

**Monasterboice
County Louth**

CONSERVATION STUDY

Contributing Authors

Margaret Gowen, Margaret Gowen & Co. Ltd
Teresa Bolger, Margaret Gowen & Co. Ltd
Keay Burrridge, Margaret Gowen & Co. Ltd
Dr. Peter Harbison
Lisa Edden, Consulting Structural Engineer
Úna Ní Mhearáin, Consarc Conservation Architects
Arthur Parkinson, Consarc Conservation Architects
John Savage, Stone Conservation Services, Consarc Conservation Architects
Dr. Joanne Curran, Stone Conservation Services, Consarc Conservation Architects
John Cronin, John Cronin & Associates
Ciara Hamilton, Natura Environmental Consultants

For
National Monuments Service, Department of the Environment, Heritage and Local Government
Office of Public Works
and
Louth County Council

4th August 2009

Table of Contents

I	Introduction	I
I.1	Background and Summary	I
I.2	Conservation Study Methodology	I
I.3	Objectives	3
I.4	Conservation Philosophy	3
2	Understanding the Monument	5
2.1	Setting and Context	5
2.1.1	<i>Study Area</i>	5
2.1.2	<i>Topography</i>	5
2.2	The History and Archaeology of Monasterboice	7
2.3	Sources	7
2.3.1	<i>Historical</i>	7
2.3.2	<i>Archaeological</i>	8
2.3.3	<i>Cartographic</i>	9
2.4	History of Monasterboice	9
2.4.1	<i>Early Medieval Period (5th -12th Centuries AD)</i>	9
2.4.2	<i>Twelfth Century Reform</i>	13
2.4.3	<i>Later Medieval Period (13th-16thcenturies AD)</i>	15
2.4.4	<i>Post-medieval period (17th century AD to present</i>	17
2.5	Survival and Physical Condition	19
2.5.1	<i>Surviving Features and Context</i>	19
2.5.2	<i>Muiredach's Cross (or South Cross)</i>	19
2.5.3	<i>West Cross (or Tall Cross)</i>	20
2.5.4	<i>North Cross</i>	21
2.5.5	<i>Cross Shaft</i>	21
2.5.6	<i>South Church</i>	22
2.5.7	<i>North Church</i>	23
2.5.8	<i>Round Tower</i>	24
2.5.9	<i>Decorated Slabs</i>	24

2.5.10	<i>Bullaun Stone</i>	25
2.5.11	<i>Sundial</i>	25
2.5.12	<i>Souterrain 1</i>	25
2.5.13	<i>Souterrain 2</i>	25
2.5.14	<i>Souterrain 3</i>	25
2.5.15	<i>Souterrain 4</i>	26
2.5.16	<i>Holy Well</i>	26
2.5.17	<i>Graveyard</i>	26
2.5.18	<i>Graveyard Boundary Wall</i>	26
2.5.19	<i>Enclosure Complex</i>	27
2.6	Previous Archaeological Investigations and Studies of the Site	29
2.7	Ecology	31
3	Phasing of the Site	33
3.1	Introduction	33
3.2	Neolithic	33
3.3	Bronze Age	33
3.4	Iron Age	34
3.5	Early Medieval	34
3.6	Medieval	35
3.7	Post-Medieval	36
3.8	Presentation of the Site and its Surrounding Facilities	38
3.9	Structural and Material Condition	41
3.9.1	<i>Structural and Material Condition</i>	41
3.9.2	<i>Construction Fabric</i>	43
4	Issues affecting Monasterboice	45
4.1	Stakeholders	45
4.2	Legal Status	47

4.3	Land Ownership	48
4.4	Duty of Care	49
4.5	Conservation and Management	50
4.6	Development Control	52
5	Cultural Significance of the Monument	54
5.1	Basis of Assessment of Significance	54
5.2	Key Elements of Significance	55
5.2.1	The High Crosses	55
5.2.2	The Stone Churches	56
5.2.3	The Round Tower	56
5.2.4	The Enclosure Complex	57
5.2.5	The Graveyard	57
5.2.6	Ecology	57
5.3	Overall Significance of Monasterboice	58
6	Vulnerability	59
6.1	Ownership and management	59
6.2	Visual Amenity	59
6.3	Access, including Universal Access	60
6.4	Physical Condition of the Site Elements	60
6.4.1	<i>High Crosses</i>	60
6.4.2	<i>Churches</i>	61
6.4.3	<i>Round Tower</i>	61
6.4.4	<i>Graveyard Boundary Wall</i>	61
6.4.5	<i>Enclosure</i>	61
6.4.6	<i>Graveyard</i>	61
6.5	Visitor Impact	62
6.6	Vandalism	62

6.7	Statutory Controls, Development Pressure and Land Use Planning Policy	62
6.8	Areas of Potential Conflict	63
6.9	Health and Safety Issues	63
7	Gaps in Knowledge	64
7.1	High Cross Surveys	64
7.2	Traffic Management	64
7.3	Graveyard Survey	64
7.4	Topographic Survey	65
7.5	Architectural Surveys	65
7.6	Ecological Survey	65
7.7	Further Historical Research	66
8	Suggested Opportunities for Action	67
8.1	Introduction	67
8.2	The Site – conservation	67
8.2.1	<i>The Crosses</i>	67
8.2.1.1	<i>Railings</i>	68
8.2.1.2	<i>In-situ shelter (roof only)</i>	68
8.2.1.3	<i>In-situ protective enclosure (roof and glazed walls)</i>	69
8.2.1.4	<i>Application of protective chemical coating/consolidant</i>	69
8.2.1.5	<i>Re-location to an indoor facility and replacement with replicas</i>	70
8.2.1.6	<i>Retention of crosses in-situ and fabrication of replicas for internal presentation</i>	73
8.2.2	<i>South Church and North Church</i>	74
8.2.3	<i>Round Tower</i>	74
8.2.4	<i>Graveyard Boundary Wall</i>	74
8.3	Graveyard – Extension and Management of Existing Graveyard	75
8.4	Visitor access and amenities	76
8.5	Roads/Road Traffic	76

8.6	Planning	77
8.7	Use of Materials	77
8.8	Site-specific Information	78
9	Policies	79
9.1	Policy Aims	79
9.2	Policies	80
	Bibliography	84
Appendix 1	Recorded Monuments within the Study Area	89
Appendix 2	Archaeological Excavations within the Study Area	93
Appendix 3	National Archives OPW File 31421/82 Contents	97
Appendix 4	Summary based on the Report of the Commissioners of Church Temporalities in Ireland for the period 1869-80, Dublin, 1881, page 123	101
Appendix 5	The High Crosses of Monasterboice, by Dr. Peter Harbison	102
Appendix 6	Ecological Assessment, by Ciara Hamilton, Natura Environmental Consultants	134
Appendix 7	Planning Assessment of Monasterboice, by John Cronin, John Cronin & Associates	140
Appendix 8	Structural Appraisal of graveyard structures, by Lisa Edden, Structural Engineer	148
Appendix 9	Condition Survey Report for the Stone Fabric of the High Crosses, by John Savage & Dr. Joanne Curran, Consarc Conservation, Stone Conservation Services	157

Illustrations

Figures

- Fig. 1 Site location and Recorded Monuments within the study area
- Fig. 2 Annotated summary greyscale of geophysical survey (after Bolger & Harrison, 2008)
- Fig. 3 Site plan of the Monasterboice graveyard (after Buckley & Sweetman 1991)
- Fig. 4 Phasing of South Church
- Fig. 5 Down Survey, 1657
- Fig. 6 1st edition Ordnance Survey map, 1837
- Fig. 7 Sketch of Monasterboice from north-east, Austin Cooper 1786
- Fig. 8 Sketch of Monasterboice from south-east, Austin Cooper 1786
- Fig. 9 Land ownership map, 2008
- Fig. 10 Ecological environments (Natura Environmental Consultants)
- Fig. 11 Schematic drawing of viewing requirements for high crosses (Consarc Conservation Architects)

Plates

- Plate 1 Muiredach's Cross and Round Tower, June 1865 (W. & E. Swain)
- Plate 2 Muiredach's Cross and Round Tower (with roofed viewing platform added to top of tower), c. 1875 (Lawrence Collection No. 661)
- Plate 3 Muiredach's Cross (or South Cross)
- Plate 4 Interpretive signage for Muiredach's Cross
- Plate 5 North Cross
- Plate 6 Sun dial
- Plate 7 Tall Cross (or West Cross)
- Plate 8 View of the graveyard with Muiredach's Cross and the Round Tower
- Plate 9 Round Tower and Tall Cross. Note mature trees in graveyard
- Plate 10 View inside the Round Tower
- Plate 11 North Church exterior (viewed from west)
- Plate 12 North Church interior (viewed from east)
- Plate 13 South Church exterior and remains of chancel arch (viewed from east). Note lean of south wall
- Plate 14 South Church exterior of south wall. Note grooved stones of church wall (left)
- Plate 15 South Church exterior of south wall. Note modern gravestone against church wall
- Plate 16 South Church interior. Note site signage and gravestone cemented onto church wall
- Plate 17 South Church interior of south wall. Note membrane used in repair to wall

Plate 18	General view of graveyard
Plate 19	Ruarcan's grave stone, c. 9 th century
Plate 20	Graveyard and boundary wall (viewed from south). Remains of the monastic enclosures survive below ground in this field
Plate 21	Graveyard boundary wall with missing stones, open joints and "soft" grass top. Note line of young trees planted very close to external face of south boundary wall
Plate 22	Gate in west wall of graveyard at point where original entrance was in the older graveyard wall
Plate 23	Modern entrance to the site with Tour Guides hut
Plate 24	Map panel inside entrance that links Monasterboice to our heritage sites in Louth
Plate 25	Caretaker's house, with gift shop
Plate 26	Tour bus parked at front entrance
Plate 27	Car park and toilet facilities
Plate 28	Bus parking area, currently used for cars
Plate 29	View of graveyard and round tower, from north
Plate 30	Tree line to north of site. Stone in foreground possibly marks site of souterrain

1 Introduction

1.1 *Background and Summary*

In July 2008 the Department of the Environment, Heritage and Local Government in partnership with the Office of Public Works and Louth County Council commissioned Margaret Gowen & Co. Ltd. to undertake a Conservation Study for the early medieval ecclesiastical site of Monasterboice, County Louth. The team was led by Margaret Gowen & Co. Ltd, archaeological consultants; with contributions from Dr. Peter Harbison, archaeologist; Consarc Conservation, Conservation Architects; Lisa Edden, structural engineer; John Cronin & Associates, Planning Consultants; and Natura, Environmental Consultants.

The study was commissioned to address a range of concerns in respect of the preservation, conservation and presentation of both above ground and below ground remains of the early medieval ecclesiastical site, Recorded Monument No. LH021-062. In particular, the best method for preserving the high crosses was a major concern.

The main core of the recorded monument includes the standing remains of a round tower, two stone churches, a series of cross-slabs and a world renowned series of high crosses (all constituting a National Monument (No. 94) in state care), contained within the walls of the graveyard. The graveyard is still in use.

Significant sub-surface remains and features, including four souterrains and an enclosure complex, identified through aerial photography and geophysical survey, extend for up to 250m beyond the graveyard wall. Primarily the surrounding lands are used for agriculture.

The scope of the study includes not only the main site of Monasterboice itself but also considers its wider landscape setting taking in a core zone of c.120 hectares, centred around the graveyard, and a wider zone of c.1,054 hectares (Fig 1).

1.2 *Conservation Study Methodology*

Conservation studies are often prepared when a monument or site is vulnerable, in poor repair, or is facing a dynamic development situation (which can have a positive effect). All of these issues are present at Monasterboice.

Conservation studies are well suited to the study of complex and composite monuments in dynamic and changing environments. The Conservation Study involves a process that “seeks to guide the future development of a (monument or) place through an understanding of its significance” (Kerr 1999: 9) with a policy-based guidance document as its outcome. The process provides analysis – without prejudice – based on a rigorous and highly structured approach to the study by a multidisciplinary team. The study is conducted with the protection and public enjoyment of the monument as its central point of reference.

This report seeks to analyse the site’s history and archaeology, and through observation of the surrounding environment, to gain an understanding of the site, which is informed by discussion with a Steering Group. Based on the information gathered an assessment of Monasterboice’s significance and a statement of the site’s vulnerability can be made.

The project team was asked to identify and liaise with multiple stakeholders and to consider and integrate their views and positions into the report’s findings and conclusions, which leads to the identification of issues. A balanced assessment of all these elements leads to the creation of policies for retaining, protecting, managing, and enhancing the monument. Gaps in knowledge or areas of further study, which are required to further our understanding of the complex, are also noted. This will provide a firm foundation for the continuing management of the site.

Although not strictly part of the conservation study methodology a consequence of the process is the identification of potential opportunities, at both strategic planning level and at local level, to enhance the site. Potential opportunities for Monasterboice are included in the report.

Consultation with the Steering Group, the local community, and stakeholders is critical and central to the process of the study’s development. The Steering Group met with the consultants at the start of the project to discuss the preliminary issues relating to the site and have provided invaluable assistance during preparation of the draft report. The Steering Group included:

- Conleth Manning, Senior Archaeologist, National Monuments Service, Dept. of the Environment, Heritage and Local Government
- John McDermott, Dept. of the Environment, Heritage and Local Government **

- Pat Keane, Dept. of the Environment, Heritage and Local Government
- Ana Dolan, Senior Conservation Architect, National Monuments Service, Office of Public Works
- Brendan McSherry, Heritage Officer, Louth County Council
- Cllr. Anthony Donohoe, Louth County Council

** Replaced by Pat Keane

Consultation with stakeholders began at an on-site meeting with members of the Monasterboice Graveyard Steering Group Committee and the Monasterboice Tour Guides Committee on 27th August 2008. This was followed by a public meeting held in Monasterboice on 6th November 2008 and during this time five written submissions from interested parties were forwarded to the lead consultant. A further public meeting will be held after the draft report has been made publicly available, to allow stakeholders to make further submissions and comment on the draft report.

While this study does suggest possible actions arising from observations, a completed conservation study is not an action plan; however it will provide the basis and guidance for future action plans, feasibility studies and/or management plans for the site and surrounding area.

1.3 ***Objectives***

Initially the study was commissioned because of concerns relating to the protection, conservation and public display of the internationally significant sculptured high crosses; however during the conservation study process, several other issues of importance to stakeholder have come to light and are included in the report. This study will assist in developing proposals for the:

- protection and display of the Monasterboice high crosses
- conservation and presentation of the entire monument
- development of facilities and traffic management for visitors to the National Monument in a sustainable manner, and
- identification and development of a suitable site in the locality for an extension to the capacity of the existing graveyard

1.4 ***Conservation Philosophy***

The significance of all the upstanding historic structures at Monasterboice makes it essential to adhere to the Conservation Guidelines issued by the Department of the

Environment, Heritage and Local Government and to follow the philosophies of conservation outlined in the International Charters agreed upon in Venice and Burra. These charters stipulate that works should not be carried out unless they are necessary to conserve the structure, and should aim to repair rather than replace existing fabric to ensure the maximum retention of historic material. A complete record of alterations should be kept, noting the exact extent of restoration work undertaken.

If plans involve the removal of later interventions (such as the wooden structures inside the round tower), they should only take away those parts that interfere with the integrity of the monument – accepted conservation practice does not necessarily require the removal of all later additions to historic fabric, but recognises the validity of later elements in terms of the ongoing history of the structure.

2 Understanding the Monument

2.1 *Setting and Context*

2.1.1 *Study Area*

The site of Monasterboice is located at the eastern edge of the townland of the same name, in the barony of Ferrard, County Louth. The core zone of the study area extends over a c.120ha area across the townlands of Monasterboice, Newtown-Monasterboice, Bawntaaffe and Timullen. The wider zone extends over a total of c.1,054 ha taking in the townlands of Paddock, Cordoogan, Coolfore, Barabona, Rathdaniel.

The Down Survey map of the barony of Ferrard shows the wider zone of the study area covering all or part of seven large ‘townlands’: Monasterboice (equivalent to the modern townlands of Monasterboice, Timullen, Barabona and Cordoogan); Priestowne (equivalent to the modern townlands of Priest town and Paddock); the northern part of the lands of Melliphont (equivalent to modern townland of Coolfore); Newtown Monasterboice (equivalent to its modern extent); Bawntaaffe (equivalent to its modern extent); Tynure (equivalent to its modern extent); Rathdonel (equivalent to its modern extent) (Fig 5).

This supports the evidence from the records of the Placenames Commission which indicates that the townlands of Timullen, Barabona, Paddock and Cordoogan only developed as distinct entities post-1700, with secure records for Barabona and Paddock only from the early 19th century onwards.

2.1.2 *Topography*

The study area is located approximately 6km north of Drogheda, and just west of the M1 motorway. The core zone of the study area, incorporating the site of Monasterboice, is gently undulating with a general slope from northwest to southeast. The dominant parent material found within the environs of the ecclesiastical remains at Monasterboice is till of Irish Sea origin with limestone and shale (National Soil Survey of Ireland 1980). However, near surface geological variations can be encountered within the north of the core zone where Ordovician, Silurian, and Cambrian shales and mica schists may be encountered (National Soil Survey of Ireland 1980).

Overall the study area is generally low-lying (110mOD or lower); the wider study zone to the west of the site is characterised by a shallow valley aligned on tributaries of the White and Mattock River, this curves around the perimeter of the core zone from north to west to southwest. To the northwest and southeast of the study area are uplands associated with the Black Hill and Red Mountain. The site lies just to the north of the Boyne Valley and it is likely that the top of the round tower (when at its full height) provided views into the valley.

2.2 *The History and Archaeology of Monasterboice*

Monasterboice (Old Irish: *Mainistir Buiti*) appears to have been founded between the late 5th and early 6th century AD; the annals record the death of St Buite c. 520AD (AU 519 & 523; ATig 520; AI & AFM 521) linking it with the birth of Colum Cille. However there are no references to the monastery itself before 723AD (AU); regular references to the site in the annals (mainly clerical obits) commence in the 8th century, ceasing at the start of the 12th century.

Activity at the site does continue into the medieval period, the church at Monasterboice becomes a parochial centre and there is documentary evidence that relics of Saint Buite were still housed there into the 15th or 16th century (Roe 1981). However, in the mid-17th century use of the site as a place of worship declines, though the graveyard continues in use as the main parochial cemetery to the present day.

2.3 *Sources*

2.3.1 *Historical*

A wide variety of historical sources, both primary and secondary were consulted and details of the published editions of the sources consulted are included in the relevant section of the bibliography. The main record source for the site in the early medieval period are the various surviving sets of Irish Annals, primarily the Annals of Ulster (AU), the Annals of Tigernach (ATig), the *Cronicum Scotorum* (CS), the Annals of Inisfallen (AI) and the Annals of the Four Masters (AFM).

Moving into the medieval and post-medieval periods, a wider variety of source material is available including the surviving Registers of the Archbishops of Armagh, manorial extents and other documents relating to land and property. Records held in the National Archives of Ireland include a variety of estate papers as well as the archived files of the Office of Public Works.

Unfortunately significant record sources, both medieval and early post-medieval, for the diocese of Armagh as well as a large number of parochial records were deposited in the Public Record Office, Dublin and were largely destroyed in a fire in 1922, though some transcripts and copies do survive from other archival sources. In addition references to

and excerpts from such sources are included in relevant studies pre-dating 1922 (e.g. Leslie 1911).

The Irish Placenames Commission is in the process of developing an online database and archive of their records (www.logainm.ie) and this source was consulted too.

Several important antiquarian drawings of the site were made in the 18th and 19th centuries, notably those by Thomas Wright, published 1748 and Austin Cooper, dating to 1786. These drawings provide a record of the condition of many of the upstanding elements of the site and can be compared to the subsequent photographic records of the site. There are surviving photographs of Monasterboice taken from the mid-19th century onwards (see Plates 1 and 2 for examples). In addition to illustrating the condition of the site, some of these photographs document the early conservation works undertaken at the site. The National Library of Ireland holds five photographs of the site, dated c. 1910 (National Library Reference Nos. WEL6-8, WEL10-11) and further historic photographs are held in the Photographic Unit of the Department of the Environment, Heritage and Local Government.

2.3.2 *Archaeological*

The basic source of information on the archaeological sites and monuments within the study area is the Record of Monuments and Places (RMP) of The National Monuments Section of the Department of the Environment, Heritage and Local Government. This resource is based on all published and publicly available documentary and cartographic sources (including the files and records of the Archaeological Survey of Ireland), and the information held in the RMP files is read in conjunction with constraint maps. The RMP records known upstanding archaeological monuments, their original location (in cases of destroyed monuments or excavated sites) and the position of sites identified on vertical aerial photographs and other sources.

‘*Excavations*’ is an annual bulletin, which contains summary accounts of all excavations carried out annually in Ireland. This was consulted to identify archaeological excavations undertaken within the study area. The bulletins range from 1969 to 2004, and can now be accessed on the Internet at www.excavations.ie. In addition the online database of the

National Monuments Service (www.archaeology.ie) can provide a list of licences issued up to 2006. However, no details of the nature of the investigation or its results are included in this database. The annual *Excavations* bulletin contains short notes on the findings.

2.3.3 *Cartographic*

Historical mapping for the site and study area prior to the establishment of the Ordnance Survey is limited, comprising mainly the Down Survey Maps (1657) and Taylor and Skinner's maps (1777).

2.4 *History of Monasterboice*

2.4.1 *Early Medieval Period (5th-12th centuries AD)*

The ecclesiastical site at Monasterboice was most likely founded in the late 5th century. It was a dual foundation with both monks and nuns; a similar situation prevailed in a number of other major ecclesiastical centres such as Kildare and Clonmacnoise. A possible sister-foundation also linked to Saint Buite may be located at Toberboice, Mell, County Louth (Manning 1984).

The monastery was located within the territory of the Ciannachta, who were amongst the most significant of the subject peoples of Brega (Byrne 2000); at one point they controlled most of the coastline between the River Dee in county Louth and the River Liffey in county Dublin (Charles-Edwards 2000, 551-4). However, during the 7th and 8th centuries their political position was increasingly usurped and overshadowed by the northern branch of the Síl nÁeda Sláine (Uí Chonaing, based at Knowth), whose leader began to style himself *rex ciannachta*. The political sphere of influence of the Ciannachta became reduced to the area between the Boyne and Dee-Glyde confluence, commonly referred to as Arda Ciannachta, approximating the modern barony of Ferrard. With the decline in their secular power-base, the Ciannachta interest and involvement within the ecclesiastical sphere appears to increase. In the south the Ciannachta Midi controlled the abbacy of Lusk; the main ecclesiastical families at Duleek and Monasterboice were Ciannachta Breg.

The death of its patron saint and founder Buite m. Bronach is recorded c. 520AD (AU 519AD & 523AD; ATig 520AD; AI & AFM 521AD). A single recension of the saint's life survives (Rawl B. 505); it is quite a late text appearing to combine two earlier vitae – a short vita culminating in Buite's prophecy of the birth of Colum Cille and an account of the saint's boyhood miracles (Plummer 1910 xxxiv-xxxvi, 87-97; Kenny 1929, 372). Genealogical tables (CGSH; Dobbs 1923) place Buite as a member of the Ciannachta, however, as with most other Ciannachta saints (e.g. Cianán; Mac Cuilinn; Finán Lobar) he is linked to the Ciannachta Glenn Gemin, descending from Findchad Ulach m. Condla (Bolger & Harrison 2008, Appendix 1) rather than the Ciannachta Breg.

There are no references to the foundation in the annals until 723AD, when the death of Ailchu of Monasterboice is recorded, his office or position is not stated, but presumably he was a senior cleric, most likely the abbot. Though there are regular references to the site in the annals from this point until the early 12th century, these are mainly clerical obits. The clerics recorded in the annals (Bolger & Harrison 2008, Appendix 2) appear to be members of the Ciannachta Breg, though not all can be easily placed within the genealogy of that dynasty (Bolger & Harrison 2008, Appendix 1). The majority of those recorded are linked only to Monasterboice and are mainly accorded the title of abbot. However there are a couple of significant examples of officeholders at other churches originating from Monasterboice: Eoghan Mainistrech (†834) was abbot of Armagh and Clonard; Muiredach m. Domhnall (†924) was tanise-abbot of Armagh as well as *comarba Buiti*; Muiredach m. Mael Brigte (†935) was *princeps Dam Liac*, his father who died the same year was *princeps Mainistrech*.

The most famous cleric associated with Monasterboice was, of course, Flann Mainistrech (†1056), described in the annals as '*aird-fer leighinn 7 sui senchusa Ereann*' (eminent lector and master of the historical lore of Ireland). He was a prolific poet (Carey 2004, 997-8), with his earliest datable work referring to Mael Sechnaill m. Domnall, king of the southern Uí Néill (c. 1014-22). While it would be expected that Flann's work might reflect an interest in local politics and patronage (and certainly he wrote poems on the dynasties of Mide and Brega, including Síl nÁeda Sláine), a substantial segment of his work is concerned with the kingship and exploits of the Cenél nÉogain either seeking or in response to patronage from that quarter (Byrne 2005b, 269).

Despite its reputation and standing as a centre of learning and literature during the early medieval period, the surviving records for Monasterboice can appear relatively sparse, especially in comparison to the surviving material for sites such as Clonmacnoise, Kildare or Armagh. However, Monasterboice was embedded in overlapping political, ecclesiastical and intellectual networks from which much can be inferred.

It was an important centre of learning and maintained strong intellectual links with other ecclesiastical institutions such as Louth, Slane, Armagh and Clonmacnoise. The influences of these links and networks can be identified in manuscripts such as *Lebor na hUidre* (Byrne 2005a; Breathnach 2003). Understanding these networks is critical to understanding the compilation of such documents. Unfortunately there is very little evidence for the survival of manuscripts originating directly from Monasterboice; though it has been suggested that the Cotton Psalter (B.L. MS Cotton Vitellius F.XI) may be a product of the scriptorium there (O'Sullivan 2005, 532). Poems and texts ascribed to its most famous scholar Flann Mainistrech, do survive in manuscripts compiled at other scriptoria, notably the Book of Leinster and there are indications from surviving texts that his poetical interests were continued by his son Echtigern (Byrne 2005b, 865; 895).

The Ciannachta generally had close links to the Columban familia of churches; Iona and the Columban churches maintained an active interest in Brega, particularly the coastal zone. The ecclesiastical site at Rechru (Lambay Island) was a Columban foundation and later in the period the cult of Columba can be identified at Swords. It has been suggested that Adomnán's hostility towards and criticism of the activities of the *Síl nÁeda Sláine* in his *Vita Columbae* arise from their displacement of Ciannachta hegemony (Byrnes 2000). Further indications of association between the Ciannachta generally, Monasterboice in particular and the Columban familia comes from the association of the death of Buite and the birth of Colum Cille. Buite's death bed prophecy of the birth of Colum Cille is contained both in the surviving Latin life of Buite and also in the Middle Irish *Bretha Colum Cille*, as well as in annalistic sources. The *Bretha Colum Cille* also contains an account of a visit to Monasterboice by Colum Cille (as well as accounts of his foundation of churches within the territories of the Ciannachta, such as Rechru (Lambay Island) and Swords). It has been suggested that the compiler of the *Bretha Colum Cille* used material from a rescension of the life of Buite (Herbert 1986).

In contrast to this, Monasterboice also had very strong political and ecclesiastical links to Armagh; Muiredach m. Domhnall (†924) was tanise-abbot of Armagh as well as comarba Buiti, in addition to this he was ‘*ard-maer Oa Neill in Deiscirt*’, that is the chief steward of Armagh in Brega. This Muiredach is most commonly linked to the inscription on the southernmost of the high crosses at Monasterboice (though the death of an abbot called Muiredach recorded in 846AD does provide an alternative candidate). On his death his position of steward appears to have passed to Tuathal m. Oenacain (†929) who was bishop of Duleek and Lusk.

At least one abbot of Armagh (Eoghan Mainistrech, †835) was originally from Monasterboice. However, this does add a complication to the relationship. The main ecclesiastical family at Armagh were the Clann Sínaig, a branch of the Airthir, though the main political power in the region was vested in the Cenél nEógain branch of the Uí Néill. In fact Armagh and her clerics strongly resisted being subsumed into the Cenél nEógain hegemony. To judge from the accounts contained in the annals, Eoghan’s abbacy was imposed on Armagh by the Cenél nEógain, after their defeat of the Airghialla (including the Airthir) at Leth Cam (827AD). This battle marked the critical collapse of the Airghialla power-base in the face of Cenél nEógain aggression. Eoghan Mainistrech was *fer leiginn* at Monasterboice according to AFM and ‘spiritual advisor’ to Niall Caille, ruler of Cenél nEógain. The association between Monasterboice and the Cenél nEógain should be noted in light of the indication of patronage from that dynasty for Flann Mainistrech, also *fer leiginn*, two centuries later.

Another interesting point in relation to Monasterboice concerns the lack of any definite record of Norse raids on the site. However, it is not unique in this regard (e.g. Fore, Killeslin, Moone, Fahan) and there are many other churches for which only one or two raids are recorded over the whole of the period. Monasterboice was located in a particularly vulnerable location though, close to the coast and a major waterway (the Boyne) as well as the Norse base near Linn Duachaill (Annagassan, County Louth). Raids on other churches in the region such as Clonmore, Duleek and Dunleer (Lann Léire) are well attested. In 832AD, the annals record the burning of Duleek along with the territory of the Ciannachta and ‘all its churches’; it seems likely that Monasterboice would have been included in this raid. Another point which should be considered when assessing the evidence for Norse raiding is the fact that there are only two entries in the annals (AU 970AD; AU 1097AD) about Monasterboice which are not clerical obituaries.

One of these two references, however, is of relevance to this debate. The annals for 970AD record the sacking of Monasterboice and Dunleer by Domnall ua Néill of the Cenél nEógain; in an associated attack Louth and Dromiskin were similarly raided by Muirheartach m. Domhnall. The deaths of three hundred people in a single building were recorded suggesting that this was a quite serious attack. AFM, however, specifically states that the raids were carried out '*for Ghallaibh*', that is against the foreigners. This would indicate both Norse presence and Norse control at these sites. Amlaíb Cuarán who controlled Dublin at this time, had a long established alliance with the northern branch of the Síl nÁeda Sláine (the Uí Chonaing based at Knowth), beginning with Congalach m. Maile Mithig, the last of the dynasty to be acknowledged king of Tara and Domnall ua Néill's immediate predecessor (Woolfe 2002). Domnall was concerned for most of his reign with suppressing the political aspiration of the midlands dynasties, in particular those of Amlaíb and his ally Domnall m. Congalaig. The raid which included Monasterboice seems to have been a reprisal for his defeat at Cell Móna (Kilmoone, Co. Westmeath) by the two allies in the same year (Woolfe 2002, 42).

The other significant event at Monasterboice, which is recorded in the annals, is the destruction of books and treasures in 1097AD when the round tower caught fire. This would indicate that much of the library of Monasterboice may have been destroyed or badly damaged. Within 30 years references to the foundation in the annals cease.

Given its reputation as a centre for literature and learning (and the renown of its scholars), it is likely that Monasterboice would have developed and maintained its own set of annals and other records. While traces of genealogies and records likely to have been produced or preserved through the literate tradition at Monasterboice do survive, the generally low profile of the site within the historic record may be attributable to the fire.

2.4.2 *Twelfth Century Reform*

The decline in prominence of the site in the early 12th century seems quite rapid. The most common theory is that the loss of all or a significant portion of its library in the fire of 1097AD followed by the foundation of Mellifont in 1142AD triggered a fatal collapse in patronage and support for Monasterboice (Macalister 1946; Roe 1981). However, as the annal entry for 970AD indicates, this was not the first time that the monastery

experienced significant and substantial damage to its infrastructure. Also the final clerical obits contained in the annals attest to the learning of the deceased.

The twelfth century was a period of major ecclesiastical change and upheaval, and this may be a far more significant factor in the decline of Monasterboice as an important ecclesiastical centre. The reform of the organisation of the Irish church during the 12th century began with the establishment of a new national diocesan structure at the Synod of Ráith Bressail in 1111AD. This saw the elimination of the small petty bishoprics which characterised the church in Ireland since the 5th century; the new diocesan structure was revised and redeveloped in subsequent synods. From the obits of Cormaic Mainistrech (†1092), Maicnia (†1039), Flaithroa (†837) and Buite himself we know Monasterboice was an Episcopal church under the old system. Therefore the changes wrought by Ráith Bressail and later 12th century synods would have diminished the standing of the site.

Under the structure established at Ráith Bressail, Monasterboice would have been situated at the southern extent of the new diocese of Armagh, reflecting the long established connection between Armagh and the churches of county Louth, including Monasterboice. However, by the 1130's the newly resurgent kingdom of Airgialla had extended political control over the present county Louth. The kingdom of Airgialla had strong historical links to the diocese of Clogher, with its kings acting as patrons of the diocese. The king of Airgialla, Donnchad Ó Cearbhaill sought to include his new lands in Louth within the diocese of Clogher, and lent his support to the reform movement and Malachy Ó Moirgair in his bid for the bishopric of Armagh to achieve this end. Though Malachy agreed to the transfer in 1142AD, the annexation of Louth was contested by most of the successive bishops of Armagh until the 1190s when it was finally returned to the diocese of Armagh (Smyth 1991, 29), though echoes of the dispute rumbled on into the 13th century.

The foundation of both the Arrouasian abbey at Louth and the Cistercian abbey at Mellifont in 1142AD has been linked with this dispute (Smyth 1991). Donnchad Ó Cearbhaill provided the endowments for both foundations, presumably as part of the process of establishing control over his new territories (Smyth 1991, 27). In fact the see of the diocese of Clogher itself temporarily transferred to Louth Abbey from 1142 until 1196-8AD (Smyth 1991, 27-29).

However, in the case of Mellifont, it quite early on developed a strategic link with Armagh, rather than Clogher or the Airgialla. The leading roles in the consecration of the abbey in 1157AD were undertaken by Gilla Meic Liag, archbishop of Armagh and Muirheartach Mac Lochlainn of the Cenél nEógain. In 1196AD, the then archbishop of Armagh Tomaltach Ó Conchobhair, relocated to Mellifont for the remaining 5 years of his life as a result of the repeated raiding of the city of Armagh (Smith 1991, 30).

It would appear that rather than simply diverting patronage, Mellifont had assumed a relationship with Armagh analogous with that enjoyed by Monasterboice in previous centuries, when its abbots and *airchinnigh* had acted as chief stewards for Armagh. This new relationship may even have been promoted by Armagh (to the detriment of its earlier links to Monasterboice) in order to undermine the threat to its authority in Louth from the combined ambitions of the Airgialla and the Clogher diocese.

2.4.3 *Later Medieval Period (13th-16th centuries AD)*

Any surviving records pertaining to the church and lands of Monasterboice in the 12th and 13th centuries have yet to be identified; however there are regular, if episodic, references to the church and lands from the early 14th century onwards.

The site would appear to have evolved into a parochial centre. The earliest cleric referred to is Geoffrey, possibly the chaplain (Leslie 1911, 376) and there are further references to chaplains and curates in documents from the 15th and 16th centuries (Leslie 1911, 376; Leslie 1948, 138). The construction of the North Church in the 13th century and the subsequent refurbishment of the South Church in the 15th century are also evidence of the continued use of the site. It is most likely that the South Church functioned as the main parish church, since it would have been the larger of the two; in addition a later 17th century document refers to the parish church as having both a nave and chancel (Leslie 1911, 376).

Research to date has not shed much light on any relationship between the old ecclesiastical settlement of Monasterboice and the establishment of medieval settlement at Newtown Monasterboice. There are references to the latter from at least 1297 onwards (MacIomhair 1971, 80). With the exception of a brief period in the early 14th century both

lands appear to be in separate ownership. While the development of a secular settlement at Newtown Monasterboice could be viewed as either reactive to or further contributing to the decline of the original ecclesiastical settlement, it might equally reflect the differential treatment and development of separate manorial landholdings.

At the start of the 14th century Armagh laid claims to the lands of Monasterboice. The archbishop of the time, Nicholas Mac Mael Íosa was active in reasserting his rights to lands and estates in Louth. Having already engaged in litigation to secure his hold on the archbishopric's manors of Termonfeckin and Dromiskin, he launched suits to recover a total of 93 acres of lands at Monasterboice in 1301-2, probably approximate in size to the modern townland (MacIomhair 1971, 79-80). He also claimed lands in Newtown Monasterboice (MacIomhair 1971, 80), which are likely those included in a rent roll of the manor of Termonfeckin dating to c. 1620 (Murray 1941, 116). The outcome of his suits in relation to Monasterboice is less clear, though presumed successful (MacIomhair 1971, 80).

Within about thirty years, however, the lands and rectory of Monasterboice had passed to the control of the Hospital of St. John, Kilmainham, as they are included in a grant to Richard Broun in 1338. The lands are given in a number of subsequent documents as extending to 60 acres as well as including a watermill and 2 messuages (Chart 1935, 134-8; White 1941, 107; Griffith 1991, 110-1; Nicholls 1994, Vol. II, 193). It is not clear exactly how the lands came into the possession of the Hospitallers. Much of the Hospitaller's holdings in county Louth appear to derive from grants originally made to the Knights Templar, including the Preceptory or manor of Kilsaran, within which Monasterboice is listed at the dissolution in 1540-1. However, Monasterboice is not included in any of the surviving documents pertaining to the holdings of the Knights Templar at their suppression (MacIvor, 1960-1). At the dissolution, the rectory and lands of Monasterboice along with those of the Preceptory or manor of Kilsaran were held by Oliver Plunkett, from the Hospitallers (White 1941, 107). A *fiant* of 1569-70 records the grant of Monasterboice to Thomas Plunkett, Baron of Louth, along with other lands including the Preceptory of Kilsaran, by Elizabeth I, reciting the previous lease from the Hospitallers (Nicholls 1994, Vol. II, 193).

2.4.4 *Post-medieval period (17th century AD to present)*

The lands of Monasterboice remained under the control of the Barons of Louth into the 17th century. However, through their involvement with the rebellion of 1641, most of their estates were forfeited to the Crown; some of these lands were subsequently granted away under Cromwell. After the restoration of Charles II, most of the estates were returned to Matthew Plunkett, 7th Baron Louth; a surviving copy of this grant dated 1675 (National Archives: 1004/1/2/2) includes the Preceptory of Kilsaran and the lands of Monasterboice in the recitation of the estates forfeited by Oliver, 6th Baron Louth. However, this document also clearly states that the Preceptory lands were not returned as they had already been granted to one William Legge. The lands of Monasterboice are not specifically included in this or in the recitation of the estates returned to Matthew. Presumably they had been re-granted elsewhere, possibly as part of the Preceptory lands.

Ownership of the lands of Monasterboice in the late 17th and early 18th centuries is somewhat unclear, though by the mid-to late 18th century surviving papers relating to the Clermont Estate held in the National Archives indicate that the lands were in the possession of Edward Smyth from 1767, remaining in his family until 1817. Smyth's land-holding is described as comprising the 'lands of Monasterboyce and its sub-denominations of Corduggan and Tymullin', which would equate with the 'townland' of Monasterboice illustrated on the Down's Survey Map (Fig. 4) and correspond to the modern townlands of Monasterboice, Barabona, Cordoogan and Timullen.

A review of the title to the lands of Monasterboice was carried out prior to the sale in 1817 as the title deeds were missing (National Archives: 1004/1/38/15; 1004/1/38/29), and includes a list of relevant entries in the registry of deeds post-1708. The review notes a record of the transfer of the lands from Lord Dartmouth to one Charles Campbell in 1699; the records noted from the Registry of Deeds include a series of leases issued by Benjamin Burton of Burton Hall (though the entries are dated 1759, they presumably refer to the Benjamin Burton of Burton Hall, Co. Carlow who died in 1711). There is also a note that Richard and Phillip Tisdale held the lands prior to 1736.

In 1817 these lands are recorded as sold to Rev. Charles William Wole; the rent role compiled at the time of the sale shows that the lands of Monasterboice were leased to various members of the Foster family of Glyde (National Archives: 1004/1/38/14) and split into two main parcels with one referred to as 'Churchtown', presumably the modern

townland, the other parcel would correspond to Barabona. Cordoogan and Timullen appear to be divided into much smaller parcels with eight principal tenants listed in each.

Though there are records of curates for Monasterboice into the 17th century, by 1622 the church is described as ruinous. From 1644 the parish was unified with Dunleer, eventually becoming part of the union of Cappocke, Dunleer, Drumcar and Moylary. It also seems likely that the site ceased to be used as a place of worship in the mid to late 17th century. Records from 1690, state that the church was in disrepair and that the appointed curate had not been in the parish for two years; however the description of both a nave and chancel confirms that it was the south church which was the main parochial church, of the two at the site.

It does not appear that any restoration work was undertaken on either of the churches prior to the works of the late 19th century (see Section 3.4). Illustrations of the site from the mid-to-late 18th century show the round tower roofless and the north church both roofless and with its eastern gable demolished, much as it stands today. The 1786 drawing of the site by Austin Cooper does show more detail of the south church, with the chancel arch still standing and part of the nave, including a square headed window. It is not clear at what date the graveyard was first enclosed, but a graveyard wall was certainly in place by 1786 as it appears on this illustration also. Though the site declined as a place of worship in the post-medieval period, its use as a parochial cemetery has continued to the present day.

2.5 *Survival and Physical Condition*

2.5.1 *Surviving Features and Context*

Monasterboice is set on gently sloping ground, with the main upstanding elements associated with the monument (three high crosses, a round tower, and two small stone churches) contained within a walled graveyard. Two cross fragments found during grave digging are stored in the National Museum of Ireland. One is a head-fragment with a boss and interlacing on one face, and a simple Christ crucified (also with interlacing) on the other. The second is part of a shaft decorated with spiral, interlace and fretwork patterns. An urn burial (RMP: LH021-06205) dating to the Bronze Age was found within one of the churches during grave digging in the 19th century (Hassé 1892). Three Anglo-Saxon coins of 9th to 10th century date are also noted, in the RMP file, as being found during grave digging close to the West Cross. Further investigation to confirm the date and location of these coins is required. Features associated with the site (including souterrains and an enclosure complex) extend for c.200-250m from this central core.

