BUILDINGS AT RISK

The West Baldwin reservoir: What lurks beneath the water

Dave Martin takes a look at West Baldwin Reservoir – what was built and how; what was removed; and what can be lost to us if historic features go unrecorded.

There are some far-fetched stories about what lies 'drowned' beneath West Baldwin Reservoir, partly due to a lack of recording at the time.

Probably far more amazing, and another casualty of the lack of recording, is the now largely-forgotten sheer mass of engineering that supported the reservoir's construction, including the West Baldwin Railway – removed when no longer needed after the reservoir was built and forgotten by all but a few.

The former roadway and, top of frame, the new roadway beyond the new stone wall (Photo: S. Bolton

MASSIVE UNDERTAKING

Towards the end of Queen Victoria's reign, Douglas was already outgrowing the recently built Kerrowdhoo reservoir, so the Corporation embarked on a new 300,000,000 gallon reservoir to be formed by damming the River Glass near the head of the West Baldwin valley.

From the very start of the project, it was clear that vast amounts of materials would need to be transported to the reservoir site.

The nearest (just) suitable roads were either at Mount Rule, or Ballaoates.

The existing roads up the East and West Baldwin valleys would not be adequate to carry this traffic, so either those roads would need substantial reinforcement, or a new road would be required.

In the end, the engineers settled for a new iron road : a temporary railway or tramway.

A base was chosen to the north of the Scollag Road, below Ballaoates and just east of Sir George's Bridge, to which road traffic could travel via the Strang, or via Ballanard Road and turning left at Abbeylands.

The rail line broadly followed the bottom of the valley north and west from a depot on the valley floor.

That same valley carries the River Glass which runs down the West Baldwin valley and, after being joined from East Baldwin by the Baldwin River, and then by the Sulby River (yes, there is one in Onchan as well!) passes under Sir George's Bridge on the Scollag Road.

Rail lines are constrained by minimum curvature on bends, and trying to keep gradients to a minimum.

When following the valley floor up to the reservoir site, the rails being laid generally took the central line in the valley – but unfortunately the river hadn't always done the same.

Water always finds the easiest way downhill, but over millennia the path of a river can meander, exploiting patches of softer ground, so as you ascend the valley, the river repeatedly switches from left to right and back again, and the railway had to cross each of these meanders.

By the time the full rail network was built, some 15 temporary railway bridges – all now gone – had been built to carry the line and materials to, and around, the reservoir site.

The first line laid was from the depot just east of Sir George's Bridge, up to the area where the dam would be built; and this was used to convey machinery and materials to the site.

This included rail-mounted cranes and a 'steam navvy' – a rail-mounted steam-powered excavator – and a rail loop was then built right around the reservoir site to both move the steam navvy, and take the spoil it excavated from locations around the reservoir site down to help form the dam itself.

Field walls that still lie beneath the waters of the dam (Photo: S. Bolton)

That loop of track crossed the northern end of the site very close to the Ballaleney farm lane bridge seen nowadays at low water, although that bridge's slender stone span was probably not strong enough to carry the construction traffic and it is likely a parallel temporary rail bridge was built across the River Glass nearby.

Temporary lines were also laid on the reservoir floor and across the dam as it was built.

Apart from ease of road access, the second reason that the southern end of the line came to Sir George's Bridge was to then proceed further south then east to collect clay to waterproof the dam.

It wasn't just a case of spreading a layer of clay to 'puddle' the face of the dam. At the core of the dam is a waterproof wall of clay, 10 feet thick.

