SPECIALIST REPORT

Report On Work At Deir Anba Pishay (Red Monastery)
Site Management and Development Report 2011

Dr. Nicholas Warner

"Conservation and Documentation of the Wall Paintings at the Red Monastery, Sohag"

The Egyptian Antiquities Conservation Project (EAC)
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THE RED MONASTERY - DEIR ANBA PISHAY - IN SOHAG

Site Management and Development Report 2011

Prepared for the United States Agency for International Development
and the
American Research Center in Egypt

Dr. Nicholas Warner, 5 Sharia Sheikh al-Marsafy, Zamalek, Cairo - email njwarner@aucegypt.edu tel: +(0)10 575 9835

SUMMARY

The imposing ruined 6th century church of the Red Monastery, or Monastery of Saint Pishay, has attracted the interest of art historians and conservators since the end of the 19th century. Since the 2002 commencement of a major conservation project, funded by the United States Agency for International Development (USAID) and administered by the American Research Center in Egypt (ARCE), focussed on the wall paintings in the sanctuary of the church, the cultural significance of this monument has been further elevated. Today we can say unequivocally that the Red Monastery church is one of the most valuable survivals of Coptic heritage in Egypt and its future safety is thus a matter of great concern to all stakeholders. The church, however, is only the most obvious of the cultural remains at this site. The current enclosure wall around the principal monastic buildings, both ancient and modern, encompasses an area of approximately 3 hectares (7.4 acres). Excavations carried out to date within this boundary, from the 1980s to the present, have revealed a variety of surviving structures with different functions. Alongside these archaeological remains stand modern buildings erected by the monastery that provide facilities for worship and hospitality.

The following report on site management and development issues at the Red Monastery was commissioned by the USAID / ARCE in 2011. The principal goal of the report is to address the different possible scenarios that exist for the maintenance and presentation of the site following the completion of the current conservation project. It was drawn up following discussions with the local inspectorate of the Ministry of State for Antiquities (MSA), representatives of the monastic community, and archaeologists and other specialists working at the site. It outlines the roles of the major stakeholders in the site and the principal conservation problems facing this heritage resource. It also suggests a number of possibilities for the development of additional visitor facilities for pilgrims and tourists. The most complex problem that the report identifies and seeks to address is the current clash between purely physical 'bricks and mortar' conservation issues and the spiritual dimensions of the site, both presently and in the future. The recommendations of the report are intended to provide a focus for further meaningful dialogue between interested parties about the future of this remarkable cultural asset.

Cover: The Red Monastery seen from the west with surrounding buildings (photo: N. Warner 2011)

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PART I: DESCRIPTION

1 LOCATION OF THE SITE

The Red Monastery, or Monastery of Anba Pishay (now called Dayr Anba Bishay wa Anba Bigoul), is located some 20 km to the west of the center of Sohag: a city which straddles the river Nile today with its more ancient component, Akhmim, located on the east bank. The monastery lies directly beneath the escarpment of the Western Desert at the edge of the cultivated area of the Nile valley. The Red Monastery is one of three major adjacent heritage sites on this side of Nile, the other two being the closely related White Monastery (or Monastery of Anba Shenoute) and the Ptolemaic temple of Athribis (later converted into another monastic site). Of the three sites, the last is currently only open to visitors by special permission, but the day cannot be far off when the three sites, with the White Monastery in the middle of the group, will form a linked itinerary that can be easily viewed by tourists in a single day.

Access to the area is by rail, road and air. Sohag lies on the Cairo-Aswan railway line, and the road network has been facilitated by the construction in the past decade of the desert highway that runs north-south to the west of the escarpment with a major junction situated 25 km distant from the monastery. This junction is also close to a new regional airport with direct flights to Cairo. The increasing ease of access to the site will clearly result in a rise in the number of visitors, both pilgrims and cultural tourists.

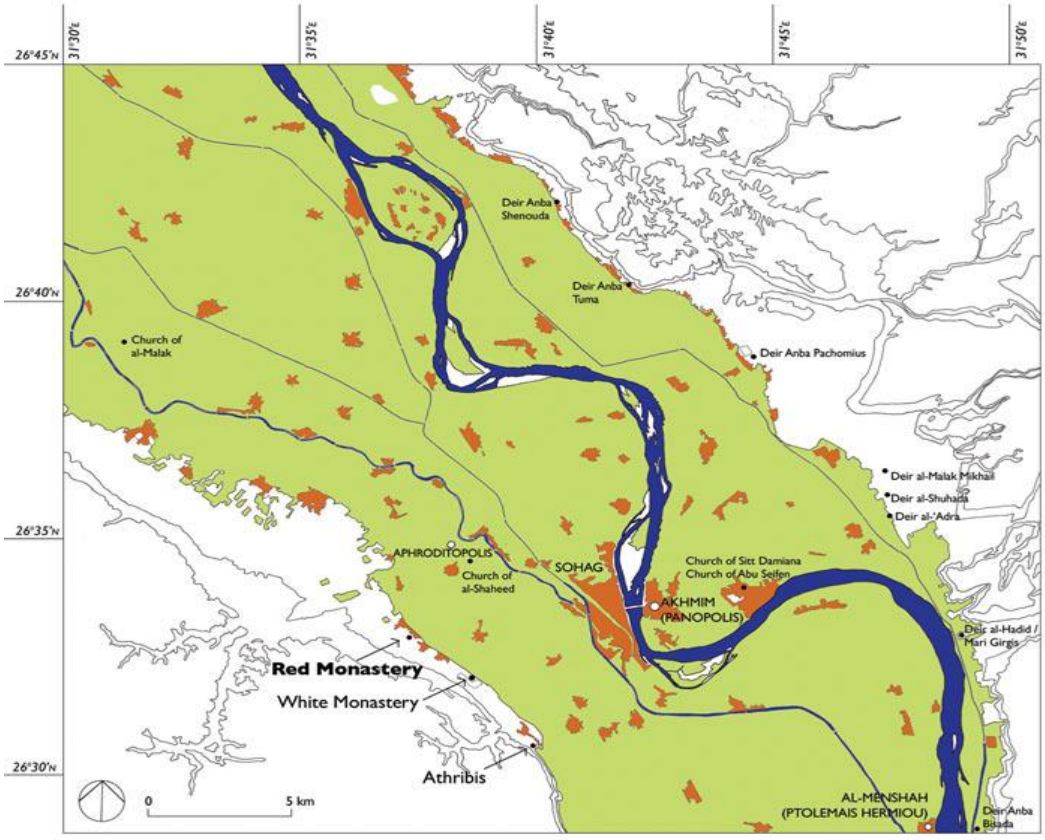


Figure 1: Map of the Sohag region showing the sites of the Red and White Monasteries, and Athribis (Drawing: N. Warner 2008)

2 SITE RESOURCES AND OWNERSHIP

The site occupies an area of approximately 3 hectares (7.4 acres) within a boundary that is clearly defined on the north, west, and east by modern masonry walls. Beyond the boundary to the west lies a modern Coptic cemetery and further monastic facilities, including a church and living quarters for monks, as well as a large area of agricultural land reclaimed from the desert. To the east lies the main approach road through a settlement mostly composed of modern reinforced concrete and fired brick structures. Construction to the north is less dense, with remaining pockets of agricultural land, and to the south lies the major part of the adjacent village. The ground level of the site rises slightly from east to west, with a general datum of approximately two metres above the level of the main approach road beside the cultivation to the east.

Figure 2: Context plan of the Red Monastery (after Gillian Pyke/Louise Blanke survey and GoogleEarth 2011)

Access to the interior of the site is currently controlled by four modern gates, with the main approach on the south-eastern corner being made through a gatehouse with towers (the south gate). A comparable gatehouse lies to the east, which is currently unused, while the north gate is only occasionally used. The bulk of what 'through traffic' there is on the site passes through the west gatehouse to the monastic properties beyond. Within the boundary wall lies the ancient church of the monastery and the surviving archaeological content of the site, as well as a number of modern structures related to contemporary monastic life clustered along the southern boundary. These include two new churches, dining facilities, toilets, a souvenir shop and a pharmacy. Immediately outside the eastern boundary of the site is another group of modern buildings developed by the monastery, containing additional public toilets, dormitories for staff, an abattoir and a further dining hall.

Ownership of the site is split between the MSA and the Coptic Church. Detailed maps showing the relative boundaries were not available for inspection, but the situation can be summarised as follows. Following the laws respecting Antiquities in Egypt, the MSA is responsible for the fabric of the church itself, and has control of much of the land to the north of the church by virtue of the archaeological remains found there. The land to the south of the church is in the possession of the monastery. The MSA

has no permanent presence on the site, with monitoring activities carried out by staff from a local inspectorate located at the White Monastery.

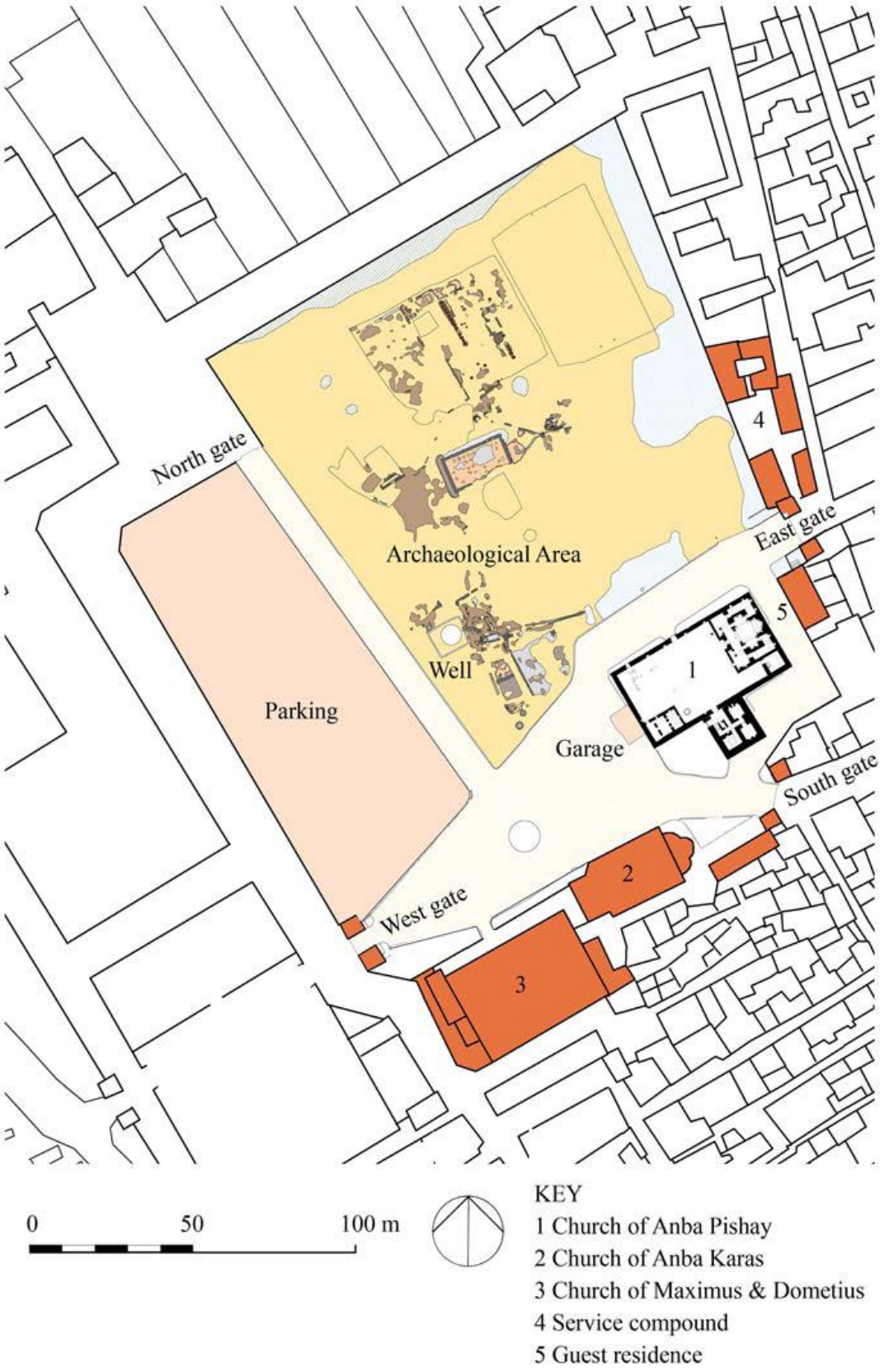


Figure 3: Detail plan of the Red Monastery complex (after Pyke/Blanke survey and GoogleEarth 2011)

View of monastic compound looking east

View of archaeological area looking northeast

View of parking area and north gate

Figure 4: Views of the site looking east and north (photos 2011: N. Warner)

West gate, church of Ss. Dometius and Maximus and wall around well

West end of church and new church of Abuna Karas

East gate to compound, guest house, and east end of church

Figure 5: Views of the site looking south (photos 2011: N. Warner)

Exterior view of south gate

View of guest house to east of church

Interior of new church of Anba Karas (first floor)

Figure 6: The south gate, guest house, and church of Anba Karas (photos 2011: N. Warner)

View of church, guest house and east gate from garbage dump to north

Entrance to the staff compound through the east boundary wall

Living quarters in the staff compound

Figure 7: The area north of the church and staff compound (photos 2011: N. Warner)