2.5.2 *Muiredach's Cross (or South Cross)* (after Harbison 1992, 140-6; Appendix 5; Plates 1-3)

Muiredach's cross (RMP: LH021-06209) is 5.20m high (including the base) and the arms are 2.14m wide. The base of the shaft is 0.79m wide and 0.51m thick. The cross stands on a tronco-pyramidal base measuring a maximum of 1.60m by 1.45m with a height of 0.77m. The shaft and cross are constructed from a single block of fine-grained war-coloured sandstone. The quarry from which it came has not yet been located, but work currently being undertaken by Professor George Sevastopoulos suggests that it may not be far from Nobber in the neighbouring County of Meath, some 22km away. The cap-stone made from a separate piece of stone which represents an apparently shingled roof to replicate the shape of an early Irish church or, alternatively, a reliquary. There is roll moulding on the edges with note-worthy grooves on the shaft. The panels are framed by their own type of rope-moulding and four volutes are attached to the arms. An inscription is located on the east face of the shaft, on the plinth and reads 'OR DO MUIREDACH LAS NDERNAD I CHROS' ('*a prayer for Muiredach by whom the cross was made*'). It is most commonly associated with Muiredach m. Domnall (†924) who was *tanise*-abbot of Armagh as well as *comarba Buiti*.

In contrast to the stylised and flat relief on the cross at Moone, Co. Kildare, for example, its figures are carved in a rounded false relief which, when viewed from the side,

protrudes out beyond the edges of the cross and which, in the case of Muiredach's Cross, is higher than that on the Tall Cross. Comparison with Moone is also instructive in highlighting the more naturalistic reproduction of the human figure at Monasterboice which contrasts, too, with the stylised shapes typical of Irish art as seen in manuscripts such as the Book of Durrow or the Book of Kells. This suggests that the origin of the plasticity of the carving comes from an area where the tradition of ancient Roman sculpture in the round was still being practised at roughly the same time that the Irish crosses were being carved. Each high cross in Ireland has a different choice of biblical scenes, selected not just to provide a visual representation of the Bible, but to make a particular point in explaining church teaching. Normally, the scenes are to be read chronologically from bottom to top but on both of the Monasterboice crosses the order has sometimes been changed or distorted for reasons which are not always clear. A detailed description of each panel has been provided by Dr. Peter Harbison in Appendix 5.

2.5.3 *Tall Cross (or West Cross)* (after Harbison 1992, 146-152; Appendix 5; Plate 7)

The West Cross, commonly referred to as the Tall Cross (RMP: LH021-06208), is 7.10m in height and 2.13m wide at the arms. The base of the shaft is 0.64m wide and 0.40m thick. It stands on a base measuring a maximum of 1.40m square with a height of 0.65m. This is the tallest surviving example of a high cross known from Ireland and the cross and ring is one of the best-preserved pieces of high cross sculpture which has come down to us. Whereas Muiredach's Cross was squat and sturdy, the Tall Cross is slender and sleek. The cap stone of the Tall Cross is only 0.01cm narrower than Muiredach's Cross, but it appears more slender because its shaft is much narrower. Unlike Muiredach's, the cross itself consists of four separate stones – the base, the shaft, the cross and the cap stone. The base is undecorated except for sunken vertical panels which may once have been painted. There are roll mouldings on the edges of the cross and the panels are separated by mouldings coming in from each side. There are four volutes attached to the arms of the cross. The cross is of differently coloured sandstone and is better preserved than the shaft. The cap-stone is shaped like a church or shrine. The different colouring of the shaft and cross have led to the suggestion that the two pieces were not originally intended for one another (as is so often the case with most of the crosses in Ulster), but it could also be explained by the two sections having come from different parts of the same quarry.

There are grounds to think that one sculptor may have been responsible for carving both the shaft and the cross. There is more sense of movement, more the feeling of an event being seen to be happening on the Tall Cross, rather than the more hieratic treatment – as in a still photograph – on Muiredach's Cross, through a comparison of the two scenes featuring Moses striking water from the rock. The relief of the sculpture is higher on Muiredach's Cross. One characteristic which unites the two crosses is how the chronological order of the bible is not adhered to as the eye proceeds up the east face of the shaft in each case. A full description of each carved panel from the Tall Cross is located in Appendix 5.

2.5.4 *North Cross* (after Harbison 1992, 152, Appendix 5; Plate 5)

The North Cross (RMP: LH021-06207) consists of four separate fragments. The irregular shaped base supports a shaft divided into two pieces – the largest fragment of the shaft is a modern limestone replacement; and the cross. There is no cap-stone present. It is unlikely that both fragments of the shaft actually originate from the same cross.

The cross fragment measures 2m high and 1.40m wide (across the arms) and is 0.30m thick. The limestone shaft fragment measures 0.39m high, 0.53m wide and 0.42m thick and the irregular base measures a maximum of 1.15m by 1.50m and 0.50m high. The west face shows a simple Crucifixion in relief, having Christ, Stephaton and Longinus with a raised circular medallion with interlinked spirals on the east face. Unlike the two major crosses on the site, the volutes are resting on the inside of the ring. The edges of both the cross and the ring have roll mouldings, and the ar-ends are decorated with a truncated pyramid design with cushioning roll mouldings top and bottom. The main surface of the cross is plain but smooth, which would argue for it having been originally painted, though no pigment survives.

2.5.5 *Cross shaft*

Beside the North Cross is a further cross shaft, assembled from a number of fragments, which measures 1.75m in height, 0.48m in width and 0.34m in thickness. The corners have roll moulding, and the faces and sides appear to have been divided into panels, but no other decoration can be made out; despite this smooth appearance, it may once have borne figure sculpture. There is a broken mortise hole at the top of the shaft. It has been posited that this shaft fragment might come from the same cross as the shaft of the North

Cross (Harbison 1992, 153). There is also the base of a shaft with heavily-worn figure sculpture.

2.5.6 *South Church (Plates 13-17)*

The South Church (RMP: LH021-06204) is the earlier of the two stone churches at the site and is constructed mainly of shale. It measures 10.95m by 5.65m, internally, and the walls vary from approx 500 to 700mm thick. It has opposing doorways in the north and south walls with a third doorway in the western wall. There is a single window towards the east end of the south wall. Traces of a chancel arch can be identified within the east wall; the central section of which may be largely a 19th-century infill (Plate 13). The arch and its gable can be seen in illustrations of the site up until 1865, however by 1875 the gable had collapsed (OPW 31424/82); the east wall appears to have been subsequently infilled and reconstructed to its current condition. The unblocking of the west door is likely to have occurred in the early 1870's during conservation works undertaken by the locally based committee (OPW 31424/82; Appendix 3). There is only one putlog hole visible in the west wall. Four of the corner stones in the west wall, two in the south-west corner and two in the north-west corner, are long stones with grooves, set horizontally and facing westwards (Plate 14). They would originally have been pillar stones from a slab shrine.

There is evidence for a number of different building phases or major alterations to the structure. Though previously viewed as primarily a later medieval building, Manning (forthcoming) has argued for both a reinterpretation of the development of the structure as well as a significantly earlier date (Fig 4).

Phase 1 is likely to date to the 11th century when the structure would have consisted of a simple undifferentiated rectangular church with a lintelled west doorway, with a window near the east end of the south wall and presumably with another centrally placed in the east wall. The west doorway has parallel sides in the manner of pre-Romanesque doorways. The original jamb stones are of sandstone with every second course having a through stone, extending the width of the wall. The present low height of the doorway and absence of the lintel are likely the result of subsequent blocking off of the doorway during redevelopment of the building (probably in the early twelfth century). The internal

dimensions of the building at approximately 5.45 by 10.95m, give a ratio of 1:2, which is unusual for a pre-Romanesque church.

Phase 2 is likely to date to the early 12th century and could be regarded as plain Romanesque work. The west doorway was blocked off and new, opposing doorways inserted into the north and south walls and an arch opened up in the east gable to connect to a new chancel. The south doorway certainly pre-dates the refacing of that wall.

Phase 3 is likely to date to the 15th or early 16th century and mainly involved adding an external face to the badly listing south wall (Plates 13 and 14) and inserting new window jambs into the south window. The window opening has splayed ingoings but nothing of its top survives or of its carved jamb stones. The sill does survive and is of late medieval type with punched dressing. It appears to be contemporary with the added face providing a rough dating for this feature.

2.5.7 North Church (Plates 11-12)

This is a simple undifferentiated rectangular structure constructed mainly of shale (RMP: LH021-06203). It measures 10.45m by 4.14m internally with average wall thicknesses of 0.81m. Original doorways are located in the west and south wall, with two windows each in both the south and north walls (Plate 12). The southeast corner of the building has been demolished to ground level.

Both doorways feature chamfered sandstone blocks. The windows are all single lights, framed in sandstone, and in all cases sills and jamb stones survive. Though no heads survive the arches of two windows are sufficiently intact to indicate that they were originally round headed. All of the windows have a rebate for an external shutter. The putlog holes where scaffolding was supported during the original construction and later maintenance are visible and were left open during conservation work undertaken in the 1980s (Plates 11 and 12).

Though previous studies of the site had correctly identified this as the later of the two churches, a fifteenth century date is usually posited (Buckley & Sweetman 1991, 241). A more recent evaluation of the churches (Manning, forthcoming) suggests that the building

is thirteenth century in date based on the morphological characteristics of the doorways and windows.

2.5.8 *Round Tower (Plates 9-10)*

The round tower (RMP: LH021-06206) stands to a height of c. 28.5m, with a round-headed doorway set in the east side (Buckley & Sweetman 1991, 243). It is one of the tallest surviving examples in the country, and built of roughly coursed shale, and is approximately 5m in diameter.

The round-headed doorway is located on the east side of the tower approximately 2m above present ground level. The sandstone frame is simply decorated, with two slightly raised parallel bands. A small window with a two-stone, triangular head and single stone jambs is located c. 3m above the doorway. A second window, located half-way up the west side of the tower, is plain and square-headed with 2 matching examples at higher levels on the north and south sides. The tower is divided into five storeys but the ringing stage windows and the cap are missing (Plate 9).

Some restoration work was undertaken on the tower in the early 1870's by a locally based committee in association with the Kilkenny Archaeological Society (now the Royal Society of Antiquaries of Ireland) in an attempt to secure the structure and to facilitate public access (OPW 31424/82).

2.5.9 *Decorated Grave Slabs (Plate 19)*

Two grave-slabs are also located within the graveyard. The more intact of the two grave slabs is located to the north of the North Church (RMP: LH021-06212). It is decorated with a three line frame, enclosing a cross and inscription which reads ÒR DU RUARCAN ('a prayer for Ruarcan') (Plate 19).

The second, fragmentary slab is set on edge near the south wall of the North Church (RMP: LH021-06213). It is quadrilateral with irregular edges and an uneven surface. The Latin cross closely parallels examples from Clonmacnoise, including one dated to 783-786AD and another more elaborate slab dated to the late 10th or early 11th centuries.

A third slab (RMP: LH021-06214) was recovered from the graveyard in 1989 (current location unclear) and is described as an almost rectangular piece of greywacke (L. 0.60m, W. 0.18m, T. 0.09m) with a deeply incised cross on each face (Buckley & Sweetman 1991, 245).

2.5.10 *Bullaun Stone*

The bullaun stone (RMP: LH021-06210) is located within the south church, close to the south wall; formerly it rested on top of a stone beside the west door. It is small, roughly rectangular shaped, made of coarse sandstone with a deep circular hole through the centre; currently in two pieces as a result of vandalism.

2.5.11 *Sundial (Plate 6)*

A sundial or 'mass clock' (RMP: LH021-06211) is located adjacent to the North Cross (Plate 6). The markers for the canonical hours (9am, noon and 3pm) are clearly incised into the top half of the stone. Lower down the stone are two incised medallions. Their decoration is no longer distinguishable, but earlier drawings of the sundial show two crosses, one a maltese cross and the other with triquetral expansions. An eighth to ninth century date has been suggested (Roe 1981).

2.5.12 *Souterrain 1 (Fig 1)*

Souterrain 1 (RMP: LH021-06217) is located to the east of the graveyard underneath the cottage. The souterrain is no longer accessible but has been described as '4 or 5 ft deep' (Keenan 1945, 52).

2.5.13 *Souterrain 2 (Fig 1)*

Souterrain 2 (RMP: LH021-06215) may be located to the west of the graveyard, this souterrain is recorded by tradition only and there are no clear records of its location or description.

2.5.14 *Souterrain 3 (Fig 1)*

Souterrain 3 (RMP: LH021-06216) is located to the north of the graveyard, just outside the wall. It is recorded as mainly rock-cut, lintelled over and irregular in plan with two long chambers (5ft by 4ft 6in) connected by a passage (Keenan 1945, 52).

2.5.15 *Souterrain 4 (Fig 1)*

Souterrain 4 (RMP: LH021-06218) is located c. 240m northwest of the graveyard close to 'Tower House'. Very little is recorded about this feature and it is not currently accessible.

2.5.16 *Holy Well*

The site of a well referred to by Isaac Butler as 'St. Kiarnan's well' is located to the south of the graveyard; however, by 1967 it is recorded as drained and closed.

2.5.17 *Graveyard*

The graveyard at Monasterboice (RMP: LH021-06202) is defined by a roughly pentagonal graveyard boundary wall which appears to be aligned on an earlier circular enclosure (see Section 2.5.19 *Enclosure Complex* below). The graveyard is illustrated on the first edition of the Ordnance Survey in 1837 (Fig 6), however, the entrance to the site is shown as a path or narrow roadway entering the graveyard on the west, connecting to the roadway that provides access to 'Tower House'. The north-south road which lies to the east of the graveyard was also not in existence (though the townland boundary corresponds to its alignment). By 1897, the north-south roadway is illustrated and access to the graveyard is via a laneway connecting to the southeast corner of the graveyard as persists to the present. The re-organisation of the graveyard access probably dates to the 1870s (see Section 2.5.18 below).

Burial at the site seems likely to have continued consistently from the early medieval period. A numerous and varied collection of post-medieval gravestones and markers are present at the site, with examples noted dating from the late 18th century onwards (Garry 1990), with earlier studies of the corpus focusing on significant sculptural examples and comparison with contemporary monumental sculpture from other sites (Longfield 1945; 1951; 1974). The graveyard is still in active use by the local community (Plate 18).

2.5.18 *Graveyard Boundary Wall*

The graveyard boundary is shown on the 1837 Ordnance Survey map (Fig. 6) with the original entrance gate to the west (see Section 2.5.17 *Graveyard* above). A letter to the Kilkenny Archaeological Society (later the Royal Society of Antiquaries of Ireland) suggests that the original graveyard boundary wall may have been rebuilt in the 1870s.

James Bell, a junior architect who had inspected the site, stated in his letter that “the boundary wall is very much broken down in places. It will be rebuilt by the Board of Guardians, enclosing a larger space so as to allow for a walk round the churchyard” (Bell 1870-1: 452). Given that the Monasterboice graveyard does have a pathway along the inside of the boundary wall it appears that the original wall was moved. This is supported by a pamphlet produced in 1874 that describes a new wall having been recently built around the graveyard (OPW 31424/82; Appendix 3). At the same time walls, in the same style, were built to flank the new entrance from the road. Further modifications have been made to the east entrance in recent decades. These walls are built of rubble stone construction set in lime mortar with a stone-on-edge coping.

The boundary wall is approximately 250m long in circumference and varies in height from approximately 1.2 to 1.8m. The wall follows the natural contours of the land but in some instances because of the different levels of soil between the inside and outside it is now, in places, retaining up to approx 0.5m of ground, particularly along the south side.

2.5.19 *Enclosure Complex (Fig 2)*

Recent geophysical survey (Fig 2) provides evidence for an extensive enclosure complex surrounding the graveyard (RMP: LH021-06201). Responses indicative of a primary central enclosure (A) can be identified, just outside of the wall of the present graveyard, which is circular and approximately 85m in diameter. The area immediately surrounding this is characterised by a very dense clustering of activity. A possible D-shaped enclosure or annexe (B) appears to adjoin the central enclosure, and there are numerous linear and curvilinear responses as well as pit type responses. These responses extend over an area of approximately 310m (NW-SE) by approximately 210m (NE-SW). There are indications that this area may have been defined by secondary enclosure ditches (C and D).

Though three souterrains are known to be located within this potential secondary enclosure, the density and intensity of the geophysical responses obtained by the survey has masked any clear indication of the location and morphology of these structures. The fourth souterrain is located in an area which proved unsuitable for geophysical survey.

Within lower-lying areas to the south of the complex, linear responses (D, G, and K) indicative of several intersecting ditches have been identified. We may postulate that the function of these possible ditches was to manage and divert water away from the main complex. Equally they could reflect other ancillary activities radiating out from the main monastic settlement, relating to agriculture and landscape organisation, such as milling or field systems. A series of rectilinear or L-shaped responses (H) within the east of Field 5 (Area 8) may represent ancillary structures associated with possible curvilinear ditches (D and G).

To the northeast, in Field 8 (Area 19), a curvilinear response (I), located in the western part of the field (extending south from the road), appears to define a large annexe. The northern extent of this annexe is unclear; it may have continued a circuit to the north to adjoin the possible secondary enclosure features. A scatter of responses contained within the area this defines may reflect low-level archaeological activity within the annexe.

In the southwest corner of Field 2 (Area 9), directly north of the road a rectilinear response may represent an enclosing ditch. A circular response to its immediate east is thought to represent a sub circular enclosure, perhaps a structure, measuring 12.5m in diameter.

Overall the geophysical survey suggests a primary, circular enclosure c. 85m diameter, with a probable secondary sub-oval enclosure c. 310m from northwest to southeast by 200m from northeast to southwest. Ancillary activity associated with the site may extend up to 200m northeast of the main focus of activity, as defined by the potential oval enclosure.

2.6 *Previous Archaeological Investigations and Studies of the Site*

- 2.6.1 No modern archaeological excavations have taken place at the site itself, with the exception of a small test excavation undertaken at the Tower House farm in 1997 (Murphy 1998), though regular discoveries of significant archaeological objects have been made during grave-digging. No archaeological features or deposits were identified.
- 2.6.2 More intensive archaeological investigations did occur in the southeast of the study area in advance of the construction of the M1 motorway. These provide good evidence for prehistoric activity, particularly dating to the Bronze Age and Neolithic in the vicinity of Monasterboice (Fig 1).
- 2.6.3 To date most of the studies and investigations relating to the site of Monasterboice have focussed on the High Crosses and their iconography (e.g. Morris 1934; Macalister 1946; Lucas 1951; Roe 1981; Harbison 1992), though two of these studies did consider the broader history and archaeology of the site (Macalister 1946; Roe 1981). Study and analysis of the other main upstanding elements of the site, such as the churches and round tower has been much more limited (Buckley & Sweetman 1991; Manning, forthcoming). The only complete, published survey of the grave-stones and inscriptions at the site was undertaken in 1986 (Garry 1990), prior to this published studies had focused on significant sculptural examples present within the graveyard (Longfield 1945; 1951; 1974).
- 2.6.4 Analysis of the site of Monasterboice was carried out in the 1980's and 1990's to assess the evidence for an ecclesiastical enclosure at the site. These studies were primarily based on an evaluation of the cartographic evidence and aerial photographs of the site. Both Gosling (1981) and Swan (1985) posited the existence of a primary central enclosure more-or-less corresponding to the present graveyard, with a large oval outer enclosure on a mainly north-south axis, approximately 390m long. Murphy (1993) concurred with the previous studies as to primary and secondary enclosures, but posited an outer tertiary enclosure defining an area of approximately 24 hectares and measuring c. 600m in diameter (east-west).
- 2.6.5 In 2007 a geophysical survey and archaeological assessment was commissioned by Louth County Council with the support of the Louth Heritage Forum, Department of the Environment, Heritage and Local Government and the Office of Public Works as an action under the Louth Heritage Plan 2007-2011 (Bolger & Harrison 2008). Geophysical

survey of the lands surrounding the graveyard at Monasterboice was undertaken to define more accurately the enclosures that formerly surrounded the site and to assess the archaeological potential within the archaeological enclosures and for a distance of 100m outside of the outer enclosure. The primary objectives of the survey were to produce an archaeological assessment of the extent of the site and the location and nature of any possible archaeological features within it (Fig 2), which are summarised in Section 2.5.19 *Enclosure Complex* above. The geophysical survey results were compared to aerial photographs of Monasterboice taken by Swan (Gosling 1981; Swan 1985), where features from the photographs potentially corresponded with the secondary enclosure ditches. The Monasterboice enclosure was also compared to enclosures from other ecclesiastical sites.

- 2.6.6 Recent excavations at early medieval ecclesiastical sites indicate that reorganisation and alteration to the layout and morphology of a site can occur, particularly with long duration of occupation. Excavations focussed on a section of the outer enclosure at Taney (Tech Nathi) County Dublin, indicate that the enclosure ditch was both re-cut and re-aligned on a number of occasions (E. O'Donovan *pers. comm.*). Similarly, archaeological excavations at Kilgobbin (Tech na Bretnach), County Dublin, indicate significant changes to the layout and morphology of the enclosures associated with the site over a relatively short period of time (650-950AD). Further there were indications of an overall shift in settlement focus from west to east across the site during the course of the early medieval period (Bolger, forthcoming). Changes and development similar to that identified at Taney and Kilgobbin would again account for the dense geophysical responses within the settlement core area at Monasterboice.
- 2.6.7 The most comparable site that has been excavated is, of course, Clonmacnoise; both were important ecclesiastical centres during the early medieval period, with evidence for both scholarly and artistic connections between the two sites. At least 30 archaeological investigations have been undertaken in and around Clonmacnoise since 1977 (<http://www.excavations.ie>). These investigations have uncovered sections of the main enclosure ditches, in addition to dense and complex evidence for a highly evolved early medieval settlement at the core of the site. The artefact assemblage points to a very rich economy with clear evidence for industrial processes including iron-working and the manufacture of copper alloy artefacts. As with Monasterboice, there is evidence for prehistoric activity at the site – excavations within the New Graveyard identified Iron Age activity.

- 2.6.8 The recent excavations undertaken at Clonfad, County Westmeath (Cluain Fata Fine) in advance of the N6 construction are also a useful comparison (Stevens 2007). Though this site lacks the prominence of Monasterboice, it is similar in overall extent and is a rare example of large-scale excavation at an early medieval ecclesiastical site of this size (approximately 10% of the overall enclosure area was excavated) in recent times. Though the excavation was focused on the outer enclosure, the site has produced an extremely large metalworking assemblage, including unique evidence for a specialist bell foundry.

2.7 *Ecology*

The lands surrounding the graveyard are pre-dominantly open agricultural fields used for pasture and arable crops. The main flora habitats occurring within the study area (Fig 10) are described in detail in Appendix 6 and summarised below:

- Stone walls and other stone work (BL1) – including the round tower, two small stone churches, three high crosses, numerous headstones within the graveyard and the old stone graveyard boundary wall
- Amenity grassland (GA2) – describes the grassland within the graveyard, growing amongst the gravestones which is managed (but not intensively) and kept short.
- Tree lines (WL2) – includes mature horse chestnut and lime trees along the graveyard boundary wall; and ash, sycamore and oak trees along the main access road along the field boundaries
- Scattered trees and parkland (WD5)-particularly the mature yew trees within the graveyard
- Arable crops (BC1) – fields within the wider study area are used for growing arable crops, like wheat
- Hedgerows (WL1) – a number of the agricultural fields within the study area contain hedgerow boundaries composed predominantly of hawthorn
- Improved agricultural grassland (GA1) – the majority of the land within the study area consists of agricultural grassland and associated hedgerows and tree line boundaries
- Exposed calcareous rock (ER2) – areas of exposed rock and associated gorse (*Ulex* sp.) scrub, which may support small pockets of species-rich calcareous grassland, heath or scrub vegetation

No evidence of mammals was observed within the vicinity of the graveyard, but the mature trees and the crevices and holes within some of the stone structures are suitable for roosting bats, which are a protected species in Ireland (EU Habitats Directive 92/43/EEC). The surrounding fields and hedgerows are an ideal foraging habitat for badgers which are legally protected under the Wildlife (Amendment) Act 2000. Rabbit, fox and hedgehog are likely to be common throughout the study area. A range of common birds were identified, including blackbird, chaffinch, wren, blue tit, collared dove and wood pigeon. The stone graveyard boundary wall also supports a diversity of plant species.

The hedgerows and tree lines which make up many of the field boundaries are important for wildlife because of their structural and species diversity and their role as ecological corridors, particularly in areas of intensive farmland. They offer potential habitats for a number of protected mammal species including bats and badger.

3 Phasing of the site (Fig 1)

3.1 *Introduction*

Though there is strong evidence for activity at and around Monasterboice from the early medieval period onwards, recent investigations, in particular, do point to activity and occupation in the area from a much earlier date. Excavations to the southeast of the main complex in the townland of Newtown-Monasterboice, in advance of construction of the M1 motorway, uncovered three small sites, currently undated, generally characterised by scatters of pits which are most likely to reflect prehistoric activity in the area (Ó Drisceoil 2002b; Chapple 2002; Campbell 2002a).

Significantly the known archaeological sites and monuments are concentrated in the south and east of the wider study area. No archaeological sites are recorded within the townlands of Barabona or Rathdaniel.

3.2 *Neolithic*

There are no known sites of Neolithic date within the study area; however archaeological excavations to the south in the townlands of Coolfore and Balgatharen provided good evidence for a Neolithic presence in the area (Ó Drisceoil 2007). At Coolfore, Site 1, two early Neolithic houses were excavated.

3.3 *Bronze Age*

The identification of a Bronze Age burial within the graveyard during the 19th century, does clearly point to activity at the site prior to the early medieval foundation. However, the nature, character and duration of that activity cannot be fully ascertained. The closest site of potential prehistoric date to the graveyard is a possible burnt mound or fulacht fiadh identified during the geophysical survey in 2007. Another possible burnt mound site is located in the townland of Coolfore, 1.77km to the south of the graveyard (RMP LH21-055) and four further examples of burnt mounds or fulachta fiadh were excavated in advance of the M1 in the townlands of Coolfore and Monasterboice (Ó Drisceoil 2002a; 2002c; 2002d; Campbell 2002b; Fig 1).

The most substantial Bronze Age site within the study area is a wedge tomb known as the Cailliage Birra's house located in the townland of Paddock 1.16km north-east of the graveyard (RMP LH021-021; see Appendix 1). This is the only wedge tomb in the whole of south County Louth.

3.4 *Iron Age*

To date no evidence for definite Iron Age activity has been identified at the site or within the surrounding study area.

3.5 *Early Medieval*

A series of early medieval sites are recorded within the study area to the south and southeast of Monasterboice. A cluster of souterrains associated with a possible enclosure in the townland of Bawntaafé may represent the remains of a contemporary ecclesiastical foundation (RMP LH021-030; LH021-03101-2; LH021-053). An inhumation in a long stone cist uncovered in the townland of Timullen, may reflect the location of an early medieval cemetery (RMP LH021-029); however whether this cemetery is associated with an ecclesiastical site or not cannot be determined at this time.

Monasterboice itself was probably founded in the late 5th or early 6th century, though none of the features or upstanding structures at the site can be dated to this period. The evolution of the enclosure complex identified by the geophysical survey would have begun at this time. Though the death of its founder Buite is recorded in the annals, there are no references to the foundation itself until 723AD, when the death of Ailchu of Monasterboice is recorded, with regular references (mainly clerical obits) continuing up until the early 12th century.

The decorative grave slabs (Plate 19) may date as early as the 8th century and an 8th to 9th century date is indicated for the sundial (Plate 6). However the majority of upstanding features at the site reflect its development and evolution from the 9th century onwards. The pillar stones from a slab shrine incorporated into the west wall of the South Church also reflect early activity at the site (Plate 14). Such shrines are often associated with the burial of important members of the community or possibly even the founding saint. They may be 8th to 9th century in date, or possibly even earlier. Though only limited

investigation of the Monasterboice souterrains has occurred these features are generally dated no earlier than the 9th century. The high crosses are likely to have been erected in the late 9th to 10th centuries.

Though the round tower could date as early as the 10th century, the round-headed doorway is an original feature, suggesting an 11th century date for its construction. The record of the fire which damaged the tower in 1097AD certainly provides a *terminus ante quem*. Also during the 11th century the first of the stone churches (the South Church) was constructed and then extended in the early 12th century. Both developments would appear to correspond with the final floruit of the site, encompassing the career of the most famous of its clerics and scholars, Flann Mainistrech (†1056).

Despite the evidence for refurbishment of the South Church, the 12th century is commonly held to mark the rapid decline of the site. The last recorded cleric in the annals is Feargna m Echthigheirn (†1122: AFM), a grandson of Flann Mainistrech.

3.6 *Medieval*

No historical records pertaining to the site in the later 12th or 13th centuries have been identified as yet. Though the lands of Monasterboice were claimed by the archbishopric of Armagh in the early 14th century, by 1338 the rectory and land had passed to the control of the Hospital of St. John, Kilmainham.

It does appear that the site developed as a medieval parochial centre and the construction of the north church in the 13th century and the subsequent refurbishment of the South Church in the 15th century are evidence of the continued use of the site, along with the sparse but regular references to chaplains or curates from the 14th century to the 16th century. Later references to the site indicate that it is likely that the South Church was the main medieval parochial church. The North church may have been developed as a mortuary chapel or reliquary chapel (relics of St. Buite are recorded at the site as late as the 16th century).

Monasterboice House (RMP LH021-061), located 1.8km southwest of the graveyard, though primarily a Georgian to Victorian structure, retains part of a medieval stone-built house within its fabric.

3.7 *Post-Medieval*

Though there are records of curates for Monasterboice into the 17th century, by 1622 the church is described as ruinous. From 1644 the parish was unified with Dunleer, eventually becoming part of the union of Cappocke, Dunleer, Drumcar and Moylary and so it seems likely that the site ceased to be used as a place of worship in the mid to late 17th century. Records from 1690, state that the church was in disrepair and that the appointed curate had not been in the parish for 2 years; however the description of both a nave and chancel confirms that it was the south church which was the main parochial church, of the two at the site.

It does not appear that any major restoration work was undertaken on either of the churches subsequent to this. Wright's illustration of the site published in 1748 shows the round tower roofless and the north church both roofless and with its eastern gable demolished, much as it stands today (Wright 1748, vol. 3, Pl. 14). The 1786 drawings of the site by Austin Cooper (Figs 7 and 8) show more detail of the south church, with the chancel arch still standing and part of the nave, including a square-headed doorway in the south wall of the chancel (Fig 8). It is not clear at what date the graveyard was first enclosed, but an enclosing wall was certainly in place by 1786 as it appears on this illustration also.

A photograph taken at the site in June 1865 (W & E Swain, courtesy of Ned McHugh; Plate 1) clearly shows the South Church with the chancel arch still standing though heavily over-grown with ivy. An inspection of the site undertaken by OPW in 1875 notes that the chancel arch was 'lately' fallen, indicating a clear maximum date range for this collapse.

The first attempts at restoration or conservation works at the site occurred in the late 19th century. Firstly by a locally based committee in association with the Kilkenny Archaeological Society (now the Royal Society of Antiquaries of Ireland) and

subsequently by the Office of Public Works who took the churches and individual monument elements under protection in September 1874 (OPW 31424/82). Much of the current presentation of the site is owed to these works, including the reconstructed east wall of the south church and the re-assembly of the north cross. The most substantial works at the site occurred at the round tower where the local committee oversaw the re-instatement of wooden floors and access ladders (Appendix 3). A photograph of the period shows a roofed timber viewing platform inserted into the collapsed cap of the tower (early Lawrence No. 661, courtesy of Ned McHugh; Plate 2); though the wooden floors and ladders were retained by OPW (Plate 10), this platform structure appears to have been removed quite soon after the site was taken into care.

Though the site had declined as a place of worship in the post-medieval period, its use as a parochial cemetery has continued to the present day (Plate 18). Notably Cooper's view of the site from the southeast, from 1786, shows what appears to be a dense clustering of gravestones to the south of the churches and round tower (Fig 8). Nineteenth century photographs of the site show similar dense clusters of gravestones, though heavily overgrown (Plates 1 and 2). However, a survey of the gravestones undertaken in 1986 only identified 17 surviving examples pre-dating 1800, with the earliest examples dating from the 1760's (Garry 1990).

3.8 *Presentation of the Site and its Surrounding Facilities*

Photographs of Monasterboice taken in the late 19th century depict the graveyard overgrown with weeds, and grave slabs leaning at odd angles (Plates 1 and 2). The South Church was covered with ivy and the round tower is missing stones and has open joints. A considerable programme of enhancement of the site has been undertaken over the past 130 years to improve presentation, particularly repair work to the round tower in 1871-1874 by a local committee (with assistance from the Kilkenny Archaeological Society (now the Royal Society of Antiquaries of Ireland)) and to both churches by the Office of Public Works in the 1980s. The grounds have also been landscaped since the 19th century with the addition of gravel paths that provide easy circulation around the graveyard and the crosses. Comparison with the historic photographs suggests that a number of historic grave slabs have been re-erected or up-righted. The grounds are currently actively maintained by the local Graveyard Steering Committee.

With the exception of the North Cross, none of the high crosses have protective guarding of any kind to stop visitors climbing, standing or leaning on them. The railings around the North Cross are uncomfortably close to the stones contained therein, and signage (somewhat inconveniently) must be read through the railings.

Given that the site is open to the public year-round there is limited interpretive signage at the site and three different styles of sign were observed – small black and white panels (old “Bord Fáilte” signs) located at the entrance, in each church, and the round tower, a Boyne Valley locational sign on tiles inside the entrance (opposite the tour guide hut; Plate 24) and the large interpretive panel beside Muiredach’s Cross (Plate 4). The existing low-level interpretative panel beside Muiredach’s Cross is clear and informative.

Because the graveyard is still in use modern gravestones exist beside historic memorials. Some of the modern gravestones have been fabricated from materials that only came into common use for gravestones in the 20th century, in particular smoothly polished marble. The design and format of these graves are very different from older examples in the graveyard. In some cases modern gravestones have been cemented onto the walls of the medieval churches, or placed hard up against these National Monuments (Plates 15 and 16).

Fáilte Ireland (formerly Bord Fáilte) has estimated that the annual number of visitors to Monasterboice ranges between 70,000-100,000 people per year, making this an important tourist attraction in Ireland. The importance of the high crosses and the site's proximity to other historical sites of national importance like Newgrange, Brú na Bóinne and Mellifont Abbey, means that Monasterboice is included on the bus tour circuit, not only for day trips out of Dublin but also for nationwide tours. The width of the access road to the site and the car park is a problem for large coaches and also for the volume of traffic using the road in summer. Existing visitor parking, built in the 1970s by Louth County Council, is simple, adequately presented, and does not detract from the site; however, in terms of coping with the number of visitors to the site during the summer months the parking facilities are inadequate, particularly when it comes to dealing with coach traffic. Access to the parking area for coaches has been restricted to discourage its use as an unauthorised halting-site or camp-ground. Spaces for cars have not been demarcated within the car park and no universal access parking spaces have been identified (Plate 27).

A toilet block is located in the car park and was built at the same time as the car park. The toilet block is a rendered and painted mass concrete or cement block structure, topped with a low-pitched six-sided overhanging roof with 6 steel posts that creates a small space on all sides offering some shelter from the elements. The surrounding grass has been banked up to the outer edge of the low rubble wall, further softening the appearance of the structure (Plate 27). Three paths provide access to the car park on each side and towards the graveyard gates. The design is unobtrusive; however one female toilet and one male toilet are inadequate for the volume of tourists visiting the site. In summertime there are considerable queues for the toilets and, to date, the visitors have been "understanding" (Monasterboice Tour Guide Committee, *pers. comm.*). Based upon BS 6465-1:2006, the provision of public toilets (including tourist attractions) Monasterboice should have at a minimum the following facilities, based on an internal floor area of approximately 35m²:

- Male: 1 WC; 1 urinal; 2 wash-hand basins;
- Female: 3 WCs; 3 wash-hand basins.

Across the road from the car park and immediately adjacent to the graveyard is a small plot of land for the caretaker's house, part of which currently houses a small gift shop for

the site. The existing caretaker's house is a simple, single storey building on a rectangular plan with a plain slate roof of Staffordshire Blue type clay ridge tiles. The walls are constructed with grey limestone rubble with squared limestone quoins at each gable, brickwork window quoins and flat arches above (Plate 25). Except for the chimney, all brickwork has been painted light grey. All the windows are modern replacements and a modern flat-roofed extension has been added to the rear of the building, with bare smooth cement rendered walls. The building is a pleasant vernacular style cottage. The garden is bounded by a modern random limestone rubble wall (a continuation of the wall at the graveyard gates). Between the road and boundary wall is a band of cement paving. This property is owned by Louth County Council.

3.9 *Structural and Material Condition*

3.9.1 *Structural and Material Condition*

There appear to be three main natural weathering processes in operation affecting the stone elements of the complex:

- **Granular disintegration:** the gradual wearing away of the stone fabric by removal (dissolution) of cementing material or detachment through expansion and contraction of minerals caused by wetting and drying cycles and freeze/thaw action. This leads to detachment of individual grains over time.
- **Scaling (<5 mm):** formed when a hardened out surface breaks away from the underlying stone that has been weakened by a gradual loss of natural binding agent.
- **Biological weathering processes:** growth of biological material on the surface of the stone can also cause deterioration of the face. The surface of the sandstone is colonised by a range of organisms including white lichen.

The structural and material condition of each of the upstanding features of the monument at Monasterboice is discussed in detail in Appendices 7 and 8, and summarised below.

The High Crosses

Structurally Muiredach's Cross (or the South Cross) appears to be quite solid because of its proportions and shows no signs of leaning. Visitors are climbing on the cross, accelerating the damage and wear to the carvings. The stability of the cross' internal structure is difficult to gauge without further non-destructive testing. The cross' future stability is dependant on slowing or halting damage and the weathering processes affecting the stone. Open joints between the cap stone and central shaft, and the shaft and base stone are allowing water ingress which may be causing deterioration of the internal fabric of the cross.

The Tall Cross (or West Cross) appears to have a slight lean and its stability will need to be further investigated, especially because of the significant amount of sandstone missing from the bottom of the shaft (rumoured to have been chipped away as "souvenirs" by pilgrims). Visitor damage is still an issue today with people attempting to climb the Tall Cross, or standing on its base for photographs. Because this cross has four component

parts (base, shaft, cross, and cap-stone) it is more susceptible to open joints, particularly between the cap-stone and the cross, and between the shaft and the base stone. These exposed joints are allowing water ingress which may be causing deterioration of the internal fabric.

The modern limestone shaft of the North Cross appears to be stable, but the cross fragment on top of the shaft is leaning 3-5 degrees to the north which may indicate that this upper fragment is unstable. The relatively new limestone shaft is a more durable material than the sandstone above and below it. Water run-off from the limestone and the cement that was used to fix it in place is accelerating weathering of the sandstone base below. A loss of carved detail on the head of the cross was also observed, due to weathering along bedding planes.

The Churches (Plates 11-17)

Cooper's 1786 illustration of the South Church (Fig 8) shows the chancel and the chancel arch in a ruinous state. The collapsed archway has been in-filled with rubble stone masonry, resembling that of the rest of the church. The south wall of the South Church, believed to have been rebuilt during in the fifteenth or sixteenth centuries, now has a noticeable lean (Plate 13) with some relieving arches to avoid important features or graves at current ground level (Plate 15).

The walls of the North Church generally appear stable although most of them exhibit a slight lean outwards, particularly the south wall.

The walls of both churches have previously been repaired to all sides of the above ground remains with a cement-rich mortar. The walls have been topped with a damp proof membrane isolating the replacement capping work from the original wall (Plate 17). These procedures have introduced hard, brittle, and impervious mortar to the walls that is now eroding the softer sandstone blocks and the walls as a whole.

The Round Tower

The round tower was only viewed from ground level at the time of inspection and access to the inside or upper portion of the tower was not gained. The tower is not vertical and has a slight bow (Plate 9), the centre of the bow points roughly to the northwest. It seems most likely that the building started to move during construction. The direction of the

incline indicates that the ground on the northwest side may have been more compressible than that to the southeast.

The mortar is a very pinky brown colour and is most probably a mortar made of “roman cement” from repair works carried out in 1871-1874. Roman cement is a natural cement with a harder consistency than the original lime mortar used to build the tower however initial inspection shows that this mortar is generally holding well and does not seem to be accelerating erosion to the adjacent stone edges.

There is some damage to the sandstone of the door surround occurring in the form of “onion” weathering where thin layers are spalling off. This is resulting in loss of carved detail to one of the few tooled elements of this tower.

The Graveyard boundary wall

There are signs of local repair through the ages along the graveyard boundary wall, rather than whole-scale repair of the entire wall. These repairs have been carried out with a variety of mortars. Areas of mortar loss and loose stonework or missing stones were observed, particularly to the southern external elevation (Plate 21). There are also some places where the stone work has cracked indicating some ground movement possibly as a result of tree roots.

The “soft top” plant growth to the top of the wall adds to its character and does little harm, indeed may be helping the cohesion of the coping, however the roots of larger plants that have seeded into the wall top will start to force the stonework apart if left to grow. There are also some instances where the lower branches of the larger trees are in close proximity to, and are damaging, the wall

3.9.2 *Construction Fabric*

Monasterboice is located in an area of Silurian greywacke which has been used, together with sandstone and limestone, in the construction of the crosses, churches, round tower, and graveyard boundary walls (National Soil Survey of Ireland 1980). Sandstone has been used for dressings and quoin stones on the tower and churches. All of the historic structures were originally constructed using a lime mortar, which has been replaced with more modern mortars during repair work undertaken over the last 130 years.

