

Green determined that this gap should be closed by a Break-water or Embankment. He suggested a height of 10 feet above ordinary spring tides and be 10 feet across the top. The slope on the seaward side being 3 feet to 1 foot perpendicular and on the harbour side of 2 feet horizontal and 1 foot perpendicular. The structure to be formed wholly with the rock but could be extended beyond the Chapel Rocks to other rocks which would extend the benefit to the harbour.

Additionally he proposed cutting a new deeper channel for the river which would afford a depth of 7 feet on neap tides as far as the sand hills above the lime kilns, however he noted that the deeper water should be capable of being ponded back and released to flush the lower river channel when the tide was out to prevent silting up. This was due to the vast volumes of sand being moved into the harbour by the tides. These proposals made the provision of a fair-weather harbour rather than a safety harbour and would allow entrance at all tides and shelter. It would allow the Bude Harbour to carry on trading in coal, culm, iron and other articles. In foul weather boats cannot enter Bude and would make for Padstow.

When the Bude Harbour & Canal Company employed James Green in 1819 to construct the canal with a sea lock and to improve the harbour by moving the river channel to its present course it also included the construction of a Breakwater. However, Green either changed his mind or was persuaded by the powerful members of the Company to cut through the mass of rock, the 'island' known as Chapel Rocks, and extend the Breakwater beyond Chapel Rocks with a 'banjo' pier head.

This Breakwater lasted until the night of 24th February 1838 when a violent, terrific storm engulfed the coasts of Cornwall and Devon unleashing the full force of the Atlantic Ocean causing the collapse of the Breakwater at 5.30 am on the 25th February. Very soon the structure was damaged to a depth of 12 feet with the material scattered across the adjacent shoreline.

At this time the Canal Company had outstanding debts of over £24,000 which included the £21,037 loan and interest due to the Exchequer Loan Commissioners – and with the non-payment, to date, of any dividend, financing the Breakwater's reconstruction presented a big problem.

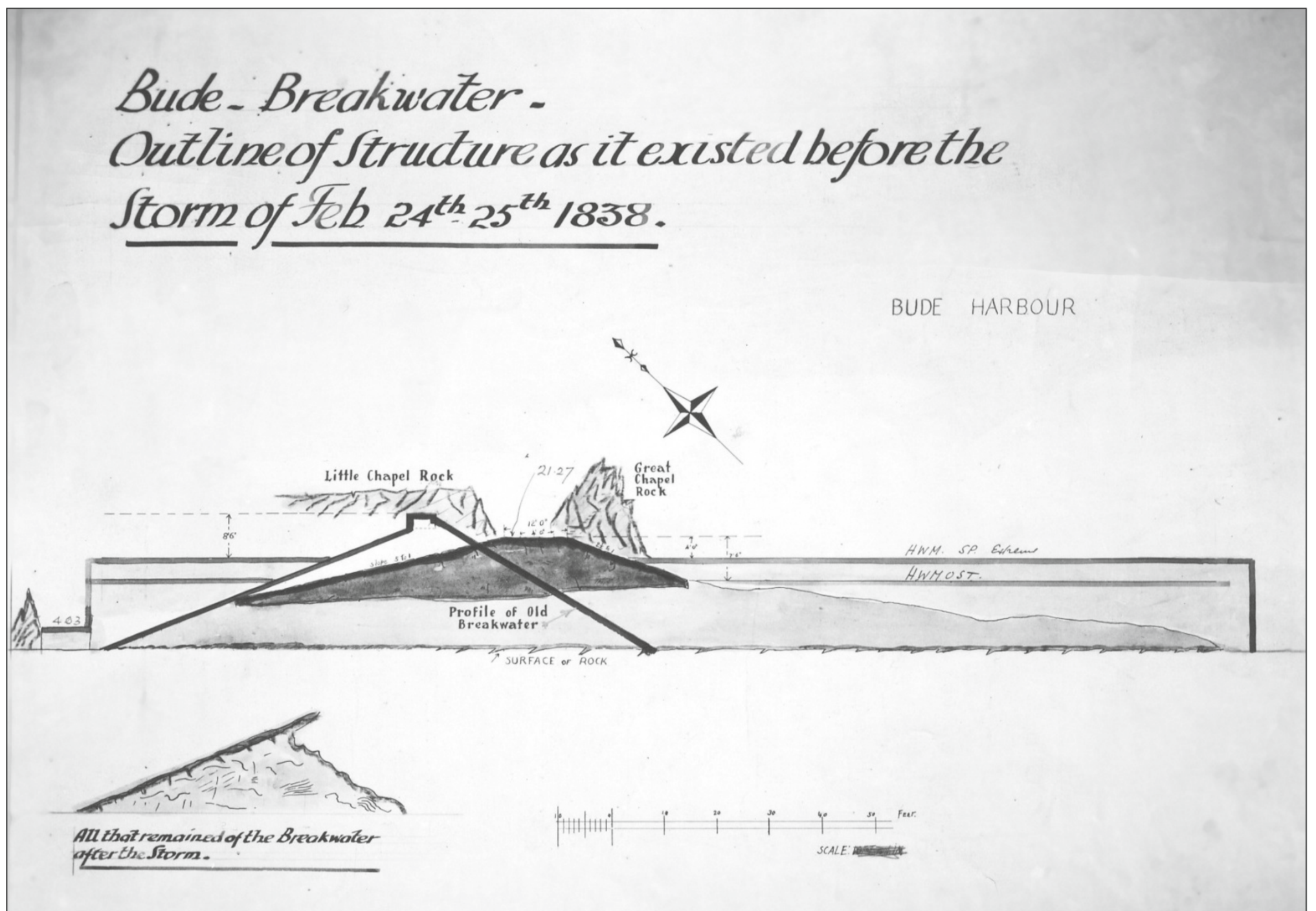
As trade on the Canal had improved by the end of March 1838, with income at £4,300 and expenses only at £2,600. The Company suggested to the Loan Commissioners that the surplus of £1,700 be put to fund the rebuilding of the Breakwater rather than interest payments.