West façade of church with garage

The keep and south façade with concrete ring beam

Main entrance and south façade

Figure 8: Exterior views of the church (photos 2011: N. Warner)

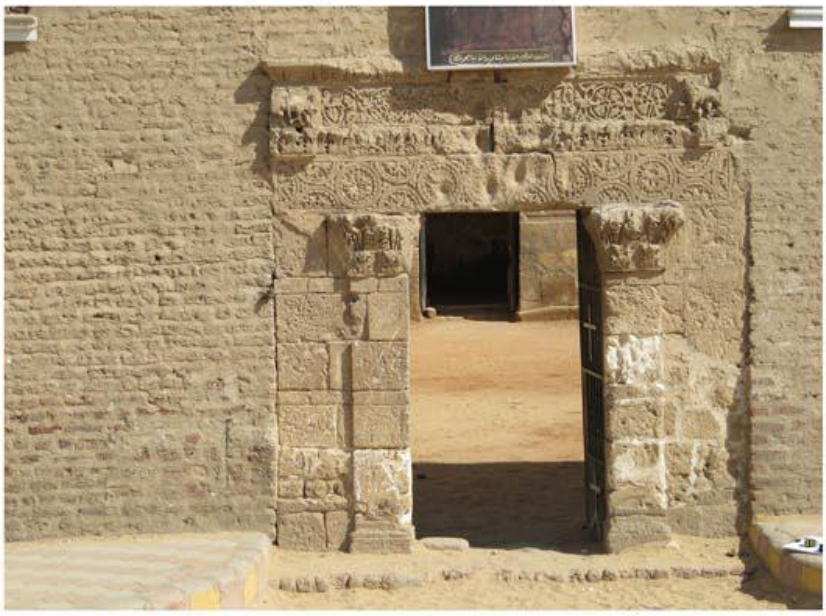
3 ARCHAEOLOGICAL REMAINS

The old church of the monastery occupies a prominent position on the southeast of the site and is a building that exhibits at least two major phases of development, the earliest being datable to the mid 6th century if not before. A massive fired brick perimeter wall (23 x 43m in plan and standing 10.5m high) topped by a stone cavetto cornice forms the outer limit of the church. A large fired brick tower or keep (hisn or jawsaq) of square design stands immediately in front of the south portal of the church and this was until recently the residence of the abbot of the monastery. The only roofed portions of the complex today are the keep, the highly-decorated sanctuary with its distinctive tri-lobed plan and associated spaces, and a small independent church constructed at an unknown date in the southwest corner of the enclosed area of the church (the church of al-Adra). In the 20th century the nave of the church was cleared of 'intrusive' later structures under the auspices of the *Comité de Conservation des Monuments de l'Art Arabe* (henceforth *Comité*). Until the construction in 2009 of the first of two new churches on the southern boundary of the site, the old church remained the focus for religious activity.

To the north of the old church lie a number of discrete areas that have been excavated since the mid 1980s by the Egyptian Antiquities Organisation, latterly renamed the MSA. The majority of finds are of specialist interest, and remain uncatalogued and in storage. The most obvious remains are those of a large brick circular well and structures that clearly served industrial functions. Today, the archaeological area is crossed by two dirt roads, and partially covered with a parking lot. None of the exposed remains have been consolidated, and spoil heaps occupy the perimeter of the area.

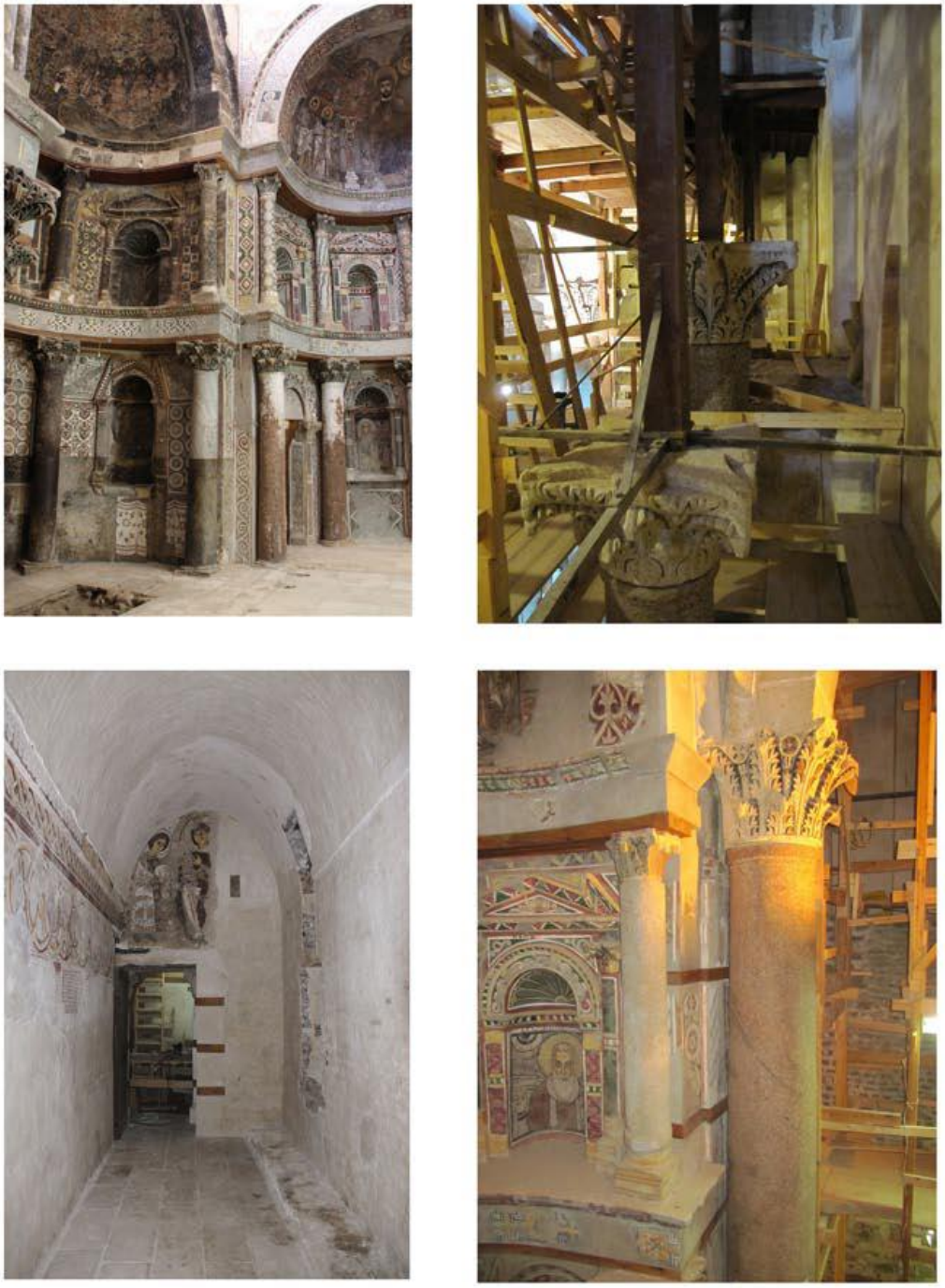
View of nave looking west (photo 2011: N. Warner)

View of the nave looking east (photo 2010: M. Jones)



The north door of the church (photo 2011: N. Warner)

Figure 9. Interiors of the nave and the north door



Clockwise from top: the east and south lobes showing former position of altar; scaffolding in space between façade and Comité wall; detail of sanctuary façade with niche; the decoration of the north pastophorion (photos: A. Vescovo 2010; N. Warner 2011; N. Warner 2011; E. Bolman 2010)

Figure 10: Interior views of the sanctuary of the church under conservation

Figure 11: View of granite basins and well to northwest of church (photos 2011: N. Warner)

4 MONASTIC FACILITIES

Modern monastic buildings related to the function of hospitality and worship have been constructed at the south end of the site, at the west, and beyond the site boundary to the east within the last decade. The former group of buildings includes two new churches. The eastern church is dedicated to Abuna Karas and is located at first floor level with a capacity of 350 worshippers. The church to the west is dedicated to Saints Maximus and Dometius and was still under construction at time of writing. This has an anticipated final congregation size of 1,150 on two floors. A third church, dedicated to Bishay and Bigoul, lies outside the main compound to the west, and has an additional capacity of 200 persons. A four-storey concrete frame guest house was built by the monastery in 2002 immediately to the east of the church. *See Figures 3 - 7*

5 INFRASTRUCTURE

The main electricity substation serving the site is located on the west side of a small road running parallel to the western boundary. From this point, aerial cables cross the road and continue mostly above ground to different locations. A further electrical supply enters the site beside the south gate. A continuous electrical conduit was cut into the brick perimeter wall of the ancient church, probably in the 1980s, whose original function appears to be for powering external lighting mounted on the perimeter wall. Cable runs from junction boxes on the outside of the walls have, in some cases, been hacked through to provide lighting and switches on the interior faces of the walls.

Wastewater from modern structures to the south and east of the ancient church is piped to localised septic tanks reliant on periodic pumping: there is no main sewer serving either the monastery or the village. A further septic tank adjacent to the keep is allegedly no longer in use today, although it was active until 2010. At present, piped and pumped water enters the ancient church at two points: one route leads through the south perimeter wall to the well, and the other leads to a small baptismal font on the south pastophorium of the sanctuary. The well itself, which has a metal grille cover, appears to be dry and is used as a convenient garbage dump. A fire hydrant is located to the immediate north of the north door of the church, but was not tested.

Split unit air-conditioners are mounted over the south door of the ancient church, serving the abbot's former office in the keep. Further multiple units are also mounted on the roof of the keep, and the roof of the small church of al-Adra inside the nave

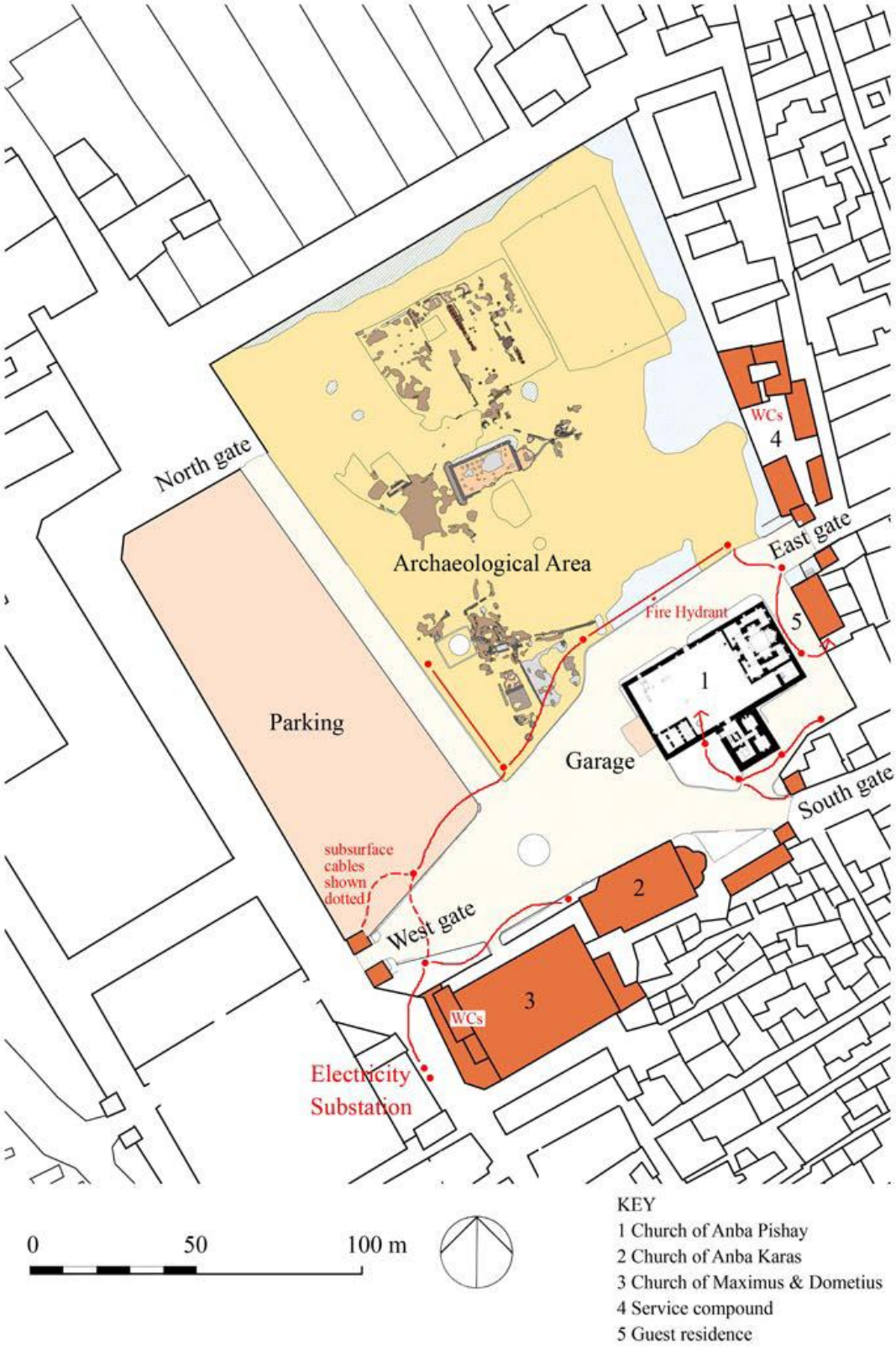


Figure 12: Plan of complex showing current infrastructure (Drawing: N. Warner 2011)

6 SITE USAGE

6.1 The Church and religious pilgrimage

The most significant daily use of the site is by the Coptic Church. Until the commencement of the USAID conservation project in the sanctuary, services were regularly held there and were subsequently moved to a temporary structure in the empty nave of the church. Pilgrims arrive at the site on coaches, visit the church and use the monastic facilities almost daily, with a higher concentration of activity on Fridays and Sundays although precise visitor numbers are not available. A shop selling books and souvenirs is located within the church to the east of the main southern entrance. Dining and toilet facilities are well provided for in the monastic hospitality and staff suites on the south end of the site and immediately beyond the east perimeter wall.