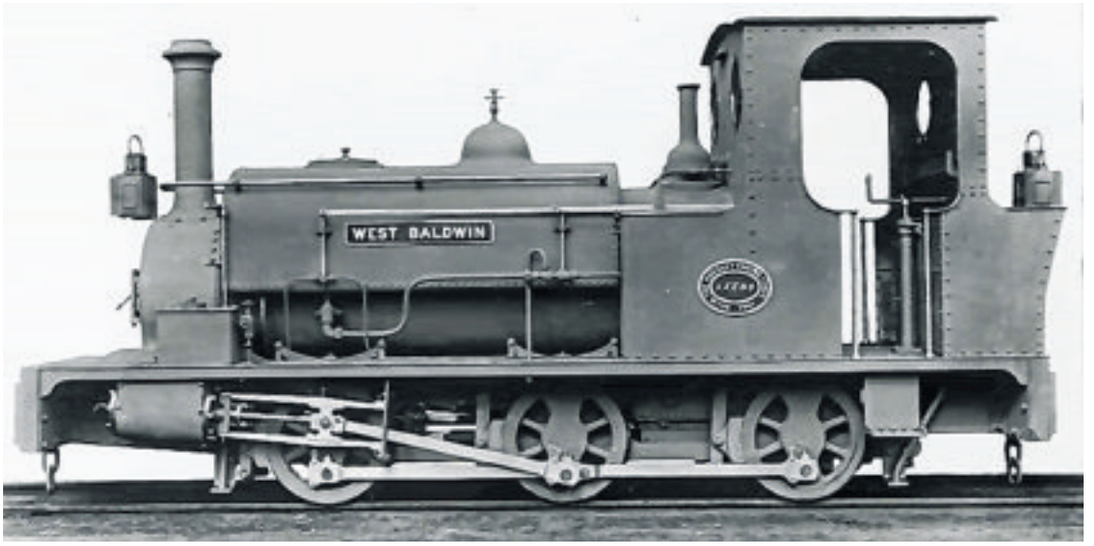
To get a seal, a trench was excavated, up to 50 feet deep in places, in the floor and into the sides of the valley. Shuttering was erected, just as if concrete was to be poured, but instead clay was rammed to form a waterproof core.

Extensive clay deposits were already known in the Ballacreetch area – the Ballanard brickworks had been operating since 1865 (later the 'Ballanard Brick, Tile, and Terra-Cotta Works' referred to in the October 9 article), and the railway was extended from Sir George's Bridge up to the clay pits.

There was quite a pull up the side of the valley to reach and cross Ballanard Road, and it wasn't practical to have a big long curve, so there was a 'zig' (but no zag!) – the line ran up the slope at an angle and then into a dead-end siding. The points at the mouth of the siding were then switched and the train then reversed up the next section across Ballanard Road, and up 'Scouts Glen', to the Ballacreetch clayfield, from which the dam took a tremendous amount of clay.

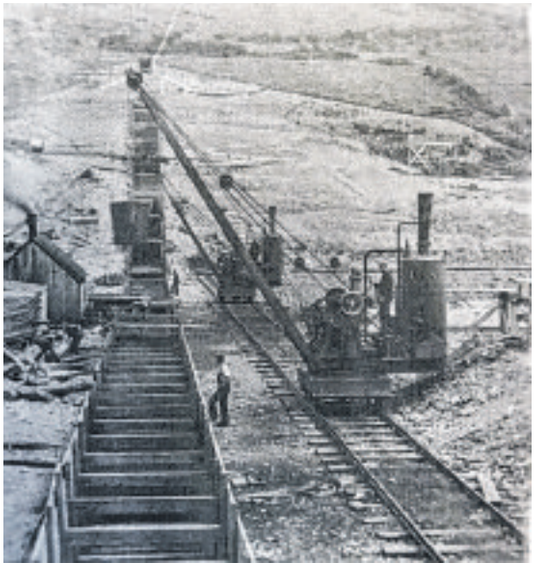
At the height of the work, helping the 250 workers, there were four steam locomotives carrying materials up to or around the site; at peak apparently one engine was making 18 round trips per day with clay from Ballacreetch to the dam.

