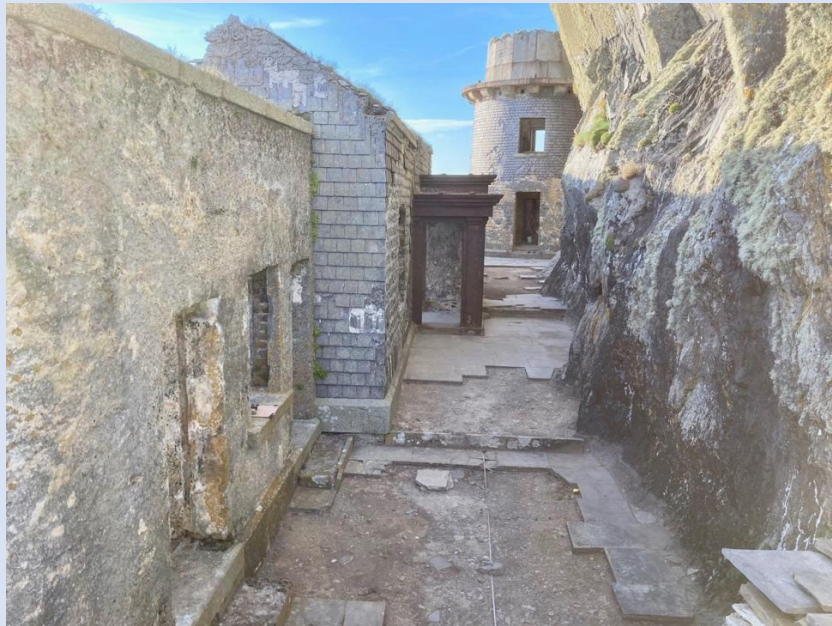


ARCHAEOLOGICAL EXCAVATION
of the
UPPER LIGHTHOUSE STATION,
SKELLIG MICHAEL, CO. KERRY.

Ministerial Consent No. C001045. Works No. W000428
Excavation Licence No. E005321. Detection device licence No. R00551



Alan R. Hayden,
31st October 2021

**ARCHAEOLOGICAL EXCAVATION of the UPPER LIGHTHOUSE STATION,
SKELLIG MICHAEL, CO. KERRY.**

CONTENTS

INTRODUCTION.....	2
HISTORICAL BACKGROUND.....	3
THE 2021 EXCAVATIONS.....	9
EXCAVATION PHOTOGRAPHS.....	44
THE FINDS.....	62
PRELIMINARY CONCLUSIONS.....	75

**ARCHAEOLOGICAL EXCAVATION of the UPPER LIGHTHOUSE STATION,
SKELLIG MICHAEL, CO. KERRY.**

Ministerial Consent No. C001045. Works No. W000428
Excavation Licence No. E005321. Detection device licence No. R00551.

*Alan R. Hayden,
31st October 2021.*

INTRODUCTION

Following the completion of excavation and conservation work undertaken from 2018 to 2020 on the Upper Lighthouse Roadway, archaeological works in 2021 on Skellig Michael concentrated on the Upper Lighthouse Station itself (fig. 1). Almost all of the South Terrace of the Upper Station was excavated between the 17th of May and the 10th September 2021. No work was undertaken on the long North Terrace beyond the Upper Station. The graffiti carved in the rock and lighthouse structures on the island was also recorded.

This report is but a preliminary one, much historical research, both on written and oral sources, and comparative research is clearly required to achieve a full perspective on the Skellig lighthouses.

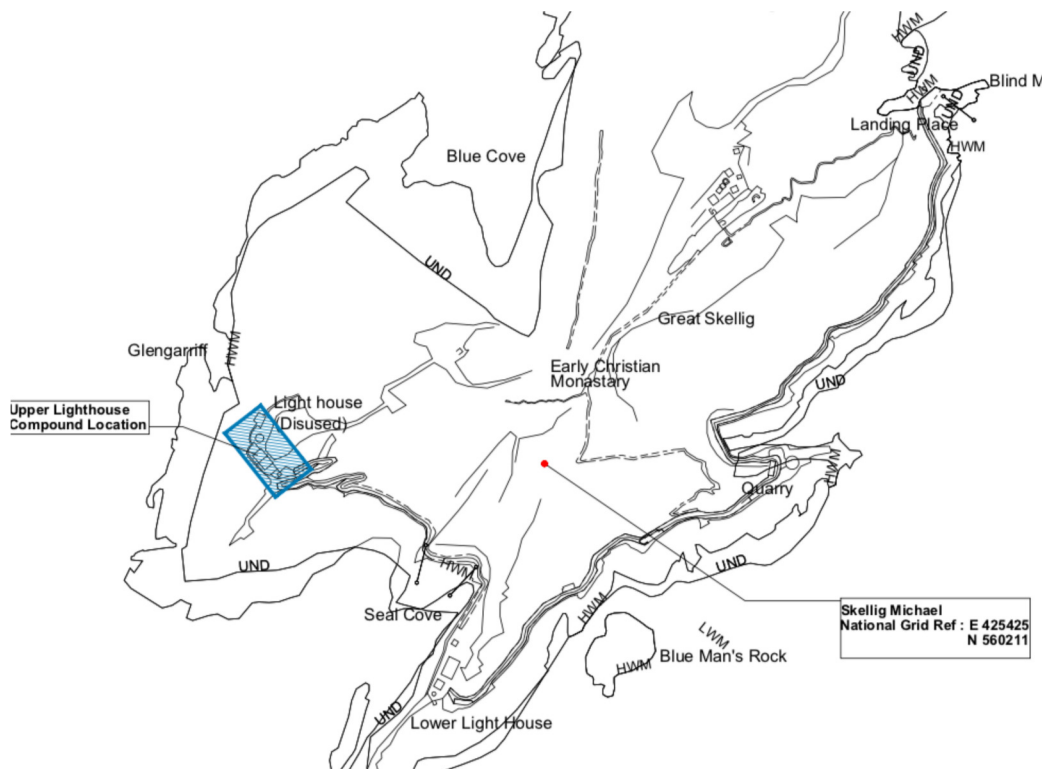


Fig. 1. The location of the Upper Lighthouse Station on Skellig Michael.

HISTORICAL BACKGROUND.

The following historical material is largely taken from the description of the Skellig Michael Lighthouses given on the website of the Commissioner of Irish Lights (<https://www.irishlights.ie/tourism/our-lighthouses/skelligs-rock.aspx>). Further historical research will be undertaken over the coming months.

Early in 1818 Maurice Fitzgerald, Knight of Kerry, wrote to the Board of the Corporation for Preserving and Improving the Port of Dublin reminding them that over twenty years previously the Grand Jury of the County of Kerry had looked for a lighthouse to be built on Bray Head, Valentia Island, which had been agreed but work was suspended until the opinion of Trinity House was sought. Fitzgerald also informed the Board of the loss of two merchant ships in Dingle and Ballinskelligs Bays both for the want of a light between Loop Head and Cape Clear Island. The Corporation informed Fitzgerald that the subject would be looked into.

Eighteen months later, the Inspector of Works and Inspector of Lighthouses, George Halpin (senior), made a report to the Board, in which he recommended Great Skellig rock instead of Bray Head as the best position for two lighthouses. His reason for two lights was to avoid confusion with the fixed light at Loop Head to the north and the flashing light on Cape Clear Island to the south. The Board agreed and Trinity House was informed. They queried the size of Great Skellig but sanctioned the project in November 1820. The Board then approached Mr. J. Butler of Waterville, Co. Kerry seeking the terms on which he would lease Great Skellig Rock forever. He replied the following month stating that he would require a rent of £30 per annum for the 986 years left on his own lease. He hoped that it was not too extravagant as theretofore both he and his fathers had been paid a rent of 16 to 18 stone of puffin feathers, which would rear 100 sheep in summer and 50 in winter. He also mentioned he was prepared to leave the valuation to any fair person. By March the Board agreed to pay £30 per annum but would prefer the purchase of the rock. The Law Agent meanwhile had been checking up on Butler and was not satisfied with his powers to sell or lease the island and in May recommended an inquisition, which was held in Tralee in July where a value of £780 was placed on the rock. This amount was paid into the Butler estate in November 1821.

Construction work on the rock appears to have started in August 1821. The buildings, rock cutting and roadways were designed by George Halpin who was inspector of Lighthouses from 1810 until his death in 1854. In his long career he was responsible for the design and

construction of over 50 lighthouses. The works were carried out under his direction by workmen of the Board, probably also using local contractors. Unfortunately, few details survive of the construction of the lighthouse and approach road but some records of the date at which different materials were dispatched to the island during construction do survive. These are in the possession of the OPW and they may shine some light on the progress of the works.

During the five and a half years of construction, Inspector Halpin made three brief reports and in each he emphasised the difficulties with which he had to contend. By April 1823, the roads were being cut and prepared. By March 1824 work had not yet started on building the stations but by late January 1826 the Lower Lighthouse was built and ready to receive its lantern but work had not commenced on the Upper Station. Halpin expressed hope that the conditions in the spring to autumn would be favourable so that the lights could be exhibited before winter set in. By August the lights were almost complete and the Ballast Board ordered the Inspector to issue a Notice to Mariners stating the lights would be exhibited on Monday 4th December 1826. The cost of the whole operation was £45,721:5s 10d and finishing work went on for the best part of another year.

Two incidences are recorded in the Board's minutes from the period. The first occurred in December 1821 when Mr. Hill's sloop *John Francis* was burnt off Portmagee whilst conveying materials to the rock. Hill looked for compensation but the Board declined to pay. The other was more serious and happened on the 16th November 1825 when one of the labourers Peter Cane was killed during a rock blasting operation. His wife submitted a petition the following February pointing out her distress, so the Board awarded her a pension of £6 per annum and £3 for each of her children by her husband under the age of sixteen.

The lights were fixed, first order catoptric, each using Argand oil lamps and parabolic reflectors. The upper light was 372 feet (121.3m) above high water and could be seen at a distance of 25 miles (40.2km) in clear weather, the lower light was 175 feet (53.3m) above high water and could be seen for 18 miles (29km). Each tower was approximately 48 feet (14.6m) overall height and they were 745 feet (227m) apart. The tower and dwellings were painted white.

During the winter of 1845-46 rape seed oil was tried by the Service and found to be better than sperm oil. It was generally introduced and by 1849 the two Skellig lights benefited from the change.

Wooden divisions were added to one or two bedrooms in 1862 to give more privacy for the younger members of the families. The website does not specify to which Station this refers.

In April 1865, the Principal Keeper (PK) of the upper station complained that he had been cruelly beaten up by the PK of the lower station. They were summoned by the Board and the 'lower' PK, who had a drink problem, was dismissed.

When Inishtearaght, the most westerly island of the Blaskets, 22 miles (35.4km) north of Skellig rocks, was established on 1st May 1870, the upper light of Skellig was discontinued.

Towards the end of 1889, the parish priest of Cahirciveen claimed, in the interest of the Roman Catholic Church, that the Keepers who since 1880 had been appointed caretakers by the Board of Works of the national monuments on Great Skellig, should be of faith and desired that the present Protestant keepers should be replaced. The Board ordered that the reverend gentleman be informed that they cannot accede to his request but assured him every care is being taken of the monuments.

A minute was read to the Board on 3rd April 1869 from W. Callaghan, PK of the lower station requesting removal to another station stating he had buried two of his children on the rock and another was lying ill. It was noted by the Inspector but the request was not immediately carried out. St Michael's Church holds the graves of the two children, Patrick, aged 2 who died in December 1868 and William, aged 4 who died in March 1869.

A block of eight shore dwellings for the Keepers and families of Skellig and Inishtearaght were built at Knightstown, Valentia Island, at the turn of the century by Mr W.H. Jones of Dunmanway for £7,570. The Keepers took up residence in 1901 and both Skellig and Inishtearaght became relieving from Valentia Harbour. Times change, Keepers preferred, quite naturally, to live in their own homes and the Knightstown dwellings were sold in 1964.

A proposal by the Engineer, Mr C.W. Scott in 1904 to build a new and more powerful light on the projecting spur of rock below and to the west of the disused Upper Station (where the fog signal stands today) got as far as a detailed survey being made during the summer of 1905. It was discussed with new lighthouse works (1906-07) at conference level in London but the end result, after Captains Brederic (Board of Trade), Clare, and Blake (Trinity House) had visited Great Skellig in July 1906, was a decision to improve the light in the existing tower and establish an explosive fog signal on the western spur.

in April 1907 Trinity House and the Board of Trade sanctioned a triple flashing third order light and an explosive fog signal 3 quick reports every 10 minutes. Chance Brothers of Birmingham supplied the optic and pedestal and David Brown of Leeds the rotation machine. The new 120,000 candelas light, using a vapourised paraffin incandescent burner was established on 22nd December 1909 with a character of 3 quick flashes every 10 seconds.

The pitched roof of the lower house was replaced with a flat concrete roof in c.1910.

An automatic fog signal was established on 13th June 1914, but difficulties were experienced so it was temporarily discontinued in July, checked both on the rock and at sea and was re-established by 9th December. On the Inspecting Committee's recommendation in 1919, the automatic fog signal machinery was removed and the signal operated manually. The character was altered to one report every six minutes from 1st June 1934 and from 1940 until 1948 the signal was discontinued.

Two severe rock slides, between the lower station and the fog signal, occurred in November 1953 and were sufficient to cause a Notice to Mariners to be issued stating the signal would be out of action until further notice. Consideration was given and the sanction obtained for a fog signal firing house on the balcony of the tower but the Inspecting Committee on Tour in 1959, realising that there had been no requests from mariners for the re-establishment of the fog signal, recommended that it should be discontinued. By August 1960 a Notice to Mariners stated that the fog signal was permanently discontinued.

For their help in rescuing two boatloads of survivors from the SS Marina early in November 1916, the three keepers were awarded £1 each from the Board of Trade and one guinea each from the owners of the Marina. During the 1939-45 war, an aircraft crashed, exploded and fell in flames into the sea off the north side of the rock on 27th February 1944. A search by Keepers and a British aircraft found neither survivors nor wreckage.

The 1962 Inspecting Committee on Tour recommended the modernisation of Skellig lower lighthouse. This also entailed replacing the hand operated derrick crane at Cross Cove by a diesel driven derrick; a complete overhaul of the dwellings for both tradesmen and Keepers including electric light, central heating, bathroom and WC and an office for the Principal Keeper, increased storage capacity for diesel fuel oil and fresh water; demolishing the 1826 tower and the 1924 connecting corridor to the dwelling and building a new tower and adjoining engine room. The 1909 Chance Brothers optic and pedestal was retained and converted to electric with a 3KW 100V lamp replacing the vapourised paraffin mantles and

driven by a ¼ h.p. (185W) electric motor. A temporary light was mounted and exhibited from the spur of rock close to the old tower from 24th May 1966 until the 1,800,000 candelas light came into operation on the 25th May 1967. The 40-foot (12.2m) tower and dwellings are painted white. The whole operation took just over two years and the cost almost £49,000. The Engineer-in-Chief, Mr A.D.H. Martin, was responsible for the design of the tower and engine room and also for the modernisation of the dwellings.

Fortnightly reliefs by helicopter took over from the Service Steamer out of Castletownbere in November 1969 and a reinforced concrete landing pad was built on the rock near the diesel derrick at Cross Cove.

One of the recommendations of the 1978 Inspecting Committee on Tour was that the Development Committee gave consideration to the unmanning and automating of Fastnet and Skelligs after 1982. This they did in March 1981 and both the Engineer-in-Chief, Mr N.D. Clotworthy, and the Inspector and Marine Superintendent, Captain H.N. Greenlee, in their reports agreed that automation was possible but were conscious of security and vandalism. Work went ahead from 1985 with new generating sets, 1 kW metal arc lamps for the optic, remote control and monitoring link via Knockgour to Castletownbere Helicopter Base and Irish Lights Office and of course, security fencing and gates strategically placed to prevent trespassing. Keepers were withdrawn and the station became automated on 22nd April 1987.

Two Keepers lost their lives on Great Skellig. The first was Michael Wishart who was one of the Keepers removed from Tuskar in 1821 for his indirect involvement in a smuggling episode; he fell to his death at Skelligs whilst, according to Commissioner Robert Callwell but not in the Board's minutes, cutting grass for his cow. The second was more recent when Seamus Rohu (whose carved his name on the parapet wall at the Lower Lighthouse) was reported missing on 22nd August 1956; his comrades and others searched the rock and the Valentia lifeboat and the Service Steamer Valonia searched the sea in vain.

Prior to the advent of the radio telephone the Keepers relied on semaphore signalling, with a pair of long handled bats, to Bull Rock 16 miles (25.5km) away. The signaller positioned himself in front of a large whitewashed patch of vertical rock or wall and a keeper on Bull Rock read the message through a telescope and he in turn would semaphore to shore via Dursey Island. There were such signalling stations located on the road between Cross Cove and the Lower Station, on the Upper Lighthouse Road and in the monastery.

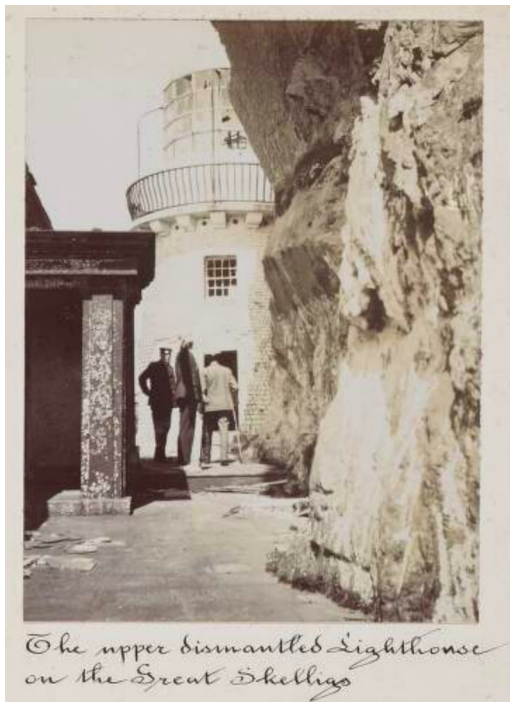


Fig. 2. A selection of low resolution versions of early 20th-century photographs of the Upper Lighthouse Station from CIL albums in the NLI.

