



A. Project summary

Carry out like-for-like repairs to cap and sweeps of windmill, reinstating dismantled components, to allow them to operate as originally designed.

B. Phases of the project

- Phase 1 – Repair of external reefing stage (complete)
- Phase 2 – Renewal of external weatherboarding (complete)
- Phase 3 – Repair of curb, cap and fantail
- Phase 4 – Renewal of sweeps and overhaul of shutters and striking gear

C. Aims of the project

1. To repair the cap, fantail and sweeps of the mill which are currently in poor condition and have been partly dismantled for safety reasons.
2. To allow the repaired cap, fantail and sweeps to turn under wind power.
3. To create conditions that will allow the mill's internal machinery to produce flour again in the future.
4. To enable the mill to be reopened and demonstrated to the visiting public.

D. Proposed methodology

Phase 3

1. Create secure compound on the site.
2. Crane off existing sweep frames and stocks.
3. Crane off cap, windshaft and fan stage. Remove fan stage from cap.
4. Fit temporary flat roof over smock tower for weather protection.
5. Transport all components off site to specialist workshop for repair. Place cap in covered, secure workshop for duration of repairs.
6. Repair and re-level curb ring.
7. Partly remove weatherboard cladding of cap to expose damaged cap frame.
8. Repair and strengthen damaged cap frame timbers.
9. Replicate fan stage in new timber. Decorate and install.
10. Replicate and test-fit 8no. fantail blades.
11. Overhaul fantail gearing and leave in working order.
12. Reinstall weatherboard cladding of cap and redecorate front gable and sides (black 'tar' finish).

13. Redecorate rear gable of cap white to match historic photographs (c1900-c1940). Reinstall missing weathervane (shown in historic photographs) above rear gable.
14. Transport repaired cap to site. Complete installation of fan stage and gearing on site.
15. Remove temporary roof.
16. Crane cap into position. Set winding, test and monitor performance.

Phase 4

1. Discard non-traditional metal stocks.
2. Replicate sweep frames and stocks in new timber to match existing design, incorporating missing stock clamps.
3. Fully decorate timber components of sweep assembly. Test-fit and balance under workshop conditions.
4. Overhaul and decorate existing metal fixings.
5. Overhaul front and rear striking gear.
6. Rub down, redecorate and install 1/3 set of shutters to sweeps.
7. Transport all components to site.
8. Install sweeps, set up striking gear and test in operation.

E. Materials specification

Oak timber	Semi-dry heartwood of English oak
Softwood timber (large sections)	Heartwood of British Douglas Fir
Softwood timber (smaller sections)	Kiln-dried heartwood of Canadian Douglas Fir
Preservative treatment	Koppers Protim 265 clear timber preserver
Timber treatment and decoration	All softwood to be bathed in preserver after shaping and drilling. All joints to be painted prior to assembly and assembled with wet paint.
Black 'Tar' finish to woodwork	Koppers CT5X-P Tar
White finish to woodwork	Kreidezeit Stand Oil Paint
Timber adhesive	'West' system 2-part boatbuilding resin
Metalwork (where painted)	Leyland metal paint
Metalwork (where unpainted)	Hot-dip or spin-galvanised as appropriate

F. Proposed project programme

Autumn 2022	Dismantling phase
Winter 2022 – Spring 2023	Repairs to cap (off site)
	Renewal of sweeps (off site)
Summer / Autumn 2023	Installation phase

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