The embankment or shoulders of the dam were built up with earth, dug immediately upstream of where the dam was being constructed,

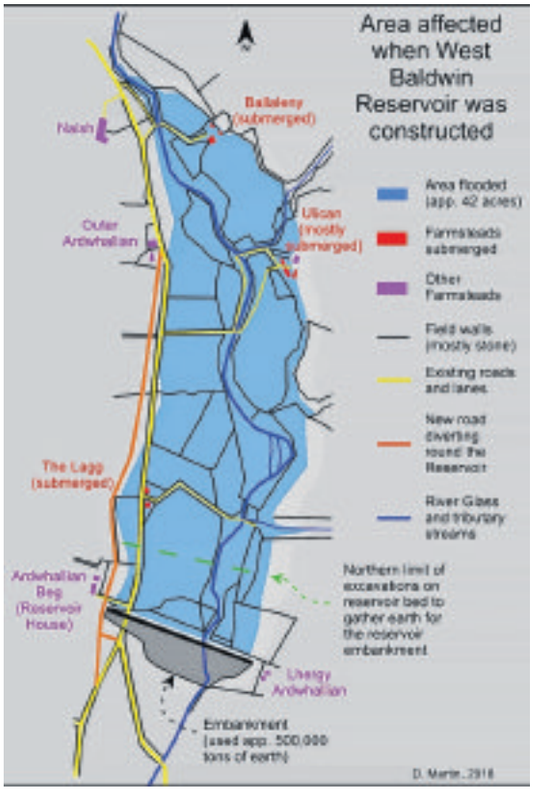


One of the four engines used on the West Baldwin Railway. The 'West Baldwin' was purchased specifically for the reservoir project from her builders, Hunslet of Leeds, for £925 in 1901 (photo: Manx Museum)

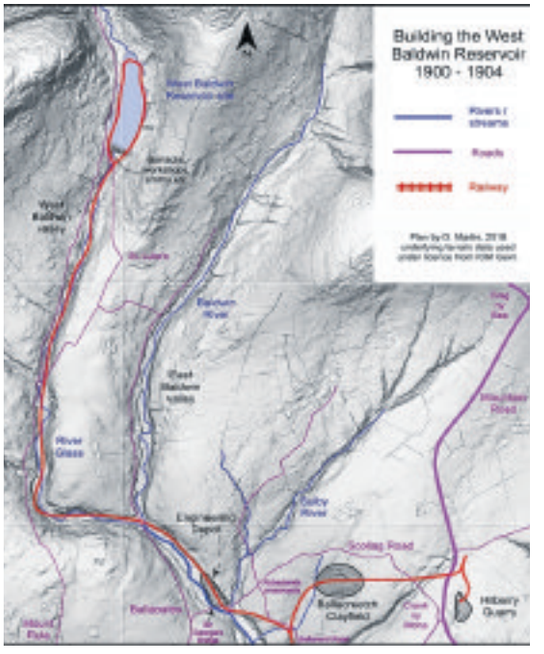
During construction: In the foreground can be seen a number of the ballast wagons that carried clay from Ballacreetch to the site, and earth to build the embankment. Centre left of the picture is the old roadway and the Lagg farmstead, both of which were submerged; the newly diverted road can be seen above the Lagg



Building the 10-feet thick clay core of the dam wall (Photo: Manx Museum)



The area affected by the construction of the West Baldwin Reservoir



Map showing the route of the West Baldwin Railway

slightly deepening the reservoir floor for the first 150m above the dam.

The field walls which remain in-situ on the majority of the reservoir floor are though testament to the lack of excavation to deepen the reservoir any further.

The face of the dam was armoured with rock, initially from several quarries in Baldwin, but as work progressed more rock was needed, and it was decided to source this from the Hillberry Quarry on the slope above Cronk-ny-Mona.

The railway line was further extended beyond Ballacreetch clayfield – across the Scollag Road, then across the Mountain Road near the entrance to Glendhoo, and then after another dead-end reversing siding, to the quarry above Cronk-ny-Mona (now filled with refuse and capped).

What of the farms in the area? Several were affected by the reservoir, but, contrary to modern rumour, there isn't a whole 'drowned village'.

The road up the western side of the valley which served the farms and dwellings, and the Injebreck Pleasure Gardens a little further up the valley, was relocated some tens of metres further west where necessary, resulting in the modern road up the western side of the reservoir.