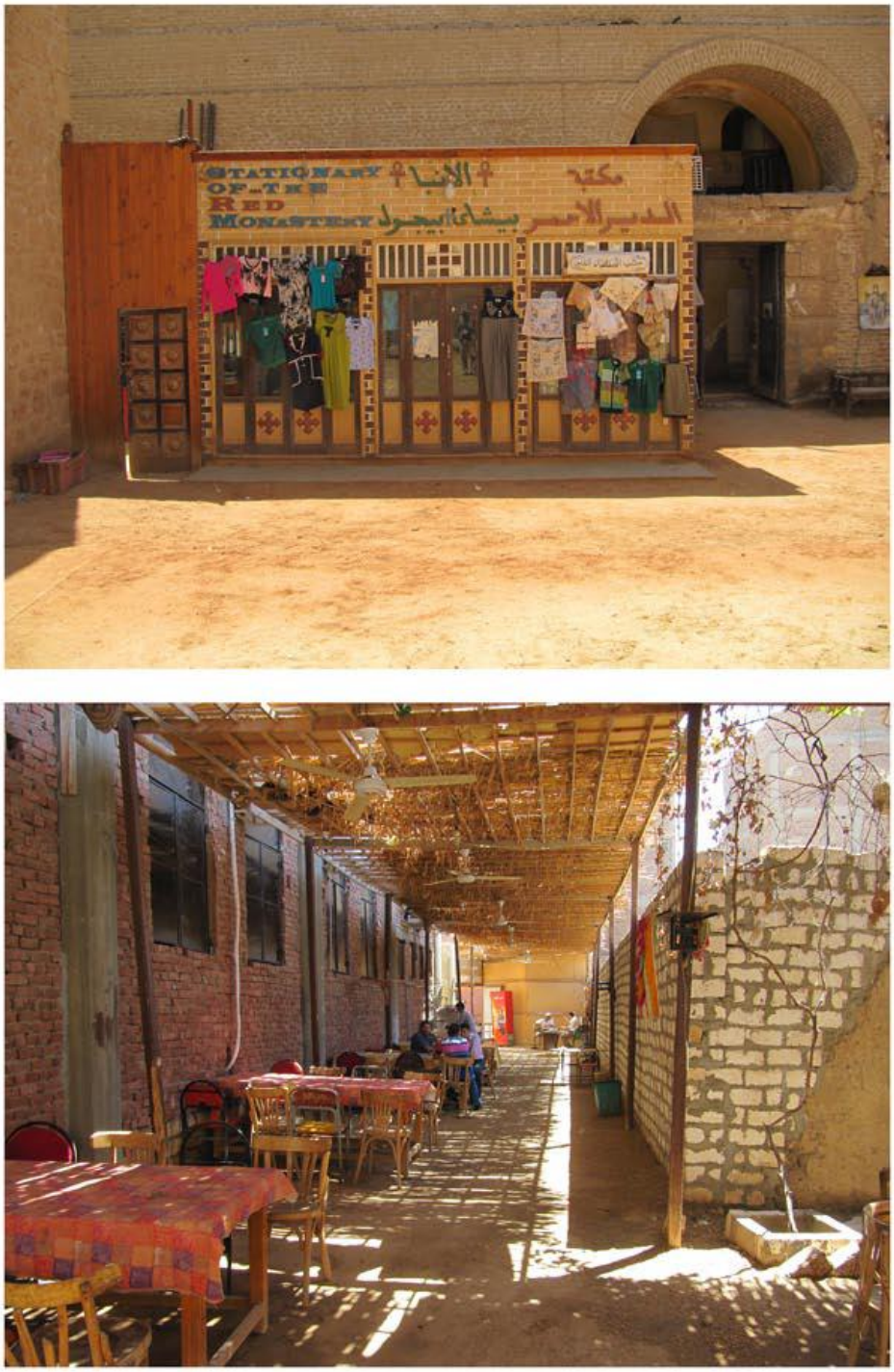


Figure 13: Souvenir shop in nave of church [top] and dining area behind Church of Abuna Karas (photos 2011: N. Warner)

6.2 Archaeological excavation and documentation

The excavation and documentation of archaeological remains at the site is ongoing, under the direction of the Sohag Inspectorate of the MSA and the ARCE. This work normally takes place during the fall, winter and spring. As yet there is no published data on the results of these excavations, although a preliminary documentation was made in 2011 of the exposed remains to the north of the church. The church itself has been the subject of detailed architectural recording on three occasions: the first unpublished survey was carried out by a team from the Darmstadt Technical College in 1962, the second in 2003 by Michelangelo Lupo, and since 2005 the author of the present report has carried out architectural documentation of the building in tandem with the program of wall-painting conservation. This information is scheduled for publication in a monograph devoted to the church in 2013.

View of excavation at west end of the nave

View of excavation in central area of the nave

Figure 14: ARCE excavations in the church (photos 2010: M. Jones / L. Hackley)

6.3 Cultural Tourism

A small number of cultural tourists visit the site at present, either in groups or as individuals. Their attention is focussed on the church rather than the archaeological area that surrounds it. No detailed visitor information is currently available in any format, and knowledge of the site is transmitted through personal guides or guidebooks with very minimal information. The number of tourists is, however, likely to increase dramatically upon completion of the wall-painting conservation project in the sanctuary of the Church and with the increased accessibility of the site.

7 EXCAVATION AND CONSERVATION

7.1 The church

In the last twenty years, the Antiquities Department has undertaken several projects of significance in the church. These include paving the interior of the sanctuary with new limestone slabs laid over a concrete slab (circa 1986), repointing all exposed areas of brickwork in the perimeter wall, stitching cracks in the brickwork of the perimeter wall and surrounding the perimeter wall at its base with reinforced concrete ring beams both internally and externally. These interventions, carried out in the 1980s and 90s, have in some cases compromised the integrity of the building and are of dubious value from a conservation standpoint. In 2006 a structural report on the building's integrity was commissioned from Price & Myers Structural Engineers, a London-based firm. Although the building was found to be generally in a stable condition, the report made a number of recommendations that have already been addressed with the exception of the need to carry out repairs to the external brick envelope where the horizontal structural integrity of the wall has been compromised by the loss of adequate bonding in the surrounding brickwork.

Within and around the enclosure of the church there are numerous examples of loose Late-Antique and Coptic period architectural elements lying on the ground that are particularly vulnerable to damage. These include over 50 limestone cornice blocks as well as column shafts and capitals. In 2010 test cleanings of painted plaster surfaces in the nave of the church revealed high quality mediaeval wall paintings. This discovery may potentially lead to further large-scale conservation work in this area, and also raises the question of how this information may be best conserved and protected in the future.

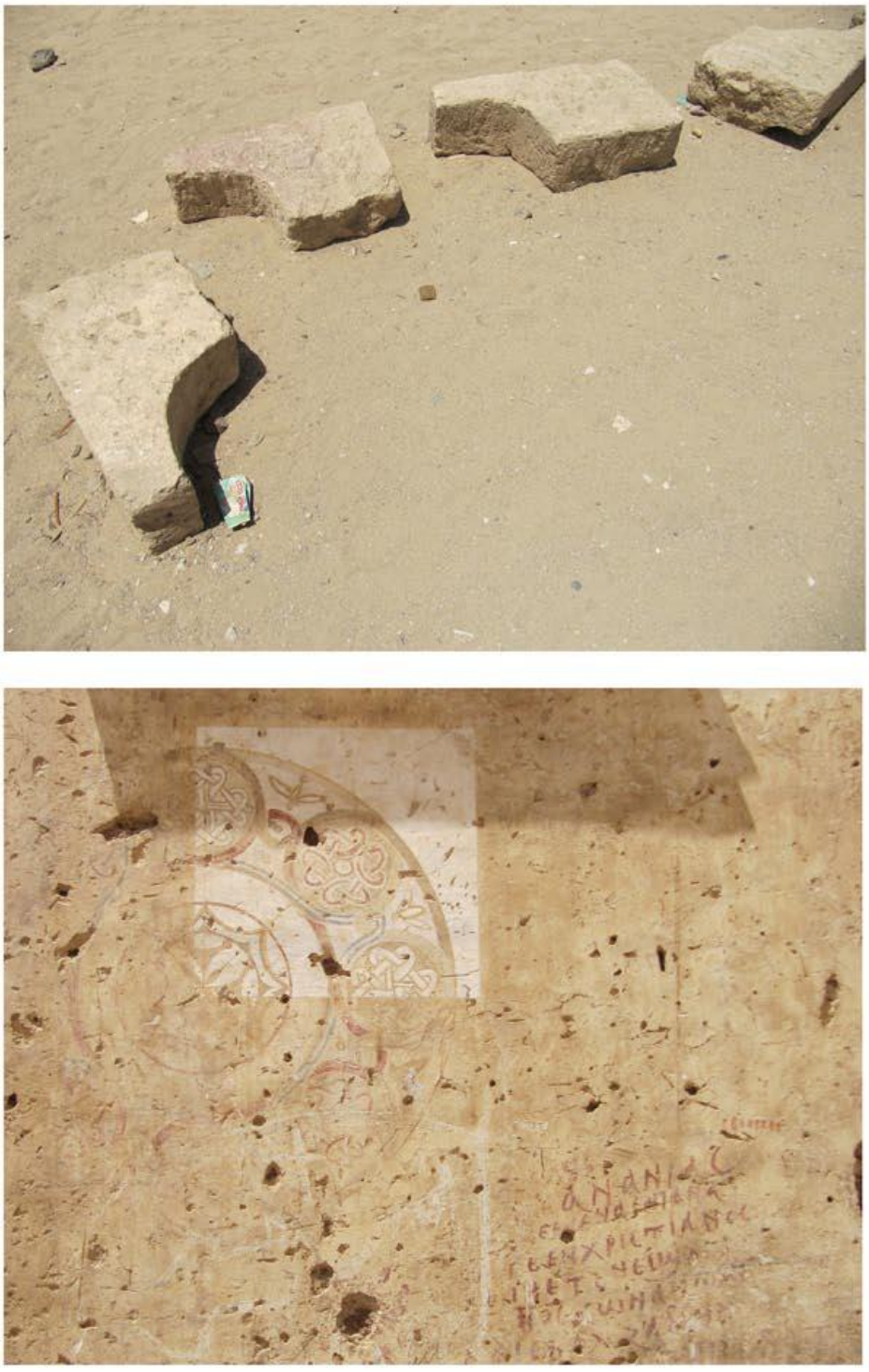


Figure 15: Loose cornice blocks outside the church [top] and test cleaning of plaster on the west wall of the nave (photos 2011: N. Warner)

7.2 The archaeological site

At present the majority of already excavated areas on the site are left exposed. This renders them vulnerable not only to general deterioration due to environmental factors, but also to anthropogenic damage (a football pitch occupies part of the site). Only one area, enclosing the well to the northwest of the church, is currently protected by a combination of a limestone block wall and a loose barbed-wire fence. Despite this nominal enclosure the well still poses a risk to visitor safety, and especially that of children. Spoil heaps from the excavations can be seen around the perimeter of the site. Excavations carried out within the nave of the church by the ARCE have been backfilled upon their conclusion, and pending further exploration of this area.

