After all the planning, gaining of permissions and appointing the contractor was completed, the work on site could start.

The specialist conservation contractors who won the tender process was Heritage Conservation Restoration Ltd who are based in Ashton-under-Lyne. They brought an experienced team to the project and helped us fulfil one of our project aims by including an apprentice on site. The initial planning was carried out by directors, Mick Goulding and James Dalton, both of whom are very experienced in this type of work.

Before anything was done to the pinnacle a scaffold framework was erected around it. This included full sheeting which allowed the team to work continuously for the projected work period of eight weeks. The work on the pinnacle needed to be completed well before the threats of frost so that the lime mortar had time to cure. Unfortunately the start date was delayed by a week. However, rather than being a source of annoyance the project team were very happy. The reason was the site foreman’s baby deciding to hang on for an extra week before being born! In the event the work went so well that it was completed in seven weeks and avoided any signs of overnight frost.

So it was at the start of September 2015 that Danny Parker, site foreman and stone mason and Josh Tindall, apprentice, set to work on the task of dismantling the pinnacle piece by piece. This was time-consuming work as the relatively soft stone was easily damaged.

In the survey stages it was assumed that usual building practices had been used in the construction of a pinnacle of this age. These typically mean that the individual sections are held together with iron, or ferrous, pins and cramps. The usual course of events is that missing mortar and small cracks in the structure allow water to seep inside, the iron rusts and in doing so expands. This causes the stone to crack apart and exasperate the situation. There was some evidence of this occurring on the uppermost section of the pinnacle and some small iron pins were visible on the surface. In the event, although the top section cracking was in fact caused by an iron rod running vertically through it, the major sections were found to be held in place with rectangular pieces of slate. These were cut through as part of the dismantling work and the cut ends can be seen in some of the photographs shown in this chapter.
South West Elevation

South East Elevation

Clitheroe Castle Gardens - HoP Pinnacle Elevations
Ivan Wilson
Conservation Architect
IWA Architects, Clitheroe

Every conservation project presents a range of analytical and technical issues involving diagnosis of problems and finding appropriate solutions in relation to the nature of the materials and techniques. The repair of the former houses of Parliament pinnacle has been a unique opportunity to be involved in the decision-making on highly carved decorative stone repairs. The unique history added interest and involved sourcing new stone to match the original. Methods of repair were also researched to retain a much of the original material / fabric as possible.

Research on using carbon rods for pinning stones together and on the suitability of the mortar mix for the stone was particularly interesting and valuable research opportunity. Essentially the principle here is to ensure the mortar mix is weaker than the stone. Advise was sought and given by an accredited Conservator David Odgers who had also advised on the Houses of Parliament repairs - dealing with the same stone materials.

A Philosophy of stone repair was offered as part of the application for listed building consent: This said the following regarding the repair approach being taken:

Our approach to these repairs are informed and guided by the ICOSMOS principles and guidance and the English Heritage guidance. They both produce lengthy documents, the most relevant parts being:

While sufficient work should be undertaken to achieve a lasting repair, the extent of the repair should normally be limited to what is reasonably necessary to make failing elements sound and capable of continuing to full their intended functions.

And later:

The use of materials or techniques with a lifespan that is predictable from past performance, and which are close matches for those being repaired or replaced, tends to carry a low risk of future harm or premature failure.

The project administration and co-ordination was more complex than usual as the project was also an educational tool for the wider community, with several interested parties involved. To this end we produced a computer-generated image of the pinnacle (undertaken by Richard Schofield and shown right) and this was used by Pendle primary school children as a learning tool. The 3D images were also used in publicity.

IWA also undertook the contract administration when the work was being done on site with regular site visits to discuss with the stonemason the details of the work. The good working relationship with the conservation contractor was important throughout.
The scaffold proposal mentioned by James Dalton
From receiving the information about the possibility of tendering the project for the pinnacle, I expressed our company’s interest straight away.

The opportunity of working on a stone structure taken from the Houses of Parliament is something that doesn’t come often and it felt like a great achievement first of all having the chance to price the work but then actually being successful on the tender was unreal!!

The difficulties in pricing a project like this is trying to take into account all the unknowns that you are up against. Although all the information provided at tender stage was more than useful there is still uncertainty as to what you might find when you start to dismantle Pinnacles like these. Being an experienced stonemason as well as an estimator allowed me to take into account difficulties we may have faced whilst working on the project to the price accordingly.

The next factor on pricing the project was to think about the logistics of the site, scaffold access, welfare facilities etc.

Therefore I took the decision to meet with my scaffold subcontractor on site during the tender period to come up with a design that will make the job easier whilst working on the Pinnacle. During this, we came up with the design shown below and took the decision to incorporate a temporary roof so that no weather conditions could stop us from working on the pinnacle.

