

DRY STONE WALL BUILDING

Introduction

Dry stone walls are synonymous with the Irish rural and upland landscape features. It is estimated that the Irish countryside has over 400,000km of dry stone walls, and 210,000km of stone-earthen banks (Georg Müller, *Europe's Field Boundaries*, 2012). Ireland has over 60% more stone earthen banks and 25% more dry stone walls than the next nearest countries in Europe

(UK 85,340km stone earthen banks and Croatia 300,000km dry stone walls). Dry stone walling has undergone a resurgence in popularity in Ireland due to the perseverance of a small number of farmers and the re-engagement with it by others. Due also to the teaching of the craft by what was a very small number of dedicated masons.



Dry stone landscape in Co. Clare. Photo courtesy of the DSWAI.

Events

- The Dry Stone Wall Association of Ireland (DSWAI) and the National Organic Training Skillnet (NOTS) farm wall workshops (www.dswai.ie/training).
- West Cork Stone Symposium (www.westcorkstonesymposium.com).
- Set In Stone (contact Gebel & Helling Stone Conservation Limited for more info).
- Tír Chonaill Stone Festival (www.tirchonaillstonefestival.com).
- Mulranny Stone Wall Festival (www.mulrannystonewallfestival.ie).
- The Society for the Protection of Ancient Buildings (SPAB) Annual Working Party www.facebook.com/spabireland/.
- The Irish Georgian Society (IGS) Traditional Skills In Action Exhibition www.igs.ie/events.
- Feile na gCloch (Inis Oirr) www.dswai.ie/feile-na-gcloth.

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Tradition

The building of dry stone walls is a long-standing rural-farming tradition dating back to the Neolithic Period here (5,000 years ago). There was also a time professional dry stone wallers travelled through the country, as well as over and back from Ireland to England, Scotland and Wales. Many walls on estates and larger farms were built by these skilled craft workers as far back as the medieval period. The longest continuous length of dry stone wall in Britain and Ireland, The Mourne Wall (35km) in Co. Down is a good example of this. Common stones used in Ireland include limestone, granite and sandstone.



Section of Famine Wall at Salt Hill Pier in Co. Donegal. The wall and pier were built as poverty relief work in 1846, but the wall fell into disrepair. Photo by Louise Price via Tír Chonaill Stone Festival.

The current work scene

A skilled dry stone waller or mason will always find work. There continues to be a strong demand for dry stone work here and in general, earning a living from the craft comes down to a number of factors. Generating a reputation for doing good work locally and further afield will over time establish enough business through word of mouth for a person to earn a decent living. Homeowners,

farmers, landscapers, architects, engineers and designers often call upon skilled dry stone wallers to build them a green, and environmentally friendly feature.

As the emphasis grows on sustainable, eco-friendly and local solutions to construction, the environment and biodiversity, as well as design, the possible applications increase, and the future for the dry stone waller looks

very positive. Certified training is lacking and the skills are either learnt within a family, by attendance at workshops and travelling, or as an element of a stone craft training programme. The introduction of a skills register for practising dry stone wallers, as well as a certification system is something which would add greatly to the growth of the craft.

Methodology

Dry stone wallers will, over time, develop a knowledge of the stone where they work and arising from that, their skills will grow in how to build with it. The basic principles of bonding, pinning, hearting and use of batter ensure that dry stone walling is a flexible way of building with stone that transcends all stone types.

Waller can build with field stone (collected from the land) or random rubble (from quarries).

In general, stonemasons and dry stone wallers need to know about different types of stone, rough cutting and shaping out, building techniques and principles, measurement and safe work practices.



Waller can build with field stone or quarry stone.

Types of stone wall

Single dry stone wall

In single dry stone walls, every stone spans the full width of the wall. They do not have a core. These walls are often built at a great pace and with a strong understanding of how the stone will sit well together. The largest stones are always at the base of the wall because, as well as being impractical to lift, using them higher up would destabilise the wall greatly. Stones get gradually smaller as the wall goes up.

Double dry stone wall

A double dry stone wall has what are called two faces, one each side of the wall. The centre of the wall is filled with a 'hearting' of small stones. Where available

'through stones' will be placed at half way up the wall to add to stability and lifespan. Walls can be finished with an upright (soldier or cow and calf), slanted or flat row of cap stones or copes.

Combination walls

These walls combine the single and double technique. One example would be a Feidín wall, common on the Aran Islands and parts of east and south Galway and Roscommon. These walls consist of a double wall of small stones, under a single wall of much larger stones. This wall type allows the best use of the material, as the ratio of small to large stone changes along the length of a wall, and is reputed to have been developed by

professional Scottish wallers when building dry stone walls along long stretches.