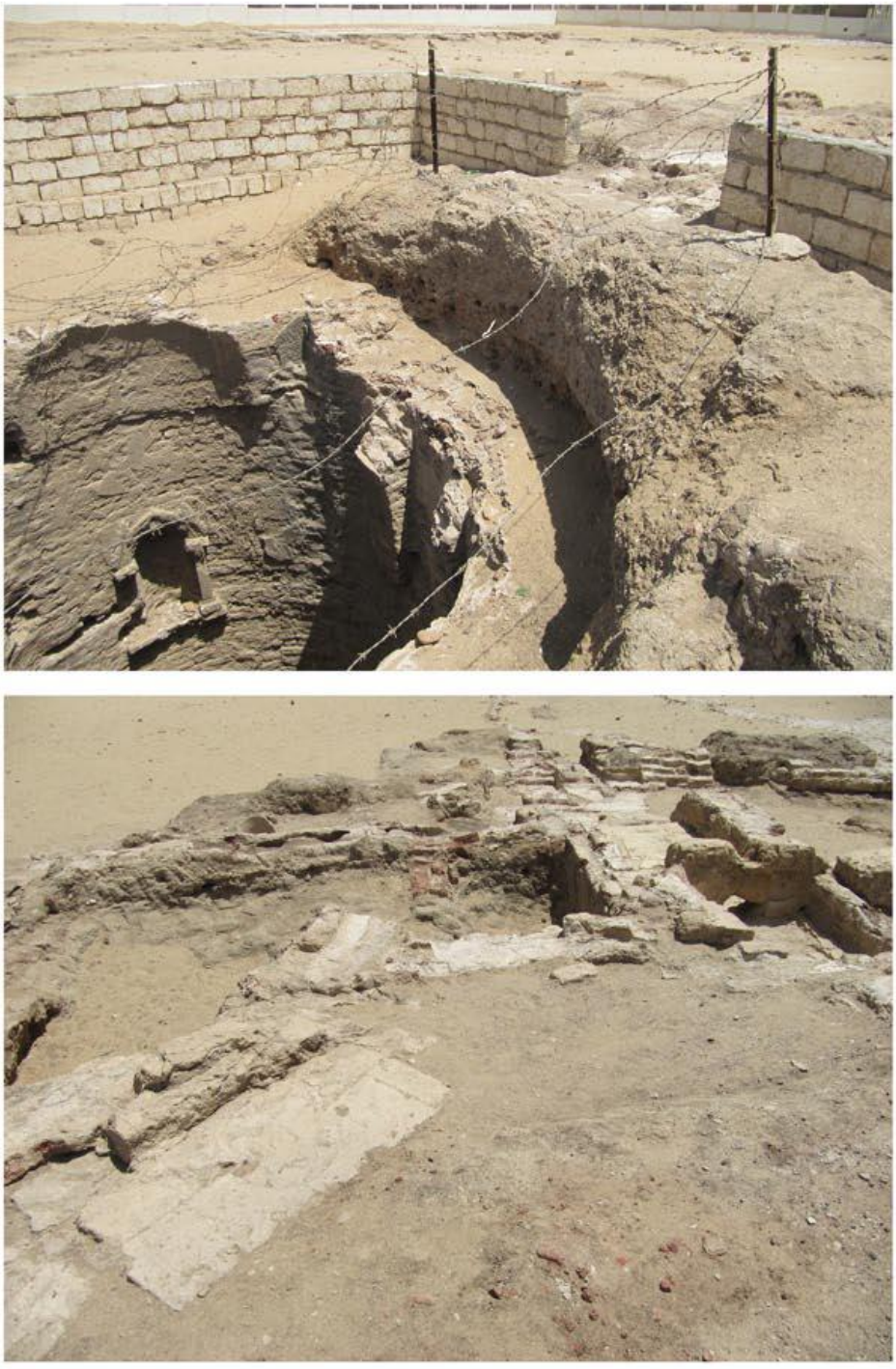


Figure 16: The enclosed area around the well [top] and exposed adjacent remains of water channels (photos 2011: N. Warner)

PART II: SITE MANAGEMENT AND DEVELOPMENT

The general goals of the site management and development plan at the Red Monastery proposed here are:

- The protection of the archaeological resource from further damage
- The facilitation of the use of the Church in a manner consistent with the protection of its archaeological and historic components
- The provision of improved site infrastructure
- The development of visitor access and information

Essential to the furthering of these goals is an agreement between the major stakeholders on the long-term future of the site with regard to the relationship between archaeology/conservation and contemporary use. The following proposal is intended to aid such an agreement.

1 ARCHAEOLOGICAL COMPONENTS

1.1 The northern zone

The future of the archaeological area to the north of the church as a whole is entirely dependent on a policy decision on whether to keep presently exposed remains open to view or to backfill them on the conclusion of their documentation. At present, the abbot of the monastery would like to gain control of the land to re-use this area of the site for building. As this will further compromise the setting of the church and likely create further risks to its longevity, and that of the archaeology presently located below the ground in this area, such an intention should be resisted by the MSA as firmly as possible. The fact that the western area of the site has apparently already been effectively ceded to the monastery for use as a car park is not encouraging, especially as there has been no archaeological examination of this area, and it may be anticipated that it will soon be built over.

Three alternatives are described here for the treatment of the northern part of the site, though the decision on which of them should be implemented will ultimately also be connected to a decision on how to protect and present the church itself.

Option A: The open site

This option can only be successfully implemented after the construction of a physical barrier around the principal remains. Such a barrier might be constructed at least in part of fired brick masonry with lime mortar in order to harmonise visually with the site. Other parts might consist of simple steel fencing, or a combination of a low wall with steel fencing above. Within the boundary, a programme of selective masonry consolidation of standing remains could be initiated in tandem with selective backfill with clean sand. The removal of existing spoil heaps would also form a part of this project. A visitor route through the site, with appropriate signage could also be designed.

Such a project would require considerable time and financing to implement. Given the fact that most of the remains are hard to interpret satisfactorily, this investment would be difficult to justify at present, especially in view of the more extensive and impressive remains at the White Monastery which face similar problems of protection and presentation.

Option B: Backfill after documentation

This option has the advantage of protecting the remains from further damage in a relatively economical manner. Once backfilled, an agreement between the Monastery and the MSA must be reached in order to prohibit further modern construction taking place over the archaeological area.

Option C: Partial presentation

Whichever of the alternatives described above are ultimately adopted, the circular well to the northwest of the church will most likely be left open as it is at present and should therefore be made accessible for safe viewing. This would involve a minimal amount of consolidation of the upper surface and the installation of a protective handrail around its perimeter. In fact, the entire archaeological area around the well could be maintained as a discrete, protected, entity within the site with its own access and visitor information. The advantage to leaving this section of archaeology exposed after consolidation is that it provides a clear indication that the church of the monastery did not exist in isolation, but was the focus of a large community engaged in a variety of activities within buildings that have now substantially been destroyed. The historic and physical link between the church and these ancillary buildings has

today been further severed by a modern dirt road that leads to the eastern gate of the monastery. This portal is an incomplete concrete structure that is never used. Consideration should be given to the possibility of removing this vehicular access to the site entirely (as well as the gateway). This would allow an archaeological examination of the immediate context of the church along its north flank to be made. At the same time, the limits of the archaeological area under the present car park to the northwest of the church should be established by remote sensing if possible or by conventional test trenching. This would assist in determining what critical areas of the site would need additional protection in the future.

1.2 Archaeology within and around the perimeter of the Church

Whatever the long-term future of the church may be, the current conservation project within the building should be extended to include a full archaeological study of its immediate context. This study has already been initiated by the ARCE within the area of the nave, but it is recommended that the work should be accelerated to ensure that vital data for the comprehension of the history and architecture of the church is gathered before the conclusion of the conservation project. This may well be the only opportunity for the recovery of archaeological information in this area: information that is also essential for the future presentation needs of the site.

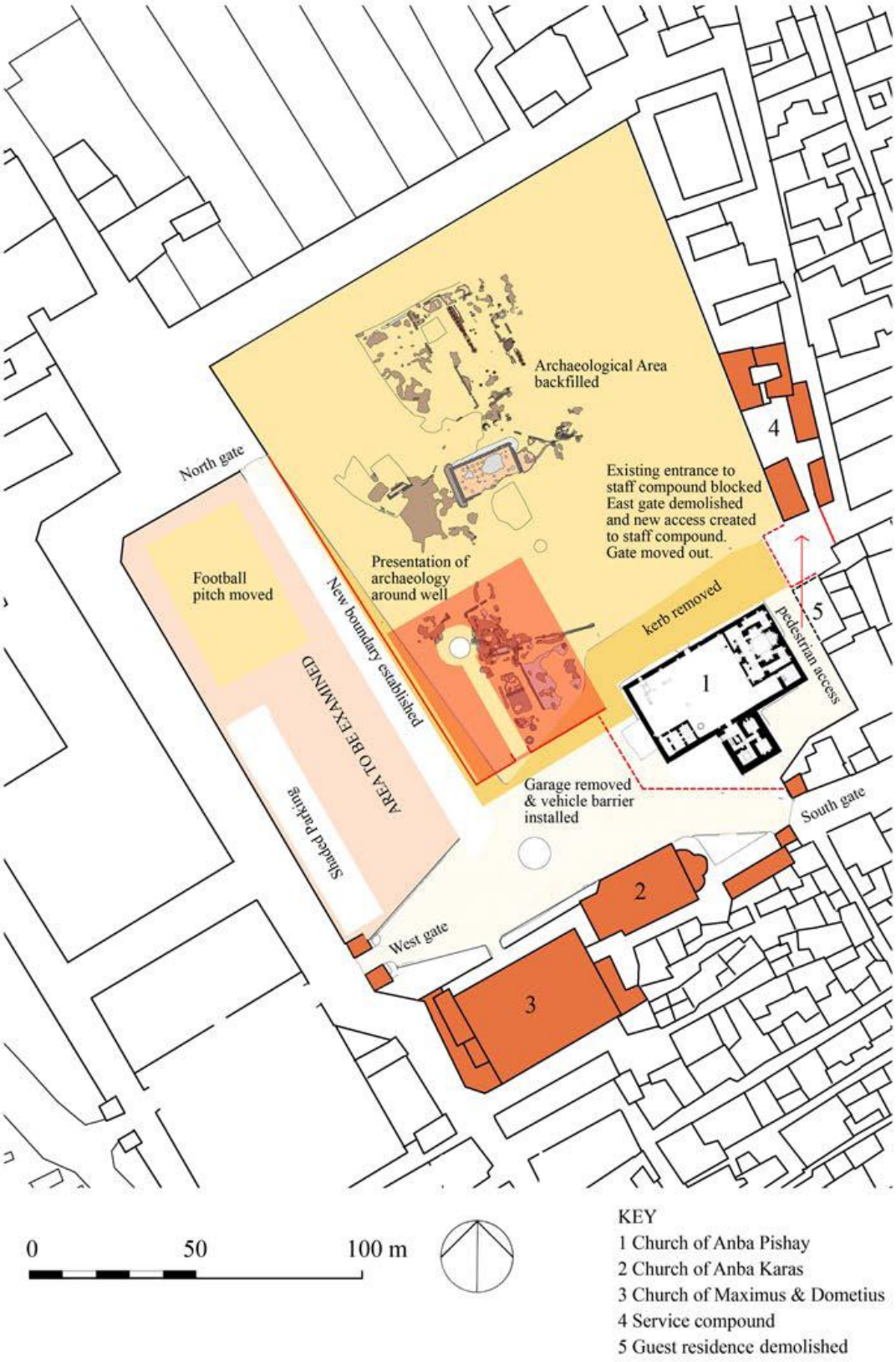


Figure 17: Plan of proposed interventions outside the church (drawing 2011: N. Warner)

2 CONSERVATION OF THE CHURCH

2.1 The Perimeter Walls

At present, conservation activity in the church is limited to the area of the sanctuary at its east end. Test cleanings have, however, indicated that the plaster surfaces of the north and west interior walls of the building would also benefit from a program of consolidation and cleaning. If this project (which would require the erection of a full height scaffold) proceeds, it would be of great importance to carry out the following additional works at the same time with full documentation of all interventions:

1 The replacement of inadequately bonded earlier repairs to the brickwork on the north and west perimeter walls following the recommendations of the Price & Myers Structural Report of 2006.
2 The cleaning and consolidation of the north and south carved limestone portals of the church (internal and external faces).
3 The reinstatement of some, if not all, of the 50+ limestone cornice blocks that are currently lying on the ground outside the church. These should be wedged and grouted up using a lime mortar. Hornet's nests that are accreted to the underside of some areas of the cornice should be removed.
4 Depending on how it is decided to protect the surfaces of the north and west walls after conservation, it might also be necessary to block the numerous existing beam holes in the walls with lime mortar plugs to within 4cm of their external face. This would prevent birds from nesting in these holes in the future and marking the surfaces of the walls with droppings.
5 The removal of exposed reinforced concrete beams around the perimeter would be a major operation but can certainly be undertaken in selected areas as shown on the attached plan (fig. 19).

