

# The Forest Hermitage Roof Project

## Existing Roof:

The main structure of the roof is substantial and looks to be in good condition, there is an infestation of Woodworm, but currently, it is unlikely to be threatening the integrity of the roof. The tile roof covering is beginning to look tired especially at verges (sides) and eaves (bottom edge), the verges have had some remedial work in their recent lifetime, however this looks to have been more of a 'cover up' of a problem rather than a solution. Obviously this roof predates the use of underfelt and galvanised nails. When stripping roofs of this age it is usual to find the tile batten nails partially corroded away. The tiles have tags to hook over the battens but I am not sure if they have nail holes, the tiles were bedded on lime mortar originally, this is not unusual for a roof of this age, however it does make subsequent repairs troublesome. The tiles themselves seem to be in good condition and certainly reusable, some ridge tiles have been replaced with ill-matching types. The chimney stack has a cement mortar fillet for weathering at the roof junction and the lower half of the chimney has never been repointed, it is in OK condition, the four upper stacks were repointed by myself recently and are in good condition.

Facias and soffits have sections that are in very poor condition, while other sections just need a good dose of TLC. Rainwater guttering and downpipes are a bit of a mismatch and falls and direction require attention to the majority of it. There is some insulation in the roof space, a mixture of fibreglass blanket and vermiculite granules, this is sporadic and very minimal, the upstairs rooms have sloping soffit ceilings which have no insulation at all, only the plaster and roof tiles separate inside to outside, these sloping soffit areas of the ceiling account for 50% of the total ceiling area, uninsulated. Access into the loft is poorly situated and minimalist, there is barely enough space to squeeze past the central chimney stack to gain access to the other end of the roof, currently you have lie on your stomach and drag yourself through, there have been rats and mice living in the roof space along with wasps and the aroma in there is unpleasant. External access to the gable ends is difficult due to there being non-load bearing polycarbonate roofs below each of them. I imagine the building was originally painted to hide the the state of the brickwork and the many alterations it has endured over its lifetime, my previous work on the shell leads me to believe that the walls could do with repointing even though they 'look' OK.

## Objectives:

It should be clear from the above that we are are not looking at a typical re-roof, additionally, because the main building is surrounded by ground floor extensions for about 70% of its perimeter the scaffolding has to be creative. With this in mind, it makes sense that the opportunity is taken, while the scaffold is erected, to do as much work as possible at high level. With the normally poor access to the Gable ends it would be also be prudent to include any foreseeable maintenance on them to be carried out at the same time as the re-roof.

List of Objectives:

- Insulate roof to current 'New Build' standards.
- Proprietary Treatment of roof timbers with Guarantee.
- New Fascias, Bargeboards and soffits.
- New Guttering and Downpipes.
- As much rainwater as possible to the rear of building.
- Repointing gable ends and dormers.
- Repointing of lower chimney stack and lead flashing.
- Reuse as many roof tiles as possible.
- Provide easy access to roof space at both ends.
- Boarding and lighting to make roof space usable.
- As maintenance free as possible.

#### Preliminary Work:

Due to the lack of suitable load bearing area for scaffolding, the main Shrine room roof will require temporary support for the duration the scaffold is erected. Telescopic Acrow props and timber bearers will be used along the full length of the room directly under the scaffolding, these will ensure that the weight of the scaffold and any loading will be directed to the concrete floor rather than the flat roof.

#### Detail Specification:

The sloping ceiling design of the upstairs means that conventional insulation practise will not be suitable, therefore I propose to use a 'warm' roof type specification. Current new build specification for pitched roofs in England is U-value 0.11 W/m<sup>2</sup>k, to attain this level of insulation will require 200mm of PIR type rigid insulation board, 80mm between rafters and an additional 120mm over the top of the rafters. This top layer of insulation will be sandwiched between a 38x50mm counter batten and the rafters. A breathable membrane is then laid over the counter battens and fixed down with the tile battens.

This build up gives an additional 160mm height to the existing roof, careful thought has to be given as to how this will look, my proposal is to create a two tier fascia/bargeboard similar to the multi tiered style of Thai Architecture such as over the main entrance to the Hermitage. I believe a very deep single bargeboard will look ungainly. All Fascia's Bargeboards etc. to be in Rosewood Upvc, this continues the style already started with previous works.

New guttering in Brown or Black with a view to sending as much rainwater as possible to the rear of the building, this is with a eye on the future, it has been suggested that excess rain water could be diverted away from the building and ultimately be directed into the ditch adjacent to the road, this is a good idea, currently, there is no system to take excess rain water away from the building, however, this is not part of the Re-roof project.

Repointing of the gable ends down to at least the top of the upstairs windows, the dormers including the side cheeks and the lower chimney stack. Joints to be ground out with a grinder and repointed with cement mortar with a weather struck finish.

Lead flashings to be in Code 4 lead with Code 3 soakers at abutments, Apron corner Flashings to be welded not dressed and fixed every 200mm or every course on stepped flashings. Flashings to be pointed in proprietary lead

sealant and coated with patination oil. If lead saddles are required at the Dormer to main roof junction then these are to be Code 5 lead, welded if necessary.

