

Report Prepared For: Ms Annie Dallaway
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Our Ref: WM-20230816_Porl
Report Date: 8th September 2023
Inspection Date: 16th August 2023 – 11:20am
Weather Conditions: Clear skies and sunny with light winds – 21°C temperature
Inspector: Simon D Morgan
Report & Quotation: **War Memorial – Dunster Steep, Porlock.**

We would respectfully refer you to the photograph sheets attached in conjunction with this report.

We have now carried out an on-site, visual, non-intrusive inspection/survey - any defects that were hidden which could only be ascertained by intrusive works are not covered.

Our approach to the conservation of War Memorials is in-line with that of the War Memorials Trust, English Heritage and Cadw, which is to use specialist craftsmen to carry out “as little as possible but as much as necessary” in order to maintain the structural integrity of a memorial/monument whilst ensuring that the names of those recorded on it are preserved for future generations but it is never the intention to restore the memorial to its original pristine condition.

The monument was found to be level in all plains as well as stable and secure structurally in appearance with no significant visual indications of any serious structural issues of concerns.

The intention of this report is to give an overview of the possible issues concerning this memorial and an estimate as to the costs that may be involved.

As described in our previous report (dated 28 Jan 2020) the memorial consists of a tall trefoiled or floriated cross set on a matching tapering column surmounting a base with 3-tiered steps all constructed from red-sandstone blocks. This structure sits on a raised area surrounded by stone cobbles at the junction of the A39 where it splits at Dunster Steep. There is a small dry stone retaining wall behind the memorial which has been cut into the rising bank that has been landscaped with shrubs and turfing.

In front of the memorial there is a raised wall from the road with matching red-sandstone copings. Set centrally in this front wall is a cream coloured limestone (possibly Portland Stone) inscription panel. It is constructed with in-set/recessed panels in blockwork with a raised boarder with a checked top set to a weathering shaped small plinth. Directly in front of this panel is a wooden edging in-laid with light coloured stone chippings. Set to the top and corner surfaced of this structure are metallic spikes which appear to be black enamel coated.

The memorial surfaces have weathered and appear to have carbon deposits and biological growths caused by the close proximity of the busy roads and plentiful negational growth. There was also observed a significant build-up of bird-droppings on the upper Cross sections and the top of the upper base.

The front limestone inscription section has indications of overly aggressive previous cleaning techniques having been applied. The softer elements of the limestone structure have been eroded possibly by high-pressure cleaning with a “sugary” texture remaining which encourages more rapid return of biological growths and traps more air-born pollutants and debris.

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The memorial would therefore greatly benefit from a full professional cleaning and we would recommend, in line with the War Memorials Trusts "best conservation practice" careful conservational-restorative cleaning to the more delicate and detailed carved areas should be carried out by delicate hand-cleaning using natural bristle brushes and low-pressure, PH-neutral, de-ionised water cleaning specialist masonry files and cleaning tools to save as much detail as possible from these carvings.

The other main areas of the memorial should be cleaned with careful and professional use of the DOFF System method of cleaning technique which will remove the biological growths.

The DOFF System is unlike any other steam or jet-wash system. It produces high-temperature steam - up to 150°C at the nozzle end and the skilled operator is able to vary the temperature and pressure to remove many types of dirt, grime and biological matter. The steam/superheated water will not only remove moss, algae, fungi and other biological matter but will also kill off the spores.

When the temperature in the system is high the pressure on the surface being cleaned is very gentle and the volume of water is low. The surface is therefore not saturated and will be dry within minutes.

You will note from the photographs enclosed, that there are several areas where the joints of the main memorial and the inscription panel have failed or have become defective.

Should the missing/failing pointing not be addressed in the short-term, then this will lead to a rapid deterioration of the memorial and masonry generally allowing water penetration which can lead also to frost damage, as well as allowing vegetation to begin growing within the missing mortar areas. There are already several areas where vegetative growth has begun and needs to be arrested before it causes significant problems with the structural integrity of the memorial.

We would therefore strongly recommend that following the cleaning, all of the existing mortar is carefully checked and tested after the memorial has been cleaned. Then any missing, loose/open and defective pointing will need to be carefully hand-raked out by hand using a club hammer and relevant chisels or for finer joints a thin stainless-steel blade or hook.

The use of mechanical cutting discs/angle grinders should not be permitted.

