The construction, survival, and use of Signal Defensible Guard Houses on the Irish Coast

Volume II of II

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Volume II Table of Contents

Volume II List of Figures

Appendix A. Signal Stations in County Galway

Six signal stations were located in County Galway, three of which survived in good condition (Insheer Signal Station, Inishmore Signal Station and Golam Head Signal Station), one of which was in poor condition (Cleggan Hill Signal Station) and two of which survived only as very low ruins (Cuileen Hill Signal Station and Bunowen Hill Signal Station) (Figure A.1). Two of the County Galway sites had large rectangular enclosures (Inisheer Signal Station and Inishmore Signal Station). Two of the sites may have had smaller enclosures (Cuileen Hill Signal Station and Cleggan Hill Signal Station), but in both cases the possible enclosures were fragmentary making interpretation difficult. Two of the sites (Golam Head Signal Station and Bunowen Hill Signal Station) seem to have been unenclosed.

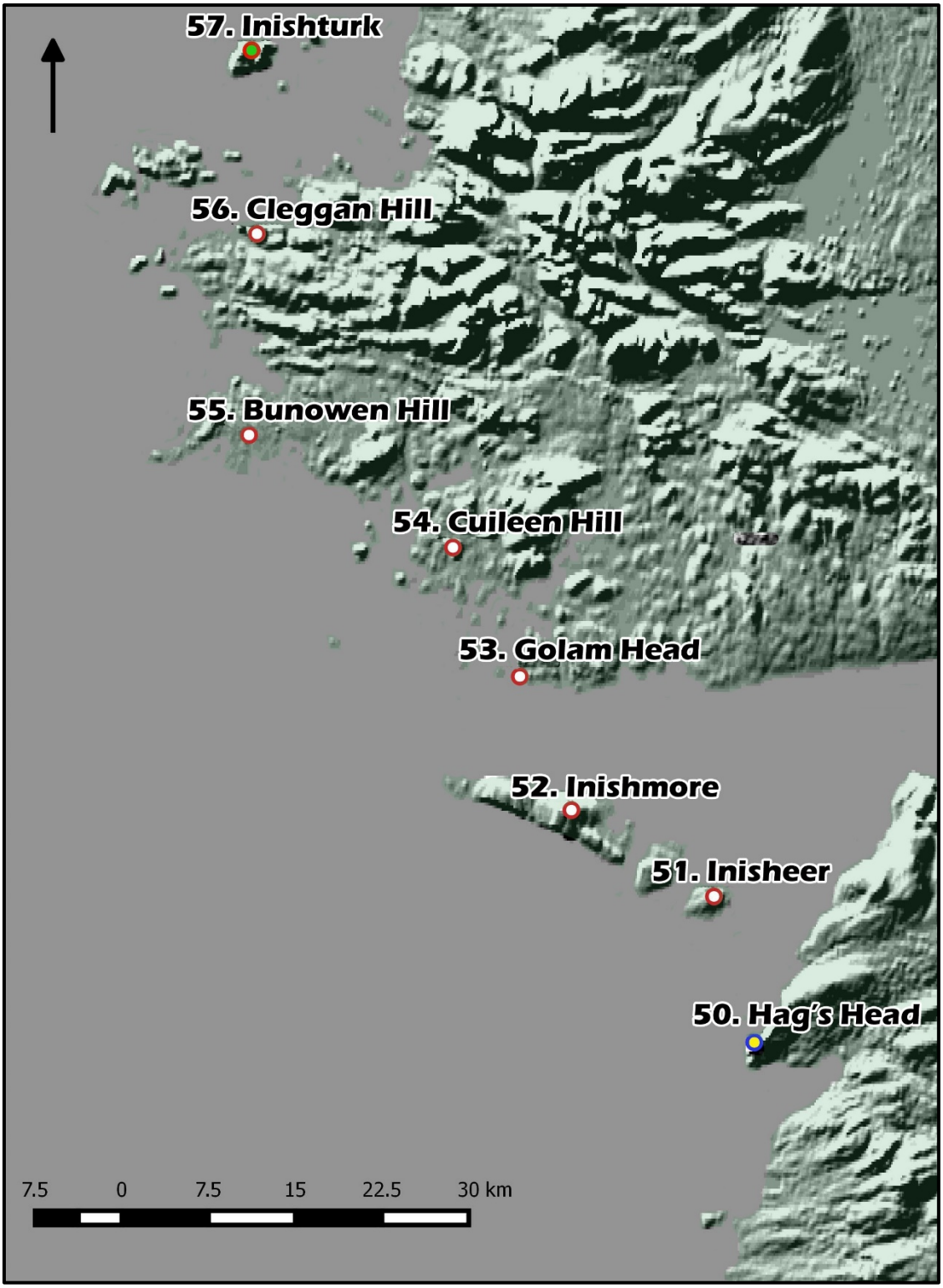

Figure A.1. Map showing locations of County Galway signal stations (white and red) and adjacent signal stations in County Clare (yellow and blue) and County Mayo (green and red).

Number 51. Inisheer Signal Station (498197E, 702212N).

Largely complete signal tower. SMR GA120-016----/Reg. No. 30412008. 65 m (213') OD. Surveyed 2 August 2015. Historical Name: South Isle of Arran Signal Station**.**

Figure A.2. Aerial photograph showing Inisheer Signal Station in the bottom centre of the image (Bing Maps).

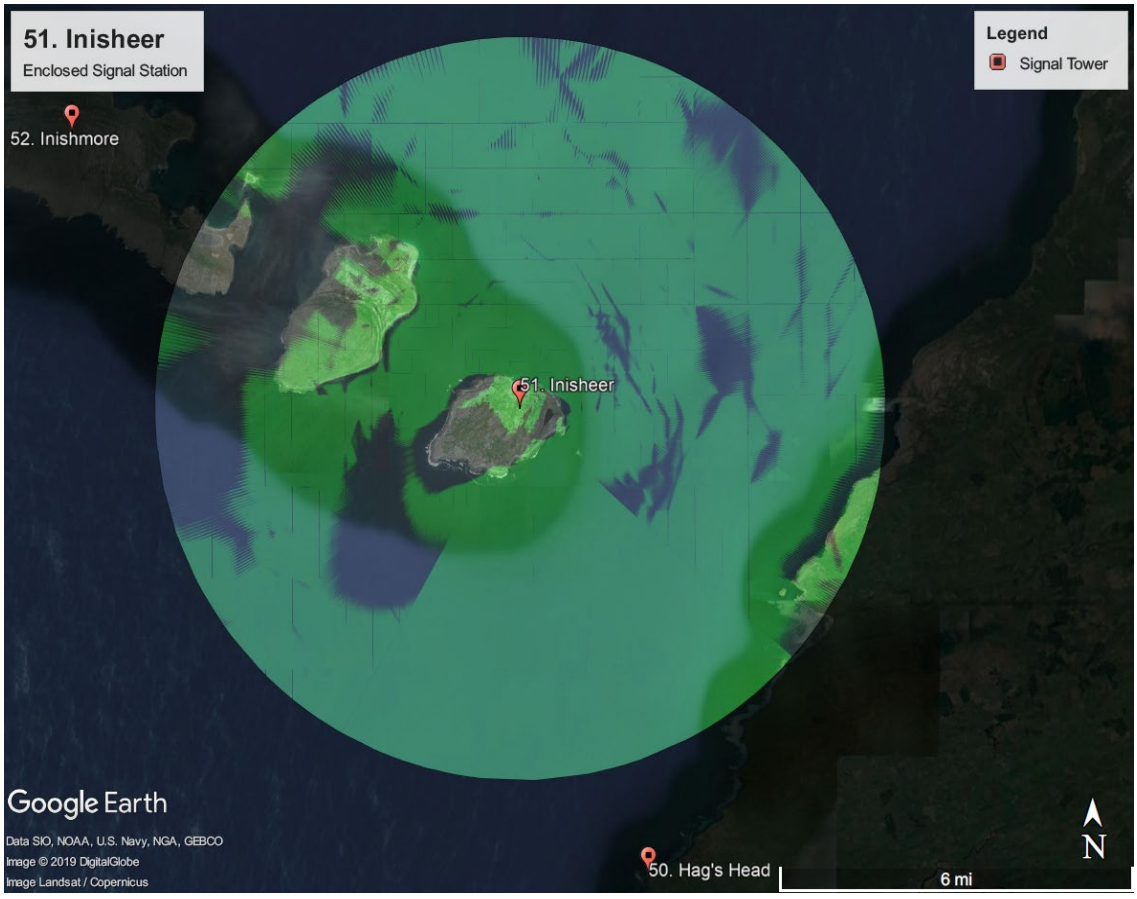

Figure A.3. Viewshed from Inisheer Signal Station (Google Earth Pro).

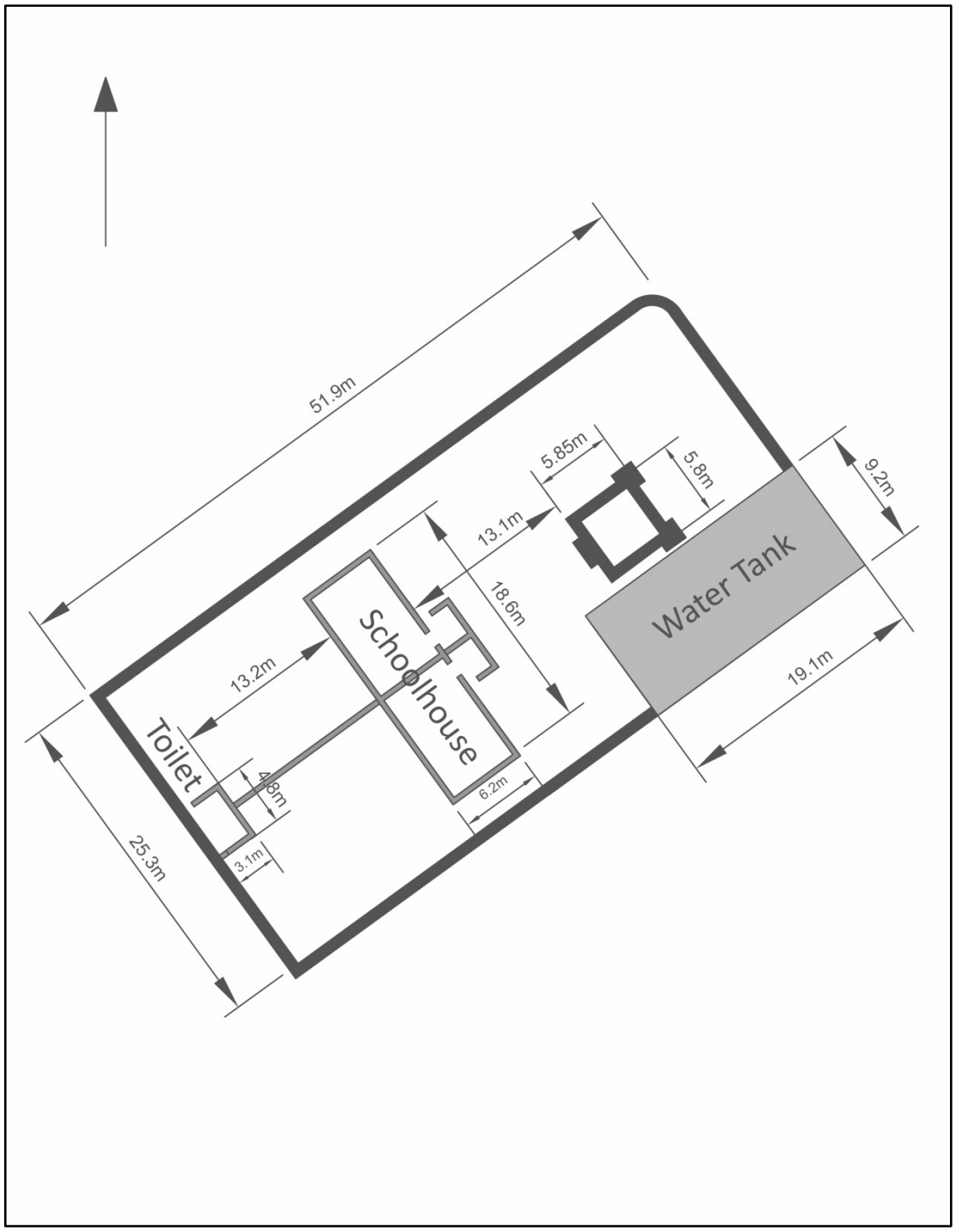

Figure A.4. Plan of Inisheer Signal Station.

Description.

The enclosed signal station on Inisheer was located at 65 m (213') OD on the crest of the large flat-topped hill that dominates the island, and which had expansive views in every direction except the south-west. The signal towers at the adjacent signal station to the north-west, Inishmore Signal Station, and to the south-east, Hag's Head Signal Station, County Clare, were clearly visible on the day of the survey. The site was approached via a steep dog-legged lane that led up from the harbour area of the island, passing by the important prehistoric stone fort and medieval hall house complex, known as *Dún Forma* (GA120-017001-) and *Caisleán Uí Bhriain* (GA120-017002-) respectively, which were sited at marginally lower elevations. The local area was an eroded limestone pavement although there appeared to be a well-developed soil within the rectangular enclosure that defined the boundary of the signal station. The signal station is located within a dense landscape of small, stone-walled, fields.

The signal station was relatively well-preserved, but the addition of three later structures within the enclosure have altered its character. It consisted of a rectangular enclosure, defined by an almost complete mortared stone wall that was between 0.76 m and 0.92 m (2' 6'' and 3') wide and up to 2.3 m (7' 6'') tall. The enclosure measured 52 m by 30 m (170' by 100') with its long axis aligned north-east to south-west. The top of the wall featured a stepped arrangement where the outer side was around 0.3 m (1') taller than the inner side, creating a narrow ledge reminiscent of a miniaturised medieval town or castle wall with a parapet and walkway. This stepped feature had been infilled with later stonework around much of the circuit and was only exposed around small stretches at the south of the enclosure. This was the most intact enclosure wall located within the main study area and it is not known if the other enclosure walls featured a similar step as no other example had survived to its full height. The current entrance was through a gate at the north corner of the enclosure. This was presumed to be a secondary alteration, although the location of the original entrance was not identified during the survey. Within the enclosure there were four structures, a well-preserved signal tower, a mid-or-late-19th century schoolhouse, a small outbuilding constructed against the south-western wall, and a modern water tank built in the south-east corner (Figure A.3).

The tower was located on the long axis of the enclosure, towards its north-east end, around 10 m (33') south-west of the north-east wall. The walls of the tower faced north-west, north-east, south-east and north-west. The signal tower was largely complete to the full height of its walls, although coping stones were entirely absent and there was no sign of a chimney stack on the north-eastern wall. Externally the signal tower measured 5.85 m (19' 9'') across. Internally the signal tower measured 4.27 m (14') across. The doorway was located on the south-west wall and was protected by a rectangular machicolation supported by three corbels. Square bartizans with sharply curved corners on the diagonal points were located on the north and east corners, each supported by three corbels. The north-west and south-east walls each featured two ground floor windows and two first floor windows. On the north-west and south-west walls, the lower sections of dressed stone surrounds of the windows and door had been removed, leaving the upper sections in place. On the south-east wall, the lower sections of the dressed stone surrounds had been removed from the ground floor windows but around the first floor windows the surrounds were complete. Square holes were visible on either side of both the ground floor and first floor windows, cut into the splayed sides. The holes are thought to have held large horizontal bars of some sort. The exterior of the tower was almost entirely covered in render and the impressions of weather-proof slates were visible on large areas of the render. The dressed stone elements were a mixture of dark- and mid-grey fine-grained stone, possibly limestone. The stone that comprises the body of the wall is largely concealed by render and cannot be identified at present. It is likely to be limestone given the geological setting. A large hole had been knocked through the north-east wall to permit entrance into the signal tower from ground level. The north-east wall bowed out slightly across its whole width, to create additional space in which to house the chimney flue.

Inside the tower the semi-basement level was almost completely infilled with soil, although the joist holes for the ground floor were visible at the base of the south-east and south-west walls. The joist holes and slots of the ground floor, first floor and attic level were visible on all of the internal walls. On the north-east wall, a row of small joist holes was noted at the base of the parapet wall, and a slot was observed at the base of the parapet wall on the south-east wall. The former presence of a split mezzanine level between the ground floor and first floor was marked by slots running across the tops of

the ground floor windows on the south-east and north-west walls, and by short rows of joist holes on the south-west walls and at one side of the north-east wall (the other side was obscured by the damage caused by the creation of the ground floor entrance). The damage to the north-east wall largely obscured the evidence of the two ground floor alcoves and central fireplace, although enough traces survived to satisfactorily confirm their former presence. Two alcoves flanked a central fireplace on the first floor, as expected. A square sectioned drainage channel ran the whole way down the western corner of the north-east wall. The damage to the north-east wall permitted the construction of the ground floor section of the chimney flue to be observed. The unlined flue could be seen to be curving to the west from the top of the fireplace to avoid the position of the first floor fireplace and presumably it curved back to the east in time to connect with the top of that feature, before continuing up to the location of the now absent chimney stack. Render covered almost all of the internal wall surfaces, apart from the areas where the different floor slots were located, and immediately north-west of the area where the north-eastern wall had been damaged.

Immediately south-east of the signal tower a large mid-20th century rectangular water tank had been constructed, entirely removing the east corner of the enclosure (and making it impossible to survey the ground floor of the south-east wall of the signal tower using photogrammetry). It is possible that the original entrance to the enclosure was located in this now destroyed area. The water tank was around 19 m (62') in length and 8 m (26') in width. A second large water tank, circular in plan, was located immediately east of the rectangular tank, outside of the enclosure.

In the centre of the enclosure there was a substantial mid-to-late-19th century schoolhouse. This building was set around 13 m (42' 6'') south-west of the signal tower and was arranged with its long axis from north-west to south-east, at right angles to the long axis of the enclosure. The schoolhouse measured roughly 19 m (62') by 8 m (26') and was divided into two equally sized rooms. Fireplaces were located on the dividing wall, which was topped by a tall brick-built chimney. The front north-east wall featured a wide porch, split into two separate entrances, each serving one of the classrooms. The rear south-west wall showed the scar of a now demolished wall that had run from the mid-point of the schoolhouse towards an outbuilding on the south-west wall of the

enclosure. This wall was featured on the 3rd edition Ordnance Survey map, surveyed 1915-1920. The outbuilding was rectangular in plan and measured 4.8 m (15’ 9’’) by 3.12 m (10’ 3’’), with a doorway on the north-west wall and a now blocked doorway on the south-east wall. The shed roof of this building sloped downwards into the enclosure. It is highly likely that this building was the toilet block for the schoolhouse.

Figure A.5. View of Inisheer Signal Station from the north, showing the dense stone walled landscape in the foreground, the signal tower in the centre, the schoolhouse to the right of the signal tower and the rectangular water tank to the left of the signal tower.

Figure A.6. The south corner of the enclosure, with the stepped feature at the top of the wall visible. A building was shown in this corner of the enclosure on the 1st edition Ordnance Survey map, but no traces of it could be identified through the long grass.

Figure A.7. View of the south-west wall of the signal tower, showing the first floor door and the machicolation which protected it. Note the absence of the stone surround on the lower half of the door.

Figure A.8. The parapet level of the north-east wall showing the bartizans and patches of weather-proof slates.

Figure A.9. The damaged area of the ground floor level of the internal face of the north-east wall. The damaged alcoves can be seen at either side and the curving flue that would have connected to the largely removed fireplace can be seen. The row of joist holes from the south-east mezzanine level can be seen at the right of the wall.

Figure A.10. The first floor and parapet level of the internal face of the north-east wall, showing the first floor alcoves and fireplace, the joist holes of the attic level, the instep at the parapet level for the roof, and the entrances to the two bartizans.

Figure A.11. The ground floor level of the internal face of the south-west wall, showing the two sets of joist holes from the split mezzanine level and the base of the first floor doorway.

Figure A.12. View of the schoolhouse, looking west. The double entrance is in the foreground, projecting from the front wall of the building, and the brick chimney can be seen extending from the peak of the central gable.

Figure A.13. The north-west side wall of the toilet block, with the door opening to the right. He enclosure wall was used as the rear wall of the building.

Figure A.14. The north-east front wall of the toilet block.

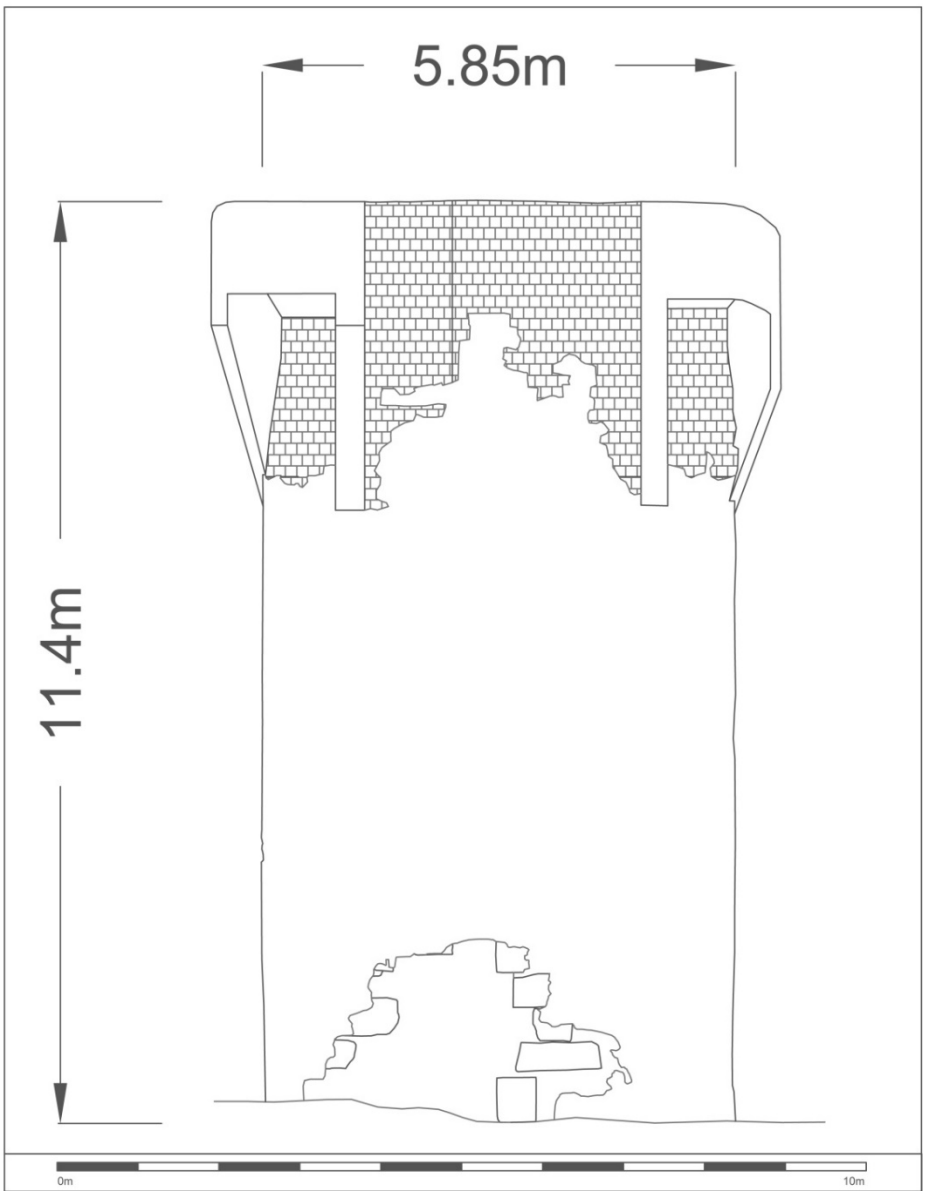

Figure A.15. External elevation of the north-east wall of the signal tower at Inisheer Signal Station.

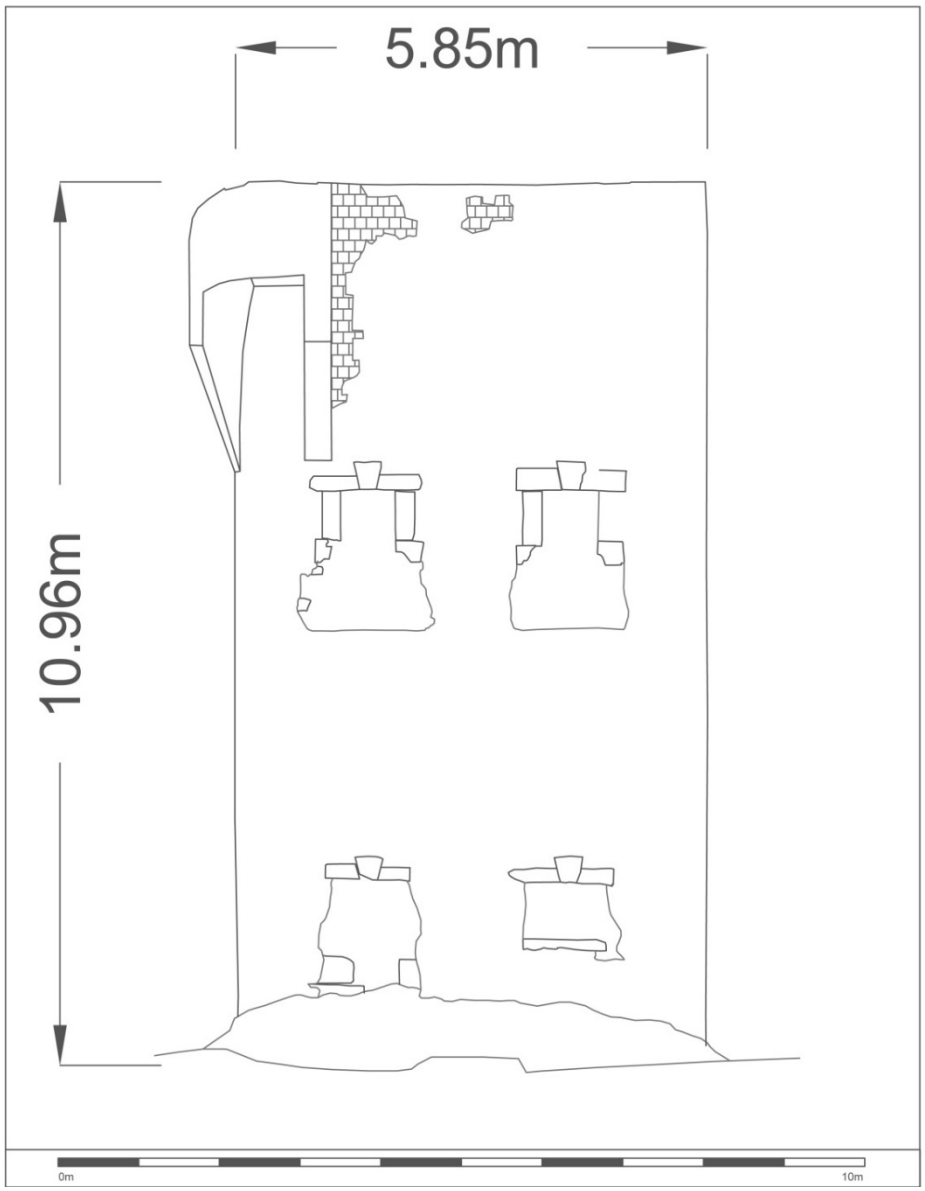

Figure A.16. External elevation of the north-west wall of the signal tower at Inisheer Signal Tower.

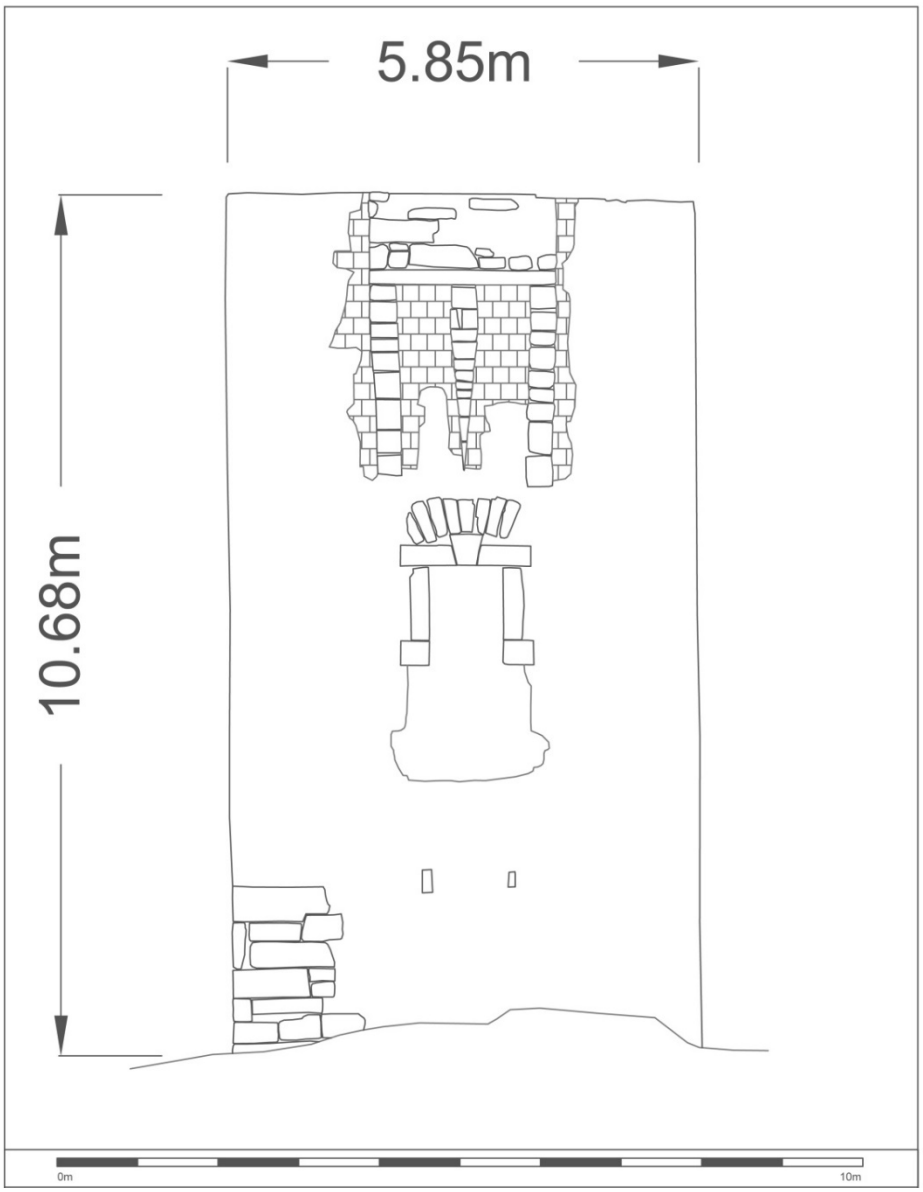

Figure A.17. External elevation of the south-west wall of the signal tower at Inisheer Signal Station.

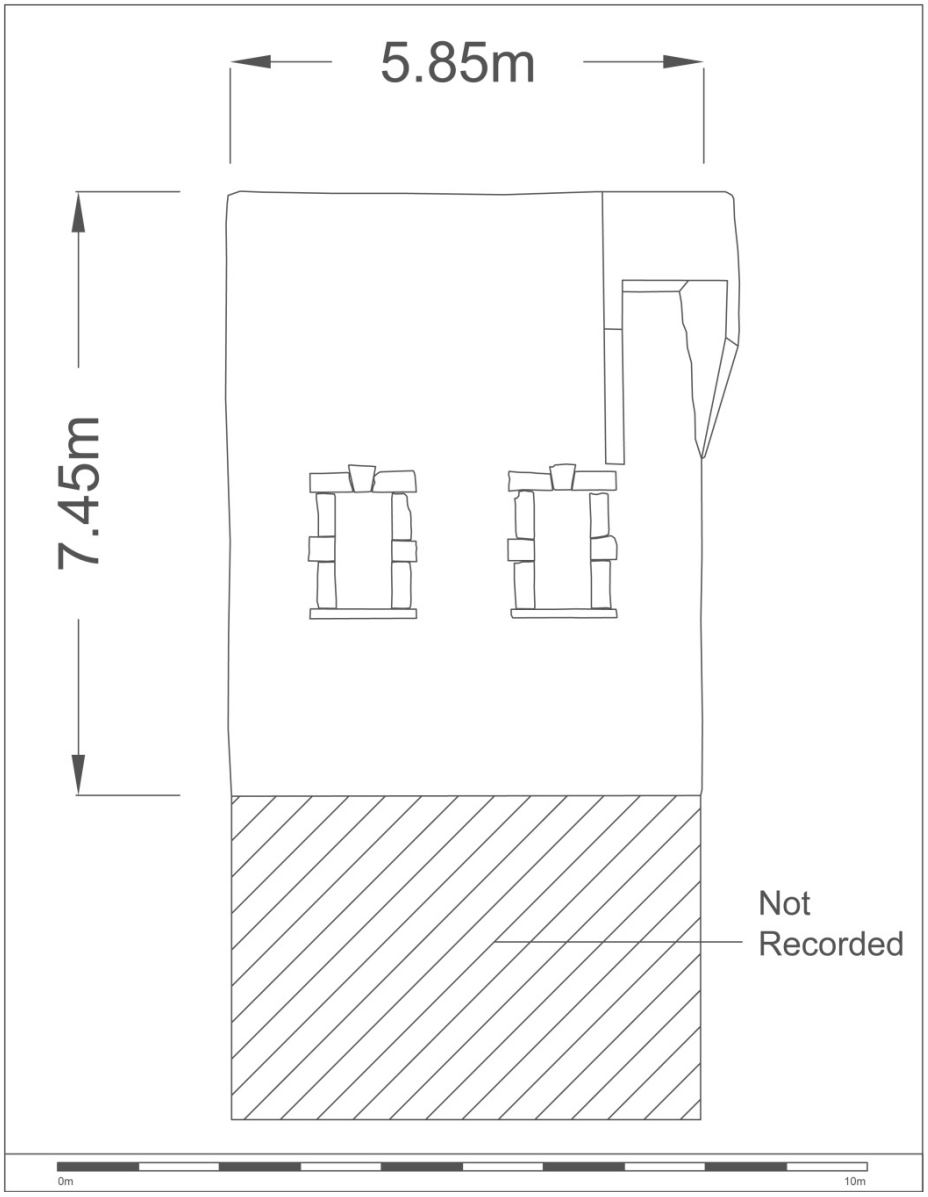

Figure A.18. External elevation of the south-east wall of the signal tower at Inisheer Signal Station.

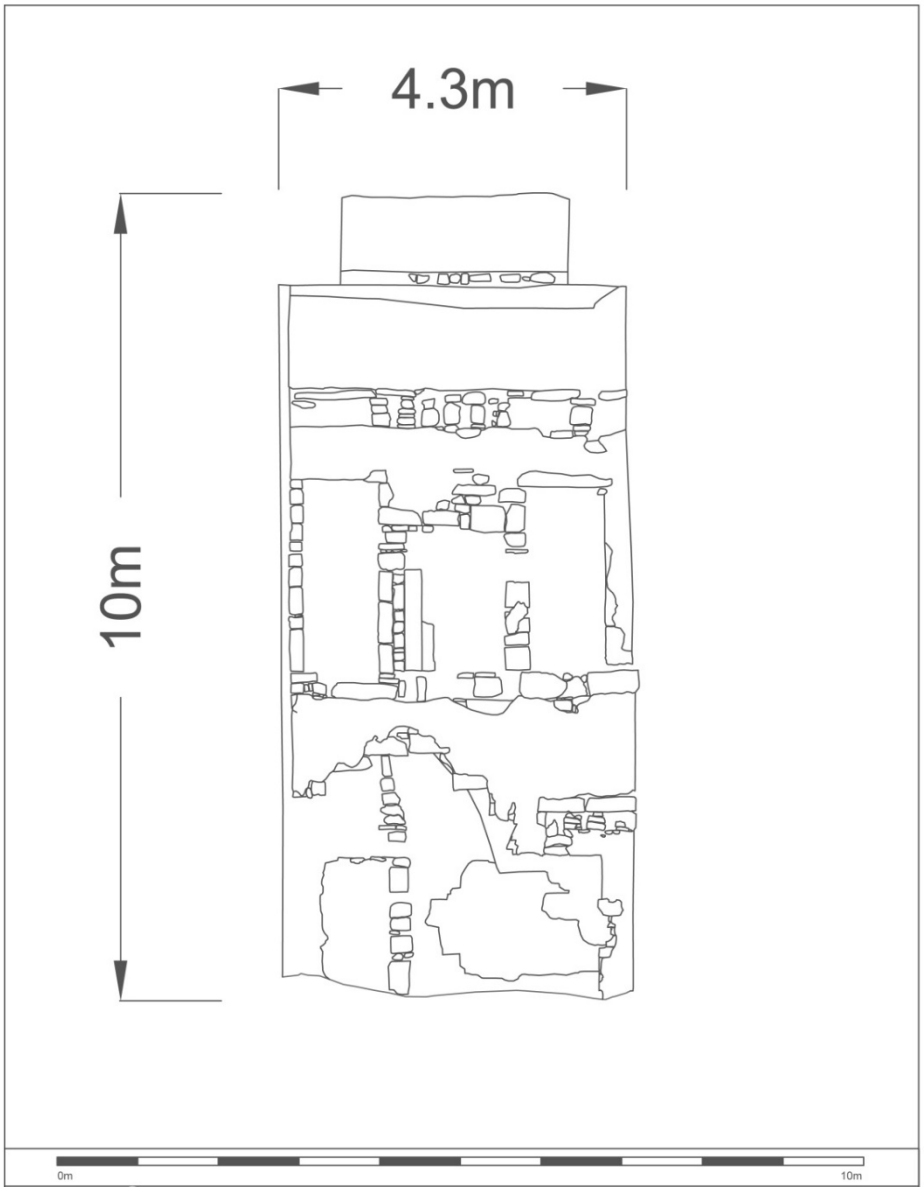

Figure A.19. Internal elevation of the north-east wall of the signal tower at Inisheer Signal Station.

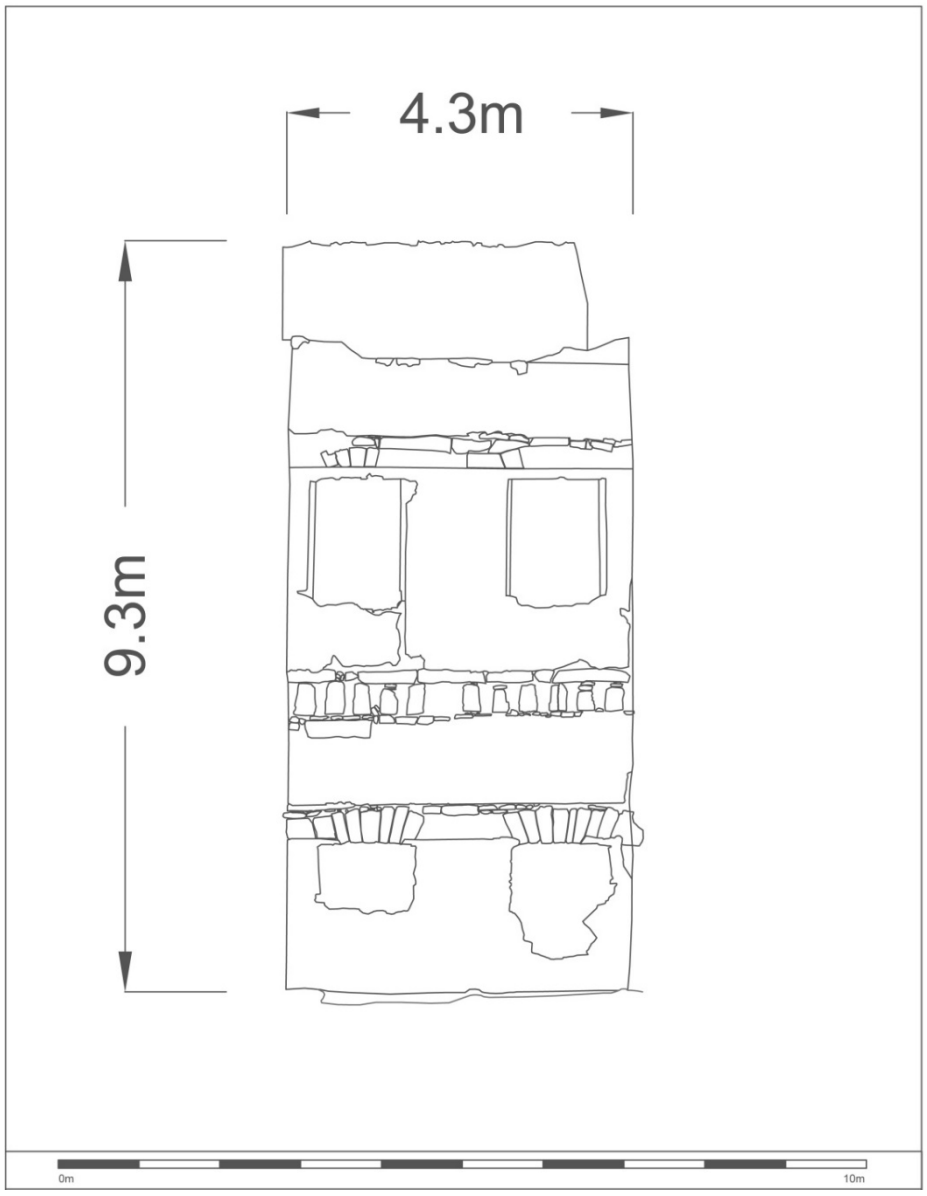

Figure A.20. Internal elevation of the north-west wall of the signal tower at Inisheer Signal Station.

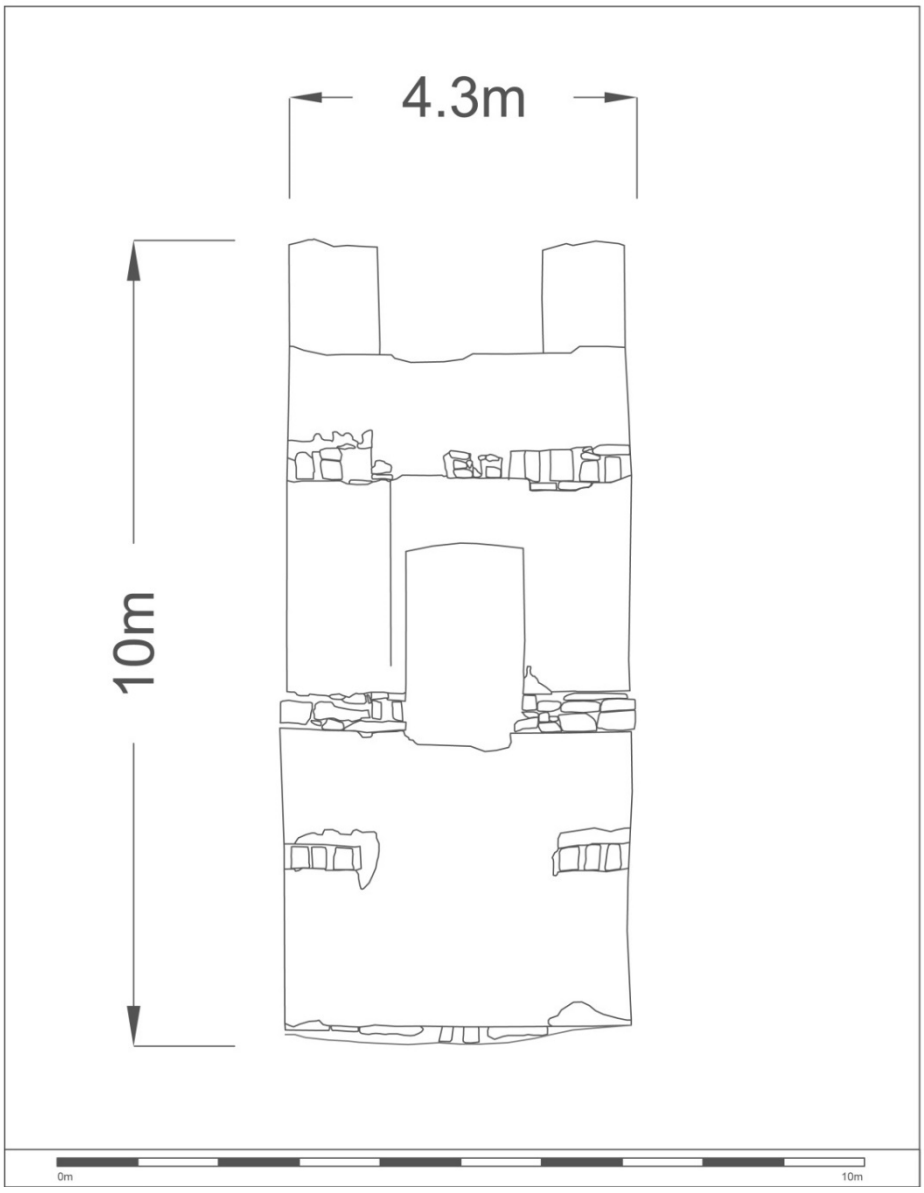

Figure A.21. Internal elevation of the south-west wall of the signal tower at Inisheer Signal Station.

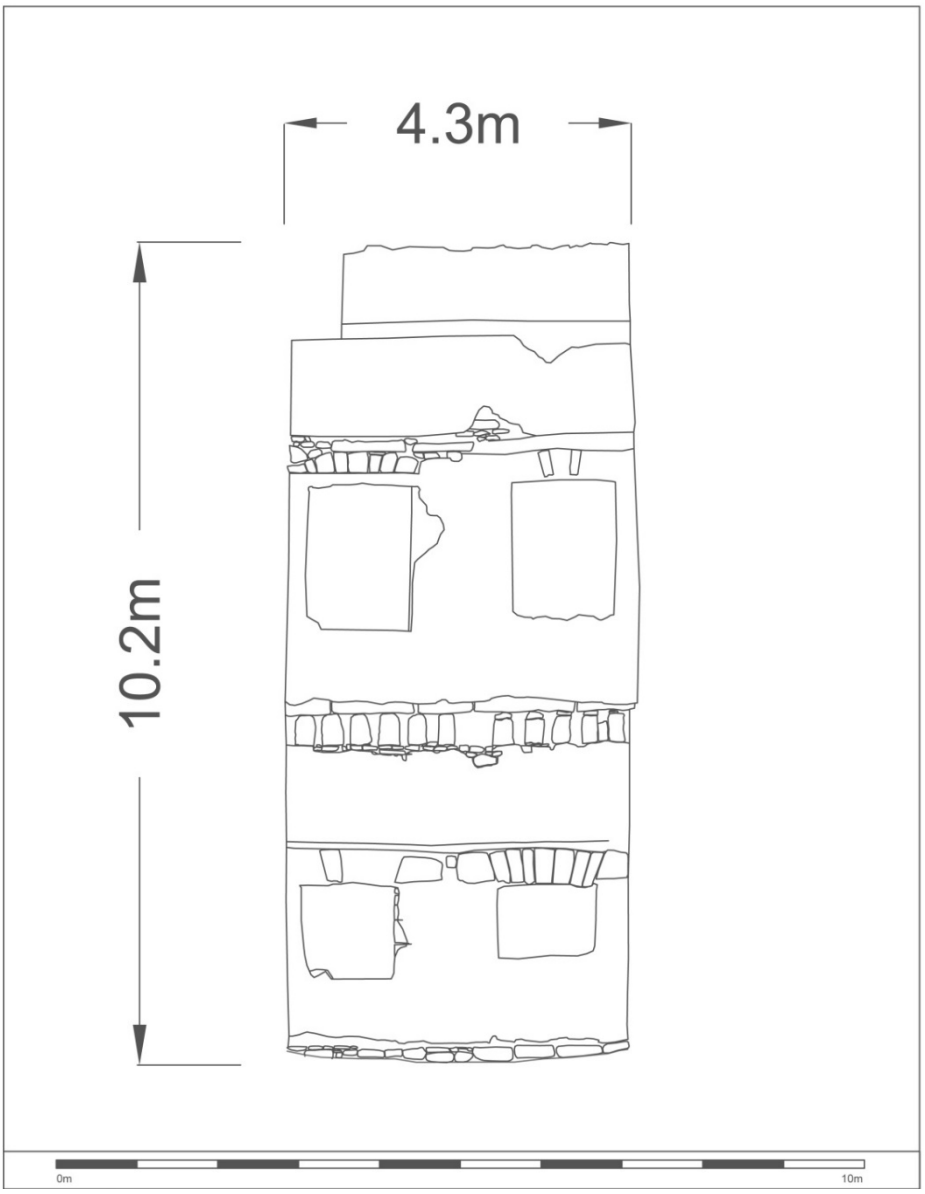

Figure A.22. Internal elevation of the south-east wall of the signal tower at Inisheer Signal Station.

Number 52. Inishmore Signal Station (486065E, 709901N).

Largely complete signal tower. SMR GA110-133001-/Reg. No. 30411019. 126 m (413') OD. Surveyed 30 August 2014. Historical Name: Great Isle of Arran Signal Station.

Figure A.23. Aerial photograph showing Inishmore signal station in the top left of the image (Bing Maps).

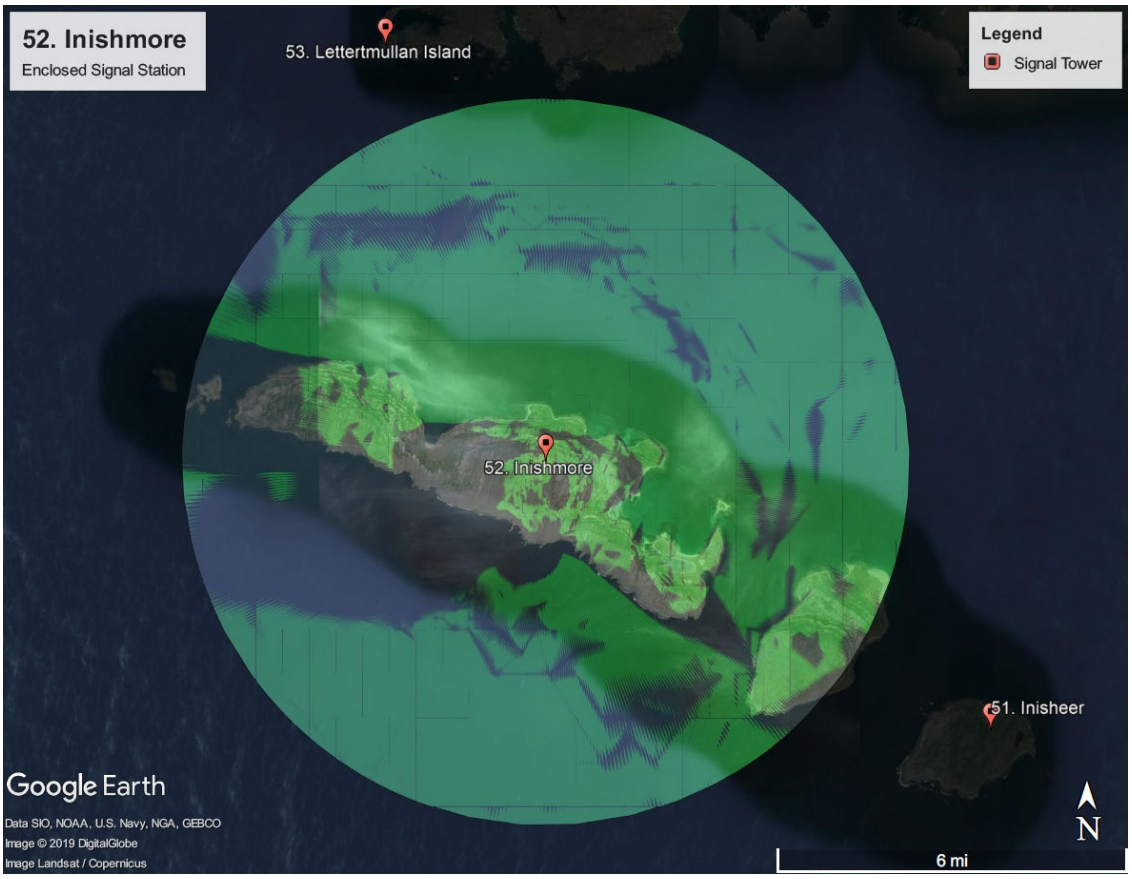

Figure A.24. Viewshed from Inishmore Signal Station (Google Earth Pro).

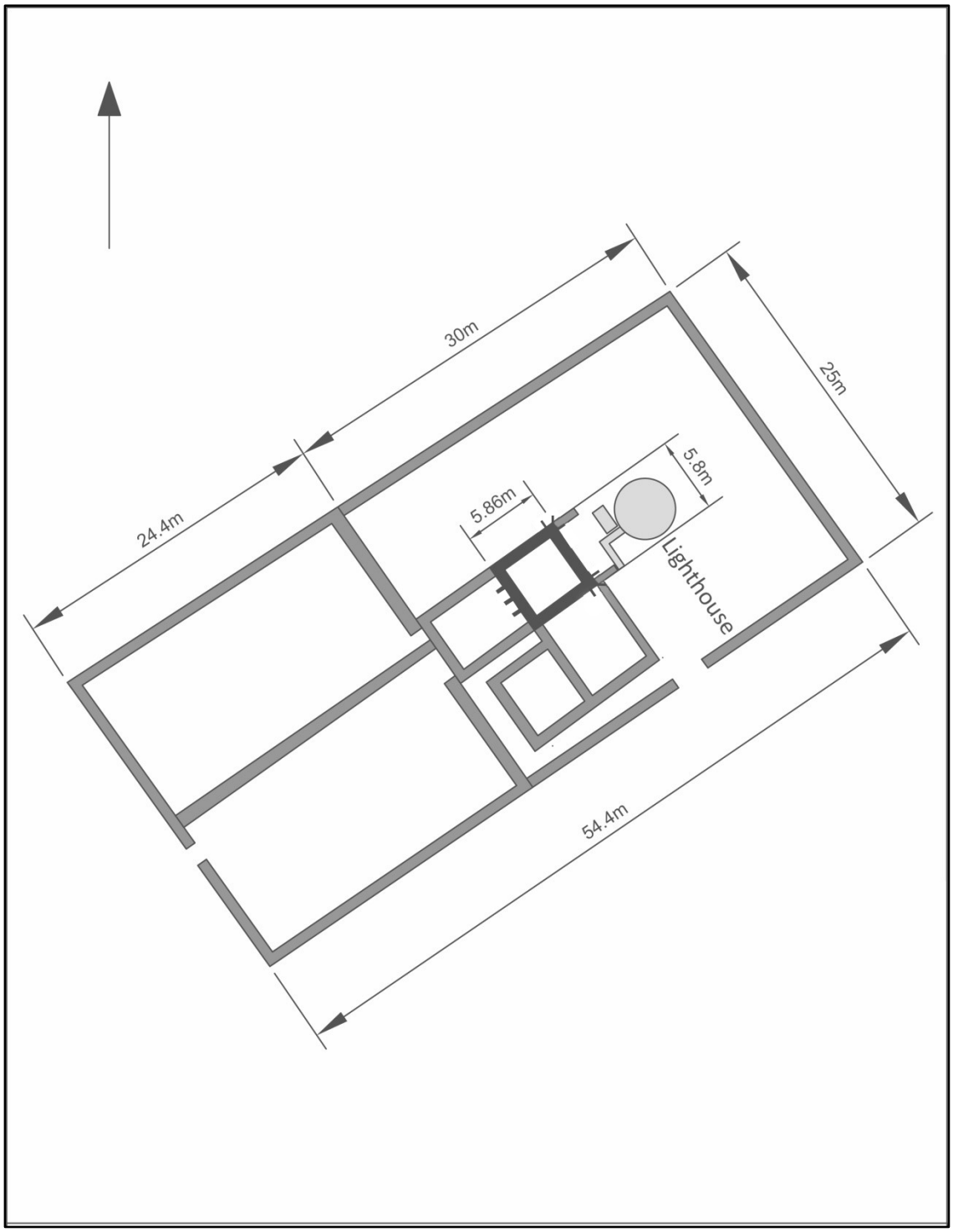

Figure A.25. Plan of Inishmore Signal Station.

Description.

The signal station on Inishmore was located at 126 m (413') OD, at the northern edge of the large hill that forms the middle part of the island. The site was approached from the north, via a steep lane that led up from the main road that ran from east to west across the island. It had expansive views in every direction, except the south-west. The signal towers at the adjacent signal stations on Inisheer, to the south-east, and on Lettermullan Island, to the north, were clearly visible on the day of the survey. The site of the signal station was subsequently used as a lighthouse. Whilst the signal tower and parts of the enclosure were still present, they had been much altered, with additions having been made to three sides of the signal tower, and part of the enclosure seemingly having been altered or rebuilt. A small cylindrical lighthouse was located to the immediate north-east of the tower where one of the additions to the signal tower had been partially removed. The signal station is located within a dense landscape of small stone walled fields.

The signal station consisted of a well-preserved signal tower set within a large rectangular enclosure defined by a mortared stone wall that measured around 55 m by 25 m (180' by 82'). The enclosure's long axis was aligned north-east to south-west. The enclosure was divided into two roughly equal halves and it appeared that the south-west half was original, whilst the north-east half had been refurbished or rebuilt.

The signal tower was located in the north-east half of the enclosure, close to the north-west to south-east dividing wall, and on the line of the enclosure's long axis. The walls of the tower faced north-west, north-east, south-east and south-west. The tower was largely complete, but the upper part of the parapet wall had been removed. The tower measured 5.85 m (19' 2'') across externally and 4.27 m (14') across internally. The signal tower featured the usual arrangement of external features, with pairs of ground floor and first floor windows on the north-west and south-east walls, a first floor doorway protected by a machicolation on the south-west wall, and two small square bartizans on the north and east corners. One of the ground floor windows on the north-west wall, all of the first floor windows, and the first floor doorway featured dressed stone surrounds, although they were largely concealed by render. The three remaining ground floor windows had been damaged, and no surrounds survived, although their

former presence was indicated by gaps in the walls. The lower halves of the first floor windows on the south east wall had been filled in with neat stonework. No stonework of the actual machicolation or the bartizans survived, only the stone corbels and piers that supported each feature. The tops of the piers were around the same height as the top of the parapet wall, indicating that only the lower courses of the parapet wall had survived. The dressed stone used on the external features was a mid-grey fine-grained stone, possibly limestone. The exterior of the tower was covered in a heavy layer of render in which the impressions of weather-proof tiles could be seen. Around the top of the tower small patches of intact slates were visible. The stone that comprises the body of the wall is largely concealed by render and cannot be identified at present. It is likely to be limestone given the geological setting.

The tower largely followed the standard arrangement of internal features. It was not clear if the tower had a semi-basement as the interior was infilled to the height of the base of the ground floor windows. The rest of the internal features followed the standard arrangement. The ground floor and first floor levels of the north-east wall featured central fireplaces flanked by two alcoves. The slots for the split mezzanine level were built into the top of the ground floor alcoves, but their positions on the opposing south-west wall were concealed by a layer of render, indicating that the platforms had been removed during one of the periods of modification that had occurred at the site. A low attic level was present, with slots in the north-west and south-east walls with stone blocks used to define separate joist holes, and the slots on the north-east and south-west walls consisting of simple gaps in the render. A drainage channel ran down the north-west corner of the north-east wall, from the roof level to the ground floor level. The south-west ground floor window on the south-east wall and the south-east ground floor alcove on the north-east wall had been opened up to provide ground level access to the signal tower. Square holes were visible on either side of the first floor windows, cut into the splayed sides. The holes are thought to have held large horizontal bars of some sort.

Three later ‘wings’ had been added to the signal tower, when the signal tower was initially converted into a lighthouse. Two of the additions, on the south-east and south-west walls, had survived to their full heights, although both were missing their roofs.

The main part of the south-east addition was one and a half storeys tall, with a chimney on the south-east end wall. A single storey room was located on the south-west side of the addition. The south-west addition was two stories tall and had an entrance on the north-west wall protected by a now absent gabled porch. The additions had featured steep gabled roofs, which were missing. The north-east addition had been demolished but the position of a gabled roofline was visible on the surface of the signal tower's wall, and it appeared to have been a single storey building with a steep gabled roof. Low sections of wall to the north-east of the tower may have been parts of this addition that were retained when the circular lighthouse was constructed to shelter the entrance, but this was uncertain. The three additions were made around 1818, several years after the signal station system had been abandoned c.1815. When the signal station was first converted into a lighthouse it is assumed that a lantern was added to the roof of the signal tower, in common with the upgrading of early 'beacon type' lighthouses which occurred at the start of the 19th century (O'Sullivan & Downey 2013). The removal of the parapet wall may have occurred during this period of use, potentially because the parapet wall hindered visibility to the lantern, and because its defensive purpose had become redundant.

A purpose-built cylindrical light house was subsequently constructed immediately north-east of the signal tower, in the location where the north-east addition had stood. The National Inventory of Architectural Heritage lists this small well-preserved lighthouse (Reg. No. 30411020) as having a construction date of 1835, although the freestanding lighthouse is not shown on either the 1st or 3rd edition Ordnance Survey maps, surveyed 1838-1839 and 1915-1920 respectively, which continue to show the signal tower with its three additions (the 2nd edition Ordnance Survey map is not available online). The NIAH describes the site as a whole as being "of considerable architectural and military history importance" (NIAH 2019).

The 1st edition Ordnance Survey map shows additional rectangular buildings in the north, east, and west corners of the enclosure, and a fourth building halfway along the south-west enclosure wall. The 3rd edition Ordnance Survey map shows the same buildings at the north and east corners and along the south-west wall, and a new building in the southern corner of the enclosure. No traces of these buildings were

identified during the survey. It is not known if any of them were associated with the original signal station or if they were later additions. If only the south-west part of the enclosure was an original element, as was suggested above, then only the structures at the west corner and along the south-west wall could be associated with the signal station, prior to its conversion into a lighthouse.

'Eire Sign 50' was located approximately 190 m south of the signal station, but the situation regarding L.O.P 50 is unclear. It may have been a 137 block building that has been demolished, it may have been located within the existing buildings at the Inishmore Signal Station/Lighthouse complex, or it may have been located within an existing building in Kilronan, on the north coast of the island. Several sources, most noticeably *Óglaigh na hÉireann's* website, place its location at the Signal Station, presumably assuming that the lighthouse complex was utilised (Defence Forces Ireland 2017). This is an understandable assumption given that an 'Eire' sign is located approximately 200 m (218 yards) south of the signal station. However, Kennedy lists the site on Inishmore as Kilronan (Kennedy 2008, 324). This is confirmed by a digital version of the logbook, available to view on *Óglaigh na hÉireann's* website (Military Archives 2019). Kilronan is the main settlement on the island and is located some 2.2 km (1.4 miles) to the east of the signal station. The signal station was located in Eochaill townland, whilst Kilronan is located in Killeany townland. Given the physical distance and the different townlands it has to be possible that the Look Out Post was simply located within or close to Kilronan. The obvious location for the establishment of the Coast Watching Service in Kilronan would be in the large late 19th century coast guard building (Reg. No. 30411104), although this suggestion requires further investigation[1].

[1] A United States Army Air Force (U.S.A.A.F.) map incorrectly identifies the location of 'Eire Sign 50' as the headland to the immediate north of Kilronan (Lynch 2018b). The same chart marks the position of the early 20th century coast guard watch house at Moyteogue, County Mayo, which was reused as a Look Out Post (L.O.P. 59), rather than 'Eire Sign 59' which was located 2.8 km (1.7 miles) to the east (Lynch 2018a). The U.S.A.A.F. map also marks 'Eire Sign 60' on the eastern side of the southern tip of the Belmullet peninsula, where L.O.P. 60 is located, rather than the western side where 'Eire Sign 60' is located, and the position of 'Eire Sign 72' is shown to the north of Malin Beg, County Donegal, two headlands away from its actual location to the south of Malin Beg. Unfortunately, this contemporary document only confuses matters, rather than providing clarification. The unexpected inaccuracies may reflect the strained nature of intelligence sharing between Ireland and the allied forces, which have been exhaustively documented by Kennedy (Kennedy 2008).

Figure A.26. View of Inishmore Signal Station from the south, showing the expanded enclosure wall, signal tower and cylindrical lighthouse.

Figure A.27. Detail of the signal tower showing the south-west addition to the left, the south-east addition to the right and the cylindrical lighthouse in the background.

Figure A.28. The upper part of the south-west wall of the signal tower, showing the first floor door, the corbels and piers of the machicolation reaching the reduced top of the parapet wall, patches of weather-proof slate and the impression of the roof line of the two storey south-west addition.

Figure A.29. The upper part of the north-east wall of the signal tower, showing the corbels and piers of the bartizans reaching the reduced top of the parapet wall, patches of weather-proof slate and the impression of the roof line of the single storey north-east addition.

Figure A.30. The upper part of the internal wall face of the north-east wall, showing the central fireplace flanked by alcoves bearing the impressions of shelves. The row of joist holes of the attic level run above the tops of the alcoves. In the top left the edge of the diagonal stone marking the entrance to the north bartizan can be seen.

Figure A.31. The lower part of the internal wall face of the north-east wall, showing the top of the central fireplace flanked by alcoves, the right hand alcove having been opened up into an ground level entrance. The extent to which the ground floor level has been infilled is clearly visible.

Figure A.32. The upper part of the internal wall face of the north-west wall, showing the joist holes of the first floor, the first floor windows, the impression of the attic level and the reduced parapet wall.

Figure A.33. The upper part of the internal wall face of the south-west wall, showing the first floor door, the joist holes of the attic level and the reduced parapet wall.

Figure A.34. The north-west wall of the two storey addition to the south-west of the signal tower, with the impression of the porch over the entrance visible on the wall adjacent to the signal tower.

Figure A.35. The north-east wall of the one and a half storey addition to the south-east of the signal tower, with the chimney on the end wall visible at the left of the picture.

Figure A.36. The impression of the roof of the single storey addition on the north-east wall.

Figure A.37. The demolished and altered remains of the north-east addition, between the signal tower and the cylindrical lighthouse.

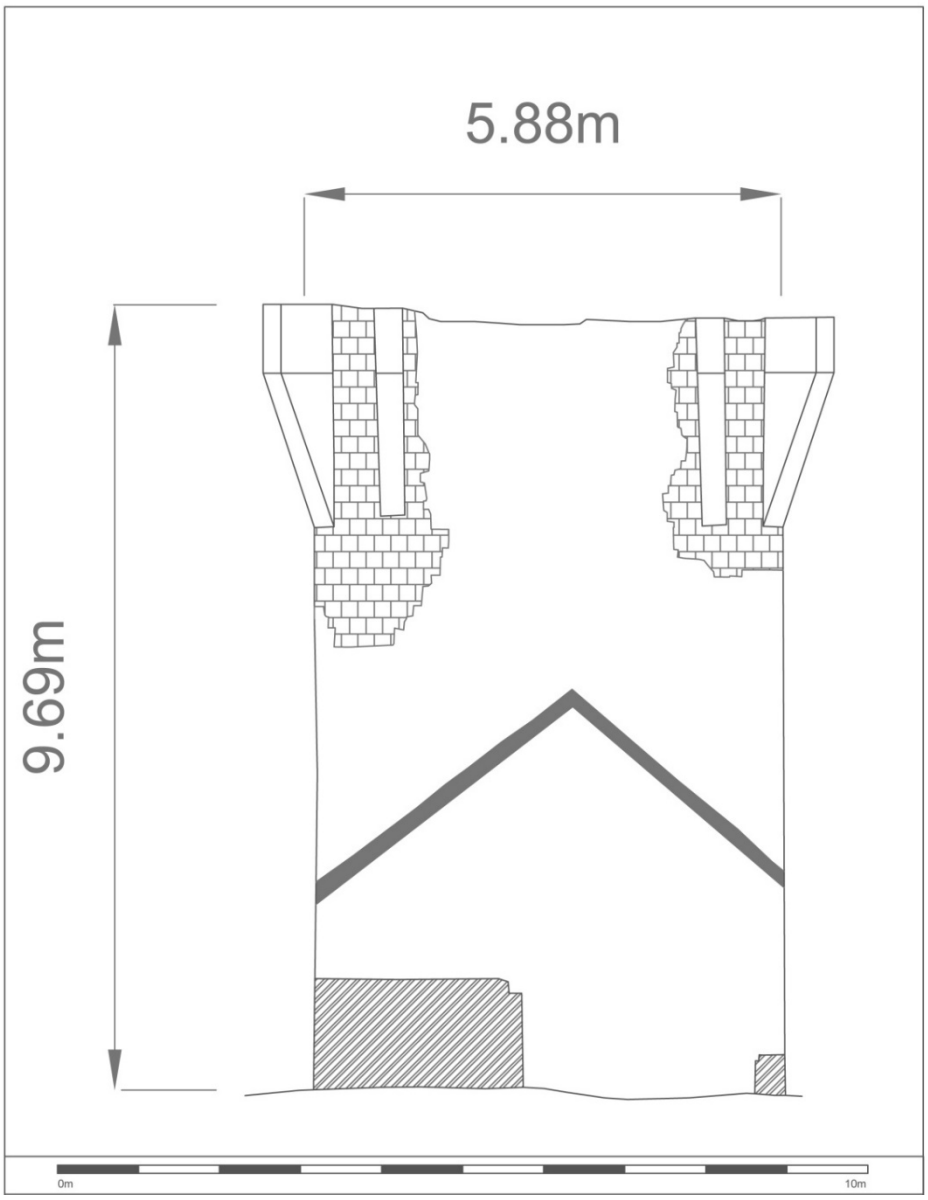

Figure A.38. Internal elevation of the north-east wall of the signal tower at Inishmore Signal Station.

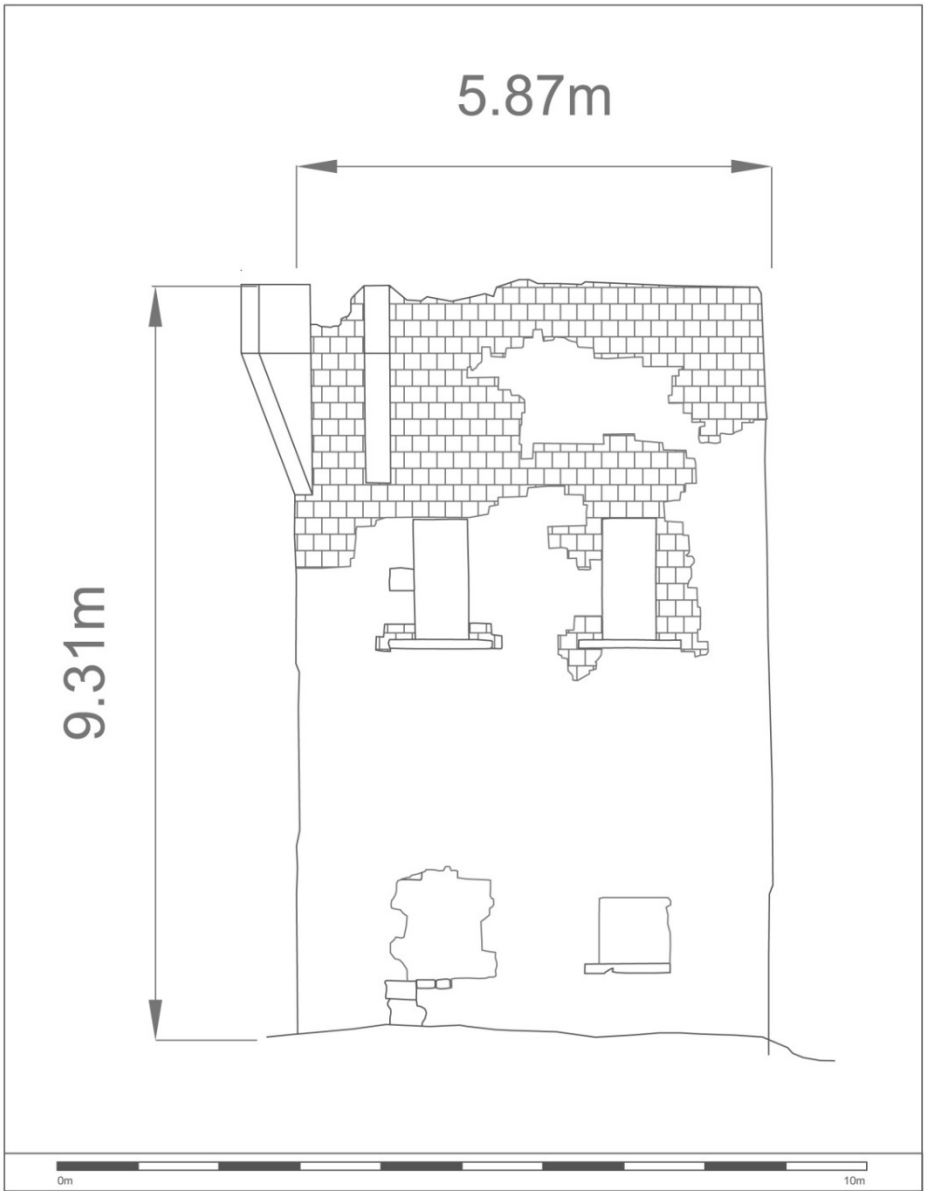

Figure A.39. External elevation of the north-west wall of the signal tower at Inishmore Signal Station.

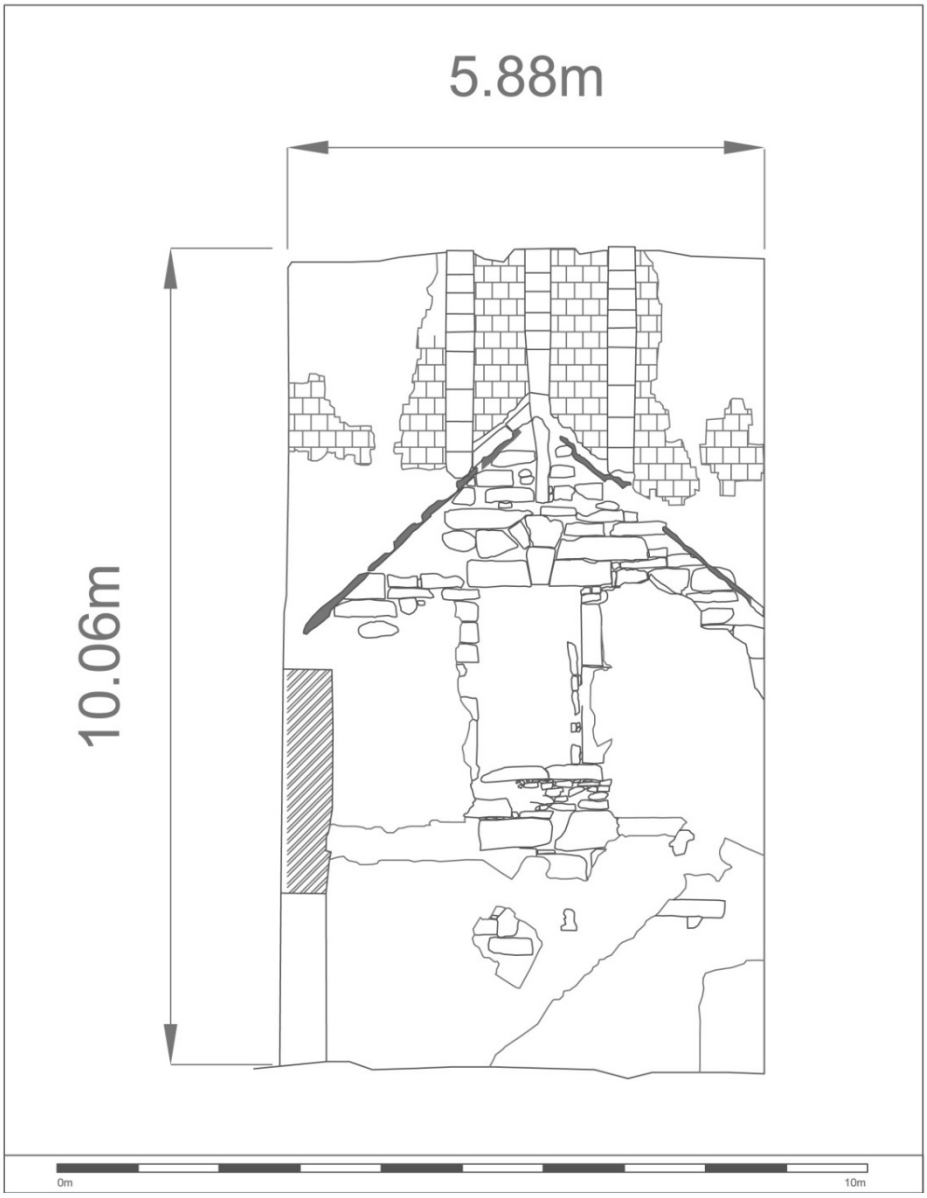

Figure A.40. South-west External elevation of the south-west wall of the signal tower at Inishmore Signal Station.

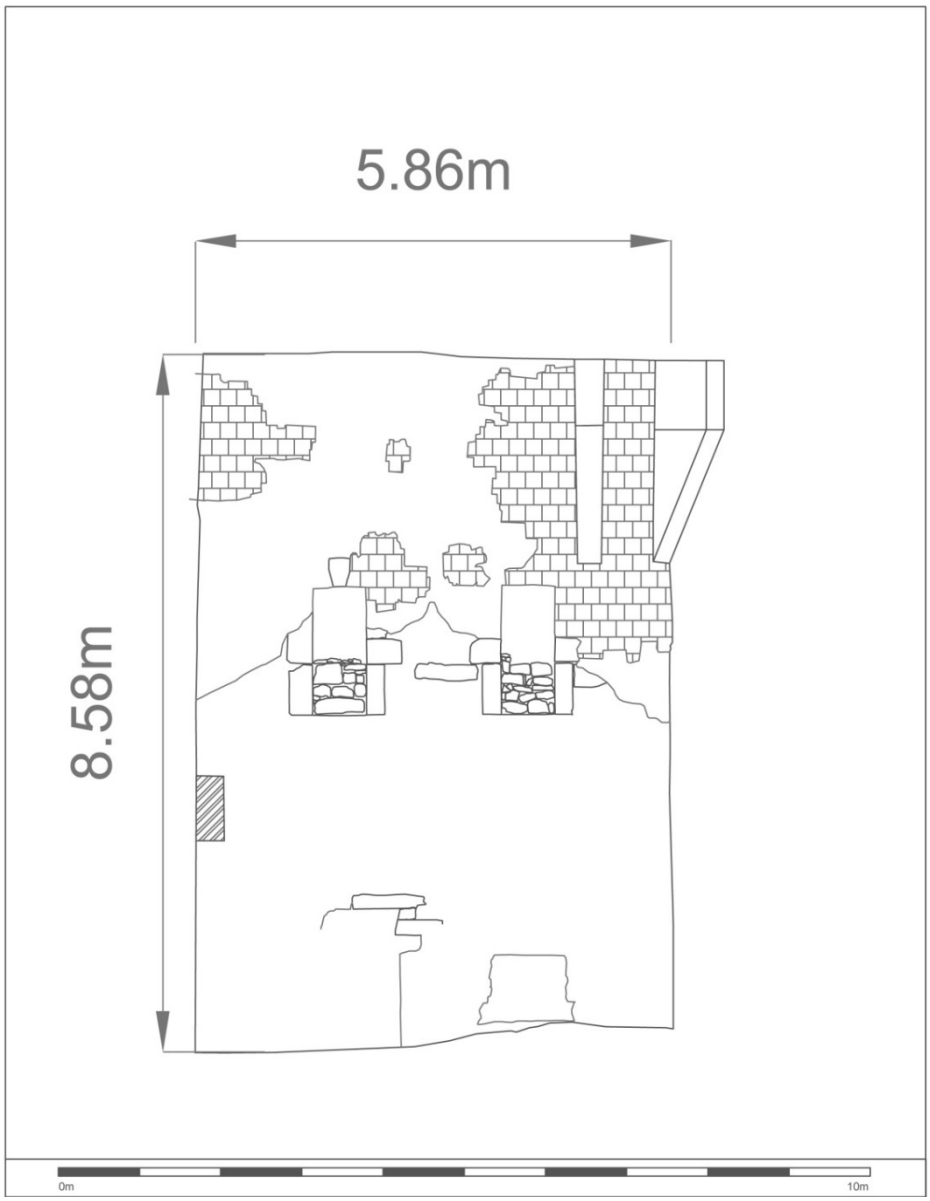

Figure A.41. External elevation of the south-east wall of the signal tower at Inishmore Signal Station.

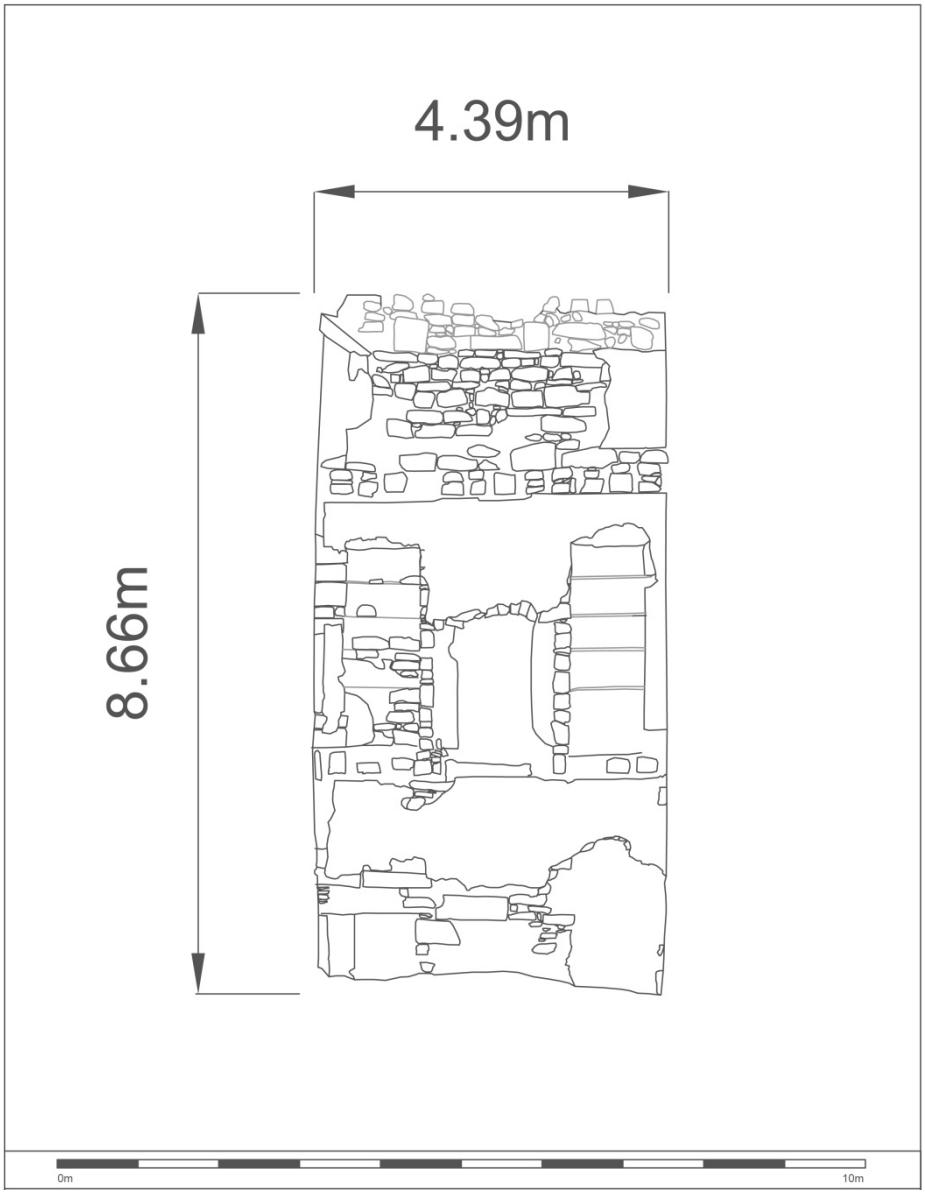

Figure A.42. Internal elevation of the north-east wall of the signal tower at Inishmore Signal Station.

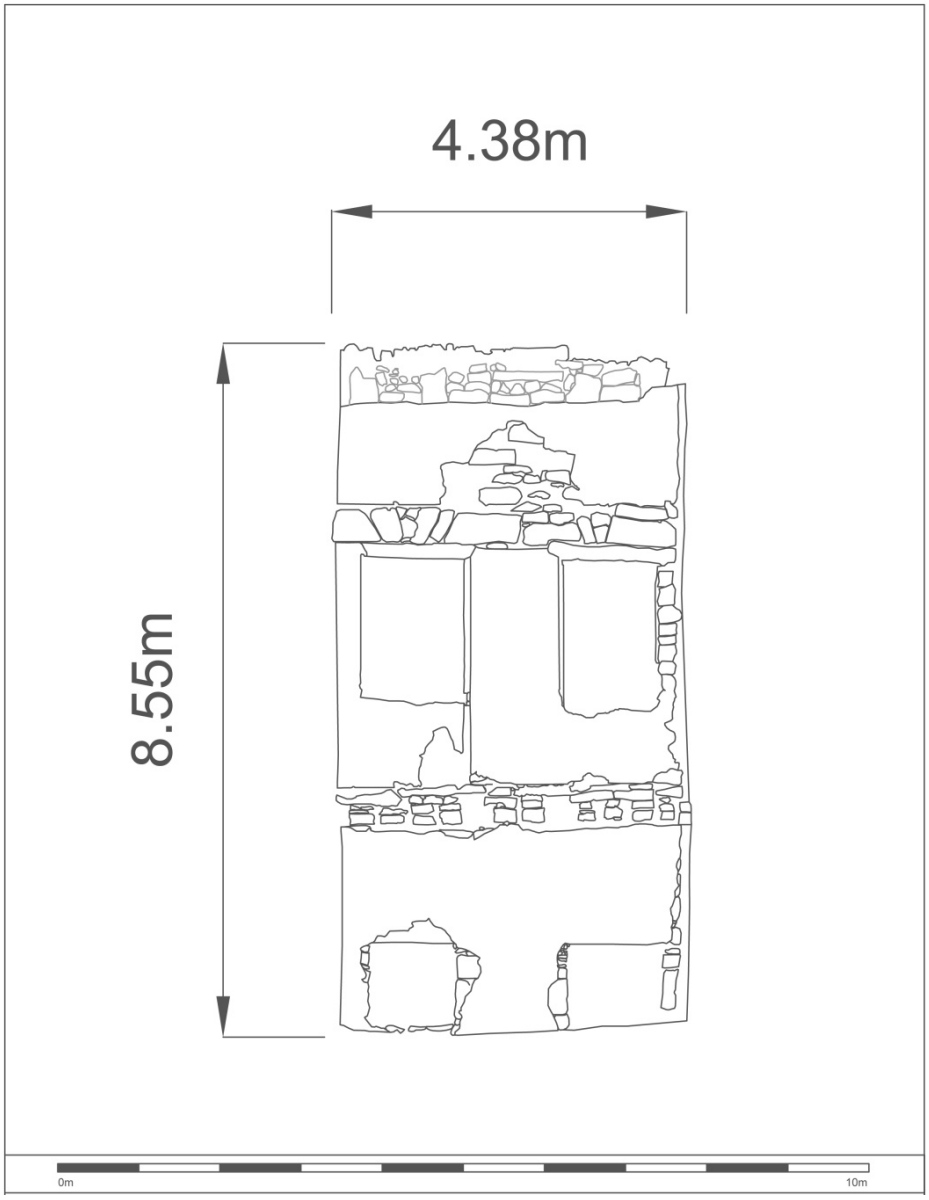

Figure A.43. Internal elevation of the north-west wall of the signal tower at Inishmore Signal Station.

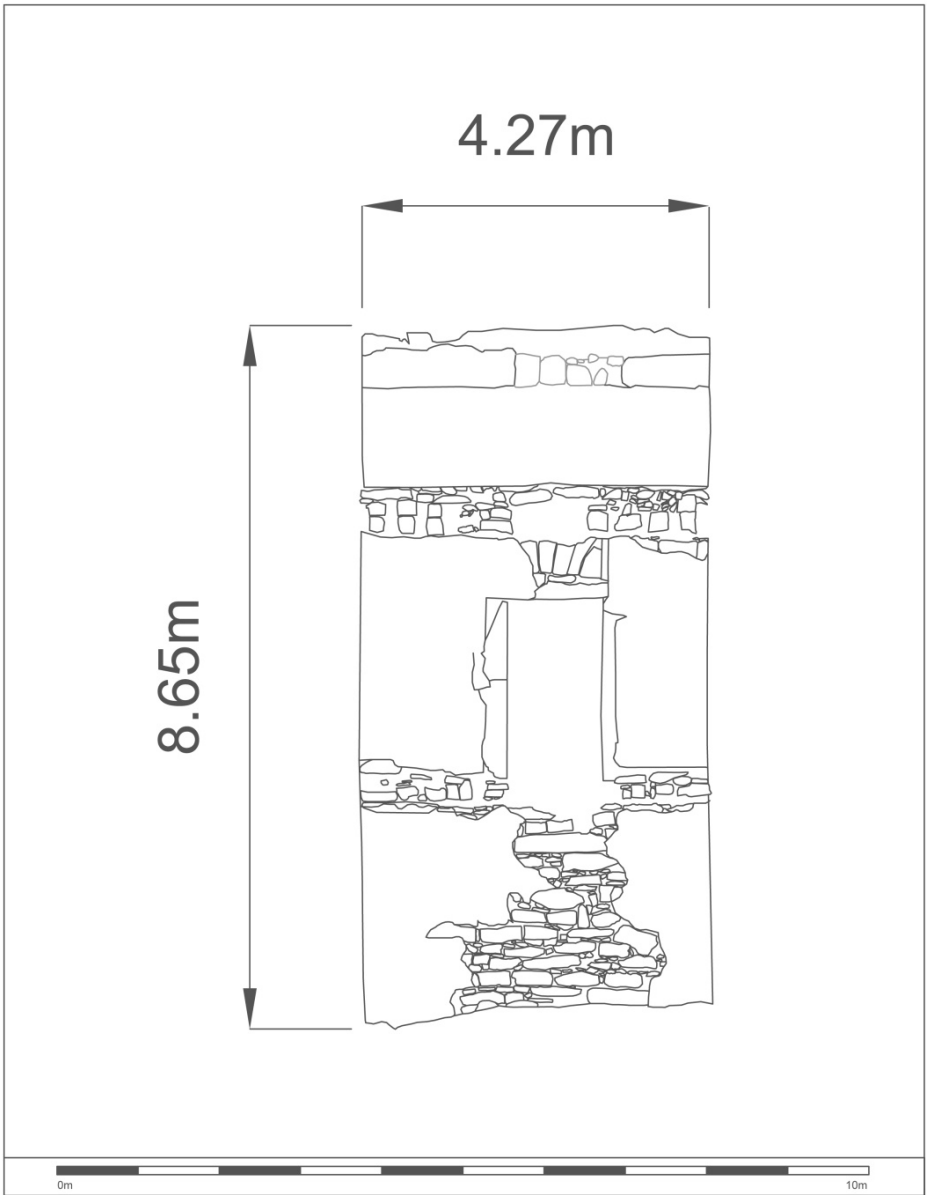

Figure A.44. Internal elevation of the south-west wall of the signal tower at Inishmore Signal Station.

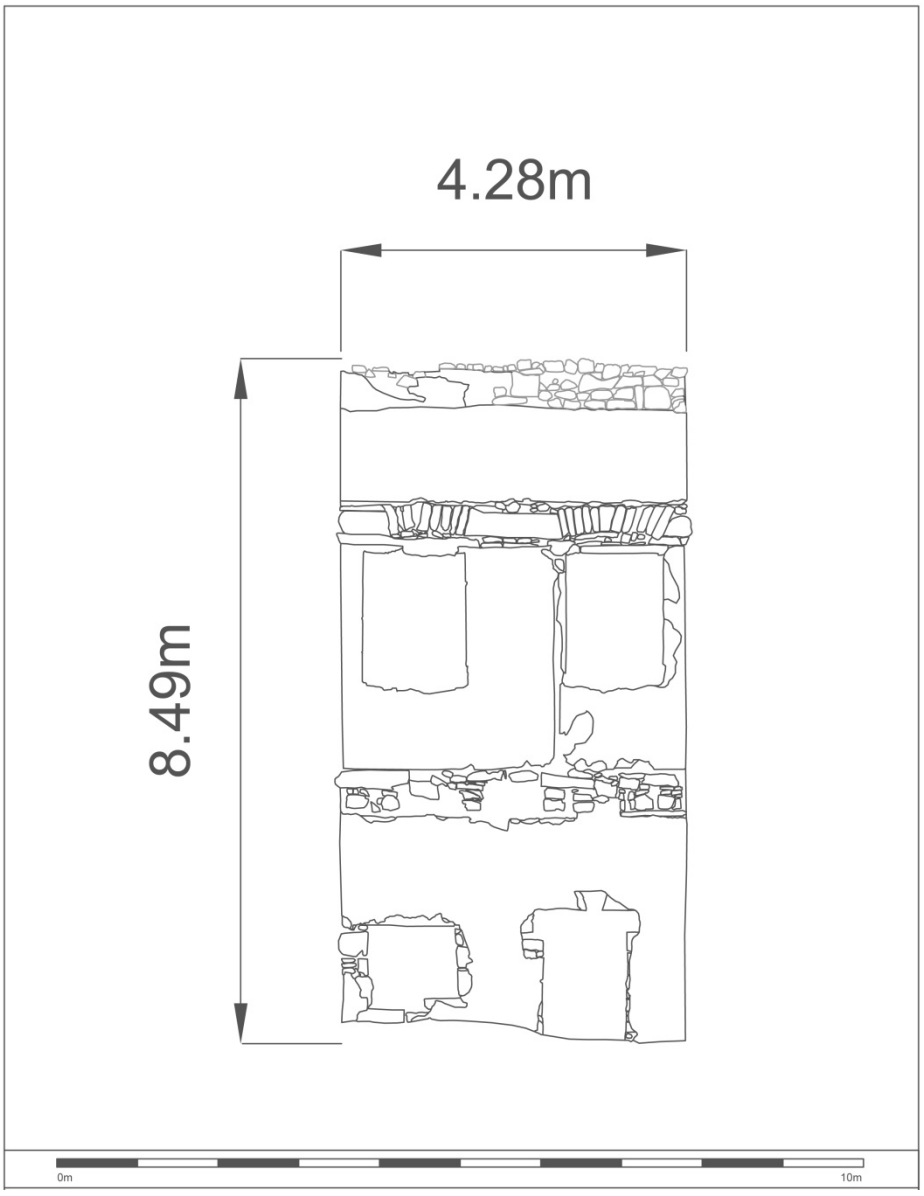

Figure A.45. Internal elevation of the south-east wall of the signal tower at Inishmore Signal Station.

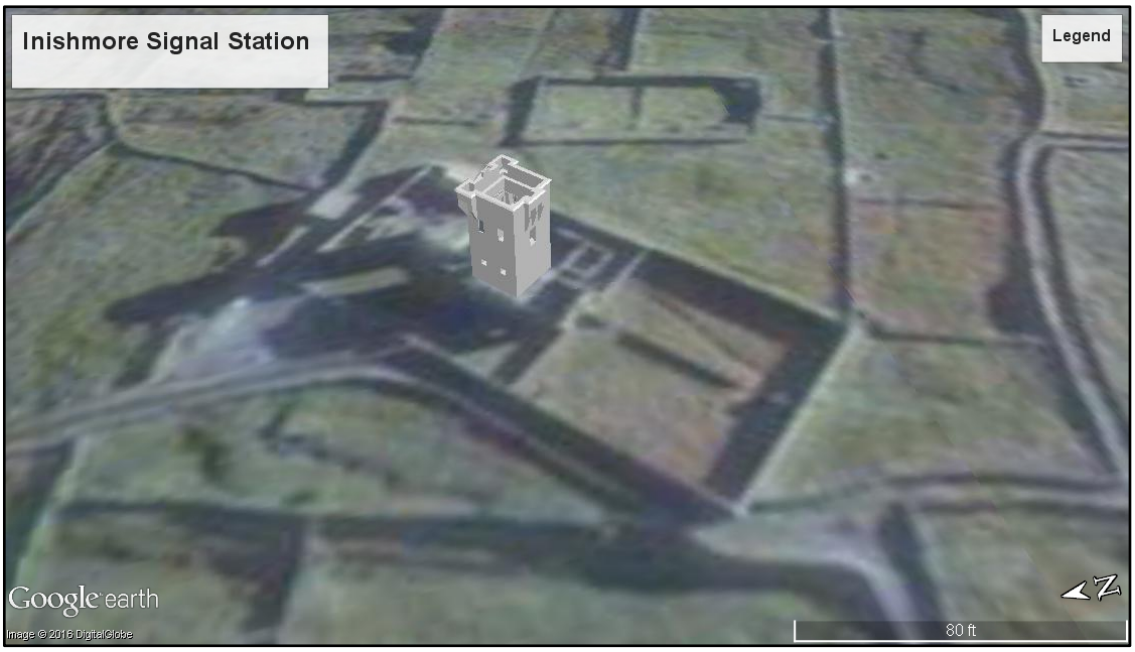

Figure A.46. 3D model of an idealised signal tower accurately placed on the location of the signal tower at Inishmore Signal Station in Google Earth Pro, looking east.

Figure A.47. 3D model of an idealised signal tower accurately placed on the location of the signal tower at Inishmore Signal Station in Google Earth Pro, looking south-east.

Number 53. Golam Head Signal Station (481934E, 721418N).

Full signal tower. SMR GA089-013----. 29 m (95') OD. Surveyed 1 August 2015. Historical name: Lettertmullan Island Signal Station.

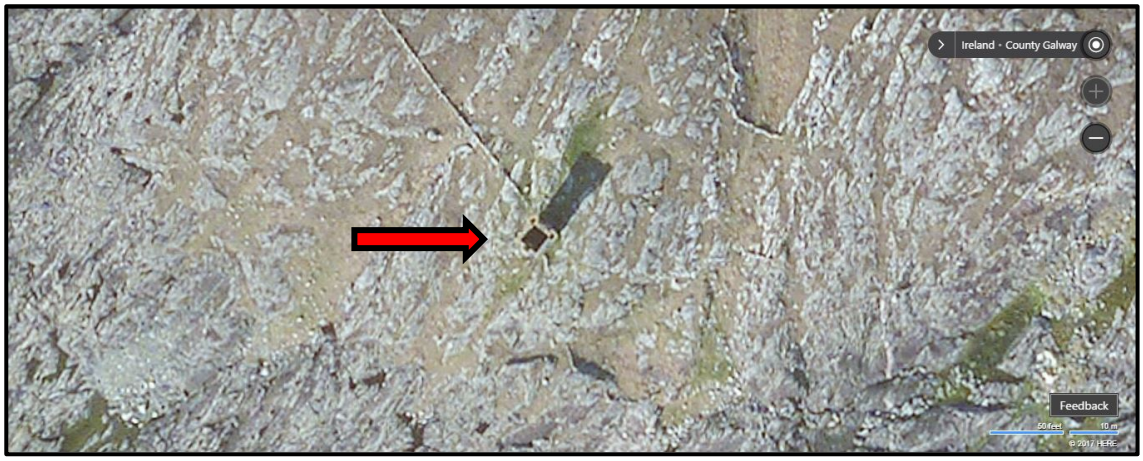

Figure A.48. Aerial photograph showing Golam Head Signal Station to left of the centre of the image (Bing Maps).

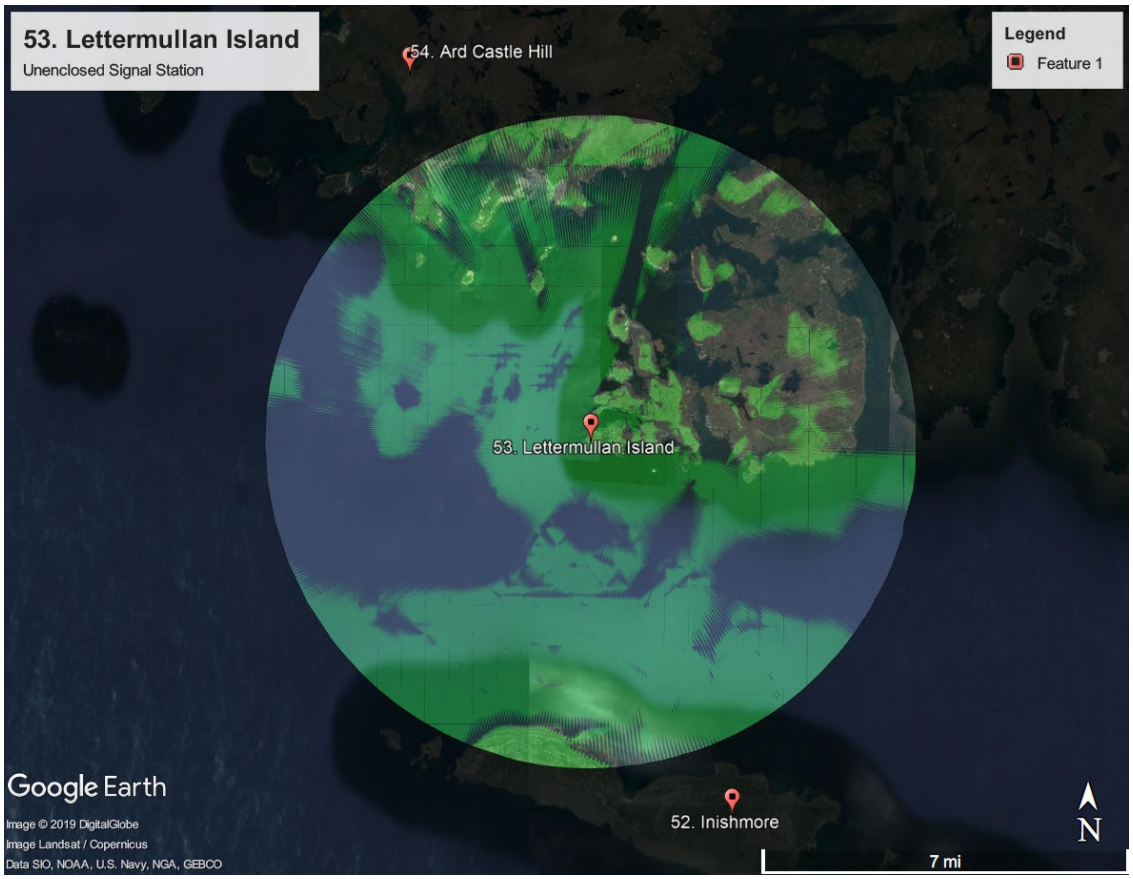

Figure A.49. Viewshed from Golam Head Signal Station (Google Earth Pro).

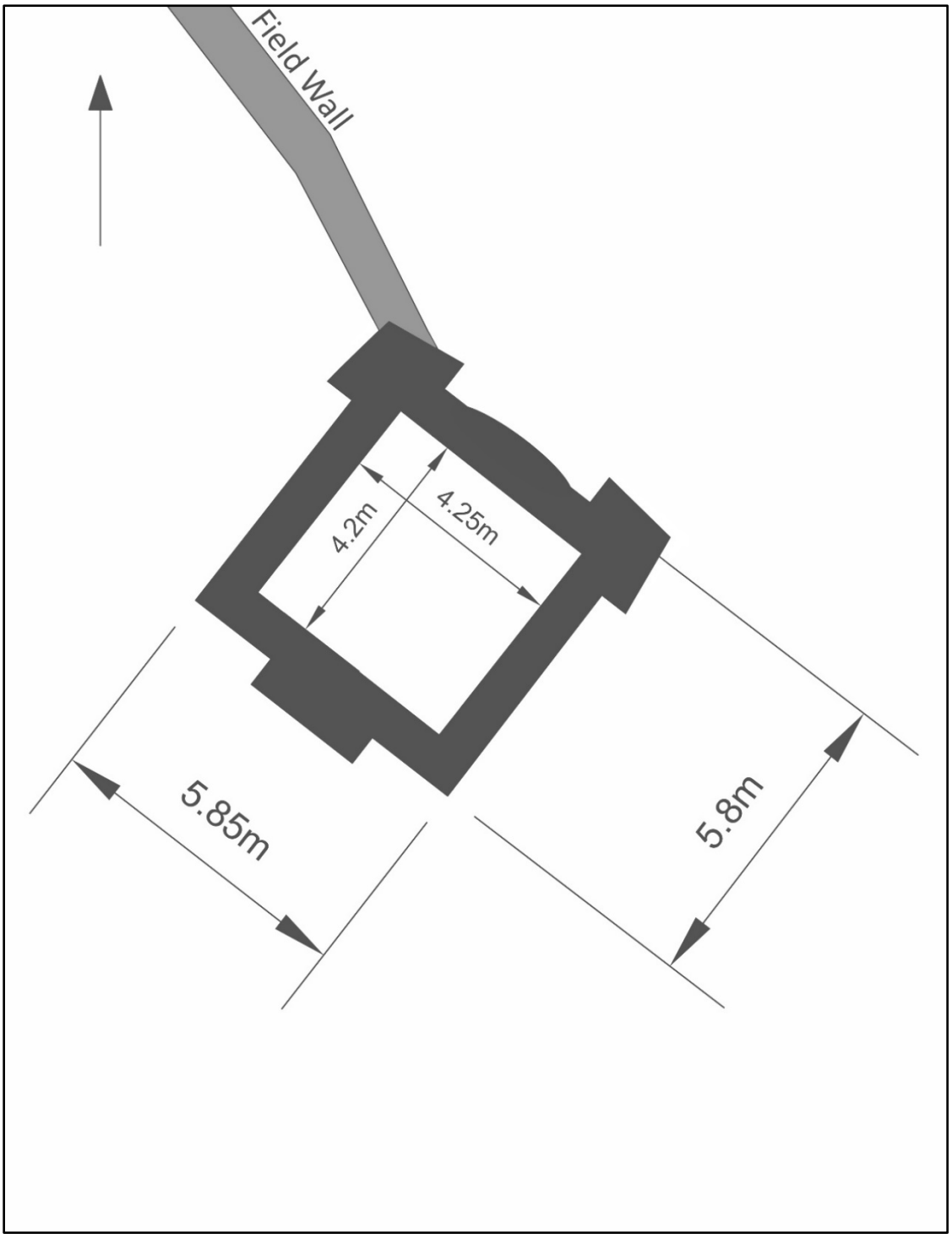

Figure A.50. Plan of Golam Head Signal Station.

Description.

The unenclosed Golam Head Signal Station was located on the summit of the low hill at the south-west of Golam Head, a small tidally cut off headland, at 29 m (95') OD. Golam Head is only accessible on foot for an hour or two either side of low tide and the survey was arranged to take advantage of one of the lower tides during the summer of 2015, to maximise the time available to examine the site. It is not known if the site was more accessible at the start of the 19th century. The narrow channel that separates the Golam Head from Lettermullan Island to the east would be easily spanned by a causeway. No evidence of such a feature was identified during the survey despite a lengthy search, and none of the early Ordnance Survey maps record the presence of a causeway. The signal station was not accessed via a defined road or track.

The site had expansive views in all directions except to the north-east; the adjacent signal station to the south on Inishmore was clearly visible on the day of the survey. The largely destroyed station to the north-west at Cuileen Hill was not identifiable, although its general area could be observed. The local area consisted of low rock-strewn hills separated by steep sided boggy valleys. The signal tower was located at the south-west end of a shallow valley that ran away to the north-east. It is possible that this area was quarried to provide building stone for the tower. The signal station was located in an unenclosed landscape.

The only visible features identified at the signal station were the signal tower and a low stone wall that connected to the north corner of the signal tower. The signal tower was largely complete to its full height, and the coping stones at the top of the wall were present. Despite this level of preservation there was no sign of a chimney stack atop the north-east wall. The exterior of the tower was entirely devoid of render leaving the rubble-built walls fully exposed. The signal tower measured 5.8 m (19') north-west to south-east and 5.85 m (19' 3'') north-east to south-west externally and 4.25 m (13' 11') north-west to south-east and 4.2 m (13' 9'') north-east to south-west internally. The doorway was located on the south-west wall and featured an intact stone surround. The door was protected by a machicolation supported by three corbels. The basal stone at the north-west corner of the machicolation had fallen, as had the very top of the corbel that supported it (this basal stone was present on the ground surface below the

entrance). Square bartizans with sharply curved corners on the diagonal points were located on the north and east corners, each supported by three corbels. The north-west and south-east walls each featured two ground floor windows and two first floor windows. Fragments of timber framing of the windows survived above each of the first floor windows and the doorway. Square holes were visible on either side of the first floor windows, cut into the splayed sides. The holes are thought to have held large horizontal bars of some sort. The north-east wall had a 3.8 m (12’ 6’’) wide bow in its centre that housed the chimney flue, which extended out from the wall by around 0.23 m (9’’).

On the north-west and south-east walls, the ground floor windows had all had their dressed stone surrounds removed. The ground floor windows on the north-west wall had subsequently been repaired and cement sills added to their base. The ground floor window at the north-east of the south-east wall had undergone the same treatment, but the window at south-west of this wall has been carefully opened up to form a neat doorway with a cement doorstep. The impression of a door frame was visible in the cement that ran up the sides and across the top of the doorway. The stone surrounds of the first floor windows and the door were intact.

The surviving dressed stones used for the window and door surrounds, and for the corbels supporting the machicolation and the bartizans was a mixture of mid- and dark-grey, fine-grained, stone, probably limestone. The body of the walls consisted of a mixture of light-beige coarse-grained stones and mid-grey and dark-grey fine-grained stones.

Inside the tower the lower portions of the semi-basement level were infilled with soil, but between 0.7 m (2’ 3’’) and 1.1 m (3’ 6’’) of wall was visible below the ground floor joist holes in most areas. Entry from the ground level entrance through the expanded window on the south-east wall involved a sizeable jump downwards. The joist holes and slots of the ground floor, first floor, and attic level were visible on all internal walls. The former presence of a split mezzanine level between the ground floor and first floor was marked by slots running across the tops of the ground floor windows on the north-west and south-east walls, and by short rows of joist holes on the south-west walls, and at the top of the ground floor alcoves on the north-east wall. On the north-west, south-

west, and south-east walls rows of small joist holes were visible at the base of the parapet wall, and a slot was observed at the base of the parapet wall on the north-east wall. The north-east wall featured two alcoves flanking a central fireplace on the ground floor and two alcoves flanking a central fireplace on the first floor. The render on each of the first floor alcoves featured the impressions of five shelves covering the upper three quarters of the alcoves. A square sectioned drainage channel ran the whole way down the north-east corner of the north-west wall. Render covered almost all of the internal wall surfaces, apart from the areas where the different floor slots were located.

A crude drystone wall abutted the northern corner of the signal tower, and ran off to the north-west for a distance of approximately 100 m (328'). This wall clearly post-dated the signal tower but it did not seem to be part of a field system, and perhaps was used for dividing livestock. The western part of the tidal island, where the signal station is located, is unenclosed. The eastern part of the tidal island features a system of small fields that are not depicted on the 1st edition Ordnance Survey map, surveyed 1838-1839, but it is shown on the 3rd edition Ordnance Survey map, surveyed 1915-1920 (the 2nd edition Ordnance Survey map is not available online. A recently restored Look Out Post (L.O.P. 51) was located on top of a small hill on Lettermullan Island, 1km (1090 yards) east of the signal station.

Figure A.51. A view of the signal tower at Golam Head, from the tidal channel that separates Golam from the rest of the island. The low band of rocks in the foreground seemed to be a natural feature, rather than a constructed causeway.

Figure A.52. A view of the signal tower at Golam Head Signal Station, set on the low hill towards the western end of Golam.

Figure A.53. The upper portion of the south-west wall of the signal tower at Golam Head Signal Station, showing the first floor door with its intact stone surround, the machicolation and the coping stones on top of the wall.

Figure A.54. The upper portion of the north-west wall of the signal tower at Golam Head Signal Station, showing the first floor windows with their intact stone surrounds, the northern bartizan and the coping stones on top of the wall.

Figure A.55. First floor window on the south-east wall, showing surviving parts of the timber framing and the square holes cut into the splayed sides.

Figure A.56. First floor window on the north-west wall showing surviving parts of the timber framing.

Figure A.57. The upper portion of the internal face of the north-east wall, showing the central fireplace flanked by two alcoves with the impressions of shelves, the joist holes of the attic level, the stepped parapet with joist holes for the roof, and the entrances to the bartizans.

Figure A.58. The lower portion of the internal face of the north-east wall, showing the central fireplace flanked by alcoves and the joist holes of the split mezzanine level.

Figure A.59. The upper portion of the internal face of the south-west wall, showing the joist holes of the first floor, the doorway with traces of its timber framing, the joist holes of the attic level, the instep of the parapet and the entrance to the machicolation.

Figure A.60. The lower portion of the internal face of the south-west wall, showing the joist holes of the ground floor level and the joist holes of the split mezzanine level.

Figure A.61. Detail of the east first floor alcove on the north-east wall, showing the impressions of shelves in the render.

Figure A.62. Detail of the ground floor window on the south-east wall which had been converted into a neat ground level door.

Figure A.63. View of the restored Look Out Post (L.O.P 51) on Lettermullan Island.

Figure A.64. Detail of the restored Look Out Post (L.O.P 51) on Lettermullan Island.

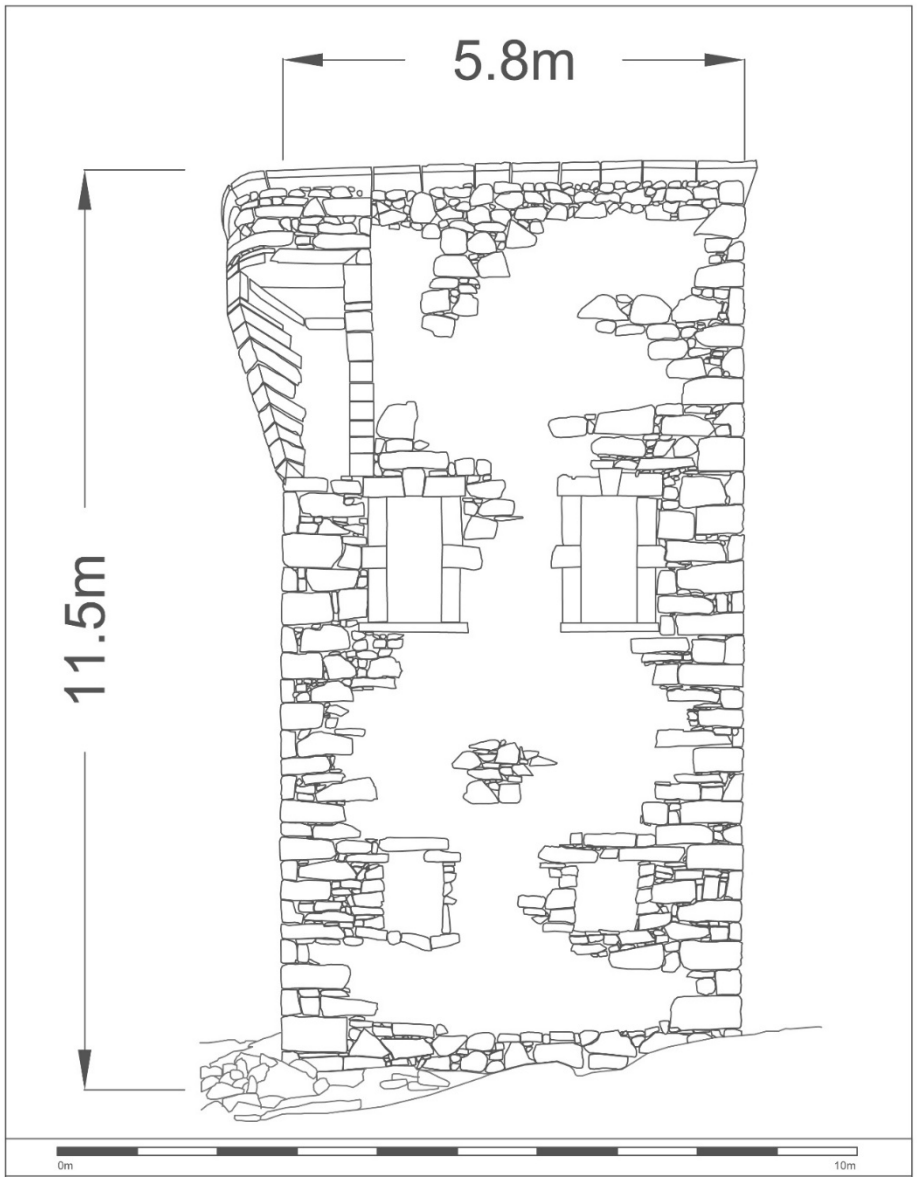

Figure A.65. External elevation of the north-west wall of the signal tower at Golam Head Signal Station.

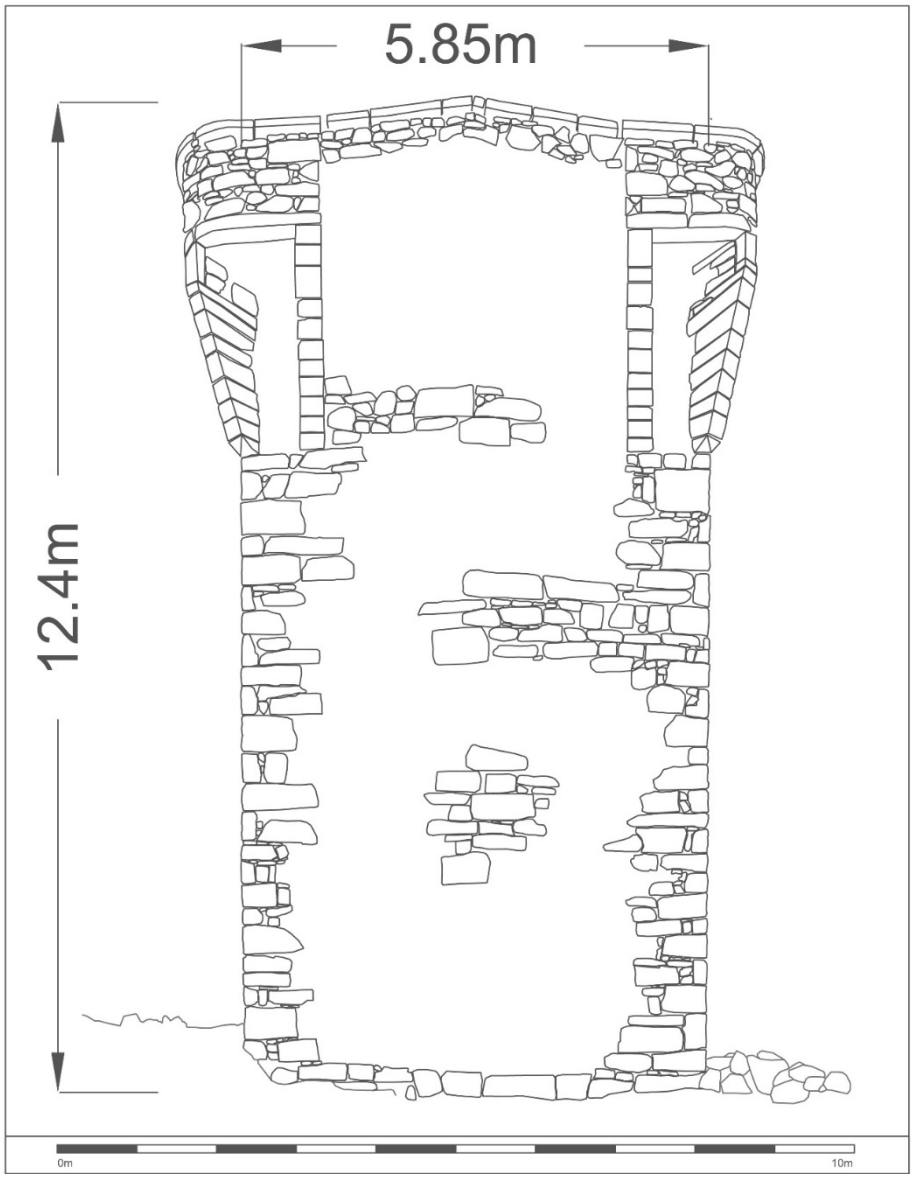

Figure A.66. External elevation of the north-east wall of the signal tower at Lettermullan Island Signal Station.

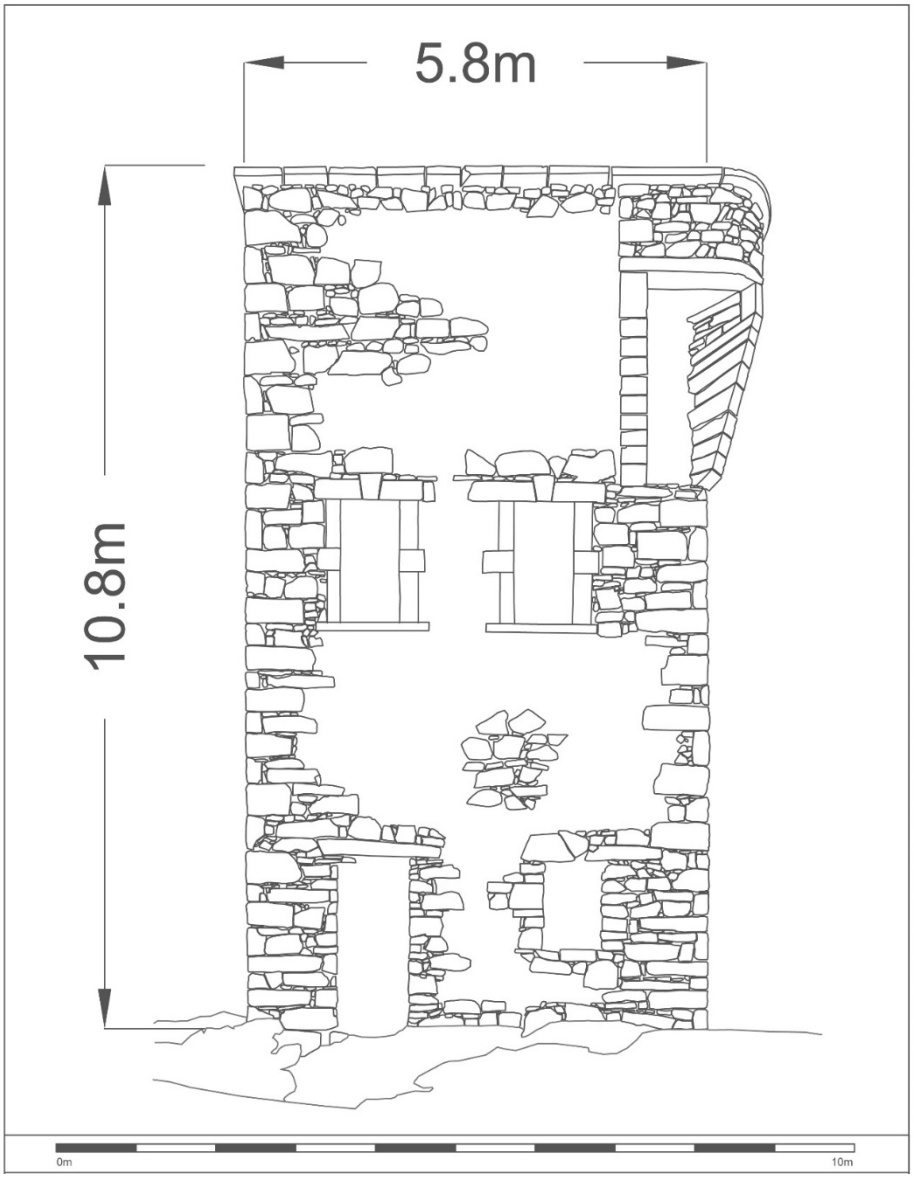

Figure A.67. External elevation of the south-east wall of the signal tower at Golam Head Signal Station.