Hornets' nests attached to underside of cornice blocks

Inadequately bonded repair to brickwork of wall [left] and nesting birds in beam holes

Figure 18: Conservation problems of the perimeter wall of the church (photos 2011: N. Warner)

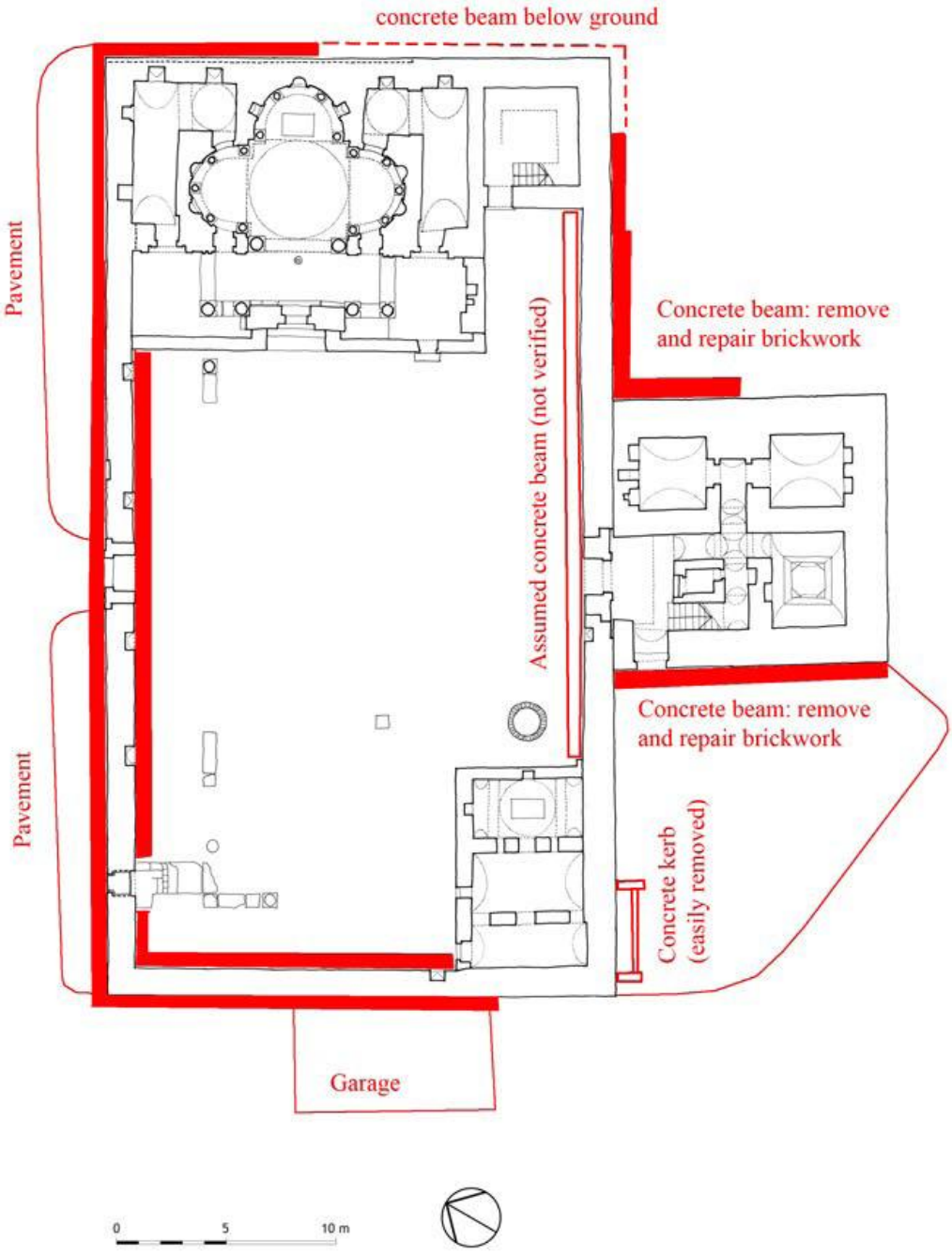


Figure 19: Plan showing location of concrete ring beam (drawing 2011: N. Warner)

2.2 The Nave

1 It would be possible to re-erect four existing complete granite column shafts, perhaps at the west end of the church to give this area greater architectural prominence. Three new limestone bases would be required, and the columns would require stabilisation at their heads.

2 The existing black granite standing column at the east end of the nave has been encircled by metal straps to prevent disintegration. Some of these straps are loose and require reattachment.

3 The water supply to the well should be cancelled and the well cleaned out. Drinking water is now available from other locations on site.

4 The souvenir shop should be removed, along with all other unsightly intrusions such as air-conditioning units and electrical cables hacked into the walls.

5 The central area of the staircase in the southeast corner of the church should be cleared of all stored material as this presently constitutes a fire hazard.

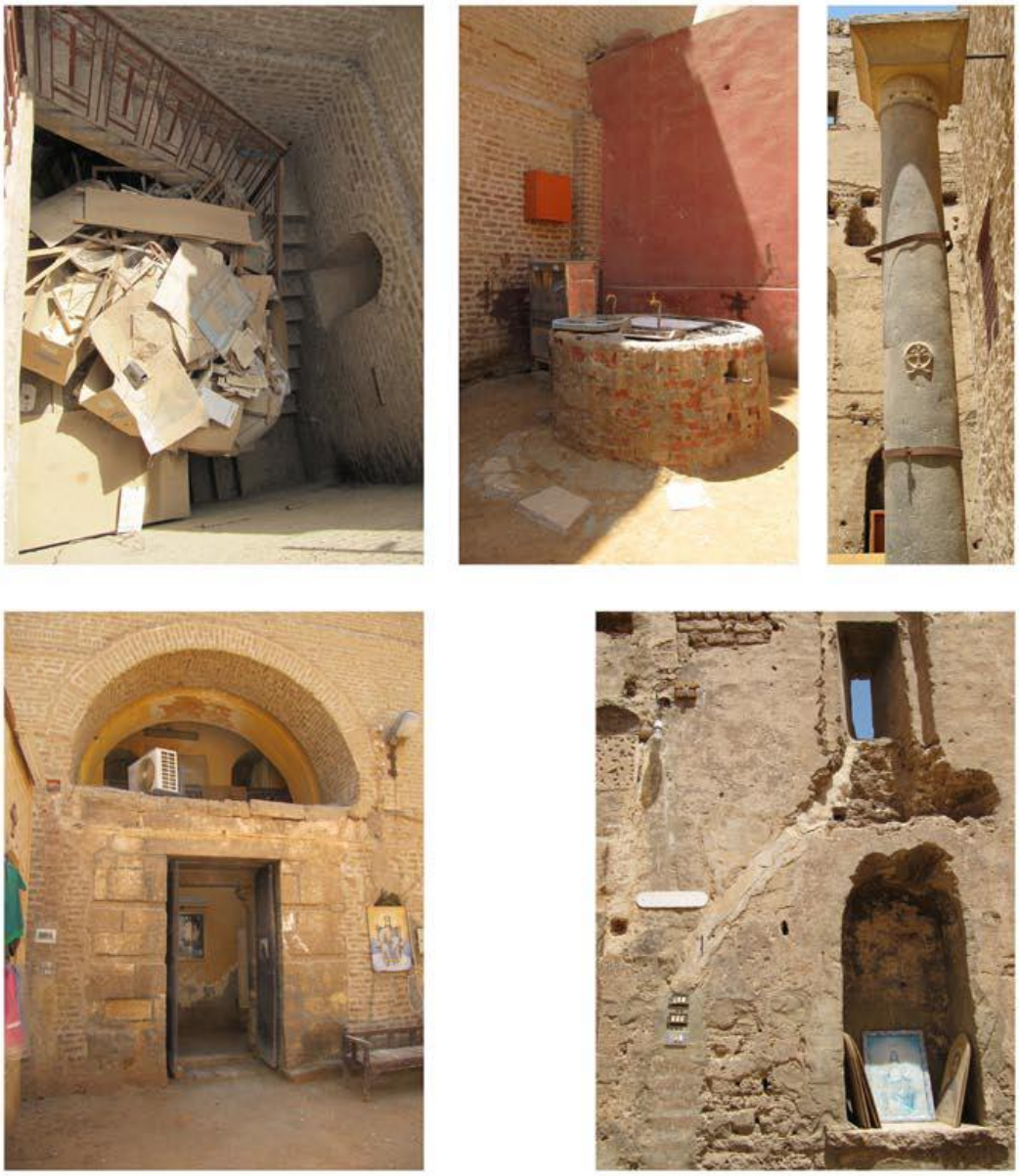


Figure 20: conservation problems in the nave (photos 2011: N. Warner). Clockwise from top: flammable material stored in stairwell; the well with pumped water supply; loose banding of standing column; airconditioning unit over south portal; electrical cables hacked into perimeter walls.

2.3 The Sanctuary

1 It is recommended that the water pipe leading to the small baptismal font in the south pastophorion be removed to prevent the possibility of water damage occurring.
2 To reduce solar gain through the stone rubble Comité wall to the west of the sanctuary it is recommended that this wall be plastered with a lime render.
3 Upon completion of the conservation project a detailed set of drawings showing the position of all structural cracks that have since been filled and movement tell-tales (with dates installed) should be compiled. Copies should be distributed to the MSA local office, the MSA Islamic and Coptic Sector central office, and the monastery. It is also advisable to compile a maintenance checklist in Arabic for the use of MSA inspectors.

2.4 Superstructure of the sanctuary

1 To either side of the sanctuary above the pastophoria are small interstitial spaces with restricted headroom. To the south, these have been occupied by one of the monks of the monastery as a place of rest and meditation with electricity supplied through an extension cable. It is recommended that these spaces be placed strictly off limits to members of the community owing to their proximity to the sanctuary and the impossibility of preventing an electrical fire in such a location from spreading. It is also recommended that the windows into these spaces are covered with bird mesh in well-fitting frames to prevent the entry of nesting pigeons.

2 The protection of the exposed semidomes of the triconch remains a matter of great concern despite the fact that they have been covered with a high quality lime render during the course of the conservation project inside the sanctuary. Drainage points to the lowest areas of the adjacent roofs have been punched through the perimeter wall in a casual manner and are furthermore not provided with any form of waterspout. Consideration should be given to the possibility of installing a series of three secondary roofs over the semidomes with rainwater drainage into a soakaway pit located in the empty space to the west of the stairwell. Such secondary roofs would also provide the advantage of reducing direct thermal gain within the sanctuary. To provide support for such a system it would be necessary to build up the east-west wall separating the stairwell from the roof of the sanctuary. This could be easily executed in masonry and would also provide the opportunity to install a door at the head of the stair that could be easily locked to prevent use of the area storage.

3 The cracked cement render above the Comité roofs to the west of the sanctuary façade should be removed, the integrity of the waterproof isolation examined and replaced if necessary by a bituminous membrane, and the roofs given a new finish such as 5-7cm white cement carefully laid in squares with a galvanised metal drip at their front edges. At present there is no drip on the leading edge of these roofs. This work would also require the installation of a full height scaffold. If possible, methods of improving the thermal performance of the roofs through the introduction of lightweight insulation materials or secondary roofs should also be investigated. In this context it should be noted that the *Comité* roofs of 1909 were originally covered with ceramic tiles for precisely this reason.

4 Loose electricity cables passing over the surface of the roof should, wherever possible be routed within the building where they are less likely to deteriorate from exposure to the sun. The cable leading to the apex of the dome should be housed in a sub-surface conduit that is plastered over or externally mounted within a galvanised metal pipe curved to the profile of the dome.

Monk's cell in interstitial space above sanctuary

Concrete roof to west of sanctuary façade, loose cable, and original roofing tiles. Note crack at abutment of sloping roof with wall and lack of drips on leading edges

Edge of concrete roof and failedwaterprof membrane to edge of roof to west of sanctuary

Figure 21: Monk's cell and roofing of sanctuary (Photos 2011: N. Warner)

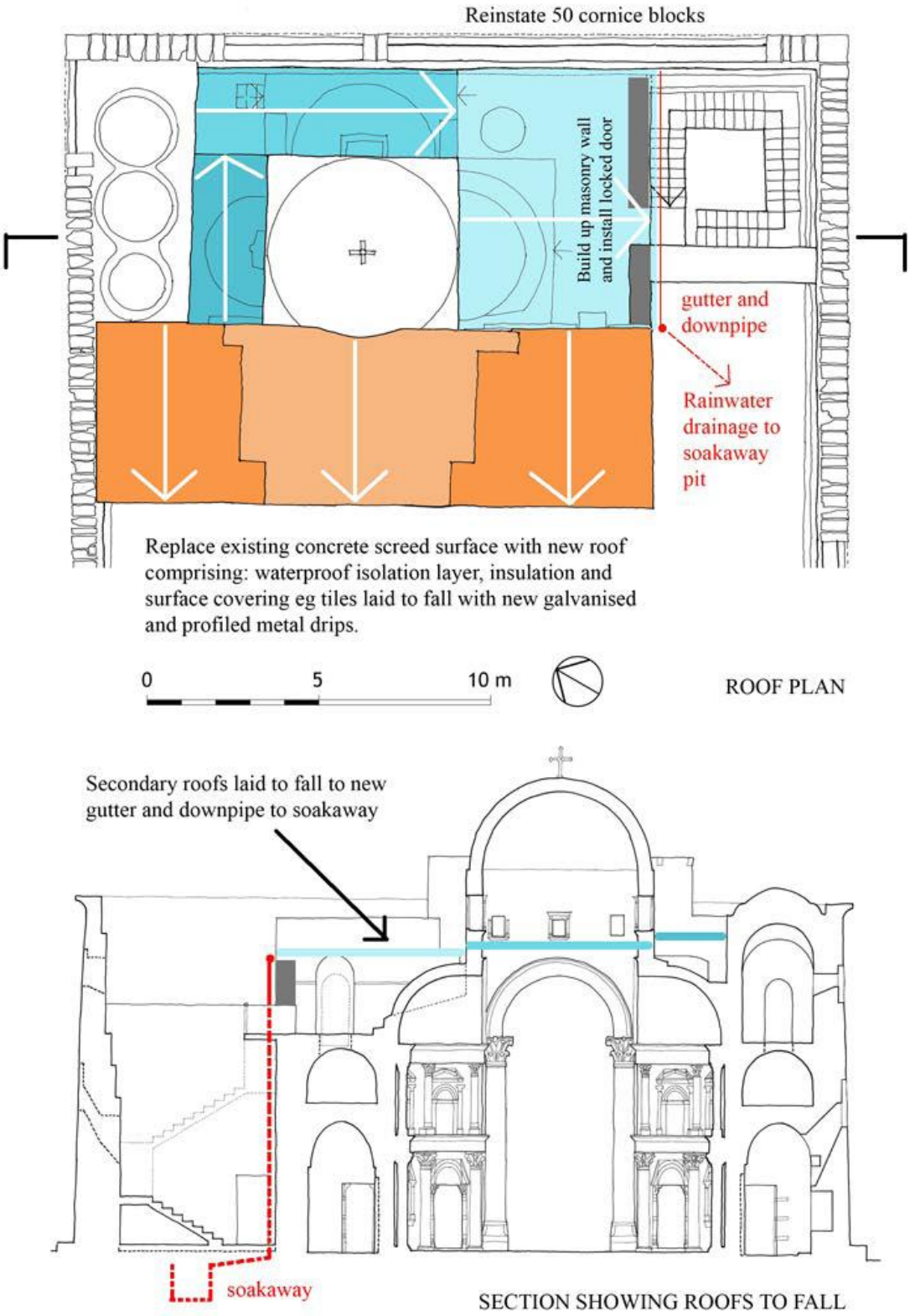


Figure 22: Proposed interventions on sanctuary roof (Drawing 2011: N. Warner)

2.5 The keep

All water supply and drainage pipes in the keep should be removed, along with air-conditioning units. The condition of the septic tank should be assessed and filled in after emptying with clean sand. The saturated lower walls of the keep should be stripped of render to facilitate drying and their condition should be monitored. Dependent on the future planned use of this area, the roof should be stripped of all encumbrances and a new surface laid to fall to external waterspouts. The exposed head of the access stair should be covered with a permanent shelter and new protective handrails installed around the perimeter of the roof.