THE 2021 EXCAVATIONS

Introduction

The Upper Lighthouse Station was constructed on two linked terraces, North and South, blasted from the rock on their inner sides and supported and defined by masonry walls on the outer. No works have yet been undertaken on the long, narrow North Terrace. The 1830s OS first edition map (fig. 3) shows a building at its north end, but it is not visible today. The South Terrace, which holds the remains of the main buildings of the Upper Station was almost completely excavated in 2021, apart from four small areas (fig. 4) three of which were not disturbed due to the presence of nesting birds,¹ the fourth lay beneath the stockpile of stone uncovered during the excavations.

The South Terrace measures a maximum of 47m in length by 23m in width and is entered at its east side from the end of the Upper Lighthouse roadway. The OPW have compiled a detailed digital and photographic survey (including elevations and sections) of the building on the South Terrace.

There were varying amounts of rubble and debris in the buildings and on the surface of the yards around them. The eastern half of House (2) held the greatest amount; a thickness of 800mm of rubble and plaster debris due to the inward collapse of both its gables. The southeast corner of its rear yard also contained a similar depth of debris due to the demolition of the south wall of its rear outhouses by a rock fallen from the cliffs above. Elsewhere the original floors and surfaces were generally covered by less than a depth of 400mm of material and there were many areas where the original floor surfaces were visible. The varying depth of fills and the likelihood they might provide nesting opportunities for birds was assessed in 2020. The OPW subsequently covered the thickest deposits with cloth, polythene or fabric to try to prevent birds nesting in the deposits. This however had but a limited degree of success. The use of a flexible cloth beneath plastic or tarpaulins appears to have been the most effective, as the fabric adhered closely to the debris and its flexibility meant it did not tear. This however was only used on a limited area. The polythene on its own was ineffective as it

¹ All the works were undertaken in close cooperation with an ornithologist (Brian Power) appointed by the NPWS. The ornithologist first examined the rubble and debris in the buildings before any work was undertaken and subsequently monitored and helped to clear the debris checking for nesting birds as the works progressed. A small number of storm petrel nests containing an adult with a chick or egg were found in House 2. These were relocated by the ornithologist, but all the eggs and chicks were subsequently abandoned. As a result, when these three areas containing a concentrations of nests were later identified, they were left undisturbed.

ripped in the wind. While the tarpaulins fared better, the birds still managed to get underneath them, as they exploited the slightest gap at their edges.

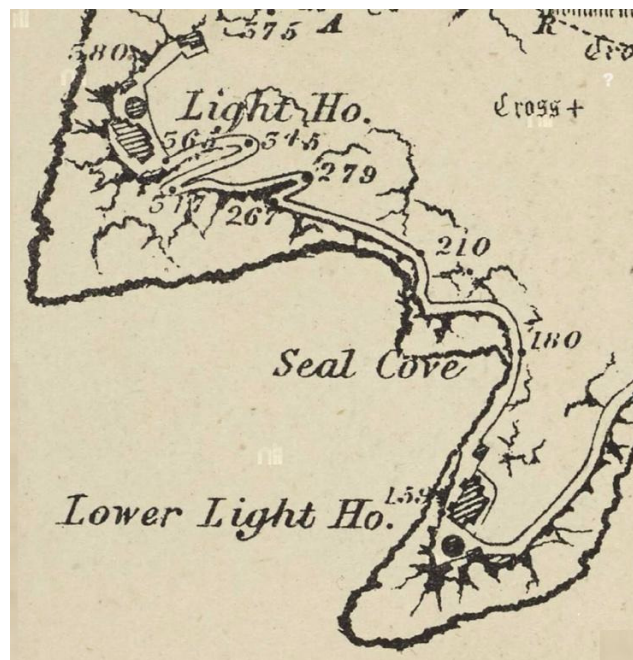


Fig. 3. The Skellig Michael lighthouse stations as depicted on the OS first edition 6" map of the 1830s.

Both the archaeological evidence uncovered (figs. 4 & 5) and the OS first edition map of the 1830s (figs. 3) show that the original structures on the South Terrace consisted of:

- Terrace walls (14 & 15) with parapet walls above,
- Two semi-detached houses, (1) -west and (2) -east, each with a pair of attached outhouses (3 & 4) and each surrounded by a high-wall (5) and paved yard (9 & 10) containing an outside toilet (7 & 8);
- The lighthouse tower itself (11) and paving (12) around it and in front of the house;
- A coal store (13) located close to the lighthouse.

Further buildings were added in at least three phases before the Upper Station was abandoned in 1870. They consisted mainly of a number of additional sheds east of House (2), a high wall containing an entrance and an outer entrance gateway. An additional room (16) and toilet (17), possibly for a school teacher were also added against the ends of the coal shed.



Fig. 4 Post excavation plan of the South Terrace of the Upper Lighthouse Station

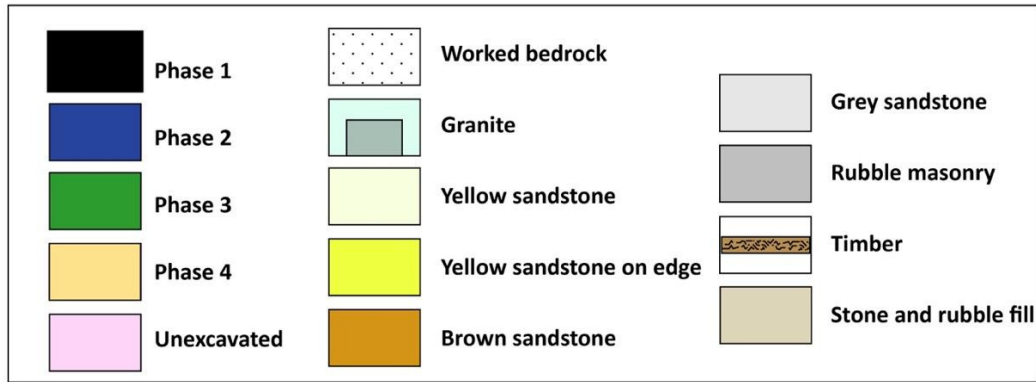


Fig. 5. Key to phasing and details of plans.

PHASE 1 (1826- early 1830's)

Terrace Walls

The South Terrace was defined by a lime mortar-bonded masonry wall (15) which was a seamless continuation of the wall of the Upper Lighthouse Roadway. The wall takes a curving course and is of varying height as its base rises and falls as it crosses the uneven bedrock. The wall has not yet been surveyed nor examined in detail, as this will require extensive scaffolding. While it appears to generally be in good condition, it has moved outwards a little in the area at the back of the two houses, where the paving and wall dividing the two back yards of the houses have slumped due to its movement (figs. 61-62). The 1.16m high (plus capstones) parapet wall (5) built on it also moved inwards somewhat at the rear of House (2). Part of the original parapet wall (14) from the west side of the enclosure around House (1) to the rear of the Teacher's Accommodation (16) had almost completely collapsed over the cliff, possibly due to the impact of the collapse of the lantern of the lighthouse (see below). The high sections that survived abutting the enclosure around the houses and at the rear of the Teacher's Accommodation measured 1.70m and 1.49m in height respectively.

The wall of the North Terrace is separated from that of the South Terrace by an area of high bedrock. Much of the parapet wall on top of the terrace wall on the northern half of the North Terrace has completely gone.

The Houses (figs. 4, 6-7 & 11-51)

Two semi-detached houses (1 & 2) were erected with side and rear yards (9 & 10) defined by high masonry walls (5) on the north, west and east and by a lower parapet wall on the south side (figs. 6 & 7). The houses were built in mirror image of each other and were

virtually identical in plan and dimensions except that one of the internal walls in (House 1) was laid out at a slightly eccentric angle. The houses were of one and a half stories in height- the upper part of the first floor partly occupied the attic / roof space.

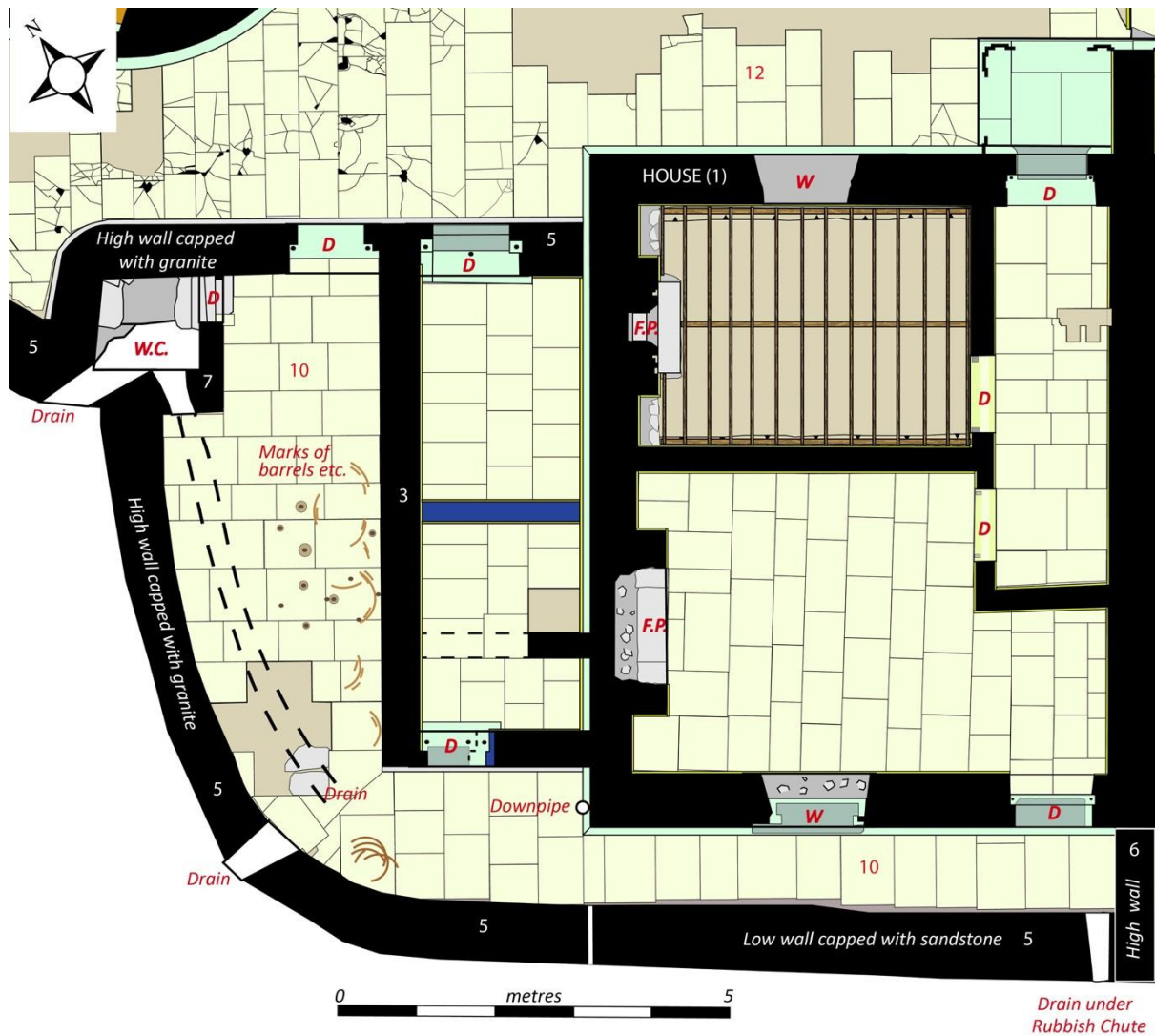


Fig. 6. House (1)

The houses had external walls measuring between 550mm and 650mm in width, composed of lime-mortar bonded, sandstone masonry with occasional red brick fragments all set on a protruding, cut and dressed granite plinth with a chamfered top edge. There are clear toolmarks on the dressed faces of the plinth with a narrow border, tooled at right angles at the ends of each stone.



Fig. 7. House (2)

The walls were rendered on both faces with lime plaster laid over a scratch coat and lime scudding. The external faces of the walls were further weathered with rectangular slates set into the wet plaster and each slate was further secured with two iron nails (fig. 11). It is noticeable that the slates on the house walls were larger (350mm long by 170mm wide on average) than those (330-350mm in length and up to 135mm in width) used to weather the external face of the lighthouse, due no doubt to the curve of the walls of the latter. The slates used on the exterior of the houses were a mixture of good quality Valentia slates and locally

derived slate of a lesser quality.² The slating on the seaward side and gable ends of the houses was almost exclusively Valentia slate while on the less exposed front walls local slate was used more extensively. The slating on the gable ends finished at the base of the window cills of the upper storey / the line of the top of the roof of the adjoining outhouses (3 & 4) (fig. 12).

On the north end of the gable wall of House (1) the slating abutted a vertical line of longer slates, not overlapped, set on the face of the high wall (5) delimiting the yard at the side of the house (fig. 13), while at the rear corner of House (1) a single vertical line of smaller overlapping slates was laid on the wall of the outhouse before the main house was slated (fig. 14). There were no weathering slates laid on the equivalent walls of the outhouses attached to House (2) which were rendered after the slate had been applied to the walls of House (2) (fig. 15). The relationship of the slating of the houses and outhouses shows that all were finished at the same time. The slating was limewashed originally and traces of it survived in many places.

Ground floor

Porches

Each of the houses were entered via a cast iron porch of the same form that was used on the Lower Lighthouse accommodation (figs 1 & 16-17). The porches were each erected on a raised granite plinth, each of which measured 2m (e-w) by 1.40m (n-s). The surface of the plinth of the porch to House (1) lay 400mm higher than that of House (2). The porches were placed side by side and the gap between them was infilled with masonry, the base of which on the interior of the porches had sandstone skirting of the same type used in the interior of the houses. The porches consisted of identical units which made up each of their three sides. They had sides and heads made up of overlapping plain rectangular section, cast iron framing supporting a simplified neo-classical capital, entablature and cornicing. The front opes in the porches measured 920 mm and 940mm in width and the side ones 750 and 770mm in width and all were 2.00m in height. There were protruding bolts on the inner side of the doorways where the heavy rectangular section architraves (which still survive in the porch of the Lower Lighthouse) had been removed for some unknown reason. The roofs of the porches, which

² Information from the project geologist, Michael O'Sullivan who has examined the masonry and stonework of the Upper Station.

lay 2.52m above floor level, were each composed of three cast iron sheets with narrow rectangular panels sealing the joints (fig. 18).

External windows and doorways

Each house had a doorway and window in both its front and back wall (figs 19 & 20). The external and internal quoins of the windows and doors were lined with block-and-stop red brick. The reveals were of brick and stone masonry and the opes were topped with almost flat, one brick-thick arches with a timber head below on the interior. The internal timber heads had largely rotted away and the OPW replaced them with modern timber heads a few years ago. The cills of the external doorways were formed from a large slab of granite, with the central part cut down to aid drainage (figs 21-25). Round or square holes at the sides, contained the remains of iron spigots which would have secured the base of the timber doorframe. The doorways all measured in the region of 900mm in width on the exterior and 1100mm in width on the interior and were 1.98-2.01m in height on the exterior and 1.90-1.94m in height on the interior. No timberwork survived in any of the external doors but parts of the side frame of the front door (with stump of hinge attached) and part of the other heavy brass hinge (find nos. 53 & 55, fig. 157) were found inside House (2). The hinge is identical to those on the surviving original door of the northern house in the Lower Lighthouse Station.

Only the window in the back room of House (1) survived to any degree (fig. 38), as the cills of the others were removed, probably for reuse in the additions made to the Lower Lighthouse buildings. The removal of the cills damaged the sides of the windows to such an extent that their original dimensions are unclear. The window in the back room of House (1) had a large granite cill with raised squares to hold the bases of the window frame. This window measured 920mm in width on the exterior and 1.40m on the interior. Several sash cord weights and pulleys (find. Nos. 46, 49 & 51, fig. 156) and two fragments of the timber window mullions (find No. 70, fig. 160) were found in the houses. The original windows are likely to have had 8 over 8 sashes. There was no evidence of any shutters on the inner or outer sides of the windows.

Hallway

The front door of each house led into a rectangular hallway, which measured 4.90m in length by 1.50m in width, floored with closely-laid, 50-70mm thick, rectangular yellow

sandstone slabs (figs, 21, 22, 26 & 28). This yellow sandstone was used throughout the complex and apparently came from Yorkshire (R. Foran *pers. comm.*). The floor slabs abutted a skirting, 130mm in height and composed of rectangular 20mm-thick slabs of the same sandstone of varying lengths mortared to the base of the wall. The hallways gave access to the two rooms (front parlour and rear kitchen) on the ground floor of the houses.

The walls of the hallways and those separating the two main rooms of the houses were composed of lime-mortar bonded, red brick apart from the main internal wall of House (1) which was composed of a mixture of brick and sandstone masonry. The internal walls measured 280-300mm in width, were heavily plastered and none survived to more than a third of their original height.

There were sockets in the floor of the hallways adjacent to the party wall to hold the 100mm square-section base of the newel post and the three raking timbers supporting the stairs (figs 26-29). The scars of the side of the stairs also survived in the plaster on both sides of the party wall (figs. 30 & 31). The stairs would have been narrow measuring only 680mm in width. Fragments of some of the turned timber balusters of the side of the stairs were uncovered in House (2) (find Nos. 54 (fig. 147) & 59 (fig. 158)). In House (2) the base of the sandstone skirting turned upwards along the line of the stairs (fig. 31). However only the basal stone survived so it is not clear whether it was continued upward in stone or timber. None of the stair skirting survived in House (1).

In House (2) one of the stones in the wall exposed by the removal of the stairs had what appears to read 'N S' carved into its surface (fig. 32).

The hallways each contained two 900-1000mm wide doorways leading to the two main rooms (front parlour and rear kitchen) of the houses (figs. 26 & 28). The base of the each doorway had a yellow sandstone saddle, of the same profile as more usual timber saddles. There were a small 10-15mm deep rectangular cut out at each end of the saddle that would have held a tenon at the base of the doorframe. A brick-sized hole in the base of each reveal held a 4" x 2" timber to which the frame would have been further secured.