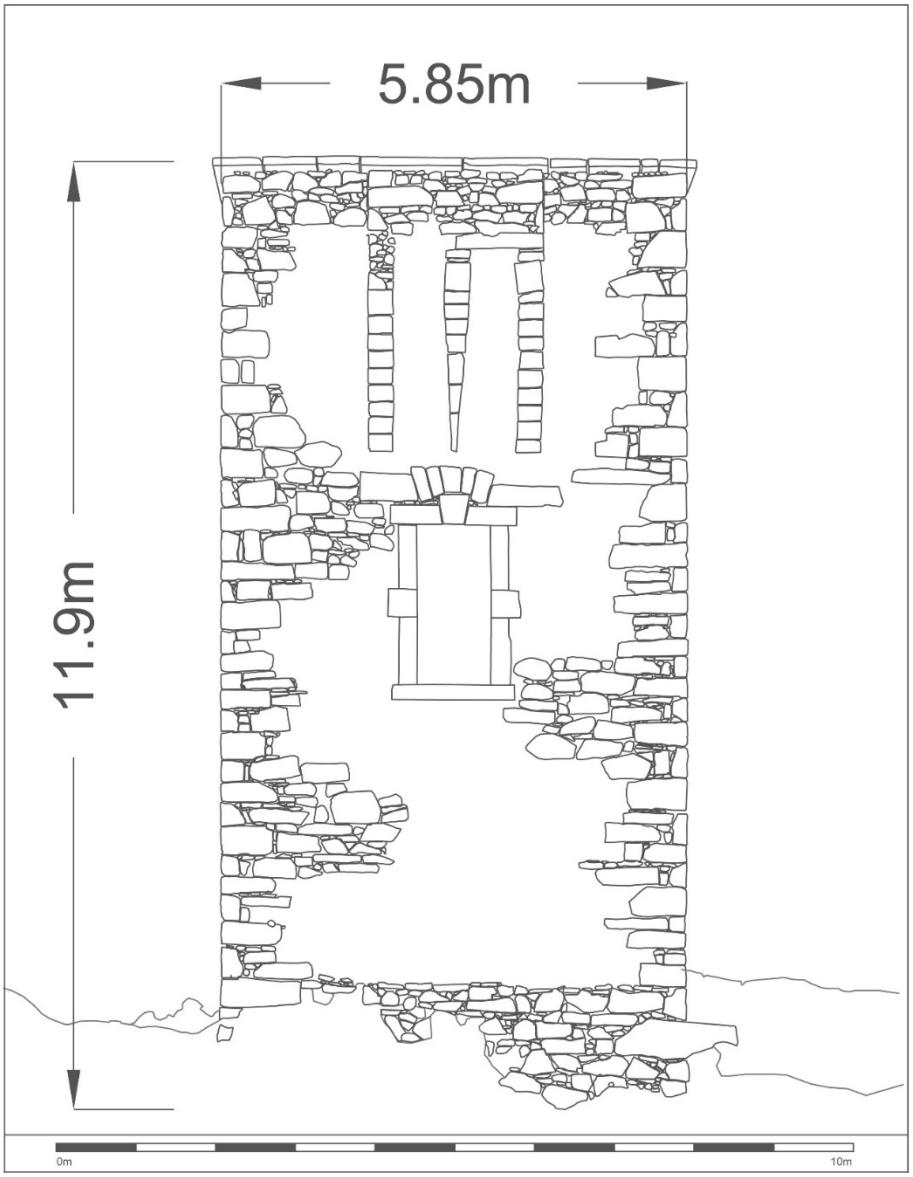

Figure A.68. External elevation of the south-west wall of the signal tower at Golam Head Signal Station.

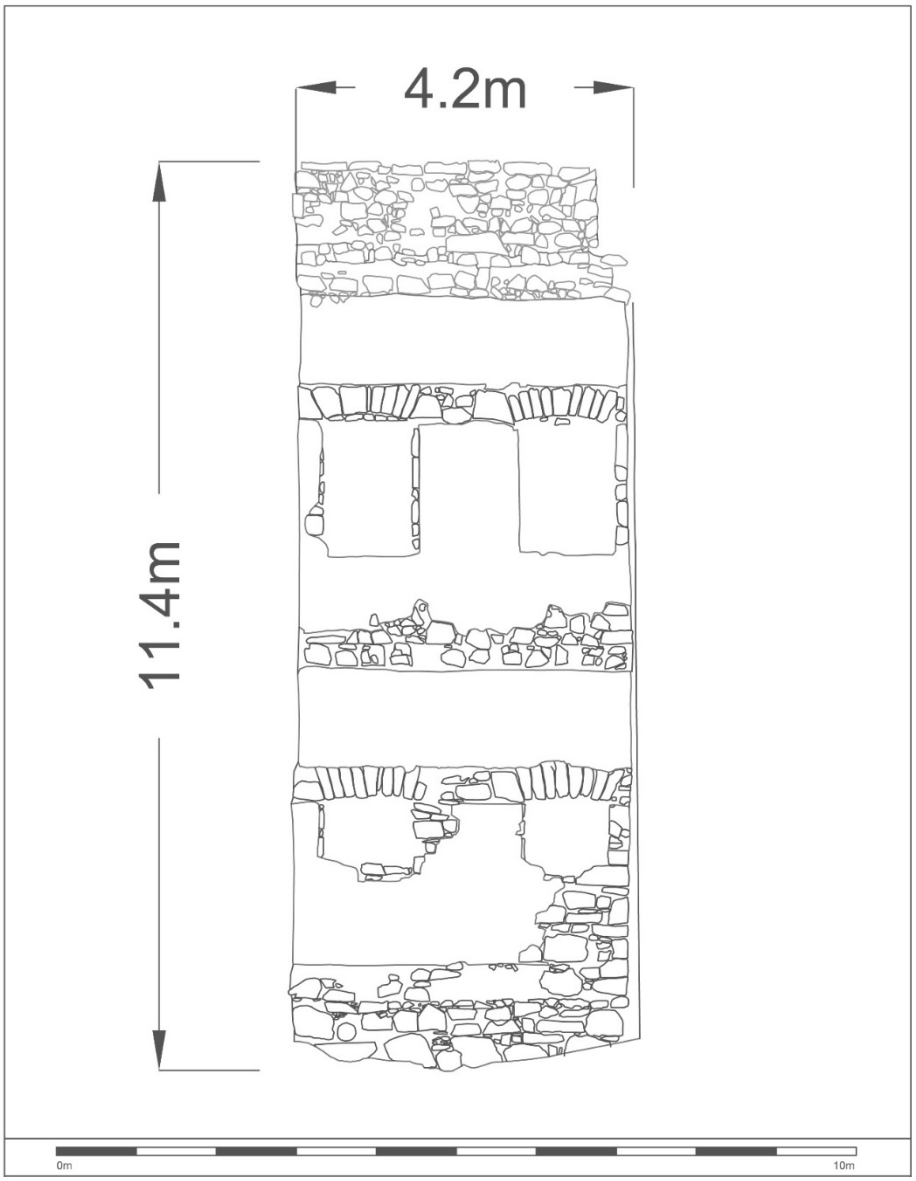

Figure A.69. Internal elevation of the north-west wall of the signal tower at Golam Head Signal Station.

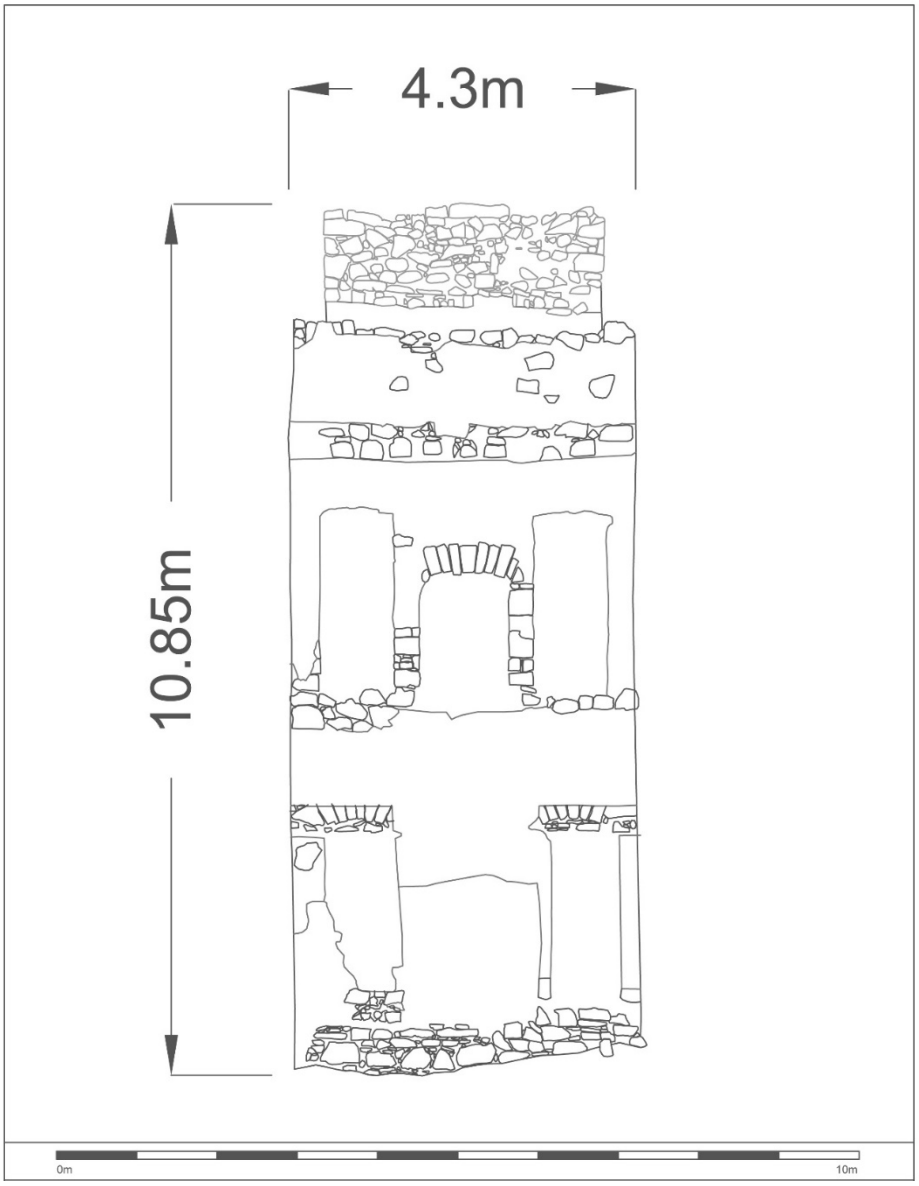

Figure A.70. Internal elevation of the north-east wall of the signal tower at Golam Head Signal Station.

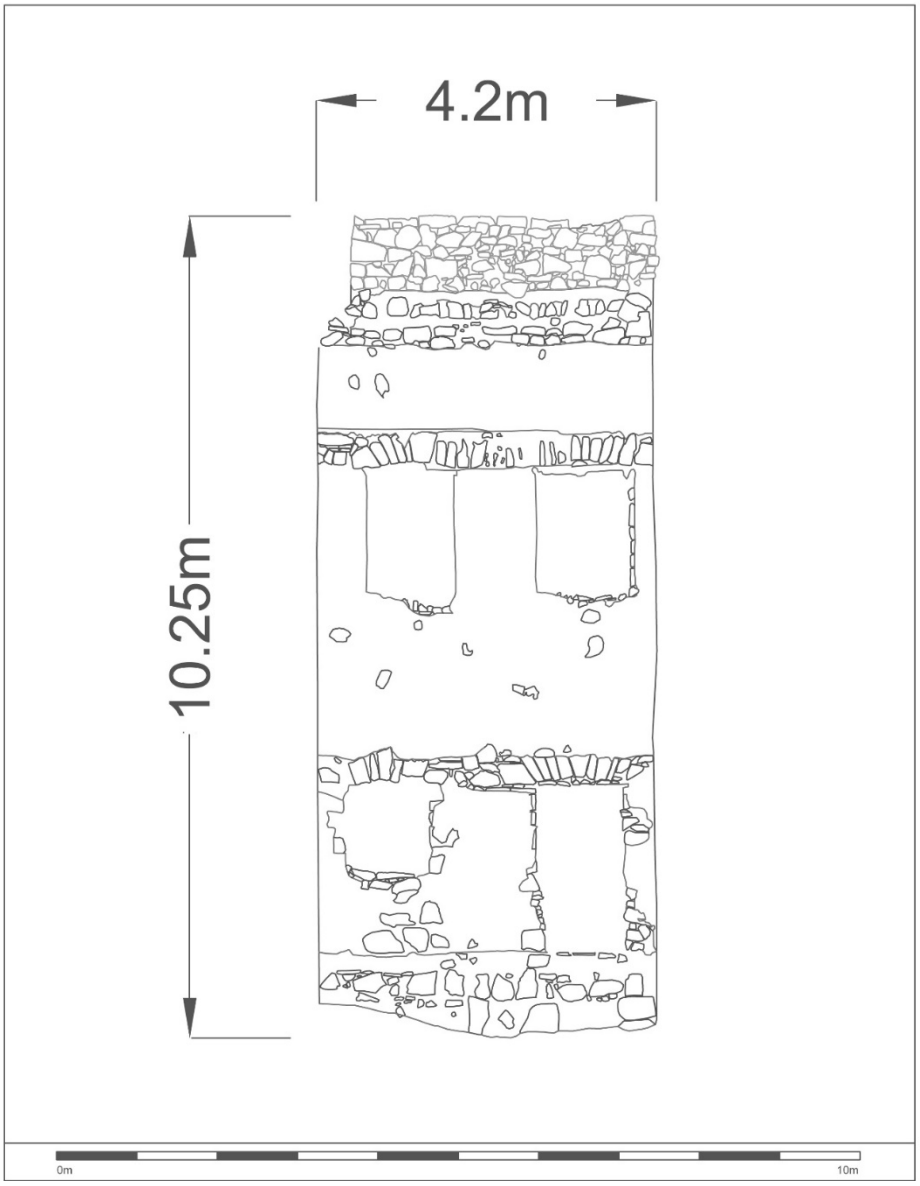

Figure A.71. Internal elevation of the south-east wall of the signal tower at Golam Head Signal Station.

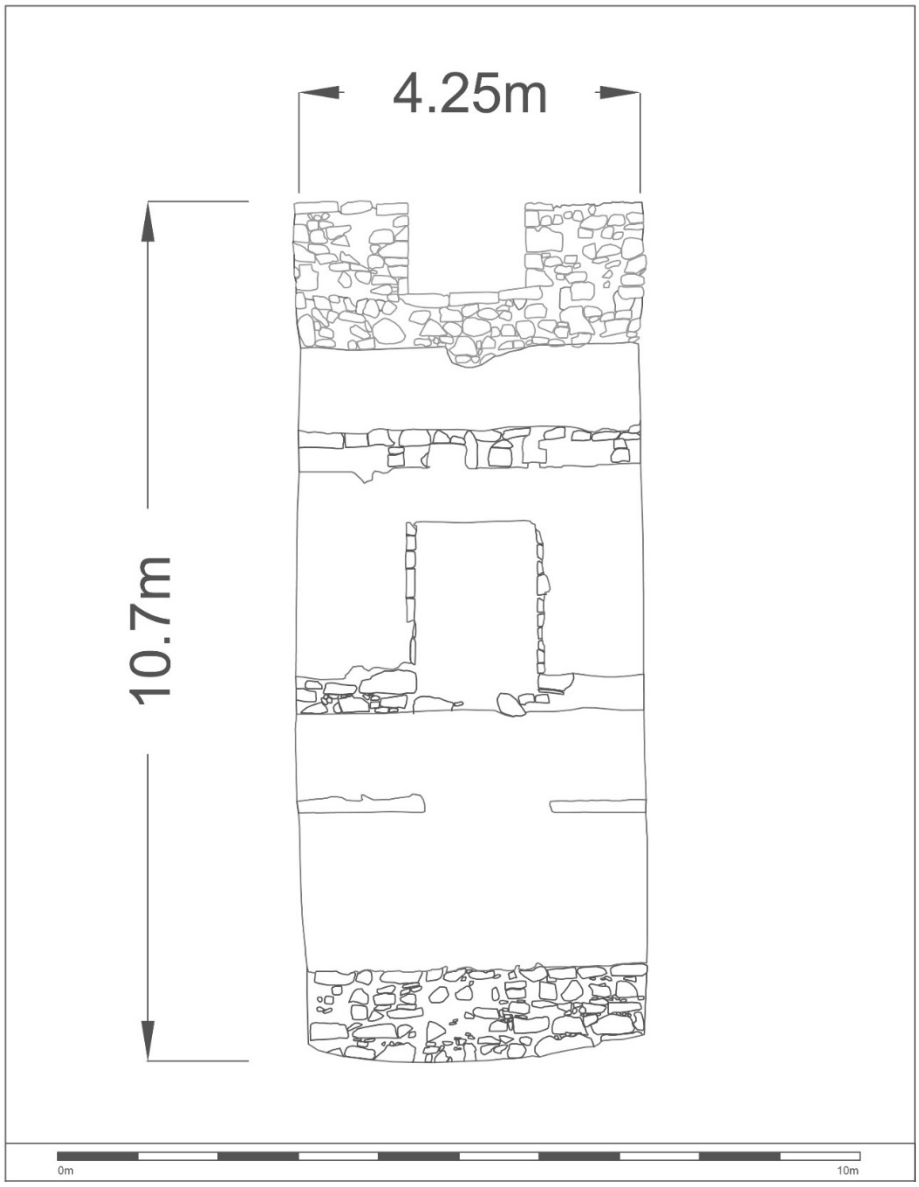

Figure A.72. Internal elevation of the south-west wall of the signal tower at Golam Head Signal Station.

Number 54. Cuileen Hill Signal Station (476581E, 732713N).

Low ruin of signal tower. SMR GA076-006----. 101 m (331') OD. Surveyed 13 September 2014. Historical Name: Ard Castle Hill Signal Station.

Figure A.73. Aerial photograph showing the area of Cuileen Hill Signal Station in the red circle (Bing Maps).

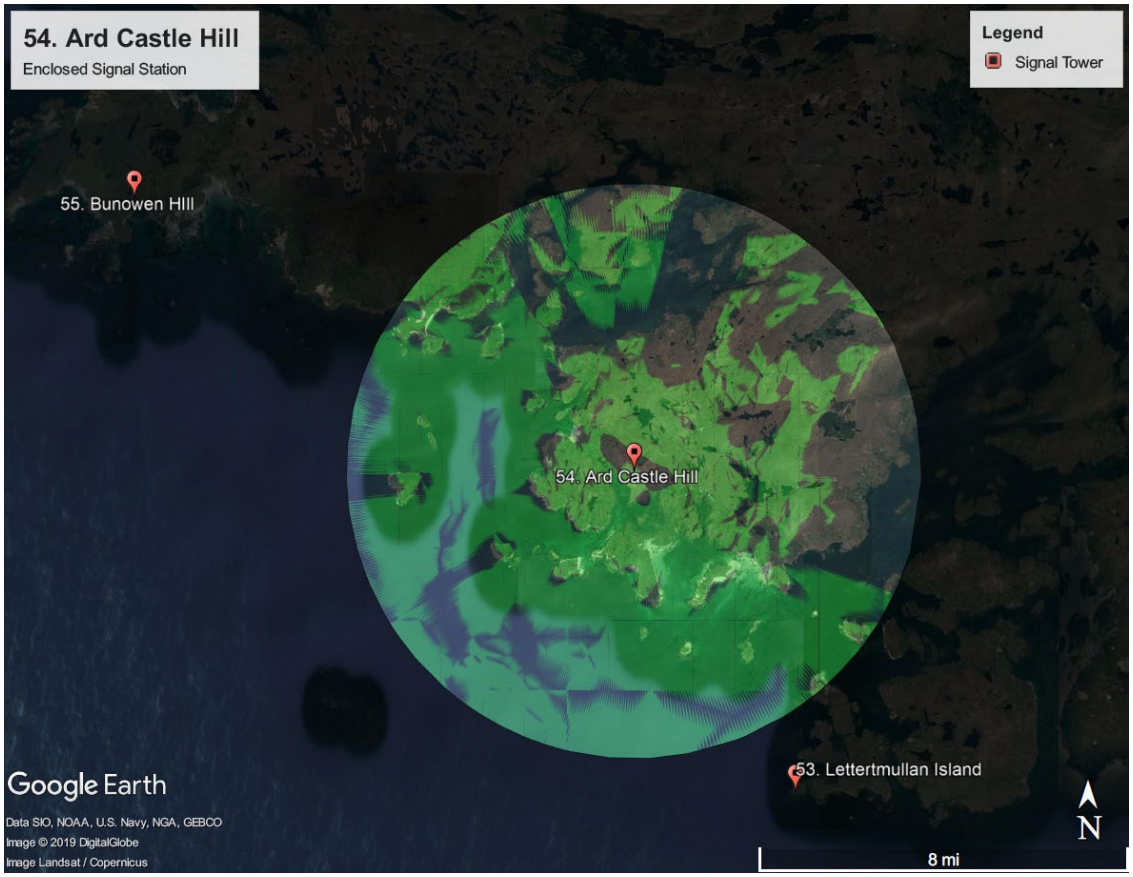

Figure A.74. Viewshed from Cuileen Hill Signal Station (Google Earth Pro).

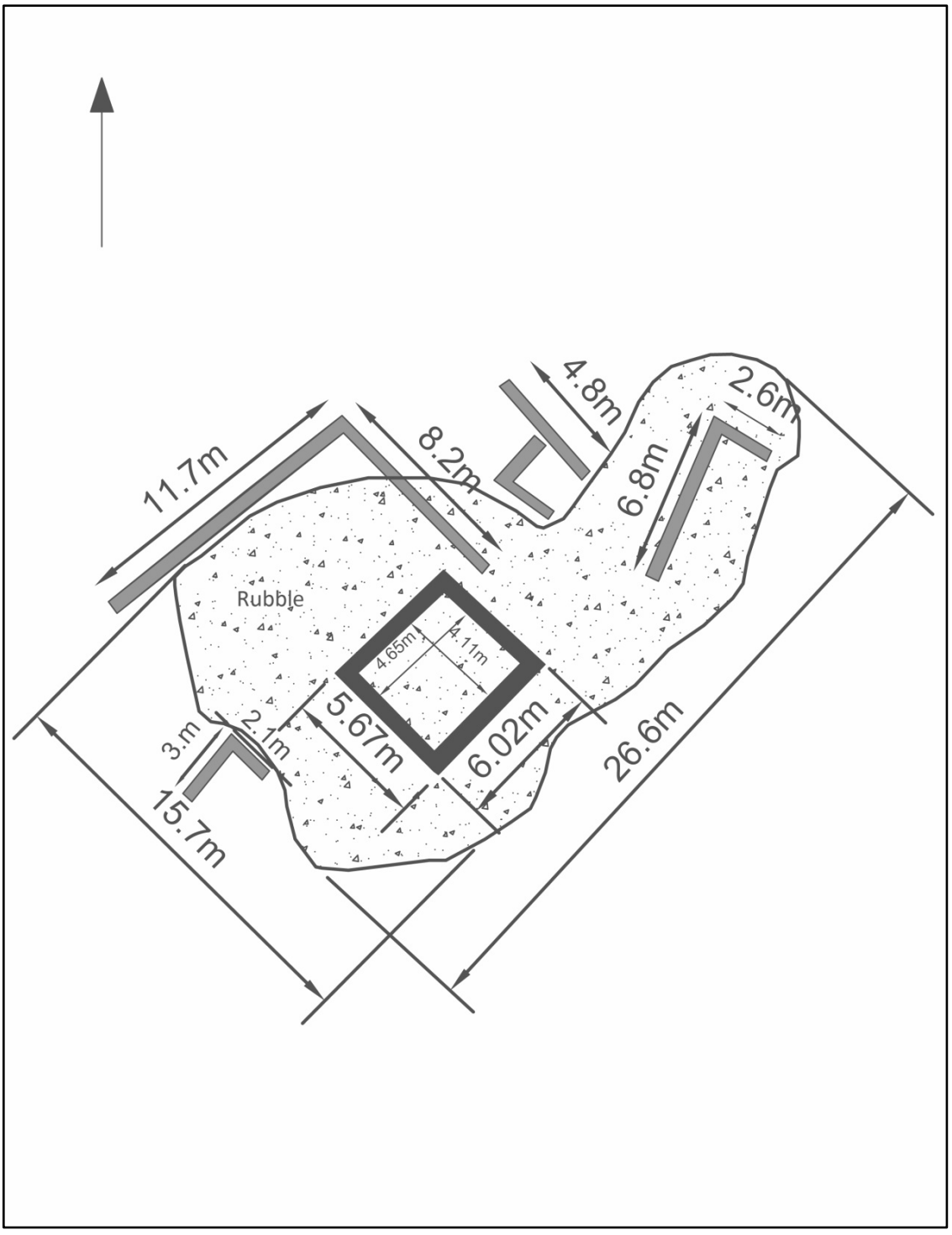

Figure A.75. Plan of Cuileen Hill Signal Station.

Description.

The signal station at Cuileen Hill was located close to the summit of a large flat-topped hill at 101 m (331') OD. The site had expansive views in all directions except the north-east; the adjacent signal tower at Golam Head Signal Station, to the south-east, was clearly visible on the day of the survey. The largely destroyed signal station to the north-west, Bunowen Hill, was not identifiable, although its general location could be observed. The local area consisted of a rock-strewn granitic plateau, and the site was approached through a long natural cleft that ran the whole way up the side of the hill from the east. The signal station consisted of the low remains of a collapsed or demolished tower and it appeared that the stone used to build the tower had been largely removed for use elsewhere, given the presence of only a low and insubstantial rubble spread surrounding the base of the signal tower. The signal station is located in an unenclosed landscape.

Very fragmentary remains of walls surrounded the tower, but it was unclear if these represented the remains of additional buildings associated with the signal station, if they were parts of a small enclosure that surrounded the site, or if they were the remains of secondary features that post-dated the signal station's abandonment. Given their fragmented nature it was not possible to recover complete plans of these features during the survey, and their exact nature remains unclear. It is worth noting that the 1st edition Ordnance Survey map, surveyed 1838-1839, shows the signal station at this location as a rectangle measuring approximately 16 m by 10 m (53' by 33') with its long axis aligned north-east to south-west. This could represent a rather basic attempt to convey the presence of a small enclosure or a complex of buildings, rather than an incorrectly sized signal tower.

The surviving remains of the signal tower consisted of a few courses of rough stone walling, defining a square building approximately 5.8 m (19') across, with its walls facing north-west, north-east, south-east and south-west respectively. No other architectural details were visible during the survey. It is probable that the doorway would have faced the nearest stretch of the coast to the south-west, based on the arrangements recorded at more complete examples, but without internal features to orientate the building this

could not be properly established. The most intact portion of the building was located at the south-east, where the wall survived to a height of approximately 0.75 m (2’ 6’’).

The rubble spread surrounding the site measured approximately 25 m (82’) north-east to south-west and 15 m (49’) north-west to south-east. It was not particular dense, in comparison to the spreads recorded at sites such as Cleggan Hill Signal Station, County Galway, or Tower Hill Signal Station, County Mayo. The spread was obviously lacking in substance, suggesting that much of the stone from the tower has been removed from the site.

The most substantial piece of walling adjacent to the tower was an L-shaped section which began around 1.75 m (5’ 9’’) east of the signal towers north corner. The wall consisted of rough dry stonework and ran for approximately 8 m (26’ 3’’) to the north-west before turning 90 degrees and running for approximately 12 m (39’ 6’’) to the south-west. The longer north-east to south-west stretch was noticeably more substantial than the shorter and slighter north-west to south-east segment. It is possible that this L-shaped section of wall represented the remains of a small enclosure surrounding the signal tower. Two smaller sections of wall were located to the north-east of the signal tower and a third smaller section was located to the south-east. These may have represented the partial remains of small buildings, but their ground plans could not be recovered, and some form of more intensive investigation would be required to clarify their nature. The stones used to construct the signal tower and the adjacent walls were a light-grey coarse-grained granite.

Figure A.76. The external face of the south-east wall of the low ruin of the signal tower at Cuileen Hill Signal Station.

Figure A.77. The external face of the north-east wall of the low ruin of the signal tower at Cuileen Hill Signal Station.

Number 55. Bunowen Hill Signal Station (459378E, 742626N).

Demolished signal tower. SMR GA049-017002-. 65 m (213') OD. Surveyed 13 September 2014. Common Name: Doon Hill.

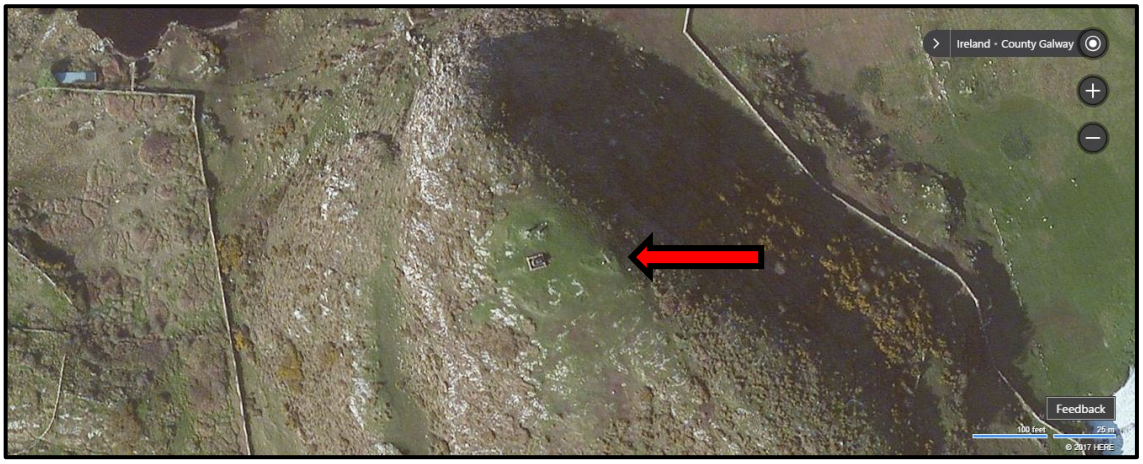

Figure A.78. Aerial photograph showing Bunowen Hill Signal Station at the north end of Doon Hill, in the centre of image (Bing Maps).

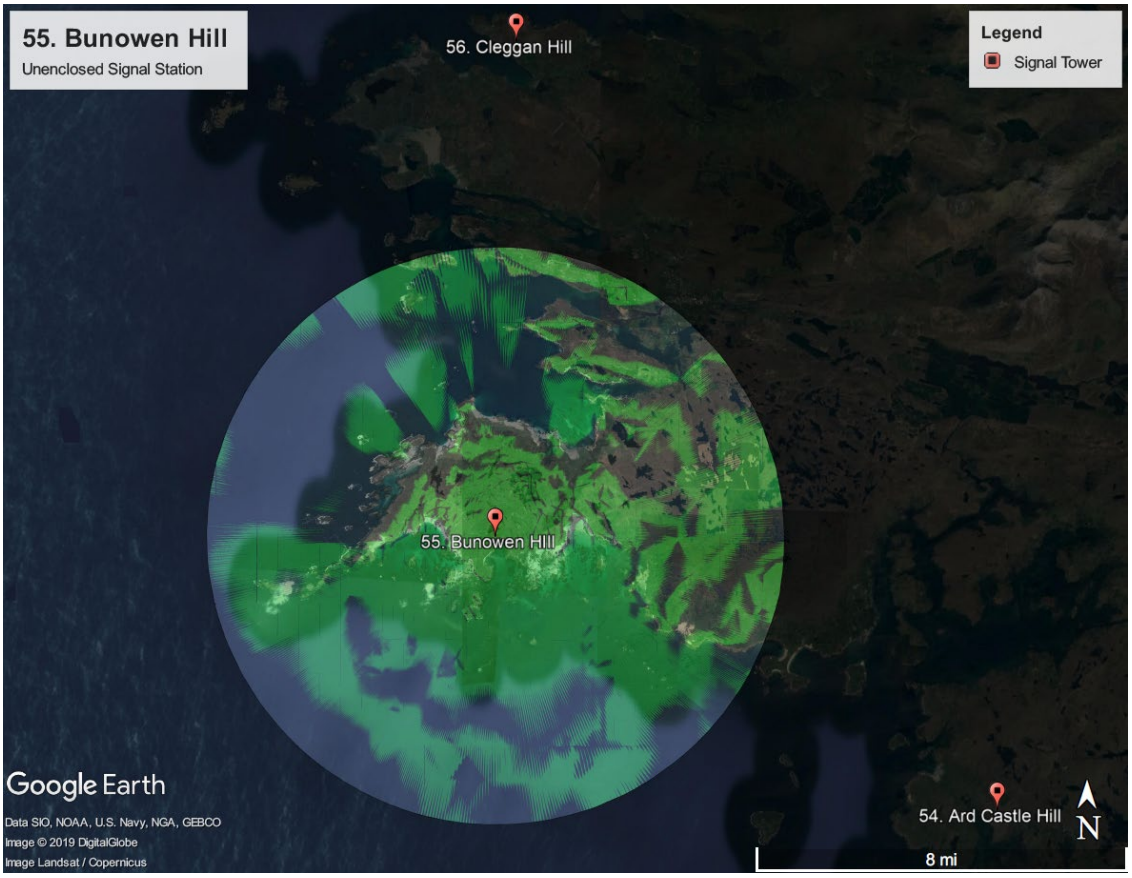

Figure A.79. Viewshed from Bunowen Hill Signal Station (Google Earth Pro).

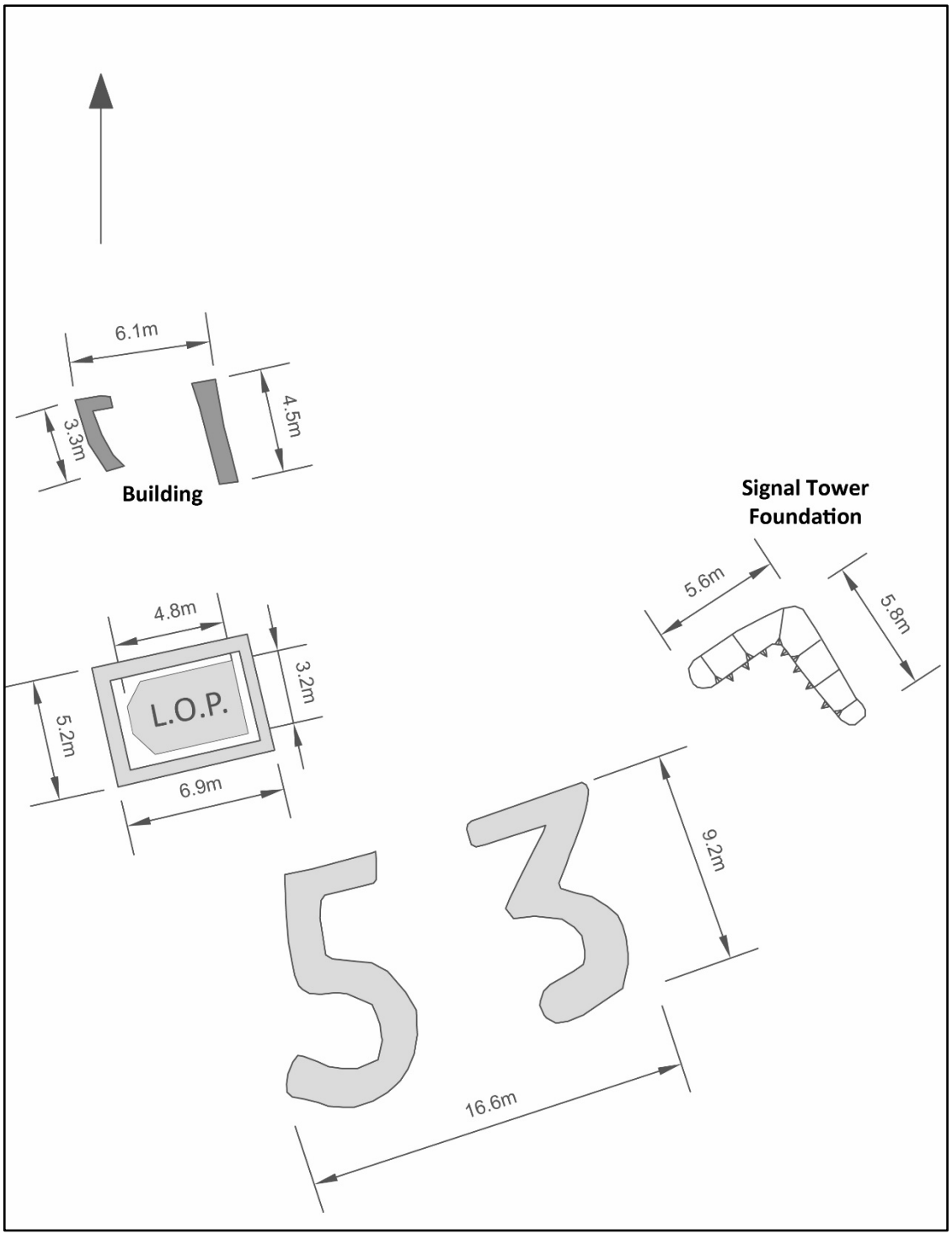

Figure A.80. Plan of Bunowen Hill Signal Station and L.O.P. 53

Description.

The unenclosed signal station at Bunowen Hill was located towards the north-west end of the summit of Bunowen (Doon) Hill, a steep sided flat-topped hill, at the east end of the bay to the east of Slyne Head. The signal station was situated at 65 m (213') OD and had expansive views in all directions. The local area consisted of a flat-toped hill covered in low grass which overlooked an extensive low-lying area consisting of sand dunes and a coastal plain. It did not have a marked route of access. The signal station consisted of the low remains of a collapsed or demolished signal tower and the fragmentary remains of a second building approximately 25 m (82') north-west of the signal tower, which may have been a second component of the signal station. There was an enclosed World War 2 Look Out Post (L.O.P. 53) to the west and a fragment of 'Eire Sign 53' was located to the south-west. A kiln location is shown on the 1st edition Ordnance Survey map, surveyed 1838-1839, approximately 75 m (246') north-east of the signal tower, on the lower slopes of Bunowen Hill. This location was not visited during the field survey because it was heavily overgrown with gorse bushes. It is not known if any surface remains survived in that location and it is not clear if this kiln was associated with the signal station, given how far away it is located. The site was located within an enclosed landscape with well-maintained drystone walls.

The signal tower was represented by two grassed over sections of walling forming a right angle, inside of which there was a shallow hollow. The walls were aligned north-west to south-east, and north-east to south-west respectively. The north-west to south-east section measured approximately 6.2 m (20' 3'') in length, 1.4 m (4' 6'') in width, and had a maximum height of 0.3 m (1'). The north-east to south-west section measured 6 m (19' 6'') in length, 2 m (6' 6'') in width and had a maximum height of 0.3 m (1'). Intact vertically faced stonework was visible on the internal edges of the walls, whilst the grassed over external edges simply slope gently downwards. The hollow area was triangular in shape, running from the east end of the north-west to south-east wall, to the west end of the north-east to south-west wall. It was up to 0.2 m (8'') deep. It was not possible to identify any internal features of this signal tower, but given the general pattern observed throughout the main study area, it is suggested that the door would have been located on either the south-east or south-west wall, to face towards

the sea. The site of the tower was not surrounded by a rubble spread so it is assumed that this material was removed from the site and used in the surrounding landscape, possibly during the construction of field walls.

The remains of the building to the north-west consisted of two small stretches of mortared walling that appeared to represent the corners of a small building. The north-east piece of wall was a straight section, measuring 4.5 m (14’ 9’’) north to south, with a width of 0.8 m (2’ 6’’), and a maximum height of 1.3 m (4’ 3’’) at its north-east corner. The north-west piece of wall was L-shaped, and measured 3.2 m (10’ 6’’) north to south and 1.52 m (5’) east to west, with a width of 0.8 m (2’ 6’’), and a maximum surviving height in the north-west corner of 1.52 m (5’). Examining this piece of wall showed that the inside section at the north had a splayed surface that was determined to be the inside edge of a ground floor window. The feature is listed by the NMS as ‘Designed landscape – folly’ (GA049-017003), suggesting that it post-dates the use of the signal station.

The Look Out Post (L.O.P. 53) was in good condition. It was located 22 m (72’ 3’’) west of the signal tower and, unusually, it was surrounded by a low walled enclosure that measured approximately 9 m (29’ 6’’) east to west, by 5 m (16’ 6’’) north to south. Approximately 6 m (19’ 6’’) south of L.O.P. 53, a well-defined number 53 was marked out in stone, all that remained visible of ‘Eire Sign 53’.

Figure A.81. This low foundation is all that remains of the signal tower at Bunowen Hill Signal Station. The ruins of Bunowen Castle (GA049-013/Reg. No 30404903) can be seen in the background.

Figure A.82. The remains of a structure thought to be a secondary building rather than an original component of the Bunowen Hill Signal Station.

Figure A.83. The well-preserved Look Out Post close to the site of Bunowen Hill Signal Station.

Figure A.84. The remains of the 'Eire Sign 53', associated with Look Out Post 53, to the immediate south of the site of Bunowen Hill Signal Station.

Number 56. Cleggan Hill Signal Station (460557E, 759685N).

Low ruin of signal tower. SMR GA009-007----. 147 m (482') OD. Surveyed 13 September 2014.

Figure A.85. Aerial photograph showing Cleggan Hill Signal Station in the centre of the image (Bing Maps).

Figure A.86. Viewshed from Cleggan Hill Signal Station (Google Earth Pro).

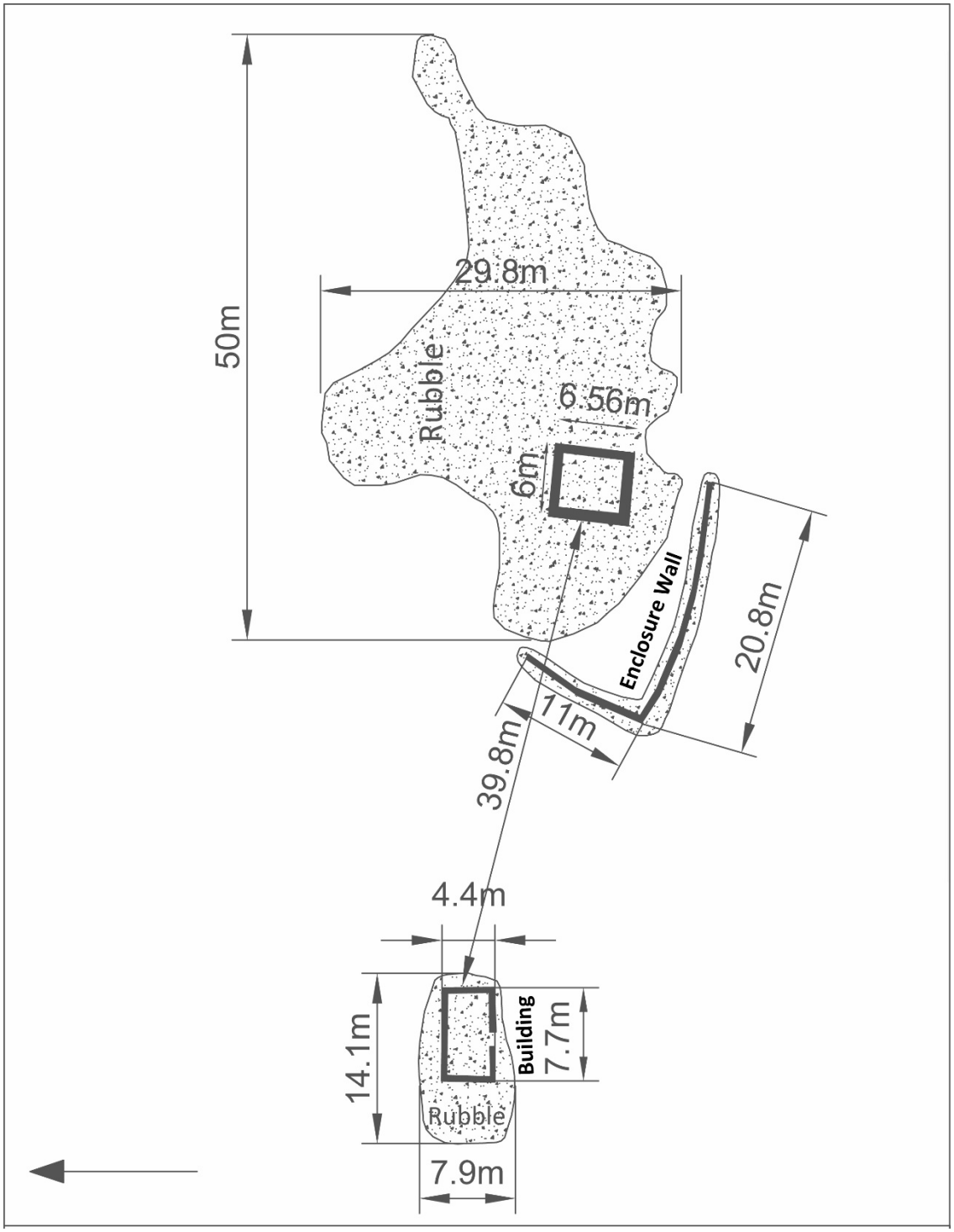

Figure A.87. Plan of Cleggan Hill Signal Station.

Description.

The signal station at Cleggan Hill was located at the east edge of the summit area of Cleggan Hill, a steep ridge that extends along the north side of Cleggan Bay. The signal station was situated at 147 m (482') OD and had expansive views in all directions. Neither of the adjacent collapsed signal towers at Bunowen Hill Signal Station to the south or Inishturk Signal Station to the north were visible on the day of the survey, although their general positions were observable. The signal station was located within open bog, with two small lakes to the east. It did not have a marked route of access. The ground sloped steeply down to the east immediately beyond the site, and the signal tower was constructed at the edge of this slope.

The signal station consisted of the low remains of a collapsed signal tower with an adjacent section of walling that was part of a small enclosure surrounding the signal tower. The foundations of a small rectangular building were located 39.8 m (130' 7'') west of the signal tower which is thought to have been part of the signal station. A lime kiln is shown on the 1st edition Ordnance Survey map, surveyed 1838-1839, immediately north-west of the signal tower, but it was not located during the survey; its likely position was concealed by the extensive spread of rubble that surrounded the signal tower.

Only a portion of the ground floor of the signal tower survived. Local informant Caroline Cosgrove reported that the tower was reasonably complete in the mid-20th Century but suffered a catastrophic collapse when it was struck by lightning during a storm. Several photographs exist that show the tower to have been a very neat structure, akin to the example at Golam Head Signal Station (Figure A.88).

The exterior of the tower was entirely devoid of render leaving the rubble walls fully exposed. The north wall survived to a height of 4.36 m (14' 4'') and had a length of 5.8 m (19'). The adjacent east wall survived to a height of 3.57 m (11' 8'') and had a length of 6.07 m (19' 10''). The south wall had entirely collapsed, although it was visible at ground level and had a length of 5.8 m (19'). The west wall had a surviving length of approximately 4.54 m (14' 11'') but only the central portion survived above ground level, where it had a height of 2.5 m (8' 2'').

The difference in height of the surviving walls relates to the local topography. The tower was constructed at the edge of a steep slope, and whilst the north and west walls were constructed on level ground on the hilltop, much of the south and east walls were actually at lower elevations as they extended up from the slope. The lower south and east parts of the tower displayed a considerable batter to the walls which resulted in their having longer lengths than the east wall. A measurement at a height level with the bottom of the west wall produced a length of 5.8 m (19’) for the east wall.

Only the east and north walls had surviving internal wall faces. The north wall featured a pillar of stonework in the centre that was identified as the dividing wall between two ground floor windows. At the east end of the north wall there was a square sectioned drainage channel. These two features suggested that the north and south walls were the side walls featuring the windows, that the east wall would have been the rear wall with the fireplaces and alcoves, because the drainage channel was typically found on or adjacent to that wall, and that the west wall would have been the front wall featuring the doorway. The only feature that was visible on the west wall was a row of joist holes very close to the internal ground level which marked the position of the ground floor. It is possible that an infilled semi-basement was present below the ground surface. The signal tower was constructed from light- and mid-grey medium-grained stone, possibly schist.

The signal tower was surrounded by a very substantial spread of rubble that measured approximately 50 m (164’) east-west and 30 m (98’ 6’’) north-south. The signal tower was located towards the western end of this rubble spread, suggesting that when the tower collapsed it fell away to the east.

An L-shaped section of wall was present to the south and west of the signal tower that defined a small enclosure. The wall consisted of a wide grassy bank with a narrower line of rubble running down its centre, suggesting a narrow stone wall that had collapsed and then become grassed over. The bank was around 2 m (6’ 6’’) wide, whilst the rubble wall was around 0.6 m (2’) wide. The south section of the wall was approximately 21 m (69’) in length and the west section of wall was approximately 11 m (36’) in length. The north section of this part of the enclosure wall was hidden beneath the rubble spread that surrounds the tower. Figure A.88 seems to show traces of the enclosure wall to the

north-west of the signal tower. At the east, the enclosure wall could also be concealed by the rubble but given the steep nature of the ground in that area, no wall may have been required on that side and the enclosure may only have extended as far as the east edge of the signal tower. The enclosure would have been much smaller than was typical for the signal stations in the main study area.

A rectangular building was located 39.8 m (130’ 7’’) west of the signal tower. It was constructed of mortared rubble walling and measured 7.7 m (25’ 3’’) east to west and 4.4 m (14’ 6’’) north to south. The walls survived to a maximum height of 1.22 m (4’) and were around 0.45 m (1’ 6’’) wide. The building was surrounded by a dense rubble spread measuring 14.1 m (46’ 3’’) east to west by 7.95 m (26’) north to south. The building must have originally been quite substantial for its collapse to create such a large spread of rubble. The building was constructed from the same The signal tower was constructed from the same light- and mid-grey fine-grained stone as the signal tower. The building is shown on the 1st edition Ordnance Survey map, surveyed 1838-1839, and likely dates to the early 19th century. It may have been a contemporary element of the Cleggan Hill Signal Station.

Figure A.88. Historic photograph of Cleggan Hill Signal Tower, looking south-east. The signal tower is clearly of the standard design and closely resembles the signal tower at Lettermullan Signal Station (A.52). Note the suggestion of a collapsed enclosure wall at the bottom left of the image, which would be north-west of the signal tower (The Signal Towers of Ireland 2006).

Figure A.89. View of the north-east corner of the of the collapsed signal tower at Cleggan Hill Signal Station.

Figure A.90. The surviving portion of the external face of the east wall of the collapsed signal tower at Cleggan Hill Signal Station.

Figure A.91. View of the collapsed west wall with the internal face of the north wall of the collapsed signal tower at Cleggan Hill Signal Station in the background.

Figure A.92. The internal face of the west wall of the collapsed signal tower at Cleggan Hill Signal Station.

Figure A.93. The internal face of the north wall of the collapsed signal tower at Cleggan Hill Signal Station.

Figure A.94. Looking east along the possible enclosure wall at Cleggan Hill Signal Station.

Figure A.95. View of the eastern end of the collapsed adjacent building, looking west.

Figure A.96. View of the southern wall of the collapsed adjacent building, looking north.

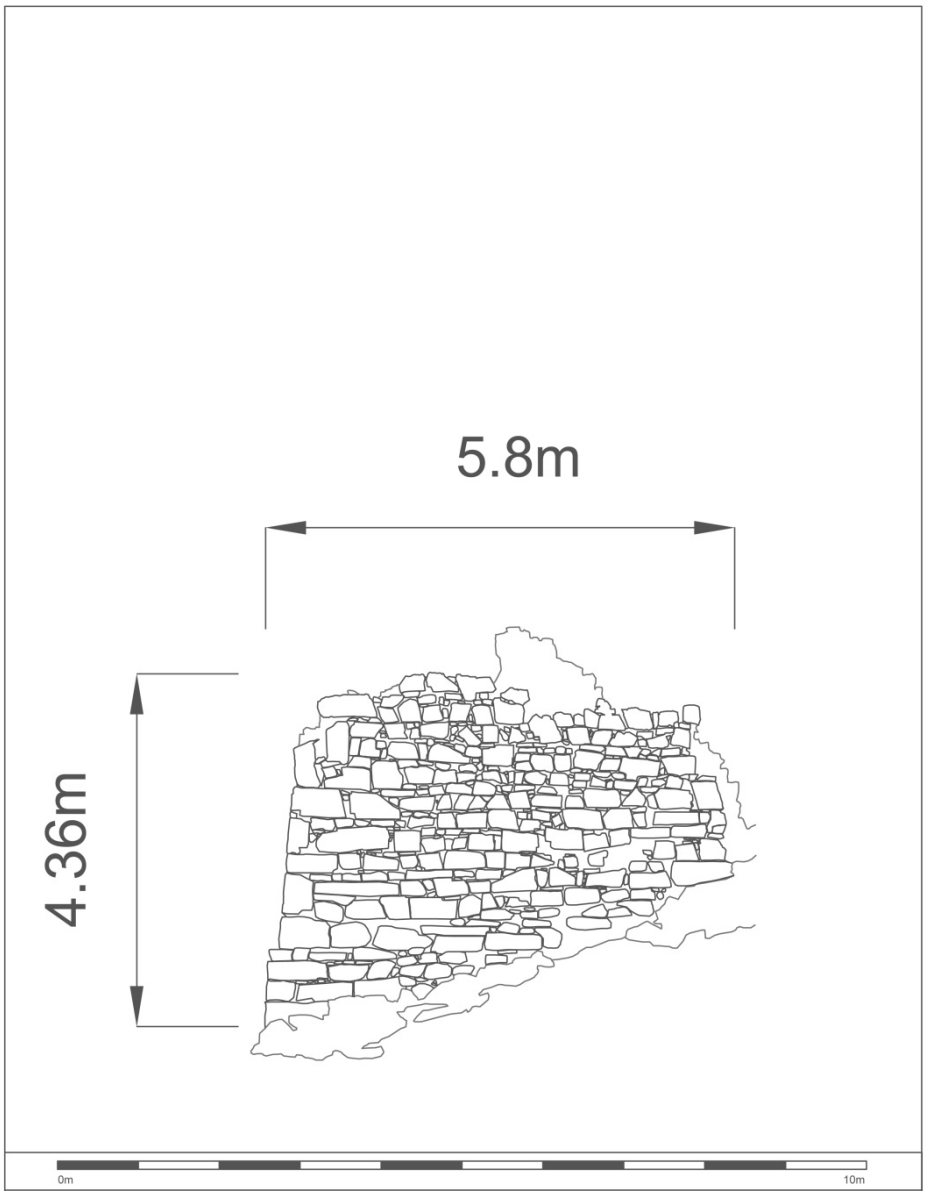

Figure A.97. External elevation of the north wall of the collapsed signal tower at Cleggan Hill Signal Station.

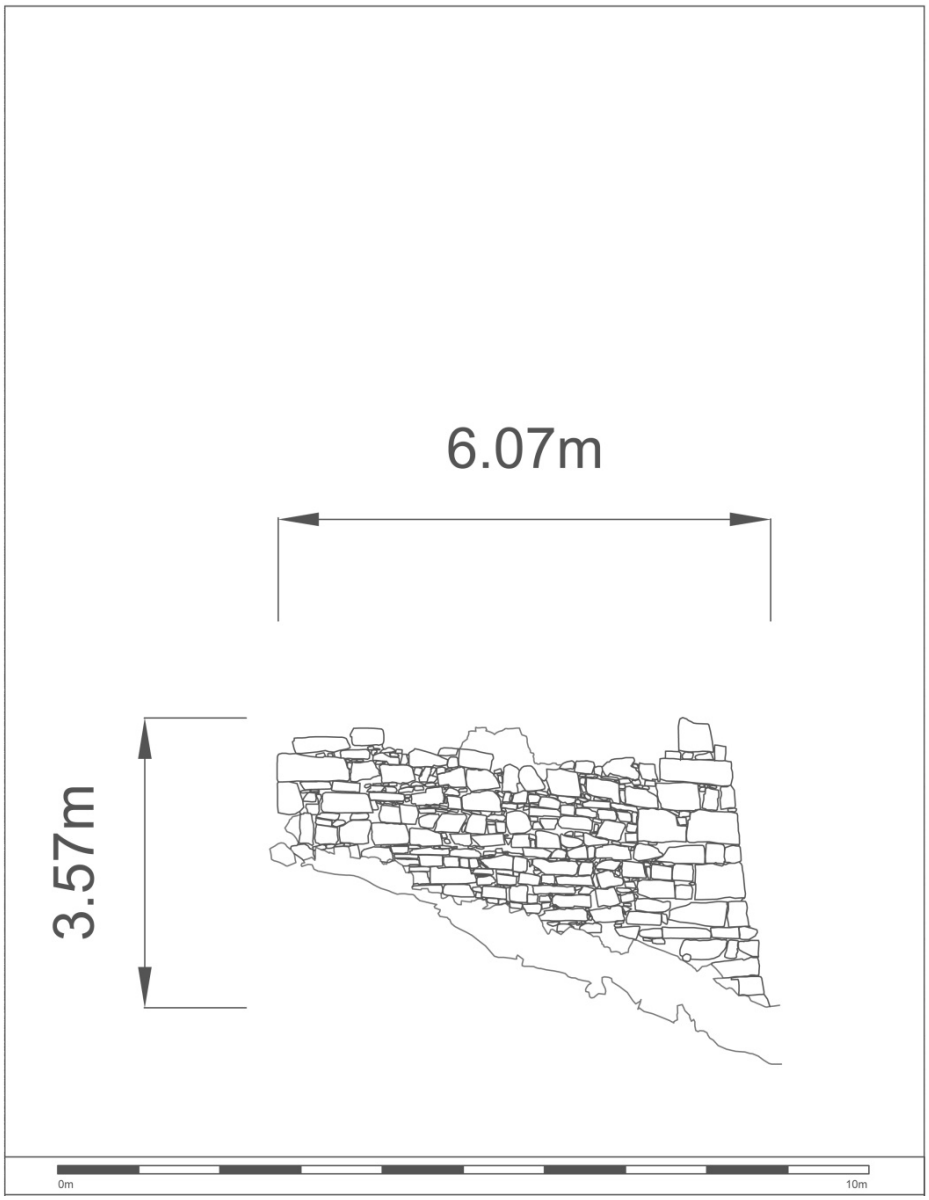

Figure A.98. External elevation of the east wall of the collapsed signal tower at Cleggan Hill Signal Station.

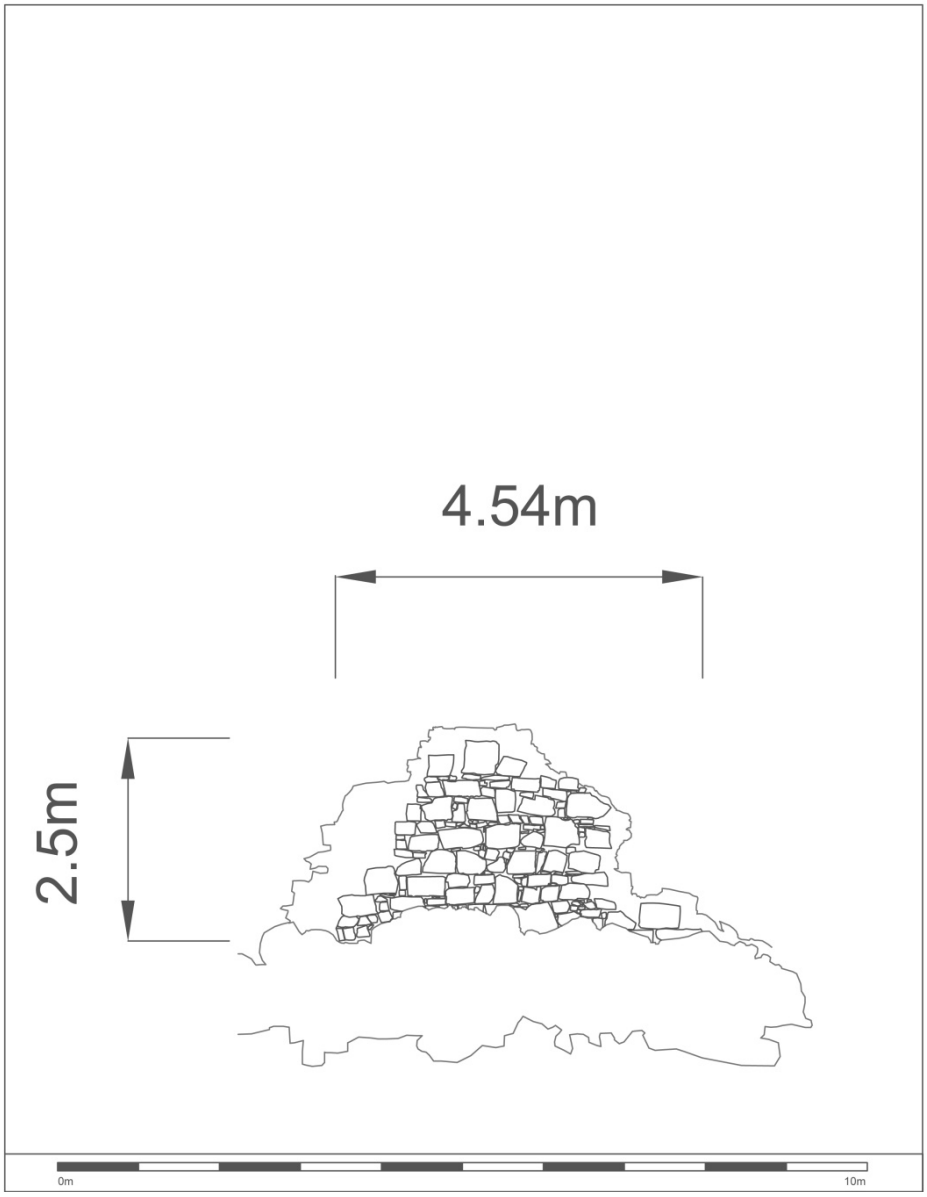

Figure A.99. External elevation of the west wall of the collapsed signal tower at Cleggan Hill Signal Station.

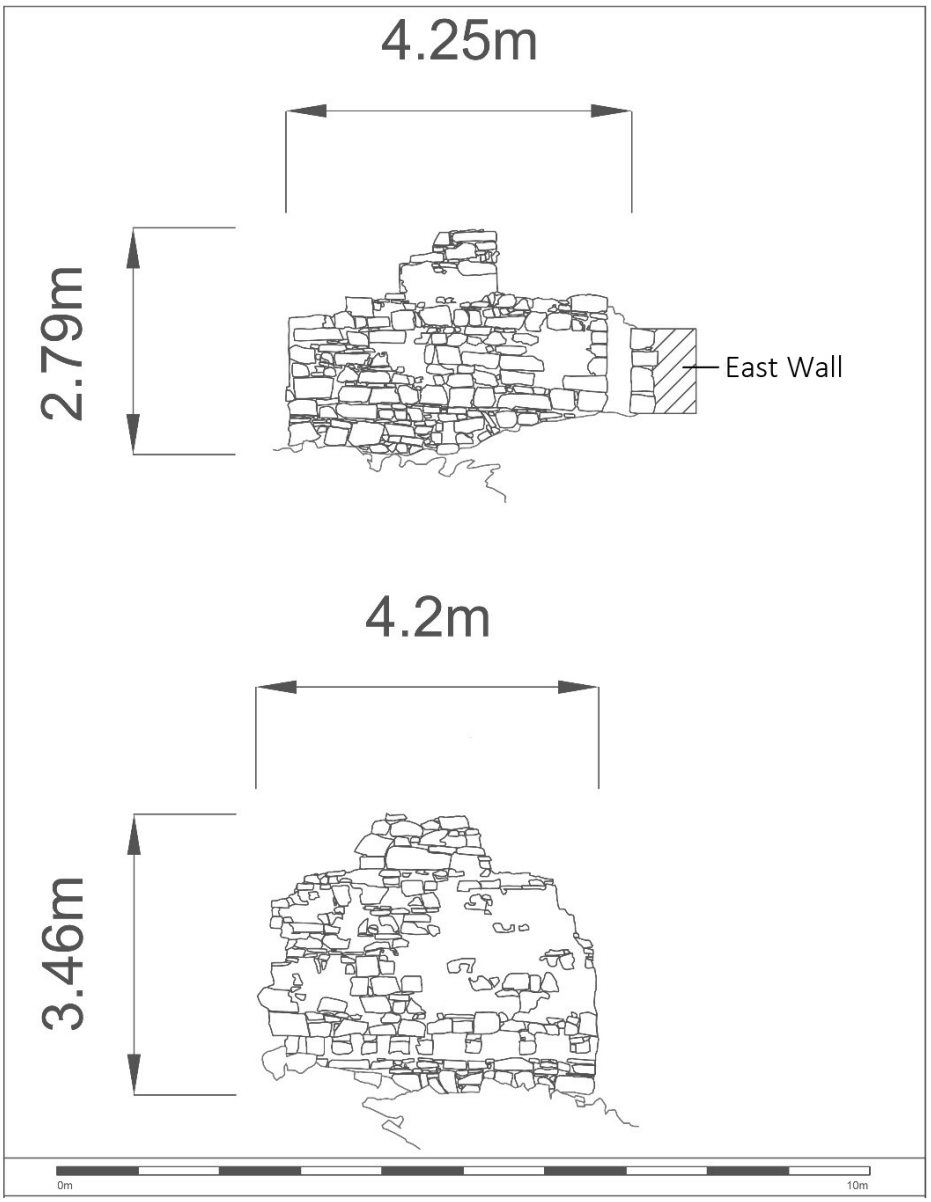

Figure A.100. Internal elevations of the north (top) and west (bottom) walls of the collapsed signal tower at Cleggan Hill Signal Station.

Appendix B. Signal Stations in County Mayo

Eight signal stations were located in County Mayo, one of which survived in good condition (Glash Signal Station), three of which were in poor condition (Inishturk Signal Station, Clare Island Signal Station and Saddle Hill Signal Station), three of which survived only as very low ruins (Tower Hill Signal Station, Benwee Head Signal Station and Glinsk Signal Station) and one of which (Creevagh Signal Station) had been almost entirely removed (Figure 4.72). Five of the County Mayo sites included large enclosures (Clare Island Signal Station, Saddle Hill Signal Station, Glash Signal Station, Tower Hill Signal Station and Glinsk Signal Station). Two of the sites seem to have been unenclosed (Inishturk Signal Station, Benwee Head Signal Station). A historical letter indicates that Creevagh Signal Station was also enclosed but the site has been cleared and no traces of the enclosure are now visible.

The sites in County Mayo were depicted on William Bald's map of the county, which was surveyed between 1909 and 1916 (Section 3.4.1). The signal stations are labelled as 'Signal Tower', with the exception of Clare Island Signal Station, which is labelled as 'Tower' and Glinsk Signal Station, which is labelled as 'Glensky Head Tower' (Figure B.1). Each site is shown as a simple square symbol with the exception of Glash Signal Station, which is shown as a small square symbol in the centre of a rectangular enclosure (Figure B.1). Along the top edge of the map there are a series of sketches showing the outlines of various ranges of hills and islands, including an image of the northern side of Achill Island as viewed from the southern end of the Belmullet Peninsula. The signal tower at Saddle Hill Signal Station is shown as a tall rectangular building (Figure B.2). Along the bottom of the map is a west to east profile showing a compressed view of the topography of County Mayo. The profile includes small representations of the signal towers at Glash, Inishturk, Tower Hill, and Clare Island Signal Stations (Figure B.3).

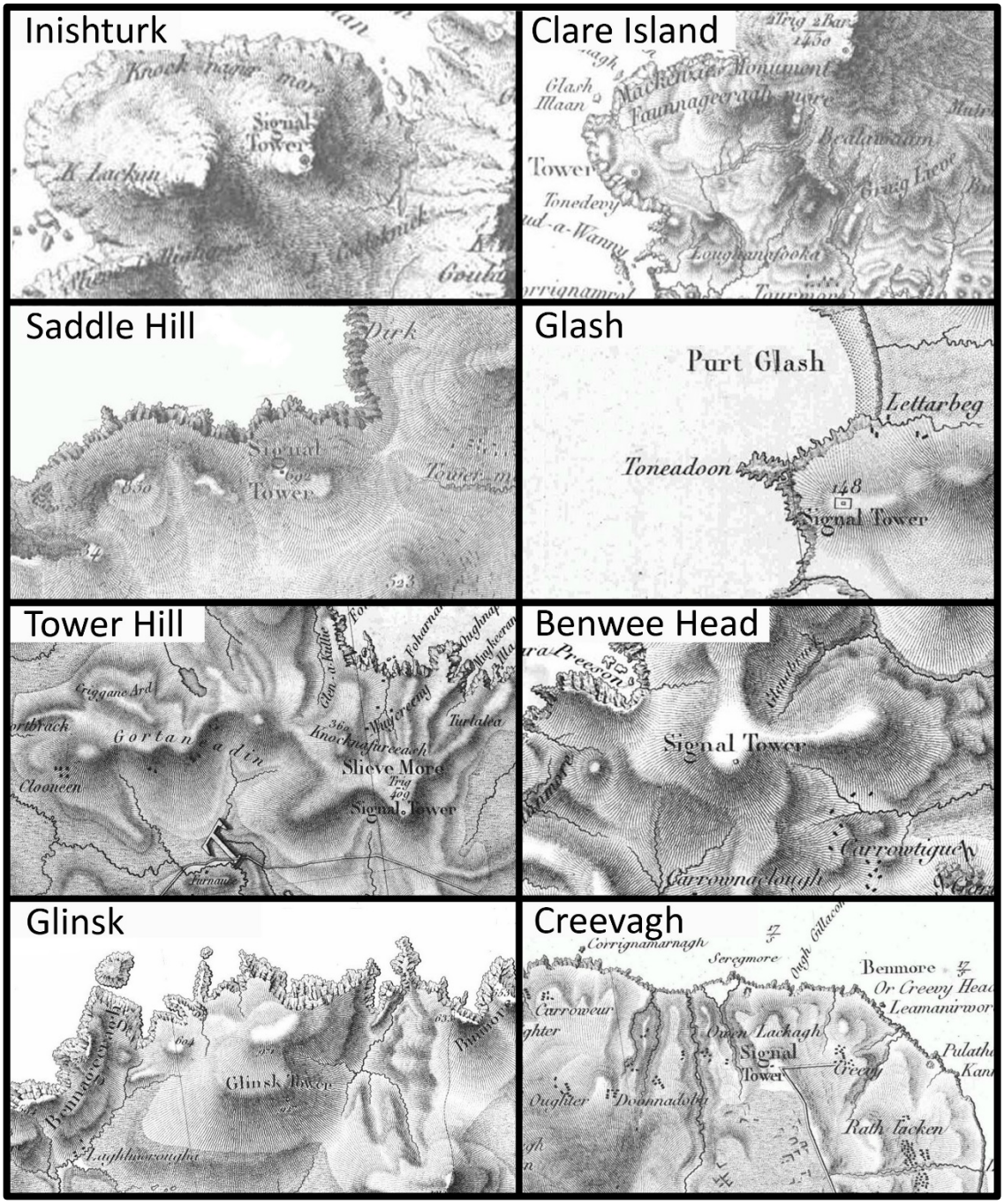

Figure B.1. Representations of County Mayo signal stations on William Bald's Map of Mayo, showing the variation in the depiction of different sites (Bald 1830).

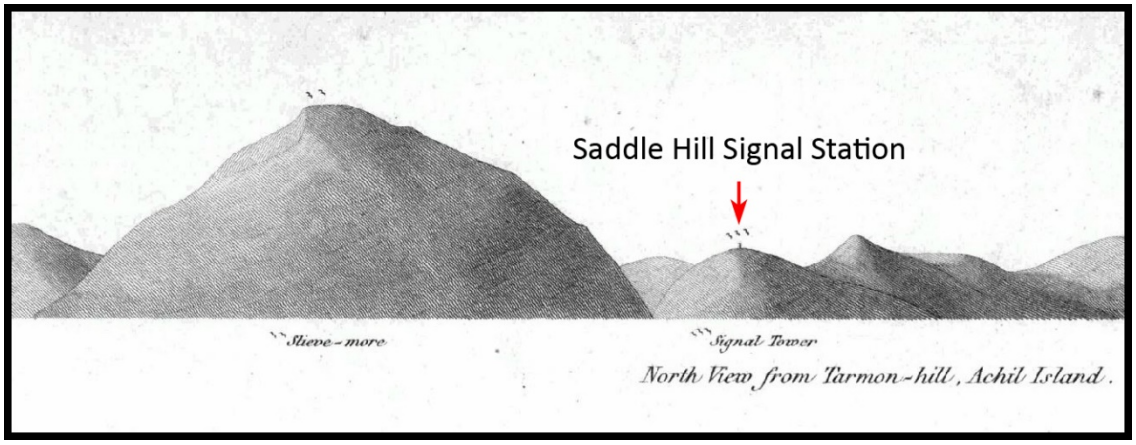

Figure B.2. Extract from the view of the north side of Achill Island from the upper edge of Bald's Map showing the signal tower at Saddle Hill Signal Station (Bald 1830).

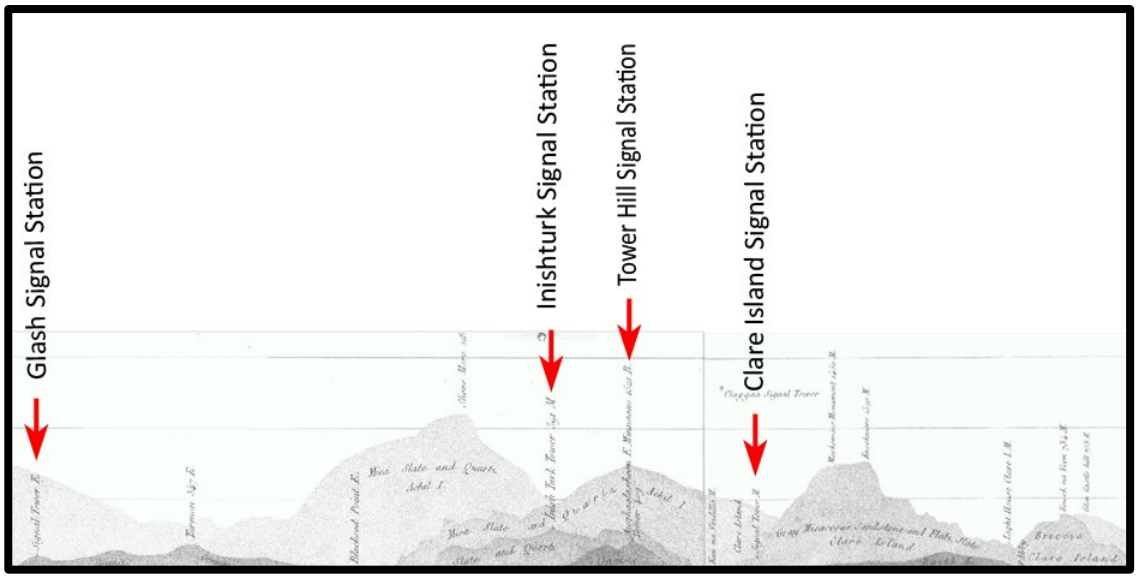

Figure B.3. Extract from the west to east profile of County Mayo from the lower edge of Bald's Map showing the signal towers at four of the signal stations (Bald 1830).

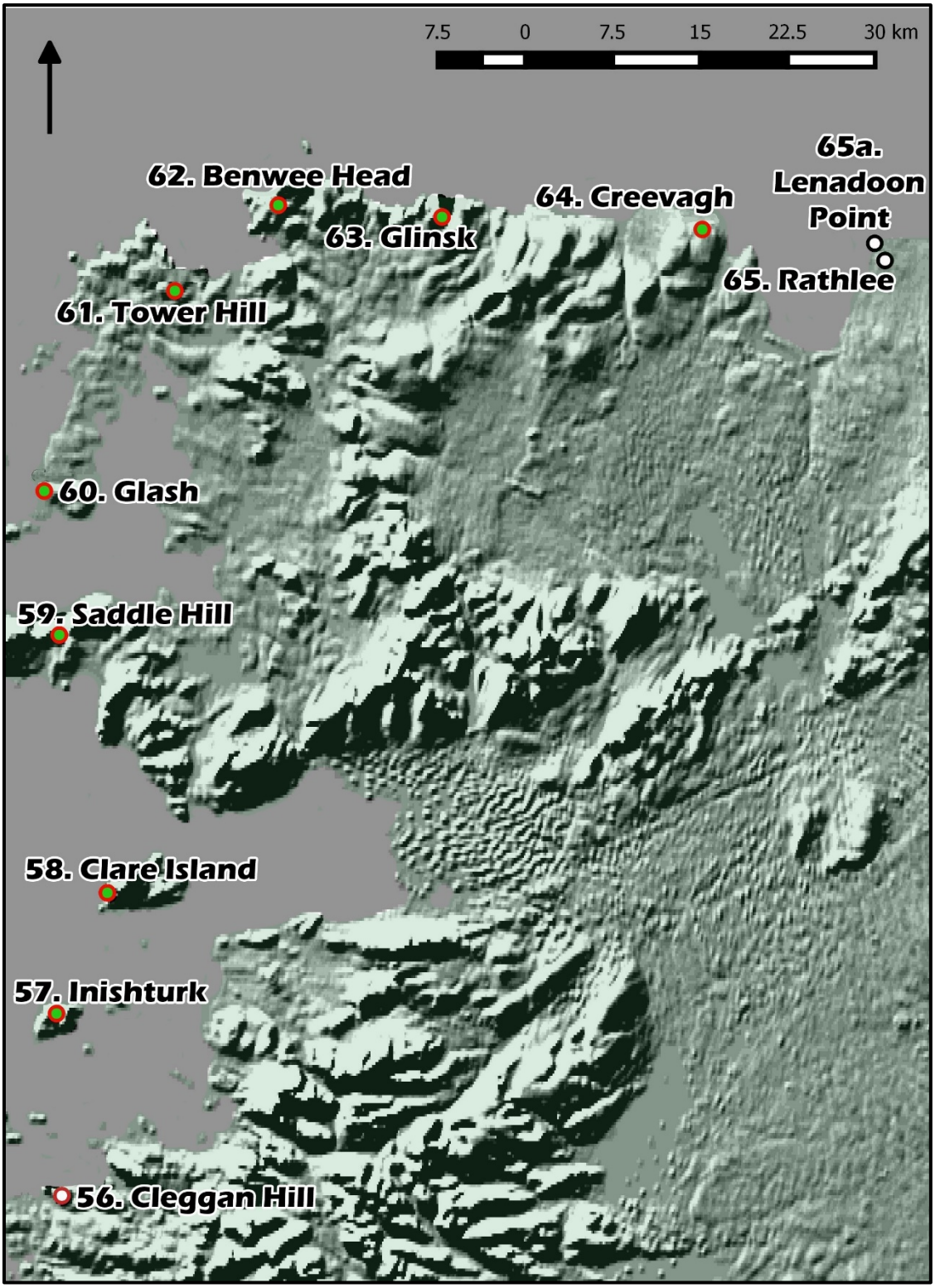

Figure B.4. Map showing locations of County Mayo Signal Stations (green and red) and adjacent signal stations in County Galway (white and red) and County Sligo (white and black).

Number 57. Inishturk Signal Station (460548E, 775201N).

Low ruin of signal tower. Reg. No. 31309401. 192 m (629') OD. Surveyed 24 August 2012.

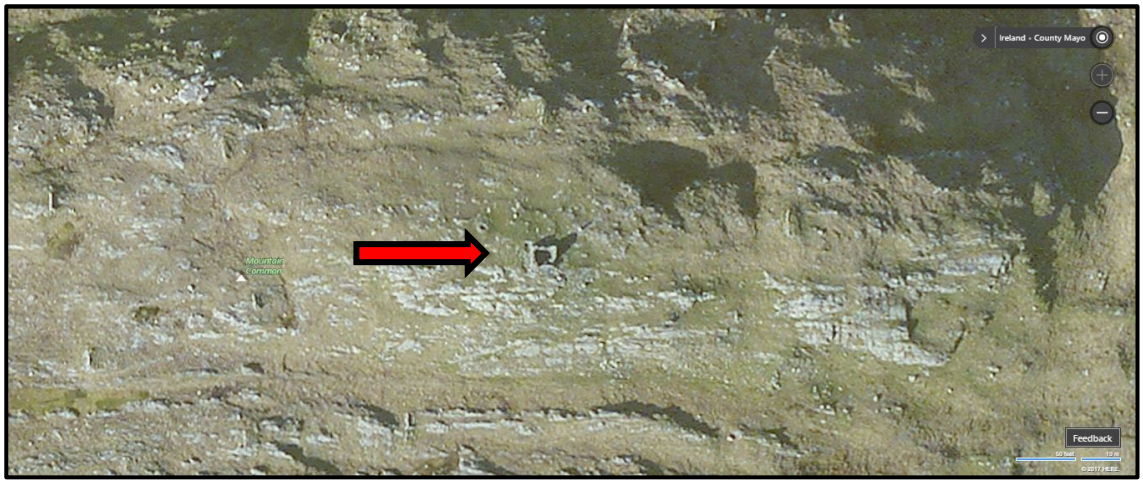

Figure B.5. Aerial photograph showing Inishturk Signal Station in the centre of the image (Bing Maps).

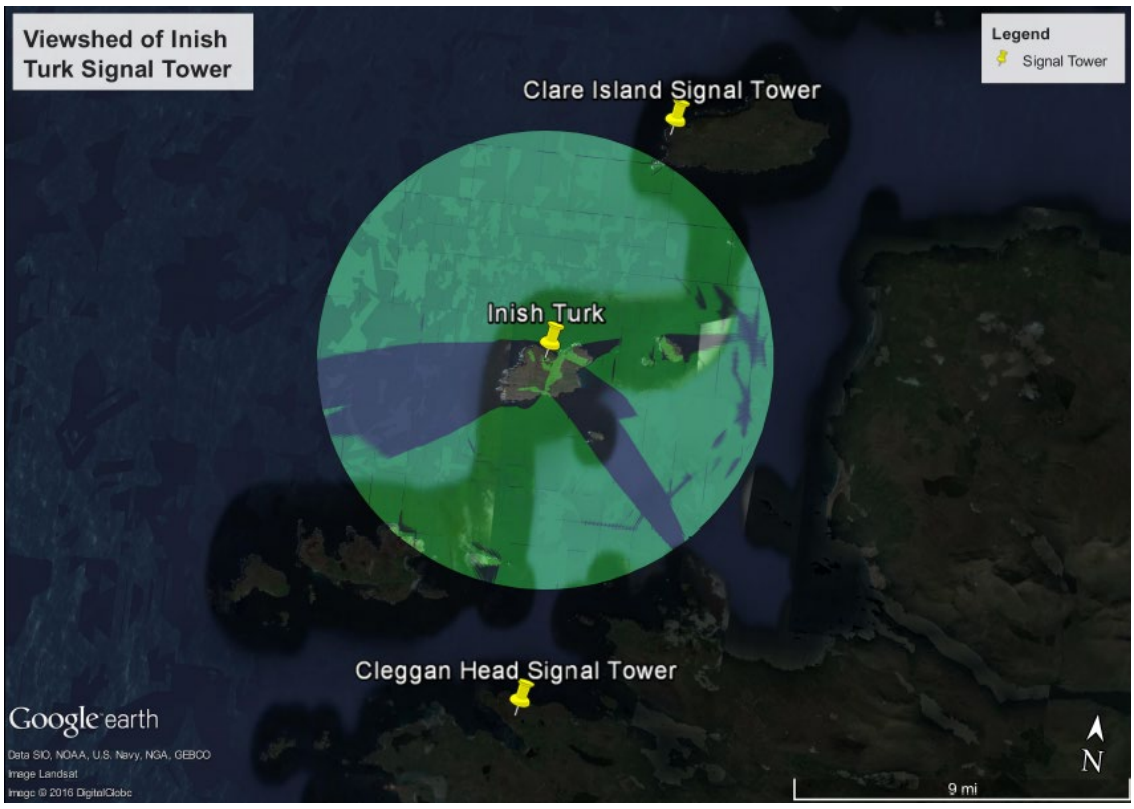

Figure B.6. Viewshed from Inishturk Signal Station (Google Earth Pro).

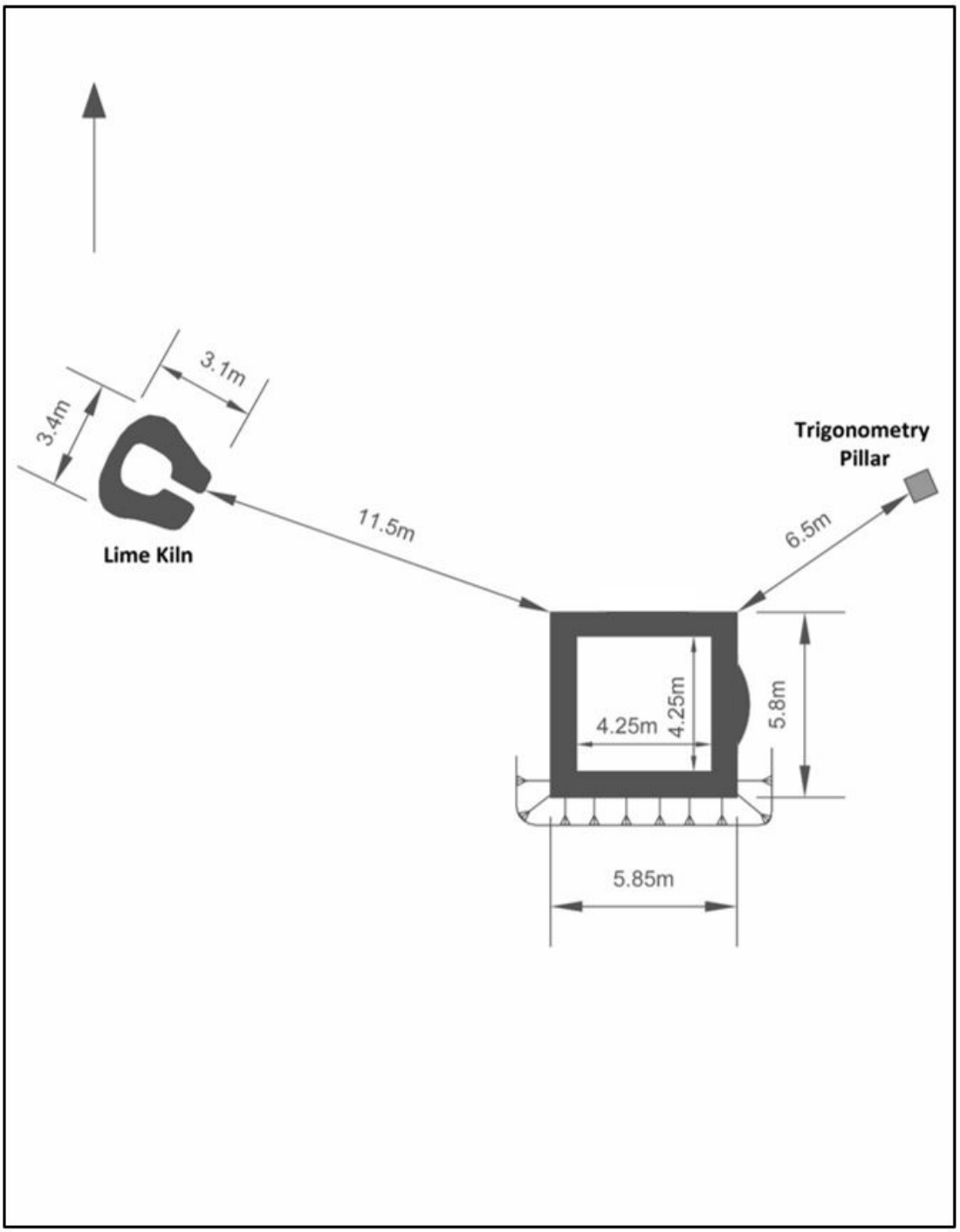

Figure B.7. Plan of Inishturk signal station.

Description.

The unenclosed signal station on Inishturk was located on Mountain Common on the northern side of the island, close to the summit of the hill at 192 m (629') OD. The site had expansive views in all directions, except the west and south-east. The adjacent signal stations to the north-east, Clare Island, and to the south, Cleggan Hill, were not observable on the day of the survey due to poor visibility conditions. The local area consisted of steeply sloping unenclosed mountain bog. The site did not have a marked route of access. It was approached from the south-east, departing from a track roughly 300 m (330 yards) to the south, that ran from the islands harbour and main settlement to Lough Coolaknick. The signal station consisted of the low remains of a collapsed signal tower with a well-preserved lime kiln to the north-west. A concrete trigonometry pillar was located a short distance to the north-east of the signal tower.

The signal tower was badly collapsed and only the semi-basement level and parts of the ground floor survived. The walls defined a square building approximately 5.8 m (19') across externally and 4.25 m (14') across internally. The walls faced north, east, south, and west respectively. The north part of the east wall was the best-preserved section of the building. The south wall and the southern corner of the east wall were particularly ruinous. The tallest surviving section of the building was the south-west corner which had a height of 3.74 m (12' 3'') above the adjacent ground surface.

The north wall featured the lower parts of two ground floor windows. The south wall featured only the lower part of one window, located close to the west corner. None of the surviving windows retain dressed stone surrounds. The west wall was plain. The east wall was plain apart from a centrally located bulge on the external surface that housed the chimney, and a square chute close to the northern corner that penetrated through the wall.

Internally the north and south walls featured slots which would have held the ground floor timbers, below the remains of the ground floor windows. The stone blocks that would have divided these slots into individual joist holes were entirely missing. The west wall was blank, and the east wall featured a central fireplace flanked by a complete alcove to the north and the lower part of an alcove to the south. There was a pair of substantial joist holes on either side of the central fireplace, set at the same height as

the ground floor joist holes on the north and south walls. The square chute opening was located at the base of the north alcove, set against its north edge. The surviving features allowed the signal tower to be orientated; the first floor door would have been located on the west side and bartizans would have been located over the north-east and south-east corners of the signal tower. The signal tower was constructed from mid- and dark-grey fine-grained stones, possibly shale.

The signal tower was built on a small terrace cut into the solid rock of the hillside. The back of this terrace was visible as an almost vertically sided cut, immediately south of the signal tower and continuing around the south-west and south-east corners for a short distance. The edge of the terrace was set about 1.2 m (4') beyond the walls of the signal tower, giving it a total width of about 8.2 m (27'). The terrace was infilled with rubble from the collapse of the building. Apart from the rubble infilling the terrace and a low spread of rubble within the signal tower, there was an absence of collapsed stone in the vicinity of the signal tower, suggesting it had been removed from the site. A large number of L-shaped stone-built turf drying stands are located in the vicinity of the signal station and the collapsed stone from the signal tower may have provided a convenient source of building stones for some of these structures. Alternatively, the presence of a well-developed track c.300 m south-east of the site may have allowed for the collapsed stones to be carted away for re-use further afield.

A small lime kiln was located 11.5 m (37' 9'') to the north-west of the signal tower. It was an oval kiln with a well-defined bowl and a long flue extending to the south-east. The kiln measured 3.4 m (11' 2'') from north-east to south-west and 3.1 m (10' 2'') from north-west to south-east. Internally the bowl of the kiln measured 1.6 m (5' 3'') across and was sub-circular in plan, with sides that sloped inwards. An intact lintel stone was present at the point where the flue met the bowl. A lime kiln is portrayed on the 1st edition Ordnance Survey map, surveyed 1837-1839, in the same position. The kiln is the best-preserved example within the main study area.

A concrete trigonometry pillar was located 6.5 m (21' 4'') north-east of the signal tower. It was surrounded by a small cairn, but it was not possible to determine from a simple visual inspection if this was a latter accumulation of stone placed by visitors to the site, or if this was the remains of an earlier trigonometry cairn that the pillar had replaced.

Figure B.8. View of the base of the signal tower at Inishturk Signal Station, looking south-west, with the trigonometry pillar in the foreground.

Figure B.9. The external face of the east wall of the signal tower at Inishturk Signal Station.

Figure B.10. The internal face of the north wall of the signal tower at Inishturk Signal Station.

Figure B.11. The internal face of the east wall of the signal tower at Inishturk Signal Station, showing the intact north alcove with the square chute at its north edge, the damaged central fireplace and the fragments of the south alcove.

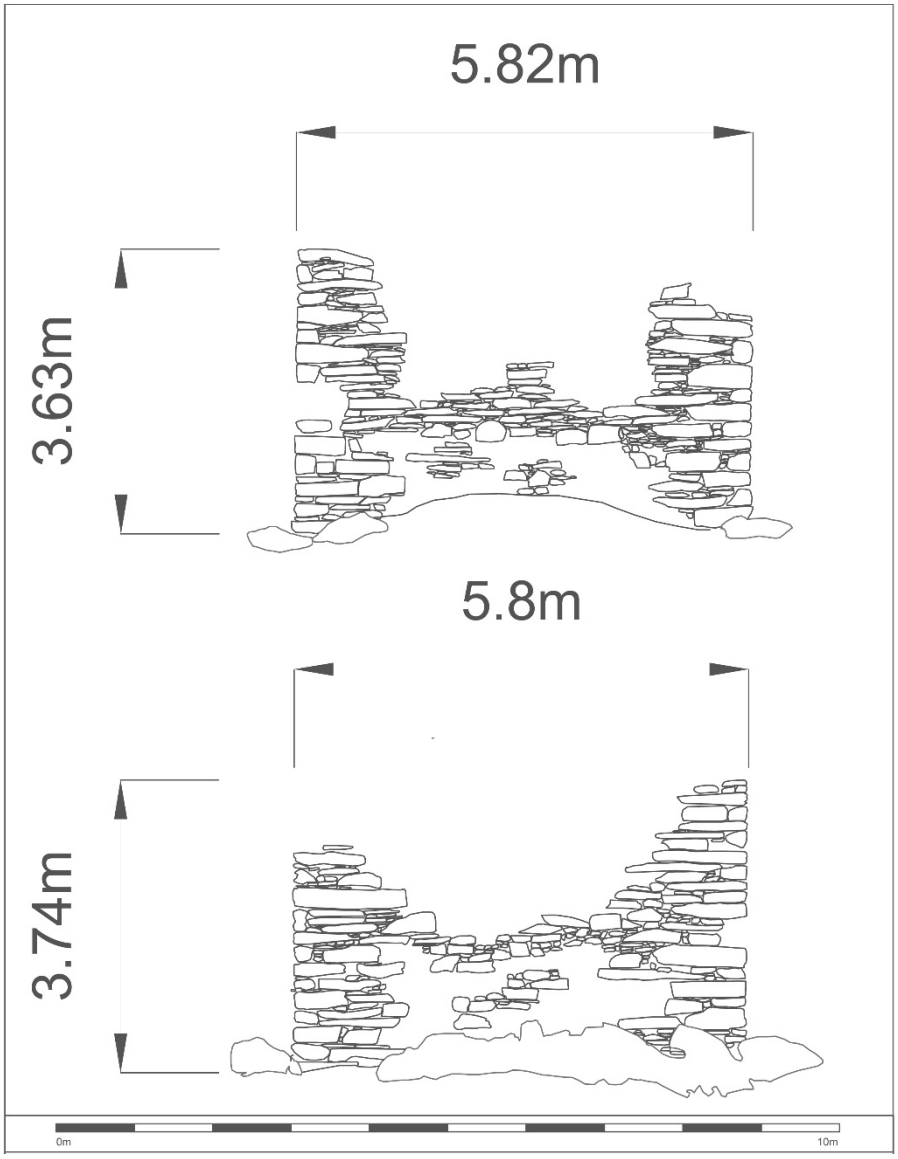

Figure B.12. External elevations of north (top) and west (bottom) walls of Inishturk Signal Tower.

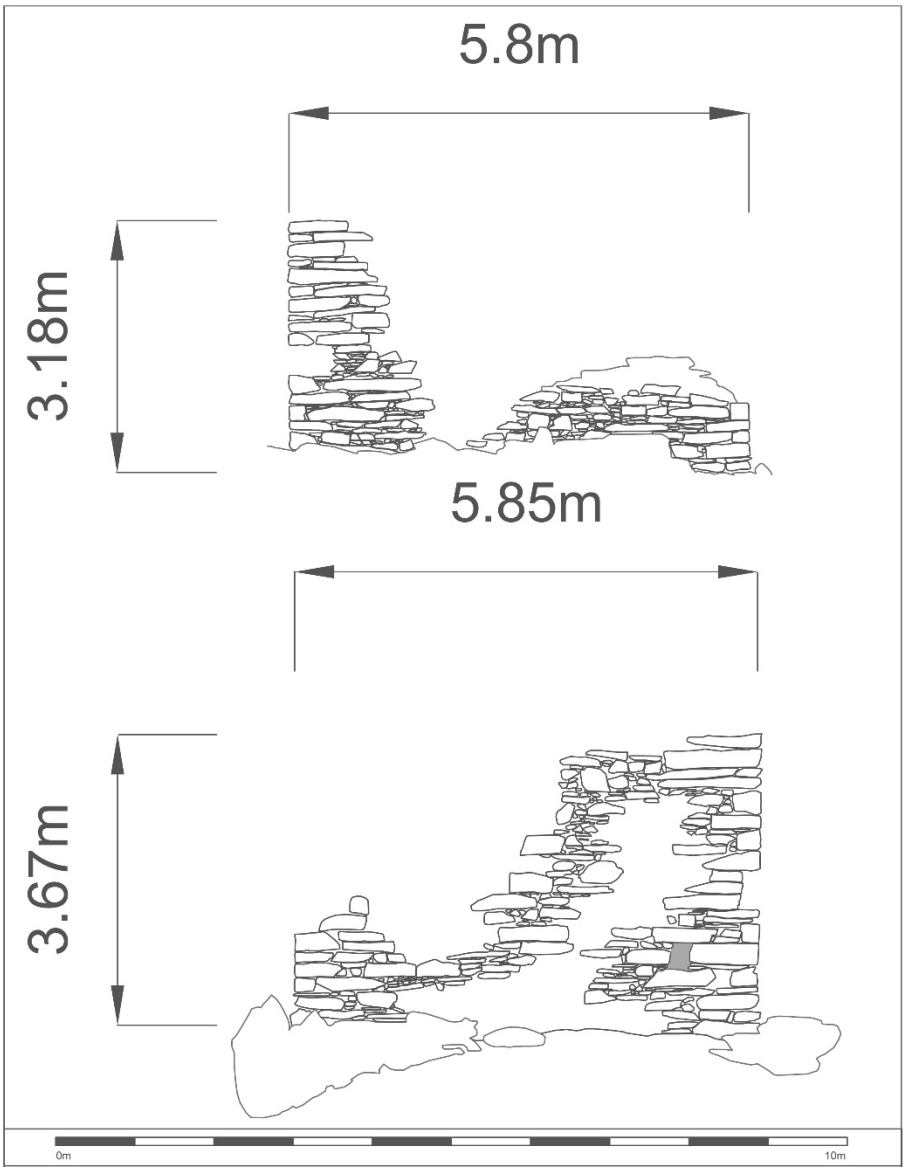

Figure B.13. External elevations of south (top) and east (bottom) walls of Inishturk Signal Tower. The chute passing through the east wall into the ground floor alcove is shaded grey.

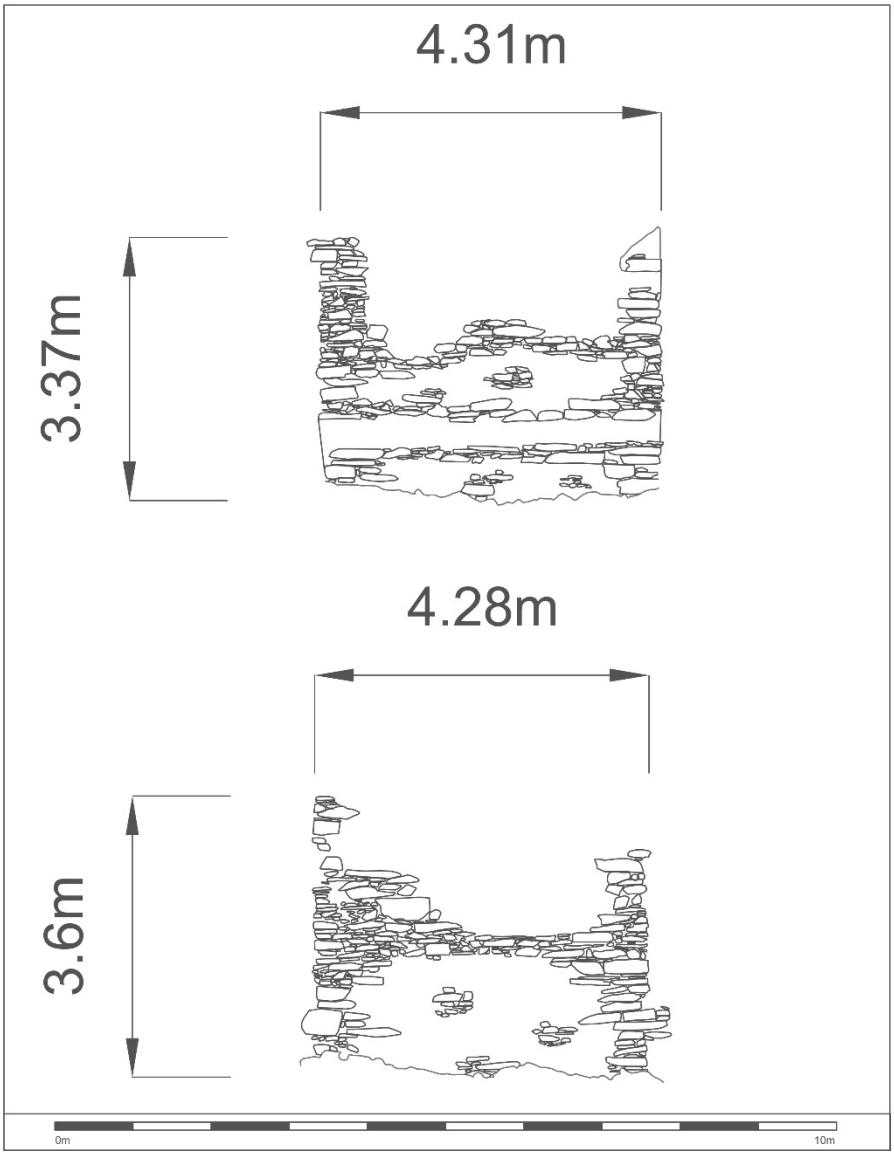

Figure B.14. Internal elevations of the north (top) and west (bottom) walls of Inishturk Signal Tower.

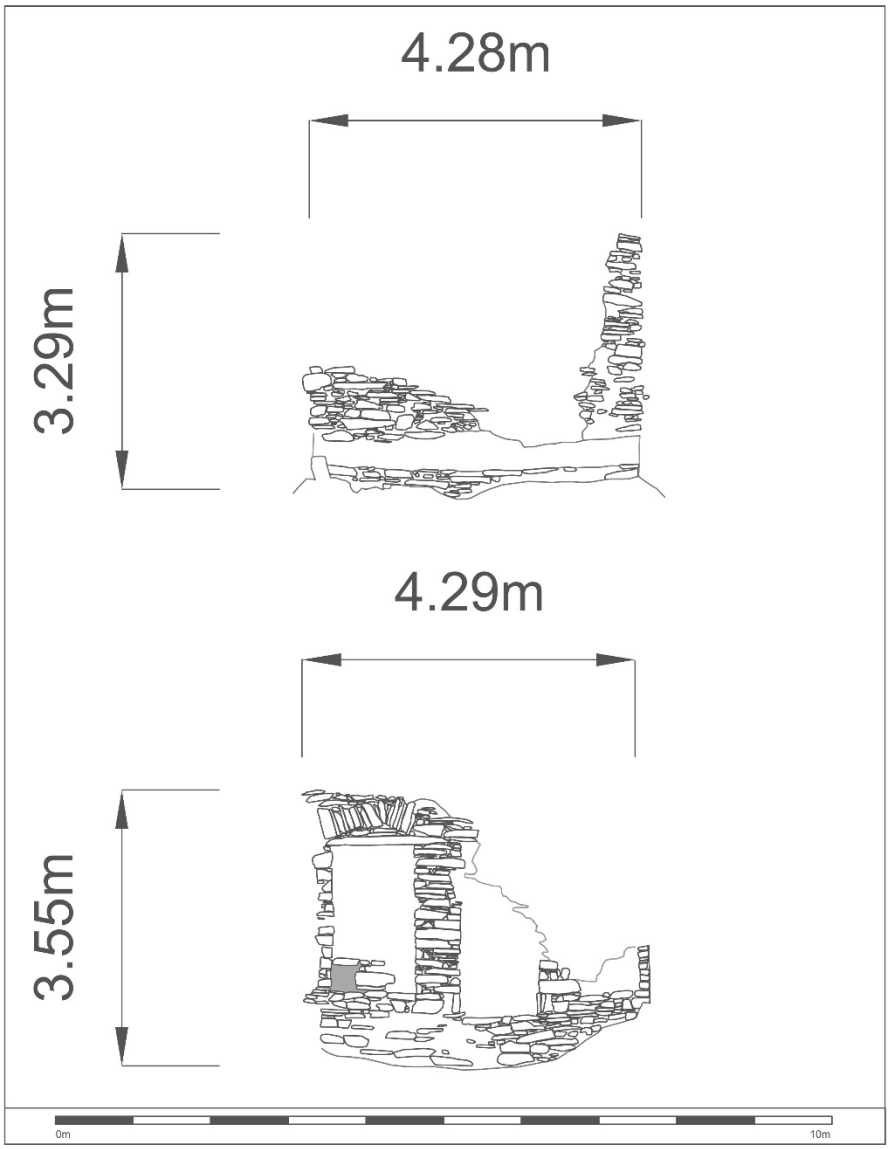

Figure B.15. Internal elevations of the south (top) and east (bottom) walls of Inishturk Signal Tower. The chute entering at the base of the ground floor alcove is shaded grey.

Number 58. Clare Island Signal Station (465182E, 785381N).

Low ruin of signal tower. SMR MA084-001002-/Reg. No. 31308401. 143 m (469') OD. Surveyed 25 April 2011. Historical Name: Shivel Head Signal Station.

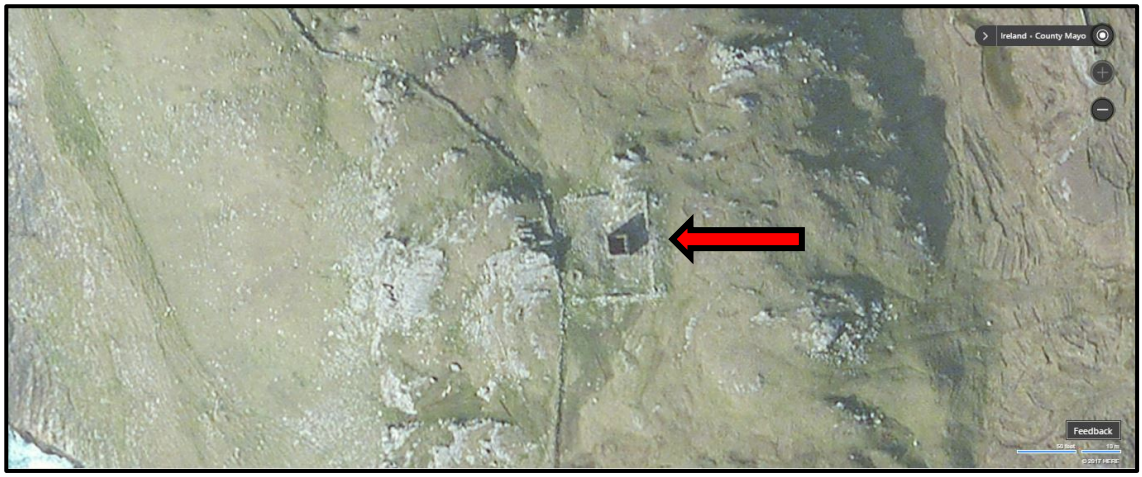

Figure B.16. Aerial photograph showing Clare Island Signal Station in the centre of the image (Bing Maps).

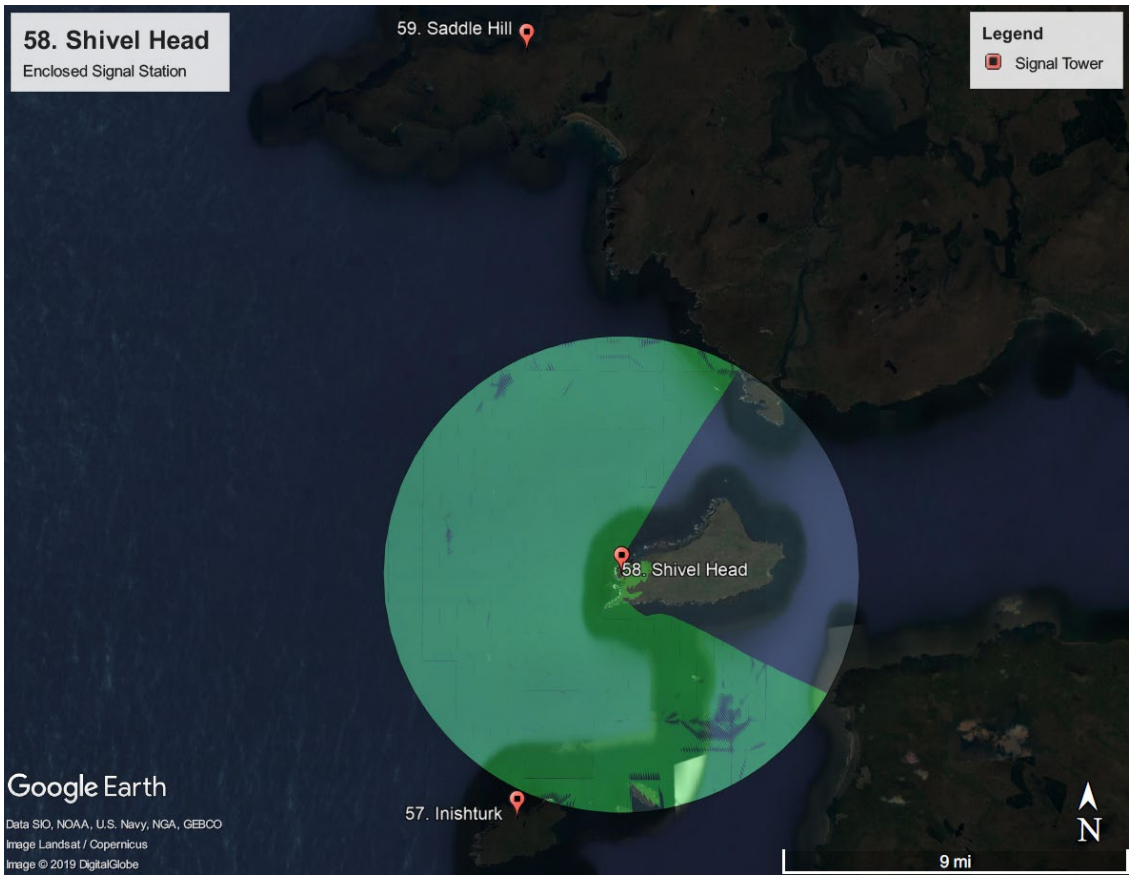

Figure B.17. Viewshed from Clare Island Signal Station (Google Earth Pro).

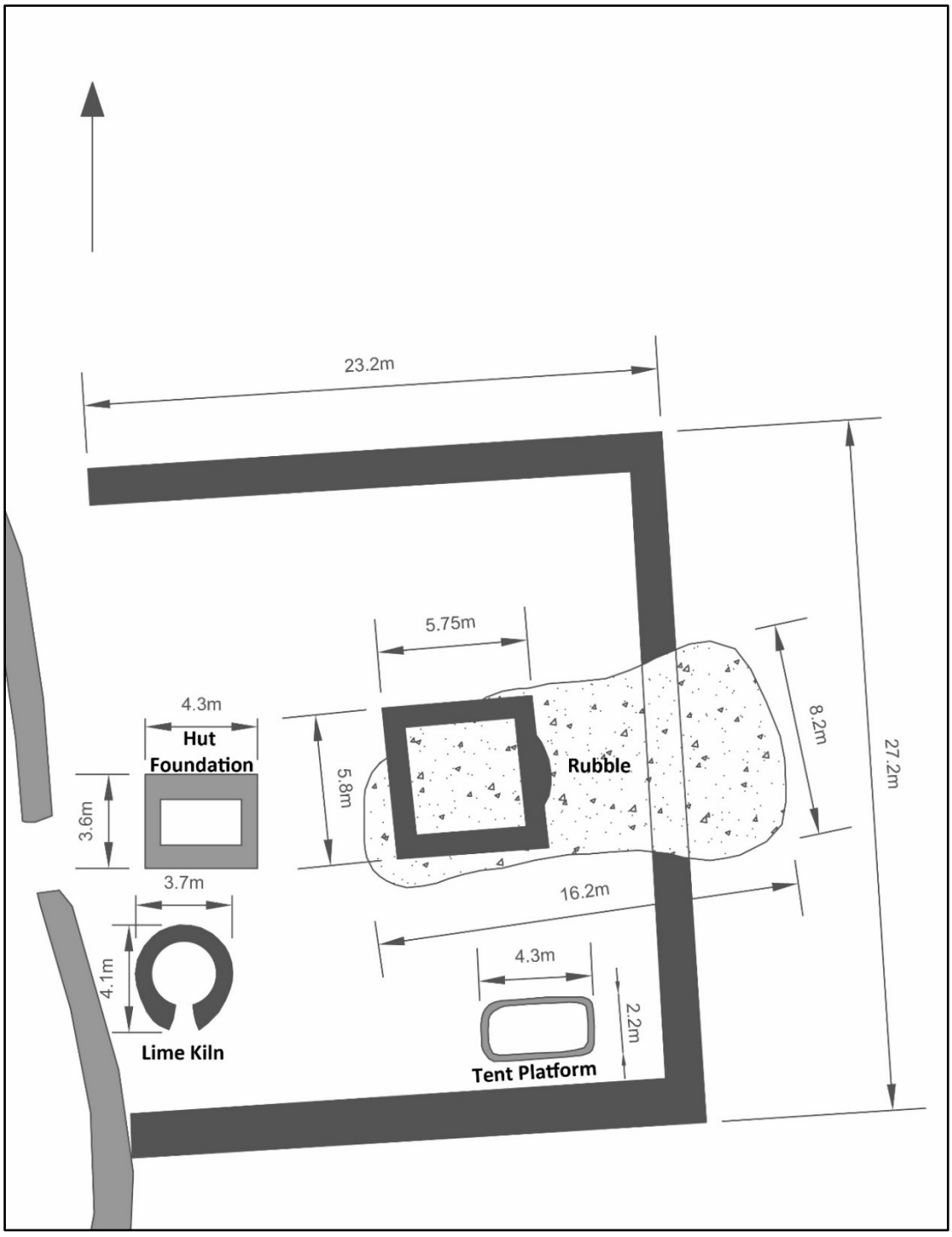

Figure B.18. Plan of Clare Island Signal Station.

Description.

The enclosed signal station at on Clare Island is located at the very west of the island, on the western flank of Knockmore mountain, at 143 m (469') OD. It had clear views to the north, west, and south, but the view to the east was blocked by the mass of Knockmore. The signal towers at the adjacent signal stations to the north, Saddle Hill, and to the south-west, Inishturk, were clearly visible on the day of the survey. The site did not have a defined access route, it was reached by following the main road from the harbour across the island to its western terminal, and then heading onto the open bog to the north-west. The signal station consisted of a partially collapsed signal tower set within an almost square enclosure. A lime kiln was located in the south-west of the enclosure. A small sub-rectangular building foundation was located due west of the signal tower. An oval stone setting was located at the south-east of the enclosure, which was suspected to be a reasonably recent feature, associated with camping. The signal station was located in an unenclosed landscape.

The signal tower consisted of the semi-basement level, the ground floor, and some fragments of the first floor. The first floor and parapet level of the tower was partially complete until 1989-90 when high winds caused the upper portions to fall (Gosling *et al* 2007, 181). The signal tower was surrounded by a substantial spread of rubble, which extended furthest to the east, suggesting that the tower largely fell in that direction.

Ground floor window openings were present on the north and south walls, but no dressed stonework surrounds survived. The lower part of a first floor window was present on the west part of the north wall, with part of the stonework pillar that would have separated the two first floor windows also present. The lower part of the first floor doorway opening survived on the west wall but again no dressed stone work remained in place. The east wall was plain, but the bartizans would have originally been located at the north-east and south-east corners of the tower. An early 20th century photograph of the signal tower reproduced in the *New Survey of Clare Island* shows the bartizans were already ruined at that point. The surviving fragments appeared to be of the square type, rather than being of the curved type recorded at the signal towers at the next three signal stations to the north (Gosling 2007, 182).

Internally the ground floor and surviving parts of the first floor walls were covered by incomplete layers of render. Parts of the semi-basement level were exposed on each wall and no render was visible on these portions. Slots for the ground floor joists were present on the north and south walls, below the window openings, but the individual blocks of stonework that divided individual joist holes were not present. The position of the first floor was indicated by a similar deep slot that ran across the west wall, below the first floor, and a small section of a matching slot was present at the south of the east wall. The ground floor of the east wall featured a central fireplace with two flanking alcoves. A pair of joist holes were located on either side of the base of the fireplace, at the height of the ground floor. Both alcoves and the fireplace had large stone lintels at their tops, and relieving arches were visible above the south alcove and the fireplace. There was no vertical drainage channel on or adjacent to the east wall. The east and west walls did not feature the rows of joist holes associated with the split mezzanine levels and the signal tower is thought to have lacked that feature. The signal tower was constructed from mid-beige and dark-grey fine-grained stones, possibly shale.

The signal station was set within an almost square enclosure, defined around the north, east, and south by a largely collapsed stone wall. The western side of the enclosure was defined by a natural rock outcrop and no actual wall was constructed along that side (a drystone boundary wall ran along the top of the outcrop which was not related to the signal station). The enclosure measured around 22 m by 26 m (72’ by 85’).

In the south-west of the enclosure, approximately 10 m (33’) from the signal tower, there was a large lime kiln. This was very similar to the example at Inishturk Signal Station, with a prominent bowl shape, but its condition was not quite as good. The lime kiln measured 4.1 m (13’5’’) from north to south and 3.7 m (12’ 2’’) from east to west. It opened to the south and lacked the extended flue recorded at Inishturk Signal Station.

A low rectangular foundation was located approximately 6 m (19’ 8’’) west of the signal tower which appeared to be the remains of a small hut measuring 4.3 m by 3.6 m (14’ 1’’ by 11’ 10’’) externally and 3.1 m by 1.75 m internally (10’ 2’’ by 5’ 9’’). It could not be determined if this was a contemporary element of the signal station or a later addition to the site.

A simple oval stone setting was located to the south-east of the signal tower. Its long axis was aligned east to west and it measured 4.3 m by 2.2 m (14’ 1’’ by 7’ 2’’) externally. It consists of a single row of large stones, apparently only one course high. The internal area was marginally higher than the external ground surface. The function and date of this setting could not be determined, but it was suspected to have been a tent platform related to camping activities taking place at the site in relatively recent times.

Figure B.19. View of the north-west corner of the signal tower at Clare Island Signal Station.

Figure B.20. The external face of the north wall of the signal tower at Clare Island Signal Station, showing the ground floor windows and traces of one first floor window at the right of the image.

Figure B.21. The upper part of the internal face of the east wall, showing the top of the fireplace and the flanking alcoves.

Figure B.22. The lower part of the internal face of the east wall, showing the fireplace and the bottom of the flanking alcoves.

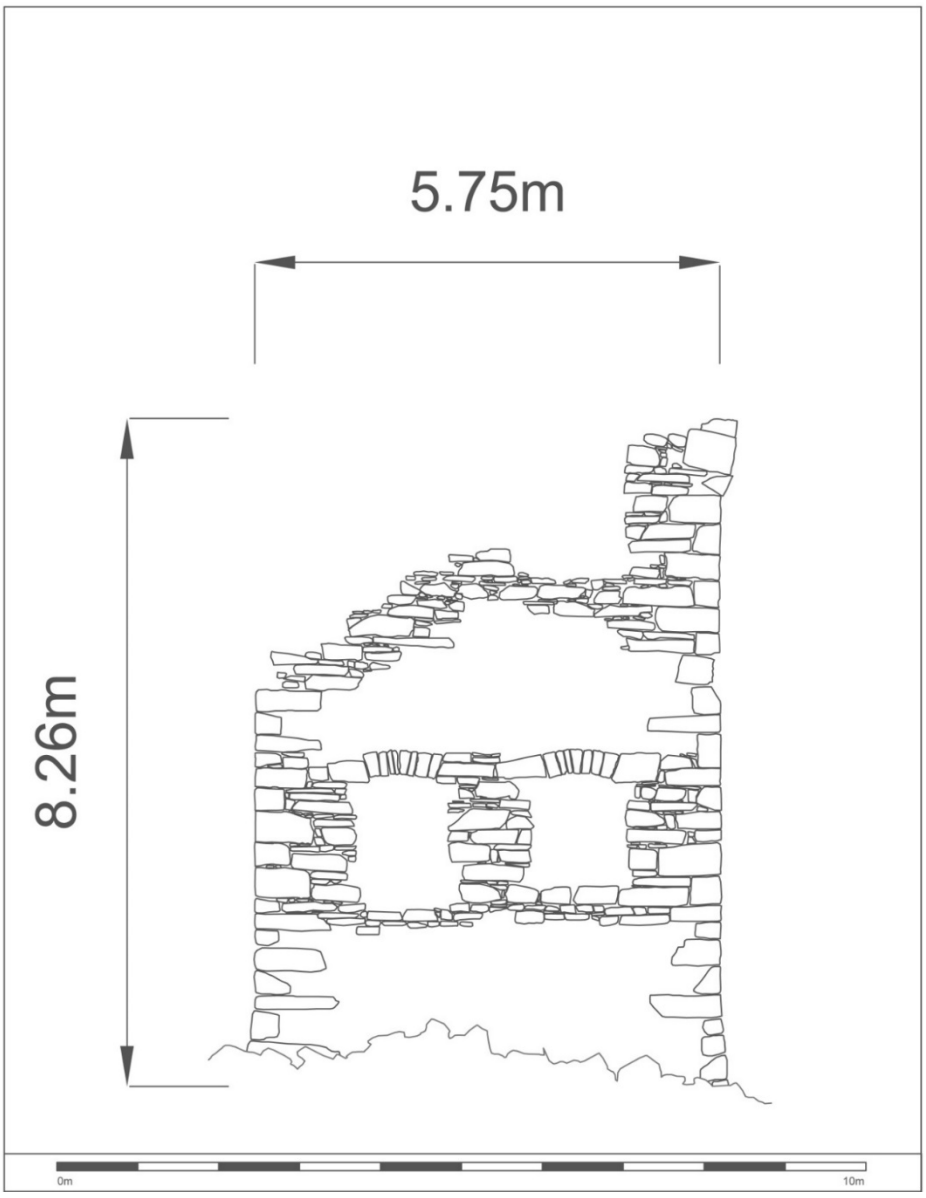

Figure B.23. External elevation of the north wall of Clare Island Signal Tower.