3 Possibilities for Future Use

The long-term conservation and maintenance of the entire structure of the Church is to a great extent dependent on how it will be used in the future. The key question is whether the sanctuary of the church should be returned to regular use for religious worship. The factors to be considered in this context are:

1 The presence of two new churches adjacent to the old church with a combined capacity of 1,500 persons, and a further church to the west with a capacity of 200.
2 Any perceived symbolic requirement that the old church should be returned to use.
3 The need to open the sanctuary to tourists/visitors of both sexes.
4 The possibility that lasting physical damage will be caused to the paintings by its return to regular religious use and the desire of the representatives of the church to change the environmental status quo of the sanctuary by introducing air-conditioners.
5 The capacity of local representatives of the MSA to restrict the religious use of the sanctuary to occasional services and to prevent damage being caused within the sanctuary by the introduction of additional elements such as lights, loudspeakers, fans, and air-conditioners.

3.1 No use of church for worship

There is clearly an existing capacity on site to house all anticipated worshippers in the foreseeable future without using the old church. In this case the church would be treated much in the manner of an archaeological site, with the provision of visitor displays and information, and the sanctuary would be accessible to visitors at all times. A clear route for visitors within the sanctuary would have to be established and

protective handrails installed to prevent damage from occurring to painted surfaces from touching. A plan of how this might be achieved is shown in Figure 23.

Assuming the conservation of the surfaces of the west and north walls proceeds, they should subsequently be protected from the elements. This can be achieved through the construction of a localised shelter whose roof structure utilises the existing beam holes at gallery level in the walls for new timber joists supported on a series of new posts around the perimeter. This structure could be clearly differentiated as a modern intervention using modern materials such as steel to achieve a minimal footprint. It may alternatively reuse three existing granite column shafts on new bases and with new capitals to simulate the position of the original gallery of the church. The latter design of shelter is described in Figure 23.

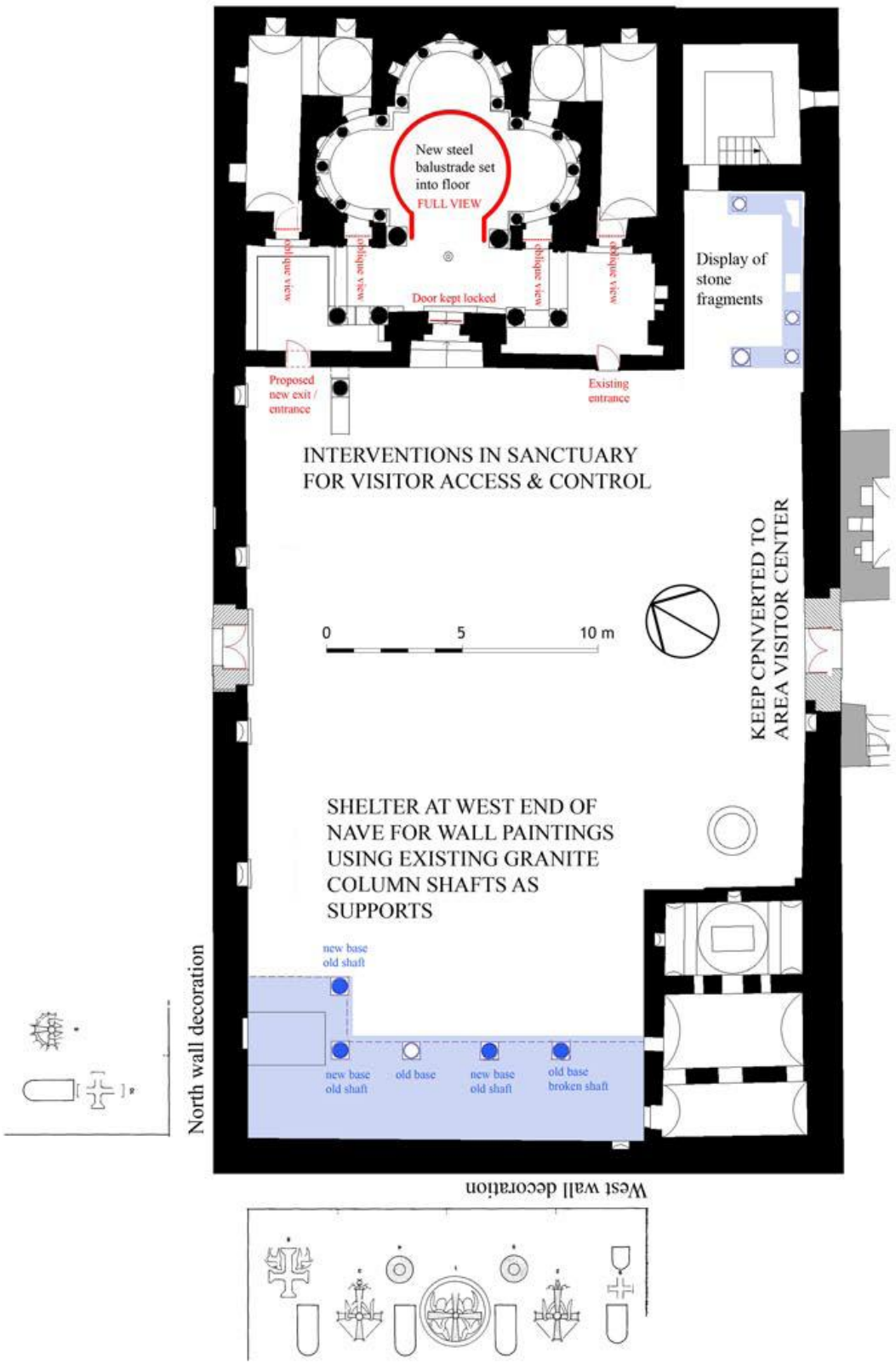


Figure 23: Plan showing interventions assuming no use of sanctuary for worship and localised shelter for wall paintings at west end of nave

3.2 Regular or intermittent use of the church for worship

If the church is returned to regular use it will undoubtedly pose additional threats to the conserved wall-paintings primarily through smoke damage. The installation of air-conditioning, sound systems, and additional lighting, which is likely to occur in tandem with unrestricted use, has the potential to be catastrophic. A corollary of the return of the sanctuary to regular use is that there will be restricted access for visitors to view the wall-paintings. Particularly significant is the fact that no women will be allowed into the sanctuary, as prescribed by Coptic religious practice.

The use of the church for masses on special occasions would be a compromise solution. It would, on the one hand, represent a valuable continuity in use and would respect the authenticity of the site, and on the other hand limit the potential damage caused by re-use. Whatever internal arrangements were made for regular visitation could be supplemented by the addition of an altar, perhaps located to the immediate west of the sanctuary façade.

The danger of allowing the sanctuary to return to even intermittent use is that no meaningful controls can be placed upon the introduction by stealth of modern systems such as air-conditioning. The director of the conservation team, Luigi De Cesaris, has noted that the changes in temperature and humidity caused by air conditioning would destroy the church within five years. This will ultimately result in the same catastrophic situation that would occur in the case of unrestricted use. If, however, some meaningful guarantee can be obtained from the users of the church that no such systems will be introduced into the historic environment, the occasional use of the sanctuary for worship would be a suitable compromise between the conservation needs of the church, the fulfilment of its religious function, and visitation by tourists. However, obtaining a genuine and lasting commitment to the safety of the monument during use seems unlikely.

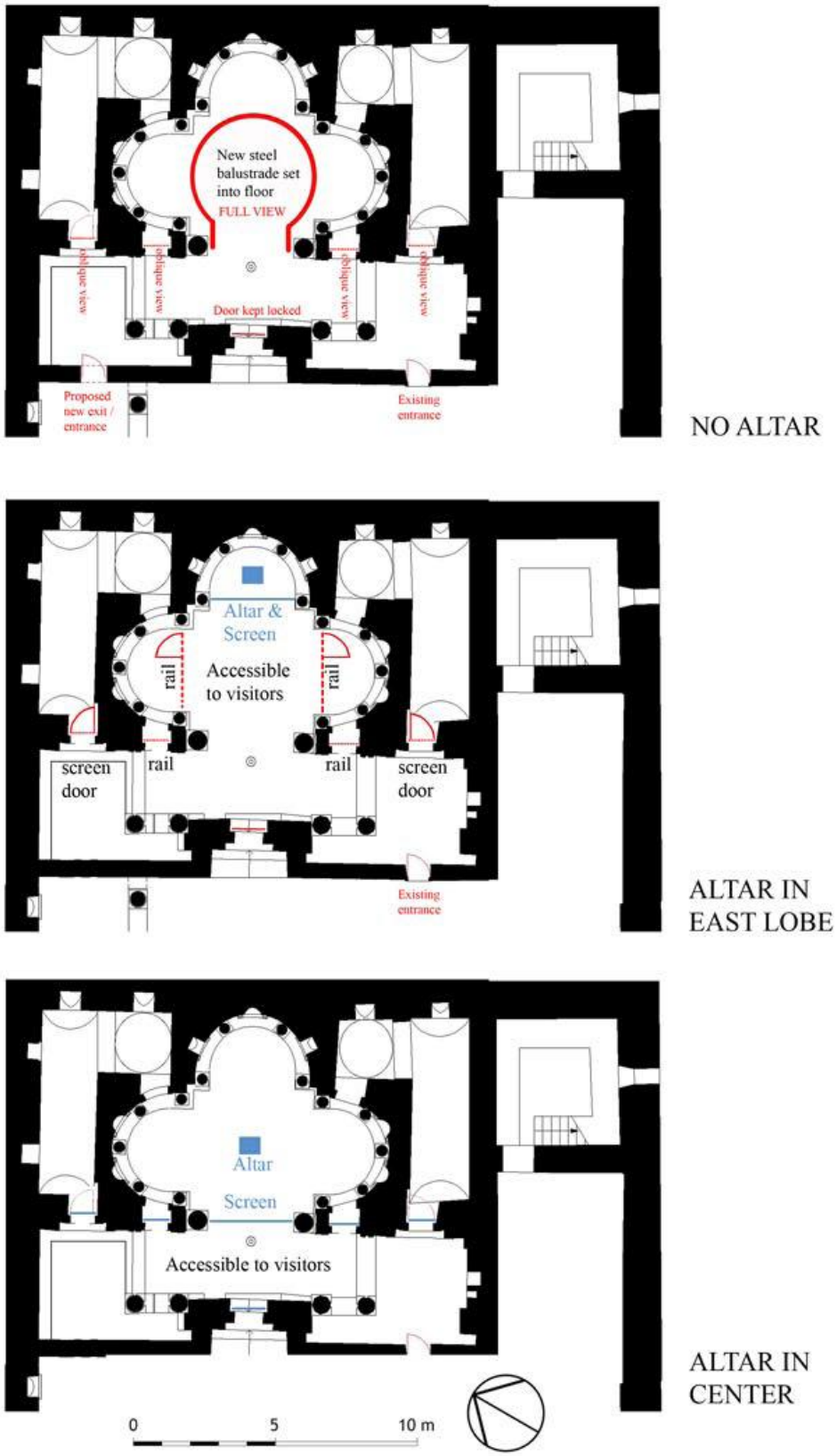


Figure 24: Alternative locations for altar and screens in sanctuary (Drawing 2011: N. Warner)

3.3 The protected environment

Another method of achieving a balance between the conservation of the fabric of the church and contemporary use is also possible. This would involve the construction of a physical shelter over the entire empty space of the nave. Such a shelter would be constructed with its roof at the same height as the missing roof of the nave, and would thus recreate the volume of the original church without mimicking any of its original architectural detailing. The shelter could be built as a structure that was almost entirely independent of the original fabric of the church and independent of the sanctuary. The protected environment provided by such a shelter would confer the following benefits:

1 Protection of the surfaces of the west and north inner walls of the church leaving them in a consolidated condition but preserving all traces of their past history.
2 Bracing of the north perimeter wall of the church to prevent further deflection (as noted in the Structural Report).
3 Provision of a large area for contemporary use within the church nave. This could encompass community activities, children's education, and even intermittent use for religious services.
4 Provision of a discrete area for visitor information and displays relating to the history and architecture of the church prior to entering the sanctuary.
5 The possibility of maintaining two different environments within the perimeter of the church: one without air-conditioning (the sanctuary), and one with air-conditioning (the nave). In fact it would be possible to design the roof of the shelter with sufficient thermal insulation properties and with a reflective finish so as to obviate the need for air-conditioning the space. Fans mounted on the structural grid of the shelter could provide necessary comfort cooling.