The job was priced mainly on time scale and how long I anticipated it would take to dismantle the Pinnacle, remove ferrous fixings, and carry out any repairs to then rebuild the Pinnacle. And again, being a stonemason myself this allowed us to be accurate and competitive with our price which meant we won the project.

It was an honor to be part of this project and work closely with the Client team to keep control of costs throughout the project and produce a successful project which will give the Pinnacle a longer life span for years to come.
Michael Goulding
Contracts Manager, HCRL

I am a stonemason by trade who has worked on prestigious buildings within the north of England, I have made myself up through running contracts as a site manager, and then on to contracts manager.

This project to me as contracts manager was not about doing the job, it was the site logistics, i.e. being in a busy park no electric, no water, and no site welfare. We had the scaffold in hand and it was my job to make sure health and safety was correct and that we had all the things in place. I ordered a welfare/store cabin on wheels which was situated at the top of the drive along with a portable toilet. Water was brought in containers and the electric supply was by 110v/240v petrol generator that did our welfare cabin and also the site electrics for doing the work. I set the CDM and all the risk and method statements for the job, in which I went through with Danny and Josh.

The scaffolding contractor where Hardy access who brought the scaffold on a small wagon daily and we made sure we compounded ourselves of from the public, the park was busy at times, but the public were very interested in our project and would ask questions when passing by.

We had a few open days while on the project, Heritage weekend was good, we did guided tours for people to have a look on the scaffold and show them the sizes of stones and how they were made to form a pinnacle. We also had the conservation architects from UCLAN who came for a visit, some of them had done feasibility studies on the monument so was nice to see it dismantled and started to be re-built. The client team where great. Clitheroe Civic Society had real enjoyment of the works that had been done, and took lots of photographs.

The job was an achievement by all involved and was completed on time and on budget and will stand for another decade in which it looks stunning situated next to the castle.
The aim of the job for me and Josh was to take the pinnacle down without any damage, some of the stones had already started to crack and become friable. One of my main concerns where the hard grout and cement it had been built in, the limestone is quite week and can split if the cement and grout is too hard.

We took the finial of and strapped it together to keep all the pieces together, the next stone was also bad and had to do the same. This was due to a rusting iron bar that was situated in the middle of the pinnacle. The next courses came down easy as the main fixing was the center bar, there was a few iron cramps but wasn’t as many as we first thought. The scaffold and lifting beam made the job manageable and the monument came down with very little damage if any.

The plinth stones at the bottom of the pinnacle had moved over years of settlement, we tried to put these back in position, but due to the size and the position of them found it too hard, we would have damaged them in doing this, we let the architect know and we decided to clean the open joints out, treat with weed killer and slate gallet and point them up on lime mortar.

We started to re-build the pinnacle, using lime mortar beds and carbon fibre dowels to pin anything loose and used stainless steel dog cramps to cramp courses together. We did minor indent repairs to damaged masonry due to iron fixings. The stone we used was Jackdaw crag limestone.

We also introduced a new stainless steel threaded bar in to the pinnacle when building the last courses this was to take the finial at the top.

The last stone was put on at the topping out ceremony in which the Clitheroe civic society attended along with the architect. We also put a lead capping on top of the finial along with the date.

Myself and Josh enjoyed working on this project and will enjoy going to see it in years to come.
Joshua Tindall  
Apprentice Stonemason, HCRL

My name is Josh Tindall and, aged 17, I have recently completed my first year apprenticeship at York College as a stone mason. I started at college in September 2014 to do my NVQ level 2&3. I started working for Heritage Conservation Restoration Ltd in April 2015 where I had already completed ½ a year at college. I have been able to work stones from all over the country most of them being sandstone, but have also done work in Limestones, in which York Minster is made out of.

I enjoy working stone and love that my work will conserve and restore our historic buildings and monuments for years to come. I also like to learn the history of the buildings and monuments I work on and get great satisfaction in restoring our heritage.

I started on this project in July 2015 working alongside Daniel Parker a leading stonemason with years of knowledge of working on pinnacles and historic monuments. My day to day work was to help him hoist the big large blocks up and manoeuvre them around the scaffolding. I also had to cut out any rusting ironwork and drill the stones for re-fixing and cleaned of the old cement mortar. Once the monument was dismantled I helped to cut out some of the stones for indenting, pointed up the big joints in the plinth with slate and lime mortar. I found it really interesting that we was using carbon fibre rods to pin stones together as I have never done this before, I have only ever used stainless steel. When re-building the pinnacle we was using the measurements we took when we dropped it to make sure that everything went back plumb and accurate. We also used stainless steel cramps to cramp courses together. We fixed the pinnacle in lime mortar and then raked this out ready for re-pointing in a different mix in which the architect had picked.

I really enjoyed my time working on this project and are glad that this pinnacle will stand for years to come. I can’t wait to take my family to see it in years to come and can happily say that I was part of the restoration and conservation of the pinnacle which is one of our prestigious and historic monuments in Britain.