A small pocket of Carboniferous to Triassic rocks (sandstones and limestones) occurs close to this area and this material may have been sourced for the high crosses (National Soil Survey of Ireland 1980). Most likely Carboniferous sandstone was used for the three high crosses, with a later section of Carboniferous Limestone and cement used to replace and repair the North Cross. The sandstone is pale grey, buff to fawn in colour. The stone comprises quartz grains with occasional mica flakes cemented with varying amounts of clay minerals, iron oxide and calcite. Small scale veins and fractures transgress the surface fabric of the stone and these are opened up as weathering proceeds.

For Muiredach's Cross and the Tall Cross (head of the cross and shaft sections), the majority of the sandstone is quite uniform in colour and texture with minimal iron oxide. The stone weathers to a uniform grey coloured surface and is colonised by biological material. The base of the Tall Cross has visible rings or bands of iron oxide which form upstanding ridges as weathering of this stone has progressed. The sandstone of the remnants of the North Cross has also a relatively high iron content which weathers to a rust-tinger colour.

4 Issues affecting Monasterboice

4.1 Stakeholders

A public meeting was held on Thursday 6th November 2008 at the Naomh Máirtín Hall, Monasterboice to allow the local community to offer their opinions and voice their concerns to the commissioned consultants. The consultants identified stakeholders, who were invited to the public meeting including:

- Landowners adjacent to the monument
- Local residents
- Monasterboice Graveyard Steering Committee
- Monasterboice Tour Guides Committee
- Department of the Environment, Heritage and Local Government
- Louth County Council
- Office of Public Works
- Fáilte Ireland
- Tour bus companies
- County Louth Archaeological & Historical Society
- Old Drogheda Society
- Drogheda Borough Council

A number of significant issues were raised by the stakeholders at the meeting; with three main issues in particular identified:

- *Moving the crosses in order to protect them*

The stakeholders were divided about the possibility of moving the crosses to an indoor facility and leaving high-quality replica crosses outdoors (as at Cashel and Clonmacnoise). The crosses are regarded as “the spirit and soul of the parish”, and as such some people feel strongly that moving the crosses would “ruin” the site. Resistance from those who oppose moving the crosses seems to come from a lack of confidence that if removed the crosses would be displayed nearby in a dedicated facility. The belief is that the crosses will be packed up and put in the basement of the National Museum of Ireland never to be seen again; however this has certainly not been the case in seven previous instances where high crosses have been moved indoors (Cashel, Clonmacnoise, Moone, Durrow, Roscrea, Kilfenora, and Tuam). Members of the Monasterboice Graveyard Steering

Committee and the Monasterboice Tour Guide Committee have long been observing the deterioration of high crosses and their general opinion is that “whatever must be done to conserve the crosses” should be done, even if it means moving them to an indoor facility.

- *Traffic Management*

There is a lot of local concern about road safety and traffic management at the site and three particular issues so far have been identified:

- i. *Volume (and type) of traffic*

The amount of traffic (both cars and coaches) visiting the site is already at dangerous levels on roads that are not designed for the volumes experienced on a day-to-day basis. Bus traffic is of particular concern in summer when 6-7 tour buses can arrive at the same time. The road is currently designated as a ‘local secondary’ road by Louth County Council (B. Braniff, *pers. comm.*), but this does not acknowledge the volume of tourists using the road to visit an historic site of international importance.

- ii. *Width of the roads*

The width of the roads is clearly a problem for coach traffic but widening the roads to the site is not a viable solution.

- iii. *Visibility at junctions*

The Red Gap junction (seen in Figs 1 and 2) has been cited as especially dangerous due to lack of visibility, requiring drivers to either pull out into the road in order to see round the corner or to switch off their engines to listen for on-coming traffic, making this an extremely hazardous corner.

- *Management of Site*

There is a long history of local community activity and action by the Monasterboice Graveyard Steering Committee; the Monasterboice Tour Guides Committee; and the Monasterboice Development Forum. For over a century the role of local residents and committees has been vital in protecting, developing, managing and improving the graveyard and its monuments. Some members of the local community expressed dissatisfaction with the historic level of involvement of the local authority and of government agencies and departments.

This dissatisfaction was also expressed in terms of reservations by some local respondents about the involvement of external experts and specialists in the preparation of this study.

4.2 ***Legal Status***

Monasterboice is a National Monument under the terms of reference of the National Monuments Act (1930) and Amendment Acts (1954, 1987, 1994 and 2004). The Minister for the Environment, Heritage and Local Government and Office of Public Works have responsibility for the upstanding remains, limited to the churches, round tower, high crosses and sun dial. The enclosed ecclesiastical complex and the graveyard are part of the National Monument but are not in state care at present.

All the archaeological elements at Monasterboice have been given a designation (LH021:062/001-018) in the Record of Monuments and Places, as established under Section 12 of the National Monuments (Amendment) Act 1994.

Stronger protection under the National Monuments Act and Amendment Acts needs to be extended to all elements of the monument, in particular the below ground ecclesiastical features identified during geophysical survey (Fig 2).

A wide-ranging series of designations contribute to protect and enhance the landscape setting, visual amenity and special character of Monasterboice and its immediate hinterland through the Louth County Development Plan 2003-2009. The complex is one of nine landscape character areas in Co. Louth and one of ten designated architectural conservation areas (ACAs) (see green shaded area in Figure 1 in Appendix 7). Within the current County Development Plan Monasterboice is further protected by:

- Being designated as Development Control Zone 2 (identified as “landscapes of high scenic quality”)
- Protecting the view of the Monasterboice round tower from M1 Motorway
- Classifying the round tower, high crosses, churches and enclosure as protected structures (Ref. LHS021-003)
- Listing the round tower, high crosses, churches and enclosure as archaeological structures and features to be preserved under the development plan (Ref. ARC 18)

There are no designated areas for nature conservation within the study area. The nearest designated area for nature conservation is Mellifont Abbey Woods, proposed Natural Heritage Area (pNHA) (site code 001464), located 3km west of Monasterboice. There are also no historical records of rare and protected species of flora or fauna from within the study area.

4.3 **Land Ownership**

Under the Irish Church Act of 1869 the Burial Board of Drogheda Union was originally granted the graveyard at Monasterboice (*Report of the Commissioners of Church Temporalities in Ireland for the period 1869-80*; 1881, 123; see Appendix 4). When the Burial Boards were subsumed by their relevant local authority ownership of the graveyard was passed to Louth County Council.

The County Council also owns and maintains the caretaker's house (currently operating as a gift shop), and the adjacent car park and its toilet facilities, while the Office of Public Works has responsibility for the care of the high crosses, sun dial, churches, and round tower.

A land registry search at the Property Registration Authority was undertaken to establish all the landowners within the core zone of the study area. There are 22 individually registered properties, and their owners are identified in Table 4.1 and Figure 9. The land surrounding the graveyard and the car park is predominantly held by two landowners. The Courtney family owns land to the east of the graveyard across the road, and the McDonnell family owns the farmland immediately surrounding the graveyard to the west, north and south.

Table 4.1

Land Registry Ref.	Owner	Townland	Barony
unregistered	Louth County Council	Monasterboice	Ferrard
LH8599	Louth County Council	Monasterboice	Ferrard
LH139F	Louth County Council	Monasterboice	Ferrard
LH8358	James Patrick McDonnell	Monasterboice	Ferrard
LH12693F	James Patrick McDonnell & Paula McDonnell	Monasterboice	Ferrard
LH31512F	Paul McDonnell	Monasterboice	Ferrard
LH5716F	Courtney Brothers Ltd	Newtown Monasterboice & Timullen	Ferrard

Land Registry Ref.	Owner	Townland	Barony
LH7421F	Courtney Brothers Ltd	Monasterboice	Ferrard
LH9316F	Paul Brennan & Mary Brennan	Monasterboice	Ferrard
LH15446F	Oliver McKeon & Nancy McKeon	Newtown Monasterboice	Ferrard
LH23823F	Oliver McKeon & Nancy McKeon	Monasterboice	Ferrard
LH15447F	Patrick Fay & Pauline Reynolds Fay	Newtown Monasterboice	Ferrard
LH922F	Patrick Fay & Pauline Reynolds Fay	Bawntaaffee	Ferrard
LH28797F	Paul Brennan & Mary Brennan	Monasterboice	Ferrard
LH10929F	Oliver McKeon & Nancy McKeon	Bawntaaffee	Ferrard
LH12346	Thomas Kenny	Bawntaaffee	Ferrard
LH21474F	David Byrne & Imara Byrne	Newtown Monasterboice	Ferrard
LH2868	Henry Sloan	Bawntaaffee	Ferrard
LH6338F	Eugene Byrne & Josephine Byrne	Newtown Monasterboice	Ferrard
LH12566	Olivia Donegan	Monasterboice	Ferrard
LH2791	Henry Sloan	Bawntaaffee	Ferrard
LH2788	Henry Sloan	Bawntaaffee	Ferrard
LH5401F	Jacinta Cooney	Timullen	Ferrard

4.4 *Duty of Care*

No single authority has overall responsibility for the care and maintenance of the site. The Department of the Environment, Heritage and Local Government, the Office of Public Works and Louth County Council all have a legal interest in different components of the graveyard and monastic complex (see Section 4.3 above). The surrounding lands, in which the remains of the outer enclosure have been detected by geophysical survey and the known location of four souterrains, are held by two local landowners and Louth County Council (see Table 4.1 above and Fig. 9). The table below identifies the separate archaeological features within the complex and the current status of duty of care for each.

Table 4.2

RMP No.	Description	Townland	Duty of Care
LH021:062 – 001	Ecclesiastical Enclosure	Monasterboice	Louth County Council, James Patrick O'Donnell, Courtney Brothers Ltd
LH021:062 – 002	Graveyard	Monasterboice	Louth County Council
LH021:062 – 003	Church	Monasterboice	State
LH021:062 – 004	Church	Monasterboice	State
LH021:062 – 005	Cist	Monasterboice	
LH021:062 – 006	Round Tower	Monasterboice	State

RMP No.	Description	Townland	Duty of Care
LH021:062 – 007	High Cross	Monasterboice	State
LH021:062 – 008	High Cross	Monasterboice	State
LH021:062 – 009	High Cross	Monasterboice	State
LH021:062 – 010	Bullaun Stone	Monasterboice	State
LH021:062 – 011	Sundial	Monasterboice	State
LH021:062 – 012	Cross-Slab	Monasterboice	State
LH021:062 – 013	Cross-Slab	Monasterboice	State
LH021:062 – 014	Cross-Slab	Monasterboice	Location unknown
LH021:062 – 015	Souterrain	Monasterboice	James Patrick O'Donnell
LH021:062 – 016	Souterrain	Monasterboice	James Patrick O'Donnell
LH021:062 – 017	Souterrain	Monasterboice	Louth County Council
LH021:062 – 018	Souterrain	Monasterboice	James Patrick O'Donnell

4.5 *Conservation and Management*

Historic Conservation

Records show that extensive conservation works were carried out in the late 19th century. Firstly by a locally based committee in association with the Kilkenny Archaeological Society (now the Royal Society of Antiquaries of Ireland) and subsequently by the Office of Public Works which took the churches and individual monument elements into its care in September 1874. The local committee was led by John Graham, and included the parish priest James Tierney. A four page pamphlet printed in June 1874 describes in detail the works completed by them to that date and the future works proposed (OPW 31424/82). Works to the round tower include: clearing debris from interior and around the base to foundation level; the reconstruction of the interior floors and ladder accesses; glazing to the windows; the addition of an iron gate and flight of steps at the entrance. The pamphlet notes that the doors to the churches had been cleared and the original floor levels identified. Proposed future works included the reconstruction and repair of the tower roof and the re-pointing of the interior and exterior of the tower, as well as works to the High Crosses.

The pamphlet reproduces a short correspondence received from the OPW stating that there was no intention by them to take the site in charge and that the local committee should proceed with restoration works.

Correspondence issued by the Irish Church Temporalities Commission in September 1874 noted the on-going works by the local committee and specifically requested that the OPW should take the buildings in charge as a matter of urgency (OPW 31424/82). This appears to have been acted on quite rapidly as indicated by a variety of correspondence relating to the process and dating to the autumn of 1874 (OPW 31424/82).

An inspection of the site was undertaken in 1875 with recommendations for remedial works (OPW 31424/82). At the north church it recommends that the holes in the walls should be packed with stones; several trees destroyed and the interior levelled; pointing to walls was considered to be useless excepting to the top of walls where concreting of great rents and fissures was proposed. At the south church the recommendations are limited to the securing of loose stones and removal of trees. The inspection notes that no restoration works (presumably by the local committee) had been attempted in relation to the two main crosses, and recommends that they should be left undisturbed except for the addition of lead plugs to the Tall Cross to fill the open joint between the head and stem. The report notes 'the cross which fell' (presumably the North Cross) and describes it as partially reconstructed; presumably it had been reassembled to its current condition by this date. The round tower is described as being in poor condition with the re-pointing started, but not finished; the upper walls of the tower are described as so dilapidated that daylight can be seen through them. It recommends against any further attempt to reconstruct the cap, suggesting instead that it should be stabilised in its current condition and the gaps in the tower walls packed and open joints on the inside face filled with cement concrete. The inspection notes that the reconstructed floors and ladders are likely to be a cause of future expense. Later correspondence from the 1880s indicates that damp and rain-water ingress were causing damage and deteriorating the condition of the internal wooden structures.

Recent Conservation

Chemical treatment of the crosses to remove biological growth was undertaken approximately thirty years ago (Dr. P. Harbison, *pers. comm.*) Lichen growth has returned to the crosses.

More recently considerable conservation work was undertaken on both churches during the 1980's by the Office of Public Works when all sides of the walls were repaired with a cement mortar. Repair work at openings in the wall and the replacement

capping to the top of the walls are easily identifiable because of the damp proof membrane inserted between the original wall and the repair work (Plate 17).

The car park and toilet facilities were built in the 1980s and both are currently under the management of Louth County Council. The Council also owns the adjacent caretaker's house.

4.6 *Development Control*

An examination of planning applications occurring within the townlands of Barabona, Bawntaaffe, Monasterboice, Newtown, Paddock, Rathdaniel and Timullen was undertaken as part of this study and a summary of all the planning applications within one kilometre of the ecclesiastical site from 2000-2008 are provided in Appendix 7. It would appear that the greatest development pressures within the wider environs of Monasterboice relates to one-off rural housing, particularly in areas to the east and northeast of the site.

Generally, it was found that the current development plan policy framework appears to be working satisfactorily. Of the planning applications that had been adjudicated upon by the time of writing, the Planning Authority has had a refusal rate of approximately 40%. The Planning Authority frequently requests visual impact assessments on development within the vicinity of the ecclesiastical site.

The current planning and development controls relating to the study area are comprehensive and appear to be working to protect the National Monument and the surrounding area. The Local Authority seeks to strike a balance between the need to conserve this special resource and yet promote vibrancy in the rural environment. To this end, the Development Plan provides a firm basis for achieving that objective.

In the forthcoming review of the current development plan the existing policy framework needs to be retained and, where feasible, enhanced through a series of policy augmentation. Of most importance in this regard would be the establishment of an Area of Special Planning Control at Monasterboice that encompasses the zone of archaeological potential (see Appendix 7, Figure 7.1). This should encompass the extent of both the Recorded Monument and the ecclesiastical enclosure as identified during

geophysical survey, and should provide unambiguous prohibitions of potentially injurious development.

5 Cultural Significance of the Monument

5.1 Basis of Assessment of Significance

The assessment of significance reflects the cultural and environmental/ecological aspects of the monument as a whole, particularly in relation to early medieval ecclesiastical foundations generally as well as assessing individual elements of the site on their own merits. Several methodologies were considered to assess the levels of significance, in accordance with those used for the study of complex and composite monuments like Monasterboice. After some consideration, the approach used in the recent Conservation Plan for Newtown Jerpoint, Co. Kilkenny was adopted, as it was found to be an excellent template for assessing of all of the elements at Monasterboice. A summary of the criteria used are:

Exceptional Significance: Elements of the monument which are of national or international significance, that could be classed as the best (or the only surviving example) of an important type of monument, or outstanding representatives of important social or cultural phenomena, or are of very major regional or local significance.

Considerable Significance: Elements which constitute good and representative examples of an important type of monument (or the only example locally), or have a particular significance through association or atypical characteristics although surviving examples may be relatively common nationally, or are major contributors to the overall significance of the monument.

Moderate Significance: Elements which contribute to the character and understanding of the monument, or which provide an historical or cultural context for features of individually greater significance.

Low Significance: Elements which are individually low value in general terms, or have little or no significance in promoting understanding or appreciation of the monument, without being actually intrusive.

Intrusive: Items which are visually intrusive or which obscure understanding of significant elements or values of the monument, or have any other negative affect on the overall presentation and condition of the monument (Oxford Archaeology 2007: pp. 46-7).

5.2 ***Key Elements of Significance***

5.2.1 *The High Crosses*

All of the High Crosses from Monasterboice, but particularly Muiredach's Cross and the Tall Cross are of exceptional significance, both nationally and internationally. Taken all together, the High Crosses of Ireland must surely be regarded as the country's greatest contribution to European sculpture – and not just of the Middle Ages. Seen in that context, the two complete crosses at Monasterboice are among the most imposing and best-preserved of them and, for that reason, have to be properly maintained for future generations to be able to enjoy them. Muiredach's Cross is a particularly rare example because it includes an inscription that is virtually complete and legible.

The crosses and their iconography can be clearly linked to other Irish sites of the period, particularly Clonmacnoise and form part of an overall national sculptural corpus and tradition. However, even within such a corpus, the Monasterboice examples stand out; Muiredach's Cross is one of the most complete and complex of all the Irish High Crosses, encompassing as it does a range of biblical subjects glorifying Christ as King of the Earth and the Cosmos, as well as a great variety of geometric designs the significance of which we no longer understand. As a piece of sculpture, it is remarkable for the number of figures it includes, particularly the crowd scene that is The Last Judgment, but also for the serenity of the triplet figures on the west face of the shaft. Their characterisation through facial expression is a tour-de-force that has managed to survive generations of erosion – and which can only heighten our respect for the master masons, who were able to recognise and choose such a weather-resistant sandstone. The detail on Muiredach's Cross is some of the best preserved on any of the High Crosses, and show the high quality of the mason who carved them (who may also have been responsible for some of the figures on other crosses, including even as far away as Clonmacnoise).

However, the quality and complexity of the sculpture of the crosses also shows some of the clearest examples of how the Irish tradition both imbibed and incorporated diverse

influences ranging across the whole of Western Europe. Parallels for the iconography and decoration of the Monasterboice crosses can be identified from:

- frescoes in the churches of Rome (e.g. church of Santa Maria Antiqua) and others in Carolingian churches in and north of the Alps, particularly that in the World Heritage church at Müstair
- late Roman mosaics, probably filtered through Carolingian France
- Anglo-Saxon decorative traditions

It is likely that Carolingian France, in particular, provided the transfer point for much of the Roman iconographic and sculptural influence identifiable at Monasterboice.

5.2.2 *The Stone Churches*

Both stone churches are of considerable significance. Their construction and refurbishment point to the continuity of use, vibrancy and local importance of the site, during a period when traditional scholarship had relegated the site to ‘parochial centre’ (Macalister 1946; Roe 1981).

The South Church does appear to be pre-Romanesque in its original design; the remains of the west doorway are typical of this style. However, some of its features are atypical; such as the thinness of the walls for the size of the church; and the length to breadth ratio of two to one. Both its repeated refurbishment and later historical account indicate that it was the main congregational church down to the 17th century.

While it is not unusual to find two (or indeed more) churches at Irish ecclesiastical sites, which would have been in contemporary usage, such arrangements would typically date no later than the 12th century. As such the apparent construction of the North Church in the thirteenth century, after the arrival of Anglo-Norman settlers to the area, is highly unusual.

5.2.3 *The Round Tower*

The round tower is of considerable significance. Though round towers are associated with many early medieval Irish ecclesiastical sites, the example which survives at Monasterboice, when it was complete, was believed to have been one of the tallest round

towers in Ireland. Further historical documentation, as well as structural morphology, allows its construction to be clearly dated to the 11th century.

5.2.4 *The Enclosure Complex*

The evidence for an enclosure complex and potentially rich sub-surface archaeology at Monasterboice is of exceptional significance. Recent experience through discoveries associated with the major infrastructure projects, such as the investigations at the periphery of the enclosure complex associated with the contemporary ecclesiastical site at Clonfad, Co. Westmeath (Stevens 2007), clearly illustrates the potential at Monasterboice. Many comparable sites of the period such as Armagh, Duleek or Dunshaughlin are located in urban or semi-urban village locations. These reduce the potential for survival of sub-surface archaeology as well as restricting the options and opportunities for research and archaeological investigation.

5.2.5 *The Graveyard*

Use of the site for burial would have commenced with the foundation of the ecclesiastical settlement, in the late 5th century, though perhaps initially restricted primarily to the members of the ecclesiastical community, associated lay-tenants (the *manaig*) and important church patrons; it is likely burial at the site has continued unbroken to the present. However the Bronze Age burial found within the graveyard in the 19th century suggests that the tradition of burial at the site could extend much further back than previously expected. The erection of gravestones began in the 18th century (prior to this graves were either unmarked or distinguished only by low stone or timber markers) (Longfield 1974). The fine examples of headstone sculpture at Monasterboice, particularly those of late 18th to early 19th century date (Longfield 1945; 1951; 1974) are of considerable to moderate significance.

5.2.6 *Ecology*

The ecology of the site is of moderate significance within the surrounding landscape because the graveyard at the core of the monument contains a number of semi-natural habitats. The most significant habitat is the mature trees within the graveyard, some of which show potential for bats. The stone graveyard boundary wall also supports a diversity of plant species. Beyond the graveyard, the hedgerows and tree lines which make up many of the field boundaries are important for wildlife because of their

structural and species diversity and their role as ecological corridors, particularly in areas of intensive farmland.

5.3 *Overall Significance of Monasterboice*

Monasterboice is a very important example of an early medieval ecclesiastical foundation; it is of exceptional significance, incorporating both upstanding early medieval structures as well as an extensive, surrounding sub-surface archaeological site. While the quality and significance of the High Crosses at the site would be sufficient in themselves to lend this level of significance to the site as a whole, the complex in its entirety is a highly integrated and well-preserved, historic cultural entity, with the evident connections between its elements increasing its cultural significance overall.

The site may have been founded as early as the 5th century AD, placing it within the missionary period and potentially associated with the early spread of Christianity.

Historically, the site is linked to the dynasties of the Ciannachta and is likely to have been the primary church of the territory which became known as Arda Ciannachta. Monasterboice was an Episcopal church prior to the Synod of Raith Breasail (AD1111), further reinforcing that contention. It was renowned during the medieval period as a centre of scholarship and learning; the scholarship of its clerics is regularly noted in the annals and its most famous son Flann Mainistrech, was considered one of the pre-eminent scholars of the age.

6 Vulnerability

6.1 *Ownership and management*

The graveyard, graveyard boundary wall, caretaker's house, car park and toilet facilities are all in the ownership of Louth County Council. The car park and toilets are maintained by the Council, but day-to-day management of the graveyard has largely been left to a committee of dedicated volunteers. The churches, high crosses, and round tower are National Monuments and the maintenance and repair of these monuments is the responsibility of the Office of Public Works. This division of ownership and the management of different aspects within the graveyard is a significant area of vulnerability for the entire site.

6.2 *Visual Amenity*

The site is an active rural cemetery containing famous crosses and numerous interesting ecclesiastical monuments within its walls. Its location beside a busy motorway makes it easily accessible to visitors, but upon arrival the surrounding mature trees and fields make the graveyard seem rural. The tranquillity of the site is part of its appeal to visitors. The site and its location remain significantly unspoilt, in spite of growing visitor pressure. However, the graveyard is overcrowded and it is accepted that continuing burial within the current graveyard enclosure is unsustainable. Some houses have been constructed along the ridge line above the site in recent years, so the visual amenity and setting of the site is vulnerable.

The approach to the site is extremely attractive – from both directions. From the north, the site which is sheltered from view (apart from the tower) by numerous mature trees, only becomes evident to the visitor on the last element of the approach from Red Gap cross. From the south the entire complex is visible on the straight road that borders it to the south, presenting the visitor with an uninterrupted view of the complex from this angle (*Note: this view is protected as far south as the M1 motorway, under the County Development Plan*). This aspect of the complex is extremely vulnerable to any potential road improvement or especially road-widening works or new buildings as it would seriously affect the ambiance and setting of the complex.

6.3 *Access, including Universal Access*

The present condition of the road on its approach to the site from both directions is considered poor by local users, is not suitable for buses and will not cater in the future for increased traffic volumes or speeds.

Internally, the site is presently unsuited to universal access, as the gravel paths present an impediment to wheelchair users. Any changes to the material used in the pathways to provide wheelchair access will harden the landscaping and sharpen the contrast between the crosses and the ground surface, changing the visual context within which the crosses and the site are viewed. If suitable paving could be provided for wheelchair users their access around the site would still not be universal because some of the paths, particularly around the corners of both churches, are too narrow for wheelchair use. These paths could not be extended to provide universal access due to the close proximity of the nearby burial plots and their headstones.

The car park is open, well surfaced and appropriate for universal access but parking spaces are not defined and no special needs parking spaces are present. The toilet block is not currently suitable for all of its potential users. There is one men's toilet and one women's toilet, neither of which is suitable for wheelchair users or appropriate in size for the number of visitors the site receives during the summer months.

6.4 *Physical Condition of the Site Elements*

6.4.1 *High crosses*

The crosses themselves, in the context of visitor management and a potential threat from vandalism are immensely vulnerable. Visitor impact on the carvings, as result of wear, particularly at the base of the crosses, has been noted. This is a result of accidental contact however, some visitors cannot resist handling the images and some climbing by children has been noted. Atmospheric pollution has accelerated the surface erosion of the crosses and this is most likely to increase in severity in the future. Biological growth has also returned to the crosses after treatment thirty years ago. There is some evident structural damage (from weathering and frost) to the stone itself. The proximity of the trees to Muiredach's Cross and the North Cross is accelerating the rate of biological growth on

both these monuments and also increases the possibility of damage should any branches or trees fall during storms or high winds.

6.4.2 *Churches*

The churches are not particularly vulnerable in the short term, but the cementacious mortar used in repairs in recent decades is, ironically, accelerating the weathering of the stone masonry.

6.4.3 *Round Tower*

Historic repairs using Roman cement have survived well, meaning that the external surface of the tower seen from the ground is not especially vulnerable.

6.4.4 *Graveyard Boundary Wall*

The graveyard boundary wall, while not in structural failure, is under pressure because the wall retains a greater height of soil internally (due to the burials) and is leaning outwards in a number of locations. It is clearly vulnerable to collapse in the future, especially if burials continue.

6.4.5 *Enclosure*

The enclosure, which largely presents as a below-ground site is extremely vulnerable, largely because it has limited surface expression. It is already in a very eroded state, especially on its eastern side, where active cultivation has occurred in recent decades and any surface expression of the enclosure can no longer be seen.

6.4.6 *Graveyard*

The existing graveyard is at the heart of the archaeological complex, but has reached its capacity. As a consequence, the Graveyard Steering Committee has sought planning permission for a capacity extension adjacent to the car park on the east side of the complex, and area which has now been revealed by geophysical survey (Bolger & Harrison 2008) to be within the outer enclosure. The application was refused on hydrological grounds (water for the toilets and the caretaker's house are fed by a nearby

well) and because the application was considered premature prior to the completion of this study. It is clear that any development of this nature should not be considered within the now identified extent of the complex.

6.5 ***Visitor Impact***

Visitor numbers to Monasterboice are estimated between 70,000 and 100,000 per annum. Visitors include day-trippers, local people visiting family graves, and coach parties on nationwide tours. During the summer months several coaches can arrive at the same time causing considerable crowding on the road and parking area, and with an impact and strain on the toilet facilities adjacent to the graveyard. Buses must park along the road because the bus bay is currently inaccessible to them, which further restricts the already narrow road leading to the site. The volume of bus traffic travelling along this road is inappropriate for its size and has considerable impact on the local residents who also have to use it. This road is currently designated as a local secondary road.

6.6 ***Vandalism***

Given that there is 24-hour access into the site, Monasterboice has been fortunate that to date there has been no vandalism or deliberate damage to any of the historic features on the site, but in particular the high crosses. The cross at Roscrea was attacked with a hammer, which was one of the reasons it was moved indoors, and the medieval grave slabs and monuments at St Mary's in Kilkenny have been severely damaged by spray paint and physical damage in recent years. Similar rural locations like Kilcooley Abbey have also suffered from vandalism, so Monasterboice's relative isolation is not what has protected it to date. This issue is of real concern for the safety and stability of the high crosses.

6.7 ***Statutory Controls, Development Pressure and Land Use Planning Policy***

The statutory controls appear to be effective and, by association, planning control is both active and making good use of the statutory controls; however new housing constructed north of the graveyard along the ridge line does indicate the potential vulnerability of the National Monument to development. The entire monastic complex is vulnerable to any future changes in planning control and revisions to the County Development Plan. Furthermore the outer enclosure (as revealed in the geophysical survey) requires statutory

designation within the RMP and requires to be identified clearly as part of the National Monument.

6.8 *Areas of Potential Conflict*

This is not immediately apparent as an area of vulnerability and requires discussion with the Steering Group. It is clear that there is a difference of opinion locally on the matter of the protection of the crosses in the long term and a deep unease expressed by some of the stakeholders in relation to the potential requirement to move the crosses indoors.

6.9 *Health and Safety Issues*

The graveyard is open to visitors year round and accessible via a gate and a stone stile over the enclosure wall (when the gate is locked). The site is manned during the summer months by the voluntary Monasterboice Tour Guides Committee.

The graveyard, car park and amenities have been landscaped in such a way as to be of low risk of accident to visitors. Signs are located in the car park to warn visitors about the potential for theft of personal items left in vehicles. Gates in the graveyard boundary wall are locked to prevent public access to the privately owned fields outside the wall and the round tower entrance gate is also locked for safety reasons. There is the potential hazard for visitors of slips, trips and falls within the graveyard because of the gravel paths and uneven ground.

The biggest health and safety risk for visitors and local people, as perceived by the tour guide committee and local people, relates to the roads approaching the site. The roads are narrow and the current level of vehicular traffic is unsustainably high at periods of peak usage. Furthermore, people tend to drive at excessively high speeds. The Red Gap corner has been identified by local residents as particularly hazardous and a 'blind' corner.

7 Gaps in Knowledge

7.1 *High Cross Surveys*

There is currently no information regarding the condition of the internal fabric of the High Crosses or the stability of the structures at the main joints. This information is crucial in order to make informed conservation decisions. It is recommended that a series of non-destructive tests be carried out:

- External surveys

High definition laser scanning is essential to provide baseline information regarding the rate of decay to the crosses. Laser scanning accurately records in three dimensions the surface of the carved sandstone. Re-scanning of vulnerable areas at regular intervals will provide a more accurate measure of the rate and progression of weathering.

- Internal surveys

Non-invasive surveys of the crosses internal structural stability may be beneficial to identify any subsurface fractures, joints or voids that constitute a potential risk to the fabric of the high crosses, or to record patterns of moisture absorption. Some examples of appropriate internal surveys include ground penetrating radar and probe permeability testing (see Appendix 9 for details).

7.2 *Traffic Management*

The road leading to the site and its car park is currently classified by the County Council as a local secondary road, which belies the volume of tourist traffic that uses this road every year. A traffic management survey, taken in high season, is required as a matter of urgency and should assess traffic volumes, usage, and high risk areas. This information will inform further discussion and the potential development of a car park facility away from the site that would alleviate strain on this road. The survey would also provide a sound basis for the appropriate re-categorisation of the road.

7.3 *Graveyard Survey*

An up-to-date, detailed graveyard survey is required to record all upstanding elements on the site and to assess the graveyard's current capacity and relative rate of interment to inform on the need to close the graveyard. This study will inform the application for a

capacity extension to the existing graveyard, and help to establish the size requirements for the extension to ensure continued use for future generations.

7.4 *Topographic Survey*

Further definition of the features associated with the main settlement core might also be achieved through detailed topographic survey (combined with the results of this study). The field that surrounds the graveyard appears to preserve topographic features such as dips and platforms which may reflect buried archaeological features, particularly, if assessed in conjunction with the results of the geophysical survey undertaken in 2007.

7.5 *Architectural surveys*

Further detailed architectural survey of all the stone structures at Monasterboice is recommended to provide a baseline of their current condition, from which the future condition and stability of the upstanding remains can be monitored.

The archival records regarding repair work undertaken in the past by the Royal Society of Antiquaries of Ireland, the Office of Public Works, and other organisations should be collated and made available to inform decisions regarding any future conservation works.

7.6 *Ecological survey*

Because the monument and graveyard site is relatively free from ecological disturbance and its management is low intensity, the site is ideal for further ecological survey during the appropriate seasons, particularly:

- A more detailed survey of the diversity of flora within the site (grass, herb, fern and lichen species, etc.) would provide important baseline data, which could be used for monitoring purposes in the future (May to July/August).
- A bat survey of the study area could be undertaken to determine the usage of structures (like the round tower) or trees within the study area by bats (May to September).

7.7 ***Further Historical Research***

There is potential to identify further historical material that could increase our knowledge and understanding of the site, particularly in the medieval and early post-medieval period. For example: potential records exist in the Public Records Office, Northern Ireland for the Diocese of Armagh and the Massereene Estates in County Louth, which could provide more information on the history and the development of Monasterboice and its surrounds.

8 Options and Opportunities for Action

Note: This section of the report includes preliminary options and opportunities and requires the direct input of the Steering Group and further discussion and consultation with all stakeholders

8.1 Introduction

Initial study undertaken at Monasterboice has identified a number of options and opportunities that could be actioned to stabilise and enhance the site, its amenities, and its setting. There is no timescale set for these actions but some are more obviously urgent than others. Given the current financial situation, a long-term, phased approach should be taken with some of the larger projects, and in some cases several steps will be required before any final solutions can be reached; therefore they have been organised into Urgent/Short-term Actions (0-5years); Medium-term Actions (5-10 years) ; and Long-term Actions (10-20 years).

8.2 The Site – conservation

8.2.1 The Crosses

- High-definition laser scanning should be undertaken on the high crosses as a matter of urgency to provide baseline data. Other non-destructive condition surveys (including, but not restricted to, ground penetrating radar; and probe permeability testing) should be undertaken, as appropriate (URGENT).
- Add further low-level interpretive signs, similar to the information panel located beside Muiredach's Cross, to the West Cross (Tall Cross) and the North Cross, and also to grave slabs of historic interest (SHORT TERM).
- Further opportunities for protecting and conserving the crosses should be considered as MEDIUM to LONG TERM options. Any intervention to the high crosses must be done under the supervision of the Senior Conservation Architect of the Office of Public Works and a suitably qualified archaeologist and/or a stone conservation specialist.

During the course of specialist analysis and public consultation six options to protect and/or preserve the high crosses have presented themselves, with reference to solutions employed at other locations, including Moone, Co. Kildare; Kells, Co. Meath; Durrow,

Co. Offaly; Dupplin, Perthshire, Scotland; and Sueno's Stone, Moray, Scotland. A combination of one, two, or all options may be appropriate for different elements within the group. The six options are presented here and each will be fully evaluated after receipt of submissions from the public consultation process.

8.2.1.1 *Railings*

It was suggested during stakeholder consultation that guard rails should be used to protect the crosses and grave slabs, either on their own or in combination with other options (depending on the final chosen means of protection).

Guardings (such as a low-level rope/chain/rail surround approx 350mm high) would not restrict proper viewing of the crosses but they may prove too easy and/or tempting for visitors to step over to touch the crosses and would not protect the crosses from the threat of vandalism.

The example of railings surrounding the North Cross are too densely spaced and too close to the monuments contained within. The ideal guard rail to keep visitors away from the crosses would need to be erected at a distance of approximately 1m from the outer stone face and at a minimum height of 900mm with vertical and horizontal rails; however this could have a negative visual impact and restrict the opportunity for photography.

This option does not protect the crosses from weathering processes like water ingress (which may be damaging the internal fabric of the stone), or from water freezing and thawing in cracks in the stone, which may cause structural damage.

8.2.1.2 *In-situ shelter (roof only)*

A roof covering or shelter would protect the crosses from rain and slow the rate of internal damage from water ingress but it is also likely to accelerate biological growth on the surface of the stone. In a previous example of an *in-situ* roof covering at Moone, the shelter has created a "micro climate" below which has encouraged biological growth on the cross surface causing a green discolouration. The nature and effect of such a "micro climate" would require further investigation, but it is noted in Appendix 9 that biological

growth can cause the stone surface to deteriorate, resulting in the loss of carved detail from the crosses.

This option will not protect the crosses from deliberate vandalism or inadvertent visitor damage. The cross at Moone has recently been damaged by someone who took a cast from one of the panels without permission. The oily substance used has penetrated the stone and caused discolouration (<http://highercrosses.org/moone/index.htm>).

Aesthetically, it is considered that the erection of a shelter over each individual high cross would considerably detract from each cross, from adjacent structures and from the group as a whole. In each case, the necessary structures would need to be as tall, or taller, than any of the church ruins and would visually impair the historic setting. The supports for the roof would also impede the ability of visitors to view and photograph the crosses from every angle.

8.2.1.3 *In-situ protective enclosure (roof and glazed walls)*

Fully enclosing the crosses would certainly protect them for further harm from visitors and potential vandalism; however there are similar concerns regarding a micro climate as for Section 8.6.2.2 (above), but with the additional factor that a fully enclosed structure would almost certainly prevent full and proper viewing of the crosses from a number of angles and may impede photography and enjoyment of the crosses. The size of the enclosures required would be entirely inappropriate in scale and have a negative impact on the character of the site, the individual crosses and other structures. An example of an enclosing treatment can be seen at Sueno's Stone, Moray, Scotland, which is seen as an inappropriate solution by many people. (<http://www.geograph.org.uk/photo/1033>)

8.2.1.4 *Application of protective chemical coating/consolidant*

Consolidating and water repellent treatments work best when the stone structure or object can be immersed fully in the treatment to allow maximum absorption. Generally, however, surface application of consolidants and water repellents is not as successful because maximum absorption by the pores is not possible. Consequently, most treatments tend to seal the surface of stone structures to some extent but this can also cause moisture to be trapped below, which can lead to accelerated decay of the sandstone

beneath the consolidant. Whilst the initial application may be breathable, re-application often reduces the breathability and seals the surface.

Chemical treatment of the stone would have to be dependent on conclusive evidence proving that the coating will halt or sufficiently slow decay without causing any long-term damage. If a chemical treatment is to be considered, the Monasterboice high crosses would need to be extensively tested to identify a suitable consolidant, but the risk of causing further damage to the stone is high for this option.

Biocide treatment has been used in the past at Monasterboice to remove the biological growth that has formed on the crosses; but doing so can cause the loss of the outer layer of stone (and therefore the carvings) with the roots of the lichen. Considerable testing to find an appropriate biocide treatment option would need to be undertaken before this action is considered again.

8.2.1.5 *Re-location to an indoor facility and replacement with replicas*

Some local residents strongly oppose any option that involves moving the high crosses because of their spiritual connection to the site, and this opinion should be weighed against the potential damage or structural failure of the crosses if they are left *in situ* without any protection. If the crosses are to be moved, it is preferable that they are retained as close as practically possible to their current location so that they retain their link to the ecclesiastical enclosure. There is insufficient space to move the crosses to another location within the existing graveyard because, firstly, proper viewing of the crosses from all angles will not be possible to achieve; and secondly, based upon the impact of solutions employed at other locations, any protective enclosure is likely to detract considerably from the National Monument as a whole.

Previously the Office of Public Works has used adjacent ruined or restored church buildings to house crosses indoors at Moone, Kilfenora, Durrow and Cashel; and at Roscrea the high cross was moved into an adjacent mill building. The relocation of crosses to the interior of one or both of the ruined churches and covering same with a temporary roof is impractical at Monasterboice because of the unusually large size of the Tall Cross, in particular, and also Muiredach's Cross and the North Cross relative to the

height of the churches. The erection of a modern roof within an existing church ruin would detract from the affected structure, regardless of the sensitivity of the roof design.

Furthermore, relocation to a nearby existing building is almost certainly inappropriate, as there is unlikely to be adequate space to view the crosses properly and suitable environmental control is unlikely to be present. At Monasterboice a new purpose-built structure would be required that is both tall enough and wide enough to accommodate these considerations. The diagrams in Figure 11 illustrate the issues and offer guideline options for design consideration. The proportions and design of the purpose-built exhibition space at Clonmacnoise are successful, but the display spaces do not allow visitors to view the crosses with a choice of both short and long range viewpoints, (which provides the possibility of taking full-height photographs or making films). Display lighting needs to be considered from the beginning of the design process: both natural and artificial lighting. *(Note: The display of High Cross casts (including the two Monasterboice crosses) in Collins Barracks in 2007 was such a great success because they were shown in a completely darkened room, with spotlights focussing on the important elements. Clever building design could also allow similar lighting arrangements to show the Monasterboice crosses in a completely darkened room with spotlights).*

The crosses should not be allowed to leave the locality and a precedent has already been set by the Office of Public Works that where crosses have been moved previously they remain as close to their original location as possible. Re-locating the crosses within a new structure nearby would ensure that they remained close to the original monastic complex (which extends beyond the existing graveyard wall; Fig 2). The construction of a structure immediately adjacent to the graveyard is not practicable. Geophysical survey identified considerable below-ground archaeological remains relating to the ecclesiastical enclosure of Monasterboice (Fig 2). To develop the surrounding land would require extensive archaeological investigation and resolution and it is considered that the cost of this work would be impracticable and Government policy is to preserve such remains *in situ*.

