

Field M770 & L78 Restoration Works

Background

The purpose of this report is to understand what works need to be carried out to reinstate Fields M770 and L78 to the best quality agricultural land.

Underlying geology and surface deposits

Fields M770 and L78 lie in the Parishes of St Mary and St Lawrence respectively. The underlying geology and surface deposits is generally as follows: Loess over coarse grained granite of the St Mary type. This is a young aeolian soil derived from glacial moraine deposits in mainland Europe, laid down in huge dust storms as the ice cliffs retreated at the end of the last glaciation some ten thousand years ago. Loess is widespread in Jersey and gives rise to our slightly acidic loamy clay soils. The depth of the A horizon (top soil) can vary enormously, with one low lying site in the south east of the Island having no visible B horizon after excavations in excess of four metres.

Topography

Fields M770 and L78 are part of a gentle north facing slope above the shallow valley that connects St John's Manor to St Peter's Valley. The surrounding fields all have a gradient of about 1:35 facing due north.

Landscape context

The States of Jersey Countryside Character Appraisal of 1999 (by Land Use Consultants) has Fields 770 and L78 sitting in Character Area E6: 'Interior Agricultural Land; Central Plateau – Valley Heads' which it describes as an 'intimate patchwork' of arable and pasture with a gently undulating open landform and characteristic mixed species hedges. It emphasises loss of hedgerows as a threat to local character and sympathetic management / replanting of hedges as a management priority.

The present situation is that both Field M770 and L78 have glasshouses erected on them as well as concrete structure foundations and floors, concrete hardstandings around them, and compacted hardcore both inside and outside of the structures. It is not possible to observe the soil condition underlying these structures and the solid structures prevent sun light and air getting to the soil.

Legal status: Planning history

Planning permission, reference 3199/I was granted for the erection of the glasshouse on Field M770 in 1975 and had no conditions attached to it. Permission, reference 3199/K, was granted in 1978 for the construction of 98,784 sq feet of additional commercial glasshouses together with an access track, plant and boiler room and oil storage tank. Condition 4 required that "all surplus soil and material at present stored in the western field is to be removed and the land made good", and Condition 5 required intensive tree planting on the northern boundary of the field. Thus, the soil was stripped from the land below the glasshouse on Field M770.

Planning permission, reference 3199/IA permitted the landscaping of Field L78 to form an overspill parking facility for visitors in 1992. Condition 4 required conifers on La Rue Des Varvots be retained.

Planning permission, reference 3199/PA, permitted demolition of existing pair of glasshouses and their replacement with a single glasshouse. That single glasshouse currently stands on the site.

Legal status: Agricultural conditions

No agricultural conditions apply to Field 770 (St Mary) as it had already been covered in glasshouses when the assessment work to classify and apply conditions to local agricultural land was carried out pursuant to the 'Agricultural Land (Control of Sales and Leases) (Jersey) Law' of 1974. Thus, there is no record of the local classification of the land and Field M770 is not within the land bank.

Field 78 (St Lawrence) is covered by Condition (a) as are all the contiguous fields. This is defined under the 1974 Law, as:

'(a) that the land involved in the transaction, shall not, without the consent of the Minister for the Environment, be occupied by anyone other than a bona fide inhabitant of the Island specifically approved by the Minister who is wholly or mainly engaged in work of an agricultural nature in Jersey for his own benefit and profit'

This is the highest level of legal protection under Jersey law and is equivalent to Grade 1 under the 'Agricultural Land Classification' (ALC) that applies to England and Wales. However, while the ALC is based on a published series of criteria against which the fitness of land for agricultural purposes can be measured, the Jersey system is based solely on the Land Control Officer's judgement on the day of inspection. Similar criteria (slope, orientation, access, amount of stones etc.) may be applied by the officer and so it is a more subjective process based on a superficial visual assessment. This needs to be borne in mind by anyone seeking to return a field to the land bank.

Methodology

For the purposes of this exercise, all soil found beneath the glasshouse will be referred to as 'subsoil'. Any topsoil that may remain beneath the existing glasshouse will have been rendered unfit for agricultural use by the construction of the facility, the anaerobic conditions beneath the slab floor and subsequent compaction by vehicles using the site. The native subsoil will almost certainly be a grey-blue or tan coloured heavy clay.

Generally, topsoil and subsoil should only be lifted, handled and worked during dry weather and when the soil itself is dry but still friable (between 50-60% of field capacity is ideal). In Jersey, this normally means doing the work between early June and late September.

Soil should be stripped, stored and spread according to the 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (DEFRA 2009) (see Appendix 1) as modified by the more current 'British Standard specification for topsoil and requirements for use' (BS3882: 2015).

Any works that involve adding or removing soil from the root zones of existing trees must be accounted for with mitigating measures included in the design process. 'British Standard Trees in relation to construction.

Recommendations' (BS5837: 2005) should be used as the base line for these works but the root zone radius figure should be increased to 1.5 times the height of the tree to account for local conditions.

The following Schedule of Operations should be adhered to so as to enable Fields M770 and L78 to be brought back into the Jersey land bank as good quality agricultural land.

Schedule of Operations:

1. develop a plan of the finished levels to be achieved by the restoration work which links the field to its surrounding topography and takes full account of the root zones of existing trees in the area that may be affected by the works (see note above);
2. clear the site down to clean soil and remove all arisings off site;
3. sample the existing soil on a five metre grid over the whole site and test for pH levels;
4. where contamination from the concrete greenhouse floor has raised pH levels above 7 the soil should be removed and disposed off site;
5. any other phytotoxic contamination should be dealt with by removal of all contaminated soil or subsoil down to clean material;
6. carry out desk research and scan site for hidden service runs – remove dead lines if they will interfere with subsoil leveling operations and re-route live lines to the field boundary or as advised by the service company;
7. level the subsoil to achieve finished levels minus 600mm;
8. where subsoil needs to be added to achieve stated levels it should be applied in layers no thicker than 150mm and compacted thoroughly and evenly before the next layer is added – the finished levels must conform to the gentle slope specified and with no dips or hollows that will retain water;
9. if a land drainage system is required it may be installed at this stage directly in to the exposed subsoil prior to topsoiling operations;
10. arrange for a supply of local clay loam topsoil of a stated analysis with a pH range of 6.0-6.5 to match the texture of that found in the surrounding fields with 15% by volume of organic States of Jersey soil improver thoroughly mixed in prior to delivery to site;
11. spread new topsoil according to the guidelines given above when the soil is dry and the weather forecast predict rain free weather for a minimum of 24 hours;
12. spread new topsoil in layers not exceeding 200mm and firm each layer gently by passing a tractor with grass tyres over the area just spread;
13. spread topsoil as above to an overall thickness of 700mm (i.e. 100mm above finished levels) to allow bulking during transportation and settlement after spreading;
14. when topsoiling operations are completed the whole area of new soil is to be sown with a cover crop according to the landscape architect's instructions;
15. prior to hand over submit all soil analysis for the topsoil used to the client.