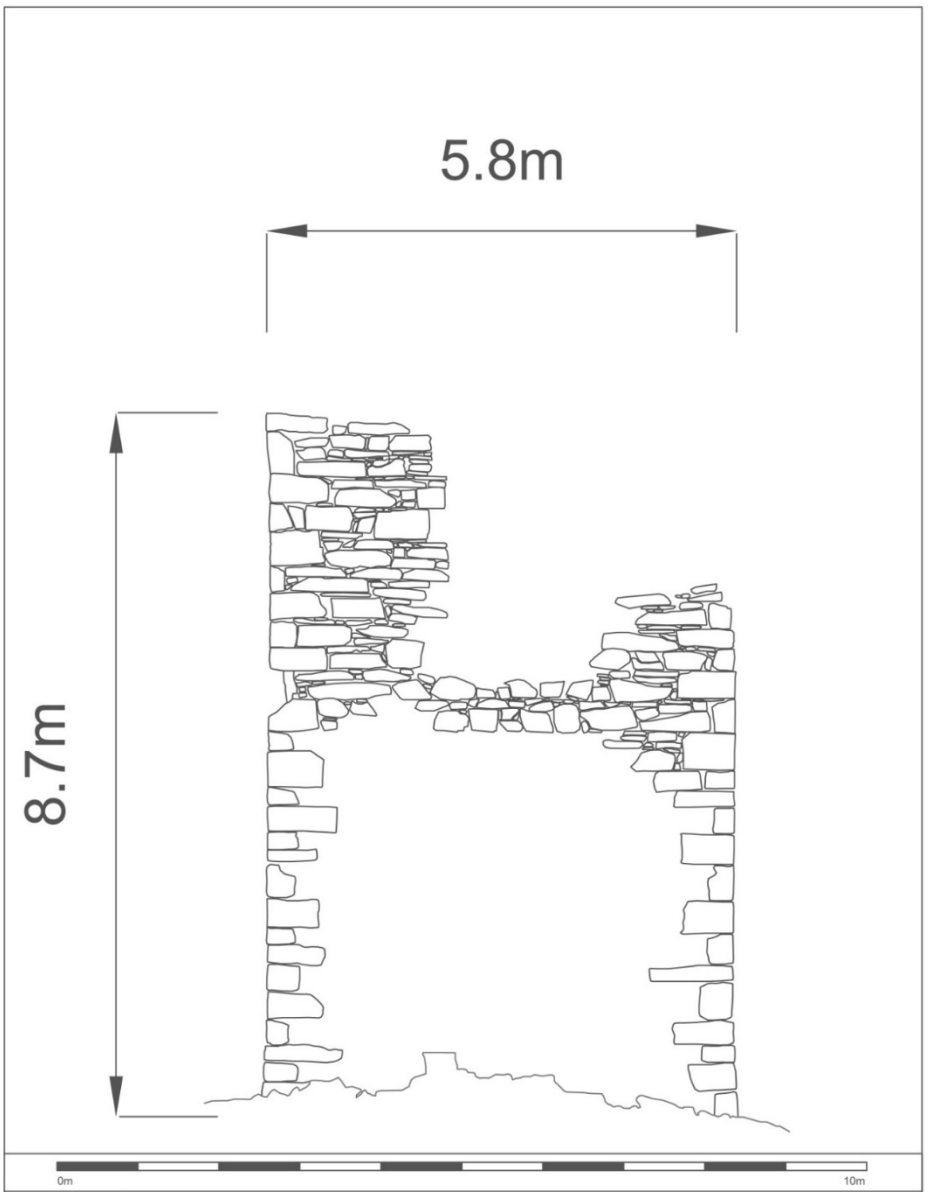

Figure B.24. External elevation of the west wall of Clare Island Signal Tower.

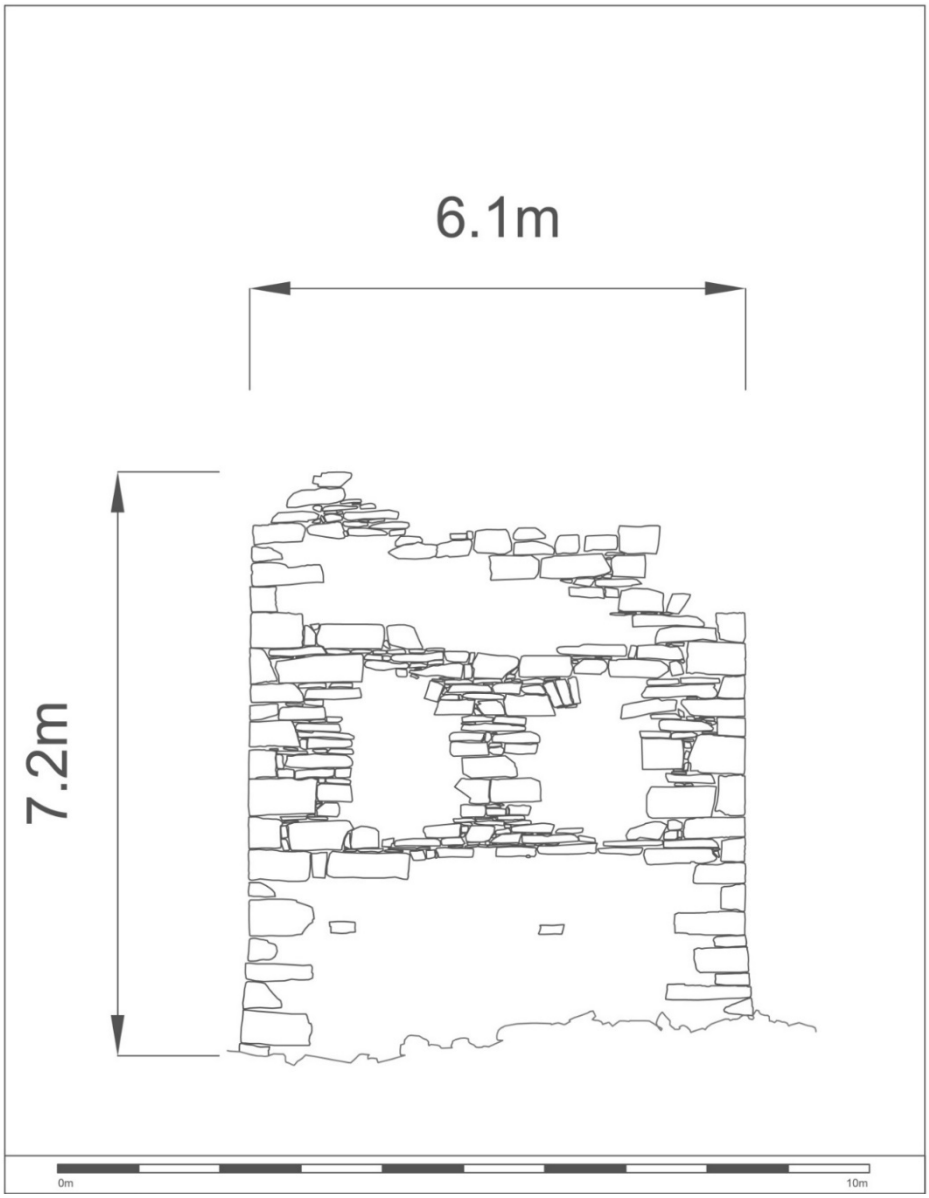

Figure B.25. External elevation of the south wall of Clare Island Signal Tower.

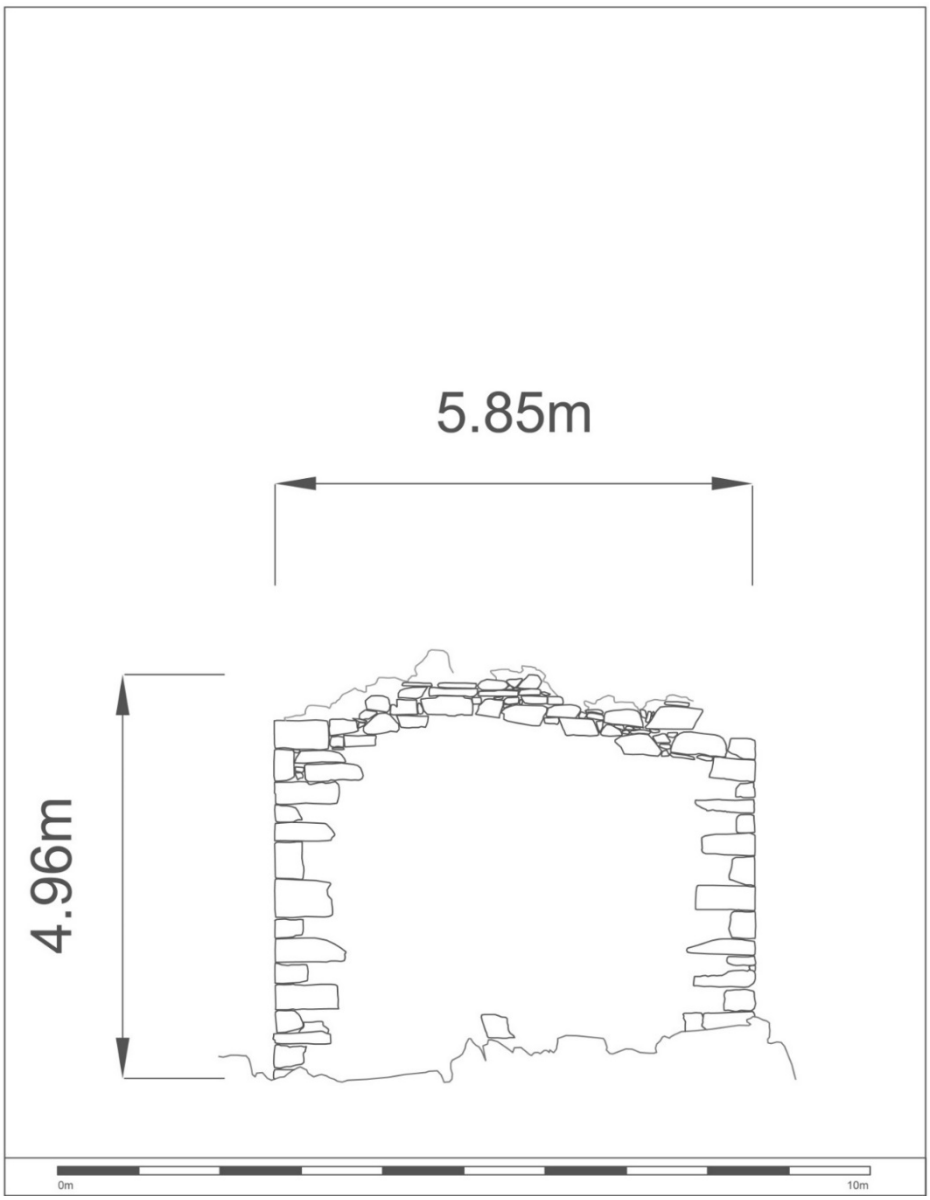

Figure B.26. External elevation of the east wall of Clare Island Signal Tower.

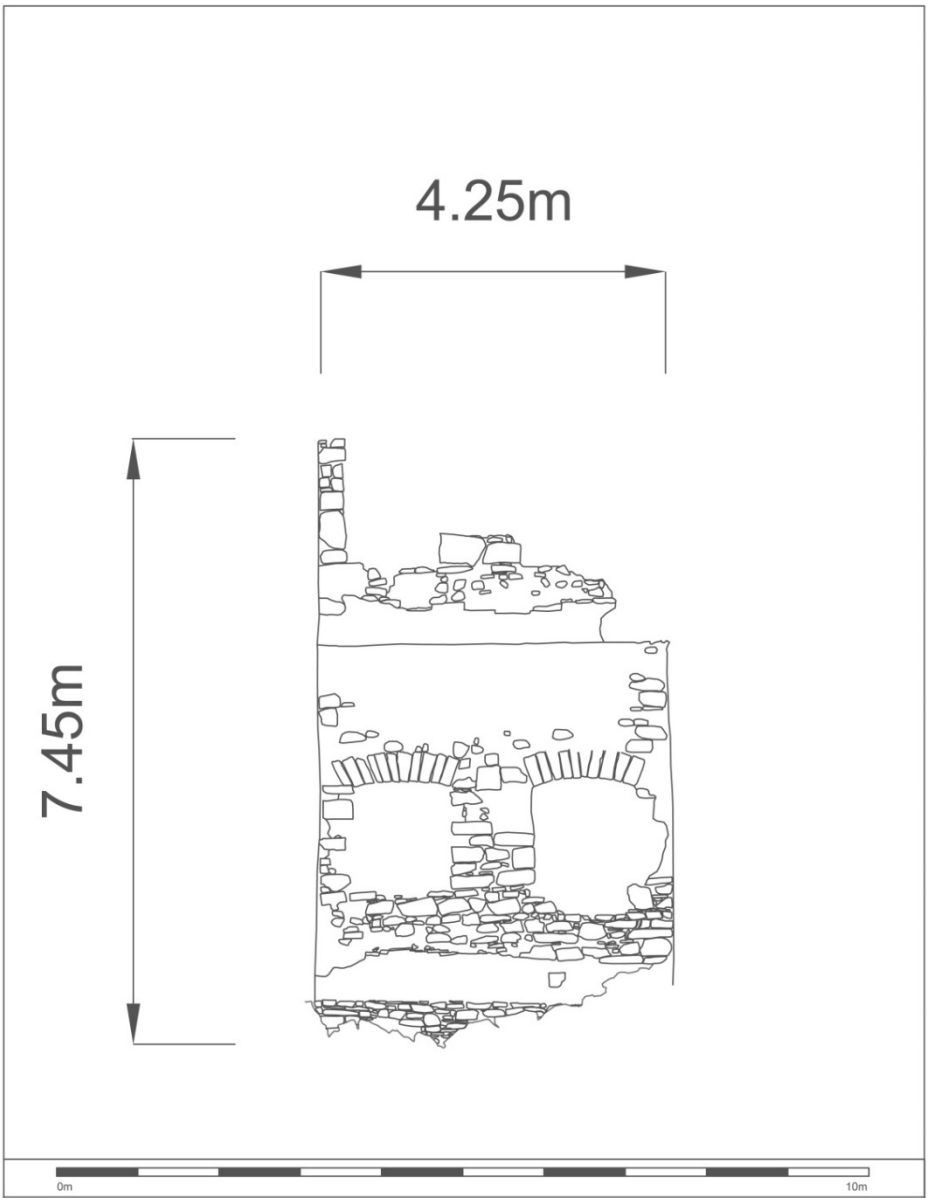

Figure B.27. Internal elevation of the north wall of Clare Island Signal Tower.

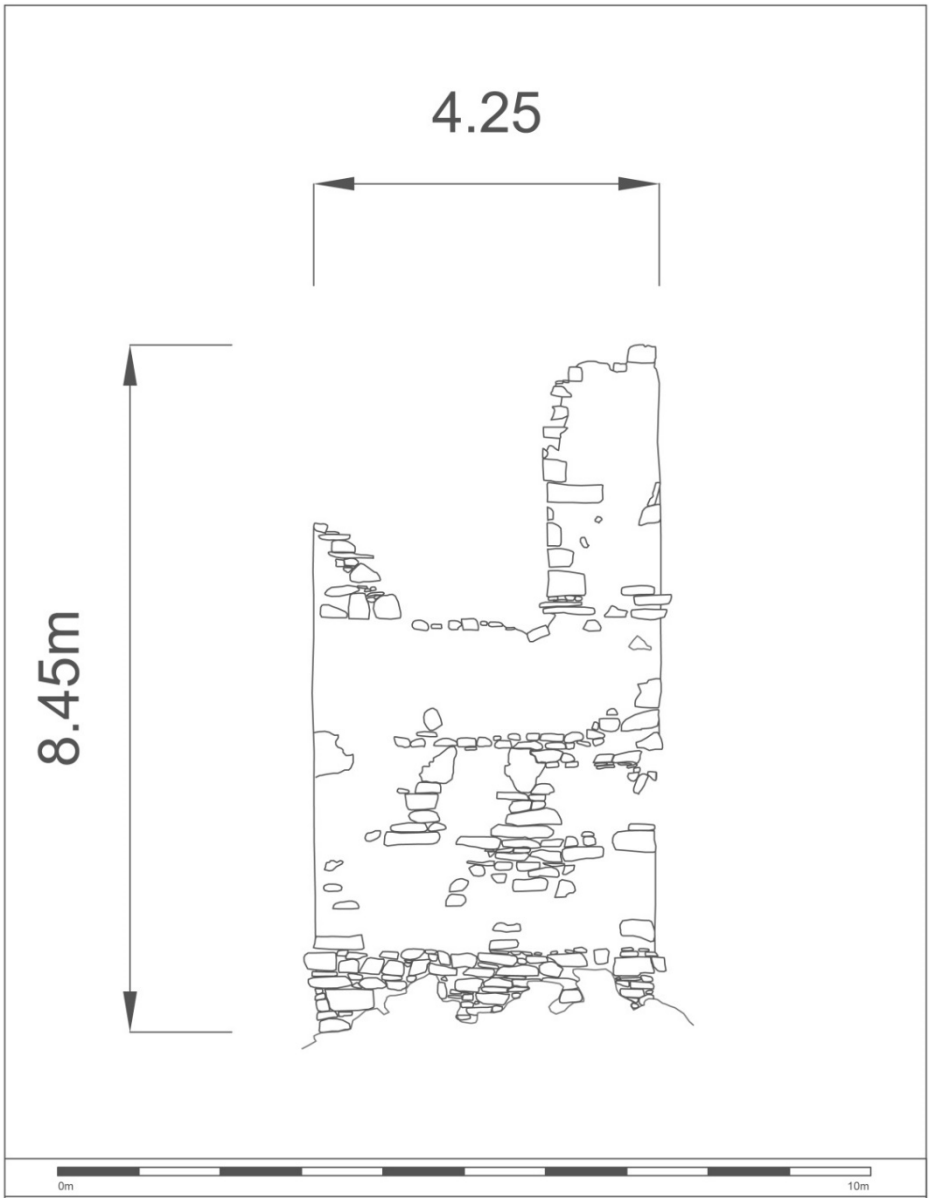

Figure B.28. Internal elevation of the west wall of Clare Island Signal Tower.

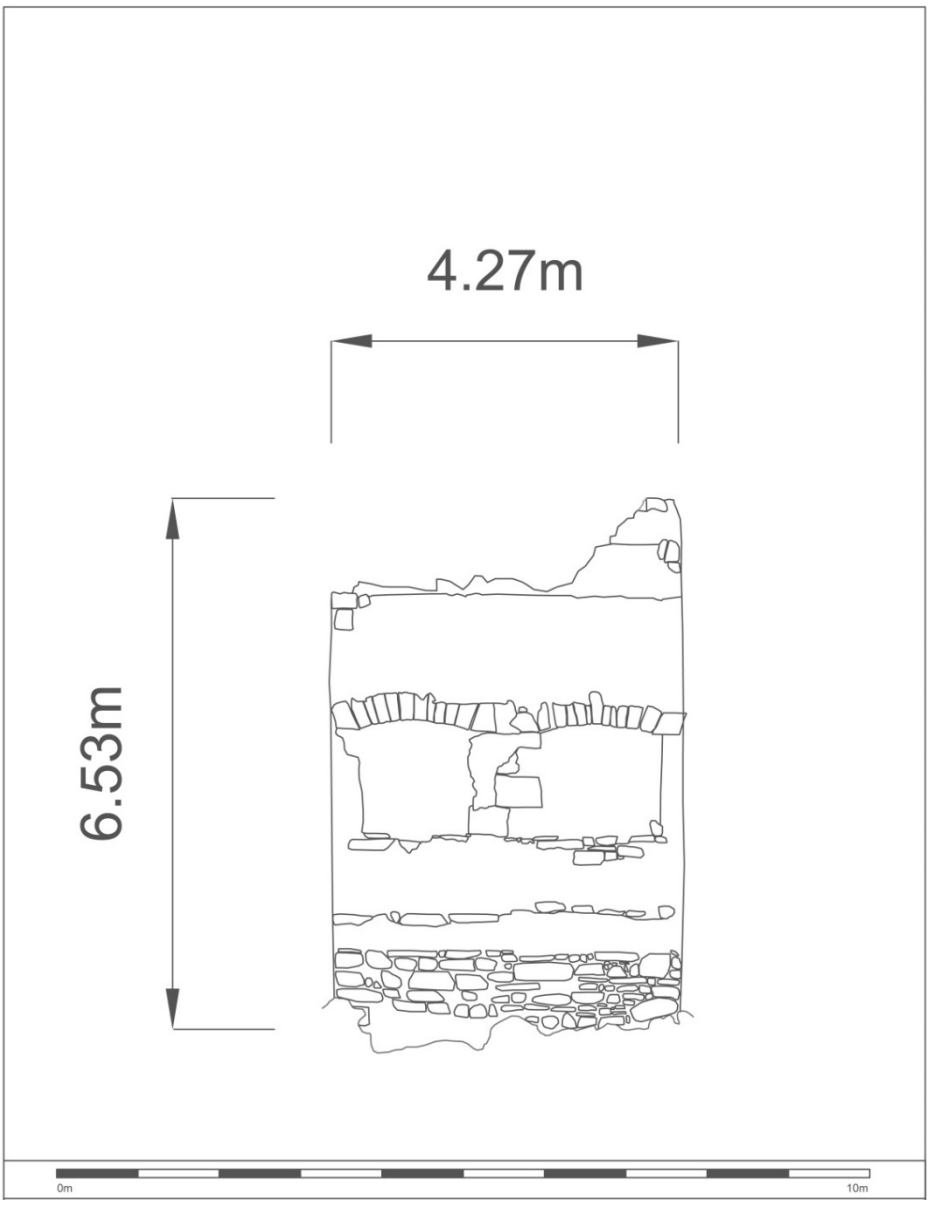

Figure B.29. Internal elevation of the south wall of Clare Island Signal Tower.

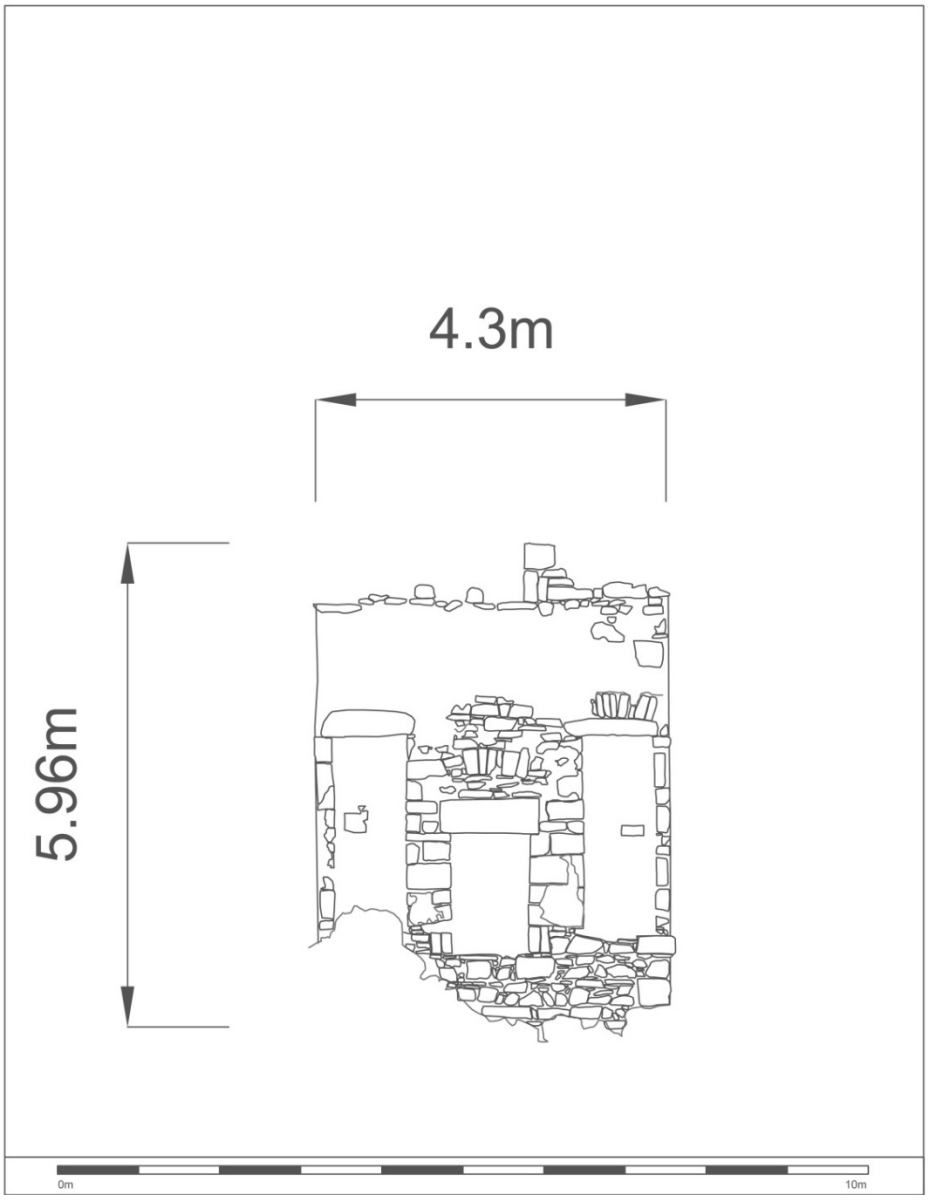

Figure B.30. Internal elevation of the east wall of Clare Island Signal Tower.

Number 59. Saddle Hill Signal Station (461745E, 807342N).

Low ruin of signal tower. Reg. No. 31304201. 195 m (640') OD. Surveyed 25 August 2011 & 20 June 2015. Common Name: Achill Island Signal Station.

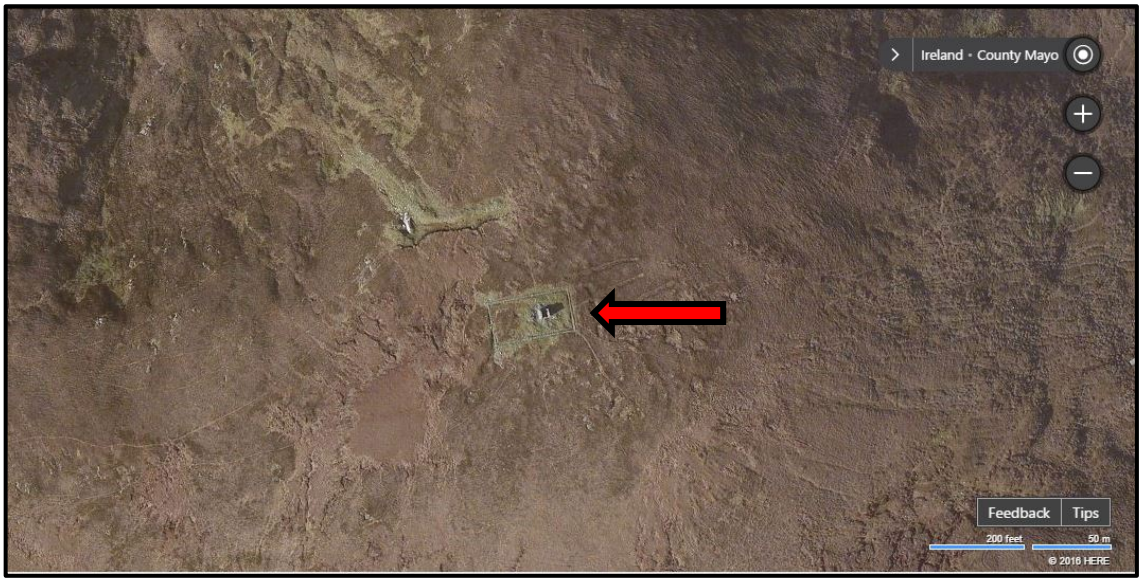

Figure B.31. Aerial photograph showing Saddle Hill Signal Station in the centre of the image (Bing Maps).

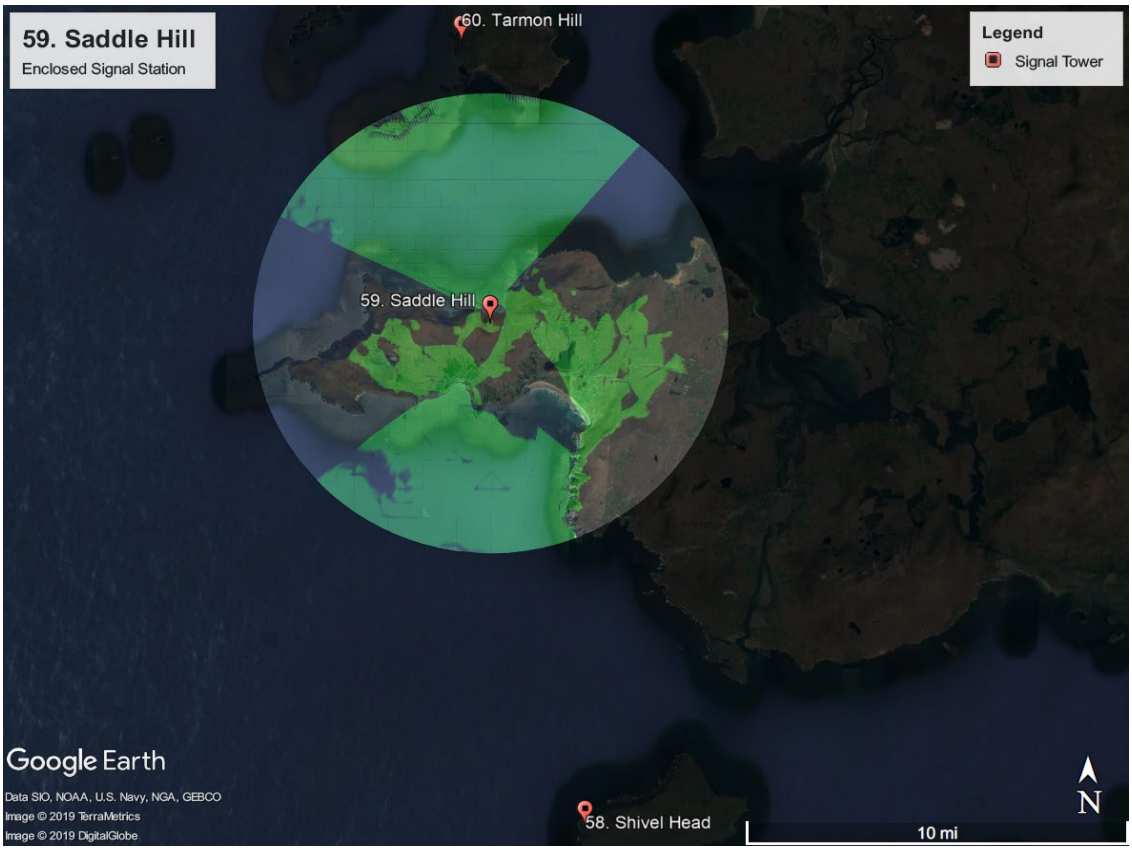

Figure B.32. Viewshed from Saddle Hill Signal Station.

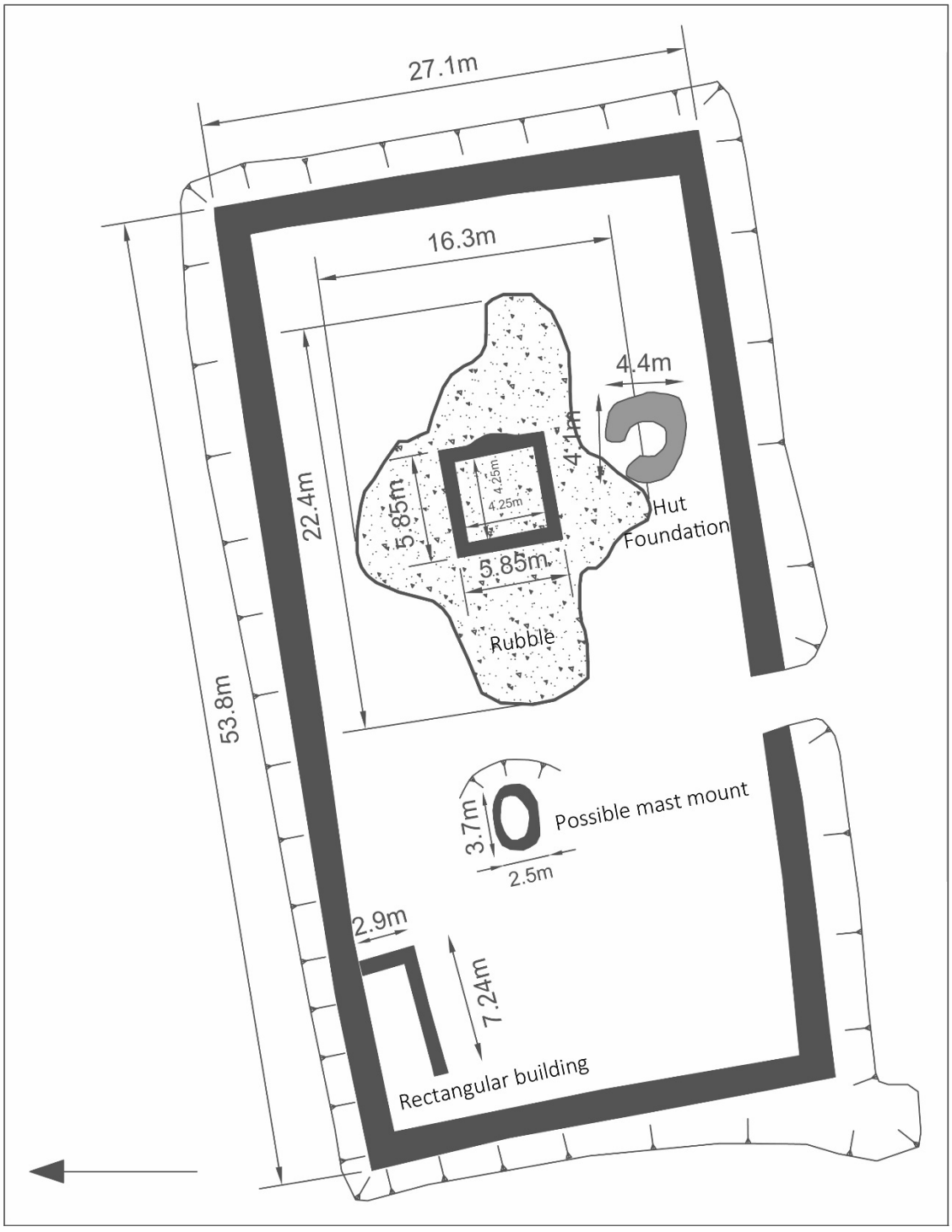

Figure B.33. Plan of Saddle Hill Signal Station.

Description.

Saddle Hill Signal Station was located at 195 m (640') OD, on a low ridge that lay between two mountains, Slievemore to the east and Croaghaun to the west, which dominate the west half of Achill Island. The signal towers at the adjacent signal stations to the north, Glash Signal Station, and to the south, Clare Island Signal Station, were both clearly visible on the day of the survey, but the views to the east and west were blocked by the adjacent mountains. The site did not have a marked route of access and was reached by traversing steep open bog, after turning off the lane that runs from Dooagh to the deserted 19th century settlement on Slievemore. The signal station is located in an unenclosed landscape.

The signal station consisted of a partially collapsed signal tower set within a rectangular stone walled enclosure. An oval vertically sided pit was located to the west of the signal tower, the foundations of a small rectangular building were located in the north-west corner of the enclosure, and a small sub-circular hut foundation was located immediately south of the signal tower. A small quarry was located around 60 m (197') to the south-east of the signal station, and it is possible that some of the building stone for the signal station derived from that location.

The signal tower was badly collapsed and all that survived were portions of the ground floor level. The signal tower measured 5.85 m (19' 2'') across externally and was surrounded and infilled by a large spread of rubble. The south and north walls featured the remains of pairs of ground floor windows, whilst the east wall featured the distinctive external bowing that indicated the presence of a chimney within the wall. Two square chutes passed through the eastern wall. The chute at the south of the wall passed horizontally through the wall emerging at the top of the semi-basement level at the south-east corner of the building. The chute at the north sloped steeply upwards, emerging in the base of the north alcove. The base of the wall of the signal tower had a noticeable batter.

The internal face of the east wall featured a pair of alcoves flanking a ground floor fireplace. There was no vertical drainage channel on or adjacent to the east wall. The south wall featured the lower portions of the flared edges of two ground floor windows.

The west wall was devoid of features and the north wall was largely collapsed, with only traces of the flared outer edges of the ground floor windows and some of the joist holes for the ground floor remaining visible. These features allowed for the signal tower to be orientated; the first floor doorway would have been located on the west wall, and bartizans would have protected the north-east and south-east corners. Two early 20th century photographs of the signal tower in the possession of local resident Michael O'Connor confirmed this arrangement. One of the photographs shows the almost complete signal tower, with a narrow rectangular machicolation over the doorway and the back of a bartizan over the south-east corner (Figure B.34). The bartizan appears to have had the same form as those recorded at the adjacent site to the north, Glash Signal Station, with sides extending out at right angles from the tower's walls and the outer face curving around the corners of the building. The second photograph shows that the upper parts of the north, west and south walls had collapsed, revealing the first floor level on the internal wall face of the eastern wall. The first floor section of the wall had featured a fireplace flanked by alcoves (Figure B.35). The photograph shows that the tops of the collapsed walls were at a consistent height, suggesting the site had been subject to some deliberate modification, after the walls had begun to collapse. The signal tower was constructed from mid- and dark-grey coarse-grained stones, possibly quartzite.

The enclosure measured around 54 m by 27 m (177' by 89') and had its long axis aligned roughly east to west. It was defined by the low remains of a stone wall with a simple entrance one third of the way along the south wall. The wall stood in the base of a shallow ditch, presumably where the mountain peat was removed to expose the underlying solid geology to provide a better surface to build on.

A partially infilled vertically sided pit was located 12 m (39' 4'') west of the signal tower. It had an oval plan and measured 3.25 m (10' 8'') long and 2.7 m (8' 10'') wide, with a depth of around 0.7 m (2' 4''). The sides were grassed over, but occasional stretches of intact stonework were visible through the grass, suggesting the feature may be well-preserved beneath the foliage. The pit was initially identified as the remains of a lime kiln, based on its size, but it could also have been the remains of the mount for the signal mast.

The foundation of a rectangular building was located at the north-west corner of the enclosure. The foundation measured 7.5 m by 3 m (24’ 7’’ BY 9’ 10’’) and was presumed to be an original element of the signal station.

To the south of the signal tower there was a foundation of a small oval hut. The hut foundation measured 5.7 m by 4.5 m (18’ 8’’ by 14’ 9’’) and consisted of a ring of collapsed stonework. The foundation resembled a similar feature found to the west of the signal tower at Clare Island Signal Station. It was not clear if this hut, or the similar feature at Clare Island Signal Station, were original elements of the signal stations or secondary additions, constructed after the signal stations were abandoned.

The famous clergyman and author Caesar Otway visited the site in the 1830’s, several decades after the signal station had been abandoned. A brief account was included in his book ‘A tour in Connacht’ which highlighted the exposed nature of this site, a characteristic it shares with the majority of the signal stations in the main study area;

> *‘What a lonely spot! What a horrible solitude! When the driving tempest sending up the spray of the Atlantic billows, and sending down the almost incessant rain from the clouds, roared in wrath, and, as it were, said “I want to wash away these fellows;” and yet there is no account of any of these weather-beaten men committing suicide’ (Otway 1839)*.

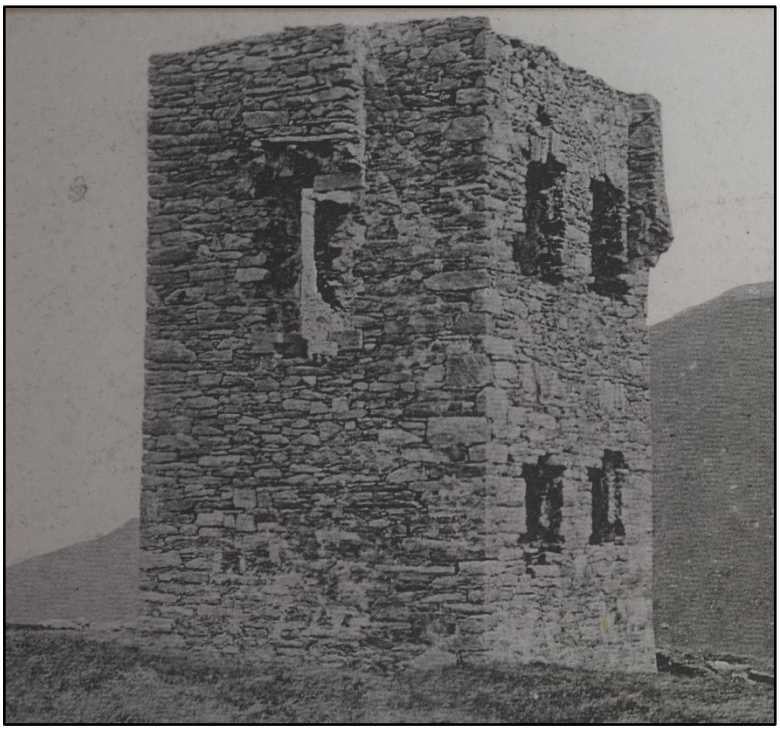

Figure B.34. An undated photograph of Saddle Hill Signal Tower, whilst the tower stood to close to its full height (From the personal collection of Michael O' Connor).

Figure B.35. A second undated photograph of Saddle Hill Signal Tower. The collapsed western walls allow the presence of first floor alcoves and fireplace on the eastern interior wall to be confirmed (From the personal collection of Michael O' Connor).

Figure B.36. View of north-west corner of the signal tower at Saddle Hill Signal Station.

Figure B.37. View of south-east corner of the signal tower at Saddle Hill Signal Station.

Figure B.38. View of the internal face of the south wall of the signal tower at Saddle Hill Signal Station.

Figure B.39. View of the internal face of the west wall of the signal tower at Saddle Hill Signal Station, showing the ground floor central fireplace and the flanking alcoves. The horizontal chute can be seen at the right of the image, at the top of the semi-basement level.

Figure B.40. The south wall of the enclosure, looking east, with the edge of the entrance visible in the foreground.

Figure B.41. Detail of the entrance on the south side of the enclosure.

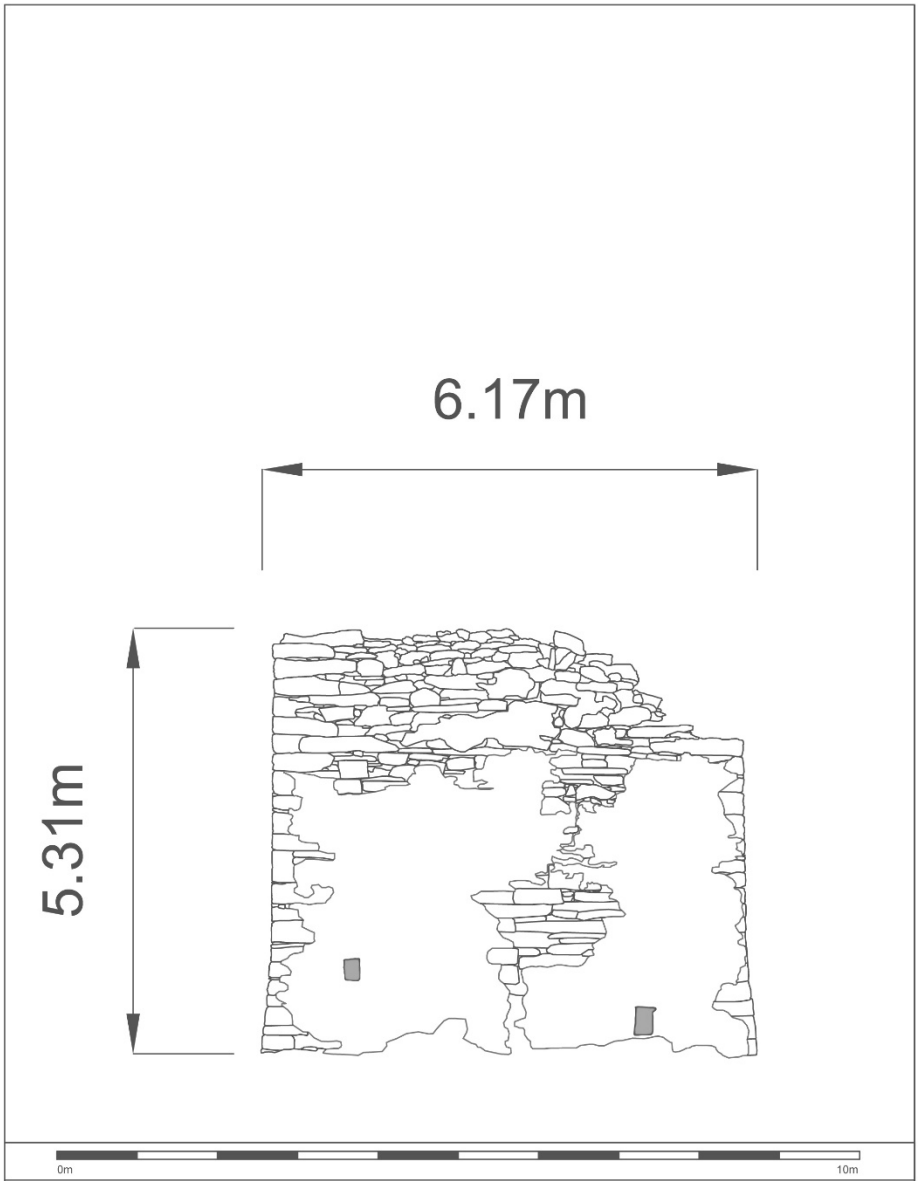

Figure B.42. External elevation of the east wall of Saddle Hill Signal Tower. The two chutes passing through the wall into the semi-basement level are shown in grey.

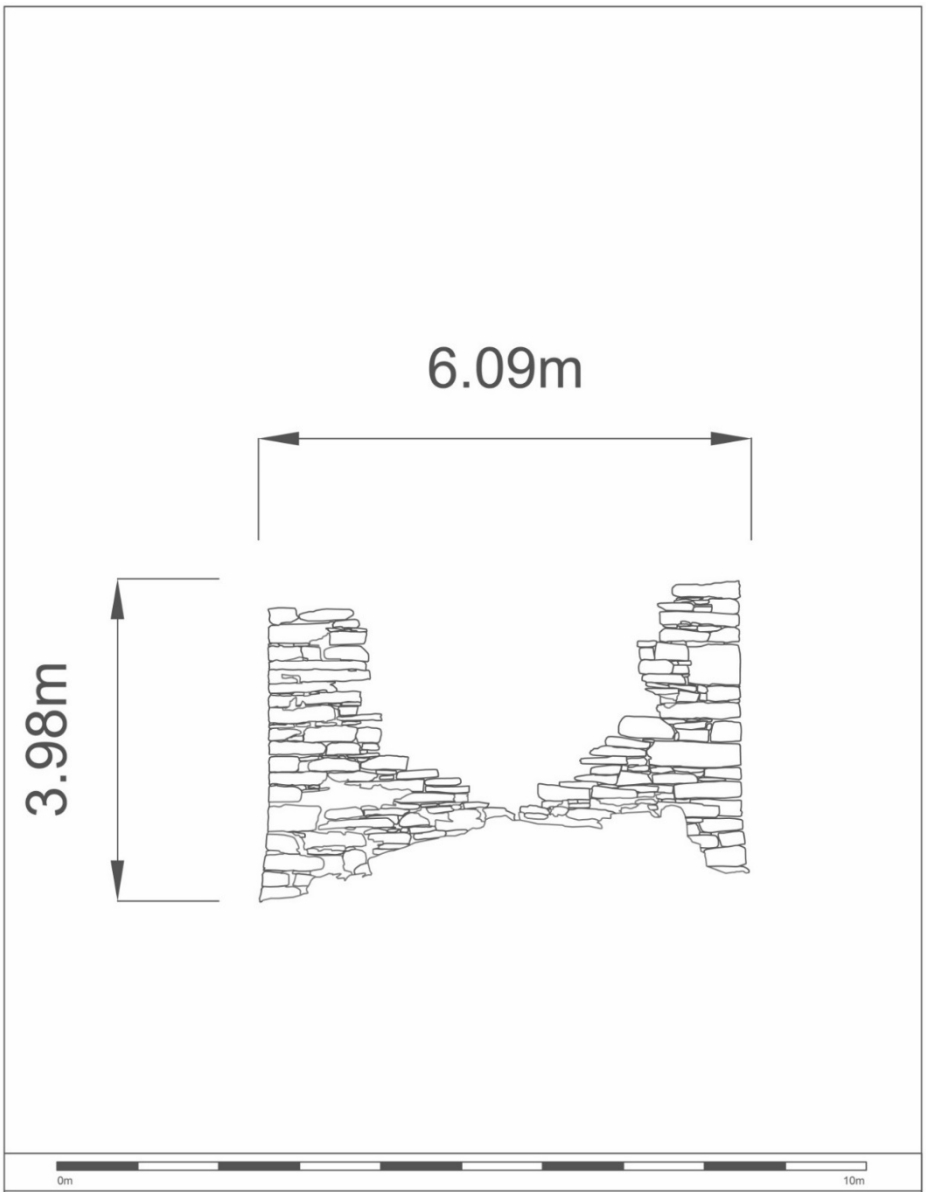

Figure B.43. External elevation of the north wall of Saddle Hill Signal Tower.

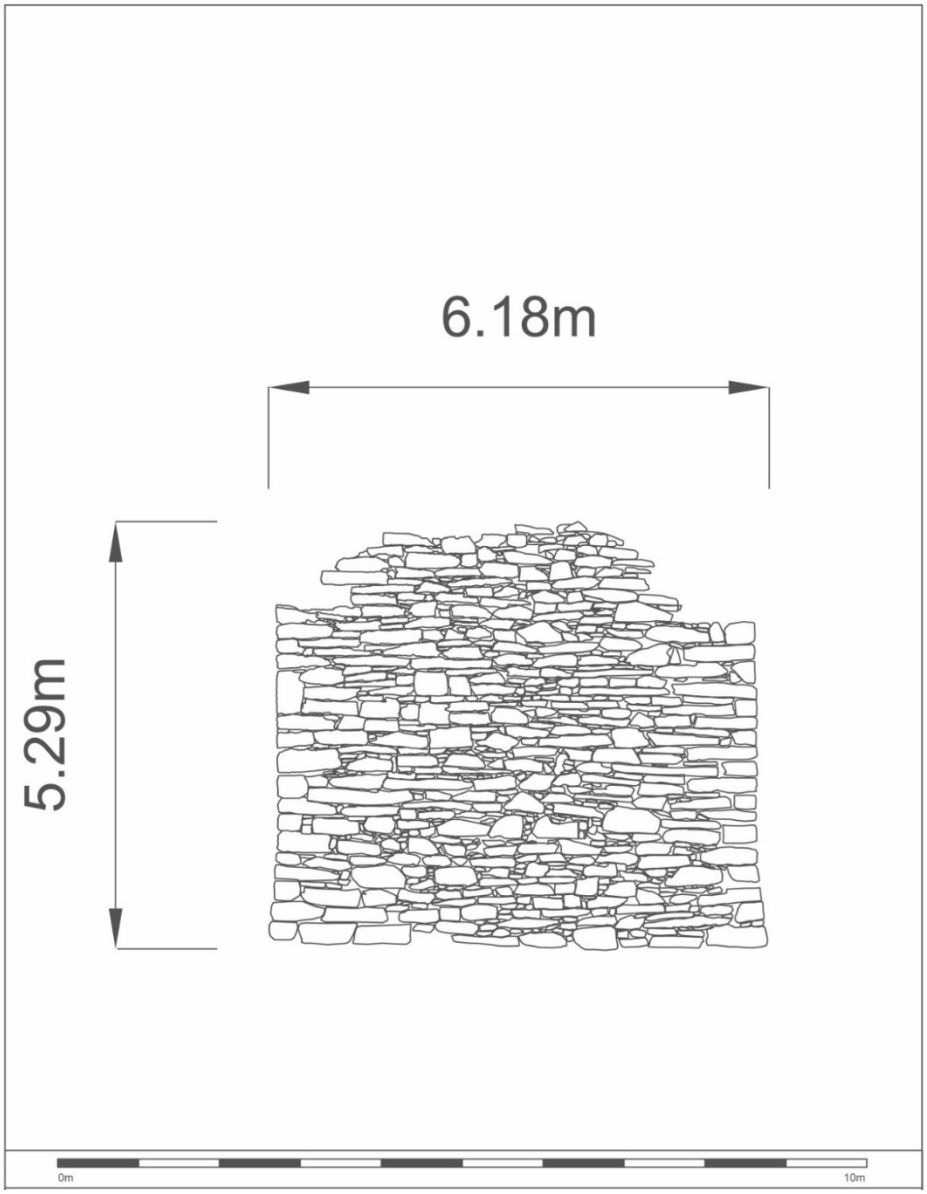

Figure B.44. External elevation of the west wall of Saddle Hill Signal Tower.

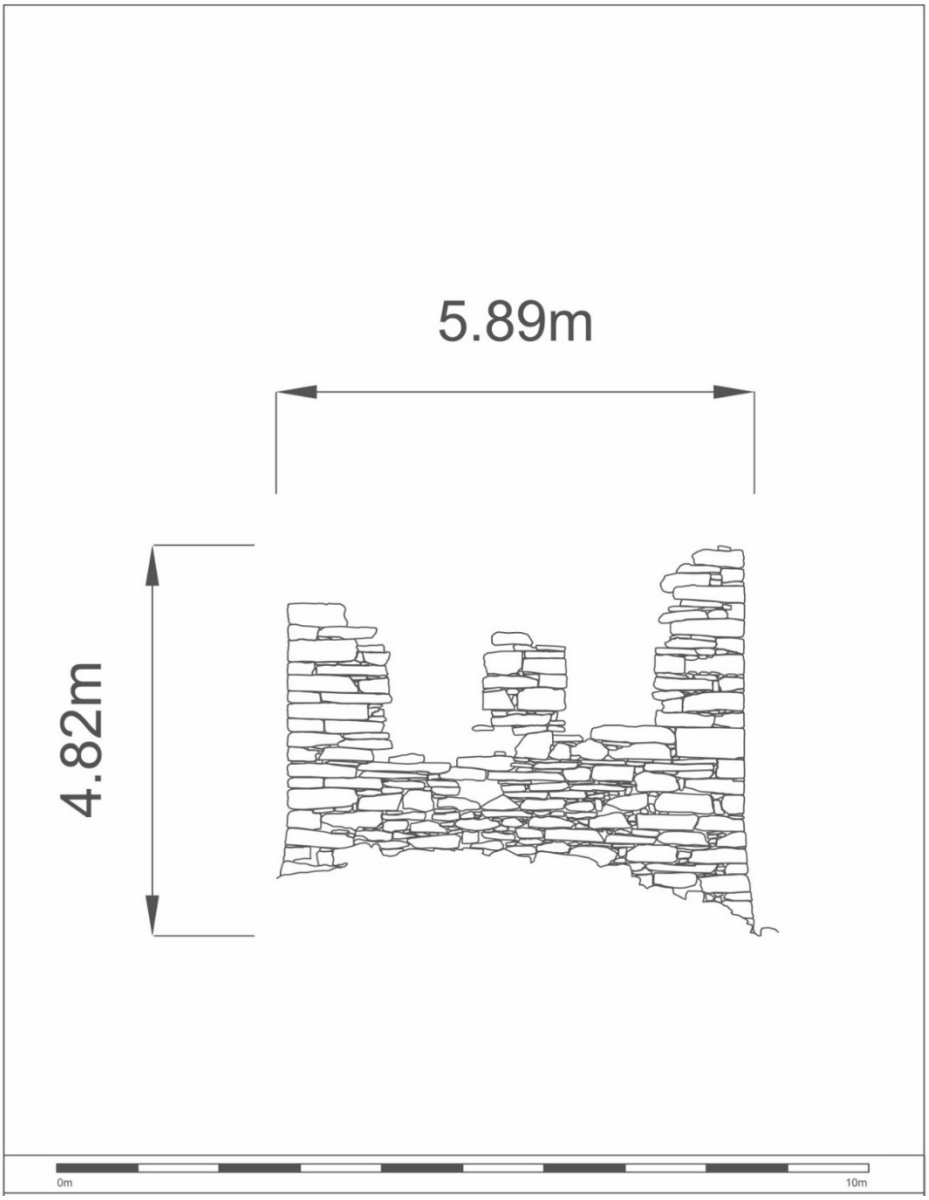

Figure B.45. External elevation of the south wall of Saddle Hill Signal Tower.

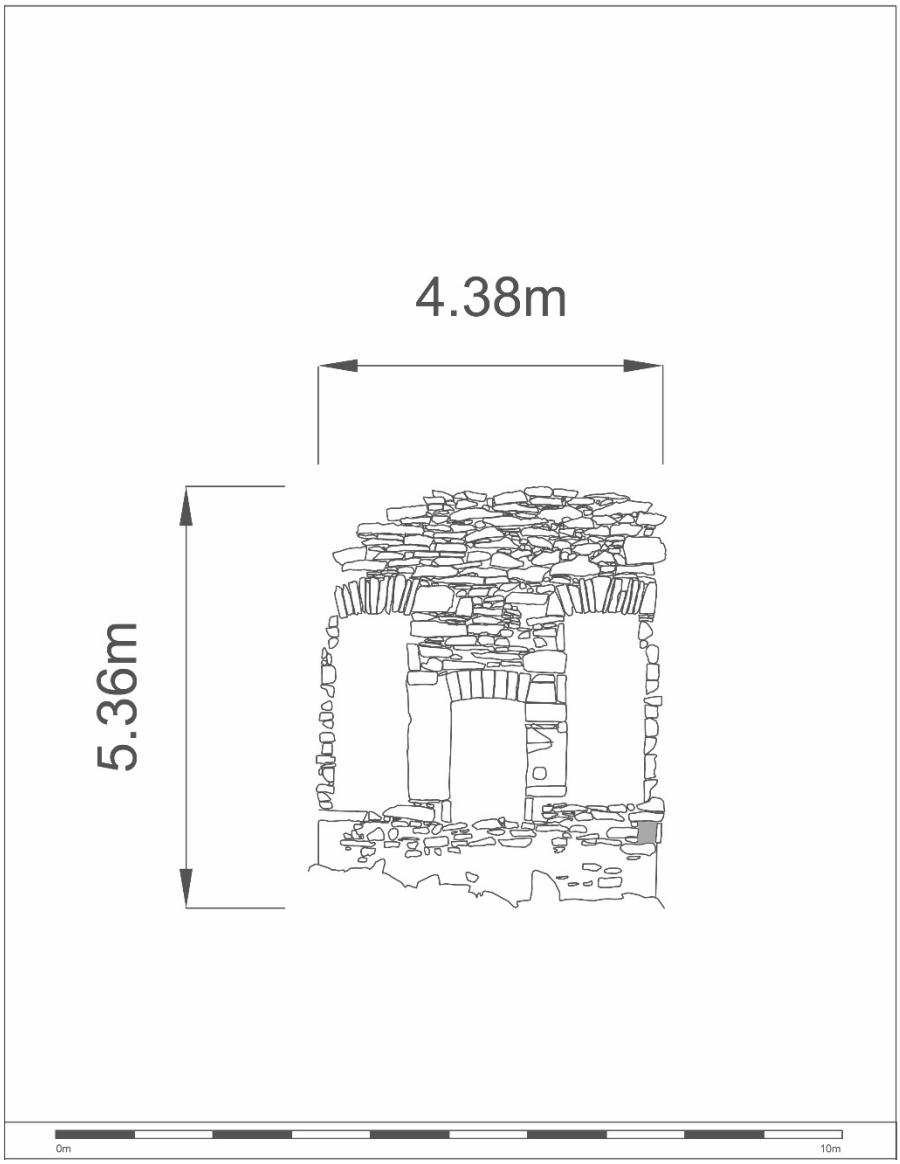

Figure B.46. Internal elevation of the east wall of Saddle Hill Signal Tower. The higher of the two chute is shown, shaded grey, at the south edge of the wall at the top of the semi-basement level. The second chute emerges in the base of the north alcove and cannot be seen in the elevation.

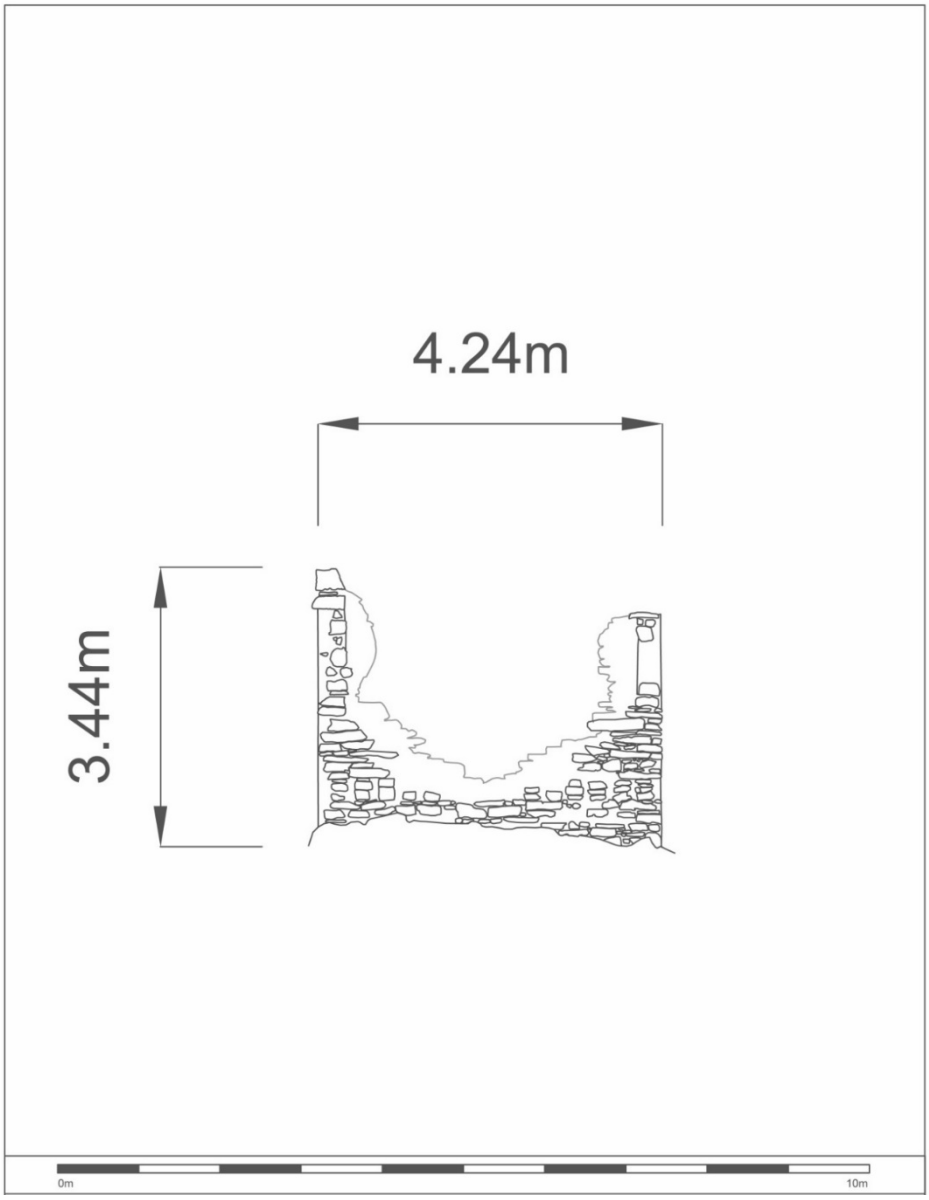

Figure B.47. Internal elevation of the north wall of Saddle Hill Signal Tower.

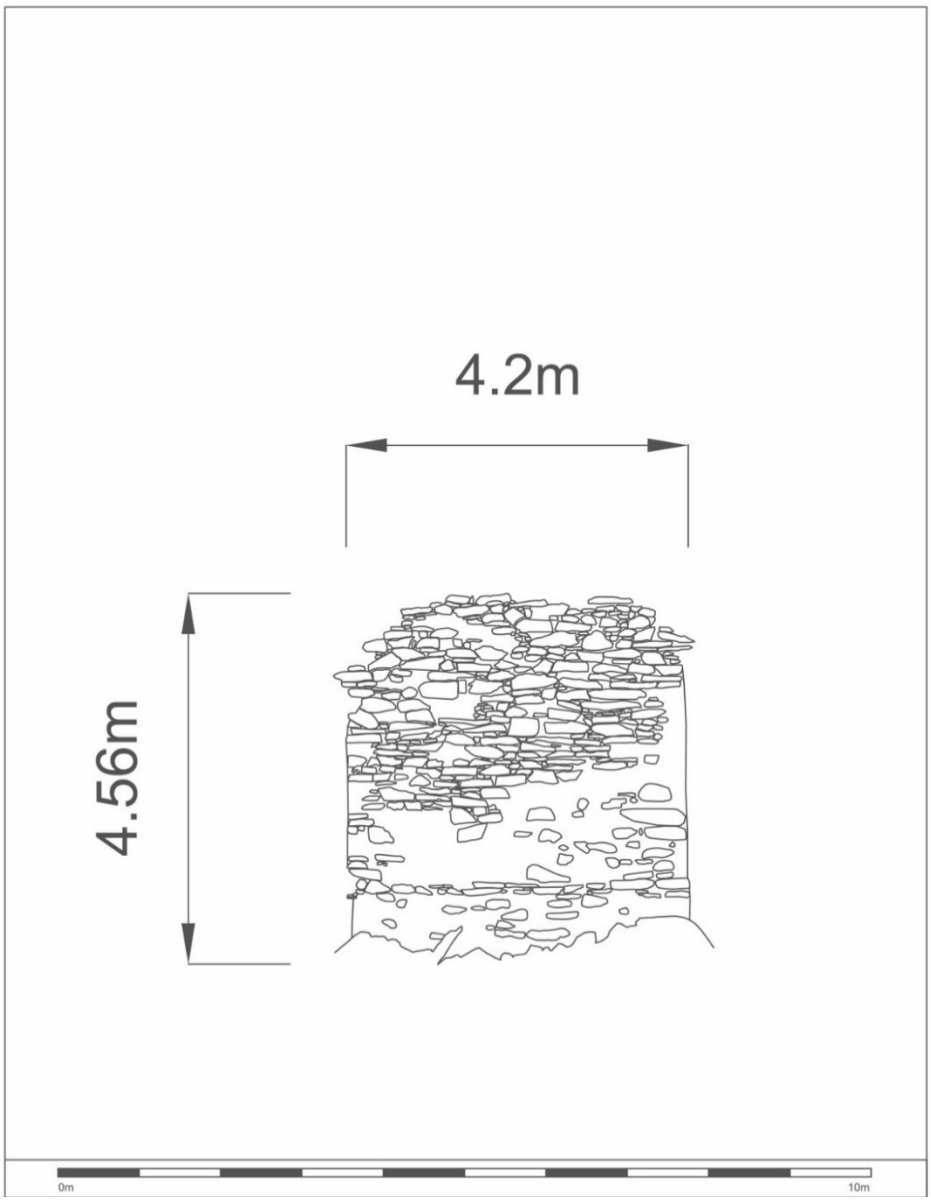

Figure B.48. Internal elevation of the west wall of Saddle Hill Signal Tower.

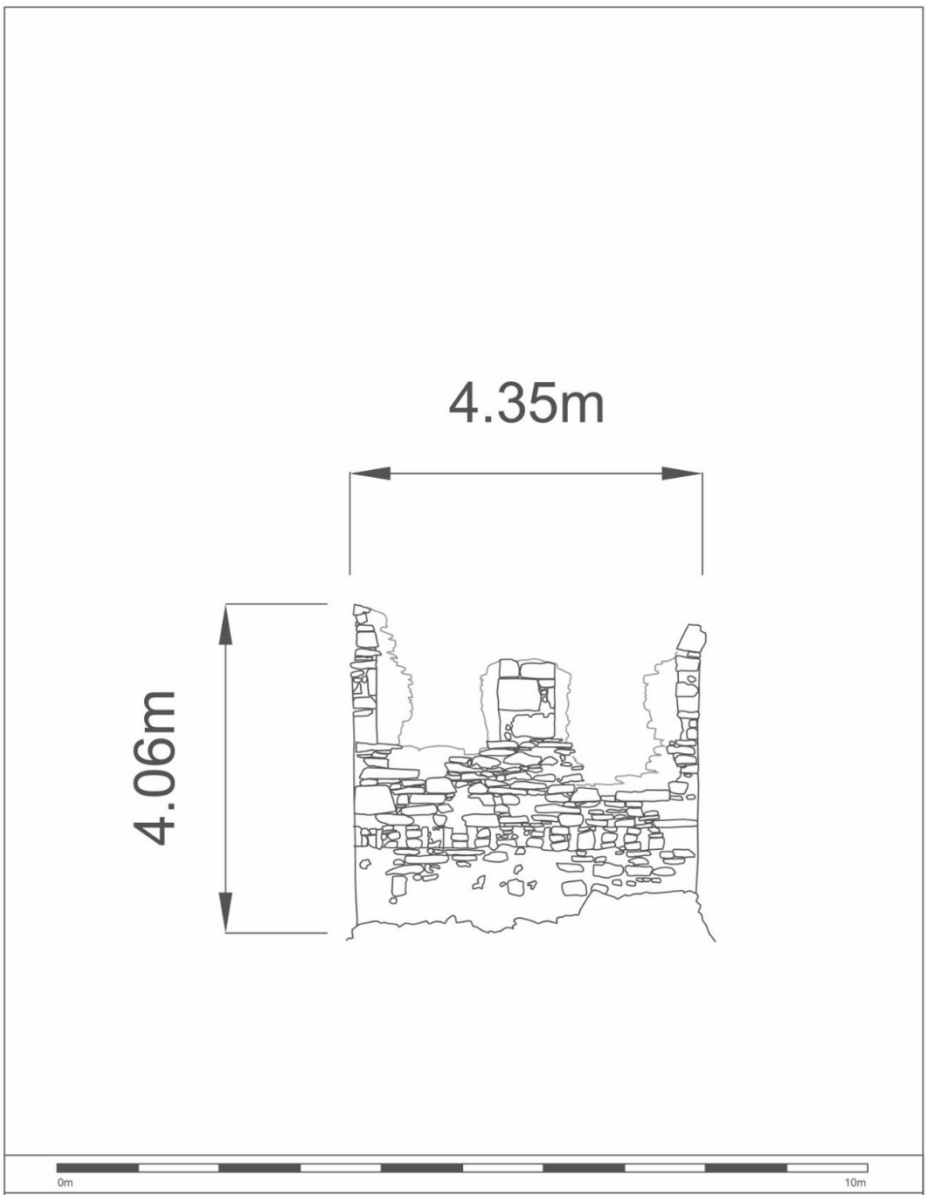

Figure B.49. Internal elevation of the south wall of Saddle Hill Signal Tower.

Number 60. Glash Signal Station (460843E, 819531N).

Full signal tower. Reg. No. 31302403. 56 m (184') OD. Surveyed 9 April 2011. Historical Name: Termon Hill Signal Station.

Figure B.50. Aerial photograph showing Glash Signal Station in the centre of the image (Bing Maps).

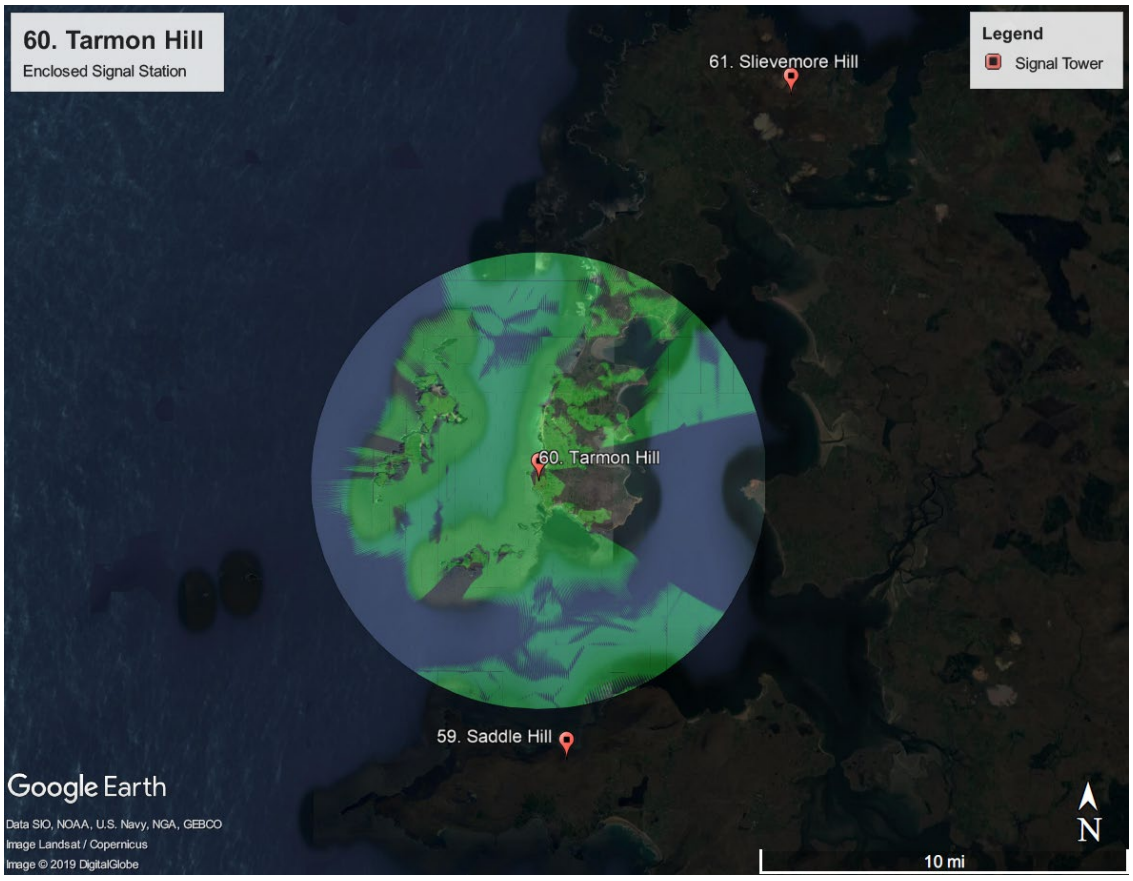

Figure B.51. Viewshed from Glash Signal Station (Google Earth Pro).

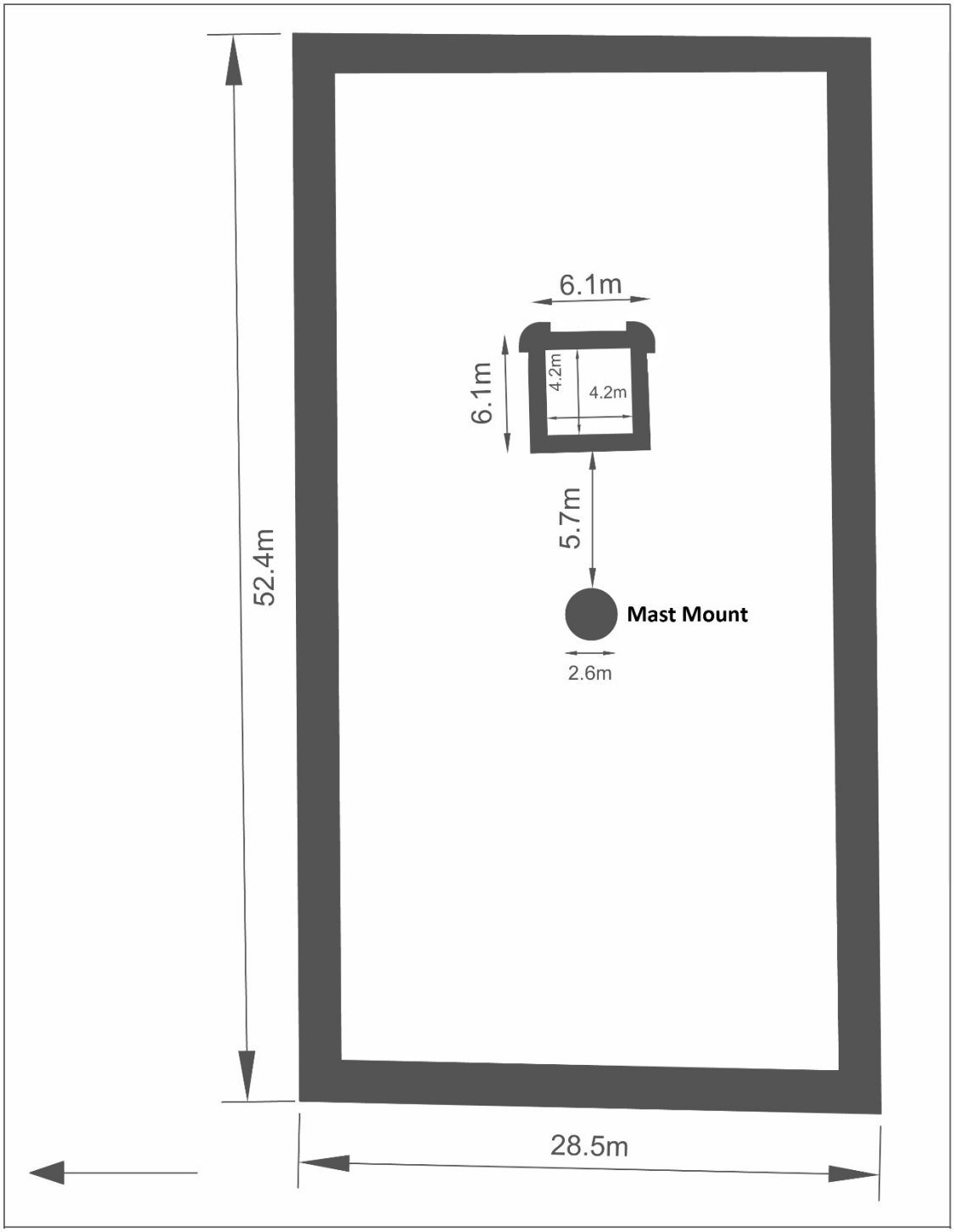

Figure B.52. Plan of Glash Signal Station.

Description.

Glash Signal Station was located at the southern western tip of the Belmullet Peninsula, on flat enclosed pasture at 56 m (184') OD, to the south of a minor road. The site did not have a dedicated route of access. The road to the north post-dates the site by a considerable amount of time; it is not shown on either the 1st or 3rd edition Ordnance Survey maps, surveyed 1837-1839 and 1913-1917 respectively (the 2nd edition Ordnance Survey map is not available online). The site had restricted views to the east where there was a low hill, but open views in all other directions. Neither of the adjacent ruined signal stations, Saddle Hill to the south and Tower Hill to the north, were visible on the day of the survey although their approximate locations were readily identifiable. The signal station consisted of a well-preserved signal tower set within a large rectangular enclosure, defined by very faint traces of a bank. An infilled circular pit was located to the west of the signal tower. The signal tower was the best-preserved example in County Mayo, surviving to its full height in most areas.

The signal tower measured 6.1 m (20' 1'') across externally and 4.2 m (13' 9'') across internally. The signal tower was positioned with its walls facing north, east, south, and west. Pairs of ground floor and first floor windows were located on the north and south walls. Square holes were visible on either side of the first floor windows, cut into the splayed sides. The holes are thought to have held large horizontal bars of some sort. The western wall featured the first floor doorway. The machicolation that would have protected the doorway had fallen and the upper portion of the doorway was also absent. The only dressed stone remaining at the signal tower were two small dark-grey blocks of fine-grained stone, probably limestone, located at either side of the base of the door. These do not match the usual pattern of a single long sill stone running across the base of the door. It was therefore unclear how extensively dressed stone surrounds had been used at the site and if used, how they were arranged. Extensive cracking in the wall is visible below the doorway, suggesting a structural weakness in this area which may lead to further collapse if not subject to some form of remediation.

The east wall featured a wide but shallow bow to incorporate the chimney flue. A square chute passed through the base of the wall towards south, and a rectangular chute passed through the base of the wall towards the north, slightly higher up. A

complete chimney stack was on top of the east wall. Curved bartizans were located on the north-east and south-east corners. No coping stones survived on top of the walls, suggesting either limited use of dressed stone at this site, or comprehensive robbing of dressed stone after the site was abandoned. The walls of the signal tower consisted of a mixture of light-grey and mid-beige coarse-grained stone, possibly granite.

The internal arrangement of features deviated a little from the standard design. The internal walls featured large areas of preserved render. Slots for the ground floor and first floor levels were present on the northern and southern walls, with corresponding gaps in the render on the eastern and western walls. The blocks dividing the individual joist holes within the slots only survived at the first floor level. The instep to support the roof was present on all sides, above which was the parapet wall. There were no additional slots or joist holes at the attic level, suggesting there was no attic level. The eastern wall had central fireplaces with flanking alcoves on both floors. Additional joist holes were located on either side of the bases of both fireplaces. There were no traces of a split mezzanine level between the ground floor and first floor. There was no vertical drainage channel on or adjacent to the east wall. The bottom of the north alcove on the ground floor had been damaged and the northern chute which passed through the wall in this area could not be located. The opening of the chute that passed through the south of the wall into the semi-basement level was located 0.8 m below the ground floor level. The semi-basement level was of particular note because the lack of infilling meant that a depth of 1.3 m (4’ 3’’) was exposed, the greatest depth observed in the main study area.

The enclosure was barely visible at ground level. It consisted of largely infilled ditches and occasional discontinuous alignments of stones on the inside, thought to derive from a demolished wall. The enclosure had its long axis aligned east to west and measured around 55 m by 30 m (180’ by 98’). Traces of an infilled pit were located 6.5 m (21’4’’) west of the signal tower. The feature was a circular shaped grass covered depression that measured about 2.5 m (8’ 3’’) across. This feature was identified as potentially being an infilled lime kiln, or the former location of the signal mast.

Figure B.53. The north wall of the signal tower at Glash Signal Station. Achill Island can be seen in the background.

Figure B.54. The west wall of the signal tower at Glash Signal Station.

Figure B.55. The upper part of the external face of the east wall of the signal tower at Glash Signal Station, showing the curved bartizans and the well-preserved chimney.

Figure B.56. The upper part of the internal wall face of the west wall of the signal tower at Glash Signal Station, showing the badly damaged first floor door.

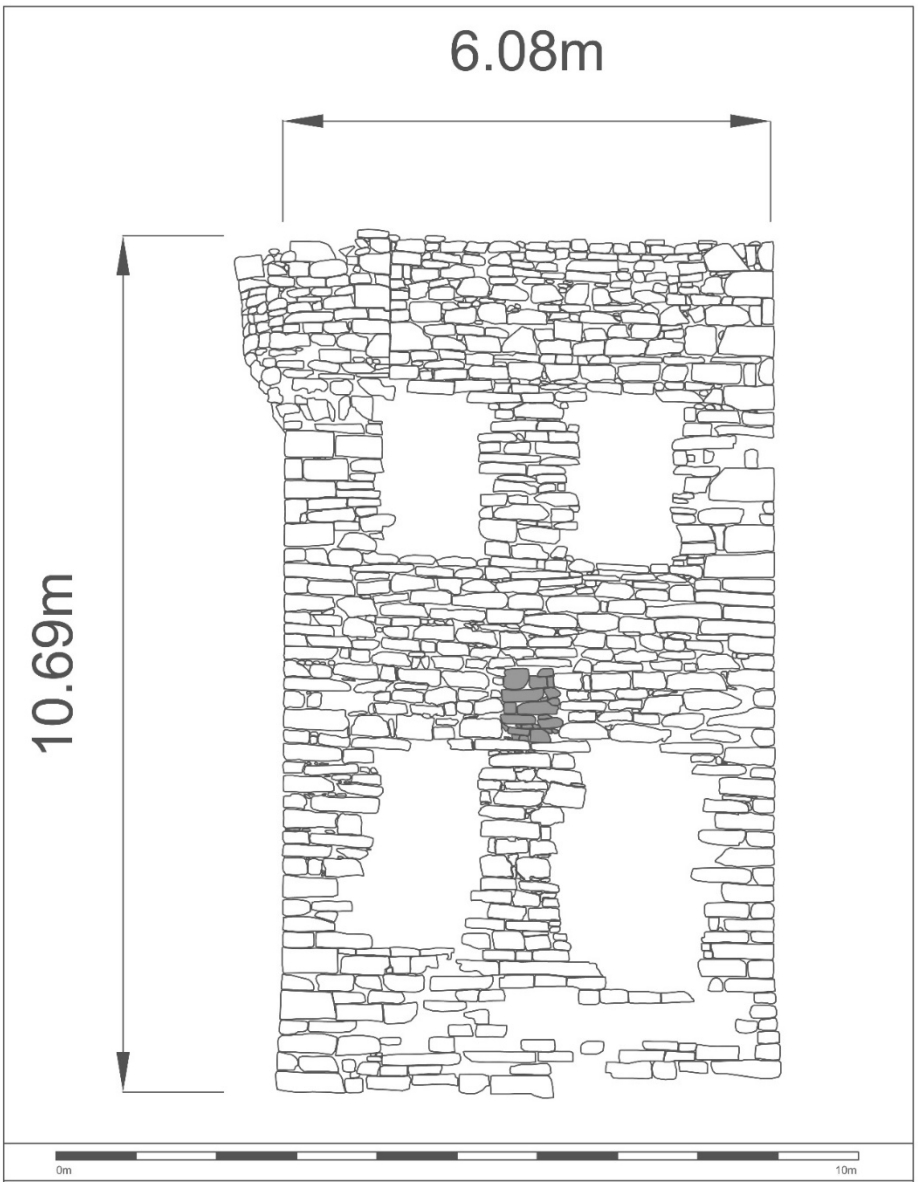

Figure B.57. External elevation of the north wall of the signal tower at Glash Signal Station.

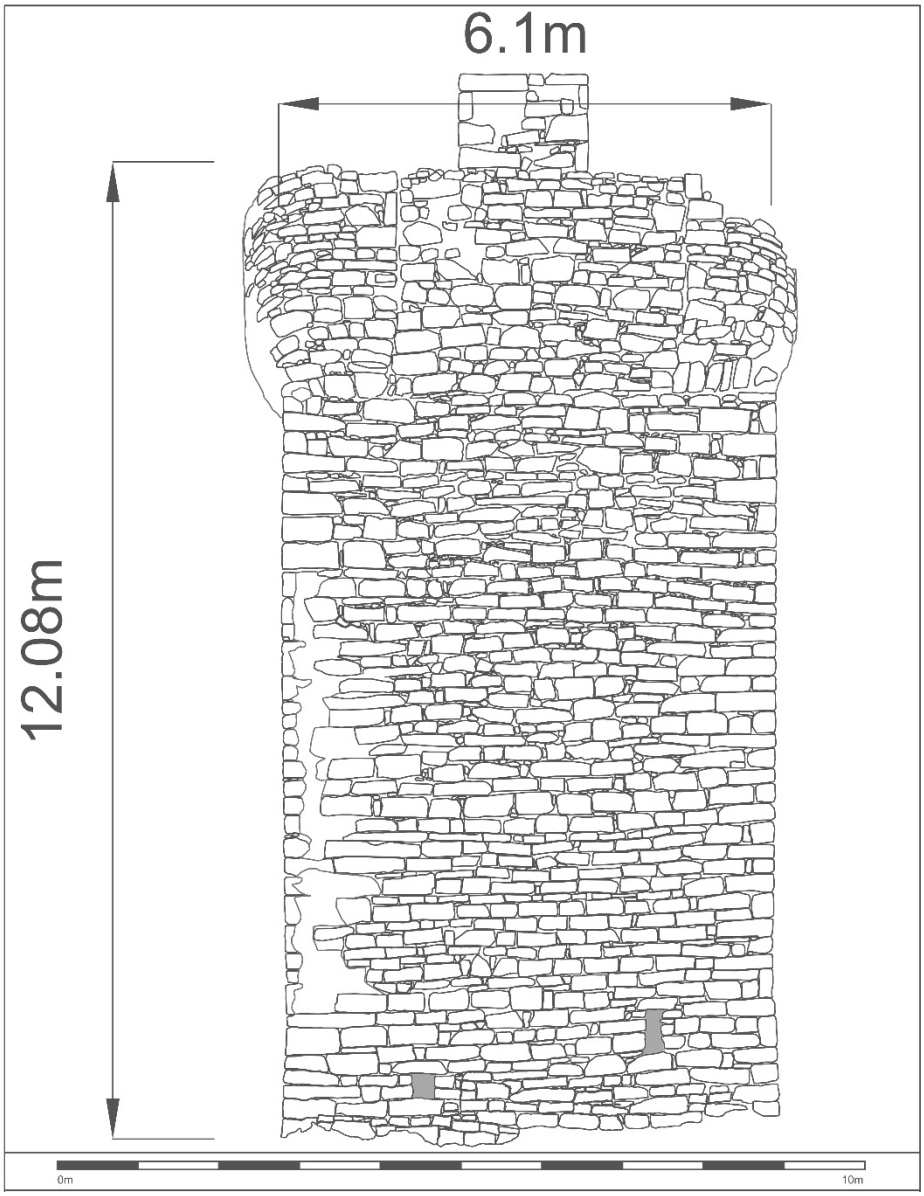

Figure B.58. External elevation of the east wall of the signal tower at Glash Signal Station. The two chutes which pass through the wall are shown in grey.

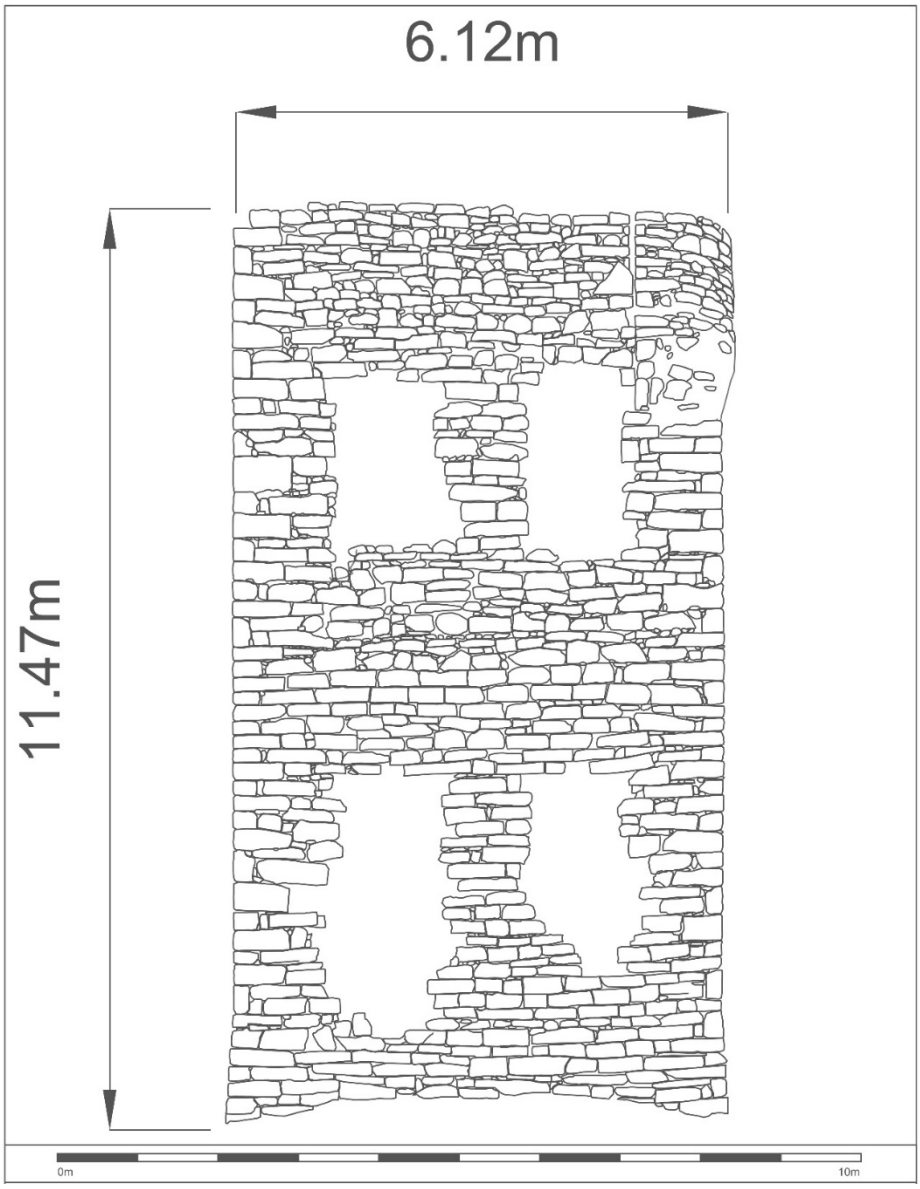

Figure B.59. External elevation of south wall of the signal tower at Glash Signal Station.

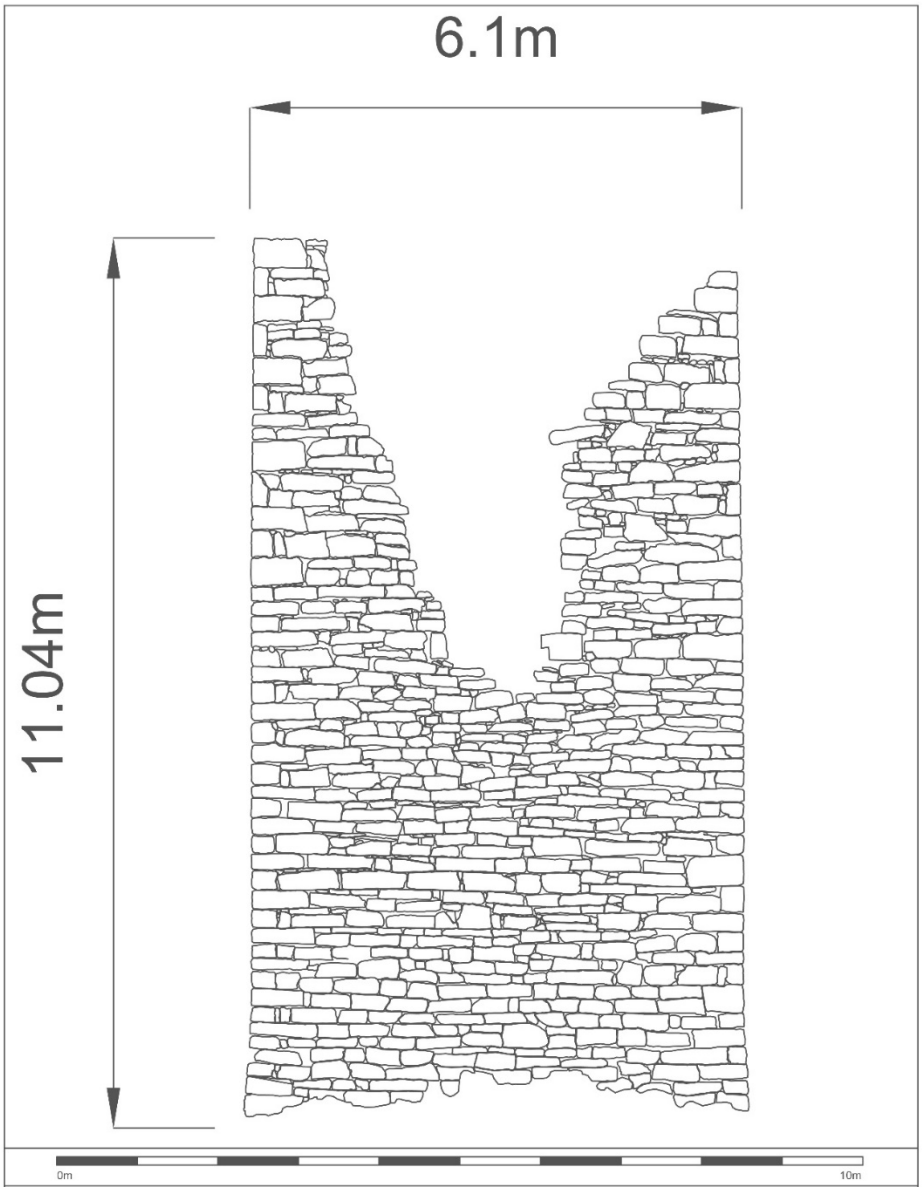

Figure B.60. External elevation of the west all the signal tower at Glash Signal Station.

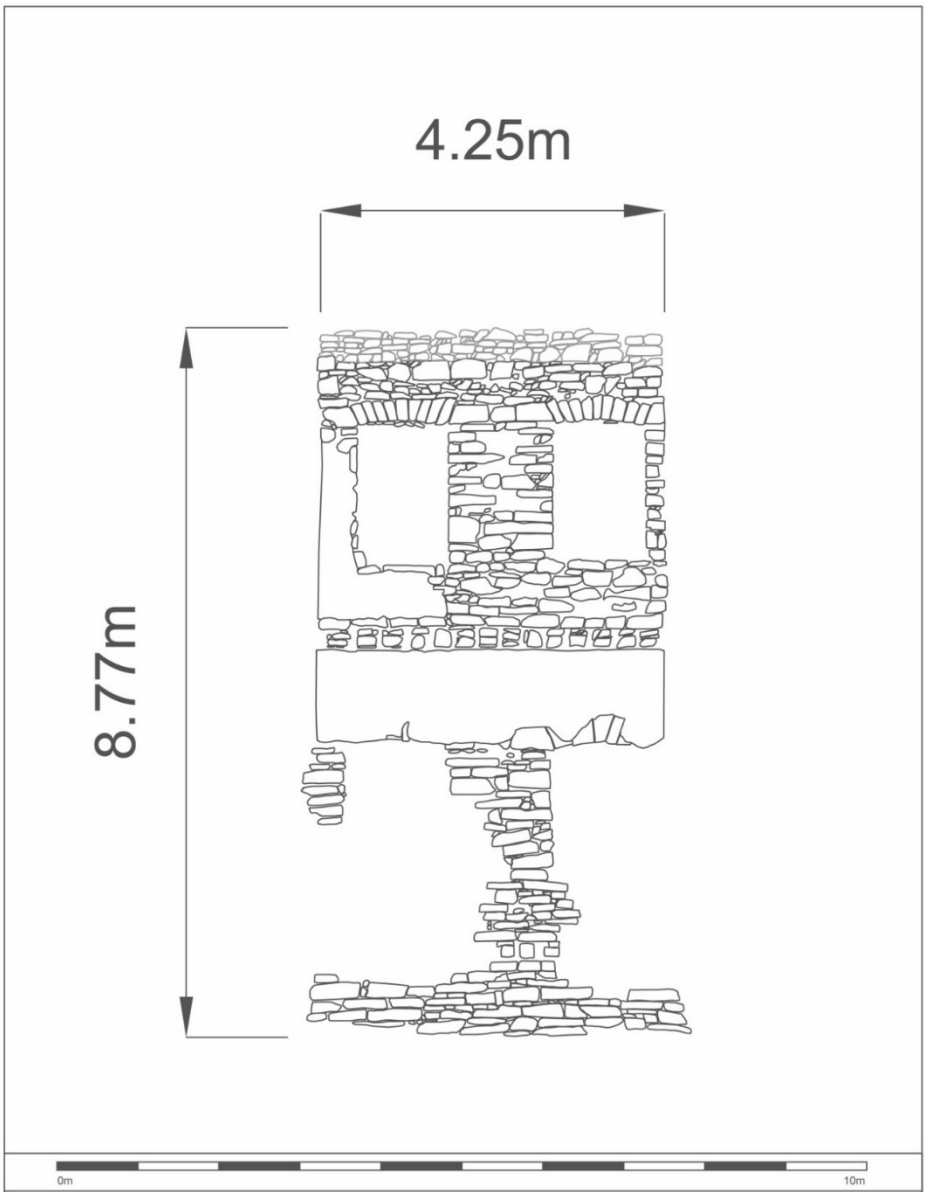

Figure B.61. Internal elevation of the north wall at the signal tower at Glash Signal Station.

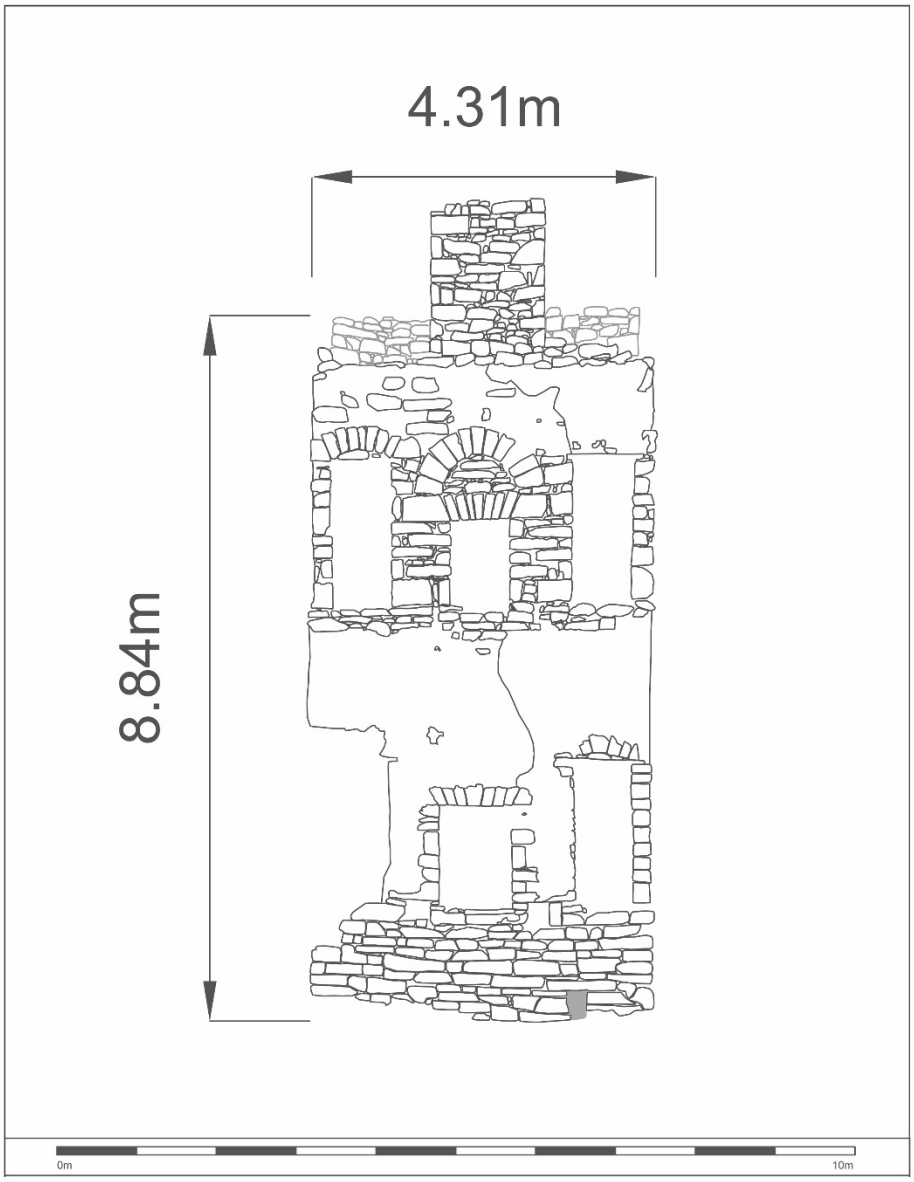

Figure B.62. Internal elevation of the east wall the signal tower at Glash Signal Station. The chute which passes through the wall into the semi-basement level, below the southern alcove, is shown in grey. The chute which passes through the northern part of the wall emerged in the damaged area below the northern alcove and is not shown in this elevation.

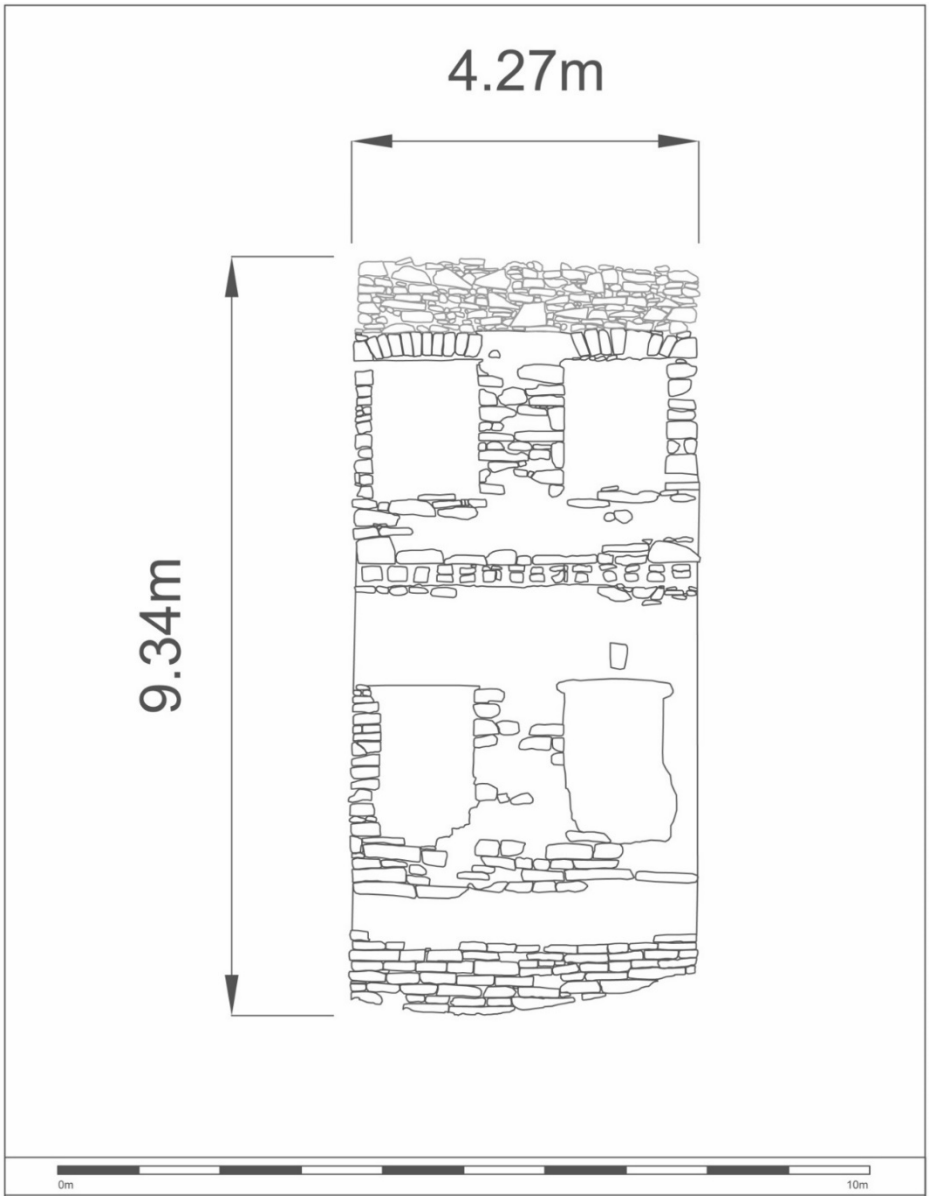

Figure B.63. Internal elevation of the south wall the signal tower at Glash Signal Station.

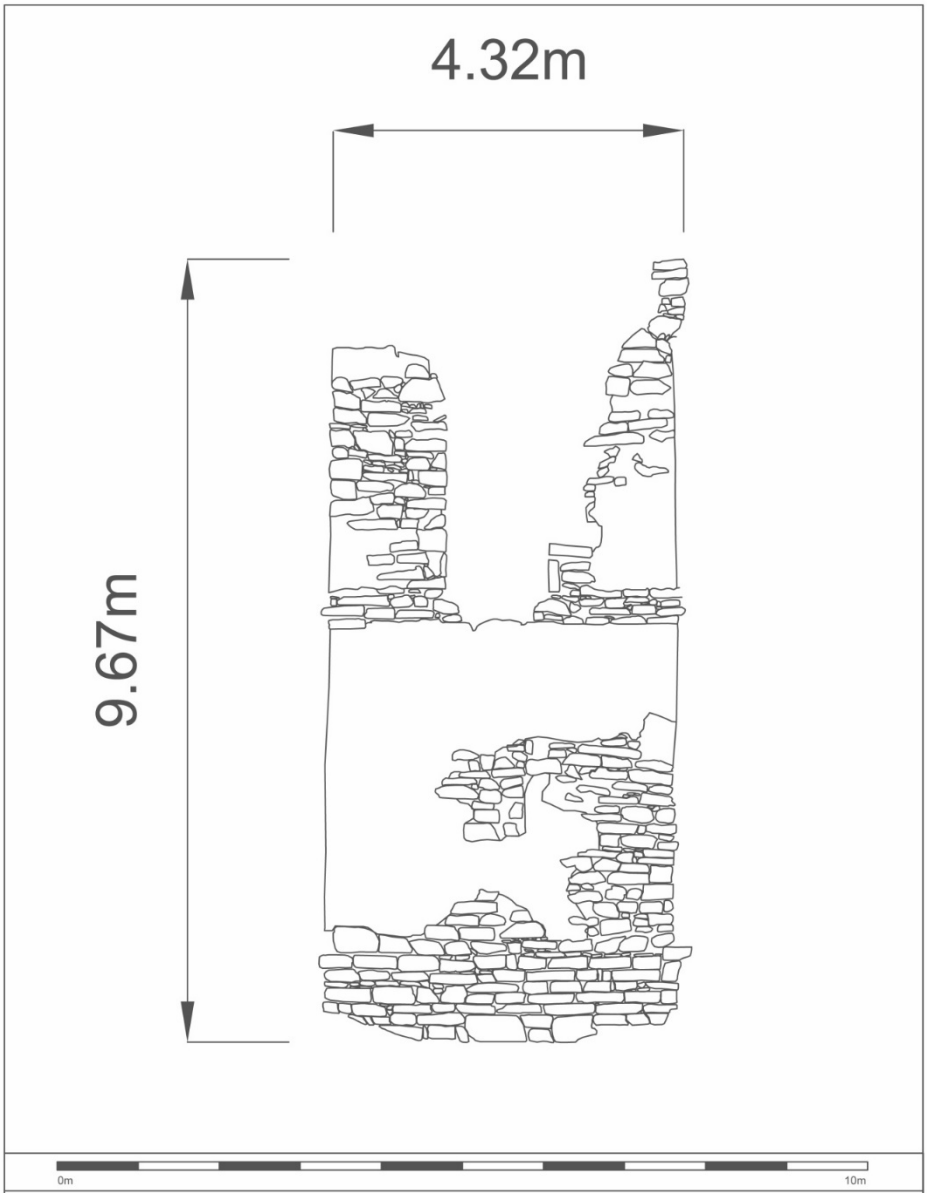

Figure B.64. Internal elevation of the west wall of the signal tower at Glash Signal Station.

Number 61. Tower Hill Signal Station (460548E, 775201N).

Low ruin of signal tower. 132 m (433') OD. Surveyed 9 April 2011. Historical Name: Slievemore Hill Signal Station.

Figure B.65. Aerial photograph showing Tower Hill Signal Station in the centre of the image (Bing Maps).

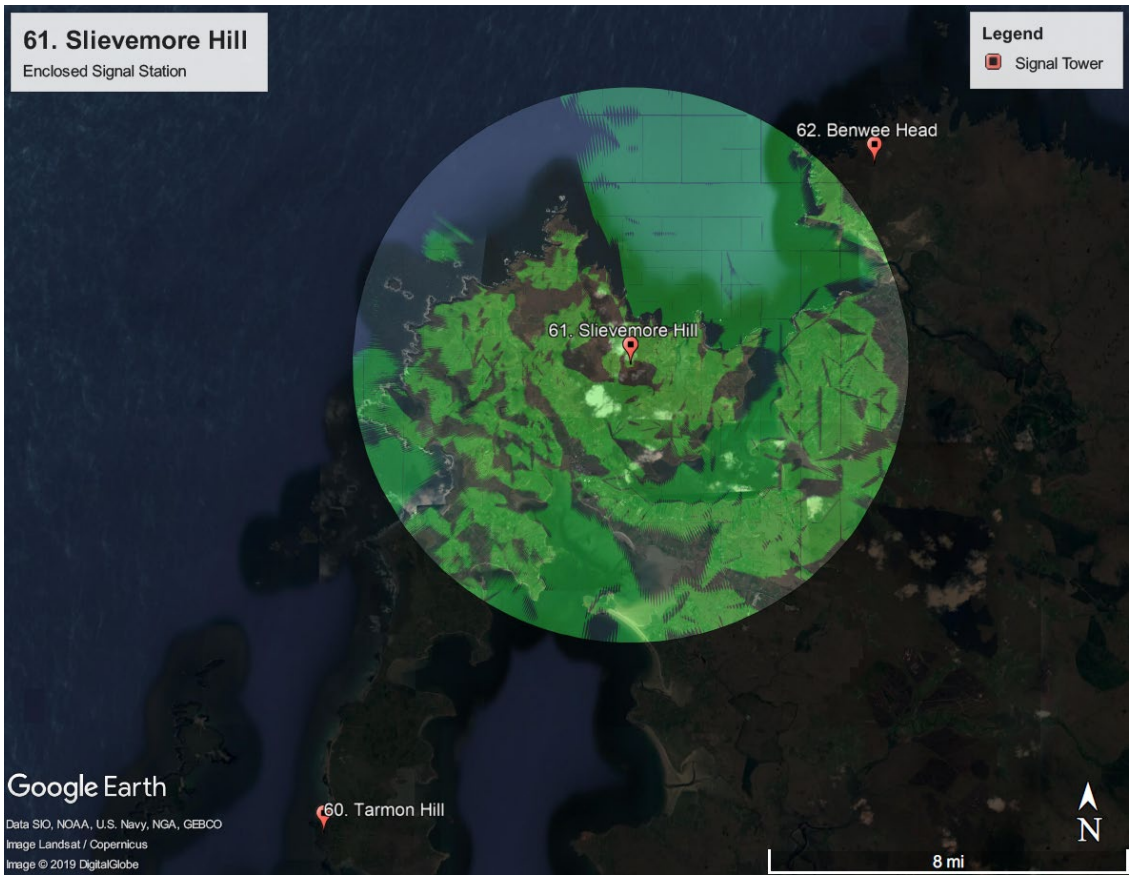

Figure B.66. Viewshed from Tower Hill Signal Station (Google Earth Pro).

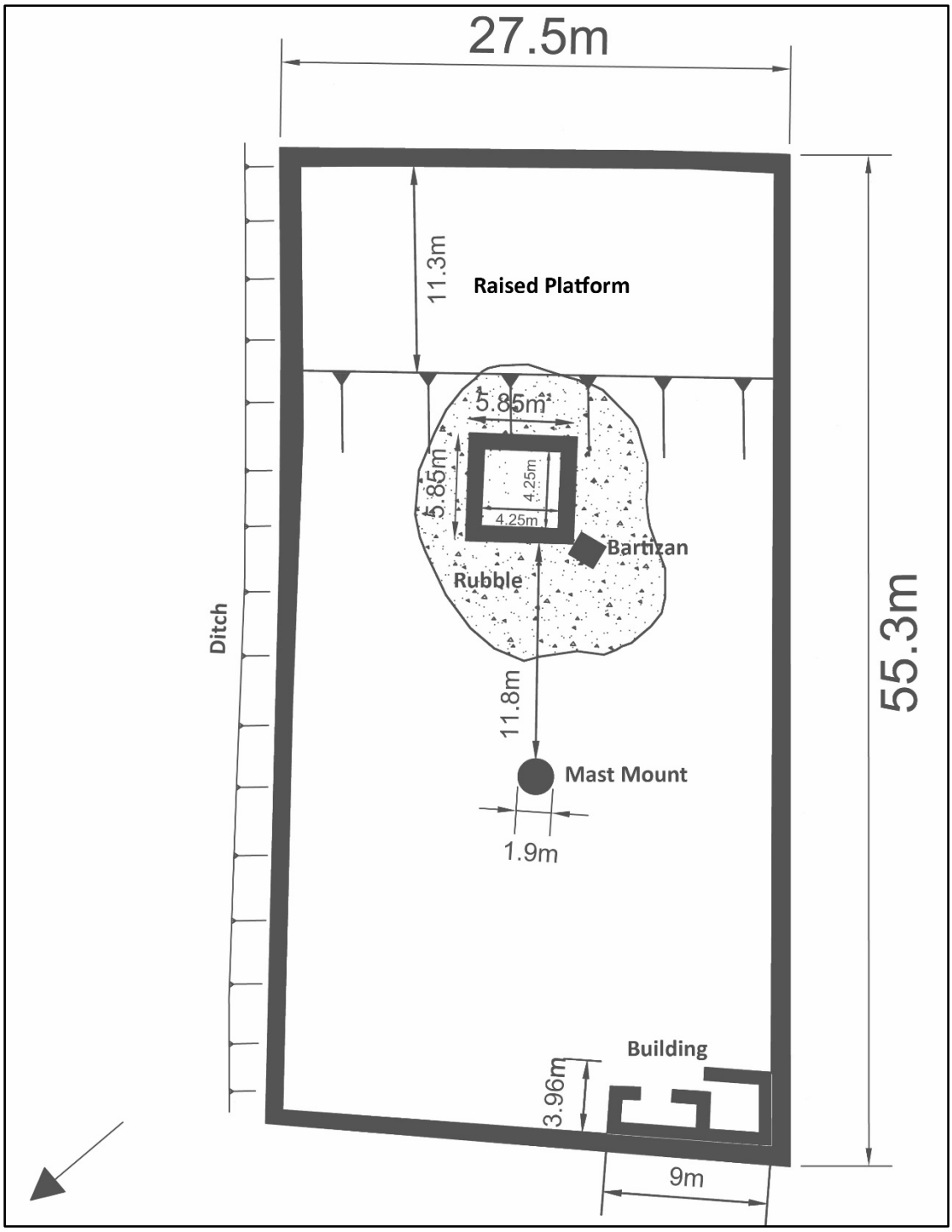

Figure B.67. Plan of Tower Hill Signal Station.

Description.

Tower Hill Signal Station was located at 132 m (433') OD on open bog on the wide summit of Tower Hill (formerly known as Slievemore Hill), in the north-east part of the Belmullet Peninsula. The site did not have a marked access route and during the survey it was approached after leaving a track that leads to an extensive area of peat cuttings located some 700 m (765 yards) to the west. The signal station consisted of a large rectangular enclosure containing a largely collapsed signal tower. A small rectangular building foundation was located in the west corner of the enclosure, and an infilled pit was located to the north-west of the signal tower. The site had extensive views in all directions. The signal station to the south, Glash Signal Station, was visible on the day of the survey. The poorly preserved station at Benwee Head to the north-east could not be seen, but Benwee Head itself was clearly visible.

The signal tower was located on the long axis of the enclosure, a little to the east of the central point. The tower measured 6 m (19' 8'') across but it only survived to a maximum height of 1.52 m (5'). The tower was surrounded by a large spread of rubble that was up to 14 m (46') across. The interior of the tower was entirely filled by rubble, which masked any internal features. The walls of the signal tower consisted of a mixture of light- and mid-grey coarse-grained stone, possibly gneiss.

At the western corner of the signal tower a collapsed bartizan was present within the rubble spread. The bartizan was upside down, but its design matched the curving form used at Glash and Saddle Hill signal stations to the south. Presumably this bartizan protected the western corner of the tower and another bartizan would have been located on either the northern or southern corner. This would mean the first floor doorway would have been located on either the north-east or south-east wall. The general pattern is for the doors of the signal towers to face towards the open sea, which would mean that a position on the north-east wall might be more likely, as the view to the south-east faces the slack water between the mainland and the peninsular.

The rectangular enclosure measured around 55 m by 29 m (180' by 95') and had its long axis aligned north-west to south-east. It was defined by a narrow stone wall that had largely collapsed. Along the north-east side there was a slight external ditch, presumably cut to aid with drainage. The ground inside the enclosure sloped down

gently towards to the north-west, and a level platform had been built up at the south-east, upslope end. The tallest section of the enclosure wall was located in the north-west, where a short stretch stood to a height of 1.5 m (4’ 11’’).

The remains of a stone walled building were located in the west corner of the enclosure. The building had a rectangular plan with two rooms, and measured 9 m by 4 m (29’ 6’’ by 13’ 2’’). The building was in a similar position and was a similar size to the example at Saddle Hill Signal Station. It may have been a contemporary element of the signal station.

The infilled pit was located about 11 m (36’) north-west of the signal tower, on the long axis of the enclosure. It was represented as a slight oval hollow 1.9 m (6’ 2’’) in length with a cluster of large rocks in the centre. The pit may have been a lime kiln or the former position of the signal mast. Similar features were observed at Saddle Hill and Glash Signal Stations to the south.

Figure B.68. The north-east side of the signal tower at Tower Hill Signal Station.

Figure B.69. The south-west side of the signal tower at Tower Hill Signal Station, with the enclosure wall in the foreground and Benwee Head visible in the background. The fallen bartizan is visible in the centre of the photograph.

Figure B.70. Detail of the fallen bartizan in the rubble spread surrounding the collapsed signal tower.

Figure B.71. Detail of the perimeter of the north-east side of the enclosure, looking south-east, showing the collapsed wall and the external ditch.

Figure B.72. The remnants of the building in the west corner of the enclosure.

Figure B.73. The infilled pit to the north-west of the signal tower at Tower Hill Signal Station.

Number 62. Benwee Head Signal Station (481243E, 843018N).

Low ruin of signal tower. 160 m (525') OD. Surveyed 9 April 2011.

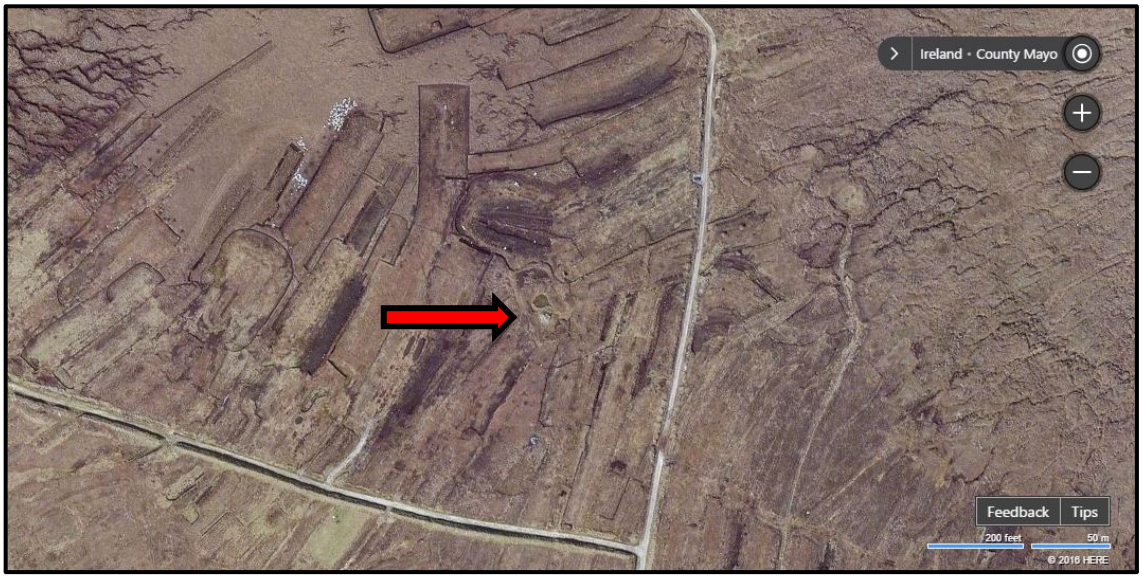

Figure B.74. Aerial photograph showing Benwee Head Signal Station in the centre of the image (Bing Maps).