If the Monasterboice crosses are moved indoors, it would be essential to have very high-quality replicas made to replace them in position, as at Clonmacnoise (where the cast of

the Cross of the Scriptures is so good that it is mistaken for the original). Interpretative signage should clearly indicate this. The replicas then allow visitors to continue to experience the crosses in their original context. The Clonmacnoise replica was made by the Römisch-Germanisches Zentralmuseum in Mainz in connection with the celebration of the centenary of the death of St. Cillian in Würzburg around 1989. The National Museum makes casts but their current busy workload means it is likely there would be a waiting period for production. A cast of Muiredach's cross was made for the Victoria and Albert Museum in London about a century ago, and is still on display there, and another may have been done around 1908 for the Metropolitan Museum in New York. Furthermore research work by the Foundations of Irish Culture Project based at the National University of Ireland, Galway has already demonstrated that modern, high-definition 3-D laser scanning can be used to produce extremely accurate reproductions of early medieval stone sculptures at a variety of scales.

Moving the crosses would require them to be temporarily dismantled. If the crosses are ever dismantled opportunities should be taken to:

- Record the construction techniques used (particularly with the Tall Cross to establish if the head of the cross had been re-erected and, if so, were the shaft and head of the cross originally designed for one another).
- Take core samples from the stone for geological analysis.
- Archaeologically excavate the area beneath the base of the crosses to gain further knowledge about them and to identify any evidence for earlier wooden crosses or burial at the same location (as was discovered at Clonmacnoise)

Moving the crosses to an indoor facility would enable proper climate control to protect them from further environmental damage, and must allow sufficient space around each cross for proper viewing. Housing the crosses would also stop visitor damage and protect them from the possibility of vandalism. While this option offers the most comprehensive protection for the crosses this is not a short-term solution as it involves significant resources, study, and consultation to find a suitable location for a building that must be designed and built in a manner that is sympathetic to both the surrounding environment and the high crosses themselves.

8.2.1.6 *Retention of crosses in-situ, and fabrication of replicas for internal presentation*

A further option was identified by one of the stakeholders at the public meeting – to leave the crosses to weather naturally on site and to display high-quality replicas indoors. In deciding if this approach is best, a number of things must be considered:

- Whether retention of original crosses in-situ is preferable in the context of their international significance and the significance of the site and the conservation of the character and significance of the ensemble on site;
- The rate at which the crosses are deteriorating through natural weathering (Further investigation of this is required; see Section 7 *Gaps in Knowledge*);
- To decide whether the crosses should be allowed to continue to erode on their original location and if this is a price worth paying in order to maintain the authenticity of the site,
- The potential structural and surface damage to the original crosses if the site were to be vandalised
- If continued deterioration is considered unacceptable, whether the original crosses can be successfully conserved *in-situ* using a consolidant;
- Whether the replacement of the original crosses with accurate replicas on site (in order to conserve original fabric) would result in too great a loss of significance and/or character of the ensemble;
- Whether the physical material of the original stone crosses is of sufficient significance in its own right to demand protection, regardless of record.

There are also ethical issues to be considered in preserving a replica and allowing the original cross to deteriorate. In Kells, the Market Cross was moved from Market Street to a new and less dangerous location outside the courthouse where it has a protective roof shelter and a cast made of it was brought inside, rather than the original.

Both individual original stone crosses and the form of the ensemble as a whole are undoubtedly of exceptional significance. In the absence of conclusive evidence supporting the long-term safety and effectiveness of a consolidant, the retention of unprotected stones *in situ* resulting in continued deterioration (even if fully recorded) seems too great a loss, and relocation to a purpose-built protective housing is preferable

(see Option 8.2.1.5 above). The replacement of original crosses with accurate replicas on site in order to conserve the originals is considered appropriate and would not result in sufficient loss of character or significance to negate it as an option.

8.2.2 *South Church and North Church*

- The Office of Public Works should monitor the long-term stability of both structures and assess the need to replace the cement-based mortar of both churches and assess the condition and stability of the south wall of the South Church, in light of Appendix 8 (MEDIUM TERM).

8.2.3 *Round Tower*

- Assess the requirement for lightning protection and possible routes for the earth (URGENT).
- The spalling of the stonework around the doorway should be assessed to determine measures for reducing the speed of erosion (URGENT).
- Take a recording of the top to the tower relative to the base of the tower. This can be used as a baseline to ascertain the extent of deviation as a reference against possible further movement of the structure. Establish a programme of ongoing monitoring. (SHORT, MEDIUM & LONG TERM).

8.2.4 *Graveyard Boundary Wall*

- Agreement needs to be reached as to who will undertake responsibility for repair of the wall (URGENT).
- Undertake a full survey on both sides of the wall to establish if in excess of 0.5m of soil is being retained inside the wall and, if so, consideration needs to be made as to how to alleviate the retaining element (URGENT).
- Judicious repairs are required where stonework is missing to prevent unravelling of the wall. Stone salvaged from the site and its surrounds should be used and set in a lime mortar (SHORT TERM).
- Re-pointing with lime mortar is required along much of the wall, particularly on the outside elevations. Where cement-based mortar repairs have been made in more recent decades these should be removed if in poor condition and replaced with the

lime mix. Movement cracks in the wall should also be re-pointed. No movement was noted that requires more extensive repair at this stage (SHORT TERM).

- The “soft top” plant growth to the top of the wall should be left as it is. Any larger plant types with woody stems that have seeded into the wall top should be treated with a topical herbicide. When the treatment has had time to act the plant should be cut off as close to the stonework as possible (URGENT).
- Low branches of some of the larger trees should be cut where close to the wall to prevent attrition damage to the wall (URGENT).
- Explore the potential for initiating training programmes in stone masonry repair and the use of lime mortars with the involvement of FÁS. The possibility of available EU funding for such training should also be investigated (SHORT TERM).

8.3 ***Graveyard – Extension and Management of Existing Graveyard***

- Undertake a study to analyse suitable locations for the potential placement of a capacity extension to the existing graveyard, with extensive landowner liaison (URGENT). *This is a matter for early discussion with the Steering Group and stakeholders.*
- Create style and size guidelines for new gravestones to ensure that they are in keeping with earlier historic gravestones and the setting of the site and that are positioned so as not to encroach on key elements of the monument (URGENT).
- Once a new graveyard has been established the original graveyard should transfer into State ownership and the graveyard be closed, as has occurred at Clonmacnoise and Glendalough. The closing of a graveyard in this way means that an agreed list of people with plots, who are alive at the time of the closure, can be buried in those plots (MEDIUM TERM).
- Assess the potential for creating a new car parking site (either along main road to Tinure or close to Red Gap to the north of the site), with new pedestrian access to the existing graveyard. Depending on its location, the new graveyard extension should be linked, where possible, to the existing graveyard by an access route (SHORT/MEDIUM TERM).
- Attempt to retain the existing mature trees and the hedgerows at, and on the approach to, the National Monument. Use mature trees to screen/shield the new graveyard

from the local residents as at Monasterboice (MEDIUM/LONG TERM). Appropriate landscaping would be required for any access between the two graveyards. This would be essential for any development and could be sensitively undertaken, as it has been achieved on other sites such as Brú na Bóinne.

8.4 ***Visitor access and amenities***

- Restrict the number of buses parking along the road by implementing an appointment system for tour bus operators to view the high crosses as an immediate action for next summer's season (URGENT). (*Note: the Tour Guide Committee expressed a willingness to consider this proposal in co-operation with Fáilte Ireland and the existing tour operators*).
- Review existing promotional literature and interpretive panels with a view to integrating all the existing material to create a comprehensive tour of the site for visitors (SHORT TERM).
- Undertake feasibility study to establish if universal access can be achieved at Monasterboice without being detrimental to the integrity of the site. Suitable landscaping treatments and visitor flow around the site would need to be reviewed (SHORT TERM).
- Ensure that the provision of more toilet facilities, or an extension to the existing toilet block, is incorporated into any future development at Monasterboice (MEDIUM TERM/LONG TERM).

8.5 ***Roads / Road Traffic***

As part of any review on the management of the site, the issues of both road traffic and visitor access (see Section 8.4 above) to the site will have to include the following:

- A traffic management study to identify traffic control or road improvement measures to improve access and road safety to the site (URGENT)
- Consider changing, if possible, the current designation of the road to Monasterboice from a "local secondary road" to a category that acknowledges it as a tourist route of international importance (URGENT)

- Retention, where possible, of existing mature trees when landscaping of any proposed road works or improvement of road traffic signage is undertaken (MEDIUM TERM)

8.6 *Planning*

- Ensure the existing planning policy framework is retained in future Louth County Council Development Plans and, where feasible, enhanced by establishing Monasterboice as an Area of Special Planning Control, to provide unambiguous prohibitions for potentially injurious developments. (SHORT, MEDIUM & LONG TERM)

8.7 *Use of Materials*

Materials for hard landscaping should be capable of integrating with the retained existing treatments, where possible. It may not be possible to retain the gravelled pathways as they are currently presented if consideration is given to universal access, so another surface material may be required. If the gravelled pathways are maintained, in some form, the bitmac-surfaced access pathway should be surface-dressed using light-coloured fine grade gravel coloured to match more coarsely-grained adjacent gravel paths.

Any replacement of missing stone in the fabric of the existing stone structures should use greywacke, limestone, or sandstone sourced locally, as appropriate. In future, all repairs should be undertaken using lime mortar, and modern repairs using cement mortar should be replaced in due course.

To preserve and enhance the atmosphere of the graveyard it is recommended that new, modern gravestones should match the style, height and scale of earlier memorial stones on the site. Modern polished stone and horizontal gravelled enclosures should be avoided. The gravestones should be kept simple and preferably be fabricated in grey limestone or sandstone. New gravestones must not be placed up against, or adhered to, any of the upstanding elements of the National Monument.

8.8 *Site specific Information*

The current site signage is diverse in style and content because it reflects the different management at the site. More low-level interpretive panels are required at each of the crosses to improve visitor circulation around the site and enhance their understanding of the individual elements they are viewing. Currently only Muiredach's Cross provides clear, detailed information to the viewer, but this style of sign will eventually weather and will need replacing. At this time a cohesive set of signs for each of the crosses, the earliest gravestones, and the upstanding stone structures should be considered and erected together, replacing some of the existing signs. These signs should be at a low-level so they do not impede the view. They would need to be fabricated according to the Office of Public Work's National Monument style guidelines, and should be modest in design and appearance so they do not detract from the monuments. The signs could be numbered and linked to a pamphlet that could be sold by the Tour Guide Committee, to improve visitors flow around the site, particularly during the peak tourist period in summer.

The locational sign at the main entrance (opposite the tour guide hut) with its map that links Monasterboice to other historic sites of interest in the Boyne Valley is simple, informative, and useful for new visitors to the area who are travelling independent of organised tours. This map should be included on a pamphlet of the site to put Monasterboice into context with neighbouring sites and to assist visitors in planning their next stop.

Currently the variety of sign styles have each been erected by a different organisation or body, including Bord Fáilte, the Office of Public Works, Dúchas (now divided between the Office of Public Works and the National Monuments Section of the Department of the Environment, Heritage and Local Government) and the local committee. To ensure continuity any interpretive signs should be produced by the National Monuments Section and the Office of Public Works. It would be beneficial to visitors to identify all of the graveyard stakeholders, including the Department of the Environment, Heritage and Local Government, the Office of Public Works, Louth County Council, the Monasterboice Graveyard Steering Group, and the Monasterboice Tour Guides Committee, on a single sign placed in a prominent location, like the main entrance to the site.

9 Policies

9.1 Policy Aims

The policies outlined in the Conservation Study, below, aim to address issues that have been identified during the study and clarified as a result of stakeholder consultation. It is hoped that they will improve understanding of the issues that the complex presents for all stakeholders and present consideration as to how these can be addressed. The policies seek to identify strategic actions for the protection of the site and the crosses, having full regard for the opinions of all stakeholders, while embracing the necessary requirements for future conservation, management, access and maintenance.

The policies are framed to address significant stakeholder concerns in relation to:

- 1) the preservation of the crosses themselves, their cultural significance and the significance of the overall site and complex;
- 2) the requirement for an extension to the graveyard;
- 3) visitor access and management of the site; and
- 4) existing road traffic issues and a likely increase in visitor numbers and traffic volumes

The policies are formulated in the knowledge that the identity, historical and archaeological significance and cultural significance of Monasterboice, as a site and as the ‘home’ of two of Ireland’s most important high crosses, is indisputable. This forms the foundation for all actions advocated.

The policies also focus on improving public awareness of the composite monument and the key component elements within the historic ecclesiastical complex.

The policies recommend actions for supporting and enhancing the integrity and presentation of the early medieval ecclesiastical site as a whole, taking into account its setting, context and sub-surface extent.

9.2 Policies

Policy 1: Protection and Retention of the Historic Integrity of the ecclesiastical complex in the Future

- Protection and conservation of the site, especially the high crosses, while making every effort to protect the setting and ambiance of the site
- Promote the identity, status and integrity of the wider, below-ground site and its relationship with the visible, enclosed site as a single, composite entity that is worthy of integrated protection and presentation.
- Ensure that the Department of the Environment, Heritage and Local Government and Office of Public Works, in partnership with the Louth County Council, assume the overall guardianship and care of the surviving and presented portions of the monument, while supporting the significant work of long-standing local voluntary organisations who have played an important role in the protection and management of the complex to date.
- Create a ‘vision’ and strategic framework for all future actions and development in relation to the site and its surroundings. Formulate an over-arching Strategic Plan for the site, which includes provision for the protection and conservation of the National Monument, its setting and character of the site while identifying actions to improve: road safety management; visitor access and enjoyment of the site; appreciation and enjoyment of the monuments; and addressing the need for an extension to the graveyard.
- As part of the Strategic Plan (above), retain and develop the existing planning policy framework in future reviews of the County Development Plan and, where feasible, enhance it by establishing Monasterboice as an Area of Special Planning Control.
- Consider the preparation of Area Action Plans or similar strategic planning studies for locations where urgent or particular action is required in relation to the protection and physical integrity of the site and its setting and for any development issues (notably road traffic management, visitor access and the extension to the graveyard).
- Support and develop existing development control policy in relation to planning decisions that involve elements of the composite monument, having regard to the significance of the monument and its setting.

Policy 2: Conservation, Maintenance and Repair

- Undertake appropriate technical and scientific condition surveys in advance of any conservation works and interventions. Ensure that all works undertaken are informed by a clear understanding of the monuments and the site. In particular address concerns in relation to the degradation processes affecting the high crosses require further appraisal and analysis in advance of a decision on whether they need to be moved indoors or not.
- Develop a programme for the effective on-going survey and monitoring of the site at a variety of levels, including (but not limited to): degradation processes as they pertain to the high crosses; visitor management and particular visitor management issues, current traffic and future projected traffic volumes; car parking requirements; and management of mature trees adjacent to the crosses and perimeter wall.
- Develop location-specific programmes for structural maintenance and repair with particular attention to urgently required actions.
- Undertake all proposed conservation and repair to the highest and most technically suitable modern standards and with reference to the principles outlined in the relevant ICOMOS Charters, while adopting an approach of minimum intervention, where possible.
- Ensure that any works undertaken are carried out by suitably qualified and experienced personnel. Suitably qualified conservation specialists must be engaged to both conduct the scientific appraisal and analysis of the high crosses. Conservation specialists will be required to guide any intervention and structural conservation works. Any works requiring investigation below-ground must be undertaken under Ministerial Consent and under the direction of a qualified archaeologist.
- Ensure that all works, including any road works within the study area, are carried out after consultation with statutory authorities (notably the National Monuments Section at the Department of Environment, Heritage and Local Government and the Office of Public Works) and their requirements for the protection of the monument and associated archaeological remains.

Policy 3: Information, Recording and Research

- Ensure that existing archives within the Office of Public Works and the Department of the Environment, Heritage and Local Government have the capacity to contain and

retain all existing and future survey records related to the site, including copies of reports on relevant archaeological surveys and all existing and future records of conservation interventions.

- Encourage further historical and archaeological research and analysis of the site and support the considerable existing efforts of the local community, including the Monasterboice Graveyard Steering Committee, the Monasterboice Tour Guides Committee, Old Drogheda Society and County Louth Archaeological and Historical Society in the promotion and public presentation of the site.
- Consider the creation of a research framework for future archaeological, architectural and historical research and investigation of a targeted nature and for consideration when opportunities arise in the context of conservation works and the development of a new graveyard (that will extend the capacity of the existing graveyard) nearby.

Policy 4: Legibility, Access and Presentation

- Establish a set of guidelines for civil works (especially hard landscaping), traffic calming and the treatment of any new development in close proximity to the site.
- Develop information panels at key locations describing the publicly presented remains, using the Office of Public Works signage style template.
- Seek ways to improve public access (below).

Policy 5: Implementation, Management and Review

- Seek to adopt a phased and flexible approach to implementation (to await consultation with the Steering Group and a final discussion with stakeholders).
- Seek the integration of the policies outlined in this Study with those of the forthcoming Development Plans and road traffic management plans.
- Seek to progress strategic development planning and the preparation of an Area Action Plan for the graveyard extension and for any upgrading works to the local roads network arising from this Conservation Study and with a link to the existing Heritage Plan for the county and its existing heritage policy provisions.

- Create a framework for annual review and planning for the continuation of any necessary surveys and condition assessments and works in line with recommendations set out in this study.
- Ensure that co-ordination and overall management responsibility for the policies in this study is assumed by the National Monuments Service, Department of the Environment, Heritage and Local Government, the Office of Public Works and Louth County Council.
- Facilitate the existing work of local/community-based initiatives and create an ongoing Steering Group to assist in overseeing the implementation of the Policies set out in this study, through a phased programme of planning and actions with an urgent, medium-term and long-term focus.

Bibliography

A detailed bibliography mainly listing material relevant to the built heritage and art history at Monasterboice has been published by the Documents of Ireland Project at University College Cork and can be consulted on-line.

University College Cork (2002) Documents of Ireland: Text and Image [online]. Available: <http://www.ucc.ie:8080/cocoon/doi/tandi/Monasterboice1-N535> [accessed: 30 November 2007]

List of Abbreviations

AI	Mac Airt, S., 1951, The annals of Inisfallen, Dublin: Dublin Institute for Advanced Studies
ATig	Stokes, W., 1993, The annals of Tigernach. 2 vols. (reprinted from Revue Celtique 1895/6) Felinfach: Llanerch
AU	Mac Airt, S. & Mac Niocaill, G., 1983, The annals of Ulster (to AD 1131), Dublin: Dublin Institute for Advanced Studies
AFM	O'Donovan, John. (1851) Annals of the Four Masters. 7 vols. Dublin
B.A.R. (Br. Ser.)	British Archaeological Reports, British Series
B.A.R. (Int. Ser.)	British Archaeological Reports, International Series
CGH	O'Brien, M.A., 1976, Corpus Genealogiarum Hiberniae. vol. 1. Dublin: Dublin Institute for Advanced Studies
CGSH	Ó Riain, Pádraig (1985) Corpus Genealogiarum Sanctorum Hiberniae. Dublin

Primary Sources

Unpublished

Irish Placenames Commission, 2008, Placenames database of Ireland [online]. Available <http://www.logainm.ie> [Accessed: 17 September 2008]

National Archives of Ireland

Files: OPW 31421/82; OPW 4/14/1; 1004/1/2/2; 1004/1/38/1-30 (Clermont Estate Papers)

Wikipedia, 2008, Sueno's Stone, Moray, Scotland [online]. Available http://en.wikipedia.org/wiki/Sueno's_Stone [Accessed: 22 December 2008]

Published

Best, R. I., Bergin, O. & O'Brien, M. A. 1954. The Book of Leinster: formerly Leabar na Núachongbála. 5 volumes. Dublin. Dublin Institute for Advanced Studies

Chart, D.A. 1935. The Register of John Swayne archbishop of Armagh and Primate of Ireland, 1418-1439. Belfast.

Griffith, M.C. 1991. Calendar of inquisitions formerly in the office of the Chief Remembrancer of the Exchequer prepared from the mss of the Irish Record Commission. Dublin

Hennessey, W.M. 1866. Chronicon Scotorum. London. P.R.O.

Hogan, E. 1910. Onomasticon goedelicum, locorum et tribuum hiberniae et scotiae. Dublin. Four Courts Press

Mac Airt, S. 1951. The annals of Inisfallen. Dublin. Dublin Institute for Advanced Studies

- Mac Airt, S. & MacNiocaill, G. 1983. The annals of Ulster (to AD 1131). Dublin. Dublin Institute for Advanced Studies
- MacNeill, C. 1932. Registrum de Kilmainham: register of chapter acts of the Hospital of Saint John of Jerusalem in Ireland, 1326-1339. Dublin. Stationery Office
- McVeigh, J. 1995. Richard Pococke's Irish tours. Dublin. Academic Press
- Murphy, D. 1896. The annals of Clonmacnoise, being annals of Ireland from the earliest period to 1408. Dublin. The University Press
- Murray, L.P. 1941. A rent roll of all the houses and lands belonging to the see of Armagh (circa 1620). Archivium Hibernicum 3, 99-120.
- Nicholls, K. 1994. The Irish Fiants of the tudor sovereigns. 4 vols. Dublin. De Burca Press
- O'Brien, M.A. 1976. Corpus Genealogiarum Hiberniae. vol. 1. Dublin. Dublin Institute for Advanced Studies
- O'Donovan, J. 1851. Annals of the Four Masters. 7 vols. Dublin.
- Ó Riain, P. 1985. Corpus Genealogiarum Sanctorum Hiberniae. Dublin
- O'Sullivan, A. 1983. The Book of Leinster: formerly Leabar na Núachongbála. Volume 6. Dublin. Dublin Institute for Advanced Studies
- Plummer, C. 1910. Vitae Sanctorum Hiberniae. 2 volumes. Oxford
- Stokes, W. 1993. The annals of Tigernach. 2 vols. (reprinted from Revue Célétique 1895/6) Felinfach. Llanerch
- Sughi, M. 1999. The Register of Octavian de Palatio, Archbishop of Armagh 1478-1513. 2 vols. Dublin. Irish Manuscripts Commission
- White, N.B. 1943. Extents of Irish monastic possessions, 1540-1541, from manuscripts in the Public record office, London. Dublin. Stationery office
- Wright, T. 1748. Louthiania or and introduction to the antiquities of Ireland. 3 vols.

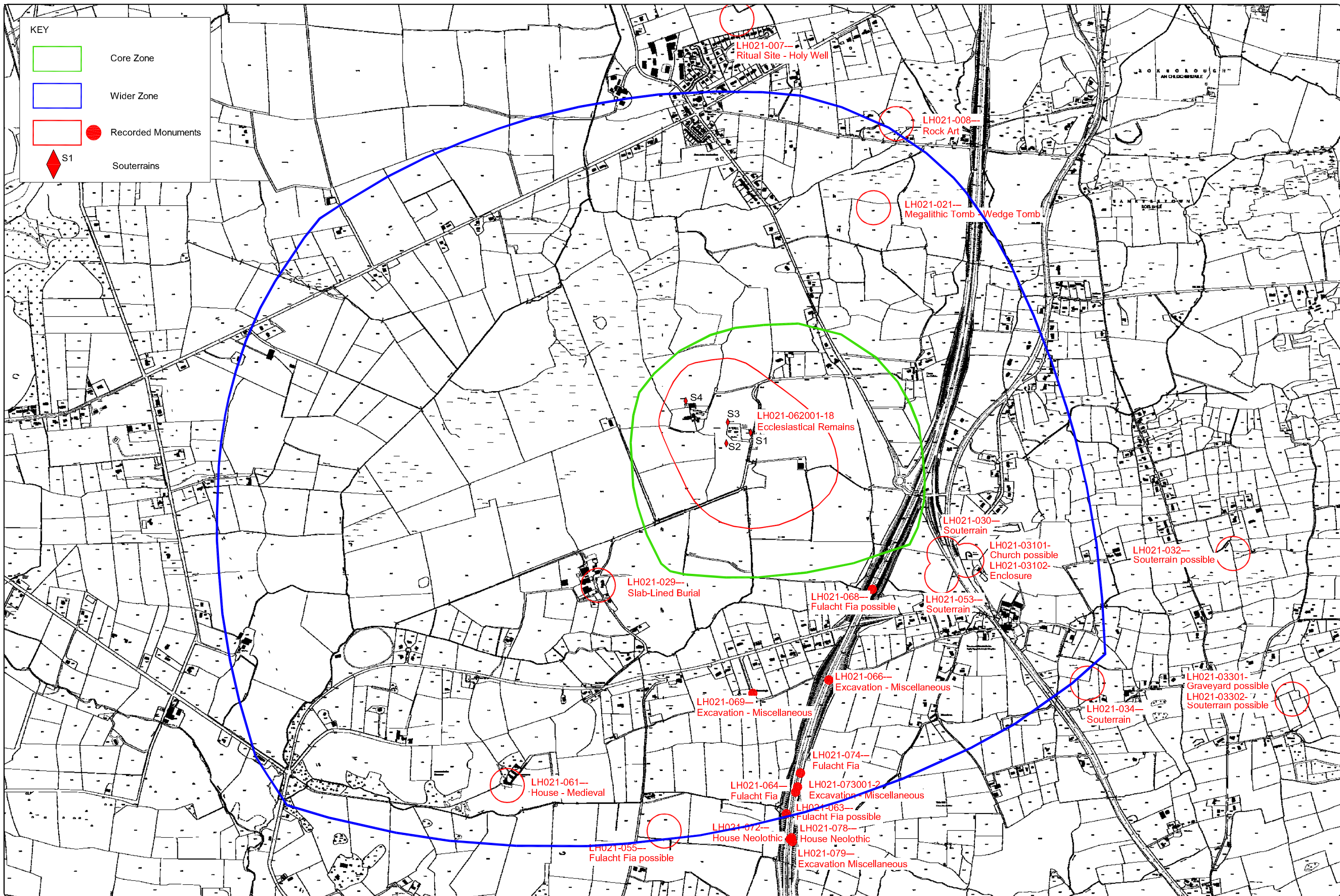
Secondary Sources and References

- Barrow, G.L. 1979. *The round towers of Ireland*. Dublin
- Bell, J. 1870-1 'Letter to the Kilkenny Archaeological Society', Journal of the Royal Society of Antiquaries of Ireland, 11, 452
- Bolger, T. 1998. A study of settlement in the kingdom of Brega in the 7th and 8th centuries A.D.: A Comparison of the Archaeological Evidence and Contemporary Historic Sources. Unpublished MPhil Thesis (UCD)
- Bolger, T., forthcoming, Archaeological excavations at Kilgobbin, County Dublin. Journal of Irish Archaeology 17
- Bolger, T & Harrison, D. 2008. Monasterboice, County Louth: geophysical survey and archaeological assessment. Unpublished Report: Margaret Gowen & Co. Ltd.
- Brady, J. 1959. Some inquisitions relating to Louth clergy during the reign of Henry VIII. Seanchas Ard Macha 3 (2), 333-6
- Breathnach, E. 2003. 'Learning and literature in early medieval Clonmacnoise', in King, H. (ed.), 97-104
- Buckley, V.M. & Sweetman, P.D. 1991 Archaeological survey of county Louth. Dublin: Stationery Office

- Byrne, F.J. 2005a 'Church and politics, c. 750-c.1100,' in Ó Cróinín, D. (ed.), 656-679
- Byrne, F. J. 2005b 'Ireland and her neighbours, c. 1014-c.1072' in Ó Cróinín, D. (ed.), 862-898
- Byrne, P. 2000 'Ciannachta Breg before Síl nÁeda Sláine,' in Smyth, A.P. (ed.) *Seanchas: studies in early and medieval Irish history and literature in honour of Francis J. Byrne*. Dublin. Four Courts Press, 121-6
- Byrnes, M. 2000. 'The Árd Ciannachta in Adomnán's *Vita Columbae*: a reflection of Iona's attitude to the Síl nÁeda Sláine in the late seventh century,' in Smyth, A.P. (ed.) *Seanchas: studies in early and medieval Irish history and literature in honour of Francis J. Byrne*. Dublin. Four Courts Press, 127-136
- Campbell, K. 2002a. 'Site 5, Newtown-Monasterboice, county Louth.' In Bennett, I. (ed.) *Excavations 2000*. Bray: Wordwell Ltd., 239
- Campbell, K. 2002b. 'Site 6, Newtown-Monasterboice, county Louth.' In Bennett, I. (ed.) *Excavations 2000*. Bray: Wordwell Ltd., 240
- Carey, J. 2004. 'Flann Mainistrech' in Matthew, H. C. G. and Brian Harrison (eds) *Oxford dictionary of national biography: from the earliest times to the year 2000*. Volume 18, 997-8
- Chapple, R. 2002. 'Site 4, Newtown-Monasterboice, county Louth.' In Bennett, I. (ed.) *Excavations 2000*. Bray: Wordwell Ltd., 238-9
- Charles-Edwards, T. 2000. *Early Christian Ireland*. Cambridge. Cambridge University Press
- Dobbs, M. 1923. 'The pedigree and family of Flann Mainistrech,' *Journal of the Louth Archaeological Society*, 5(3), 149-153
- EU Habitats Directive (92/42/EEC), 1992. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.
- Fossitt, J.A., 2000. *A Guide to Habitats in Ireland*. Heritage Council, Kilkenny.
- Garry, J. 1990. The Monasterboice inscriptions. *Seanchas Ard Macha* 14(1), 102-161
- Gosling, P. 1981. 'Some notes on the topography and archaeology of Monasterboice' in Roe, H.M., 73-78
- Gwynn, A. 1955. Armagh and Louth in the twelfth and thirteenth centuries. *Seanchas Ard Macha* 1 (2), 17-37
- Hassé, L. 1892. 'An urn burial at the site of Monasterboice, Co. Louth,' *Journal of the Royal Society of Antiquaries of Ireland*, 22, 145-50
- Hayden, T. and Harrington, R., 2000. *Exploring Irish Mammals*. Town House, Dublin.
- Herbert, M. 1996. *Iona, Kells and Derry*. Dublin. Four Courts Press
- Keenan, T.M. 1945-8. Townland survey of county Louth. *Journal of the County Louth Archaeological and Historical Society*, 11, 52-7
- Kenny, J.F. 1929 *The sources for the early history of Ireland: Volume 1, ecclesiastical*. New York: Columbia University Press (Reprinted 1993 Dublin: Four Courts Press)
- Kerr, J. S., 1999 'Opening Address: The Conservation Plan' in K. Clarke (ed.) *Conservation Plans in Action, Proceedings of the Oxford Conference English Heritage*, London
- King, H. (ed.) 2003. *Clonmacnoise studies. Volume 2*. Dublin: Stationery Office
- Leslie, J.B. 1911. *Armagh clergy and parishes: being an account of the clergy of the Church of Ireland in the Diocese of Armagh, from the earliest period, with historical notices of the several parishes, churches, etcetera*. Dundalk. W. Tempest.

- Leslie, J.B. 1948. Supplement to "Armagh clergy & parishes" : continuation of the biographical succession lists of the clergy of Armagh diocese up to 1947 with additions--pre-Reformation and post-Reformation and corrections and notes. Dundalk. Dun Dealgan Press
- Longfield, A.K. 1945. 'An eighteenth century priests memorial stone at Mayne, Co. Louth.' *Journal of the County Louth Archaeological Society* 11(2), 204-5
- Longfield, A.K. 1951. 'Late eighteenth and early nineteenth century decorated headstones in county Louth.' *Journal of the County Louth Archaeological Society* 12(3), 113-8
- Longfield, A.K. 1974. *Some Irish churchyard sculpture*. Cork
- Lucas, A.T. 1951. 'The West Cross, Monasterboice: a note and a suggestion.' *Journal of the County Louth Archaeological Society* 12 (3), 123-125
- Macalister, R.A.S. 1914. *Muiredach: abbot of Monasterboice*. Dublin: Hodges Figgis
- Macalister, R.A.S. 1946. *Monasterboice, Co. Louth*, Dundalk.
- Mac Íomhair, An t-Ath. D. 1971. Primate Mac Maelíosa and county Louth. *Seanchas Ard Macha* 6 (1), 70-93
- MacIvor, Rev. D. 1960-1. The knights Templar in county Louth. *Seanchas Ard Macha* 4 (1), 72-91
- Manning, C. 1984. 'St. Buite, Mellifont and Toberboice,' *Peritia* 3, 324-5
- Morris, H. 1934. 'The Muiredach Cross at Monasterboice. A new interpretation of three of its panels'. *Journal of the Royal Society of Antiquaries of Ireland* 64, 203-212.
- Mullarney, K., Svennson, L., Zetterstrom, D. and Grant, P., 1999 *Collins Bird Guide*. Harper Collins Publishers.
- Murphy, D. 1992. 'The distribution of early Christian sites and its implications for secular settlement in County Louth.' *J Co Louth Archaeol Hist Soc* 22, 364-387
- Murphy, D. 1993. 'Monasterboice: secrets from the air' in *Archaeology Ireland*, 7 (3), 15-17
- Murphy, D. 1998. 'Tower House, Monasterboice, County Louth'. In Bennett, I. (ed.) *Excavations 1997*. Bray: Wordwell Ltd.
- National Soil Survey of Ireland. 1980. General soil map second edition (1:575,000). *An Foras Taluntais*.
- Ó Cróinín, D. (ed.) 2005. *A new history of Ireland volume 1: prehistoric and early historic Ireland*. Oxford. OUP
- Ó Coráin, D. 2005. 'Ireland c. 800: aspects of society,' in Ó Cróinín, D. (ed.), 549-607
- Ó Drisceoil, C. 2002a. 'Site 1, Newtown-Monasterboice, county Louth.' In Bennett, I. (ed.) *Excavations 2000*. Bray: Wordwell Ltd., 238
- Ó Drisceoil, C. 2002b. 'Site 2, Newtown-Monasterboice, county Louth.' In Bennett, I. (ed.) *Excavations 2000*. Bray: Wordwell Ltd., 238
- Ó Drisceoil, C. 2002c. 'Site 3, Newtown-Monasterboice, county Louth.' In Bennett, I. (ed.) *Excavations 2000*. Bray: Wordwell Ltd., 238
- Ó Drisceoil, C. 2002d. 'Site 2, Coolfore, county Louth.' In Bennett, I. (ed.) *Excavations 2000*. Bray: Wordwell Ltd., 215
- Ó Drisceoil, C. 2007. 'A preliminary report regarding the archaeological excavation of Neolithic houses at Coolfore, county Louth.' *County Louth Archaeological and Historical Journal*, 26 (3), 360-385

- Ó Fiach, An t-Ath. T. 1971. The registration of the clergy in 1704. *Seanchas Ard Macha* 6 (1), 46-69
- O'Sullivan, W. 2005. 'Manuscripts and palaeography,' in Ó Cróinín, D. (ed.), 511-548
- Oxford Archaeology 2007. *Newtown Jerpoint County Kilkenny Conservation Plan*. Kilkenny: The Heritage Council
- Richardson, H. and Scarry, J. 1990 *An Introduction to Irish High Crosses* Cork: The Mercier Press
- Roe, H.M. 1981. *Monasterboice and its Monuments*. Dundalk: County Louth Archaeological and Historical Society (Reprinted: 1993)
- Scannell, M.J.P. and Synnott, D.M., 1987. *Census Catalogue of the Flora of Ireland* (2nd edn). Stationery Office, Dublin.
- Smyth, B. 1991. 'The Armagh-Clogher dispute and the 'Mellifont conspiracy': diocesan politics and monastic reform in early thirteenth century Ireland. *Seanchas Ard Macha* 14(2), 26-37
- Stevens, P. 2007. Clonfad 3: a unique glimpse into early monastic life in County Westmeath. *Seanda* 2, 42-3.
- Swan, D. Leo. 1983. "Enclosed Ecclesiastical Sites and their relevance to settlement patterns of the first Millennium A.D". in Reeves-Smyth, T. and Hammond, F (ed.) *Landscape Archaeology in Ireland*. Oxford: BAR (Br. Series) 116
- Swan, D. Leo. 1985. 'Monastic Proto-towns in Early Medieval Ireland: the Evidence of Aerial Photography, Plan Analysis and Survey' in H.B. Clarke & Anngret Simms (ed.) *Comparative History of Urban Origin in non-Roman Europe*. Oxford. B.A.R. (Int. Series) 225, 77-102
- Walsh, P. 1940. Meath in the Book of Rights, in Ryan, J. (ed.), *Féil-sgríbhinn Eóin mhic Néill*. Dublin: Faoi Chomhartha na dTrí gCoinneal, 508-521
- Webb, D.A., Parnell, J. and Doogue, D., (1996). *An Irish Flora* (7th edn). Dundalgan Press, Dundalk.
- Wilde, A., 1993. *Threatened Mammals, Birds, Amphibians and Fish in Ireland*. Irish Red Data Book 2: Vertebrates. HMSO, Belfast.
- Wildlife Act 1976, Wildlife (Amendment Act), (2000). Wildlife Amendment Act, Ireland, 18 December 2000, No. 38 of 2000.
- Woolfe, A. 2002. 'Amlaíb Cuarán and the Gael, 941-81', in Duffy, S. (ed.) *Medieval Dublin*. Volume 3. Dublin: Wordwell Ltd., 34-43



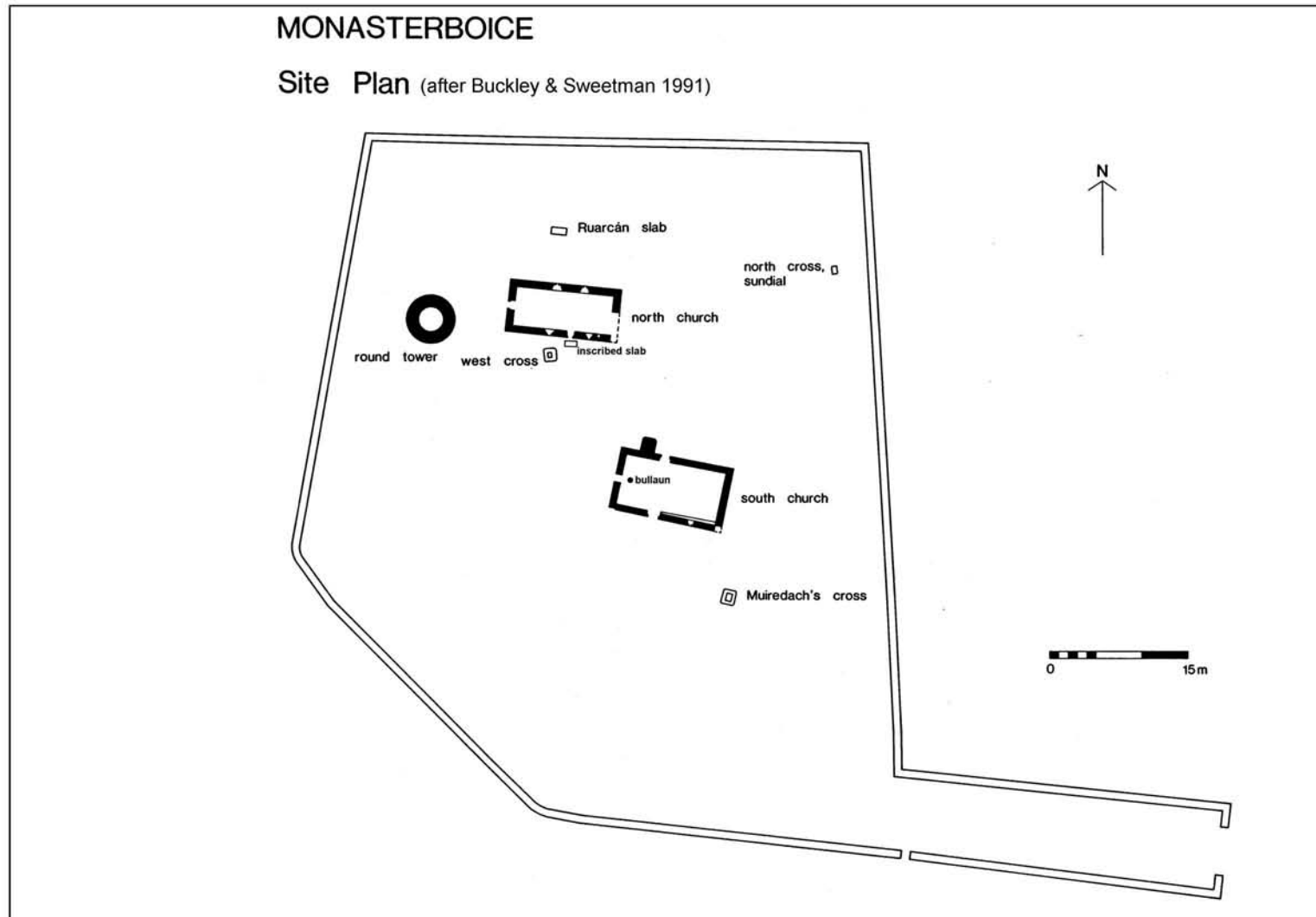
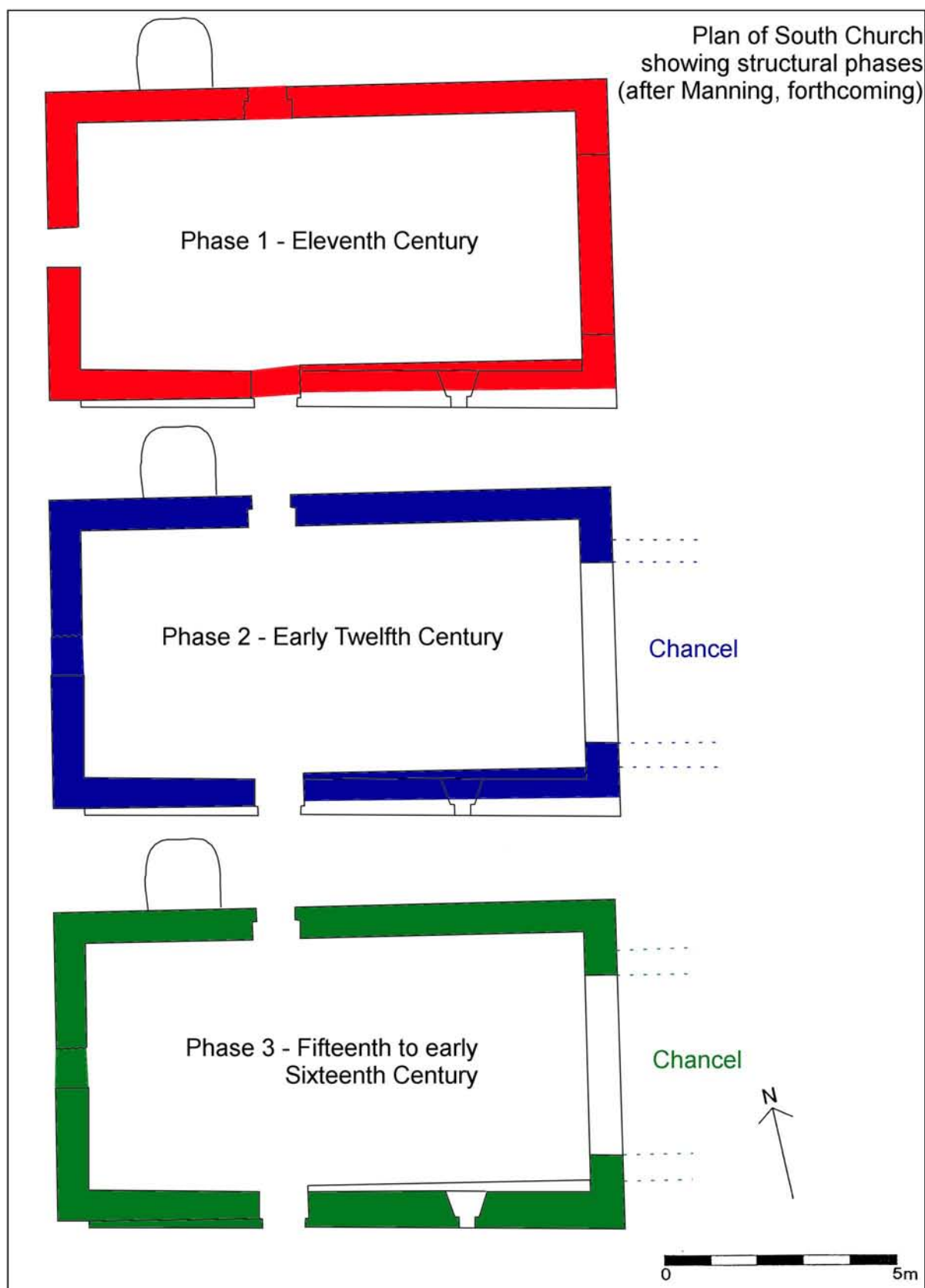


