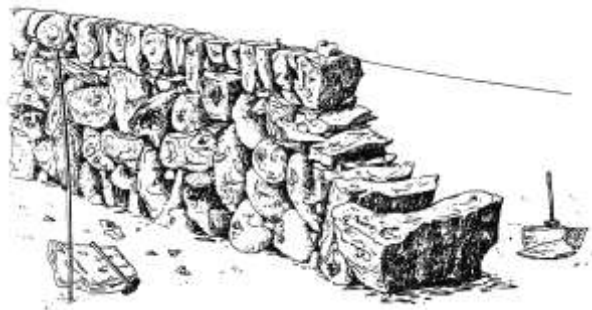


Technical Specification for Single Walls or Boulder Dykes

Preamble

The following notes form part of a series of technical leaflets designed to give guidance on particular aspects of the craft of dry stone walling. This leaflet should be used in conjunction with Technical Specifications for Dry Stone Walls. Before giving general guidelines, several points should be understood.

- The difference between good and bad work is probably greater than with any other skill. It is essential to retain the services of a qualified waller, particularly with prestigious projects. DSWA operates the only structured, national, practical skills certification scheme.
- Most contracts are tendered, with the cheapest quote usually being accepted. In dry stone walling speed directly affects quality so that special care is needed to assess the skill of the dyker/waller and also to monitor the quality of the wall during construction.
- Wherever possible, the type of stone and the style of building should be matched to the tradition of the area.
- The dyker or waller can only work with the stone supplied. If a particular style is required, then material suitable for that style must be available.
- Stone supplied to the dyker or waller must be clean. Contractors undertaking the dismantling of existing structures should do so by hand, if at all possible.



A single wall or dyke is only a single stone thick whereas the more common double wall consists of two stone walls to form the faces with smaller stones to fill the gap and throughstones and topstones bridging the two face walls to tie them together.

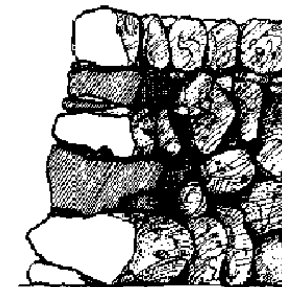
Single or boulder dykes form only a small proportion of all walls but can be very common in some localities where most of the stones are very large boulders.

They are almost invariably built of field clearance stone as opposed to quarried material, and the rock type is usually igneous, especially granite. Single dykes are therefore usually associated with upland areas, particularly in Scotland but also in parts of Wales, the north of England and Dartmoor.

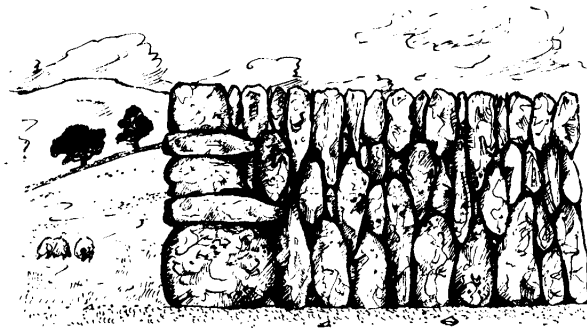
Compared with a double wall, a well built boulder wall has some distinct advantages: the boulders in the bottom layer present a large and almost continuous stone surface to the ground giving excellent resistance to settlement; a boulder wall is quicker to build and faster to repair. However, building a boulder dyke requires special skills and wherever possible it is sensible to use a DSWA Certificated Craftsman who is experienced in this particular style of construction. Because the stones in boulder walls are often very large, a team of two or more wallers, and perhaps mechanical aids may be necessary.

Guidelines

- Single walls do not have a formal foundation course of large flat stones. However, as with all dry stone work, the top six inches (15 cm) or so of top soil, together with any organic material, must be removed to provide a level, firm surface. 'Soft spots' should be improved by ramming waste stone into them until hard.
- The first layer should consist of the largest stones laid with their flattest face on the bottom. Each must touch its neighbour and be pinned with rough wedge-shaped stones driven beneath to prevent any movement. It is most important not to use large pins, which will bear a significant part of the weight of the wall since this will lead to premature settlement and a failure of that section of wall.
- The boulders can be as large as can be manoeuvred. If they are very large, regular, and their width is sufficient, it is permissible to lay them along the wall.
- Second and subsequent layers are laid across the wall in the grooves formed by the lower layer. They will break the joints. The stones should be laid so that they do not rock on a dome. No stone should project beyond the lower stone, so that an "A" shape section is maintained.
- Similarly, the top stones and the layer immediately below should not be wider than the next lower layer.
- Top stones are traditionally heavy, in keeping with the look of the rest of the wall.



- The wall should be carefully pinned with sharp-edged, wedge-shaped stones, preferably freshly broken so their roughness keys into the wall. There should not be more than one pin for each hole, and they should not protrude proud of the wall's surface.
- Very large, long stones may be laid upright or at a slight angle through several courses or even from top to bottom of the wall.
- One style of single wall uses wide, flat stones laid on end, rather than boulders. This is only done with hard rocks since sedimentary material (such as sandstone) must be laid with the bedding plane horizontal to prevent it eroding.
- In this style the stones are again laid in the gaps between the stones of the lower layer, but the overlap is greater so that they are well supported. The wall is stronger than a round boulder wall.
- Whatever the overall height of the wall, the base width should be half the total height.
- In some regions, turf topping to a single wall is common.



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Photo: Galloway dyke near Gatehouse of Fleet/DSWAPL/N Coombey
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TECHNICAL SPECIFICATIONS FOR SINGLE WALLS AND BOULDER DYKES