Two small farms, Ballaleney on the northern bank, and the Lagg on the western bank, were sacrificed too and submerged by the reservoir. Ulican, the biggest farm in the area, which sat towards the upstream end of the Eastern Bank, was also affected.

Initially expected to remain just clear of the high water mark, Ulican would have lost its access across the valley floor to reach the road; but more importantly, for sanitary reasons it was deemed too close to the water to remain inhabited, so Ulican was then abandoned, and partly submerged as the water rose, becoming the third farm to be 'drowned'.

Lhergy Ardwhallian to the south east of the new dam, and Outer Ardwhallian to the west of the reservoir, both survived but lost some of their best valley meadows to the reservoir project; however Outer Ardwhallian was deemed too close to the water to remain inhabited.

Ardwhallian Beg, just to the south-west of the new reservoir, was well clear of the water but was purchased by the Douglas Corporation Water Committee to house the reservoir caretaker/superintendent (later rebuilt as Reservoir House).

What is left beneath the water? Well, it is certainly not a drowned village, where at low water you can see roofs, chimney pots or a steeple! Most of the stonework which still lies on the reservoir bed was field walls.

The two 'drowned' small farms – Ballaleney and the Lagg – were demolished down to about knee height, and it would appear the field walls which criss-crossed the reservoir bed, and the walls either side of the former road up the valley, were tumbled to a similar height as well.

Trees which lined the road and some of the lanes to farms on the eastern side of the valley were cut down to knee or waist height stumps and then left in situ.

It is a long-standing puzzle why the floor of the reservoir-to-be wasn't swept clean, especially when they had to bring in rock from further afield.

Whilst the stones may have just been left because they were too small to be of much use, the author believes that this might also have been done deliberately for the low walls to act as mini weirs on the reservoir bed, in an attempt to reduce the rate that peaty silt coming down into the reservoir – from the River Glass and the streams off Carraghan – would accumulate at the draw-off end of the reservoir. Through the 20th century, West Baldwin reservoir continued to be the major source of water for the growing Douglas.

