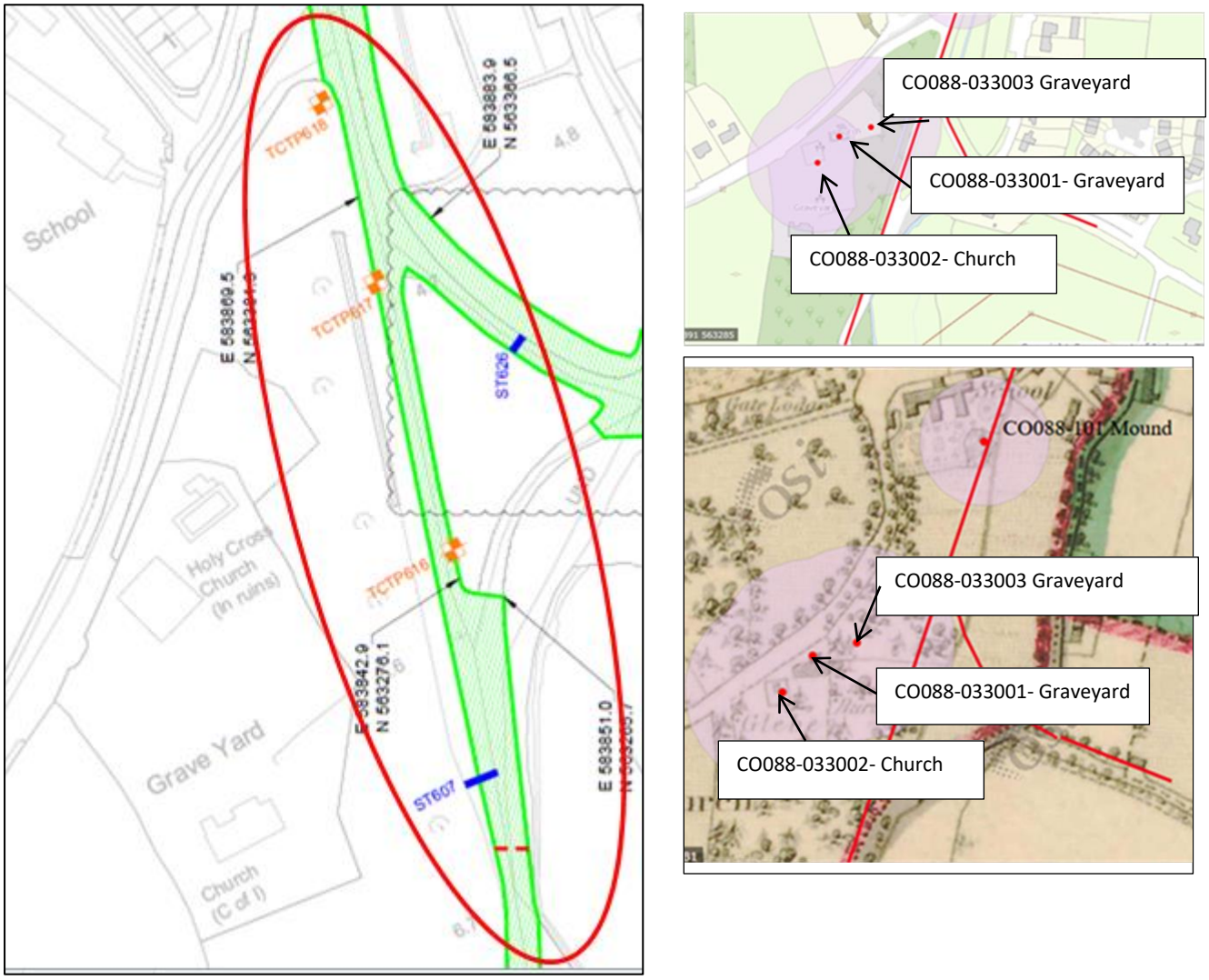


Figure 11: Recorded monument sites CO088-033001- Graveyard, CO088-033002- Church and CO088-033003 Graveyard in relation to SI trench locations (extract from IW-10015229-01-09-004 Appendix 2).

Three test pits (TCTP 616-618) and two slit trenches (ST 607 and 626) were excavated in the constraint area of a cluster of three Recorded Monument Sites which are within 50m of the proposed works. The surviving archaeological remains of the Corkbeg parish church are pre 1615. Bedrock was exposed in ST 607 and re-deposited natural in ST 626. No finds or features of archaeological significance were exposed in any of the trenches.

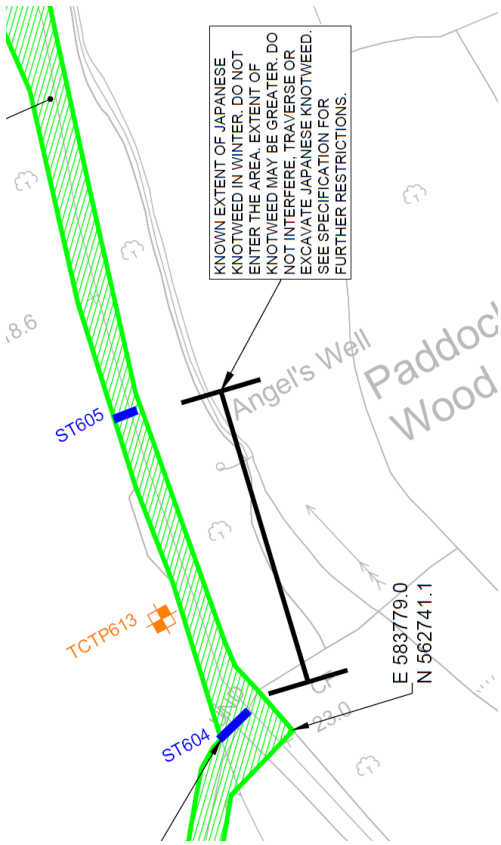


Figure 12: Recorded monument site CO088-032 in relation to SI trench locations (extract from IW-10015229-01-09-004 Appendix 2).

A holy well called Angel's Well on the first (1886) and third edition 1935 OS mapping is located 14m west of the road where the scheme will run. The works will not directly impact upon the holy well however ST 604 and 605 and TCTP 613 were excavated in the constraint area for this site. Bedrock was exposed in TCTP 604 at a depth of 0.50m below ground level and natural ground at a depth of 0.40m below ground level and re-deposited natural in ST 613. No finds or features were discovered in any of the trenches.

5 Impact Assessment

There are no Recorded Monuments within the vicinity of the scheme at Aghada. Monitoring of the SI works indicate that the ground in this area is completely disturbed and backfilled with modern debris material and stones. Given the degree of disturbance it is this author's opinion that the potential for finds or features of archaeological material is not likely.

On the Whitegate scheme the location of the SI trenches impacted upon one Recorded Monument Site the mound at Corkbeg and the constraint areas associated with the Church and graveyard sites and holy well at Corkbeg. The desk based assessment indicates that the surrounding landscape contains a relatively high distribution of Recorded Monuments that indicate that the study area has been subjected to human settlement from the prehistoric period through to the Late Medieval period.

A separate report has been completed containing the results of archaeological test trenching under licence 19E0316. The purpose of this report was to test for finds or features of archaeological significance in greenfield areas only at the location of the proposed Waste Water Treatment Plant and pipe outfall route.

It was not possible to monitor SI trenches along the entire route of the Outfall Pipe due to access restrictions. The field where the recently planted trees are densely planted also exhibits evidence of significant machine clearance. Given the paucity of known archaeological monuments in the immediate vicinity and recent ground disturbance and root damage from the trees it is the authors opinion that the chance of archaeological remains surviving is unlikely and no further archaeological mitigation is required in this area.

The scheme will also run adjacent the townland boundaries between Glanagow and Trabolgan, which is also the parish boundary between Corkbeg and Trabolgan. In Ireland townland boundaries and in particular parish boundaries are likely to represent much earlier land divisions. Gaelic land ownership required a clear definition of territories for each sept and a need for strong permanent fences around their territories. The scheme will run in close proximity to these boundaries however will not directly impact on them. The proposed outfall route will run through an area which has been extensively disturbed associated with the excavation of a large pond. It was not possible to excavate test trenches along the route of the outfall at this location given the degree of overgrowth and for health and safety reasons.