All tools should be suitable to the joint being worked and bed to a depth of 2-2½ times the width of the stone joint or 25-40mm (whichever is greater) to ensure an adequate bond. Largely empty joints should be deep tamped and if necessary, hand grouted to fill in the joint to the required depth in preparation for pointing.

Once raked out, all joints should be carefully and thoroughly brushed out and cleaned to remove dust, loose material and residual mortar particles should be flushed with clean, fresh water, avoiding unnecessary saturation.

A biocide should then be used if the joints are covered with organic growth as part of the cleaning process.

The joints should then be re-pointed using a lime-based mortar closely matched in constitution, consistency, colour and texture to the original mortar mix.

The cobbled area surrounding the main memorial and the coping of the surrounding walling together with some areas of the boundary walling have also experienced mortar failing with open and defective joints which have quite significant vegetational growth beginning to take hold. We would strongly recommend that the vegetational growths are all removed and the joints re-pointed in these areas as well to secure these sections.

The red-sandstone has some areas where fissures and cracks have appeared as well as a few areas which appear to have previously repaired but these repairs have now failed.

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We would therefore strongly recommend that the old repairs are attended to and the fissures are filled with lime-based, colour matched consolidation material to help reduce the moisture ingress which if left unattended will lead to an accelerated deterioration by "freeze-thaw" damage and/or vegetational growth.

The dry-stone walling section in the top North-West corner has experienced a partial collapse. This requires re-building and re-tying in with the main wall to ensure this deterioration does not continue.

The inscription panels are hand-engraved with v-cut letters which have then been inlaid with black enamel to ensure that they remain legible. The black enamel has begun to weather away and flake in most areas.

On close on-site inspection, although the surface of the engraved stone has been eroded and become "sugary", the characters remain relatively respectfully deep and sharp and do not, at this time, require deepening and re-sharpening. However, they would significantly benefit from having them re-black-enamelled by careful hand-application from a skilled craftsman following the recommended cleaning process.

The black enamel coating on the metallic spike feature on the top of the inscription sections of the memorial have begun to flake and fail and the metal has oxidised (rusted) in a lot of areas. We would recommend that they are stripped of any remnants of the existing failing and flaking enamel, prior to be treated with two coats of zinc-based primer, one coat of micaceous iron-oxide (anti-rust) and then re-painting using two coats of specialist, high-grade gloss, external metal enamel paint.

During the site inspection there were a number of observations and recommendations we would suggest in respect to "general housekeeping" to help the long-term durability of the memorial and prevent accelerated deterioration.

Firstly, it was observed that a number of flower-planters are rested directly on the masonry surfaces – three such planters were on the more vulnerable limestone of the front inscription panel structure. These create and also trap moisture which it then absorbed and trapped within the surface of the stone. This trapped moisture encourages biological growths (algae and similar) and insect infestations. Ideally the stone should be left to breath and have nothing resting on it – however, if you do desire to maintain this sort of planter on the surfaces then we would recommend that they are placed on small risers that will allow airflow.

Secondly, it was observed, as stated above, that there is a build-up of bird-droppings on the upper Cross sections and on the top base. This can be quite corrosive and damaging if left unattended. We would recommend that consideration be given to setting a subtle bird-spike section to the apex of the Cross to discourage birds from perching and creating this problem.

Thirdly, it was observed that the Remembrance Day Wreaths are attached to a mid-steel wire which is wrapped around the upper base of the Cross.

This wire may cause localised staining if and when it begins to deteriorate and rust. In addition to this the movement of the wreaths in wind or from vehicle draft etc can cause the wire to move almost in a sawing-action. Over a prolonged period this may cause damage or grooving to the masonry surfaces that it is in contact with.