Fig. 3 Site plan of the Monasterboice graveyard (after Buckley & Sweetman 1991)

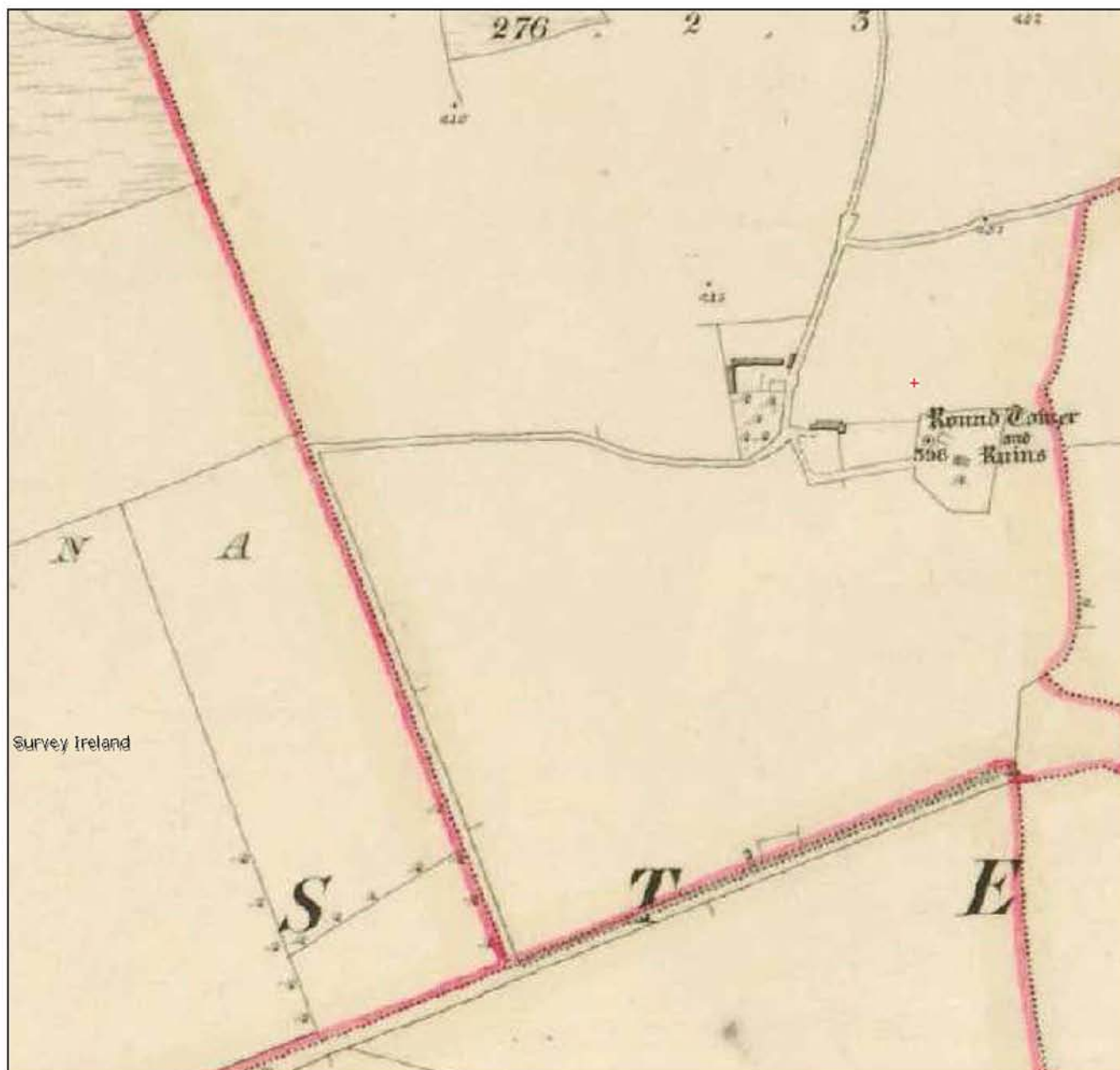


Job Monasterboice Conservation Study, Co. Louth
Ref. 08148-R1
Date 08.01.09
Client Louth Co. Co., DoEHLG & OPW
Scale As indicated
Fig. 3 Site plan



Margaret Gowen & Co Ltd
Archaeological Consultants & Project Managers

Job Monasterboice Conservation Study, Co. Louth
Ref. 08148-R1
Date 08.01.09
Client Louth Co. Co., DoEHLG & OPW
Scale As indicated
Fig. 4 Phasing of South Church



Margaret Gowen & Co Ltd

Archaeological Consultants & Project Managers

Job Monasterboice Conservation Study, Co. Louth

Ref. 08148-R1

Date 08.01.09

Client Louth Co. Co., DoEHLG & OPW

Scale Not applicable

Fig. 6 1st ed OS map, 1837

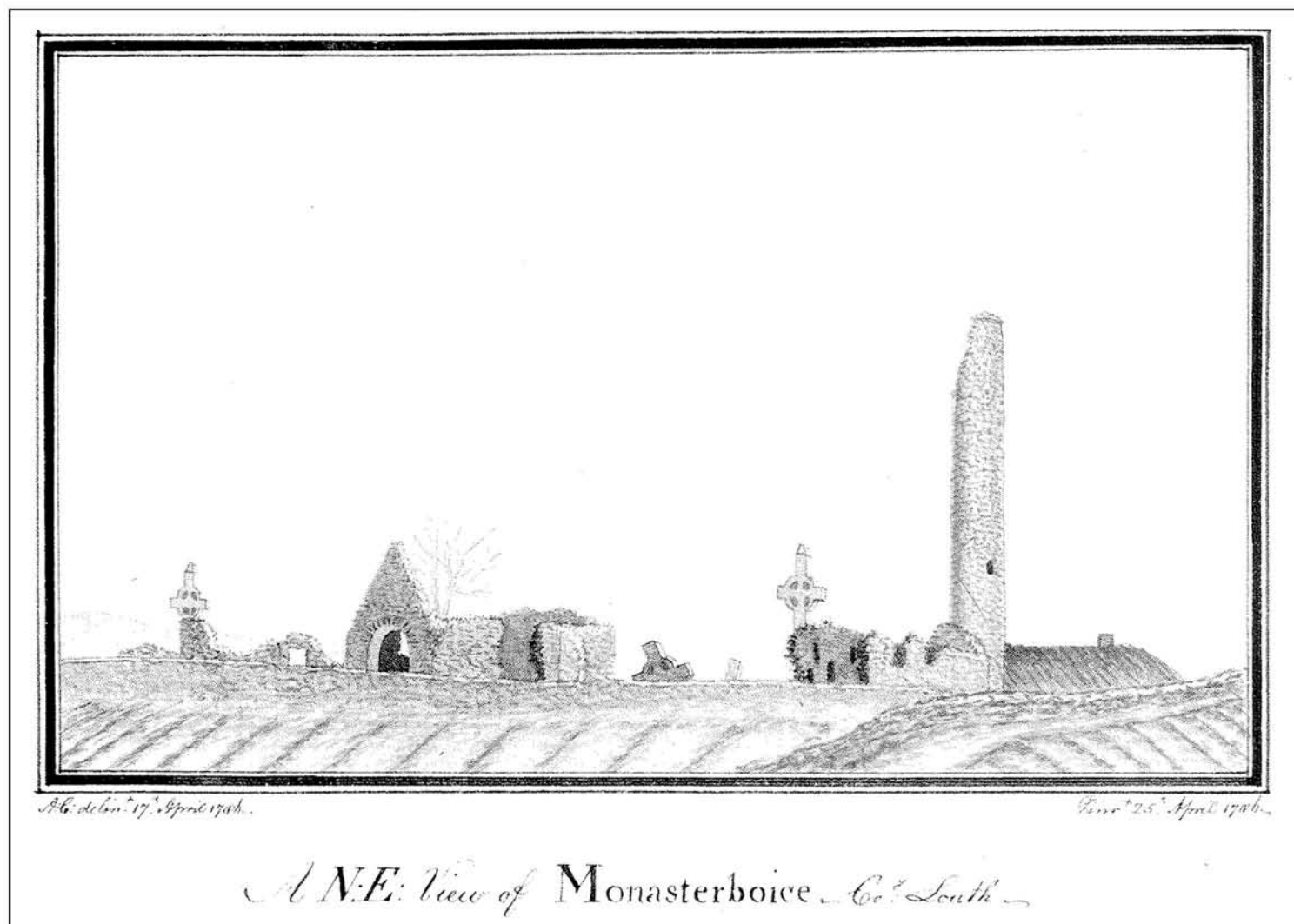


Fig. 7 Sketch of Monasterboice from north-east, Austin Cooper 1786



Job Monasterboice Conservation Study, Co. Louth
Ref. 08148-R1
Date 08.01.09
Client Louth Co. Co., DoEHLG & OPW
Scale Not applicable
Fig. 7 Sketch of Monasterboice

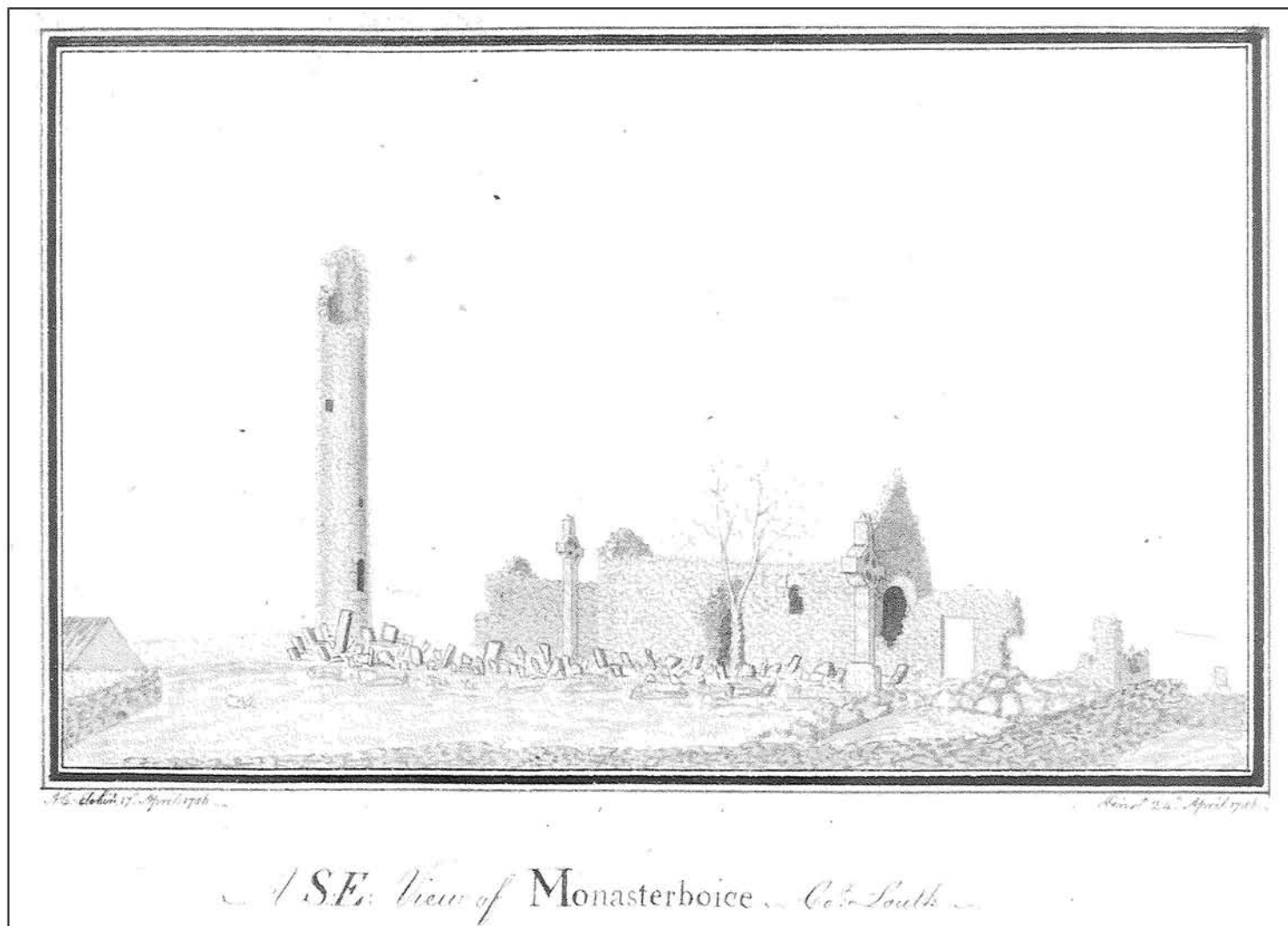
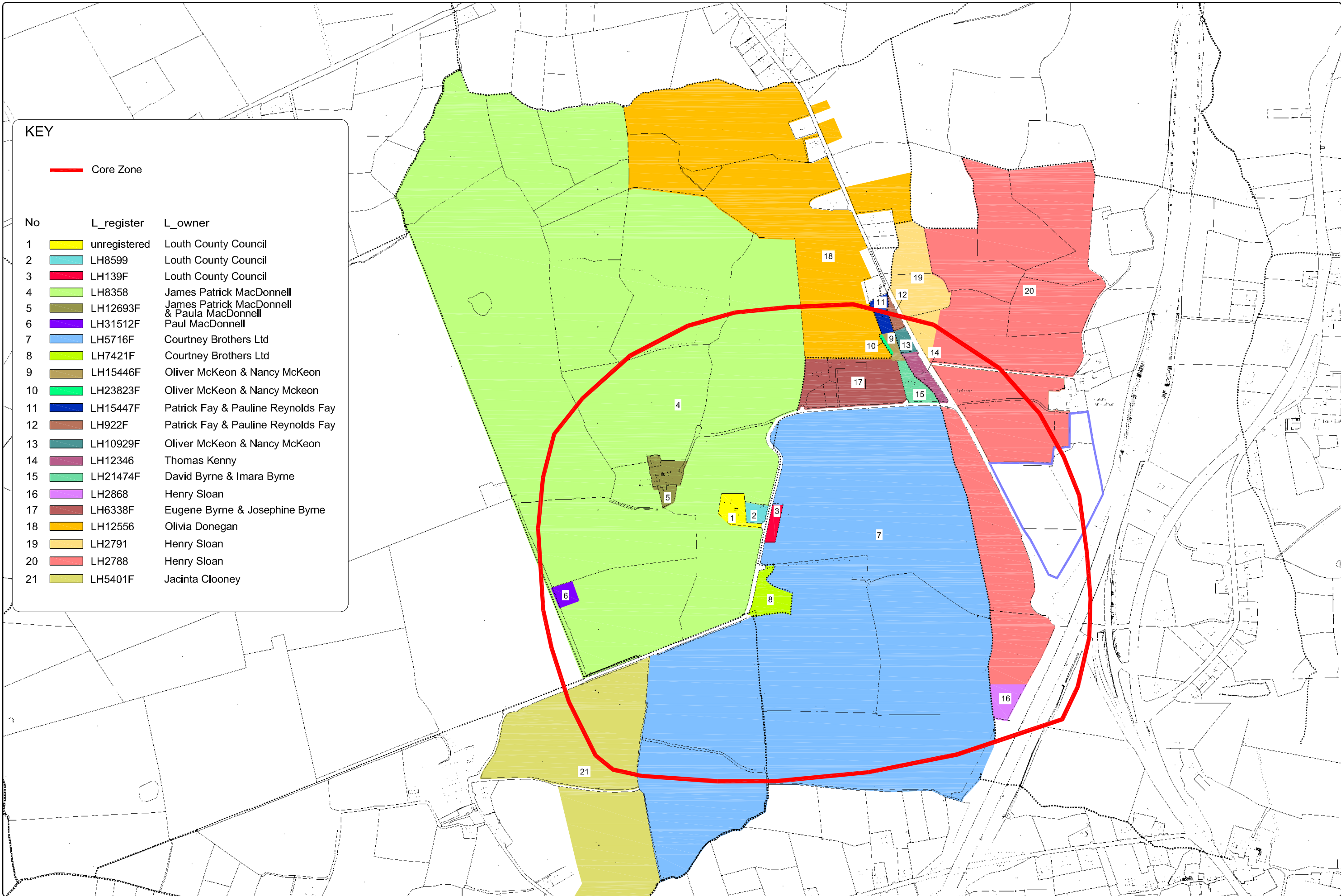


Fig. 8 Sketch of Monasterboice from south-east, Austin Cooper 1786



Job Monasterboice Conservation Study, Co. Louth
Ref. 08148-R1
Date 08.01.09
Client Louth Co. Co., DoEHLG & OPW
Scale Not applicable
Fig. 8 Sketch of Monasterboice



KEY

Core Zone

No	L_register	L_owner
1	unregistered	Louth County Council
2	LH8599	Louth County Council
3	LH139F	Louth County Council
4	LH8358	James Patrick MacDonnell
5	LH12693F	James Patrick MacDonnell & Paula MacDonnell
6	LH31512F	Paul MacDonnell
7	LH5716F	Courtney Brothers Ltd
8	LH7421F	Courtney Brothers Ltd
9	LH15446F	Oliver McKeon & Nancy McKeon
10	LH23823F	Oliver McKeon & Nancy McKeon
11	LH15447F	Patrick Fay & Pauline Reynolds Fay
12	LH922F	Patrick Fay & Pauline Reynolds Fay
13	LH10929F	Oliver McKeon & Nancy McKeon
14	LH12346	Thomas Kenny
15	LH21474F	David Byrne & Imara Byrne
16	LH2868	Henry Sloan
17	LH6338F	Eugene Byrne & Josephine Byrne
18	LH12556	Olivia Donegan
19	LH2791	Henry Sloan
20	LH2788	Henry Sloan
21	LH5401F	Jacinta Clooney



REVISIONS:

BY:

DATE:

REV:

ARCHAEOLOGICAL LICENCE:

N/A

PRODUCED BY:

DH

DATE SURVEYED:

N/A

CHECKED BY:

KB

DATE ISSUED:

04/08/09

PROJECT:

MONASTERBOICE CONSERVATION STUDY, CO LOUTH
LAND OWNERSHIP 2008

TITLE:

CLIENT:

LOUTH COUNTY COUNCIL, DoEHLG & OPW

JOB NO:

08148

DRAWING NO:

08148_01

FIG. NO.

Fig. 9

SCALE:

1/8000 @ A3



Margaret Gowen & Co Ltd
Archaeological Consultants & Project Managers

27 Merrion Square
Dublin 2
Tel: 01-7997200
Fax: 01-7997201
Email: archaeology@mgjarc.com
www.mgjarc.com

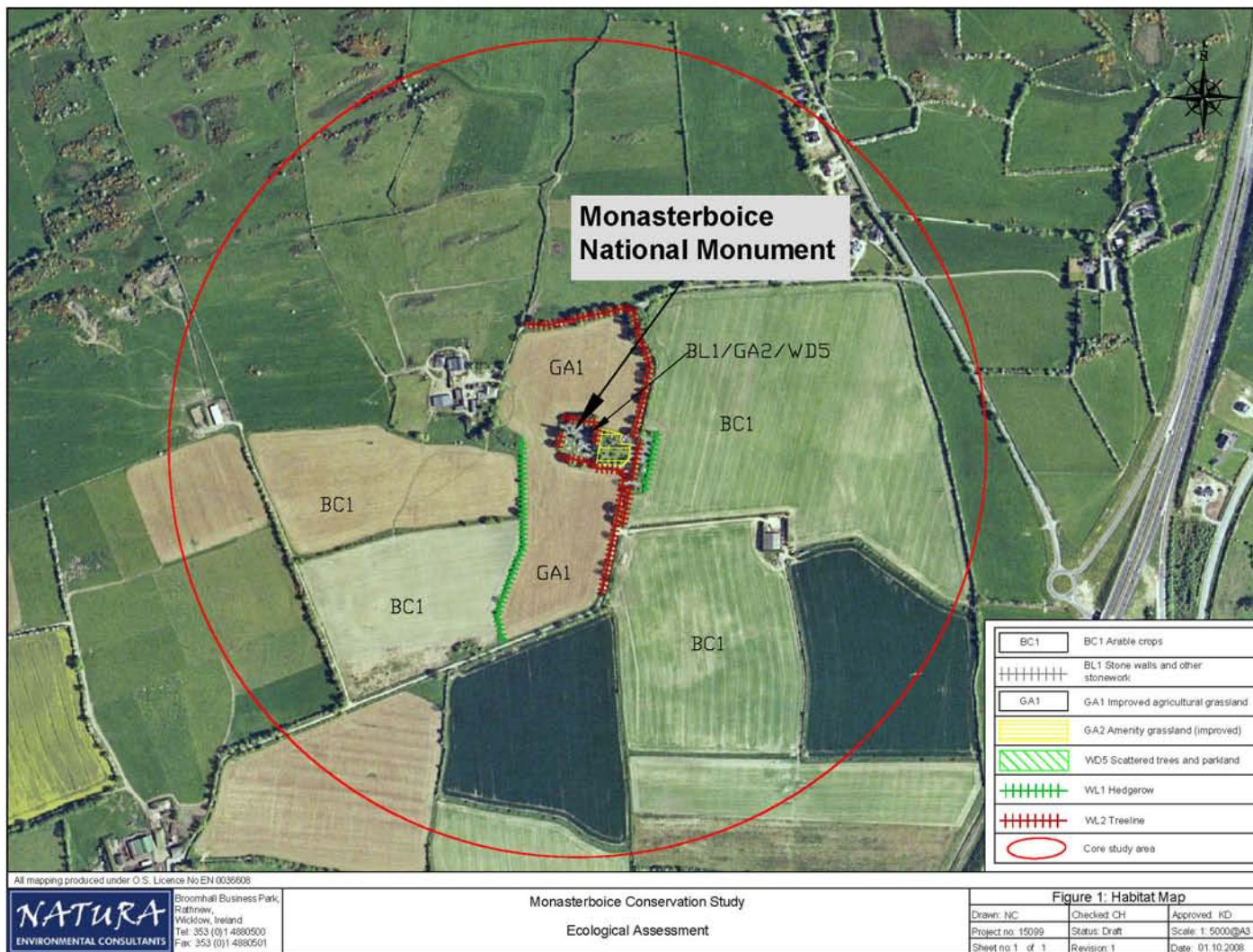


Fig. 10 Ecological environments (Natura Environmental Consultants)



Job Monasterboice Conservation Study, Co. Louth

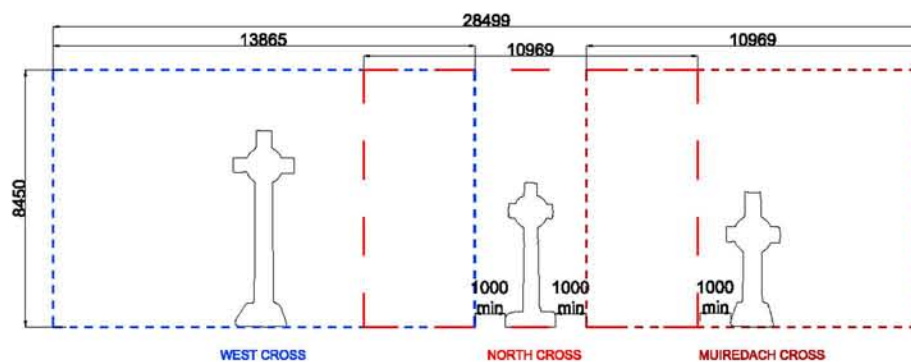
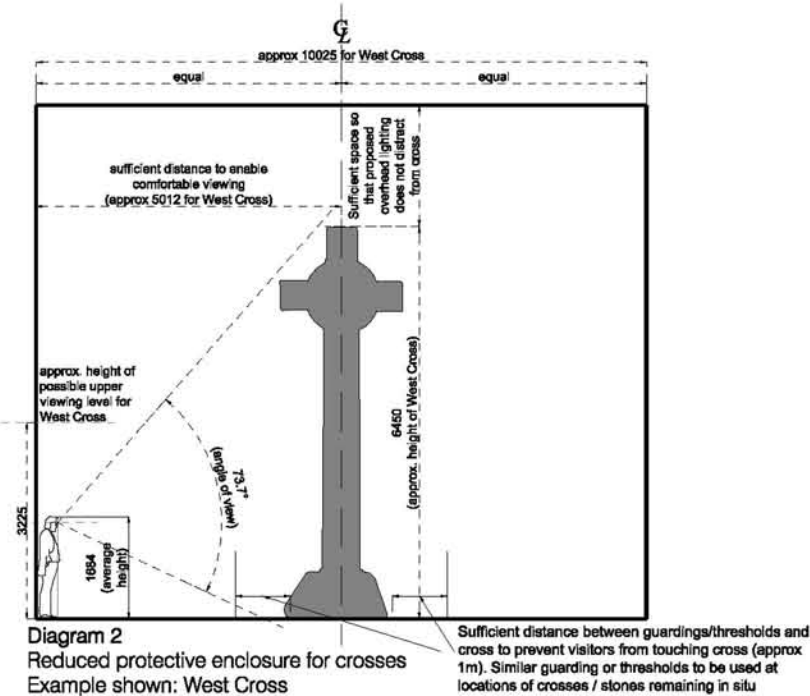
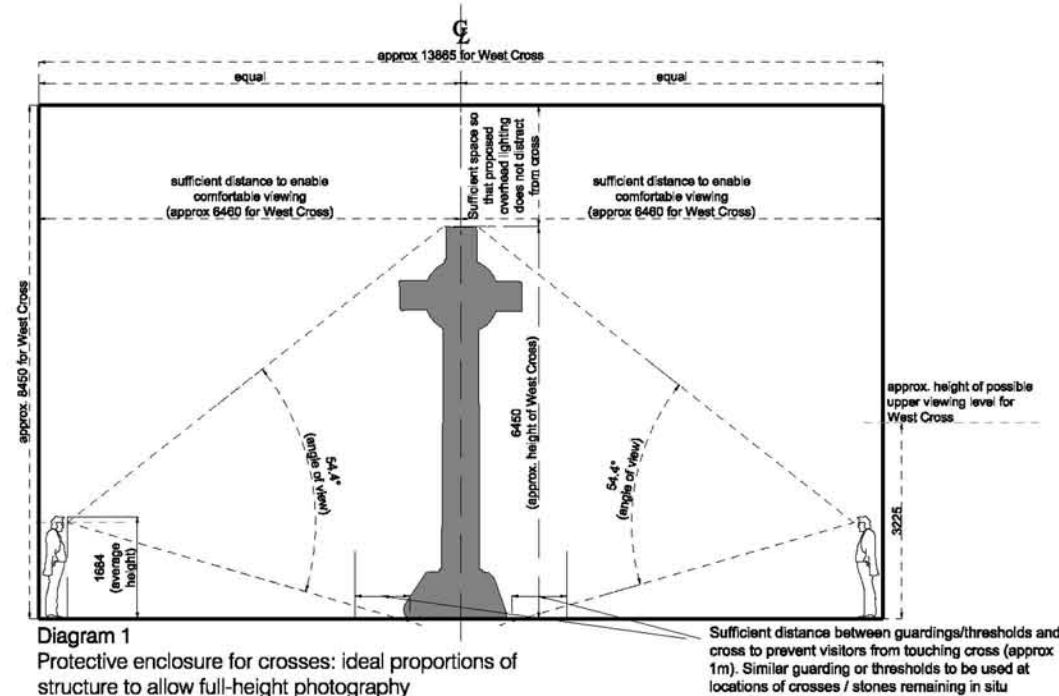
Ref. 08148-R1

Date 08.01.09

Client Louth Co. Co., DoEHLG & OPW

Scale As indicated

Fig. 10 Ecological environments



Monasterboice
Design recommendations for protective housing for display of High Crosses
See also explanatory text
Drawn ARP Scale 1:100 unless otherwise stated
09/10/08 Revision 1: 09/12/08

General notes:

1. All dimensions shown are for guidance only.
2. Consideration should be given to construction of an upper viewing level at approx. half the total height of the cross
7. Floor areas
Internal floor area for display of West Cross = approx. 13.865 x 13.865m
Total internal display area for three crosses (assuming overlapped, as illustrated) = 13.865m wide x 28.499m length = approx 395m².
Inclusion of a mid-level gallery would increase this area by approx 1.5m x 28.499m = approx 43m².
Based upon BS 6465-1:2006, the provision of public toilets (including tourist attractions) should be at least:
Male: 1No. WC, 1No. urinal, 2No. wash-hand basins;
Female: 3No. WCs, 3No. wash-hand basins.
This equates to approximately 35m² internal floor area.

Total internal floor area (excluding reception and circulation) = 473m².

8. Internal display height.
The maximum internal display height should be approximately 8450mm (for West Cross) but could be reduced for the other smaller crosses.
3. Camera angles based on *Angle of View*, Wikipedia [online]
Available: http://en.wikipedia.org/wiki/Angle_of_view#Measuring_a_camera's_field_of_view [accessed 9th December 2008]
2. Average height based on mean of male and female averages for people aged 16+ in the U.K.
Human Height, Wikipedia [online]
Available: http://en.wikipedia.org/wiki/Average_height/Average_adult_height_around_the_world [accessed 9th December 2008]
4. Height of West Cross
University College Cork, Documents of Ireland - 1. *Monasterboice: Tall (or West) Cross* [online]
Available: <http://www.ucc.ie/~8080/cocoon/doc/land/Monasterboice21-N555> [accessed 9th December 2008]



CONSARC CONSERVATION
1 - 3 Westmoreland Street
Dublin 2

tel: 01 6125258/8 fax: 01 6790048
web: consarc-design.co.uk email: mail@consarc-design.com

Fig. 11 Schematic drawing of viewing requirements for high crosses (Consarc Conservation Architects)



Plate 1 Muiredach's Cross and Round Tower, June 1865 (W. & E. Swain)



Plate 2 Muiredach's Cross and Round Tower (with roofed viewing platform added to top of tower), c. 1875 (Lawrence Collection No. 661)

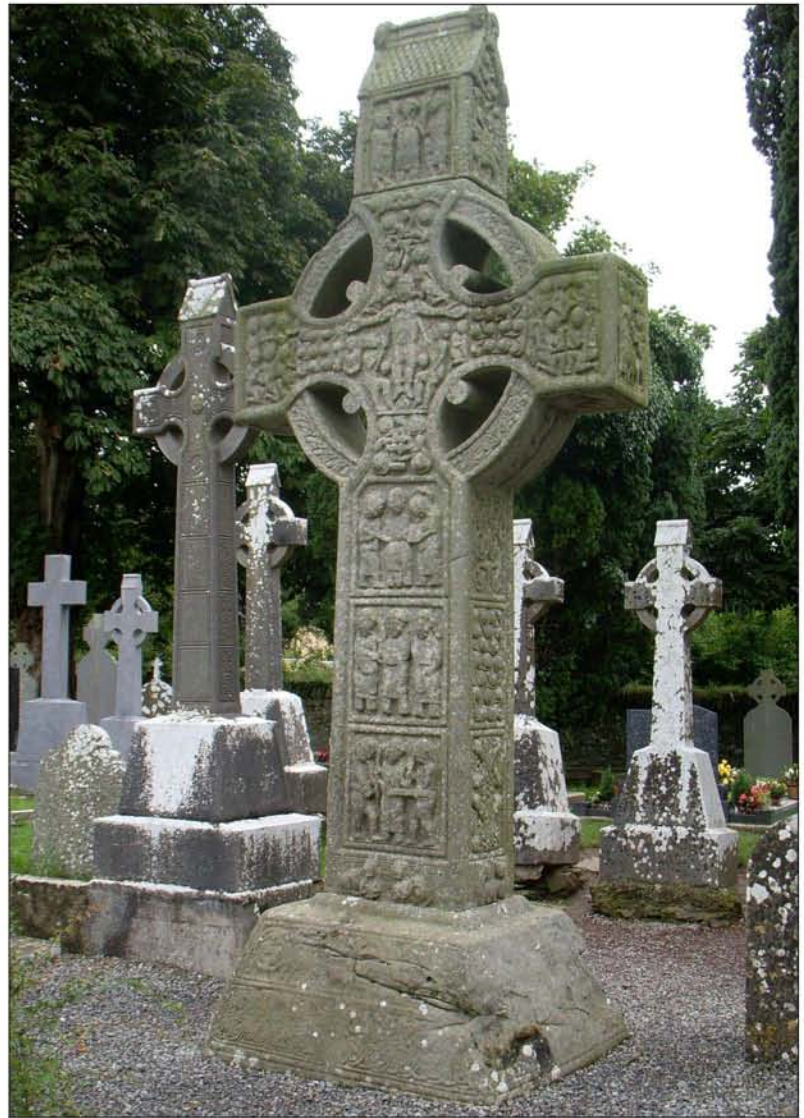


Plate 3 Muiredach's Cross (or South Cross)



Plate 4 Interpretive signage for Muiredach's Cross



Plate 5 North Cross

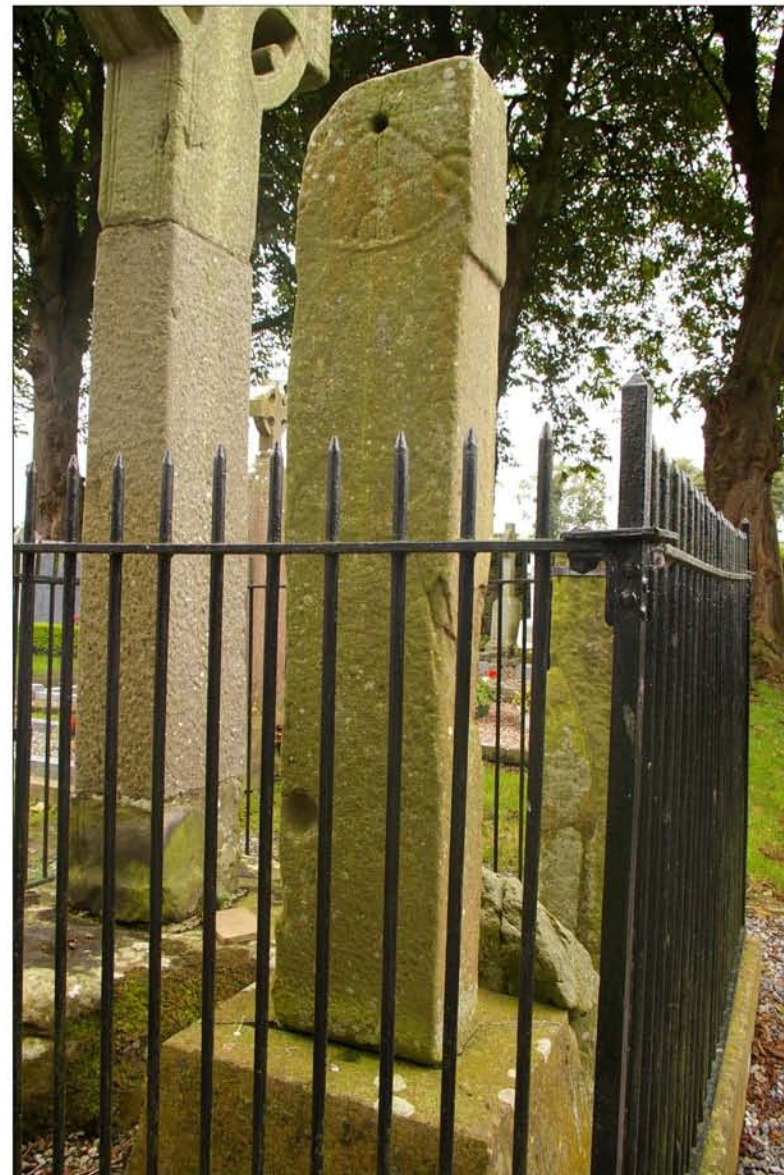


Plate 6 Sun dial



Plate 7 Tall Cross (or West Cross)



Plate 8 View of the graveyard with Muiredach's Cross and the Round Tower

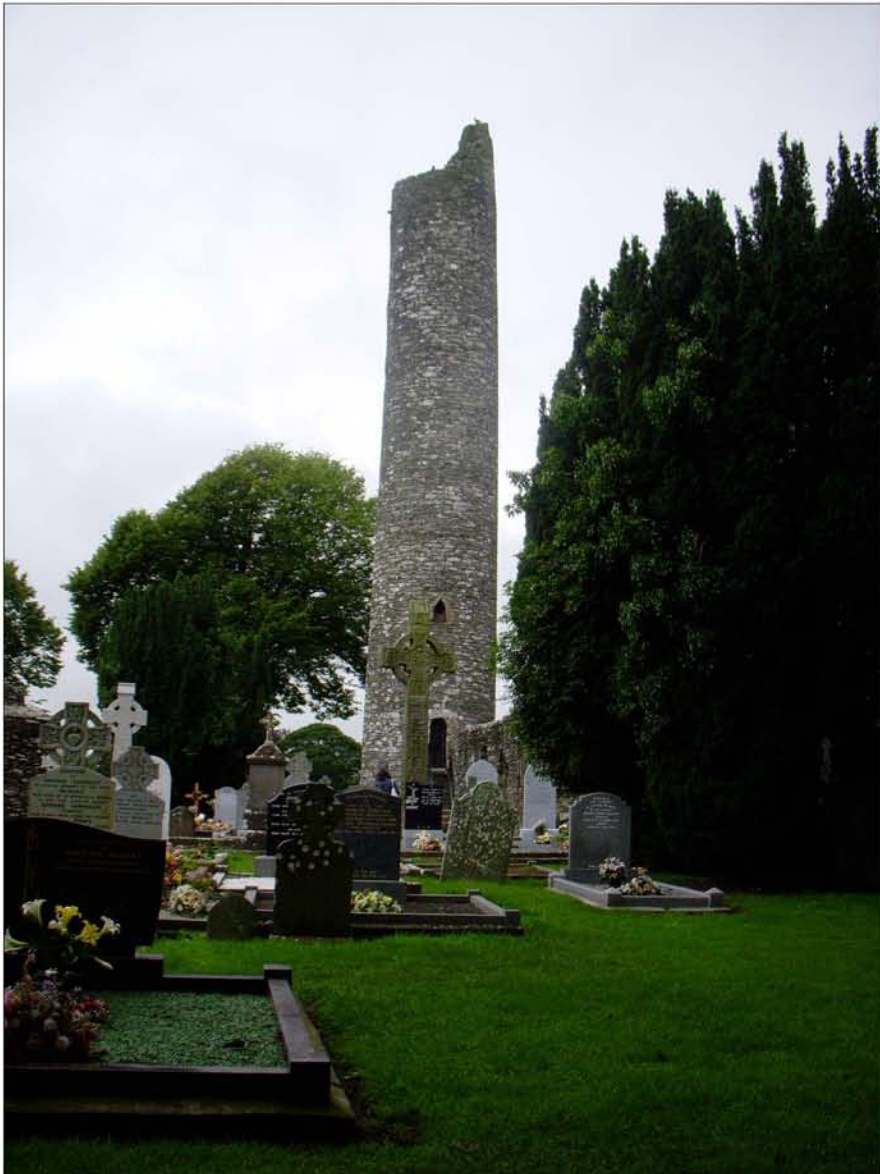


Plate 9 Round Tower and Tall Cross. Note mature trees in graveyard

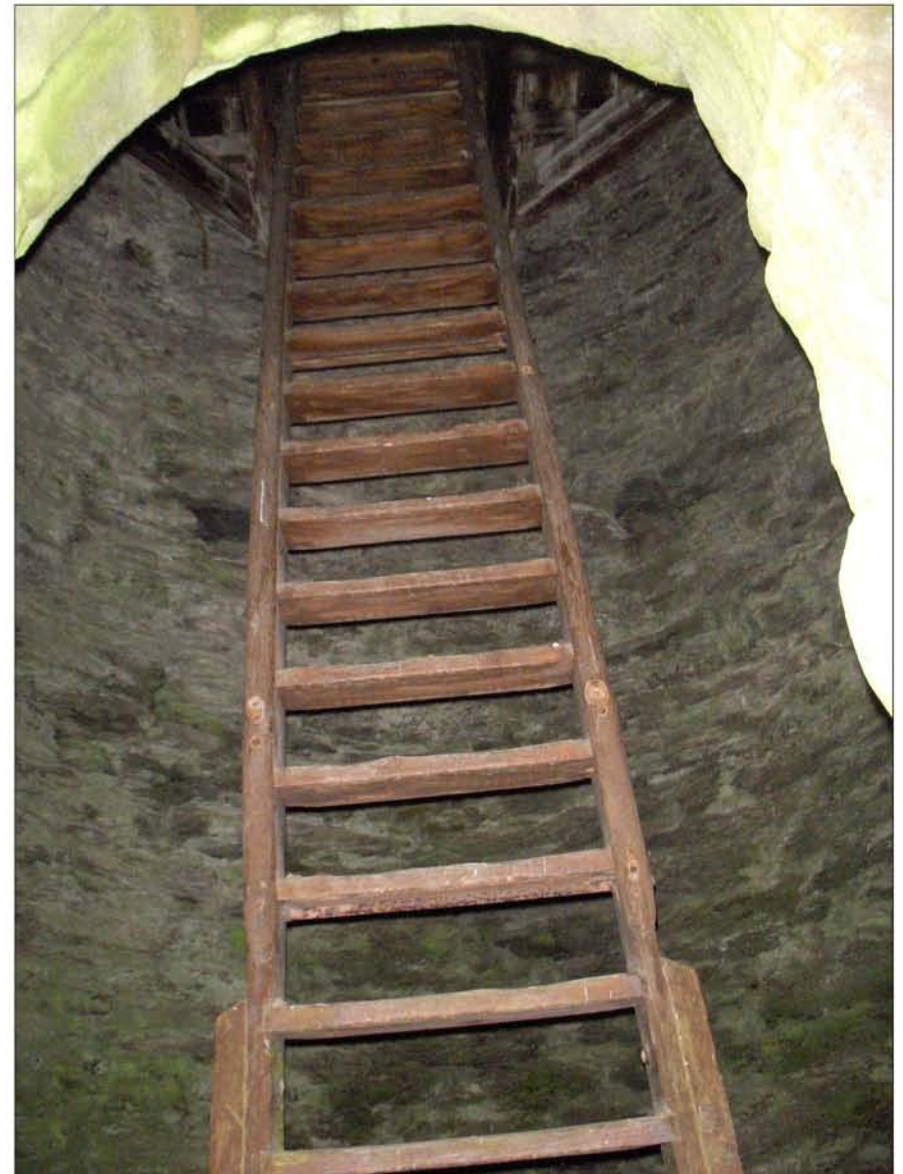


Plate 10 View inside the Round Tower



Plate 11 North Church exterior (viewed from west)