6 Archaeological Mitigation

Should the route of the scheme be altered then further consultation with the archaeologist and further archaeological test trenching may be recommended prior to its final design.

In order to protect the archaeological heritage monitoring of works in accordance with sections 6.1 to 6.2 below should be carried out under licence and under the supervision of a suitably qualified archaeologist.

Site investigations to locate the watermain were the first phase of works to be carried out. They involved slit trenches through the tarmac surface along the length of the upgrade route to locate the main and any additional services adjacent it. This phase of works allowed for recording of stratigraphy and enabled an assessment be made on the likelihood of any archaeological features surviving in this area. The method of construction; trenchless or open trench shall be based on the results of the site investigations.

The monitoring requirements for the main contract project has taken into account the results of the desktop assessment and construction scenarios associated with the works. The following recommendations cover project for Zones of Archaeological Potential (ZAP) and also work outside ZAP's. A total of three ZAP's have been identified. The monitoring requirements are as follows:

6.1 Works outside ZAP's:

Main Contract Works:

Open Cut Trench Technique: No monitoring.

Trenchless Technique: No monitoring.

6.2 Works within ZAP's:

Three ZAP's have been identified along the route of the scheme

6.2.1 ZAP 1

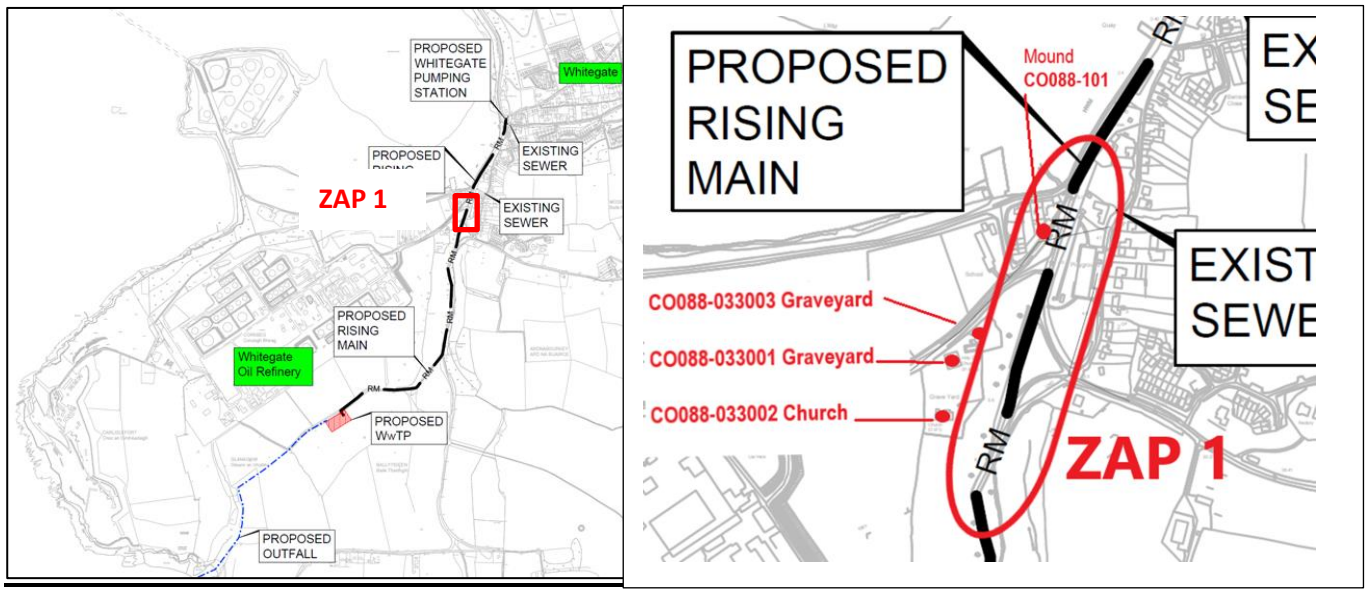


Figure 13: ZAP 1 location map Aghada to Whitegate.

This ZAP covers a distance of approximately 500m and contains three Recorded Monument Sites. The scheme runs through the constraint areas associated with the Church and graveyard sites will directly impact the location of the mound at Corkbeg. The mound was illustrated on the 1935 OS mapping and was 15m in diameter. There was no trace of the mound in Slit Trench 608 however there is the possibility that the re-deposited natural contain finds or features of archaeological interest.

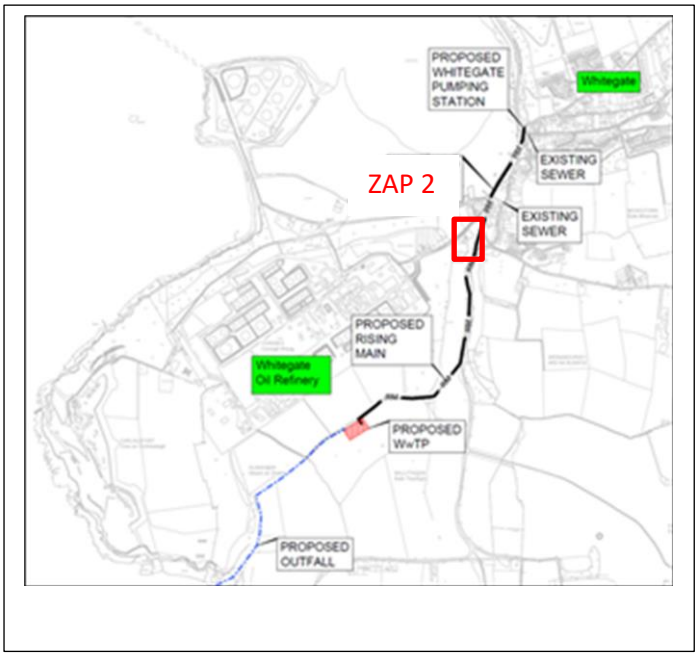
In order to protect any sub surface archaeological features or finds that may survive the following archaeological mitigation is recommended:

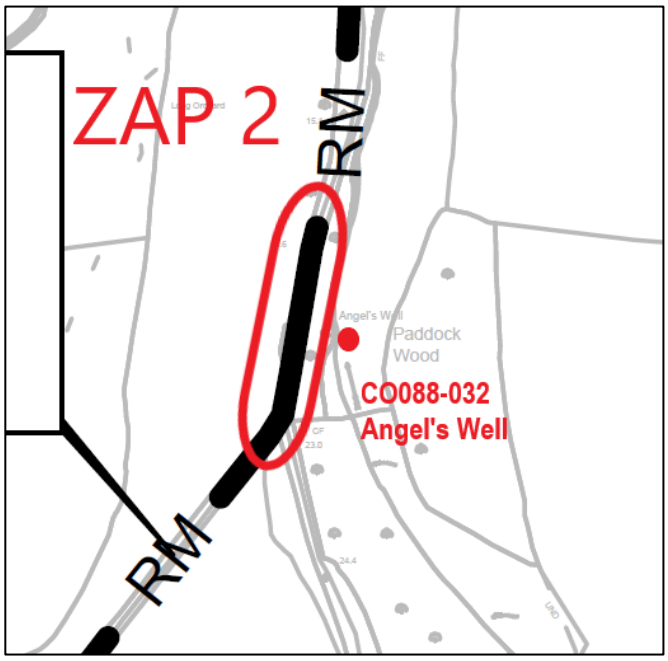
Main Contract:

Open Cut Trench Technique: Full time monitoring of the rehabilitation works under archaeological licence within a 500m zone along the length of the route as defined by ZAP 1.

Trenchless Technique: Intermittent monitoring of the rehabilitation works under archaeological licence within a 300m zone along the length of the route as defined by ZAP 1.

6.2.2 ZAP 2





This ZAP covers a distance of approximately 150m and contains a holy well called Angel's Well which is depicted on the first (1886) and third edition 1935 OS mapping. It is located 14m west of the road where the scheme will run. The works will not directly impact upon the holy well and such sites are often found associated with ecclesiastical sites. ST 604 and 605 and TCTP 613 were excavated within the constraint area for this well. Bedrock was exposed in TCTP 604 at a depth of 0.50m below ground level and natural ground at a depth of 0.40m below ground level and re-deposited natural in ST 613. No finds or features were discovered in any of the trenches.