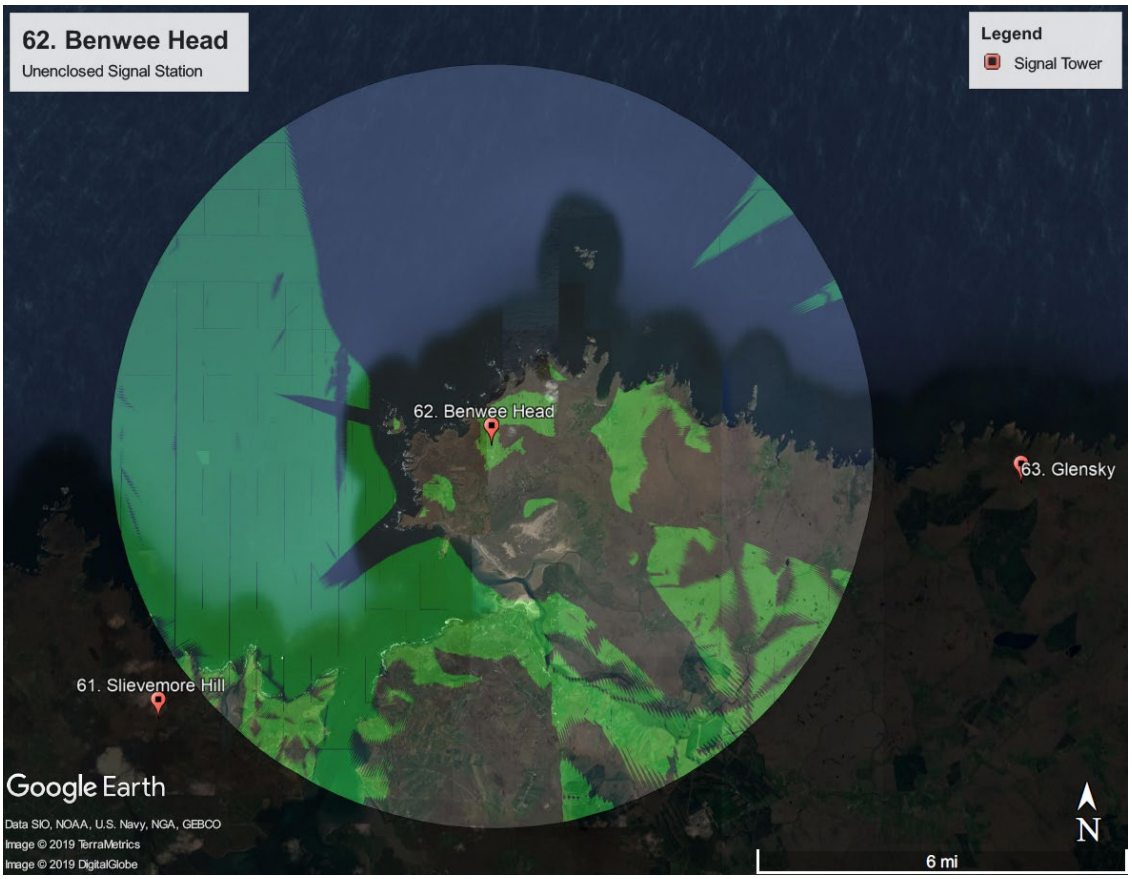

Figure B.75. Viewshed from Benwee Head Signal Station (Google Earth Pro).

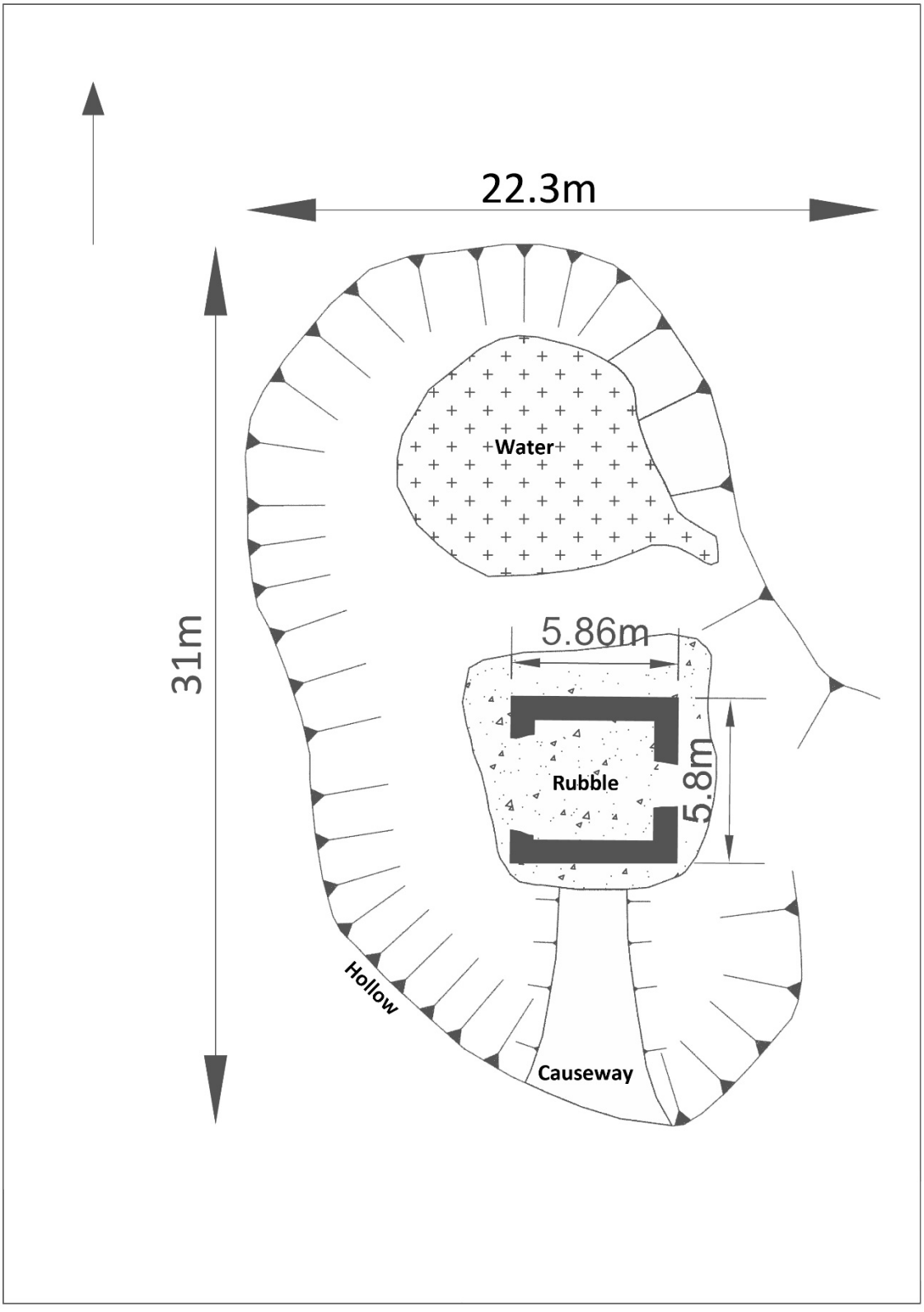

Figure B.76. Plan of Benwee Head Signal Station.

Description.

Benwee Head Signal Station was located on a flat expanse of open bog at 160 m (525') OD, to the south of Benwee Head. The site was accessed from a track that leads to an area of extensive peat cutting to the north of the small settlement of Stonefield. The track post-dates the signal station and is not present on either the 1st or 3rd edition Ordnance Survey maps, surveyed 1837-1839 and 1913-1917 respectively (the 2nd edition Ordnance Survey map is not available online). The unenclosed signal station consisted of the base of a collapsed signal tower located in an irregular hollow cut into the bog, the northern part of which contained a small pond. Curiously, the site has restricted views to the north, and the coast cannot be seen from this location. This suggested that the signal station could have been used simply to relay messages from the adjacent signal stations at Tower Hill to the west and Glinsk to the east. However, observations of the coast may have been made from a point further to the north, with information carried back to the signal station as required.

The signal tower measured approximately 6 m (19' 8'') across but the lack of clear corners made it impossible to take precise measurements. The tower survived as little more than a pile of rubble, and just a few stretches of intact wall were visible. The lack of rubble around the building suggested that the stone has been removed for use elsewhere. The nearby track would have provided convenient access to the site that may have allowed for the stone's removal. The walls of the signal tower consisted of a of light-grey coarse-grained stone, possibly quartzite.

The signal tower was set within a large oval hollow that measured around 31 m by 21 m (102' by 69'). A narrow stony raised area connected the southern edge of the hollow to the signal tower. The northern part of the hollow contained a small pond. It is not clear if this hollow was an original feature that may have functioned in a similar way to the enclosures seen at other sites, or if it is a subsequent feature formed during peat extraction. If the hollow was an original feature, then the stony raised area might be an original causeway.

Figure B.77. The north side of the signal tower at Benwee Head, with the pond that fills the north of the hollow in the foreground.

Figure B.78. The east side of the signal tower at Benwee Head Signal Station.

Number 63. Glinsk Signal Station (494970E, 841686N).

Low ruin of signal tower. 253 m (830') OD. Surveyed 26 September 2011. Historical Name: Glensky Signal Station.

Figure B.79. Aerial photograph showing Glinsk Signal Station in the centre of the image (Bing Maps).

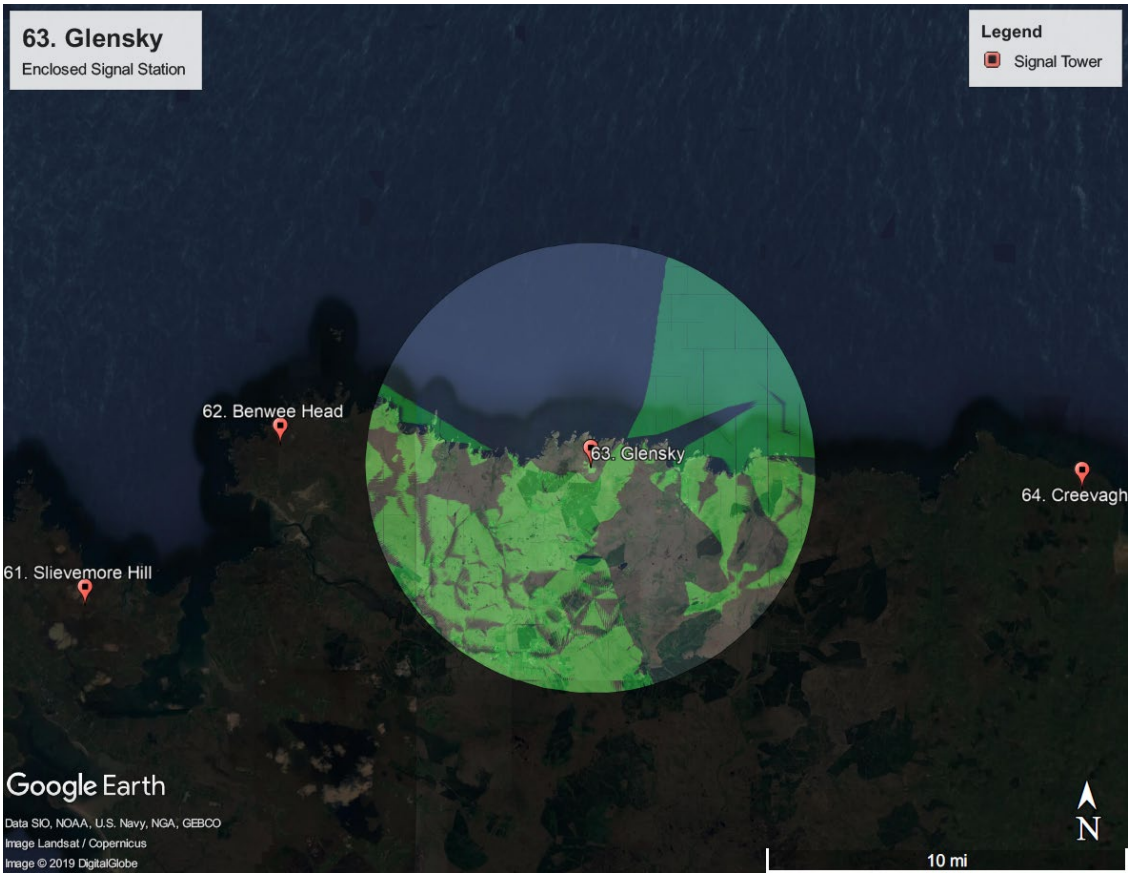

Figure B.80. Viewshed from Glinsk Signal Station (Google Earth Pro).

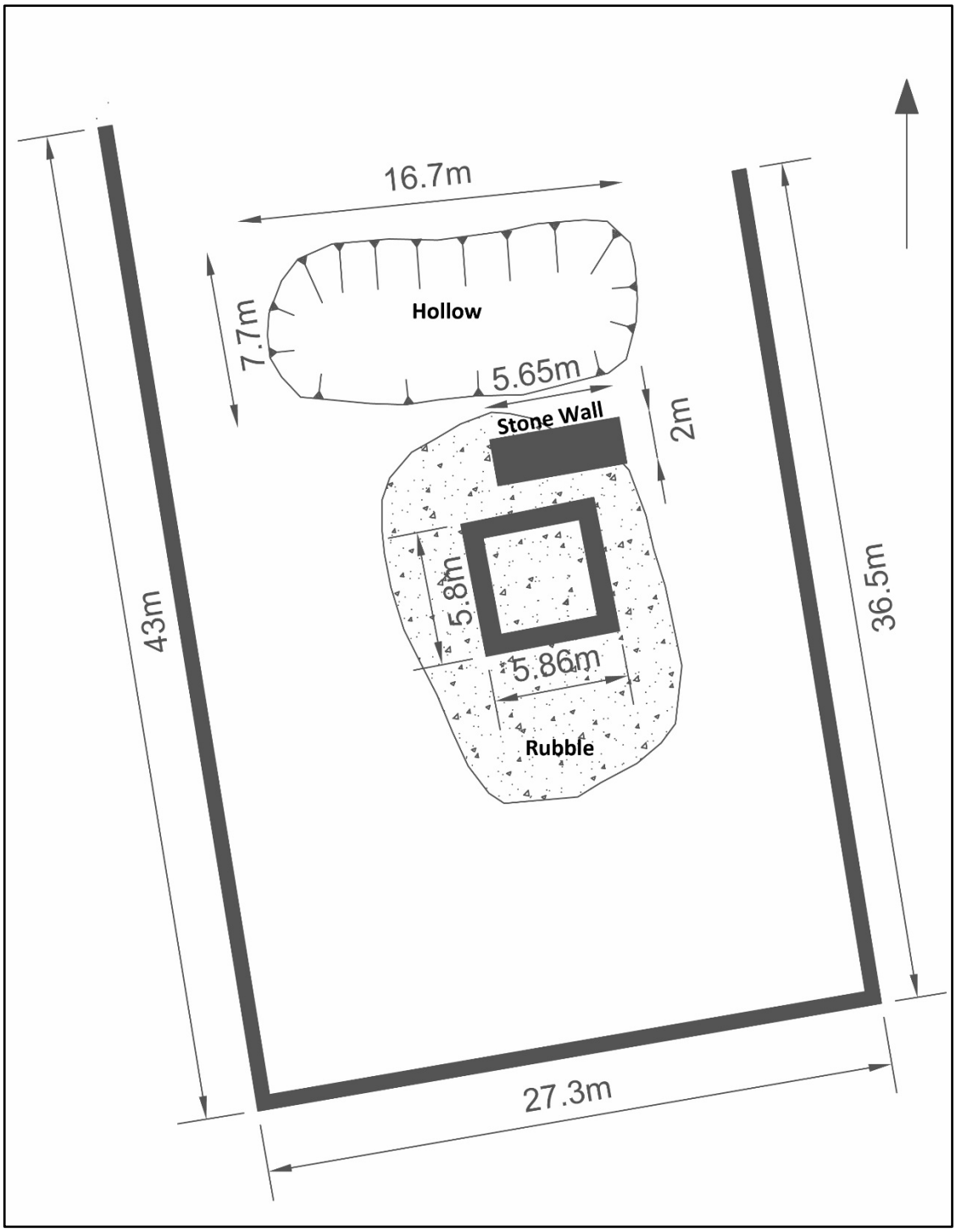

Figure B.81. Plan of Glinsk Signal Station.

Description.

Glinsk Signal Station (also known as Glensky Head Signal Station) was located in open bog at 253 m (830') OD, a little to the south of the summit of Glinsk, a large hill to the west of Belderrig. The site has no dedicated route of access. It was approached across a wide area of open bog to the north of the road that runs from Belderrig to Belmullet. The site had extensive views to the west, south and east but not to the north, and the coast could not be directly observed from this location. It is possible that, as with the adjacent site at Benwee Head, the signal station at Glinsk was situated primarily to allow for messages from adjacent stations to be passed along the line of signal stations. However, a position further to the north may have been used to allow for observing the coast, from where information could have been carried back to the signal station as required. Visibility was extremely poor on the day of the survey, but it is extremely unlikely that either of the signal towers at the adjacent signal stations, Benwee Head to the west and Creevagh to the east, could have been seen from the site because of their ruinous condition. The signal station consisted of the low remains of a signal tower set within a rectangular enclosure. A small stretch of wall was located immediately north of the signal tower, which may have been part of a contemporary building within the enclosure.

The best-preserved part of the signal tower was at the north, where the wall had a maximum height of around 2.4 m (7'10''). The north wall was devoid of features on either the external or internal faces, strongly suggesting this was the wall that had featured the first floor doorway. The east and west walls survived to a maximum height of 1.1 m (3' 7'') and 1.4 m (4' 7'') respectively and were presumed to have originally been the walls with windows. The southern wall had a maximum height of 1 m (3' 3''). It featured a small square chute low down on the western portion of the wall which, based on features recorded at other sites, is likely to have passed into the semi-basement level, or the base of one of the ground floor alcoves. These chutes were exclusively located on the walls that feature fireplaces and alcoves, and this is consistent with the suggested orientation of the signal tower. The signal tower was surrounded on the east, south, and west by a dense spread of rubble. Given the length

of the spread of rubble to the south, it seems likely that the tower fell primarily in that direction. The walls of the signal tower consisted of dark-grey stone, possibly gneiss.

The signal tower was set within a rectangular enclosure that had its long axis aligned north to south. The enclosure was defined by a low stone wall that had suffered from a significant amount of collapse. The northern wall of the enclosure was missing entirely. The enclosure measured at least 43 m (141') in length and was around 28 m (91'10'') wide. The wall was 0.9 m (3') wide and survived to a maximum height of 1 m (3' 3'') along the western side. Given that little if any of the rubble from the collapsed tower appears to have been removed from the site, the absence of either an intact or collapsed wall along the northern side of the enclosure suggests that the perimeter of the enclosure may never have been completed.

Approximately 1 m (3' 3'') north of the signal tower there was a stretch of walling that ran from east to west. The wall was 5.65 m (18' 6'') long and 2 m (6' 6'') wide and extended beyond the line of the eastern side of the signal tower by 1.7 m (5' 7''). It was not clear what the function of this wall was. It may have been part of a small building inside the enclosure, or it may have had some other function, such as diverting surface water running down the slope away from the signal tower. North of this wall there was a large irregular hollow, which may have been a quarry.

Figure B.82. The external face of the south wall of the collapsed signal tower at Glinsk Signal Station. The chute passing through the wall is visible towards the left.

Figure B.83. The external face of the north wall of the collapsed signal tower at Glinsk Signal Station. The wide section of wall that may belong to a second building is visible in front of the tower.

Figure B.84. View of Glinsk Signal Station, looking north, with the wall of the enclosure in the foreground.

Figure B.85. View of one of the better-preserved sections of the enclosure wall, located at the south of the enclosure, looking west.

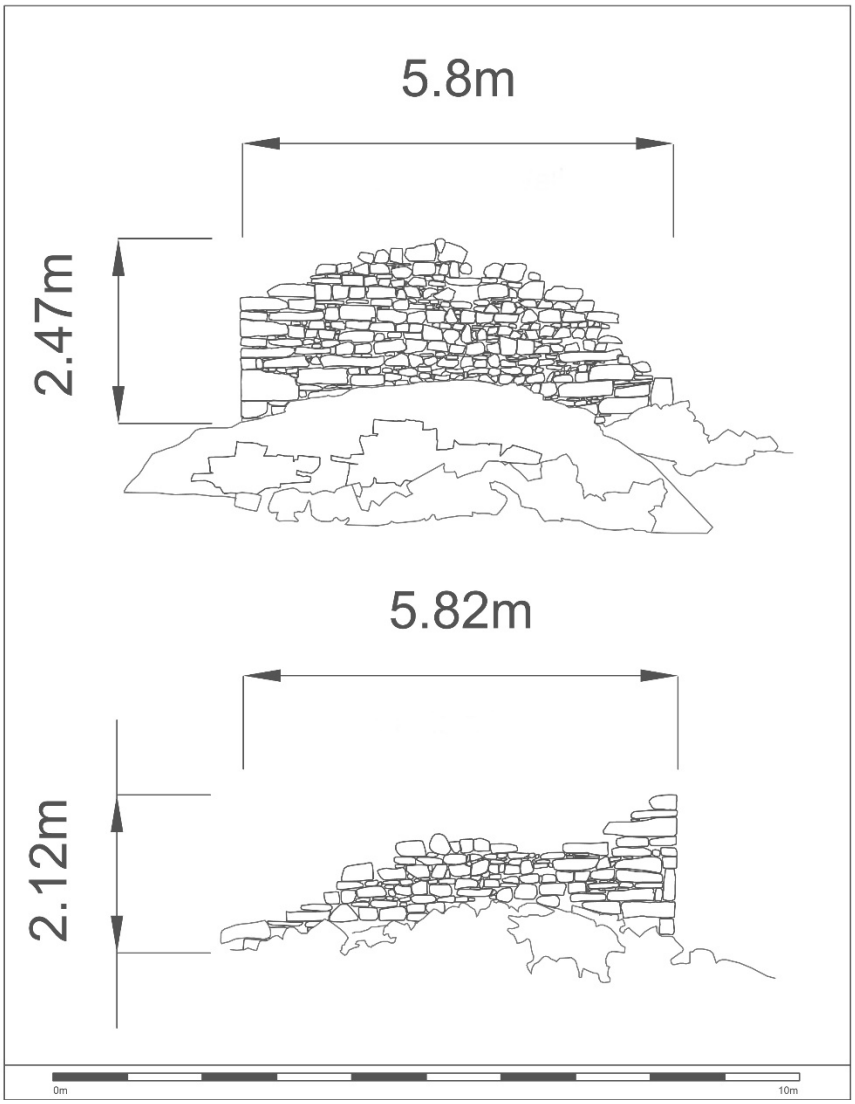

Figure B.86. External elevations of the north (top) and east (bottom) walls of the signal tower at Glinsk Signal Station.

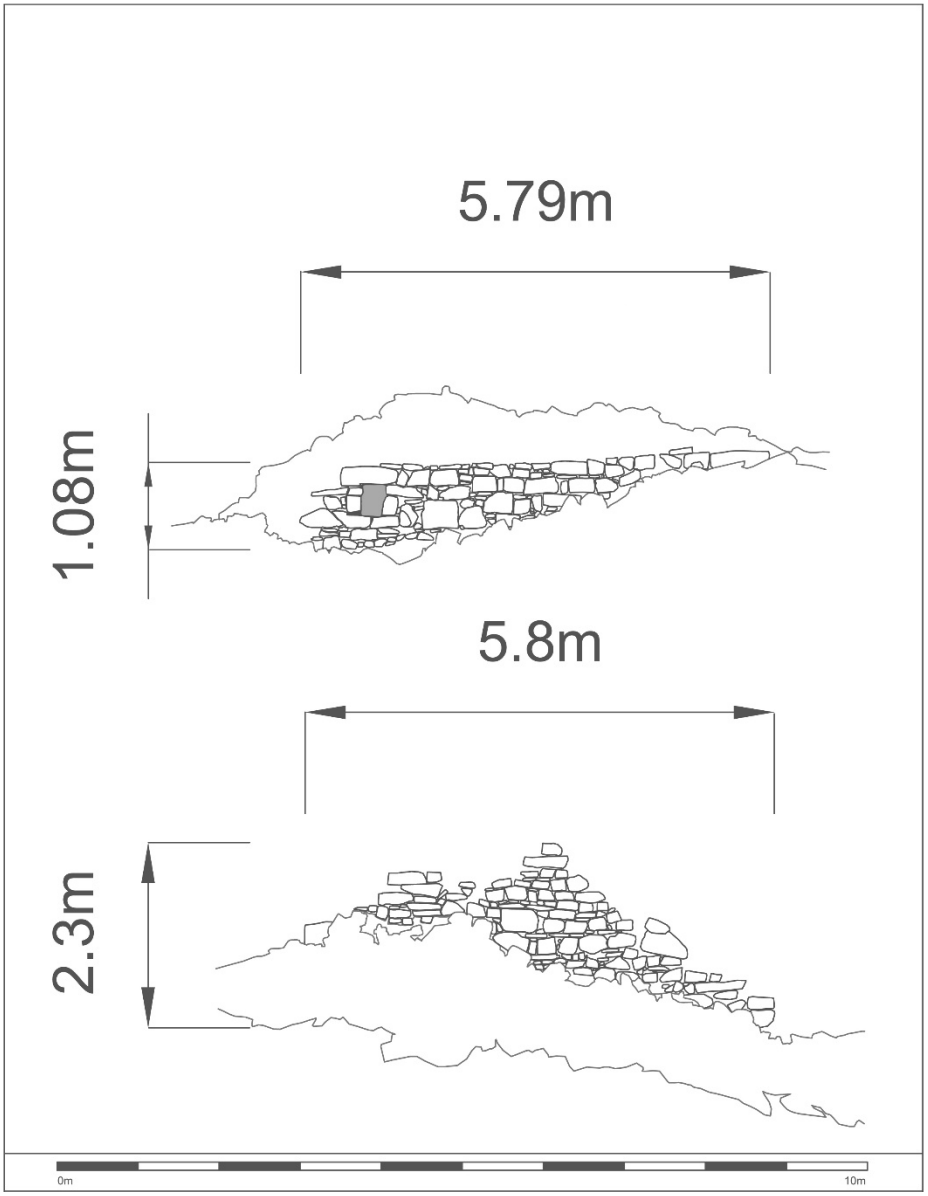

Figure B.87. External elevations of the south (top) and west (bottom) walls of the signal tower at Glinsk Signal Station. The chute passing through the western side of the southern wall is shaded in grey.

Number 64. Creevagh Signal Station (516852E, 840168N).

Demolished site. SMR MA007-015002-. 73 m (236') OD. Surveyed 25 August 2012.

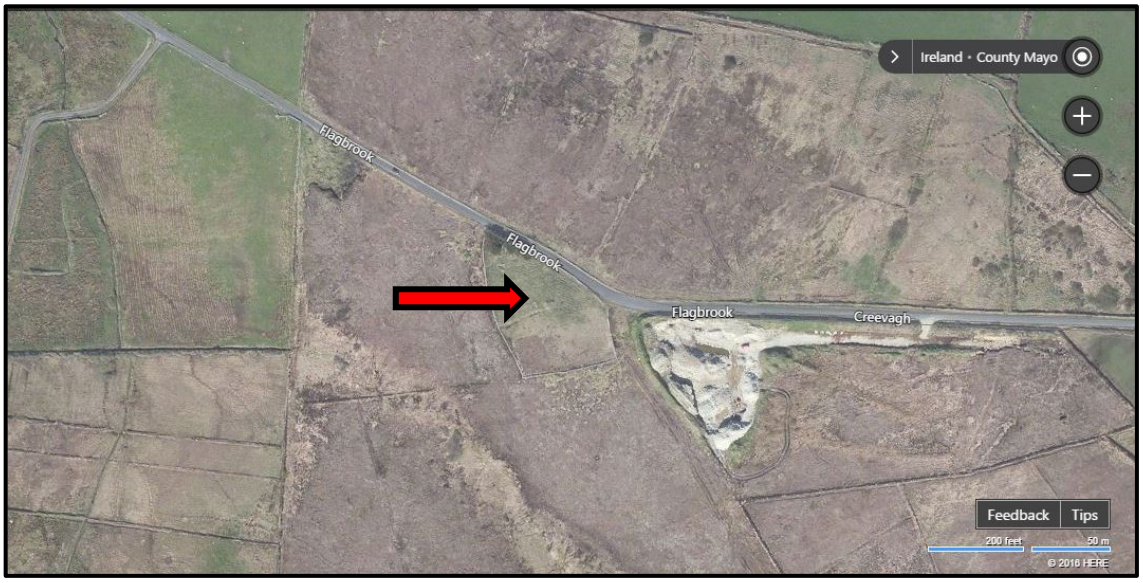

Figure B.88. Aerial photograph showing former location of Creevagh Signal Station in the bottom centre of the image, to the left of the small quarry (Bing Maps).

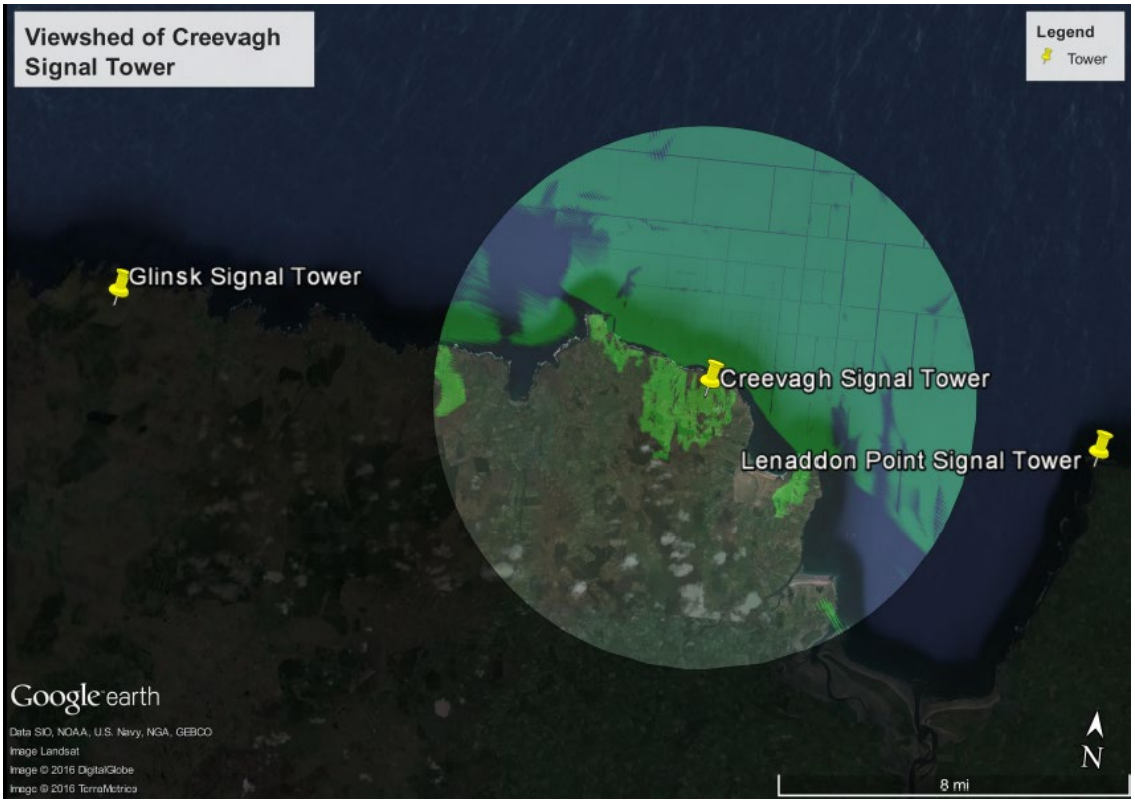

Figure B.89. Viewshed from Creevagh Signal Station (Google Earth Pro).

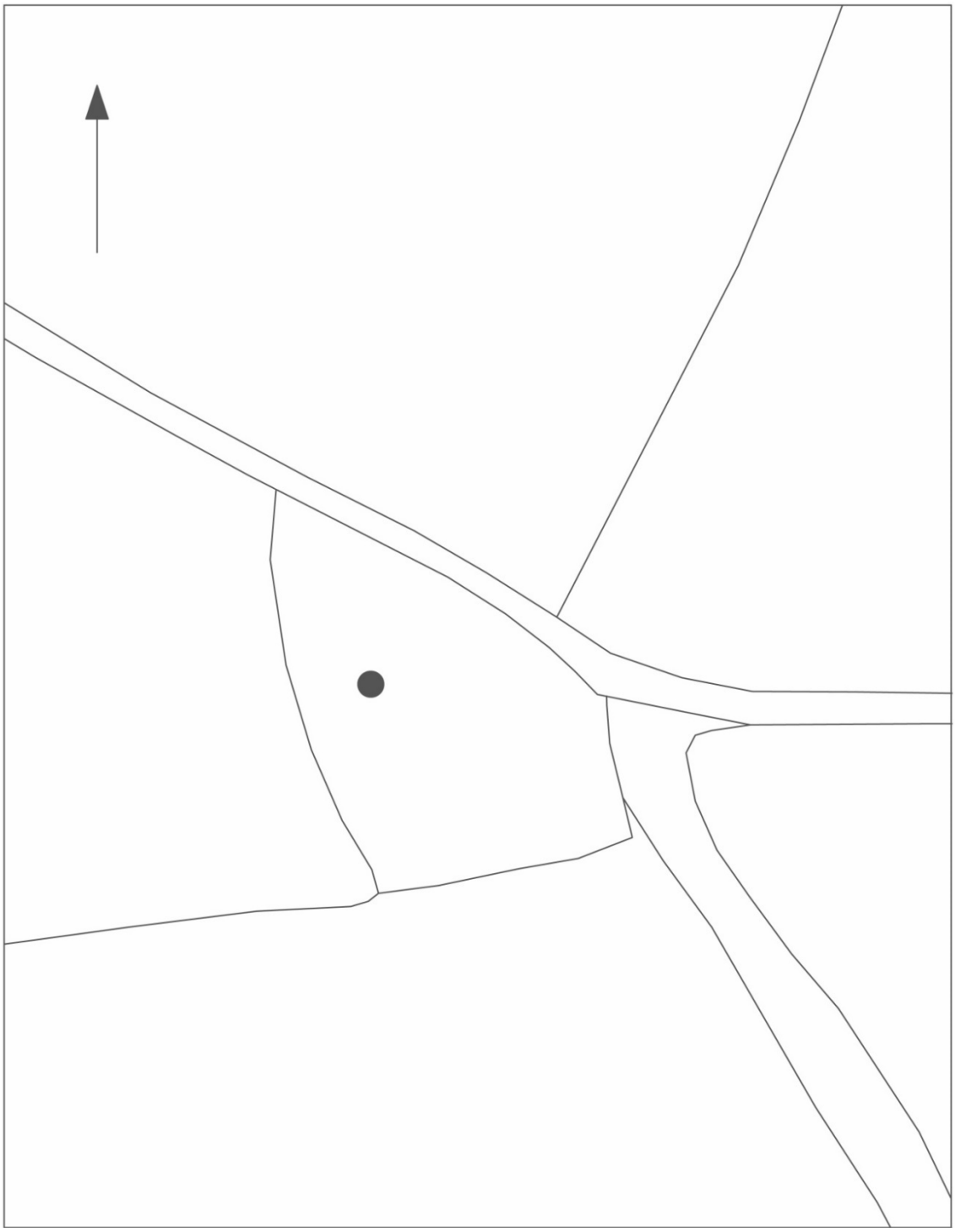

Figure B.90. Plan of former location of Creevagh Signal Station, with possible signal tower location marked as a black circle.

Description.

The signal station at Creevagh had been demolished. The site was located in an enclosed field on level ground overlooking the coast at 73 m (236') OD. It was accessed from a lane that led due west from the settlement of Creevagh, about 600 m (656 yards) to the east. The signal station had been entirely demolished, and very little could be seen at the site during the survey. The 1st edition Ordnance Survey map, surveyed 1837-1839, notes a 'Tower' in this location and depicts a small square structure without an enclosure. A contemporary letter indicated that the site had been enclosed to protect the signal equipment from the threat of sabotage, but unfortunately neither the cartographic evidence, nor the evidence recorded during the field survey, provided any information regarding the form of this enclosure. The site of the signal station had clear views of the coast to the north but quite restricted views to the south. The ruined Glinsk Signal Station to the west could not be seen on the day of the survey, although its general position could be identified. The low remains of the signal tower at Lenadoon Point to the east, in County Sligo, were visible. The well-preserved signal tower at Rathlee Signal Station to the east had the potential to be visible, but it was obscured by various buildings and trees in its vicinity.

A small grassy mound was present in the area where the signal tower was depicted on the 1st edition Ordnance Survey map. The mound could consist of some leftover rubble from the signal tower. The geology around Creevagh provides high quality sandstone that is still quarried today. It is possible that the abandoned signal station was seen as a convenient source of building stone that did not require quarrying, leading to its almost total removal from the landscape.

Figure B.91. The low grassed over mound in the approximate position of the signal tower at Creevagh Signal Station.

Figure B.92. View of the coast from the position of Creevagh Signal Station, looking north-east. The low-lying ground of Lenadoon Point, County Sligo, can be seen in the mid-ground, and the mass of Knocknarea, County Sligo, can be seen faintly in the background.

Appendix C. Signal Stations in County Sligo

Six signal stations were located in County Sligo, two of which survived in good condition (Rathlee Signal Station and Carrowmably Signal Station), one of which was in poor condition (Lenadoon Point Signal Station), two of which survived only as very low ruins (Knocklane Hill Signal Station and Streedagh Signal Station) and one of which (Killcologue Point Signal Station) had been almost entirely removed (Figure C.1). None of the County Sligo sites included purpose-built enclosures, although one of the sites (Carrowmably Signal Station) was set within a large pre-existing circular enclosure, of suspected prehistoric date.

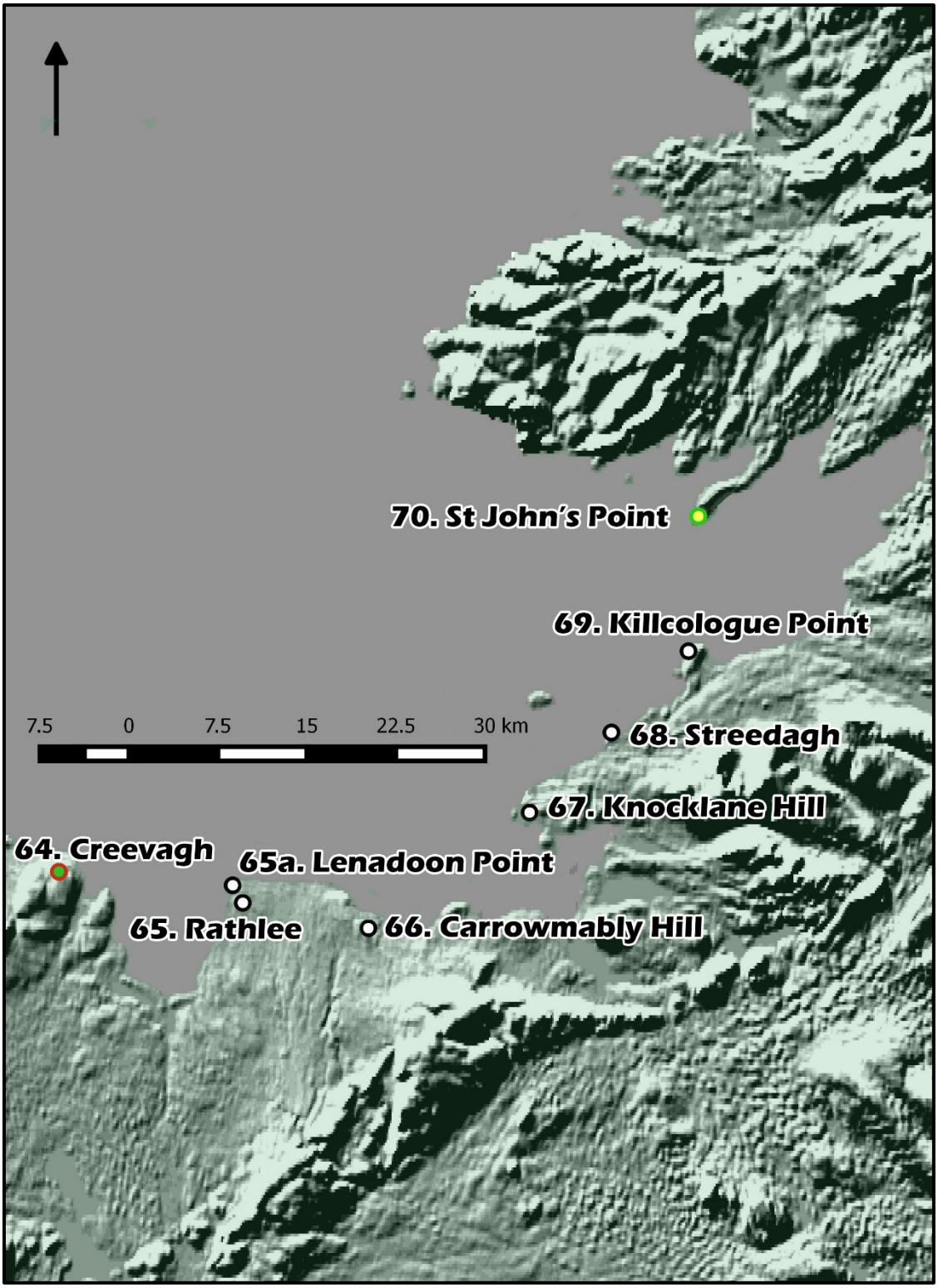

Figure C.1. Map showing locations of County Sligo Signal Stations (white and black) and adjacent Signal Staions in County Mayo (green and red) and County Donegal (yellow and green).

Number 65a. Lenadoon Point Signal Station (531350, 838795).

Low ruin of a signal tower. SMR SL010-001002-. 7 m (23') OD. Surveyed 7 June 2015.

Figure C.2. Aerial photograph showing Lenadoon Point Signal Station, to the left of the centre of the image (Bing Maps).

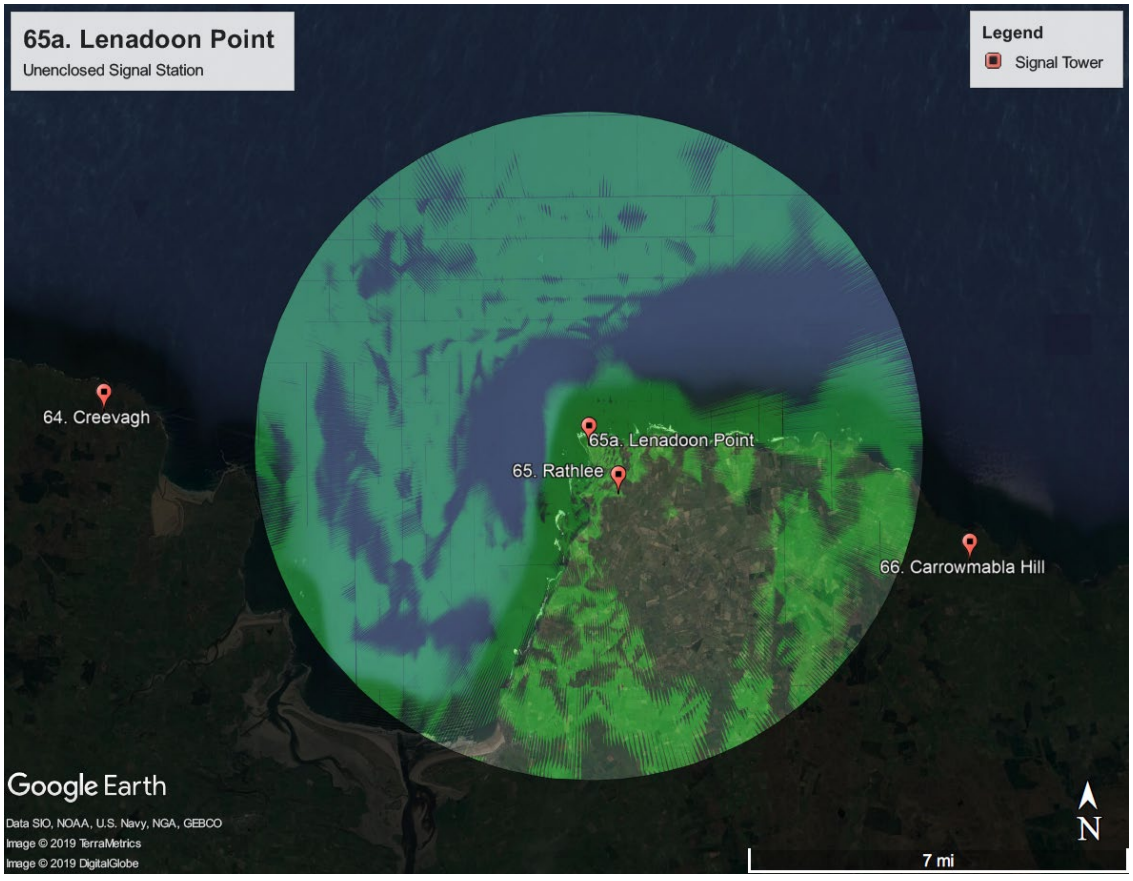

Figure C.3. Viewshed from Lenadoon Point Signal Station (Google Earth Pro).

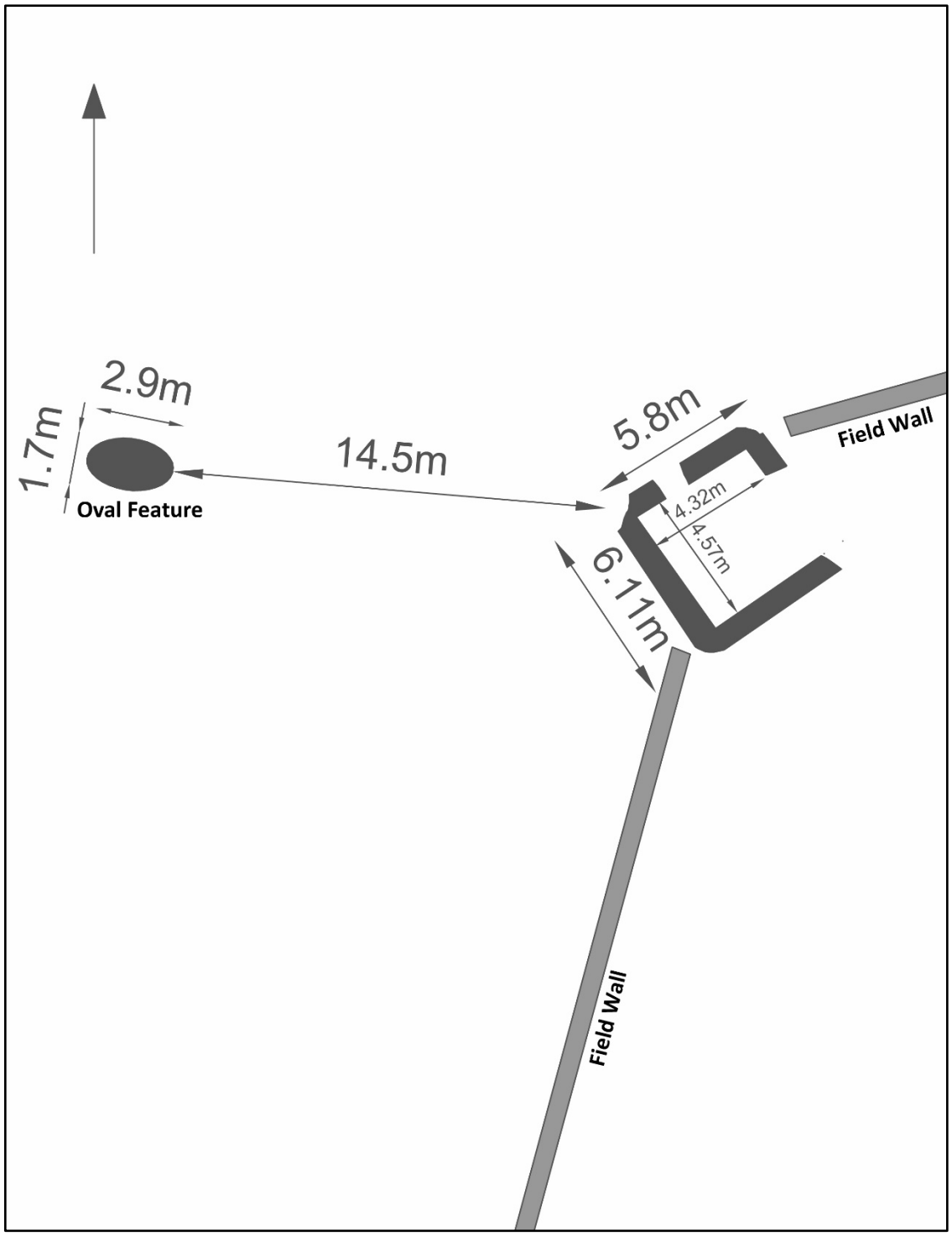

Figure C.4. Plan of Lenadoon Point Signal Station.

Description.

The unenclosed signal station at Lenadoon Point was located at the edge of an area of flat pasture behind a shingle beach, at 7 m (23') OD. The site had expansive views in all directions. The nearby signal tower at Rathlee Signal Station was clearly visible to the south-east. The approximate location of the demolished signal station at Creevagh to the west was easily visible, but the position of the next station to the east, Carrowmably, was masked by trees in the far distance. The site did not have a marked route of access and was approached from the beach, which was served by a carpark approximately 1km to the east of the signal station. The signal station was located at the north-west corner of an area of enclosed pasture.

The signal station consisted of the low remains of a collapsed signal tower, with remains of what appeared to be a poorly preserved lime kiln were located to the west of the signal tower. The north and south corners of the signal tower were connected to badly collapsed dry-stone field walls. The walls were shown on the 1st edition of the Ordnance Survey map, surveyed 1837, indicating that they were in use during the first half of the nineteenth century. The 1st edition Ordnance Survey map showed a small unidentified rectangular building at the join between the two walls. The 2nd and 3rd edition Ordnance Survey maps, surveyed 1885-1888 and 1909-1912 respectively, do not show the walls, suggesting that they had fallen into disrepair during the late 19th century, but both identify the small square building as "Tower in ruins". Kerrigan does not discuss this signal station and it was not present on any of the versions of the contemporary lists of signal stations that he utilised. Moore and Robinson repeated the local opinion that construction of this signal tower was halted prior to its completion and the signal station was then moved a short distance to the south-east, to Rathlee, where a new signal tower was completed (Moore & Robinson 2014, 19).

The signal tower was badly collapsed with only the semi-basement level and parts of the ground floor surviving. The entire first floor and parapet level were missing. The walls defined a slightly rectangular building, rather than the typical square plan, with the walls facing north-east, south-east, south-west, and north-west respectively. Externally the building measured 6.1 m (20') north-west to south-east and 5.8 m (19'3'') north-east to south-west. Internally the building measured 4.57 m (15') north-west to south-east and 4.32 m (14'2'') north-east to south-west. The south-east wall featured

the characteristic outwards bulge that would have housed the chimney. Towards the south-western corner of the wall there was a small square chute that sloped down steeply into the semi-basement level. These features allowed for the likely orientation of the tower to be determined. The south-east wall would have housed the chimney and the fireplaces with the flanking alcoves, the north-west wall would have featured the first floor door, and the north-east and south-west walls would have featured the windows. Given Moore and Robinson's comments, and the absence of the signal tower from the contemporary listings, it is unclear how much of this tower has been lost; the first floor and the roof level may never have been completed. The signal tower was constructed from mid-grey fine-grained stones, possibly limestone.

Internally the south-west wall featured a poorly preserved slot with some joist holes that would have held the ground floor. Curiously the slot was only present towards the edges of the wall, it did not extend across the central portion of the wall. This arrangement was not noted at any other site in the main study area. The north-east wall was very badly damaged and only a small section at the north-west end survived. The north-west wall had a centrally placed vertically sided opening that could conceivably have been the remains of a crude doorway, created to allow the unfinished or collapsed foundation to be entered and utilised. The south-east wall survived to the height of the base of the slot for the first floor joists. The wall had the typical bulge for a chimney that identified it as the rear wall of the signal tower. A chute passed through the south-west part of the south-east wall, opening into the semi-basement level, sloping down steeply as it passed through the body of the wall.

The remains of a probable lime kiln were located 14.5 m (47'7'') west of the signal tower. The kiln measured 2.9 m (9'6'') by 1.7 m (5'7'') and consisted of a shallow oval depression filled with stones. A few small traces of intact stonework could be seen around the sides of the depression. The field walls that connected to the signal towers northern and southern corners survived only as banks of collapsed stones 1.6 m (5'3'') wide and up to 0.3 m (1') tall.

Figure C.5. View of the west corner of the collapsed or unfinished signal tower at Lenadoon Point Signal Station.

Figure C.6. View of the east corner of the collapsed or unfinished signal tower at Lenadoon Point Signal Station.

Figure C.7. View of the external face of the south-east wall of the collapsed or unfinished signal tower at Lenadoon Point Signal Station.

Figure C.8. View of the external face of the north-west wall of the collapsed or unfinished signal tower at Lenadoon Point Signal Station.

Figure C.9. View of the internal face of the south-west wall of the collapsed or unfinished signal tower at Lenadoon Point Signal Station.

Figure C.10. Detail of the chute passing through the south-east wall of the signal tower at Lenadoon Point Signal Station.

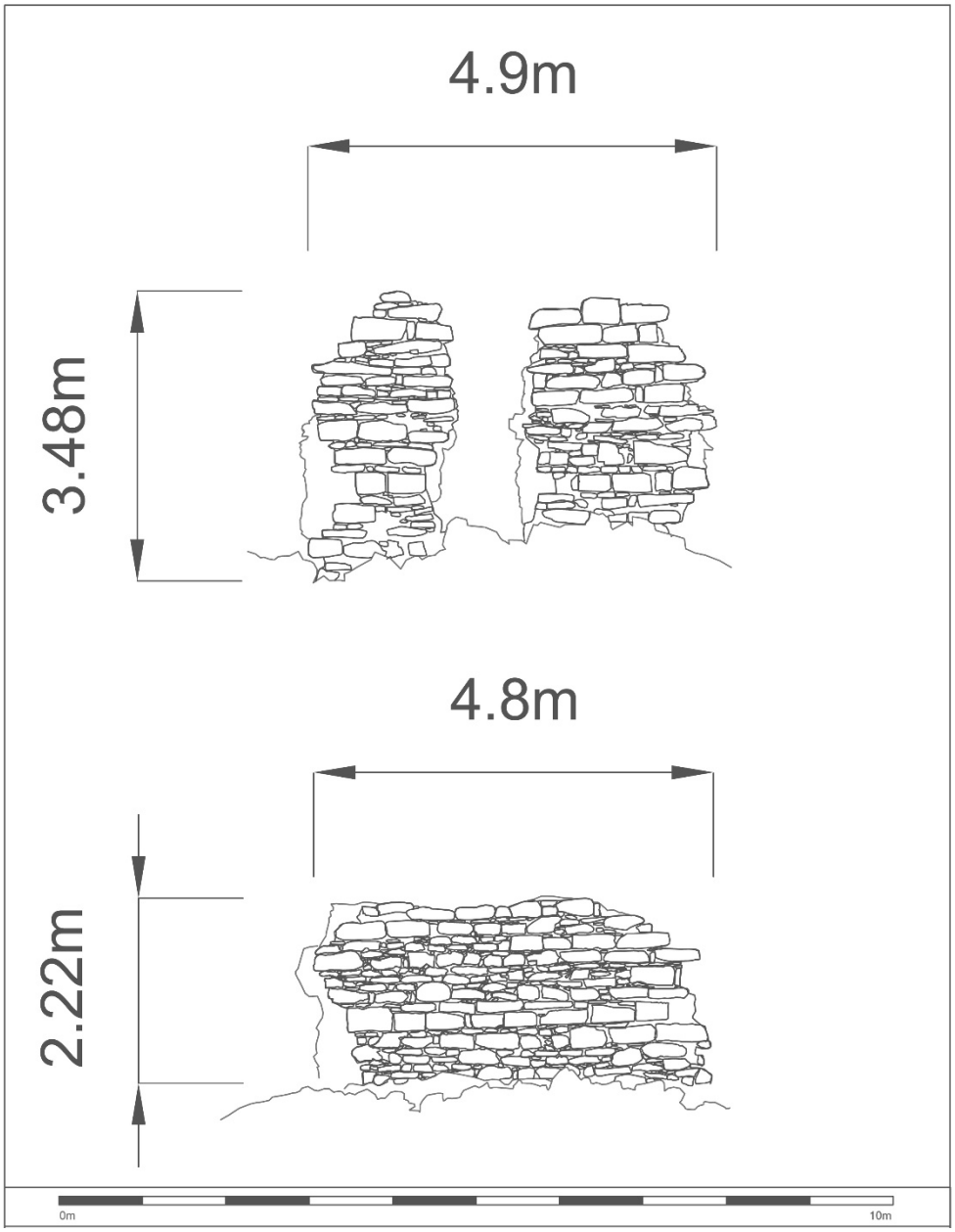

Figure C.11. External elevations of the north-west (top) and south-west (bottom) walls of the collapsed or unfinished signal tower at Lenadoon Point Signal Station.

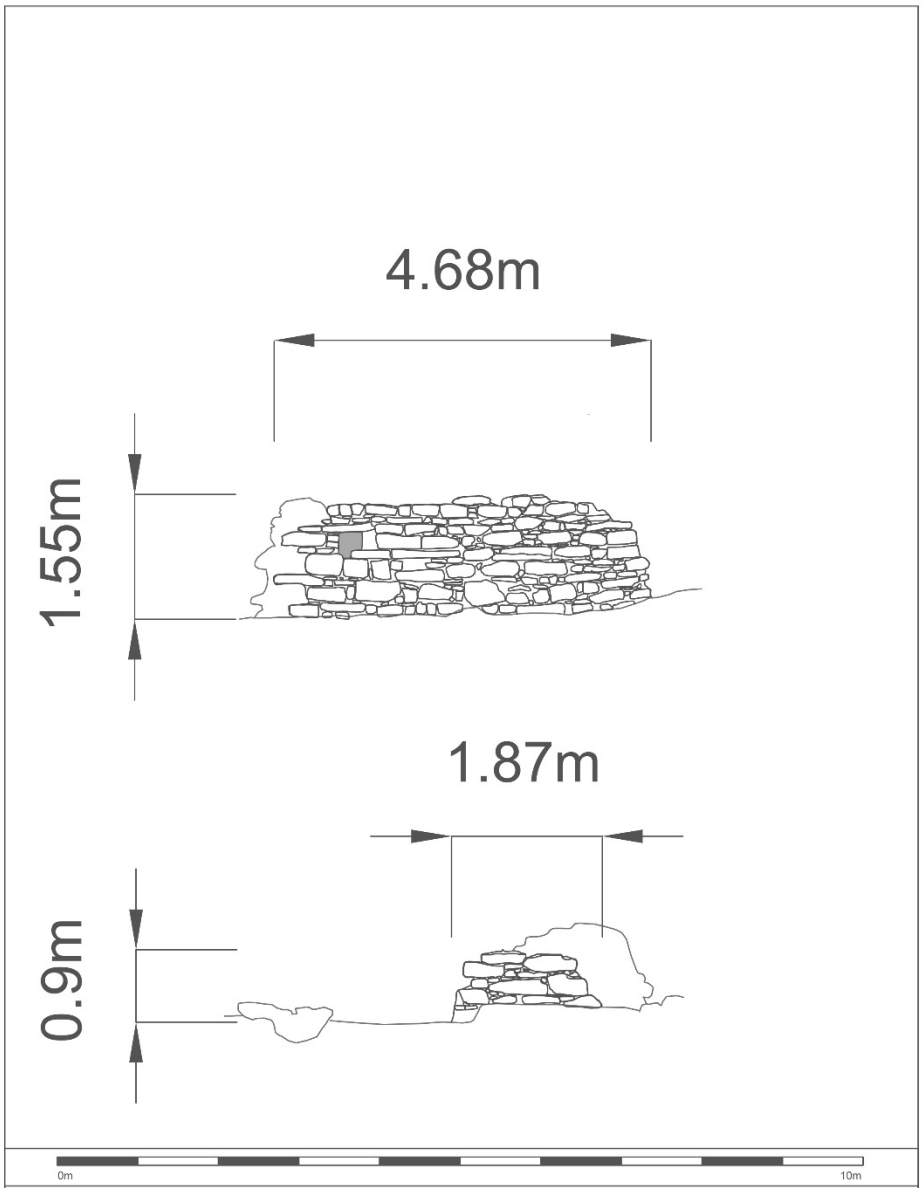

Figure C.12. External elevations of the south-east (top) and north-east (bottom) walls of the collapsed or unfinished signal tower at Lenadoon Point Signal Station. The chute passing through the south-west side of the south-east wall is shaded in grey.

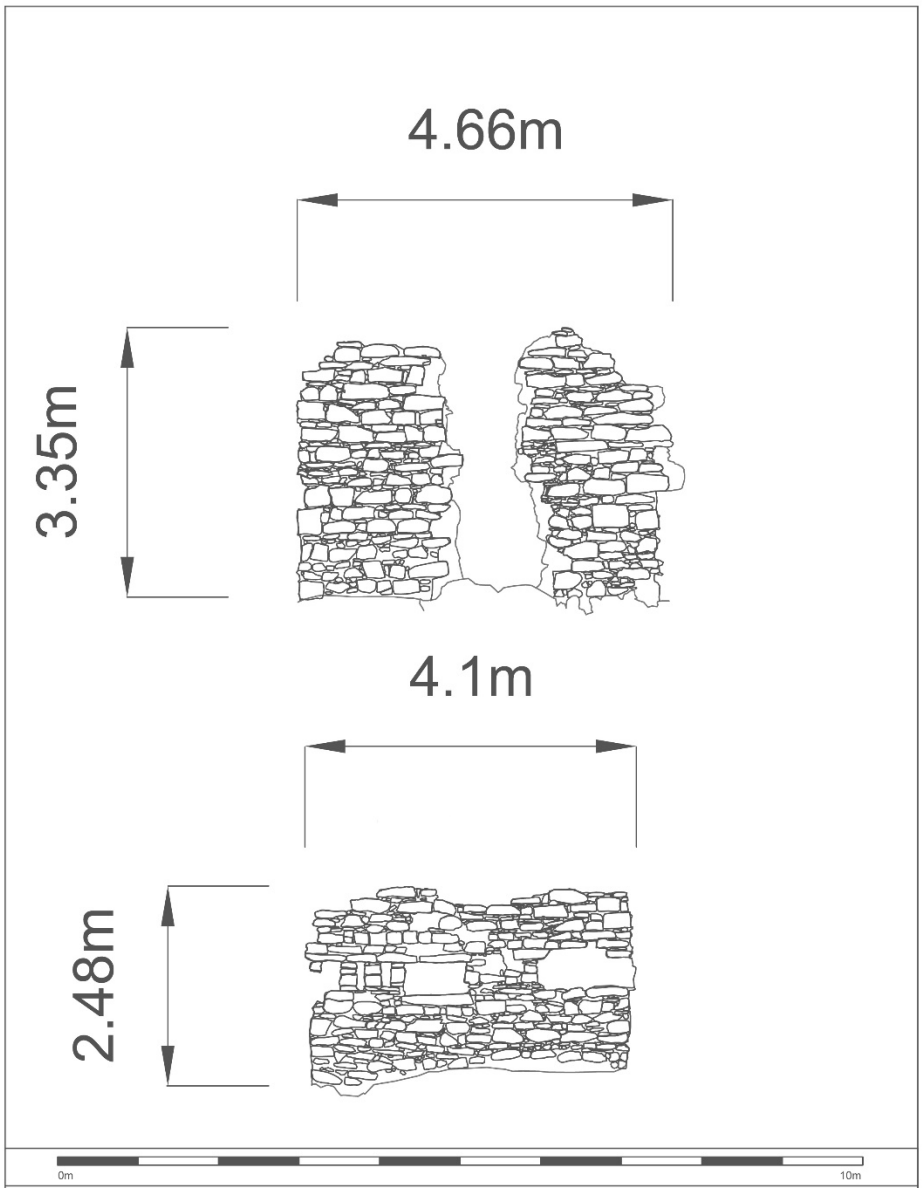

Figure C.13. Internal elevations of the north-west (top) and south-west (bottom) walls of the collapsed or unfinished signal tower at Lenadoon Point Signal Station.

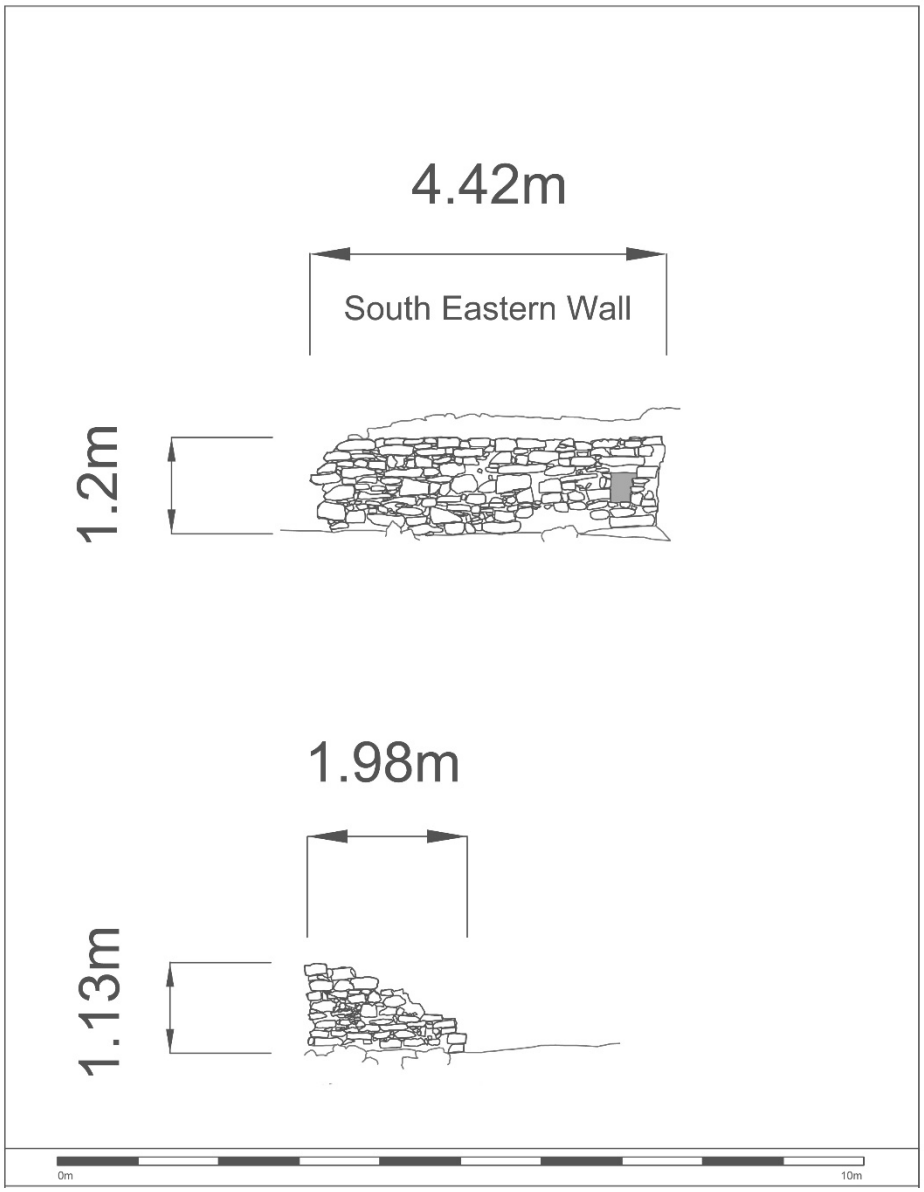

Figure C.14. Internal elevations of the south-east (top) and north-east (bottom) walls of the collapsed or unfinished signal tower at Lenadoon Point Signal Station. The chute passing through the south-west part of the south-east wall is shaded grey.

Number 65. Rathlee Signal Station (532185, 837337).

Full Signal Tower. SMR SL011-025001-. 29 m (95') OD. Surveyed 25 August 2012.

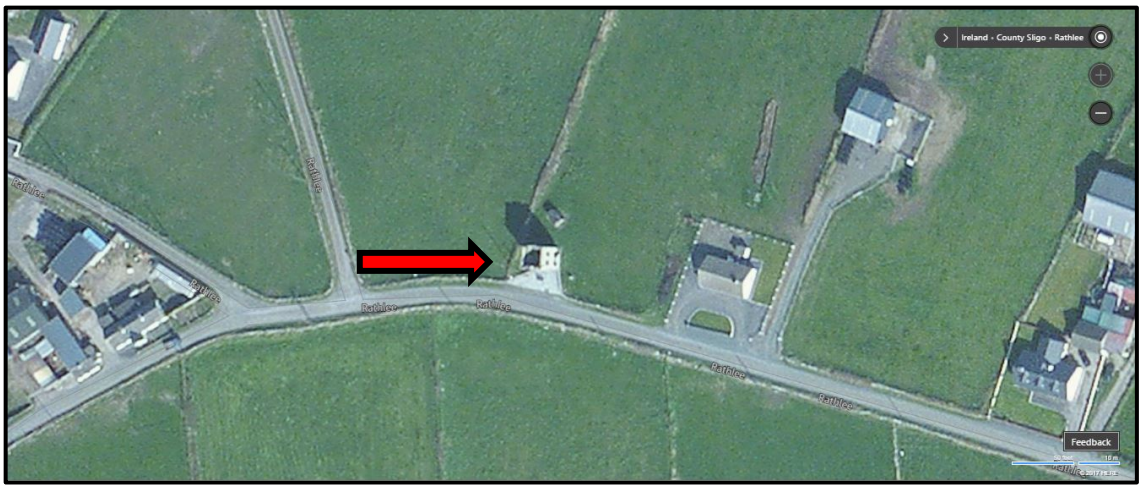

Figure C.15. Aerial photograph showing Rathlee Signal Station, just below the centre of the image (Bing Maps).

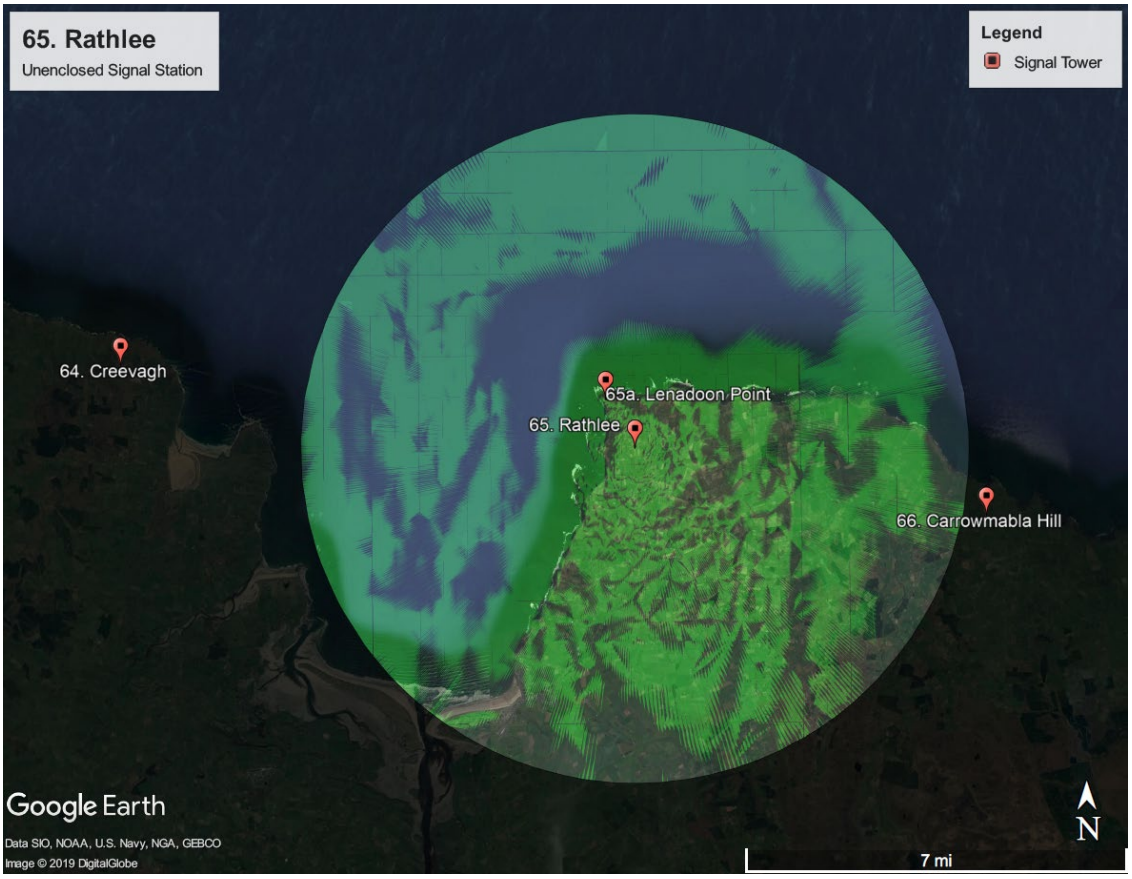

Figure C.16. Viewshed from Rathlee Signal Station (Google Earth Pro).

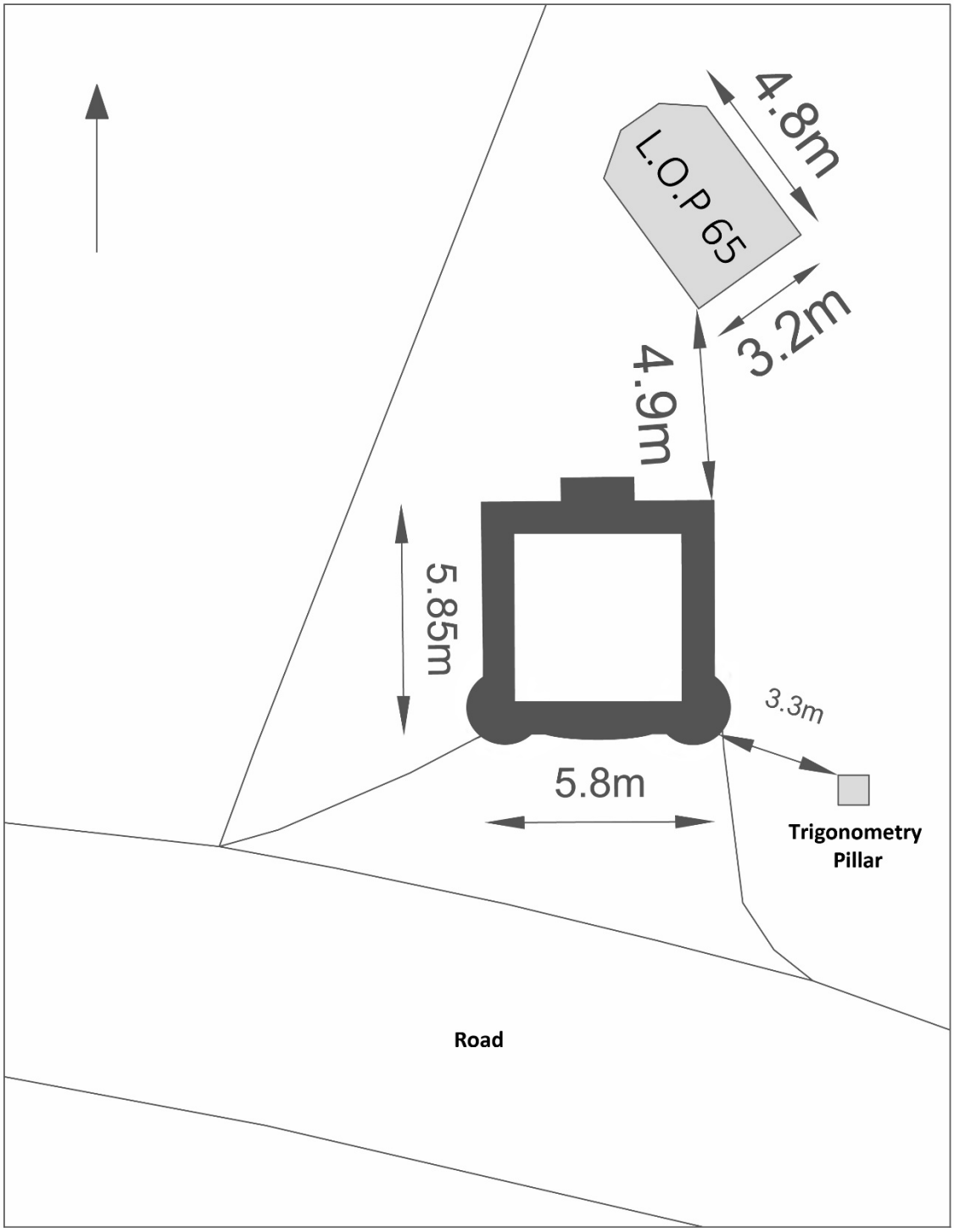

Figure C.17. Plan of Rathlee Signal Station. L.O.P 65 is shown to the north-east of the signal tower and the trigonometry pillar is shown to the south-east of the signal tower.

Description

Located within the dispersed settlement of Rathlee, the unenclosed Rathlee Signal Station was sited next to a minor road in an area of enclosed pasture at 29 m (95') OD. There was a pull in area in front of the signal station, and a small, paved area with a bench was located immediately in front of the signal tower. The site had extensive views in all directions, across the large coastal plane at the north-west corner of County Sligo. The general locations of the adjacent signal stations, the demolished site of Creevagh Signal Station to the west, and the well-preserved Carrowmabla Signal Station to the east, were easily identifiable from the site. The signal tower at Carrowmabla Signal Station was obscured by trees. The remains of the incomplete signal tower at Lenadoon Point Signal Station to the north were too low to be observed from ground level. From Lenadoon Point Signal Station, the top of the signal tower at Rathlee Signal Station was visible, suggesting that the signal tower at Lenadoon Point would be visible from the top of the signal tower at Rathlee Signal Station.

The signal station consisted of a well-preserved signal tower. The signal tower was positioned with its walls facing to the north, east, south and west respectively. A well-preserved Look Out Post (L.O.P. 65) was located to the immediate north of the signal tower. A concrete trigonometry pillar was located to the immediate east of the signal tower. The NMS state that a lime kiln was located in a bank 15 m to the north of the signal tower (SL011-025001-), although this was not identified during the survey; the presence of an electrified fence prohibited more intensive investigation.

The signal tower measured 5.8 m (19') across externally and 4.28 m (14') across internally. It had pairs of windows on the ground floor and first floor of the east and west walls. The first floor windows retained dressed stone surrounds. Square holes were visible on either side of both the ground floor and first floor windows, cut into the splayed sides. The holes are thought to have held large horizontal bars of some sort. The northern ground floor window on the west wall had been crudely opened up to permit ground level access to the structure. The opening had spread northwards and the north-east corner of the building was missing from ground level up until the height of the top of the window opening, a situation that will have weakened the structure.

The north wall, facing the sea, featured the first floor doorway which had an intact dressed stone surround. Square holes were visible on either side of doorway, cut into the splayed sides. The holes are thought to have held a large horizontal bar of some sort. A narrow but well-preserved rectangular machicolation was present above the doorway, supported by five small corbels. A row of four, square holes ran across the wall, below the base of the doorway. The holes could indicate a light timber framed building had abutted this side of the structure at some point. The two holes in the middle of the wall were set slightly lower than the outer two holes, and they passed through the wall, suggesting they had a different function than the outer two holes which did not penetrate the whole width of the wall.

The south wall bowed slightly outwards to house the flue of the chimney. A rare example of an intact chimney stack extended from the top of the south wall. There were numerous holes in the south wall, distributed without an obvious pattern. They resembled putlog holes, but they may have had a different cause. Two of the holes passed clear through the wall and mirrored the position of the two central holes on the north wall. Fine curved bartizans were located on the south-east and south-west corners of the tower. There were no surviving coping stones on top of the walls. The northern, western and eastern walls feature extensive areas of render. The dressed stones used in the signal tower were a mid-grey coarse-grained stone, possibly limestone. The walls of the signal tower were constructed of dark-grey coarse-grained stone, possibly limestone.

Two stone plaques and an unusual cut stone feature had been added to the south wall. In the centre of the south wall there was a grey stone sign that read “Rathlee Signalling Tower. In memory of those who worked here and all who perished at sea. 2nd July 2006.” To the right of this was an older white stone sign that read “Ruin of O’Dowd castle *Lochtar Rath* a seat of Kings of *Tirerach*.” To the right of the white sign there was a large dressed stone block incorporated into the body of the wall. The stone block featured a small square hole in its centre. Inside the hole there was a heavy metal sphere that appeared to be a small cannon ball, secured in place by a solidly anchored horizontal metal bar. The words “Castle Cannon Ball” were faintly visible on the stone

block, above the central hole. It is not thought that any of the signal station sites were ever equipped with cannon, so the origin of this object is intriguing.

Inside the tower the arrangement of features largely followed the standard design. The top of the semi-basement level was only exposed at the north-west corner of the signal tower. The interior walls of the ground floor and first floor levels featured large areas of preserved render. Slots with joist holes for the ground floor and the first floor were present on the east and west walls. Corresponding gaps were present in the render on the north and south walls. There were no slots at the attic level, but the wall had an instep above which was the parapet wall. Rows of joist holes were visible at the base of the parapet wall, at the east and west sides, indicating the position of the roof.

The rear wall at the south featured the standard pattern of central fireplaces with flanking alcoves on both the ground floor and the first floor. The ground floor alcoves retained thick layers of render. In the west alcove the impression of four thick shelves were visible in the render. In the east alcove the impression of two shelves were visible at the top of the alcove. A stone seat with a curved back protruding into the body of the wall occupied the lower part of the east alcove. There was no vertical drainage channel on or adjacent to the rear southern wall.

The sets of square holes that passed through the central part of the northern and southern walls were approximately 0.24 m (10'') across and were set 1.22 m (4') apart. Their bases were approximately 1.65 m (5'5'') above the position of the ground floor. The purpose of these holes remains unclear. On both the north and south walls two tall narrow joist holes were located immediately above and slightly closer to the centre of the walls than the square holes. Ragged slightly downwards sloping gaps in the render connected these joist holes to the edges of their respective walls. On both walls the distance between the joist holes was approximately 0.9 m (3'). This arrangement seemed to represent the presence of a split mezzanine level as seen at other towers, but it was unclear why the mezzanine platforms would slope downwards into the interior, or how they were supported at the corners and along the east and west walls.

Figure C.18. View of the south-west corner of the signal tower at Rathlee Signal Station.

Figure C.19. View of the south-east corner of the signal tower at Rathlee Signal Station, with the trigonometry pillar in the fore ground and L.O.P. 65 in the background, to the right of the signal tower.

Figure C.20. The lower part of the external face of the north wall of the signal tower at Rathlee Signal Station. The bottom of the door can be seen, above the uneven row of four holes penetrating into or passing through the body of the wall. The damaged north-east corner can be seen at the left.

Figure C.21. The lower part of the internal face of the north wall of the signal tower at Rathlee Signal Tower. The gap in the render for the ground floor, the two square holes passing through the wall and the sloping gaps in the render connecting to the narrowly spaced joist holes that may have held the split mezzanine levels can be seen.

Figure C.22. The east alcove in the ground floor level of the internal south wall face showing the impression of four shelves in the render.

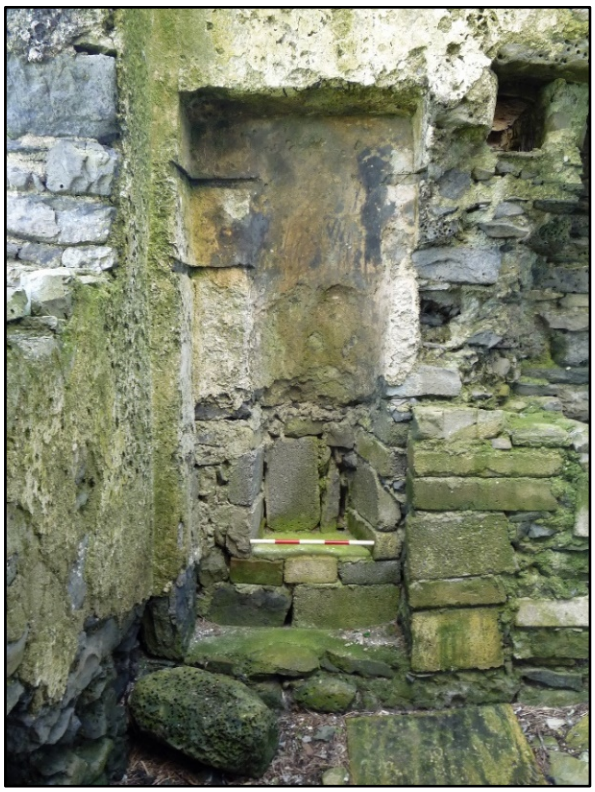

Figure C.23. The west alcove at ground floor level of the internal south wall face, showing the impression of two shelves in the render and the curved seat built into the bottom of the alcove.

Figure C.24. Interior detail of the north first floor window on the east wall.

Figure C.25. Interior detail of the door on the north wall, showing the impression of the first floor and parapet level roof, above which is the entrance to the machicolation over the door.

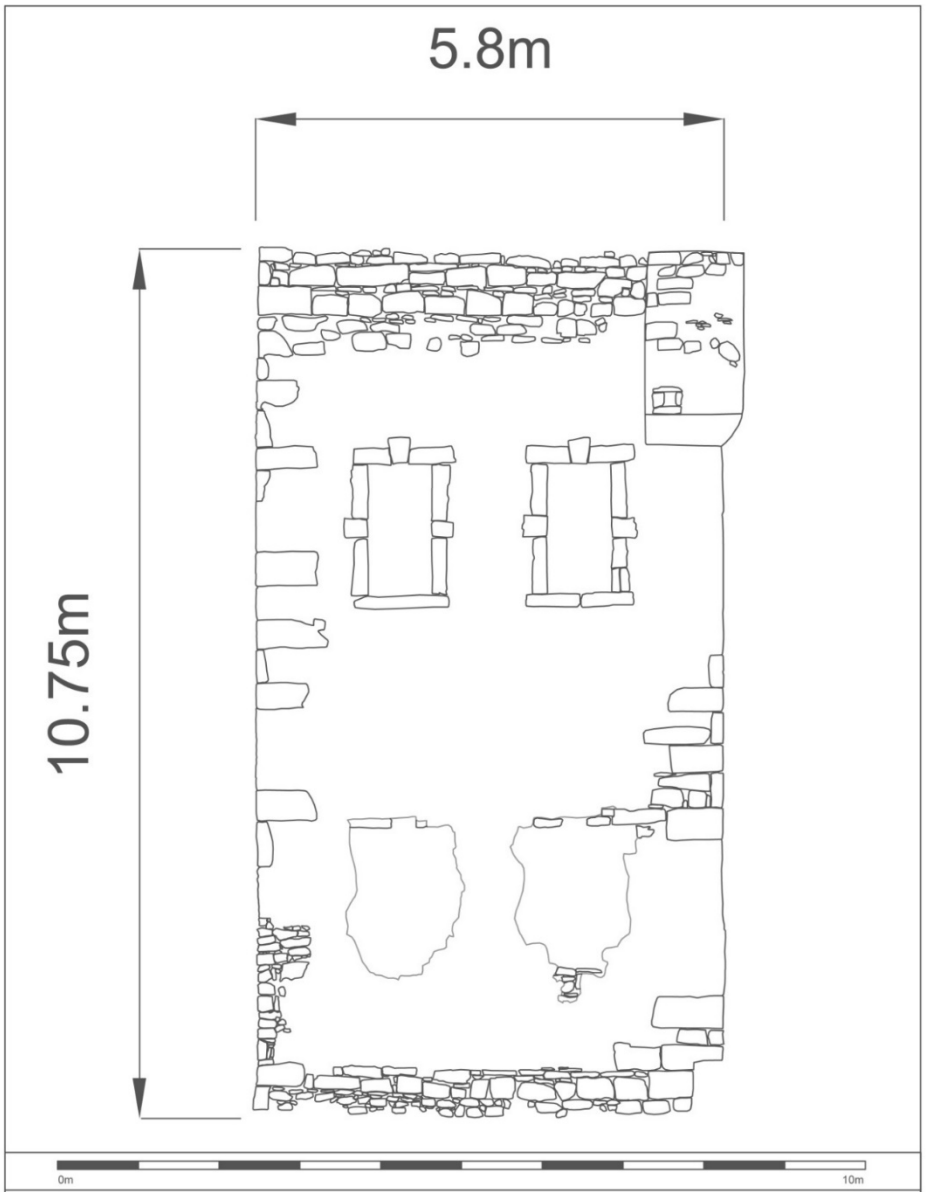

Figure C.26. External elevation of the west wall of the signal tower at Rathlee Signal Station.

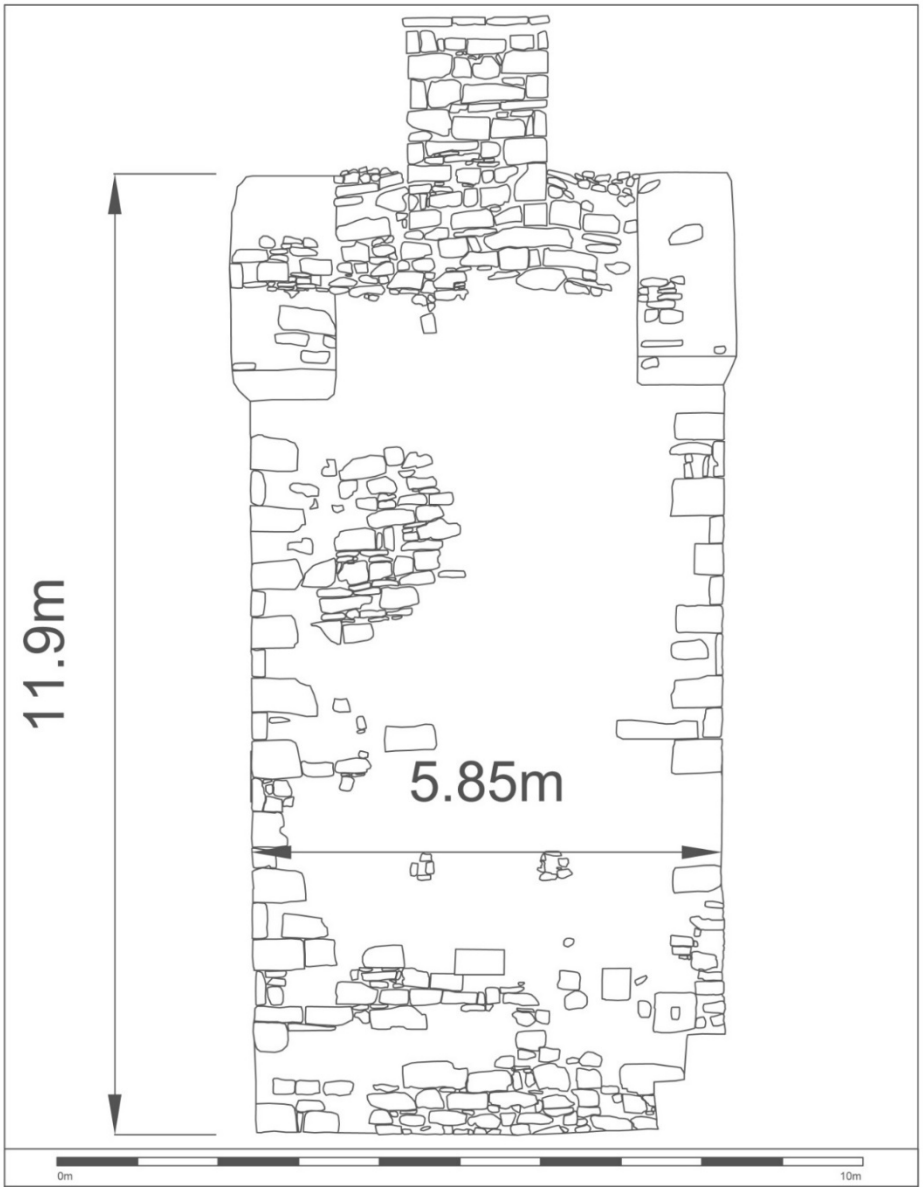

Figure C.27. External elevation of the south wall of the signal tower at Rathlee Signal Station.

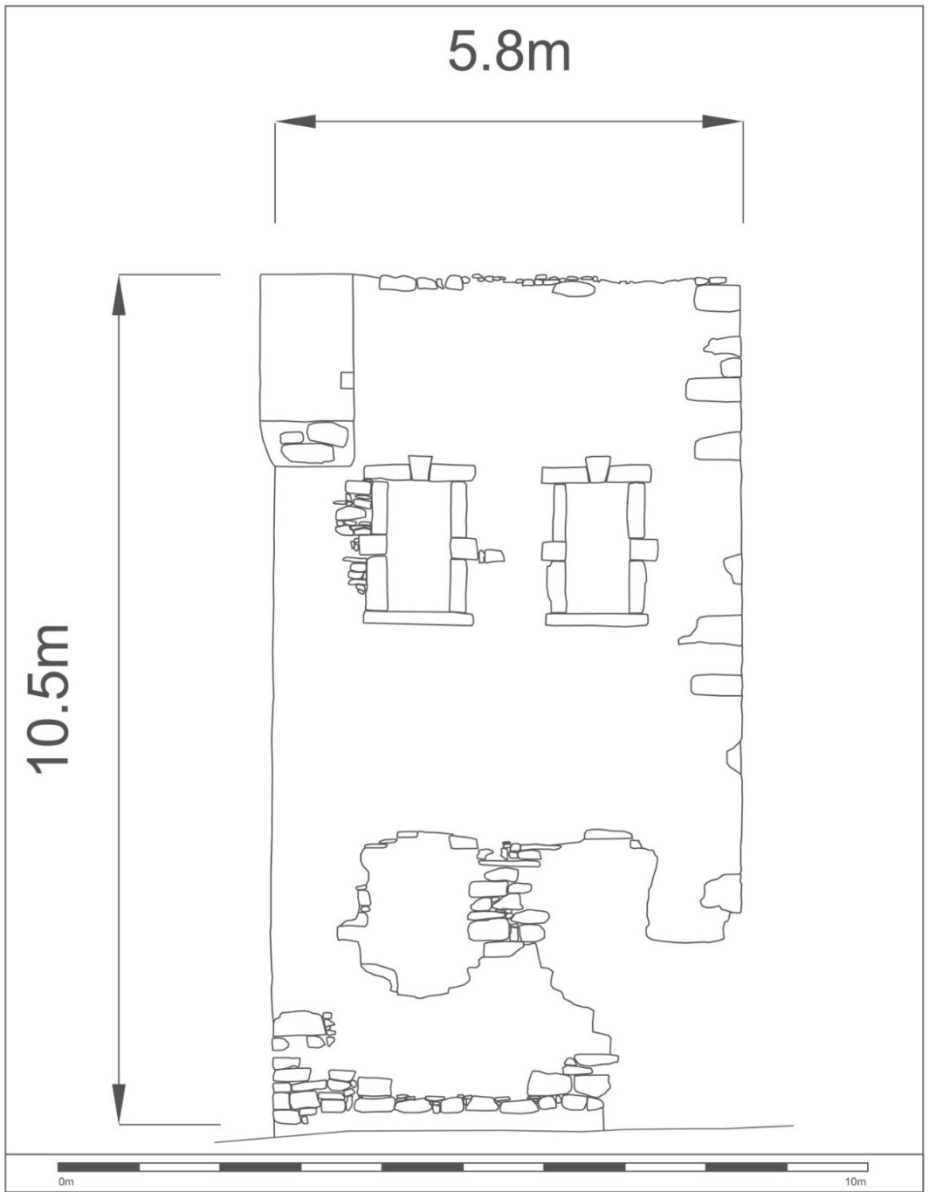

Figure C.28. External elevation of the east wall of the signal station at Rathlee Signal Station.

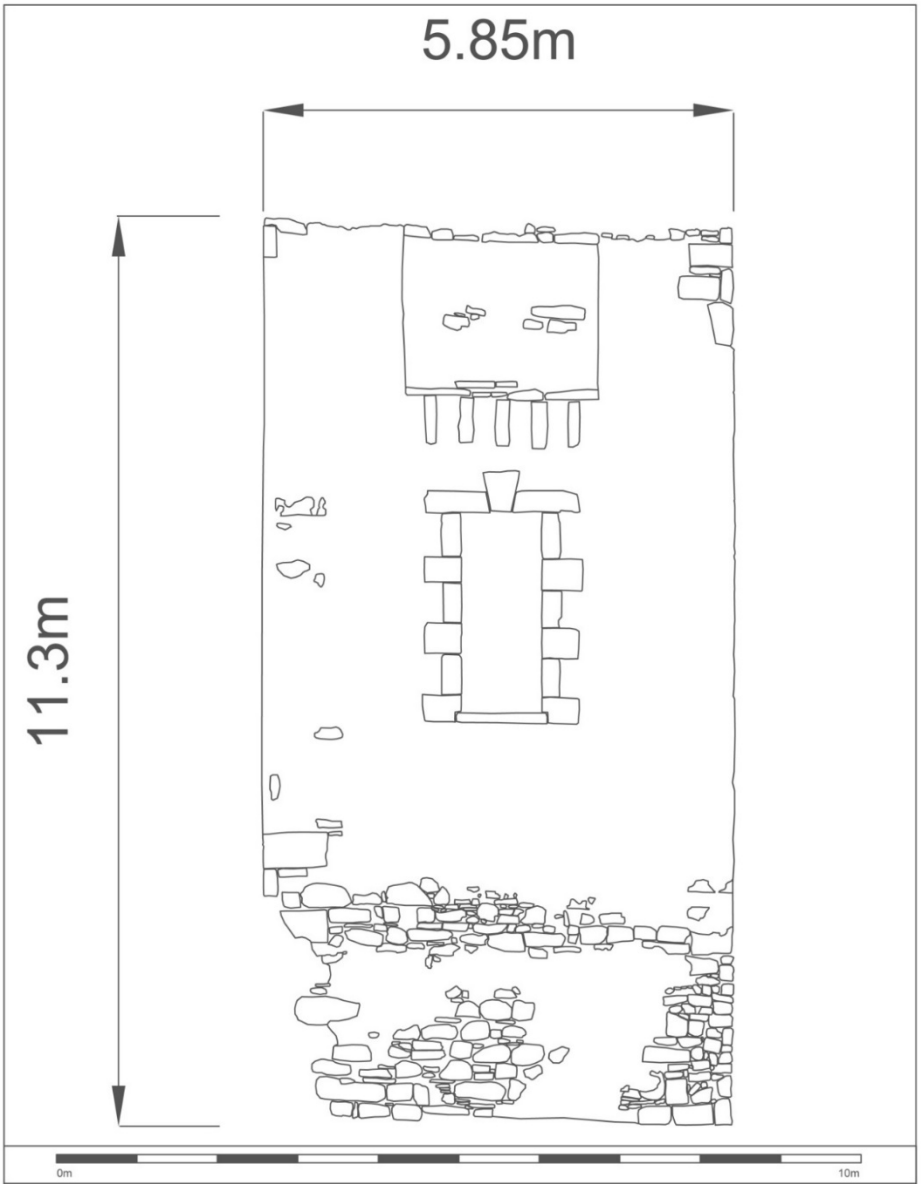

Figure C.29. External elevation of the north wall of the signal tower at Rathlee Signal Station.

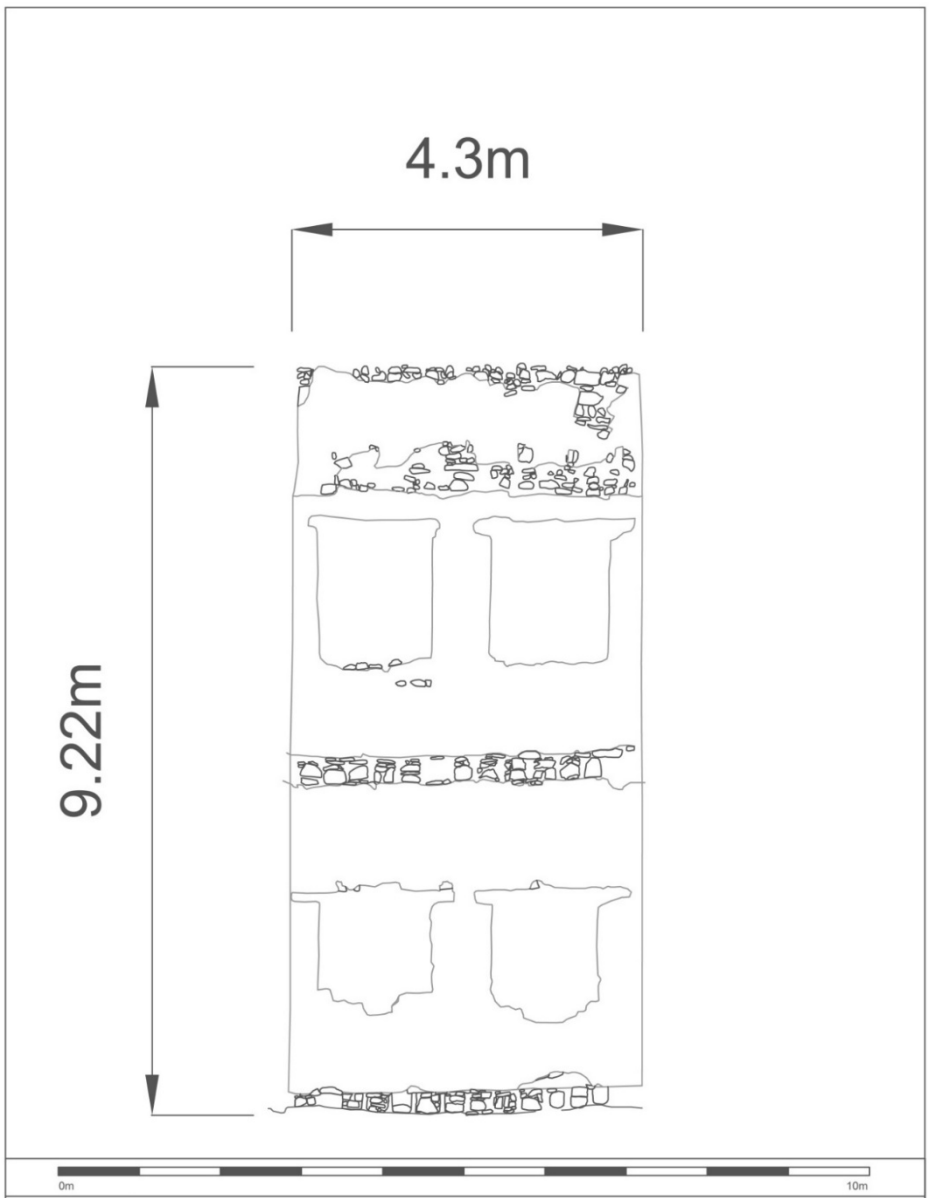

Figure C.30. Internal elevation of the west wall of the signal tower at Rathlee Signal Station.

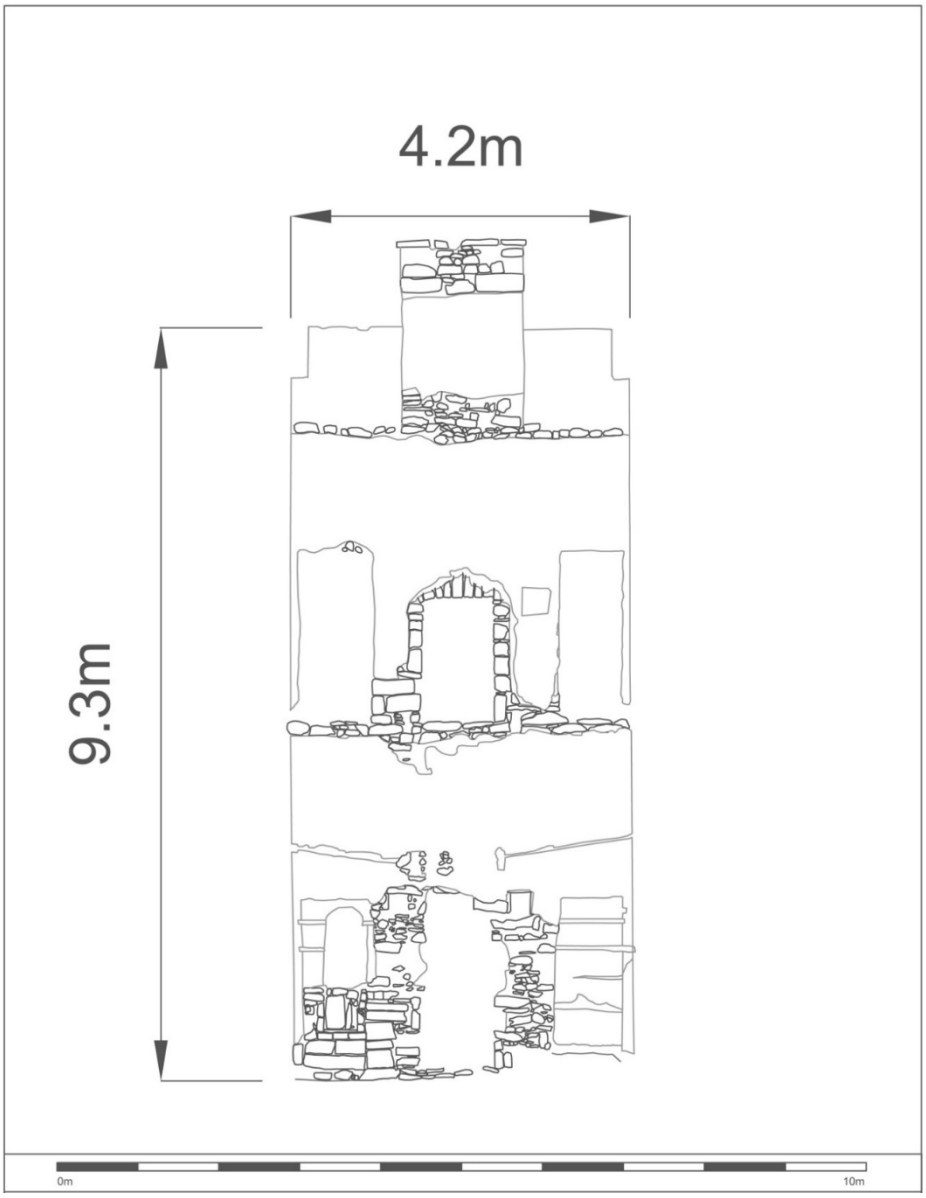

Figure C.31. Internal elevation of the south wall of the signal tower at Rathlee Signal Station.

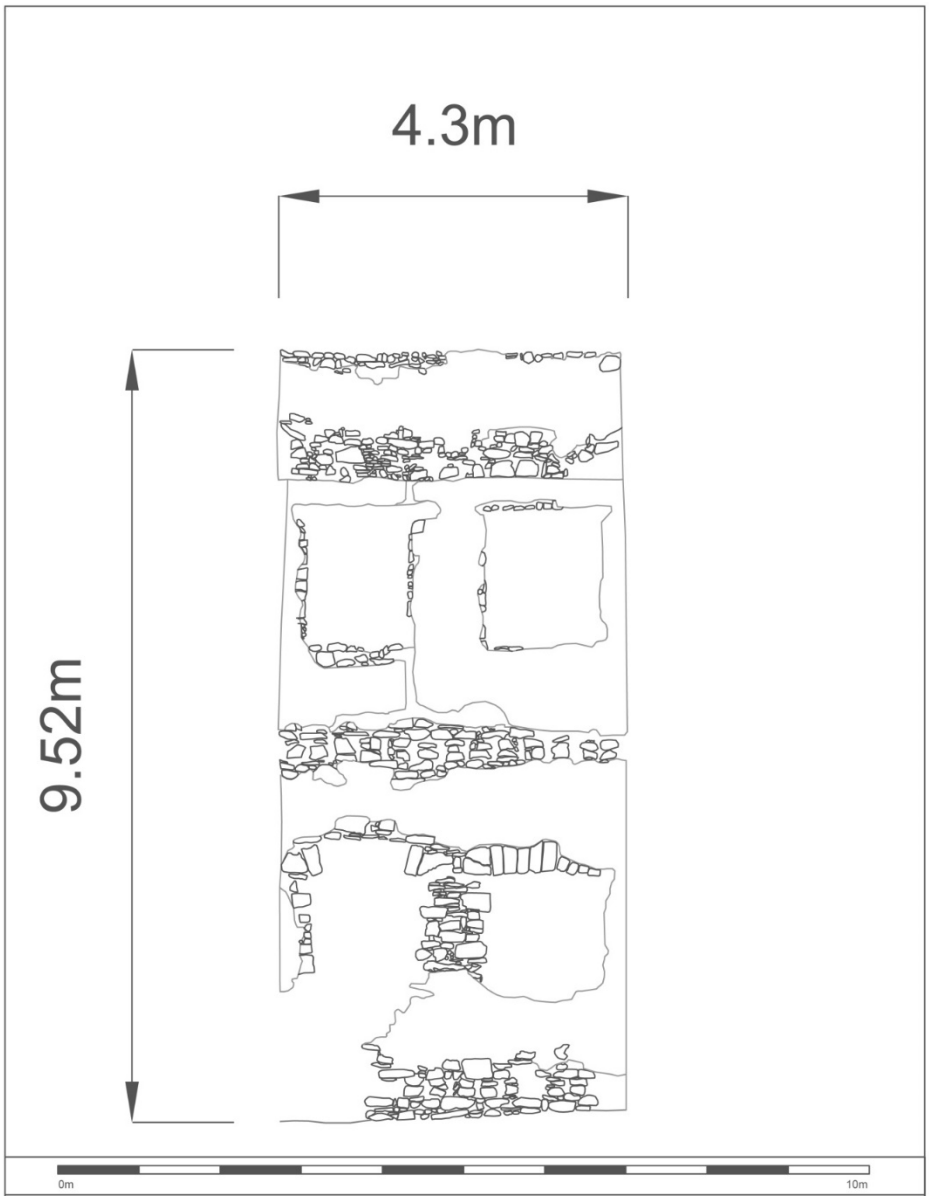

Figure C.32. Internal elevation of the east wall of signal tower at Rathlee Signal Station.

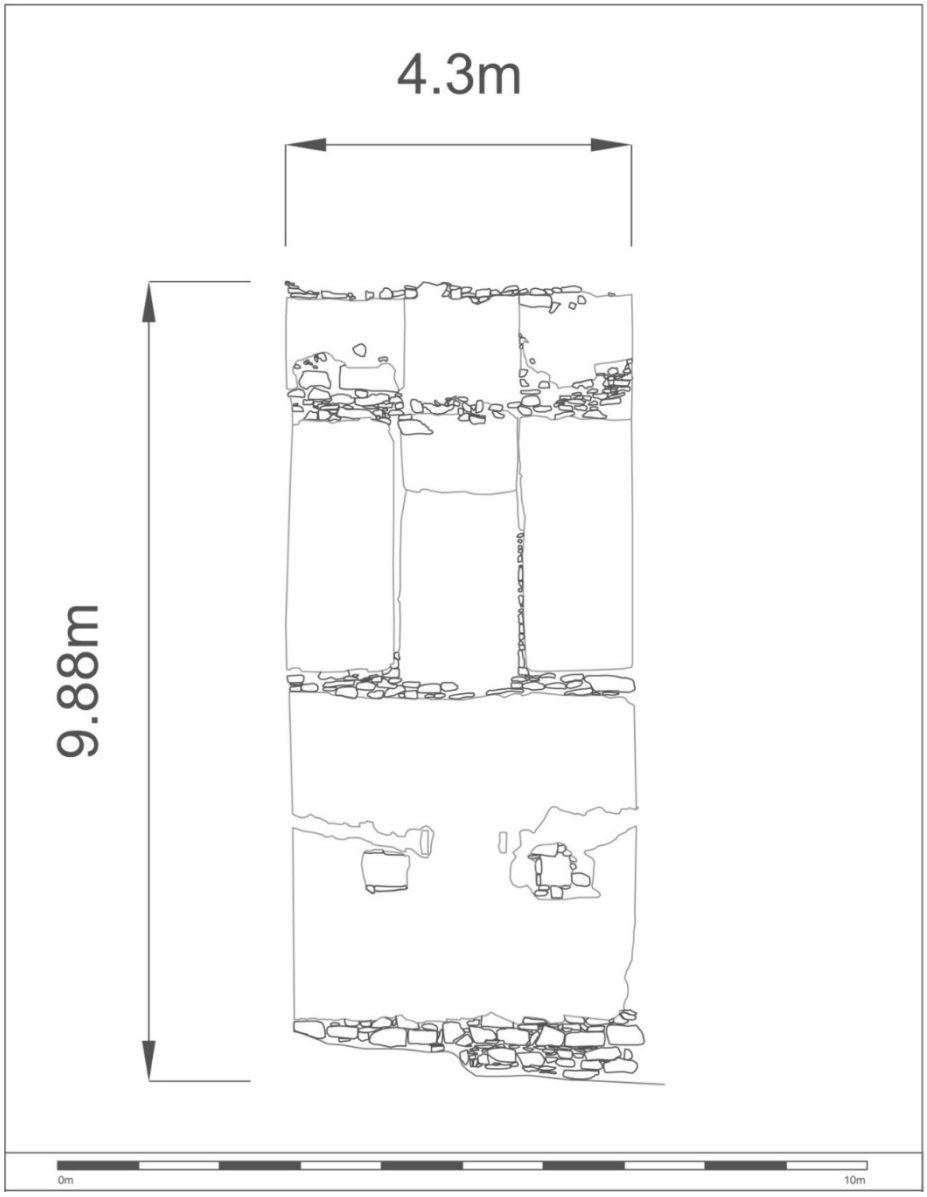

Figure C.33. Internal elevation of the north wall of signal tower at Rathlee Signal Station.

Number 66. Carrowmably Signal Station (542668, 835073).

Full signal tower. SMR SL012-008003-/Reg. No. 32401201. 83 m (272') OD. Surveyed 25 August 2012. Historical Name: Carrowmabla Hill Signal Station.

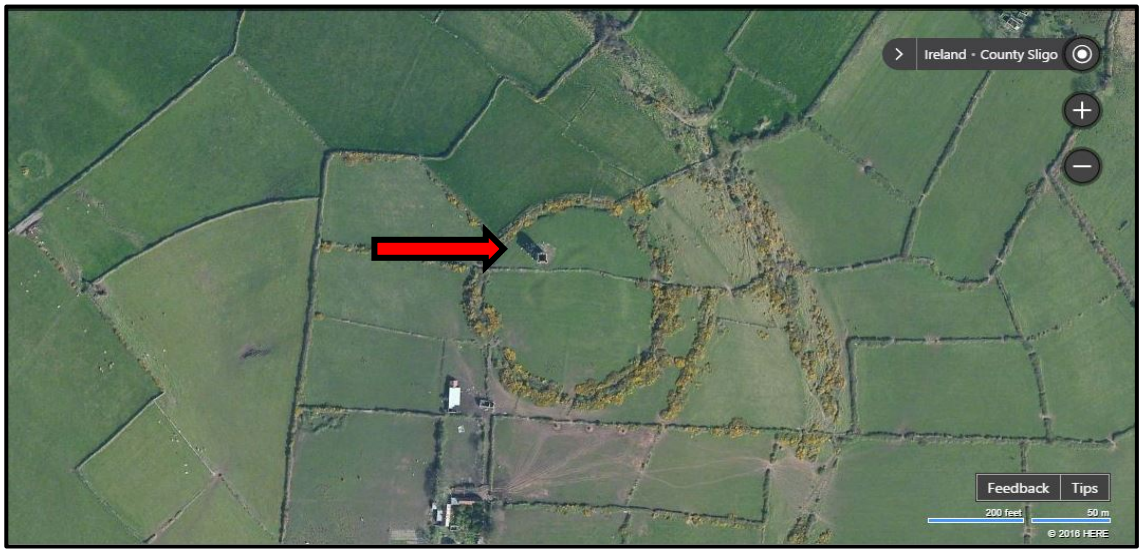

Figure C.34. Aerial photograph showing Carrowmably Signal Station, in the north-west of the possible prehistoric enclosure (Bing Maps).

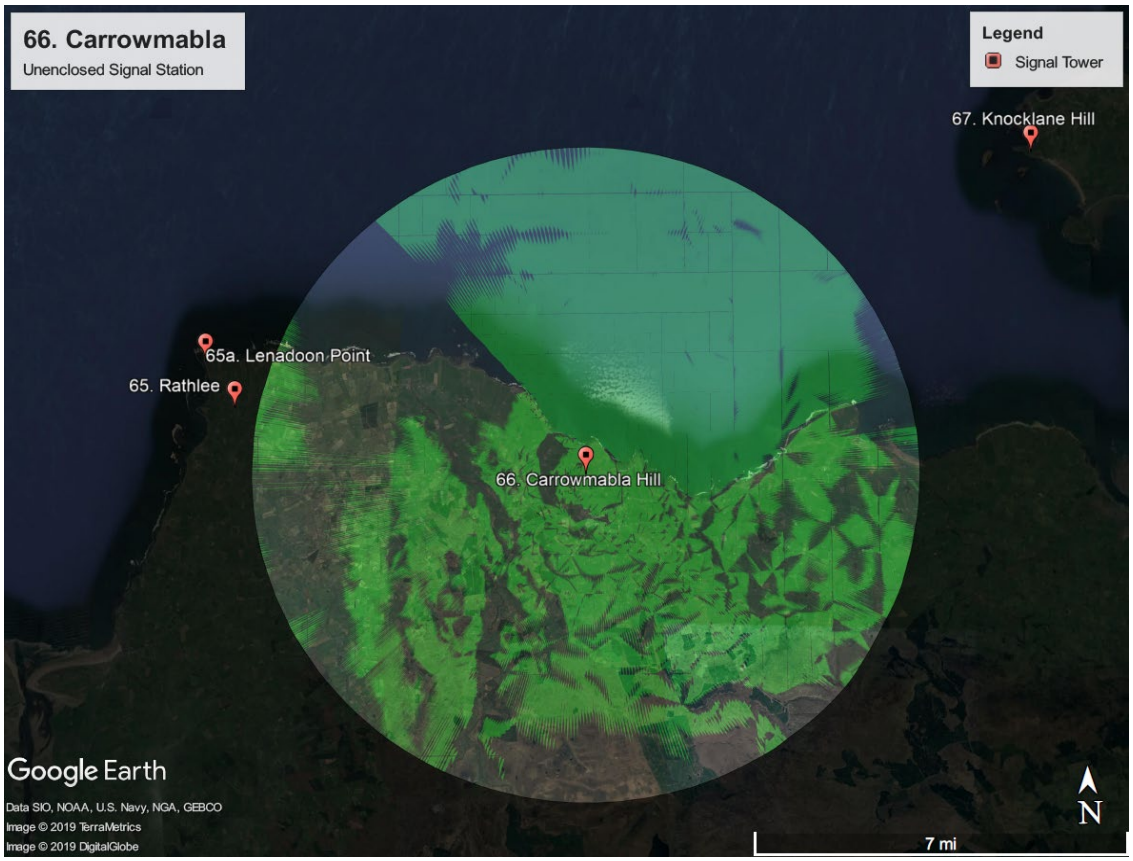

Figure C.35. Viewshed from Carrowmably Signal Station (Google Earth Pro).

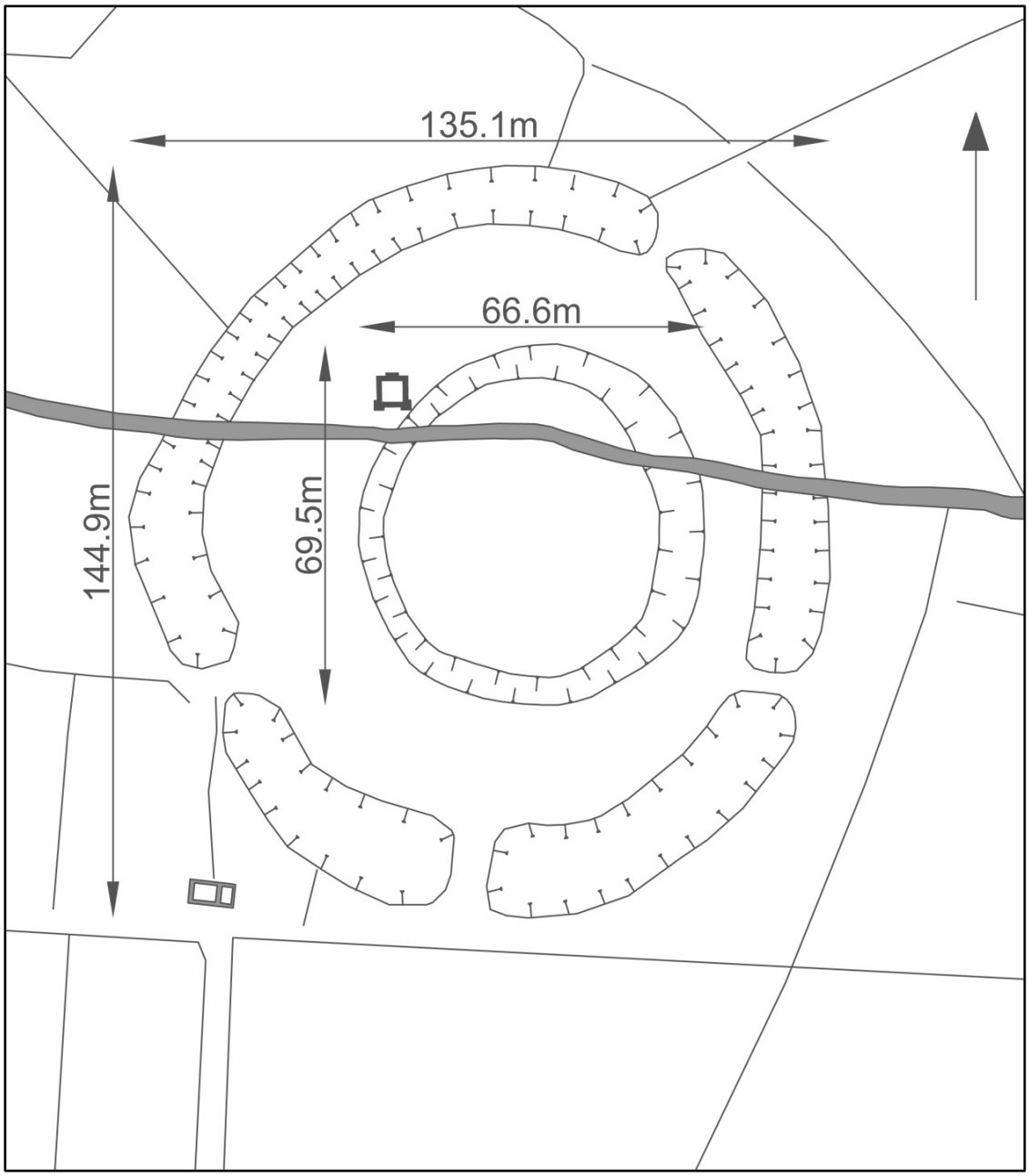

Figure C.36. Plan of Carrowmably Signal Station, showing the signal tower inside the large possible prehistoric enclosure.

Description

The signal station at Carrowmably was located on raised ground at 83 m (272') OD, overlooking a low coastal plain to the north. A steep curving slope was located 140 m (153 yards) east of the site and 200 m (220 yards) to the north, leading down to the coastal plain. The signal station was located within a large oval enclosure (SL012-008001-) defined by a large earthen bank with an internal ditch. The enclosure has been identified as being either a Bronze Age Hillfort or a Neolithic hengiform enclosure (Kelly 2018). Within the large enclosure there was a smaller sub-circular ditched enclosure (SL012-008002-) suspected to be an early medieval enclosure. This was the only example in the main study area where a signal station was set within an existing enclosure. A mortared stone wall ran from east to west across the enclosure, dividing off the signal station and the northern third of the enclosure from the southern two thirds. The wall was an element of the enclosed landscape in which the signal station was set. The signal station was approached via a road that leads north through the dispersed settlement of Carrowmably.

The signal station was located immediately to the north-west of the internal enclosure and consisted of a very well-preserved signal tower. The site had extensive views in all directions, although neither of the adjacent signal towers could be seen during the survey. The signal tower at Rathlee Signal Station to the west was obscured by trees. To the north-east the position of Knocklane Hill Signal Station was clearly visible, but the low ruin of the signal tower could not be identified.

