

The works described are the careful dismantle and reconstruction of Ladies Arch including stone steps and risers, situated to the West garden of Devizes Castle. This is an overview methodology, this is not the Construction Phase Health & Safety Method Statement.

Site Assessment and Risk Assessment:

- Conduct a thorough site assessment to identify any potential hazards including structural integrity and access, prepare risk assessment as required.

Recording of Structure:

- Survey all stones and mark up clearly with washable grease chalk in a numbering system from bottom to top (e.g. outside west will start with W1, east with E1).
- A full detailed photo survey will be undertaken to aid with reconstruction and to ensure a comprehensive record is established. Detailed photographs of the structure will be taken from multiple angles, including close-ups of joints and the condition of the masonry as required.
- Use measuring tapes, photographs, poly cam and notes to record the dimensions, features and condition of each stone element.
- Number or tag each stone element to ensure proper identification during the dismantling process.
- Once surveyed a report will be provided.
- Pallet record sheets for the dismantled and stored stones will be provided which confirm the marked stones on each pallet.

Dismantle:

- Install the running rail system and chain hoist securely, this is required to move individual stones.
- Carefully remove mortar around each stone using hand and mechanical means tools as required to loosen each stone element to enable it to be lifted off the arch structure one piece at a time.
- Ensure all lifting operations are done slowly and steadily to prevent damage to the stones, the use of Lewis pins and strapping will be required.
- Following dismantling, stones will be carefully lowered to the designated pallet where they will be labelled, wrapped and secured. Pallets will be moved into secure storage until required for the rebuild.
- Following the removal of the stones, using specialised stonemasons hand tools carefully remove old mortar from the bedding surfaces of each stone element avoiding excessive force that could damage the stones. Work methodically to ensure thorough cleaning.
- Once cleaned and ready for re fixing the stone is then marked as per the approved drawing to enable the stone to be identified for the re fixing process.
- Stack stones carefully onto pallets with softening etc between stones, wrapped using shrink wrap and the pallet numbered for identification purposes.
- Stone steps and risers to be dismantled following the same methodology.

Rebuild:

- Using the original recorded line, set out the centre line and the arch curve on the ground and on the scaffolding to ensure proper alignment.
- Mark the positions for the key stones and ensure the arch will follow the correct historical design.
- Reconstruction will use records and photographic survey to closely replicate existing.
- Begin rebuilding the arch from the base stones upwards, laying each stone in its original position and aligning it according to the set-out lines and recorded positions.
- Use the approved lime mortar each bed to be thoroughly wetted prior to laying, ensure the mortar is mixed to the correct ratio of 1 part NHL 2 lime, 3 parts sharp sand, and sufficient water to form a workable, creamy consistency.
- Each stone should be set securely, with a minimum of 3-8mm of mortar between stones. Use a spirit level and plumb line to ensure the arch remains vertical and aligned.
- Install new stainless steel fixings where necessary. Stainless steel dowels, anchors or ties will be used to reinforce the stones particularly in areas where the original fixings have deteriorated. These fixings will be hidden within the joints, ensuring the aesthetics of the original structure are maintained.
- Once all stones are in place, ensure the mortar joints are carefully finished and flush with the edges of the stones. Use a pointing tool to achieve an even, consistent joint that matches the original profile. Ensure the mortar joints are tooled while still workable, but not so wet as to cause slump or run.
- Allow the lime mortar to cure slowly to avoid cracking. It is essential to maintain moisture in the mortar for at least 7 days after application to ensure proper hardening.
- Cover the arch with damp hessian or a protective sheet to maintain moisture levels, especially during hot or windy weather.
- Periodically inspect the arch during the rebuilding process to ensure the line, plumb, and level are maintained. Inspect the alignment of each stone and the consistency of mortar joints.
- All stainless steel fixings will be checked to ensure they are secure and unobtrusive, in keeping with the historical character of the arch.
- On completion conduct a final inspection to confirm the arch is structurally sound, visually accurate to the original design and the finish is acceptable.
- Provide documentation of the works completed, including photographs and any other relevant records.

Ladies Arch: Existing Condition Photos