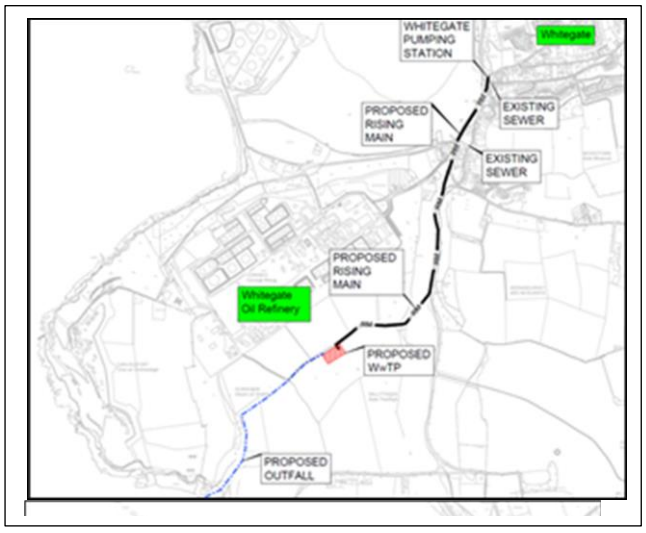
In order to protect any sub surface archaeological features or finds that may survive however, the following archaeological mitigation is recommended:

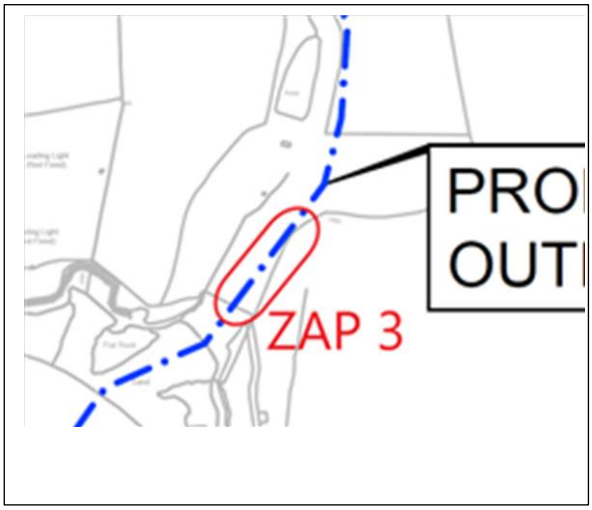
Main Contract:

Open Cut Trench Technique: Full time monitoring of the rehabilitation works under archaeological licence within a 150m zone along the length of the route as defined by ZAP 2.

Trenchless Technique: Intermittent monitoring of the rehabilitation works under archaeological licence within a 150m zone along the length of the route as defined by ZAP 2.

6.2.3 ZAP 3





The scheme will also run adjacent the townland boundaries between Glanagow and Trabolgan, which is also the parish boundary between Corkbeg and Trabolgan. In Ireland townland boundaries and in particular parish boundaries are likely to represent much earlier land divisions. The scheme will run in close proximity to these boundaries not impacting them but as it was not possible to excavate test trenches along the route of the outfall the following archaeological mitigation is recommended:

Main Contract:

Open Cut Trench Technique: Intermittent monitoring of the rehabilitation works under archaeological licence within a 150m zone along the length of the route as defined by ZAP 3.

Trenchless Technique: No monitoring.

These recommendations are the professional opinion of the author and based upon the findings of the desk based assessments and test trenching results. The following guides and legislation were considered when compiling this report;

- Architectural Heritage (National Inventory) and Historic Properties (Miscellaneous Provisions) Act, 1999
- Convention for the Protection of World Cultural and National Heritage, 1972
- Council of Europe Convention on the Protection of the Archaeological Heritage of Europe, (the 'Granada Convention') ratified by Ireland in 1997
- European Convention Concerning the Protection of the Archaeological Heritage (the 'Valetta

Convention') ratified by the Republic of Ireland in 1997

- Framework and Principles for the Protection of the Archaeological Heritage, 1999, Department of the Arts, Heritage, Gaeltacht and the Islands
- Heritage Act, 1995
- National Monuments Act, 1930, as amended 1954, 1987 and 2004

Please note that all recommendations are subject to approval by the National Monument Section of the Department of Culture, Heritage and the Gaeltacht and the National Museum of Ireland.

Appendix 1: Monitoring Results

*NAS- No Archaeological Significance

Number	Type	L	W	D	Strat 1	Strat 1 Depth	Strat 2	Strat 2 Depth	Strat 3	Strat 3 Depth	Strat 4	Strat 4 Depth	Summary/ Remarks
601	ST	14.5m	0.6m	1.35m	Sod	0.30m	Made up ground-mid reddish brown boulder clay mixed with fragmented shale bedrock						*NAS
601	TCTP				No Access								
602	ST	7.9m	0.60m	1.35m	Hardcore	0.15m	Light brown silty clay with frequent bedrock inclusions	0.20m-1m	Bedrock undulating highest in centre of trench 0.50m below surface	N/A			NAS
602	TCTP				No Access								
603	ST	Gas Line											
603	TCTP	2m	2m	0.50m									Bedrock
604	ST	8.0m	0.6m	1.7m	Topsoil/Sod	0.05m	804 mixed with frequent inclusions of mid brown medium sand	0.4m	Natural: compact orange-brown silty clay	1.25m	N/A	N/A	Several modern services traversing here. NAS
604	TCTP	2m	2m	0.50m	Topsoil/Sod	0.25m	Subsoil mid orangey brown silty clay		Natural: bedrock				NAS
605	ST	7.5m	0.7m	1.8m	Tar-Mac	0.08m	Hardcore mix: 804 with frequent inclusions of mid brown medium silty sand	0.32m	Natural: compact greyish yellow silty clay with moderate angular cobble inclusions	1.4m	N/A	N/A	NAS
605	TCTP	2m	2m	2m									

606	ST	8.0m	0.7m	1.7m	Tar-Mac	0.08m	Built up ground: loose mid brown silty sand with frequent sub angular pebble inclusions	1.62m	N/A	N/A	N/A	N/A	ST traversed by several services on both sides of road. NAS
606	TCTP	Bedrock											
607	ST	7.0m	0.7m	1.1m	Tar-Mac	0.08m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.08m	Built Up Ground/Redeposited natural: loose mid orange-brown silty clay w frequent inclusions of sub angular pebbles and cobbles	0.55m	Natural: compact mid orange-brown silty clay	0.39m	NAS
607	TCTP	2m	2m	1.1m	Topsoil/Sod	0.45m	Subsoil mid orangey brown silty clay	0.65m	Natural: bedrock				
608	ST	3.5m	1.7m	1.5m	Tar-Mac	0.08m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.08m	Redeposited natural: orange-brown silty clay with frequent angular pebble inclusions	1.34m	N/A	N/A	NAS
608	TCTP	2m	2m	1.3m	Topsoil/Sod	0.40m	Subsoil mid orangey brown silty clay	0.35m	Natural: Sandy gravelly clay	N/A			
609	ST	8.0m	0.8m	0.95m	Tar-Mac	0.1m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.24m	Redeposited natural: medium compact mid yellowish-brown silty clay with moderate sub-angular pebble inclusions	0.61m	N/A	N/A	Cast iron pipe traversing ST. NAS

609	TCTP	2m	2m	1.50m	Topsoil/Sod	0.30m	Subsoil mid yellowish brown silty clay	1.20m	Natural: bedrock	N/A			
610	ST	5.0m	0.7m	0.7m	Tar-Mac	0.1m	Hardcore: 804 gravel with frequent includsions of compacted concrete - several services traversing this ST including 2 x wavin pipes			0.6m	N/A	N/A	NAS
610	TCTP	Hit Rock 0.10m											
611	ST	2.0m	1.3m	0.5m	Topsoil/Sod	0.27m	Redeposited natural: medium compact mid orange-brown silty clay	0.23m	N/A	N/A	N/A	N/A	NAS
611	TCTP	Hit Rock 0.20m											

