CHAPTER 6

Implementing the Conservation Strategy

6.1 **Mr Drummond stated** that the overall plan and layout had been based on a known primacy date, the latter part of the 17th century (i.e. Phase IV), for which sufficient evidence exists. Post-phase IV features which also provide evidence as to the history of the castle, for example rebuilt portions of Block 4, would be retained.

6.2 The recording programme would be augmented by further survey, investigation, recording and where necessary re-evaluation once complete close access is available. During the development of detailed proposals an ongoing design analysis and technical impact assessment would be carried out, with proposals re-evaluated where required and agreed with HS and HC.

6.3 All works would be carried out to the highest standards, making use of craftsmen with specialist conservation skills.

Consolidation and Preservation

6.4 It was stated that downtaking, consolidation, and rebuilding of upstanding historic fabric would be restricted to that required for the overall structural integrity of the buildings and curtain wall. Such rebuilt work would match the original in appearance, materials, mortar mixes, etc. Interpretative features would be retained in their appropriate positions and, where temporarily downtaken, re-inserted accurately during rebuilding works. Where the condition of a feature prevented its inclusion, or the best solution for its long-term conservation is removal, it would be replaced, like-for-like, with new material. All such features removed would not be removed from the castle but would be conserved and displayed at a suitable location. Traditional materials and techniques would be used wherever possible. Any modern techniques such as grouting would be supported by evidence as to their suitability.

Reconstruction

6.5 Reconstruction works would be restricted to the re-roofing, reinsertion of floors, and finishing of Blocks 1, 3, 4, and 6. All reconstructed fabric would be based upon evidence and the late 17th century (Phase IV) primacy date. The Victorian repairs to Block 4 would be left in-situ.

6.6 All new material would be based on evidence and would match the original in scale, colour, texture, design, and overall appearance. All such fabric would be separated from original material by a suitable means of identification and would be identifiable upon close examination as new fabric. Where possible, suitably discreet date markers would be incorporated.

Adaptation

6.7 Adaptation would be restricted to the minimum necessary for the proposed use of the structure. No new buildings or extensions to existing buildings would be

permitted. No alterations to the overall form, appearance, and design of the building which would adversely affect its significance would be permitted.

6.8 In answer to questions, Mr Drummond agreed that the window treatment, which had not been determined, would impact upon the aesthetic appearance of the building. He opined that the Victorian repairs to window margins were likely to be the same as the originals and would be surprised if these had been of sandstone in Block 4. The proposal to flagstone the courtyard was the preferred solution, but it would be informed by archaeological research. He agreed that there was no evidence for the proposed side walls to the forestair from Block 1, but these would be required for safety reasons. The original form of opening K018 may be revealed by further investigation. If Scottish Ministers require a forestair, this could be provided. Similarly, the 19th century repair at a stair access from the Withdrawing Room could be opened up if required.

6.9 It was stated that the overall layout of principal apartments would be maintained. No subdivision would be permitted as this would adversely affect the interpretation of the historic structure and the integrity of the historic design. Secondary apartments and spaces may be subdivided where there is insufficient evidence of a historic plan or where this would not affect the interpretation of the historic structure. This would relate to the uppermost stories of Blocks 1 and 3.

6.10 Communications and access routes would be restricted to existing stairs. Block 6 openings, built-up circa 1880, may be reinstated to provide access to Blocks 3 and 4. Firm evidence must exist for such openings.

6.11 Mr Drummond stated that all works would be reversible and would not damage the existing historic fabric. These would, upon close inspection, be discernible as modern.

6.12 Services – power/water/telecommunications/drainage – would be carried through existing openings and voids in order to minimise the disruption of the existing fabric. Servicing runs would take place within new work wherever possible. Any excavation or disruption of existing fabric was expected to be very minor and would be carried out as part of the programme of archaeological works and recorded. Cabling would be run within existing mortar joints.

6.13 **Mr Forbes stated** that the castle would require the following services:

- Heating
- Lighting
- Small power
- Telephone/digital communications
- Domestic cold water
- Domestic hot water
- Waste water
- Smoke detection
- Automatic fire sprinkler and support for the Fire Service

In addition, public access areas would require emergency lighting. The services would be designed to be accommodated in the new floors/ceilings and in the roof spaces.

6.14 The sprinkler piping and plumbing would be contained, along with the cables, within an insulation layer under the heating pipework. Where the joists are cut to accommodate the services, the services would be sleeved and the joist strength restored using resin filler as required. Vertical services would be contained in framed-out areas and chases with fixings into mortar joints only where the new construction is unsuitable or inadequate. At ground level the connecting services to the vertical risers would be taken through immediately after archaeological excavation and before consolidation. This approach would maximise the preservation and authenticity of the fabric, with minimum intervention.

6.15 An underfloor heating system is proposed using loops of special purpose polythene piping with metal heat diffusion plates to suit timber flooring. The water within the piping, which would be heated by electricity, would have a maximum temperature of 45°C, with a correspondingly low floor temperature of about 29°C maximum. On the ground floor a similar arrangement would be used except that the metal plates would not be needed under the slabs.