Front parlour

The front parlours of the houses each measured 4.30m in length by 3.90m in width (figs. 33 & 34). They each had a small, decorated, cast iron fireplace, set in a 1.78m-wide (House (1)) and 1.85m-wide (House (2)) and 230mm-deep projecting chimney breast at the outer end

of the house (figs 35-37). The slate surrounds and mantelpiece of the fireplace in House (1) were found loose in the vicinity of the fireplace (find No. 1, figs. 140 & 141) but none survived in House (2). Fragments of the base of the decorated cast-iron grate and fire surround survived in both houses (figs. 35-7) and other fragments were found loose in the houses (find Nos. 58 & 59, fig. 158) and in the Lighthouse (11) (find no. 43, fig. 155). The single flue from each the fireplace extended upwards between the northern window and fireplace on the first floor (fig. 43). The base of the alcove on the right-hand-side of each fireplace had a low 200mm deep recess, the function of which was not clear.

The parlours had suspended timber floors but the floorboards had been removed. They were supported on north-south aligned, 2" wide by 4" thick joists spaced roughly at 300mm centres, resting on three east-west aligned 4" by 2" timbers laid in shallow trenches cut into the underlying rubble fill (figs 33 & 34). Bedrock rose to the surface at the southwest corner of the front parlour of House (1) but was not exposed elsewhere. The base of the walls had the same sandstone skirting as had the other rooms of the house.

Kitchen

The rear doorway of the hallways led into the large back kitchens of the houses (fig. 36). The kitchens measured a maximum of 6.1m in length by 3.8m in width. They were floored with the same well laid, rectangular yellow sandstone paving slabs as used in the halls and also had the same sandstone skirting as the other rooms. A large rock fallen from the cliff above was found in the west side of the kitchen of House (2) where its impact damaged the floor and partly demolished the internal wall.

Each kitchen had a cast iron range flanked by large upright granite slabs set in a 2.30m wide chimney breast at its outer end. The range, along with one of the granite side stones had been removed in House (1) (fig. 39) while its other side stone (find No. 5, fig. 141) and fragments of cast iron elements from the range lay loose on the floor. The arch above the range had also been removed and an iron bar (find No. 50) which originally lay over it was found in the fireplace. In House (2) the range was more intact, although far from complete (figs. 40 & 41). It consisted of two cast iron ovens / fireboxes each with a small flue behind them flanking the central brick-backed fireplace with firebars and grate, all between two large upright granite slabs which had carved grooves in them to hold the front and top of the range. Many loose fragments (find nos. 61 (fig. 158) & 65 (fig. 159)) from the range were found

scattered about the floor in the kitchen and the front parlour of House (2). Two main flues extended upwards from each of the fireplaces (fig. 43). The northern flue rose between the southern window and fireplace on the first floor while the southern rose up beside the south side of the first floor window and then back north via a channel cut in the granite window head towards the chimney. The window head with the cut channel survived *in situ* in House (1) but that in House (2) (find no. 14, fig. 145) was found lying on the kitchen floor.

Ceilings

The base of the slots for the first floor joists (see below) lay 2.44m above the surface of the ground floor in the houses (figs. 19 & 20) but as none of the first floor joists survived it is unclear whether the ceilings of the ground floor was planked or composed of lath and plaster.

First floor

The first floor of each of the houses was supported on 40mm wide and 200mm high joists set into sockets in the external walls and laid on a 100mm by 40mm timber wall plate laid in a slot in the wall (figs. 19 & 20). None of the internal walls survived to the height where they would have supported the inner end of the joists. The joists were spaced roughly 300mm apart but there were no joist holes above the shallow arches over the front and rear windows. Instead, the last joist to each side of the window head was doubled up and they would have supported a transverse timber holding the outer end of the joists inside the window. There were also large slots to hold the top of the stairs and to support the floor over the hallway in front of the stairs on either side of the party wall. (figs. 30 & 45). Apart from a few *in situ* rotted fragments of the ends of some of the joists and bits of the wall plate no timbers of the floor survived and they were likely removed for firewood or reuse elsewhere. The stumps of a few cast iron wall hooks to secure the timber wall plates survived *in situ* and a larger number were loose (find nos. 52 (fig. 156), 69 (fig. 159) & 82 (fig. 163)) in the fills of the houses.

Wooden plugs to hold a timber skirting also survived in the walls (fig. 46).

There was a small brick-lined fireplace between two windows in the outer gable of each house. These features survive intact in House (1) (fig. 42) but are largely missing from House (2) due to the collapse of its eastern gable (fig. 44). The windows in House (1) had red brick faces and reveals and measured 900mm in width on the exterior and 1.03m in width on

the interior. They had granite cills and heads and measured 970mm in height on the exterior and 1.02m in height on the interior. There was a long iron bar set into the inner face of the wall over each window reinforcing the walling above. The small fireplace had a sandstone hearth and measured 860mm in width and 1.15m in height to the springing of the brick arch over it.

The first floor appears to have been a single room but timber walling (visible as vertical scars on the plaster of both gable ends of the two houses) appears to have divided off the areas under the eaves which may have been used for storage or for sleeping. (figs. 30, 42, 44, & 45).

Roofs

The tops of the external half of the front and back walls of the house were capped with a protruding cornice of rectangular granite slabs, (fig. 14, 47 & 48) some of which had been removed for reuse elsewhere.

The rafters of the roof would have rested on a timber wall plate but no traces of it nor of the rafters survived.

Slots to hold timbers to anchor the roof survived only on the interior side of the east gable of House (1) (fig. 30). There, two 100mm x 80mm section horizontal slots to hold timbers linked to the roof timbers were anchored at their inner ends by timbers set in 400mm-deep holes which measured 100mm x 80mm across.

Nothing survived of the roof apart from the stumps of the ends of slates set into the gable over the party wall of the houses (fig. 45). The slating was pinned down by masonry, likely capped by long granite blocks, some of which were found in the debris in the two houses (find no. 12, fig. 143). Nothing survived *in situ* of the roofline or the gable above it on the outer gables of the houses. However, in House (2) the top of the east gable collapsed into the house and its top survived there (find. No. 11, fig. 145). It was composed of at least two courses of 300mm-wide cuboid, granite blocks joined by lead-encased iron bars. A 100mm-wide and deep channel on the inner side of the stonework held the end of the roof in place.

The largest fragments of roof slates that uncovered in the fills of the houses measured 700mm in length by 400mm in width and 620mm in length by 360mm in width (fig. 49).

Only two small fragments of the original carved sandstone ridge tiles (find No. 6, fig. 142) were found loose on the floor of House (1) and the remainder must also have been removed for reuse.

None of any of the structural timbers and few of the slates and ridge tiles of the roof survived in the fills of the houses, suggesting that the stairs, timber floors and roof had been removed soon after the buildings went out of use and before the tops of the walls collapsed. Photographs from 1909 (fig. 2) show the houses unroofed.

Chimneys

There was a flat recess on the top of the granite from the east gable of House (2) to hold the base of the chimney (find Nos. 3 (fig. 140) & 9 (fig. 144)). Neither of the chimneys survived on the gables but parts of the granite tops and bases of both were found amongst the debris in the houses and in Outhouse (3). Each chimney had a large rectangular granite base with square internal opes for the flues and chamfered edges (find Nos. 3 (figs. 140) & 9 (fig.s 143 & 144)). They would have supported brickwork, which was capped with a similar but lighter section granite slab that had a ledge to support the square base of the ceramic chimney pots around each of the opes (find nos. 2 (figs. 140 & 141) & 8 (fig. 143)).

Rainwater goods

Only the stumps of the regularly spaced, iron supports for the guttering survived beneath the cornices on the front and rear walls of the houses. (figs. 14 & 47). However, a single, partly intact support was found during the excavations (find. No. 76, fig. 161) and indicates that the gutters were of half-round section, 230mm in external diameter.

A round, bowl-shaped, cast-iron hopper fixed to the wall with two lateral bolts survived on the south end of the outside gables of both houses and would have gathered water from the two ends of the rear gutters (figs. 14, 50 & 51). Fixings for the down pipes below them also survived but the downpipes did not. The downpipe on House (1) was set in a groove in the weathering slates which ended more than a metre above ground level suggesting that the downpipe fed a large water butt (fig. 14). The downpipe on House (2) was laid against the slates. (fig. 50). There were no fixings for hoppers or downpipes which would have served the gutters on the front of the houses (figs. 13 & 15). The gutter supports on the front of the houses also appeared (*this needs to be checked*) to lie at a slightly higher level

than those on the back wall. It is therefore possible that the gutters from the front of the house were carried around the gable ends to the surviving hoppers. However no supports for these survived. Early 20th-century photographs of the houses with their original pitched roofs in the Lower Lighthouse appear to show a similar arrangement (fig. 52).

Enclosed Yards, Outhouses and Toilets (figs. 4, 6-7 & 53-86)

Enclosed Yards (9 & 10), (figs. 6-7 & 53-67)

Both the houses had side and narrower, rear yards (9 & 10) paved with yellow sandstone slabs and enclosed within a 600mm-wide and more than 3.5m-high wall (5) on the north and outer sides and by a lower wall on the seaward (south side) -to allow light into the back rooms of the houses. The section of the enclosing wall on the north sides of the yards and that at the east side of the yard (9) of House (2) were built on chamfered granite and sandstone plinths of the same form as those which supported the walls of the houses. The plinths abutted those of the Houses. The high section of the wall around the yard of House (2) was capped with large flat rectangular granite slabs (fig. 53) but all of the granite caps had been removed from the top of the walls of the other yard (fig. 54). All the capstones had also been removed from the lower enclosing wall south of the houses (fig 61 & 62) but one was found collapsed from the wall in the southeast corner of the yard (9) of House (2) (find no. 18, fig. 147). A high wall (6) was built abutting the backs of the houses and dividing the two back yards on the line of the party wall of the houses (figs. 61 & 62) This wall has slumped southwards and become detached from the back wall of the houses. Each yard was accessed by a doorway in its high north wall (figs. 53 & 54). The doorways had red-brick block and stop faces, brick reveals and almost flat, red brick, arched external heads and internal timber heads (which were replaced by the OPW). The doorway into the yard (10) of House (1) (figs. 54-56) measured 2.01m in width on the exterior and 1.95m in width on the interior and 1.17m high on the exterior and 880mm in height on the interior. That into the other yard (9) was approached by a step defined by vertically set, yellow sandstone paving slabs (53 & 57). The step also likely had a yellow sandstone tread but this did not survive. The doorway into yard (9) measured 1.13m in width on the exterior and 900mm in width on the interior, and 1.90m in height on the exterior and 1.99m in height on the interior (figs. 53 & 58). Both doorways

had flat granite cills with a pair of holes to hold iron spigots securing the base of the doorframe (figs. 56 & 57).

Both of the yards were paved with the same rectangular, yellow sandstone paving slabs used in the houses and outhouses (figs. 58-62). The paving stones of the east side of yard (9) were badly cracked and shattered (figs. 58 & 59) and this area, like the southeast corner of the yard (see above) may have been hit by rocks falling from the cliffs to the north. The paving along the rear of the houses had slumped down to the south due to the movement of the underlying terrace wall (15) (figs. 61 & 62). Areas of the paving had been removed at the east and south sides of yard (9) and at the southwest side of yard (10). Three drains removing surface water from the yards opened through the parapet wall (5) on the south side of the houses (figs. 63 & 64). The paving noticeably sloped downwards towards each of the drains. The drain at the east side of yard (9) was approached by a north-south aligned, round-based channel neatly cut into the paving slabs (fig. 64).

There was a rubbish chute in the low parapet wall (5) roughly above the easternmost drain in each yard. Both the chutes were lined with a steeply sloping, yellow sandstone slab that had a central funnel-shaped channel cut in its surface to direct the rubbish downwards.

Part of a roughly north-south aligned, stone-lined and capped drain was revealed beneath the surface of yard (10) where its paving slabs had been removed (fig. 65). The drain extended northwards to the toilet (7) (see below) at the northwest corner of the yard where it would have helped to clean out the base of the chute (fig. 86). It is not known where the drain originated. It is quite possible it extended along the whole length of the back of House (1). It is also possible that a similar drain existed under the other yard (9) as well but confirmation of this will only be possible when the toilet (8) in the yard is excavated.

There were rust stains caused by the corrosion of the 700mm-diameter basal iron hoops of a number of barrels on the paving of the yard west of Outhouse (3) (figs. 66) and similar marks but of smaller 470mm-diameter vessel hoops close to the parapet wall to the south. There were also marks caused by the rusting bases of a number of iron poles among the larger barrel marks. Four of them lay in a straight line and they may have supported some form of cover over the barrels. There were no stains evident beneath the downpipes at the sides of the rear corners of the houses where there were likely to have been water tubs, suggesting they were supported on something.

The high north wall of the yards also held the entrance to the front room of the two-roomed outhouse (3 & 4) attached to each house (figs 53 & 54). Each yard also contained a long-drop toilet (7 & 8) in a different corner of its outer wall.

Outhouse (3), (figs. 68-75)

Outhouse (3) was built against the west side of House (1) but was contemporary with it. Its side wall measured 500mm in width and the rear wall 460mm in width. The front and rear walls stand on chamfered granite and grey sandstone plinths, abutting that on the House (1), but the side wall does not. The walls are composed of randomly coursed sandstone rubble masonry with occasional half red bricks and a few yellow sandstone flag fragments near their tops, all bonded with an off-white, lime mortar. The walls were rendered both internally and externally; the render survives best on the base of the external face of the side where it was sealed behind the deposits accumulated on the yard surface. Traces of several layers of limewash survive in a places on the exterior of the building.

The front room was accessed via a 2.00m high doorway, 1.13m in width on the exterior and 1.37m in width on the interior (figs. 67). It has red brick reveals, block-and-stop red brick faces and an almost flat, red brick, arched external head. The interior had a timber head but this was replaced with a modern one by the OPW. The cill of the doorway (fig. 68) is composed of the limestone chamfered plinth, with a large granite floor slab inside it. The top of the two slabs were cut down about 15mm in the area of the doorway for drainage. Two holes in the cill held iron spigots securing the base of the doorframe. This doorway is the widest in the complex and the cill had a central hole to hold a vertical bolt suggesting it had double doors.

The full height scar of the back wall survives on the external wall of the house but the wall itself survived to not much more than a metre in height (fig. 69). The back wall contains the remains of a window and doorway (figs 69 & 70). The doorway and its reveals are defined by red brick, with red brick block-and-stop external faces and it is 740mm in width on the interior, 870mm in width on the exterior. The south side of doorway was later cut back and rebuilt (see below). It originally measured only 500mm in width. The round (with drain slot) and square holes (containing lead and iron staining) to secure iron spigots in the base of the doorframe survive. The original doorway corresponds in width to the cut out part of the base

of the door cill and the flagstone immediately inside it. The top and head of the doorway do not survive.

Only two red bricks survive at the base of the southern reveal of the window, nothing survives of its north side or top, so its original dimensions are unclear.

The side wall stands to a maximum height of 2.04m above the floor of the house (figs. 55, 73 & 74). There is a 1m long by 0.78m high breach in the top of the wall towards its north end but nothing survives to indicate that it was originally a window; its base lies much higher than that of any of the other windows in the complex. Only one of the original, rectangular section (200mm wide by 100mm thick) granite external cornice stones survives at the north end of the wall (fig. 55). The surviving granite capstone protrudes 60mm out from the outer face of the wall and has a drip groove carved on its underside. The top of the external face of the wall beneath the caps was levelled in a number of places with fragments of dressed yellow sandstone flags (as used on the floors). The stump of one iron bracket to hold the gutter survives. The downpipe from the gutter must have lain at the southwest corner of the building and either emptied into a water butt or the water simply ran onto the yard surface and out through the adjacent drain in the parapet wall.

A short section of the base of the original slate roof cladding survives at the front end of the building but the roof scar of the entire front end of the roof is preserved on the inner face of the front wall (fig. 74). The surviving slates are both pinned with iron nails and mortared in place. The base of the joists of the lower end of the roof lay 2.10m above the internal floor level and the base of the wall plate of its upper end lay 3.02m above the internal floor level. The scar of the upper end of the roof against the house survives at the base of its external slate-weathering and two lines of the eroded ends of iron wall hooks, which held the timber roof plate in place, also survive (fig. 12). There is also mortar flashing onto the roof surviving beneath the granite windows sills.

The back wall does not survive to a sufficient height to retain evidence of the roof.

The remains of the 240mm-wide base of the original internal wall dividing the building into two rooms, north and south, were uncovered where one of the floor paving stones had been removed (fi. 71). Scars for this wall are also evident in the plaster on the side walls (figs. 72 & 73) showing that it originally stood to the full height of the building. The wall is of rubble masonry construction bonded by the same lime mortar used in the external walls and it was

founded on rock. The wall was abutted by the stone skirting on the base of the side walls. After it was removed and replaced (see below) it was covered with relaid paving (fig. 74).

The floor of the building is composed of rectangular yellow sandstone flags (fig.74). The slabs were laid very closely together (5-10mm apart at a maximum) and were set on a thick mortar bed laid directly on bedrock or a filling of broken rock debris over bedrock. The floor slabs abutted a skirting composed of rectangular yellow sandstone slabs which lined the base of the internal faces of the walls of the building.

Before excavation the flagged floor of the shed was visible in the front doorway. Three conjoining worked granite blocks, which formed part of the capping of the chimney of the adjacent house (find No. 2, fig. 141) were found against the external face of the wall of the house inside the shed. There should have been a fourth stone to complete the cap but it did not lie in the shed.

The fills in the outhouse also contained fragments of 8mm-thick window glass from the lantern of the lighthouse, showing the latter only fell after the roofs of the outhouse had been removed.

Outhouse (4), (figs. 75-81)

The outhouse on the east side of House (2) also contained two rooms but differed from that against House (1) in that the front room also had a window in its north wall, the southeast corner of the building was rounded and there was no sandstone skirting on the base of the internal face of the walls. The back room of this outhouse was not excavated as it held a large piece of masonry (which included the head of its window) collapsed from its back wall and under which a number of birds were nesting (fig. 75). There was also substantial pile of rubble, which included a sandstone capstone from the rear wall of the house and a capstone from the south wall of the yard, in the adjacent southeast corner of the yard (9). The top of the rear wall (5) of the yard was also damaged in this area. All this suggests that the rear wall of the building was partly demolished by a rock or rocks falling from the cliff north of the house.