612	ST	8.0m	0.74m	1.8m	Tar-Mac	0.09m	Built up ground: loose mid orange brown silty sand with frequent sub angular pebble inclusions	0.32m	Tar-Mac and broken up hardcore mix - old surface	0.08m	Redeposite d natural: friable yellowish-brown silty clay with moderate angular cobble inclusions	1.31m	NAS
612	TCTP	Rock											
613	ST	8.0m	0.6m	1.2m	Tar-Mac	0.08m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.17m	Redeposited natural: medium compact mid yellowish-brown silty clay with moderate sub-angular pebble inclusions	0.95m	N/A	N/A	NAS
613	TCTP	2.0m	0.5m	2.0m	Topsoil/Sod	0.4m	Mid orange-brown medium silty sand subsoil	0.4m	Natural: compacit orange-brown silty clay	1.2m	N/A	N/A	NAS
614	ST	8.0m	0.65m	1.8m	Tar-Mac	0.08m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.15m	Redeposited natural: medium compact mid yellowish-brown silty clay with moderate sub-angular pebble inclusions	1.57m	N/A	N/A	NAS
614	TCTP												
615	ST	7.7m	0.73m	1.7m	Tar-Mac	0.08m	Hardcore: 'loose' tar mac layer	0.34m	Redeposited natural: friable orange-brown silty clay with moderate angular cobble inclusions	1.28m	N/A	N/A	NAS
615	TCTP	2.0m	0.5m	1.8m	Topsoil/Sod	0.35m	Mid brown silty clay	1.45m	N/A	N/A	N/A	N/A	NAS

616	ST	8.0m	0.95m	1.7m	Tar-Mac	0.08m	Built up ground: loose mid brown silty clay with frequent subrounded pebble inclusions	0.42m	Hardcore layer of poorly sorted sub angular cobbles with moderate inclusions of angular pebbles	0.28m	Natural: compact orange-brown silty clay	0.92m	Services traversed ST including wavin pipe, concrete pipe and disused manhole. NAS
616	TCTP	See TCTP 617											
617	ST	8.0m	0.7m	1.55m	Tar-Mac Path	0.06m	Hardcore under path (otherwise topsoil): 804/angular cobble mix	0.30m	Redeposited natural: friable orange-brown silty clay with moderate angular cobble inclusions	1.19m	N/A	N/A	Water Main and PVC service pipe both traversed the trench. NAS
617	TCTP	2.0m	0.5m	1.9m	Topsoil/Sod	0.3m	Redeposited natural: friable orange-brown silty medium sand with moderate angular pebble inclusions	0.4m	Natural: compact orange-brown silty clay	1.2m	N/A	N/A	Modern debris in topsoil. NAS
618	ST	5.0m	0.48m	1.7m	Topsoil/Sod	0.2m	Redeposited natural: friable orange-brown silty clay with moderate angular cobble inclusions	1.5m	N/A	N/A	N/A	N/A	WM (watermain) traversed trench. NAS
618	TCTP	2.0m	0.5m	1.8m	Topsoil/Sod	0.3m	Redeposited natural: friable orange-brown silty clay with moderate angular cobble inclusions	1.5m	N/A	N/A	N/A	N/A	NAS

619	ST	3.0m	0.6m	1.5m	Tar-Mac	0.09m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.15m	Redeposited natural: friable orange-brown silty clay with moderate angular cobble inclusions	0.93m	Natural: compact orange-brown silty clay	0.38m	NAS
619	TCTP	2.0m	0.5m	1.7m	Topsoil/Sod	0.3m	Redeposited natural: friable orange-brown silty clay with moderate angular cobble inclusions	1.4m	N/A	N/A	N/A	N/A	NAS
620	ST	3.3m	0.63m	1.55m	Tar-Mac	0.08m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.14m	Redeposited natural: friable orange-brown silty clay with moderate angular cobble inclusions	0.95m	Natural: compact orange-brown silty clay	0.38m	NAS
620	TCTP	2.0m	0.7m	1.4m	Topsoil/Sod	0.3m	Built up ground: loose mid brown silty sand with frequent sub angular pebble inclusions	1.1m	N/A	N/A	N/A	N/A	Concrete pipe running parallel with TCTP. NAS
621	ST	8.0m	0.54m	1.5m	Topsoil/Sod	0.31m	Mid compact orange-brown silty clay natural	1.19m	N/A	N/A	N/A	N/A	Services traversed ST (Water Main). NAS

621	TCTP	2.0m	0.5m	2.0m	Topsoil/Sod	0.3m	Built up ground: loose mid brown silty sand with frequent sub angular pebble inclusions	1.7m	N/A	N/A	N/A	N/A	NAS
622	ST	8.0m	0.65m	1.6m	Tar-Mac	0.09m	Hardcore: 804 gravel	0.31m	Built Up Ground/Redeposited natural: loose mid brown silty clay w frequent inclusions of sub angular pebbles and cobbles	1.2m	N/A	N/A	Services traversed ST at 6.5m (Water Main) and 2.0m (PVC pipe) in from coastal wall. At 2.85m from the coastal wall the road surface terminated and in its place was a layer of topsoil and and undisturbed natural - the former 0.25m thick mid brown silty clay and the underlying natural being dark brown medium silty sand. NAS
622	TCTP	2.0m	0.5m	1.6m	Topsoil/Sod	0.4m	Built up ground: loose mid orange-brown silty sand with frequent sub angular pebble inclusions	0.39m	Natural: very firm mid grey silty clay 'marl'	0.81m	N/A	N/A	NAS

623	ST	6.0m	0.7m	1.6m	Tar-Mac	0.09m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.3m	Natural: compact orange-brown silty clay	1.21m	N/A	N/A	NAS
623	TCTP	2.0m	0.5m	0.2m	Tar-Mac	0.08m?	Hardcore	0.12m?	N/A	N/A	N/A	N/A	Rock. NAS.
624	ST	8.0m	0.68m	1.7m	Tar-Mac	0.1m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.3m	Redeposited natural: friable orange-brown silty clay with moderate angular cobble inclusions	0.5m	Natural: compact orange-brown silty clay	0.8m	Old ceramic pipe traversed ST at 1.0m depth. NAS.
624	TCTP	See TCTP 625											
625	ST	9.2m	0.6m	1.4m	Grass	0.1m	Made up ground with modern debris material						Thomas Kent Monument
625	TCTP	1.8m	0.50m	1.6m	Topsoil/Sod	0.15m	Natural: compact yellowish-brown silty clay	1.65m	N/A	N/A	N/A	N/A	NAS

626	ST	7.7m	0.4m	1.6m	Topsoil/Sod	0.18m	Built up ground: loose mid brown silty clay with subrounded pebble inclusions	1.42m	N/A	N/A	N/A	N/A	NAS
626	TCTP	1.6m	0.5m	0.7m	Topsoil/Sod	0.18m	Natural: compact yellowish-brown silty clay	0.52m	N/A	N/A	N/A	N/A	NAS
627*	ST	6.0m	0.7m	1.6m	Tar-Mac	0.08m	Hardcore: 804 gravel mixed with angular pebbles and cobbles	1.52m	N/A	N/A	N/A	N/A	*Marked ST625 on early map. Gas and water main traversing ST. NAS
627	TCTP	2.0m	0.5m	1.0m	Topsoil/Sod	0.15m	Natural: compact yellowish-brown silty clay	0.85m	N/A	N/A	N/A	N/A	NAS
628*	ST	6.0m	0.7m	1.8m	Tar-Mac	0.08m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.08m	Redeposited natural: friable orange-brown silty clay with moderate angular cobble inclusions	1.64m	N/A	N/A	*Marked ST626 on early map. NAS
628	TCTP	2.0m	0.5m	0.7m	Topsoil/Sod	0.2m	Built up ground: loose mid brown silty clay with subrounded pebble inclusions	0.2m	Tar-Mac and broken up hardcore mix - overgrown road surface essentially	0.12m	Redeposited natural: friable orange-brown silty clay with moderate angular cobble inclusions	0.18m	NAS