6.16 Cables to lighting would be "raggled" into wall mortar joints where the cables leave the floor zone. The available range of light fittings and light sources is extremely diverse and it is impossible to envisage a situation where a satisfactory arrangement cannot be selected. Lighting can be easily located on new walls and ceilings with fixings and cables in the mortar joints where required. Remote battery packs and transformers with low voltage cables can serve compact light sources for public escape and general lighting. Similarly, a miscellany of socket outlets can be provided within framed out walls and floor boxes without 'raggling' into the fabric. The incoming service would be accommodated in the archaeologically excavated and consolidated tracks or another agreed route.

6.17 Secure telecommunications would require a 'land line'. Cable routes can follow other electrical services but in a screened enclosure such as conduit. The incoming service would be accommodated in archaeologically excavated and consolidated tracks or another agreed route.

6.18 A potable water supply would be required for cold water taps, cisterns, showers, baths and to supply the domestic hot water system. An 'unvented' system would operate at mains pressure, not relying on the 'head' of water provided by a storage tank. This higher pressure allows pipework to be two sizes smaller, facilitating installation in the castle. The incoming service would be accommodated in the archaeologically excavated and consolidated tracks or another agreed route. The pipe would be laid as a continuous 'plastic' pipe so that excavation and repairs should not be required within the foreseeable future.

6.19 The hot water service can be distributed from a central storage cylinder, or generated local to the point of use. Hot water is required in Blocks 1, 2 and 3. Accordingly, to avoid cutting the fabric, local storage cylinders would be provided with 'unvented' small bore distribution to each appliance. Electricity would be used for heating the water.

6.20 Waste water disposal requires that waste services are collected and piped to a septic tank for treatment. SEPA had consented to the installation of the septic tank which would be located in a midden area which has been archeologically excavated. After the excavation, the tank would be lowered in and the area backfilled and consolidated to the

original profile. The internal collection system requires vertical soil vent pipes with horizontal connections being underground or pitched down to the collection tank. The soil pipes in blocks 1 and 3 would be routed through the external wall footings to the tank. This would require removal of a stone-sized hole. It may be difficult to route waste pipes by traditional means in which the waste pipe is pitched to flow by gravity to the main soil pipe. An alternative approach is to macerate incoming waste for disposal to 38mm diameter pipes under pump action. Packaged units which closely resemble and fit under toilet cisterns are readily available. These would facilitate flexible routes within the new structure.

6.21 In answer to questions Mr Forbes advised that, if necessary, the septic tank could be buried in the beach, access for emptying being taken via the foreshore at low tide. He accepted that the macerator system would generate noise, but explained that units could be insulated against noise transmission through the structure.

6.22 Addressing fire prevention, Mr Forbes stated that the prime component of the strategy is an early warning smoke detection system which would compensate for the restricted escape routes and provide a level of fire safety equivalent to current good practice and regulations. 'Spot' detectors can be combined with the alarm sounders to reduce wiring. Cables and pipes would be contained in the new floors. The type and response of the system has been provisionally agreed with the Fire Service. To ensure preservation of the castle, an automatic fire sprinkler system would suppress or extinguish any fire which reaches the flaming stage. The visible part of the system - the sprinkler head - would be a miniature, fast responding type. In larger rooms, heads which have extended areas of coverage would be used to minimise the number of visible heads. Pipe sizes would be kept down to 20mm diameter in the floors, the same as electrical conduits. At ground level the riser pipes would be buried in the excavated and consolidated areas designated for incoming services. The underground pipe would be polythene, as for the potable water supply. Only clean water would be discharged onto a fire. There would be no chemical additives in the water to cause irreversible damage to the castle.

6.23 Emergency lighting would be provided to operate on failure of local power circuits. Battery packs would be remote and the luminaires would be sympathetic to the interior decoration and the fabric of the building.

Environmental Impact

6.24 **Mr Drummond stated** that a further detailed environmental assessment would advise on any necessary mitigative measures that should be implemented to protect plant and animal life during site works. The detailed proposals would make provision for bat roosting and works would be implemented in a manner such as to ensure the survival of any bats.

Underwater Archaeological Resources

6.25 The detailed proposals would include an appropriate archaeological response in areas of potential underwater archaeological deposits such as the pier and proposed septic tank outfall.

Analysis and Research

6.26 A full programme of sampling and testing would be carried out in conjunction with the conservation of Tioram, the results to be included in the archive. An ongoing programme of recording, research and investigation would be carried out to provide a comprehensive archive for the future.

Publication, Archiving, and Dissemination of Information

6.27 Upon completion of conservation works a comprehensive drawn, written, and photographic record comprising details of the original fabric, work undertaken, research, and analysis would be lodged with recognised national and local archival bodies and summaries of the conservation works and associated research would be prepared for publication.

Discussions with Historic Scotland

6.28 Mr Drummond stated that, following the development of the proposals and their submission for SMC, discussion was sought with HS. There were a number of clear areas where such a dialogue would have been helpful to both parties. It was regrettable that offers of meetings were not taken up by HS.

Ongoing Public Consultation

6.29 It was stated that HC and the applicant had agreed the formation of the Castle Tioram Local Liaison Group. This included representatives of the local community, Acharacle Community Council, ATA, Moidart Local History Society, Glenuig Association, the local Loch Shiel Estate, HC, and the applicant. The Section 75 agreement with HC, would make provision for its existence following the completion of work. It would consider key issues of interest to the community. To date this has comprised access both during and following completion of the works to the castle. The group would also have a chance to comment on the detailed proposals prior to their finalisation, and would be fully consulted regarding project management aspects such as the transportation of men and materials, and interpretation of the site.