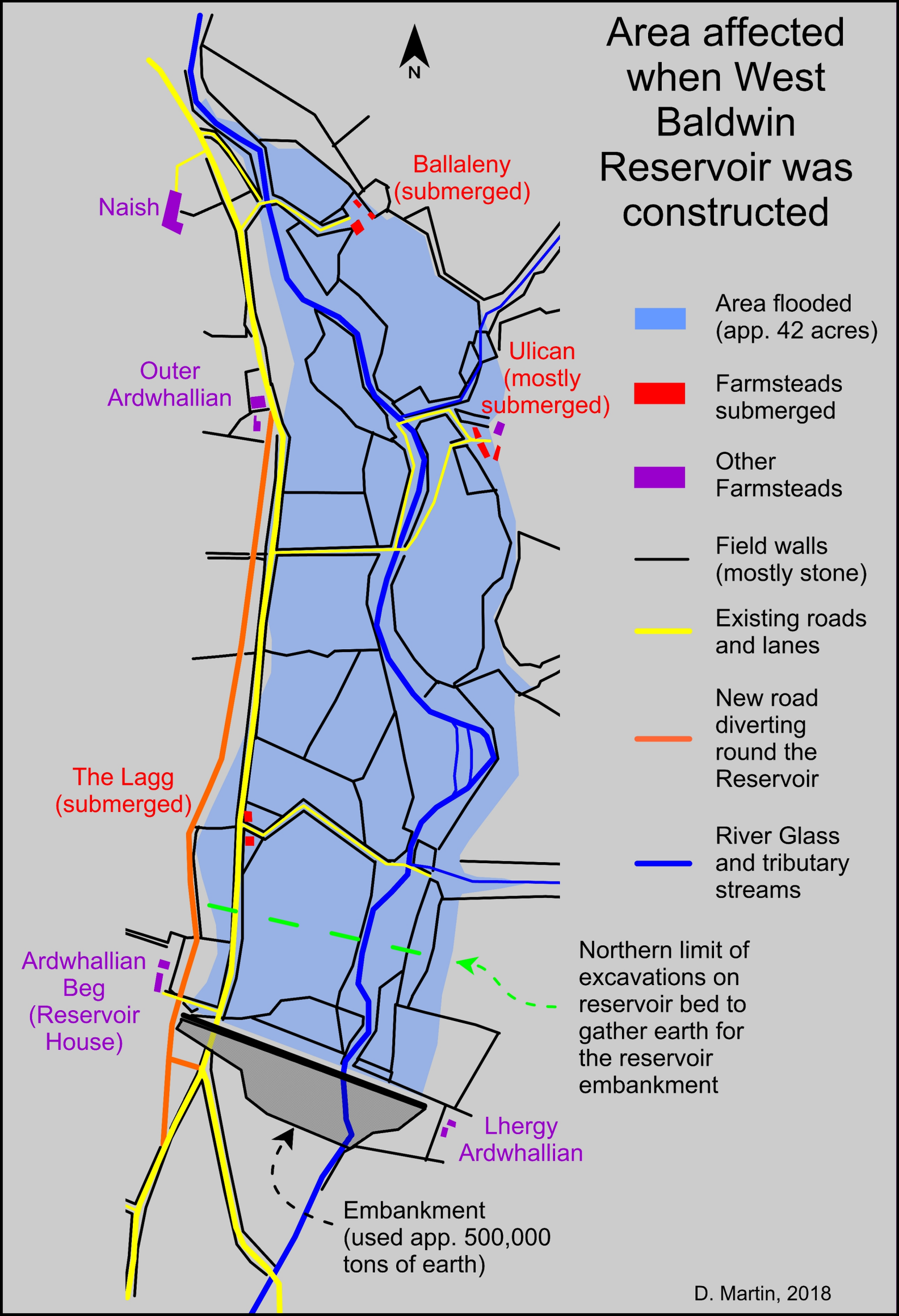
In 1959, there was a plan to increase its capacity by excavating the valley floor, but it was realised this might lead to a greater head of impounded water than the dam could safely hold, so that plan was abandoned.