629	TCTP	2.0m	0.5m	1.45m	Topsoil/Sod	0.2m	Built up ground: orange-brown silty clay with frequent broken concrete, angular cobble and pebble inclusions	1.25m	N/A	N/A	N/A	N/A	Wavin pipe at edge of trench.
630	TCTP	2.6m	0.76m	1.3m	Tar-Mac	0.08m	Hardcore: loose mid brown coarse silty sand with frequent subangular cobble and frequent angular pebble inclusions	0.37m	Gravel infill - angular pebbles w moderate inclusions of angular cobbles	0.85m	N/A	N/A	NAS
631	TCTP	1.9m	0.5m	1.7m	Topsoil/Sod	0.2m	Natural: compact mid orange brown silty clay with occasional sub rounded pebble inclusions	N/A	N/A	N/A	N/A	N/A	NAS
632	TCTP	1.8m	0.72m	1.6m	Tar-Mac	0.07m	Hardcore: loose mid brown coarse silty sand with occasional subangular cobble and frequent angular pebble inclusions	0.45m	Natural: compact mid brownish yellow silty clay	1.08m	N/A	N/A	NAS

633	TCTP	2.0m	0.6m	0.6m	Topsoil/Sod	0.25m	Redeposited natural: mid orange-brown silty clay, base was grey marl	0.35m		N/A	N/A	N/A	NAS
634	TCTP	1.8m	0.6m	1.5m	Topsoil/Sod	0.3m	Redeposited natural: mid orange-brown silty clay, base was layer of tar	1.2m		N/A	N/A	N/A	NAS
635	TCTP	2.1m	0.52m	2.0m	Topsoil/Sod	0.25m	Redeposited natural: mid orange-brown silty clay w inclusion of one plastic bottle (!)	0.6m	Natural mid orange brown silty clay w frequent angular cobble and pebble inclusions	1.25m	N/A	N/A	NAS
636	TCTP	2.0m	0.72m	1.15m	Tar-Mac	0.09m	Hardcore: sub angular pebbles and cobbles w/loose mid brown medium silty sand inclusions	0.25m	Redeposited natural: friable orange-brown silty clay with frequent angular cobble inclusions	0.35m	Natural: compact orange-brown silty clay w frequent angular cobble inclusions	0.46m	NAS
637	TCTP												Thomas Kent Monument
638	TCTP	2.0m	0.5m	2.0m	Topsoil/Sod	0.20m	Tar-Mac	0.1m	Redeposited topsoil	0.11	Broken Tar-Mac layer	0.05m	Stratigraphy #5 - 1.54m of redeposited natural: mid orange-brown silty clay. NAS

Appendix 2 Figures

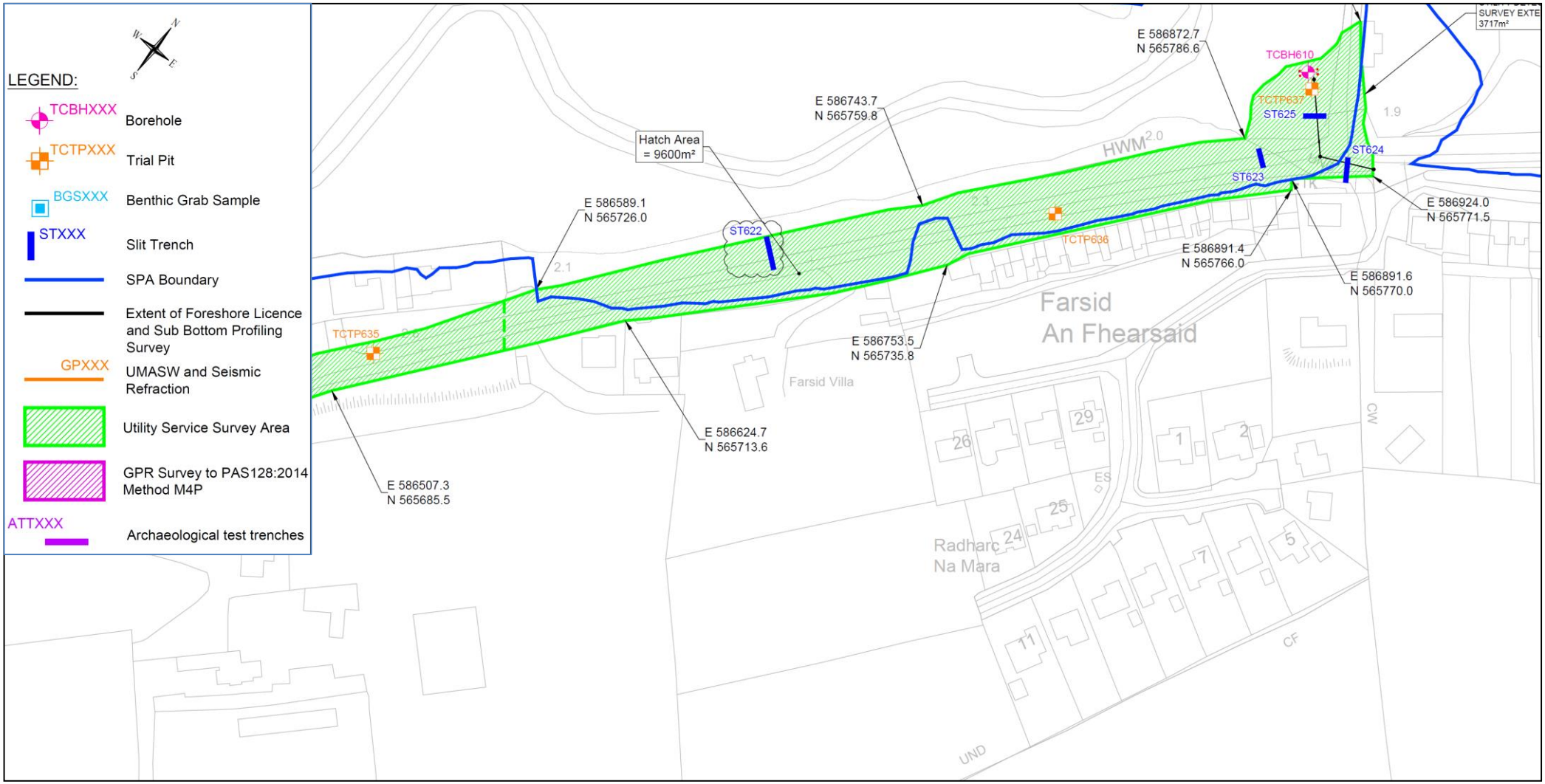


Figure 14: Extract from IW-10015229-01-09-009 Aghada to Rostellan Route.