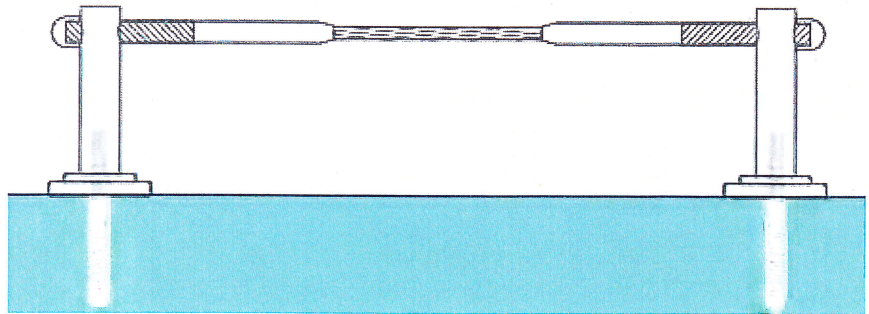
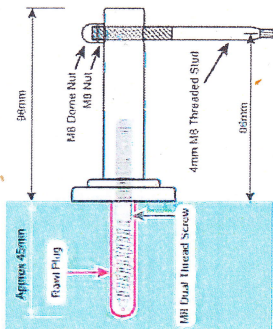
We would recommend that you consider using an alternative method of wreath attachment. We have for many War Memorial, supplied and fitted a tensioned stainless steel wire system. This consists of two stainless steel supports that are secured into the mortar joints rather than drill the masonry, which then have a taut stainless steel wire suspended between them. This can then have individual wreaths secured to the this stainless steel wire to prevent any damage being caused to the masonry (please see over-leaf for example).

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Example of Tensioned Stainless Steel Cable System for Wreath Attachment.



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This quote will remain valid for a period of 60 days from the above date.

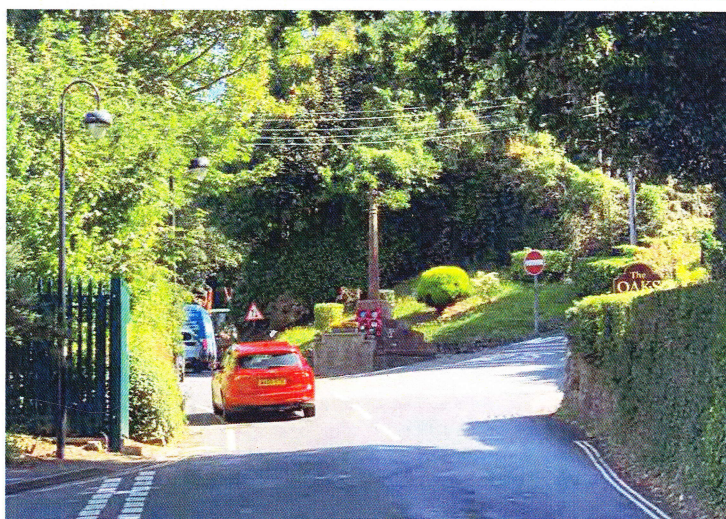
All work would be carried out by our own skilled and Licensed Masons and all work would comply with the NAMM (National Association of Memorial Masons) Code of Working Practice and British Standards BS8415:2018 and all current War Memorial Trust (WMT) guidelines and Conservationist Best Practices.

We would be pleased to undertake of the above work on receipt of your further instructions. Should you have any queries regarding the above or if we can be of any further assistance, then please do not hesitate to contact us.

Yours sincerely

Simon Morgan
Managing Director
War Memorial Restoration Company
MS-Group Ltd

E. & O. E.



Porlock War Memorial - Dunster Steep
Site Visit Photographs - 16 August 2023



Porlock War Memorial - Dunster Steep
Site Visit Photographs - 16 August 2023



General areas showing the surface condition of the main memorial - clear indications of vegetational and biological growths (lichens, algae etc) as well as pollutants and general air-borne debris.

Porlock War Memorial - Dunster Steep
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Inscription panel - showing pitted signs of accelerated erosion - but good depth to inscription remains and still sharp enough to be able to be re-painted with specialist black stone enamel but would need to be carefully applied by hand by a skilled craftsman to help minimise distortion to letter-shaps caused by the erosion to the surface generally.

Porlock War Memorial - Dunster Steep
Site Visit Photographs - 16 August 2023



Examples of missing &/or defective mortar joint pointing which will need replacing.

Porlock War Memorial - Dunster Steep
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Stone-paved area surrounding the memorial requires weed-removal and then re-pointing to reduce further vegetational growth which will accelerate deterioration of paved area.

Porlock War Memorial - Dunster Steep
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North-West corner of the walled area has suffered a partial collapse and requires re-building.