The rear room had a 750mm-wide doorway with a granite cill and the red brick-lined west side of its 540mm-wide window also survived *in situ* (fig. 75).

The front room was accessed by step defined by a vertically-set yellow sandstone flags, which was missing its tread and through a flat-headed, brick-lined doorway with an

internal timber head (replaced by the OPW) (figs. 76 & 77). The doorway measures 850mm in width on the exterior and 1.21m in width on the interior and is 1.93m in height on the exterior and 1.98m in height on the interior. It has a granite cill with a rectangular cut out for drainage and two holes for iron spigots securing the base of the doorframe (fig. 78).

There was also a rectangular, flat-headed (with internal timber head- again replaced by the OPW) and brick-lined window in the front wall (figs. 76 & 77). The window measured 910mm in width on the exterior, 1.14m in width on the interior and was 1.30m in height on the exterior and 1.30m in height on the interior. It had a projecting granite cill and the ghost of the side of the timber window frame survived on the plaster of its reveals.

The interior of the front room measured 3.62m in length by 2.56m in width and it was floored with neatly laid, rectangular yellow sandstone paving slabs, several of which were badly cracked (fig. 79). Little debris had accumulated on the floor of this room.

The slated lean-to roof of the outhouse was flashed with slates beneath the slate weathering on the gable of House (2) on the west and also with slates set into the high enclosing wall on the north (figs. 80 & 81). The lower end of the roof rested on a projecting cornice of rectangular granite slabs, only one of which survived, and which had a drip groove on the underside. The southern gable end of the roof was capped by large grey sandstone blocks.

Toilets (7 & 8), (figs 82-85)

There were long-drop toilets (7 & 8), each housed in a small shed set into the parapet wall in the northwest corner of yard (10) and the southeast corner of yard (9). The toilet (8) in yard (9) was not excavated due to the presence of nesting birds.

The east and south walls of Toilet (8) (fig. 82) were formed from the corner of the enclosing wall (5) of the yard while the other two walls were largely composed of lime-rendered and -bonded red brick and measured 240mm in width. The northwest outer corner of the structure was rounded. The toilet had a narrow doorway, only 520mm in width and the internal space measured only 1.2m by 1.10m. The position of the long-gone wooden seat and its support were indicated by an unrendered section of the base of its south wall. The building had a monopitch slated roof.

The west and north walls of Toilet (7) were similarly formed by the wall (5) of yard (10) (fig.83). Its south wall were also composed of a masonry but its east wall seems largely to

have been of brick and did not survive above footing. The north jambs of its narrow doorway survived but the base, south side and head of the doorway did not. The interior of the toilet was of somewhat trapezoidal plan. There was a masonry platform in its northern half (figs. 84 & 85). It did not survive to the floor level, which was a step up from the exterior. There was a deep drop in its southern half where the timber plugs to hold the wooden seat and its supports survived on the unrendered section at the base of its south wall (fig. 84).

The subsurface drain found under the yard (10) entered at the base of the south side of the drop and the main drain from the toilet exited southwards from the base of the drop through the terrace wall (fig. 85). Two yellow sandstone paving slabs, probably from the yard (10) were found deposited in the drop.

The underside of its monopitch slated roof sloped down from 2.59m in height on the west to 1.99m in height. It was supported on 100mm by 800mm section joists and was set into the enclosing walls on the north and west while the southern gable was capped with large grey sandstone slabs, one of which (find No. 17, fig. 147) was found loose on the ground beside the toilet.

The Lighthouse (11), (figs. 8 & 86-101)

Photographs from 1909 show the lighthouse with its lantern intact (although some of the glass appears broken) and with at least the first floor window above the doorway still in place (fig. 2). The lantern appears to have fallen at some stage, possibly in a storm in the 1960s, after it was weakened by the robbing of its lead and that from the mantlet wall supporting it (R. Foran *pers. comm.*). The light itself and all its mechanism was almost certainly removed when the lighthouse was decommissioned, as it was a valuable piece of equipment and could have been reused elsewhere.

The ground and first floors of the lighthouse tower were cleared of debris. There was no safe access to the upper floor (mantlet), the site of the lantern above and the external balcony floor of the tower, so no work could be undertaken at these levels.

The base of the lighthouse measures 2.60m in internal diameter, 5.75m in external diameter (including the chamfered, cut granite plinth on which it is built) and its wall is approximately 950mm in thickness. It is built of sandstone rubble masonry, heavily plastered on the interior and with plaster and Valentia slate weathering on the exterior (figs. 86 & 87). It is entered via a square-headed doorway on its southwest side (fig 88 & 89). The doorway

measures 900mm in width on the exterior, 1.10m in width on the interior and is 2.09m in height on the exterior and 2.16m high on the interior. The base of the doorway is composed of two granite cills, the outer is part of the basal plinth. There are round holes on the inner cill, which held iron spigots anchoring the base of the doorframe.

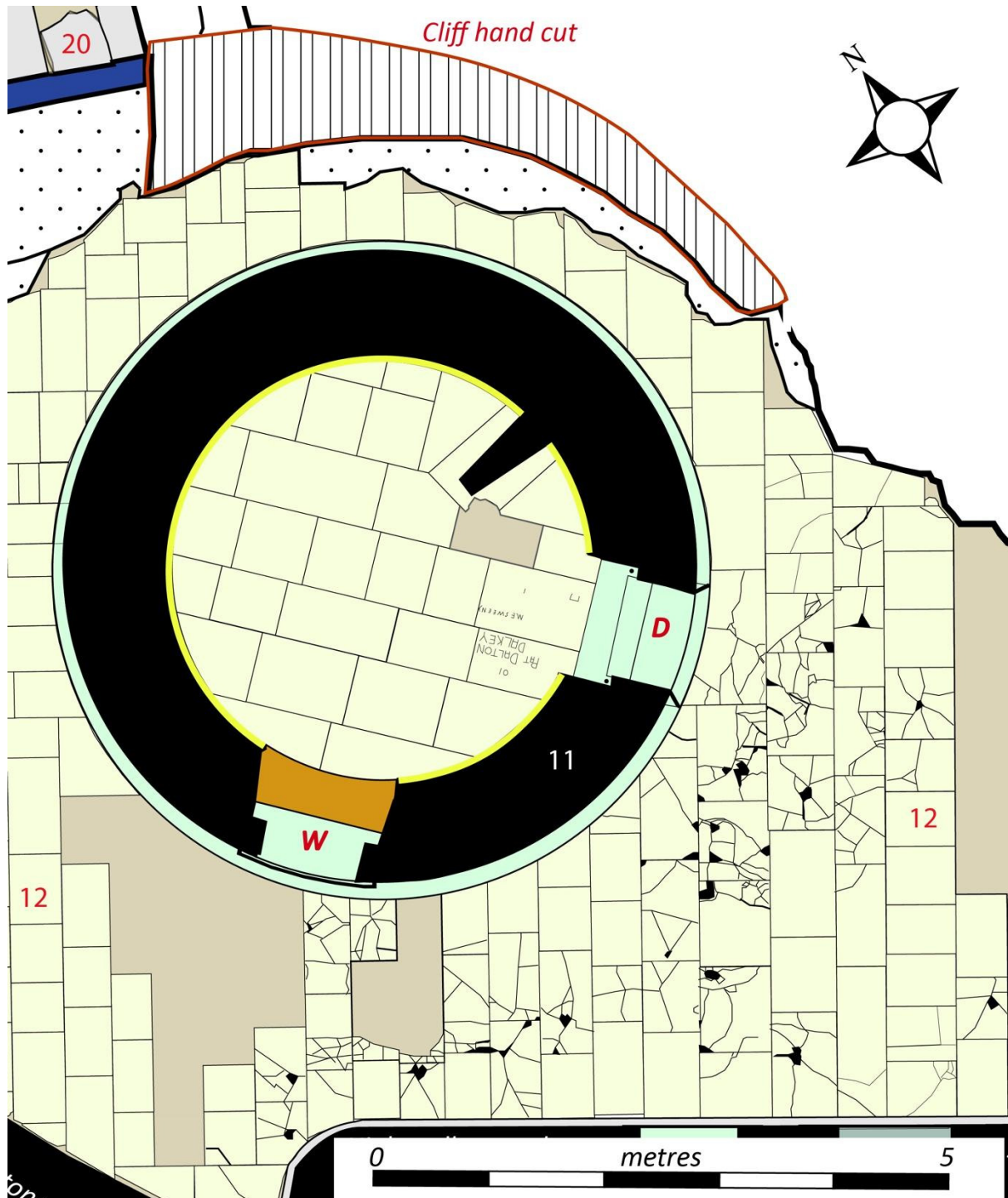


Fig. 8. Post excavation plan of ground floor of the Lighthouse (11).

A square-headed, 1.22m-high window in the eastern side of the building lights the ground floor. The window measures 900mm in width on the exterior and 1.12m in width on the interior. The base of the outer half has a protruding granite cill with square upstands on which the window frame sat. The internal half of its base is composed of a now eroded, brown sandstone slab.

The base of the wall on the interior has a sandstone skirting of the same type evident in the houses but neatly cut to the curve of the walls. The interior is floored with neatly laid yellow sandstone paving slabs (fig. 91). '01 PAT DALTON DALKEY' and 'M.F. SWEENEY' are carved into two of the floor slabs left of the doorway. The floor slab next to the base of the stairs at the north side of the room was smashed by fallen material. The broken stumps of the cantilever granite stairs, which have sockets near their inner ends for a cast iron balustrade, survive set into wall around the north side of the room.

The heavy cast iron framed lantern and part of the mantlet wall collapsed down into the interior smashing their way through part of the first floor and truncating many of the steps of the stairs. Debris composed of some of the collapsed material, including the heavy cast iron back of the lantern (find No. 42, fig. 154) mixed with plaster from the walls littered the floor. However, it is clear that much of the collapsed material was removed at some stage as little of the granite first floor, of the steps and very little of the cast iron, lead and glass elements of the lantern remained in the tower. Fragments both of glass and cast iron elements of the lantern also fell on the yard around the outside of the lighthouse cracking and smashing the paving slabs (fig. 101). Parts of the lantern also landed in the outhouse (3) and yard (10) west of House (1) while more probably fell over the cliff to the west of the lighthouse. The parapet wall of the terrace west of the lighthouse may have collapsed as a result of the impact.

There is a lot of graffiti carved into the wall of the lighthouse following the stairs up to the first floor and on the walls and windows of the first floor. This was recorded. The sandstone skirting also follows the stairs up to the first floor (fig. 94).

The first floor was composed of tongue-and-grooved, cantilever granite slabs (figs. 92 & 93). They were partly broken away by the collapse of the lantern. The opening for the stairs up from the ground floor was protected by an iron railing, only the rusted stumps of which survived (fig. 97). There was little debris on the floor and this was cleared but no recording was undertaken on the first floor level for safety reasons. The first floor is lit by windows in

the northwest and southeast sides. They have granite cills and are internally lined with finely made, brown sandstone slabs (figs. 95 & 96). Photographs from 1906 (fig.2) show the 8 over 8 sashes of the southeastern window still in place. The cantilever steps continue on up to the upper floor above (fig. 97), which is of similar form to the first floor but the floor slabs hold a ring of large round holes (fig. 98). These correspond to horizontal holes (some open, some closed and purely decorative and some lined with granite or copper) in the external wall. These holes are visible on the exterior of the lighthouse between the moulded granite corbels, which partly support the cantilevered granite external balcony (figs. 86 & 87). Some of the holes in the floor would have been linked by pipes to the holes in the external wall and acted as drains (as, for example in the Valentia Lighthouse -fig. 175). The other holes may have been for ventilation. The stumps of the supports of the cast iron railings around the balcony and the anchors of curving bars that supported the top of the lantern also survive on the balcony (fig. 99). One of the curved vertical bars of the balcony was found inside the lighthouse (find No. 37, fig. 153).

The mantlet wall around the top of the lighthouse is composed of two courses of massive, sub-rectangular granite blocks jointed by cast-iron bars and lead with small drainage holes near its top (fig. 99). Only one of the sides of the original round-headed doorway survives intact leading out to the external granite balcony (fig 100). A ring of tubular cast iron uprights and pierced brackets are fixed into the inner face of the mantlet wall and would have supported a shelf to allow the interior of the lantern to be cleaned (figs. 99 & 100). The mantlet wall supported the base of the lantern.

Coal Shed (13), (figs. 9 & 101-105)

A rectangular shed (13) was built contemporarily with the parapet wall at the western side of the terrace. The building measured 3.64m in length by 2.60m in width internally and had external walls 450-580mm in width. The building was accessed by 700mm-wide doorway in its eastern side. This had a flat granite cill containing a pair of round holes for spigots to hold the base of door frame. There was a broad raised step, defined by yellow sandstone flags set on edge outside the doorway. The slab forming the tread of the step did not survive.

The interior of the building was divided into two rooms by a 300mm-wide, lime-mortar bonded, red brick wall that only survived to a maximum of one course above its projecting, lime-mortar bonded, masonry footing. A fragment of the possible eastern jamb of a doorway

survived at the east end of the wall. The southern room, which measured 2.60m by 1.50-1.56m was floored with rectangular, yellow sandstone slabs, many of which were later removed and those that survived were heavily cracked and broken (fig. 104). The walls of this room were rendered with lime mortar and part of the red brick-lined southern jamb of a window survived in its east wall.

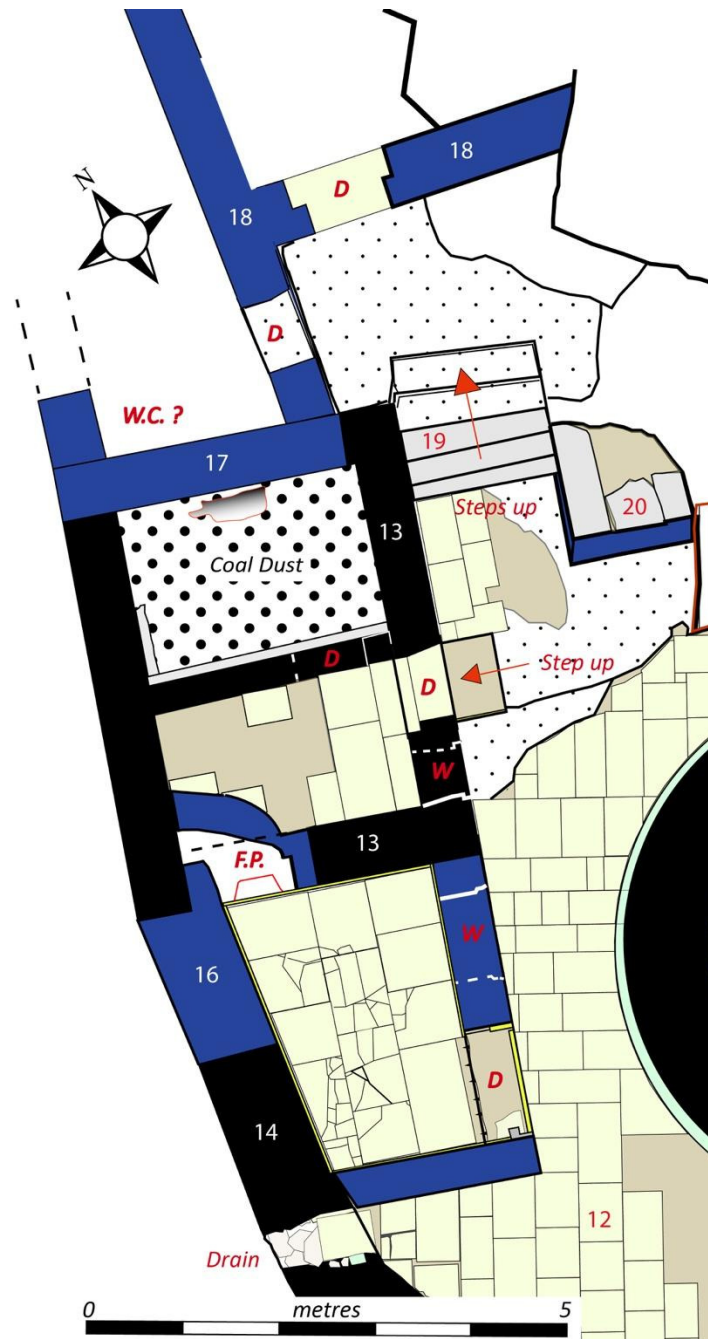


Fig. 9. Post excavation plan of the Coal Shed(13), Teacher's Accommodation (16), Toilet (17) and access (18-20) to Northern Terrace

The northern room, which measured 2.60m by 1.80m was unfloored, except for one flat, irregular, grey sandstone slab and bedrock reached the surface at its north end. The

internal faces of the walls in this room were not rendered and it was windowless (fig. 103). The interior of the room contained a thick layer of coal dust and coal fragments and it was clearly used as a coal store.

The shed had a mono-pitch roof sloping down from west to east (fig. 105). The base of the upper ends of the timbers rafters, which were held in slots in its west wall lay 2.85m above floor level at the west side of the room. The roof was composed of large rectangular slates held in place by the top of the parapet wall on the west and by masonry, originally capped by yellow sandstone slabs (only one of which survived) on the gable ends (fig. 105). No traces of gutters or downpipes survived. as the top of the east wall did not survive.

The west end of the southern wall of the shed was later rebuilt, a chimney was inserted inside its southwest corner of the building (fig. 103) and masonry was added to the top of its northern wall when a room (16) and a toilet (17) were added to its two ends (see below).

A drain with broken, granite-block sides and a yellow sandstone paving slab in its base drained the yard south of the Coal Shed out through the parapet wall (figs. 9 & 106). While this drain is likely to a primary feature (there are no other drains on this part of the terrace) it is not impossible it was constructed when the Teacher's Accommodation was added south of the Coal House at a later time (see below).

Front Yard (12)

The cliff defining the inner side of the terrace retained several of the holes drilled to hold explosives used to create the terrace. To the east and northeast sides of the Lighthouse the base of the cliff was further cut back by hand to allow space for the construction of the lighthouse and clear toolmarks survived (fig. 107). The edge of the ground surface of this area was also partly rock-cut and again clear toolmarks survived.