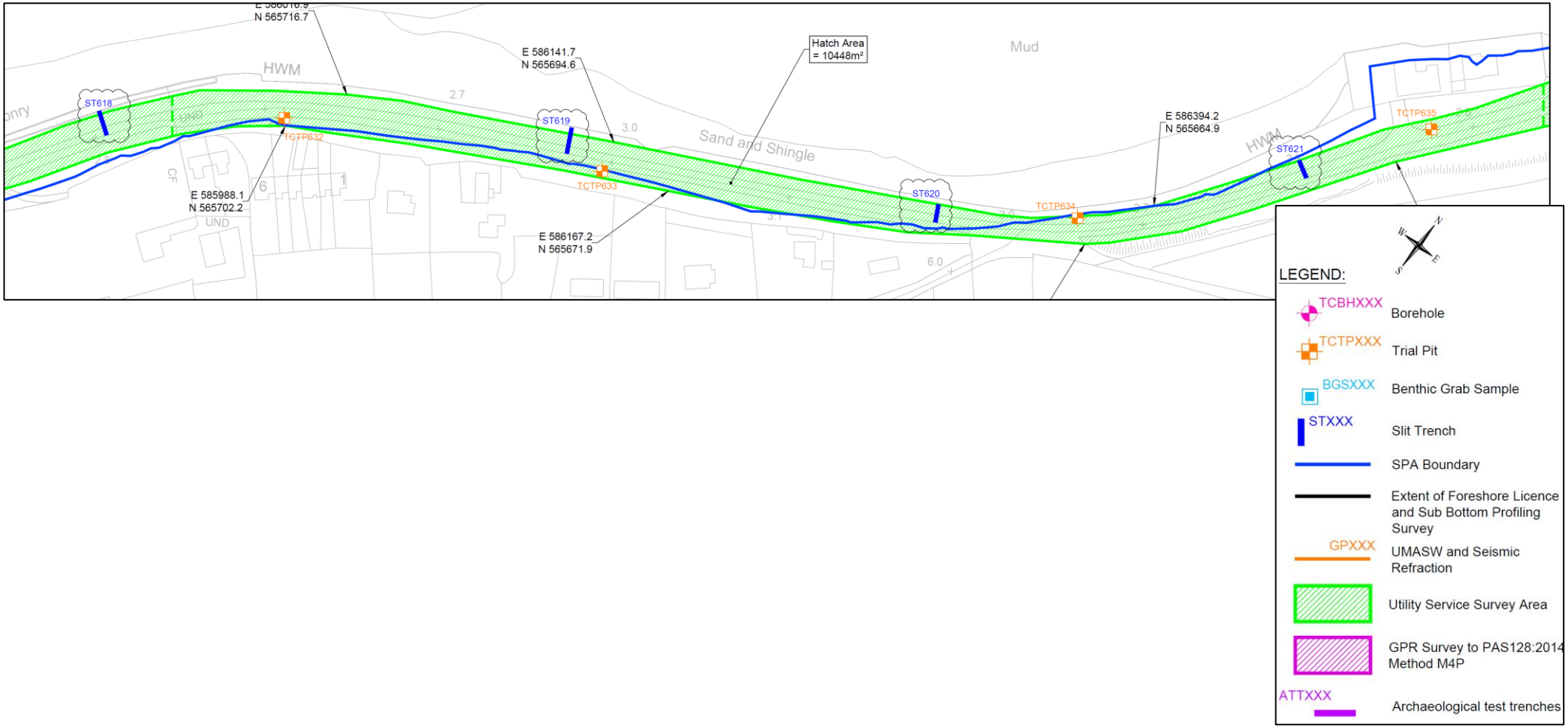


Figure 15: Extract from IW-10015229-01-09-008 Aghada to Rostellan Route.

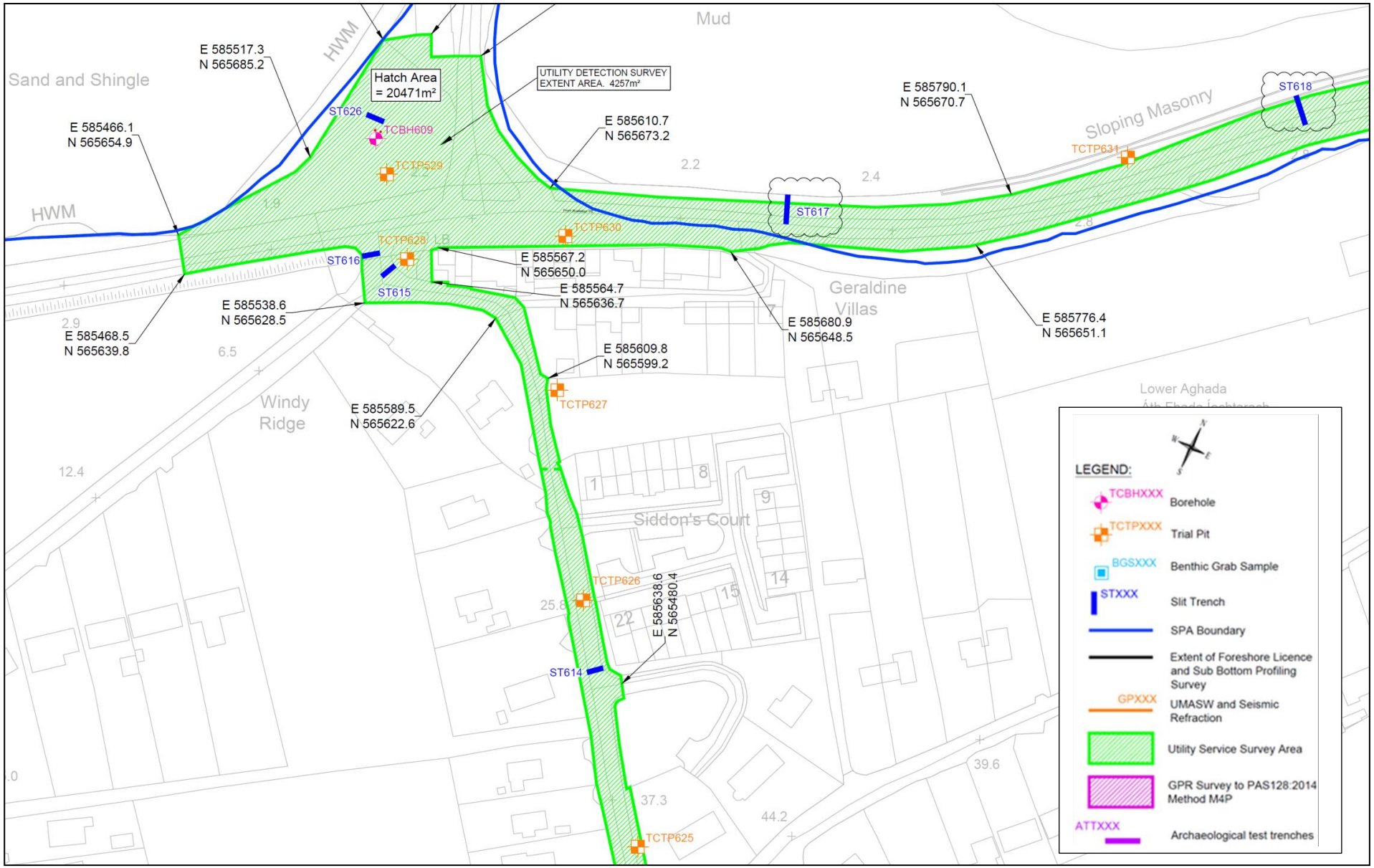


Figure 16: IW-10015229-01-09-007 Aghada to Rostellan Route.