A Mr James Walker was instructed to inspect and report on the system. If he recommended that the Breakwater be rebuilt and that the Canal was beneficial to the Country then the approval to use the trading surplus would be given.

Mr Walker's report was very thorough, as would be expected. In general he concluded that the structure was of poor construction and viewed that cutting through the Chapel Rocks as 'unnecessary and injurious'. The dimensions of the structure were slightly smaller than Green had proposed in 1818. The 'hearting' or interior of the structure was not bonded to the external surfaces and consisted of small rubble stone, almost 'rubbish' and this was the cause of the failure in February 1838.

Walker also reported on other aspects of the Canal system, including the sea-lock, inland locks, the incline planes at Marhamchurch and Hobbacott, and also the reservoir. He concluded that it would be a great expense for the Company to make any great change in the works and therefore not feasible until the Company could better afford any such changes.

Mr Walker also made some comments to Mr Casebourne, the resident engineer, about minor improvements such as strengthening the outer gates of the sea lock, minor leaks in the retaining sea lock gates also that the banks of the small canal (the tub



boat sections) were in places being considerably damaged by the wheels fitted to the boats that use the inclines. This should be attended to; also, the track path (towpath) between the 2 inclines (Marhamchurch and Hobbacott) had got low and the bank weak.

He also noted that the trade in sand had increased, the cost of sand had been reduced and that the rentals for land had increased for land within 2 miles of each side of the Canal. An estimate of an increase of 3 shillings per acre would result in £11,500 per annum of improved rental, based only on the sand element, which has a high lime content.

Walker agreed that the offer made by Bude Harbour and Canal Company to the Loan Commissioners to use the surplus generated by trading to rebuild the Breakwater as being of benefit, not only to the subscribers, but to the 'country that it passes through'.

With regards to the replacement Breakwater, he recommended that the height be lowered from 8 feet 6 inches down to 4 feet above extreme tides, this would still be 7 feet 6 inches above average spring tides. The sea side he proposed to be 5 feet to the horizontal and 1 foot to the perpendicular with the level top to be 12 feet wide with a 4 feet flat section as a path, and the inside slope to be 2½ feet to the horizontal and 1 foot to the perpendicular. The external surface would be rougher and the height lower, whilst the interior, as recommended, would be more solid and be bonded with the whole structure. There was plenty of stone available adjacent on the land

of Sir Thomas Acland which would help reduce the cost of rebuilding when used with recovered stone from the remains of the original Breakwater.

Mr Walker submitted his report and recommendations on 31st May 1838 to John Strettell Brickwood Esq., Secretary to the Commissioners for the Loan of Exchequer Bills. On the 8th June 1838 Mr Strettell Brickwood, on behalf of the Commissioners, wrote the following letter to the Bude Harbour and Canal Company, via its Chairman, J.W. Crabb.

"Sir,

I have laid your letter of 6th instant before a meeting of the Commissioners and am authorised to acquaint you that the Honourable Board have resolved – that further time, not exceeding three years, be allowed to enable the Harbour and Canal Company to apply their surplus income to the repair of the Breakwater according to Mr Walker's report and estimate of 31st May 1838 (which report is herewith transmitted) and that upon completion of such work, the whole income, subject to the

requisite current expenses, be applied to the payment of the public debt and interest.

I am, Sir, your most obedient servant,

John Strettell Brickwood, Secretary"

It should be noted that prior to Mr Walker's visit and report, six sea Captains/Masters wrote to the Canal Company emphasising the absolute need to rebuild the Breakwater. They were; William Davey, William Lewis, Thomas Drew, William Tucker, William Whitefield and James Metherall.

William Lewis, Master of the 'Rising Sun' wrote on 19th March 1838: "It is my opinion, if the Breakwater is not rebuilt, the Harbour will be completely filled up with rubbish and the sand will be covered with beach stones and the lock gates never can stand, owing to so much sea coming in where the Breakwater is washed down. Before the Breakwater was built, my father's vessel parted eight cables of nine-inch ropes in one tide and the vessel went up to high water and they were obliged to make a launch to get her off."

The rebuilding of the Breakwater was under the direction of George Casebourne, Resident Engineer from 1832 to 1876, taking four years to complete and is the Breakwater that currently exists.

There were difficulties in meeting repayments of the loan to the Exchequer Loan Commissioners and the Secretary of the Commissioners came to Bude in 1839 to view the functioning of the canal. He concluded that the weakness in the system was the complicated machinery employed on the 'Great Plane' at Hobbacott.

He observed over 80 fully loaded boats and the traders told him that they felt that the efficiency of the Incline Plane would be greatly improved if the system was more reliable.

The Commissioners relayed their concerns to the Management Committee of the Harbour & Canal Company, urging them to take remedial steps to improve the system at Hobbacott. Repayments were deferred but monthly returns were required to show the trading activity.

A further loan, not to exceed £90, was allowed in order to extend the wharf at Helebridge. In this year the debt to the ELC stood at its highest figure of £22,427, including interest. From then on, however, the situation steadily improved, when during 1841 the income from tolls reached its highest level of £4,557. In 1848 the debt stood at £15,731, reducing to £3,000 by 1864. By 1870 the loan and interest was finally paid off.

Although for so long the canal had been a disappointment to its subscribers it had proved to be an advantage to farmers – they were able to buy sand much cheaper than previously possible and were more liberal in its application resulting in a noticeable improvement in the tilth along with an increase in the rental value of land along the canal's length.