Stone earthen bank

A bank of soil or ditch faced with stone on one or both sides. Often the top is planted with native hedgerow plants like hawthorn, ash, elm, alder and furze. They can be constructed with alternate layers of turf and stone.

Wedged dry stone wall

This is a form of dry stone wall or stone earthen bank that comes in single or double form and the stone is laid vertically and wedged into place, i.e., the long side of the bed runs upwards.

Fixing old walls

Repairs to old dry stone walls should be done using the same stone. If a wall has collapsed in sections it should be fixed without the use of cement. Introducing mortar to a section of dry stone wall can have the effect of destabilising the wall either side of it, and rapid collapse of previously intact sections of wall can occur due to decreased flexibility and pressure transferred by the now rigid mortared section. Consequently, an entire stretch of dry stone wall can end up being replaced by a mortared wall, which is neither appropriate nor environmentally friendly. A cemented wall can hold moisture in the stone, leading to rapid decay of the stone.



Wall in need of repair. Photo courtesy of the DSWAI.

Equipment

Basic tools include a walling hammer and string line. Adding to the toolkit are a crow bar, a sledge and batter

frames. Wallers trained in masonry skills and who may do more bespoke work for homeowners and landscape

designers might also have a pitcher, punch and tracer, as well as plugs and feathers.

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Materials

Granite, limestone, sandstone and slate are some of the most common stone types in dry stone walls. Geology is varied, but upland

usually means granite, sandstone and slate and lowland limestone. Basically, whatever is local is the material of choice. This can even mean a

mixture of stone types if you live in an area with a lot of drumlins/glacial deposits, which tend to come from sand and gravel pits.

Training

A good grounding in the basic techniques of dry stone walling is vital if a person wants to become a competent waller that can demand a decent rate for their work from clients. Currently, there are no dedicated dry stone walling courses in Ireland. In the past stone-scaping courses (taught by Dublin-based Master Mason Patrick McAfee) with the Education and Training Board (ETB) gave an excellent grounding in the craft. Presently, dry stone techniques are taught within broader courses and depend greatly on the ethos of the institute or the emphasis of the tutor. Where the trainee is being prepared for conventional construction sector employment, the emphasis will be on the use of veneers

incorporating mortar and ties. This does not give any grounding in dry stone technique.

For details about training in stone wall building, contact the Dry Stone Wall Association of Ireland (DSWAI), local stonemasonry firms or Solas (www.solas.ie).

The following courses in stone are offered by various agencies:

- the DSWAI run one-, two- and three-day beginner courses in dry stone walling throughout the year (www.dswai/training);
- the DSWAI also run one- and two-day dry stone walling courses in partnership with the National Organic Training Skillnet (NOTS) (www.nts.ie) – these have been held in counties Donegal, Wicklow,

Tipperary, Sligo, Leitrim, and Mayo, and the association is always looking to expand into new areas;

- a full-time four-year apprenticeship in stonecutting and stonemasonry is run by the Kerry ETB in the Tralee ETB training centre;
- three-, four-, six- and nine-month traditional stone walling courses are occasionally run at ETB centres throughout the country – these teach both dry and mortared walling – these courses have been held in counties Cork, Donegal, Galway, Tipperary, Waterford and elsewhere, depending on demand and availability of tutors locally; and,
- Kerry ETB, Tralee holds a 26-week traditional stone wall building course once a year.

References

Irish Stone Walls by Patrick McAfee, The O'Brien Press, 1997.

Stone Walls of Ireland by Alen MacWeeney and Richard Conliffe, Thames & Hudson Ltd, 1980.

Drystone Walls of the Aran Islands: Exploring the Cultural Landscape by Mary Laheen, The Collins Press, 2010.

Dry Stone Walling by Alan Brooks and Sean Adgate, Adcock and Agate, BTCV, 2004.

Traditional Crafts of Ireland by David Shaw-Smith, Thames & Hudson Ltd, 1984.

Europe's Field Boundaries by Georg Müller, Neuer Kunstverlag, 2012.

Other resources

Dry Stone Wall Association of Ireland (DSWAI), Ground Floor, 8-9 Marino Mart, Fairview, Dublin D03 P590. T: +353 (0)87-607 6762 E: info@dswai.ie W: www.dswai.ie

Local authority heritage officers and local authority conservation officers.

Society for the Protection of Ancient Buildings (SPAB) Ireland: www.facebook.com/spabireland/.

A proactive built heritage conservation group who run workshops and campaigns.

The Heritage Council, Rothe House, Kilkenny T: +353 (0)56-777 0777

Further information

For further information please contact
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The following resources are also helpful:

- 🌐 www.dswai.ie
- 🌐 www.heritagecouncil.ie

www.teagasc.ie/ruraldev



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