Plate 12 North Church interior (viewed from east)



Plate 13 South Church exterior and remains of chancel arch (viewed from east).
Note lean of south wall

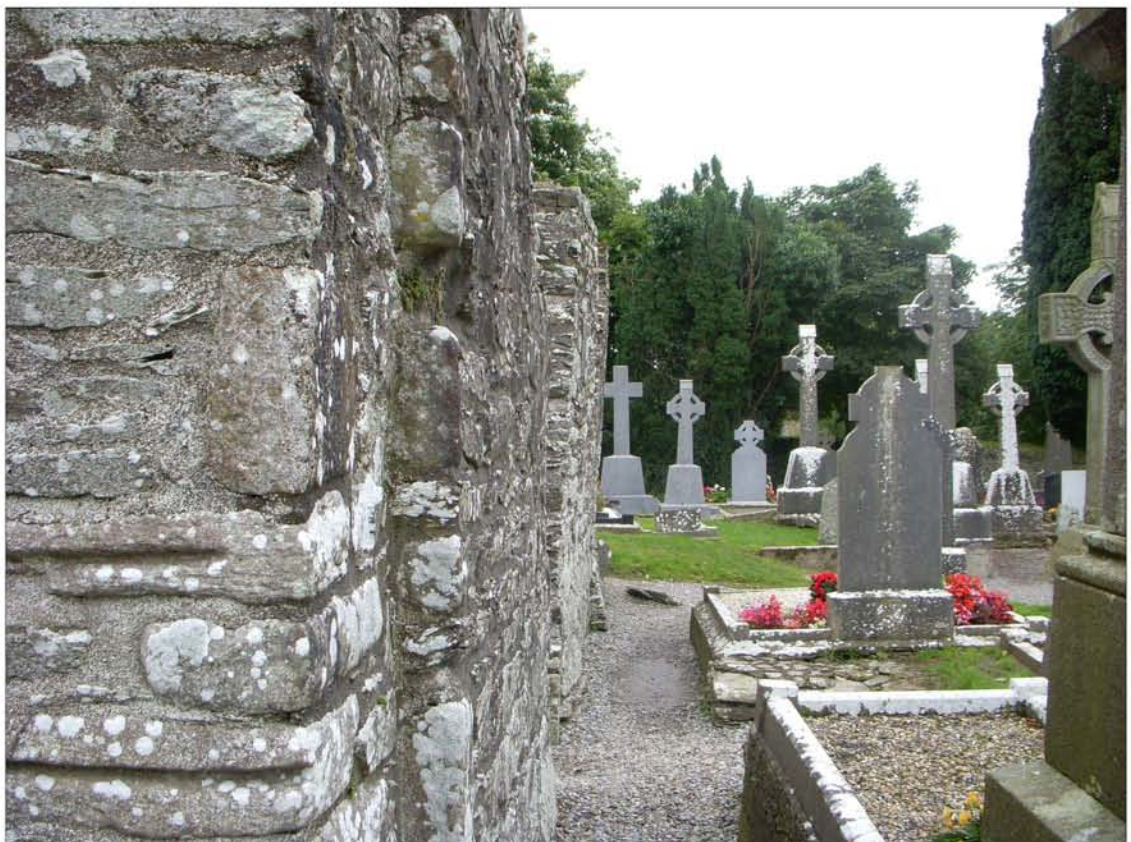


Plate 14 South Church exterior of south wall. Note grooved stones of church wall (left)



Plate 15 South Church exterior of south wall. Note modern gravestone against church wall



Plate 16 South Church interior. Note site signage and gravestone cemented onto church wall



Plate 17 South Church interior of south wall. Note membrane used in repair to wall

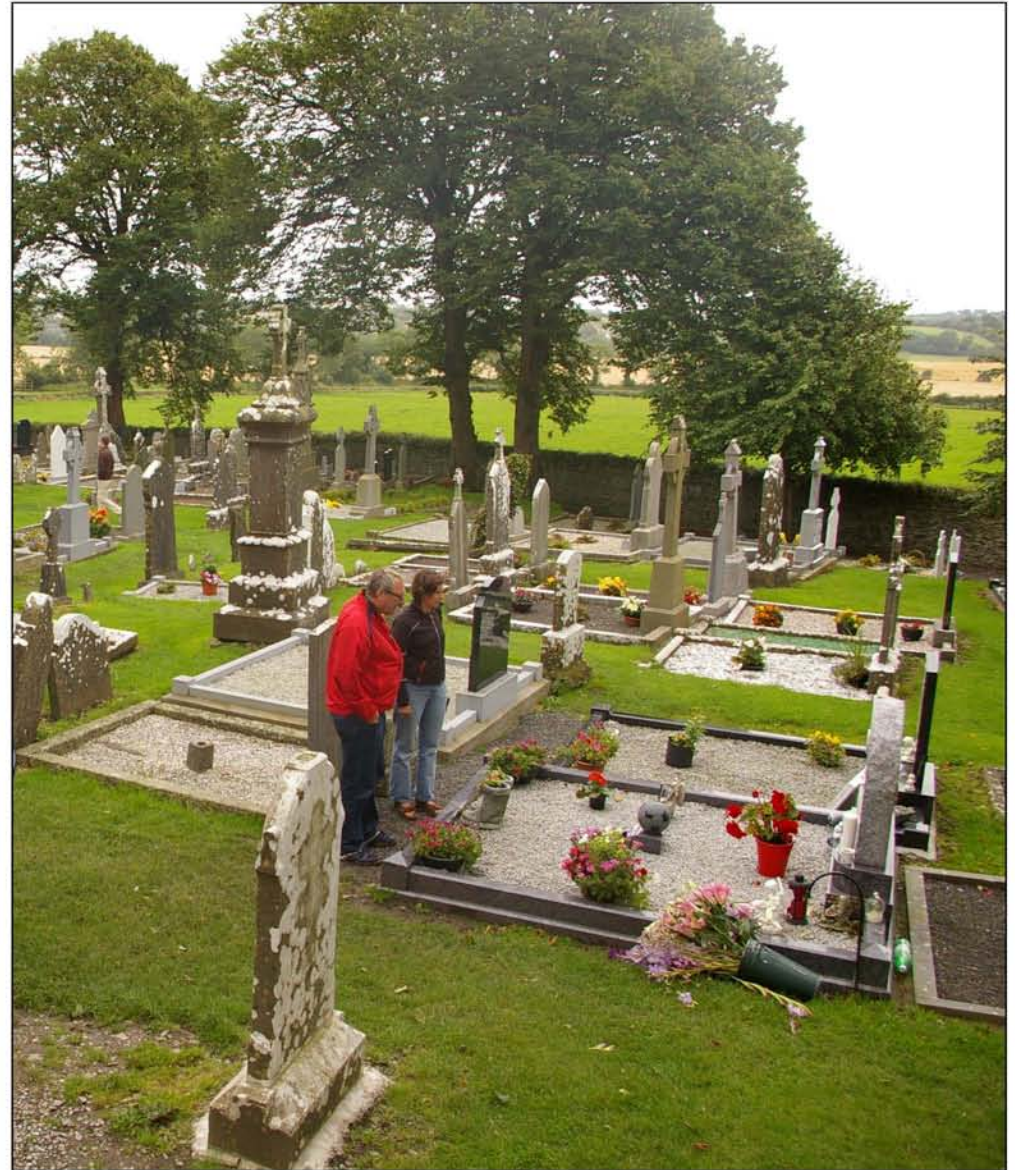


Plate 18 General view of graveyard



Plate 19 Ruarcán's grave stone, c. 9th century



Plate 20 Graveyard and boundary wall (viewed from south). Remains of the monastic enclosures survive below ground in this field



Plate 21 Boundary wall with missing stones, open joints and “soft” grass top. Note line of young trees planted very close to external face of south boundary wall



Plate 22 Gate in west wall of graveyard at point where original entrance was in the older graveyard wall



Plate 23 Modern entrance to the site with Tour Guides hut



Plate 24 Map panel inside entrance that links Monasterboice to our heritage sites in Louth



Plate 25 Caretaker's house, with gift shop



Plate 26 Tour bus parked at front entrance



Plate 27 Car park and toilet facilities

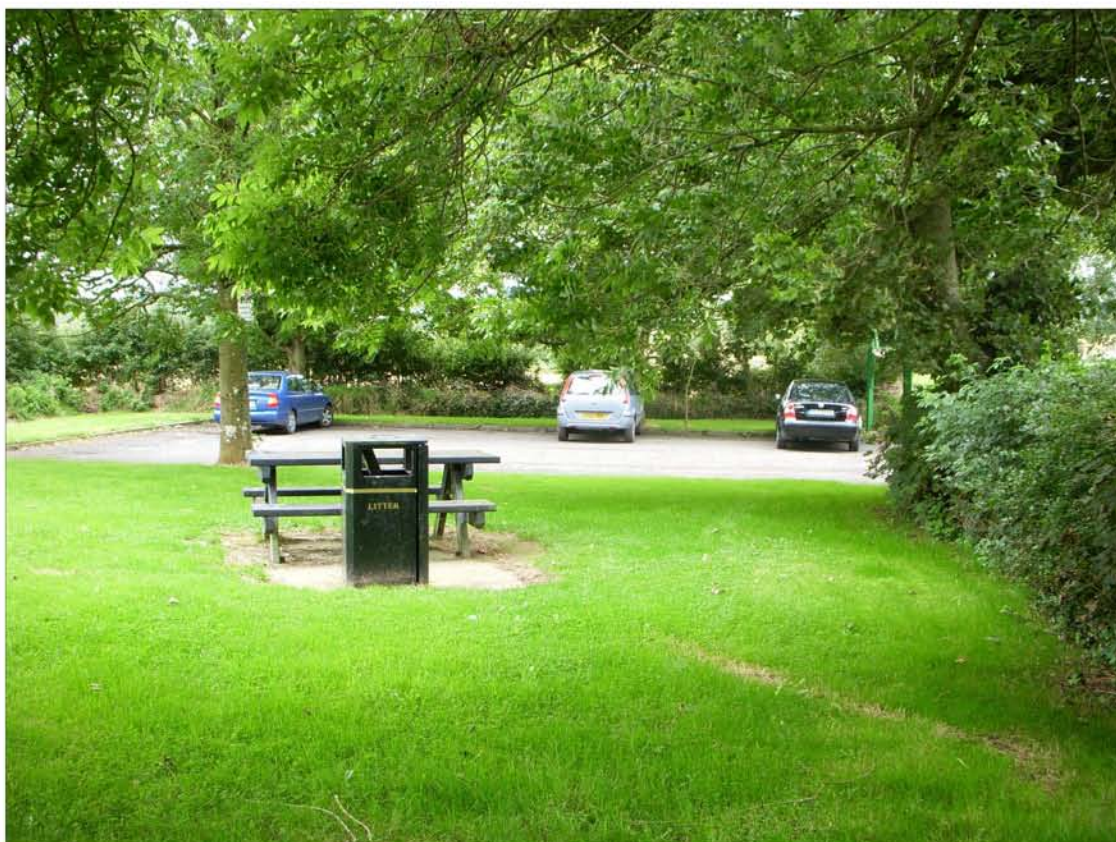


Plate 28 Bus parking area, currently used for cars



Plate 29 View of graveyard and round tower, from north



Plate 30 Tree line to north of site. Stone in foreground possibly marks site of souterrain

Appendix 1: Recorded Monuments within the Study Area**PERIOD** *Potential Prehistoric (not precisely dated)*

RMP LH021-066---- **Townland** Newtown Monasterboice
Site Type Excavation – Misc. **NGR** 304764 280964
Distance from Site 1.1km S of graveyard

Description

Excavations Bulletin: 2000:0703

Site 4, Newtown–Monasterboice

Licence No: 00E0479

See Appendix 2 – Archaeological Excavations within the Study Area

RMP LH021-069---- **TOWNLAND** NEWTOWN MONASTERBOICE
SITE TYPE Excavation – Misc. **NGR** 304430 280905
Distance from Site 1.13km S of graveyard

DESCRIPTION

Excavations Bulletin: 2000:0704

SITE 5, NEWTOWN–MONASTERBOICE

Licence No. 00E0941

See Appendix 2 – Archaeological Excavations within the Study Area

RMP LH021-073001- **TOWNLAND** NEWTOWN MONASTERBOICE.
SITE TYPE Pit **NGR** 304626 280494
Distance from Site 1.56km S of graveyard

DESCRIPTION

Excavations Bulletin 2000:0701

SITE 2, NEWTOWN–MONASTERBOICE

Licence No. 00E0796

See Appendix 2 – Archaeological Excavations within the Study Area

RMP LH021-073002- **TOWNLAND** NEWTOWN MONASTERBOICE
SITE TYPE Pit **NGR** 304626 280494
Distance from Site 1.56km S of graveyard

DESCRIPTION

Excavations Bulletin 2000:0701

SITE 2, NEWTOWN–MONASTERBOICE

Licence No. 00E0796

*See Appendix 2 – Archaeological Excavations within the Study Area***PERIOD** *Bronze Age*

RMP LH021-021--- **TOWNLAND** Paddock
SITE TYPE Wedge-tomb **NGR** 304960 283040
Distance from Site 1.16km NE of graveyard

DESCRIPTION Calliagh Birra's House

It is rectangular in form, five large flagstones placed on edge form its southern side with a supplemental stone at the exterior or the last flag at the SW angle. Five other flags from the northern side which is not equal in length to the southern, the difference being intended to be made up by the flag at the east end which closed up the cist. A large supporting stone rests against the third and fourth flags on the northern side. The west end is blocked up by one large stone; and that which closed the east end is now lying on the ground. The structure is covered by four large

flags. Along the southern side the three most westerly flags are supported externally by five low blocks set in the ground. 350 yards SW of rock art site LH21-008.

RMP	LH021-055---	TOWNLAND	COOLFORE
SITE TYPE	Fulacht fiadh	NGR	304040 280300
	Distance from Site		1.77km S of graveyard

DESCRIPTION

Spread (diam. 10m+) of burnt stones and dark soil in ploughed field; two other dark spreads to east in same field, but burnt stones not so evident.

RMP	LH021-063----	TOWNLAND	COOLFORE
SITE TYPE	Fulacht Fia poss...	NGR	304577 280376
	Distance from Site		1.68km S of graveyard

DESCRIPTION

Excavations Bulletin: 2000:0650

SITE 2, COOLFORE

Licence No. 00E0795

See Appendix 2 – Archaeological Excavations within the Study Area

RMP	LH021-064----	TOWNLAND	NEWTOWN MONASTERBOICE
SITE TYPE	Fulacht Fia	NGR	304617 280471
	Distance from Site		1.61km S of graveyard

DESCRIPTION

Excavations Bulletin: 2000:0700

SITE 1, NEWTOWN–MONASTERBOICE

00E0796

See Appendix 2 – Archaeological Excavations within the Study Area

RMP	LH021-068----	TOWNLAND	NEWTOWN MONASTERBOICE
SITE TYPE	Fulacht Fia poss...	NGR	304942 281373
	Distance from Site		0.87km SE of graveyard

DESCRIPTION

Excavations Bulletin: 2000:0705

SITE 6, NEWTOWN–MONASTERBOICE

See Appendix 2 – Archaeological Excavations within the Study Area

RMP	LH021-074----	TOWNLAND	NEWTOWN MONASTERBOICE
SITE TYPE	Fulacht Fia	NGR	304639 280555
	Distance from Site		1.5km S of graveyard

DESCRIPTION

Excavations Bulletin: 2000:0702

SITE 3, NEWTOWN–MONASTERBOICE

Licence No. 00E0796

See Appendix 2 – Archaeological Excavations within the Study Area

PERIOD *Early Medieval*

RMP	LH021-029---	TOWNLAND	TIMULLEN
SITE TYPE	Long cist	NGR	303750 281380
	Distance from Site		0.92km SW of graveyard

DESCRIPTION

A stone build grave containing human bones was discovered 60 years ago (sic) in the NW corner of a field called Timullen More, the grave was covered by a stone flag which was replaced. Local tradition states that there is a cemetery at this place but it is not known if the tradition predates the discovery of the grave or not. Local information says it was a long cist covered by flags and containing an inhumed burial.

RMP	LH021-030---	TOWNLAND	BAWNTAAFFE
SITE TYPE	Souterrain	NGR	305270 281520
Distance from Site			1.1km SE of graveyard

DESCRIPTION

During road widening operations two souterrains, now destroyed and both within 50m of a possible church site (LH021-03101/02), were discovered.

The larger of the two souterrains (Souterrain A) consisted of a corbelled beehive cell, 3 main passages and two recesses. Its floor level rises and falls abruptly. Passage 1 extended S-N and was partially cut into the underlying bedrock, then built up with dry-stone walling and capped with lintels. Passage 2 extended E-W from the N end of Passage 1, gradually sloping down. A recess or 'cubby hole' was located in the middle of the northern wall. At the west end a drop hole gave access to Passage 3, which extended west connecting to a creep which gave access to the beehive chamber.

Part of the smaller souterrain (Souterrain B, 57m to the south) had collapsed, what was visible consisted of a passage 14.40m long, built on a slope (LH021-053).

Another souterrain is said to have been discovered 30 or 40 years ago in the garden of the dispensary c. 50m NW of souterrain A; it is blocked up and its exact position is not now known. A hone stone (1959:704) was found near souterrain B).

RMP	LH021-03101-	TOWNLAND	BAWNTAAFFE
SITE TYPE	Church	NGR	305370 281490
Distance from Site			1.1km SE of graveyard

DESCRIPTION

The reputed church site is marked on the OS 1929 but not on the 1838 edition. It consists of an incomplete low bank, sub-rectangular in plan, within which are the remains of a stone built structure (8m x 5.50m externally); may not have been originally built as a church. There is a headstone dated 1793 in the interior and one or two others are said to have been there several years ago.

RMP	LH021-03102-	TOWNLAND	BAWNTAAFFE
SITE TYPE	Enclosure	NGR	305370 281490
Distance from Site			1.1km SE of graveyard

DESCRIPTION

The reputed church site is marked on the OS 1929 but not on the 1838 edition. It consists of an incomplete low bank, sub-rectangular in plan, within which are the remains of a stone built structure (8m x 5.50m externally); may not have been originally built as a church. There is a headstone dated 1793 in the interior and one or two others are said to have been there several years ago.

RMP	LH021-053---	TOWNLAND	BAWNTAAFFE
SITE TYPE	Souterrain	NGR	305260 281420
Distance from Site			1.08km SE of graveyard

DESCRIPTION

Discovered during road widening it is c. 57m from Souterrain A (LH021-030). The souterrain consisted of a curving dry-stone passage 14.10m long, 1.30m wide and 1.60m high extending N-SW. The souterrain was cut into bedrock.

PERIOD *Medieval to Post-Medieval*

RMP LH021-061--- **TOWNLAND** CORDOOGAN

SITE TYPE Dwelling **NGR** 303350 280500

Distance from Site 1.8km SW of graveyard

DESCRIPTION Monasterboice House

A hybrid house partly medieval with a three light perpendicular window, and partly Georgian gothic, with a regency bow front on the garden side and Victorian ironwork and other Victorian features. Now semi-derelict with folly tower and folly arch spanning road.

Bence-Jones, M., 1988, *A guide to Irish Country Houses*, page 208

Photographs taken by the Archaeological Survey in the 1960's show two four-light windows of chamfered limestone in the medieval portion of the house.

Appendix 2: Archaeological Excavations within the Study Area

Townland: Monasterboice

Excavations Bulletin: 1997:396 Site Name: Tower House, Monasterboice

Site Type: No archaeological significance NGR: O0425 8102

Licence No. 97E0391 Licence Holder: Deirdre Murphy

Archaeological testing was carried out on a proposed agricultural development at Tower House, Monasterboice, Co. Louth. The site lay inside the bounds of the ancient monastery within the confines of the possible third and fourth enclosures, north-west of the existing graveyard. Four test-trenches did not reveal any archaeological material or features.

Townland: Newtown-Monasterboice

Excavations Bulletin: 2000:0700 Site Name: Site 1, Newtown-Monasterboice

Site Type: Fulacht fiadh NGR: 304615 280460

Licence No. 00E0796 Licence Holder: C  il  n    Drisceoil

The site was found by Kieran Campbell during the monitoring of topsoil-stripping for the Northern-Motorway (Drogheda Bypass). It lay beside a stream on a gentle south-facing slope above an area of fen-peat.

An area 26m x 10m was identified for excavation. In the centre of this was an irregularly shaped deposit of burnt mound material, 15m x 8m x 0.4m max. depth. Much of this material was contained within a scarped hollow. The bulk of the deposit was of charcoal, ash and disaggregated sandstone. When this was removed, four circular pits surrounding a rectangular trough were found. Only one of these contained definite evidence for in situ burning. Given the similarity with the form and arrangement of the other three pits around the trough, it seems likely that they also functioned as hearths. A convex scraper was found in the fill of one of these. Four metres to the north were two further irregularly shaped pits containing burnt stones and ash.

The trough was 2m x 1.4m x 0.55m max. depth. It was filled with burnt mound material. Although no wood survived, the impressions of at least three planks could be seen running lengthways in the basal subsoil. Radiocarbon dates are awaited.

Townland: Newtown-Monasterboice

Excavations Bulletin: 2000:0701 Site Name: Site 2, Newtown-Monasterboice

Site Type: Pits NGR: 304620 280495

Licence No. 00E0796 Licence Holder: C  il  n    Drisceoil

The site was found by Kieran Campbell during the monitoring of topsoil-stripping for the Northern-Motorway (Drogheda Bypass). It lay beside a stream on a gentle south-facing slope overlooking an area of fen-peat, some 15m to the north of the fulacht fiadh at Newtown-Monasterboice 1 (see above No. 700), with which it is probably associated. Two small pits filled with burnt stone, ash and charcoal were found. There were no finds.

Townland: Newtown-Monasterboice

Excavations Bulletin: 2000:0702 Site Name: Site 3, Newtown-Monasterboice

Site Type: Fulacht fiadh NGR: 305640 280565

Licence No. 00E0796 Licence Holder: C  il  n    Drisceoil

The site was found by Kieran Campbell during the monitoring of topsoil-stripping for the Northern Motorway (Drogheda Bypass). It lay beside a stream towards the top of a gentle south-facing slope, some 100m to the north of a fulacht fiadh at Newtown-Monasterboice 1 (above No. 700).

An area 16m x 8.5m was identified for excavation. An irregularly shaped, badly damaged deposit of burnt mound material (5.2m x 5.1m x 0.5m max. depth) covered a trough, two conjoined pits, a hearth and some 25 stake-holes.

The trough was rectangular (2.1m x 1.2m x 0.53m) and was dug into the boulder clay subsoil. It was filled with a number of distinct dumped fills. A large boulder was also contained within the lower fills on top of six irregularly split wooden planks. Ellen O'Carroll has identified the wood species as alder.

The hearth measured 1.5m x 1.1m x 0.25m. It contained a thick deposit of burnt stones, ash and burnt branches. Again, the wood species was alder. The two conjoined pits were filled with burnt mound material. Four stake-holes were found in the bottom of the pits. A further 21 stake-holes extended in an irregular fashion to the north. Flint debitage flakes were found in the burnt mound material and the fill of the hearth. Radiocarbon dates are awaited.

Townland: Newtown-Monasterboice

Excavations Bulletin: 2000:0703 Site Name: Site 4, Newtown-Monasterboice
Site Type: Multi-period pits & post-holes NGR: 304764 280964
Licence No. 00E0479 Licence Holder: Robert M. Chapple

The site was discovered by Kieran Campbell during licensed monitoring of topsoil-stripping on the line of the Northern Motorway, north-west of Drogheda, Co. Louth (see below No. 714). The site lay on the southern face of a low hill (c. 126.47m OD) on the southern side of Knockmountagh Lane, which runs westwards from Newtown-Monasterboice village. Initially, c. 15-20 potential features were identified in an area of c. 600m². On excavation, the majority of these proved to be either stone-holes or shallow areas of decayed sandstone. The remaining archaeological features comprised four pits and two post-holes.

With the exception of pit C10, which contained two fills, all features contained only a single fill, and all cut the glacial subsoil. The southern portion of the site contained two post-holes and one pit in close proximity. The first post-hole (C6) was roughly circular in plan with a conical, rounded base (0.17m x 0.12m x 0.18m deep). It was filled by a loose, dark brown, sandy clay with few charcoal inclusions. The second post-hole was located 0.3m to the north-west of C6. It too was roughly circular in plan but with a conical, pointed base (0.2m x 0.17m x 0.18m deep). The fill was a mid-brown, sandy clay with sparse charcoal inclusions. The pit was a shallow cut with splayed sides and was circular in plan (0.44m in diameter x 0.23m deep). This was filled by a hard, mid-grey, silty clay and contained a single piece of iron slag.

Approximately 16m to the north of the above were the remaining pits. The largest of these, C10, was a shallow, irregularly shaped pit (3.6m x 2.4m x 0.08m deep), which contained two fills. The lower fill was a friable, mid-brown, sandy clay with occasional charcoal flecks, from which a single piece of struck flint was recovered; above this was a dark grey/black, sandy silt with frequent charcoal inclusions. The remaining two pits (C2 and C4) lay c. 12m to the north-east of C10. Both were shallow and appeared as irregular quadrangles in plan. C2 measured 0.59m x 0.44m x 0.05m deep. This was filled by a loose, dark brown clay with occasional charcoal flecks and produced a single piece of burnt stone. Finally, C4 (1m x 0.76m x 0.09m deep) was filled by a loose, dark brown clay with occasional charcoal inclusions.

All features appeared to have been heavily truncated during the process of stripping, which severely limited their subsequent analysis. Further, given the diverse nature of the few finds recovered, it is unlikely that the excavated features all relate to a single period or phase. Indeed, the individual features may range as broadly in date as from the Neolithic to the Early Christian period, if not later.

Townland: Newtown-Monasterboice

Excavations Bulletin: 2000:0704 Site Name: Site 5, Newtown-Monasterboice
Site Type: Prehistoric Pits NGR: 304430 280905
Licence No. 00E0941 Licence Holder: Kieran Campbell

A one-day excavation on a new farm access lane on the Northern Motorway (Drogheda Bypass) recorded a series of severely truncated prehistoric pits. Seven pits, 0.14–0.55m in diameter and 0.03–0.07m deep, had fills of greyish-brown, silty clay and occasional charcoal. An additional four pits conjoined in line had overall dimensions of 1.4m x 0.3m. A small deposit of cremated bone was recovered from one of the four pits. This site extended eastwards beyond the limit of the farm lane.

Townland: Newtown-Monasterboice

Excavations Bulletin: 2000:0705 Site Name: Site 6, Newtown–Monasterboice
Site Type: Fulacht fiadh NGR: 304942 281373
Licence No. Licence Holder: Kieran Campbell

A deposit of burnt mound material, 5m long and 0.15m thick, was recorded in the side of a contractor's trench dug for the purpose of rerouting a cable on the Northern Motorway (Drogheda Bypass).

Townland: Coolfore

Excavations Bulletin: 2000:0650 Site Name: Site 2, Coolfore
Site Type: Fulacht fiadh NGR: 304610 280000
Licence No. 00E0795 Licence Holder: Cóilín Ó Drisceoil

The site was found by Kieran Campbell during the monitoring of topsoil-stripping for the Northern Motorway (Drogheda Bypass). It lay beside a stream, on fen-peat at the bottom of a gentle north-facing slope. About half the site had been destroyed prior to excavation. Excavation took place between 14 August and 5 September.

An area 15m x 5m was identified for excavation. A thin deposit of burnt mound material covered a network of nineteen stake-holes. These did not appear to form any coherent pattern, though eight were found surrounding a discrete deposit of peat measuring 1.9m x 1.7m. This peat lay over the remaining eleven stake-holes. No finds were recovered.

Radiocarbon dates are awaited.

Appendix 3: National Archives OPW File 31421/82 Contents

Series of memos and letters from Sept-Nov 1874 relating to the taking in charge of the site

These mostly deal with the technical and legal issues surrounding the taking in charge, liaison with the Poor Law Guardians of Drogheda Union (in possession of graveyard), etc. Includes a proposed schedule and costing of works

Schedule of Works

The two churches are past doing anything

Except clearing the ruins of trees, etc	£10
Hunting out wrought stones	£10
Capping the walls with cement and pointing	£70
Round tower – scaffolding	£30
Replacing conical roof and portion of lantern	£64
Pinning and pointing	<u>£67</u>
	£161
Three Crosses each £5	£15
	<u>£266</u>
Perpetual Maintenance £5 per annum	<u>£150</u>
	£416

Four page printed pamphlet date June 1874

Produced by local committee (Secretary John Graham, also includes pp Fr. James Tierney) details progress of works at site and outlines proposed new works.

Lofts constructed in tower completed and furnished with stepladders, hand rails, trap doors, guards, etc.

Moveable glazed sashes invisible from outside put on windows

Roof considerably improved

Neat iron wicket put to entrance door and flight of temporary outside steps leading to it

Interior of tower had been filled above doorway with debris, this cleared out to foundations (depth 9-10ft); exterior also cleared at base

Doors of churches and their west gables cleared to their bases and original surface of churchyard found

38 yards of intended crosswalk have been made and partially planted with evergreen shrubs

Great breach in tower at south side near top is to be rebuilt; large fissures underneath to be filled with cement and good grouting stuff, interior and exterior to be pinned and pointed, the former with best Portland cement the latter with good lime mortar

Scaffolding being erected; masons to start soon; part of materials provided

Causes of delay – building new wall around churchyard also winter & inclement weather

Pamphlet reproduces short item of correspondence from OPW (James W. Owen) saying there is no intention to take the site in charge and local committee should proceed with works.

Letter dated Sept. 1874

From Rev. James Graves & Irish church temporalities commission to OPW

Notes the work of local community and asks OPW to step in and take site structures in possession as a matter of urgency.

[NB this process initiated shortly thereafter as witnessed by correspondence above]

Site inspection/survey dated to 1875

Description of site

Ruins consist of 2 churches 3 crosses and round tower, subterranean passages are supposed to exist.

First Church

Nothing remains of architectural character except the west door quoins are much broken and general condition is ruinous

Repairs

Holes in wall should be carefully packed with stones; several trees destroyed and interior levelled as far as possible; loose jambs of window secured; pointing would be useless except on tops of

walls where concrete may be used to stop great rents and fissures; jambs of piscine may be secured.

Second church

In same condition as No. 1 the chancel arch has lately fallen but it had no particular interest

Repairs

Nothing to be done than securing some loose stones and removing trees

Crosses

These beautiful stones have hitherto escaped any attempt at mutilation and they require no repairs further than leaden plugs in the highest which should be inserted so as to fill up the very open joint between head and stem. The cross which fell and half of which has been resurrected, I should leave as it is.

Round Tower

This tower is in a bad condition from top to bottom, some pointing has commenced which I am happy to say has been stopped. I doubt that any attempt to rebuild the cap would be prudent or aesthetically desirable. I think it is very doubtful where the cap sprang from and I think it probable that its form was different from that of other towers in Ireland. Wooden floors and ladders have been erected which will only be a cause of expense without an object. The whole upper portions of the walls are so dilapidated that daylight can be seen through them.

Repairs

Complete scaffolding, portions of which are on the ground and belong to certain persons who subscribed for the repairs, etc. these may be bought and reused. Fill up interstices between stones of tower, light filling spalls backed with cement; fill open joints on inside walls with cement concrete. [NB following segment refers to sketch drawing of tower cap] Take down as much as is really dangerous, seeming above all things the portion from A-B; rebuild from C-D which will raise the sides c. 5ft above present last wooden stage, stop it back to dotted line and do the same from E-F, cover last wooden stage with lead and discharge water by gargoyles at D; secure offsets of top with cement concrete rough coping stone.

[NB marginal note in different hand expresses concern about this proposal for roof]

Letter dating 12 Sept 1882

Water getting in though frames of windows, third/fourth loft floors getting mouldy

Letter dated 1889

Further indications of damp and rain damage in tower

Note to caretaker to keep doors open regularly [to let wood dry out??]

File OPW 4/17/1

Ancient and National Monuments – Register of Inspection 1911/12-1917/18

No details of inspections but does list years when inspection took place:

1911/12; 1912/13; 1913/14; 1914/15; 1915/16; 1917/18; 1927/28; 1929/30

Appendix 4: Summary based on the *Report of the Commissioners of Church Temporalities in Ireland for the period 1869-80, Dublin, 1881, page 123*

Notes provided by Conleth Manning, Senior Archaeologist, National Monuments Service, Dept. of the Environment, Heritage and Local Government

As a consequence of the Irish Church Act of 1869 old graveyards in Ireland were transferred to different ownerships as is laid out in the Church Temporalities Report of 1881. Those which were attached to Church of Ireland churches still in use at that time were retained by the Church of Ireland. A complete inventory of these, listed under the relevant dioceses, can be found in Appendix 6 of the Church Temporalities Report.

Some graveyards within private demesnes were granted to the owners of the demesnes and these are recorded in Appendix 8 of the 1881 report. Further graveyards in private demesnes that had not been vested in the owners by 1881 are listed in Appendix 9 of the Church Temporalities Report.

The bulk of the remaining graveyards were vested in the local Burial Boards, one attached to each Poor Law Union. The individual graveyards were listed under these Burial Boards in Appendix 7 of the 1881 report. Monasterboice graveyard is listed as one of seventeen graveyards vested in the Burial Board of Drogheda Union in Appendix 7 (page 123) of the Church Temporalities Report. The local Burial Boards were subsequently subsumed into the relevant Local Authorities, and ownership of the graveyards passed to the Local Authorities. The ownership of Monasterboice graveyard would therefore have subsequently passed to the relevant Local Authority.

Appendix 5: The High Crosses of Monasterboice

By Dr. Peter Harbison

1 Introduction

- 1.1 Taken all together, the High Crosses of Ireland must surely be regarded as the country's greatest contribution to European sculpture – and not just of the Middle Ages. Seen in that context, the two complete crosses at Monasterboice are among the most imposing and best-preserved of them and, for that reason, have to be properly maintained for future generations to be able to enjoy them. Having stood outside in the open air for over a thousand years, they have obviously suffered stone deterioration in the Irish climate and, in the apparent absence of any modern method being applied to prevent surface damage, it is necessary to consider remedial steps.

2 Muiredach's Cross

The first cross encountered on entering the cemetery is known as Muiredach's Cross because of an inscription at the bottom of the west face of the shaft which reads in Irish: OR DO MUIREDACH LAS NDERNAD I CHROS, which may be roughly translated into English as *A Prayer for Muiredach by whom the cross was made*, and is a very rare example of an inscription on an Irish High Cross that is virtually complete and legible.

Muiredach's cross is broad and squat in comparison to the much taller cross to the north-west which, for convenience, we may here call The Tall Cross. It measures 5.20m high (including the base) and is 2.14m across the arms. In contrast to the stylised and flat relief on the cross at Moone, Co. Kildare, for example, its figures are carved in a rounded false relief which, when viewed from the side, protrudes out beyond the edges of the cross and which, in the case of Muiredach's Cross, is higher than that on the Tall Cross. Comparison with Moone is also instructive in making us aware of the more naturalistic reproduction of the human figure at Monasterboice which contrasts, too, with the stylised shapes typical of Irish art as seen in manuscripts such as the Book of Durrow or the Book of Kells. This suggests that the origin of the plasticity of the carving comes from an area where the tradition of ancient Roman sculpture in the round was still being practised at roughly the same time that the Irish crosses were being carved.

The compositions of the individual panels bearing biblical sculpture are, equally, not of Irish origin, as some of them can be linked to those of frescoes in the churches of Late Antique Rome and others in Carolingian churches in and north of the Alps, particularly that in the World Heritage church at Müstair in the eastern Swiss Canton of Graubünden. They would also have served much the same purpose – to illustrate stories from sacred scripture, and to induce thoughts of piety in the beholder.

High Crosses usually have a concentration (total, or at least partial) of Old Testament subjects on one face, and New Testament scenes on the other, with the eschatological scenes surrounding *The Last Judgment* on the head of the Old Testament face. There is an occasional overspill of scriptural scenes onto the narrow side of the cross (together with the non-biblical figures of Paul and Anthony) – and, in this respect, Muiredach's cross can be taken as a typical example. It is also one of those instances where the shaft and head (though not the cap on top) are made of a single block of stone – in this case a fine-grained war-coloured sandstone, the geographical origin of which has not yet been established. Muiredach's Cross excels most other crosses in the high false relief of its sculpture which, on the shaft, tends to diminish in depth as the cross rises.

Each High Cross in Ireland has a different choice of biblical scenes, selected not just to provide a visual representation of the Bible, but to make a particular point in explaining church teaching. To understand the overall programme, the subject-matter of the individual panels has to be correct, an aspiration which I have striven to attain here, while realising at the same time that my interpretations differ in a number of instances from those of other workers in the iconographical field. Many of the panels are fairly straightforward (e.g. *Adam and Eve*), but a number of others have defied successful identification. Normally, the scenes are to be read chronologically from bottom to top but, as we shall see on both of the Monasterboice crosses, the order has sometimes been changed or distorted for reasons which are not always clear,

2.1 *East face*

Shaft

All of the panels are in the shape of a horizontal rectangle.

2.1.1 *The Fall/Adam and Eve combined with Cain and Abel*

In the left-hand half of the panel we see our first parents standing under the arching fruit-laden branches of the apple tree, with (ominously, perhaps) thirteen apples on Eve's side and eleven on Adam's. Up its trunk creeps the snake which turns left to whisper into the ear of Eve (identifiable through her breasts) as she offers the forbidden fruit to Adam in her extended right hand. This is the most common subject at the bottom of the east face of Irish High Crosses, not just because it is at the very start of the Book of Genesis and the whole Old Testament, but because it was the sin of our first parents that ultimately led Christ to give his life for mankind upon the cross – an event which is the main focus of the religious imagery on the head of the other face of the cross.

Adam and Eve share this panel with their children Cain and Abel, each of whom is clad differently. The bearded Cain, seen in profile, has a cloak with decorative lappets and a stylish wavy hem above the knees in front, while his slightly awkward-looking clean-shaven brother, viewed *en face*, has an equally long garment with straight hem. Above it, he, too, seems to have a cloak of some sort, from under which his hands emerge, palm outwards in a gesture proclaiming his innocence. Cain is shown raising a club (or possibly a camel bone) to slay his sibling who thereby becomes the first guiltless victim of the Old Testament, as Christ was to become *the* innocent victim of the New.