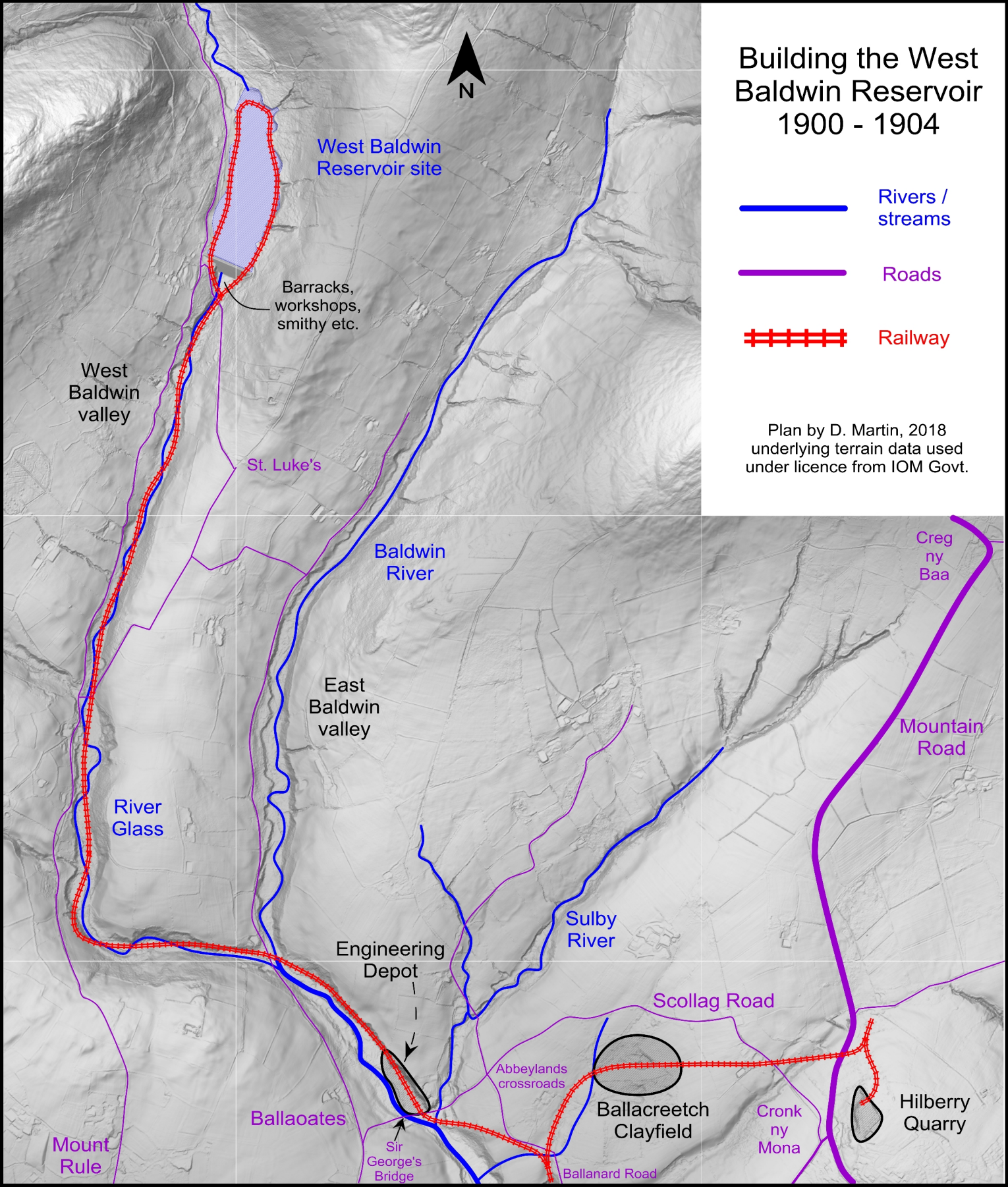
Once Sulby reservoir was built in 1982, a pipe was laid so water could be pumped up over the Brandywell road to flow by gravity down the River Glass and augment that from the West Baldwin catchment.

And afterwards? Just like when the Douglas breakwater was extended, we were left with something that became part of the landscape, but little record of the construction remains. No real record of what was swept away by the reservoir was kept either.

It is inescapable that projects will arise where national need justifies significant clearance, but in such cases it is essential a proper record is made, and those records are publicly available.

• The author would like to thank members of the IOM-FHS, especially Sandra Bolton, for some of the material used to prepare this article.


Area affected when West Baldwin Reservoir was constructed
N
Naish
Ballaleny (submerged)
Outer Ardwhallian
Ulican (mostly submerged)
The Lagg (submerged)
Ardwhallian Beg (Reservoir House)
Lhergy Ardwhallian
Area flooded (app. 42 acres)
Farmsteads submerged
Other Farmsteads
Field walls (mostly stone)
Existing roads and lanes
New road diverting round the Reservoir
River Glass and tributary streams
Northern limit of excavations on reservoir bed to gather earth for the reservoir embankment
Embankment (used app. 500,000 tons of earth)
D. Martin, 2018


Building the West Baldwin Reservoir 1900 - 1904
Rivers / streams
Roads
Railway
Plan by D. Martin, 2018
underlying terrain data used under licence from IOM Govt.
N
West Baldwin Reservoir site
Barracks, workshops, smithy etc.
West Baldwin valley
St. Luke's
Baldwin River
East Baldwin valley
River Glass
Creg ny Baa
Mountain Road
Sulby River
Engineering Depot
Scollag Road
Abbeylands crossroads
Ballacreetch Clayfield
Cronk ny Mona
Hilberry Quarry
Ballaoates
Mount Rule
Sir George's Bridge
Ballanard Road