The architectural and structural design of such a protective shelter would be critical. It should be built of modern materials to clearly differentiate the old from the new, and should utilise a fully reversible structural system (such as a steel frame) with the required minimum of structural elements. The roof of the shelter should also provide for natural daylight entering the building, and should adopt the highest insulation standards to reduce thermal gain. The underside of the roof should achieve a high standard of acoustic absorbency. Schematic sketches of the appearance of such a shelter can be seen in figures 25-27.

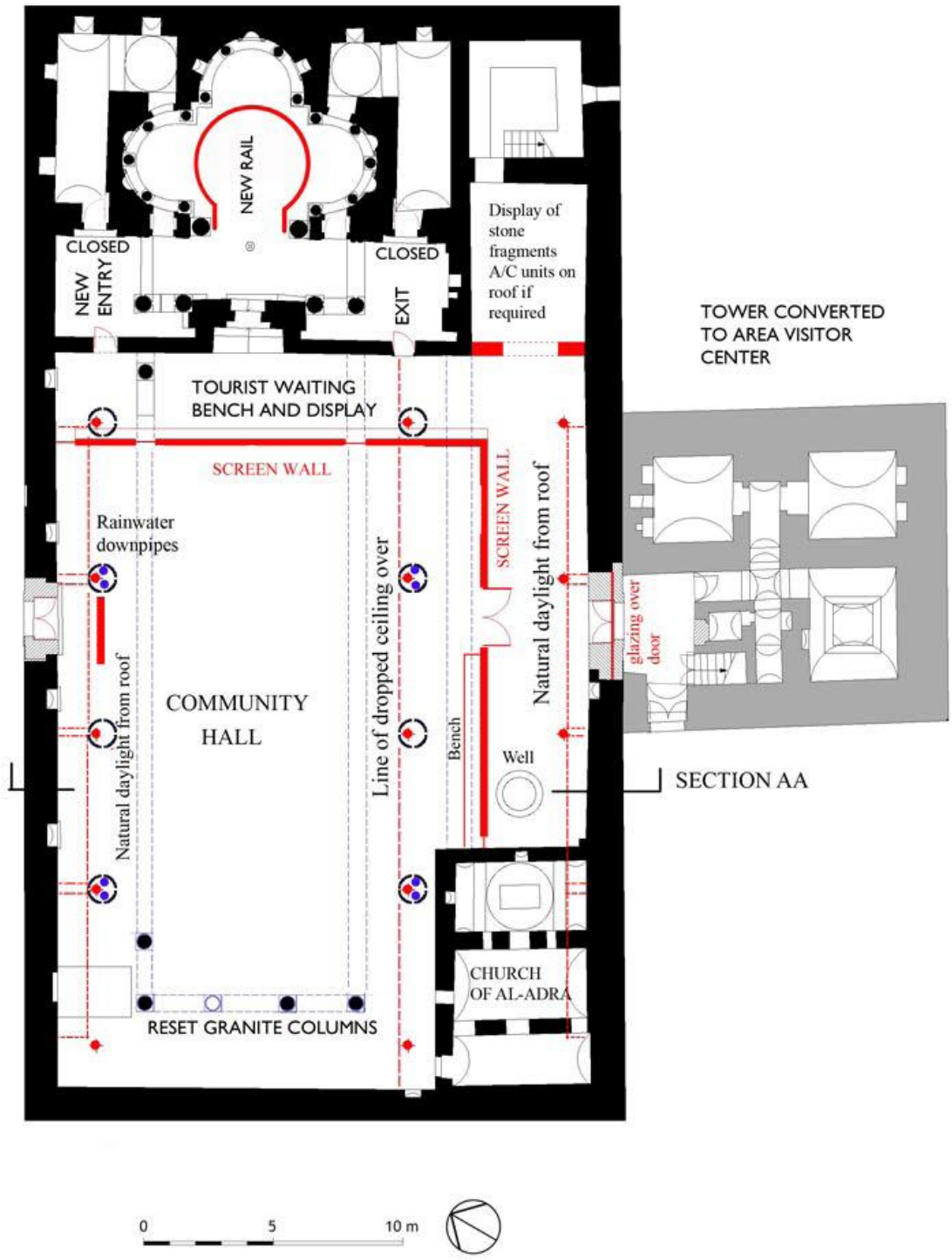


Figure 25: Plan of protective shelter over nave (Drawing 2011: N. Warner)

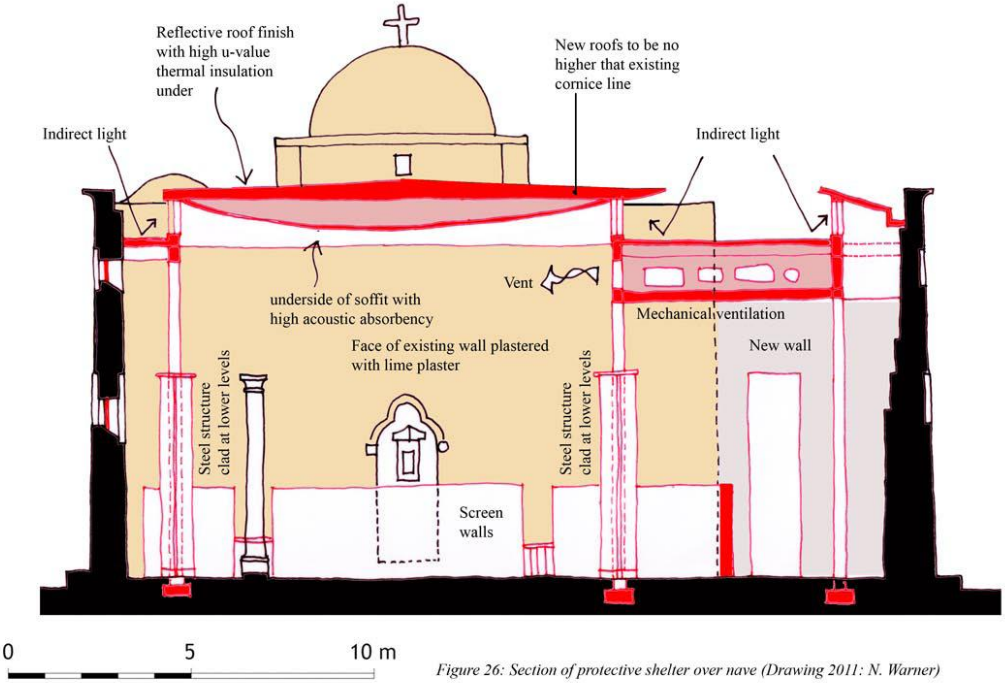


Figure 26: Section of protective shelter over nave (Drawing 2011: N. Warner)

Figure 27: Perspective sketch of protective shelter over nave (Drawing 2011: N. Warner)

4 SITE INFRASTRUCTURE

4.1 Structures adjacent to the church

The monastic guesthouse constructed immediately to the east of the sanctuary of the church should be demolished for the principal reason that it is a source of contaminated water that will eventually compromise the structure of the church. It is also an extremely ugly, badly constructed, building that is taller than the church. This plot of land should, by agreement with the MSA, remain undeveloped in the future.

The east gate of the monastery is unfinished and unused and could also be demolished on the grounds of its close proximity and negative aesthetic impact. Moving the gate, by agreement with local authorities, three metres to the east in the cul-de-sac outside the present gate would allow the staff compound located beyond the east perimeter wall of the monastery to be connected to the main compound in a much more satisfactory way. *See figure 17,*

4.2 Parking and circulation

The immediate perimeter of the church is currently mostly used for vehicle parking. To the west is a new corrugated metal shelter for two cars, to the north is the favoured location of a tractor and fire-engine, to the east is the parking spot for the Monastery buses and microbuses, and to the southwest is another parking area. This gives the immediate environment of the church a ramshackle appearance. It would be possible to restrict vehicular access around the perimeter of the church by the judicious installation of fixed bollards made of steel or stone, with possible access for emergency vehicles maintained on the north side by having one removable / lockable bollard. At present the area immediately in front of the southern access to the church is blocked to vehicles by a concrete kerb. This, and the car shelter on the west side of the building should be removed following the installation of these suggested alternative measures. Following an archaeological examination of the parking area on the western boundary of the site, it might be advisable to suggest that the monastery constructs whatever parking shelters it requires in this location as an alternative to using the shade provided by the building of the church itself. It is highly likely that the present abbot of the monastery wishes to develop this part of the site with real buildings, however. In this case a formal agreement should be reached with the monastery to restrict the height of these structures to only two storeys. *See figure 17.*

4.3 Exterior lighting

It is recommended that the municipal street lighting currently in use around the church is replaced by a less visually obtrusive lighting system with sub-surface electrical conduits to the electrical substation to the of the site. Large neon religious signs that are attached to the church itself should be removed and/or replaced with smaller signs that respect their context. Although the practice of floodlighting monuments is generally out of favor today, current practice in Egypt suggests that it would be better to seek a controlled and sympathetic solution to this problem.

5 VISITOR ACCESS AND INFORMATION

Three different, but not mutually exclusive, recommendations can be made for the location of site presentation facilities.

- Around the well to the northwest of the church
- At the east end of the church including the area of the sanctuary
- Within the keep

No objections have been raised by the abbot of the Monastery in discussions regarding the latter. How these options are developed depends upon an overall decision about the future of the church itself. Once this decision is made, detailed plans for the provision of specific visitor information panels and/or guidebooks can be drawn up. Visitor information panels should be designed for maximum durability, printed for example on 2.5mm anodised aluminium sheet.

5.1 The area of the well

The area around the well outside the church would lend itself to a limited intervention as has already been described in II.1.1 and figure 17. The components of this would be the construction of a barrier to the perimeter of the area, the consolidation of remains within the area, the introduction of an elevated walkway and point of access, and the provision of a balustrade around the well to allow for safe viewing together with an explanatory visitor panel.

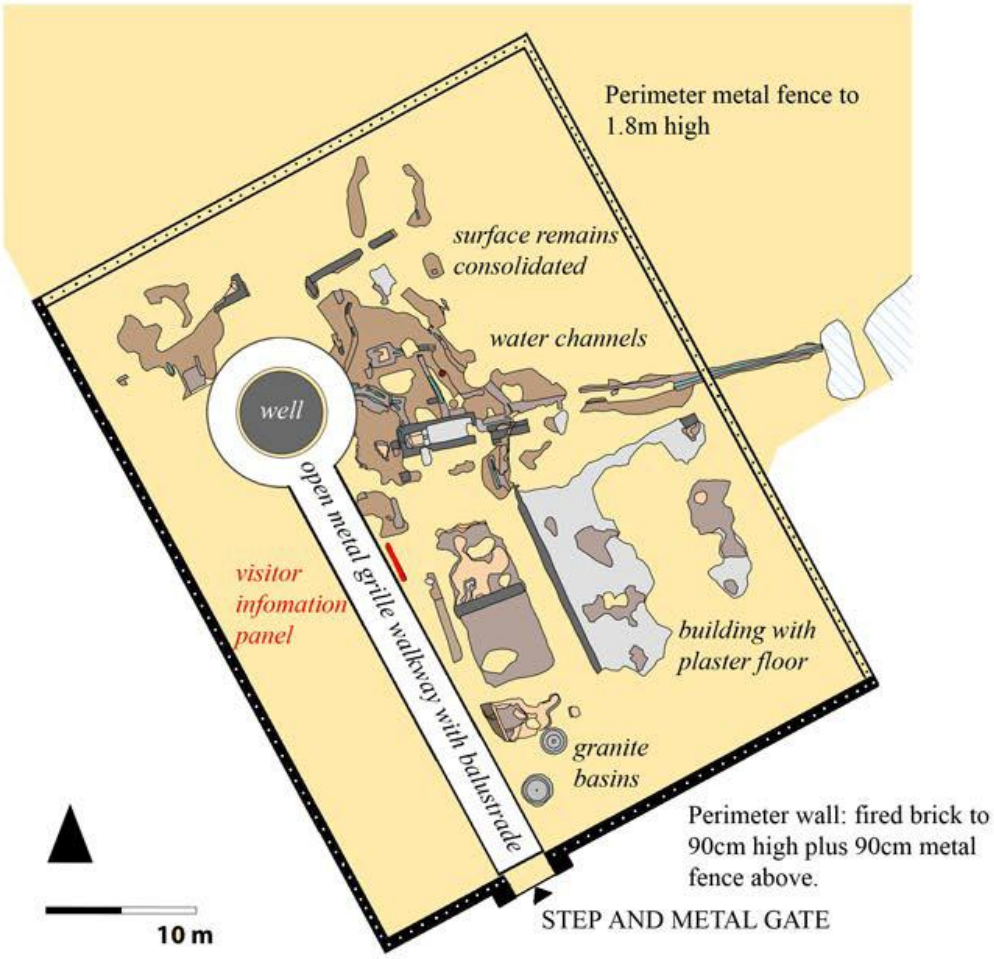


Figure 28: Detail plan of presentation of well area (Drawing 2011: G. Pyke/ L. Blanke/ N. Warner)

5.2 The east end of the church

5.2.1 The large number of loose architectural elements located in the Church should be documented, conserved, and assembled into a coherent display tied to the history of the church. The display of this material should be designed to minimise any future damage to these artefacts. A suggested location for this display is shown on figure 25.