2.1.2 *David slays Goliath*

Slaying continues as a central theme in the next panel up, though here of a different kind and magnitude. Occupying the full of the left-hand quarter is King Saul, long-robed and seated in profile, holding a sword and bossed shield above his lap in his unseen left hand, while bearing in his right a horn, possibly a reference to the water bottle which he kept beside him in his tent out in the wilderness. To his right is the miniature figure of David who fills out the full height of the panel. His left hand holds a crook with curved head over his left shoulder, and a scrip or bag hangs down his back to hold his stones. With his head facing us at the same angle as Saul's, his right hand holds an open sling falling diagonally over the lower legs of the kneeling Goliath in front of him. Helmeted, unlike

Saul, but bearing a similar bossed shield and sword, the giant puts his left hand up to his forehead to indicate that David's stone has found its mark, and so tall was he that, were he able to stand up, his head would have to be shown in the middle of the panel above. On the extreme right is another shield-holder, this time perhaps one of Goliath's Philistine supporters. David's slaughter of Goliath was often interpreted in the Middle Ages as being a symbol of the victory of good over evil, and this is doubtless also the purpose of its presence here.

2.1.3 *Moses striking water from the rock in Horeb*

On the left, the figure of Moses occupies the full height of the panel as he raises his staff to strike water which flows in raised streams from a hole in the rock at the level of Moses' face. At the same level are the busts of four Israelites, holding horns like Saul's to quench their thirst. In front of them is another row of five figures, one facing away from Moses – perhaps one of the rebels who murmured against him, asking if his Lord were really with them – while the others crouch and look towards him. Only four of them hold horns, that on the bottom right being an obvious exception in holding a round shield, possibly another of the rebels! But the Lord did indeed show that he was with them, because he used Moses as his agent to extract water from the rock in order to prevent the Israelites dying of thirst as they trekked across the desert to regain 'the land of milk and honey'. This is the first of a number of examples we encounter on the High Crosses showing how the Lord saved the good and the faithful in times of danger, in what is known as 'The Help of God'.

2.1.4 *The Adoration of the Magi*

The uppermost panel on the shaft brings us to the New Testament – somewhat of a surprise, as one would normally expect a fourth Old Testament scene here. The fact that a New Testament scene was chosen indicates the importance of Christ on this cross, and what is shown here – *The Adoration of the Magi* – is the Theophany, Christ's first presentation to the World in the form of the Magi. The star they followed is shown above the Christ child's head. The Virgin is seen in profile seated on the left, holding the Christ child diagonally across her body, as she is approached by four figures. The first holds up a ring to his mouth, presumably indicating gold, and the three figures behind him each seem to hold another gift in their extended left hand. The presence of a fourth figure (rather than the usual three) has given rise to much discussion as to its identity. Joseph is the most usual suggestion, as he is often present in this scene – but he is usually

represented as standing behind the Virgin. A case must be made here for the hindmost figure to be a fourth magus, particularly as he shares his dress-code – baring the left shoulder – with the two figures immediately in front of him, and all three wear shorter garments than the ring-holder in front of them. The presence of what is suggested here as the fourth magus may be the result of the earth having once been thought of as having four corners, and each magus would then have been seen as representing a particular corner – an explanation which could also find some support in the interpretation offered below for the symbolism of the western face of the cross highlighting Christ as King of the Earth.

One remarkable feature of this panel is that the composition of the figures is radically different to all of the others of the same subject on the Irish crosses, where the Virgin is shown seated, facing the beholder, holding the Christ child on her lap, also *en face*, and flanked by three standing figures – two on one side and one on the other – together with one or two bosses representing a star beside or above her head. The variant on Muiredach's cross is best paralleled in an early-eighth-century fresco in the church of Santa Maria Antiqua in Rome, suggesting that the arrangement of the figures here may have been derived from some source which also served the Roman fresco painter, and which itself may have been an earlier fresco.

Head of Cross

Emanating from this height at the top of the shaft is the ring of the cross which is outlined inside and out by a raised rounded moulding, and decorated with a series of larger and smaller interlinked bosses, each set being mirrored only in the quadrant opposite it. The focal point of the ring is:

The Last Judgment

The central feature is the figure of Christ, standing and holding a tall but simple cross over his left shoulder and, over his right, a staff which branches out into a spiral with diagonal protrusion rising from it at an angle on either side. Precisely what the function of the staff may have been is not clear; perhaps it was a mace-like emblem symbolising the role of judge. Above Christ's head is a bird with outspread wings and head in profile, perhaps a symbol of the Resurrection. Immediately above the bird is a figure, seemingly seated as it faces the beholder, and flanked by an angel on each side, the precise meaning

of the group escaping us if it not be associated with *The Ascension* almost back to back with it on the other face.

On the left of Christ, as we look at the cross, is the seated David, to whose house Jesus belonged. The king plays his harp on which is perched a bird, possibly the Holy Spirit in the form of a dove whispering to him inspiration for the Psalms. He is balanced on the other side of Christ by what we may take to be one of David's musicians playing the three-reeded pipes of pan and perhaps with a flat (zither-like?) board instrument on his lap. On the south arm, behind David, we find three rows of good souls, the front one a flute-player preceding another figure seated and holding an open book (containing the judgments of the good souls, or the Psalms?). These two lead the posse of the saved souls behind them, who are all facing Christ with right arms extended in a gesture towards their Saviour.

In contrast, on the north arm is a devil with a trident, its back to David's musician and hounding the bad souls, who place their right hand on the shoulder of their neighbour as they turn away from Christ, indicating their failure to pass St. Peter at the pearly gates, with the consequence of facing banishment to eternal damnation in hell. The only exception is a small figure second from the right in the bottom of the three rows who is trying to reverse the decision and who turns back towards Christ – but too late! The physical nature of the small figure with splayed legs in the constriction of the arm is problematical and has led to some discussion, without any obvious solution being found. The figure with raised left leg between it and the bad souls holds up a book in which the judgments of the damned are probably to be understood as being recorded and, if to be seen as closed, perhaps a contrast to the clearly open book in the hands of the figure behind the flautist on the other arm of the cross.

Beside Christ's right leg is a small kneeling figure holding an object that could be a book – perhaps the ledger to record the judgments, though he is not shown in any way as writing. Above his head is another open book, placed beneath Christ's right elbow. Is it to be understood as the book of Judgment or, because placed at an angle almost parallel to the front of David's harp, could it be the notes for his music?

St. Michael weighing souls

Hanging from the bar on which Christ stands in judgment is a weighing scales, the upper pan of which is empty, perhaps containing the invisible deeds of the soul to be judged, who is presumably the small figure weighing down the other pan. Stretching out his hand to it is the dominant figure of St. Michael, the archangel who was traditionally given the role of presiding over the judgment of souls on the Last Day. He is obviously happy to have the soul fall to him, but he is not having it all his own way. For underneath the scales lies a small devil with intertwined legs who is trying to thwart the outcome by upsetting the balance with the aid of a small pole. But the archangel discovers the dark deed in time, and thrusts his staff with spiral-ended head (almost a miniature of that over Christ's right shoulder above) into the maw of the devil, so that the soul is presumably saved through the intercession of the archangel.

The curious cylinders with circular ends which can be seen in the ar-pits of the cross as stretching from one face to the other are best explained as being copied from a 'prototype cross' in other materials (wood, bronze and others) whereby the cylinder would have served the purpose of connecting bronze elements of each face and preventing them from falling outwards.

Cap-stone

The top of the cross is made from a separate piece of sandstone which, with its apparently shingled roof, may replicate the shape of an early Irish church or, alternatively, a reliquary which – on the 'prototype cross' proposed in the previous paragraph – would have been removable, to be used in a *commotatio* or procession showing off the reliquary (doubtless to help raise funds!), or to assist in the cure of an ailing patient. Of the figures in this top panel on the east face, one is long-robed and pokes a crook at the head of a bird(?) in the bottom right-hand corner while holding up a circular object with five round objects on it. The other, with exposed legs, reels backwards as he holds a stick or staff over its left shoulder.

No satisfactory explanation for this composition has ever been put forward.

2.2 *West face*

The west face of the Cross of Muiredach contrasts with the east face in being much calmer, having three instead of four panels – more square than rectangular-on the shaft, each containing three figures (Christ in each case being the centre one). These have room to breathe, in contrast to the ‘overcrowding’ of the east face (which may be the result of having relied on different iconographical models). Only the head seems to be equally full of movement, though here the heads and busts of the souls on the east face are replaced by a series of interlinked bosses.

Shaft

2.2.1 *Christ mocked by the Roman soldiers*

On the lowest panel we find Christ being flanked on each side by a sword-wielding Roman soldier which has given rise to the common interpretation of this panel as *The Arrest of Christ*. But Christ holds a staff in his right hand, which finds no biblical mention in descriptions of his arrest. Nor is he said to have worn a decorative cloak at his capture – and this is the most ornamental garment carved on any of the High Crosses. The only biblical event combining a decorative garment and Christ bearing a stick or rod is that of *Christ being mocked by the Roman soldiers as King of the Jews*. The moustachioed soldiers are seen in profile, their heads half-turned and carrying swords, in one case over the right shoulder and, in the case of the soldier seen on the right, holding the sword in his left hand, with its point at the centre of a diamond-shaped configuration on Christ’s stomach. The right-hand soldier clutching Christ’s left wrist has some unidentified clasp, brooch or other object on a special upper garment, as the pair wear trousers with padded vertical folds. Christ is robed down to the raised hem at the ankles, and his cloak – which looks as if it were made of a heavy material – is held together by a brooch of ‘Tara’ type, and is decorated with spiral ornament, terminating below with a curl in relief. Biblical sources describe the garment as having been purple or scarlet (depending on the relevant gospel) and, for this panel to have made its visual impact and illustrate the sacred scriptures, it must surely have been coloured. Even though we know not the pigments that would have been used – in the absence of any known trace of colour on any of the Irish crosses – this would surely have brightened up the cross originally, though history does not record how long paint would have lasted when exposed outdoors to the Irish climate.

2.2.2 *The raised Christ exhorting his apostles to go forth and teach all nations*

If the bottom scene draws us towards the very centre of the events of the New Testament, the middle panel brings us to its very extremity at the end of St. Matthew's Gospel, when the risen Christ tells his apostles to go forth and teach all nations. As in the panel beneath, he is shown clean-shaven, in contrast to the moustachioed figures flanking him. He holds up his right forearm in blessing, but his upper arm clinging to his side would not facilitate the figure on his right trying to put his finger in Christ's side, if we were to accept the usual interpretation of this scene as *Doubting Thomas*. Furthermore, as we shall see, Christ's wound in the *Crucifixion* scene above is in Christ's left side, not in the right, as we would have to understand here if we were to accept the left-hand figure as Thomas.

Another meaning, therefore, has to be sought for this panel, and the frescoes on the apses of Late Antique and early medieval churches in Rome suggest, through their inscriptions, that what we have here is Christ being flanked on each side by a single apostle – *pars pro toto* for all twelve – telling them to go forth and teach all nations, an interpretation for which the books held by all three figures would be entirely appropriate. On the basis of these Roman parallels, it is probably Peter (and not Thomas) who we see pointing towards Christ, and that this is a scene after the Resurrection and above the earth is indicated by the raised platforms on which the feet of the figures are placed. Similarly, the frescoes would suggest that the figures stand, though it is not impossible that they might be thought of as seated.

The robes of all three figures go down to the ankles, and all have cloaks similar to that (though slightly less decorative than) that worn by Christ in the *Mocking* panel beneath. The faces of the trio are some of the best preserved on any of the High Crosses, and show the high quality of the mason who carved them (who may also have been responsible for some of the figures on other crosses, including even as far away as Clonmacnoise).

2.2.3 *Traditio Legis*

In the topmost panel of the shaft, Christ may once again be taken as being the central figure, with attractive tufts of hair above his forehead, as is also the case with the religious figures in the preceding two panels beneath. Christ is shown facing us, apparently seated, and with a tall-eared animal head (a lamb?) between his feet – rather than Macalister's suggestion of a devil. Macalister also says that he saw the word *soiscél*,

or 'gospel', on the book which he is handing over to the figure on his left. Though no one else has ever been able to see the inscription, it would be very apposite as the figure receiving the book is almost certainly St. Paul, the great letter-writer, to whom Christ is handing over the earthly responsibility of disseminating the New Testament message. The corresponding figure on the other side to whom Christ can be seen to hand a somewhat elongated key is, of course, St. Peter, who is being entrusted with controlling access to the kingdom of heaven, the whole scene being known for centuries as *Traditio Legis*, literally the handing over of the laws – to be understood as those of heaven and earth.

Splendid moustaches are worn by the two flanking figures (to distinguish them from Christ who is clean-shaven throughout), and each holds a fold of his robe with his otherwise unoccupied hand. But their 'head-gear' creates problems of interpretation. St. Paul seems to have a winged creature above his head – a winged angel, a bird or some symbolic creature? Is St. Peter to be understood as wearing a halo, something to differentiate him as being one of the twelve apostles perhaps, though the question may well be asked as to why he, and indeed the other flanking figure also in the panel below, is not similarly distinguished?

This triptych of scenes is probably to be seen as an interrelated unit and – if the interpretations suggested here be correct – is likely to give an insight into the programme of the whole cross. In the lowest scene, we have Christ being mocked as King of the Jews, which could be taken as representing him as King of the Earth. The raised blocks on which he and his apostles stand in the middle panel can be taken as Christ being raised above the earth and thus being Lord of the Skies, telling his apostles to teach the message of the Gospels after his Ascension. Perhaps the bird seen above the figure of Christ as Judge at the centre of the head of the east face could also be interpreted as stressing Christ's role as Lord of the Skies. Finally, in the topmost panel, we have a combination of the two – Christ handing on his earthly legacy to St. Paul and the key to his heavenly rewards to St. Peter. It is as if there were a progression from earth towards heaven, and as he proceeds in that direction up the shaft, it is interesting to note that the height of the false relief of the figures declines as the figures recede from vision and go skywards up the shaft towards heaven.

Head of Cross

The Crucifixion

The heaven/earth link is found again in the *Crucifixion* scene on the head of the west face. Under each arm of the Christ figure, who wears a close-fitting garment (an almost trouser-like loin-cloth) and with his legs apparently tied above the ankles, we have two figures which might appear to be out of place on Calvary. That underneath Christ's right arm (i.e. on the north arm) sits with raised knees and with his hands clasped in front of his ankles. Under Christ's other hand, on the south arm is a small figure half-kneeling and with its back to Christ, and clutching in front of it a small child with one small outstretched arm. These two figures only begin to make sense when we compare them to ninth-century ivories on the Continent, which show *The Crucifixion* accompanied by a recumbent male figure, Tellus, shown pouring water out of a jar, and a female figure clasping either a cornucopia of plenty, or a child, or both, so that we may interpret these two figures as ocean and earth respectively. On either side of Christ's thighs there are two small worn bosses at a slight tilt which, again through ninth-century continental ivory and other (manuscript) parallels, we may interpret as the sun and the moon. Combined with Tellus and Gaia, they can all be summed up neatly as the earth and the skies.

Muredach's Cross is no exception to the usual rule of having the figure of the crucified Christ at the centre of one face of the head of the cross. Here at Monasterboice, as in other cases as well, he is also seen to be at the very centre of the ring-on both faces of the cross – which forms a circular unity around shaft and arms. Because, for early Christians, Christ's Crucifixion was literally the most crucial, the most central, event in the whole history of the universe, we would seem justified in assuming that the ring was a symbol of the whole cosmos, at the epicentre of which was the Crucifixion of Christ – and thus an even more embracing whole when combined with the earth-skies theme of the figures flanking Christ on the cross. Incidentally, the cross into which the nails in Christ's hands were driven is not shown as the background to the crucified figure; we are to understand the entire stone cross as the one to which the Christ figure was attached.

Returning to the figure of Christ himself, we can see that he is flanked above the arms on each side by two angels and beneath each arm by a single large figure with awkwardly bent head, and having one foot on the ground with the other slightly flexed. On Christ's right is Stephaton who raises the hyssop not in a sponge but in a chalice-like vessel at the

top of a pole which he holds up to just beneath the level of Christ's chin. On the other side, Christ's armpit is pierced by the spear of Longinus. That it is Christ's left side that is pierced flies in the face of what we are accustomed to, namely that Christ's right side was pierced. Yet none of the Gospels specifies where the wound was inflicted. All but about four of the Irish crosses show Christ's left-hand side being pierced by Longinus, and the Irish would seem to have been following logic (and probably some as yet unidentified literary source) in having that side pierced where the heart was, and which, when would most reliably show whether the crucified figure were already dead. Beneath Christ's feet, unusually, is a small bird (the Holy Spirit in the form of a dove, or a symbol of the Resurrection to come?).

Ring

The ring is decorated on the west face, not with interlinked decorative bosses, but with variations of a succession of animals having interlaced limbs, some of which coil up into a circular pattern. This procession may well have been derived from metalwork – one might compare the flying birds on one face of the Tara brooch – and even more metalwork-based are surely the reptiles uncoiling themselves from those bosses forming the corner of an off-square arrangement with the animals intercrossing at the centre – and which can be seen above and beneath the Crucifixion. At such a crucial location on the cross, these must have had a strong religious significance now beyond our ken. The same would probably also be true of the panels of interlinked bosses raised above the surface in the constriction of the arms. The birds with interlocking necks, being well above the head of Christ, may have had the symbolic function of warding off evil.

Arms of Cross

Each end of the arm of the west face bears what are probably to be taken as scenes associated with Passion Week. That on the north arm has six figures in two superimposed rows. The two on the bottom left may be taken as soldiers, each with a sword and possibly a shield in the hand. That on the top left contrasts with the other figures in holding nothing except the fold of his garment, as do some of the figures on the shaft. Beside him is a figure carrying in front of him what may be a bow and arrow. The front figure seated in the bottom row may hold a small (drinking) horn, while the upper one, also apparently seated, holds a larger one. Above this horn is what looks like a small human head and neck which may be that of the maid of the High Priest who pointed to

Peter as one of Christ's followers. In that case, the tall figure standing alone in the top left of the panel may well be St. Peter. The cock we might expect is absent, nor are there horns easy to understand in the context of a *Denial of Peter* scene, though they might be intended to represent drinking around the fireside among the entourage of the High Priest, if one of them not, indeed, be the High Priest Caiaphas himself. Despite these anomalies, *The Denial of Peter* is perhaps the best interpretation of this enigmatic scene, and one which finds support in the very much reduced composition in a similar position on the west face of the High Cross at Durrow in County Offaly.

The Ascension of Christ

The corresponding scene on the end of the south arm must surely represent *The Ascension of Christ on Easter morn*. The lower part of the panel is taken up with a pair of soldiers, each with a sword, guarding the tomb in which Christ had been placed after the Crucifixion on Good Friday. This is shown here as an inverted U-shape, which also forms the upper part of a 'negative cross', the other parts of which are formed by the gap between the soldiers legs and the space between their limbs. The figure of the risen Christ emerges from the space between the soldiers' heads, and can be seen to be supported heavenwards by two winged flanking angels.

Top of Cross

The Ascension of Christ into Heaven

Under the circumstances of the events portrayed below, it is perhaps best to interpret the scene on the top of the cross as *The Ascension of Christ*. The central figure has raised arms, supported by book-holding figures, one of whom is shown clearly as having wings, thus making it likely that both flanking figures are angels. The combination of books and angels make such an interpretation more likely than the oft-quoted Old Testament explanation of it being Aaron and Hur holding up the arms of Moses in denoting Israel's successful struggle against Amalek, where books would seem rather out of place.

2.3 South side

The panels on the south side of the shaft are much varied in character, as they doubtless once were in symbolic content for the early viewers of the cross. The bottom panel has two groups of four (presumably male) figures forming a cross-pattern with a head in half-

profile at each corner, with limbs crossing over and under one another at the centre. Out of the mayhem emerge thinner strands which form spiral pairs in the intervals between the side-heads. Some of the human heads are surprisingly well preserved despite being at the bottom of the shaft where human activity could have so easily worn them away, and they show the same tufted hairstyle found particularly in the triplet figures in the panels on the western face of the shaft. The middle panel has a 2-3-2 formation of raised spiral bosses which uncoil into almost triangular shapes linking each with another – obviously a pattern derivative from metalwork.

The topmost panel has what are probably Eucharistic lambs gambolling within the arches formed by the splaying branches of the vine, with the hind legs of the two second from the top helping to form a lattice-work pattern above the centre.

Underside of Ring and Arm

The underside of the ring is divided into three vertical panels, the two outside ones raised and decorated with interlace, the centre one sunken, having two serpents with beaded spines in false relief which almost strangle three human heads as they interlace with one another. These heads are remarkably well preserved – not surprisingly as they have been spared the acid rain and the erosion of centuries – and they give us the best idea of how crisp the carving on the crosses once was when only recently completed. Above this somewhat menacing scene, the significance of which still manages to escape us, we find, under the actual arm of the cross, two quadrupeds seen partially in profile, but with heads viewed from above, posed in a kind of yin-yang position, with their tails covering the body through the hind legs – perhaps designed to form a harmony after the chaos of the heads beneath suffocated by the restricting serpents on the underside of the supporting ring.

Arm and Top of Cross

Pilate washing his hands

At the end of the arm, we find a somewhat Ravennatic reminiscence in the composition of *Pilate washing his hands*, guarded behind by three soldiers with swords and rounded shields. A servant, holding a round shield in the left hand, pours water from a ladle in his right hand onto Pilate's hands. The vessel to receive the cleansing liquid stands in isolation between Pilate's knee and his servant's shield, which would not have helped in keeping Pilate's knees dry.

The top of the ring bears no decoration, but the uppermost stone bears an enigmatic stirrup-less horseman (reminiscent of the Book of Kells), who holds aloft a book in his right hand. In the corners above him are two winged angels, and what may be a small human figure is seated above the back of the horse. In the triangle above are more interlaced raised bosses, and the crucks at the top are decorated with large beads, the uppermost ones being rolled in at the top.

2.4 *North side*

Each of the three panels on the north side of the shaft has a different type of interlace, those top and bottom at least seemingly two ply. The first book ever to appear on High Crosses, Henry O'Neill's *Sculptured Crosses of Ancient Ireland* of 1857, coloured the individual strands demonstrating how each panel consisted of up to five different strands, thus adding to the circumstantial evidence that High Crosses must have been coloured to make their meaning understood.

As on the south side, the underside of the ring is divided up into three vertical panels, the two lateral bands decorated with fretwork, one continuous with spiral linkages, the other in rectangular 'boxes'. As on the south side, the central sunken panel has the same human heads being enmeshed by serpents with beaded backs. Above, emerging from the clouds is the serenity of the hand of God, but in the form of a left hand, rather than a right as we might expect.

A mocking scene

The end of the arm has the figure of the seated Christ turning towards his right and being struck with sticks by figures (not clad as soldiers) in what we may take to be a *Mocking* scene. Above, three winged angels guard the Saviour.

Top of Cross

Saints Paul and Anthony

The top panel has the only recognisably non-biblical scene of a religious nature on the cross. The two hermits, SS. Paul and Anthony, have figures well nourished from having had a raven bring them a full loaf of bread on the one day that they had met together in the desert, it having brought only half a loaf daily to Saint Anthony for the previous sixty

years. We can see the raven flying down, beak first, bearing the full loaf above the point where the saints' staffs meet at the centre of the panel. The chalice between their feet, when combined with the bread between their arms, provides a Eucharistic content to what would otherwise have been a purely hagiographical event.

In the triangle above, three serpents' heads uncoil from a single raised hemispherical boss, and the bosses on the cruck-head above are even more clearly to be seen than those in the same position on the south side.

2.5 *Shaft/base decoration*

Each side of the base of the shaft bears either animals or men carved in high relief, the import of which is unclear, and can only be the subject of speculation. The north face has two seated and long-haired men pulling each others' beards, a motif also found in the Book of Kells. Obviously disputaceous, the scene has been interpreted as meaning *discord*. If correct, the question then arises as to whether the two cats(?), which are located in the same position on the south side of the shaft, may correspondingly signify *accord*, as they are clearly non-confrontational and back to back (the way the Physiologus bestiary suggested that lions made love). They have their own tails in their mouths, a feature which might fit in well with such an interpretation.

The east face has two different-sized animals with raised tails, that on the right as we look at it a very convoluted appendage terminating above the animal's back, the other a much simpler affair. The larger and more macho animal seems to be playfully licking rather than biting the ear of its smaller companion, suggesting more love than hate, peace more than battle, among these animals-which could be a cat and a dog. Finally, on the west face, we have two sitting cats, their bodies seen in profile, but their faces towards the beholder. That on the left, as we look at, it seems to be licking its off-spring, that on the right with a bird in its claws, as if about to devour it. This feline pair could represent life and death, love and hatred or some such contrasting elements of good and bad, though it is difficult to see how such themes could be related to the scriptural events further up the shaft. The last mentioned cats seem to be oblivious to the presence of the Muiredach inscription that is fitted in behind them (though probably not necessarily secondarily, as some have suggested), its wording already given above and the historical implications of which will be discussed below.

2.6 *Frames*

The disputaceous beard-pullers are on a panel which is (intentionally or otherwise) unframed, whereas the animals on the other sides of the base are all enclosed in rectangular roll-mouldings, over which their heads can be seen to spill slightly. Similar mouldings are used over the whole cross (including on the base to be discussed shortly) to provide suitable surroundings for the biblical and decorative content. The panels on the faces and sides of the shaft are framed with rope-mouldings which provide a diagonal contrast to the vertical/horizontal nature of the contents within – and are closely comparable to what is found on a whale-bone casket from Gandersheim, of probable Anglo-Saxon manufacture, which is now in the Herzog Anton Ulrich Museum in Braunschweig (Brunswick). The surrounds of the cross are framed by a larger rolled moulding and the ring (set back from the surface of the cross) by a rather smaller one. Horizontal lines on the vertical mouldings on the shaft corners can be seen at the very top of the shaft – most clearly on the south-east and north-west corners, but also at the level of the juncture of panels on the west face. These would suggest copying from joints at the meeting-point of the cylindrical metal tubes which – on the ‘prototype cross’ suggested above – would have (at least partially) fulfilled the function of neatly covering up any frayed or jagged edges of the panels of whatever material they would have enclosed.

2.7 *The base*

The base of the cross is in the shape of a truncated pyramid, with convex sides and a raised platform on top, with a cavity (invisible to us) into which the cross would have been lowered for a stability which has lasted successfully for over a thousand years. The decoration of the base is divided into two registers, the lower ones – in as far as erosion allows us to make them out – invariably decorative with native interlacings of varying complexity and design, as well as fretwork mirroring that underneath the north side of the ring. But the decoration on the upper register has been an enigma for centuries, as its subject-matter can scarcely be matched with the religious content of the cross carvings above it. The south face has a two-horse chariot with two riders preceded by two partially-eroded horsemen moving leftwards. Around the corner, on the west face, we have a bird and a deer being herded leftwards in procession by a stick-holding man towards an encircled object which has hitherto defied identification. The same direction is taken by the solemn march of a rider and two centaurs (one armed with a bow and arrow) driving a quadruped towards the corner. The east face halts the processional nature of the

other three. Here, what may be two lions (one with raised tail, the other with tail down) face one another in probable fighting stance, in contrast to the seemingly more peaceful pair of animals at the bottom of the shaft above them. Behind the right-hand one is another quadruped (perhaps horse and rider?) and, on the extreme right, we have two figures on their knees seemingly fighting for possession of a straight stick. It is this pair which may help to provide us with the origin – and reason for the presence – of some of these curious and unexpected scenes on the upper register of the base. Strange as it may seem, the most likely explanation for the pair is as gladiators of the kind which entertained the public at the Roman circus, and which is found illustrated in Late Antique Roman mosaics on the European continent.

Such mosaics were a tangible and visibly-surviving link with the cultured Roman past for the ninth-century Carolingian emperors of the Frankish empire, whose fascination with the Classical Antique was awakened in Charlemagne during the late eighth century and continued in the ninth through his son Louis the Pious and, more particularly, his grandson Charles the Bald (843-877). The latter's preoccupation with classical culture led him to use the occasion of his consecration as Emperor to present a throne to Pope John VIII which was decorated with ivory carvings of The Labours of Hercules and fabulous Late Antique animals such as griffins and centaurs. Their cousins make their appearances on Irish High Crosses, not least here in Monasterboice, and if the Carolingian emperor saw fit to present such fabulous creatures to the Pope of Rome himself – and he to accept them – then they must surely be seen as quite compatible with the religious iconography of Muiredach's Cross, even though not seeming to have any direct connection with it. There must have been enough Roman mosaics surviving in France (as they still do to this day) to demonstrate the entertainments involved in Roman circuses for the emperor's craftsmen to have borrowed from them elements for re-use in decoration of various kinds at the highest level of imperial society on the Continent – from where the fashion came to roost on Irish High Crosses such as those at Monasterboice. There may well have been some kind of tronco-pyramidal bases in use in the Carolingian world to hold long-vanished crosses (or even horse-racing trophies?) which could have acted as models for the Irish cross bases. The Irish masons, however, were able to combine these classical elements coming through a Carolingian filter with the use of their own favourite geometric decoration of interlace or fretwork, thereby creating a wonderful symbiosis for the Irish adaptation of foreign influences, seen also in the attachment of a brooch of

native 'Tara' type to the decorative cloak worn by Christ in the *Mocking* scene at the bottom of the east face of the shaft.

2.8 Discussion

Muiredach's Cross is one of the most complete and complex of all the Irish High Crosses, encompassing as it does a range of biblical subjects glorifying Christ as King of the Earth and the Cosmos, as well as a great variety of geometric designs the significance of which we no longer understand. As a piece of sculpture, it is remarkable for the number of figures it can encompass, particularly the crowd scene that is *The Last Judgment*, but also for the serenity of the triplet figures on the west face of the shaft. Their characterisation through facial expression is a *tour-de-force* that has managed to survive generations of erosion – and which can only heighten our respect for the master masons who were able to recognise and choose such a weather-resistant sandstone. The quarry from which it came has not yet been localised, but work currently being undertaken by Professor George Sevastopoulos suggests that it may not be far from Nobber in the neighbouring County of Meath some 22km away. The cross is not without its imperfections, however. This can be seen if we look at the south side of the cross and remark on the lopsidedness of the *Pilate* panel at the end of the arm, or examine the panels of the east face of the shaft sagging down to the left. Yet the mason's mastery in carving the albeit somewhat squat and stumpy human figures is far removed from anything that Ireland had produced in stone during earlier centuries, and must have garnered its inspiration from the European continent where respect for, and imitation of, Roman relief carving was still practised. The details of the iconography, too, betray family links with Carolingian frescoes surviving in central Europe (as at Müstair in eastern Switzerland), yet the sculptor or sculptors were able to adapt those foreign influences to native conditions, as seen in the use of the 'Tara'-type brooch or the geometrical motifs mentioned above. Whether the sculptors could have been trained on the Continent (or even have been continentals themselves?) is as much an open question as is the question of how high-relief naturalistic carving as practised in Carolingian lands could have been transferred across the sea to Ireland (and probably directly from Northern France) during the ninth century. Equally enigmatic is our knowledge of the masons themselves – lay or ecclesiastical? – and whether they moved around from site to site, from Monasterboice to Kells or Duleek or even as far away perhaps as Clonmacnoise, which seems likely.

3 The Tall (or West) Cross

3.1 Introduction

The West Cross earns its soubriquet of ‘The Tall Cross’ because, at 7.10m, it is the tallest cross in the country, though it might not always appear so, because it stands dwarfed in the shadow of the Round Tower. It is, nonetheless, an imposing monument, its head being one of the best-preserved pieces of High Cross sculpture which has come down to us. Whereas Muiredach’s Cross was squat and sturdy, the Tall Cross is slender and sleek, with a head which is only slightly smaller in proportion to Muiredach’s, but supported by a much narrower shaft which lifts it heavenwards. Unlike Muiredach’s, the cross itself consists not of two but of three separate stones – the shaft, the head and the top – to which we may add the base as a fourth. The different colouring of the shaft and head have, among other considerations, led to the suggestion that the two pieces were not originally intended for one another (as is so often the case with most of the crosses in Ulster), but it could also be explained by the two sections having come from different parts of the same quarry. Whether the abrasions around the bottom of the shaft may have arisen from choice of stone rather than human intervention has yet to be decided. There are grounds (such as the boss/animal ornament on shaft and ring) to think that one sculptor may have been responsible for carving both parts of cross. It should be said, however, that there is more sense of movement, more the feeling of an event being seen to be happening, on the Tall Cross rather than the more hieratic treatment – as in a still photograph – on Muiredach’s Cross, through a comparison of the two scenes featuring *Moses striking water from the rock*. The relief of the sculpture is, however, higher on Muiredach’s. The independent rope moulding entirely framing the rectangular panels on Muiredach’s are replaced on the almost square panels of the shaft of the Tall Cross by a continuous moulding which comes in from the side and then turns back on itself before returning to the outer margin without ever touching the identical moulding coming in from the opposite side – a feature found on a number of other Irish crosses.

One characteristic which unites the two crosses is how the chronological order of the bible is not adhered to as the eye proceeds up the east face of the shaft in each case. On Muiredach’s Cross, the second scene up (*David smites Goliath*) comes chronologically after the third panel (*Moses smiting the rock*). On the Tall Cross, the biblical order of the scenes represented (and taking panel 4 below as two separately numbered items) is 5, 1, 2, 6, 4, 3 and 7 – if my interpretations be correct- but it is not clear why this should be so.

On other crosses, the scene at the bottom of the shaft is out of its biblical order because it was presumably considered to have been of major importance in conveying the message of whichever tenet of church doctrine the cross was meant to be imparting. Thus, in the case of the Tall Cross, we should perhaps visualise *David slaying the lion* as being of major significance, particularly as he is the founder of the house to which Christ belonged and appears more than once elsewhere on the cross. Maybe he is being paraded as *The Good Shepherd* looking after his flock – as a forerunner of Christ in the same role. We can also note how *Christ in the tomb* on the bottom of the west face of the shaft is also out of chronological sequence – presumably to stress Christ's unique miracle of rising from the dead and giving hope of an afterlife to all. After these preliminary remarks, let us now proceed to examine the individual scenes, noting the while that the base has no obvious decoration other than being divided up into recessed vertical panels which may once have been painted.

3.2 *East face*

Shaft

The bottom panel is much worn and difficult to make out, though sixty years ago Macalister thought that he saw an animal on it.

3.2.1 *David slays the lion*

As just mentioned, the lowest biblical panel on the east face of the shaft shows David kneeling on the back of a lion and prising its jaw open – catching him by the beard according to the First Book of Samuel – before slaying him, in order to prove to King Saul that he could defeat the older and more experienced Goliath. Behind David is his shepherd's staff (looking like a shinty stick) with what is probably a stone in its curve.

3.2.2 *Abraham about to sacrifice his son Isaac*

The next panel up shows the bearded Abraham, his right hand holding a sword or long knife over his shoulder, and possibly bearing something to light a fire with in his left. In front of him, his beloved son Isaac bows low and, in his left hand, holds the string tying up a bundle of sticks which he places on an altar in front of him. In his right hand he holds an axe with which the wood had been cut. Above Isaac's back are a ram and an angel of the Lord who appeared just in time to tell Abraham not to sacrifice his son Isaac but that – having shown how much he loved the Lord in being prepared to do so – he

should instead sacrifice the ram. Here our attention is drawn not so much to the bearded patriarch but rather to his son Isaac, who would have become an innocent Old Testament victim (escaping the fate of Abel seen on Muiredach's Cross) had it not been for the intervention of the Lord through the agency of his angel. This may be taken as a High Cross illustration of what is known as the 'Help of God' where the Lord saves from danger or even death those who are faithful to him.

3.2.3 *Moses striking water from the rock in Horeb*

Another example of how the Lord saves the good is demonstrated in the third panel up – *Moses striking the rock in Horeb* – which he did at the Lord's bidding in order to provide water to prevent the Israelites dying of thirst in the desert – and to allay their doubts as to whether the Lord was with Moses. The large figure of Moses on the left can be seen to raise his rod to the circular 'well' in the rock, from which water falls down to an Israelite who holds aloft his drinking vessel to receive it. To the right, we see the elders (one with a shield) – reduced here to two rows of two in comparison to Muiredach's Cross-the bottom pair standing and looking up at the source of the water.

3.2.4 *David with the head of Goliath/Samuel anoints David*

Like the *Adam and Eve* composite panel on Muiredach's Cross, the next panel up combines two different events within a single frame. On the left, David rejoices as he holds up the heavily-bearded head of the slain Goliath on a stick. Beside him, on the right, King Samuel anoints David who kneels before him, a story which, chronologically, is told in the chapter immediately preceding the description of the slaying of Goliath in the First Book of Samuel. The combination of the two scenes together may be interpreted as the triumph of good (David) over evil (Goliath) in the spirit of the Lord, and the anointing could even be taken as a forerunner of the *Baptism of Christ* almost back to back with it on the west face of the shaft.

3.2.5 *Samson topples the pillars of the house*

Next up the shaft is another example of the 'Help of God'. In a composition somewhat reminiscent of *Moses smiting the rock* two panels below, we see the tall figure of Samson – identifiable through his long hair falling down his back – holding what might seem to be a stick with a curiously-shaped object on top, but which may probably be taken as one of the pillars of the house of the Philistines with a misunderstood and inverted capital on

top. Here, unlike the rock in Horeb, we have three rows of figures – Philistines – placed one above the other on the right.

3.2.6 *Elijah wafted up to heaven*

In the uppermost panel of the shaft-a flat horizontal rectangle contrasting with the squarer panels beneath it-we can just make out a chariot moving towards the left, drawn by a winged horse and carrying a single figure whom we may take to be Elijah wafted up to heaven in a whirlwind.

Immediately below the break between the shaft and the head there is a flat rectangular panel bearing very worn interlinked spirals.

Head of Cross

Whereas the stone of the shaft has suffered in crispness through erosion, the texture of the head is better preserved and has managed to keep much more detail.

The three children in the fiery furnace

The preservation of detail is well exemplified in the first biblical scene of the head. There, the three children as they were known as (though in reality they were grown Israelite men) are to be understood as being in a Babylonian furnace, where they are protected from being burned alive through the presence of an angel of the Lord which stretches out its feathered wings to protect them. From each side a tall soldier approaches holding aloft in one hand the wood for the furnace in the cleft of a stick, and blowing a horn which he holds in his mouth, referring perhaps to the cornet mentioned in the Book of Daniel. Nebuchadnezzar's words on finding that the three men had escaped the fire unscathed and unsinged: 'Blessed be the God of Shadrach, Meshach and Abednego, who hath sent his angel, and delivered his servants that trusted in him' sum up very neatly the 'Help of God' scenes on the High Crosses that show how the Lord saves from danger – and, in this case, certain death – those who are faithful to him.

Ring

Before turning to the remaining iconography of the head, it may be mentioned that the ring is circumscribed by an outer and inner rounded moulding, between which a variety

of well-executed interlace patterns proliferate. As on Muiredach's Cross, the ring is set back from the frame of the cross and, as there too, the cylinders linking the two faces in the interstices between cross and ring are attached to the cross. It is also worth noting that the narrowest parts of the cross and arms are each decorated by a series of panels consisting of eight or nine interlinked circular bosses, the numbers and nature of which doubtless once had a symbolism now lost to us.

?David among the Israelites

The figure at the centre of the head stands on undulating wavy lines which could be interpreted as waves or clouds. The figure itself is long-robed, stands frontally, carries a shepherd's staff over his right shoulder, and holds a sword and a shield together in his left hand. He is flanked on either side by kneeling(?) figures also bearing round shields, as well as a small half-figure seen at the level of his head as a balance to the shepherd's crook. The identity of this central character has been the subject of much debate, most authorities seeing it as Christ, which could be favoured because of the total number of flanking figures being eleven (the number of apostles minus Judas). But the sword and shield would be out of character with a Christ interpretation, and are the attributes generally associated with Old Testament figures on the Monasterboice crosses. Because David was given prominence by appearing out of his chronological order on the lowermost panel of the shaft below, is twice shown on the third panel up, and seemingly makes another appearance on the north side where he also bears a round shield, an understandable case can be made for the central figure on the head of the east face to be David surrounded by the soldiers of Israel. Whether the small figure beside his head is human or a winged angel must remain an open question.

?Temptation of Saint Anthony

The figure on the south arm of the cross is long-robed, and is flanked on each side by an equally tall being with human body and clothing, that on the right as we look at it having an animal (bear-like?) head, the other one uncertain. Various interpretations have been offered for this scene, including that of *The Temptation of Saint Anthony in the desert*, as described in his Life by Athanasius.

?The fall of Simon Magus

The corresponding scene on the north arm shows two long-robed men casting the pointed ends of their crooks towards a smaller figure falling from above and shown upside down

with crossed hands and a crest or plume(?) emerging from his head-dress. Of the suggestions made for interpreting this panel, the one which has most chance of success is *The Fall of Simon Magus*. The other two men sticking the point of their crooks into the upside-down figure might then be SS Peter and Paul, even though Paul was not involved in the story of the Fall of Simon Magus. Peter, however, features again on the capstone, probably on the other face of the cross, and almost certainly in the next panel to be described – at the top of the ring.

The rescue of St. Peter

The topmost panel on the ringed head has five figures in a clinker-built boat, four rowing with oars and the fifth, on the extreme right, reaching out a helping hand to a crouched figure among the waves so similar to those under the figure at the centre of the head. Christ we must understand as being on the extreme right in the boat, offering the saving hand to St. Peter who had tried to walk on the water but, on beginning to sink, was rescued by Christ who chided him for having so little faith. It may have been an intended echo of the doubt expressed by the Israelites in the *Moses striking water* panel on the shaft below.

Cap-stone

The top of the cross above the *Rescuing Peter* scene forms a separate stone, resembling in shape that on Muiredach's Cross, and having an equally enigmatic scene on its east face. In this instance, a large quadruped turns its head back towards a man behind it who holds up a rounded object above the animal's back. Elucidation of the panel remains elusive.