The signal tower was extremely well-preserved, surviving to its full height. The north wall was the tallest at 11.25 m (36'11'') with the other sides being slightly shorter, reflecting the slight slopes that were present around the tower. The walls faced north, east, south, and west respectively. The building was between 5.85 m (19'2'') and 5.95 m (19'6'') wide externally, and between 4.31 m (14'2'') and 4.52 m (14'10'') wide internally. It had a first floor doorway on the northern, seaward side, which retained its dressed stone surround. The door was protected by a wide machicolation supported by three sloping stone corbels and with two fine stone slabs providing the floor. The wall of the machicolation featured three narrow vertical holes, one in the centre of the wide north wall face, and one in the centre of each of the narrow side wall faces. These features were tentatively identified as gun-loops, a feature not observed at any of the

other signal towers in the main study area, although known from contemporary illustrations of the signal towers at Fanad Head and Malin Head Signal Staions, County Donegal (D.80 & D.81). The gun-loop on the north wall of the machicolation faced outwards, but the gun-loops on the sides of the machicolation faced along the north wall.

The east and west walls each featured two ground floor windows and two first floor windows. The windows all retained their dressed stone surrounds, apart from the northern ground floor window on the east wall. That window had been opened up into a ragged ground floor entrance to allow ground level access to the building. The side stones of the surviving ground floor windows each featured a row of three shallow circular holes which suggested each ground floor window was protected by three horizontal metal bars. The northern first floor windows on both the east and west walls had been blocked with neat stonework, clearly an adaptation made whilst the signal tower was still in use. Square holes were visible on either side of the ground floor and first floor windows, cut into the splayed sides. The holes are thought to have held large horizontal bars of some sort.

The south wall featured a slight outward bulge that housed the chimney flue. Only a single stone belonging to the chimney stack could be seen from outside the building indicating it had lost some height over time. A small horizontal rectangular chute passed through the east side of the wall at ground level, connecting to the top of the semi-basement level.

The south-east and south-west corners of the signal tower were protected by large bartizans supported by three sloping stone corbels, with two large stone slabs providing the floor of each bartizan. The bartizans projected straight out from the wall and feature sharp curving corners on the diagonal points. The bartizans featured narrow vertical slots on each of their four sides, placed in the centre of each of the long walls facing outwards, and in the centre of each of the narrow walls. The slots are again tentatively identified as gun-loops, designed to protect the south, east and west walls of the signal tower.

The exterior walls lacked any intact areas of render. At the top of the parapet level the dressed stone coping stones were largely complete and extended around the bartizans

and the machicolation over the door. The east corner of the machicolation was the only area where any coping stones were absent around the entire circuit. The dressed stones used in the signal tower were a mid-grey fine-grained stone, possibly limestone. The walls of the signal tower were constructed of mid-grey coarse-grained stone, possibly limestone.

The interior of the building was as well-preserved as the exterior allowing the details of the building to be examined in depth. The internal walls were covered in render, which was intact in most areas, although the walls of the largely filled in semi-basement level did not feature render, as noted at many other sites.

The north wall featured slots with joist holes for the ground floor, and for a split mezzanine level between the ground floor and the first floor. Below the first floor doorway there was a horizontal gap in the render indicating the position of the first floor. A vertical channel was present in the render to the west of the doorway, but its purpose could not be determined. A slot with joist holes ran across the wall, a little above the doorway which marked the position of the attic. At the top of the attic level the wall had an instep creating a well-defined ledge, above which was the parapet wall. There was a row of joist holes at the base of the parapet wall, marking the position of the roof timbers. The internal face of the parapet wall did not feature a layer of render.

The east wall featured an un-rendered semi-basement level and the base of the render on the ground floor marked the position of the upper surface of the ground floor. Above the ground floor windows, a gap in the render marked the position of one of the mezzanine floors. A slot with joist holes marked the position of the first floor. A vertical channel in the render ran from the south corner of the north window down to the first floor joists; as with the similar feature on the doorway the purpose of this was unclear. The position of the attic level was marked by a gap in the render. The attic level was rendered. At the top of the attic level the wall had an instep creating a well-defined ledge, above which was the parapet wall. There was a row of joist holes at the base of the parapet wall, marking the position of the roof timbers. The internal face of the parapet wall did not feature a layer of render. At the entrance to the south-east bartizan there was a diagonal stone slab resting on the ledge at the base of the parapet wall. Each of the three surviving windows featured a square hole in the middle of each side

of the splayed window openings, suggesting the use of a horizontal bar of some sort. A square sectioned vertical drainage channel ran down the southern edge of the east wall.

The west wall almost exactly mirrored the arrangement of the east wall but lacked the vertical channel in the render leading down from the north first floor window. On the ground floor wall, under the northern window, there was a rectangular hole that led into a square section channel that ran vertically down through the body of the wall. The probable drain was blocked at roughly the current ground level and it is not known if the feature exited internally or externally.

The south wall featured the usual pattern of central fireplaces with flanking alcoves. The semi-basement level was un-rendered. The chute which passed through the south wall opened up into the semi-basement level, below the position of the eastern ground floor alcove. The slot for the ground floor timbers divided the semi-basement form the ground floor. It was missing most of the stone blocks that would have separated individual joist holes. All but one of the dressed stone surrounds of the ground floor fireplace had been removed. The ground floor alcoves were rendered but there were no impressions of shelves. The tops of the alcoves were arched. Above the alcoves there were the joist holes of the split mezzanine level. The position of the first floor was marked by a gap in the render, and there were two joist holes at that height on either side of the base of the first floor fireplace. The first floor fireplace was small and lacked a dressed stone surround. The alcoves were rendered but lacked any impressions of shelves, and the tops were horizontal rather than arched. Above the alcoves the position of the attic was marked by a slot with joist holes. The attic level was rendered. At the top of the attic level the wall had an instep creating a well-defined ledge, above which was the parapet wall with a row of joist holes at the base, marking the position of the roof timbers. The internal face of the parapet wall did not feature a layer of render. A short portion of a centrally placed chimney stack was present at the top of the parapet wall.

Figure C.37. The south-west corner of the signal tower at Carrowmably Signal Station.

Figure C.38. The south-east corner of the signal tower at Carrowmably Signal Station.

Figure C.39. The upper portion of the internal wall face of the south wall of the signal tower at Carrowmably Signal Station. The first floor fireplace and flanking alcoves, the attic level slot, the instep at the parapet level, the roof level joist holes, the entrances to the bartizans and the drainage channel running down the southern edge of the east wall can be seen.

Figure C.40. The lower portion of the internal wall face of the south wall of the signal tower at Carrowmably Signal Station. The upper part of the semi-basement level, the chute into the semi-basement level, the ground floor slot, the ground floor central fireplace flanked by alcoves, and the joist holes for the split mezzanine level can be seen.

Figure C.41. The upper portion of the internal wall face of the north wall of the signal tower at Carrowmably Signal Station. The position of the first floor, the first floor door, the slot west of the door, the attic level slot, the instep at the parapet level, the parapet joists, and the entrance to the machicolation can all be seen.

Figure C.42. The lower portion of the internal wall face of the north wall of the signal tower at Carrowmably Signal Station. The semi-basement level, the ground floor slot with joist holes, and the joist holes of the split mezzanine level can be seen.

Figure C.43. The upper portion of the internal wall face of the south wall of the signal tower at Carrowmably Signal Station. The slot with joist holes for the first floor, the open south window with square bar hole, the north blocked window with square bar hole and timber frame parts, the attic level slot, the parapet wall, the parapet wall joist holes and the entrance to the south-west bartizan are visible.

Figure C.44. The lower portion of the internal wall face of the south wall of the signal tower at Carrowmably Signal Station. The un-rendered semi basement level, the rectangular hole under the north window and the ground floor windows with square bar holes are visible.

Figure C.45. Exterior detail of the south ground floor window on the east wall, showing the intact stone surround and the three small holes for window bars in the side stone.

Figure C.46. Interior detail of the north ground floor window on the west wall, showing the large holes on the splayed sides of the window which may have held a wide horizontal timber.

Figure C.47. Detail of the chute passing through the south wall into the semi-basement level.

Figure C.48. Detail of the entrance to the south-west bartizan.

Figure C.49. Detail of the machicolation over the door on the south wall of the signal tower at Carrowmably. Note the gun-loop in the centre of the south wall of the machicolation.

Figure C.50. Detail of the bartizan at the signal tower at Carrowmably Signal Station, showing the two outward facing gun-loops.

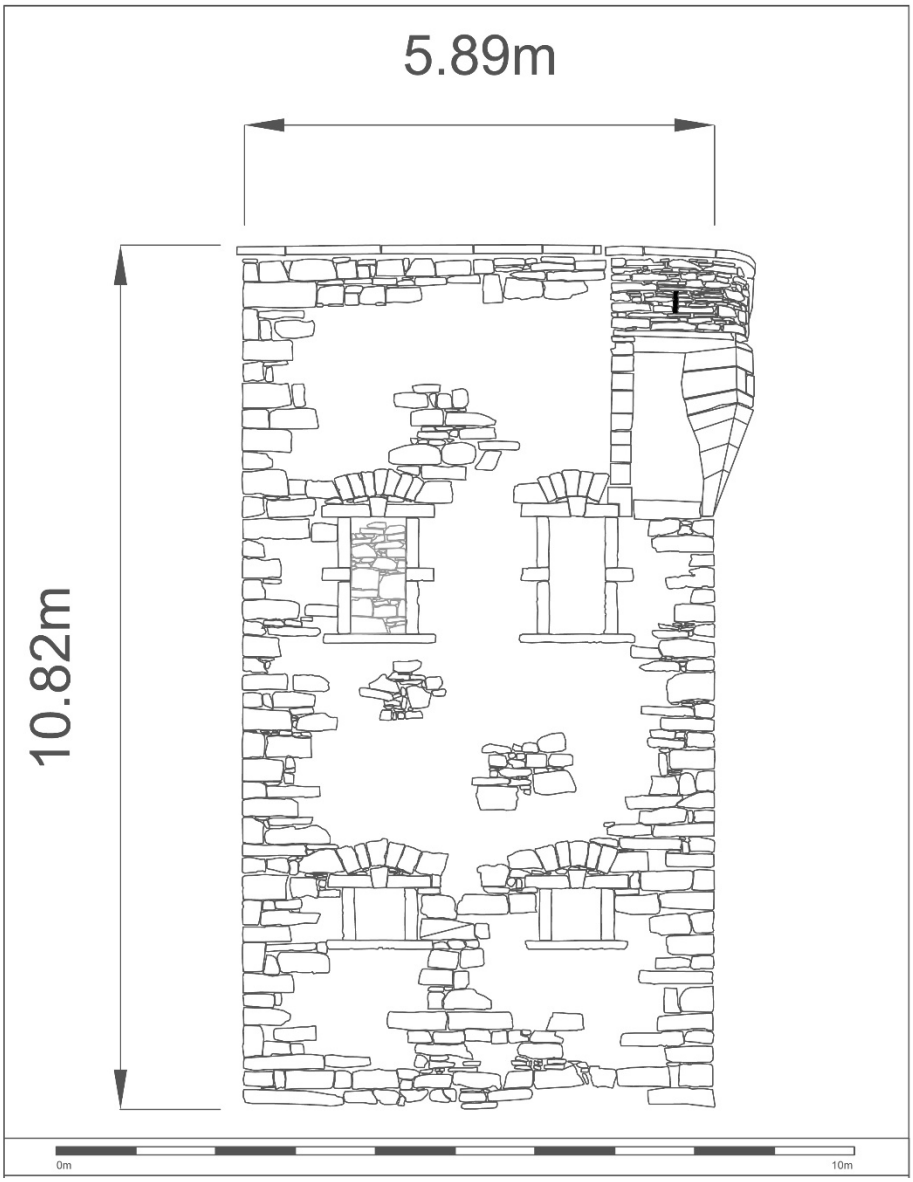

Figure C.51. External elevation of the west wall of the signal tower at Carrowmably Signal Station. The gun-loop on the west side of the south-west bartizan is shaded black.

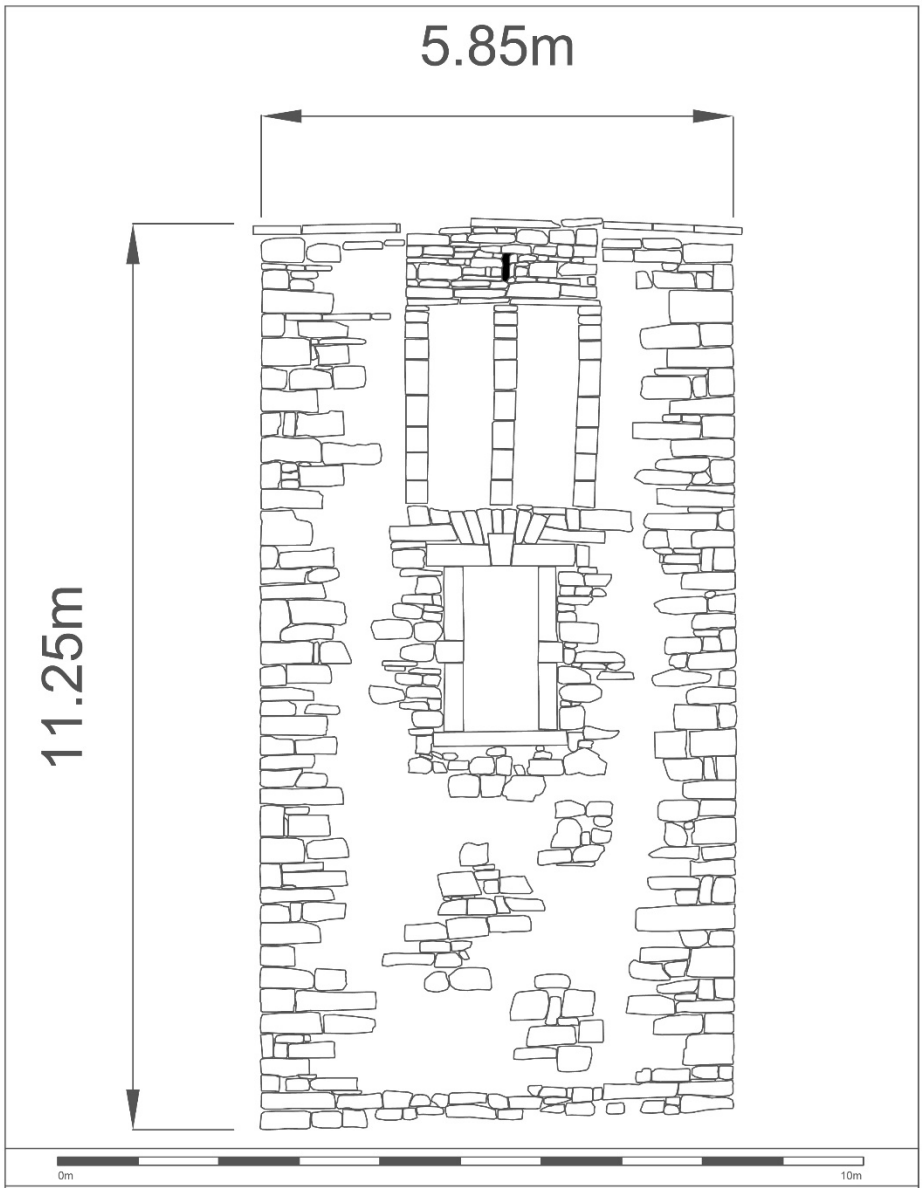

Figure C.52. External elevation of the north wall signal tower at Carrowmably Signal Station. The gun-loop on the machicolation is shaded black.

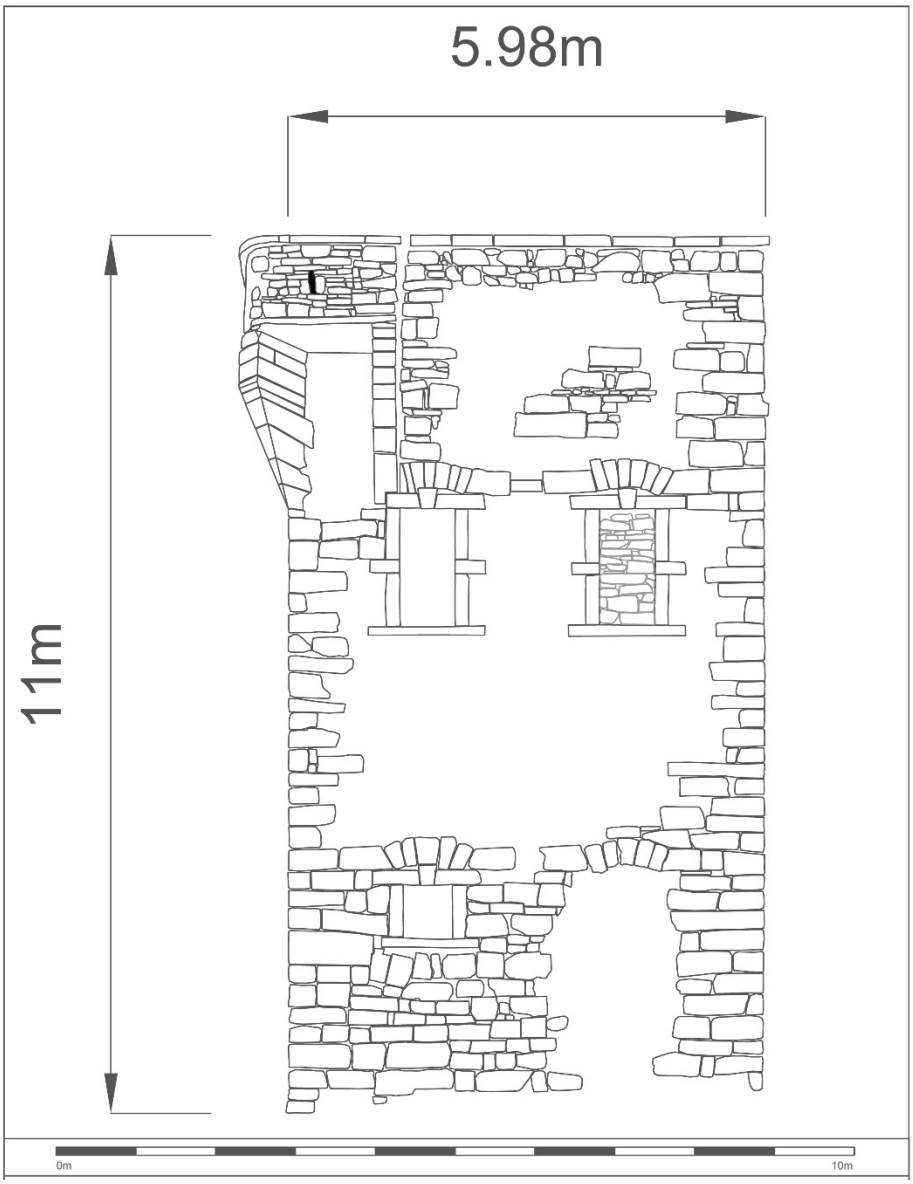

Figure C.53. External elevation of the east wall of the signal tower at Carrowmably Signal Station. The gun-loop on the east wall of the south-east bartizan is shaded black.

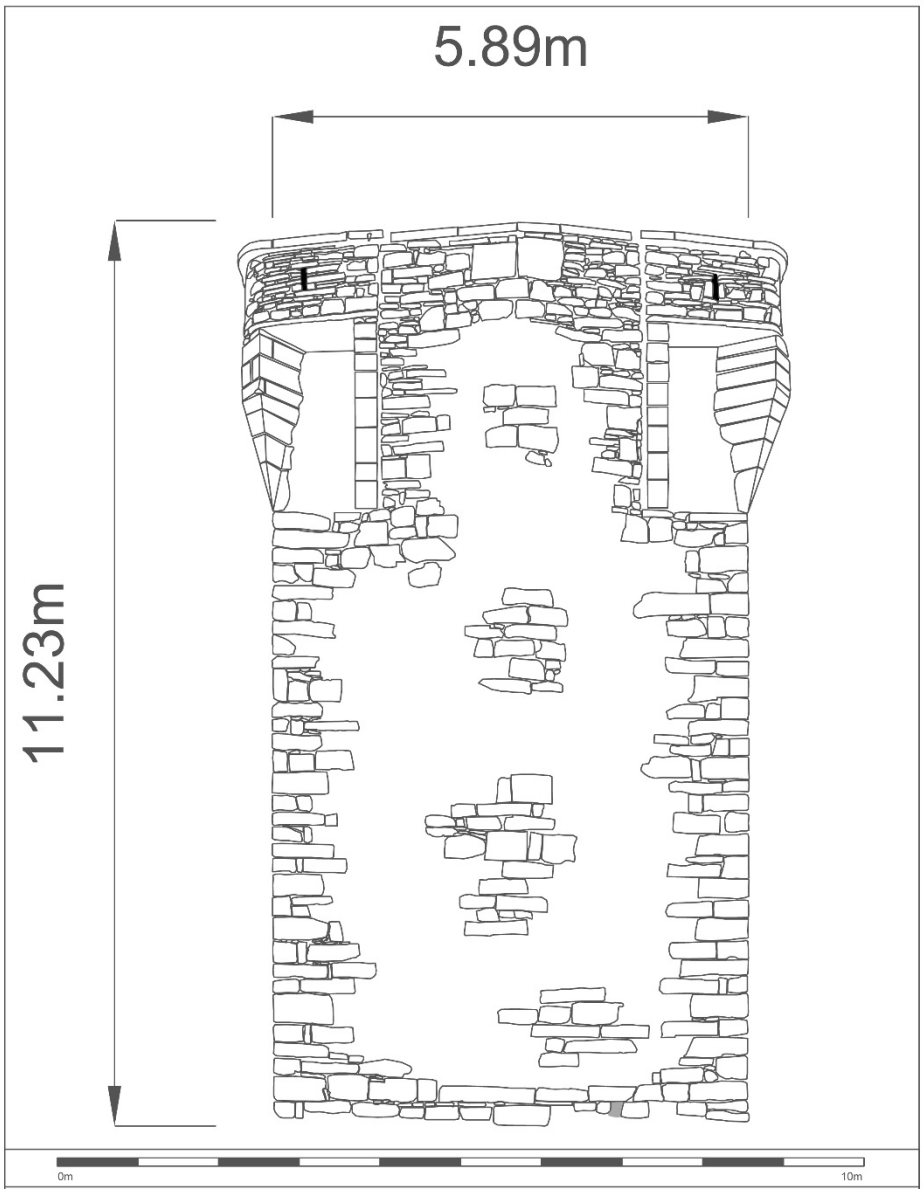

Figure C.54. External elevation of the south wall of the signal tower at Carrowmably Signal Station. The chute at the base of the eastern side of the wall is shaded grey. The gun-loops on the southern sides of the south-west and south-east bartizans are shaded black.

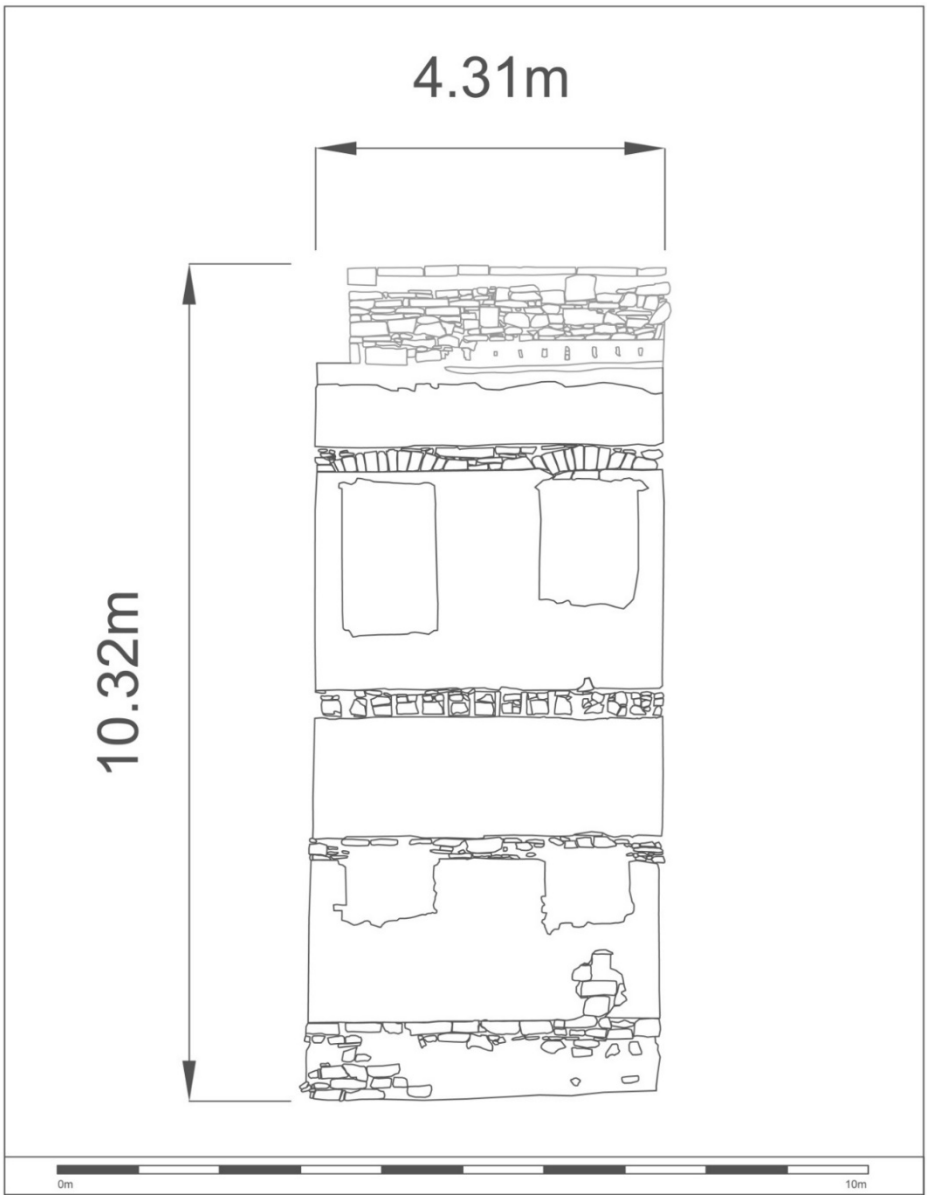

Figure C.55. Internal elevation of the west wall of the signal tower at Carrowmably Signal Station.

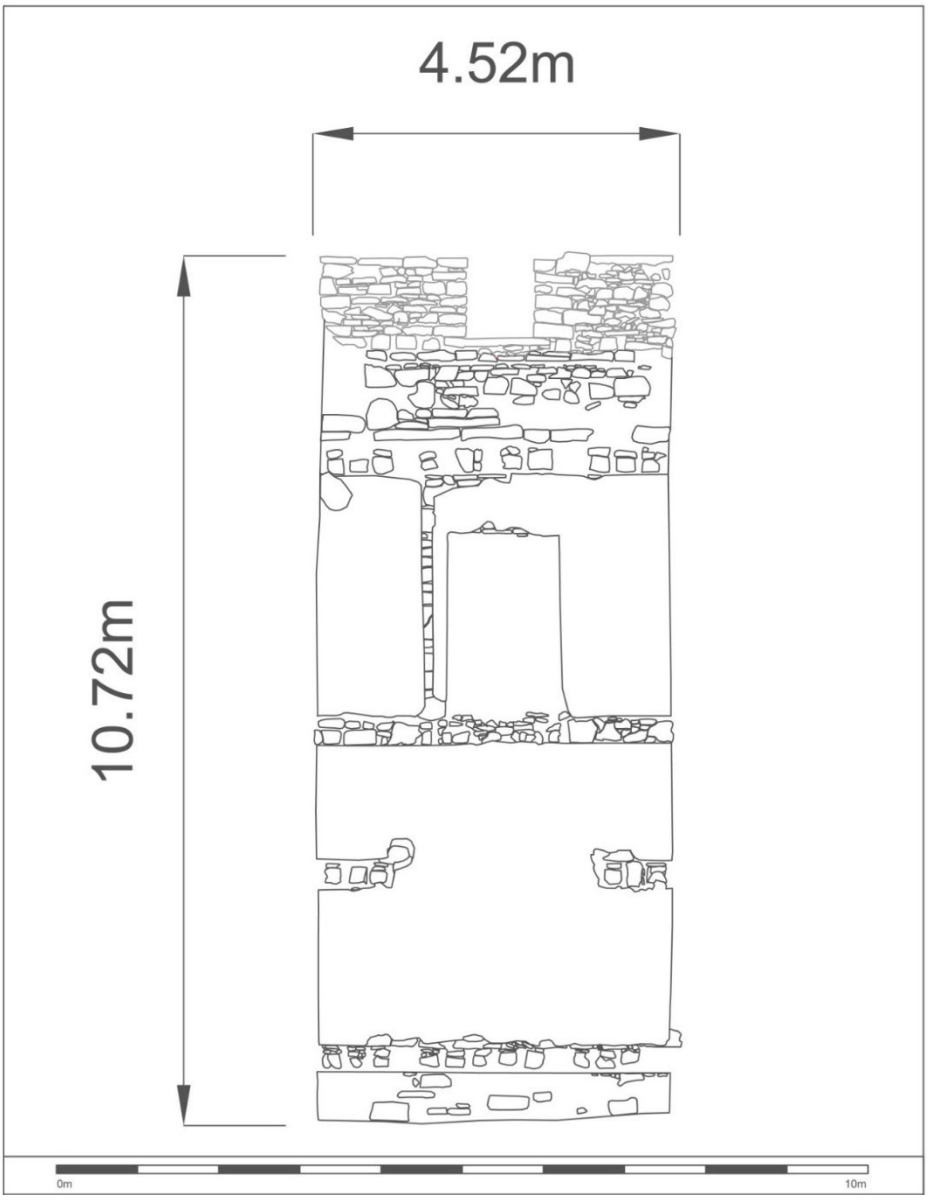

Figure C.56. Internal elevation of the north wall of the signal tower at Carrowmably Signal Station.

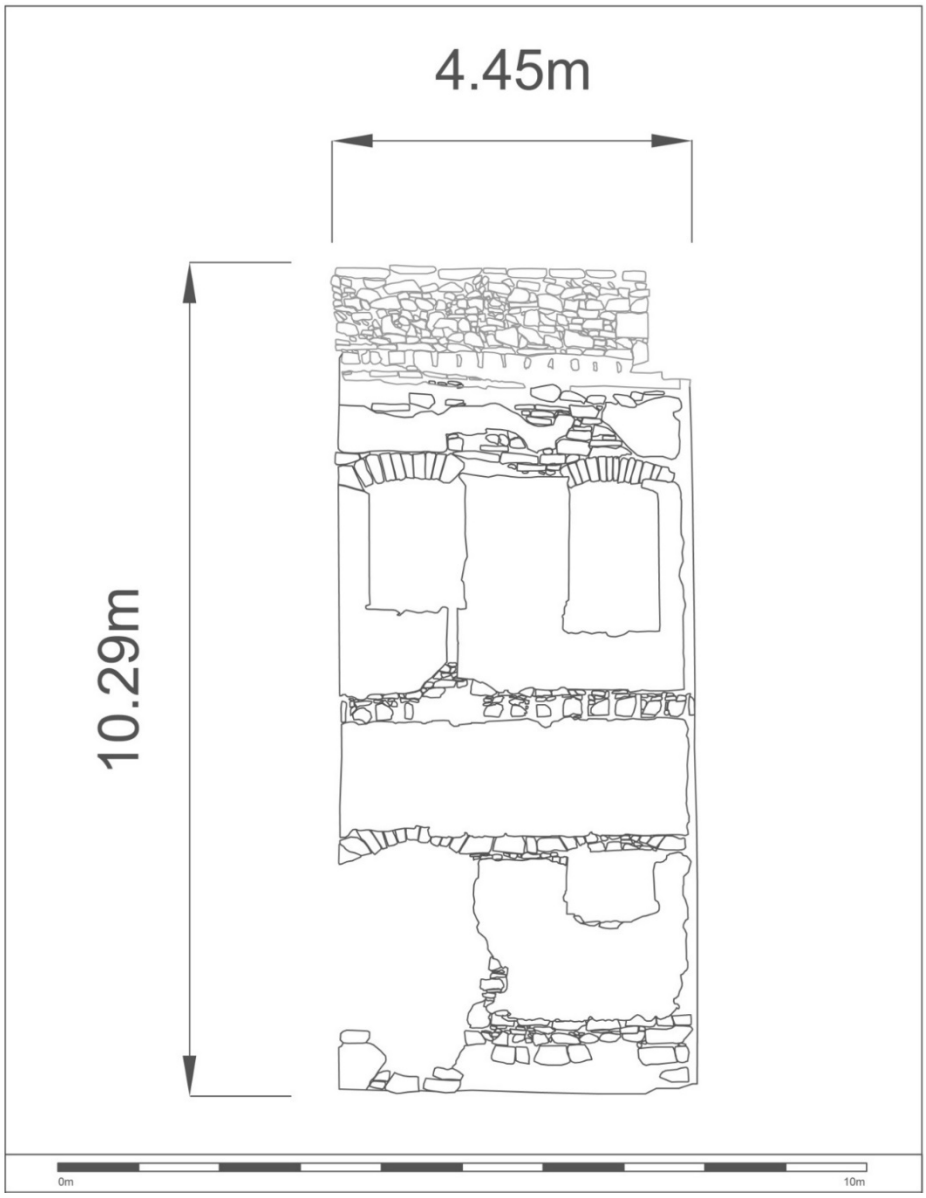

Figure C.57. Internal elevation of east wall of the signal tower at Carrowmably Signal Station.

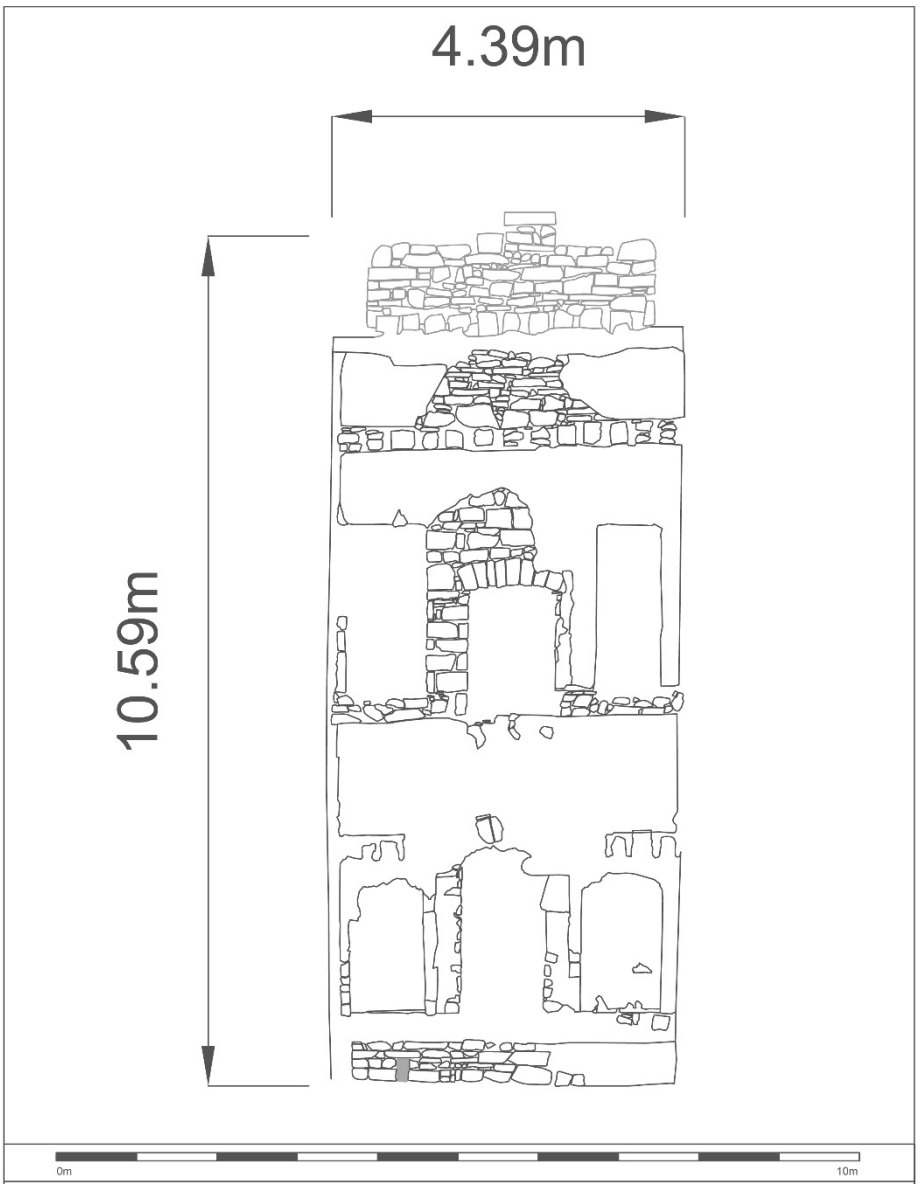

Figure C.58. Internal elevation of the south wall of the signal tower at Carrowmably Signal Station. The chute that passes through the east part of the south wall into the semi-basement level is shaded grey.

Number 67. Knocklane Hill Signal Station (556252, 844589).

Low ruin of a signal tower. 58 m (190') OD. Surveyed 25 August 2012.

Figure C.59. Aerial photograph showing Knocklane Hill Signal Station to the right of the centre of the image. Knocklane Castle can be seen at the end of the peninsula and a square shaped feature which may be a quarry is visible towards the bottom right.

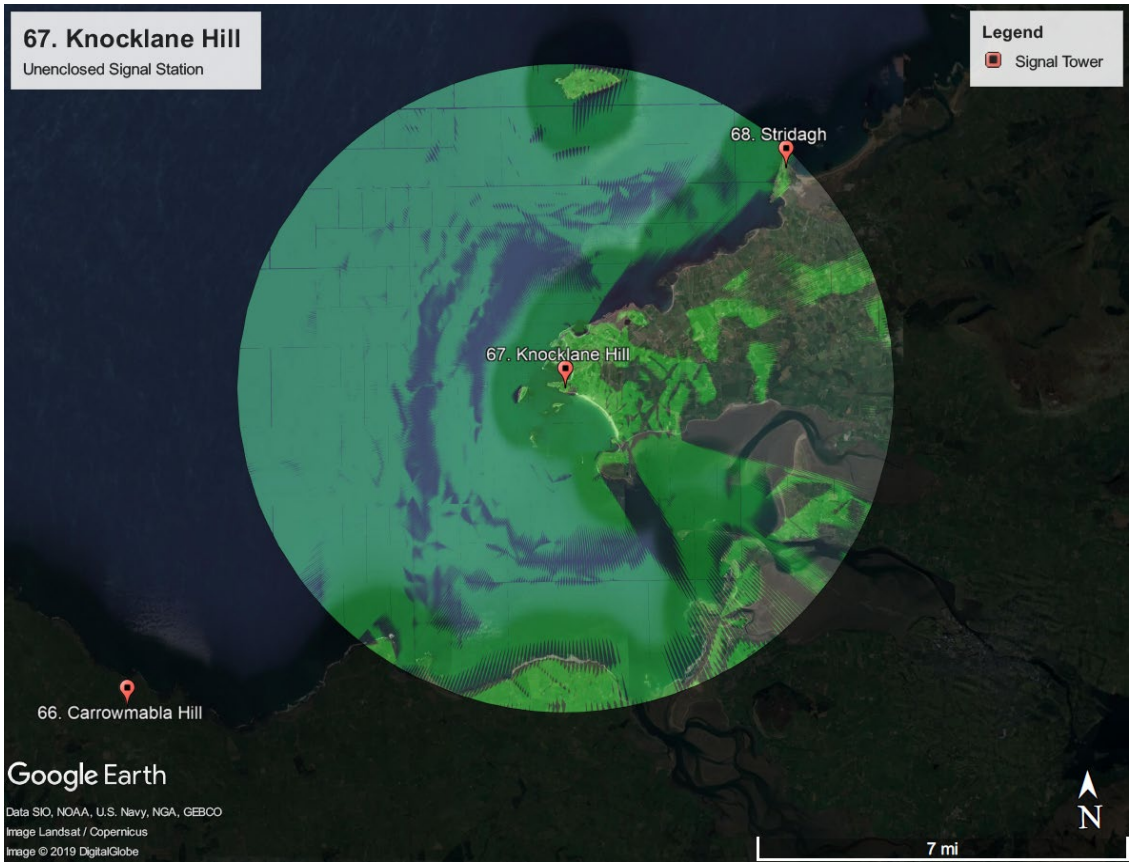

Figure C.60. Viewshed from Knocklane Hill Signal Station.

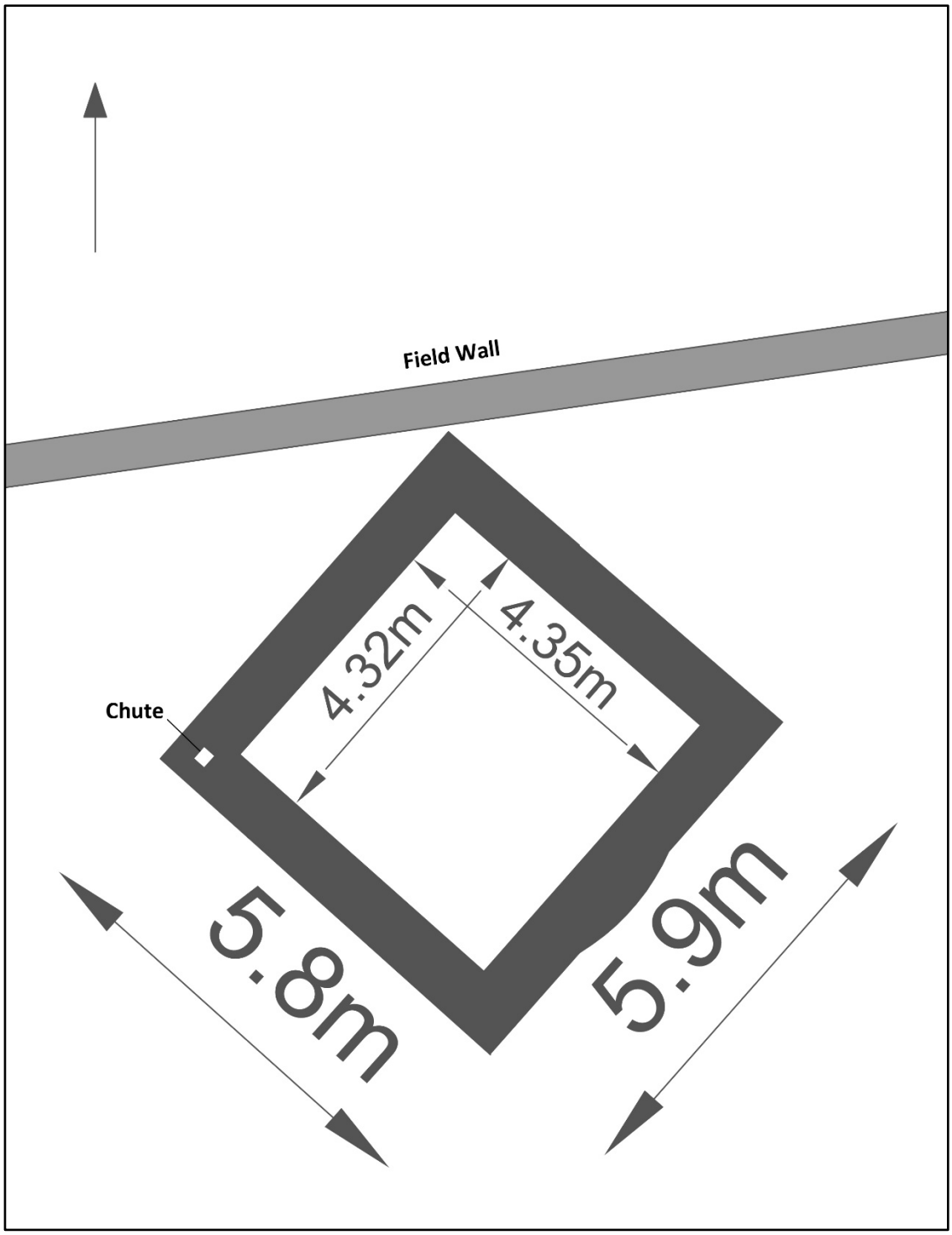

Figure C.61. Plan of Knocklane Hill signal station.

Description

The unenclosed signal station at Knocklane Hill was located at 58 m (190') OD, a little to the west of the summit of the hill, at the top of a slope that led down to the coast. The site had expansive views in all directions, except to the east which was partly blocked by the summit of Knocklane Hill. The approximate positions of the adjacent signal station to the south-west, Carrowmably Signal Station, was and to the north, Streedagh Signal Station, were clearly visible. The largely intact signal tower at Carrowmably could not be identified, probably due to it not being silhouetted on a prominent hilltop. The signal tower at Streedagh Signal Station has been reduced to a sub-surface foundation and was not visible from any distance. The local area consisted of gently sloping ground used as enclosed pasture.

The signal station at Knocklane Hill consisted of the lower portions of the ground floor of an unenclosed signal tower. The entire first floor and roof level were missing. The walls defined a square building between 5.8 m (19') and 5.9 m (19'4'') across, with walls facing north-east, south-east, south-west and north-west respectively. The internal space measured up to 4.35 m (14'3'') across.

The south-east wall featured an external bulge that would have incorporated the chimney flue. Internally the south-east wall featured the lower parts of a fireplace with flanking alcoves. Each of the alcoves featured a square chute passing through the body of the wall, close to the top of the surviving sections. A square section vertical drainage channel ran down the north-west corner of the south-east wall. These features allowed for the signal tower to be orientated. The north-west wall would have featured the first floor doorway with the machicolation, the north-east and south-west walls would have featured the windows and the south-east wall would have featured the fireplaces and flanking alcoves. Bartizans would have projected from the east and south corners at the parapet level. The tops of the slots that would have held the ground floor were visible on the north-west and south-east walls, just above the ground level, which confirmed the presence of a filled in semi-basement. The west corner of the tower featured a square section vertical hole running into the body of the wall. The hole was 0.2 m (8'') across but its function was not apparent. The tower was not surrounded by any accumulation of rubble indicating the stone had been removed for use elsewhere. The walls of the signal tower were constructed of dark-grey coarse-grained stone, possibly

limestone. The walls of the signal tower were constructed of light-grey fine-grained stone, possibly limestone.

To the immediate north of the signal tower there was an east to west running bank, topped by a wooden post-and-barbed-wire fence. A large square shaped hollow was located approximately 80 m (88 yards) south-east of the signal tower which appeared to have been a small quarry. The feature is marked on the 1st edition of the Ordnance Survey map, surveyed 1837, as a sub-oval shaped hollow and it is possible that this was the source of some of the building materials for the signal tower. The completely collapsed remains of a Look Out Post (L.O.P. 68) was located to the immediate south of the square shaped hollow.

To the west of the signal station there was a low promontory that featured the remains of a large multivallate promontory fort (SL007-001001-). Within the enclosed area of the promontory fort were the ruins of a set of mid-19th century buildings (SL007-001002-). The buildings are shown on the 2nd and 3rd edition Ordnance Survey maps, surveyed 1885-1888 and 1909-1912 respectively. The maps identify the site as Knocklane Castle, but it is not clear if that refers to the buildings or the promontory fort.

Figure C.62. External face of the south-east wall of the collapsed signal tower at Knocklane Hill Signal Station.

Figure C.63. External face of the south-west wall of the collapsed signal tower at Knocklane Hill Signal Station.

Figure C.64. Internal face of the south-east wall of the collapsed signal tower at Knocklane Hill Signal Station. The central fireplace, the flanking alcoves, the chutes passing through the wall at the top of the alcoves, and the vertical drainage channel at the north corner of the wall can be seen.

Figure C.65. Internal face of the north-west wall of the collapsed signal tower at Knocklane Hill Signal Station. The slot for the ground floor level can be seen at the bottom of the exposed section of wall.

Figure C.66. Internal face of the north-east wall of the collapsed signal tower at Knocklane Hill Signal Station.

Figure C.67. Detail of the square section channel running vertically through the west corner of the collapsed signal tower at Knocklane Hill Signal Station.

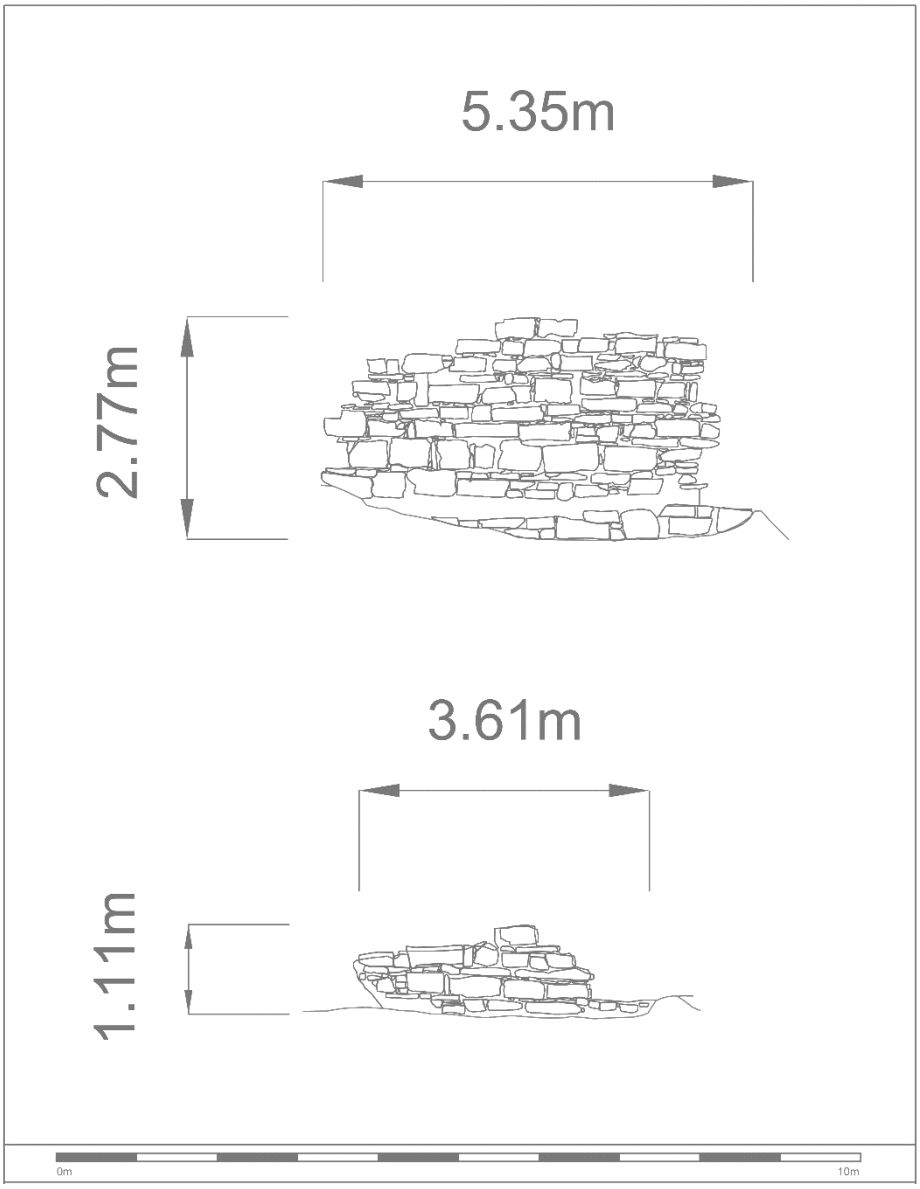

Figure C.68. The north-west (top) and north-east (bottom) external elevations of the signal tower at Knocklane Hill Signal Station.

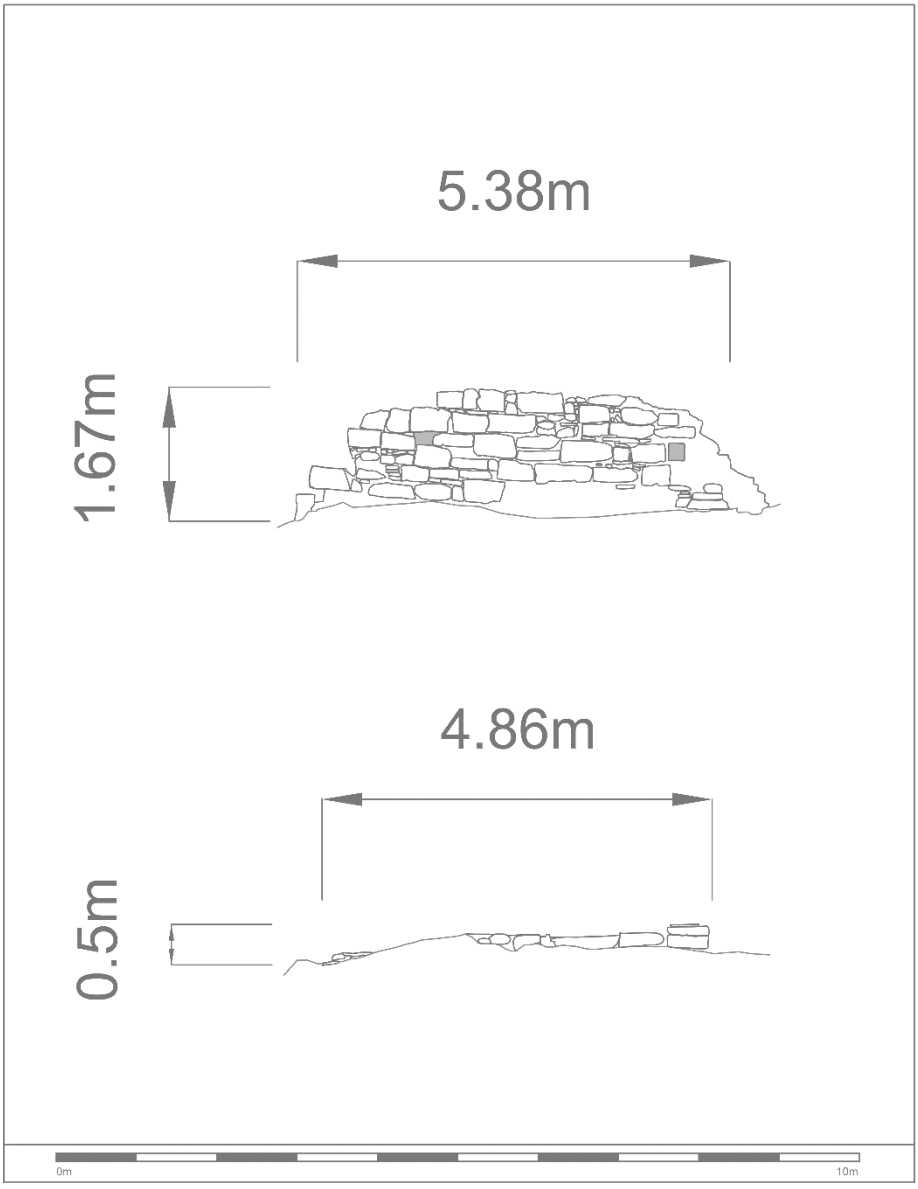

Figure C.69. The south-east (top) and south-west (bottom) external elevations of the signal tower at Knocklane Hill Signal Station. The chutes passing through the south-east wall are shaded grey.

Figure C.70. The north-west (top) and north-east (bottom) internal elevations of the signal tower at Knocklane Hill Signal Station.

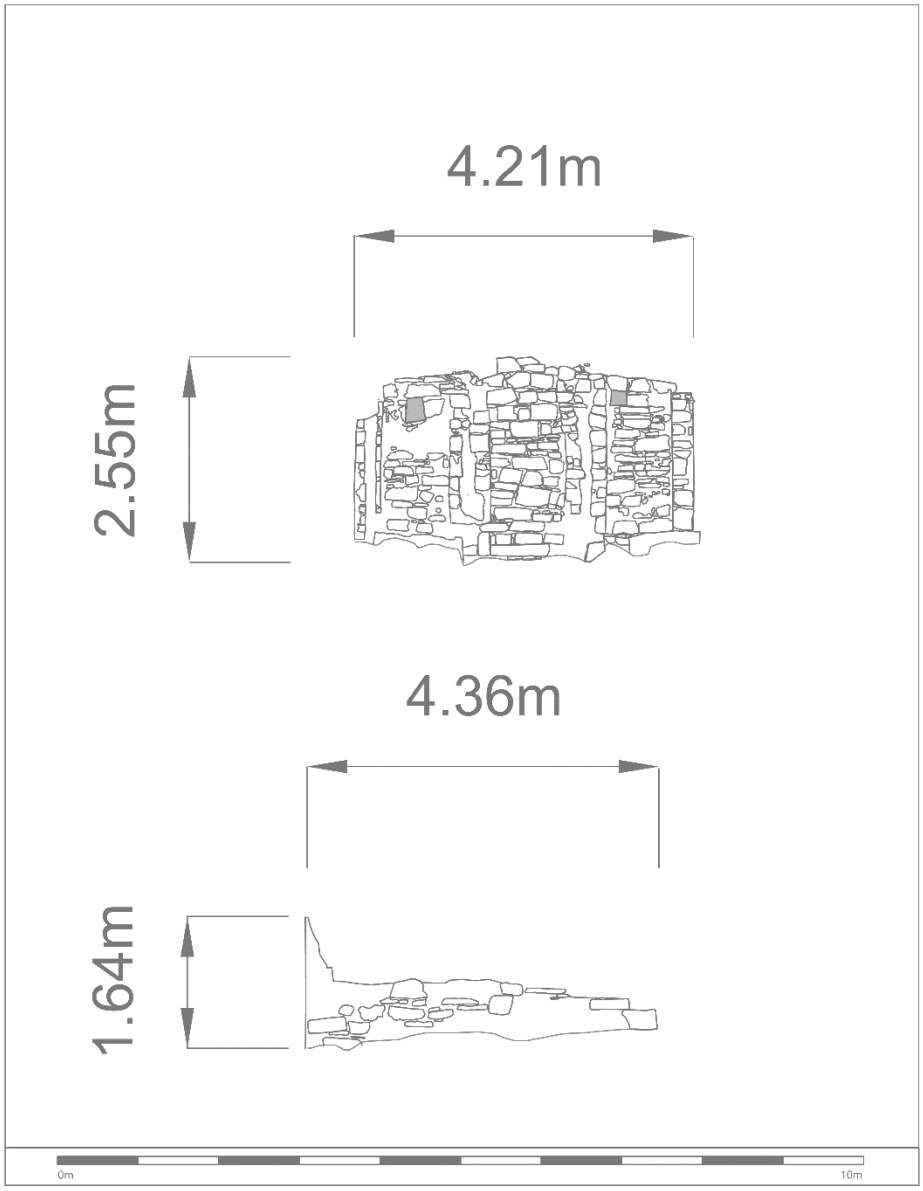

Figure C.71. The south-east (top) and south-west (bottom) internal elevations of the signal tower at Knocklane Hill Signal Station. The chutes passing through the south-east wall in to the upper parts of the alcoves are shaded grey.

Number 68. Streedagh Signal Station (563137, 851226).

Low ruin of signal tower. 15 m (49') OD. Surveyed 25 August 2012.

Figure C.72. Aerial photograph showing Streedagh Signal Station in the centre of the image (Bing Maps).

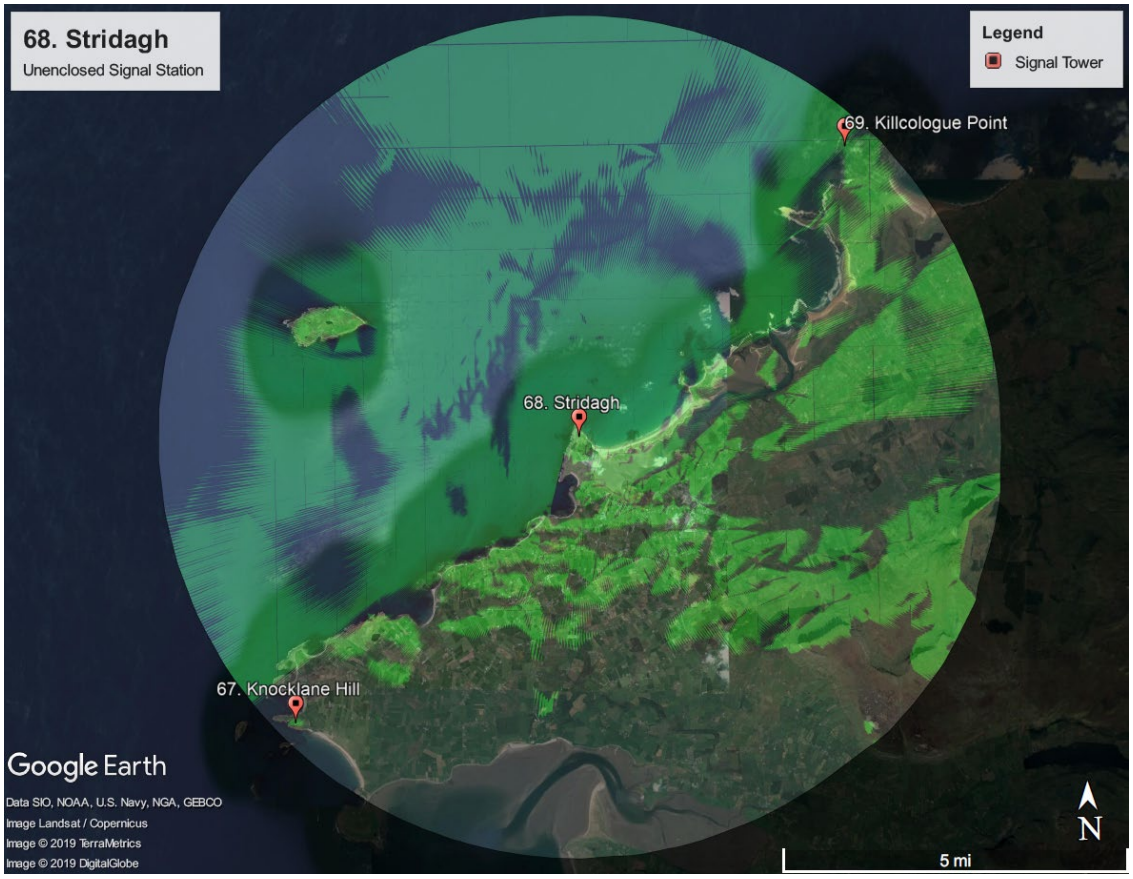

Figure C.73. Viewshed from Streedagh Signal Station.

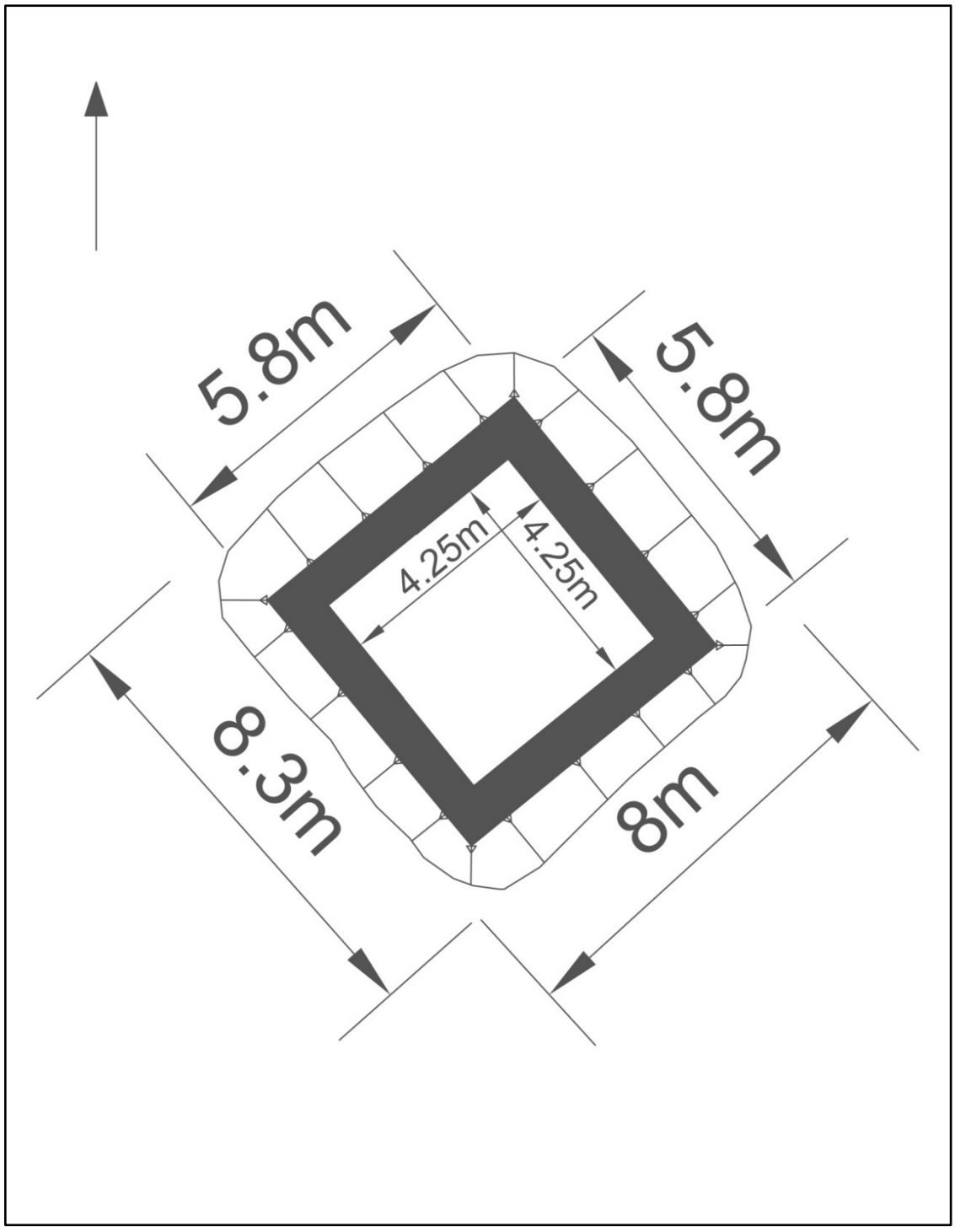

Figure C.74. Plan of Streedagh Signal Station.

Description

The unenclosed Streedagh Signal Station was located on low lying, level ground a short distance south of Streedagh Point, at 15 m (49') OD. The site had expansive views in all directions, except to the south where they were blocked by low hills. The positions of the adjacent signal stations, Knocklane Hill to the south-west and Killcologue Point to the north-east were easily observable during the survey. The poor condition of the adjacent sites meant that nothing could be seen of the actual signal towers. The local area consisted of an unenclosed sandy plane covered with low grass, with a rocky shoreline to the west, north and east, and a dune system to the south. The site was accessed via a grassy lane that ran along the western boundary of the enclosed land to the east.

The signal station consisted of the semi-basement level of a signal tower which appeared as a shallow square hole lined with stone walls, and a very small portion of the ground floor level. Only the internal wall faces, and the tops of the walls, were visible, the external wall faces were concealed by the sides of the cut in which the semi-basement level was built, and by a low bank of sand and rubble that surrounded the structure. Given that this landscape was created by wind-blown sand it is possible that the surviving parts of the signal tower might be subject to periodic concealment and re-exposure.

The semi-basement level of the signal tower measured 5.8 m (19') across externally and 4.25 m (13'11'') across internally. The bank of material surrounding the foundation measured around 8 m (26'2'') across. The corners of the tower were aligned to the cardinal directions, with the walls facing north-east, south-east, south-west, and north-west. With so little of the ground floor visible it was not possible to orientate the building. The bottom of a square sectioned vertical drainage channel was present at the north-east end of the north-west wall. This suggests that the north-west wall may have been the wall with the fireplaces, alcoves and chimneys, although they could also have been located on the north-east wall. There were no other visible features linked to the signal station. The signal tower is marked on the 1st, 2nd and 3rd editions of the Ordnance Survey maps, surveyed 1837, 1885-1888 and 1909-1912 respectively, as a rectangular structure, with no label and no associated features. The walls of the signal tower were constructed of dark-grey coarse-grained stone, possibly limestone.

Figure C.75. The internal north-west wall face of the collapsed signal tower at Streedagh Signal Station.

Figure C.76. The internal north-east wall face of the collapsed signal tower at Streedagh Signal Station.

Figure C.77. The internal south-east wall face of the collapsed signal tower at Streedagh Signal Station.

Figure C.78. The internal south-west wall face of the collapsed signal tower at Streedagh Signal Station.

Number 69. Killcologue Point Signal Station (569623, 857933).
Demolished signal tower. 11 m (36') OD. Surveyed 25 August 2012.

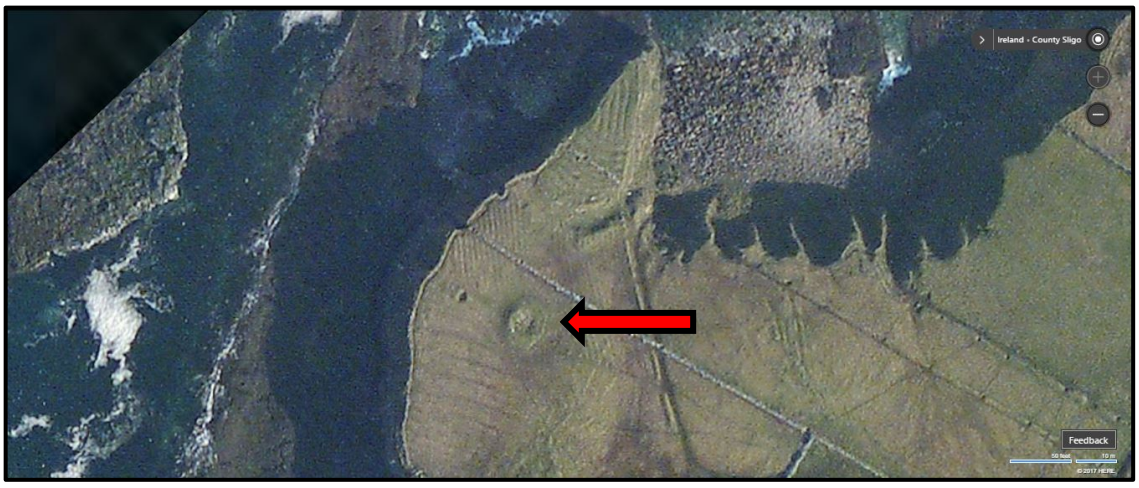

Figure C.79. Aerial photograph showing the location of Killcologue Point Signal Station to the left of the centre of the image, with the promontory fort to the north and the lime kiln of signal mast position visible to the west.

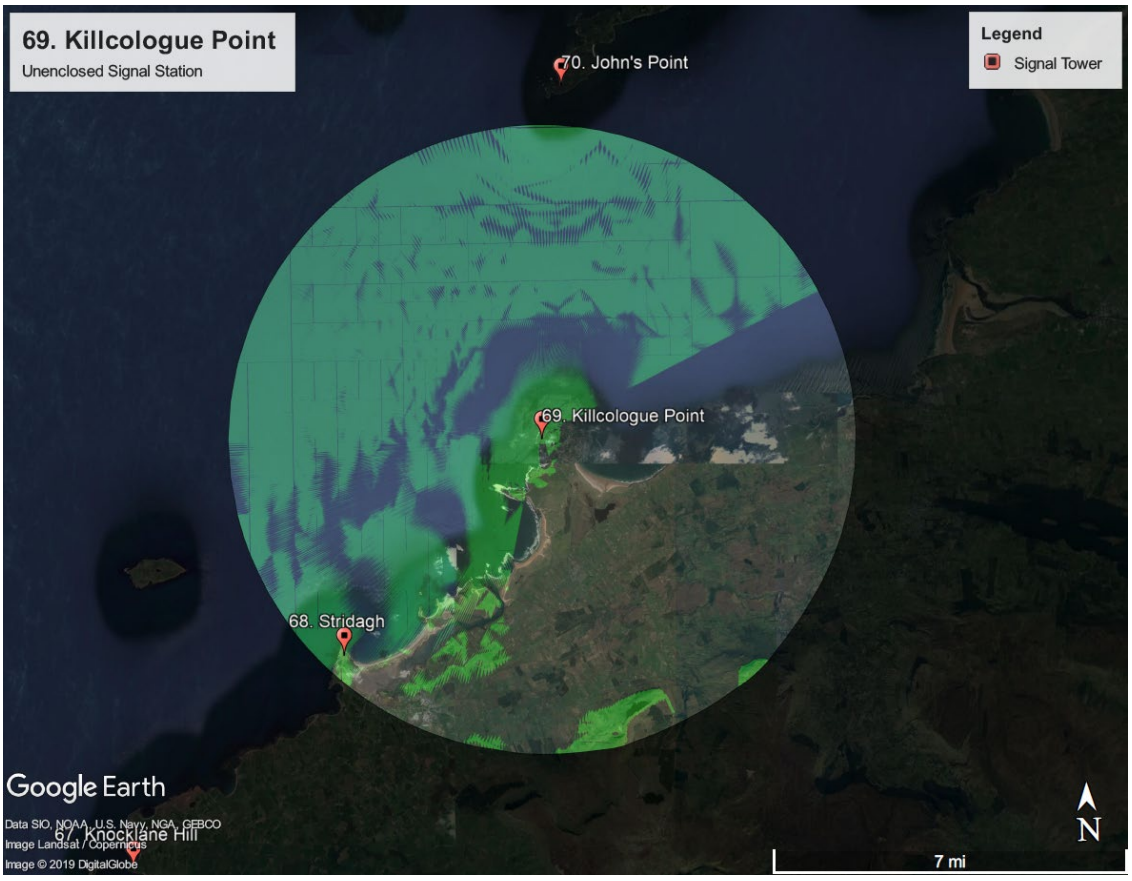

Figure C.80. Viewshed from Killcologue Point Signal Station.

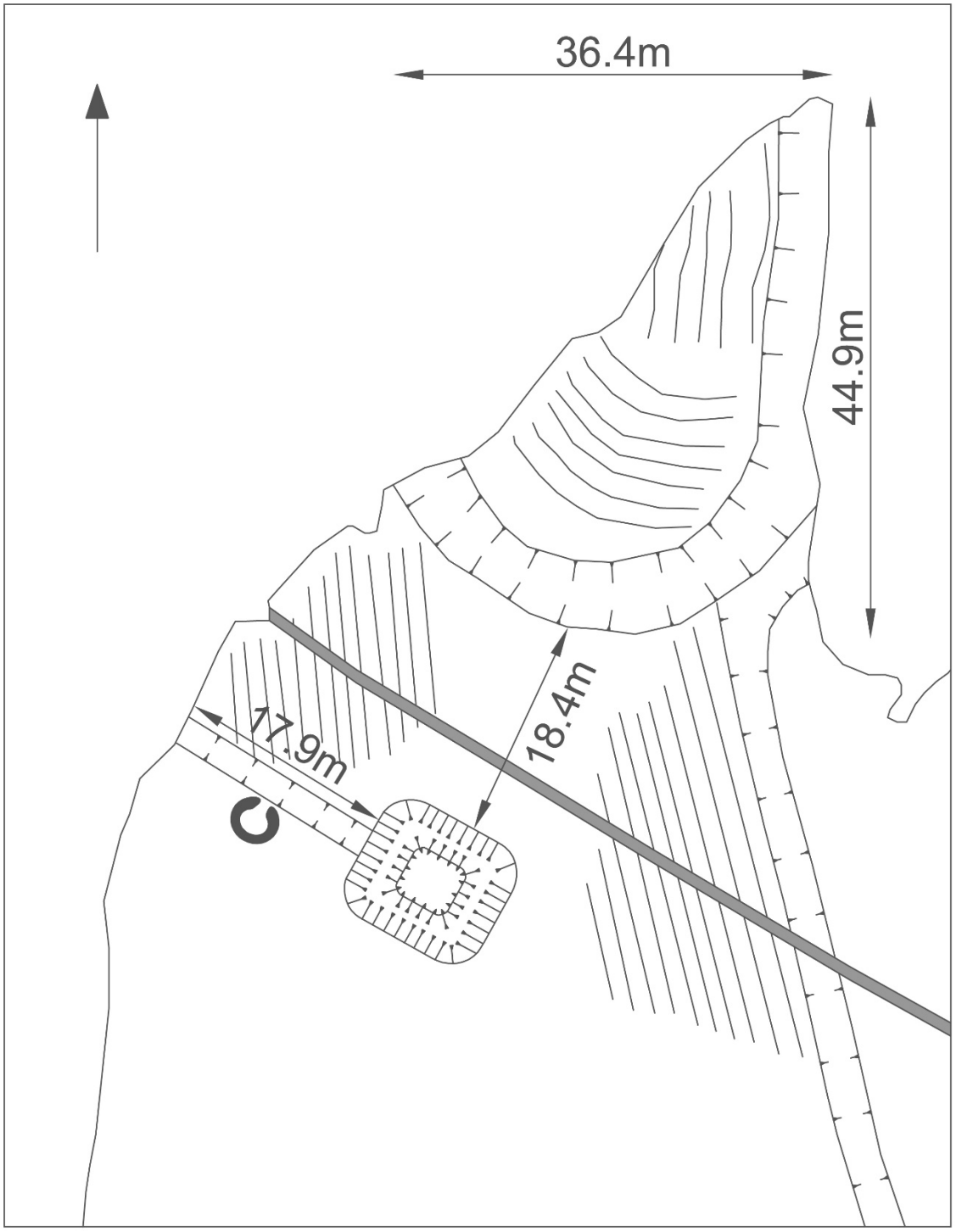

Figure C.81. Plan of Killcologue Point Signal Station, with a promontory fort to the north.

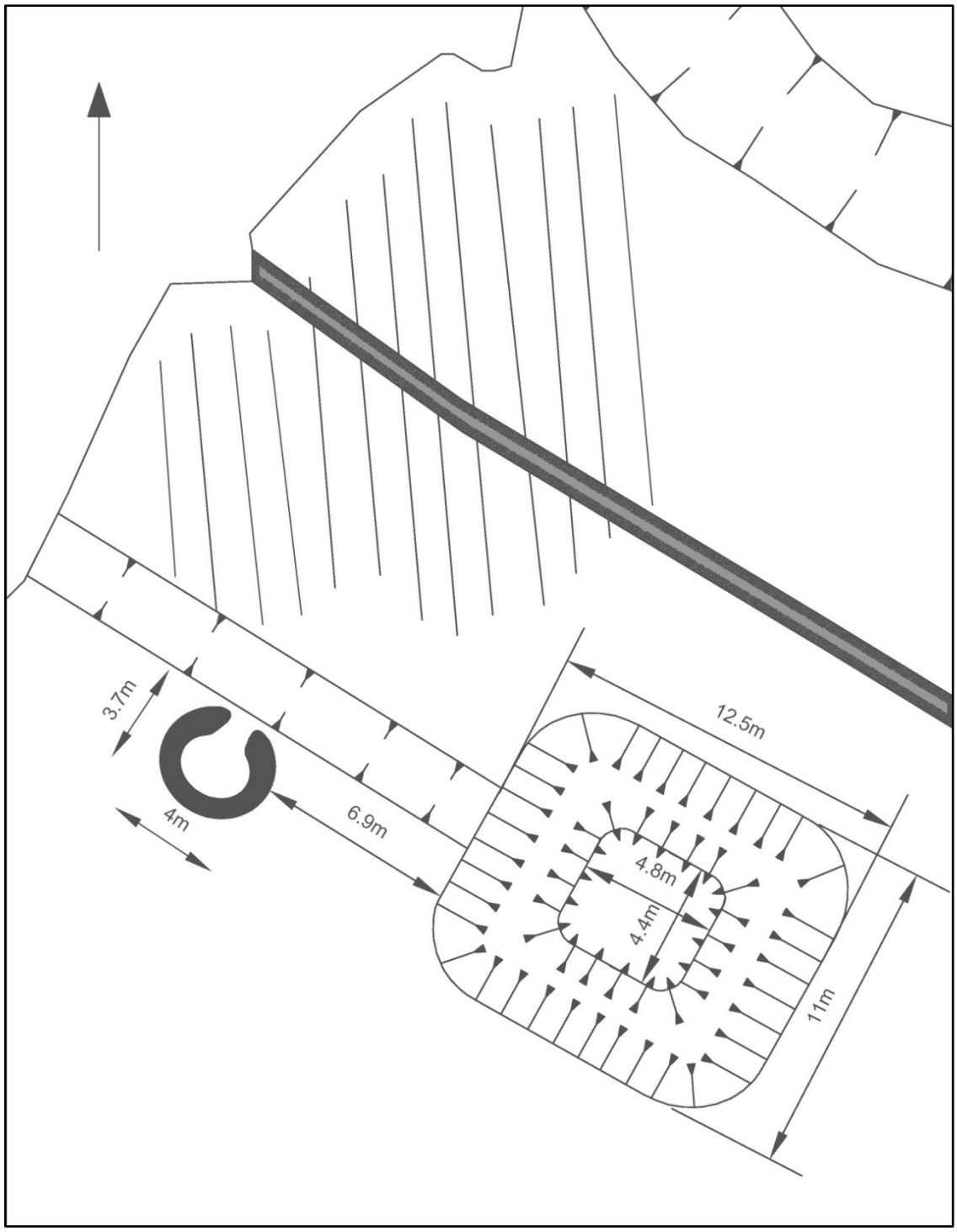

Figure C.82. Detailed plan of Killcologue Point Signal Station.

Description

The unenclosed signal station at Killcologue Point was located at 11 m (36') OD, on sloping ground that ran down to the short steep cliffs at the coast. The site had expansive views to the north and west but the view to the south and east was blocked by low hills. The positions of the adjacent signal stations, Streedagh Signal Station to the south-west and St John's Point Signal Station to the north, in County Donegal, were easily identifiable. Given the poor condition of those sites nothing could be seen of the actual signal stations during the survey. The local area consisted of enclosed pasture defined by a very regular series of dry-stone walls. An earlier field system on a slightly different alignment was still visible, defined by low grassy banks. The earlier field system was associated with hand dug cultivation ridges. An eroded promontory fort (SL002-001----) lay to the north of the signal station, and a deep hollow way led to the promontory fort from the south. The site of the signal station was accessed by walking downhill from the road to the south-east, but no trail was demarcated.

The signal station at Killcologue Point has been demolished. The position of the signal tower was marked by a large roughly square shaped nettle filled hollow which was surrounded by a low grassy bank. The hollow measured 4.8 m (15'9'') north-west to south-east and 4.4 m (14'5'') north-east to south-west. The surrounding bank measured 12.5 m (41') north-west to south-east, and 11 m (36'1'') north-east to south-west. Assuming that the alignment of the signal tower was reflected in the alignment of the hole then the corners of the signal tower would have been pointed to the cardinal directions, with the walls facing north-west, north-east, south-east, and south-west. It was not possible to orientate the building based on visible features. If the tower followed the same pattern as recorded elsewhere in the main study area, the first floor entrance would have faced out to sea and therefore would have been located on either the north-west or south-west walls. A shallow sunken grassed over lane led from the north-west side of the demolished tower location to the coast. If, as appeared likely, this was a contemporary element of the signal station, it would be consistent with the first floor door having been located on the north-west wall.

To the south of the sunken lane there was a small oval depression that was possibly the remains of a small lime kiln linked to the construction of the signal station. The feature

measured 4 m (13’1’’) north-west to south-east and 3.7 m (12’2’’) north-east to south-west.

The signal station at Killcologue Point was not marked on the 1st edition Ordnance Survey map, surveyed 1837, or the subsequent 2nd or 3rd edition Ordnance Survey maps, surveyed 1885-1888 and 1909-1912 respectively, strongly suggesting this site was demolished at an early date. The lack of rubble suggested that the stone was removed for use elsewhere, possibly in the adjacent dry-stone field walls. However, the dry-stone walls only appear on the 2nd edition Ordnance Survey map, suggesting that they post-dated the removal of the signal station by several decades.

A well-preserved Look Out Post (L.O.P. 69) was located 670 m (733 yards) to the north-east of the signal station, overlooking a small quarry.

Figure C.83. Looking north-west at the probable location of the signal tower at Killcologue Point. The tower location was marked by a shallow nettle filled hollow surrounded by a low bank.

Figure C.84. Looking north-west at the probable location of the signal tower at Killcologue Point, with the southern coast of County Donegal in the background.

Figure C.85. The remains of the possible lime kiln to the north-west of the location of the signal tower at Killcologue Signal Station, looking south-west.

Figure C.86. The Look Out Post (L.O.P. 69) to the north-east of Killcologue Signal Station.

Appendix D. Signal stations in County Donegal

Twelve signal stations were located in County Donegal, five of which survived in good condition (Carrigan Head Signal Station, Malin Beg Signal Station, Glen Head Signal Station, Crohy Head Signal Station, and Mullaghderg Hill Signal Station), one of which has been heavily modified (Malin Head Signal Station), one of which is in poor condition (Horn Head Signal Station), two of which survive only as very low ruins (Dawros Head Signal Station and Melmore Head Signal Station), one of which has been almost entirely removed (St John's Point Signal Station) and two of which have been entirely removed (Bloody Foreland Signal Station and Fanad Head Signal Station). Three of the County Donegal signal stations featured signal towers set within purpose-built enclosures (Horn Head Signal Station, Melmore Head Signal Station, and Malin Head Signal Station) and two of the sites featured enclosures adjacent to the signal stations (St John's Point Signal Station and Carrigan head Signal Station). A later enclosure was constructed close to Mullaghderg Hill Signal Station, but is no longer present, and the enclosure at Malin Head Signal Station was also removed at some point.

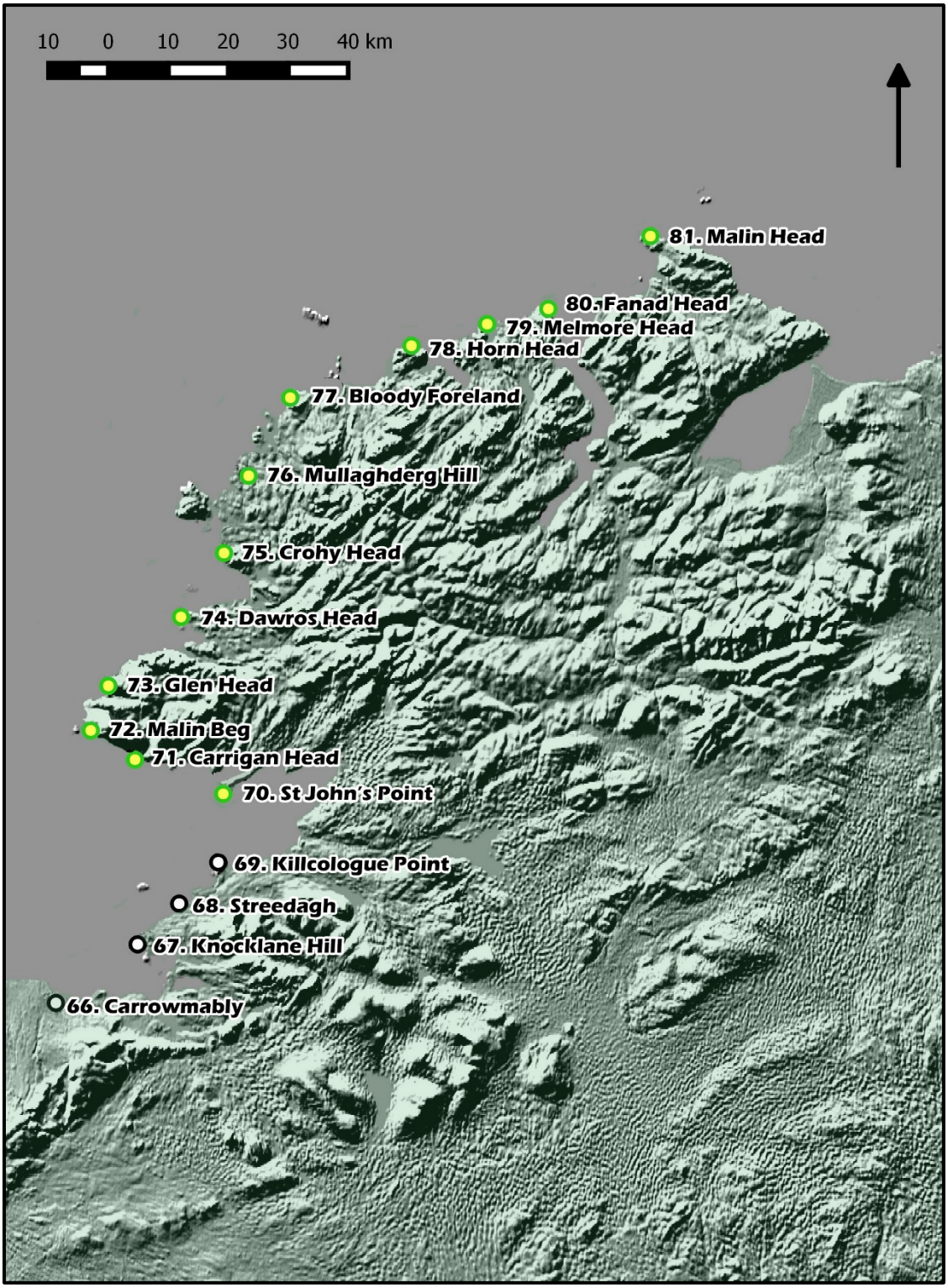

Figure D.1. Map showing locations of County Donegal Signal Stations (yellow and green) and adjacent Signal Staions in County Sligo (white and black).

Number 70. St John's Point Signal Station (570522, 869121).
Demolished signal tower. SMR DG097-020----. 26 m (85') OD. Surveyed 26 August 2012. Historical Name: John's Point Signal Station.

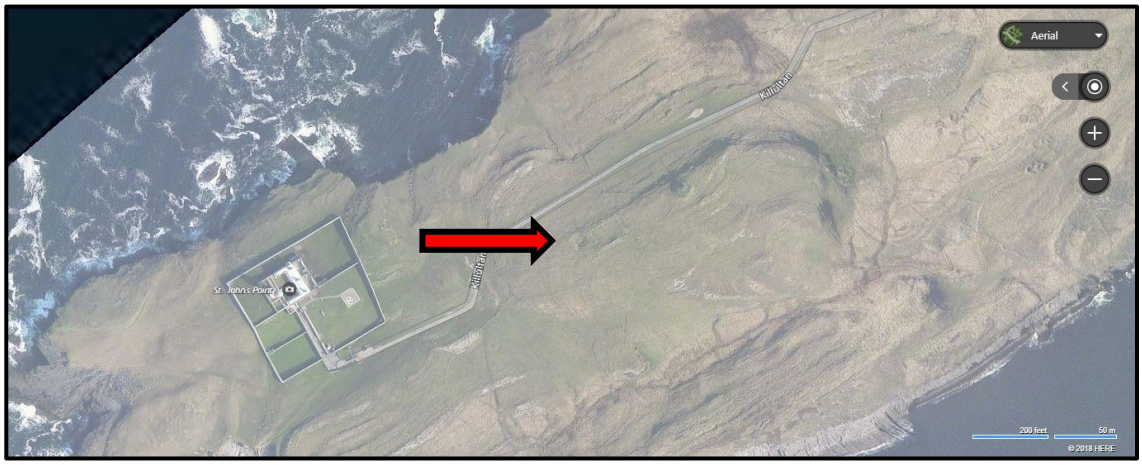

Figure D.2. Aerial photograph showing St John's Point Signal Station in the centre of the image, with the large rectangular enclosure and the smaller square hollow marking the position of the signal tower both clearly visible. (Bing Maps).

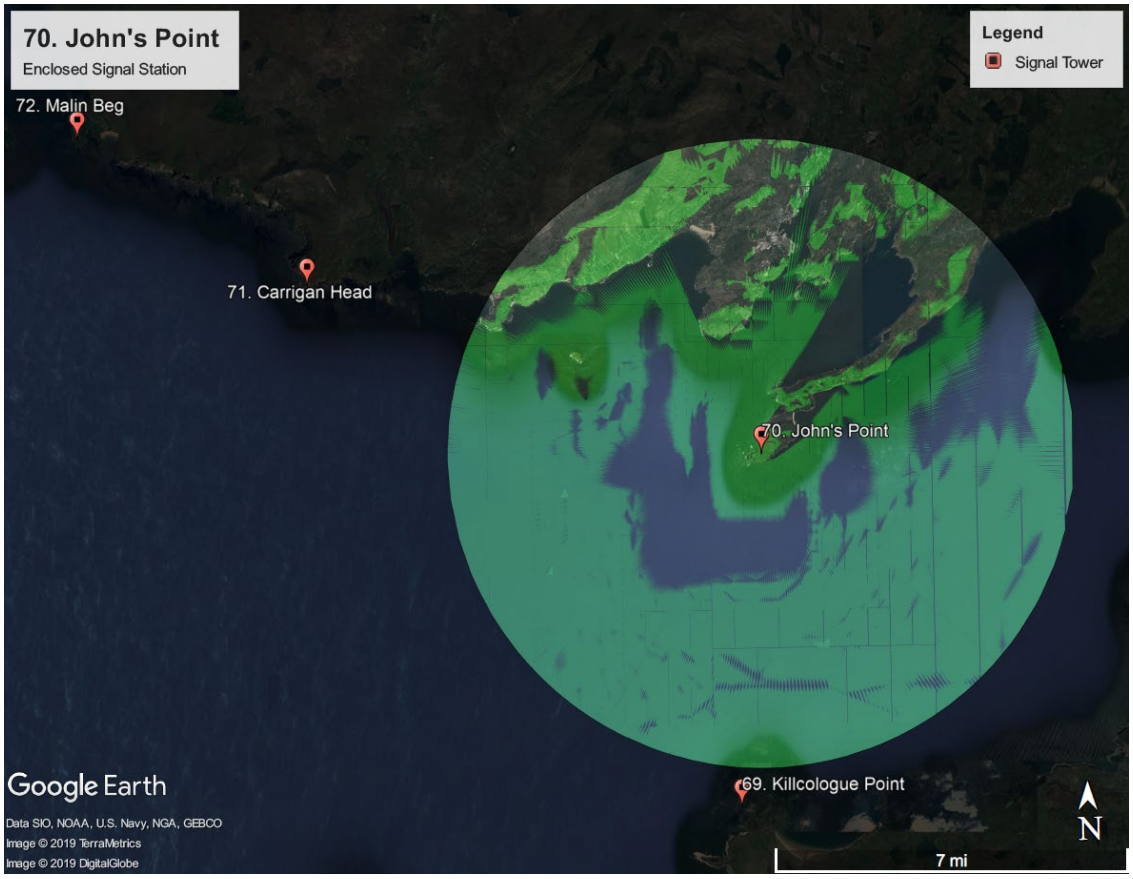

Figure D.3. Viewshed from St John's Point Signal Station (Google Earth Pro).

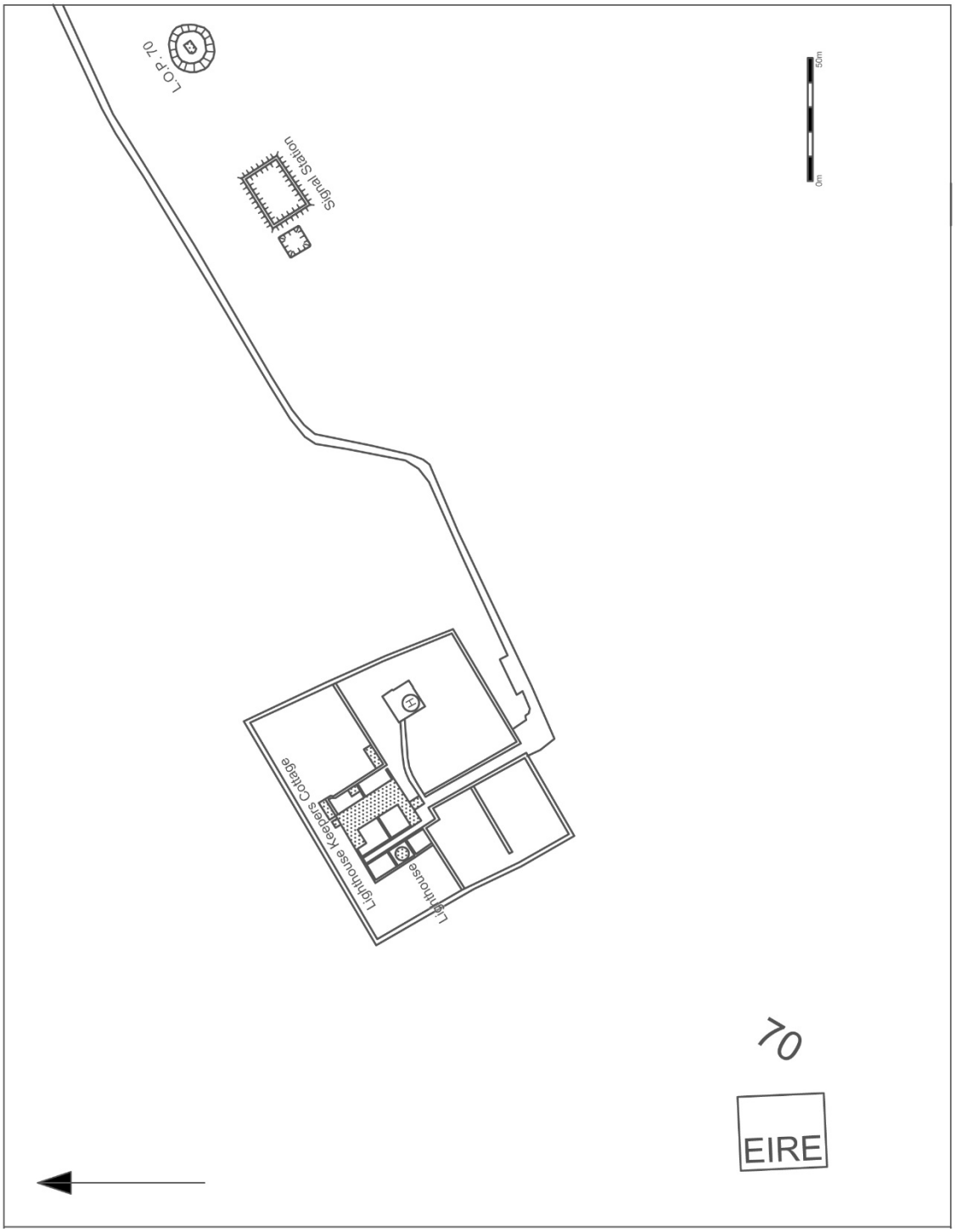

Figure D.4. Plan of the 19th and 20th Century features at the southern tip of St John's Point, St John's Point Signal Station, St John's Point Lighthouse, L.O.P. 70 and the Eire 70 sign.

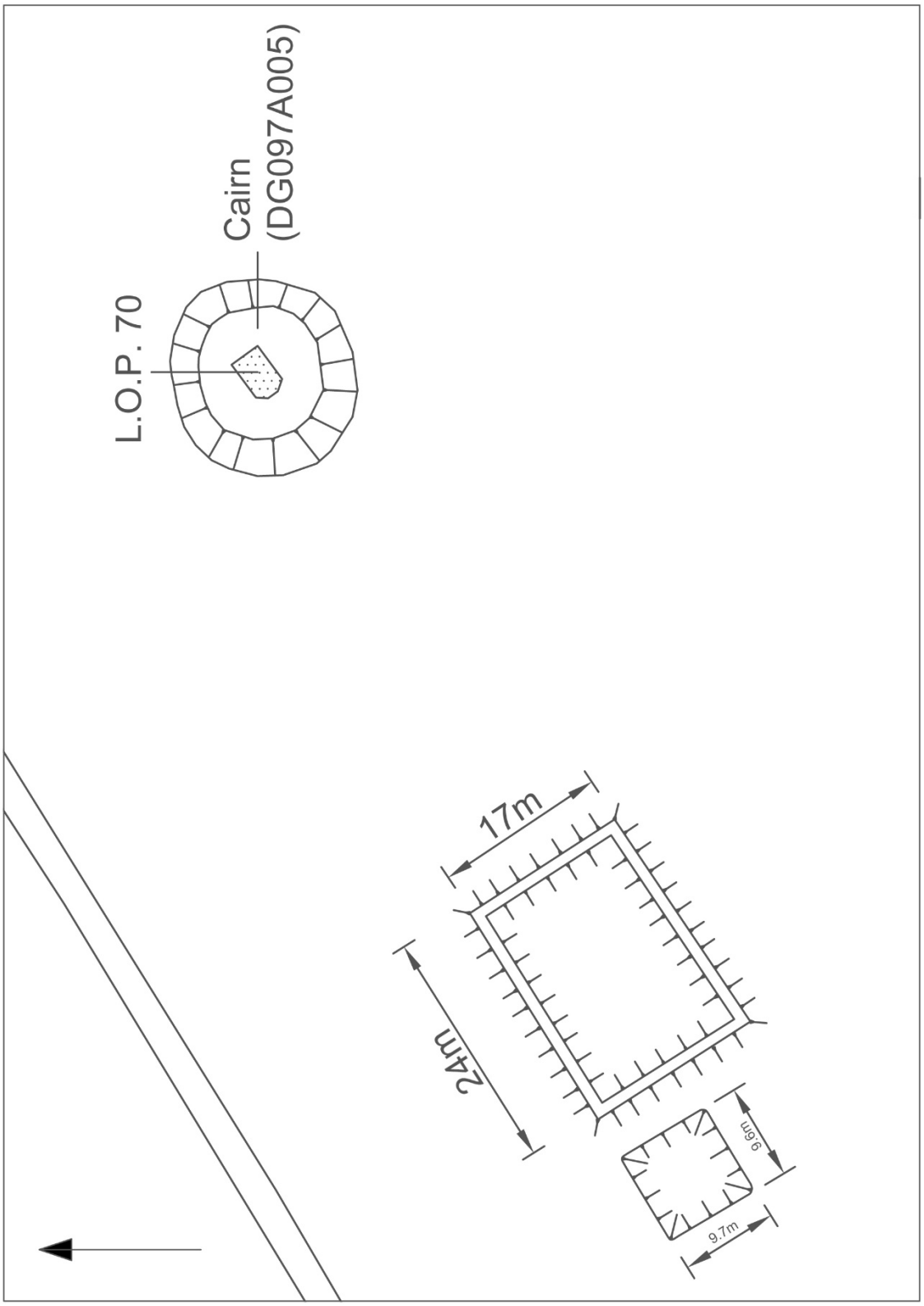

Figure D.5. Detailed plan of the visible features at St John's Point Signal Station and L.O.P. 70.

Description

The variant enclosed signal station at St John's Point was located on low lying unenclosed ground at 26 m (85') OD, close to the south-western tip of a long thin peninsula that extends south-westwards into Donegal Bay. The signal station was located about halfway between a large lighthouse complex and a World War 2 era Look Out Post (L.O.P. 70). The site had extensive views in all directions, and long stretches of the coast of County Sligo and the southern coast of County Donegal were visible. The demolition of the northern three signal towers in County Sligo meant that those signal stations could not be identified during the survey. The adjacent site in County Donegal, Carrigan Head Signal Station, featured a well-preserved tower which was clearly visible.

The signal tower at St John's Point had been demolished and the main feature visible at the site during the survey was a rectangular enclosure defined by a low, grassed over, collapsed wall. Stones from the wall were sporadically visible along the grassy banks that defined the enclosure. The enclosure measured approximately 30 m by 20 m (98' by 66') making it considerably smaller than the typical enclosures found in Counties Galway and Mayo. To the immediate south-west of the enclosure there was a large square shaped depression which measured approximately 9.7 m (31' 10'') across. It seems likely that this depression marked the former location of the signal tower, in which case the signal tower would have been adjacent to rather than within the enclosure, an arrangement also recorded at the adjacent site to the west, Carrigan Head Signal Station.

To the north-east of the rectangular enclosure there was a conical mound, suspected to be the remains of a prehistoric burial cairn (DG097A005----). A well-preserved World War 2 era Look Out Post (L.O.P. 70) was located on top of the possible cairn (Reg. No. 40909729). To the south-west of the signal station there was a large lighthouse complex consisting of a square enclosure with tall stone walls which contained a small lighthouse (Reg. No. 40909717) and a lighthouse keepers house (Reg. No. 40909718). To the south-east of the lighthouse complex the overgrown remains of the 'Eire Sign 70' were located, close to the tip of the peninsula.

Figure D.6. The overgrown enclosure at St John's Point Signal Station, looking south-west, with the lighthouse complex visible in the background.

Figure D.7. The hollow feature which could mark the former location of the signal tower at John's Signal Station, looking north-east, with the possible cairn topped by L.O.P. 70 in the background.

Number 71. Carrigan Head Signal Station (556111, 874852).

Full signal tower. Reg. No. 40909601. 227 m (744') OD. Surveyed 26 August 2012.

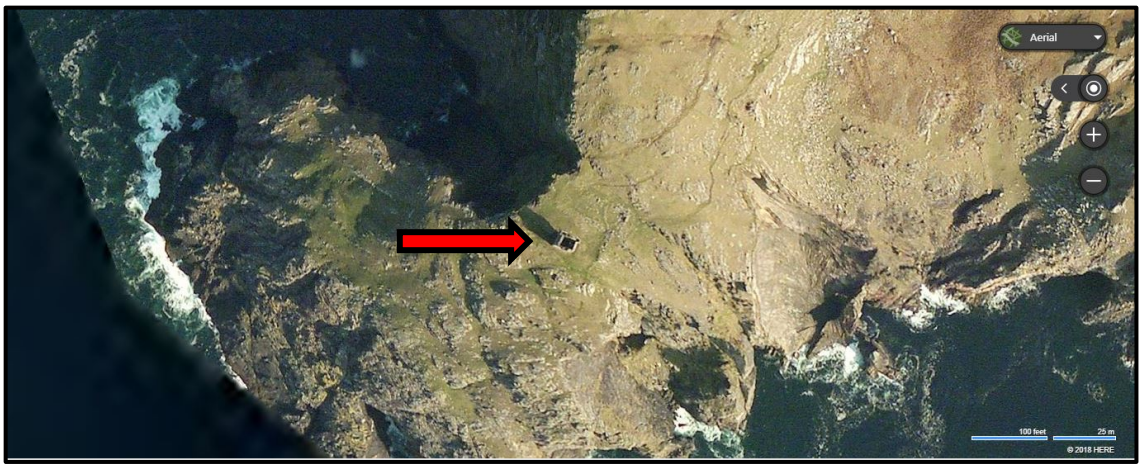

Figure D.8. Aerial photograph showing Carrigan Head Signal Station in the centre of the image (Bing Maps).

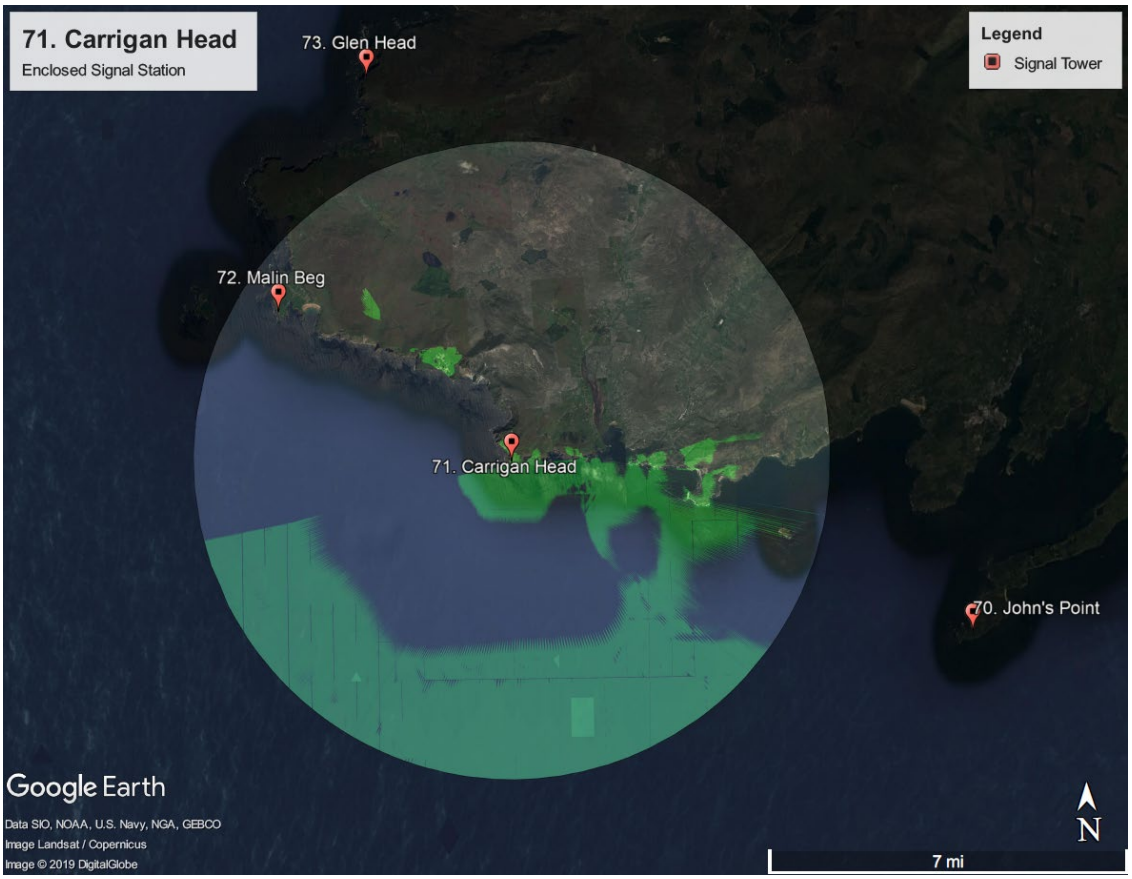

Figure D.9. Viewshed from Carrigan Head Signal Station (Google Earth Pro).

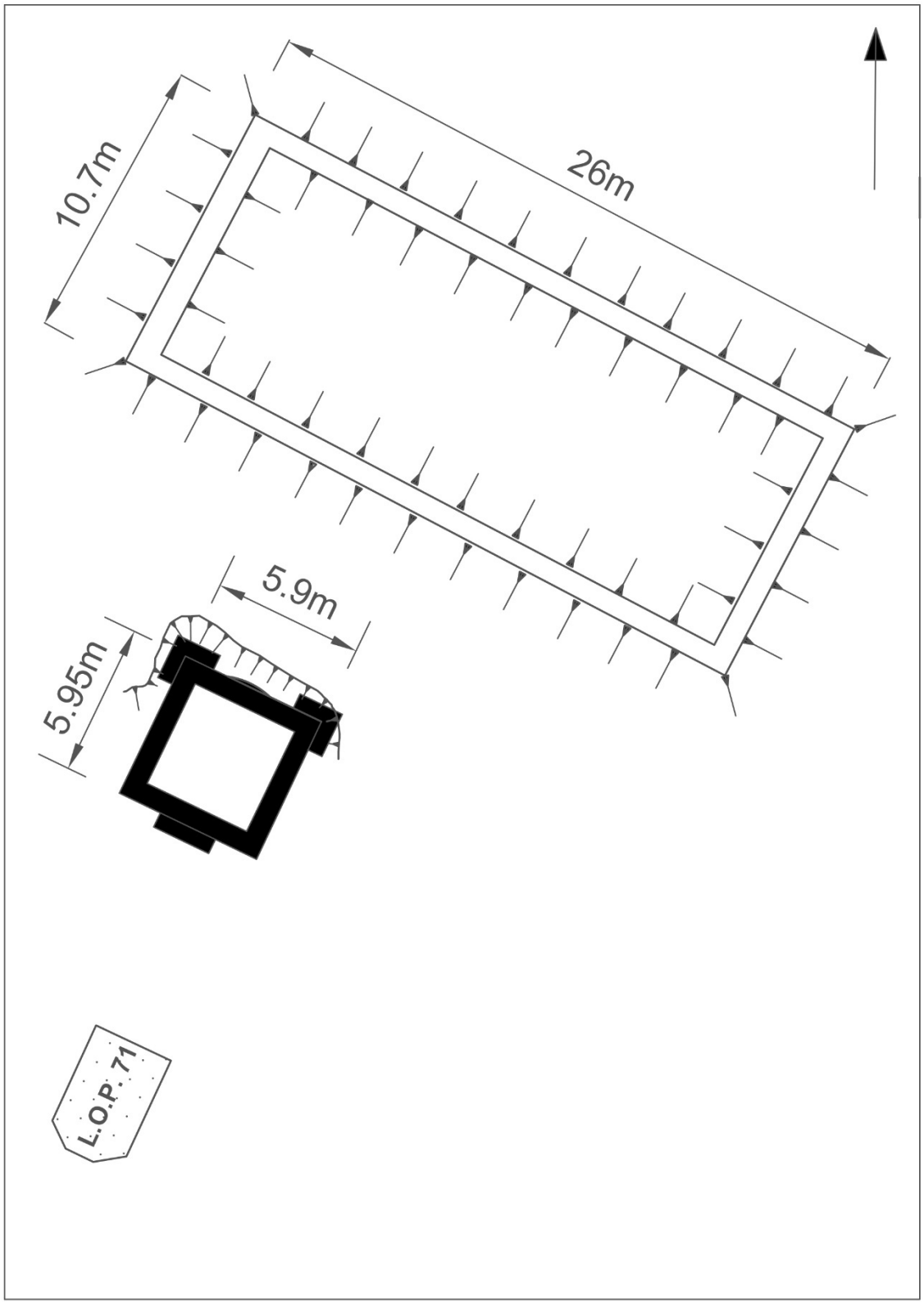

Figure D.10. Plan of Carrigan head Signal Station and L.O.P. 71.

Description

The variant enclosed signal station at Carrigan Head was located to the south of the road that leads to the main viewing point at the Slieve League cliffs. It was accessed via a grassy track which wraps around the side of the headland and which has very steep slopes on the seaward side that drop down to a series of short cliffs. The site had an elevation of 227 m (744') OD and had expansive views to the east south and west, but the view to the north and north-east was restricted by the headland. The site of the adjacent station to the east, St John's Point Signal Station, was clearly visible, although the signal tower had been demolished and could not be observed. The approximate position of the adjacent signal station to the west, Malin Beg, could be seen but it was not possible to pick out the well-preserved signal tower on the day of the survey due to poor weather conditions. The signal station is located in an unenclosed landscape, and was set on a small natural terrace, possibly enhanced, on a steep slope. The site was therefore overlooked by the higher ground to the north.

The most visible element at the Carrigan Head Signal Station was the well-preserved signal tower, positioned with its walls facing north-east, south-east, south-west, and north-west. The signal tower survived to its full height, apart from the uppermost parts of the western corner, which had collapsed. The signal tower largely followed the standard arrangement of features with the noticeable exception of the ground floor windows. The first-floor door faced to the south-west and was protected by a largely complete machicolation. The dressed side-stones of the doorway had been removed. The northern and eastern corners were protected by mostly intact bartizans. A well-preserved chimney stack extended from the centre of the slightly bowed north-east wall.

The pairs of ground floor windows on the north-west and south-east walls were unusual; they do not seem to have had full sets of surrounds, utilising only dressed stone 'flat arches' above the windows and dressed stone sills beneath the windows, with the sides simply being formed of neatly coursed field stones. The ground floor windows were noticeably narrower and shorter than typical, with heights of around 0.9 m (3') and widths of around 0.6 m (2'). The bases of the windows were also set higher above the external ground surface than was typical, although the tops of the windows

were in approximately the same height above the external ground surface as the windows seen on other signal towers. These differences presumably relate to the unusual terracing of the tower into the hillside, as the slope to the immediate rear of the signal tower extended above the heights of these windows. The first floor windows on the north-west and south-east walls featured the usual type of dressed stone surrounds which were intact on the south-east side and were largely missing on the north-west side. Coping stones were present around the top of the parapet level, except at the western corner where the upper part of the tower had begun to collapse. The well-preserved chimney featured two tall courses of stonework below two shorter courses of stonework with a string course at the divide. At the top, a series of small triangular stones had been set point upwards into a capping of mortar. The interior of the tower was not accessible, and it is not known if the internal features followed the standard arrangement. The dressed stone elements consisted of mid-grey coarse-grained stone, possibly gneiss or schist. The walls were constructed of mid-beige coarse-grained stones, possibly quartzite.

Traces of a rectangular enclosure were located immediately north-east of the tower, meaning the signal tower was adjacent to the enclosure, not within it. The enclosure was defined by low, grassed over, collapsed stone walls. It measured 26 m (85') from north-west to south-east, and 10.7 m (35') from north-east to south-west. Within the enclosure there were various sections of low, grassed over stone walls which could not be resolved into a cohesive pattern during the survey. It is possible that they represented the remains of various small buildings that formed part of the signal station. It is unclear why the enclosure was built adjacent to the signal tower rather than surrounding it, but a similar arrangement seemed to have been used at St John's Point Signal Station.

To the south-west of the signal tower there was a World War 2 era Look Out Post (L.O.P. 71) that was in a ruinous state. It consisted of an incomplete set of low concrete walls and a concrete slab foundation, surrounded and overlain by a spread of concrete wall fragments. Given the location of L.O.P.71 it is possible that the small walls observed within the enclosure are the remains of an 'Eire sign'.

Figure D.11. View of Carrigan Head Signal Station, looking south-east towards the north-west corner of the signal tower.

Figure D.12. The north-east wall of the signal tower at Carrigan Head Signal Station, with the low overgrown banks enclosure visible in front of the signal tower.

Figure D.13. The south corner of the signal tower at Carrigan head Signal Station.

Figure D.14. The badly collapsed remains of L.O.P. 71, located to the south of the signal tower at Carrigan Head Signal Station.

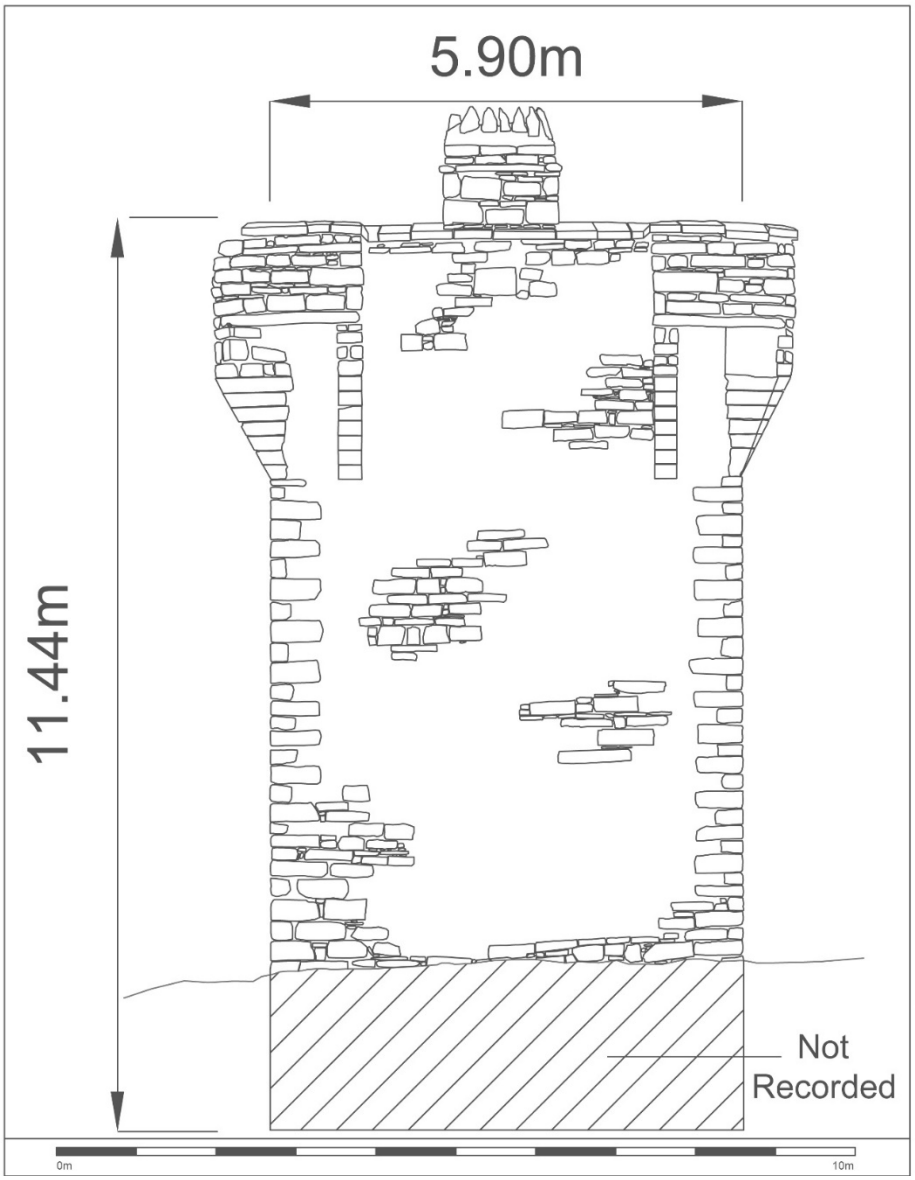

Figure D.15. External elevation of the north-east wall of the signal tower at Carrigan Head Signal Station.

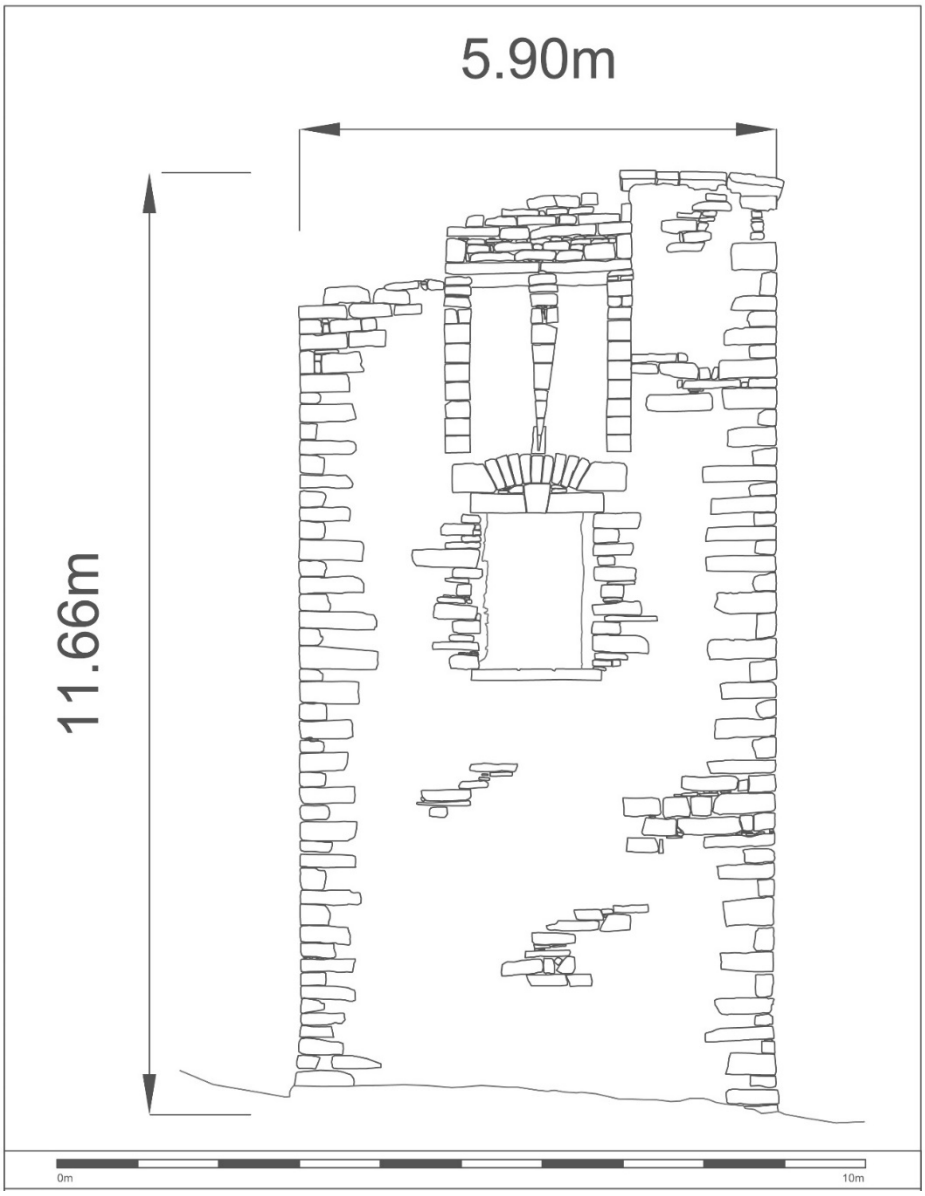

Figure D.16. External elevation of the south-east wall at Carrigan Head Signal Station.