There were patches of plaster, probably just the left overs from mixes used in construction, on the cliff face north of the houses. The basal 2m or so of the cliff face also appears to been fully whitewashed, probably both for neatness and to increase the light in the area.

The open area of the terrace north of the Houses and around the Lighthouse and Coal Shed was paved with the same rectangular, yellow sandstone paving slabs used in the floor of the buildings and the enclosed yards (figs. 101 & 108). The paving descended three steps,

with risers composed of vertically set, yellow sandstone slabs, as it extended eastwards in front of the houses. It is not clear how far the paving originally extended eastwards beyond the houses, as additional buildings and the high wall closing off the east side of the front yard were all later additions.

In the area north and northeast of the Lighthouse the closeness of the underlying rock to the surface meant that there was not sufficient depth to lay the usual paving slabs and either the rock surface was left exposed or thinner slatey slabs were used as flooring (fig. 107).

Large areas of the paving had been removed in front of the houses and that around the lighthouse was badly cracked by the collapse of the lantern.

The paving close to the southern half of the lighthouse was stained black. This was not as a result of fire and may simply be a natural growth of lichen or some such.

PHASE 2- West end of South Terrace

A small building (16), probably to accommodate a teacher, and a toilet (17) were added at either end of the Coal Shed (13) at the west side of the terrace, and probably at the same time steps up to a doorway (18-20) were created leading out to the North Terrace. The outhouses (3) of House (1) were also altered at some stage.

Teacher's accommodation (16) (figs.9 & 109-113)

Due to the proximity of the Lighthouse (11) on the east and the inward turn of the parapet wall (14) on the west, the building added to the south end of the Coal Shed (13) was trapezoidal in internal plan (figs. 9 & 113). It measured 3m in length and 1.62-2.44m in width internally, its east wall measured 520mm in width and its southern wall 420mm in width. The western wall was composed of additional masonry built on top of the sandstone coping slabs of the parapet wall (14) (fig. 111). Its southern end and the parapet wall beneath it had collapsed and was no longer extant, while the upper part of its northern end, which was not keyed into the wall of the Coal Shed, had slumped outwards by 200mm or so (fig. 111). The southern wall also simply butted up against the inner side of the parapet wall (14). The building was accessed via a 1.04m-wide, red brick, yellow sandstone and masonry lined doorway at the south end of its east wall (fig. 110). A yellow sandstone slab, set vertically

delimited the outside of the base of the doorway. The flat, yellow sandstone threshold slab immediately inside it had been removed.

Part of the base of the northern jamb of an approximately 900mm-wide window also survived in the east wall.

The internal wall faces of the building were lime-mortar rendered and the base of the wall was also lined with a sandstone skirting of the same type used in the main houses (figs. 111-112). The floor was composed of nearly laid, rectangular yellow sandstone flags, which were badly cracked and broken along the west side of the building where its outer wall had fallen (fig. 113)..

To heat the new building, the west end of the south wall of the older Coal Shed was cut through to form a small and rough 800mm-wide fireplace, the top of which had a cast iron lintel (fig. 112). The flue from the fireplace extended into the southwest corner of the Coal Shed where a rounded, sub-triangular plan, masonry chimney was constructed to accommodate it, on top of the original paving slabs of the Coal Shed floor (fig. 103).

The building had a slated roof but only a tiny portion of its line survived on the south wall and the tops of its other walls did not survive. The southern gable was capped with masonry, which may once been completed with yellow sandstone slabs. No traces of guttering or downpipes survived as the top of the east wall did not survive.

The presence of the fireplace and the lining of the walls with sandstone skirting shows that this building was intended for human occupation and it may have been occupied by a teacher.

Toilet (17) (figs. 9 & 114)

The scar and stump of a 500mm-wide wall, which had otherwise collapsed, survived against the outer face of the north wall of the coal shed (13) (fig. 9). To its east, another wall containing a simple 800mm-wide doorway, whose base was the underlying bedrock, was built at a slightly different angle abutting the outer wall of the coal shed (fig. 114). These two walls formed the sides of a 2.00m internally-wide structure (17). This interior of the structure was not excavated so is not clear what, if anything survives of its north wall. Mortar-bonded stone masonry with a red-brick east end was also added on top of the sloping parapet of the gable of the north wall of the coal shed to complete the south wall of the new structure (fig. 115). There was a gully in the bedrock inside the new building, which would have facilitated

drainage from the structure and that and its size suggest it functioned as a toilet, probably for the teacher.

Doorway to the Northern Terrace (18) (figs. 9, 114 & 118)

The east wall of the toilet continued northwards for about 4m beyond the coal shed and well beyond the probable outline of the toilet, where it ended in a vertical joint either abutting or abutted by the parapet wall of the rest of the North Terrace. This wall was also constructed in one build with a 620mm-wide, east-west aligned wall (18) that extended east to the bedrock cliff and which contains a doorway leading out to the North Terrace (figs. 9, 114 & 118). The masonry of these walls, like that of the east wall of the teacher's room, contained quite a number of broken yellow sandstone slabs. The doorway in the east-west wall had red brick-lined reveals and jambs, a yellow sandstone cill, and measured 960mm in width on the interior and 1.10m in width on the exterior.

No excavation was undertaken on the Northern Terrace so it is not clear whether the latter walls pre or post-date the remainder of the parapet wall of the rest of the Northern Terrace. The Northern Terrace also appears to have been paved, as some yellow sandstone slabs survive by a drain in the parapet wall further out. The remainder of any other surviving paving lies hidden beneath plant growth.

There is a protruding flat-topped rock spur outside the parapet wall immediately north of the teacher's toilet, on which coal and pottery fragments and other cultural debris are visible in the upcast from bird burrows.

Rock-cut and masonry steps (19) (figs. 9, 116 & 117)

An area of cut back bedrock and a set of five 1.50m-wide steps (19), flanked on the east by an L-shaped masonry wall (20), led up from the paving outside the coal shed to an area of worked bedrock and on to doorways to the toilet and the Northern Terrace (figs. 9, 116 & 117). The three lower steps are each composed of a single large cuboid block of local sandstone while the upper two are fully rock cut. At the top of the steps the bedrock has also been cut down flat to just below the level of the base of the doorway leading to the toilet.

The steps certainly post-date the construction of the coal shed and most logically should be contemporary with the construction of the toilet and the walling holding the doorway to the North Terrace. The masonry on the east side of the steps also links in to the

area of the cliff cut back to allow the construction of the back of the lighthouse tower (see below).

Outhouse (3)

The wall dividing the rooms in, and the rear doorway of Outhouse (3), west of House (1) were altered at some stage (figs. 6 & 70-74).

As noted above, the stump of the original wall dividing the outhouses was revealed beneath later flooring. It was replaced by a one brick-thick rendered wall further to the north. The secondary wall was built on top of the original paved floor and abutted the original stone skirting of the side walls. The paving south of the new wall must have been lifted and either relaid or new paving was installed. The gaps in the skirting where the removed original internal wall abutted the side walls were also filled with short lengths of new skirting.

The doorway of the southern outhouse was also widened at this or another time (fig. 70). Its east jamb was cut back and rebuilt 200mm east of its original line, and a new hole to hold a spigot to secure the base of the new doorframe was drilled into the granite cill.

PHASES 2-4, East end of South Terrace.

A series of additions were also made at the east end of the South Terrace in at least three phases of work dating from the late 1830s probably up to no later than 1870, although the final phase could post-date the use of the Upper Station (fig. 10). On current evidence it is not possible to date these alterations more closely and nor is it possible to temporally relate the sequence to the additions and alterations made at the west end of the South Terrace.

PHASE 2- Shed (21) (figs.10 & 119-129)

A rectangular lean-to shed (21), divided into two rooms, north and south, was added against the outer (east) side of the perimeter wall (5) around the yard of House (2) (fig. 10). The southern side of the shed was later altered on probably two occasions. However, as this area was not excavated the full details of the sequence are not yet clear and nor is it certain where the original south wall of the (21) building lay.

The new building measured 2.62m in width internally. Its north and east walls which respectively measured 560mm and 480mm in width were erected on top of a projecting sandstone plinth of the same form, on which Houses (1) and (2) were built (fig. 123).

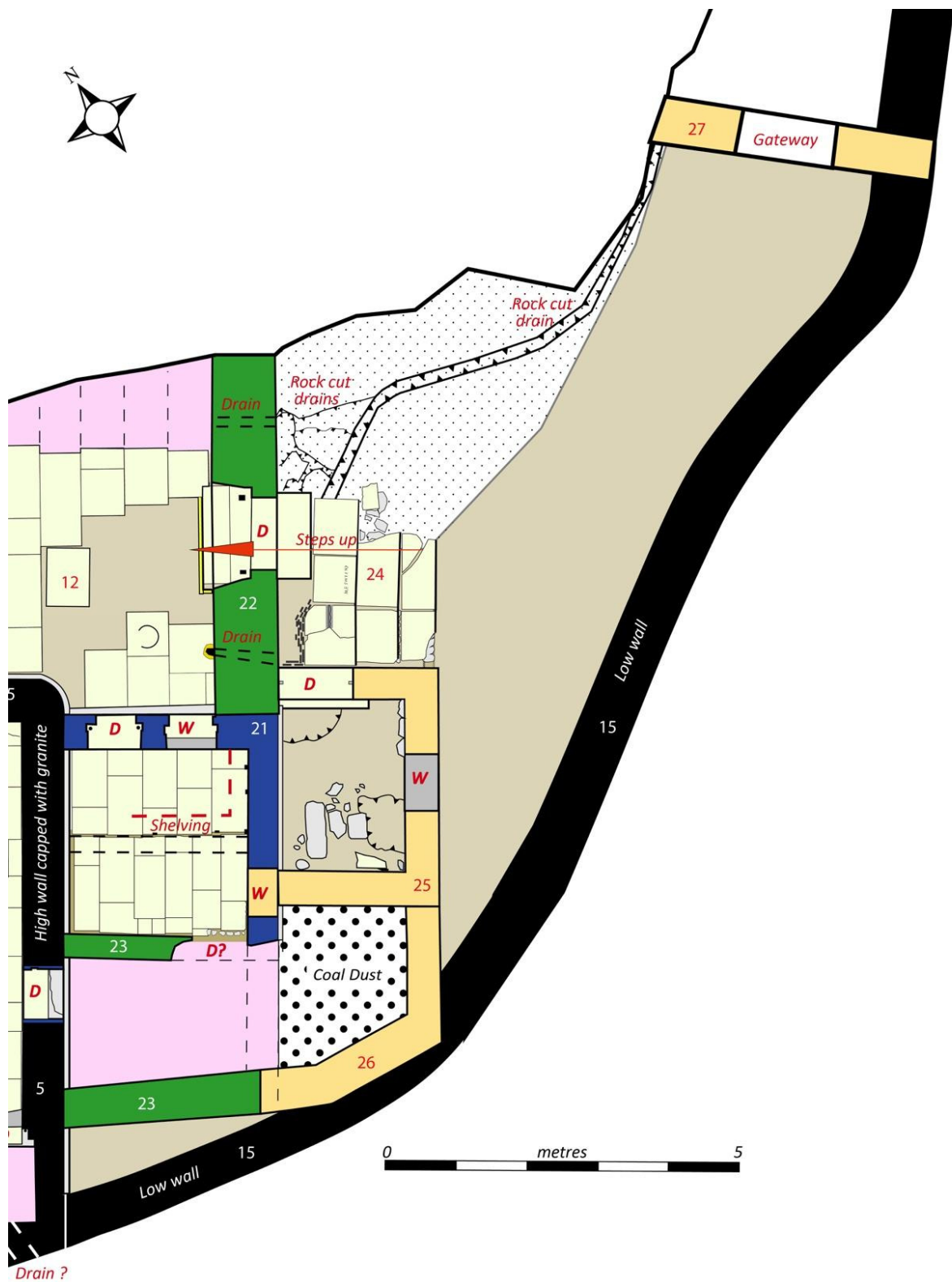


Fig. 10.. Post excavation plan of the structures and features added at the east end of the North Terrace.

The shed was entered via a narrow doorway in the west side of its north wall (figs 119 & 120). The doorway measured only 540mm in width on the exterior and 700mm in width on the interior and was 1.77m high on the exterior and 1.88m high on the interior. It had brick reveals and faces, a flat topped masonry exterior and a timber head on the interior. The original timber head was replaced with a new timber by the OPW. The cill of the doorway stood 250mm above the paving north of the building and consisted of a yellow sandstone slab which protruded beyond the outer face of the wall (fig. 121). It contained two spigot holes to secure the base of the timber doorframe, which survived as a ghost in the plaster on the reveals of the doorway

There was also a small window in the north wall of the building with brick and masonry reveals and brick faces, a flat topped masonry exterior and timber head on the interior (figs. 119 & 120). The original timber head was replaced with a new timber by the OPW. The window measured 600mm in width and 530mm in height on the exterior and 670mm in width and 580mm in height on the interior. The base of its outer half had a yellow sandstone cill.

The original internal wall dividing the building into two rooms did not survive and was demolished and covered by later paving. However, its original line is indicated by scars on the side walls (figs. 124 & 125). The original flooring of the northern room also ended on the same line (fig. 122).

The original northern room in the shed measured 2.62m by 1.24m and was floored with rectangular, yellow sandstone paving slabs (fig. 122). Three, 40mm by 40mm holes were cut in the floor slabs adjacent to the east wall and three more lay against the line of the original south wall of the room. There were 40mm wide vertical scars in the plaster of the east wall corresponding to the position of the holes in the floor (fig.126). There were also two horizontal scars in the plaster of the wall linking with the vertical ones and extending around onto the face of the north wall. These features indicated the former presence of 310mm wide shelving on the south and east walls of the building.

There was a window in the east wall of the southern room. It measured 620mm in width on the interior (fig. 124). It was later blocked with masonry (see below).

The original flooring of the southern room was likely also to have been of yellow sandstone slabs which were lifted and replaced when the building was altered (see below).

The north end of the lean-to slated roof of the building was capped with yellow sandstone slabs of the same type used for paving in the complex (fig. 129). The upper end of

the roof was flashed with slate and brown mortar into the outer face of the high wall (5) around yard (9). The lower end of the roof was later incorporated into the roof of a shed added against its east side (see below) and as a result no traces of guttering or downpipes survived

There was a crude rectangular doorway in the adjacent outer wall (5) of the yard around House (2) just south of shed (21) (figs. 125 & 128). It had a fully timber head (replaced by the OPW) and the inner two thirds of its base had a yellow sandstone cill while the outer side was formed by the top of the granite plinth of the wall. There were scars of the timber doorframe in the plaster on its reveals and the stump of one iron wall hook which held it in place survived. The presence of the sandstone cill, the lack of a brick covering arch and the crude form of the doorway suggest it was broken through the earlier wall (5), probably to allow access to the back room of shed (21). The faces of wall (5) were rendered hiding the reworking.

PHASE 3- Alterations to shed (21), shed (23), and high east wall, entrance and paved steps (22 & 24).

Extension of Shed (21) (figs. 10, 127 & 128)

It appears that Shed (21) was extended southwards by approximately 2.3m and a new 600mm-wide south end wall was built of masonry with a distinctive tan-coloured, lime bonding butting against the outside the face of the high wall (5) enclosing the yard of House (2) (figs 10, 127 & 128). The new wall built extending the length of east side of the old shed did not survive as it was later removed (see below). The old internal wall was demolished and replaced by a new one, which only barely survived above footing level, 1.4m further south (figs. 122 & 127). This new wall had the same distinctive tan-coloured mortar bonding as the new external south wall and may have had a doorway in its east end. It was also butted against the outer face of wall (5) but a small rectangular area was levered out of wall (5) to key in the top of the new wall (fig. 128). The extended northern room of the shed measured 2.62m in length. New sandstone slab paving was installed in the extended part of the north room covering the truncated remains of the original internal wall. The floor level of the new

southern room of the shed was not reached as this area was left undisturbed due to the presence of nesting birds (fig. 127).

It appears that the original roof of Shed (21) was extended southwards over the extension.

Eastern wall and entrance (22) (figs. 10 & 130-132)

A 940mm-wide and 3.50m-high lime-mortar bonded masonry wall (22) capped with rectangular yellow sandstone slabs and containing a doorway was erected linking the northeast corner of Shed (21) to the cliff face to the northeast (figs. 10 & 130). It effectively separated all the buildings of the Upper Station from the top of the Lighthouse Road to the east.

The doorway measured 2.03m in height, was 1.06m in width on the exterior and splayed unevenly to a width of 1.5m on its interior. It had a flat timber head (replaced by the OPW) and masonry faces and reveals reinforced with horizontal cast iron bars (fig. 130). Its cill was formed of two rectangular yellow sandstone paving slabs, the outer of which had rectangular recesses to hold tenons securing the base of the timber doorframe. There was also a round off-centre hole which would have held a vertical bolt securing one of its probable double doors.

The paving of the front yard inside the doorway lay at a higher level than its cill requiring a step down which was lined with vertically set yellow sandstone slabs (fig. 10). At least some of the paving inside the wall must have been relaid or was newly laid after the wall was built but, as noted above it is not clear how far east the paving of the front yard reached before the new wall was built. One of the paving slabs inside the doorway had three quarters of a 37mm-diameter circular groove, 5-7mm in width, crudely cut into its surface.

There were two east-west aligned drains, one on either side of the doorway in the base of the wall facilitating the drainage of the lower eastern end of the front yard of the complex (fig. 10). A crude hole broken in the paving slabs inside the wall was the inner entrance to the southern drain. The opening of the northern one was not revealed as it lay in the area where stone from the excavations was stockpiled by the OPW.

On exiting the outer side of the wall the drains fed into a series of crude and shallow, rock-cut channels which led north to a deeper and better defined rock-cut drain (fig. 131).

This drain extended down along the exposed bedrock along the west side of the area outside the wall and exited under the later gateway (27) at the top of the Upper Lighthouse Road.

A series of three shallow and one higher step (24) all with wide treads composed of rectangular, yellow sandstone paving slabs led up to the outer side of the doorway (fig. 132). The slabs were laid partly over the main rock-cut drain. A small area against the wall (22) to the south of the entrance was floored with vertically set slatey stones, as used to form the beds of the lateral drains on the Upper Lighthouse Road.