5.2.2 Visitor presentation within the sanctuary depends to a large extent on the decision concerning the future use of the church. Whatever the decision, however, electrical wiring using high-quality twin-core thermoplastic cable in subsurface concealed conduits should be provided to agreed points to satisfy the requirements of artificial lighting and comfort cooling through fans. This should be executed in tandem with the penultimate phases of the current conservation project and a sketch proposal is shown in figure 29. A Light Emitting Diode (LED) system is recommended owing to the long life of the lights (50,0000 hours +), absence of ultraviolet or heat emissions, and flexible colour balance with full dimming options. If the church is returned to use for worship, additional wiring for a number of electrical power sockets should be anticipated. These can probably be concealed in subsurface trunking, but the probable requirement for power adjacent to any new altar position would demand the selected removal and replacement of modern limestone paving slabs along proposed cable routes.

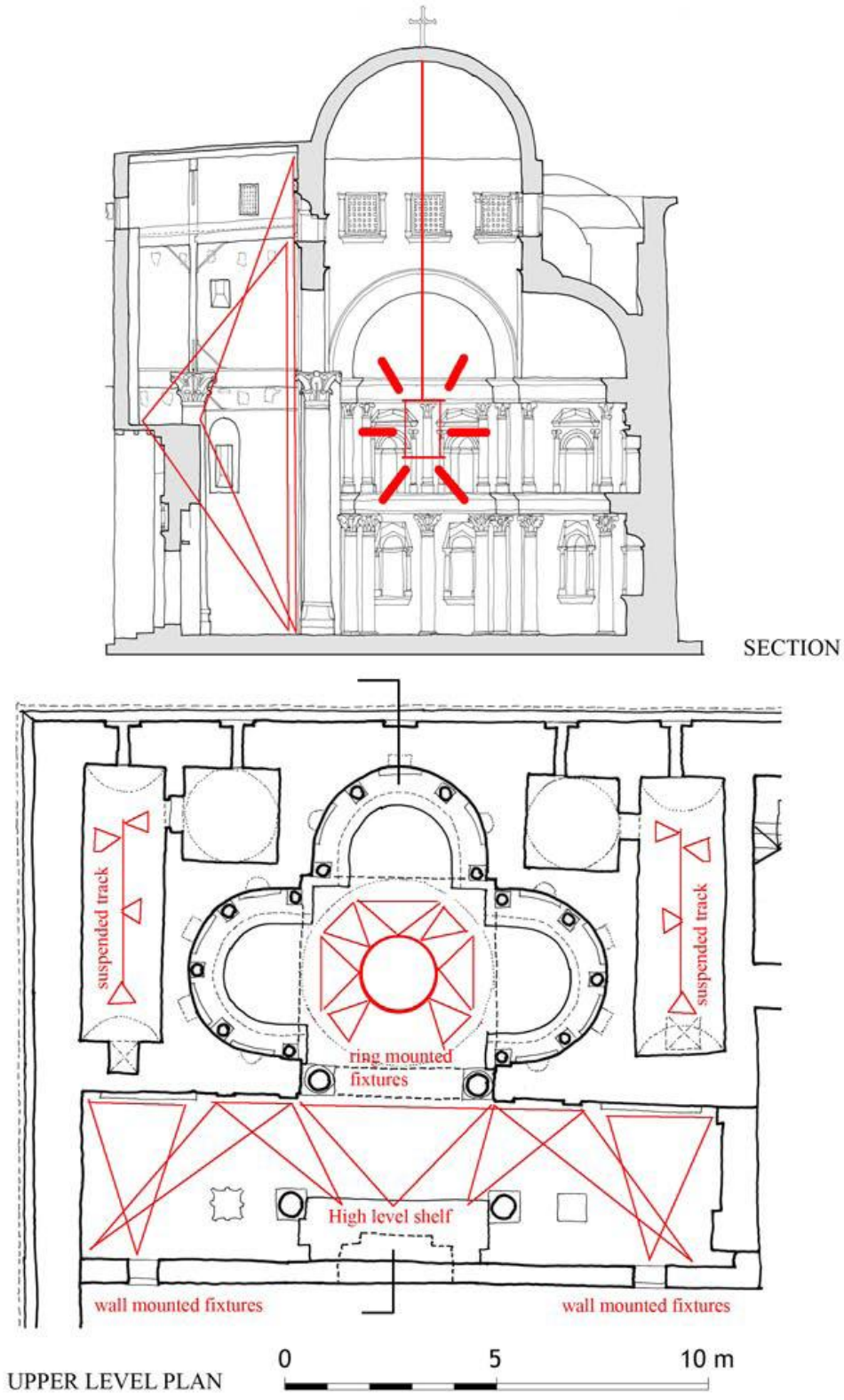


Figure 29 Details of suggested lighting layout in the sanctuary area (Drawing 2011: N. Warner)

5.2.3 In the event that the church is reused for intermittent or regular worship, an altar will have to be reinstalled in the sanctuary. In the case of intermittent use, the altar can be placed in the east lobe behind a screen (as it was before the conservation

project started). This will allow visitors to enter the sanctuary. Low barriers should still be created to prevent them approaching the paintings, but these will have to be designed in such a way as to allow the celebrants access to the pastophoria during services. In the event of the church being used on a regular basis, it is recommended that the altar should be placed in the centre of the sanctuary below the dome with an open wooden screen located under the chancel arch. Visitors could then view the sanctuary above and through the screen, though being unable to enter. The doorways either side of the chancel arch would be similarly screened or blocked with a moveable handrail or rope. The doors to the pastophoria would be left open but with access similarly restricted by a handrail or rope or stable door arrangement. The central positioning of the altar would at least ensure that smoke generated by incense is not focussed on the east lobe but would be dispersed more widely through the space, minimising the damage to the paintings. *See Figure 24*

5.2.4 If the sanctuary is not returned to use then visitors will be able to enter the space of the triconch freely. It is recommended, however, that they be distanced from the surface of the walls of the trilobe by introducing a circular balustrade set into the floor, and that access through the other doors in the sanctuary façade be prohibited (as shown in figure 24).

5.2.5 In none of the scenarios described above is there significant space to devote to the provision of wall-mounted visitor information panels. If, however, a protective shelter was constructed over the nave, a separate area immediately to the west of the *Comité* wall enclosing the east end of the church could be dedicated to visitor information along with seating for groups waiting to enter the sanctuary. A door could also be opened in the north end of the *Comité* wall to allow for an easier circulation of visitors through the sanctuary, with the central portal remaining closed. A number of themes might be considered appropriate for visitor information panels such as: The conservation project; the historical reconstruction of the church; the paintings; the architectural sculpture; religious iconography; the liturgy etc. *See figure 25.*

5.2.6 An awareness-raising campaign among the local community and administrators responsible for the site should be initiated with the participation of trainers, archaeologists, and conservators to improve community understanding of the value of the heritage represented by the church.

5.2.7 Independent of the decision regarding the future use of the church is the installation of new, dimensioned, limestone pilasters and capitals to assist in the architectural comprehension of the clerestory and sanctuary façade. These restored elements require installation during the lifespan of the current conservation project.

5.3 The keep

The keep is also a structure that could be used for visitor presentation, and includes six large rooms on two levels and an accessible roof terrace. The displays should be differentiated from those related directly to the architecture and decoration of the church, and could extend to more regional themes such as: Egyptian Monasticism past and present, The Federation of Shenoute, the White Monastery and Athribis, the history of Panopolis/Akhmim, Western travellers in the region etc. Prior to being converted for use as a visitor center, the keep would require conservation (as described above) and the installation of an appropriate lighting system.

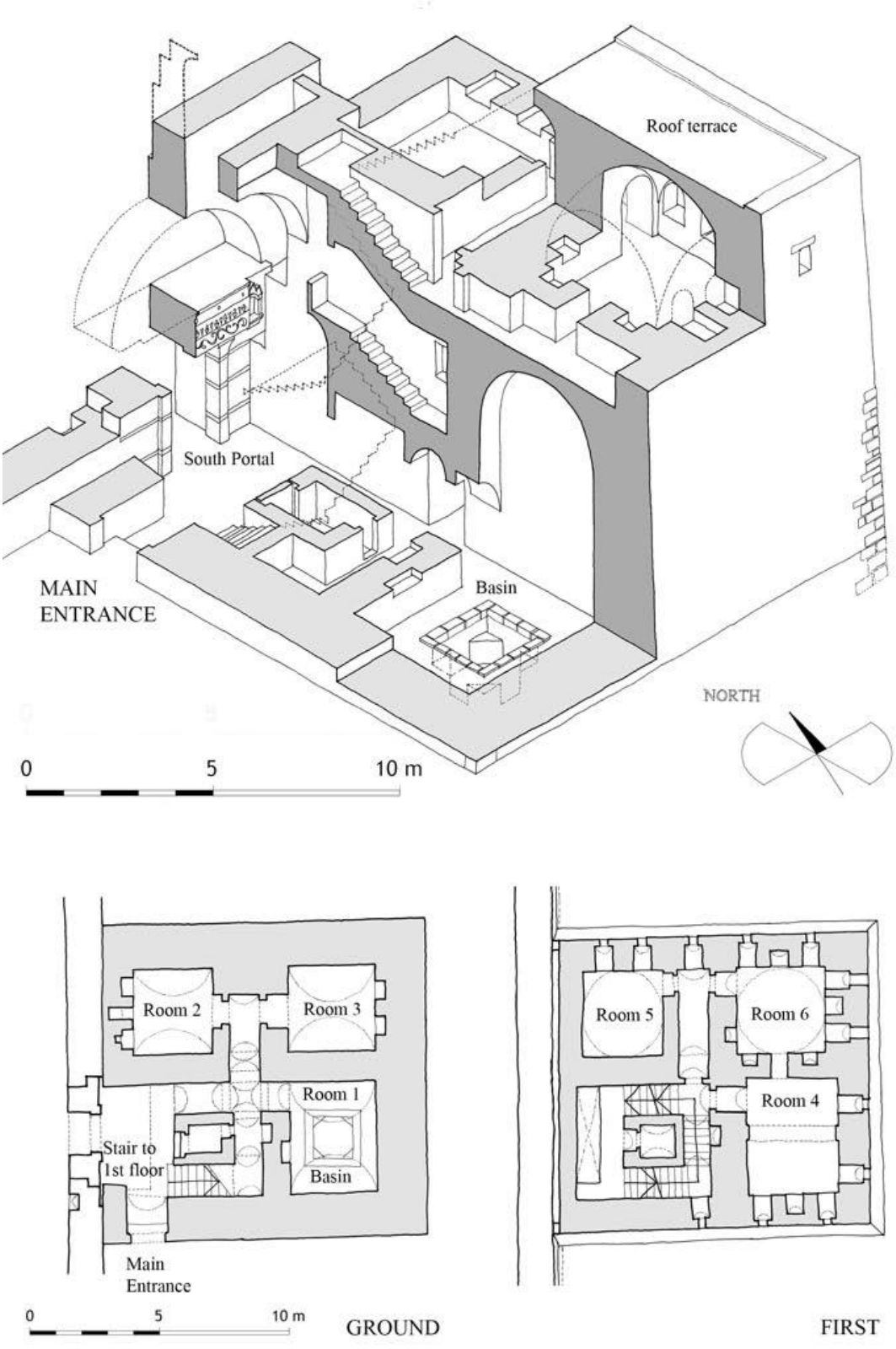


Figure 30: Cutaway isometric and plans of the keep (Drawings 2008: N. Warner)

CONCLUSIONS AND RECOMMENDATIONS

The USAID has already invested considerable resources in the conservation of the wall paintings at the Red Monastery Church. In the opinion of this author, however, a further investment is required in order to protect the legacy revealed by the conservation program over the past nine years. It is regrettable that the preservation of the extremely fragile paintings in the church cannot be guaranteed if the church is returned to use as a place of religious worship. Religious use is also incompatible with allowing visitors of both sexes to see the paintings revealed by the conservation process.

It is therefore recommended that access to the sanctuary of the church be limited and that it is no longer used for religious services. It is further recommended that a conservation training project be initiated, under the direction of the current conservation team, to complete the cleaning and consolidation of the north and west walls of the church. Upon conclusion of this project, the entire open area of the nave should be covered with a modern protective shelter to preserve these elements of the church. This shelter will also provide a valuable facility for the local community to use for educational and other activities.

There are also a number of urgent steps that need to be taken to preserve what few remains survive of the historic context of the church. These include the physical protection of the archaeological components of the site against encroachment and their presentation. The modern monastic guesthouse to the immediate east of the church should be demolished to avoid damaging wastewater infiltration of the ground adjacent to the church. Vehicular access around the building should be controlled, and physical infrastructure such as lighting upgraded.

The conflict between preservation and use is closely related to the physical, social and administrative context of the building. One important developmental tool that can be used to resolve this conflict and build capacity is the training of local personnel in techniques of conservation and management. This training, which should also include the inspectors of the MSA, should accompany all stages of any future project at the monastery. Another significant educational tool is visitor information, and the provision of information in fixed (display panels) or portable form (guide books) should be undertaken in tandem with a campaign to raise the awareness of the community in and around the monastery of the outstanding cultural and economic value of their heritage.