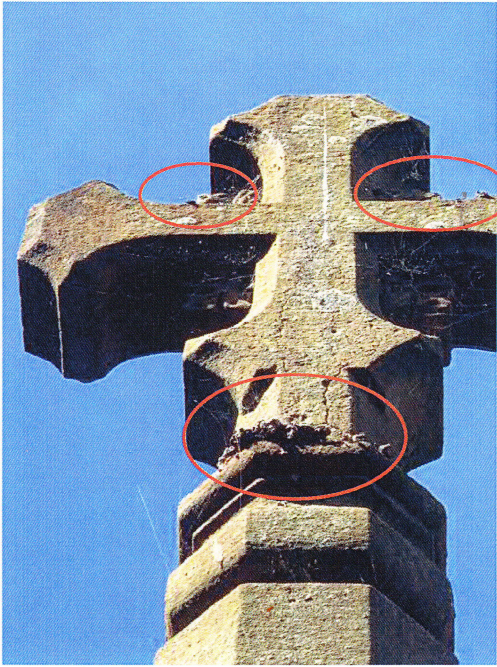
The remaining areas of walling require vegetation removal and re-pointing as necessary to prevent further deterioration.

Porlock War Memorial - Dunster Steep
Site Visit Photographs - 16 August 2023



Defects, fissures and faults in some areas of masonry including evidence of previous repairs that have now failed. These need repairing to prevent further deterioration.

Porlock War Memorial - Dunster Steep
Site Visit Photographs - 16 August 2023



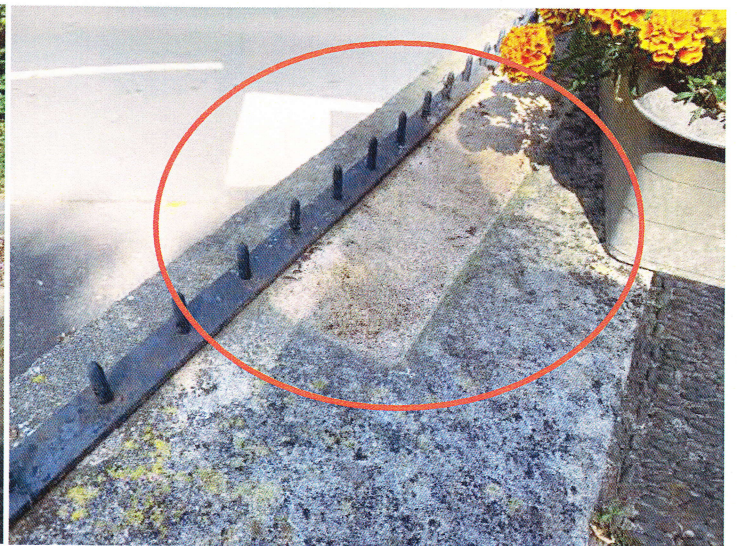
General "House-Keeping" recommendation: - birds are currently perching on the top of the Cross - they are then depositing droppings on the ledge and top of the bases. These droppings are not only unsightly and a potential health-hazard - they can, by their chemical composition, be quite damaging to the masonry if left on the surface for prolonged periods.

Consideration should be given to the fitting of anti-bird spikes to the top of the Cross to discourage perching.



General "House-Keeping" recommendation: - avoid using metal wire to secure wreaths. This can rust/oxidise and leave stains but also it will, over time, erode away the masonry where the wire is touching the stone especially with small movements caused by wind and passing traffic etc.

Consideration should be given to fitting a more permanent system - such as a Stainless Steel Wire System, that can be fitted on the memorial using the mortar joints for fixing areas (rather than drilling the masonry for fixings) - this can then have the wreaths attached to the wire to prevent the need for the potentially damaging wire currently being used.



General "House-Keeping" recommendation: - avoid placing flower pots directly on to the masonry. The moisture that this creates and traps along with any staining elements, can discolour the masonry below and accelerate the deterioration of the masonry as it is kept in an almost permanent moist/damp condition. *Consideration should be given to preferably re-locating these on alternative surfaces or setting them to small risers to increase air-flow.*

Porlock War Memorial - Dunster Steep
Site Visit Photographs - 16 August 2023





General "House-Keeping" recommendation: - the enamel paint surface on the iron spike feature on the main inscription panel has begun to flake and fail - this has lead to oxidisation (rust) of the surface and if left unattended the rust could irreparably stain the limestone.

Consideration should be given to removing all remnants of flaking/failed enamel paint before treating with an anti-oxidize coating and then re-applying a black gloss finish enamel paint (external grade).

Porlock War Memorial - Dunster Steep
Site Visit Photographs - 16 August 2023