PHASE 4- Additional sheds (25 & 26) and external gateway (27).

Shed (25) (figs. 133-138)

The window in the east side of the Phase 2 shed (21) was blocked (fig. 124) and a small, lim-bonded masonry walled lean-to shed (25) was built abutting its outside wall and the outside of the Phase 3 wall (22) (figs. 10 and 133). The shed measured 2.44m by 1.8m internally and had walls measuring 450mm in width. The external face of its walls were composed of very distinct stonework, featuring large stones set upright on their narrow edges (fig. 133). It is identical to the masonry of the isolated gateway (27) erected further east (fig. 139) and both were likely built by the same hand.

The yellow sandstone steps (24) to the north of the shed (fig. 132) are likely to have been altered when the shed was built.

The shed was entered via a 1.08m-wide doorway with a flat yellow sandstone cill in its north wall (figs. 134 & 135). There were two 20mm deep rectangular holes to hold tenons from the base of the door frame in the cill. There was a 100mm-wide scar in the plaster of the west side of the doorway where the doorframe had stood. The head of the doorway was a large granite slab with a 4" square timber beneath it socketed into the walls on either side. There was a simple 800mm-wide window in the east wall (fig. 136). Its head did not survive. Much of the top plaster coat was missing on the internal faces of the walls and the underlying scratch coat was visible. The interior of the shed may originally have been floored with rectangular, yellow sandstone slabs but only a single fragment of one remained *in situ* (fig. 137). There were two shallow pits in the building and a group of flat, irregular, grey sandstone

slabs which might have covered a drain. There was a hole in the base of the wall at the southwest corner of the building which may have been for drainage (fig. 137).

A horizontal timber was set in the inner face of the north and south walls, probably to anchor the roof (fig. 137). The ghost of the timber roof plate also survived on the top of the east wall and a few large square slates of the roof survived at the northwest corner of the building (fig. 138). The gable ends were capped with sandstone slabs as was the upper end of the roof. No traces of guttering or downpipes survived.

Shed (26) (figs. 10 & 138)

A second shed (26) was erected south of (25) and partly keyed into its south wall (figs. 10 & 138). Its southeast corner was built on top of the original terrace wall (15). It appears that the Phase 3 east wall of the south side of shed (23) was first removed and the new shed (26) incorporated the southern end of (23) into a single roofed structure. However, as noted above the southern half of (23) was not excavated, so the sequence of construction here is not proven. The new shed (26) appears to have been used as coal store. It appears not to have had a floor and coal dust and fragments overlay the underlying rock debris of the terrace. No traces of guttering or downpipes survived.

Gateway (27) (figs.. 10 & 139)

As noted above, the gateway (27) at the east end of the terrace was built of the same distinctive type of masonry as the external face of the walls of shed (25) and so is likely to be contemporary with it. The east side of the gateway was erected partly on top of the original parapet wall (15), which has slumped outwards as a result of the weight resulting in the cracking of the masonry of the east pier of the gateway (fig. 139). The west side of the gateway was built over the rock cut drain (24) leaving a square ope for the drain against the cliff face on the inner side of the terrace. The gateway was originally capped with very large granite slabs with double sloping tops. None survived *in situ* but several lay on the ground in the area (figs 133 & 139).

Excavation Photographs (low-resolution) (figs. 11-139).

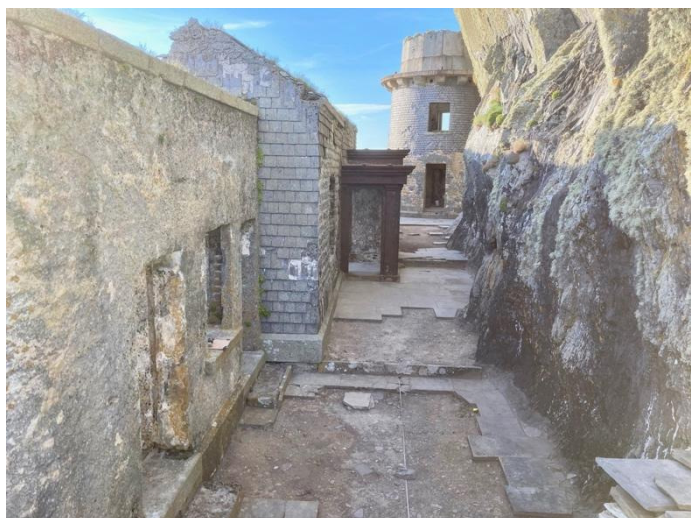


Fig.11. Front to back, yard enclosure wall, House (2) & lighthouse.



Fig.12. House (1), exterior west gable.



Fig.13. House (1), NW corner.



Fig.14. House (1), SW corner.



Fig.15. House (2), NE corner.



Fig.16. Porches, House (1) at front.



Fig.17. House (2), Interior of porch.



Fig.18. Roofs of porches, House (1) at bottom.



Fig.19. House (2), inner face of front wall.



Fig.20. House (2), inner face of back wall.



Fig.21. House (1) front door & hall.

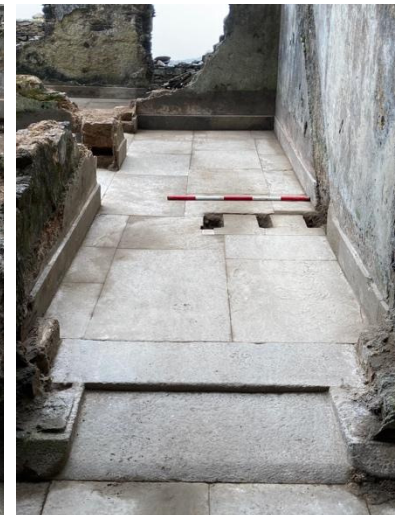


Fig. 22. House (2), front door & hall.



Fig.23. House (1) back door



Fig.24. house (2), back door.



Fig.25, House (2) back door cill.



Fig.26. House (1), hall from south.



Fig.27. House (1), slots for stairs.

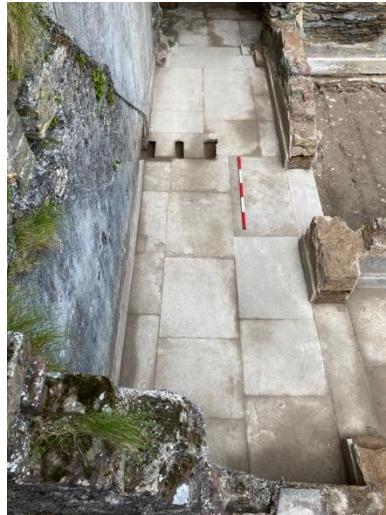


Fig.28. House (2), hall from south.



Fig.29. House (2) slots for stairs



Fig.30. House (1), east gable (party wall).



Fig.31. House (2), ghost of stairs on west gable.



Fig.32. House (2) stairs, inscribed stone.



Fig. 33. House (1), front parlour.



Fig. 34. House (2), front parlour.



Fig.35. House (1), front parlour, fireplace.



Fig.36. House (1), detail of front parlour fireplace.



Fig.37. House (2), front parlour fireplace.



Fig.38. House (1), back kitchen.



Fig.39. House (1), kitchen fireplace.



Fig.40. House (2), kitchen fireplace.



Fig.41. House (2), range in kitchen fireplace.



Fig.42. House (1), interior west gable.



Fig.43. House (1), interior west gable, with lines of flues from fireplaces shown.



Fig.44. House (2), interior of east gable.



Fig.45. House (2), interior of west gable.



Fig.46. House (1) first floor, wooden plugs for skirting.



Fig.47. House (2), front and NE corner.



Fig.48. House (2), granite cornice on front wall.



Fig.49. Wall & roof slates found during the excavations.



Fig.50. House (2), SE corner, hopper & downpipe.

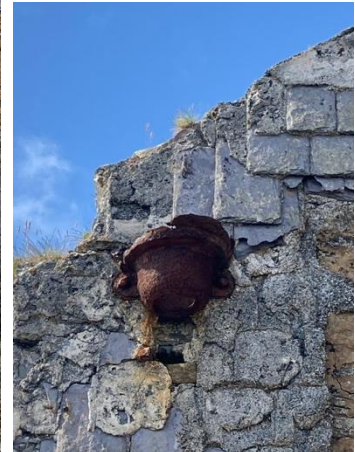


Fig.51. Hopper at SE corner of House (2.)



Fig.52. 1906 photograph of the Lower Lighthouse.



Fig.53. House (2), front wall of yard (10) & outhouse (4).



Fig.54. House (1), front wall of yard (10) & outhouse (3), outhouse doorway on left.

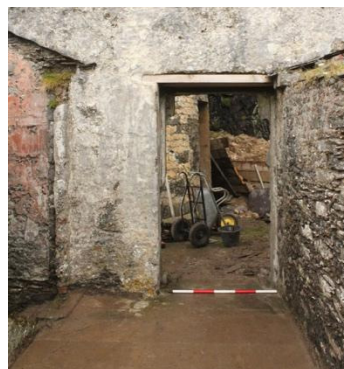


Fig.55. House (1), inside of doorway to yard (10).



Fig.56. House (1), cill of doorway to yard (10).



Fig.57. House (2), cill of doorway to yard (9).



Fig.58. House (2), Interior of doorway and side yard (9) from south.

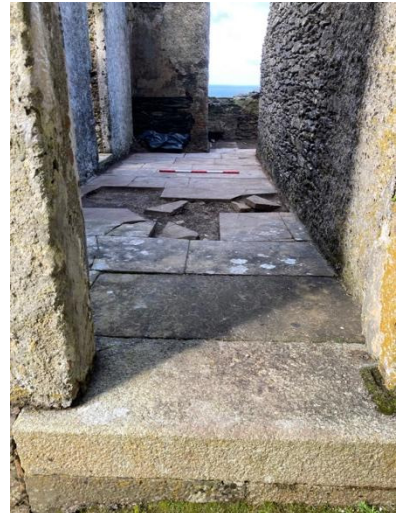


Fig.59. House (2), side yard (9) from North.



Fig.60. House (1), side yard (10).



Fig.61. House (1), rear yard (10).

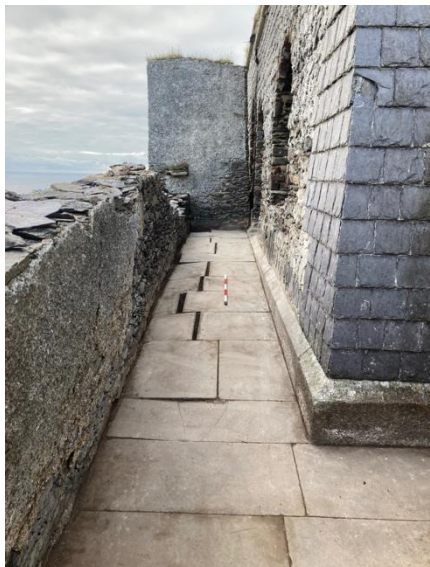


Fig.62. House (2), rear yard (9).



Fig.63. Drain at SW corner of yard (10).



Fig.64. Drain at SE corner of yard (9).



Fig.65. Capstones of drain under surface of yard (10).



Fig.66. Yard (10), stains left by barrels and poles.



Fig.67. Front doorway of outhouse (3).



Fig.68. Outhouse(3), cill of front door.



Fig.69. Rear wall & doorway of Outhouse (3).



Fig.70. Outhouse (3), rear doorway.



Fig.71. Outhouse (3), stump of original internal wall.



Fig.72. Outhouse (3), scar of original internal on west gable of House (1).



Fig.73. Outhouse (3), scar of original internal wall on west side wall.



Fig.74. interior of outhouse (3) looking North.



Fig.75. Outhouse (4), rear wall and room.



Fig.76. Outhouse (4) front wall.

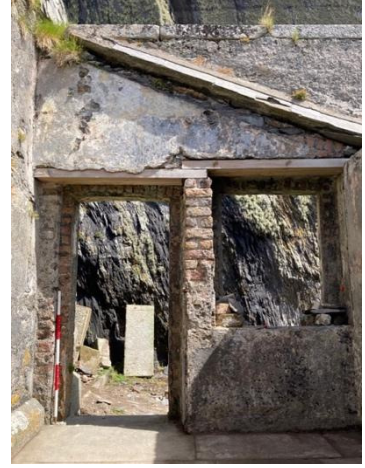


Fig.77. Outhouse (4), inner face of front wall.



Fig.78. Outhouse (4), step and front door cill.



Fig.79. Outhouse (4) floor of front room.



Fig.80. Outhouse (4) detail of roof.



Fig.81. Outhouse (4) detail of roof.



Fig.82. Toilet (8).



Fig.83. Toilet (7).



Fig.84. Mark of seat in toilet (7).



Fig.85. Subsurface drain entering (left) and drain exit (top) in drop of toilet (7).



Fig.86. the Lighthouse from the southeast.



Fig. 87. The lighthouse from the north.



Fig.88. Doorway of lighthouse.



Fig.89. Interior of lighthouse doorway.



Fig.90. Preparing to move the collapsed back of the lantern.



Fig.91. Ground floor of lighthouse after excavation. Back of lantern and fragment of mantlet wall stored at left.



Fig.92. Detail of ope in first floor & stairs up to second floor.



Fig.93. Detail of tongue of first floor granite slabs.



Fig.94. Top of stairs to first floor.



Fig. 95. First floor, SE window.



Fig.96. First floor, north window.



Fig.97. Stairs up to second floor.



Fig.98. Second floor from below.



Fig.99. Second floor, balcony and mantlet from the north.



Fig.100. Doorway to balcony in mantlet wall.



Fig.101. Cracked paving south of the lighthouse (11).



Fig.102. The Coal Shed (13) with the later Teacher's House (16) on the left.



Fig.103. Coal Shed (13), west wall with later Chimney on left.



Fig.104. Coal Shed (13), floor of southern room.



Fig.105. Roof level of Coal Shed.

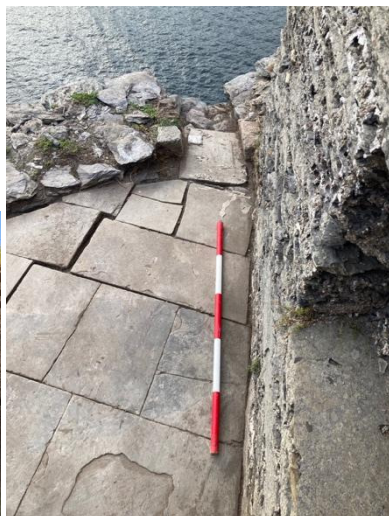


Fig.106. Drain through parapet wall south of Teacher's House



Fig.107. Hand-cut cliff section to NE of Lighthouse.



Fig.108. The front yard (12) looking west.

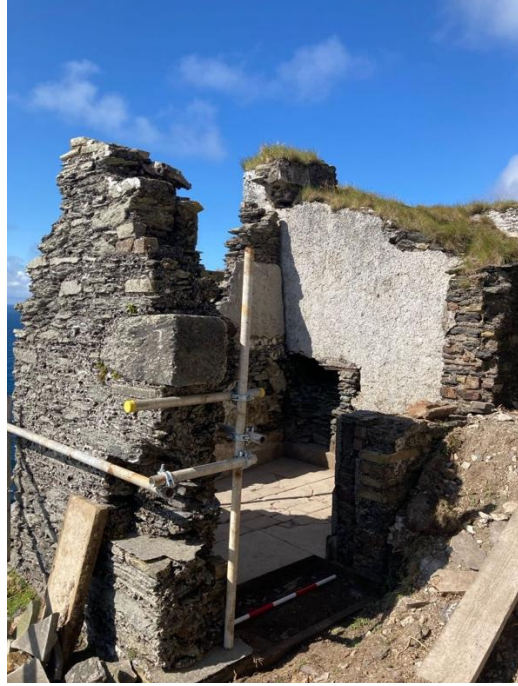


Fig.109. The Teacher's Accommodation (16).



Fig.110. Doorway of Teacher's House (16).



Fig.111. North wall of Teacher's House (16).



Fig.112 Fireplace in Teacher's House (16).



Fig. 113. Floor of Teacher's House (16).



Fig. 114. Doorways to Toilet (17) (left) and (18) to North Terrace (right).



Fig.115. Brick masonry added to Coal Shed, part of Toilet (17).



Fig.116. Steps up to North Terrace.

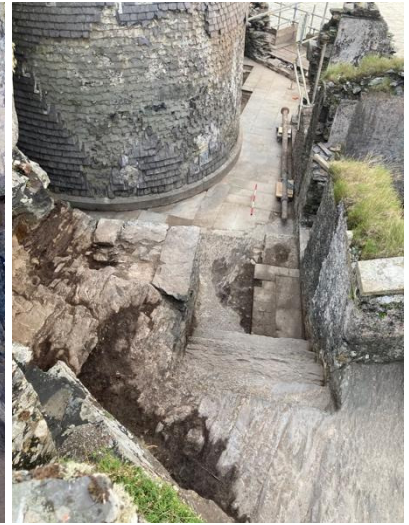


Fig.117. Steps up to rock-cut area leading to North Terrace.



Fig.118 Doorway in wall (18) leading to North Terrace.



Fig.119. Front wall of Shed (21).



Fig.120. Inner face of front wall of Shed (21).



Fig.121. Base of doorway to Shed (21).



Fig.122. Floor of Shed (21).



Fig.123. Plinth at base of east wall of Shed (21).



Fig.124. East wall of Shed (21) with wall scar (sunlit) & blocked window.



Fig.125. Wall scars and roof line of Shed (21) on Outer face of wall (5) around yard (9).



Fig.126. Scars of shelving in Shed (21).



Fig. 127. The unexcavated end of Shed (23)



Fig.128. Scar of south wall of Shed (23).



Fig.129. Roof of Sheds (21) and (23).



Fig.130. Phase 3 wall (22) with doorway, from the east.