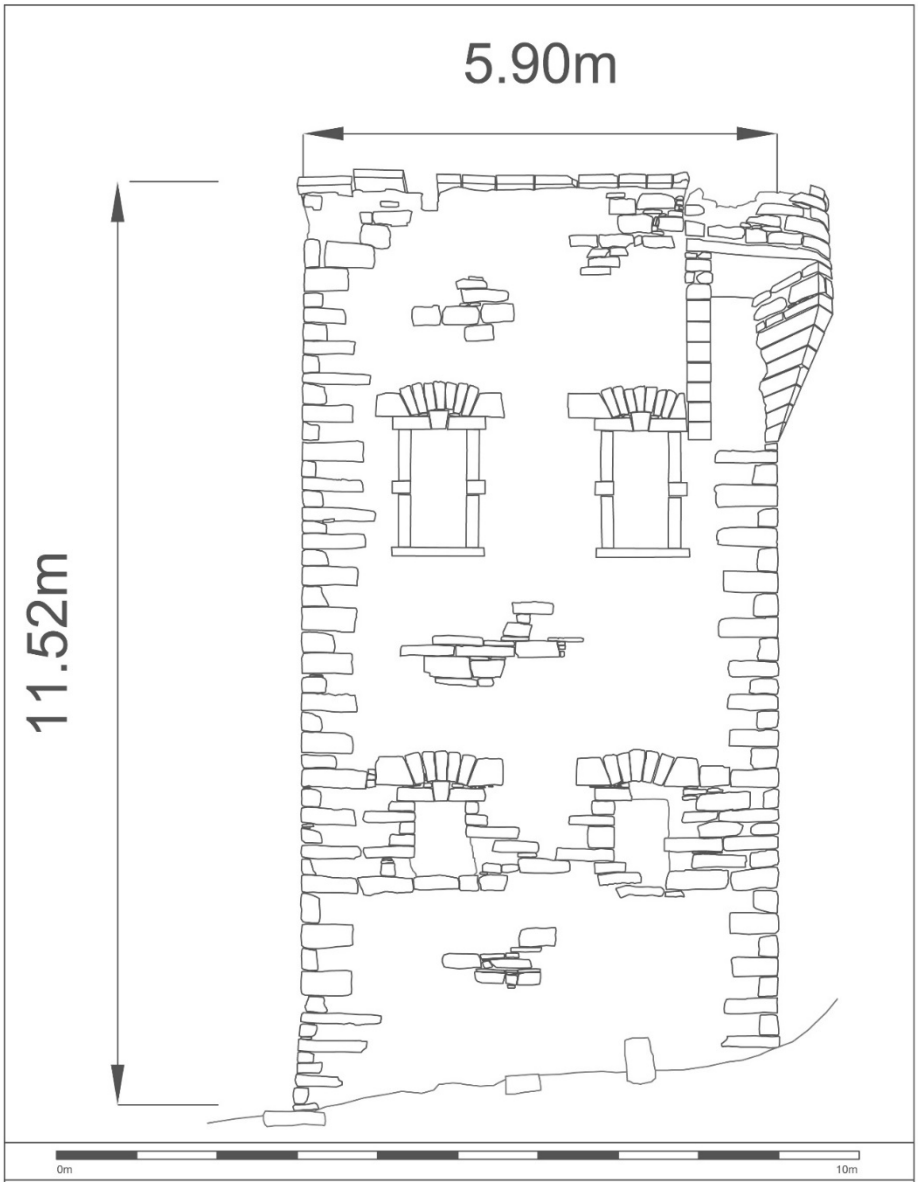

Figure D.17. External elevation of the south-west wall of the signal tower at Carrigan Head Signal Station.

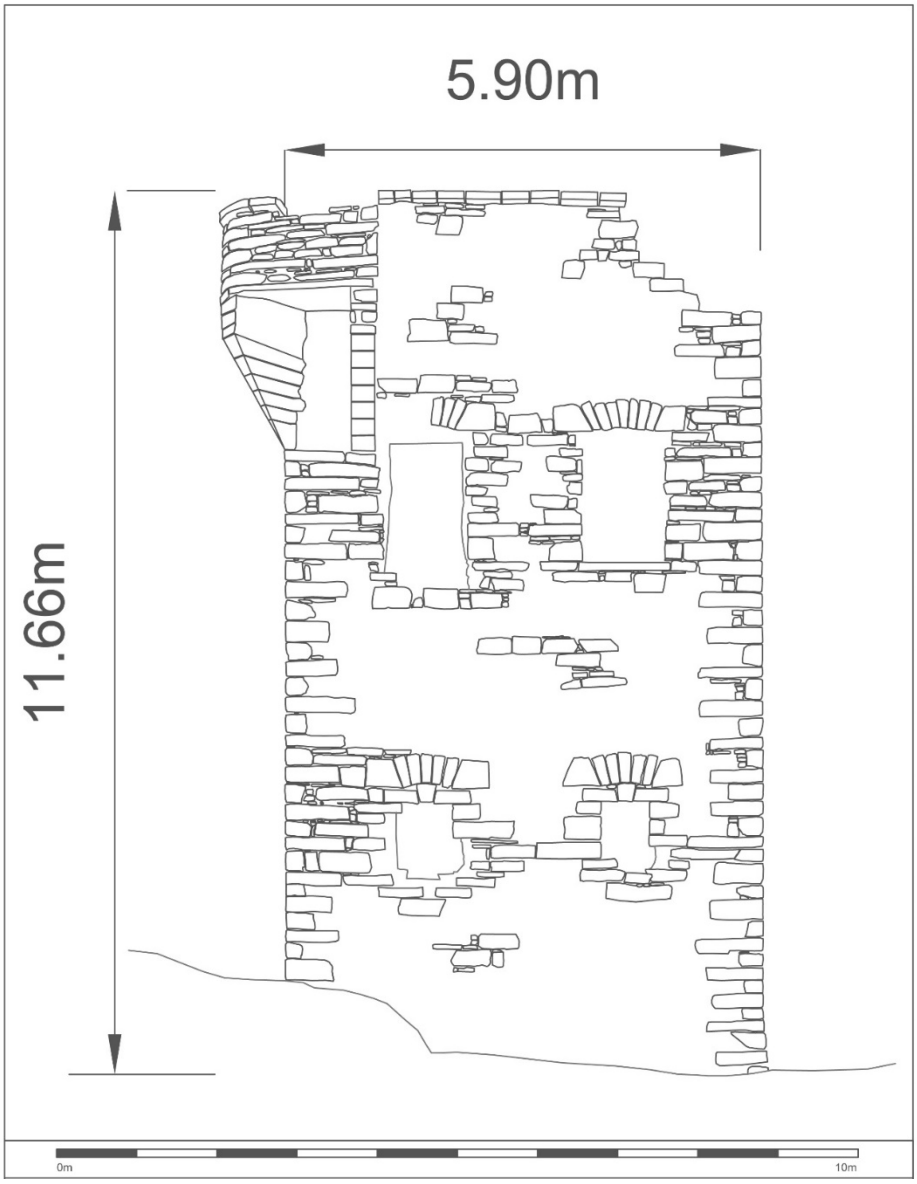

Figure D.18. External elevation of the north-west wall of the signal tower at Carrigan Head Signal Station.

Number 72. Malin Beg Signal Station (548926, 879699).

Full signal tower. Reg. No. 40908901. 35 m (115') OD. Surveyed 26 August 2012.

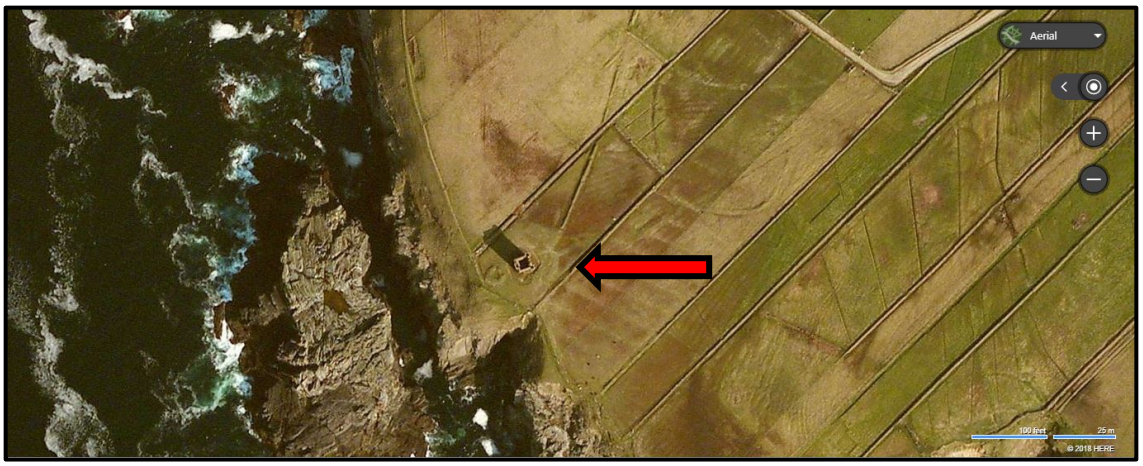

Figure D.19. Aerial photograph showing Malin Beg Signal Station in the centre of the image (Bing Maps).

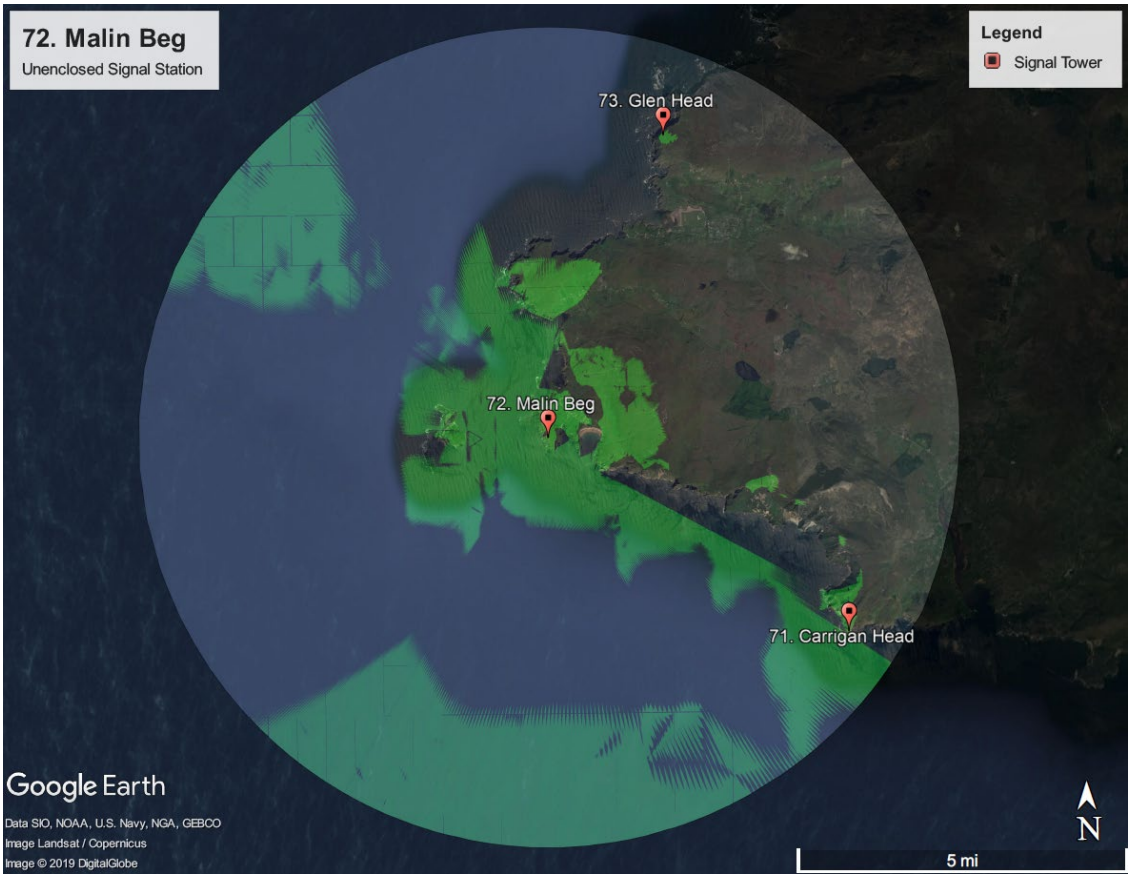

Figure D.20. Viewshed from Malin Beg Signal Station (Google Earth Pro).

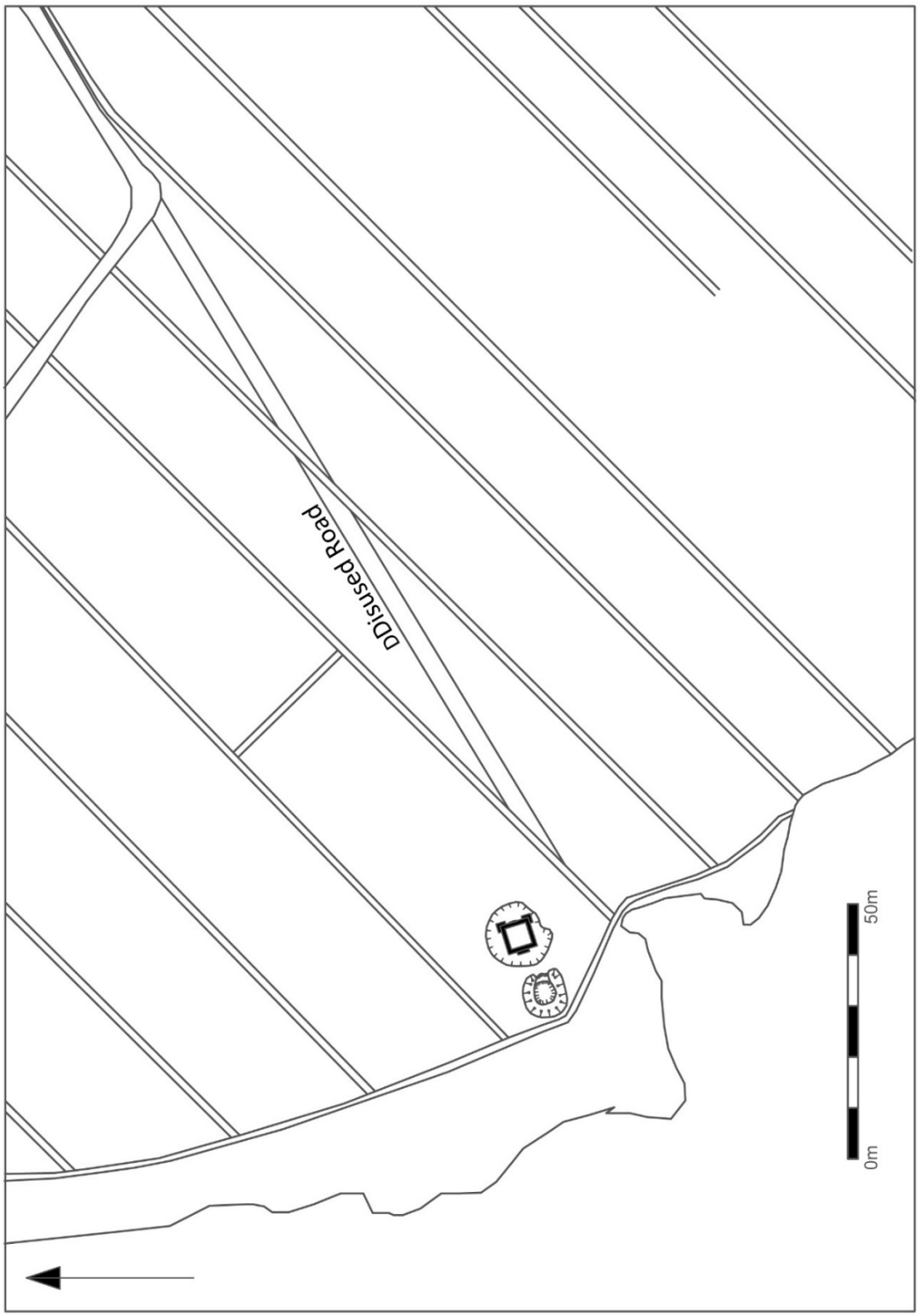

Figure D.21. Plan showing Malin Beg Signal Station and parts of the surrounding enclosed landscape, including the disused portion of the track which lead to the signal station, which is now visible as a faint earthwork crossing the long linear fields. A hut foundation is shown to the west of the signal tower.

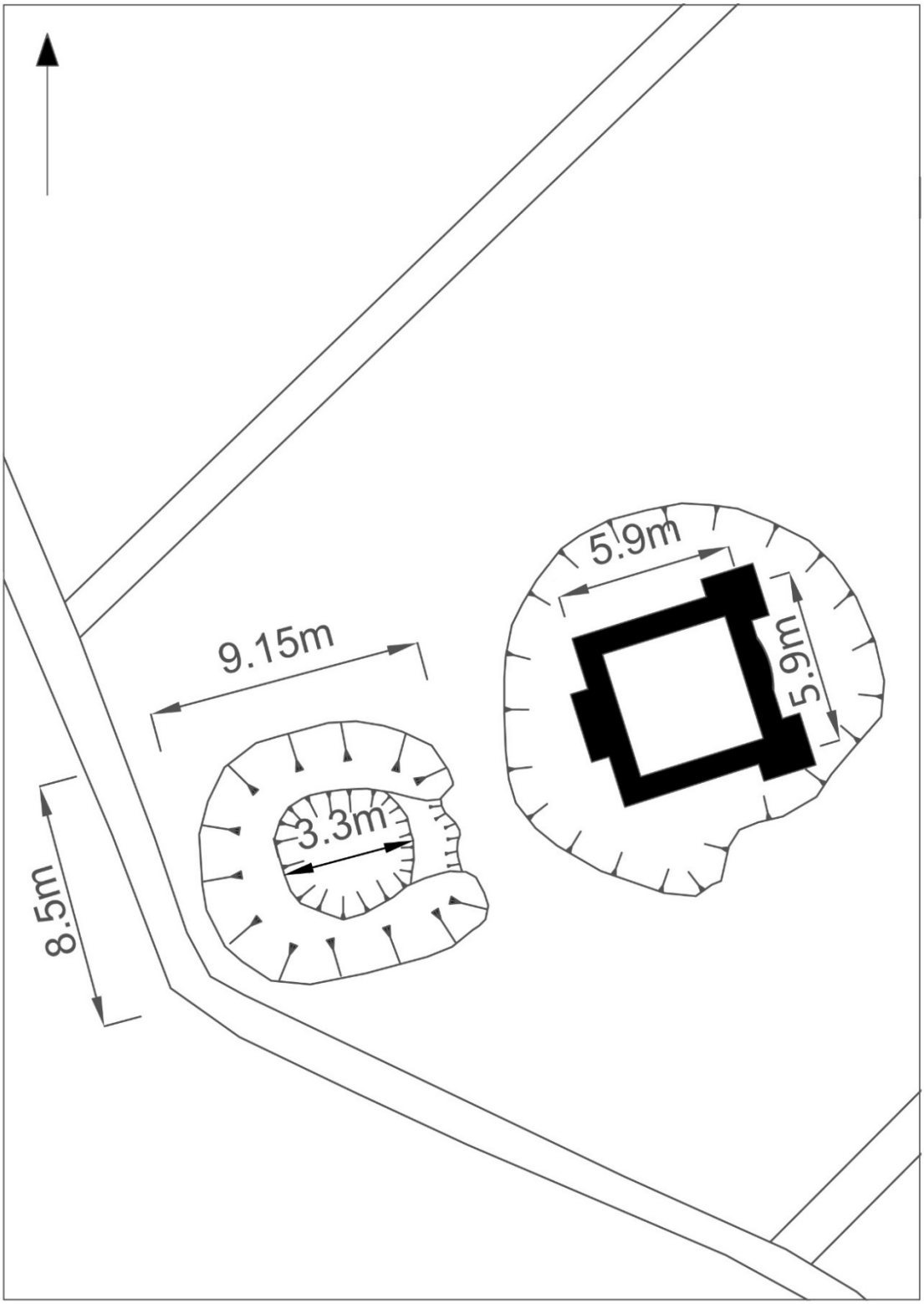

Figure D.22. Detailed plan of the signal tower and adjacent hut foundation at Malin Beg Signal Station.

Description

The unenclosed signal station at Malin Beg was located at the south-western corner of County Donegal. It provided a key link in the chain that allowed the stations on the southern coast of the county to communicate with those on the western coast. The signal station was located in an enclosed landscape at 35 m (115') OD, on level ground towards the southern tip of a small promontory, with steep cliffs to the south and west. The signal towers at the adjacent signal stations, Carrigan Head to the east and Glen Head to the north, were clearly visible from the site on the day of the survey.

The most visible element at the Malin Beg Signal Station was the well-preserved signal tower that survived to its full height. The signal tower largely followed the standard arrangement of features, but the pattern of fenestration had been altered. The tower was positioned with its walls facing north-east, south-east, south-west, and north-west respectively.

The first-floor door faced to the south-west and was protected by a complete machicolation. The sets of windows were located on the north-west and south-east walls. The northern and eastern corners were protected by intact bartizans. A well-preserved chimney stack extended from the centre of the outwardly bowed north-east wall. A complete circuit of coping stones were present around the top of the parapet wall, apart from a solitary missing example on the east bartizan. The most visible damage to the signal tower was the opening up of the southern ground floor window on the south-east wall to form a crude ground floor entrance. The first floor windows on the south-east side had been reduced in height, leaving a large infilled space of stonework below the relieving arches and the flat arches that formed the tops of the window surrounds. A similar if less severe reduction of height had happened to the first floor doorway. Between the original relieving arch and the top of the lowered surround of the doorway a second smaller relieving arch had been inserted. The lower two thirds of the doorway had been blocked with neatly coursed stonework. On the north-west wall, the northern window on the first floor had been reduced in height in the same fashion as those on the south-east wall. The southern window has simply been infilled with neatly coursed stonework. Despite the alterations, all of the windows and the first floor door featured intact stone surrounds. The side stones of ground floor windows

each featured three horizontal holes, presumably where horizontal metal bars were located. The dressed stone surrounds consisted of a dark-grey coarse-grained stone, possibly schist. The walls were constructed of a mixture of mid-beige and dark-grey coarse-grained stones, possibly a mixture of quartzite and schist.

At the time of the survey the tower was located in a shallow water filled hollow which appeared to be the result of recent drainage work in the area. Unfortunately, because the interior was filled with water, it couldn't be properly assessed. From what could be observed of the north-east wall of the interior, it contained the expected arrangement of alcoves and fireplaces on the east wall. There were no indications of the slots or joist holes for a split mezzanine level, but given the amount of alterations, these could have been removed. A small alcove was built into the attic level of the north-east wall, a feature not observed at other signal towers in the main study area. A square section vertical drainage channel ran down the north edge of the north-west wall. The alterations to the first floor windows on the northern wall were clearly visible from inside the building. A set of flat square stone slabs projected into the interior of the tower, from the top of the instep at the base of the parapet wall. These are difficult to explain but may relate to lowering of the roof level at the same time the height of the first floor windows were lowered. The alcove in the attic level wall may have been added during the same period of modification.

The grassed over foundations of a large hut was located to the immediate west of the signal tower. It was not clear if this was a contemporary element of the signal station, an earlier structure, potentially associated with an early church site a short distance to the north of the signal station, or if it post-dated the abandonment of the signal station. The hut measured 9.15 m by 8.5 m (30' by 27' 11'') and had banks that were up to 2.2 m wide (7' 3'') and 0.4 m tall (1' 4''). The early ecclesiastical site (DG089-014001-) was located around 200 m to the north of the signal station, and a possible promontory fort (DG089-032----) was located about 300 m to the south-east.

Figure D.23. View of the signal tower at Malin beg, looking south-west across the enclosed landscape.

Figure D.24. The north-east corner of the signal tower at Malin Beg Signal Station.

Figure D.25. The upper portion of the north-west external wall of the signal tower at Carrigan Head Signal Station, showing the repositioned north window, the infilled south window, the north bartizan and the ground floor windows.

Figure D.26. The lower portion of the north-west external wall of the signal tower at Carrigan Head Signal Station, showing the water filled hollow around the signal tower.

Figure D.27. The upper portion of the north-east internal wall face of the signal tower at Carrigan Head Signal Station. The position of the first floor, the first floor fireplace with flanking alcoves, the joist holes of the attic level and the unusual alcove in the attic level are visible. Note the flat stones projecting inwards from the base of the parapet level.

Figure D.28. The lower portion of the north-east internal wall face of the signal tower at Carrigan Head Signal Station. The upper part of the semi-basement level, the ground floor slot, the central fireplace and the flanking alcoves are visible.

Figure D.29. The upper portion of the internal face of the north-west wall of the signal tower at Carrigan head Signal Station, showing the heavily modified first floor windows.

Figure D.30. The lower portion of the internal face of the north-west wall of the signal tower at Carrigan Head Signal Station. The row of three holes in the side stone of the south window which would have held horizontal bars protecting the window are visible towards the top right of the image.

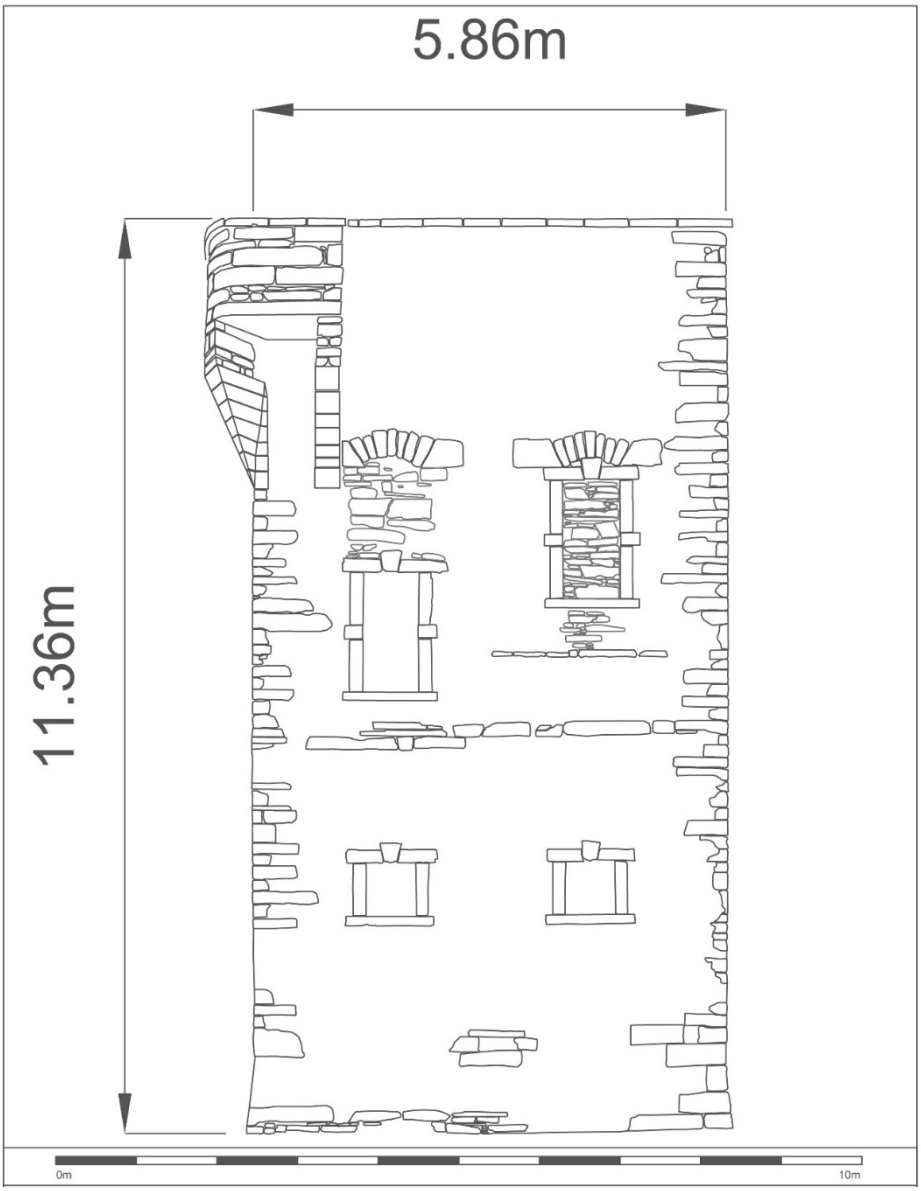

Figure D.31. External elevation of the north-west wall of the signal tower at Malin Beg Signal Station.

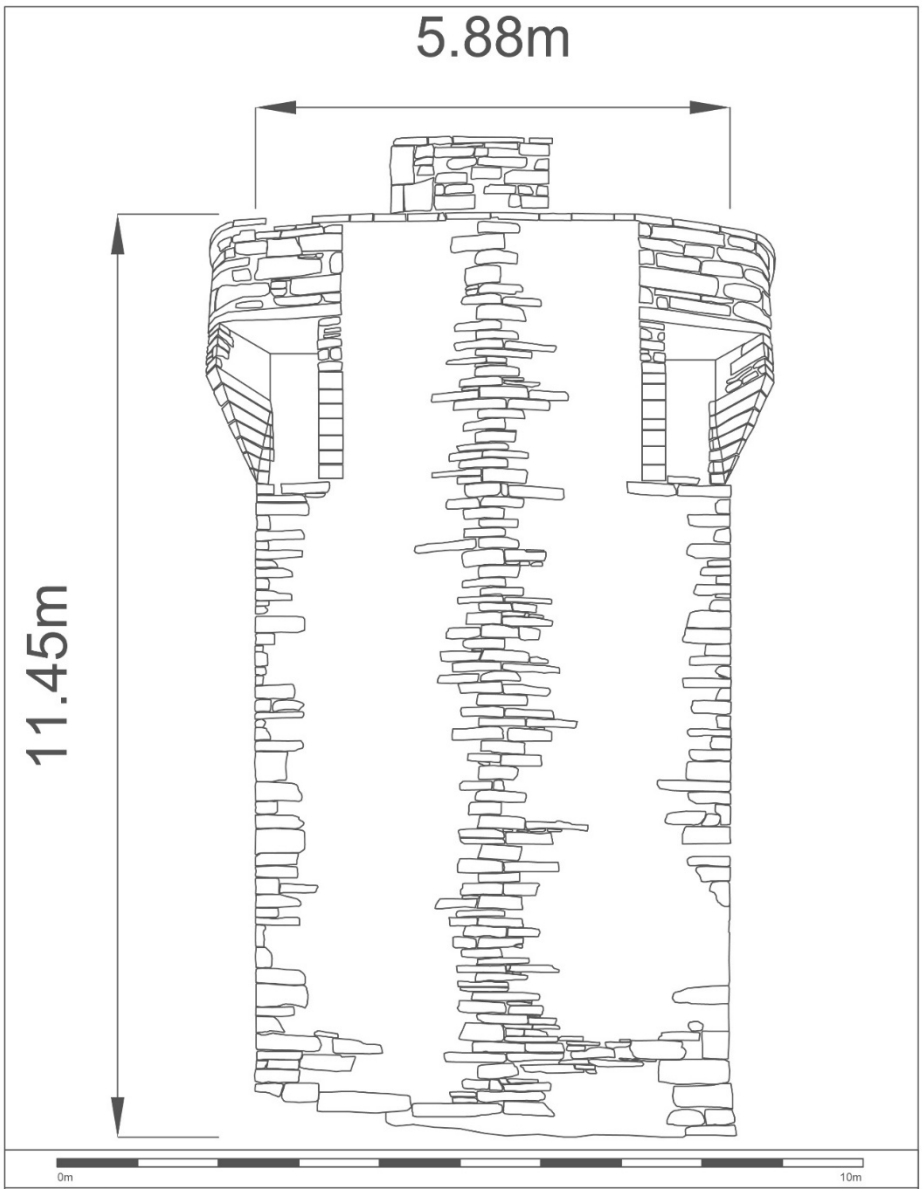

Figure D.32. External elevation of the north-east wall of the signal tower at Malin Beg Signal Tower.

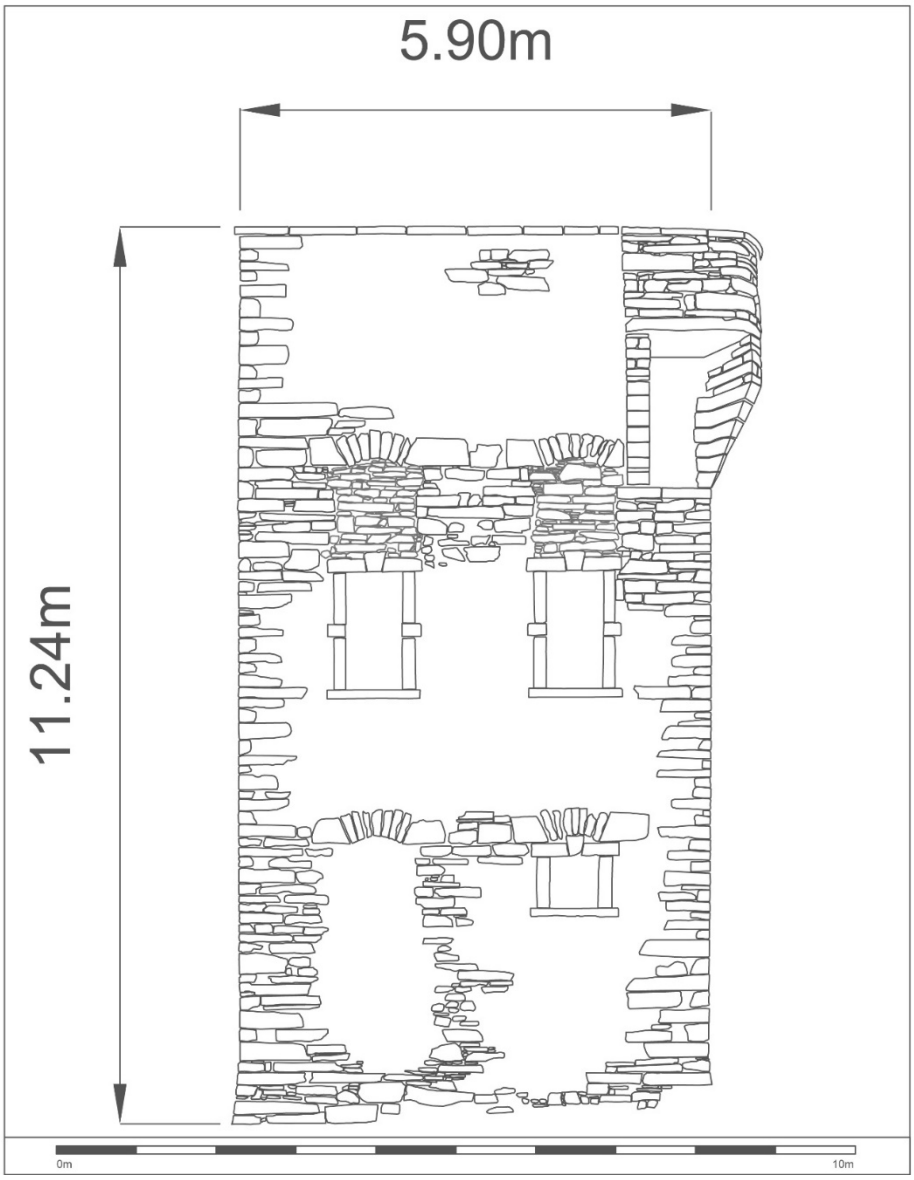

Figure D.33. External elevation of the south-east wall of the signal tower at Malin Beg Signal Station.

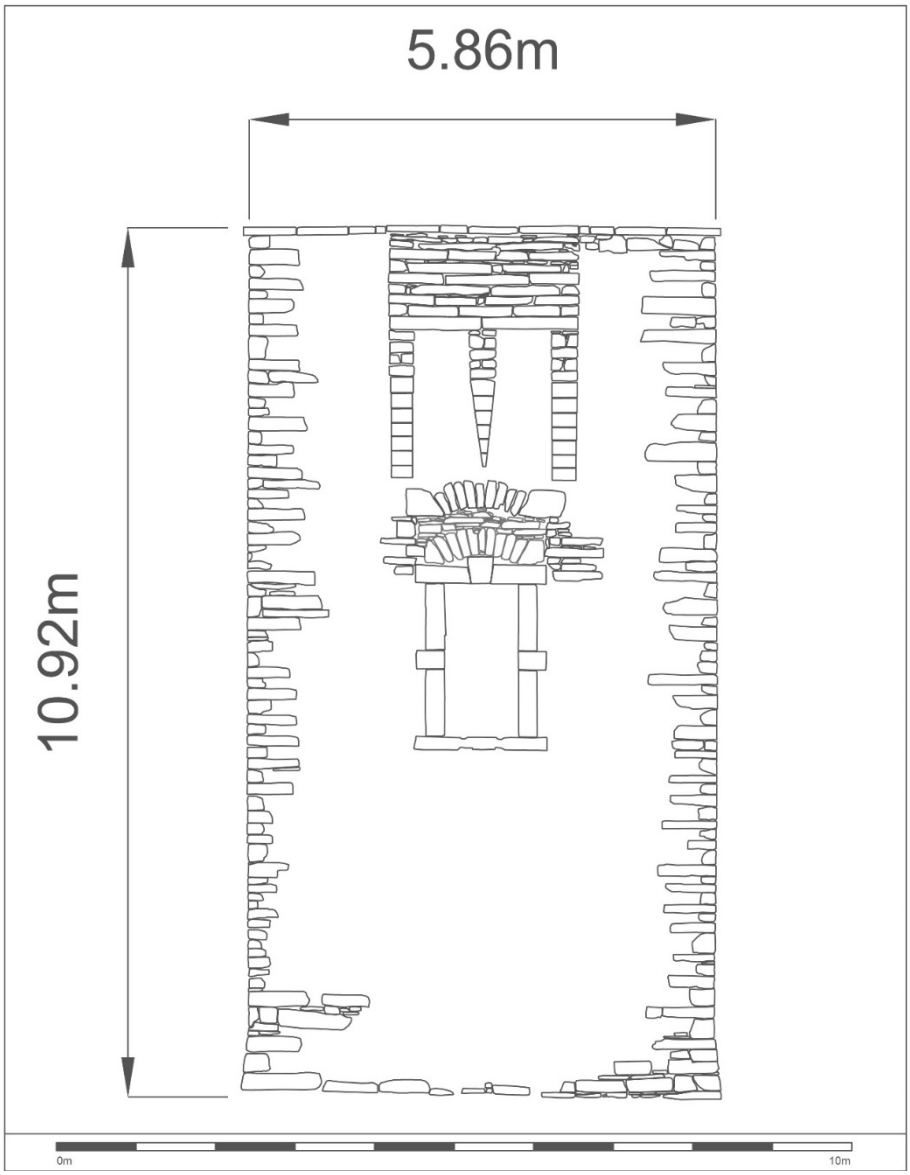

Figure D.34. External elevation of the south-west wall of the signal tower at Malin Beg Signal Station.

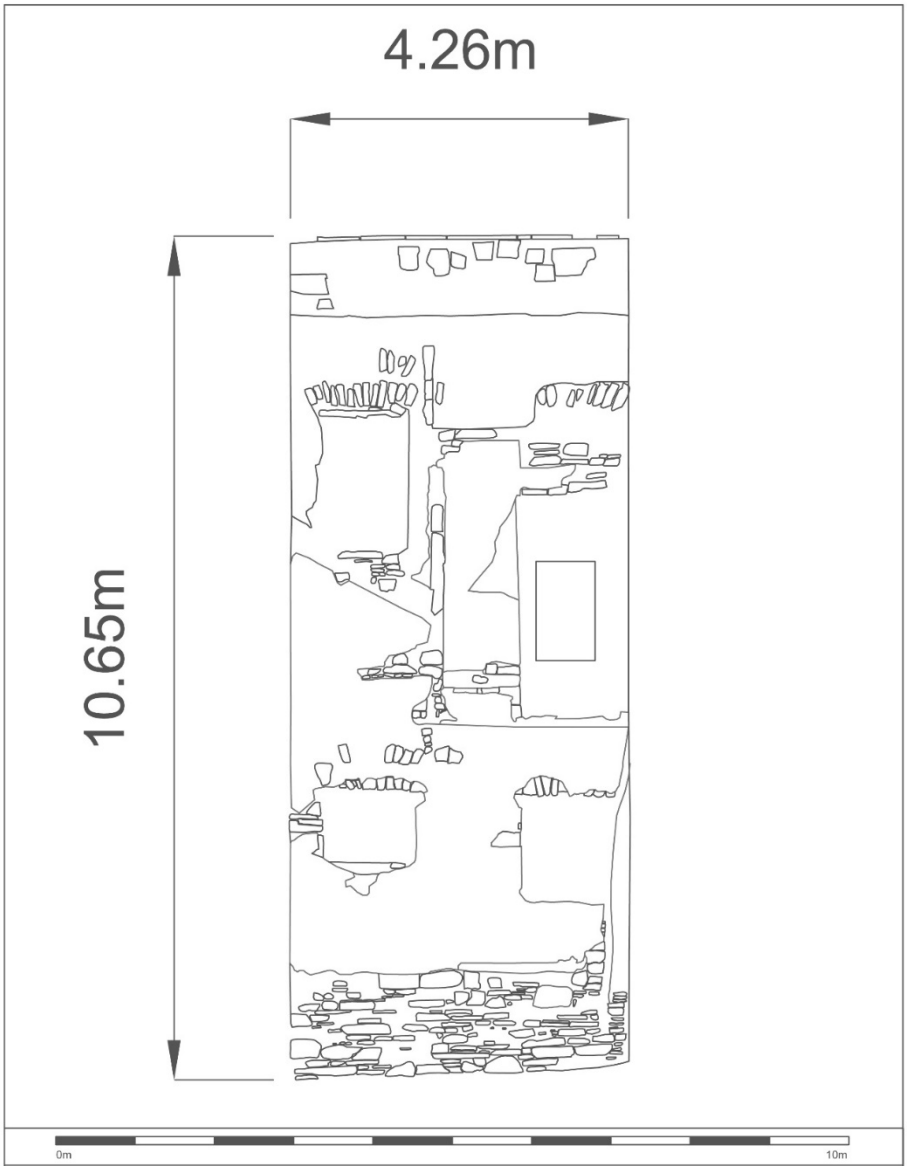

Figure D.35. Internal elevation of the north-east wall of the signal tower at Malin Beg Signal Station.

Number 73. Glen Head Signal Station (551891, 886940).

Full signal tower. Reg. No. 40908001. 227 m (745') OD. Surveyed 26 August 2012.

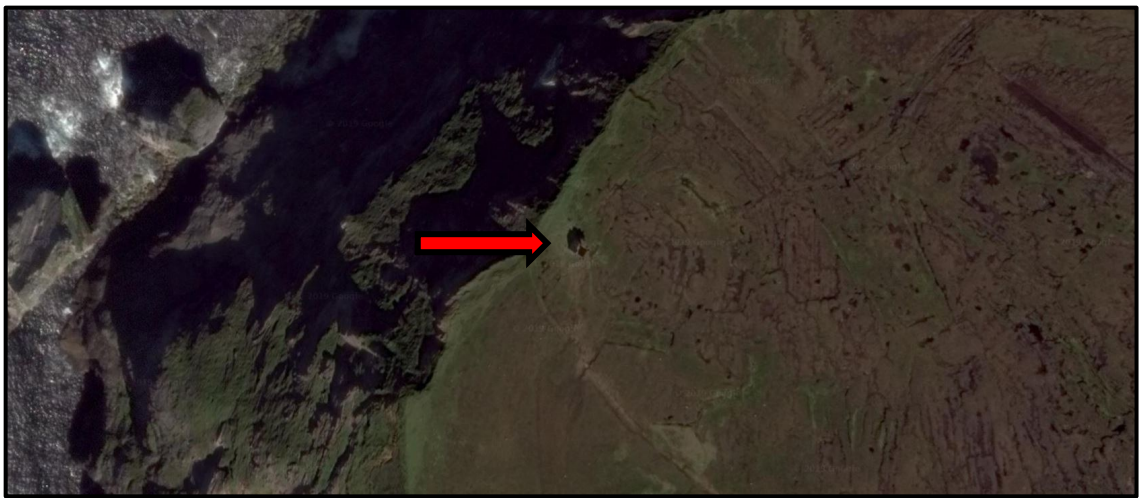

Figure D.36. Aerial photograph showing Glen Head Signal Station in the centre the of image (Bing Maps).

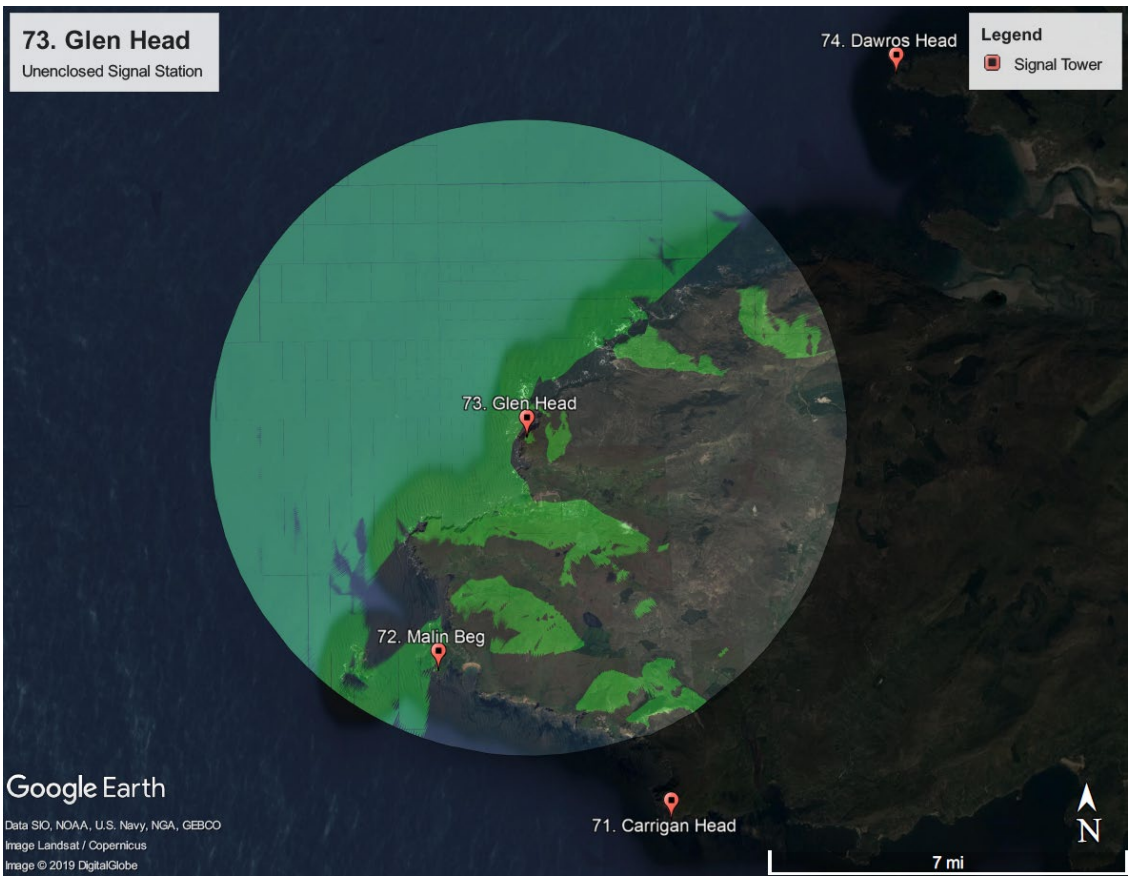

Figure D.37. Viewshed from Glen Head Signal Station (Google Earth Pro).

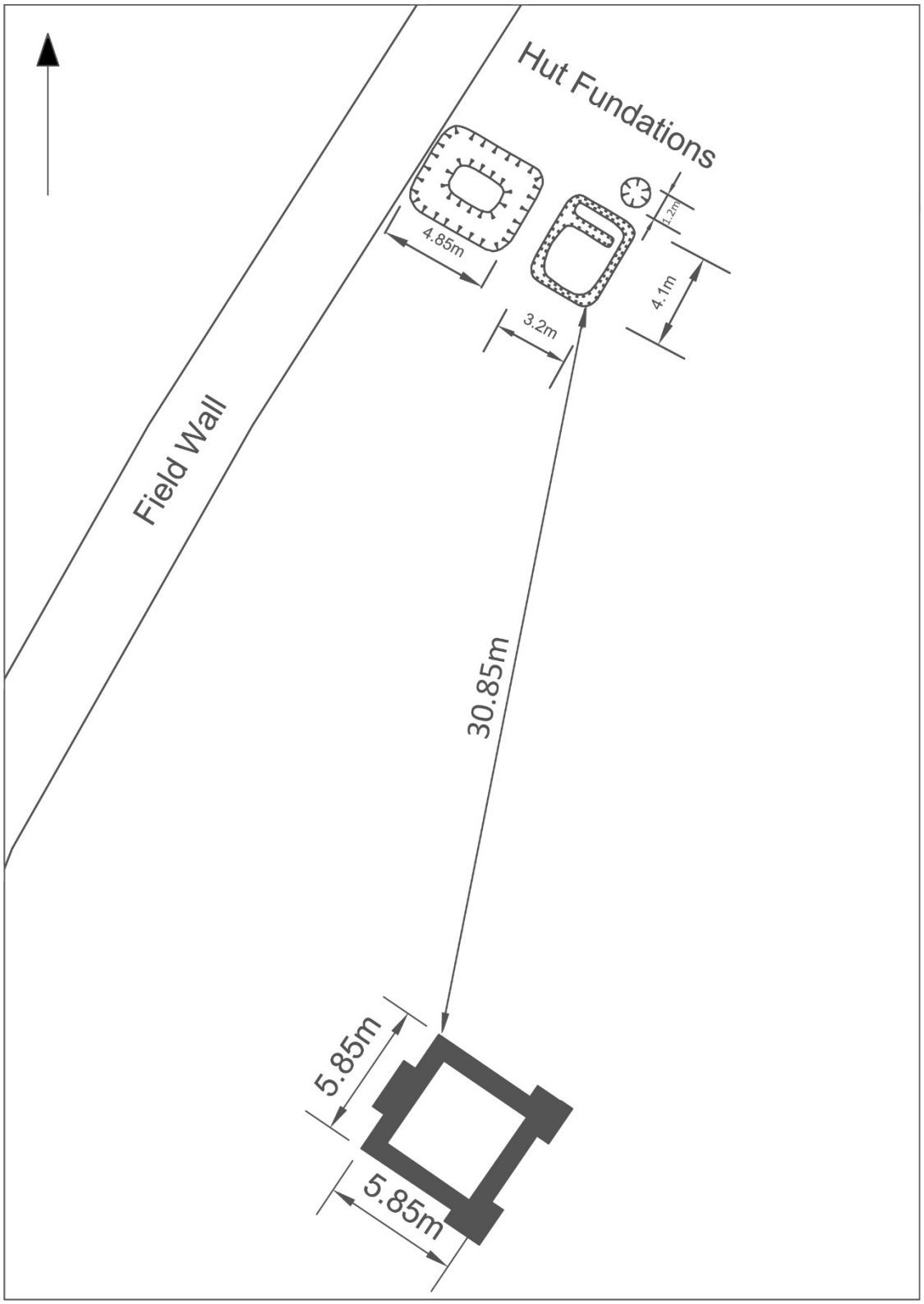

Figure D.38. Plan of Glen Head Signal Station.

Description

The unenclosed signal station at Glen Head was located at 227 m (745') OD on an expansive elevated plateau to the north of the village of Glencolumbkille. It was set close to a formidable set of cliffs and was accessed via a long carefully constructed switchback road that leads onto the plateau from Glencolumbkille. The signal tower at the adjacent signal station to the south, Malin Beg, was not visible on the day of the survey due to poor weather conditions; the signal tower at the signal station to the north, Dawros Head, has been largely destroyed and would not have been visible under any weather conditions. The signal station was located in an unenclosed landscape.

The most visible element at the Glen Head Signal Station was the well-preserved signal tower that survived to its full height, apart from the top of the north-west wall and the upper parts of the machicolation over the first floor doorway, which had collapsed. The signal tower largely followed the standard arrangement of features with no noticeable exceptions. The tower was positioned with its walls facing north-east, south-east, south-west, and north-west respectively.

The first-floor door faced to the north-west and was protected by the partially collapsed machicolation, of which little survived beyond the three piers that had supported it. The sets of windows were located on the north-east and south-west walls. The east and south corners of the tower were protected by intact bartizans. No chimney stack was visible on the south-east wall, but it did feature the characteristic bowing to house the chimney flue. There were no chutes passing through the south-east wall.

All but one of the windows retained their dressed stone surrounds, the exception being the ground floor window on the north-east wall. The surviving side stones of ground floor windows each featured three horizontal holes, presumably where horizontal metal bars were located. Like the example at Carrigan Head there was no access to the interior of this signal tower and the internal arrangements could not be assessed. The dressed stone elements of the signal tower consisted of dark-grey coarse-grained stone, possibly schist. The walls of the signal tower consisted of dark-beige coarse-grained stone, possibly quartzite.

The foundations of two small buildings were located close to the cliff edge to the north of the signal tower. They were tentatively listed as secondary buildings in the main text (Section 4.7) because there was nothing to indicate that they were contemporary with the signal station. However, the buildings have some similarity to some of the buildings believed to be contemporary elements of the enclosed signal stations, and this possibility is explored in Section 5.3.3. The north-western foundation measures 4.85 m by 4.1 m (15’ 11’’ by 13’ 6’’) and the south-eastern foundation, located 1.2 m (3’ 11’’) away, measured 3.2 m by 4.1 m (10’ 6’’ by 13’ 6’’). A small stone structure to the immediate north-east of the south-western building could possibly be the remains of a mast mount. The feature consisted of a small ring of stone set within an earthen mound. It had an internal diameter of 1.2 m (3’ 11’’).

Figure D.39. View of Glen Head Signal Station, looking north-west.

Figure D.40. The north corner of the signal tower of Glen Head Signal Station.

Figure D.41. The upper portion of the external face of the north-west wall of the signal tower at Glen Head Signal Station, showing the first floor doorway with its intact stone surround and the partially collapsed machicolation.

Figure D.42. The hut foundations to the north of the signal tower at Glen head Signal Station, looking north-west.

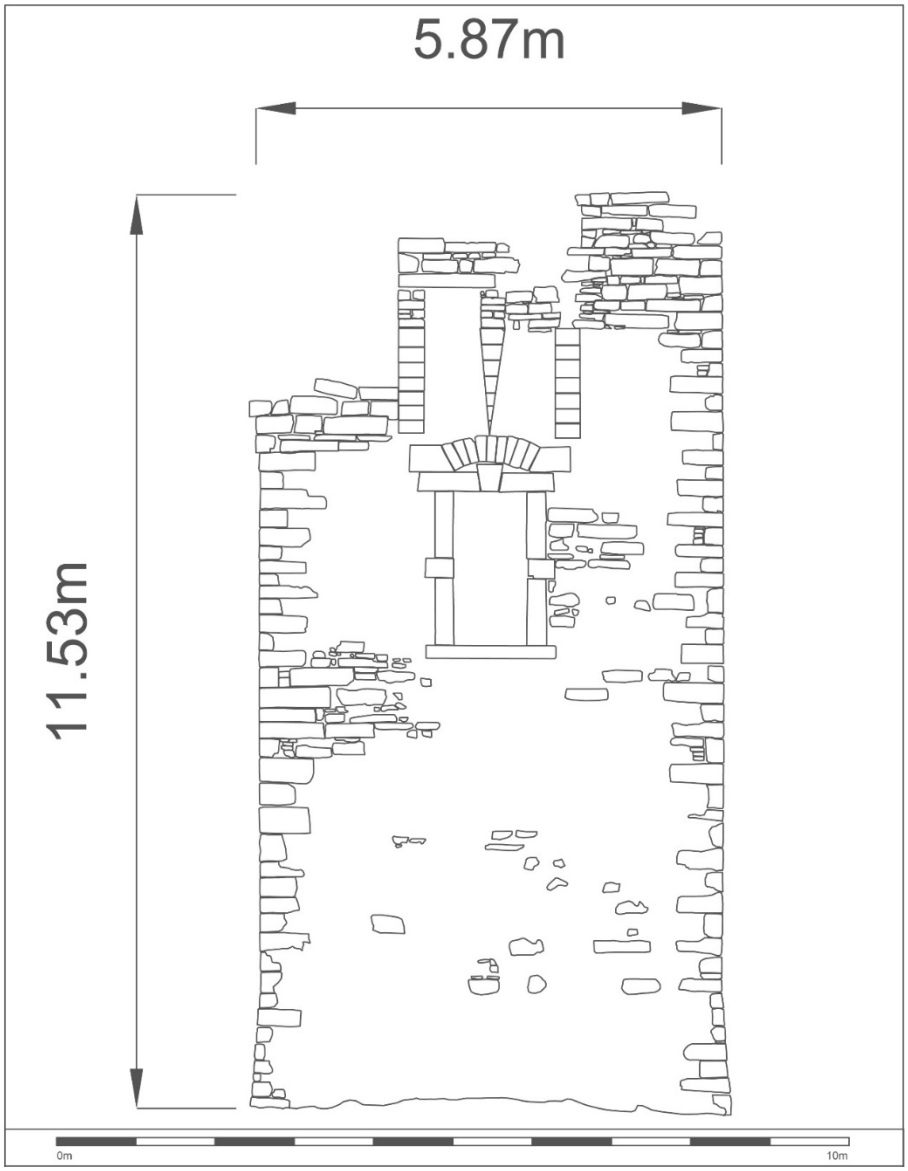

Figure D.43. External elevation of the north-west wall of Glen Head Signal Tower.

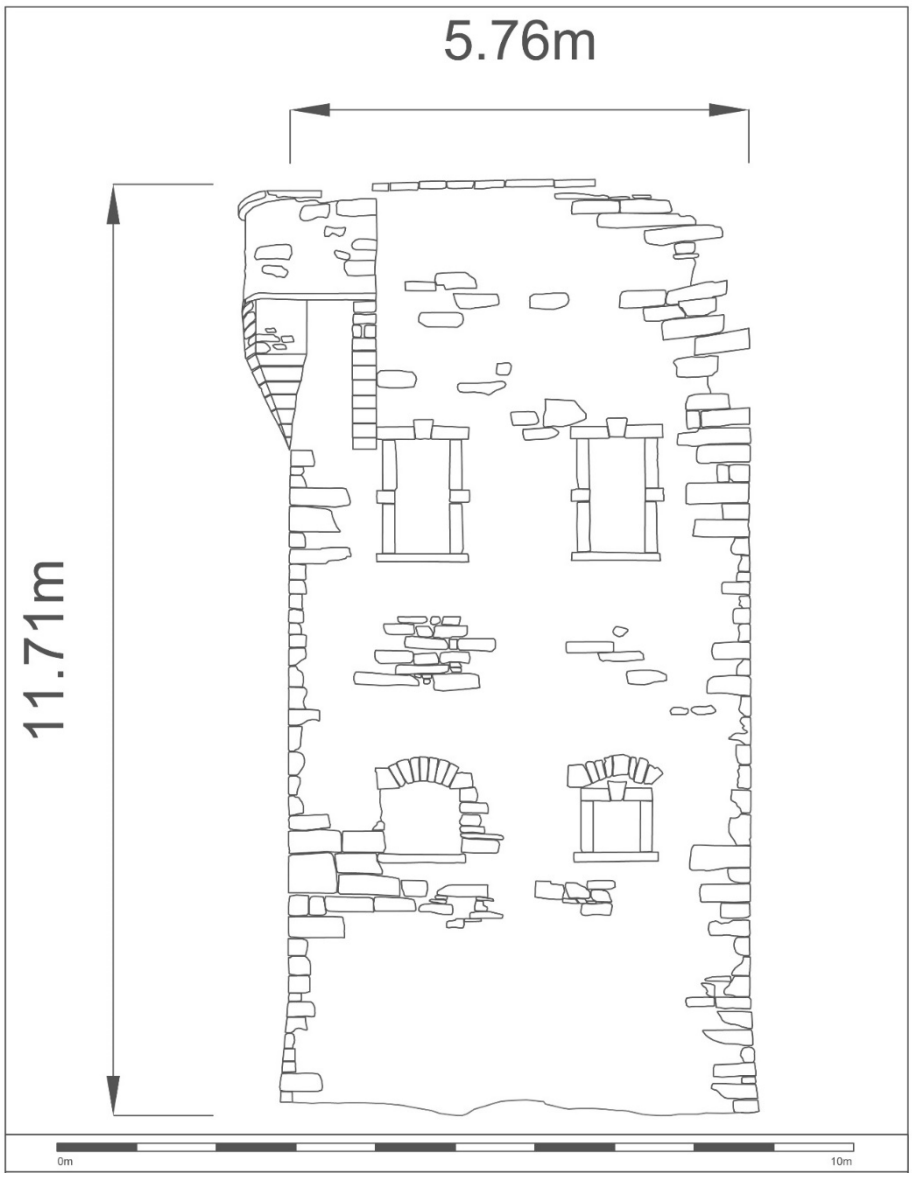

Figure D.44. External elevation of the north-east wall of the signal tower at Glen Head Signal Tower.

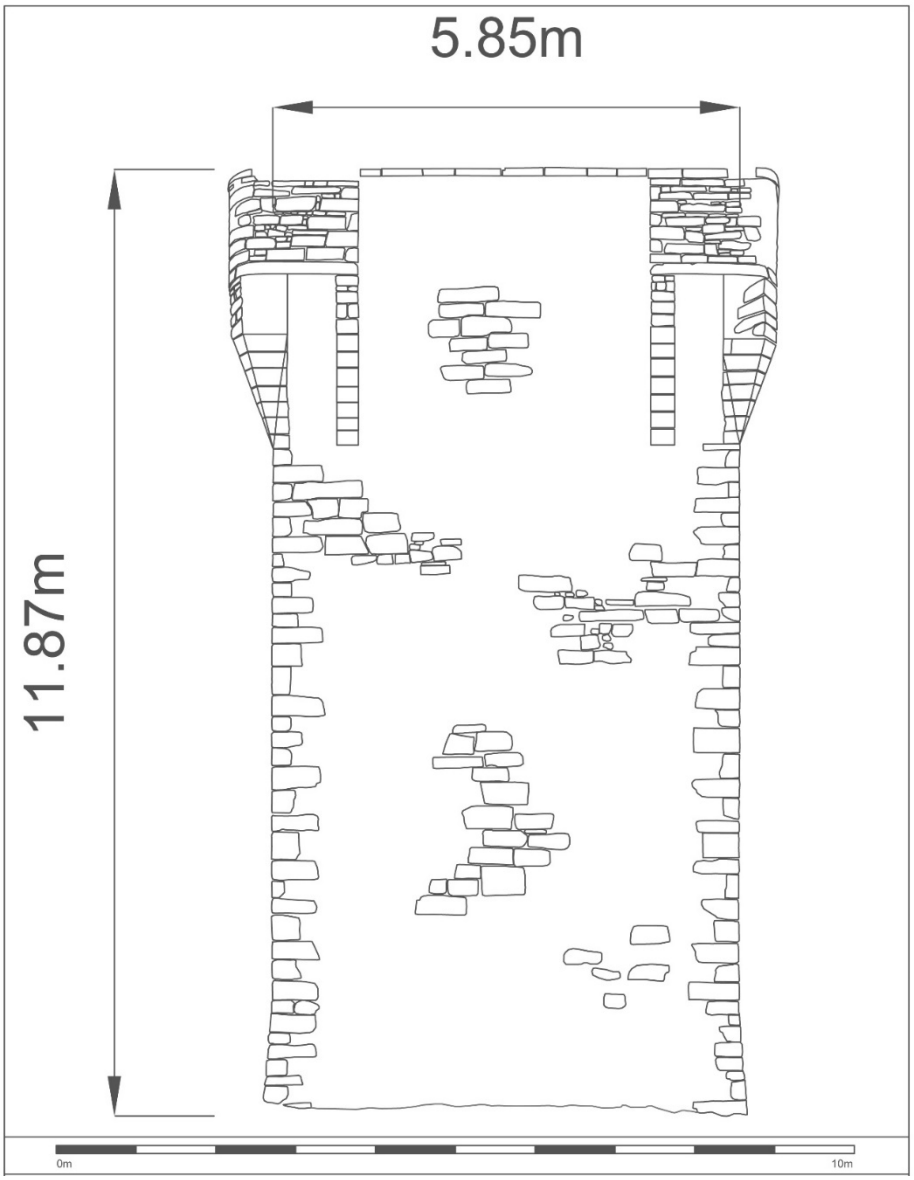

Figure D.45. External elevation of the south-east wall of the signal tower at Glen Head Signal Station.

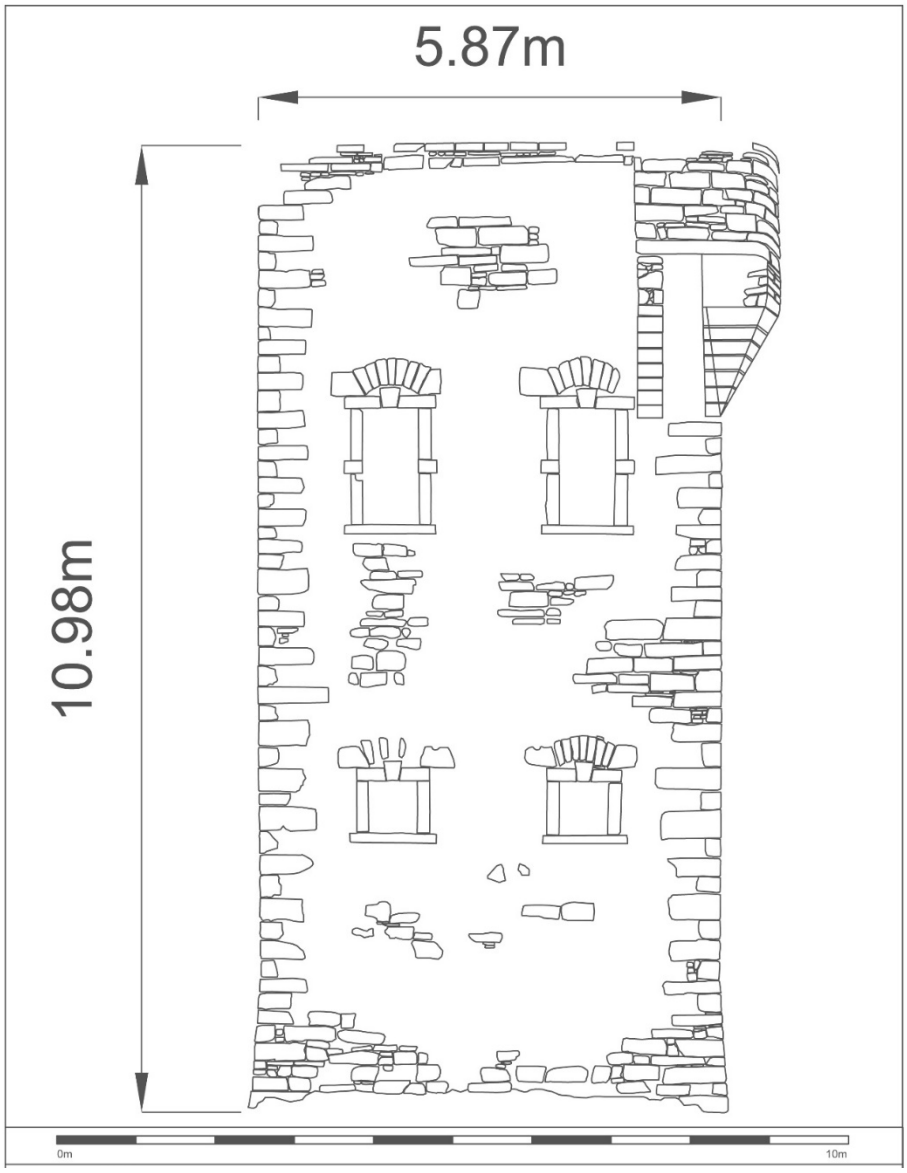

Figure D.46. External elevation of the south-west wall of the signal tower at Glen Head Signal Station.

Number 74. Dawros Head Signal Station (563836, 898015).

Low ruin of a signal tower. SMR DG064-001----. 12 m (39') OD. Surveyed 27 August 2012. Historical Name: Dauras Head Signal Station.

Figure D.47. Aerial photograph showing Dawros Head Signal Station in the centre of the image (Bing Maps).

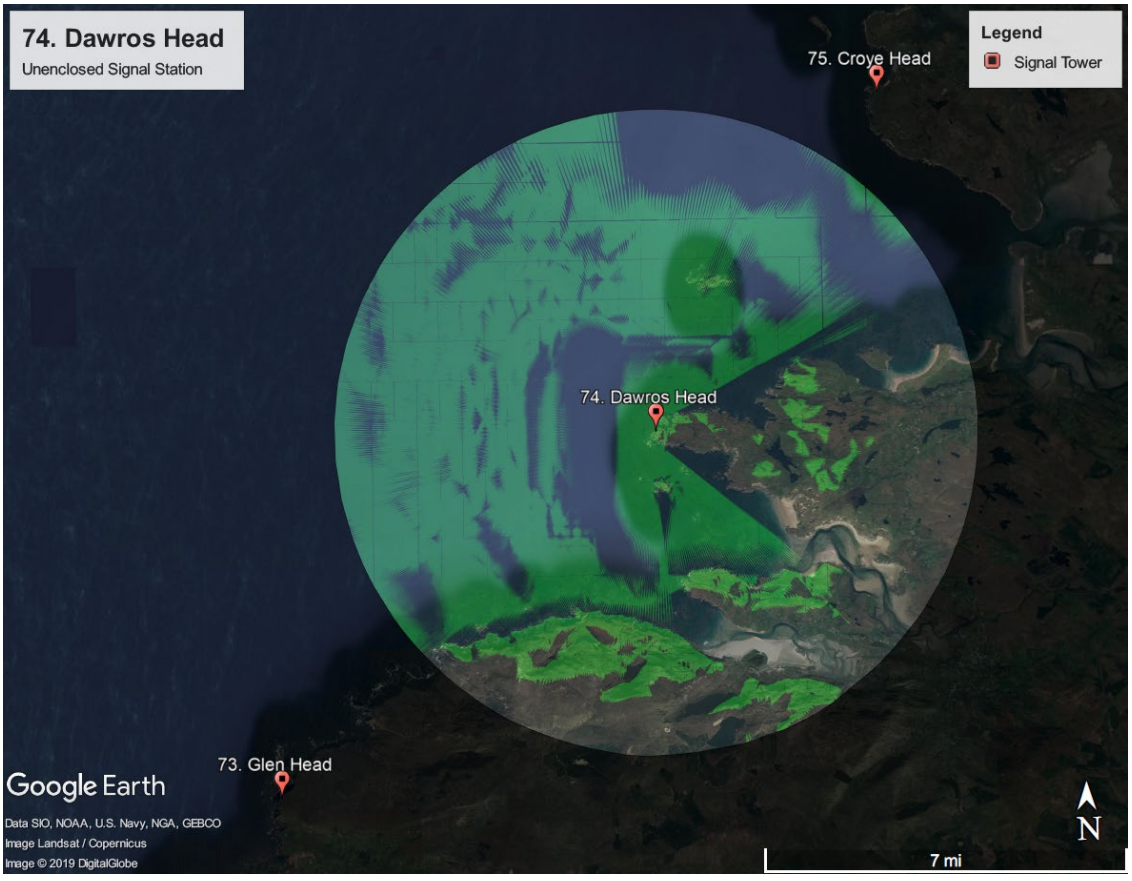

Figure D.48. Viewshed from Dawros Head Signal Station (Google Earth Pro).

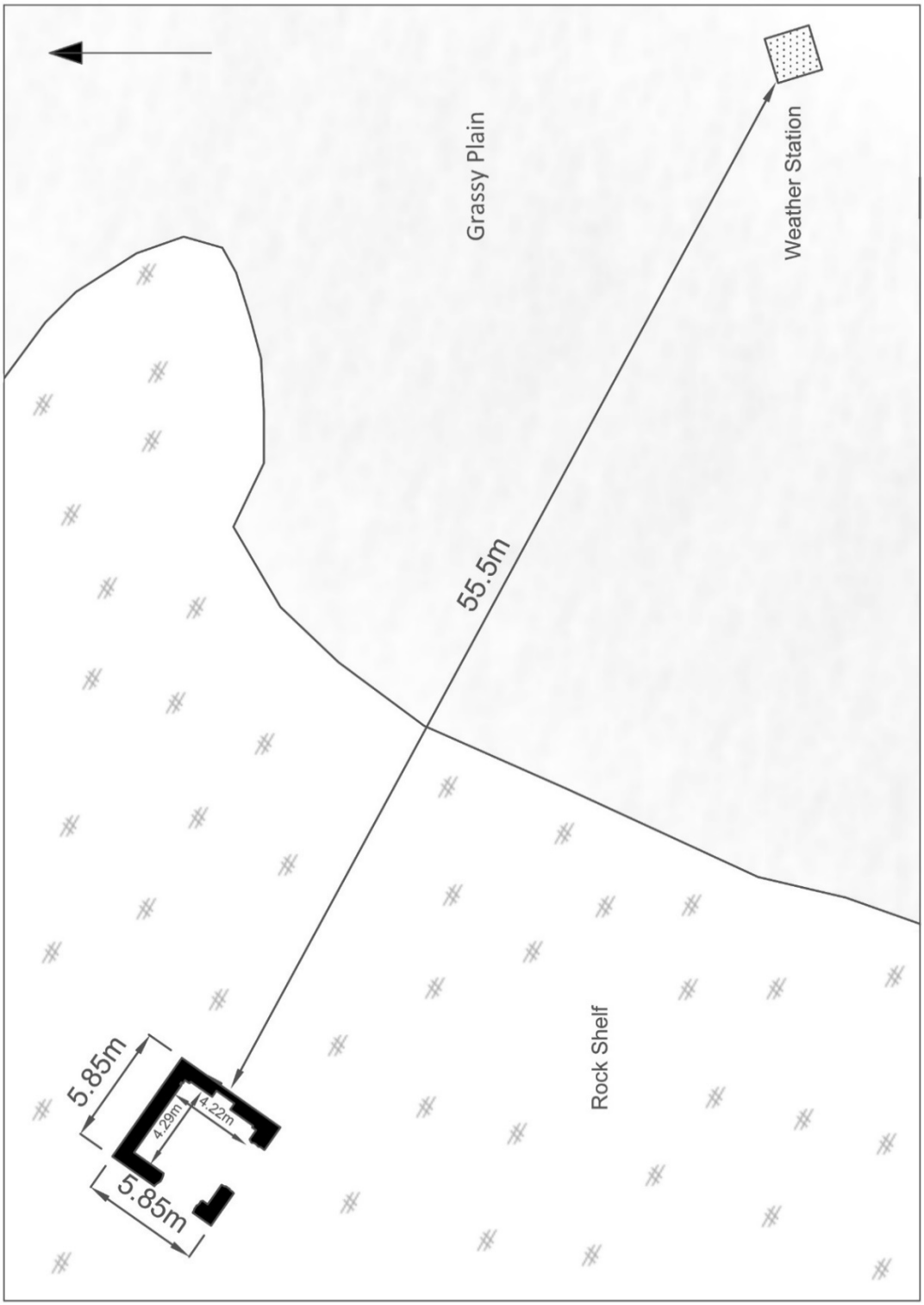

Figure D.49. Plan of Dawros Head Signal Station, showing the badly collapsed base of the signal tower and the automated weather station.

Description

The unenclosed signal station at Dawros Head was located at 12 m (39') OD on a low-lying rocky shelf that formed the foreshore. The signal towers at the adjacent signal stations, Glen Head to the south, and Crohy Head to the north, were not visible on the day of the survey due to poor weather conditions, but their approximate locations could be easily identified. The signal station was located in an unenclosed landscape.

The signal station at Dawros Head consisted of only the low ruins of a signal tower on the foreshore. A spread of rubble filled and surrounded the ruined walls. The tower was positioned with its walls facing north-east, south-east, south-west, and north-west respectively. The south-east wall, and parts of the north-east wall, were the best-preserved sections of the signal tower, which protruded through the rubble spread. In contrast only the tops of the remaining courses of the north-west and south-west walls were visible, the external and internal faces being concealed by the rubble spread. The exposed parts of the signal tower were the lower parts of the ground floor. If the tower had a semi-basement level it would be present underneath the rubble spread that infills the ruined tower.

The south-eastern internal wall face featured the lower parts of two alcoves flanking the base of a central fireplace. The bottom part of a square section vertical drainage channel was located at the south-east of the north-east internal wall face. The presence of these features allowed the original orientation of the tower to be calculated; the first floor door would have been on the north-west wall facing the sea, the north-east and south-west walls would have featured the windows, and the rear wall would have been at the south-east. The walls of the signal tower were constructed from a dark-grey coarse-grained stone, possibly schist.

A modern automated weather station was located 55.5 m (182') to the south-east of the signal station site and around 600 m (656 yards) to the east there are the remains of a small post Medieval settlement that included an impressive corn drying kiln.

Figure D.50. The collapsed signal tower at Dawros Head Signal Tower, looking south-east, with the automated weather station in the background.

Figure D.51. The internal face of the south-east wall of the collapsed signal tower at Dawros Head Signal Station, with the lower portions of the ground floor central fireplace and flanking alcoves visible.

Figure D.52. Detail of the surviving portion of the vertical drainage channel at the south-east of the north-east internal wall face of the collapsed signal tower at Dawros Head Signal Station.

Figure D.53. The automated weather station to the south-east of Dawros Head Signal Station.

Number 75. Crohy Head Signal Station (570912, 908349).

Full signal tower. 49 m (161') OD. Surveyed 27 August 2012. Historical Name: Croye Head Signal Station.

Figure D54. Aerial photograph showing Crohy Head Signal Station in the centre of the image (Bing Maps).

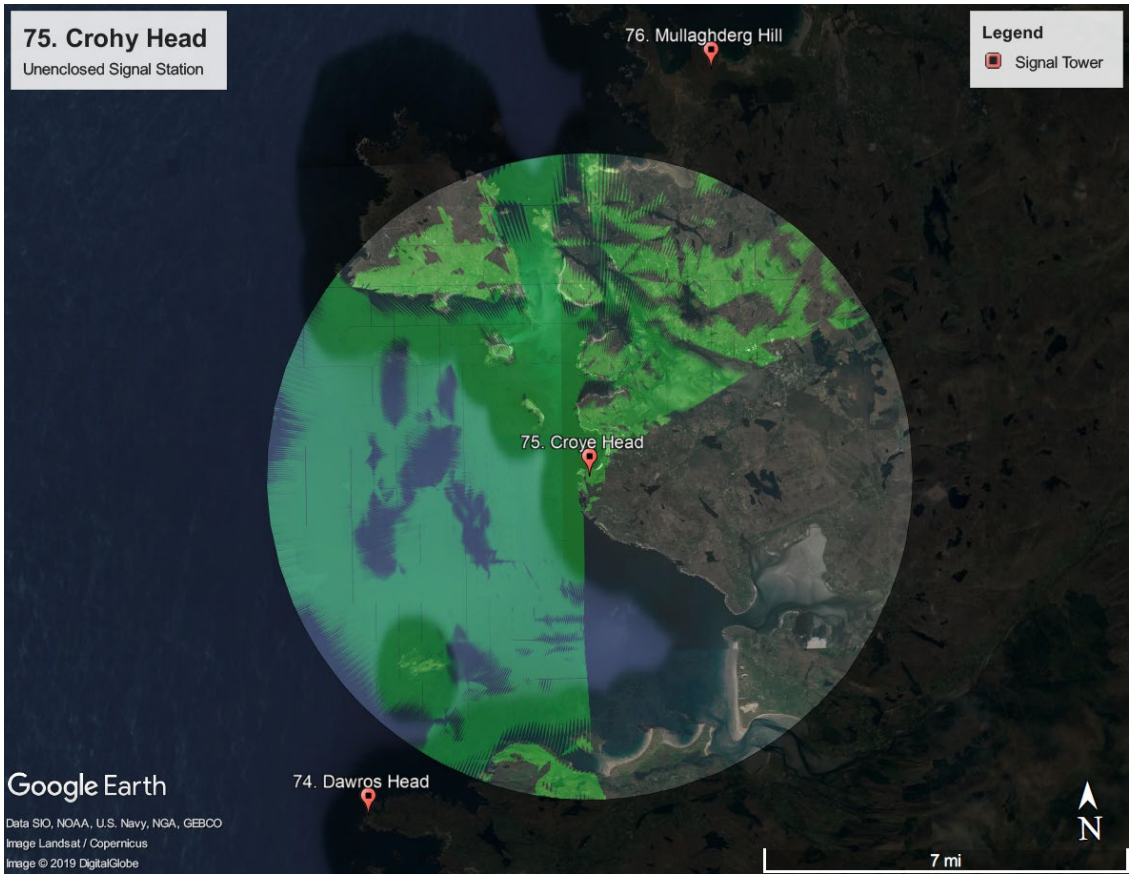

Figure D.55. Viewshed from Crohy Head Signal Station (Google Earth Pro).

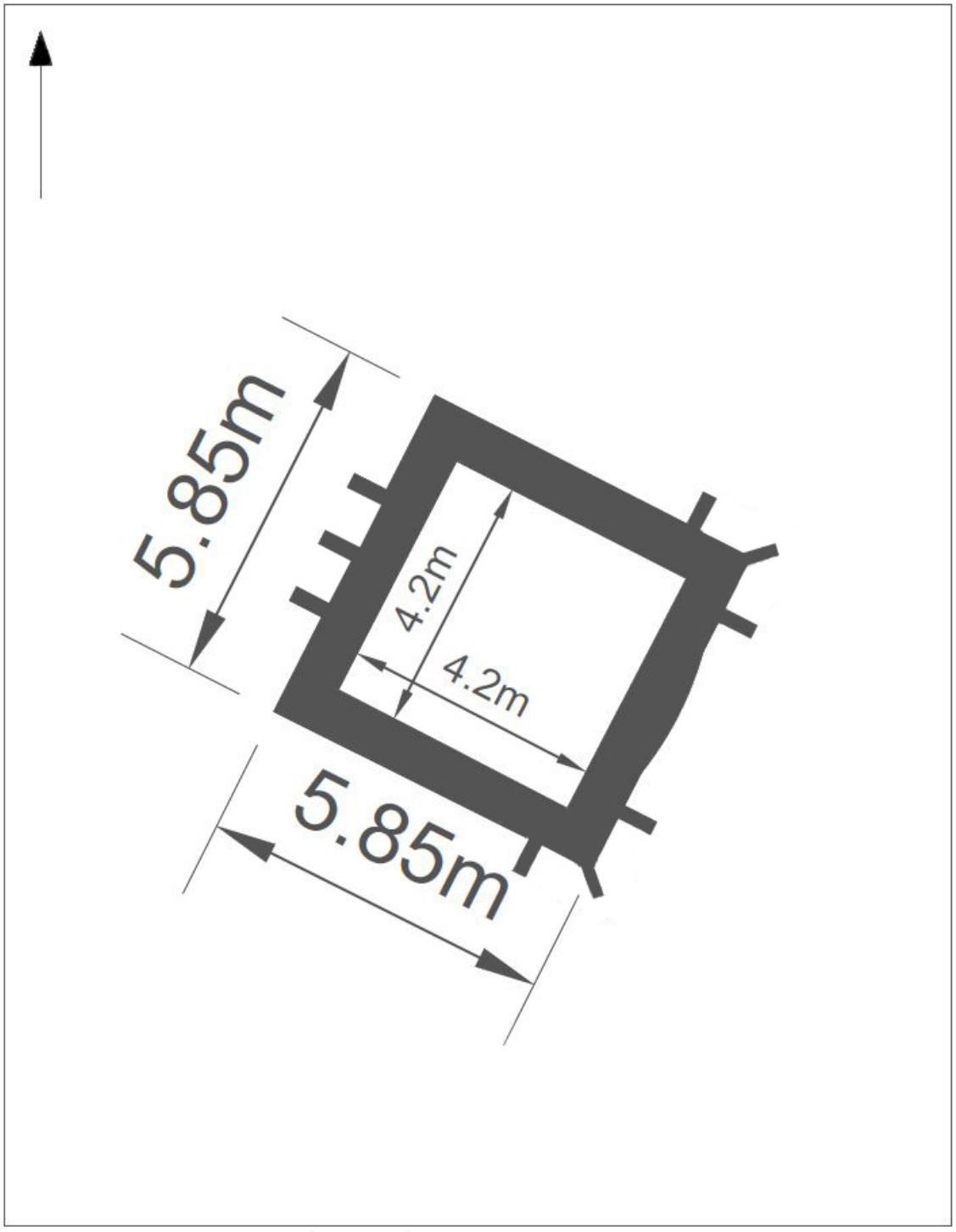

Figure D.56. Plan of the signal tower at Crohy Head Signal Station.

Description

The unenclosed signal station at Crohy Head was located at 49 m (161') OD on raised ground overlooking Crohy Head. The area was enclosed by a series of narrow stone walled fields which post-dated the abandonment of the signal station, and which overlay an earlier field system, which had a slightly different orientation. The immediate vicinity of the signal station featured extensive areas of lazy beds which seemed to follow the alignment of the earlier field system. The ruined signal tower at Dawros Head to the south could not be seen but its approximate position was easily spotted. The position of the signal station to the north, Mullaghderg Hill, could not be identified despite the presence of a well-preserved signal tower at the site. It appears that its position in the centre of a low, flat-topped hill meant the usual silhouetting of the signal tower did not occur, making the building difficult to discern.

The most visible element at the Crohy Head signal station was the well-preserved signal tower. The tower survived to its full height, but the machicolation and bartizans had collapsed leaving only the corbels and piers, and gaps in the parapet wall to indicate their former positions. The signal tower largely followed the standard arrangement of features and was positioned with its walls facing north-east, south-east, south-west, and north-west respectively.

The first-floor door faced to the north-west and was originally protected by a machicolation. The sets of windows were located on the north-east and south-west walls. The east and south corners of the tower were originally protected by bartizans. The rear south-east wall featured the characteristic bowed wall that housed the chimney flue. A chimney stack extended from the centre of the wall. The upper portions of the chimney were of red brick, an unusual variation which may indicate that the chimney stack had been repaired. The only dressed stone surrounds that survived on the tower were above the first floor windows, and one stone above the first floor doorway. The dressed stone elements of the signal tower consisted of mid-grey coarse-grained stone, possibly schist. The walls of the signal tower consisted of dark-beige coarse-grained stone, possibly quartzite.

The interior of the tower was accessible through one of the ground floor windows which had been expanded to permit access, but which had not been fully converted into a ground floor entrance proper. Internally the tower walls featured extensive areas of render, apart from in the semi-basement level. The south-east wall featured the usual arrangement of alcoves flanking central fireplaces on the ground floor and first floor. A vertical drainage channel ran down the south end of the wall. There was clear evidence of a split-level mezzanine floor between the ground floor and the first floor, visible as rows of joist holes above the alcoves on the south-east wall, below the first floor slots with joist holes on the north-west wall, and as slots in the render on the north-east and south-west walls, between the ground floor windows and the first floor slots with joist holes. A vertical gap in the render was visible at the south edge of the northern first floor window on the north-east wall, suggesting a fitting of some sort ran down the wall from this corner of the window.

An unusual feature of the building was the presence of fragments of wood within the some of the joist holes and above some of the windows, clearly the ends of joists. These may indicate that the site was maintained for a longer period than normal, or that at some point it was subject to renovation. The use of red brick in the upper portion of the chimney may also support this notion.

A well-preserved World War 2 era Look Out Post (L.O.P. 74) was located about 200 m (220 yards) to the south of the signal station, in a more elevated position.

Figure D.57. View of Crohy Head Signal Station, looking west.

Figure D.58. The north corner of the signal tower at Crohy Head Signal Station. L.O.P. 74 can be seen on the hill top in the background, to the right of the signal tower.

Figure D.59. The upper portion of the internal face of the south-east wall of the signal tower at Crohy Head Signal Station.

Figure D.60. The lower portion of the internal face of the south-east wall of the signal tower at Crohy Head Signal Station, showing the slot with joists holes for the ground floor, the ground floor central fireplace and the flanking alcoves, and the joist holes of the split mezzanine level.

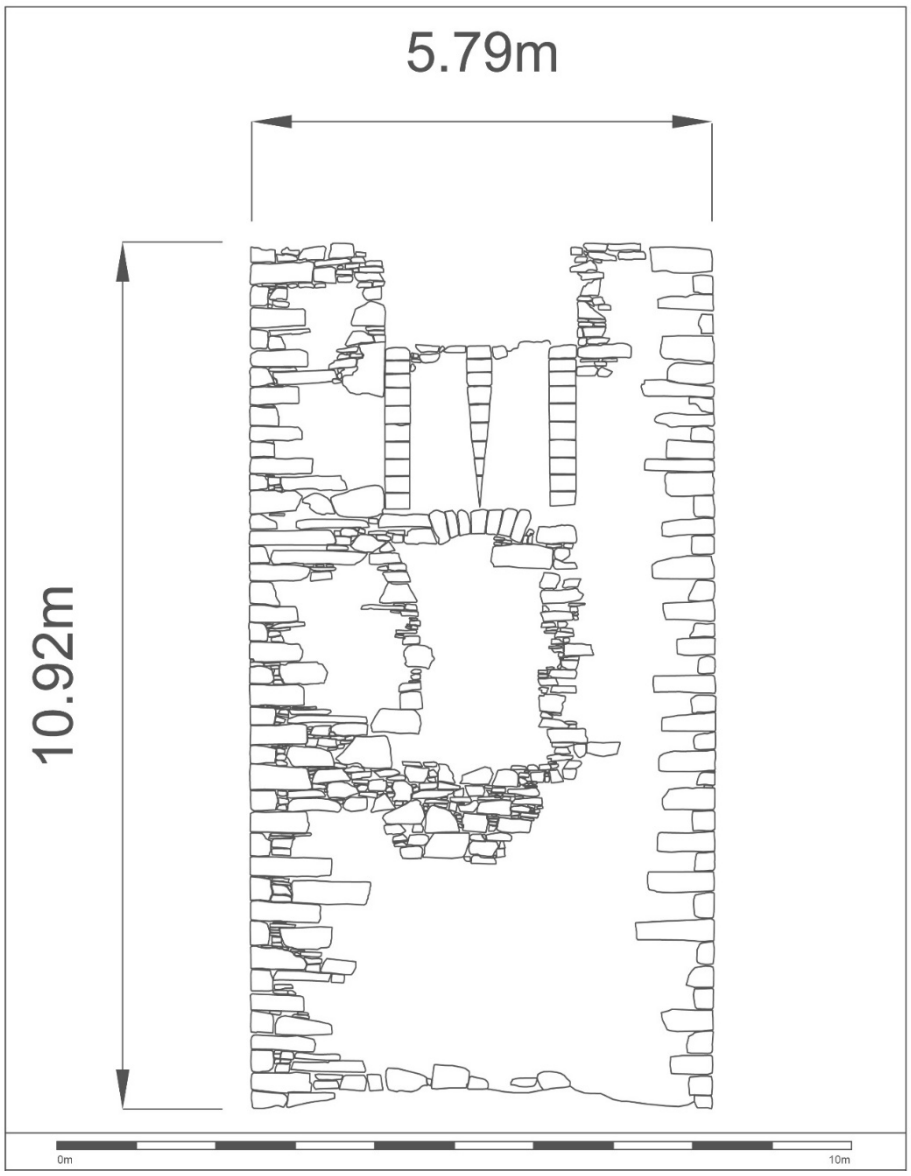

Figure D.61. External elevation of the north-west wall of the signal tower at Crohy Head Signal Station.

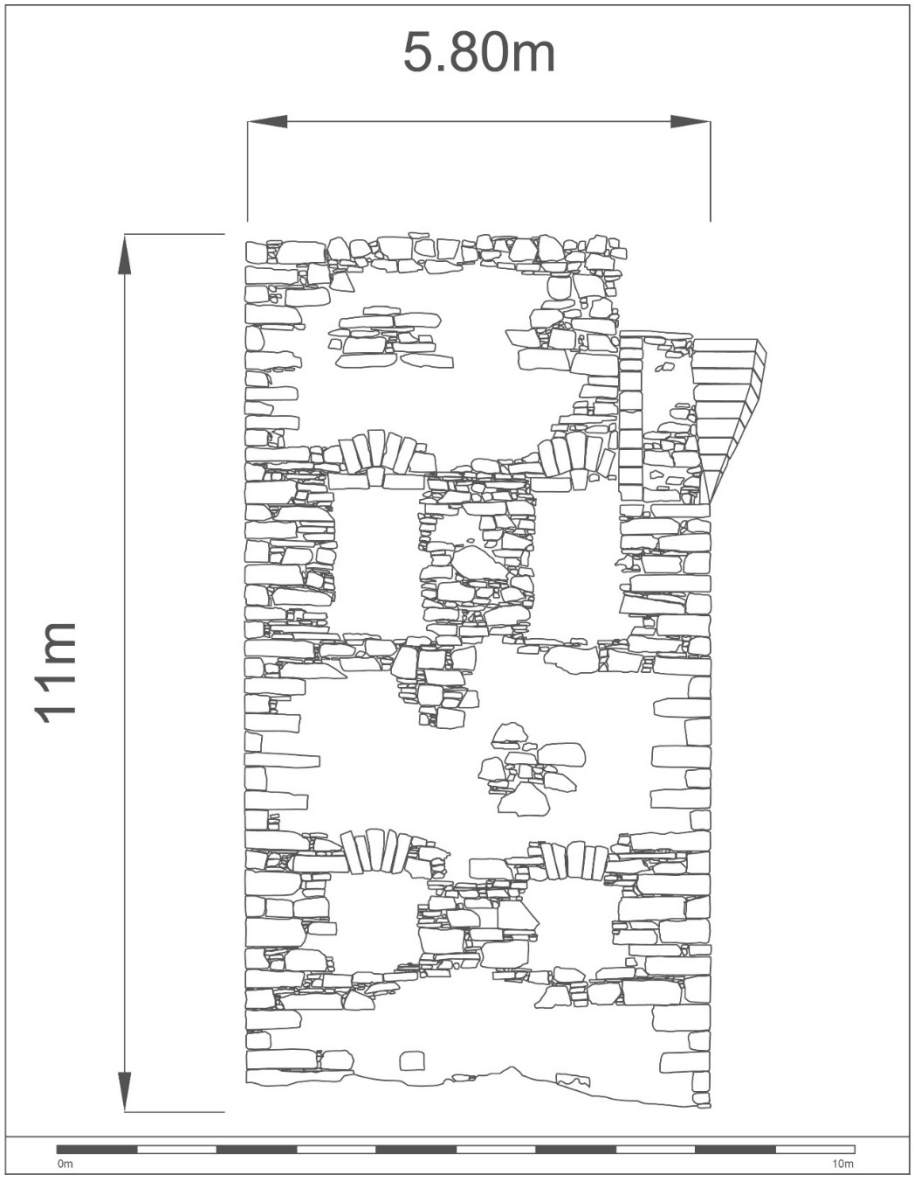

Figure D.62. External elevation of the north-east wall of the signal tower at Crohy Head Signal Station.

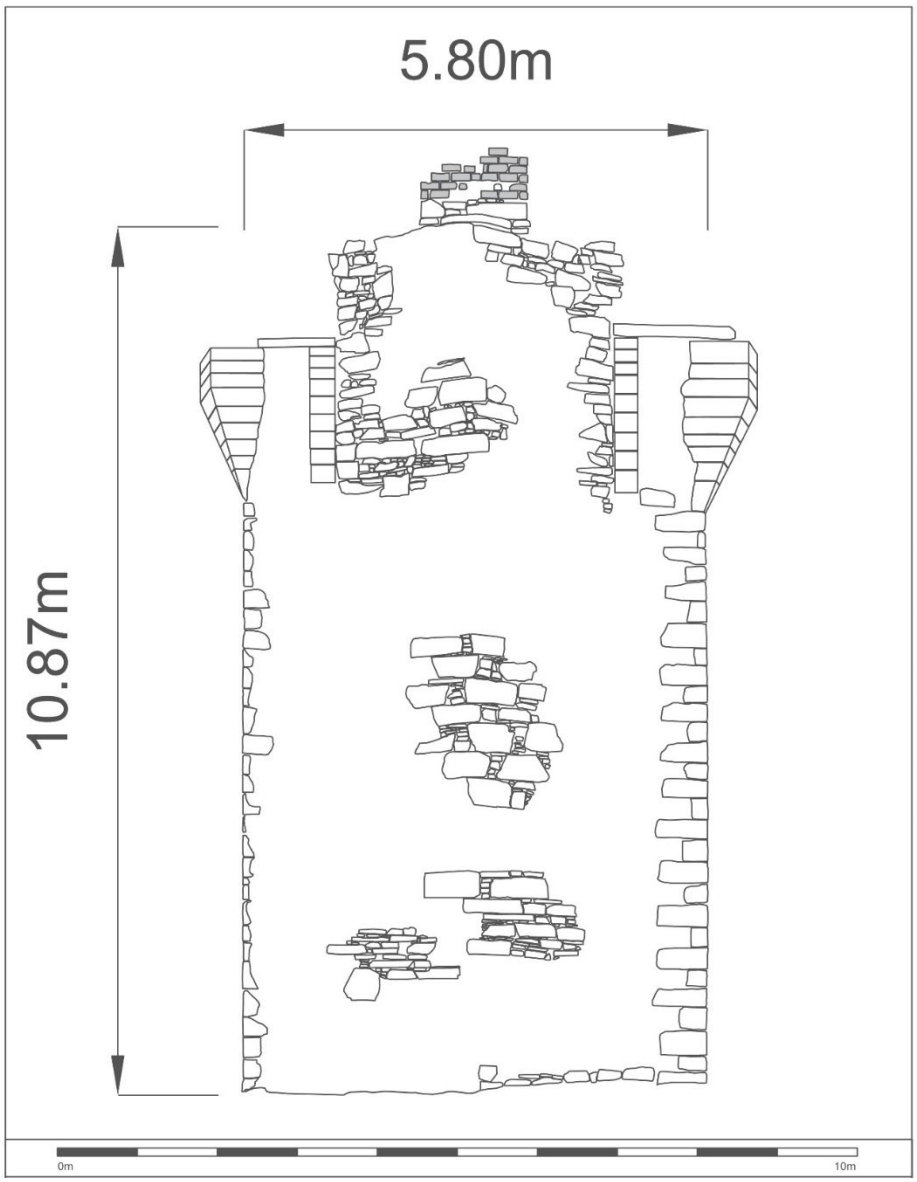

Figure D.63. External elevation of the south-east wall of the signal tower at Crohy Head Signal Station.

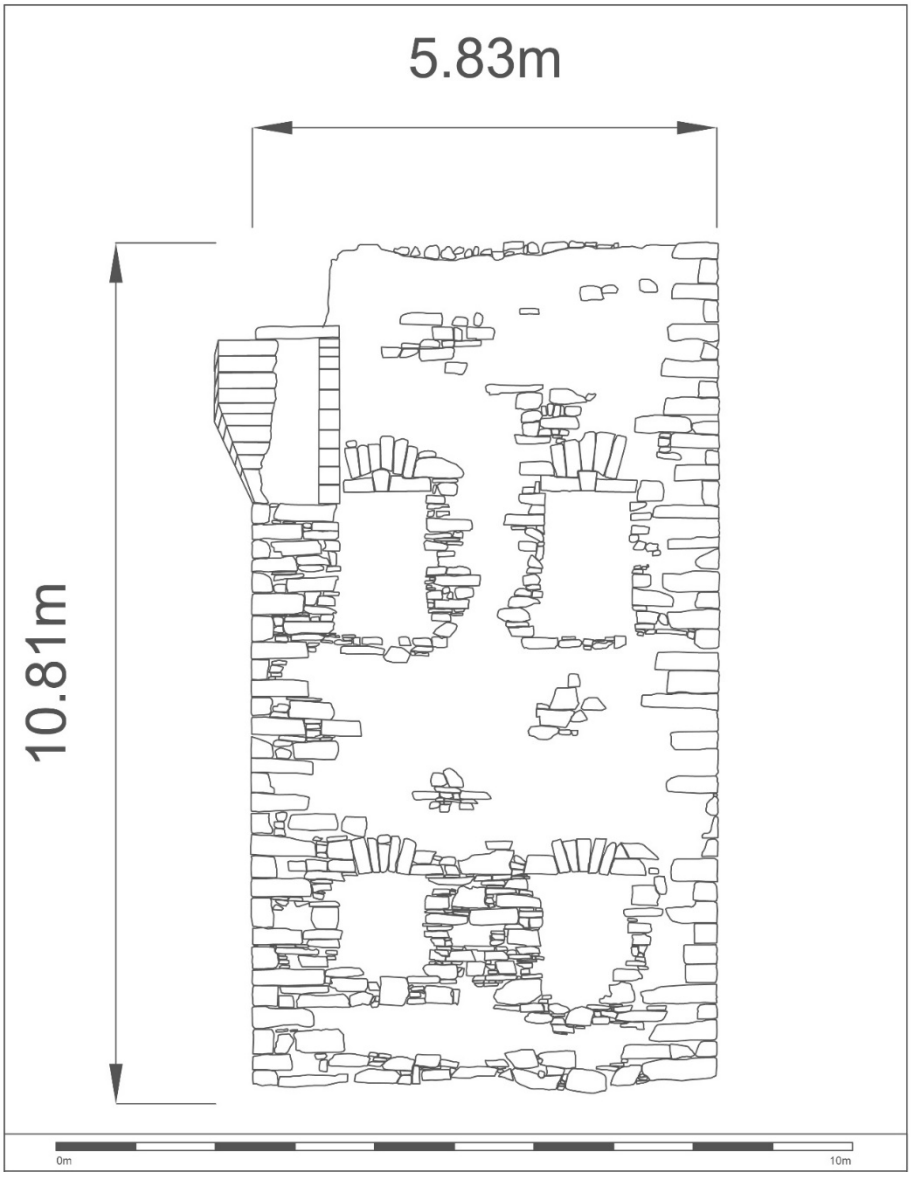

Figure D.64. External elevation of the south-west wall of the signal tower at Crohy Head Signal Station.

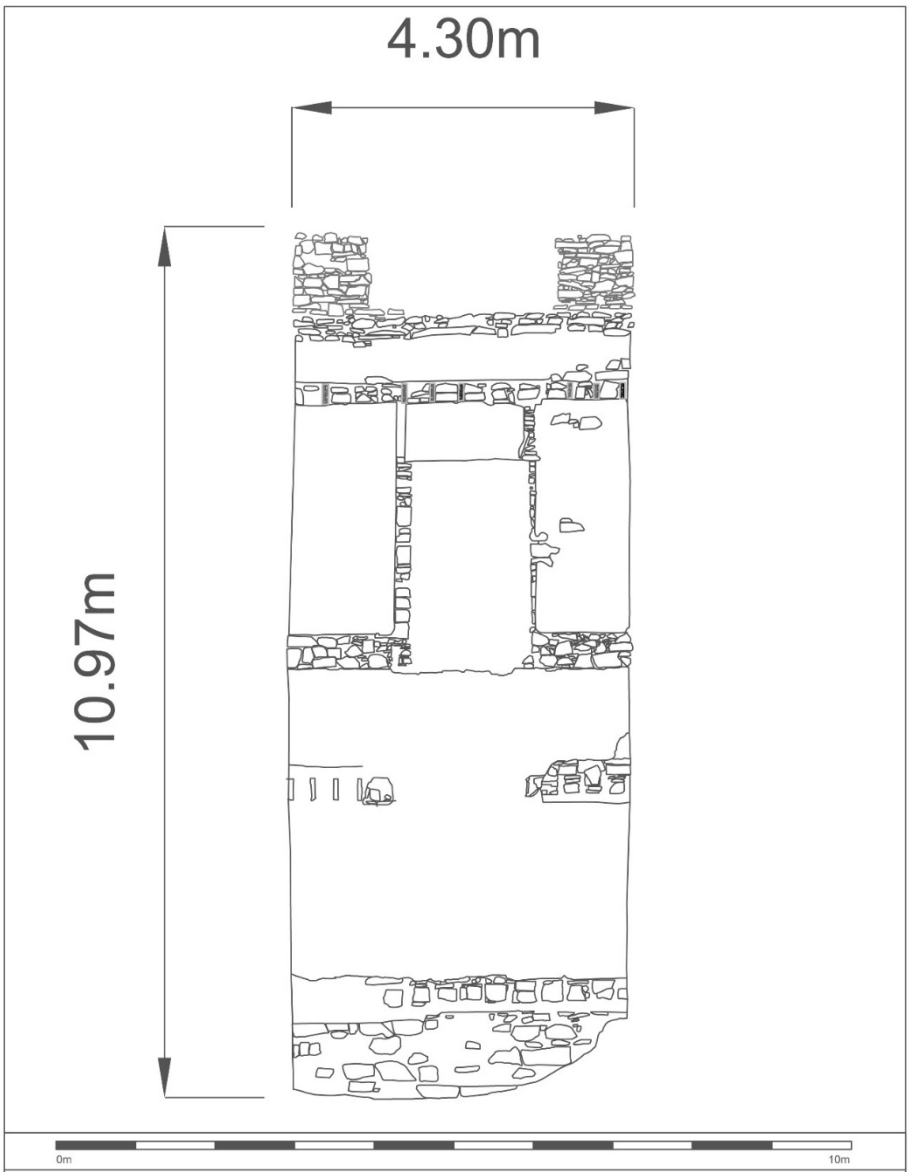

Figure D.65. Internal elevation of the north-west wall of the signal tower at Crohy Head Signal Station.

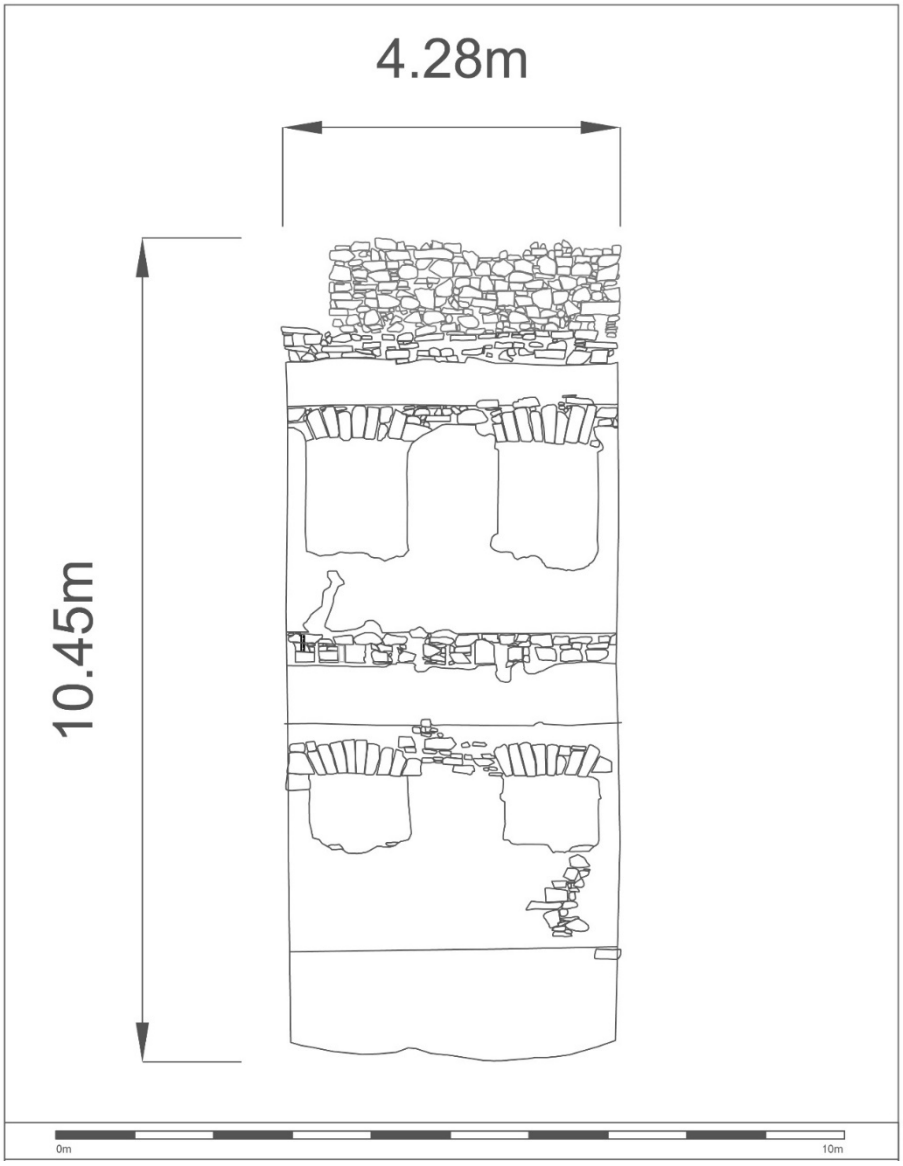

Figure D.66. Internal elevation of the north-east wall of the signal tower at Crohy Head Signal Station.

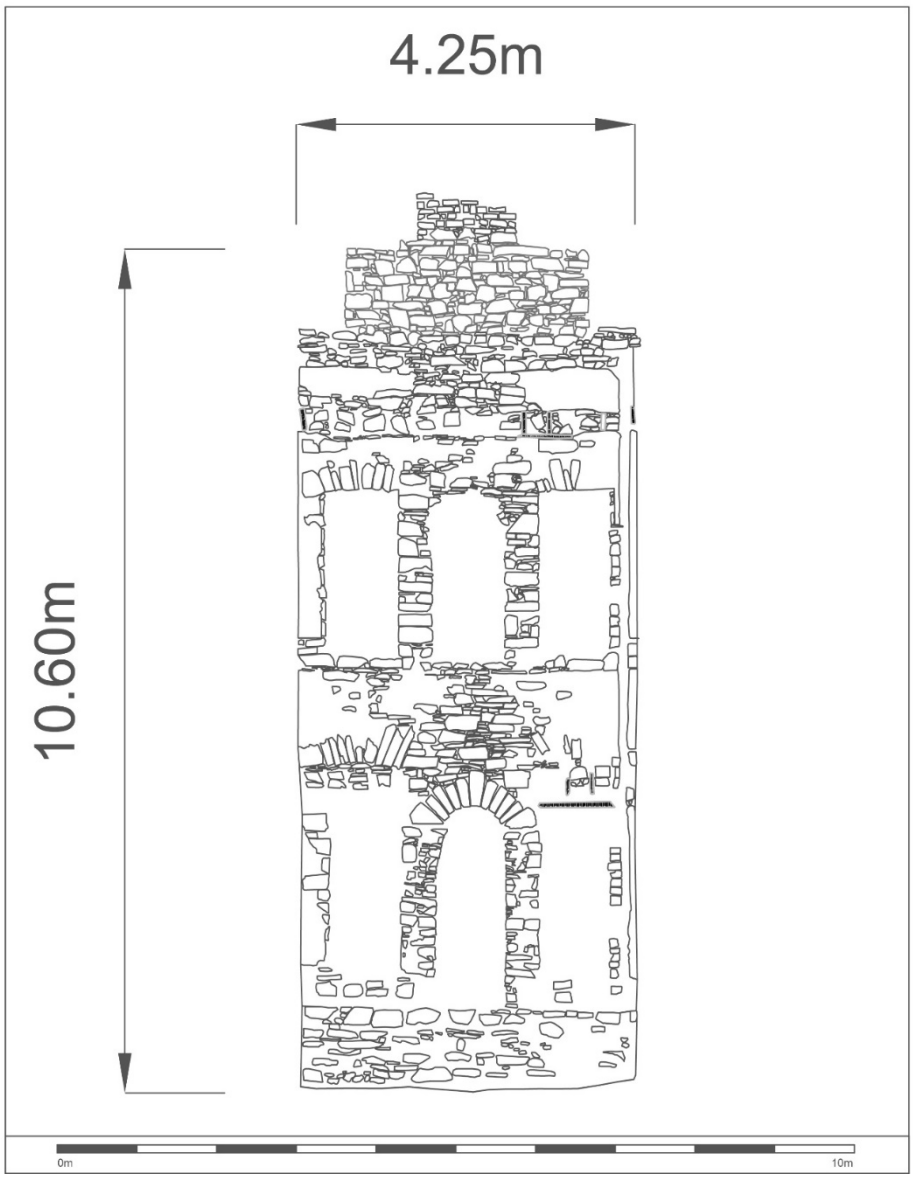

Figure D.67. Internal elevation of the south-east wall of the signal tower at Crohy Head Signal Tower.

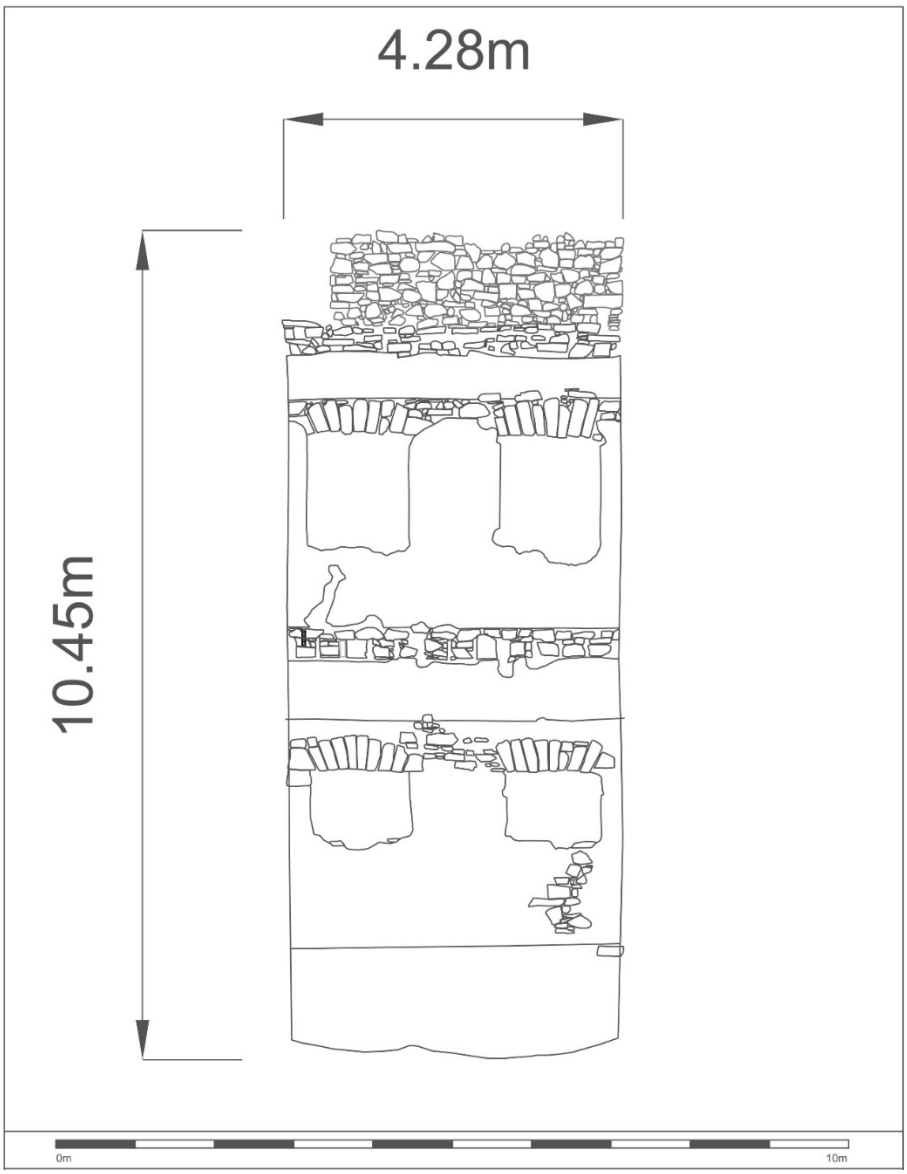

Figure D.68. Internal elevation of the south-west wall of the signal tower at Crohy Head Signal Tower.

Number 76. Mullaghderg Hill Signal Station (574937, 920822).

Full signal tower. 52 m (170') OD Surveyed 27/8/2012. Common Name: Kincaslough Signal Station.

Figure D.69. Aerial photograph showing Mullaghderg Hill Signal Station in centre of image (Bing Maps).

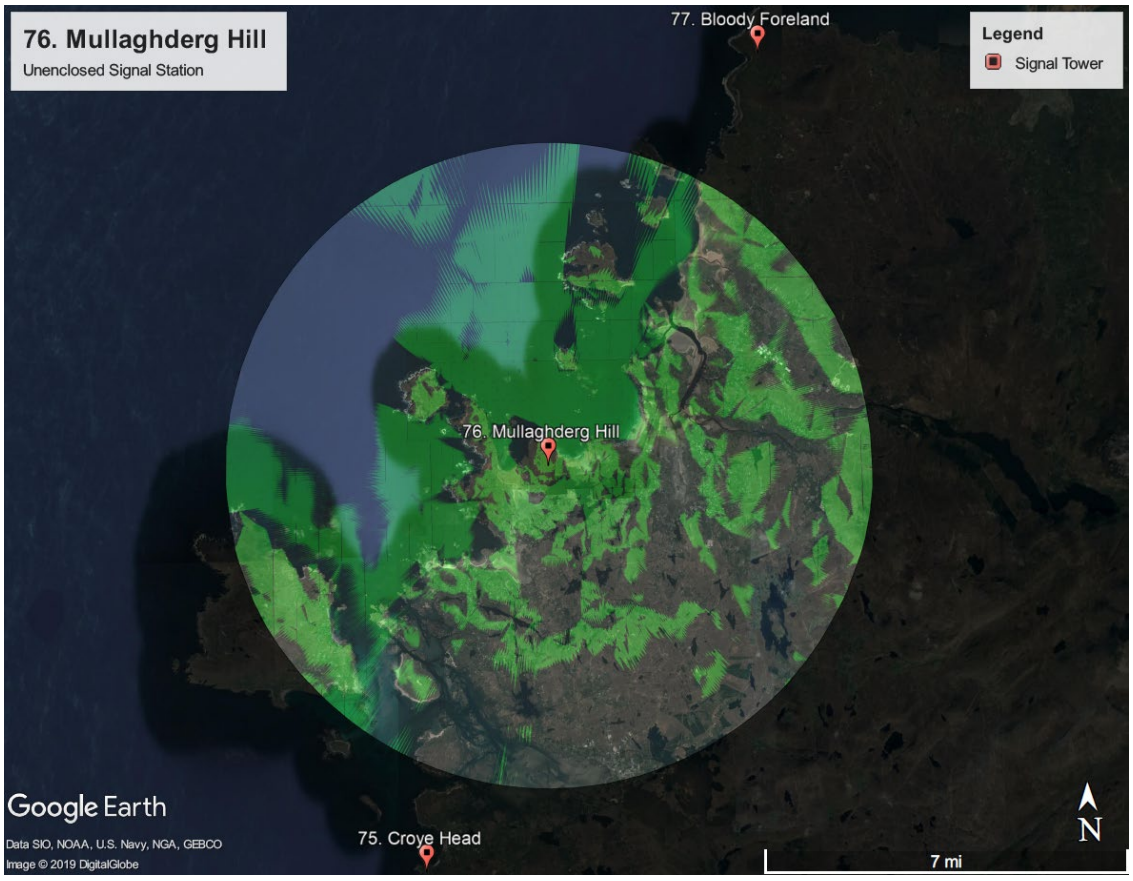

Figure D.70. Viewshed from Mullaghderg Hill Signal Station (Google Earth Pro).

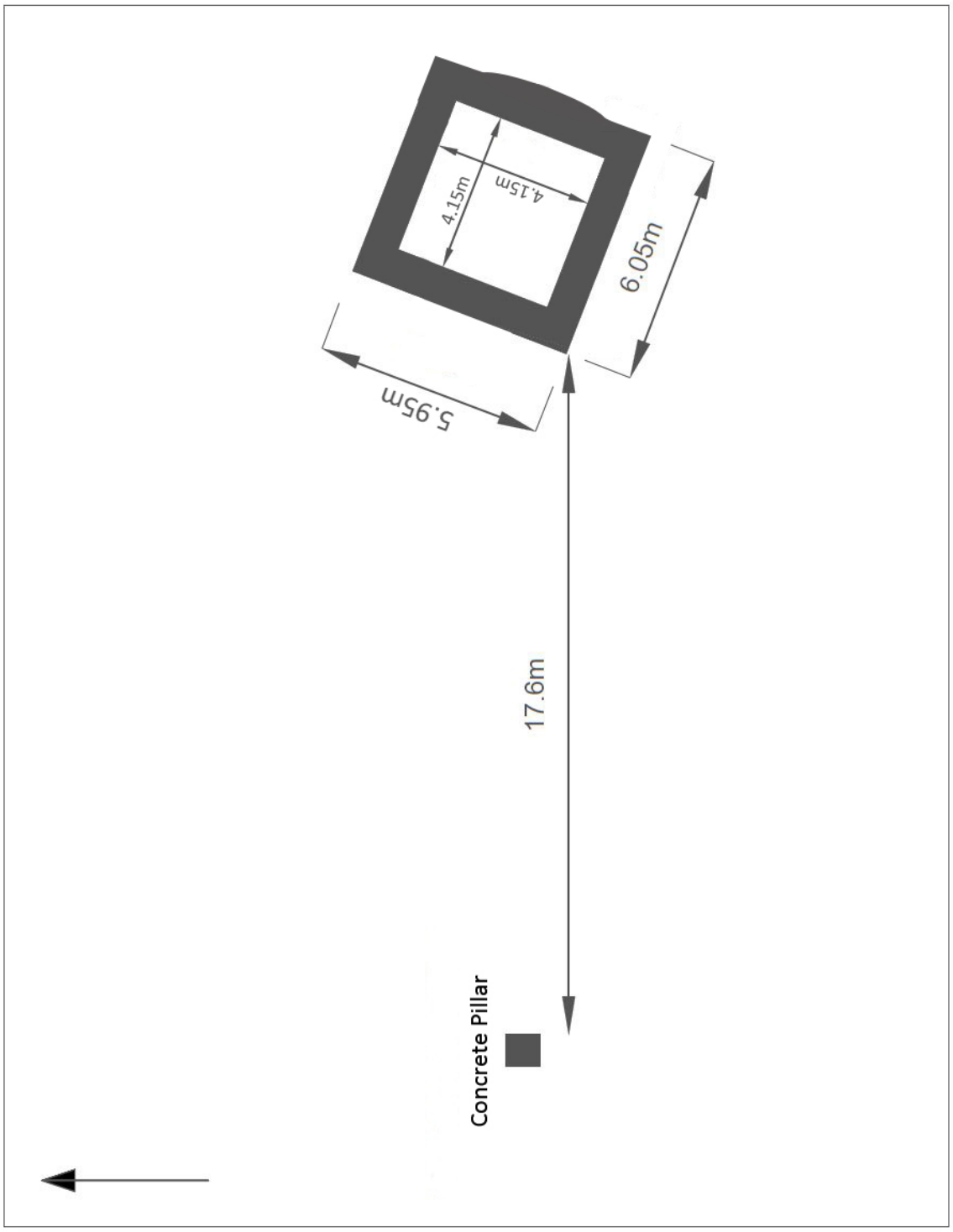

Figure D.71. Plan of the signal tower at Mullaghderg Hill Signal Station, and the adjacent concrete pillar.