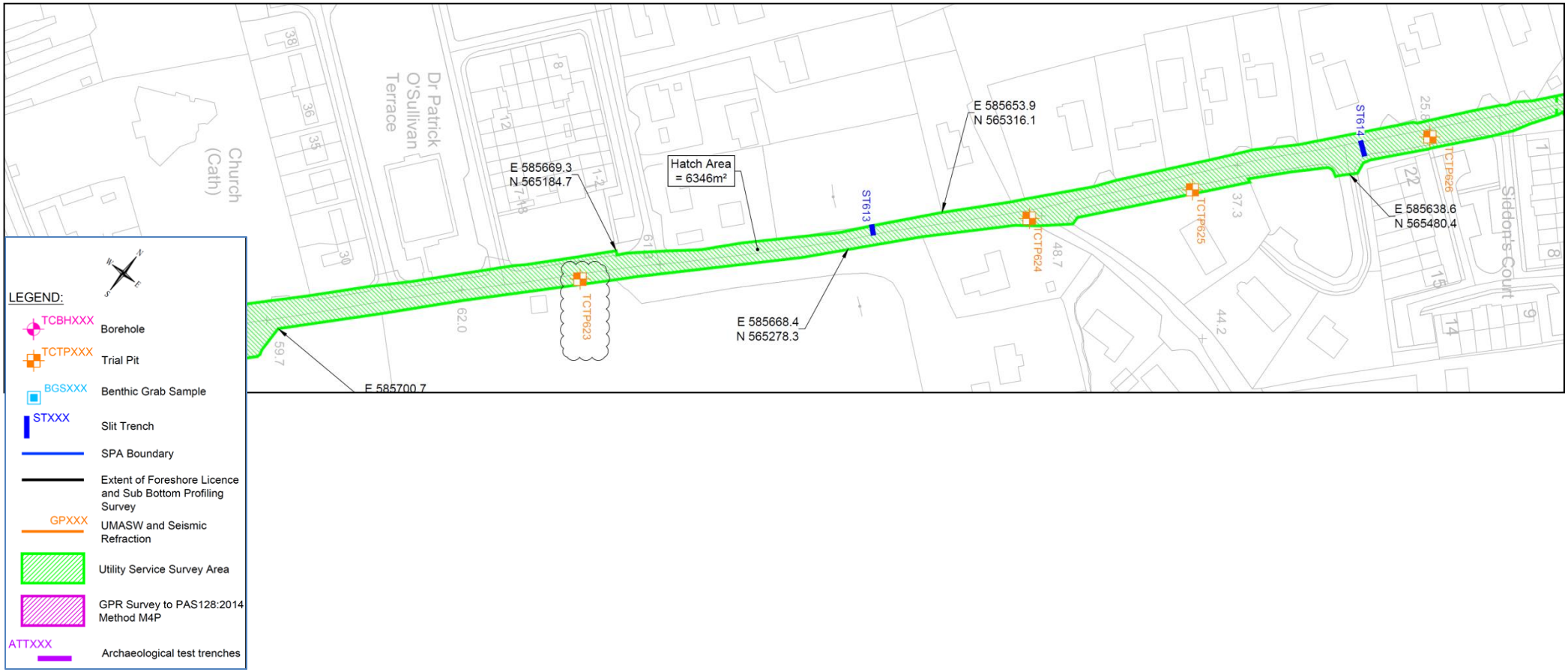


Figure 17: IW-10015229-01-09-006 Aghada to Rostellan Route.

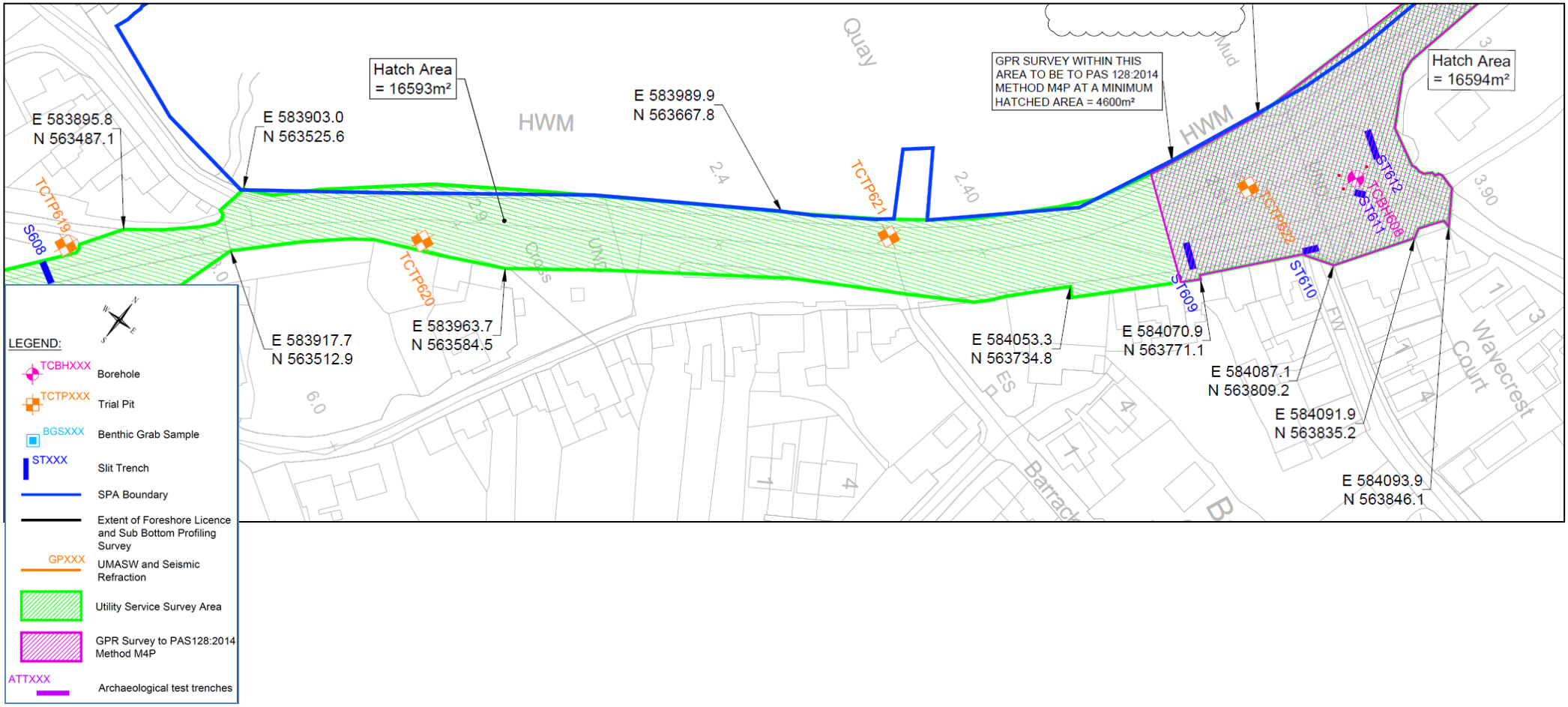


Figure 18: Extract from IW-10015229-01-09-005 Whitegate Route.

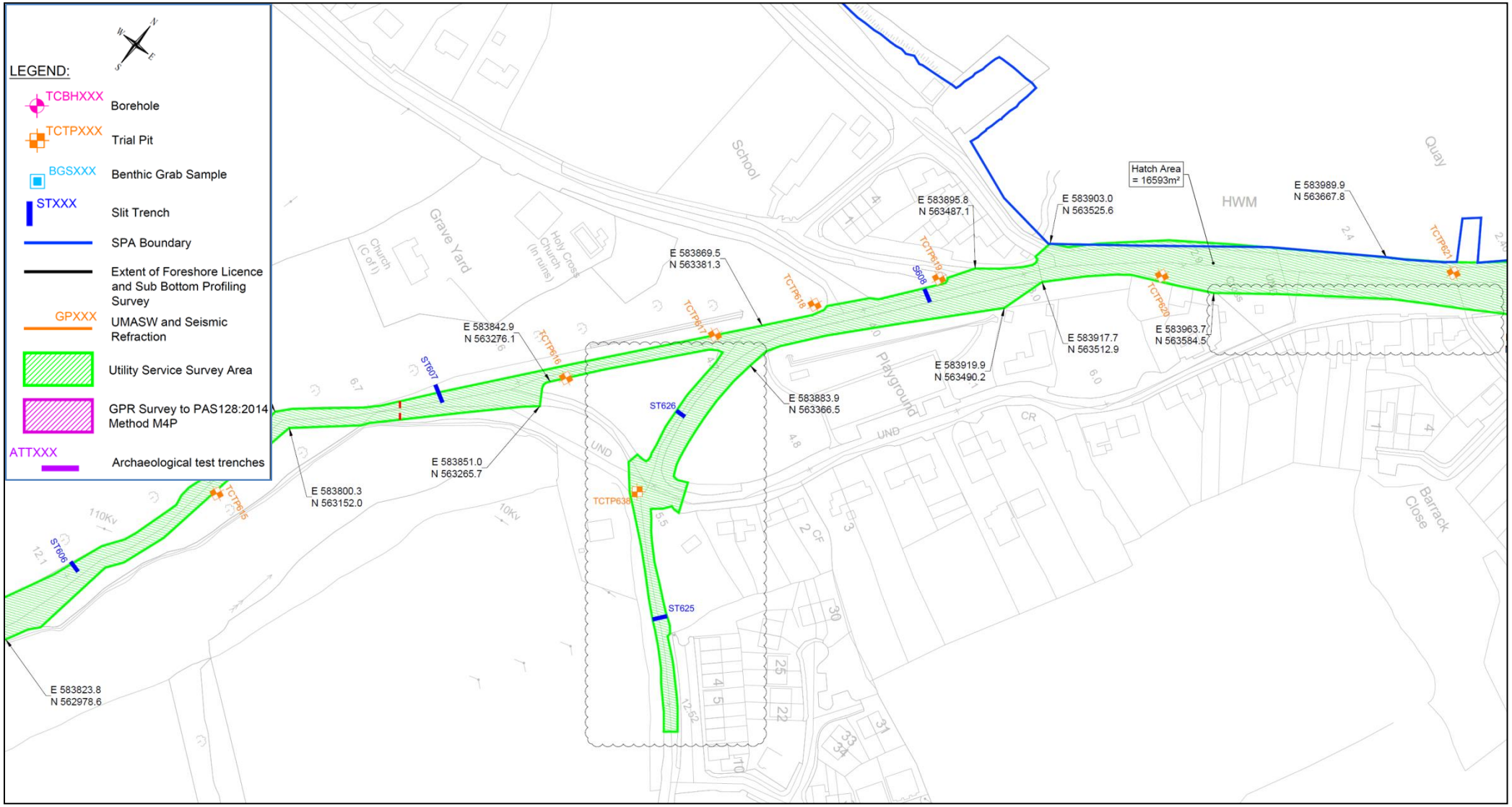


Figure 19: Extract from IW-10015229-01-09-004 Whitegate Route.