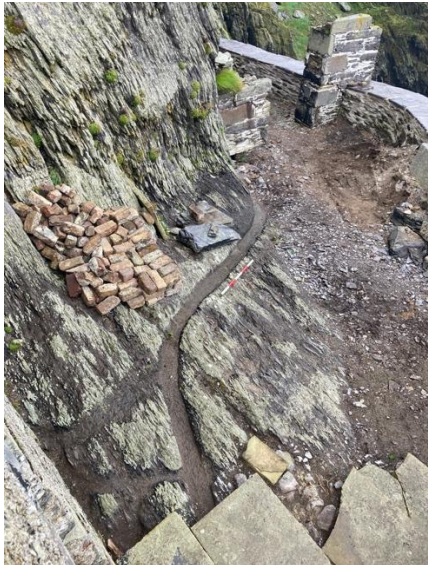


Fig.131. Rock-cut drains outside wall (22).



Fig.132. Paved steps (24) outside wall (22).



Fig.133. Shed (25), exterior.



Fig.134. Shed (25), doorway.



Fig.135. Shed (25), cill of doorway.



Fig.136. Shed (25), window.



Fig.137. Shed (25), floor.



Fig.137. Shed (25), interior looking south.



Fig. 138. Shed (25,) roof level, with shed (26) behind.



Fig. 139. The outer face of Gateway (27), note capstone behind.

THE FINDS

Architectural Stone

The objects are described by the locations in which they were placed after the completion of the excavations.

House (1)

1- Five lengths of grey sandstone flags, 270-1020mm in length, 150mm in width and 30mm in thickness from the sides of the fireplace and one 1360mm long, 165mm wide and 30mm thick grey sandstone mantelpiece from the fireplace of the front parlour of House (1). All found loose adjacent to the fireplace in the front parlour of House (1).

2- Granite chimney top, found in Yard (10). Sockets for base of chimney pots around square (260mm across) opes. L. 760mm. W. 710mm, T. 95mm.

3- Granite chimney base, with square central opes. Found in front parlour of House (1). L. 810mm, W. 510mm, T. 120mm.

4- Granite wall cap from west gable, found in front parlour of House (1).

5- Granite side of fireplace in kitchen, with L-shaped channel to hold front and top of range. L. 1150mm, W. 470mm, T. 130mm. Found adjacent to fireplace in kitchen of House (1).

6- Two fragments of sandstone ridge tile. Longest is 480mm in length and 230mm in width. Found in front parlour and kitchen of House (1).



Fig.140. Architectural stone placed in House (1) front room



Fig. 141. No. 1.



No. 2.



No. 5.



Fig. 142. No. 6, underside.



No. 6, end.

House (2)

7- Brown sandstone slab found in front parlour. One end square cut, other end roughly cut on angled line. Nose on front end with raised central flat topped rib. Rectangular (L. 50mm, W. 20mm, deep 5mm) socket cut on top side. Mortar on underside. This slab is a bit of a mystery. The stone of which it is composed appears to be similar to that lining the windows in the Lighthouse. The slab however is the wrong shape to have been a part of one of the lighthouse windows. The slab is clearly reused, the crude cutting of the angled end contrasting with the neath finishes on the other sides. The line of the later cut suggests it may have been reused as a window cill. However the cills of the windows in the houses are all of granite. It was found close to the fireplace in the front room of House 2 but could have derived from the first floor above or from somewhere else entirely.

8- Granite chimney top in several fragments. Found in front parlour and kitchen of House (2). L. 1190mm, W. 710mm



Fig.143. Architectural stone placed in House (2) front room

9- Granite chimney base in several fragments. Found in front parlour and kitchen of House (2). L. 1140mm.

10- Four rectangular granite cap stones / cornice from external face of front and back walls. Found in front parlour and kitchen of House (2).

11- Four cuboid granite blocks in several fragments from top of east gable with channel to hold slate roof cladding (part of which survives *in situ*), and flat recess at top to hold chimney base. The blocks were fastened together with lead-encased iron ties. The blocks vary from 465-930mm in length, 120-200 mm in thickness and all are 300mm in width. Found in front parlour and kitchen of House (2).

12- Seven 300mm wide cuboid granite blocks from the east gable. The blocks were fastened together with lead-encased iron ties. L. 330-890mm. Found in front parlour and kitchen of House (2).

13- Three 230mm wide cuboid granite blocks from gable of party wall. The blocks were fastened together with lead-encased iron ties. L. 470-580mm, T. 160-190mm. Found in front parlour and kitchen of House (2).

14- Granite head of rear, first floor window with channel on top to accommodate rear flue from ground floor fireplace. L. 1170mm, W. 470mm, T. 120mm. Found in front parlour of House (2).



Fig.144. No. 7 & detail of moulded edge.

No. 9.



Fig. 145.

No. 11.

No. 14.

Shed (3)

15- Three granite blocks from the top of the west gable of House (1). The blocks were fastened together with lead-encased iron ties) and two granite caps probably from the front wall of House (1).

Outside rear door of Shed (3)

16- Grey sandstone cap, with one sloping end, from the rear wall of shed (3). Found in shed (3). L. 1110mm, W. 360mm, T. 120mm.



Fig.146. No. 15 in Shed (3).



No. 16.

Outside Toilet (7)

17- Grey sandstone cap with one sloping end from top of wall of toilet (7). Mortar and stones on underside. Found adjacent to toilet in yard (10). L. 1190mm, W. 230mm, T. 130mm.

Yard (9)

18- Two granite blocks. The smaller one was a capstone from the rear wall of the House (2). The larger one (L. 820mm, W. 610mm, T. 130mm) appears to have been a cap stone from the yard wall south of the shed. None of the other capstones of this wall survived. Found in southeast corner of yard at rear of House (2).

19- Grey sandstone wall cap from south wall of shed (4). L. 670mm, W. 350mm, T. 120mm. Found in southeast corner of yard (9) at rear of shed (4).



Fig.147. No. 17.



No. 18.



No. 19.

Lighthouse (11)

20- Thirteen granite fragments of various sizes from the stairs and one large granite fragment from the mantlet wall, with sockets for cast iron framing. L. 990mm, W. 590mm, T. 33mm. All found inside the lighthouse

Teachers accommodation (16)

21- Yellow sandstone flag mortared on both sides. Original capstone of the parapet wall, which was later heightened with masonry when (16) built. L. 930mm, W. 33mm, T. 70mm. Found in building (16).



Fig.148.

No. 20.

No. 21.

Metalwork from the Lighthouse (11) and yard (12)

A large number of fragments of cast iron, lead and brass elements from the supports of the lantern, from the lantern itself and from the external balcony were found in and around the lighthouse. These items were often quite heavy. Apart from No. 45, which was left west of the Lighthouse (11) these objects are stored in the hut by the Lower Lighthouse.

22- Horizontal cast iron bars from the lantern. The complete example measures 775mm in length, 130mm in width and 50mm in thickness and weighs in excess of 25kg. Recesses on the long edges to hold glass and fragments of three brass screws to secure a No. 23 in place.

23- External brass cover of a No. 22. Curved in profile, 37mm in width, with pointed ends and three 12mm dia. holes for bolts. These and the covering brass sections (Nos. 23 & 25) are, and indeed much of the rest of the metalwork from the lighthouse is identical to that on many other lanterns, that on the Valentia lighthouse for example (fig.175.).

24- Incomplete vertical cast iron bar from lantern, with recesses to hold glass on long edges and fragments of two bolts to secure a No. 25 in place..

25- Fragment of external brass cover of a No. 25, with pointed end with cut out to fit around loop on exterior.

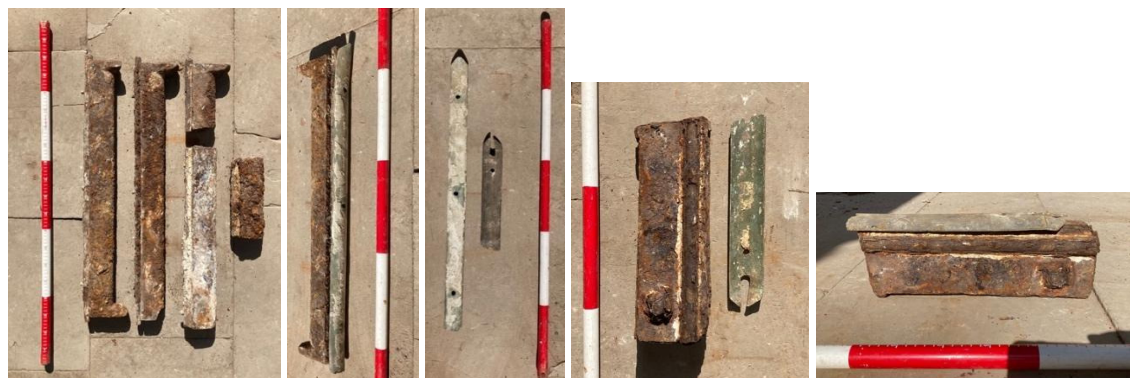


Fig.149. No. 22.

No. 22 with
No. 23 in place.

Nos. 23 & 25.

Nos. 24 & 25.

No 25. in place on No. 24.

26- Curving cast iron, flat and rounded section horizontal bars from top or base of lantern.

27- Cast iron base of vertical framing of lantern, with 20mm dia. hole in top and 20mm wide and 1.5mm high vertical bar at back to hold glass. L. 155mm, W. 125mm, T. 60mm. Two identical objects (No. 75) were found in Outhouse (3) -see below.

28- Hollow, round section, cast iron columns from the shelf supports inside the mantlet wall.

29- Cast iron bar with attached spike.



Fig.150. No. 26, tops. No. 26, sides. No. 27, top. No. 27, side.



Fig.151. No. 28, fronts. No. 28, ends. No. 29.

- 30- Fragments of L-shaped and rectangular section cast iron bars.
- 31- Perforated round head of fixture at base of external railings.
- 32- Iron bolt.
- 33- Fragments of lead jointing from mantlet wall or lantern.
- 34- Cast iron spikes.



Fig.152. No. 30. No. 31. No. 32. No. 33. No. 34.

- 35- V- and Y- shaped cast iron fragments.
- 36- Pointed bases of cast iron bars.
- 37- Fragment of curved vertical bar from the external railing of the balcony.
- 38- Flat thin section cast iron bar.

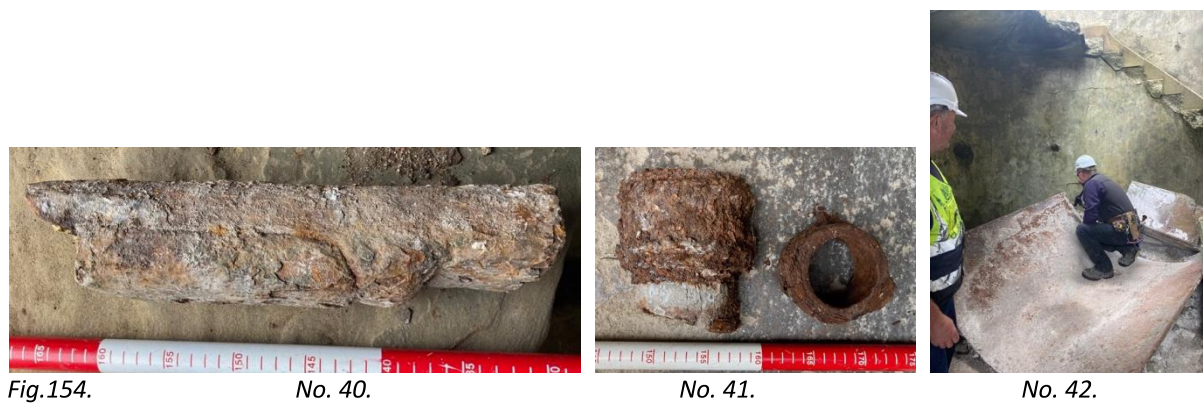
39- Fragments from bases of vertical framing bars of lantern.



40- Joined cast iron bars from base or top of lantern.

41- Fragments of round section, cast iron pipes.

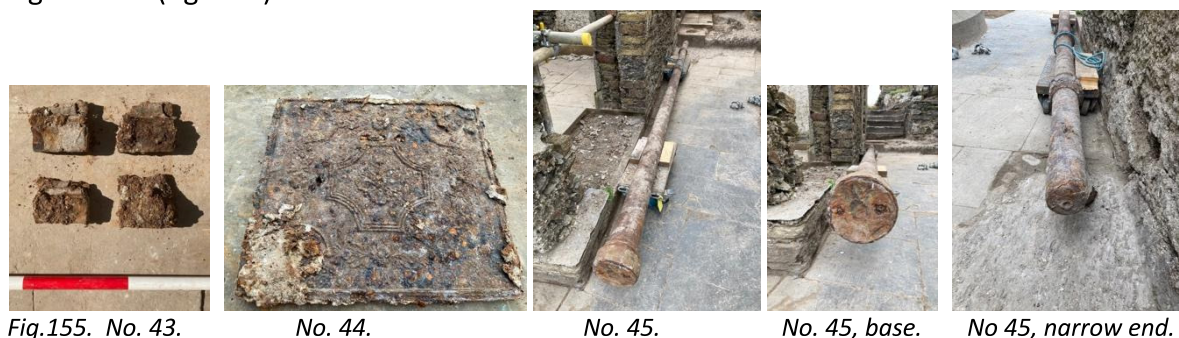
42- Back of lantern. Large (W. 1745mm, H. 1900mm, T. 25mm), rectangular, curving, iron sheet.



43- Hollow, cast iron, rectangular capitals from fireplace/s in Houses (1) and / or (2).

44- Fragment of decorated cast iron front of range from kitchen of either House (1) or (2).

45- Extremely heavy, 4.11m-long cast iron pole, found west of lighthouse. Composed of three sections of pipe, of 140mm dia., 100mm dia. and 95mm dia. separated by moulded collars. It has a 210mm dia., 140mm high basal collar with two bolts in its base. Solid, 550mm-long narrow end with central hole. It is not clear what this object was. Its length and the distances between the collars do not correspond to the floor levels in the lighthouse and so it may not have been a central supporting column in the ground and first floors, as noted in the Valentia Lighthouse (fig. 175).



Miscellaneous finds

Catalogued by the location in which they were found. Those marked with an asterisk (*) were brought to Dublin for storage as they may be useful for display in the future, the remainder are stored in the shed at the Lower Lighthouse.

House (1)

46*- Front parlour. Two sash cord weights.

47- Front parlour. Two L-shaped bars from range in back kitchen

48- Front parlour. Lead encased iron bar for jointing masonry. Probably from west gable.

49*- Front parlour. Two sash cord pulleys.

50- Kitchen. Cast iron bar originally set as reinforcing over the arch over the fireplace. Found in the fireplace. L 1620mm, W. 70mm, T. 40mm. After excavation, placed in fireplace.

51*- Kitchen. Sash cord weight.

52- Kitchen. Wall hook.



Fig. 156. Find Nos. 46-52.

House (2)

53*- Hall. Fragment of front door. Groove for panelling on one edge, part of hinge with 4 screws on other

54*- Hall. 5 fragments of turned wooden balustrades from bannisters of stairs.

55*- Hall. Hinge from front door- identical to hinges on front door of northern house in the Lower Station (fig. 171).

56*- Hall. Brass plate for receiver of door lock.

57- Hall. Melted lead.



Fig. 157. Find Nos. 53-57.

- 58- Front parlour. Decorated fragment of cast iron from the south side of the fireplace. After excavation placed in fireplace.
- 59*- Front parlour. 2 fragments of turned wooden balustrades from bannisters of stairs.
- 60- Front parlour. 2 decorated cast-iron fragments from fireplace in front parlour.
- 61- Front parlour. Cast iron piece from range in rear Kitchen.
- 62- Front parlour. Lead encased iron jointing bar.
- 63- Front parlour. L-shaped iron bracket
- 64*- Front parlour. Fragments of fine glass vessel or drinking glass.



Fig. 158. Find Nos. 58-64.

- 65- Kitchen. Cast iron fragments from the kitchen range. After excavation placed under range in kitchen fireplace.
- 66- Kitchen. 4 Lead encased iron jointing bars.
- 67- Kitchen. Fragments of melted lead.
- 68*- Kitchen. Brass plate for lock receiver.
- 69- Kitchen. 8 iron wall hooks.
- 70*- Kitchen. 2 fragments of wooden mullion with grooves on sides for glazing.
- 71- Kitchen. Folded sheet of lead flashing.
- 72- Kitchen. Threaded and square-headed iron bolt.
- 73*- Kitchen. Fragments of glass vessel or drinking glass.
- 74*- Kitchen. Copper alloy thimble.



Fig. 159. Find Nos. 65-69.



Fig. 160. Find Nos. 70-74.

Outhouse (3)

- 75- 2 cast iron bases for uprights in lantern of lighthouse (see also No. 27 above).
- 76- Fragment of iron bracket to hold 230mm dia. half-round section gutter.
- 77- Lead encased L-shaped iron jointing bar.

Toilet (7)

- 78*- Sherd of whiteware bowl.
- 79-* Fragment of leather with cut edges.

Yard (9)

- 80*- Lead with decorative edging.
- 81*- Three fragments of late 19th or early 20th-century cutty, clay tobacco pipe. (a) Base of bowl with raised ribs and bosses. (b) Plain stem fragment. (c) Stem with incuse stamps (K)ELLEHER and KILLARNEY on either side of stem. There are no pipe makers previously known from Killarney and this is therefore a significant find.
- 82- Iron wall hook.
- 83- Angled cast iron, possibly from range in kitchen of House (2)

Yard (10)

- 84- Fragment of curved cast iron with ribbed edge.
- 85- Thick perforated Valentia slate attached by iron bolt to timber fragment.
- 86- 2 pointed iron spikes, probably to hold pipes or guttering
- 87*- Thick copper-alloy cylinder with central hole and semi-circular opening at edge of base.
- 88- Fragment of column supporting cleaning shelf in upper floor of Lighthouse (11).
- 89- Neck sherd of 20th-century ½ pt beer bottle.



Fig. 161. Find Nos. 54-77.



Fig. 162. Find Nos. 78-81.



Fig. 163. Find Nos. 82-89.

Front Yard (12)

- 90*- Brass door latch.
- 91*- Brass plate for lock receiver.
- 92*- Threaded and square head brass bolt.
- 106*- 30mm dia. bone washer with 12mm dia. central perforation.

Coal Shed (13)

- 93*- Brass object with two concentric threaded ridges on each face with attached side plates. Possibly part of some mechanism in the lighthouse?
- 94*- Threaded brass bolt.