It is planned to reuse as many roof tiles as possible, there are two proviso's with this, the first is they have to be in good condition (in my opinion, they are) the second is they have to have nail holes or be suitable for having holes drilled in them. About a quarter of the tiles will require holes for nailing. With the best will in the world there will still be breakages so it is assumed we will need more tiles, I propose that we try to purchase enough 1½ tiles for all the verges, these can be new or second hand and if they do not match the existing tile exactly they would form a perimeter to the roof that could look aesthetically correct. New tiles will be cheaper than second hand.

Provide two generous loft access hatches at either end of the property, along with aluminium loft ladders and insulated hatches. While the roof is off it gives easy access to the roof space from outside, it is proposed that we board the available space in the loft while we have this access. Provide lighting inside loft space switched from respective hatch openings.

#### Waste:

A large portion of the waste will be either burnable or reusable, broken tiles and offcuts make good hardcore, we will need to arrange disposal of the old insulation and offcuts of the new insulation and fascia etc. A skip has been costed but if we can find suitable means of disposal then it may not be required.

#### Temporary Roof Cover:

A temporary roof covering will protect the property from weather for the duration of the work, this will be in the form of a 'Monarflex' reinforced polythene sheet. This will be designed in sections ie, dormers, lower roof, upper roof, this gives us the ability to work in 'suspect' weather and know that the section we are working on can be covered and uncovered quickly.

#### Bad weather/fill in jobs:

We have to expect some inclement weather, these are a few jobs that can be accomplished While leaving the Temporary roof cover in place.

- Clearing of roof space.
- Cleaning and drilling tiles.
- Laying loft boards.
- Form loft hatches.
- Clearing, burning waste.
- Hard core.

#### Hire:

Acrows and planks required for Shrine room roof support are cheaper to buy than to hire, for the duration of the work.

## Schedule of works:

Support of Shrine room roof.  
Scaffold erection.  
Protection of Windows as necessary.  
Stripping of Guttering, Barge boards etc.  
Set up Temporary weather proof covering for roof.  
Grind out and repoint lower chimney.  
Stripping of roof tiles and tile battens.  
Cleaning, drilling tiles stacking for re-use.  
Clear out all old insulation, debris and nests prior to timber treatment.  
Form new loft hatches.  
Timber treatment.  
Grind out and repoint Gable ends and Dormers.  
Lighting and cable alterations to loft.  
1<sup>st</sup> layer of Insulation between rafters.  
Convey boards to loft space ready for laying.  
Perimeter timber for 2nd insulation layer, fascia and bargeboard frame.  
Second layer Insulation and cross battens.  
Fascias, Barge boards, undercloak and eaves trays.  
Breathable felt and tile battens.  
Tiling of dormers and main roof.  
Flashings and ridge tiles.  
Cleaning down windows and walls.  
Scaffolding down, removal of Shrine room roof supports.  
Clearing and cleaning lower level roofs and windows etc.  
Boarding of loft floors, install ladders.

## Costs:

Scaffold boards, Acrows and safety netting etc.	£300.00
Scaffolding (By ARC scaffolding)	£1140.00
Timber Treatment ( By Dampco)	£955.20
Temporary Roof Covering	£550
Insulation	£2500
Tyvek Supro roof membrane	£375.00
Counter batten and Tile batten	£1500.00
Perimeter timber and framing	£1000.00
Screws, nails, tapes etc.	£300.00
Upvc fascia, soffits trims etc.	£1800.00
Guttering and down pipes	£400.00
New tile Budget	£2000.00
Sand and cement, undercloak and eaves trays	£250.00
Floor boards	£300.00
Loft ladders and hatches	£260.00
Lighting and switching	£200.00
Lead flashings and sealant	£300.00
Skip	£200.00
Total less Labour	£14330.20

## Labour:

There is a lot of labour involved in this project and a lot of it does not require much skill or experience, clearing away, fetching and carrying and just passing stuff would be of great help, male or female, a few hours or few days it will all help.

I have budgeted for 10 weeks work by myself, I sincerely hope that it will not take anything like this amount of time, but it will depend on available help. If volunteer help is not forthcoming then I can bring people in as necessary, payment of these people will come out of the the labour budget. I am a great believer in people empowerment, its amazing what people can achieve when given the right tools and guidance. My time would be better spent on the more skilled jobs that are required such as the repointing, lead work and fascias, along with organisation of course. I will only charge for work done, so the quicker it's completed the less it costs.

## Payment:

I would like the BDF to pay for most of the materials directly if possible, quotes will be sought at trade prices and then payment arranged with the treasurer. I would like to invoice weekly, for labour and materials, this way everyone has a handle on the budget.

10 weeks x 40 hrs a week @ £25.00 per hour

Labour Budget    £10,000

Project Total     £24330.20

I would be happy to meet the committee and answer any further questions or explanations required.