Description

The unenclosed Mullaghderg Hill Signal Station was located at 52 m (170') OD on the flat top of a large, low hill. The hill has steep sides and extremely uneven, rocky, and boggy surface across its summit. The signal towers at the adjacent signal station to the south, Crohy Head, was not visible on the day of the survey because of the weather conditions. The adjacent signal station to the north, Bloody Foreland, has been completely demolished but its approximate position was visible. The signal station was located in an unenclosed part of the landscape.

The most visible element at the Mullaghderg Hill Signal Station was the well-preserved signal tower that survived to its full height, but which was missing the machicolation over the first floor door and the bartizans on the rear corners. The tower was positioned with its walls facing north north-east, east south-east, south south-west, and west north-west respectively. The north-west and south-east walls featured extensive areas of external render, and the north-west and south-east walls featured occasional patches of render with fragments of weather-proof slates still adhered to the walls.

The first-floor door faced to the west north-west. The machicolation that would have protected it had completely collapsed, taking the top part of the doorway with it. The stone surrounds of the door were absent. The bartizans which would have been present over the east north-east and south south-east corners were missing and have left ragged gaps in the main walls of the tower. The windows were located on the north north-east and east south-east walls. The dressed stone surrounds of the windows were missing with the exception of those over the first floor windows on the north north-east wall. Unusually a ground floor entrance had been added to the southern corner of the rear, east south-east wall, rather than following the more common method of expanding a ground floor window. The dressed stone elements of the signal tower consisted of mid-grey coarse-grained stone, possibly schist. The walls of the signal tower consisted of mixture of mid-pink, mid-beige, and light-grey coarse-grained stone, possibly granite.

Internally the tower walls featured extensive areas of render, apart from in the semi-basement level. The south-east wall featured the usual arrangement of pairs of alcoves flanking central fireplaces on the ground floor and first floor. A vertical drainage channel

ran down the north-east corner of the south-east wall. There was clear evidence of a split-level mezzanine floor between the ground floor and the first floor. It was visible as rows of joist holes above the alcoves on the south-east wall, as rows of joist holes below the first floor slot with joist holes on the west north-west wall, and as slots in the render on the north north-eastern and east south-western walls, between the ground floor windows and the first floor slot with joist holes.

The signal station does not seem to have been associated with an enclosure. The site was re-used sometime after the 1st edition Ordnance Survey map was surveyed between 1834-1836, as a Coast Guard Station. During that period a rectangular enclosure was present to the immediate west of the signal tower, which is depicted on the 3rd edition Ordnance Survey map, surveyed 1900-1905 (the 2nd edition Ordnance Survey map was not available online). Although no traces of this later enclosure were identified during the field survey, a small poured concrete structure, possibly a mast-mount) to the west of the signal tower appears to be a remnant from this secondary period of use at the site.

Figure D.72. View of the north-west wall of the signal tower at Mullaghderg Hill Signal Station, with the concrete pillar in the foreground.

Figure D.73. Detail of the concrete structure adjacent to the signal tower at Mullaghderg Hill Signal Station, looking west.

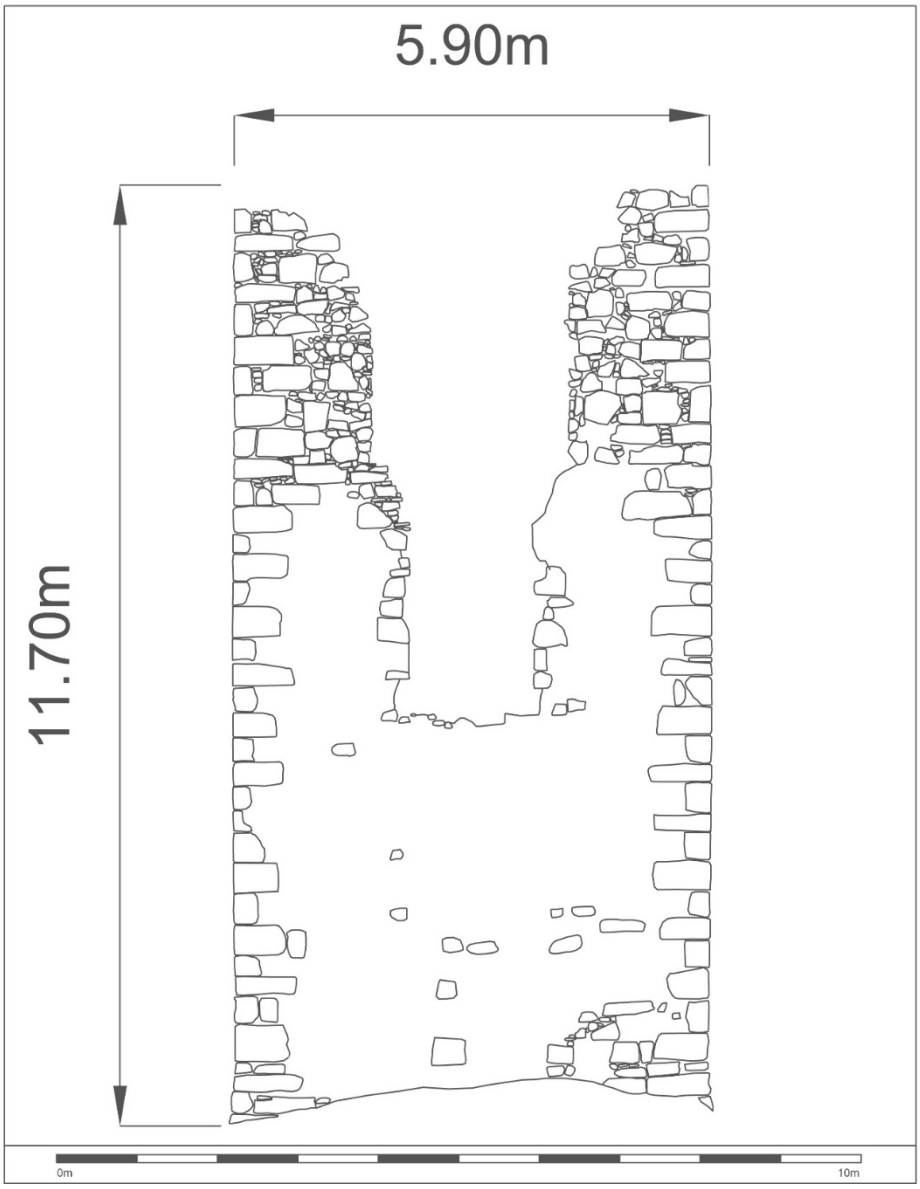

Figure D.74. External elevation of the north-west wall of the signal tower at Mullaghderg Hill Signal Station.

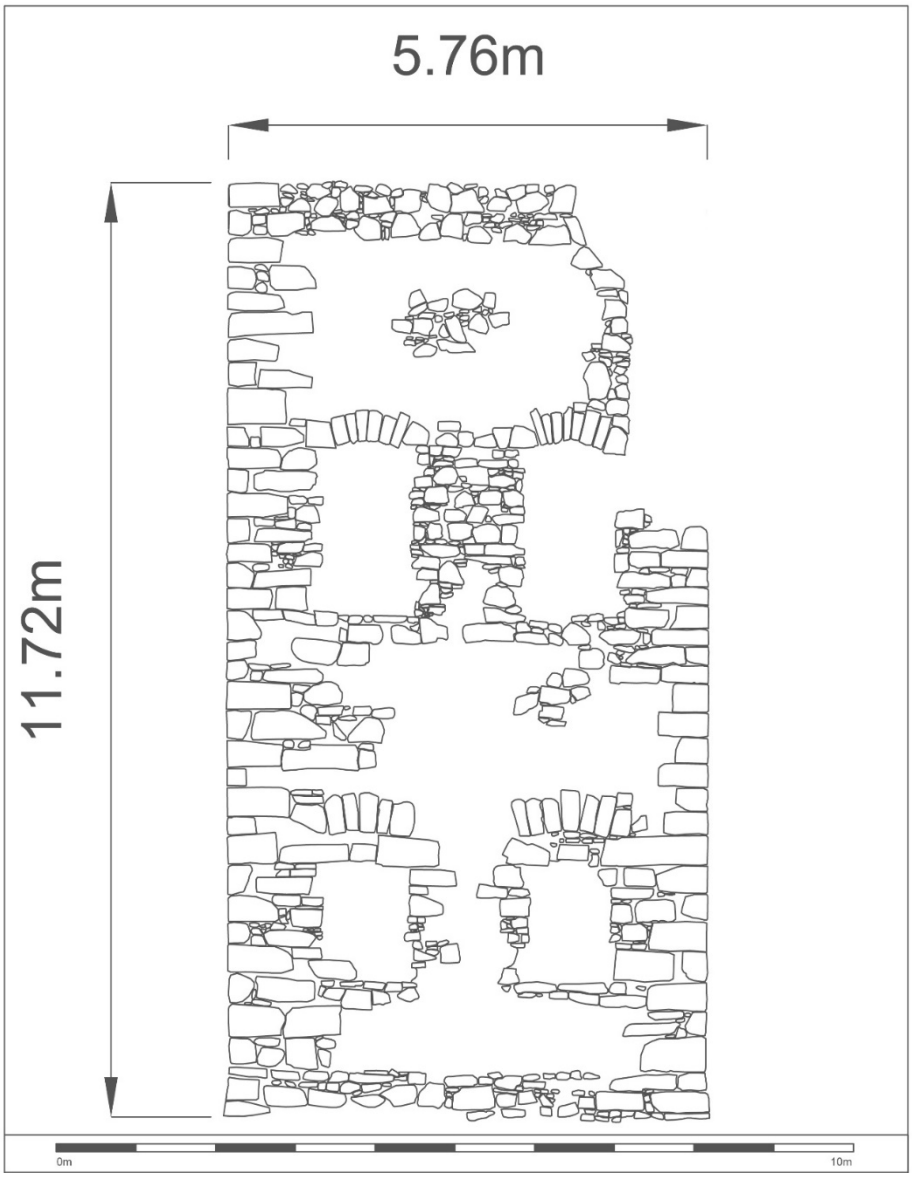

Figure D.75. External elevation of the north-east wall of the signal tower at Mullaghderg Hill Signal Station.

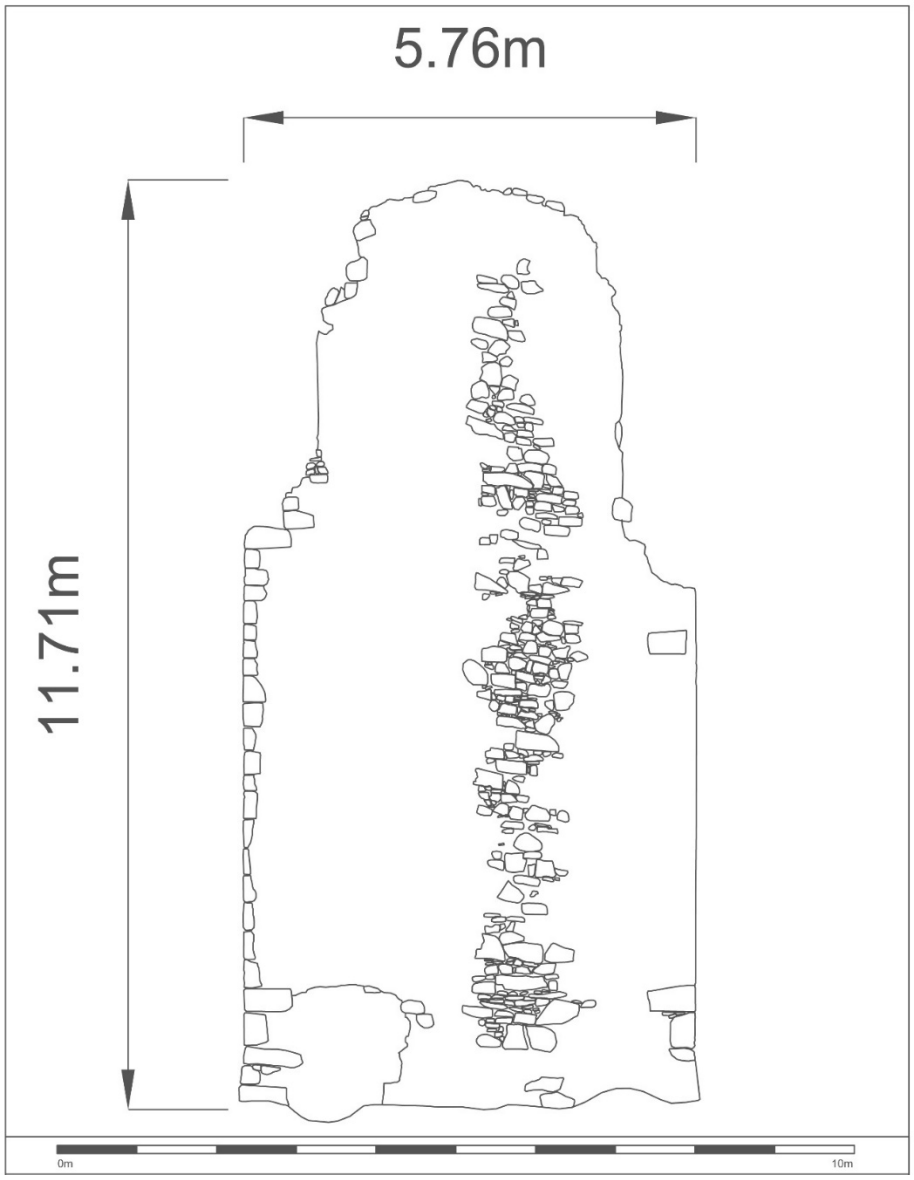

Figure D.76. External elevation of the south-east wall of the signal tower at Mullaghderg Hill Signal Tower.

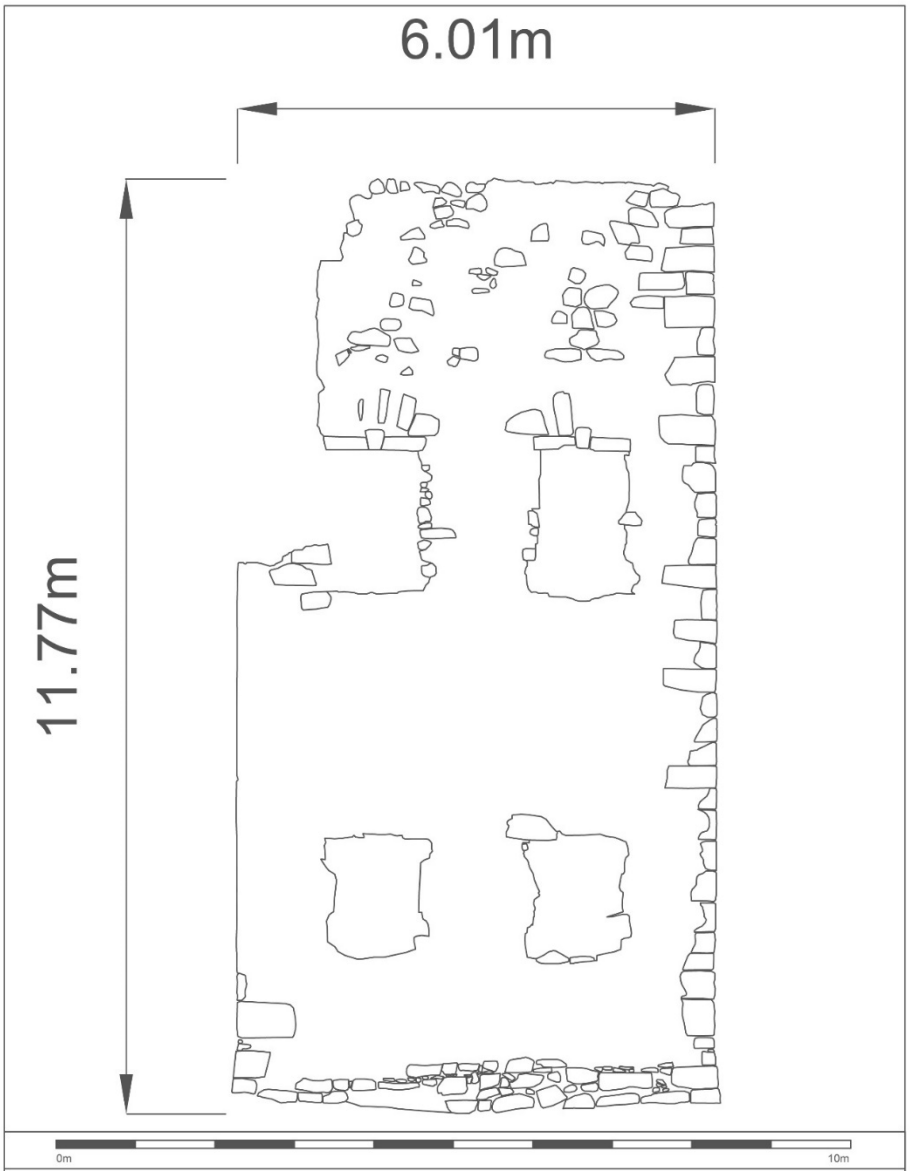

Figure D.77. External elevation of the south-west wall of the signal tower at Mullaghderg Hill Signal Station.

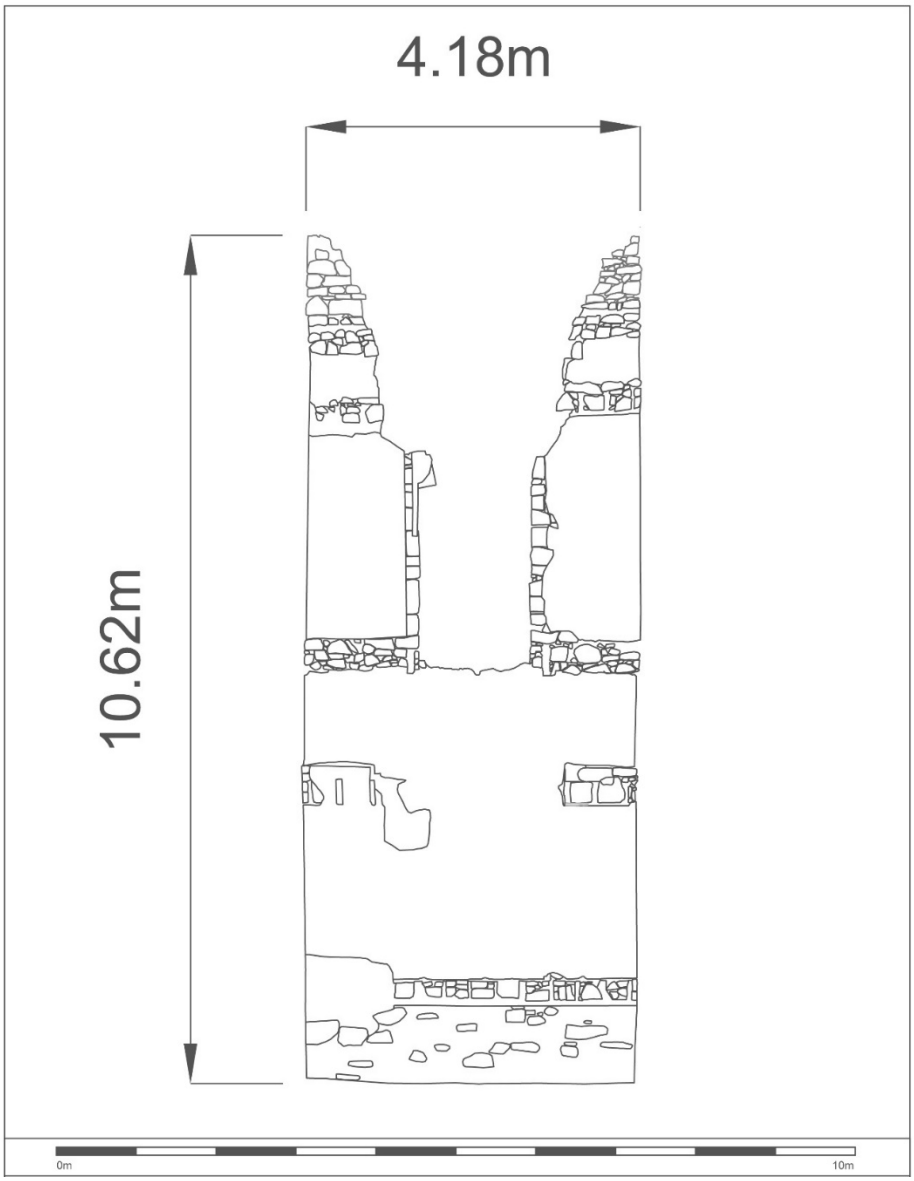

Figure D.78. Internal elevation of the north-west wall of the signal tower at Mullaghderg Hill Signal Station.

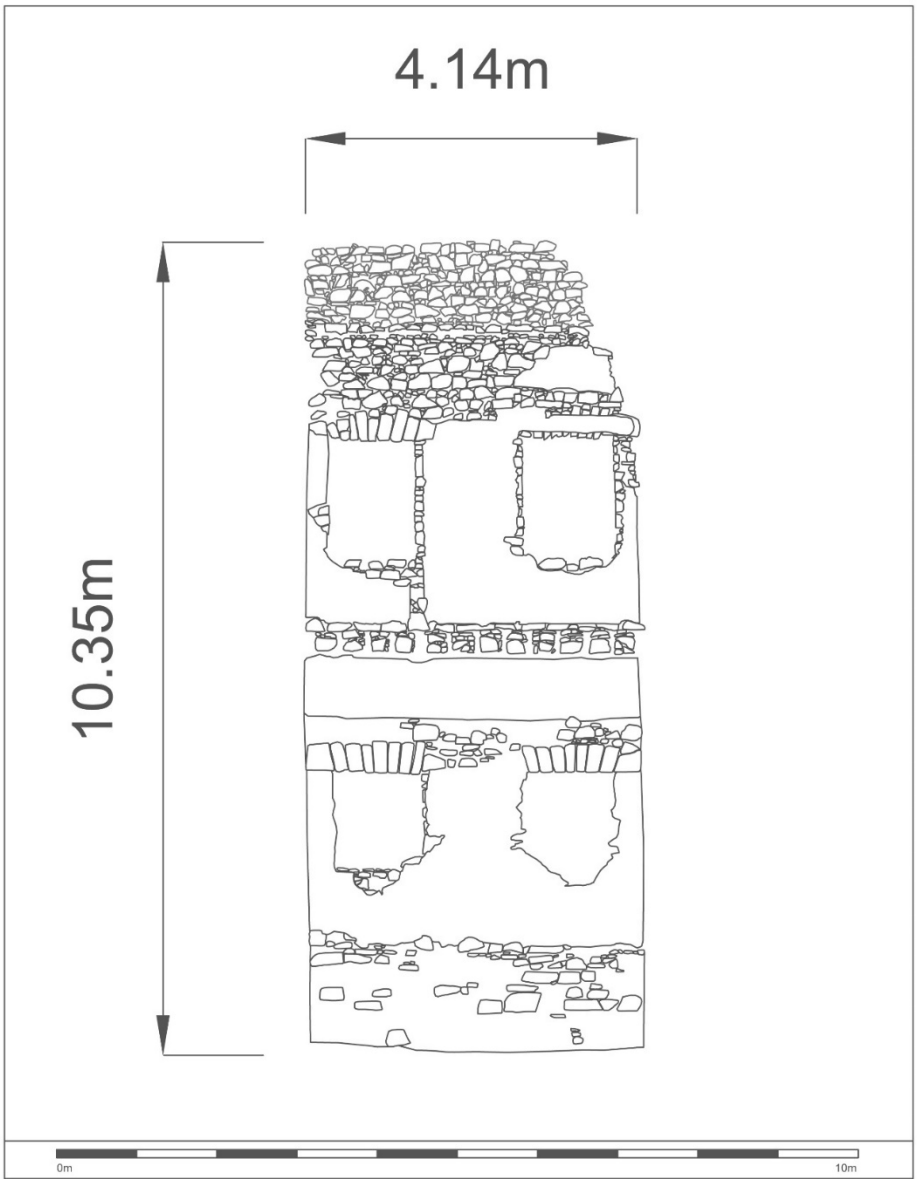

Figure D.79. Internal elevation of the north-east wall of the signal tower at Mullaghderg Hill Signal Station.

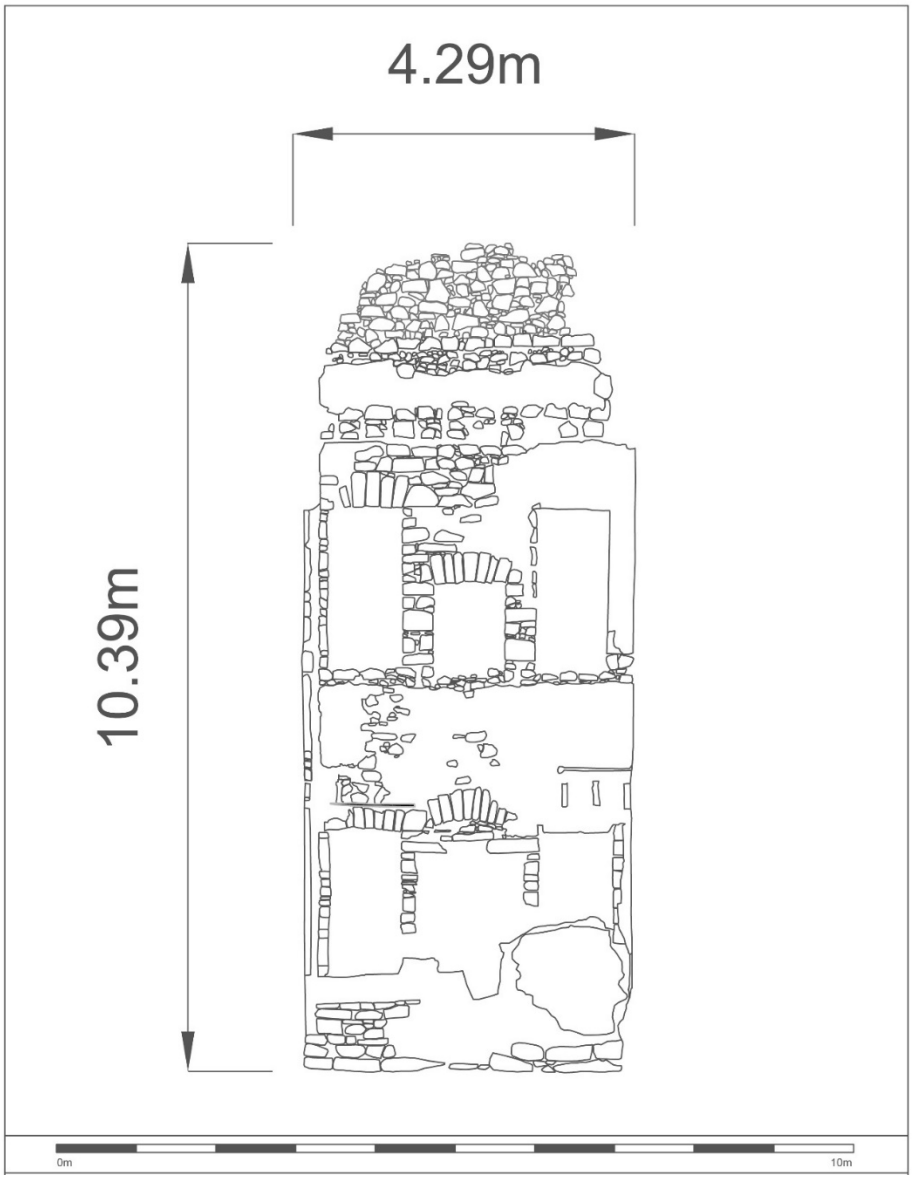

Figure D.80. Internal elevation of the south-east wall of the signal station at Mullaghderg Hill Signal Station.

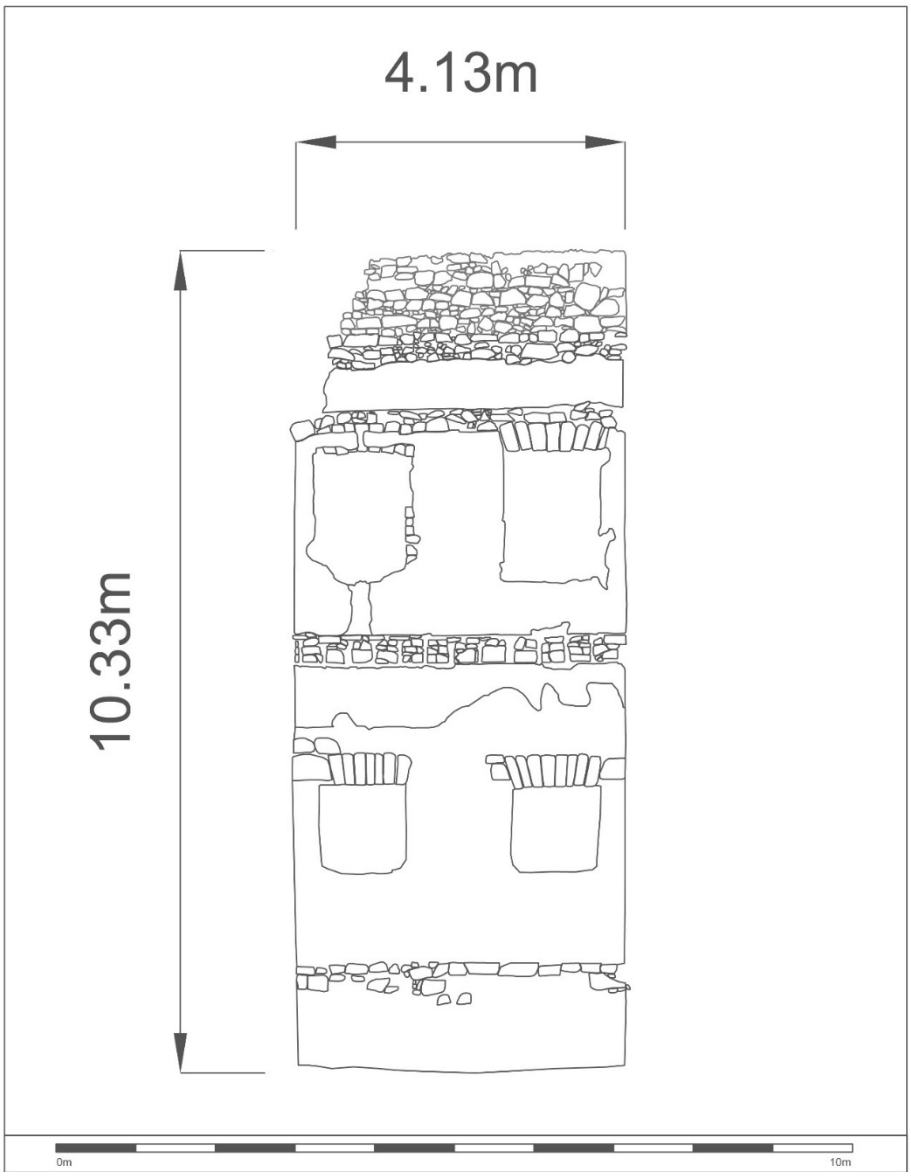

Figure D.81. Internal elevation of the south-west wall of the signal tower at Mullaghderg Hill Signal Station.

Number 77. Bloody Foreland Signal Station (581769, 933391).

Demolished signal tower. SMR DG023-003----. 60 m (196') OD. Surveyed 27 August 2012.

Figure D.82. Aerial photograph showing the former location of Bloody Foreland Hill Signal Station towards the bottom of the image (Bing Maps).

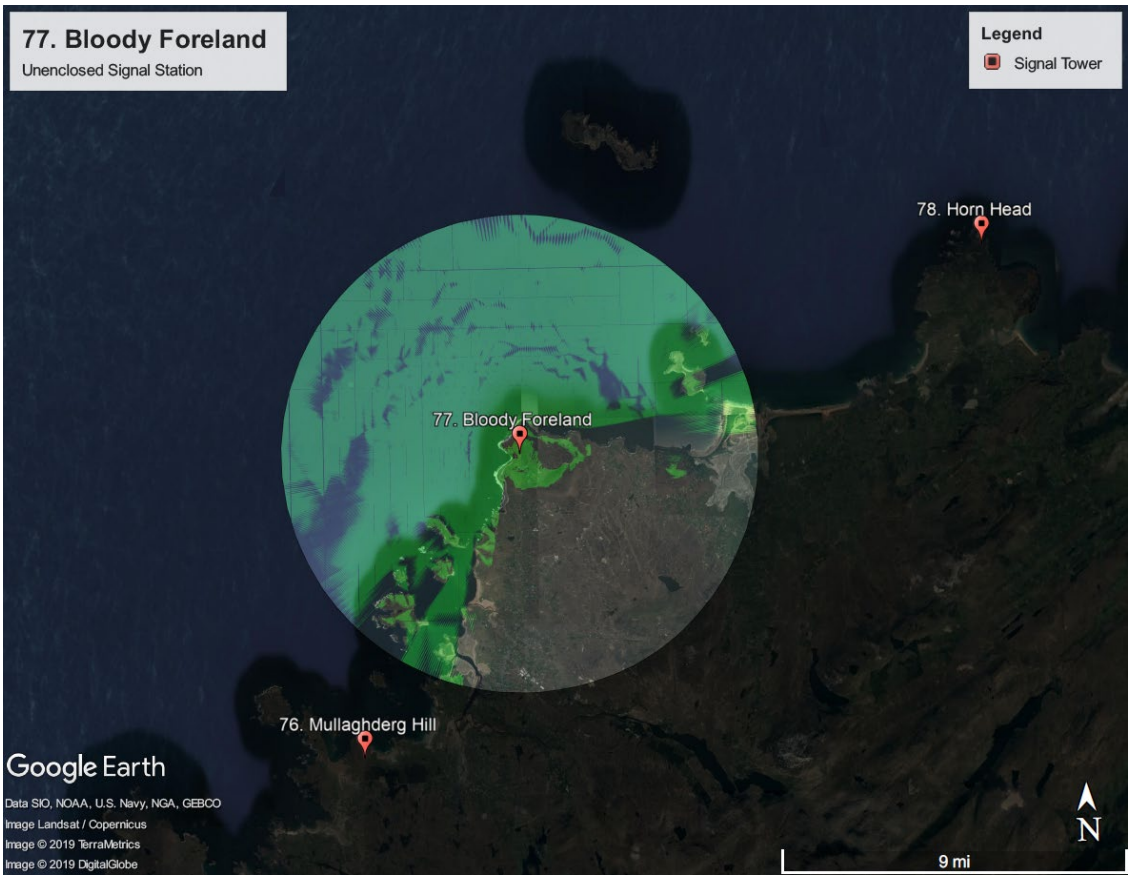

Figure D.83. Viewshed from Bloody Foreland Signal Station (Google Earth Pro).

Description

The signal station at Bloody Foreland was located at 60 m (196') OD on a wide area of unenclosed land that sloped gently down to the coast where there were a series of low but steep cliffs. The signal station has been entirely removed and no traces of it could be identified during the survey. The position of the signal station is marked on the 1st edition Ordnance Survey map, surveyed 1834-1836, but only as a label 'Signal Tower' and a trigonometry point. The 3rd edition Ordnance Survey map, surveyed 1900-1905, shows a small square unenclosed building, labelled 'Signal Tower (in Ruins)' (The 2nd edition Ordnance Survey map is not available online). It was an important location in the signal chain that allowed the signal stations on the west coast of Donegal to communicate with those on the north coast.

The area contained several features that were often found in proximity to the signal stations, including an automated weather station, the well preserved maintained 'Eire Sign 80' (no traces of an associated Look Out Post (L.O.P. 80) were identified), and the remnant of a large but heavily eroded promontory fort (DG023-004----). A concentration of undated features was present some 700 m north-west of the former signal station's location. This concentration (DG023-001---- through DG023-009----) included several enclosures, two hut sites, a second possible promontory fort, and relic field boundaries. The combination of all these features highlights the importance of this location at the north-west corner of Ireland.

Figure D.84. The automated weather station at Bloody Foreland, to the north of the location of the demolished Bloody Foreland Signal Station.

Figure D.85. The 'E' of the 'Eire 80 Sign', located close to the location of the demolished Bloody Foreland Signal Station.

Number 78. Horn Head Signal Station (601324, 941739).

Low ruin of signal tower. Reg. No. 40901510. 187 m (614') OD. Surveyed 28 August 2012.

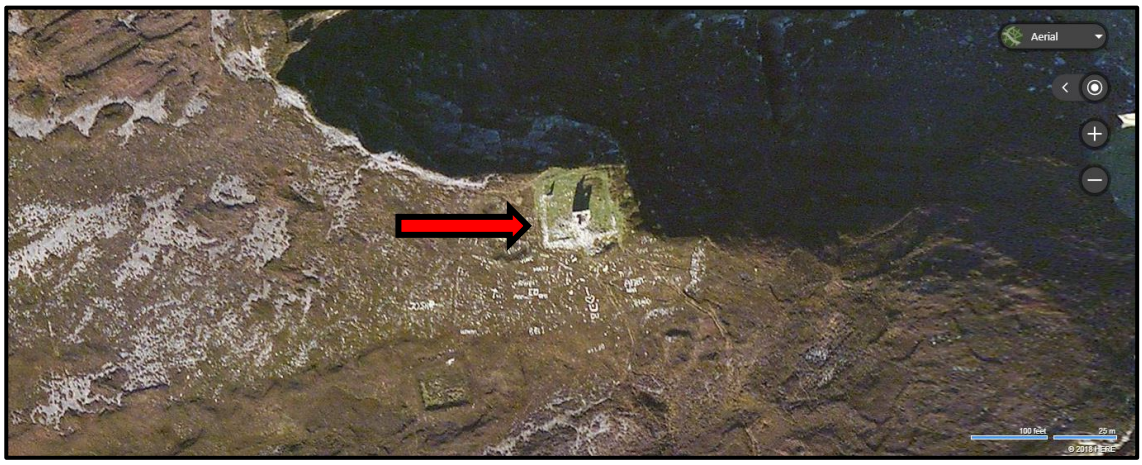

Figure D.86. Aerial photograph showing Horn Head Signal Station in the centre of the image (Bing Maps).

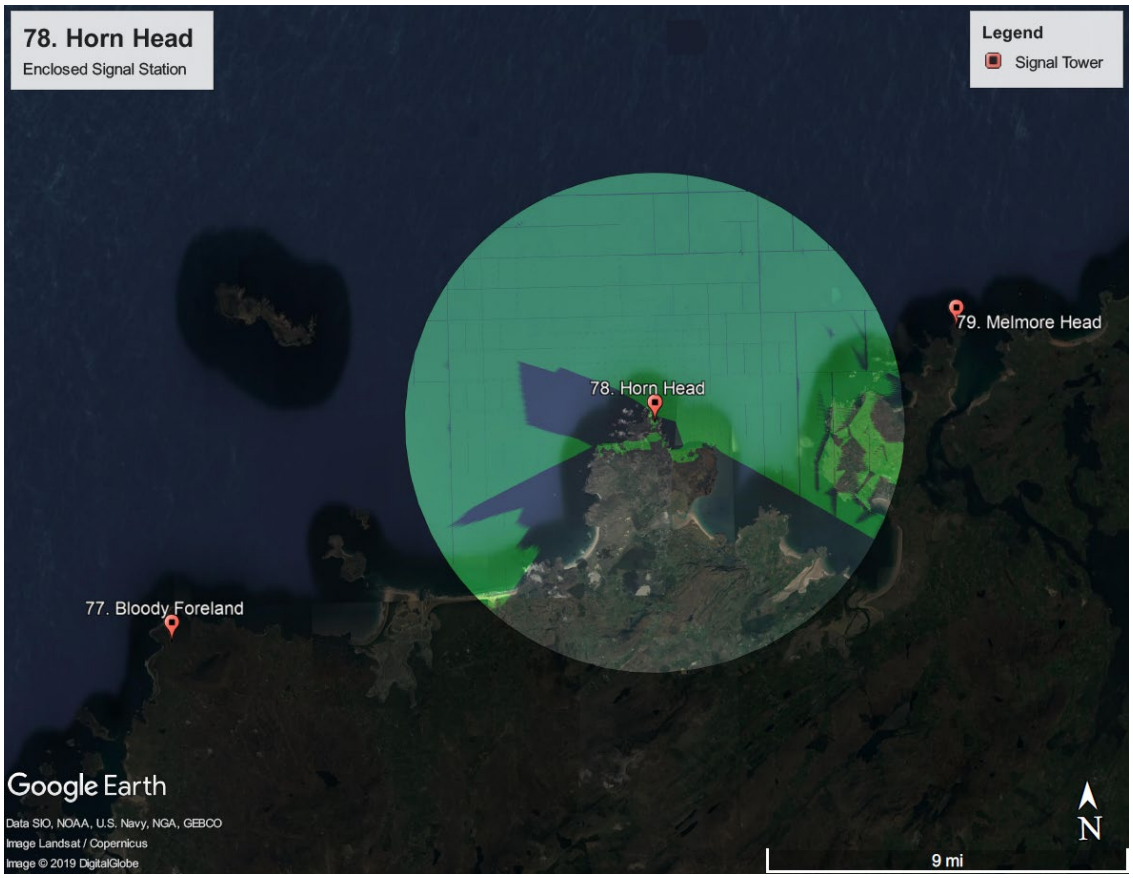

Figure D.87. Viewshed from Horn Head Signal Station (Google Earth Pro).

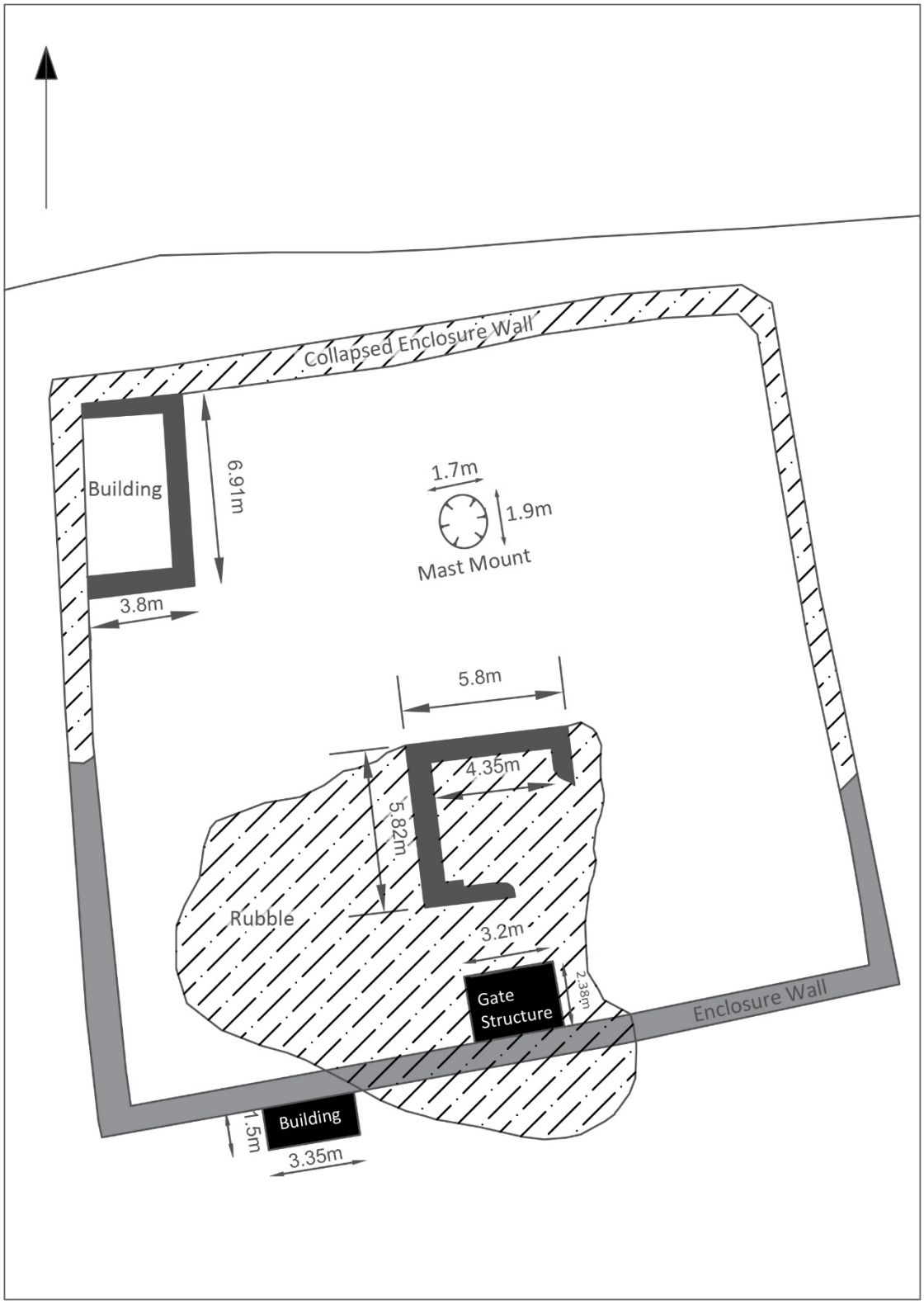

Figure D.88. Plan of Horn Head Signal Station.

Description

The enclosed Horn Head Signal Station was located at 187 m (614') OD on sloping, unenclosed ground immediately south of the tall steep cliffs overlooking Horn Head. The site was accessed from a long winding path that led northwards out of the dispersed settlement of Muntermellan and through the townland of Largatreany. The path did not reach as far as the signal station, stopping after cresting the hill to the south. The path was shown on the 1st edition Ordnance Survey map, surveyed 1834-1836, and therefore it is possible that the path was used to approach the signal station during its period of use. The demolished or collapsed signal towers at the adjacent signal station to the south-west, Bloody Foreland, and to the north-east, Melmore Head, could not be seen, but the approximate position of the signal stations were visible.

The main feature at Horn Head Signal Station was a largely collapsed signal tower. It was set in a sub-rectangular enclosure defined by a collapsed stone wall. The ruined signal tower was located close to the southern wall of the enclosure. Despite its condition, enough survived to orientate the tower. The walls faced north, east, south, and west. The first floor door was located on the northern wall where fragments of one side of the opening could still be seen. Two ground floor windows were visible on the west wall, and a single ground floor window was visible on the east wall. They were unusually large examples, featuring high arched tops. The lower parts of one first floor window was visible at the north of the western wall. A slot with joist holes that would have held the first floor was also visible on the west wall. On the northern wall the western joist holes for the split mezzanine level between the ground floor and the first floor were present. The area where the eastern set of joist holes for the mezzanine levels was marked by a hole in the wall, possibly suggesting the joist holes had introduced a weakness into the wall leading to its localised collapse. A small fragment of one of the ground floor alcoves that would have flanked the central fireplace was present on the small surviving part of the southern wall. The signal tower is surrounded by a large spread of rubble that extended to the west and the south, suggesting that the tower may have collapsed in a south-westerly direction. The walls of the signal tower were constructed from light-grey, coarse-grained stone, possibly quartzite.

The enclosure measured 30 m (98’ 5’’) east to west and 27 m (88’ 7’’) north to south. The enclosure was defined by a largely collapsed drystone wall, which was best preserved around the southern portion. The foundations of two small buildings were located within the enclosure, one built against the north-west corner, and one built against the middle of the southern wall.

The small rectangular building located in the north-west corner of the enclosure was mostly defined by a low grassed over foundation, similar to those found at other signal stations, but the south-east corner retained a tall section of a mortared wall suggesting the building was reasonably substantial. It measured 7.45 m by 3.2 m (24’ 5’’ by 10’ 6’’) externally, and 5.8 m by 2.6 m (19’ by 8’ 6’’) internally. The surviving walling at the south-east corner had a maximum height of 1.8 m (6’). This small surviving fragment of wall may have important implications for the interpretation of the grassed over rectangular foundations recorded at other signal stations. The building is shown on the 3rd edition Ordnance Survey map, surveyed 1900-1905, but not on the 1st edition Ordnance Survey map, surveyed 1836-1838, which also omits the enclosure (the 2nd edition Ordnance Survey map is not available online).

The foundation in the middle of the southern wall was covered by collapsed stone from the nearby signal tower, and presumably from its own upper portions, making it difficult to examine. It measured 3.2 m by 2.4 m (10’ 6’’ by 7’ 10’’) and appeared to be part of the entrance, possibly the foundation of a guardhouse or an elaborate gate structure. This building was not depicted on the early Ordnance Survey maps.

On the exterior side of the southern enclosure wall, 5.8 m (19’) east of the south-west corner and west of the foundation associated with the entrance, there was a smaller stone foundation measuring 3.2 m by 1.5 m. (10’ 6’’ by 4’ 1’’). The purpose of this structure is unknown. This building was not depicted on the early Ordnance Survey maps.

A well-preserved World War 2 era Look Out Post (L.O.P. 77) was located on top of Coast Guard Hill, about 800 m (875 yards) to the south of the signal station. It was associated with moderately well-preserved ‘Eire Sign 77,’ located about 350 m (380 yards) to the north-west of the signal station.

Figure D.89. View of Horn Head Signal Station, looking north.

Figure D.90. The external face of the west wall of the signal tower at Horn Head Signal Station, with the south-west corner of the enclosure in the foreground.

Figure D.91. View of the largely demolished south-east corner of the signal tower at Horn Head Signal Station, looking north-west.

Figure D.92. The lower portion of the internal face of the west wall of the signal tower at Horn Head Signal Station, showing the ground floor windows with their unusual arched tops.

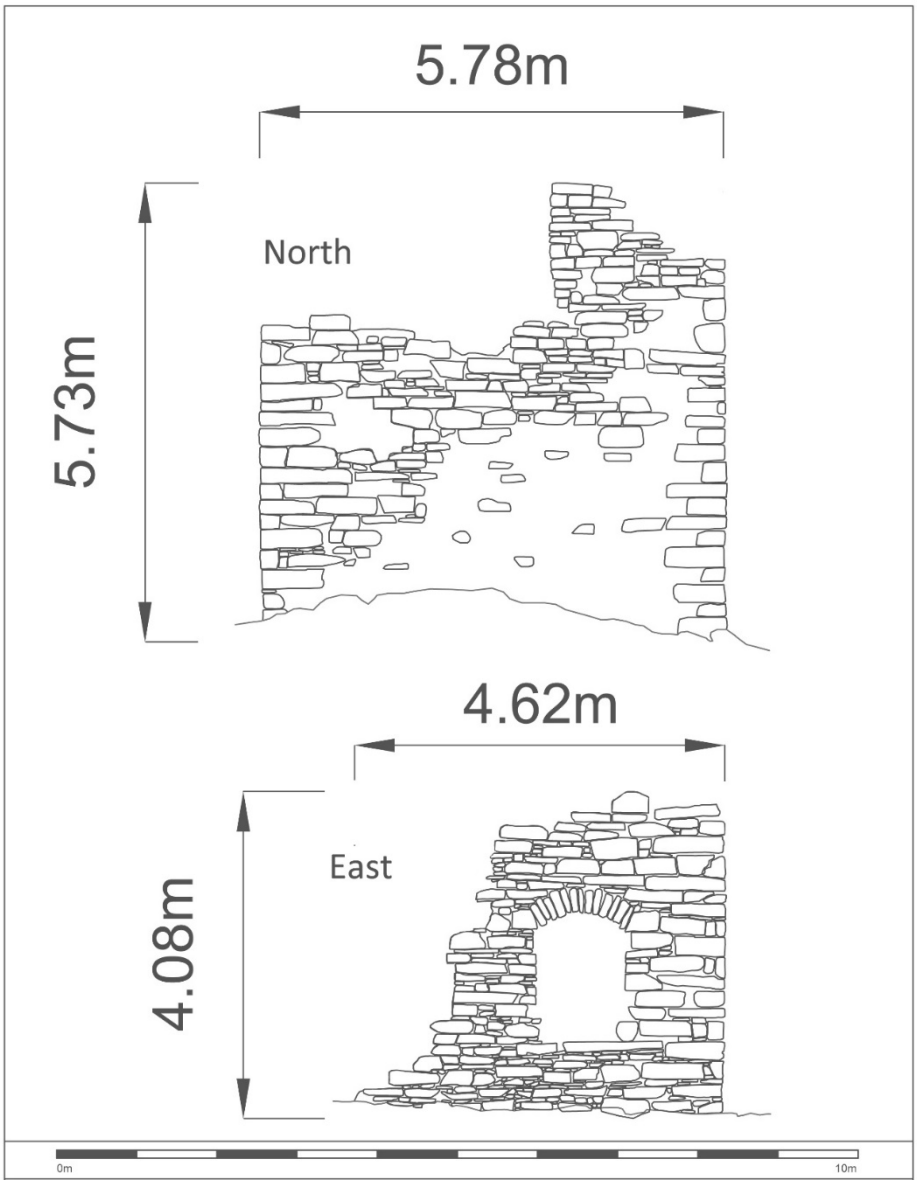

Figure D.93. External elevations of the north and east walls of the signal tower at Horn Head Signal Station.

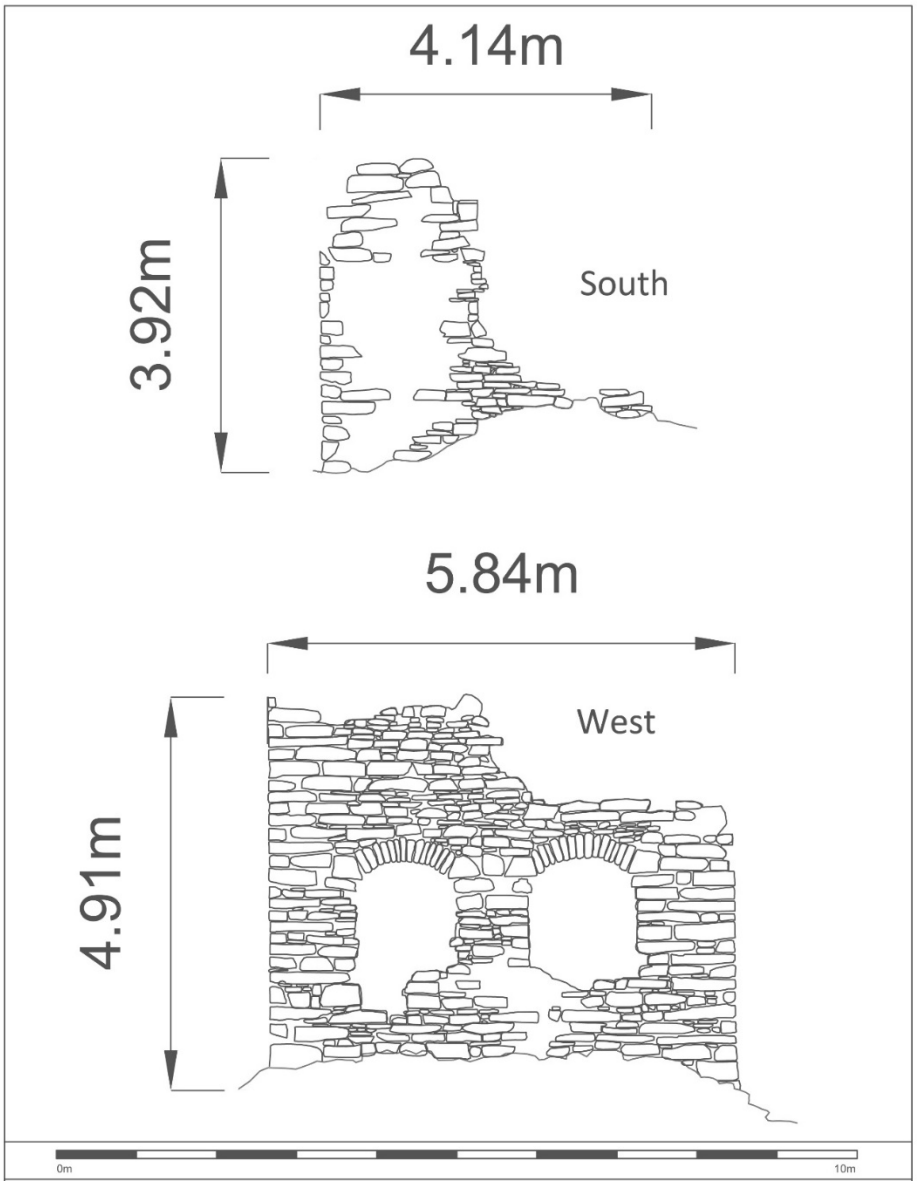

Figure D.94. Southern and western External elevations of the south and west walls of the signal tower at Horn Head Signal Station.

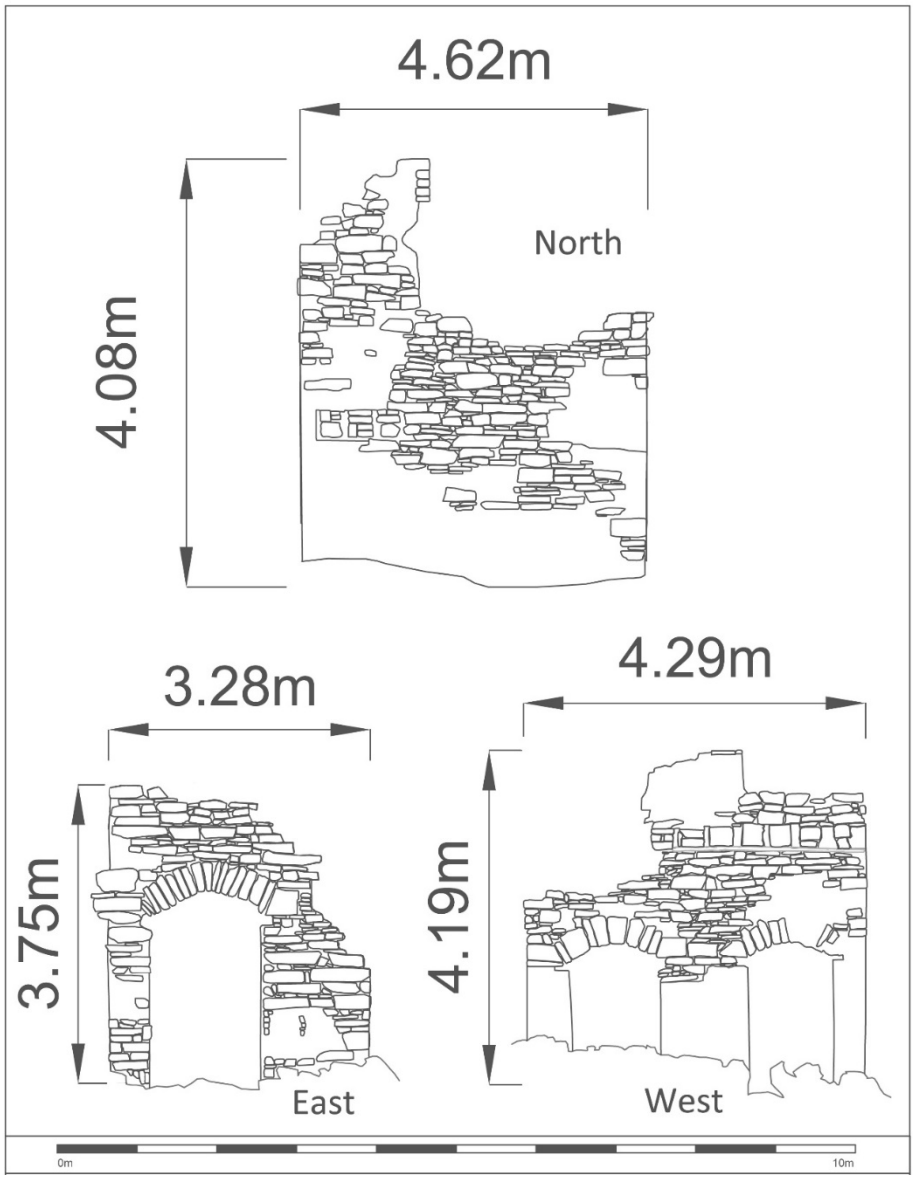

Figure D.95. Internal elevations of the north, east and west walls of the signal tower at Horn Head Signal Station.

Number 79. Melmore Head Signal Station (613529, 945241).

Low ruin of signal tower. SMR DG008-027----. 48 m (157') OD. Surveyed 28 August 2012.

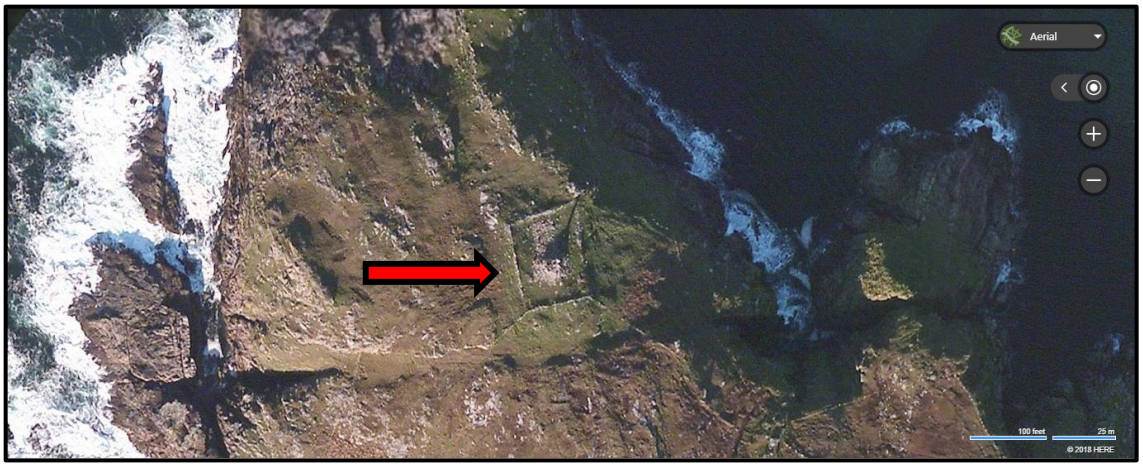

Figure D.96. Aerial photograph showing Melmore Head Signal Station in the centre of the image (Bing Maps).

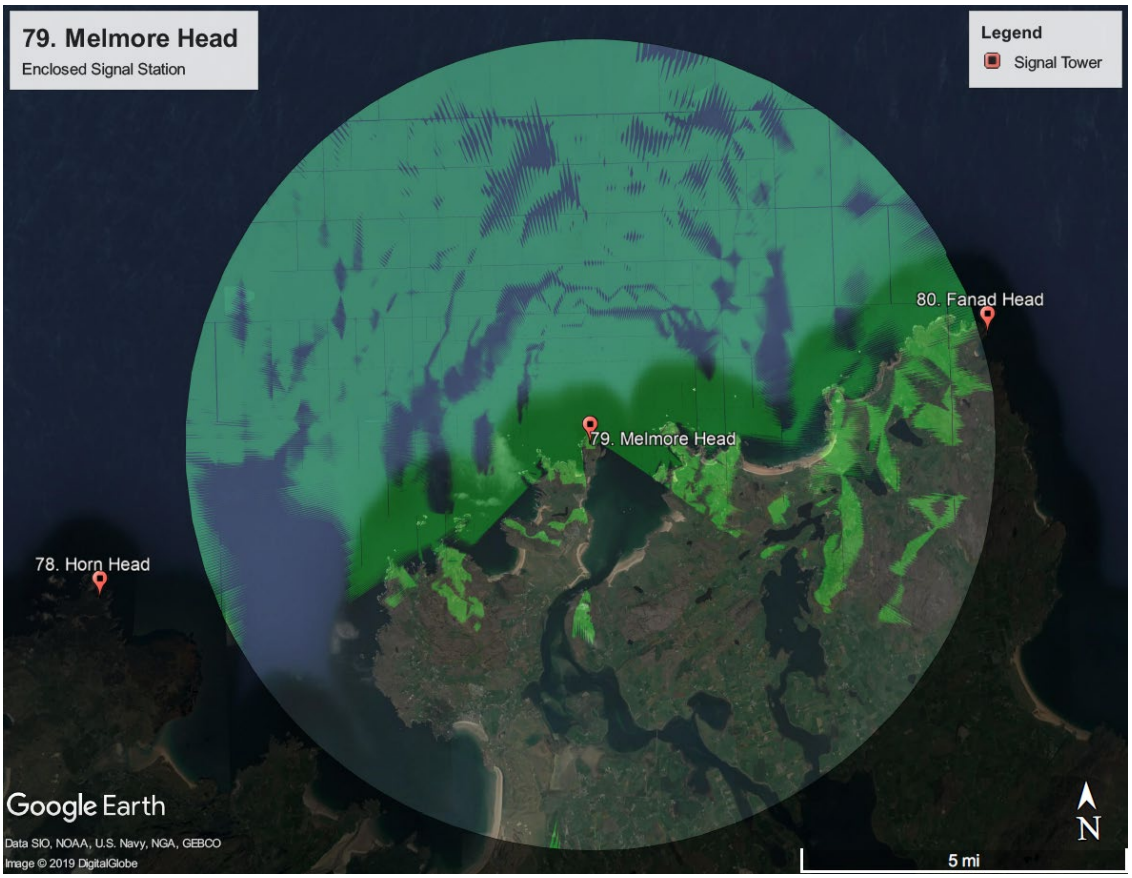

Figure D.97. Viewshed from Melmore Head Signal Station (Google Earth Pro).

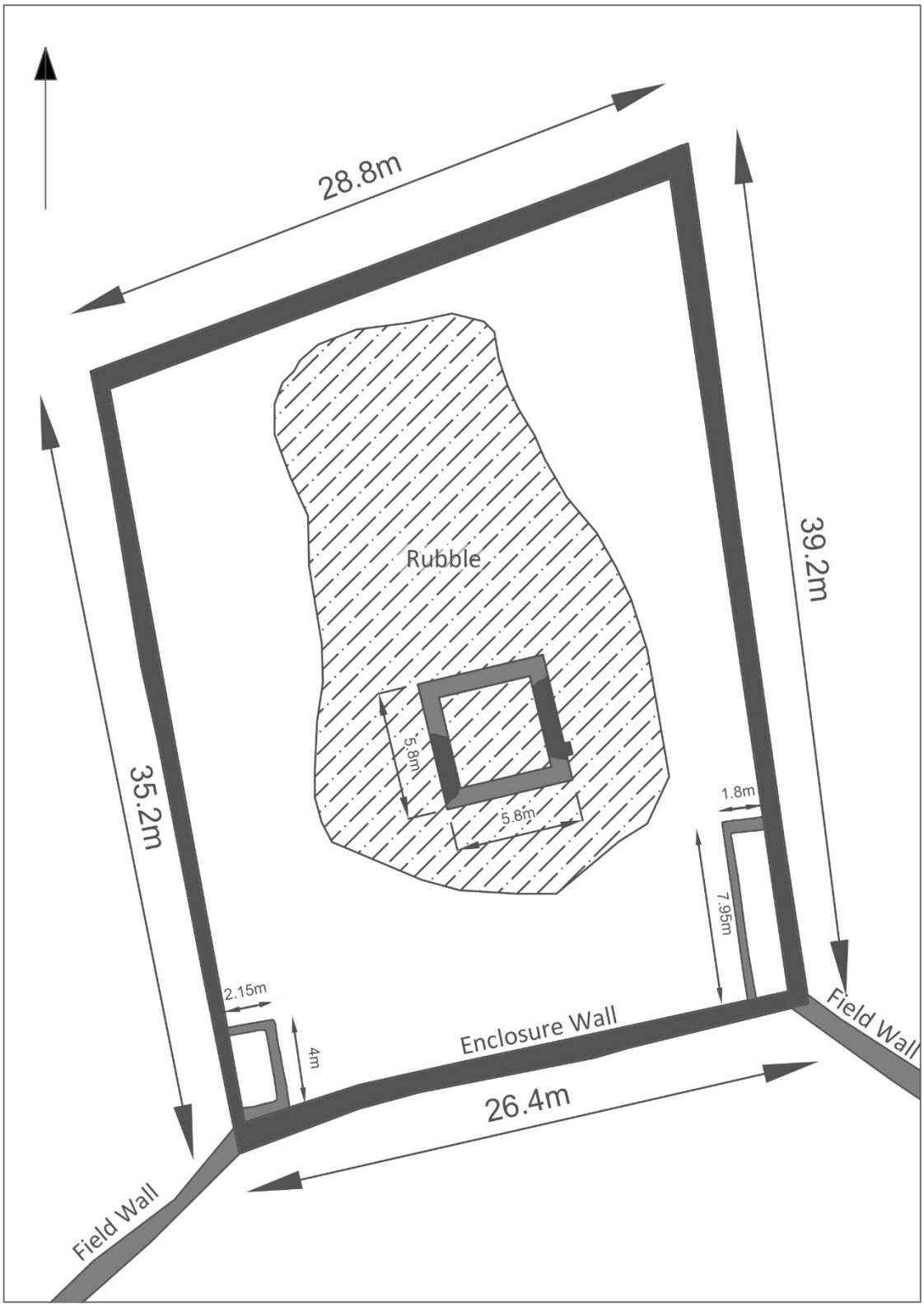

Figure D.98. Plan of Melmore Head Signal Station. The more intact sections of the signal tower are shown in black, the less well-preserved sections are shown in grey.

Description

The enclosed Melmore Head Signal Station was located at 48 m (157') OD on sloping ground that runs down to the end of the headland. The site was accessed from a number of poorly defined tracks that ran across the rough ground to the north of Milgor Strand. The signal station consisted of a largely collapsed signal tower set within a slightly irregular rectangular enclosure defined by a collapsed dry-stone wall. The signal station was located in an unenclosed landscape, although the southern corners of the enclosure were connected to a long cliff-edge wall.

The collapsed base of the signal tower was located in the centre of the enclosure. A small section of intact walling was visible along the western side and a slightly more intact section of walling was visible along the eastern side. A narrow pillar of stonework extending up from the middle of this section of wall was thought to be the remains of the pillar between two ground floor windows. The outer face of the western section of the wall featured a pronounced batter. At the south of the western portion of wall a small buttress had been built up against the outer wall face, possibly representing an attempt to reinforce the tower prior to its collapse. The rest of the base of the signal tower was only represented as a dense mass of rubble. The rubble from the collapsed signal tower was present on all sides of the tower base, but it extended for a much greater distance to the north. This indicates that the signal tower collapsed in that direction, falling down the slope. A small section of mortared brick work was visible amongst this collapsed material, possibly deriving from the tower's chimney.

The enclosure was defined by the base of a stone wall that had largely collapsed to ground level. The south-east and south-west corners of the enclosure were connected to long cliff-edge walls that ran off for a considerable distance to the south-east and south-west respectively.

The low foundations of two small rectangular buildings were located within the enclosure, one against the south-east corner, the other against the south-west corner. The foundation in the south-east corner of the enclosure consisted of neat grassed over wall footings with frequent visible stonework. The building measured 7.95 m by 1.8 m (26' by 6') externally and 7 m by 1.45 m (23' by 4' 9'') internally. The 1st edition Ordnance Survey map, surveyed 1834-1836, shows a long rectangular building in this

position, and the building is thought to be a contemporary element of the signal station.

The building in the south-west corner of the enclosure consisted of a grassed over earthen bank with frequent protruding stones. It was not as well as constructed as the building at the south-east. It measured approximately 4 m by 2.15 m (13' by 7') externally and 3.35 m by 1.7 m (11' by 5' 6'') internally. This building was not shown on the early Ordnance Survey maps and given its cruder appearance in comparison to the first foundation it was possibly a later addition to the site.

A well-preserved World War 2 era Look Out Post (L.O.P. 78) was located on top of a high hill just over 2km to the south of the signal station, overlooking the rest of the peninsula. The well preserved 'Eire Sign 78' was located in damp ground to the north of the base of this hill.

Figure D.99. The north side of the collapsed signal tower at Melmore Head Signal Station, looking south, with the extensive rubble spread in the foreground.

Figure D.100. The external face of the east wall of the collapsed signal tower at Melmore Head Signal Station, showing the surviving stonework that appeared to have been the pillar that separated the ground floor windows, and the external buttress at the south of the wall.

Figure D.101. The rectangular building in the south-east corner of the enclosure at Melmore Head Signal Station, looking north, with the eastern side of the signal tower in the background.

Figure D.102. The rectangular building in the south-west corner of the enclosure at Melmore Head Signal Station, looking south.

Number 80. Fanad Head Signal Station (623392, 947718).
Demolished signal station. 15 m OD (49') OD. Surveyed 28 August 2012. Historical Name: Fannat Head Signal Station.

Figure D.103. Aerial photograph showing the Fanad Head lighthouse which overlay the position of Fanad Head Signal Station towards the right of the image. Fanad Head coast guard station is shown in the centre of the image (Bing Maps).

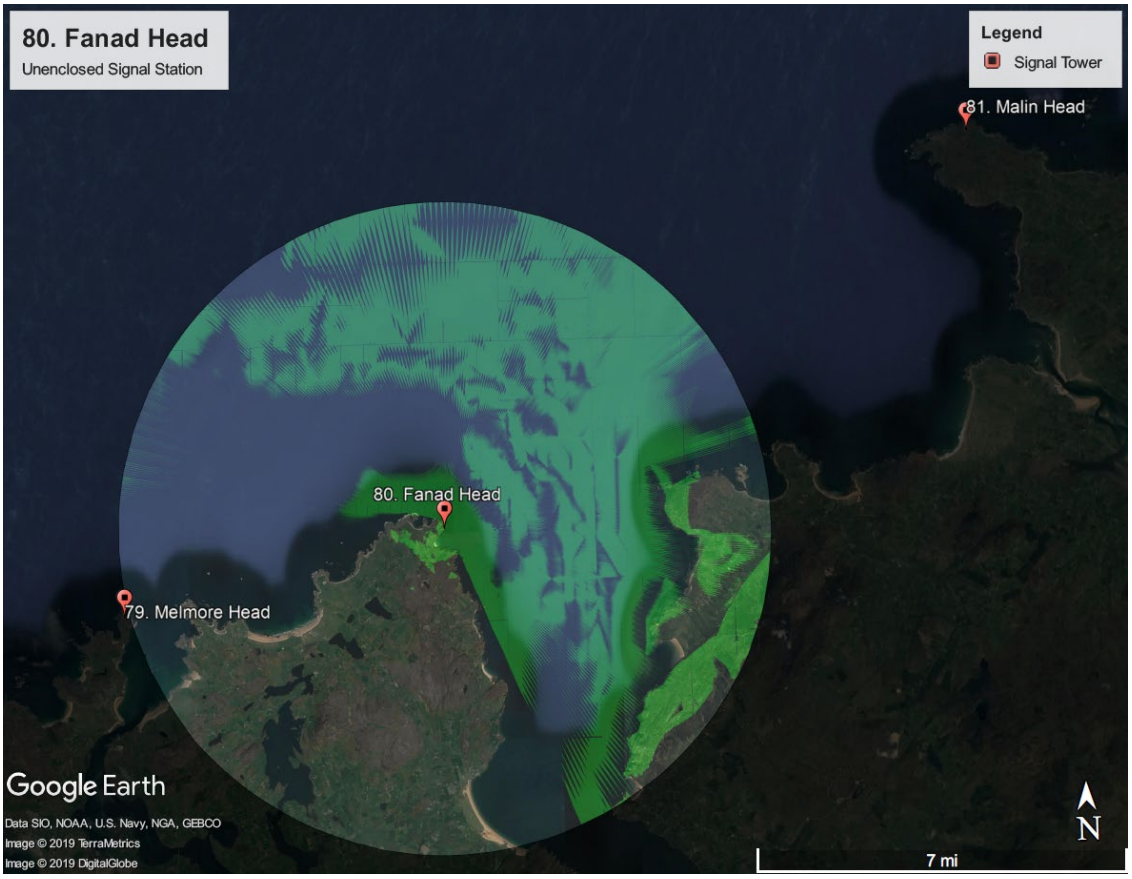

Figure D.104. Viewshed from Fanad Head Signal Station (Google Earth Pro).

Description

The signal station at Fanad Head was located at 15 m OD (49') OD on the rocky headland at the western end of Lough Swilly. It has been destroyed, and its location is now occupied by a large lighthouse complex that was constructed in 1886 and expanded in 1906. This lighthouse complex replaced an earlier lighthouse constructed between 1814 and 1817 which is depicted on the 1st edition Ordnance Survey Map, surveyed 1834-1836. A small rectangular building is shown to the east of the larger buildings shown at the lighthouse on the 1st edition Ordnance Survey map, which could conceivably be the signal tower, although it could simply be a new building.

An extremely important set of contemporary illustrations of the site by Sir William Smith show that the signal station consisted of a standard design signal tower, and two, single storey, gable roofed buildings, one to the north-west of the signal tower and one to the east of the signal tower. The signal tower was constructed with the front wall facing to the north-east, the side walls facing north-west and south-east and the rear wall facing south-west (Figures D.113, D.114, & D.115). The building to the north-west of the signal tower is shown in drawings that pre-dated the construction of the signal tower and was probably used to house the signal crew prior to the completion of the signal tower (Figures D.110 & D.111). A final image seems to show a tent which was used for housing during the construction phase, possibly prior to construction of the first gable roofed building (Figure D.112). The signal tower had a tall chimney on top of the rear wall and gun-loops in the parapet wall on either side of the chimney and on the outward facing sides of the bartizans. The signal mast was located to the north-west of the signal tower.

To the west of the lighthouse there was a large derelict Coast Guard Station. The Fanad Head Coast Guard Station faces inland, and a separate watch house was located to the north of the main building. Whilst this small structure resembled the World War 2 era Look Out Posts (L.O.P.s), it was a larger and more complex building. A similar watch house was located at Moyteogue on Achill Island, County Mayo. That watch house is associated with Keem Bay Coast Guard Station which, other than a difference in building materials, is largely identical to the Fanad Head Coast Guard Station (McDonald 2016, 82-3). The Keem Bay buildings date from around 1910, and a similar date is likely for

the examples at Fanad Head. A set of concrete foundations and metal anchor points west of the Fanad Head watch house also have parallels at Moyteogue. At Moyteogue the features supported a signal lamp for shore to ship communications and this explanation may also apply at Fanad Head. Another similarly designed watch house is located at Stroove, County Donegal, overlooking Inishowen Head (DG013-010----/Reg. No. 40901307). The NIAH states that the structure was built between 1890 and 1910 (NIAH 2019).

Figure D.105. Fanad Head Lighthouse, looking east, which overlies the position of the demolished Fanad Head Signal Station.

Figure D.106. Fanad Head Coast Guard Station, located on the small headland to the west of Fanad Head Lighthouse.

Figure D.107. The bay window on the north end of the early 20th Century watch house associated with Fanad Head Coast Guard Station.

Figure D.108. One of several metal and concrete equipment mounts located in the vicinity of the early 20th Century watch house associated with Fanad Head Coast Guard Station.

Figure D.109. "Naval Signal Station at Fannat Point [*sic*] as seen looking towards Dunree by Sir William Smith." TCD MS 942/1: 18.

Figure D.110. "Naval Signal Station at Fannat Point [sic] as seen looking towards Dunnaff, and Malin and Malin Head by Sir William Smith." TCD MS 942/1: 19.

Figure D.111. "Naval Signal Station at Fannat Point [sic] as seen looking towards Malin Head and Malin by Sir William Smith." TCD MS 942/1: 20.

Figure D.112. "Sir Wm Smith's lodging & accommodation while erecting & building the naval signal station at Fannat Point [sic] by Sir William Smith." TCD MS 942/1: 21.

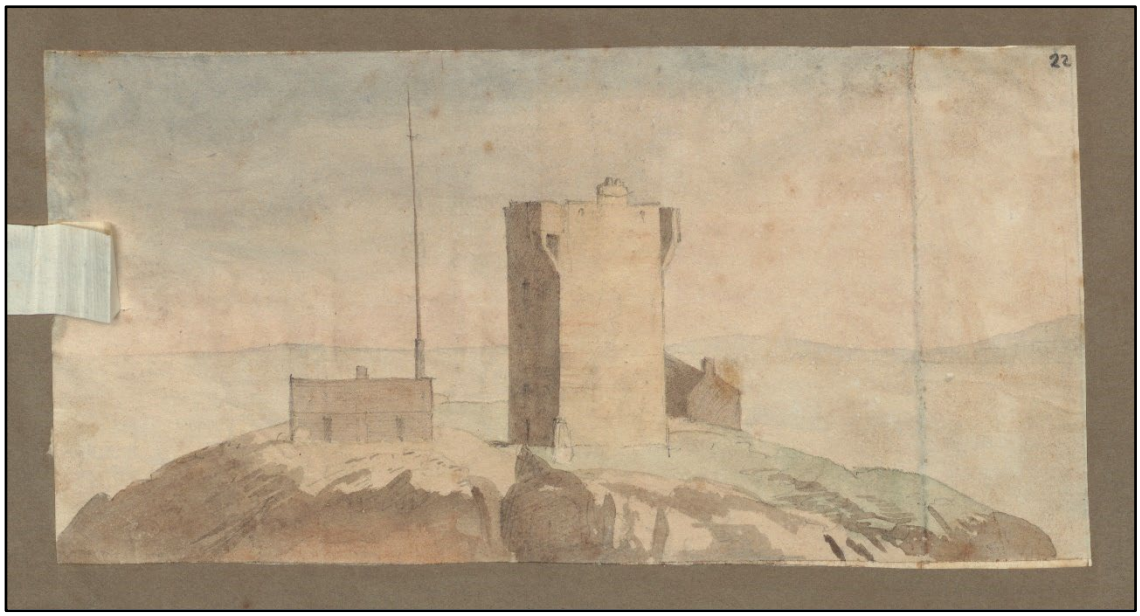

Figure D.113. "Naval Signal Station and defensible guard houses at Fannat Point [sic] seen as looking the way of Malin Hill by Sir William Smith." TCD MS 942/1: 22.

Figure D.114. "Fannat Point view of the Naval Signal Station and the Defensible Guard House by William Smith." TCD MS 942/1: 28.

Figure D.115. "Naval signal station at Fannat [sic] Point by Sir William Smith." TCD MS 942/2: 2.

Number 81. Malin Head Signal Station (639699, 959518).

Heavily altered signal tower. SMR DG001-006----/Reg. No. 40900101. 69 m (226') OD. Surveyed 28 August 2012.

Figure D.116. Aerial photograph showing the complex of different communications building at Malin Head. The signal tower is shown below the centre of the image (Bing Maps).

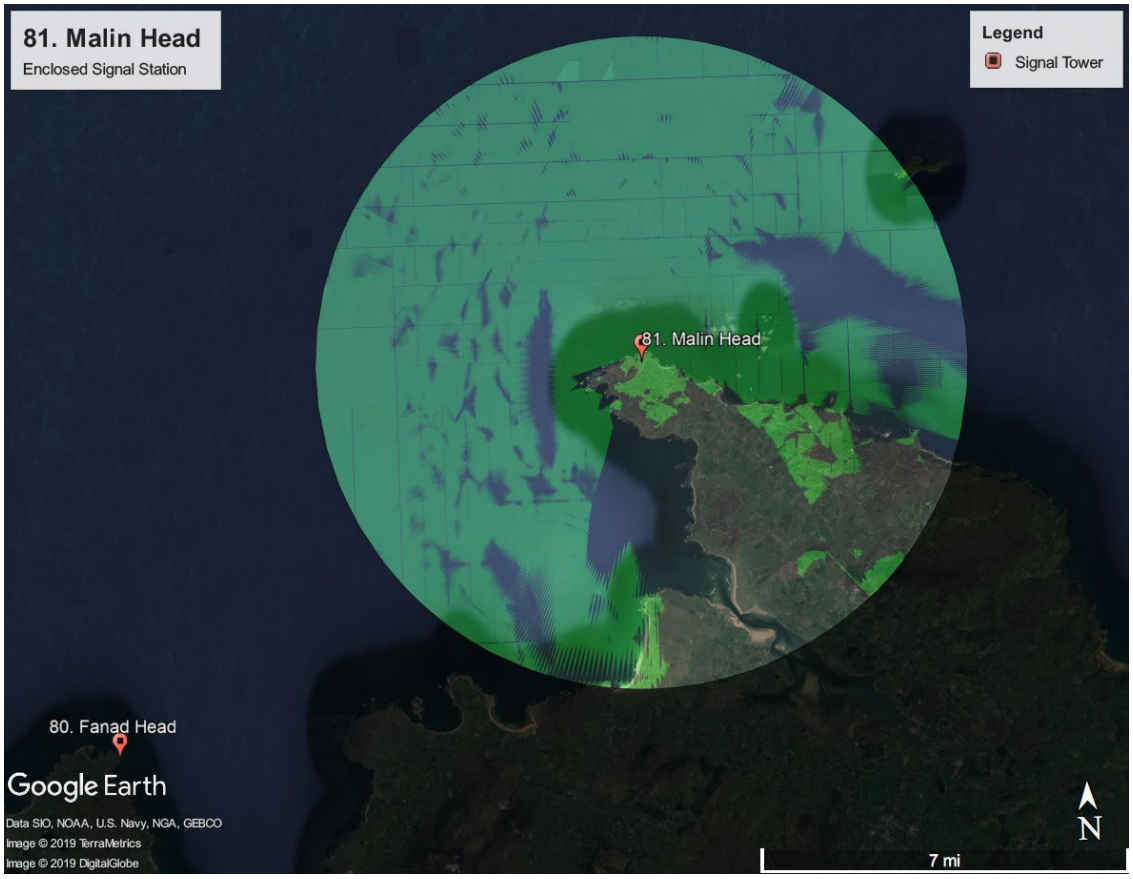

Figure D.117. Viewshed from Malin Head Signal Station (Google Earth Pro).

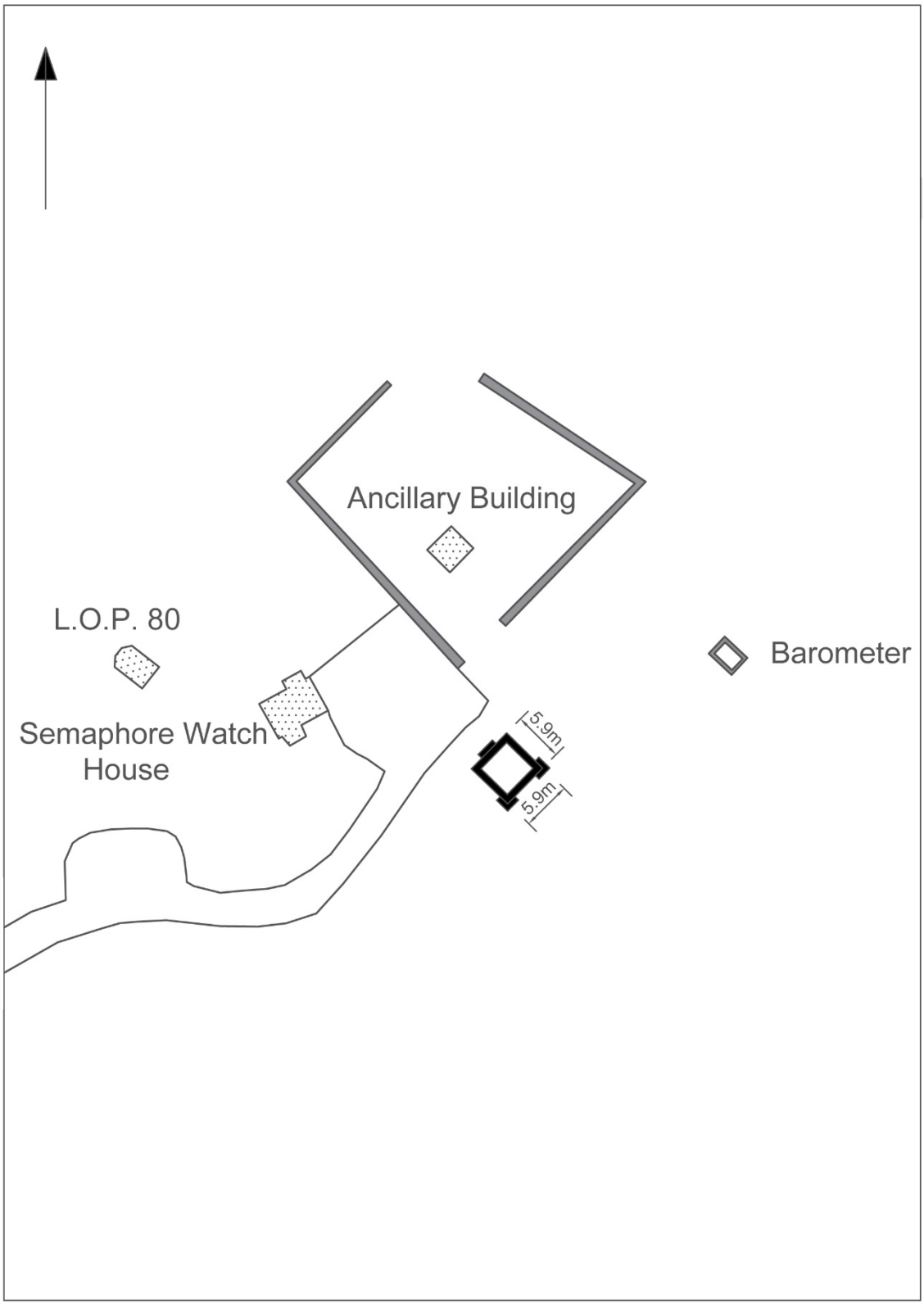

Figure D.118. Plan of Malin Head Signal Station and the surrounding buildings.

Description

The signal station at Malin Head was located at 69 m (226') OD on a small hilltop a little to the east of the Malin Head itself. It was a complicated site with a particularly interesting history. The site consisted of a much-altered signal tower surrounded by a number of smaller buildings, that had been constructed through the late 19th century into the mid-20th century.

The signal tower was originally set in a rectangular enclosure, as shown on the 1st edition Ordnance Survey map, surveyed 1834-1836, but no traces of that enclosure have survived. The signal station seems to have been abandoned at the same time as the other stations in the system. During the 1880's the abandoned site was recommissioned by Lloyds of London for the location of a ship to shore semaphore station. In the early 1900's it was home to several sets of experimental radio broadcasting equipment and the site saw service again during World War 2. The prolonged use of this site for communications and observations emphasises the strategic importance of this place, the most northerly point in Ireland.

The signal tower was the only visible remnant of the original signal station. Despite being heavily modified it retained its essential form. It was positioned with its walls facing north-east, south-east, south-west, and north-west respectively. It had a first floor doorway protected by a machicolation on the north-west wall, and bartizans over the northern and southern corners. The whole exterior of the tower had been covered in thick, smooth render, giving it an early 20th century 'modern' appearance. A photograph dated 1902 shows that this render had already been applied by that point.

The original sets of windows that would have been located on the north-east and south-west walls had been blocked up. A ground floor window had been added to the building, under the first floor doorway on the north-west wall. A narrow, arched doorway and a ground floor window had been added to the north-east wall. An impression in the render suggests a small addition had been built up against the eastern corner of the north-east wall but no other traces of this addition were visible. A centrally located ground floor window had been added to the rear, south-east wall. This wall lacked the typical outward bowing, but a tall centrally positioned chimney was located at the top of the wall and a second, tall narrower chimney was located at the eastern edge of this

wall, just next to the eastern bartizan. An impression in the render suggested that a small centrally located addition was previously built against the south-east wall. The 1902 photograph of the tower shows a small shed roofed structure in this location.

An extremely important set of contemporary illustrations of the site by Sir William Smith show that the signal station consisted of a standard design signal tower, and a single storey, gable roofed building to the south of the signal tower, and a signal mast to the west of the signal tower. The building to the south of the signal tower is shown in drawings that pre-dated the construction of the signal tower, and was probably used to house the signal crew prior to the completion of the signal tower (Figures D.129, D.130 & D.133). The signal tower had a pronounced batter at the base of its walls and a tall chimney on top of the rear wall. Gun-loops were located on all four sides of the bartizans, and on all three sides of the machicolation over the door (Figures D.131 & D.132).

To the north-east of the signal tower there was a small stone walled rectangular structure that may not have been roofed, or at least no traces of a roof were noted during the survey. This structure was identified as a "barometer" on the 3rd edition of the Ordnance Survey maps, surveyed 1900-1905. To the west of the signal tower there was a poured-concrete single floor structure identified as a 'semaphore watch house' on the 3rd edition of the Ordnance Survey maps (Reg. No. 40900113). The structure is shown on the 1902 photograph of the site with a flag signal mast on top of its roof and a larger flag signal mast to the west of the structure. To the west of the semaphore watch house there was a well-preserved World War 2 era Look Out Post (L.O.P. 80/Reg. No. 40900104). To the north of the signal tower there was a large rectangular enclosure defined by a tall wall. Inside the enclosure was a small rectangular concrete building that has been identified as a small World War 2 era quarters for the personnel manning the L.O.P. 80 (Horner & Brown 2014a). A well preserved 'Eire Sign 80' can be seen at the back of the foreshore, 180 m (197 yards) north-east of the signal station site.

The NIAH summarised the complex later history of this site as follows,

> *"The tower apparently later served as a weather station during the second half of the nineteenth century. It was subsequently in use as a signal tower for the insurance company Lloyds of London, c. 1890, when information on shipping arriving across the Atlantic (Lloyds of London underwrote the insurance for many transatlantic shipping and mercantile ventures) was passed from a semaphore*

station on the offshore island of Inishtrahull, and to and from shipping to Malin Head, and eventually on to London. The tower was probably rendered around this time. In 1901, Guglielmo Marconi (1874 - 1930) established a radio signal station adjacent to Lloyds Tower (see 40900113), and in 1902 succeeded in sending the first commercial radio message from Malin Head to the ship S.S. Lake Ontario. Apparently, the radio station was involved in the sea trials of the radio system on the ill-fated RMS Titanic in April 1912. Later the station was taken over by the Post Office for communication purposes" (Reg. No. 40900101).

Figure D.119. The north corner of the modified signal tower at Malin Head Signal Station.

Figure D.120. The south corner of the modified signal tower at Malin Head Signal Station.

Figure D.121. The 'semaphore watch house' located to the west of the signal tower at Malin Head Signal Station, looking north-west.

Figure D.122. L.O.P. 80 looking north-east. The poured concrete enclosure and ancillary building can be seen in the background, to the left of L.O.P. 80.

Figure D.123. The ancillary building located within the poured concrete enclosure, to the north of the signal tower at Malin Head Signal Station.

Figure D.124. 'Eire Sign 80', on the low ground to the north-east of Malin Head Signal Station.

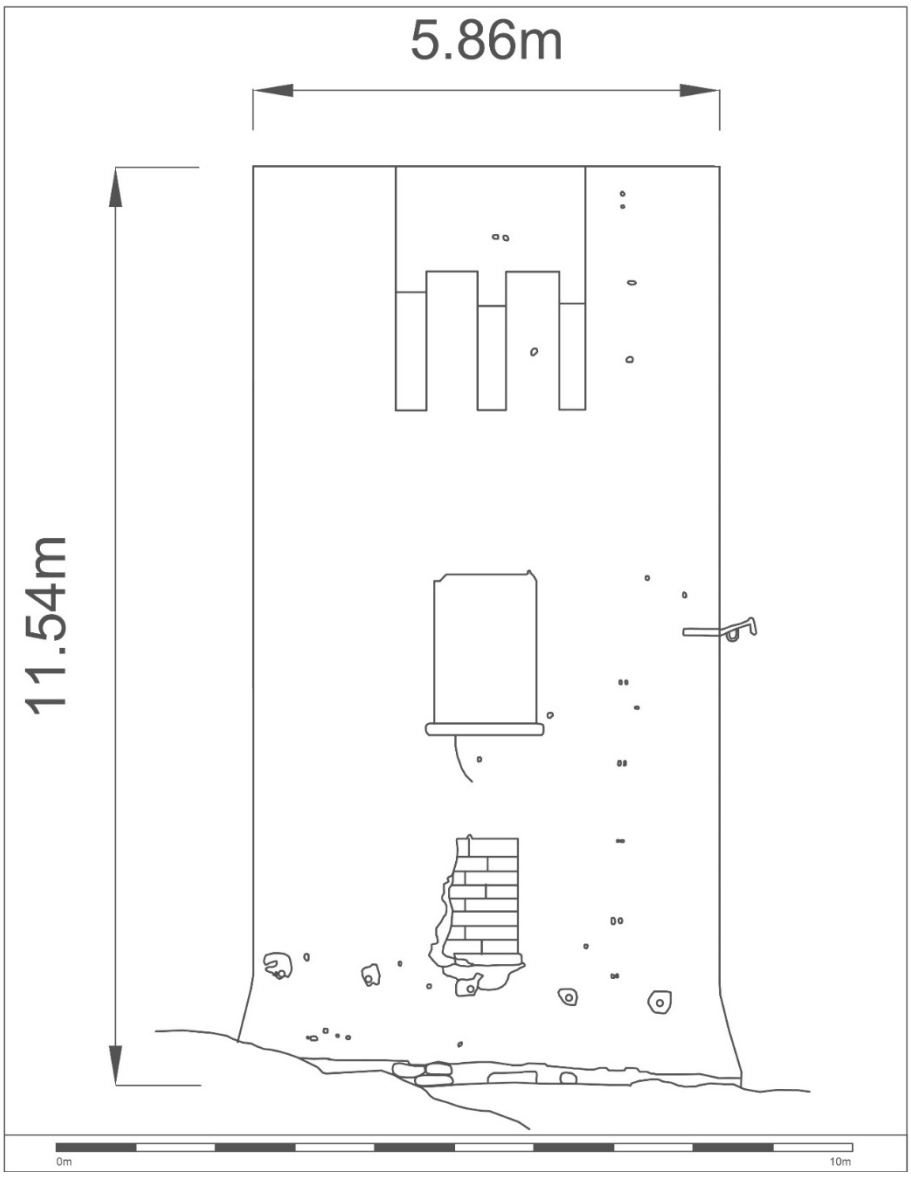

Figure D.125. External elevation of the north-west wall of the heavily modified signal tower at Malin Head Signal Station.

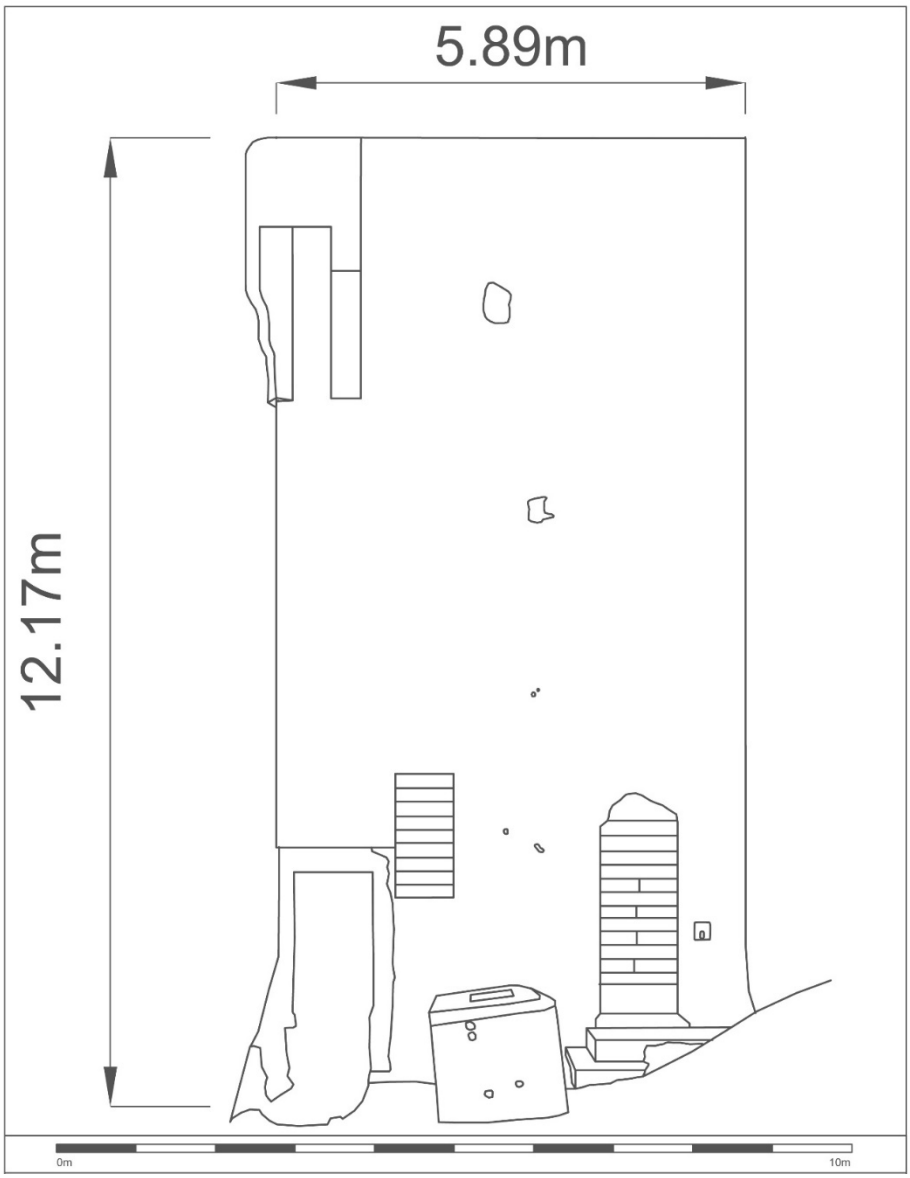

Figure D.126. External elevation of the north-east wall of the heavily modified signal tower at Malin Head Signal Station.

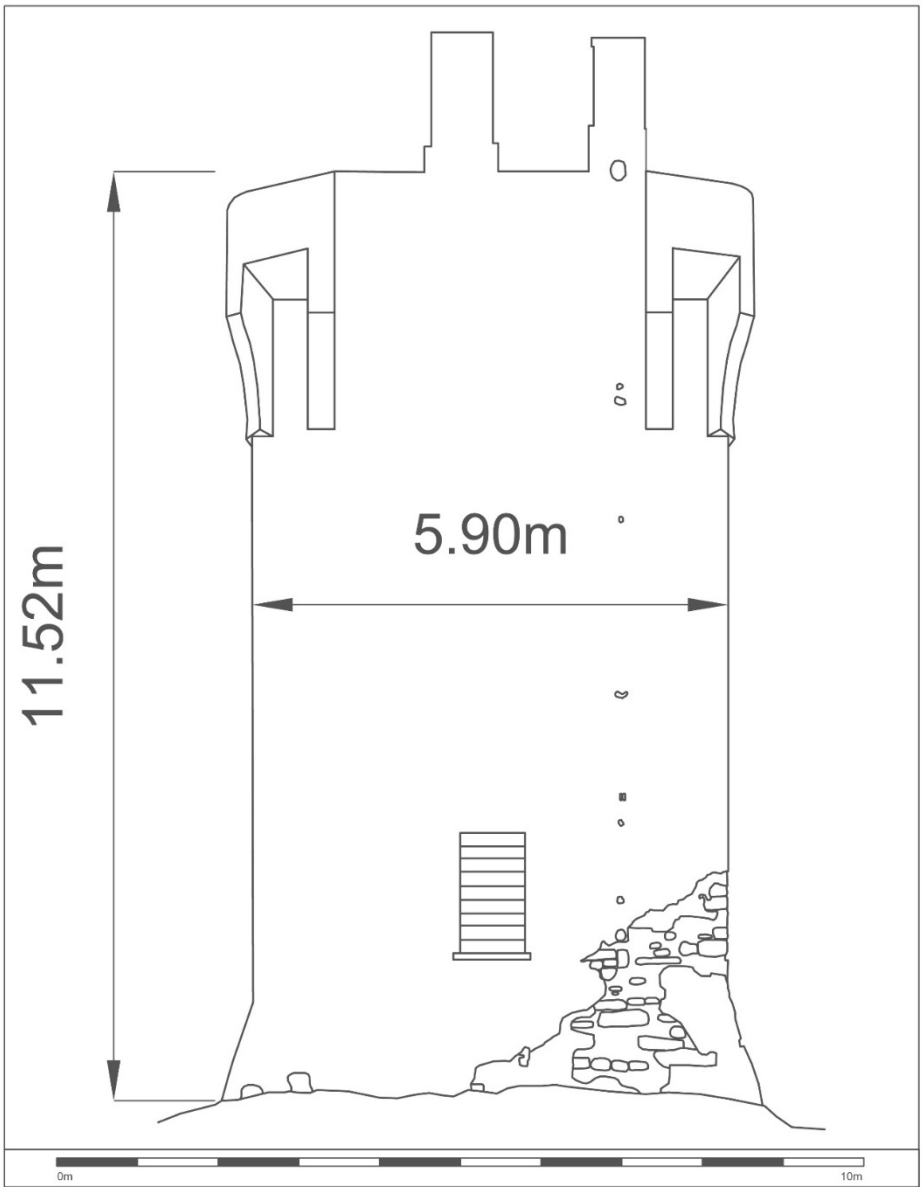

Figure D.127. External elevation of the south-east wall of the heavily modified signal tower at Malin Head Signal Station.

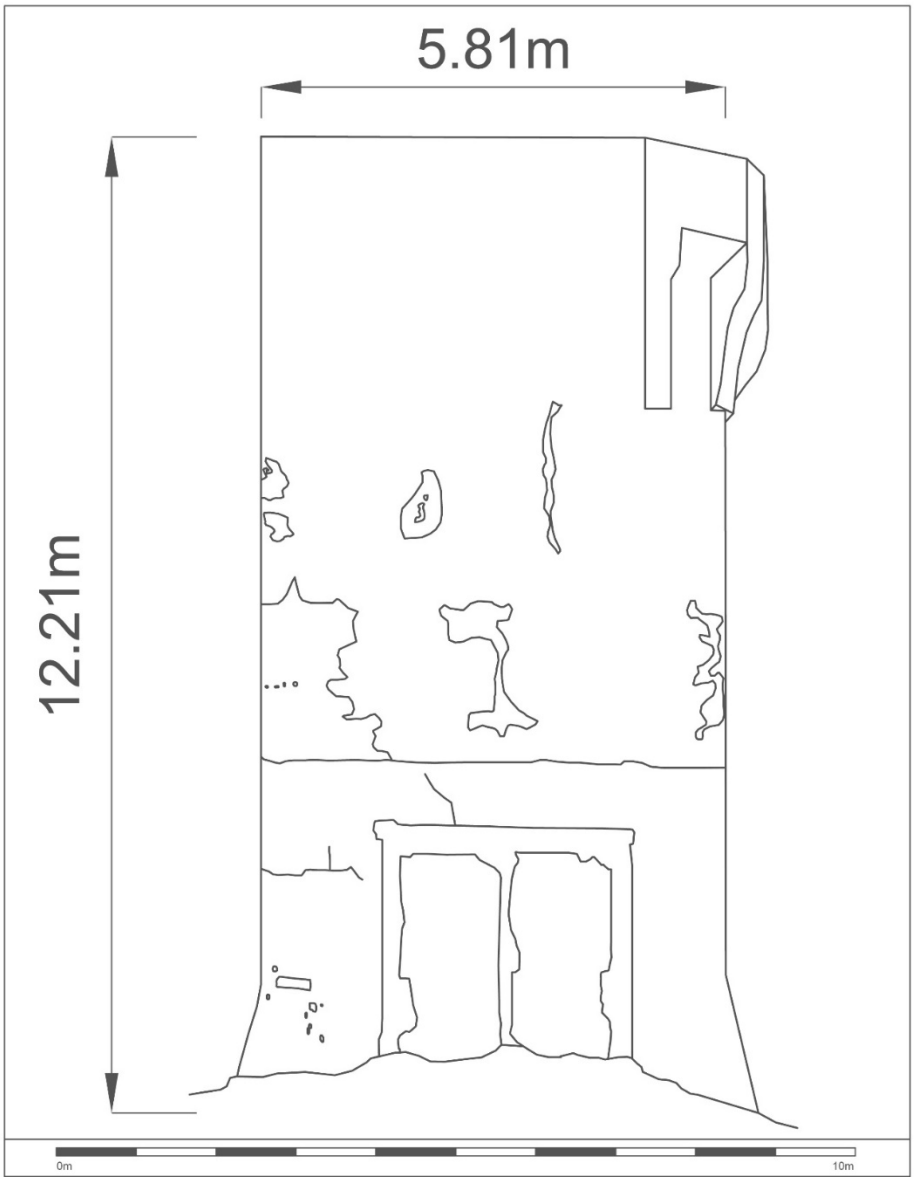

Figure D.128. External elevation of the south-west wall of the heavily modified signal tower at Malin Head Signal Station.

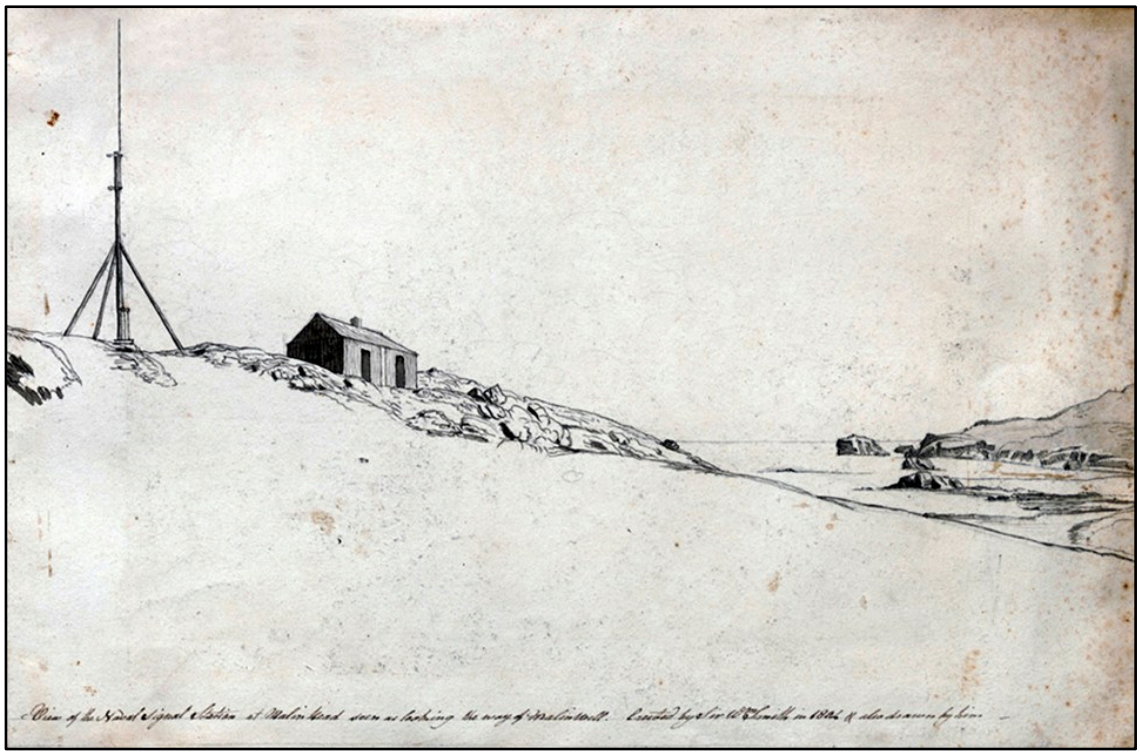

Figure D.129. View of the Naval Signal Station at Malin Head seen looking the way of Malin Well erected by Sir Wm Smith in 1804 & also drawn by him. (TCD MS 942/1: 15).

Figure D.130. View of the Naval Signal Station at Malin Head seen looking the way of Malin Well erected by Sir Wm Smith in 1804 & also drawn by him. (TCD MS 942/1: 16).

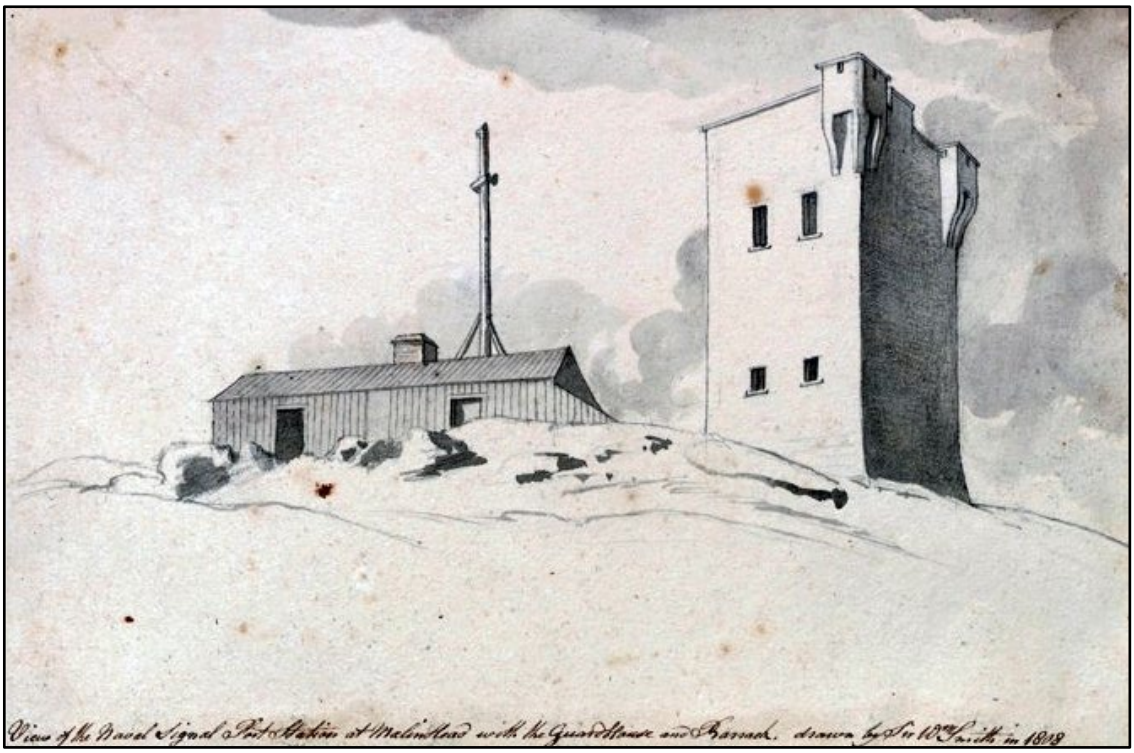

Figure D.131. View of the Naval Signal Port Station at Malin Head with the guardhouse and barrack drawn by Sir Wm Smith in 1808. (TCD MS 942/1: 23).

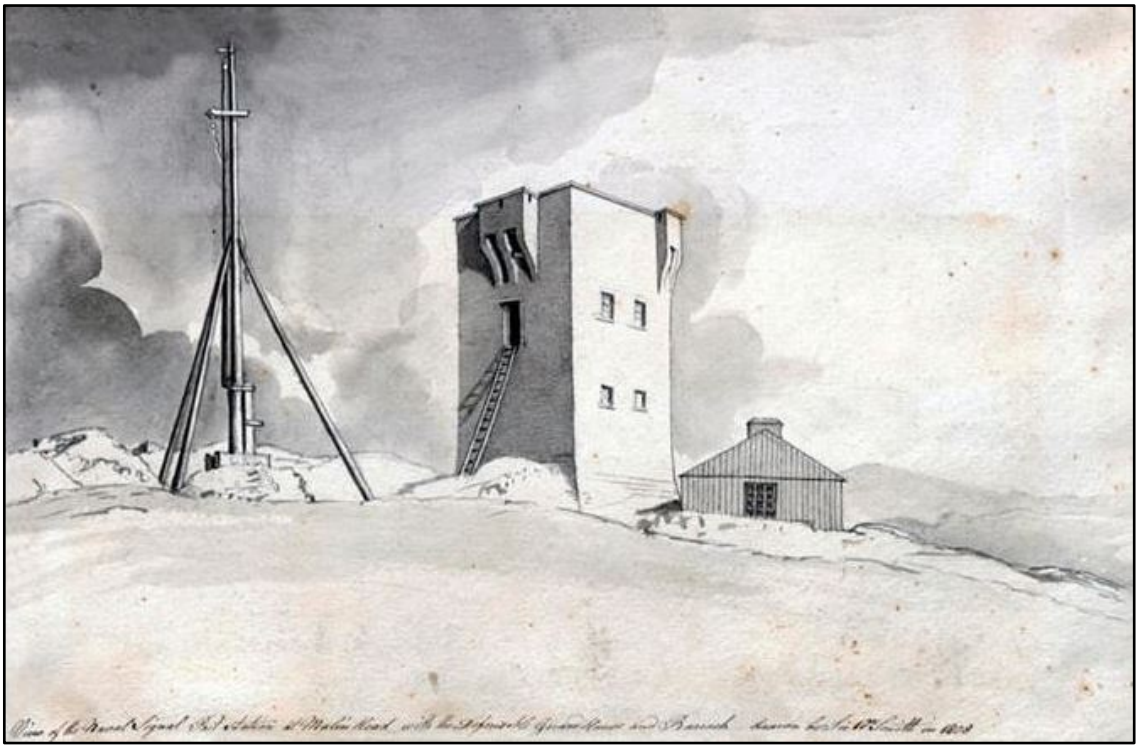

Figure D.132. View of the Naval Signal Port Station at Malin Head with the guardhouse and barrack drawn by Sir Wm Smith in 1808. (TCD MS 942/1: 24).

D.133. View of the Signal Port Station at Mailin Head erected by Sir Wm Smith in 1804. (TCD MS 942/2: 217).

Appendix E. Signal Stations in Leinster

Thirteen signal stations were established in Leinster (Figure E.1), starting at Pigeon House Fort in Dublin Bay, running down the east coast and then along the south coast as far as Hook Head in County Wexford. Five of the signal stations, Pigeon House Fort, County Dublin, Wicklow Head Lighthouse, County Wicklow, and Fort Point Martello Tower, Baginbun Martello Tower and Hook Head Lighthouse, County Wexford, were incorporated into existing facilities or new Martello towers, and did not require the construction of purpose-built signal towers (Kerrigan 1995, 161). The 1st edition Ordnance Survey maps do not identify any features at these sites which can be positively identified as being associated with the signal stations.

The remaining eight sites, Dalkey Signal Station, County Dublin, Ballygannon and Mizen Head Signal Stations, County Wicklow, Kilmichael Head, Cahore Point, Blackwater, Hill Castle and Cross Faranogue Signal Stations, County Wexford, were purpose-built sites which featured signal towers (Kerrigan 1995, 161). Of the purpose-built sites only Dalkey Signal Station and Mizen Head Signal Station are depicted on the 1st edition Ordnance Survey maps, surveyed in 1843 and 1838, respectively.

The signal stations in Leinster seem to have been particularly vulnerable to coastal erosion or demolition, and eight of the thirteen sites (62%) have been lost. Dalkey Signal Station is the only purpose-built signal station in Leinster where a signal tower has survived. Four of the pre-existing sites (80%), Pigeon House Fort, County Dublin, Wicklow Head Lighthouse, County Wicklow, and Baginbun Martello Tower and Hook Head Lighthouse, County Wexford, have survived, but no features that could be related directly to the signal stations were identified during this project.

The poor level of survival makes any analysis of the purpose-built signal stations in Leinster extremely difficult. Only Dalkey Signal Station, County Dublin, and the demolished site at Mizen Head Signal Station, County Wicklow, are available for in depth study.

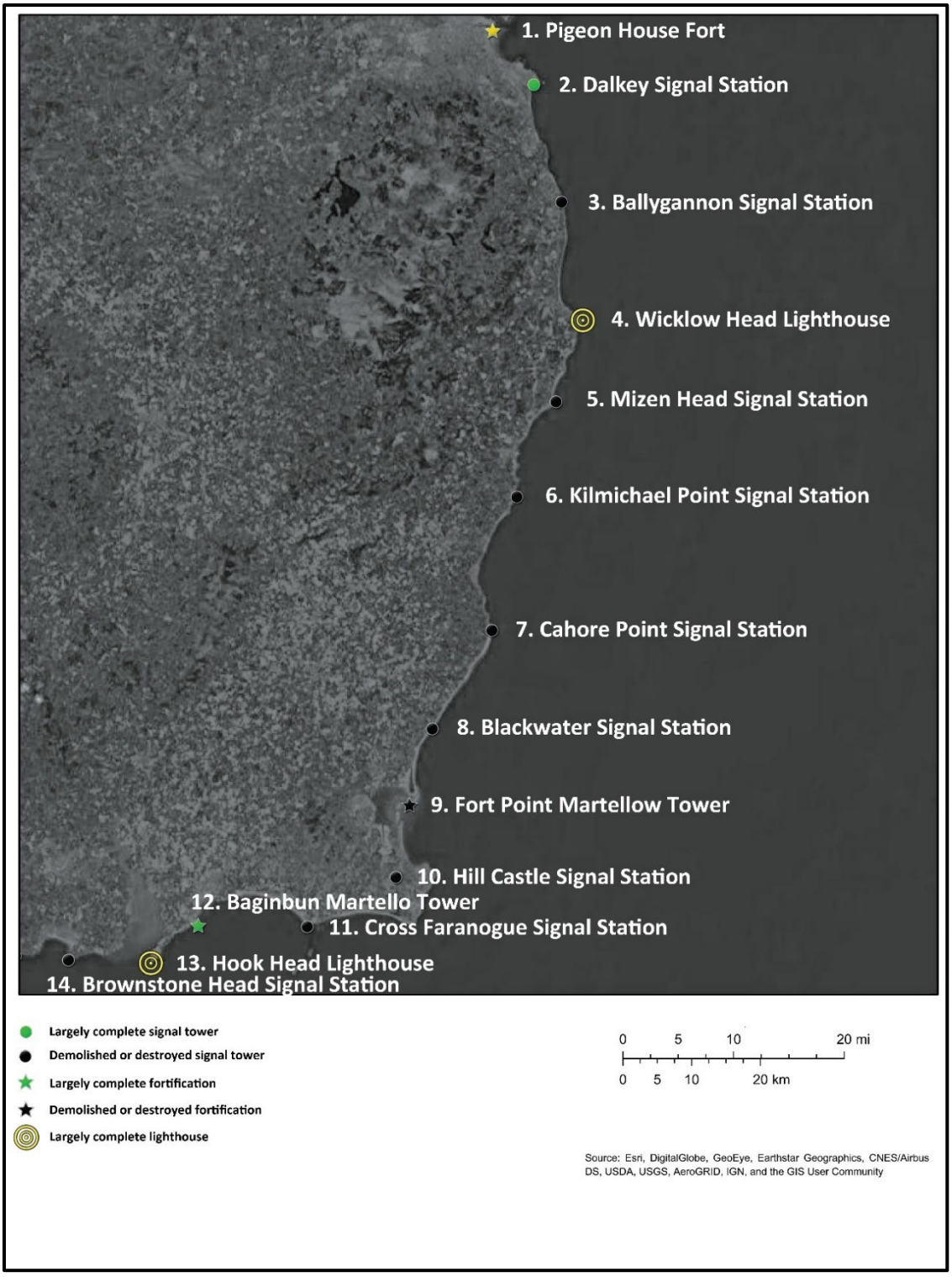

Figure E.1. Signal Station locations and types in the province of Leinster.

Number 1. Pigeon House Fort Signal Station, County Dublin (720329, 733676). SMR DU018-066----

The signal station was established within the existing military facility at Pigeon House Fort, located on a small piece of low-lying ground roughly halfway along the South Wall breakwater (DU018-066----) which marks the approach to Dublin Port. South Wall was constructed 1717-56. The piece of land at the midway point was first developed in the mid-18th century as Pigeon House Hotel (SMR DU019-027----). The civilian facilities were taken over by the military during the 1798 rebellion and were gradually developed into a major fortification called Pigeon House Fort (Hartnett McEnery 2006, 51-2; Shaffrey Associates Architects 2011, 16). The early fortifications are well depicted on the 1st edition Ordnance Survey map (surveyed 1843). A signal mast is likely to have been the only new feature constructed specifically for the signal station. Kerrigan established that a signal mast had been erected in 1804 (Kerrigan 1995, 276). The signal crew were housed in existing buildings, perhaps the now demolished barracks shown on the 1st edition Ordnance Survey map (Figure E.2). The signal officer was presumably housed in the officer's quarters, located in the repurposed Pigeon House Hotel, the only major building that still survives (Shaffrey Associates Architects 2011, 17, 82-4). The hotel is located at the south-east of the eastern part of the harbour, the only part of the harbour which has not been infilled (Figure E.3). The 1st edition Ordnance Survey map indicates that the buildings and harbour were located beyond the edge of the urban Dublin, at the end of the South Wall. This unusual location can be identified as part of an enclosed landscape.