Teachers House (16)

- 95*- Iron strips bound with brass band stamped with '6' or '9'
- 96*- Cut off base of brass cylinder with perforated closed end. Possibly part of some mechanism in the lighthouse.

Steps (19)

- 97*- Bras 22 cartridge.

Shed (25)

- 98*- Base, rim and body sherds of 19th or early-20th-century stoneware bottle.
- 99*- Body sherd of stoneware vessel.

- 100*- Body sherd of stoneware vessel.
- 101*- Body sherds of stoneware vessel.
- 102*- Fragment of whiteware mug or pot.
- 103*- Sherds of fine glass vessel or drinking glass.
- 104*- Brass screw.
- 105*- fragment of clay tobacco pipe stem.



Fig. 164. Find Nos. 90-96.



Fig. 165. Find Nos. 97-106.

Window glass

107*- 2mm-thick window glass from the windows of the houses and sheds was found virtually everywhere on the site and has been collected together as a sample.

108*- Sherds of 8mm-thick glass from the lantern of the lighthouse were also found throughout the complex and were gathered together for possible display.

PRELIMINARY CONSLUSIONS

The historical and architectural background

Due apparently to the decay of the Commissioners of Irish Lights archives kept in the Bailey Lighthouse in Dublin, little historical detail appears to survive regarding the construction of the Lighthouses on Skellig Michael. However, research by the OPW of the existing records has brough some additional material to light (G. Rourke *pers. comm*). The writer hopes to access this material in the near future to see if it can add anything to the story and understanding of the Upper Lighthouse. Other possible relevant material, both written and photographic which has not yet been researched also appears to survive in the National Library, National Records Office, National Photographic Archive, the Skellig Heritage Centre on Valentia Island, Co. Kerry and in the archives of the Commissioners of Irish Lights in Dun Laoighaire. There are also collections of artifacts relating to Irish lighthouses in the Bailey Lighthouse and the Skellig Heritage Centre. It is hoped that opportunity will allow a detailed search of these records.

There are also a number of persons living on and around Valentia Island, who have worked for the Commissioners of Irish Lights on Skellig or who have information relating to the Skelligs and its lighthouses. Unfortunately one of the most knowledgeable, Joe Roddy, is no longer with us. He had ancestors who worked on the lighthouse construction and always has interesting information to impart. He was never interviewed in detail, an opportunity missed. With the absence of historical material local knowledge could be invaluable and it is hoped in the near future to interview several persons from the area.

The Skelligs Lighthouses, buildings and roadways were designed by George Halpin Senior, Inspector of Works and Lighthouse for the forerunners of the Commissioners of Irish Lights from 1800 until his death in 1854, when he was replaced by his son, Gorge Junior. Halpin Senior built over 50 lighthouses and repaired or rebuilt many others. Many of these lighthouses and their associated buildings still survive providing parallels for the structures on Skellig and aiding the interpretation of the Skellig structures. However, like the Lower Lighthouse buildings on Skellig, most of them were heavily altered or rebuilt in the twentieth century. The fact that the Upper Lighthouse Station on Skellig was abandoned so early means that despite its ruinous state, so much of the original survives in unaltered form. It may be unique in this, and indeed in its complete excavation it is in an Irish context. It clearly has the

potential to aid the interpretation of those other lighthouse works (including the Lower Lighthouse on Skellig) which have been altered, many almost beyond recognition.

In addition to the excavation works undertaken on Skellig this year, the graffiti carved into the rocks and structures on the island has also been recorded as part of a proposed anthropological study of the lighthouses and lighthouse men (fig. 166). The names of several keepers, as well as individuals from Valentia and Castletownbere are included. It is probable that some of the names recorded may also have been carpenters, masons (especially the very finely wrought signatures) or others who worked on the Lighthouses. The 1901 and 1911 census returns, for example, record carpenters, masons and workmen along with the keepers on the Island.



Fig.166. Some of the names carved into the top of the parapet wall beside the Lower Station filled with shaving foam to aid their recording.

The Upper Station

There are a number of photographs from c. 1906 onwards of the Upper and Lower Lighthouse Stations on Skellig and further research may unearth additional early ones (figs. 167-170). A number of those from 1906/1909 show the houses of the Upper Station unroofed but with the gables and chimneys intact. The lantern and at least the east sash window of the first floor of the lighthouse are also shown still in place and intact.

The absence of the remains of most of the structural timbers in the buildings and the small number of roof slates and ridge tiles uncovered during the excavations agree with these early photographs in showing that these element of the buildings were removed soon after they had been abandoned in or shortly after 1870. In addition, there are also many other structural elements, which did not simply fall over the cliff, that were missing from the Upper

Lighthouse Station buildings. For example, three of the four granite window cills of the ground floor windows of the houses, all the granite capstones of the wall around the yard of House (1), much of the granite capping of the gables of the houses and many of the yellow sandstone paving slabs of the yards around the houses were simply not there. There are several pieces of granite, which match the size of the wall caps removed from the wall of the yard around House (1) evident in rebuilt parts of the walls of the upper floors of the houses in the Lower Lighthouse Station (fig. 172) suggesting that many of missing elements were removed for reuse in later works in the Lower Lighthouse or other structures on the island or elsewhere.

Much of the iron and particularly the brass from the Upper Lighthouse Tower itself was also missing. It seems more likely that this was removed for scrap.

The full excavation of the Upper Station on Skellig is by a long way the most comprehensive archaeological exploration of a lighthouse yet undertaken in this country. Before this, here were but minor works undertaken at only two other lighthouses, Hook Head and Valentia Island.

The results of the excavations agree closely with the depiction of the Upper Station on the 1830s OS map (fig. 3). It originally consisted of two detached houses with attached high walled yards with rounded front corners enclosing outhouses and toilets, the lighthouse tower itself and a coal shed to its northwest.

It is evident in the Upper Station that the primary buildings had granite door and window cills and apart from that of the coal shed, a minor building, had their main walls erected on granite or sandstone plinths and capped with granite slabs. The later buildings, apart from Shed (21), lacked such plinths, and all had yellow sandstone door and window cills and wall caps.

What was not evident however, was which of the houses was the Principal Keeper's and which the Assistant Keepers'. Like the Lower Lighthouse, the two houses were identical in size and plan. It could be argued that House (1), which was nearer the Lighthouse, and the outhouses of which had sandstone skirting, could have been the Principal Keeper's residence but it is by no means sure. It is interesting that in such a hierarchical organisation as the Commissioners of Lights, which was modelled on the naval service, that such hierarchy was not reflected in the accommodation provided to the different ranks in the organisation. The schoolteacher, however was treated somewhat differently, clearly demonstrated by the tiny room he/she in which they had to live. S/he did however at least have their own toilet. There

are references to a teacher, Joannie Cahill O'Sullivan from Portmagee, on Skellig in the late 1880s, but this was at a time when there were but two families on the rock and we do not know what the arrangements were at an earlier stage when there would have been four.

The small number of personal items uncovered by the excavations attest to the Commissioner's insistence on the tidiness and neatness of not just the lighthouse but the houses themselves. Of course, all rubbish was also deposited over the cliff through the refuse chutes and so nothing like middens accumulated. The paucity of the finds, other than structural elements from the various sheds also makes it next to impossible to determine what might have been stored where, apart from the coal.

The presence of the suspended timber floors in the front parlours of the houses came as a surprise- the ground floors of the Lower Station were filled with concrete long ago. They indicate an attempt at providing a little luxury and normality in what have must have been a challenging environment to live and work but even more so, in which to raise children, as emphasised by loss of keeper Rooney's son over the cliffs in 1851 and the deaths of two of the children of Principal Keeper Callaghan in 1866 and 1869 aged 2 and 4 respectively. Several keepers also lost their lives on the rock.

All the water for the inhabitants had also to be gathered from the roofs of the houses and stored in barrels. This however was not uncommon on lighthouse stations and the keepers were instructed on which chemicals to mix with the water to reduce its salinity. However, at least at a later stage keepers were given what appear to generous provisions of meat and food, if it was just for themselves. It is not clear how much families got at this earlier period. They were of course able to supplement their diet with fish, seal meat, wild birds and their eggs, as well as milk from goats (when they could be caught) and cows (in the short periods they survived) and eggs from ducks. They presumably also kept chickens but as yet there doesn't seem to be any evidence of this on Skellig. Presumably there were also dog and other pets but again these do not appear in the archaeological record.

Nevertheless the Lighthouse Service does seem to have been an attractive one for many in the nineteenth century, as it offered a reasonably decent wage (on which there was not much to spend it on the rock!), a uniform and pension. It also offered accommodation and by contemporary standards, the houses in which the families lived, were large and well-built.

The Two Skellig Lighthouse Stations

In its plan, architecture and construction, the Lower Station was originally very similar to the Upper, although there were of course some significant differences. The Lower Station was heavily altered in c.1911 and again in the 1960s and today bears but little resemblance to its original form. Several old photographs survive showing it at different stages of its evolution (figs. 167-170).



Fig. 167. The Lower Station in 1906.



Fig. 168. The Lower Station before the 1960s after the original roof of the houses was removed & the corridor was added to the tower.



Fig. 169. Another pre-1960s view of the Lower Station.



Fig. 170. The slate weathering on the Lower Station.

The 1830s OS map (fig. 3) shows that the Lower Lighthouse then consisted of the same elements as the Upper. It had two detached houses with walled yards to their sides and rear, the lighthouse tower and sheds against the cliff south of the lighthouse and to the north of the houses. The long-drop toilet south of the Lighthouse is not shown but it undoubtedly

existed at the time as it is very similar (although larger) than those in the Upper Station. It has the same sandstone skirting as in the Upper Station buildings for example (fig. 171). It was not possible to locate toilets in the yards of the Lower Station as they were not on the cliff edge.

. The Lower Station houses were differently orientated to those in the Upper Station, having their fronts facing the sea, no doubt because the area was more sheltered. They also differed in having their entrances placed at the outer ends of the block and their fireplaces and chimneys at the centre. However the ground floors of the houses in the Lower Station are of the same plan as those of the Upper Station; entrance porch, front door leading to hall with stairs to upper floor and doorways to the ground floor front parlour and larger back kitchen. The Lower Station houses were larger in size and were of two-storey and attic construction as opposed to the one-and-a-half-storey size of those in the Upper Station. The first floors of the Lower Station houses differed from those of the Upper Station houses in that they were subdivided into at least two rooms, the two main ones of which have fireplaces and more windows. The internal faces of the upper floor walls also had a lath and plaster finish while there was no evidence for this in the houses of the Upper Station. The Lower Station houses further had an attic storey lit by windows in the gable ends.

However, not surprisingly, in terms of structural detail and architecture the houses of the two stations are identical. The sandstone rubble and red-brick walls of the houses and yards were erected on top of chamfered granite and sandstone plinths. The houses had identical cast iron porches, granite door and window cills, doors and windows. Photographs from 1906-9 show that the Lower Station houses also originally had pitched roofs and external slate weathering and that the water from the gutters on the front of the houses was fed to downpipes on the back of the houses (fig. 167). There were also the same sandstone skirting in the rooms of the Lower Station houses although only one slab appears to survive there (fig. 171) and the same hinges were used on the front doors of the houses of both stations (figs. 157 & 171).

The original pitched roof of the Lower Station buildings was replaced with a flat one in c. 1911 and a corridor was added linking the houses to the Lighthouse, which involved the removal of the walled side yard of the southern house (figs. 167-169). The line of its rounded corner is however still preserved in the paving outside the house. After the moving of the lighthouse families ashore to the new houses on Valentia Island there was no need for two

separate houses in the Lower Station and they were knocked together into one, probably in the 1960s. The cast iron porch on the southern house was removed, the doorway inside was converted into a window and the stairs inside it were removed. The shape of the removed porch can also still be seen in the paving outside the house. It is very likely that the granite cill of the new window was taken from the houses of the Upper Station. A thorough archaeological survey of the Lower Station would undoubtedly reveal many more examples of such reuse.

The Lower Lighthouse was demolished in the 1960s but photographs of it survive (figs. 167-169). It and its lantern are identical to the Upper Lighthouse and it differs only in the orientation of its windows and doors. While it is not totally clear it also appears to have had the same external slate weathering as the Upper Lighthouse.

The Lower Station also had the same rubbish chutes and drains in the cliff side wall as existed in the Upper Station.



Fig.171. (l. to r.). The toilet of the Lower Station with its sandstone skirting; possibly the last surviving original sandstone skirting in the houses of the Lower Station, and a hinge on the original front door in the Lower Station Houses, which is identical to that found in the Upper Station (see find. No 55, fig. 157).



Fig. 172. (l.) Granite reused from the Upper Station, in this case a granite wall cap & (r.) The surviving chamfered plinth at the base of the demolished sheds in the Lower Station.

The 1820s shed to the north of the Lower Station still stands but its original pitched roof and high gables visible in old photographs were replaced with a flat roof (figs. 167 & 169).

The early lean-to sheds at the back of the Lower Lighthouse tower were demolished to allow for the installation of diesel storage tanks. However, the base of the original wall of the eastern sheds survive. It consists of the familiar chamfered granite and sandstone plinth (fig. 172).



Fig. 173. Photographs showing the sheds on the Lower Lighthouse Road & the flagstaff by the Wailing Woman.



Fig. 174. The shed by the helipad and details of its plinth & door cills.

The 1830s map and old photographs shows a number of other sheds on the roadway up to the Lower Station and one on a broad platform just below the flagstaff off the South Steps (fig. 173). The base of the latter building and its terrace survives and was excavated in 2012. The toilet servicing it also still survives slightly higher up. The sheds which stood where the guides' and workmens' huts now stand were demolished. However, that by the helipad still survives (fig. 174). Its original roof, the tops of its gables and its doors and windows were replaced and its walls were rendered with sand and cement. However, the original walls with their rounded corners still stand on a chamfered granite and sandstone plinth and the door cills have the same cut down centre evident in the Upper and Lower Station houses. The hinges on the replaced doors are identical to those in the small lean-to sheds erected east of the Lower Station. The style of the hinges suggests they date to the Edwardian period.

George Halpin had been Inspector of Lighthouses for over a quarter of a century before he built the Lighthouses, houses and ancillary works on the Skelligs and the buildings erected are familiar from his earlier and later works. The challenges building on Skellig posed are probably best paralleled by the later works on Inishtearaght, an island that looks remarkably like a Skellig. A detailed examination of its roadways and buildings might show similarities to Skellig or illustrate the advances made in the intervening years between their construction.



Fig.175. Details of the stairs, underside of the top floor & the lantern of the Valentia Island lighthouse. Virtually identical to the lighthouses on Skellig, apart from the (possibly later) central column supporting the floors. Other details of the station, such as the use of the same yellow sandstone paving and granite wall caps closely parallel those of the Skellig stations.

The Skellig lighthouse towers and their lanterns are similar to many others, built both before and after and attest to the success of the design. Fig. 175 shows details of the lighthouse on Valentia Island, which is almost identical to those on Skellig but was completed in 1841. It is however not yet clear where this design originated; it seems most likely it came

from Britain and was adapted by Halpin. It clearly developed out of the architecture of the late eighteenth and early nineteenth-century naval fortifications being built to combat the perceived threat from the French.

The accommodation blocks built by Halpin on different sites were more variable, due to local conditions and requirements. However, much of the architectural details in the Skellig buildings are replicated elsewhere. They derive from pretty standard Regency domestic architecture, albeit mixed with a defensive element (the high-walled yards and the later wall (22) blocking the east end of the complex) to secure the buildings both from the sea and from interference by outsiders. The cast iron porches, for example, have exact parallels in masonry and plaster porches on many Regency houses. They would have easier been constructed in masonry and the use of cast-iron hints at something of the bravado, pride and skill of the builders working in such difficult environs.

Future works on the Upper Lighthouse Road and Station

There are a number of areas in or related to the Upper Lighthouse Station, which would appear to require future excavation and/or conservation work.

Unfinished areas in the Upper Station.

Three areas were left unexcavated in the Upper Station because of the presence of nesting birds. The areas are small and could easily be excavated and recorded by a small crew over two or three days, once there are no birds present. Unfortunately, it is not known exactly when the birds arrive and leave, as they appear to get to the island before the usual start of the working season and leave after it has ended. Consideration might be given to attempting to deal with these areas outside the normal working season. There are often periods when the weather would allow access for short periods outside the normal work season.

The North Terrace of the Upper Station

No works were undertaken on the North Terrace of the Upper Station in 2021. There are a number of elements in this area that would repay further exploration:

- The ridge of rock outside the enclosing wall just north of the Toilet (17) holds cultural material in the form of pottery and coal fragments at the very least. It is vulnerable to erosion-it is being unearthed and exposed by burrowing birds. It is a small area which could be quickly

dealt with. It would require the use of ropes and harnesses as its perimeter is unenclosed and lies on the cliff edge.

- Yellow sandstone paving is visible close to a drain through the perimeter wall at one point on the North Terrace. It is possible that all or most of the terrace was paved. However the grass and plant cover on the terrace is an attractive feature and it would be a shame to remove it if the paving beneath was not well preserved. Perhaps a series of narrow test trenches could be excavated to determine the survival of the paving and backfilled soon after if little paving survived.

- The 1930s OS first edition map shows a building at the far north end of the terrace and traces of its outer wall at least survives. The placement of the building is unusual and suggestive of a store for hazardous substances. It would be interesting for completeness sake to explore the structure. Occupying only a small area its excavation would not take more than a week at most.

Wall below Upper Lighthouse Roadway

There is a very ruinous drystone wall following a long sloping ledge below the longest steepest section of the Upper Lighthouse Roadway. It has substantially deteriorated and in danger of disappearing altogether (fig. 176). While it is likely to have been built by the Lighthouse men to stop rocks falling down into Seal Cove, its alignment around an area of solid rock seems unusual. It also appears to be joined with the outer wall of the Lighthouse Roadway at its east end, where it appears on old photographs to possibly be of mortar bonded construction. It is not beyond the bounds of possibility that it could represent a first attempt to cross this difficult area with its steep slopes which was abandoned in favour of the completed route of the roadway.



Fig. 176. The wall below the Upper Lighthouse Roadway in 1906 (l.) and today (r.).