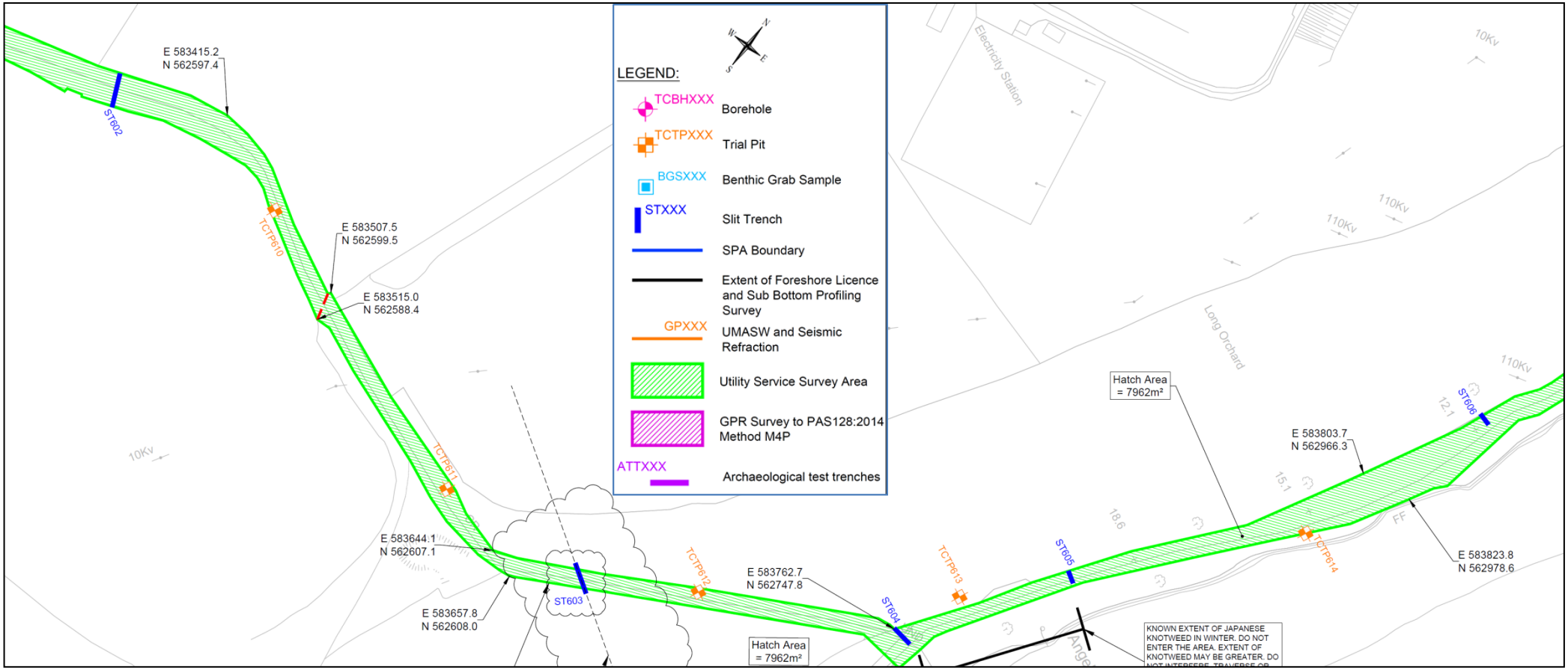


Figure 20: Extract from IW-10015229-01-09-003 Aghada Route.

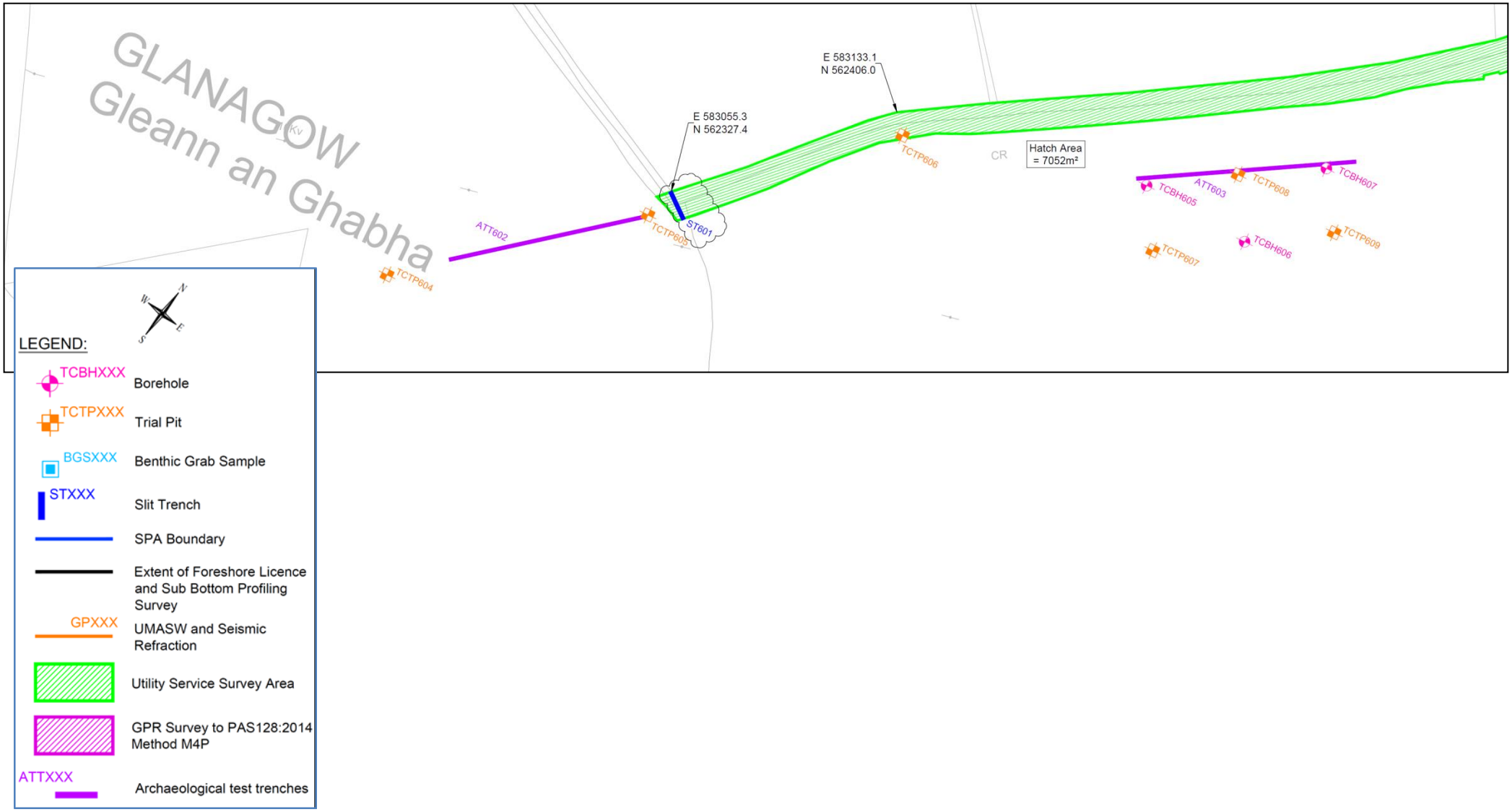


Figure 21: Extract from IW-10015229-01-09-002 Whitegate Route.

Appendix 3 References

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