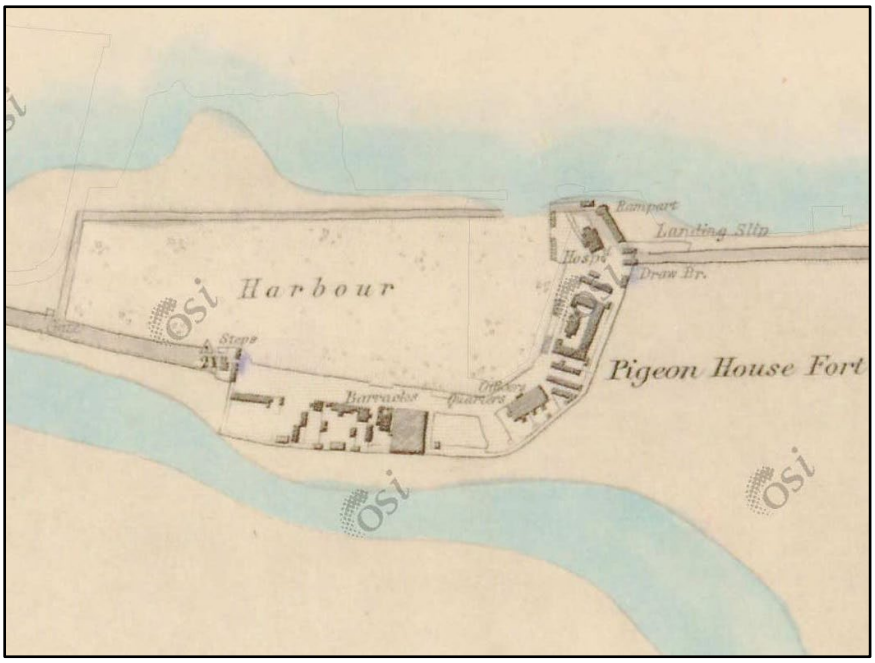

Figure E.2. Pigeon House Fort, County Dublin, as shown on the 1st edition Ordnance Survey map.

Figure E.3. Pigeon House Hotel, County Dublin, which was taken over by the military in 1798 and subsequently used as officer's quarters. (Photograph by Kevin Higgins used under Creative Commons License 2.0).

Number 2. Dalkey Signal Station, County Dublin (726381, 726089).

The enclosed signal station is situated on the ridgeline of Dalkey Hill, to the east of the summit. A large disused quarry is to the north, and steep slopes leading to the coast are to the south. The immediate area is now wooded parkland, surrounded by a dense suburban landscape. The signal tower is constructed on gently sloping ground adjacent to the steep edge of the quarry. Kerrigan established that the signal tower had been completed at the site by September 1805 (Kerrigan 1995, 276). The signal tower has been heavily modified but retains some of its original form. The signal tower may have been constructed to a different design than the standard design used for the majority of signal towers around the Irish coast.

The walls of the signal tower face north-west, north-east, south-east, and south-west. A ground floor door is present on the south-west wall, which is likely to be a modification, and a blocked doorway is present on the first-floor, which is likely to be the original entrance (Figure E.4). A pair of vertical slots defined by yellow bricks are located over the first-floor door on the south-west wall. These may indicate the former presence of a machicolation, but it is possible that they could be a later alteration with a different purpose. The south-east wall features a centrally placed ground-floor window and a centrally placed first-floor window, both of which have been blocked up. The north-west wall features a centrally placed first-floor window which is blocked. There are no bartizans at the tower's corners, and no machicolation over the first-floor doorway on the south-west wall. A small stretch of wall extends above the roof along the north-east side of the signal tower, which could be a surviving fragment of an original parapet wall, but which could also be a later modification. The signal tower features a square tower-like chimney on the north-east corner. It is unclear if this is an original feature or a later modification.

A large single storey addition abuts the north-east side of the signal tower (Figure E.5). The addition is not shown on the 1st edition Ordnance Survey map, surveyed 1843. The addition is depicted on the 2nd edition Ordnance Survey map, surveyed 1871-5, indicating it was added in the mid-19th century.

The signal tower is set within an irregular enclosure defined by a stone wall, with the ragged edge of the quarry forming the north-west side. The form of the current

enclosure is depicted on the 2nd edition Ordnance Survey map. The 1st edition Ordnance Survey map shows that the eastern part of the current enclosure is an addition, and that the original enclosure was considerably smaller.

The 1st edition Ordnance Survey map does not show the presence of a road connecting directly to the site. A road terminates approximately 200 m (220 yards) to the south-east of the site, and another road runs to the north of the site, although accessing it would have involved a 300 m (330 yard) long route around Dalkey Quarry. It is not known if either road was present when the signal station was constructed.

The concrete slab of a demolished Look Out Post (L.O.P. 7) is located 840 m to the north-east of the signal station (Ryan 2014, 57-8).

Figure E.4. The south-west wall of the signal tower at Dalkey Signal Station, County Dublin, looking north-east. (Photograph courtesy of Gary Dempsey).

Figure E.5. The south-east wall of the signal tower at Dalkey Signal Station, County Dublin, showing the addition, looking north-west. (Photograph courtesy of Gary Dempsey).

Number 3. Ballygannon Signal Station, County Wicklow (approx. 731070, 709518).

Ballygannon Signal Station has been demolished and its exact position is not known. The signal station was located in Ballygannon townland, about 3km (2 miles) south of Greystones. No traces of the site have been identified and its absence from the 1st edition Ordnance Survey map, surveyed 1838, suggests it was removed at an early date. Kerrigan established that construction of a signal tower began in 1805, and that it was still under construction in 1806. It is not clear if the signal tower was ever completed (Kerrigan 1995, 276). The signal mast had been erected by April 1806 (Kerrigan 1995, 276). The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

Number 4. Wicklow Head Signal Station, County Wicklow (734178, 692373).

Reg. No. 16403102.

The signal station at Wicklow Head was established at an existing lighthouse (Reg. No. 16403102) which was constructed in 1778-9. The lighthouse is situated on a low, north to south running ridge, with ground that slopes gently to the east and west, and with a wide shallow valley running away to the south. The immediate area consists of enclosed but unimproved scrub, with enclosed pasture to the west.

The original six-stage lighthouse is 30 m (95') tall and has a distinctive octagonal plan (Figure E.6). It was designed by John Trail whilst serving as architect to the Commissioners of Revenue (Rynne 2006, 406). It is thought that the signal mast was the only addition made to the site when the signal station was established, and that the signal crew were housed within existing buildings (Kerrigan 1995, 161). The signal mast was erected by September 1805 (Kerrigan 1995, 276). It is not clear what was present at the site prior to the creation of a newer cylindrical lighthouse (Reg. No. 16403101) and its associated buildings in 1825, but no buildings are shown adjacent to the older lighthouse on the 1st edition Ordnance Survey map, surveyed 1838. The cylindrical lighthouse is located 100 m (328') to the east of the original lighthouse (Figure E.7).

A well-preserved Look Out Post (L.O.P. 9) is located 200 m (220 yards) to the east of the earlier lighthouse, with traces of 'Eire Sign 9' nearby (Ryan 2014, 62-3). The 1st edition Ordnance Survey map indicates the site was located at the edge of an enclosed landscape.

Figure E.6. The earlier octagonal lighthouse at Wicklow Head, County Wicklow. (Photograph by David Quinn used under Creative Commons License 2.0).

Figure E.7. The later cylindrical lighthouse at Wicklow Head, County Wicklow. (Photograph by David Quinn used under Creative Commons License 2.0).

Number 5. Mizen Head Signal Station, County Wicklow (730788, 680527).

SMR SMR WI036-022----

The signal station has been demolished and few details about the site, other than its location, are known. It was located close to the cliff edge immediately north of the point at Mizen Head. Kerrigan established that the signal tower had likely been completed at the site by late 1804, and that the signal mast had also been erected (Kerrigan 1995, 276). The site is shown on the 1st edition Ordnance Survey map, surveyed 1838, as a simple unenclosed tower marked as 'Mizen Head Tower (in ruins)'. The depiction of the tower is overlain by a trigonometry symbol. It is not clear when the ruins were cleared, but the signal tower is visible on the 2nd edition Ordnance Survey map, surveyed 1885-1887, and on the 3rd edition Ordnance Survey map, surveyed 1908-1909, marked as 'in Ruins'. The NMS note that little was visible when the site was surveyed in 1990, beyond an area of rough ground (WI036-022----). The 1st edition Ordnance Survey map indicates the site was located at the edge of an enclosed landscape.

Number 6. Kilmichael Point Signal Station, County Wexford (Approx. 725487, 666646).

The signal station has been demolished and few details about it, not even its precise location, are known. In may have been located in the area where a large coast guard station (Reg. No. 15700741) was constructed to the north of the point, or in the vicinity of the flagstaff shown on the 1st edition Ordnance Survey map, surveyed 1839-1840, immediately west of the point. Kerrigan established that a signal tower was under construction at the site by 1804 and that it still had not been completed by April 1806. It is possible that the tower was never finished. The signal mast had been erected by September 1804 (Kerrigan 1995, 276). The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

A well-preserved Look Out Post (L.O.P. 10) is located approximately 450 m (490 yards) to the south of the location of the coast guard station (Ryan 2014, 64-5).

Number 7. Cahore Point Signal Station, County Wexford (Approx. 722298, 647101).

The signal station has been demolished and few details about it, not even its precise location, are known. Kerrigan established that a signal tower had likely been completed at the site by October 1804, and that the signal mast was erected around the same time (Kerrigan 1995, 276). There is no signal station marked on the 1st edition Ordnance Survey map, surveyed 1839-1840, but a coast guard station is shown to the north-east of the original early 19th century Cahore House (Reg. No. 15701739). The 2nd edition Ordnance Survey map, surveyed 1885-1887, shows a signal station to the east of the original Cahore House. The map shows a small rectangular building marked 'Signal Station,' and two smaller buildings to the south-east next to a flagstaff. The 3rd edition Ordnance Survey map, surveyed 1902-1905, shows a single small building next to the flagstaff which is marked as 'Signal Station.' The larger rectangular building is shown as a rectangular enclosure.

The absence of these features from the 1st edition Ordnance Survey map is problematic. The signal station may relate to the coast guard station, which itself moved between several locations, as shown on the different editions of the early Ordnance Survey maps. If the marked signal station was constructed in the mid-19th century creation, then the site of the original Cahore Point Signal Station may have been lost during the prolonged and extensive landscaping of the area that occurred under the direction of Cahore House. Further work would be required to clarify the situation. The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

A collapsed Look Out Post (L.O.P. 11) is also located in this landscape (Ryan 2014, 67-8).

Number 8. Blackwater Signal Station, County Wexford (Approx. 713926, 632525).

The signal station has either been lost to coastal erosion or was demolished. Few details about the signal station are known, not even its precise location. Kerrigan established that a signal tower had likely been completed at the site by October 1804, and the signal mast was erected around the same time (Kerrigan 1995, 276). The 1st edition Ordnance Survey Map, surveyed 1839-1840, shows a coast guard station at Blackwater Head, and 'Telegraph' is noted on the map next to the station. The coast guard station has been

lost to coastal erosion and cannot be examined. The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

Number 9. Fort Point Signal Station, County Wexford (Approx. 711227, 621571).

SMR WX038-007002-

Fort Point Signal Station was established at Fort Point Martello Tower, which has been lost to coastal erosion (WX038-007002-). The Martello tower was located at the end of a low sandbar which extended out northwards from the south side of the approach to Wexford Harbour. The site would have had unobstructed views in all directions. The sandbar is still depicted on the 3rd edition Ordnance Survey map, surveyed 1908-9, but it has subsequently been washed away.

The northern end of the sand bar was first fortified in the 16th century, and that original existing fortification was developed into a bastioned fort in the 1640s (WX038-007001-). The bastioned fort was renovated and re-armed during the 1798 rebellion (Turner 1972, 52-3). The site seems to have seen piecemeal development throughout the first half of the 19th century including the addition of a customs house and a pilot's house (Turner 1972, 52-3). A lifeboat station was added following a major shipwreck in the area in 1859 (Turner 1972, 54).

Kerrigan states that a signal tower was under construction in 1804 but work was halted when it was decided to construct a Martello tower (WX038-007002-) which could incorporate a signal station (Kerrigan 1995, 276). Construction of the Martello tower began in 1805 and the signal mast was also erected in that year (Kerrigan 1995, 276). The Martello tower is recorded as having been damaged by coastal erosion in 1819 and again in 1821, after which it was demolished (Clements 2013, 75). A small rectangular watchtower (WX038-007003-) is shown on the 1st edition Ordnance Survey map, surveyed 1839-40. This may have been constructed as a replacement for the some of the observational functions of the lost Martello tower.

Number 10. Hill Castle Signal Station, County Wexford (Approx. 709099, 610698).

Hill Castle Signal Station has been demolished and its exact position is not known. The signal station was apparently located in Hillcastle, a small townland that occupies a low hill several miles inland from the southern coast. The entire townland seems to have been managed as a single estate, centred on a tower house, Hill Castle (WX048-023001-), which had been extended into the form of a courtyard style country house. The house was surrounded by what is likely an earlier moat (WX048-023002-). The entire complex was demolished in 1960. Few details about the signal station, not even its precise location within the townland, have been determined, and it is not shown on the 1st edition Ordnance Survey map, surveyed 1839-1840. Kerrigan established that a signal tower had been completed at the site by 1804, and that the signal mast had been erected by 1805 (Kerrigan 1995, 276). The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

Number 11. Forlorn Point Signal Station, County Wexford (Approx. 696571, 603389).

Historical Name: Cross Faranogue Signal Station.

The signal station has been demolished. Few details about the signal station, not even its exact position, are known. Kerrigan established that a signal tower had been constructed at the site by 1804 and that the signal mast had been erected by 1805 (Kerrigan 1995, 276). It was possibly located where a coast guard station was later constructed, next to the quay, but the site is not shown on the 1st edition Ordnance Survey map, surveyed 1839-1840. That coast guard station was later replaced by a new station a short distance to the east (Reg. No. 15621017).

A well-preserved Look Out Post (L.O.P. 15) was located about 315 m (345 yards) to the west of the quay (Ryan 2014, 75-6). It was an unusual two storey design, very similar to the 'observation room' at Hook Head Lighthouse, County Wexford, and a similar site at Carnsore Point, County Wexford (L.O.P. 14) (Ryan 2014, 73-4). The building is still used by the coast guard (Ryan 2014, 76). The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

Number 12. Baginbun Signal Station, County Wexford (680159, 603095).

Reg. No. 15705009

The signal station was located at Baginbun Martello Tower, which was under construction in 1805 (Kerrigan 1995, 276). The signal crew were housed within the tower complex and the signal mast, erected by 1805, was likely the only thing specifically constructed for the signal station (Kerrigan 1995, 161, 276). The NIAH entry (Reg. No. 15705009) describes the Martello Tower as a "freestanding single-bay two-stage Martello tower." Two single storey, flat roof additions have been built against the exterior wall, one on the east side, the other on the west (Figure E.8). These additions are not shown on any of the first three Ordnance Survey maps, surveyed 1839-1840, 1902-1905 and 1921 respectively, and must have been constructed in the 20th century (Figure E.9). The tower was converted into a residence after it was sold to a private owner in 1947 (Clements 2013, 76). The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

Figure E.8. Baginbun Martello Tower, County Wexford. (Photograph by Andreas F. Borchert used under Creative Commons License 2.0).

Figure E.9. 1st Edition Ordnance Survey map of Baginbun Martello Tower and Signal Station.

Number 13. Hook Head Signal Station, County Wexford (673309, 597403).

SMR WX054-010----/Reg. No. 15705414

The signal station was established at the existing lighthouse complex (Reg. No. 15705414) (Figure E.10). Other than a signal mast, erected by 1805, no new constructions were added to the site when the signal station was established (Kerrigan 1995, 276). The lighthouse is set towards the south-east corner of a large rectangular walled enclosure, surrounded by a restored cobbled yard, both of which are shown on the 1st edition Ordnance Survey map, surveyed 1839-1840. To the north of the lighthouse there are a pair of identical two storey lighthouse keeper's cottages (Reg. No. 15705415/15705416) constructed in the 1860s, which were subsequently connected by a range of single storey buildings (Colfer 2004, 290). Immediately south of the lighthouse there are some fragments of medieval buildings and a distinctive early 20th century two storey observation room, similar in form to the Look Out Post (L.O.P. 15) at Cross Faranogue, County Wexford. To the west was an arched roof magazine. The remains of a gun house that held a foghorn are located to the south-west of the enclosure, near to the low cliffs. The NIAH entry describes the lighthouse as a "freestanding single-bay four-stage lighthouse, extant 1245, on a circular plan originally single-bay three-stage. 'Restored', 1665-7. 'Repaired', 1792. 'Improved', 1864, producing present composition. Automated, 1996." The concrete slab foundation of a World War 2 era Look Out Post (L.O.P. 16) is located to the immediate south-west of the lighthouse. (Figure E.11). In 1999 a small archaeological excavation (License No. 99E0020) at the site revealed the remains of a 17th century or earlier enclosure around the lighthouse, but nothing that could be related to the signal station (Hayden 1999; Alan Hayden pers. comm.). The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

Figure E.10. Hook Head lighthouse, County Wexford, the location of Hook Head Signal Station, looking south-east.

Figure E.11. The concrete slab foundation of Look Out Post 16, located to the south of the enclosure around the lighthouse, looking east.

Appendix F. Signal Stations in Munster

Thirty-six signal stations were established in Munster, starting at Brownstone Head in County Waterford, running along the south coast and then up the south-west coast as far as Hag's Head in County Clare (Figure F.1). The only signal station that was incorporated into an existing facility, and therefore did not require the construction of a new signal tower, was located at Carlisle Fort, County Cork. Eighteen of the Munster signal stations currently feature well preserved signal towers. Of these, 14 closely resemble those found in Connacht and Ulster and can be identified as having been constructed according to the standard design identified within the main study area. The signal tower at Ardmore, County Waterford, has been heavily modified, but it bears a close resemblance to the signal tower at Dalkey Hill, County Dublin. At two of the signal station sites in County Cork, Robert's Head and Mizen Head, there are larger more complex three storey towers, and is not clear if these buildings are original towers that used a different design, if they had started off as standard design signal towers which were heavily modified, or if they were replacements for earlier signal towers. The current two storey building at Sybil Head Signal Station, County Kerry, is either a very heavily modified signal tower or a replacement structure.

The signal stations in the east of Munster seem to have been just as vulnerable to coastal erosion or demolition as their counterparts in Leinster; only one of the six signal towers in County Waterford has survived. The surviving tower, Ardmore, is the most westerly tower in that county.

Survival rates are much higher in County Cork where 13 out of the 18 signal towers survive to a considerable height. One example, at Galley Head Signal Station, survives to the top of the ground floor level. Two examples, at Bere Island and Sheep's Head Signal Stations, surviving as only low ruins. Two sites, Barry's Head and Glandore Signal Stations, have been demolished and cleared.

It is thought that only six signal stations were constructed in County Kerry, and that a planned seventh signal station, on Hog Island (Sections 1.1 & 4.12.3, main text), was not actually built (Kerrigan 1995, 278). None of the six signal station sites in County Kerry feature well preserved signal towers. The signal station at Kerry Head has been

demolished. Bolus Head, Great Blasket, and Brandon Head Signal Stations all feature the low ruins of signal towers. The building at Sybil Head Signal Station largely survives to its full height but has either been very heavily modified or the original tower has been replaced with a structure of a very different design. The signal tower at Bray Head Signal Station survives to its full height and retains its original mass, but it was heavily modified when it was refurbished in the early 20th century.

Five signal stations were constructed in County Clare and again preservation levels are quite low. Two signal stations, Loop Head and Knocknagharoon Hill have been demolished and cleared. The signal tower at Ballard Signal Station is now a low ruin. The two most northerly signal stations in County Clare, Mutton Island and Hag's Head, both feature well-preserved signal towers.

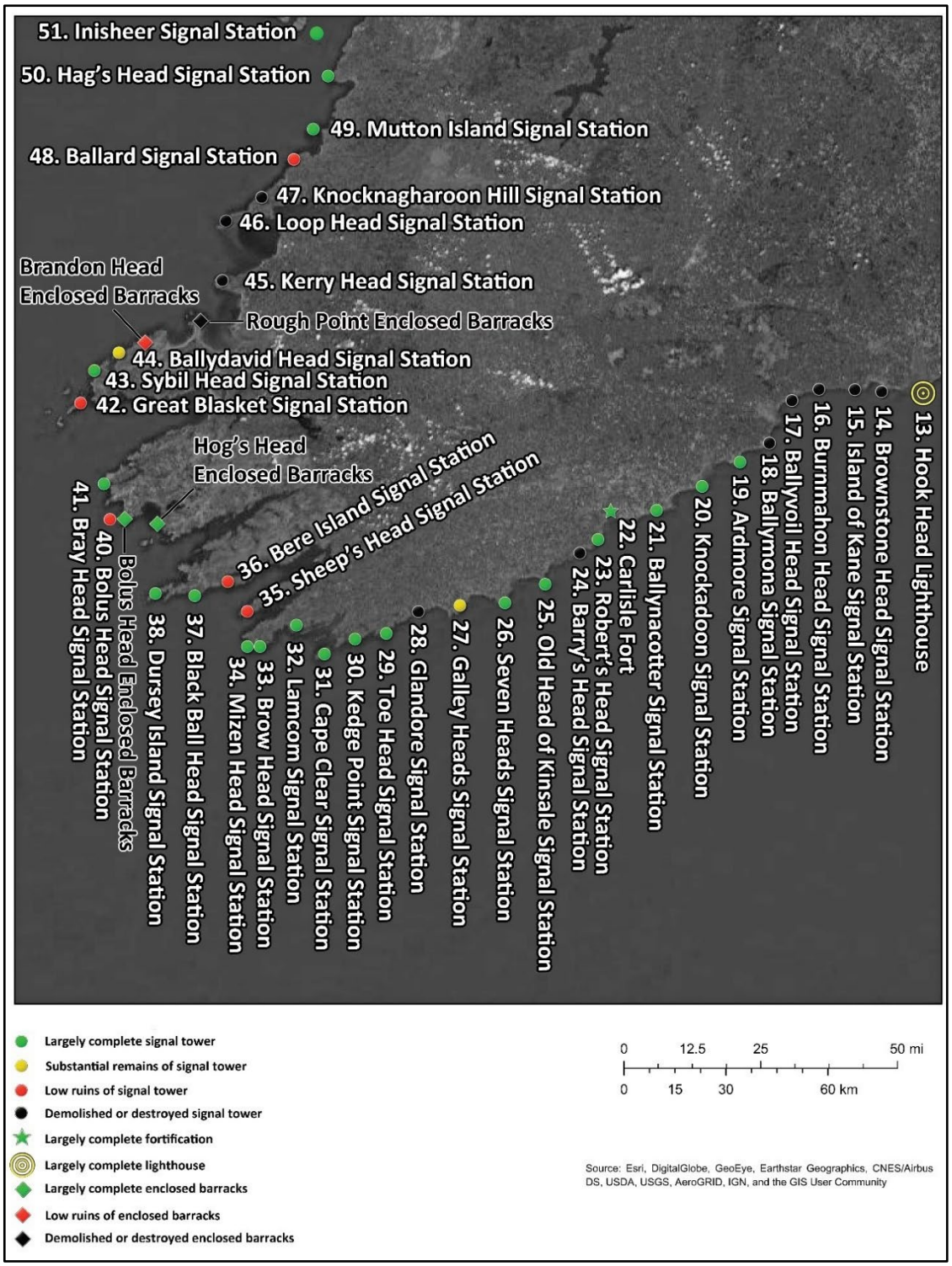

Figure F.1. Signal Station locations and types in the Province of Munster.

Number 14. Brownstone Head Signal Station, County Waterford (Approx. 661109, 597723).

The signal station has been demolished and few details, not even its precise location, are known. Kerrigan established that a signal tower had been constructed at the site by 1805, and that the signal mast was erected by 1804 (Kerrigan 1995, 276). Two large navigation beacons (Reg. No. 22902609) were constructed on Brownstone Head between 1819 and 1821 and stones for the beacons may have been sourced from the abandoned signal station. It is of note that the signal station is not shown on Larkin's 1818 map of County Waterford suggesting that it was no longer extant at that point. The two beacons both survive to their full height and are prominent features on the headland. Both beacons are shown on the 1st edition Ordnance Survey map, surveyed 1839-1841, located on the unenclosed headland.

A well-preserved World War 2 era Look Out Post (L.O.P. 17) (Reg. No. 22902610) is also located on Brownstone Head.

Number 15. Island of Kane Signal Station, County Waterford (653276, 598214).

The signal station was located on a promontory at the south-east of Islandkane South Townland. Kerrigan established that by 1805 a signal tower was under construction and that the signal mast had been erected (Kerrigan 1995, 276). The signal station was clearly demolished at an early stage as it is only marked on the 1st edition Ordnance Survey map, surveyed 1839-1841, as 'Site of Telegraph.' It is not known if the signal station was enclosed or unenclosed. The 2nd edition Ordnance Survey map, surveyed 1897-1905, shows that site of the signal station had been lost to coastal erosion. Fragments of an earlier fortification are located to the south-east, at the tip of the promontory (SMR WA026-036004-). The 1st edition Ordnance Survey map shows the signal station was located in an enclosed landscape.

Number 16. Bunmahon Head Signal Station, County Waterford (Approx. 642820, 598233). Historical Name: Bunmahon Head Signal Station.

The signal station was demolished at an early stage and it is not depicted on the 1st edition Ordnance Survey map, surveyed 1839-1841. It is possible that the station was located on the headland which protrudes into the sea on the western side of Bunmahon Bay, but on Larkin's 1818 map of County Waterford it is shown further to the west, in Ballynarrid townland. Kerrigan established that a signal mast had been erected by 1804 and that the signal tower was completed in 1805 (Kerrigan 1995, 277). It is not known if the signal station was enclosed or unenclosed. The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

Number 17. Ballyvoyle Head Signal Station, County Waterford (Approx. 634812, 594795). Historical name: Ballyvoil Head Signal Station.

The signal station was demolished at an early stage and it is not depicted on the 1st edition Ordnance Survey map. Kerrigan established that the signal tower and a signal mast had been erected by 1805 (Kerrigan 1995, 277). Larkin's 1818 map of County Waterford shows the signal station, marked 'Telegraph,' in the approximate location where the trigonometry point is marked on the 1st edition Ordnance Survey map, surveyed 1839-1841, to the west of a large L-shaped building. It is not known if the signal station was enclosed or unenclosed. The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

Number 18. Ballymona Signal Station, County Waterford (Approx. 628399, 582408).

The signal station was demolished at an early stage and it is not depicted on the 1st edition Ordnance Survey map, surveyed 1839-1841. Kerrigan established that the signal mast was erected in 1804 and the signal tower was completed by 1806 (Kerrigan 1995, 277). Larkin's 1818 map of County Waterford shows the signal station, marked 'Telegraph,' located on Mine Head, a small promontory in the adjacent Monagoush Townland. It is possible that the signal station was located in the eastern corner of Monagoush Townland where a lighthouse (Reg. No. 22903904) was constructed in

1851. It is not known if the signal station was enclosed or unenclosed. The 1st edition Ordnance Survey map indicates the local landscape consisted entirely of enclosed land.

Number 19. Ardmore Signal Station, County Waterford (619828, 76783).

SMR WA040-024----/ Reg. No. 22904006.

The signal station is located on the ridge of a low hill to the north-west of Ram Head. Kerrigan established that a signal mast had been erected by 1804 and that the signal tower was completed in 1806 (Kerrigan 1995, 277). The noticeably short signal tower was heavily modified at some stage (Figure F.2). It has an external stairway wrapping around the south-west wall and north-west wall, where it accesses a first floor doorway. A ground floor doorway is located on the north-east side of the external stairs which opens into a small space under the stairs. The north-east and south-west walls both feature a tall and narrow centrally placed window on the ground floor, and a larger centrally placed door or window on the first floor. The south-east wall features a centrally placed door or window on the first floor. The tower has a crenelated parapet and a tall chimney on the eastern corner. There are no bartizans over the corners of the signal tower, and no machicolation over the first floor door on the north west wall. The walls are covered in cement render. The signal tower bears a strong resemblance to the tower at Dalkey Signal Station in County Dublin. Detailed field survey of this site would be required to determine if the signal towers current short form reflects its original design, or if it lost height during a phase of modification.

The signal station is shown as consisting of only an unenclosed signal tower on the 1st edition Ordnance Survey map, surveyed 1839-1841, which identifies the site as 'Tower.' On the 2nd edition Ordnance Survey map, surveyed 1897-1905, the signal tower is shown in the centre of a small circular enclosure. It is identified as 'Watch Tower' and a semaphore post is marked to the south-east of the signal tower, suggesting it may have been recommissioned at some point during the second half of the 19th century. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

A well-preserved Look Out Post (L.O.P. 20) is located 120 m to the south-east (Reg. No. 22904010).

Figure F.2. The surviving signal tower at Ardmore Signal Station, County Waterford, looking north-east (Photograph courtesy of Google Earth).

Number 20. Knockadoon Signal Station, County Cork (608750, 569658).

SMR CO078-015----/Reg. No. 20907820.

The signal station is located on gently sloping ground on top of a small promontory to the south-west of Knockadoon head. The signal station features a well-preserved signal tower that survives to its full height (Figure F.3). Kerrigan established that a signal mast and the signal tower were completed in 1804 (Kerrigan 1995, 277). The tower conforms to the standard design used throughout the main study area. The signal tower is well-preserved and survives to its full height. The doorway is located on the first floor of the south-east wall and would have been accessed via a retractable ladder. The doorway is protected by a rectangular machicolation. The north-east and south-west walls each feature two ground-floor windows and two first-floor windows. A tall chimney extends up from the centre of the north-west wall. Bartizans are located on the north and west corners. Unusually the walls of the machicolation over the door and the bartizans over the corners are constructed of red brick, which may relate to a period of repair, but this may be an original feature. Unique amongst the signal towers that have not been heavily modified, this signal tower has a roof. It seems unlikely that this is an original roof, which would be over two hundred years old. The roof was built with joists fitting into the original joist holes at the top of the structure.

Figure F.3. The surviving signal tower at Knockadoon Signal Station, County Cork, looking north (Photograph courtesy of Google Earth).

It is unclear whether the signal station was originally enclosed; it is shown on the 1st edition Ordnance Survey map, surveyed 1841-1842, as being located within a small rectangular enclosure, but subsequent maps show the enclosure was part of an evolving field system (Figure F.4). Stone walls surrounding the signal tower are surviving parts of these enclosure walls. The site was identified as 'Telegraph' on the 1st edition Ordnance Survey map, and as 'Tower (in Ruins)' on the 2nd and 3rd edition Ordnance Survey maps, surveyed 1897-1904 and 1926-1937 respectively. The 1st edition Ordnance Survey map shows a small rectangular building and a small L-shaped building to the north of the signal tower. These buildings are not shown on the 2nd or 3rd edition Ordnance Survey maps. The 2nd edition Ordnance Survey map shows a staggered section of wall running past the north-west side of the signal tower. Sections of this wall are still visible at the site. The 1st edition Ordnance Survey map shows that the signal station was accessed via a lane that leads away to the north-west and connected to a dense network of small roads. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

A well-preserved World War 2 era Look Out Post (L.O.P. 21) is located 30 m (98') south of the signal tower.

Figure F.4. 2nd edition Ordnance Survey map showing Knockadoon Signal Station, County Cork.

Number 21. Ballynacotter Signal Station, County Cork (595374, 562610).

SMR CO089-048----/ Reg. No. 20908931.

The signal station featured a well-preserved signal tower that survives to its full height. The signal station is located on the summit of a low hill about 0.75km (0.5 miles) north of the coast. Kerrigan established that the signal tower was completed in 1804 (Kerrigan 1995, 277). The signal tower is well-preserved and survives to its full height. The walls of the signal tower face north-east, south-east, south-west, and north-west. The doorway is located on the first floor of the south-east wall and would have been accessed via a retractable ladder. The doorway is protected by a rectangular machicolation. The north-east wall features two ground-floor windows and two first-floor windows. A tall chimney extends up from the centre of the north-west wall. Square bartizans are located on the north and west corners. As with the signal tower at the adjacent signal station to the north-east, Knockadoon Signal Station, the walls of the machicolation and the bartizans are of red brick. The walls of the signal tower are covered in an almost complete set of weatherproof slates, and it is of note that these do not extend across the brickwork of the projecting parapet level features. The signal tower features a flat roof protected by the parapet level wall, which is unlikely to be the original roof.

A modern bungalow has been constructed adjacent to and abutting the signal tower, obscuring the ground floor windows on the south-west wall. The ground floor windows on the north-east wall now feature PVC frames. The first floor windows on the north-east and south-west walls, and the first floor door on the south-east wall have been blocked.

The tower is shown inside a small rectangular enclosure on the 1st edition Ordnance Survey map, surveyed 1841-1842, with three smaller buildings inside the enclosure, to the north of the signal tower. The site was accessed via a road that heads north towards the settlement of Churchtown, and south towards the coast. The 2nd edition Ordnance Survey map, surveyed 1897-1904, shows that the northern part of the enclosure had been removed and a larger building had been constructed to the north-west of the signal tower (Figure F.6). The 3rd edition Ordnance Survey map, surveyed 1926-1937, shows a single large rectangular building running past the western side of the tower. This may be the residence which is currently located in approximately this position, but which is now connected directly to the western side of the tower by an addition. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape. The 2nd and 3rd edition Ordnance Survey maps identify the site as ‘Ballynacotter Castle’ (Figure F.6).

Figure F.5. Aerial view of Ballynacotter signal tower with the large residence attached to its western side. (Photo courtesy of Google Earth).

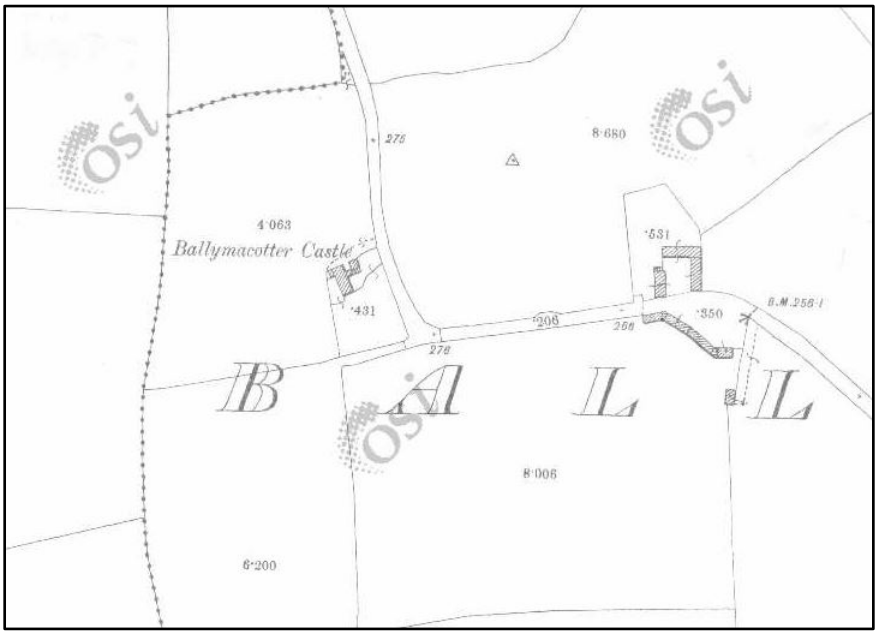

Figure F.6. 2nd edition Ordnance Survey map showing that the signal tower had been incorporated into a later residence and become 'Ballmacotter (sic) Castle.'

Number 22. Fort Davis Signal Station, County Cork (Approx. 581960, 562537).

SMR CO087-058----/Reg. No. 20908790. Historical Name: Carlisle Fort).

The signal station was established within the existing fort (SMR CO087-058----/Reg. No. 20908790) on the eastern side of the entrance to Cork Harbour. The signal crew were presumably housed within existing buildings and the only addition would have been the signal mast that Kerrigan established was erected in 1805 (Kerrigan 1995, 277). The fort was in existence by the mid-16th century and has undergone numerous phases of modernisation (Hartnett McEnery 2006, 7, 44-6, 126-8). The fortification recorded on the 1st edition Ordnance Survey map, surveyed 1841-1842, is expansive and complex (Figures F.7). The site survives in a good state of preservation and features multiple lines of defence including ditches, banks, walls, bastions, batteries, and numerous barracks (Figure F.8). The site is currently owned by the Department of Defence and is still used by the Irish Army for exercises and ceremonial duties. It has been called Fort Davis since 1938. The 1st edition Ordnance Survey map shows that there was a small area of open ground to the east of the fort, beyond which there was an enclosed landscape. This open area would have been valuable for the defence of the site and was maintained into the 20th century. It has now been incorporated into the enclosed farming landscape.

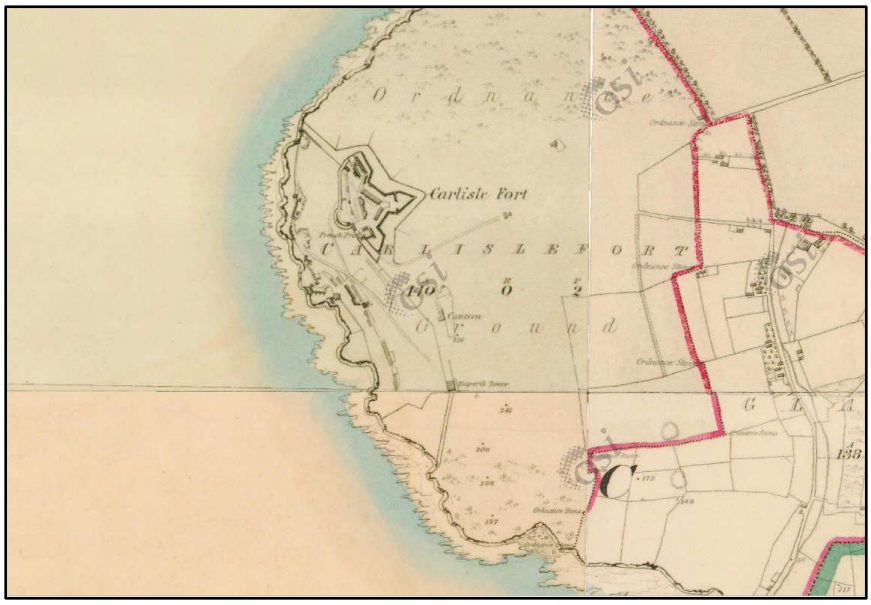

Figure F.7. Carlisle Fort, County Cork, as depicted on the 1st edition Ordnance Survey map.

Figure F.8. Fort Davis, County Cork, looking west. (Photograph by Guilio Lopez used under Creative Commons License 2.0).

Number 23. Robert's Head Signal Station, County Cork (578074, 554098).

SMR CO087-058----/Reg. No. 20908790.

The signal station features a well-preserved building that survived to its full height. The signal station is located on flat ground about 0.75km (0.5 miles) north-west of Robert's Head. Kerrigan established that the signal tower was completed in 1804 (Kerrigan 1995, 277).

The extant building was not of the standard design found in the main study area. It is a tall three storey structure with gabled walls at the north-west and south-east. A small two storey addition abuts the north-east side of the building, a much larger single storey addition abuts the north-west wall, and there is a free-standing, flat roofed rectangular water cistern to the south-east. The south-west wall of the signal tower features six large windows, two on each floor. The south-east wall features two large windows on the second floor. The north-east wall features a single door on the ground floor and a single window on the second floor. The two storey addition has a large window on the first floor and the addition covers up a large first floor window or door on the main wall. The north-west wall features a large window on the second floor and a tall chimney protrudes from the peak of the gable (Figure F.9).

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a wide fan shaped end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map, surveyed 1841-1842, identifies the site as 'Old signal tower' and shows the tower at the eastern corner of a small internal square enclosure, inside the remnants of the original enclosure, with the fan shaped end having lost some of its form. A square enclosure is built against the north-east wall of the original enclosure, and a large rectangular enclosure is built against the south-west wall of the original enclosure. A 'pot' type lime kiln is marked in some woodland about 280 m (300 yards) to the north. The 2nd edition Ordnance Survey map, surveyed 1897-1904, shows a narrow rectangular enclosure with a wide rounded end. The square and rectangular enclosures adjacent to the outer walls of the original enclosure have been removed. The signal tower is shown as a large rectangular building. The site is identified as 'Signal Tower (In Ruins).' The lime kiln to the north is now shown as a rectangular 'draw' type kiln. The 3rd edition Ordnance Survey map, surveyed 1926-1937, shows that the enclosure has been widened along

the north-east side. The signal tower is shown with a small square addition or enclosure against the north-west wall, and a larger square enclosure or building extending from the same north-west wall. The rectangular 'draw' type kiln is still shown to the north and this longevity across the various maps may indicate it was not directly related to the signal station, or that if it was part of the original construction phase, its utility was recognised for a long period of time. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

Figure F.9. Robert's Head Signal Station, County Cork. (Photograph by Johnathan Thacker used under Creative Commons License 2.0).

Number 24. Barry's Head Signal Station, County Cork (572701, 550102).

SMR CO113-032----.

The enclosed signal station has been demolished. According to the NMS (CO113-032----) there are no visible remains at the site, but an overgrown patch of ground neatly coincides with the enclosed area recorded on the 1st edition Ordnance Survey map, surveyed 1841-1842. The site is located on flat ground a short distance to the north-west of the headland. Kerrigan established that a signal tower and mast had mast had been erected by 1805 (Kerrigan 1995, 277). Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a wide fan shaped end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map shows a narrow rectangular enclosure

with a lop-sided rounded end at the south-east. The signal tower is shown in the centre of the enclosure, at the join between the narrow section and the rounded end. The depictions on the 2nd and 3rd edition Ordnance Survey maps, surveyed 1897-1904 and 1926-1937 respectively, show that the tower has been removed but the enclosure retained the same form as depicted on the 1st edition Ordnance Survey map. The site is identified as '(Site of) Signal Tower' on all three early Ordnance Survey maps and was accessed by a road that runs away to the north towards the settlement of Nohaval. The site of the late medieval 'Barry's Castle' lies a short distance to the south, at the neck of Barry's Head. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

Number 25. Old Head of Kinsale Signal Station, County Cork (562417, 540980).

SMR CO137-008----/Reg. No. 20913706.

The enclosed signal station is situated towards the southern end of a low hill to the north of the Old Head of Kinsale. The signal station is situated on level ground with steep slopes to the east, south and west. Kerrigan established that the signal tower and signal mast had been erected by 1805 (Kerrigan 1995, 277). It has recently been restored to an approximation of its original condition and converted into a small museum (Figures F.10 & F.11). The signal tower has had internal and external metal staircases added to improve access. A covered entrance now protrudes from the roof to allow access, but in most respects the restoration is highly accurate.

The signal tower follows the standard design found across the main study area. The signal tower is positioned with its walls facing north-east, south-east, south-west, and north-west. The south-east wall features a first floor door that would have been accessed via a retractable ladder. The doorway is protected by a rectangular machicolation supported by three corbels. The north-east and south-west walls each feature two ground-floor windows and two first-floor windows. The north-west wall bows out slightly across its whole width, to create additional space in which to house the chimney flue. Bartizans are located on the north and west corners, each supported by three corbels.

Figure F.10. The south-east and south-west walls of the restored signal tower at the Old Head of Kinsale Signal Station, County Cork, looking north.

Figure F.11. The north-east and north-west walls of the restored signal tower at the Old Head of Kinsale Signal Station, County Cork, looking south.

Figure F.12. The scale replica of the signal mast at the Old Head of Kinsale Signal Station, County Cork, looking south-east, with the curved section of the enclosure wall in the background. This photo was taken in 2015, prior to the creation of the remembrance garden.

Figure F.13. Looking south towards the Old Head of Kinsale from the signal station. The building on the right is the cottage lighthouse and the building on the left is the ruined tower house.

A trigonometry pillar is located to the north of the signal tower and a replica signal mast has been erected to the south of the tower, in the centre of an elaborate circular garden of remembrance (Opened 7 May 2017) that commemorates the sinking of the Lusitania in 1915 off this section of the Irish coast (Figure F.12). As discussed in Section 4.4.3, the design of the replica signal mast with its wide yard and complex rigging may reflect the design of the masts used on the south coast of England, rather than those used at the signal stations in Ireland. This assessment is derived from Smith's contemporary illustrations of the signal masts with much shorter yards and simpler rigging that were used at Fanad Head and Malin Head, County Donegal. It is unclear if those designs were used around the whole Irish coast.

Hamilton's 1806 map shows the signal tower located in the centre of a square shaped enclosure with a semi-circular protrusion on the south-east side (Figure 4.68, main text). The enclosure is shown with the same form on the 1st, 2nd, and 3rd edition Ordnance Survey maps, surveyed 1841-1842, 1897-1904 and 1926-1937 respectively. Only the south-east and south-west sides of the enclosure now survive, mostly as a grassed over bank, but in some sections the stone wall face is still visible.

Hamilton's 1806 plan shows a long narrow rectangular freestanding building to the north-west of the signal tower. The building is not shown on the 1st edition of the Ordnance Survey map, but a small addition is shown on the south-east side of the signal tower. The 2nd and 3rd editions of the Ordnance Survey map, surveyed, show an L-shaped addition wrapping around the north-west corner of the signal tower and a small freestanding rectangular building to the north-west of the signal tower. The site is identified as 'Signal Tower' on the 1st, 2nd, and 3rd edition Ordnance Survey maps, and was accessed via a road which ran away to the north to the settlement of Kilcolman, and south towards the headland.

The signal station is located to the north of the narrow neck of land that leads to the Old Head of Kinsale, which features a series of defensive banks and ditches and a ruined tower house (SMR C0137-009001-) at the southern end of the neck, a mid-17th century cottage lighthouse (SMR C0137-001002-), a ruined cylindrical lighthouse (SMR C0137-001003-) built in 1805 at the north-east of the Old Head, and a more recent cylindrical lighthouse (Reg. No. 20913710) built in 1853 with associated buildings (Reg. No.

20913711) at the south-west of the Old Head (Figure F.13). A now demolished signal station and a separate watch house were located in the centre of the Old Head, in an area now covered by a golf course. A Look Out Post (L.O.P. 25) was located on the Old Head but it has been demolished. It is not clear if this utilised a newly built 137 block building or if it re-used the existing watch house, which has a plan that resembles the earlier examples at Moyteouge, County Mayo, and Fanad Head, County Donegal, that were re-used as L.O.P.s. (Section 4.9). The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape, with unenclosed pasture closer to the coastline.

Number 26. Seven Heads Signal Station, County Cork (550481, 535586).

CO145-008----/Reg. No. 20914501.

The signal tower at the enclosed Seven Heads Signal Station survives close to its full height. The signal station is located on flat ground to the north of the steep cliffs. The signal tower is of the standard design found across the main study area. Kerrigan established that the signal tower was constructed by 1805 (Kerrigan 1995, 277). The signal tower follows the standard design found across the main study area. The signal tower is positioned with its walls facing north, east, south, and west. The doorway is located on the first floor of the south wall and would have been accessed via a retractable ladder. The doorway is protected by a rectangular machicolation supported by four corbels. The east and west walls each feature two ground floor windows and two first floor windows. The south ground floor window on the east wall has been opened up to provide ground level access. The north wall bows out slightly across its whole width, to create additional space in which to house the chimney flue. A large triangular hole is present at ground level on the north wall, removing most of the ground floor wall on that side of the signal tower. Bartizans are located on the north-east and north-west corners, both of which are largely collapsed.

The 1st edition Ordnance Survey map, surveyed 1841-1842, shows the signal tower set within the northern half of a complex enclosure. The northern half of the enclosure was square in plan and featured a small rectangular building in the north-west corner. The southern part of the enclosure had a large semi-circular form. Only a small part of the

southern rounded end of the enclosure survives, incorporated into a later field boundary. The 1st edition Ordnance Survey map also shows that the signal tower had a T-shaped plan suggesting at some point in the early 19th century an addition was present that connected with the tower, which may relate to the large hole in the northern wall. The signal station is identified as 'Watch Tower.' The addition on the northern wall, the small freestanding building and the northern part of the enclosure are no longer present on the 2nd edition Ordnance Survey map, surveyed 1897-1904, or the 3rd edition Ordnance Survey map, surveyed 1926-1937. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

Number 27. Galley Head Signal Station, County Cork (537161, 534981).

SMR CO144-033001-/Reg. No. 20914417.

Galley Head Signal Station is located on a low north-east to south-west running ridge, approximately 760 m west of the coast. The ground at the site is level, and there are gentle slopes to the north-west and south-east. Kerrigan established that the signal tower and signal mast had been erected by 1805 (Kerrigan 1995, 277). The enclosed signal station features the low ruins of a signal tower within a small but complex enclosure. The signal tower is positioned with its walls facing north, east, south, and west. A later farm building abuts the west side of the signal tower. An external stairway has been added, wrapping first around the south-east corner of the signal tower and then across the south wall, where it would have accessed the now missing first floor door. The original ground floor windows are still visible on the east wall, below a row of anchor bolts. A ground floor entrance at the west side of the north wall is a later alteration to the building. The internal face of the north wall features a central fireplace with an alcove to the east, and the ground floor entrance to the west.

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a narrow fan shaped end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map, surveyed 1841-1842, shows the tower in the centre of a U-shaped enclosure with an ovoid extension to the south. The signal tower is shown with a complex plan indicative of multiple additions, and four small freestanding buildings are shown to the north of the signal tower, inside the enclosure. A flagstaff and a trigonometry point are

marked to the west of the enclosure. The signal station is identified as 'Galley Head Signal Tower' and was accessed via a road that ran off to the west and connected to a larger road running north south across the peninsula. The 2nd edition Ordnance Survey map, surveyed 1897-1904, shows a flagstaff in the centre of the ovoid extension. The signal tower has further additions and the buildings to the north of the signal tower have also been modified. A small square building is depicted against the outer face of the north-west corner of the enclosure, and a small rectangular building is shown against the outer wall of the western side of the enclosure, at the join between the U-shaped enclosure and the rounded end. The 3rd edition Ordnance Survey map, surveyed 1926-1937, shows the same arrangement as the 2nd edition map, apart from the loss of the small rectangular building at the join between the U-shaped part of the enclosure and the rounded end. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

Number 28. Glandore Signal Station, County Cork (524847, 533298).

SMR CO143-086----.

The enclosed signal station has been demolished and replaced by a large modern bungalow. The site was located on undulating ground 120 m (120 yards) north of the coast. Kerrigan established that the signal mast had been erected by 1804 and the signal tower was completed by 1805 (Kerrigan 1995, 277).

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a narrow fan shaped end (Kerrigan 2003, 37). The signal station is recorded on the 1st edition Ordnance Survey map, surveyed 1841-1842. The depiction shows a long rectangular building, thought to be the signal tower with an addition on either the north or south side, in the centre of a narrow rectangular enclosure with the wider rounded end at the south. A small square building is shown built against the eastern internal wall of the enclosure. The signal station is identified as 'Telegraph' and was accessed via a road that runs away to the north, joining a network of small roads that connect the dispersed settlements of the area. The 2nd edition Ordnance Survey map, surveyed 1897-1904, shows only the ruins of the signal tower, marked as a square area in the centre of the enclosure. The 3rd edition Ordnance Survey map, surveyed 1926-1937,

shows that the ruins of the signal tower had been cleared and the eastern side of the enclosure had largely been removed. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

Number 29. Toe Head Signal Station, County Cork (515230, 526993).

SMR CO151-041002-.

The enclosed signal station is located on undulating ground around 310 m (340 yards) north of the coast. It features a tall signal tower that has been subject to considerable modification. Kerrigan established that the signal mast had been erected by 1804 and the signal tower was completed by 1805 (Kerrigan 1995, 277). The walls of the signal tower face, north, east, south, and west. The signal tower has been heavily modified at some stage. The original form is likely to have been a two storey signal tower, with a first floor doorway in the centre of the south wall, pairs of ground floor and first floor windows on the east and west walls, and a slightly bowed north wall with a chimney. The upper storey has been extended, and now has a crenelated parapet. The building lacks any bartizans on the north-east and north-west corners, and there is no machicolation on the south wall. These were likely originally present but removed when the height of the building was extended. Two centrally positioned windows have been added to the south wall, one above the original doorway and the other below the original doorway. Patches of weatherproof slates survive on the eastern and southern walls. A two storey addition (SMR C0151-041001-) has been added to the north side of the tower, and in turn a small single storey shed roofed addition abuts the north wall of the addition (Figure F.14). These changes presumably occurred after the station was converted to a coast guard station, as identified on the 1st edition Ordnance Survey map, surveyed 1841-1842. Prior to the modifications the signal tower was likely of the standard design found across the main study area. The stone wall of an enclosure survives around the western side of the site, and the rounded southern end of the enclosure is visible as a grassed-over bank.

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a narrow fan shaped end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map, surveyed 1841-1842, show the signal tower with a small addition on the northern side. It fills the rectangular part of the enclosure, and the narrow fan shaped end is visible, although its eastern side had been straightened. The signal station is marked as 'Signal Tower Coast Guard Station' and an annotation reads "Top of Tower 300 Surface 268" indicating the building was 32 feet (9.75 m) tall at the time. This figure is consistent with the results of the surveys from the main study area (Sections 3.3.5.4 & 4.2.1), implying that the height of the signal tower had yet to be extended.

The site was accessed via a winding road that runs away to the north, joining a network of small roads that connect the dispersed settlements of the area. The eastern side of the enclosure had been removed by the time the 2nd edition Ordnance Survey map was surveyed between 1897 and 1904, and the tower is shown as having two additions on the north-west side, approximating its current form. The 3rd edition map, surveyed 1926-1937, shows no further alterations. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

A modified World War 2 era Look Out Post (L.O.P. 28) is located in the centre of the rounded end of the enclosure.

Figure F.14. Toe Head Signal Station, County Cork, looking north-east. (Photo courtesy of Google Earth).

Number 30. Ballylinchy Signal Station, County Cork (505955, 525541).

SMR CO150-042----/20915015. Historical Name: Kedge Point Signal Station.

The enclosed signal station features a well-preserved signal tower that survives to its full height. The signal station is located on undulating ground, 385 m (420 yards) to the north of the coast. Kerrigan established that the signal mast had been erected by 1804 and the signal tower was completed by 1805 (Kerrigan 1995, 277). The signal tower of the standard design found across the main study area. It is well-preserved and survives to its full height. The walls of the signal tower face north, east, south, and west. The doorway is located on the first floor of the south wall and would have been accessed via a retractable ladder. The doorway is protected by a rectangular machicolation supported by three corbels. The east and west walls each feature two ground floor windows and two first floor windows. Bartizans would have been located on the north-east and north-west corners, but these have collapsed leaving ragged holes in the corners of the signal tower. The quoins at the corners of the towers utilise a distinctive yellow stone which are also used on the corners of the machicolation over the first floor door on the south wall. A partially collapsed two storey gable roof addition abuts the north wall of the signal tower. A tall chimney extends from the peak of the north gable of the addition. A small freestanding single storey building with a steeply sloping shed roof is located to the north of the addition. The signal tower is set within an enclosure defined by a partially collapsed wall, apart from a small section at the north-east where the wall is absent. The enclosure is a narrow rectangle, with a large fan shaped area at the south.

The walls of an enclosure are still present, apart from a small section at the north-east. Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a narrow fan shaped end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map, surveyed 1841-1842, shows the signal tower as a long rectangular building, suggestive of a signal tower with a large addition to the north. A small freestanding building is shown to the north of the addition, and a smaller rectangular building is shown built against the outer face of the north-west corner of the enclosure. The fan shaped end of the enclosure has been modified to have an irregular polygonal shape, and a large rectangular enclosure is attached to the east side of the original enclosure.

A wall sub-divides this rectangular enclosure into a small eastern field and a much larger western field. The signal station is identified as 'Ballylinchy Signal Tower (in ruins)' and is accessed via a road that led away to the north to the small settlement of Ballylinchy. The 2nd edition Ordnance Survey map, surveyed 1897-1904, shows that the addition and the two freestanding buildings were in ruins, and that the enclosure had regained its original form, as depicted on Hamilton's 1806 map. The large enclosure to the east had been sub-divided into three roughly equally sized fields. The 3rd edition Ordnance Survey map, surveyed 1926-1937, shows the same arrangements. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

The ruins of a Look Out Post (L.O.P. 29) are located in the western part of the rounded end of the enclosure. The well preserved 'Eire Sign 29' is located 160 m (175 yards) to the south-east of the enclosure.

Number 31. Cape Clear Signal Station, County Cork (496788, 521257).

SMR CO153-022002-/Reg. No. 20915309.

Cape Clear Signal Station is located on the crest of a hill, 190 m north-west of the coast. It is set on a flat area with a gentle slope to the north-west and a steep slope dropping down to the coast to the south-east. The enclosed signal station features a well-preserved signal tower that survived to its full height (Figure F.15). Kerrigan established that the signal tower was completed by 1805 (Kerrigan 1995, 277). The walls of the signal tower face north-east, south-east, south-west, and north-west. The original doorway was located on the first floor of the south-west wall and would have been accessed via a retractable ladder. The doorway was protected by a rectangular machicolation supported by three corbels. The doorway has been blocked with neat stonework and replaced with a ground floor door. The north-west and south-east walls each feature two ground floor windows and two first floor windows. The north-east wall is plain apart from a tall chimney that extends up from the centre of the wall. Unusually the northern and eastern corners of the signal tower do not feature bartizans, although these may have been removed and the resulting gaps neatly repaired. The NMS state that the tower was burned in the early 19th century (CO153-022002-). A

number of single storey buildings were constructed against the sides of the signal tower, and a range of buildings were added to the north-east. The NMS state that these were added after the fire when the site was altered to house lighthouse keepers (CO153-022002-). The tower sits in a long narrow enclosure defined by a tall stone wall that had a circular end at the south-west.

A well-preserved early 19th century lighthouse (C0153-022001-/Reg. No. 20915308) was set in the centre of the curved end of the enclosure. The lighthouse has a short cylindrical form. The NIAH states that the lighthouse was constructed in 1818 and decommissioned in 1854 (Reg. No. 20915308).

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a rounded end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map, surveyed 1841-1842, depicts the signal tower in the centre of a long U-shaped enclosure with the lighthouse to the south-west (Figure F.16). The site is identified as 'Cape Clear Light Ho.' A narrow passage connects the lighthouse to the signal tower. The site is shown as accessed via a winding road that leads away to the west as far as a coast guard station on the eastern side of South Harbour. The same layout is depicted on the 2nd and 3rd edition Ordnance Survey maps, surveyed 1897-1904 and 1926-1937 respectively. The 1st edition Ordnance Survey map shows that the signal station was located at the edge of an enclosed landscape.

Figure F.15. Cape Clear Signal Station, County Cork, showing the later lighthouse in the foreground. (Photograph courtesy of Finola Finlay and Robert Harris, Roaring Water Journal).

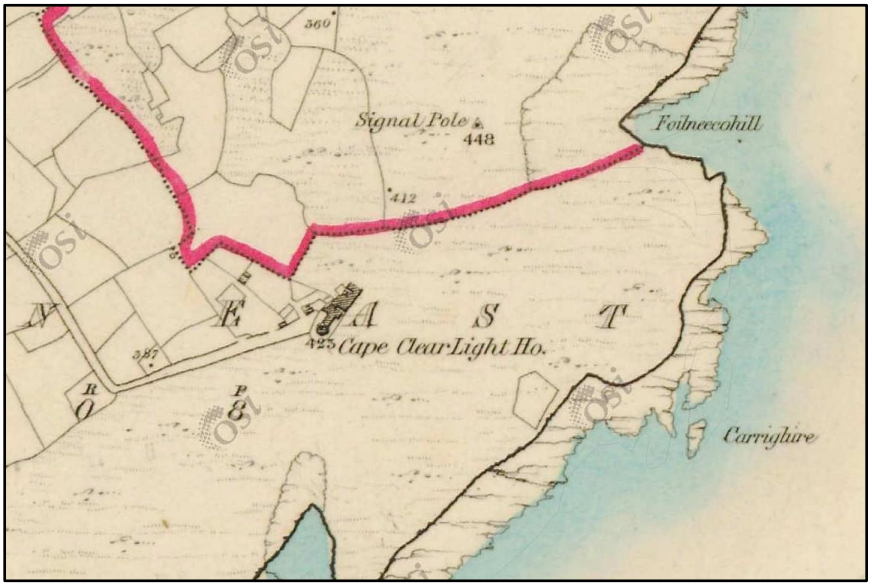

Figure F.16. 1st Edition Ordnance Survey map depiction of Cape Clear Signal Station after the lighthouse and associated buildings were added to the site.

Number 32. Leamcon Signal Station, County Cork (488678, 529976).

SMR CO148-012----/Reg. No. 20914804. Historical Name: Lamcon Signal Station.

Leamcon Signal Station is located close to the summit of a large low hill, approximately 1.3km NW of the nearest part of the coast. The signal station is set on flat ground, with gentle downward slopes in all directions. Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 277). A large modern bungalow with a courtyard plan has been constructed immediately west of the signal tower at some point since 2006.

The walls of the signal tower face north-east, south-east, south-west, and north-west. The signal tower has retained its core shape, but it has been heavily modified through conversion into a residence in the mid to late 20th century. The south-west wall features the original first floor doorway which would have been accessed via a retractable ladder. The doorway is protected by a machicolation supported by three corbels. The north-west and south-east walls each feature pairs of windows on the ground floor and the first floor. The north and east corners feature bartizans supported by three corbels.

When the signal tower was converted into a residence the parapet wall was extended upwards to allow for the creation of a full second floor. Additional centrally positioned windows were added to the second floor levels on the north-west and south-east walls. The machicolations and the bartizans have been extended upwards and have had windows added to their outer faces. An external metal staircase was added to provide access to the first floor doorway. The exterior of the tower has been covered in cement render.

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a narrow fan shaped end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map, surveyed 1841-1842, shows the tower was set within a narrow sub rectangular enclosure which was surrounded by a larger square enclosure. A small rectangular building is shown to the east of the signal tower and a trigonometry point is shown to the south-west of the signal tower. The signal station is identified as 'Signal Tower (in ruins)' and is accessed via a short road that runs to the east and connects with a larger north-east to south-west running road. The 2nd edition Ordnance Survey map, surveyed 1897-1904, shows that the inner enclosure and the small rectangular building

had been removed. No further changes are depicted on the 3rd edition Ordnance Survey map, surveyed 1926-1937. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

Number 33. Brow Head Signal Station, County Cork (477729, 523884).

SMR CO152-002----/Reg. No. 20915201.

A previously enclosed signal station that is located close to the crest of an east to west running ridge, approximately 200 m north-west of the coast. The signal station is set on gently sloping ground, with a long gentle slope to the north-west and a shorter steeper slope to the south-east. Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 277). The signal station features a well-preserved signal tower which survives to its full height (Figure F.17). The walls of the signal tower face north, east, south, and west. The signal tower is of standard design, but the pattern of fenestration has been slightly altered at some stage. The doorway is located on the first floor of the south wall and would have been accessed via a retractable ladder. The doorway is protected by a rectangular machicolation supported by three corbels. The west wall features a single ground floor window at the south, and a ragged hole at the north where the second ground floor window has been opened up to provide ground level access. There are no windows on the first floor. On the ground floor level of the east wall there is a neatly framed door at the north and a large window at the south. On the first floor level of the east wall there is a large window at the north and a small window at the south. Above the first floor windows there is a large centrally placed window that extends into the parapet level. The arrangement of windows strongly suggest that the signal tower has been modified. Bartizans are located on the north-east and north-west corners, each supported by three corbels. A well-preserved chimney is centrally located on top of the north wall. The chimney is coated in neat cement render and has likely been repaired at some stage. The walls are covered by weatherproof slates, but these do not extend across the walls of the machicolation or the bartizans. A large rectangular area at the base of the northern wall is devoid of slates, possibly indicating the former presence of an abutting structure. The signal tower is no longer located within an enclosure.

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a rounded end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map, surveyed 1841-1842, shows the signal tower set within a narrow rectangular enclosure. The site is identified as 'Signal Tower (in ruins)' and was accessed via a road that leads away to the north-east, terminating at a 'fish palace' (SMR C0152-003----). The 2nd edition Ordnance Survey map, surveyed 1897-1904, shows the southern end of the enclosure as having had the original rounded end form reinstated (Figure F.18). The 2nd edition Ordnance Survey map also shows three small adjacent buildings located to the south-west of the signal station. A meandering path connects these buildings to a small watch house located to the south-east of the signal station. The 3rd edition Ordnance Survey map, surveyed 1926-1937, shows the three small adjacent buildings had been combined into a single complex building. The NIAH identifies these as the remains of a Marconi Telegraph Station (Reg No. 20915201). The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

During the mid-late 19th century, a small number of coast guard buildings and a flagstaff were constructed immediately next to the signal tower, and a small watch house was constructed to the south. In 1901 Guglielmo Marconi established an experimental transmitter at the site, to communicate with a transmitter at Poldhu in Cornwall (Raboy 2016, 162-3). A new building was constructed immediately south of the end of the enclosure, with an antenna mount immediately west of the building. All of these buildings are now ruined. Facilities listed at the site in 1917 include a Lloyd's signal station with signal flags and lamps, and a radiotelegraph operated by the General Post Office (Hydrographic Office 1917, 54).

Figure F.17. Brow Head Signal Station, County Cork. (Image courtesy of Finola Finlay and Robert Harris, Roaring Water Journal).

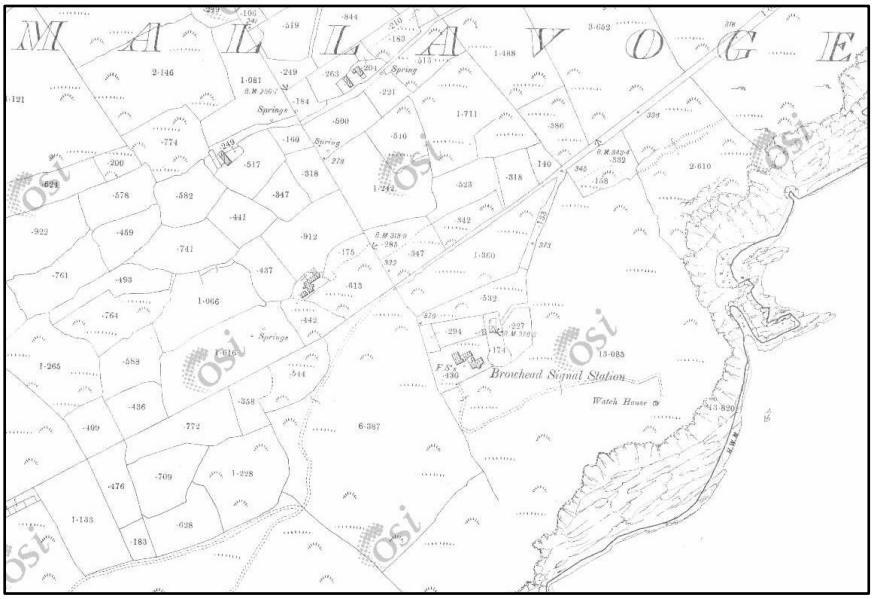

Figure 18. 2nd edition Ordnance Survey map showing the complex of buildings constructed at Brow Head Signal Station, County Cork.

Number 34. Mizen Head Signal Station, County Cork (474009, 523987).

SMR CO152-001----/Reg. No. 20915202.

The enclosed signal station is located at the end of the of the Mizen Peninsula, approximately 400 m NE of Mizen Head, and about 180 m (196 yards) north-east of the nearest part of the coast. The signal station is set on level ground with steep slopes to the west and south that drop down to the coast. Kerrigan established that the signal tower was completed in 1804 (Kerrigan 1995, 277). The signal station features a well preserved three storey building that survives to its full height. The signal station is located on gently sloping ground about 180 m (196 yards) north-east of the coast. The extant building was not of the standard design found throughout the main study area. The form is extremely similar to the example at Robert's Head, County Cork (Appendix F.23). It is a tall three storey structure with gabled walls at the north-east and south-west. The south-west gable wall features a centrally positioned doorway on the first floor which has been neatly blocked with stonework, and two windows on the second floor. The north-west wall features five large windows, a pair on the ground floor and a pair on the first floor, and a single window on the south-east part of the second floor room. The north-east gable wall features a large window at the south-east of the second floor. A tall chimney protrudes from the peak of the gable. The south-east wall features a window at the south-west of the second floor.

A large single storey addition abuts the north-east side of the building, and wraps around the south-east side of the building. A small two storey addition abuts the south-west portion of the south-east wall. The signal tower is located in a rectangular enclosure with a rounded end at the south-west. The enclosure is defined by a heavily collapsed wall, and many sections around its perimeter are no longer visible. A well-preserved Look Out Post (L.O.P. 30) is located to the south west of the signal tower, in the centre of the rounded end of the original enclosure.

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a rounded end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map, surveyed 1841-1842, shows an L-shaped building, with one mass running north-east to south-west, and the second mass running north-west to south-east, with the connection at the north. A small freestanding building is located to the west of the northern end of

the L-shaped building. The 2nd edition Ordnance Survey map, surveyed 1897-1904, shows a square building with a rectangular addition extending to the north-east. A north-west to south-east rectangular building abuts the north-west corner of the addition, creating an L-shaped pattern flipped 90 degrees from the original L-shaped building. The original narrow rectangular enclosure has been replaced by a much large rectangular enclosure, apparently divided into small garden plots. The 3rd edition Ordnance Survey map, surveyed 1926-1937, shows the same arrangement. Neither of these depictions matches the arrangements visible at the site today, indicating at the very least, that the current additions do not date to the 19th century.

The 1st edition Ordnance Survey map shows that the signal station was located in an unenclosed landscape, and the subsequent editions continue to show that the site was located in an unenclosed landscape.

L.O.P. 30 is located to the south-west of the signal tower, in the centre of the rounded end of the original enclosure.

Number 35. Sheep's Head Signal Station, County Cork (474238, 534432).

SMR CO138-001----.

The enclosed signal station is located on the crest of the ridge which runs north-west to south-east along the final section of the Sheep's Head Peninsula, approximately 550 m north-west of the coast. The signal station is set on uneven ground with a steep slope running down to the coast to the south-east, and a slightly less steep slope running down to the coast to the north-west. Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 278). The walls of the signal tower face north-east, south-east, south-west, and north-west. The signal tower has collapsed and all that survives is the base of the ground floor level. The base of the signal tower is surrounded by rubble, which also fills the internal space. The signal tower is set towards the north-east end of a long narrow sub-rectangular enclosure which contains a smaller sub-rectangular enclosure that surrounds the signal tower. A smaller square internal enclosure is located to the south of the signal tower. A large irregular enclosure abuts the north-east side of the long narrow sub-rectangular enclosure.

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a rounded end (Kerrigan 2003, 37). The site is identified as 'Signal Tower' on the 1st edition Ordnance Survey map, surveyed 1841-1842, which depicts a long sub rectangular enclosure with rounded ends. The internal sub-rectangular enclosure is shown, as it the small square enclosure immediately south of the signal tower. A small triangular enclosure is shown at the western end of the main enclosure. A small sub-triangular enclosure is shown extending from the eastern end of the large sub-rectangular enclosure. The site was accessed from the north-east via a road that terminates at the signal station having followed the southern coast along the entire length of the Sheep's Head peninsula. The 2nd edition Ordnance Survey map is not available online. The 3rd edition Ordnance Survey map, surveyed 1926-1937, shows the triangular enclosure at the east had been expanded into a rectangular enclosure, and the large irregular enclosure had been added to the north-east side of the main enclosure. The 1st edition Ordnance Survey map shows that the signal station was located in an unenclosed landscape, and the subsequent editions continue to show that the site was located in an unenclosed landscape.

A well-preserved Look Out Post (L.O.P. 31) is located 600 m to the west of the signal station.

Number 36. Bere Island Signal Station, County Cork (468821, 543288).

SMR CO128-013----.

The enclosed signal station was located at the north-east edge of the large summit of the large hill at the west end of Bere Island. The signal station is set on undulating ground with moderate slopes to the north-west, north-east, and south-east. The level ridge that forms the top of the hill runs away to the south-west. Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 278). The enclosed signal station was an important element of the heavily militarised landscape of Bere Island. It consists of the low ruins of a signal tower, of uncertain design, surrounded by a large spread of rubble (Figures F.19 & F.20). The ruins of a slightly better-preserved building are located to the north of the signal tower.

Figure F.19. The western wall of the collapsed signal tower at Bere Island Signal Station, County Cork. (Image taken from Shiels & Maloney 2015, with permission).

Figure F.20. Aerial photograph of Bere Island Signal Station, showing the curve ended enclosure to the south-west. The position of the signal mast mount can be seen in the centre of the rounded end of the enclosure (Photo courtesy of Google Earth).

The signal tower is located within an enclosure with a curved end at the south-west, defined by a collapsed stone wall. A large field is attached to the western side of the enclosure and a second large field is attached to the southern side of the enclosure, extending for some distance to the east.

The site was surveyed in 2012 which led to the identification of a quarry to the immediate west and a sunken feature in the centre of the rounded part of the enclosure which was identified as the base for the signal mast (Shiels & Maloney 2015, 49-50). It is believed that the signal tower was badly damaged by a lightning strike in 1959 and subsequently collapsed during a storm in 1964 (Shiels & Maloney 2015, 47).

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a rounded end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map, surveyed 1841-1842, show the signal tower with buildings to the east and north, set towards the northern end of a rectangular enclosure with a rounded southern end. The site is identified as 'Telegraph Tower' and it was accessed via a road that runs away to the north until it connected to the main east west road that crosses the island. A rectangular field is shown adjacent to the western side of the enclosure. The 2nd edition Ordnance Survey map, surveyed 1897-1904, shows that the size of the northern building had been reduced, so that the signal tower was abutted by a straight row of two buildings. The southern end of the field to the west is shown further to the north, indicating that the size of the field had been reduced. No additional changes are shown on the 3rd edition Ordnance Survey map, surveyed 1926-1937. The 1st edition Ordnance Survey map shows that the signal station was located at the edge of an enclosed landscape.

Number 37. Black Ball Head Signal Station, County Cork (458796, 539450).

SMR CO127-028002-.

The enclosed signal station is located 100 m south of Black Ball Head, adjacent to the cliffs. The signal station is set on a small flat rocky outcrop, with moderately sloping ground to the south that drops down to the steep cliffs which lead to the coast. Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 278). The signal station features a well-preserved signal tower of the standard design found throughout the main study area, which survives to its full height. The walls of the signal tower face north, east, south, and west. The doorway is located on the first floor of the south wall and would have been accessed via a retractable ladder. The doorway is protected by a rectangular machicolation supported by three corbels. The east and west walls each feature two ground-floor windows and two first-floor windows. Bartizans are located on the north-east and north-west corners, each supported by three corbels. A single storey, shed roofed, free-standing building is located a short distance to the north of the signal tower. The signal tower was positioned at the north-east of a rectangular enclosure with a triangular protrusion at the north-east. The western and central parts of the enclosure follow a standard rectangular plan, but at the eastern end it deviated from this pattern to avoid an adjacent rock outcrop.

The 1st edition Ordnance Survey map, surveyed 1841-1842, shows the signal tower set in the triangular protrusion, with a small square freestanding building to the north, and a larger rectangular building in the south-east corner of the enclosure. A trigonometry point is marked to the north-east of the signal tower. The site is identified simply as ‘Signal Tower.’ The 2nd edition Ordnance Survey map, surveyed 1897-1904, shows the large building in the south-east had been removed but the small square building to the north of the signal tower is still present. The site is identified as ‘Signal Tower (in Ruins).’ The 3rd edition Ordnance Survey map, surveyed 1926-1937, also shows the small square building to the north of the signal tower. The site is again identified as ‘Signal Tower (in Ruins).’ The 1st edition Ordnance Survey map shows that the signal station

was located in an unenclosed landscape, and the subsequent editions continue to show that the site was located in an unenclosed landscape.

Number 38. Dursey Island Signal Station, County Cork (447228, 540453).

SMR CO126-005----/Reg. No. 20912601.

The enclosed signal station is located on a hilltop to the south-west of the centre of Dursey Island, approximately 550 m south-east and 550 m north-west of the coast on either side of the island. The signal station is set on a narrow area of level ground at the top of the hill, with steep slopes to the north-west and south-east. Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 278). The signal station features a well-preserved signal tower of the standard design found throughout the main study area, which survives to its full height (Figure F.21). The walls of the signal tower face north-east, south-east, south-west, and north-west. The doorway is located on the first floor of the south-west wall and would have been accessed via a retractable ladder. The doorway is protected by a rectangular machicolation supported by three corbels. The north-west and south-east walls each feature two ground floor windows and two first floor windows. The north-east wall of the signal tower features the impression of a now demolished single story gable roofed addition. Bartizans are located on the north and east corners, each supported by three corbels. A small, single storey, freestanding, shed roofed building is located north-east of the tower, sharing its alignment. The signal tower is located in the centre of a poorly preserved rectangular enclosure with a rounded end at the south-west, defined by a collapsed stone wall.

Hamilton's 1806 map shows the signal tower located in a narrow rectangular enclosure with a rounded end (Kerrigan 2003, 37). The 1st edition Ordnance Survey map, surveyed 1841-1842, depicts the signal tower as a long rectangular building, which may represent the signal tower and the original gable roofed addition. The 3rd edition Ordnance Survey map, surveyed 1926-1937, shows the same long rectangular building, suggesting the freestanding shed roofed building is a late addition to the site. The 1st edition Ordnance Survey map also shows a small rectangular building at the north-west of the enclosure, on the external side of the enclosure wall. This building is not shown on the 3rd edition Ordnance Survey map, suggesting it was demolished in the late 19th

century or the early 20th century. On both maps a path is shown connecting to the north-east corner of the enclosure, leading away to the east as far as the small settlement of Kilmichael. The site is identified as 'Dursey Watch Tower' on the 1st edition Ordnance Survey map and 'Dursey Watch Tower (in Ruins)' on the 3rd edition Ordnance Survey map. The 1st edition Ordnance Survey map shows that the signal station was located in an unenclosed landscape, and the subsequent editions continue to show that the site was located in an unenclosed landscape.

'Eire Sign 32' is located 120 m (130 yards) west of the signal station.

Figure F.21. Dursey Island Signal Station, County Kerry. (Photograph by Nigel Cox used under Creative Commons License 2.0).

Number 39. Hog Island Signal Station, County Kerry.

This signal station is listed on documents dated to 1804, but it may never have been constructed (Kerrigan 1995, 278). It is not shown on any of the early Ordnance Survey maps and nothing resembling a signal station is visible on aerial photographs. The difficulties involving inter-visibility between signal stations along this stretch of the

coast, and the revisions that were undertaken, were discussed in detail in Section 4.12.3.

Number 40. Bolus Head Signal Station, County Kerry (438307, 562784).

The unenclosed signal station is located adjacent to steep cliffs, approximately 1100 m (0.7 miles) north of Bolus Head. The signal station is set on a small area of level ground, with moderate slopes to the east, and steep slopes to the west. Kerrigan established that the signal tower was almost completed by April 1806 (Kerrigan 1995, 278). The site consists of the low ruins of a small square building that is surrounded by a large spread of rubble. It has been suggested that this signal tower pre-dates, and was later serviced by, the nearby enclosed barracks, located 550 m (600 yards) to the east (Clements 2013, 99).

The walls of the signal tower face north-east, south-east, south-west, and north-west. The signal tower is collapsed and consists only of part of the ground floor level. It is shown as a small rectangular building on the 1st edition Ordnance Survey map, surveyed 1841-1842, and as a small square building on the 2nd and 3rd editions of the Ordnance Survey maps, surveyed 1894-1898 and 1914-1915 respectively. The site is connected to a field wall that runs away to the north-east, which is shown on the 2nd and 3rd edition Ordnance Survey maps, but not the 1st edition Ordnance Survey map.

The building is not labelled on any of the early Ordnance Survey maps, but the barracks building to the north-east is labelled “Bolus Signal Tower” on the 1st edition Ordnance Survey map and “Bolus Signal Tower (Disused)” on the 2nd edition Ordnance Survey map. The early Ordnance Survey maps show that, other than the singular mid-19th century wall connecting to the site, the signal station was located in an unenclosed landscape.

Number 41. Bray Head Signal Station, County Kerry (433070, 573170).

The enclosed signal station is located on the top of the ridge that forms the western tip of Valencia Island, approximately 150 m south-east of the coast. The signal station is set on a small flat area on the ridgetop, with moderate slopes to the south-east and steeply

sloping cliffs to the north-west (Figure F.22). Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 278). The main feature at the site is a refurbished signal tower that appears to have been of the standard design, but which was altered by the Royal Navy who re-used the site as a Naval War Signal Station during World War 1 (Clements 2013, 102). The walls of the signal tower face north-east, south-east, south-west, and north-west. The original doorway is located on the first floor of the south-west wall and would have been accessed via a retractable ladder. The north-west and south-east walls each feature two ground-floor windows and two first-floor windows. The signal tower no longer features a machicolation over the first floor doorway on the south-west wall, or bartizans over the north or east corners, although it is likely that these were present in the original configuration. The signal tower is covered in smooth render and has a projecting cornice just below the top of the wall. Small additions are built against the north-east and south-west walls. Off-centre ground floor entrances have been added to the north-east and south-west walls.

The tower is set within a sub-rectangular enclosure, with a missing section end at the SW. The enclosure measures approximately 44 m NE-SW and 24 m NW-SE. The NE part of the enclosure is now defined by a tall, rendered stone wall which was presumably renovated at the same time as the signal tower. A large field wall defined by an earthen bank abuts the SE side of the enclosure. The site is accessed via a well-defined lane which runs to the east as far as the small settlement of Clynacartan.

The 1st edition Ordnance Survey map, surveyed 1841-1842, shows the tower set within a rectangular enclosure, defined by two lengths of wall at the east and south and by the adjacent cliff edge at the north and west. The large field to the south is depicted, divided into eastern and western parts by a north to south running wall. The lane to Clynacartan is clearly shown. The same arrangements are mostly depicted on the 2nd and 3rd edition Ordnance Survey maps, surveyed 1894-1898 and 1914-1915 respectively, the only change being the addition of walls to define the western and northern sides of the enclosure. The site is identified as ‘Bray Head Signal Tower’ on the 1st edition Ordnance Survey map and ‘Bray Head Signal Tower (in Ruins)’ on the 2nd and 3rd editions. The 1st edition Ordnance Survey map shows that the signal station was located in an

unenclosed landscape, and the subsequent editions continue to show that the site was located in an unenclosed landscape.

'Eire Sign 35' is located 115 m (125 yards) to the south-west.

Figure F.22. Bray Head Signal Station, Valencia Island, County Kerry. (Photograph by Espresso Addict used under Creative Commons License 2.0).

Number 42. Great Blasket Signal Station, County Kerry (427055, 597067).

The enclosed signal station is situated on top of the ridge that runs north-east to south-west down the middle of Great Blasket. The coast is located approximately 370 m to the north-west, and 450 m to the south-east. The signal station is set on a very narrow level area on top of the ridgeline, with steep slopes to the north-west and south-east. Kerrigan established that the signal mast had been erected and the signal tower completed by 1806 (Kerrigan 1995, 278). The signal station features a badly collapsed signal tower. The walls of the signal tower face north, east, south, and west. The signal tower is badly collapsed and consists of fragments of the ground floor level surrounded by a large spread of rubble. (Figure F.23).

Traces of a rectangular enclosure are visible, with an expanded rounded end to the west of the signal tower and a narrow rectangular part to the east. The enclosure is visible as grassed over banks and sections of collapsed stone walls. What appears to be the mount for a signal mast is visible at the site, to the west of the signal tower (Figure F.24). The stone mount is set in the base of a wide circular hollow demarked by a ring of flat stones. The mount is a neatly carved square stone block with a central slot. An upright stone is

mounted in the slot, but it is not clear how long this has been in place. The site is accessed via a road that curves off to the south-east where it connects to a larger road which runs to the main settlement at the eastern end of the island, and which continues to the west for some distance before reaching the mid-point of the northern side of the island.

The 1st edition Ordnance Survey map, surveyed 1841-1842, shows the tower set in the middle of an irregular enclosure, with a slightly rounded western end. The 2nd edition Ordnance Survey map is not available online. The 3rd edition Ordnance Survey map, surveyed 1914-1915, shows a more regular enclosure which is almost rectangular and lacks any rounded element at the west, suggesting that the current form of the enclosure may be relatively recent. The 1st edition Ordnance Survey map shows that the signal station was located in an unenclosed landscape, and the subsequent editions continue to show that the site was located in an unenclosed landscape.

'Eire Sign 38' is located immediately west of the signal station, although the associated Look Out Post (L.O.P. 38) was located on the mainland at Dunmore Head.

Figure F.23. Great Blasket Signal Station, County Kerry, showing the ruined signal tower with the signal mast support in the foreground. (Photograph courtesy of Dr James Bonsall).

Figure F.24. Detail of the signal mast mount at Great Blasket Signal Station, County Kerry. (Photograph courtesy of Dr James Bonsall).

Number 43. Sybil Head Signal Station, County Kerry (431453, 606360).

The enclosed signal station is located at the top of a steep slope, and adjacent to near-vertical cliffs that drop down to the coast. The signal station is set on a small artificial terrace cut into the top of the slope. The ground slopes steeply to the south-east. The 1st edition Ordnance Survey map, surveyed 1841-1842, depicts a rectangular building set near the centre of a rectangular enclosure, accessed via a road that leads off to the south-east as far as the settlement of Ballyoughteragh. The 2nd and 3rd edition Ordnance Survey maps, surveyed 1894-1898 and 1914-1915 respectively, show a small square building close to the south-western side of the original building. On all three maps the site is identified as 'Signal Tower (in Ruins)'. Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 278). A single large rectangular building is now located at the site, occupying the same area as the two buildings shown on the later Ordnance Survey maps (Figure F.25).

In July 2017 Dr James Bonsall visited the site and took a large number of photographs, which were subsequently provided to the project. These photographs provided enough detail for a preliminary description of the site to be prepared, but a full field survey would be required to properly understand this complex building.

The building now present on the site is a complex, rectangular two storey building, which does not resemble the signal towers recorded at other sites (Figure F.25). The

building's long axis is aligned north-east to south-west, and the front elevation faces to the south-east. The building measures approximately 11m north-east to south-west and 6m north-west to south-east. The external walls of the building are covered in a layer of render, but this no longer covers the corners of the buildings and the edges of some of the openings in the walls, exposing brick surrounds. There is no internal render and it is clear that the body of the walls consist of rubble masonry. There are parts of a concrete slab floor between the ground floor and the first floor, in the centre of the building and at some of the corners. A cross wall runs across the centre of the building dividing the ground floor into two rooms with a brick lined door opening in its middle (Figure F.26). The north-east part of the building has an intact concrete slab roof. The edge of the roof has wide, elaborately cast concrete coping, which overhangs the walls, and which is also present in some areas where the concrete roof slab is no longer intact. A flight of concrete steps runs down the north-east side of the building, turning 90 degrees to the north-west at a small landing close to ground level (Figure F.27).

The front elevation at the south-east features three small brick lined window openings, with two windows high up on the ground floor level and one high up on the first floor level (Figure F.28). The rest of the wall is plain. The south-west side wall features two large window openings with traces of brick surrounds, one on each floor level (Figure F.29). The central part of the north-east side wall has largely collapsed, although traces of the edge of a large brick lined window are visible at the ground floor level (Figure F.30). The rear north-west elevation is largely collapsed, but a plain section survives at the north-east and traces of a small central projecting wing are visible extending from the centre of that side of the building (Figure F.31).

The building may have been formed from connecting the two adjacent buildings shown on the later Ordnance Survey maps, in which case the north-east end of the building would have incorporated some of the mass of the original signal tower, the south-west end of the building would have incorporated some of the mass of the secondary building, and the central part of the building would represent new connecting elements.

Figure F.25. Sybil Head Signal Station, County Kerry, looking north-west. The unusual two storey building and the enclosure wall can be seen. (Photograph courtesy of Isabelle Bennett).

Figure F.26. Ground floor level cross wall, looking south-west. (Photograph courtesy of Dr James Bonsall).

Figure F.27. Detail of steps running down north-east side of two storey building at Sybil Head Signal Station, County Kerry, looking south-east. (Photograph courtesy of Dr James Bonsall).

Figure F.28. View of the front, south-east, wall of the two storey building at Sybil Head Signal Station, County Kerry, looking north-west. (Photograph courtesy of Dr James Bonsall).

A second possibility is that the original buildings have been demolished and entirely replaced by the building now on the site. Reviewing the building, there are no details which clearly indicate the incorporation of parts of a standard design signal tower. Clements identified the site as one of the locations used by the Royal Navy as a Naval War Signal Station during World War 1, and the current condition of the site is thought to relate to that period of reuse (Clements 2013, 102).

The enclosure was defined by a medium height stone wall which only survives in two small sections, along the north-east and south-west sides. The wall has a curved concrete cap. Along the cliff edge there is a low concrete wall, which seems to have been the mount for a now removed metal fence (Figure F.32). This feature is likely a replacement for the north-west wall shown on the 2nd and 3rd edition Ordnance Survey maps, which was probably lost to erosion, based on the changes observed between the maps and current aerial images. A circular metal mounting plate is located uphill of the building, close to the cliff edge (Figure F.33). A stone built square structure is located to the south-west of the building, which could possibly be a mast mount from the original signal station (Figure F.34). The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

Figure F.29. View of the south-west side wall of the two storey building at Sybil Head Signal Station, County Kerry, looking north-east. (Photograph courtesy of Dr James Bonsall).

Figure F.30. View of the north-east side wall of the two storey building at Sybil Head Signal Station, County Kerry, looking south-west, with steps in the foreground. (Photograph courtesy of Dr James Bonsall).

Figure F.31. View of the rear, north-west, wall of the two storey building at Sybil Head Signal Station, County Kerry, looking south-east. (Photograph courtesy of Dr James Bonsall).

Figure F.32. Fragment of the enclosure wall at the north-west end of the south-west side of the enclosure. The base of the concrete foundation running along the cliff edge can be seen in the foreground. (Photograph courtesy of Dr James Bonsall).

Figure F.33. Detail of metal mounting plate located to the north-west of the two storey building at Sybil Head Signal Station, County Kerry, looking north-east. (Photograph courtesy of Dr James Bonsall).

Figure F.34. detail of possible signal mast mount to the south-west of the two storey building at Sybil Head Signal Station, County Kerry, looking north-east. (Photograph courtesy of Dr James Bonsall).

Number 44. Ballydavid Head Signal Station, County Kerry (438734, 6113388).

Historical Name: Brandon Head Signal Station.

The enclosed signal station was located on the spine of a steep sided ridge about 200 m (218 yards) south-east of the coast. The signal station was set on a small flat area at the top of the slope, with a rock outcrop to the north-west beyond which is the steep slope that drops down to the cliffs, and with less steep slopes to the north-east, south-east, and south-west. Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 278). A sketch of the site by George Victor Du Noyer, dated 1856, shows a signal tower of the standard design found throughout the main study area, with a single storey end-gabled building to the north-east of the tower (Figure F.35). James Bonsall undertook a drone flyover of the site in August 2017 and much of the following analysis is based on a mixture of observations from du Noyer's sketch and the drone photographs (Figures F.36, F.37, & F.38). The signal station features the badly collapsed ruins of a signal tower with an adjacent building, set within a rectangular enclosure.

Figure F.35. Ballydavid Head Signal Station by George Victor Du Noyer, dated 1856. Royal Society of Antiquaries of Ireland. http://rsai.locloudhosting.net/items/show/22619.

Figure F.36. Drone photograph of Ballydavid Head Signal Station showing the enclosure with traces of an entrance at the north-east and the small building at the north corner. The signal tower is towards the south-west end of the enclosure and the gabled building is located to the north-east of the tower. (Photograph courtesy of Dr James Bonsall).

Figure F.37. Drone photograph of Ballydavid Head Signal Station, looking north-west. (Photograph courtesy of Dr James Bonsall).

Figure F.38. Drone photograph of Ballydavid Signal Station, showing details of the signal tower and the adjacent gabled building, looking west. (Photograph courtesy of Dr James Bonsall).

This signal tower has partially collapsed. The north-east and south-west walls of the signal tower have largely collapsed, most of the ground floor level of the south-east wall survives, and the north-west wall survives to around the height of the bottom of the parapet level. The south-east wall would have featured a first floor doorway accessed via a retractable ladder, but no parts of the doorway have survived. The doorway was protected by a machicolation which has also not survived. The north-east and south-west walls would have featured pairs of windows on the ground floor and first floor levels, but all that survives are some fragments of the bottoms of the ground floor windows on the south-west wall. The north-west wall featured the chimney. The internal face of the north-west wall features central fireplaces flanked by alcoves on the ground floor and first floor level. The north and east corners of the building were protected by bartizans that have not survived.

The signal tower has several noticeable differences to those recorded in the main study area. The front wall was at the south-west and faced inland, rather than out to sea. The rear wall lacks a bulge for a chimney flue. The ground floor and first alcoves do not have separate tops, instead they extend up to the height of the bottom of the first floor and the bottom of the roof level, respectively, in effect simply being wide indents on either side of the chimney breast.

A large rectangular side gabled building is located immediately to the NE of the signal tower. The building measures 7 m from north-east to south-west and 4.6 m from North-west to south-east. The gabled side walls at the north-east and south-west survive to close to their full heights, all though the apexes of both walls are missing. The north-west wall survives to approximately half its original height and only a low remnant of the south-east wall survives. The building is divided into two rooms internally, with a smaller room at the south-west and a larger room to the north-east. A door is located on the south-east wall, accessing the smaller room. A window is located on the north-west wall, illuminating the larger room. A chimney was built into the north-east gabled wall. The building is not depicted on the 1st edition Ordnance Survey map, surveyed 1841-42, and by the time du Noyer drew the site in 1856 it was a roofless shell. This suggests the building was only used for a short period of time in the 1840s and 1850s.

The signal tower is located in the south-west part of a rectangular enclosure, that flows down the slope to the north-east of the signal tower. The enclosure measures approximately 42 m north-east to south-west and 19 m north-west to south-east. The enclosure wall survives to a considerable height at the south-west, to a lower height around the south-east and north-east, and has been removed around the north-west. A poorly defined entrance is still visible in the centre of the north-east wall, and a wide sunken pathway can be seen leading from the entrance towards the two internal buildings. The enclosure is slightly misaligned with the internal buildings and path, suggesting it may have been a secondary addition that was not laid out at the same time as the signal tower.

Only low remains of the small building in the northern corner of the enclosure survive. It seems to have had an entrance on the south-west side. The north-west wall is absent; therefore, it is not possible to determine how many rooms the building contained. The south-east wall was underlain by a tall revetment wall that extended out from the enclosure wall to counteract the steeply sloping ground in this area.

The 1st edition Ordnance Survey map, surveyed 1841-42, shows the signal tower to the west of the centre of a rectangular enclosure. The site is identified as 'Ballydavid Signal Tower.' The enclosure has an inset corner at the north and a small building is shown built at this corner. The 2nd edition Ordnance Survey map, surveyed 1894-98, shows the tower with an adjacent building to the north-east and the small building in the inset corner. The site is identified as 'Ballydavid Signal Tower (in Ruins).' The 3rd edition Ordnance Survey map, surveyed 1914-15, shows only the enclosure and the signal tower. The site is identified as 'Ballydavid Signal Tower (in Ruins).'

Du Noyer's sketch shows the enclosure with the inset corner and a small shed roofed building in that corner. The sketch shows a rough entrance in the centre of the north-east wall of the enclosure, which matches where a track is shown connecting to the enclosure on the 1st edition Ordnance Survey map. The track winds away to the south, running to the small settlement of Curragraigh.

Number 45. Kerry Head Signal Station, County Kerry (469433, 631797).

The enclosed signal station has been demolished. The signal station was located on a minor hilltop overlooking the coast about 600 m (655 yards) to the north-west. Kerrigan established that the signal tower was completed by 1805 (Kerrigan 1995, 278).

The 1st edition Ordnance Survey map, surveyed 1841-1842, shows a rectangular enclosure with a rounded end at the north-west. A square building assumed to be the signal tower is centrally located within the enclosure, with a square internal enclosure to the south-west and a wall running along the long axis dividing the north-west end of the enclosure. A large rectangular building is shown to the south-east of the signal tower, and two smaller rectangular buildings are shown in the north-east part of the enclosure. The 1st edition Ordnance Survey map shows a long lane leading away from the site to the south-east, towards the coast. The site is identified as 'Barrack & Signal Tower (in Ruins)'. On the 2nd edition Ordnance Survey map, surveyed 1894-1898, all of these buildings have been removed, and the only building present is a long thin rectangular building overlying the former position of the signal tower. The long thin rectangular building is still shown on the 3rd edition of the Ordnance Survey map, surveyed 1914-1915. This building has subsequently been demolished and no obvious traces of the signal station or subsequent buildings are visible today.

This is the signal station visited by Edward Wakefield in 1808. The full text of his account is as follows;

> "*October 18 1808. Kerry Head. The signal station consists of a square tower, thirty-four feet in height, each side of which is thirteen feet wide. It is committed to the care of a lieutenant and a guard. The door is in the upper story, and the only access to it is by means of a small ladder, which can be hauled up in a moment. It is built of stone, and might be defended by half a dozen men against any number, unless provided with cannon. The contract price for building these stations is £630, but the contractor erected them for £300. No attention, however, has been paid to the convenience of the officer who commands. A small apartment partitioned off by a baulk-head, which leaves a passage descending to the lower part, where the guards are placed, and ascending to the leads above, serves him as a sitting-room and bed-chamber. The annual expense of each signal station is about £600, though they are much neglected, particularly in the supply of ropes. The next station is on Brandon Height, but it has never yet been used"* (Wakefield 1812b, 830).

Number 46. Loop Head Signal Station, County Clare (470902, 648578).

The enclosed signal station has collapsed or been demolished, and the stone has been removed from the site for use elsewhere. The signal station had been located on the ridge line of a prominent hill overlooking the coast some 500m to the north-west. The signal station was set on flat ground on top of the ridge, with gentle slopes to the north-west and south-east. Kerrigan established that the signal tower was completed by 1805 (Kerrigan 1995, 278).

The 1st edition Ordnance Survey map, surveyed 1840-1842, shows a small rectangular building built within a ringfort (SMR CL071-012---). A trigonometry point is shown to the north-east of the signal tower, and a small circular feature to the north of the signal tower, in the centre of the ringfort, may denote the location of the signal mast. The site is identified as 'Telegraph in Ruins.' A road runs from the eastern side of the ringfort away to the north-east, passing through the settlement of Fodry. Five lime kilns are marked along this road, with the closest being located 310 m (340 yards) north-east of the edge of the ringfort. The 2nd and 3rd edition Ordnance Survey maps, surveyed 1893-1897 and 1913-1918 respectively, simply show the ringfort with no additional features, and the road connecting to the site, and the associated lime kilns, are no longer depicted.

The location of the signal tower can be seen on aerial photographs, visible as a square shaped hollow immediately south of the centre of the ringfort. The outline of a rectangular enclosure with its long axis aligned north-west to south-east can also be seen on aerial photographs, overlying the central and north-western parts of the ringfort, and extending a little beyond its north-west edge. The rectangular enclosure appears to be defined by a grassed over bank and measures approximately 57 m north-west to south-east and 32 m north-east to south-west, making it similar in size to the enclosures found throughout the main study area. The absence of the enclosure from the early Ordnance Survey maps strongly suggests that the site was thoroughly cleared in the early 19th century. The 1st edition Ordnance Survey map shows the signal station was located in an enclosed landscape.

Number 47. Knocknagharoon Hill Signal Station, County Clare (481419, 655188).

SMR CL065-006----.

The signal station was located on the top of a small hill overlooking the coast 440m to the north-west. The signal station was set on a level area with gentle slopes to the north-west and south-east. Kerrigan established that the signal tower was completed by 1805 (Kerrigan 1995, 278). The signal station has collapsed or been demolished, and the stone has been removed from the site for use elsewhere. A disturbed area of ground indicates its former position.

The 1st edition Ordnance Survey map, surveyed 1840-1842, shows a small rectangular building identified as 'Knocknagharoon Castle (in Ruins)' (CL065-006----). The signal tower is shown as a small square building. A road begins at the north-east side of the signal tower and runs off to the east, connecting to another road at the east of the settlement of Oldtown. The signal tower is no longer visible on the 2nd edition Ordnance Survey map, surveyed 1893-1897, and the lane no longer reaches as far as Oldtown, suggesting it had gone out of use. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

Number 48. Ballard Signal Station, County Clare (490939, 665918).

SMR CL046-005----.

The enclosed signal station was located adjacent to steep vertical cliffs, with ground that slopes down gently to the south. Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 278). The signal station features the collapsed ruins of a signal tower set within a well-preserved trapezoidal enclosure that measures 56m from north-west to south-east and 34m from north-east to south-west. A rectangular two room building is located in the eastern corner of the enclosure, the walls of which survived to a greater height than those of the signal tower.

The 1st edition Ordnance Survey map, surveyed 1840-1842, shows the trapezoidal enclosure with the position of the signal tower marked by a trigonometry symbol and a rectangular building in the eastern corner. The site is identified as 'Telegraph Station' and a road is shown curving away from the eastern side of the enclosure and running

eastwards to the dispersed settlement of Glascloon. The road is visible in aerial photographs as a grassed over linear feature. The 2nd and 3rd edition Ordnance Survey maps, surveyed 1893-1897 and 1913-1918 respectively, show the same details but the site is identified as 'Baltard Tower (in Ruins)'. The 1st edition Ordnance Survey map shows that the signal station was located in an enclosed landscape.

Number 49. Mutton Island Signal Station, County Clare (496694, 674469).

The enclosed signal station is located at the western edge of Mutton Island, immediately east of the low vertical cliffs that drop down to the coast. The signal station is set on flat ground. Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 278).

The signal station features a reasonably well-preserved signal tower with its walls facing north-east, south-east, south-west, and north-west. The doorway is located on the first floor of the south-east wall and would have been accessed via a retractable ladder. An area of render survives on the wall surrounding the doorway. The doorway is protected by a rectangular brick-built machicolation supported by three corbels. The brick-built part of the machicolation has largely collapsed. A large hole has been opened up through the wall below the first floor doorway to provide ground level access. The north-east and south-west walls each feature two ground-floor windows and two first-floor windows. The first floor level of the north-east wall features an area of render with intact weather-proof slates around the windows. The north-west wall is plain and houses the chimney flue. The internal face of the north-west wall features centrally placed fireplaces flanked by alcoves on the ground floor and first floor levels. Square bartizans were located on the east and north corners. The east bartizan has entirely collapsed, and the north bartizan has collapsed but the three supporting corbels survive.

The signal tower is set within a well-preserved rectangular enclosure defined by a tall stone wall. It has an entrance on the south-east wall, defined by two tall stone piers. The enclosure measures approximately 55m north-west to south-east and 30m north-east to south-west. It is on a slightly different alignment to the signal tower, suggesting it may have been a secondary addition to the site. A partially ruined rectangular building

is located in the western corner of the enclosure. The building measures approximately 9m north-west to south-east and 3m north-east to south-west.

The 1st edition Ordnance Survey map, surveyed 1840-1842, shows the signal tower, enclosure and rectangular building. The signal tower is overlaid by a trigonometry point symbol and the site is identified as 'Watch Ho.' On the 2nd edition Ordnance Survey map, surveyed 1893-1897, the same details are depicted, but the rectangular building is shown as being divided into a larger room at the south-east and a small room at the north-west. The site is identified as 'Watch House (in Ruins).' The 3rd edition Ordnance Survey map, surveyed 1913-1918, no longer shows the internal division of the rectangular building and the site is identified as 'Watch House (in Ruins).' The 1st edition Ordnance Survey map shows that the signal station was located in an unenclosed landscape, and the subsequent editions continue to show that the site was located in an unenclosed landscape.

Figure F.39. The signal tower at Mutton Island Signal Station, County Clare. (Photograph by Towel 401 used under Creative Commons License 2.0).

Number 50. Hag's Head Signal Station, County Clare (501330, 689592).

SMR CL014-010002-.

The unenclosed signal station is located on a narrow piece of flat ground on a steep sided promontory at the south-western end of the Cliffs of Moher, approximately 240m east of Hag's Head. There are vertical cliffs to the north and steep cliffs to the west, and the signal station is located within the bounds of a badly eroded promontory fort (SMR CL014-010001-). Kerrigan established that the signal mast had been erected and the signal tower completed by 1805 (Kerrigan 1995, 278). The unenclosed signal station consists of a tall well-preserved signal tower that survives to close to its full height, and which has its walls facing north-east, south-east, south-west, and north-west (Figure F.40). The doorway is located on the first floor of the north-west wall and would have been accessed via a retractable ladder. The doorway is protected by a machicolation supported by three corbels. Two small well-constructed windows are located on either side of the first floor doorway. Both windows are now blocked up with neat stonework. These windows appear to be original features and represent unique variations to the standard design used at most signal towers. The north-east and south-west walls feature two ground-floor windows and two first-floor windows. On the south-west wall the ground floor windows and the north-west window on the first floor have been blocked with neat stonework, leaving only the south-east first floor window open. A smaller off-centre window is located at the north-west part of the attic level. The south-east wall is plain and houses the chimney flue. The east and south corners of the signal tower are protected by bartizans, each supported by three corbels.

The 1st edition Ordnance Survey map, surveyed 1840-1842, identifies the site as 'Telegraph' and shows that it was accessed via a road that ran from the signal station south-eastwards to the settlement of Kilconnell. The 2nd and 3rd edition Ordnance Survey maps, surveyed 1893-1897 and 1913-1918 respectively, both identify the site as 'Moher Tower.' The 1st edition Ordnance Survey map shows that the signal station was located in an unenclosed landscape, and the subsequent editions continue to show that the site was located in an unenclosed landscape.

Immediately south-west of the signal tower is the badly preserved base of a World Wide 2 era Look Out Post (L.O.P. 47).

Figure F.40. The signal tower at Hag's Head Signal Station, County Clare. (Photograph by Age Bosma used under Creative Commons License 2.0).

Appendix G. Enclosed Barracks in County Kerry

Four enclosed barracks are located around the coast of County Kerry which seem to be related to the signal station system (Section 4.12.3). From south to north the enclosed barracks are located at Hog's Head, Bolus Head, Brandon Head, and Rough Point (Figure G.1.). These sites seem to have been added to the signal station system at some point between 1808 and 1815, placed in areas where the gaps between existing signal stations were particularly large (Section 4.12.3). Although the signal station system as a whole was abandoned in 1809, the section around the south-west coast seems to have been retained until 1815, and was particularly important during the War of 1812, when American privateers were active off the south-west coast of Ireland (Section 2.3.1).

Two of the enclosed barracks sites, Bolus Head and Hog's Head, survive in good condition. Brandon Head is in ruinous condition, and Rough Point has been demolished and modern residential buildings occupy the site. Only one of the sites, Hog's Head, was visited during this project, although Bolus Head was observed from a short distance away. The four enclosed barracks all had enclosures of the same form. The enclosures were almost square and had square bastions on each of the four corners. Both of the sites which were well-preserved featured a large rectangular two storey building within the enclosure, with the building's rear wall forming the central section of one side of the enclosure. Both buildings featured external stairs which accessed a first floor doorway, and a gap between the top of the stairs and the door into the buildings must have featured a retractable bridge of some sort. The 1st edition Ordnance Survey map indicates that the enclosed barracks at Rough Point featured a building with the same plan as those still present at Hog's Head and Bolus Head. The 1st edition Ordnance Survey map seems to show a centrally located building at Brandon Head, but the representation is unclear and the remains at the site suggest there was a large rectangular building built against the southern side of the enclosure. The 1st edition Ordnance Survey map also does not show the existence of bastions on the corner of the enclosure at Brandon Head, but the description in the SMR confirms that they were part of the original design (SMR KE025-004----). It is not clear how these sites were staffed, but the extant buildings were certainly large enough to have housed a bigger crew than those that staffed the original signal towers.

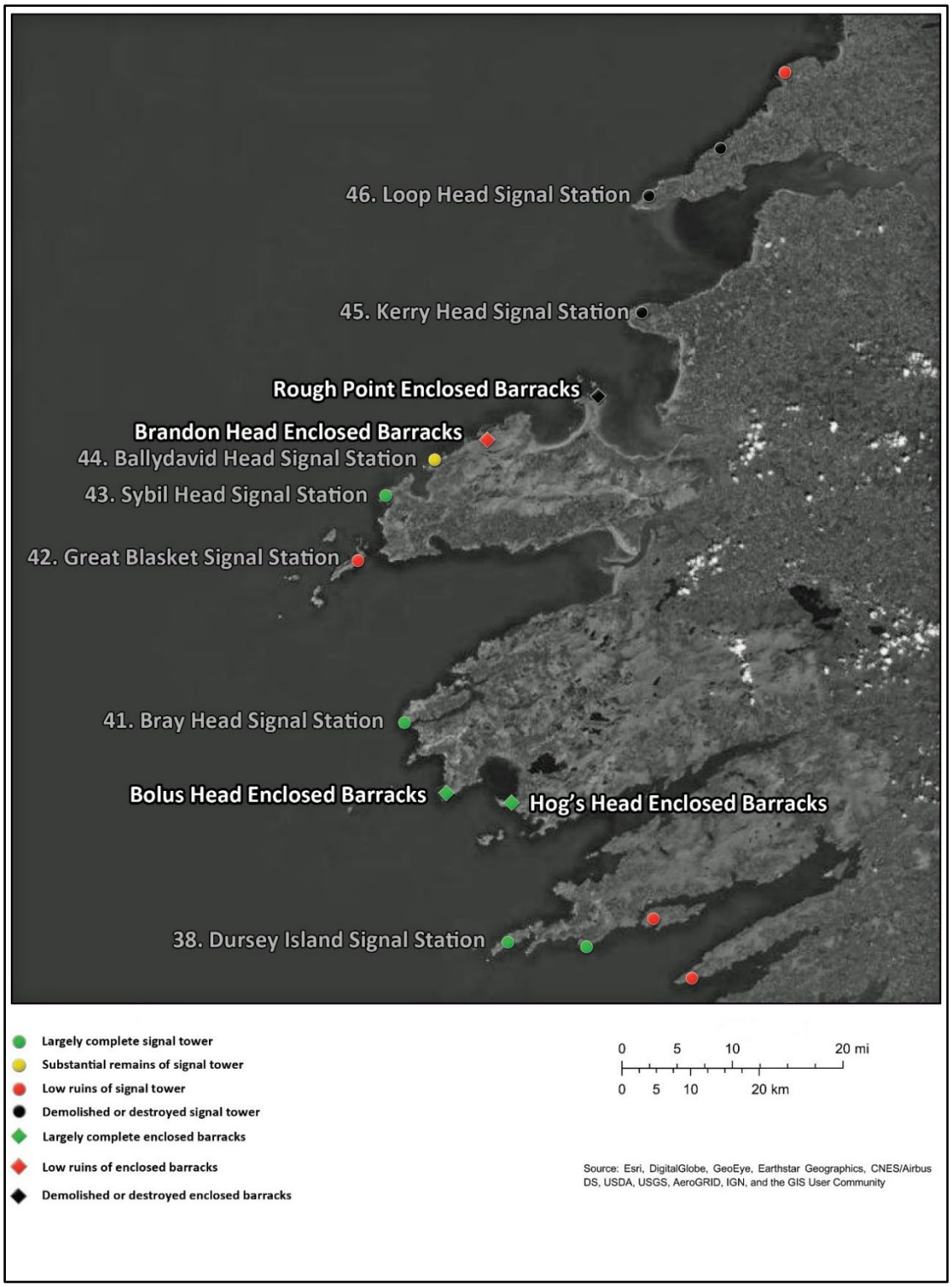

Figure G.1. Location and condition of Enclosed Barracks in County Kerry and adjacent Signal Stations. The named Signal Stations are those included in Table 4.3 in the main text.

Number 1. Hog's Head Enclosed Barrack (448391, 560914).

Hog's Head Enclosed Barrack is located on top of the steep sided east to west running ridge that forms the spine of the headland. The site has steep slopes to the north and south. Hog's Head Enclosed Barrack consists of an almost square enclosure that measures 24m north-east to south-west by 20m north-west to south-east. The enclosure has a square bastion at each corner. The enclosure wall is defined by a tall stone wall that survives to a height of 6 feet in places. The bastion walls are up to 10 feet tall in places. A complex two storey building is located along the north-east side of the enclosure, with its rear wall forming the boundary of the enclosure in this area. The building is built with roughly coursed rubble with traces of external render still visible, and well-preserved internal render. The building had a shed roof, now missing, that sloped steeply downwards towards the interior of the enclosure. The sloping side walls have tall chimneys extending from their peaks. On the ground floor level, the front wall features two small windows on either side of a plain central section of wall. The first floor features two larger windows arranged on either side of a central doorway. The first floor doorway was accessed via a large freestanding stone stairway located to the south-west. The gap between the top of the stairs and the door was presumably spanned by some sort of retractable bridge. Each side wall is abutted by a two storey addition, with the north-west example surviving to a much greater extent than the south-east example. The additions have steeply sloping roofs and both are entered at ground floor level through a door on their SW walls. The interior of the main section features three rooms on each floor. The rooms at each side feature fireplaces and alcoves which have the impressions of shelves in their render lining. The central rooms both feature plain alcoves and no fireplaces. Each of the rooms within the additions featured a fireplace. Access into the main building from the additions was through doors on the side walls of the main section, at ground floor level from the south-east addition, and on the first floor level from the north-west addition.

Whilst this building was larger than the signal towers of the standard design, it was clearly built using similar techniques. The use of a first floor doorway and the presence of the alcoves with impressions of shelves provide particularly compelling illustrations of the links between the two building types (Figure G.7).

Figure G.2. Hog's Head Enclosed Barrack, looking west, with the western bastion in the foreground.

Figure G.3. The imposing rear wall of the two storey building at Hog's Head Enclosed Barrack, County Kerry, looking west. This wall formed part of the perimeter along the eastern side of the enclosure.

Figure G.4 Oblique view of the steps leading to the first floor entrance.

Figure G.5. The southern end wall of the two storey building at Hog's Head Enclosed Barrack, County Kerry, with the collapsed addition projecting from the wall and the free-standing external stairs to the left, looking north.

Figure G.6. The addition on the north-west side of the building, with ground floor entrance.

Figure G.7. Alcove with shelf impressions on the first floor of the building.

The site is shown on the 1st edition Ordnance Survey map, surveyed 1841-1842, in its current form, with an almost square enclosure with four bastions located at the corners. The building is shown against the north-east wall of the enclosure and has a T-shaped plan, indicating that the external steps were drawn as being part of a singular structure. It is marked as 'Old Light Ho' and was accessed via a road that runs away to the north-east, following around Ballinskellig Bay. The 2nd edition Ordnance Survey map is not available online. On the 3rd edition Ordnance Survey map, surveyed 1914-1915, the site is marked 'Lighthouse (disused).' The only substantial alteration is that the end of the road had been diverted towards a farmhouse to the immediate south, and no longer connected to the enclosed barracks.

Number 2. Bolus Head Enclosed Barrack (438855, 562637).

Bolus Head Enclosed Barrack is located at the end of a steep sided ridge overlooking Bolus Head. Although it was only possible to view the site from a distance during this project (Figures G.8 & G.9), existing photographs of the site indicate that the site is essentially identical to the site at Hog's Head (Appendix G.1) (Mould 1994, 22-3).

Hog's Head Enclosed Barrack consists of an almost square enclosure that measures 23m north-east to south-west by 20m north-west to south-east. The enclosure has square bastions at the north, east, and west corners, but the bastion that had been located at the south corner is now missing. A complex two storey building is located along the north-east side of the enclosure, with its rear wall forming the boundary of the enclosure in that area. The building is built with roughly coursed rubble. It had a shed roof, now missing, that sloped steeply downwards towards the interior of the enclosure. The sloping side walls have tall chimneys extending from their peaks. On the ground floor level, the front wall features two small windows on either side of a plain central section of wall. The first floor features two larger windows arranged on either side of a central doorway. The first floor doorway was accessed via a freestanding stone stairway located to the south-west. The gap between the top of the stairs and the door was presumably spanned by some sort of retractable bridge. Each side wall has a one and a half storey addition built onto it.

Mould notes that from Bolus Head Enclosed Barracks, the similar site at Hog's Head, and the signal stations at Valencia Island, Dursey Island and Great Blasket are visible (Mould 1994, 23).

The 1st edition Ordnance Survey map, surveyed 1841-1842, shows the enclosure in its current form but with a long rectangular building against its north-west side. The site is identified as 'Bolus Signal Station.' The 2nd edition Ordnance Survey map is not available online. The 3rd edition Ordnance Survey map, surveyed 1914-1915, shows a rectangular building against the north-east wall, with a small square building to the south-west, which is presumably the stairs. The site is identified as 'Bolus Signal Tower (Disused).'

A well-preserved Look Out Post (L.O.P. 34) is located about 25 m (82') west of the enclosed barrack, set in its own small stone walled enclosure.

Figure G.8. Bolus Head Enclosed Barrack, County Kerry, looking west.

Figure G.9. Aerial photo of Bolus Head Enclosed Barracks, County Kerry (Photo courtesy of Google Earth).

Number 3. Brandon Head Enclosed Barrack (446446, 614010).

SMR KE025-004----.

Brandon Head Enclosed Barrack is situated on a north to south running ridge to the north of the summit of Knocknabreester, on the north side of the Dingle Peninsula. The site is located on ground that slopes down gently to the north, and has steep slopes to the east and west. The surrounding area consists of unenclosed rough pasture.

Brandon Head Enclosed Barracks consists of a heavily collapsed enclosure with a heavily collapsed internal building. The enclosure and the internal building only consist of wide areas of rubble, but they still convey the original layout of the Enclosed Barracks. The enclosure measures approximately 24m north to south by 22m east to west. The enclosure had bastions on the north-east, south-east, south-west, and north-west corners. A large T-shaped building was located in the southern half of the enclosure, which may have been similar to the buildings at Bolus Head and Hogs Head Enclosed Barracks, with a rectangular building and a perpendicular set of free-standing steps, used to access a first floor entrance. The SMR listing for the site (SMR KE025-004----) mentions the presence of “four corner bastions” on the enclosure, and states that “a large mound of rubble indicates the location of the signal tower” within the enclosure.

Brandon Head Enclosed Barracks is marked on the 1st edition Ordnance Survey map, surveyed 1841-1842, as a simple square enclosure with a central building and is identified as ‘Signal Tower (in ruins)’ (Figure G.10). The 2nd and 3rd edition Ordnance Survey maps, surveyed 1894-1898 and 1914-1915 respectively, show the site as a simple square enclosure containing no buildings, and mark the site as ‘Signal Tower (Site of).’

Mould claims that this site was never completed, having been found ineffective due to ‘mountain mists,’ but does not provide a source for this information (Mould 1994, 24). This would contradict Wakefield’s account of the site as being complete but not occupied in 1808 (Wakefield 1812, 70).

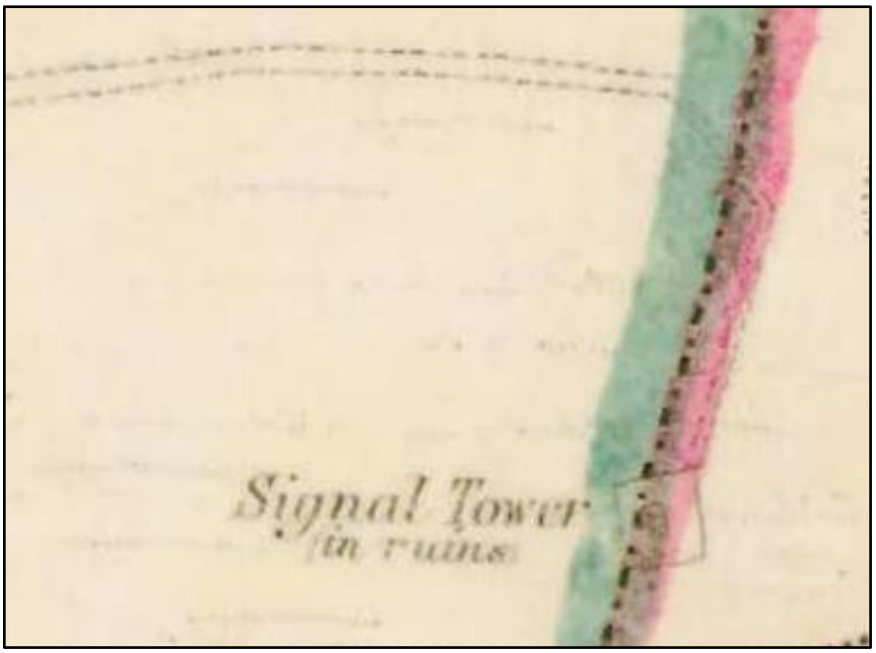

Figure G.10. 1st edition Ordnance Survey map depicting Brandon Head Enclosed Barracks.

Figure G.11. Aerial photo of Brandon Head Enclosed Barracks, County Kerry (Bing Maps).

Number 4. Rough Point Enclosed Barrack (462767, 619832).

Rough Point Enclosed Barrack has been demolished and a number of residential buildings have been built over and adjacent to the site. The 1st edition Ordnance Survey map, surveyed 1841-1842, shows a rectangular enclosure with square bastions at the corner and a T-shaped building at the south-east (Figure G.12). The enclosure measures approximately 24.4 m by 18.7 m (80’ by 61’). The site is identified as ‘Signal Tower.’ The 2nd edition Ordnance Survey map is not available online. The 3rd edition Ordnance Survey map, surveyed 1914-1915, shows a rectangular enclosure with a single bastion in the northern corner and a large rectangular building against the south-east wall. The site is not identified by name. Modern aerial images indicate that the site has been destroyed and modern residential buildings occupy its former location (Figure G.13).

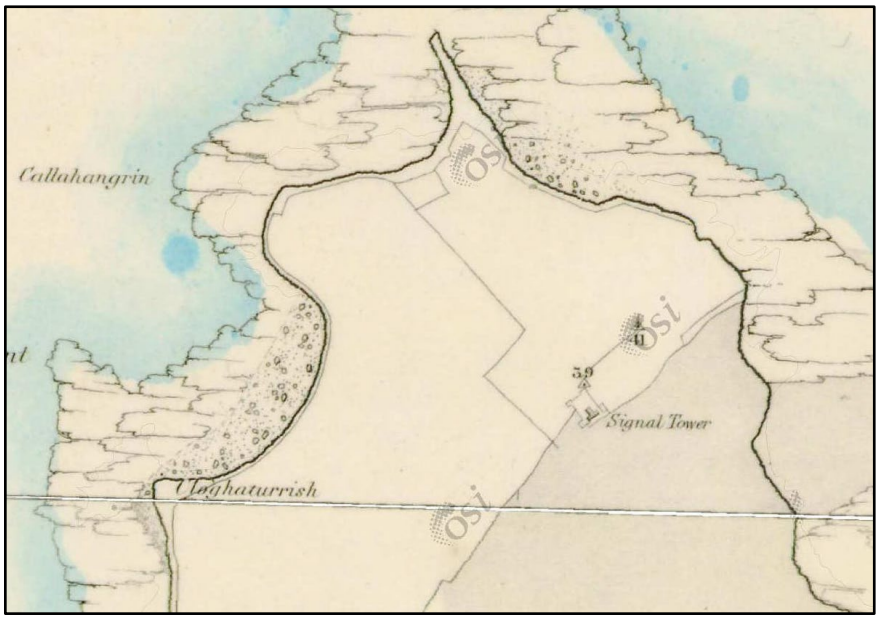

Figure G.12. 1st edition Ordnance Survey map showing the Rough Point Enclosed Barracks, identified as a "Signal Tower."

Figure G.13. Modern aerial image showing the location of the Rough Point Enclosed Barracks, which is now covered by a cluster of residential buildings (Bing Maps).

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