3.3 *The north side*

As is the case with the next tallest cross in Ireland, that at Arboe beside Lough Neagh in County Tyrone, one side of the cross (the north side here, but the south side at Arboe) should be seen in conjunction with the Old Testament scenes on the east face of the cross. Here, interspersed with panels of interlaced bosses with or without fretwork surrounds, we find what looks like the figure of *David Rex*, *David as King*, flanked on each side by a hound, their heads craned back to meet on his lap. He holds a shield in his left hand and what may be an imperial orb – a symbol of power – in his right, with a bird (perhaps the Holy Spirit, inspirer of his Psalms) beside his head. Two panels further up, we have the presumed figure of *Daniel in the Lions Den* (almost an Old Testament precursor of the

putative *Temptation of Saint Anthony* on the south arm of the cross discussed above). Further up, we have two rather worn animals and a splendidly-preserved griffin. The underside of the ring has long thin vertical panels of loose interlace bordered by smaller and larger roll mouldings, flanking a sunken panel with decoration in relief of a kind found on crosses decorating memorial stones in Clonmacnoise – but without the arms. The end of the arm bears a tronco-pyramidal boss with fretwork decoration, the whole very similar to surviving pieces of metalwork. At the top of the head we find a framed panel of interlace, while the capstone bears eight interlinked bosses.

3.4 *West face*

Shaft

The shaft of the west face has not fared well from time and the weather (and possibly human activity involving people possibly taking a piece away as a talisman of safety), but even worn panels can be seen to yield up their secrets through comparison with other, better-preserved High Crosses.

3.4.1 *Christ in the tomb*

Other than a much-worn panel at the bottom of the shaft which need not concern us here, the lowermost panel bears a representation of *Christ in the tomb*, the details of which are most easily discerned by similar representations on crosses at Durrow and Clonmacnoise in County Offaly. Above the flat tombstone covering Christ's body at the bottom of the panel, the guarding soldiers with their spears can be seen falling asleep towards one another. If at either end of the tomb-slab there had been a bird breathing life into the dead body of Christ, as on the two comparisons just mentioned, we could accept this panel as demonstrating the moment of the Resurrection – such an uniquely miraculous event that artists had seldom been prepared to illustrate it previously – and provided the realisation that there was a life after death, giving hope of redemption to prayerful onlookers in front of it. This momentous event helps to explain why this scene was – like *David slaying the lion* back-to-back with it – taken out of its chronological order and highlighted on the west face by being placed at the bottom of the shaft, where it would be strikingly visible at eye-level for those kneeling in prayer in front of the cross.

3.4.2 *The Baptism of Christ*

Also of great importance is the second panel up, showing John the Baptist on the left, book in hand, baptising Christ who is more immersed than he is in the waves of the Jordan which resemble those seen under the figure at the centre of the head on the other face of the cross. Coming to rest on the crown of Christ's head is a bird, the dove symbolising the Holy Spirit. To the right are two angels to be understood as holding towels in readiness for Christ emerging from the river. The scene is significant because it evokes Baptism – one of only two Sacraments recognised by the church at the time (the other being the Eucharist) – the cleansing waters of which represented for those being baptised a new beginning, a new life as it were, like that for Christ in the panel beneath.

3.4.3 *Four panels of three figures each*

The next four panels going upwards follow the pattern already seen on Muiredach's Cross in having three figures filling out a roughly square panel. The lowest of them has three figures facing outwards, at least two of whom seem to be holding something in their flexed arms – perhaps *The Three Holy Women coming to the Tomb on Easter Sunday's morn* – tying in with the scene of *Christ in the tomb* two panels below. Next one up may be a moustachioed *Christ*, facing us, *giving the keys of the kingdom to Peter* on the left as we look at it, and – analogous to the west face of Muiredach's Cross – a New Testament to Paul on the other side of Christ, both flanking figures shown long-robed in profile but with heads half turned towards the beholder. Above that is a central figure, seemingly clean-shaven, on whom two long-robed figures lay their hands – perhaps the same *Go ye forth and teach all nations* subject illustrated beneath the *Traditio Legis*, the Handing over of keys and the New Testament, on the west face of Muiredach's Cross. Finally, on the basis of comparison with a similar scene in the same position beneath the Crucifixion on the Cross of the Scriptures at Clonmacnoise, we may see the topmost panel of the shaft as *The soldiers casting lots for Christ's garment*, with two soldiers, possibly both with swords, putting their hands to a small robe held by the central, frontal figure. This was a story often associated with, and occasionally illustrated beneath, *The Crucifixion* in the Middle Ages, and symbolising for medieval folk the indivisibility of the church as the soldiers decide not to cut up Christ's garment, but to preserve it whole instead.

Head of Cross

As with most of the Irish High Crosses, *The Crucifixion* occupies centre stage on the head of the west face. Christ's head at a diagonal indicates that he is dead, as he wears a

complicated overgarment made of ropes(?) which seems to have sleeves reaching down to just above his nailed hands, and to extend downwards to between the thigh and the knee. As on Muiredach's Cross, his legs are tied, and he is accompanied here too by the figures of Stephaton and Longinus, each occupying the same position in relation to Christ as on Muiredach's cross but, in this instance, squeezed slightly awkwardly in between Christ's body and the curving frame. Behind each of them, under Christ's hands, are human faces representing sun and moon and giving us an idea of what the rather worn bosses beside Christ's thighs ought to have looked like on Muiredach's Cross. Both of the figures holding up something beneath *The Crucifixion* are helmeted soldiers, though the significance of the small figure(?), comparable to that between the feet of the crucified Christ on Muiredach's cross, is difficult to fathom.

The three-figure groupings on the ends of the arms are easier to identify. That on the north arm has one figure holding a hand up to the face of the central figure, whose arm is held by a man approaching from the right. *The Mocking of Christ* would appear to be intended. The corresponding grouping on the south arm shows *The Arrest of Christ*, with Judas on the right coming to embrace the central figure of Christ, as a soldier armed with sword and shield approaches from the left to make the arrest. More disputacious is the interpretation of the figures outside the bars touched by the ends of Christ's fingers. On the left we see a half-crouching figure in front of which is an animal, interpreted variously as a quadruped or a bird, and possibly with an arch above its head. In the corresponding space on the south arm we see a similarly half-crouched figure (with its back to the soldier arresting Christ) which stretches out its arm over a round object. Above its hands is what appears to be a bird with such a distinctive tail that it is hard not to recognise it as a cock, in which case the two scenes taken together could represent *The Denial of Peter*, who warms his hands over a brazier in the cold court of Caiaphas on the right, and the girl on the left could then be the maid in the High Priest's entourage who recognised Peter as being one of Christ's disciples. Such an interpretation could be linked to the scene above the head of the crucified Christ, showing a figure holding up a sword and sheath, who is very probably *Peter cutting off the ear of Malchus*, the High Priest's servant, after which Christ urged him to put up his sword and heal the ear. What the two figures flanking Peter raise aloft is unclear. Fitting in with all of these scenes leading up to Christ being led to his death is that on the capstone which, despite being very badly pitted, could, with reasonable confidence, be interpreted as Pilate seated on the left having his hands washed by a very eroded soldier or servant.

Ring

The ring on the west face bears high-relief hemispherical bosses, some with interlinking animal ornamentation and with the bosses on the lower left quadrant bearing a certain affinity to those decorating the Ardagh Chalice.

3.5 *South face*

The south side has the same alternation between figured and decorative panels as found on the south side back-to-back with it, with partially the same type of ornament except for two figure-of-eight type animal interlaces almost half way up the shaft. Immediately above it can be seen a tall figure, clad to the knees, and holding up a short straight object to an upright rectangular framework seemingly held by a longer-robed figure to the right. This panel is best explained as an unexpected scene illustrating the story related in Chapter 1 of St. Luke's Gospel of how *Zacharias* (here using a stylus) is *writing the name of his son John (The Baptist) on a board*, after he had been struck dumb and could not speak.

If this interpretation be correct, then we could see the two figures further down, one obviously carrying a child, as *Zacharias and Elizabeth*, both scenes probably taken from a rare John the Baptist pictorial cycle which also seems to have left its mark on the shaft of the north side of the large cross at Durrow. What the curious fillers used to fill out the space above the figures' heads are anyone's guess, though both of those above the 'Zacharias and Elizabeth' figures are remarkably similar to animals emerging from the cylinder-ends on the head of the cross at Drumcliff, Co. Sligo. The under side of the ring and arm of the south side are very similar to what is found on the north side, but here the griffin is replaced in the lowermost panel of the head by a curious fabulous winged animal which has no front feet on the ground.

4 North Cross

4.1 *Introduction*

At the time of writing, a railed enclosure near the north-eastern corner of the cemetery contains fragments of what were probably three separate crosses. One, the North Cross, is mounted on a modern shaft and consists of the upper part of the shaft and head of a sandstone cross with a simple *Crucifixion* in relief, having Christ, Stephaton and

Longinus on one face, and a raised circular medallion with interlinked spirals on the other. Unlike the two major crosses on the site, the stone cylinders are on the inside of the ring. The edges of both cross and ring have roll mouldings, and the ar-ends are decorated with a truncated pyramid design with cushioning roll mouldings top and bottom. The main surface of the cross is plain but smooth, which would argue for it having been painted originally, though not a trace of pigment survives. Also within the railing is the stout shaft of a cross, also with roll mouldings and which, despite a smooth appearance, may once have borne figure sculpture. There is also the base of a shaft with heavily-worn figure sculpture.

The National Museum of Ireland in Dublin preserves fragments of two further crosses from Monasterboice which could, with the right level of security provided, possibly be returned to the site. One is a head-fragment with a boss and interlacing on one face, and a simple *Christ crucified* (also with interlacing) on the other. The second is part of a shaft decorated with spiral, interlace and fretwork patterns.

Sun-Dial

In conclusion one might mention three other medieval monuments in the graveyard. One, in the railed enclosure mentioned above, is a rare instance of a sun-dial surviving from medieval Ireland. It stands about 1.80m high. On top, with a suitable (though not very deep) hole for a gnomon, is the sun-dial itself, with three separate divisions separated by a line with forked end within the semi-circle. Beneath it, in circles, are two crosses, the lower one a cross of arcs with decoration seen by Macalister but now difficult to make out.

Memorial Stones

Finally, lying below ground level just to the north of the north church, and fenced off by a low metal railing, is an old Irish memorial stone bearing a cross with expanded ends and an inscription: OR DO RUARCAN, *A prayer for Ruarcan*, an individual who cannot be recognised in any of the known historical sources. There is also a second example, still half embedded in the earth next to the wall of the church beside the West Cross; it bears a cross, but no inscription can be seen.

Dating

The only internal evidence for dating any of the Monasterboice crosses is the inscription which gives Muiredach's Cross its name, and which asks a prayer for the person of that name who had the cross made. The formula used might suggest that Muiredach was not the sculptor but – on the basis of a similar formula used on some midland crosses – either a king or an abbot. Inscriptions on Offaly crosses show that a king's name would be at least just as much expected on a cross as that of an abbot. Historical sources do not give us any reference to a local king of the name, but there are two abbots named Muiredach who could have commissioned the cross, one who died in 844, and the other whose death is recorded in 922 or 923, the latter of whom was the more famous, his obituary naming him as the “high steward” of the Southern Uí Néill and “chief counsellor” of the people of Brega.

One further potential piece of dating evidence which, though only circumstantial, should be taken into account, is that to be gleaned in the study of some of the non-biblical elements of the cross. The Tall Cross has a fabulous quadruped at the top of each side of the shaft, that on the south side having no front leg on the ground. This unusual feature is found among the ivory decoration on ‘St. Peter's Throne’, a ceremonial chair given by the emperor Charles the Bald to Pope John VIII on his official coronation as Holy Roman Emperor in 876. The wood for the throne was felled between 837 and 843, but the decoration made up from various pieces, apparently from more than one workshop in Northern France, was added when the chair was assembled years, if not indeed decades, later. The most notable pieces are those illustrating The Labours of Hercules which, while irrelevant to our purposes here, are symptomatic of Charles the Bald's interest in Classical Antiquity. Survivals from the Late Antique abounded within the emperor's realms, the most abundant of which would have been the mosaics that decorated villas and public buildings within the bounds of the old Roman Empire. These contained illustrations of chariot processions and scenes from Roman circus entertainment portraying gladiatorial contests, among other things. The decoration on the base of Muiredach's Cross – chariots, the two men wrestling with a pole, as well as the menagerie of classical fabulous beasts such as centaurs-would appear to reflect Charles the Bald's fascination with the Late Antique, and are doubtless modelled on the products of workshops expressing the emperor's taste on the Continent, and particularly in Northern France where he held court. This classical renaissance which typifies the Carolingian emperors of three generations, from Charlemagne to his grandson Charles the

Bald, comes to an end abruptly with the latter's death in 877. The years of his reign from 843 to 877 saw Johannes Scotus going to the Continent around the middle of the ninth century and amazing the emperor with his knowledge of Greek and the world of ancient philosophy. The contacts were doubtless not all one way and it would be no surprise, therefore, to find influences – and, indeed, classical artistic influences – coming the other way, from the Continent to Ireland. The old Roman world as represented by the classical animals and the circus scenes found on the Monasterboice crosses would, thus, be seen to have been a product roughly dating from the lifetime of Charles the Bald, at whose death this Carolingian renaissance would seem to have ceased. It would not be unreasonable, therefore, to date the arrival of these classical elements in Ireland roughly between 850 and 877. If we wanted to accept that it could have taken ten years for the great scriptural crosses at Monasterboice and elsewhere to have evolved from the 'prototype' models proposed above to the stone copies we see today, then we could envisage the existing crosses as belonging perhaps to the very early years of the second abbot Muiredach, whose predecessor (as far as we know), Fothadh, died in 887. If the Muiredach who commissioned the cross were the abbot of Monasterboice, then we could surmise a date of up to about 890 for the cross which bears his name. If, however, the Muiredach were a king whose name happens to be not recorded in surviving historical sources, then a date before 877, and possibly even within the previous decade, would be appropriate to facilitate inclusion of the continental classical material. As we simply do not know the status of Muiredach – king or abbot – we cannot come to a conclusion about dating one way or the other. Nevertheless, a date within the second half of the ninth century and, perhaps more likely, within the last third, would seem to be most appropriate date for Muiredach's cross. The two crosses need not have been far apart in time, and scarcely the best part of a century, as envisaged by Macalister.

Appendix 6: Ecological Assessment

By Ciara Hamilton, Natura Environmental Consultants

1 Introduction

- 1.1 NATURA Environmental Consultants were commissioned by Margaret Gowen & Co. Ltd to conduct an ecological assessment of lands at Monasterboice, Co. Louth as part of a conservation study. This report describes the existing flora and fauna within the study area and gives an overall evaluation of the study area in terms of the ecological significance of the habitats recorded.

2 Methodology

- 2.1 A desk study was carried out to collate the available information on the local ecological environment. The National Parks and Wildlife Service of the Department of the Environment, Heritage and Local Government (NPWS) database of designated areas and records of protected species was consulted in relation to records of rare plants and protected species in the vicinity of the study area.
- 2.2 A project team meeting was conducted on site on the 27th of August 2008 in order to present each consultant with background information on the study area. A field survey was also carried out on the 27th of August 2008 to identify, describe, map and evaluate habitats and watercourses and to verify the information gathered at the desk study stage. The field visit consisted of a walk over survey of the graveyard and monuments and lands immediately surrounding the graveyard. Aerial photography was used to identify habitats of ecological significance within the wider study area.
- 2.3 Habitats were classified using Fossitt (2000) *A Guide to Habitats in Ireland* and the dominant plant species were recorded. Mammals and birds were assessed in the course of the habitat survey using a combination of direct sightings and observations of signs, tracks and droppings. A visual assessment of the external surfaces of buildings and trees for bat roost potential was also conducted.

- 2.4 In this report, scientific and common names for plants follow Webb *et al.* (1996) and Scannell & Synnott (1987) respectively. Mammal and bird names follow Whilde (1993) and Mullarney *et al.* (1999) respectively.

3 Site Description

3.1 General Study Area

The study area is located at Monasterboice approximately 6km north of Drogheda and just west of the M1. Monasterboice is a national monument and consists of a round tower, two small stone churches and three high crosses which are contained within the graveyard. The lands surrounding the graveyard and within the wider study area are predominantly open agricultural fields used for pasture and arable crops. There are no watercourses within the core study area. There is a tributary of the White River and a tributary of the Mattock River north and south of Monasterboice respectively. Both of these are within the wider study area.

3.2 Designated Areas for Nature Conservation

There are no designated areas for nature conservation within the study area. The nearest designated area for nature conservation is Mellifont Abbey Woods proposed Natural Heritage Area (pNHA) (site code 001464), located 3km west of Monasterboice.

3.3 Protected Species of Flora and Fauna

There are no historical records of rare and protected species of flora or fauna from within the 10km grid square unit (O 08) of the NPWS data base for this area.

3.4 Habitats

The main habitats occurring within the study area are described below and shown on Figure 10 in the main report.

3.4.1 Stone walls and other stone work (BL1)

The monastic site consists of a round tower, two small stone churches and three high crosses which are contained within the graveyard. There are also numerous headstones

within the graveyard and an old stone graveyard boundary wall along the perimeter of the site. The two small stone churches consist of four walls and maintenance work has been carried out on both in the past. A number of ferns are growing out from the church walls including wall rue (*Asplenium ruta-muraria*), common polypody (*Polypodium vulgare*) and maidenhair spleenwort (*Asplenium trichomanes*), along with various lichens and mosses. The stone graveyard boundary wall is in very good condition along the entire perimeter of the graveyard. Growing on top of the wall and out from the stone work is a good diversity of species including grasses such as (*Festuca* sp.) cocksfoot (*Dactylis glomerata*), sweet vernal (*Anthoxanthum odoratum*), and other species including ribwort plantain (*Plantago lanceolata*), white-stonecrop (*Sedum album*), wall pennywort (*Umbilicus rupestris*), hedge bedstraw (*Galium mollugo*) and the fern common polypody.

3.4.2 *Amenity grassland (GA2)*

The grassland within the graveyard, growing amongst the gravestones is amenity grassland which is managed and kept short. The current management makes it difficult to identify grassland species. Species recorded included plantains (*Plantago* spp.), dandelion (*Taraxacum* sp.) and daisy (*Bellis perennis*). The grassland could possibly be species-rich due to low intensity management especially around gravestones.

A residential house and garden are located immediately adjacent to the graveyard on the eastern side. The garden consists of amenity grassland with a number of planted ornamental shrubs and flowers.

3.4.3 *Treelines (WL2)*

A number of mature horse chestnut (*Aesculus hippocastanum*) and lime (*Tilia europaea*) trees are growing along the inside of graveyard boundary wall. The main access road to the site just east of the graveyard is also lined with mature trees including ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*) and oak (*Quercus robur*). Some of the surrounding agricultural fields have mature ash trees growing along the field boundaries.

3.4.4 *Scattered trees and parkland (WD5)*

There are a number of mature yew trees (*Taxus baccata*) within the graveyard. These trees have been planted and are unlikely to be native species. During the course of the survey a number of songbirds were recorded using the yew trees.

3.4.5 *Hedgerows (WL1)*

A number of the agricultural fields within the study area contain hedgerow boundaries composed predominantly of hawthorn (*Crataegus monogyna*). Other hedgerow species recorded include elder (*Sambucus nigra*), nettle (*Urtica dioica*) and bramble (*Rubus fruticosus* agg.).

3.4.6 *Improved agricultural grassland (GA1)*

The majority of the land within the study area consists of agricultural grassland and associated hedgerows and treeline boundaries. This habitat is of low ecological value.

3.4.7 *Arable crops (BC1)*

A number of fields within the wider study area are used for growing arable crops such as wheat (*Triticum aestivum*). This habitat is also of low ecological value.

3.4.8 *Exposed calcareous rock (ER2)*

Located within the wider study area northwest of Monasterboice are agricultural fields with areas of exposed limestone rock and associated gorse (*Ulex* sp.) scrub. Exposed calcareous rock may support small pockets of species-rich calcareous grassland, heath or scrub vegetation (Fossitt, 2000).

3.5 ***Fauna***

3.5.1 *Mammals*

No signs or tracks of mammals were recorded within the vicinity of the graveyard. The horsechestnut trees recorded in the graveyard are mature with a diameter at breast height (dbh) of less than 1.0m and many contain a number of crevices and holes suitable for roosting bats. The round tower offers some potential for bats but the churches offer none as maintenance works in the past have sealed any crevices which may have been present. All bat species occurring in Ireland are protected under Annex IV of the EU Habitats

Directive (92/43/EEC). The agricultural fields and associated hedgerows surrounding the graveyard provide ideal foraging habitat for badgers (*Meles meles*) which are legally protected under the Wildlife (Amendment) Act 2000. Rabbit (*Oryctolagus cuniculus*) and fox (*Vulpes vulpes*) are likely to be common throughout the study area. Other species which typically occur within habitats recorded in the study area include hedgehog (*Erinaceus europaeus*), wood mouse (*Apodemus sylvaticus*), house mouse (*Mus musculus*) and pygmy shrew (*Sorex minutus*) (Hayden and Harrington, 2000).

3.5.2 Birds

A range of common bird species, typical of the woodland and farmland habitats occurring within the study area, were observed during the field survey. These include blackbird, chaffinch, wren, blue tit, collared dove and wood pigeon. A rookery was also recorded in the mature horse chestnut trees along the northern boundary of the graveyard. All of these species are common and widespread in farmland and a greater diversity of birds typically associated with the range of available habitats could be expected to occur in other seasons.

4 Site Evaluation

- 4.1 The Monasterboice site consisting of the graveyard and associated monuments is of moderate ecological value and locally important as it contains a number of semi-natural habitats. The most significant habitat is the mature trees within the graveyard, some of which show potential for bats. The stone graveyard boundary wall also supports a diversity of plant species.
- 4.2 Within the wider study area the agricultural grassland and arable fields are of low ecological value. However, the hedgerows and treelines which make up many of the field boundaries are important for wildlife because of their structural and species diversity and their role as ecological corridors, particularly in areas of intensive farmland.

5 Conclusions

- 5.1 Overall the habitats within the study area are of moderate to low ecological value. The habitats within the study area offer potential habitat for a number of protected mammal species including bats and badger. There is also potential for the area of exposed

limestone in the northern part of the study area to support a diverse and species rich grassland habitat.

6 Recommendations

6.1 Further ecological survey during the appropriate season is recommended to provide more detailed information on the flora and fauna of the site as follows:

- The Monasterboice monument and graveyard site provides an ideal location for monitoring flora as it is relatively free from disturbance. The old stone graveyard boundary wall contains a diversity of grass, herb, fern and lichen species. The grassland surrounding the headstones in the graveyard also has potential to be species-rich because of low-intensity management. A large number of lichens occur on the graveyard boundary wall, headstones and high crosses. A more detailed survey at the appropriate time of year (May to July/August) of the flora within the Monasterboice monument and graveyard site would provide important baseline data, which could be used for monitoring purposes in the future.
- A bat survey of the study area could be undertaken during the appropriate time of year (May to September) to determine the usage of structures or trees within the study area by bats. Bats are widespread in Ireland and can generally be found in areas where suitable roost sites (trees, disused buildings, old stone walls and bridges, or caves) occur in close proximity to areas of suitable foraging habitat (woodland, scrub, hedgerows, wetland areas and open water). The woodland habitat of the study area combined with treelines, hedgerows and farmland in the wider area provide suitable habitat for a number of bat species such as pipistrelles, Leisler's bat and Myotis species. There are a number of large mature trees within the monument and graveyard site which offer potential for bats as roost sites. The round tower could also have some potential for bat use.

Appendix 7: Planning Assessment of Monasterboice

By John Cronin, John Cronin & Associates

1 Introduction

1.1 John Cronin & Associates undertook a review of planning control measures pertaining to the study area. This process was completed through a thorough examination of the current County Development Plan and a review of recent planning applications occurring within the following townlands:

- Baraboba
- Bawntaaffe
- Monasterboice
- Newtown
- Paddock
- Rathdaniel
- Timullen

It should be noted that this section does not examine the various designations relating to Monasterboice under the National Monuments code.

2 Landscape Character

2.1 Under 2.3 of the Louth County Development Plan 2003-2009 the 'Uplands of Collon and Monasterboice' are identified as one of nine landscape character areas in County Louth. The uplands of Collon and Monasterboice are considered by Louth County Council to be of regional importance.

2.2 It is the policy of the council to afford protection to the landscapes and natural environments of the county by permitting only those forms of development that are considered sustainable in rural areas and do not irreparably damage or unduly detract from the character of the landscape or natural environment.

- 2.3 Louth County Council will cooperate with adjoining local authorities, both north and south of the border, including Newry and Mourne District Council, to ensure that the environment is maintained in a sustainable manner and will support the coordinated designation of sensitive landscapes and policy approach with adjoining areas.

3 Architectural Conservation Areas

- 3.1 Louth County Council has designated architectural conservation areas (ACAs) throughout the county. The monastic site at Monasterboice is one of the ten ACAs in County Louth.

- 3.2 The objectives of ACAs in County Louth are as follows:

- to protect and/or conserve, as may be appropriate, all identified structures of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, buildings and structures.
- to secure the preservation (i.e.: preservation in situ or, as a minimum, preservation by record) of all archaeological monuments included in the Record of Monuments as established under Section 12 of the National Monuments (Amendment) Act, 1994, and of sites, features and objects of archaeological interest and settings and all previously unknown archaeology that becomes known (example through ground disturbance or the discovery of sites underwater.)
- to designate Salterstown, Milltown, Whitestown, Newtown Monasterboice, Collon, Ardee, Carlingford and Monasterboice as Monastic Site Architectural Conservation Areas.

- 3.3 Under Policy 2.9, the local authority states the following in relation to development within designated ACAs.

“It is the policy of the planning authority:

- *to ensure that, where relevant, all planning applications for new development or refurbishment /restoration works within Zones of Archaeological Potential and recorded monuments as listed in appendix 3, and developments in proximity to riverine, lacustine, intertidal and subtidal which fall above the high water mark are referred to Duchas and have regard to its observations regarding same;*

- *to ensure that any development, both above and below ground, adjacent to a site of archaeological interest shall not be detrimental to the character of the archaeological site or its setting and be sited and designed with care to protect the character and/or the setting of the site;*
- *to prohibit any development, alterations, modifications, or new development adjacent to or at a distance away from the protected structures listed in appendix 3 that would detract from it or its setting in terms of its design, scale, height, massing, alignment or use of materials;*
- *to require that all planning applications for development that would impinge upon any building, structure, monument or architectural site listed in appendix 3*
- *to be accompanied by an Historical, Architectural or Archaeological Assessment Report, together with a list of mitigating measures to protect the items so listed;*
- *to implement the Conservation Guidelines (Volume 1-16) issued by the Department of the Environment with regard to conservation;*
- *to require that any development within or affecting an architectural conservation area preserves or enhances the character and appearance of the architectural conservation areas. All development should respect the character of the existing architecture in scale, design and materials.*
- *To ensure that the redevelopment of the towns of historic interest listed in table 2.8 includes the retention of existing street layout, historic building lines and traditional plot widths where these derive from medieval or earlier origins.*
- *to apply a presumption in favour of retaining any building in an architectural conservation area that makes a positive contribution to the character or appearance of the area.*
- *to require that any development proposal takes account of the council's specific architectural conservation area development guidelines, in appendix 2.*
- *not to grant planning permission for the total or substantial demolition of any protected structure or proposed protected structure, save in exceptional circumstances. In such circumstances it would be necessary for the applicant demonstrates and produce evidence that the condition of the building, the cost of repairing and maintaining it, in relation to its importance and value outweighs the loss resulting from demolition.*

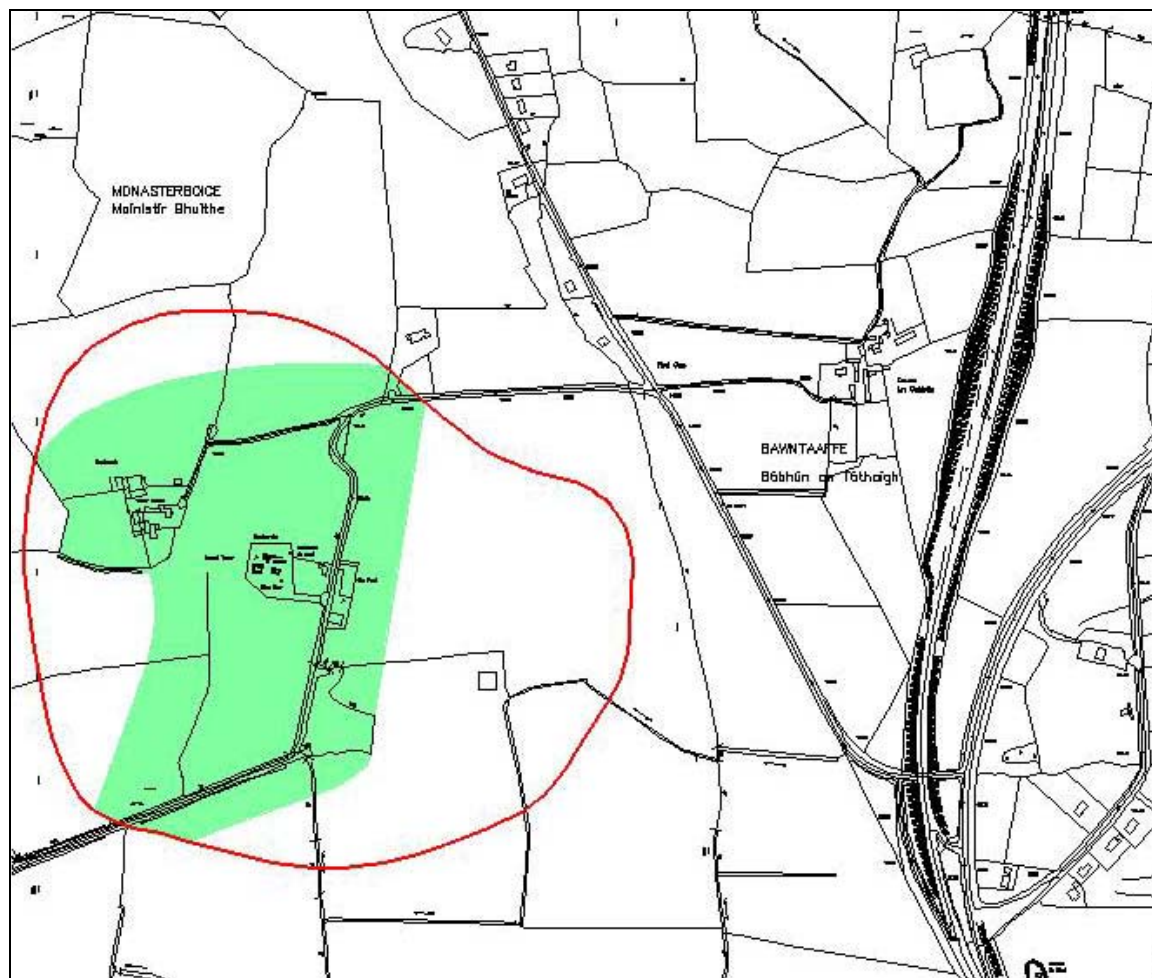


Figure 6.1: Map of Monasterboice ACA (red line indicates zone of archaeological potential and the green shading indicates the extent of the ACA), after Louth County Council Development Plan 2006-2009

- 3.4 In Appendix 2 of the County Development Plan, the development guidelines for the ACA at Monasterboice states that any development “should not interfere with the setting of the mediaeval structures and round tower.”

4 Development Control Zones

- 4.1 In the current development plan, Louth County Council has established a number of Development Control Zones. Monasterboice is located within Development Control Zone 2 which relates to areas that are to be found in the lower regions of the Cooley Mountains, in Upper Faughart, around Clogherhead, Hamilstown, Fieldstown, Mount Oriel and the Boyne Valley. The area covered by this control zone contains landscapes of high scenic

quality that the planning authority considers should be protected. The development plan recognizes that a substantial existing rural population within these areas and the continued vibrancy and vitality of these communities is an objective of this development plan. Therefore, the development plan envisages only essential resource/infrastructure based developments and developments necessary to sustain the existing local rural community will be considered within control zone.

5 Protected views

- 5.1 The view of Monasterboice Tower from M1 Motorway is protected under the current development plan (Reference Number: VP 10, page 101 of CDP). It is an objective of the plan 'to prevent development that would block or otherwise interfere with a view or prospect, considered to be of special amenity value or interest and to preserve prominent landscapes of similar significance.'

6 Protected structures

- 6.1 The Round Tower, High Crosses, Churches and Enclosure at Monasterboice are classified as a protected structure (County Development Plan (CDP) Appendix 3 -Reference: Lhs021-003). These are also listed as archaeological structures and features to be preserved under the development plan (CDP Appendix 3-Reference ARC 18)

7 Development Control

- 7.1 An examination of planning applications occurring within the townlands of Baraboba, Bawntaaffe, Monasterboice, Newtown, Paddock, Rathdaniel and Timullen was undertaken as part of this review. It would appear that the greatest development pressures within the wider environs of Monasterboice relates to one-off rural housing, particularly in areas to the east and northeast.
- 7.2 The following table is a list of planning applications for sites situated within one kilometre of the ecclesiastical site.

Table 7.1: Planning applications within one kilometre of the ecclesiastical site (Period: 2000-2008)

File Ref	Decision Year	Development	Location	Decisions
001596	2001	Two storey house, septic tank and well	Tenure Rd, Monasterboice	Refused
00998	2000	Dwelling house	Redgap, Monasterboice	Refused
011115	2002	2 storey house, bicycle unit, well, driveway and entrance together with removal of existing septic tank and replacement with new bicycle unit, new well and driveway and entrance to existing house	Tenure Road, Monasterboice	Granted planning permission with conditions
011191	2001	Garage to rear of existing house	Tenure Rd , Monasterboice,	Granted planning permission with conditions
02679	2002	Dwelling house, septic tank & puraflo effluent treatment system	Monasterboice	Incompleted Application
02804	2002	Dwelling house, septic tank & puraflo effluent treatment system	Monasterboice	Refused
03133	2003	Dwelling house, septic tank, puraflo effluent treatment system	Monasterboice	Granted planning permission with conditions
031806	2004	(O) Dwelling house, septic tank, waste water treatment system & associated site works	Monasterboice	Refused
03201	2003	Alterations to 01/1115 minor elevation changes, increased floor area, revised site layout to dwelling house	Tinure Road, Monasterboice	Granted planning permission with conditions
041412	2004	(PC) On Outline 03/133 for 2 storey dwelling house with sunroom, waste water treatment unit and percolation area, new site entrance onto public road and all associated site works.	Monasterboice	Granted planning permission with conditions
04734	2004	(P) dwelling house, garage, septic tank puraflo waste water treatment system, percolation area together with access driveway and all associated site works	Monasterboice	Refused
0578	2005	New bungalow style dwelling house, domestic garage, waste water treatment system and associated site works	Monasterboice	Granted planning permission with conditions

File Ref	Decision Year	Development	Location	Decisions
061430	2007	(P) dwelling, garage, septic waste water treatment system and percolation together with all associated site works	Monasterboice	Granted planning permission with conditions
071511	2007	(P) a storey and a half dwelling house, waste water treatment system plus percolation area, vehicular entrance and associated site works	Tymullen, Monasterboice	Granted planning permission with conditions
071916	2008	Permission (P) for extension to existing Monasterboice Parish Graveyard, including forming of new vehicular entrance onto public road and associated site works	Newtown, Monasterboice	Refused
07271	2007	(PCQ) 3 bedroom dwelling with study, lounge, kitchen, family room, proprietary mechanical sewerage treatment system, ancillary site works and entrance onto public road (outline ref. no. 04/945)	Red Gap, Newtown, Monasterboice	Granted planning permission with conditions
081102	2008	Permission for a single storey bungalow dwelling, domestic garage, septic tank, percolation area and all associated site works.	Newtown, Monasterboice	<i>In progress</i>
08827	2008	Permission to construct a 1.5 storey dwelling, wastewater treatment unit and percolation area, detached domestic garage, new site entrance and associated site works	Monasterboice	Refused

7.3 Generally, it was found from this review that the current development plan policy framework appears to be working satisfactorily. Of the planning applications that had been adjudicated upon by the time of writing, the Planning Authority has had a refusal rate of approximately 40%.

7.4 An interesting case study relates to Planning Reference 05/78, an application for a bungalow-style dwelling house, domestic garage, waste water treatment system and associated site works at a location approximately 300 metres to the east-north-east of the ecclesiastical site. Following a request for further information, Louth County Council granted planning permission. The application was appealed to An Bord Pleanála by the Department of Environment, Heritage and Local Government (DoEHLG). Though An Bord Pleanála's Planning Inspector recommended a refusal, the Board issued a grant of

planning permission subject to a series of ten conditions. The board, in their decision, stated that:

...it is considered that, subject to compliance with the conditions set out below, the proposed development would not seriously injure the amenities of the area or be prejudicial to its cultural heritage and would not, therefore, be contrary to the proper planning and sustainable development of the area.

- 7.5 Overall due regard to archaeological mitigation measures and design constraints are evident in the Planning Authority's decision-making process. The Authority frequently requests visual impact assessments on development within the vicinity of the ecclesiastical site so to as to ascertain visual impact.

8 Conclusions & Recommendations

- 8.1 It is evident that the current planning and development controls relating to the study area are comprehensive and generally well-working. A wide-ranging series of designations contribute to protect and enhance the landscape setting, visual amenity and special character of Monasterboice and its immediate hinterland. The Local Authority seeks to strike a balance between the need to conserve this special resource and yet promote vibrancy in the rural environment. To this end, the development plan provides a firm basis for achieving that objective.
- 8.2 In the forthcoming review of the current development plan, it is recommended that the existing policy framework be retained and, where feasible, enhanced through a series of policy augmentation. Foremost of this would be the formal recognition of the emerging Conservation Study for Monasterboice and the establishment of an Area of Special Planning Control. This area should encompass the current zone of archaeological potential and should provide unambiguous prohibitions of potentially injurious developments.

Appendix 8: Structural Appraisal of graveyard structures

By Lisa Edden, Consulting Structural Engineer

1.1 The Churches

The South Church is approximately 7m x 12m in plan area and stands to approx 4m tall. The rubble stone masonry walls vary from approx 500 to 700mm thick. The church once extended further east with a chancel, this now no longer remains above ground level. The north spring of the chancel arch or possibly a relieving arch over the original chancel arch exists to approx 2m height but the opening is now blocked with a low rubble wall. Coopers 1786 (see above) shows the chancel in a ruinous state but the chancel arch still standing. The records of OPW site inspections from 1875 indicate “the chancel arch has lately fallen”.

The south wall has undergone a makeover at some stage. This is believed to have occurred in the fifteenth or sixteenth centuries. This wall in particular has a noticeable lean and also some interesting features possibly relieving arches at current ground level. There is a small low door to the west elevation. It is likely that this opening is in fact an altered (reduced) doorway, the upper jambs and head are now missing, rebuilt in random rubble. There are no archways and only one visible putlog hole survives.

The North Church is approximately 6m x 12m in plan and the walls are typically over 700mm thick and like that of the south church are constructed from rubble stone masonry and stand to a maximum of approx 4m tall.

The window and door openings are mostly formed of rubble stone constructed to form the arches but remnants of the original cut stone to the external face can be seen on some of the openings particularly the west doorway and the most eastern window of the south elevation.



Rubble stone arches and putlog holes to North Church. Note damp proof course to top of wall



*SW corner of South Church
Note local undermining at base of wall and damp proof course at top of wall*



*East end south wall South Church
Possible previous opening headed in rubble stone arch and missing stones to r.h.s. of opening*



Migration of salts onto surface of stonework from water penetration of coping

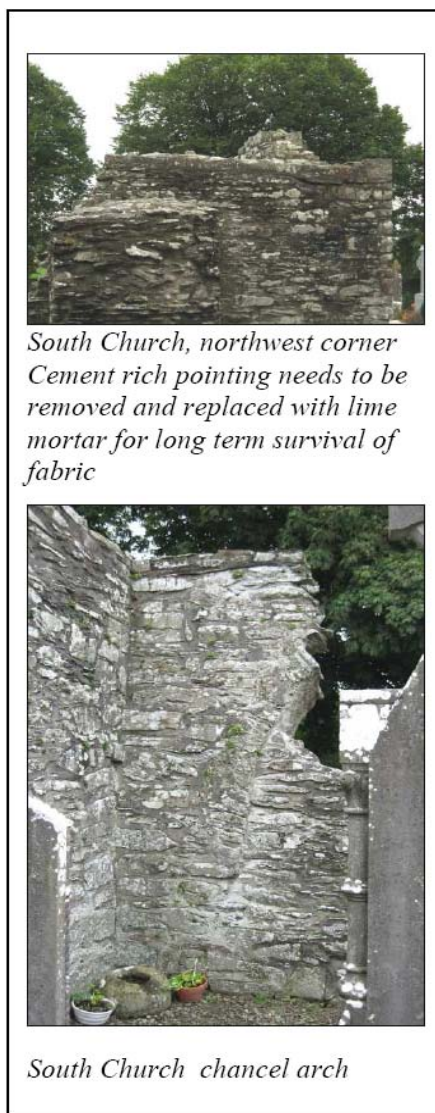
The putlog holes where scaffolding was supported during the original construction and later maintenance have been identified and left showing during the last conservation work. The walls in the majority appear stable although there is a slight outwards display of most, particularly that of the south wall.

Transcripts of OPW files:31421/82 from the National Archives indicate that the condition of the churches in the 1870's was very ruinous and suggest that concrete may have been used fairly extensively at that stage to fill "great rents and fissures" in the wall tops. These records and any other records that may be still forthcoming should be consulted in deciding any future repair works.

The walls to both churches have previously been repaired to all sides of the above ground remains with a cement rich mortar. The walls have been topped with a damp proof membrane isolating the replacement capping work from the original walling. These procedures have introduced hard brittle impervious elements to the walls and are now generating new erosion mechanisms to the individual stones and the walls as a whole.

1.2 Proposed repair and maintenance of the Churches

These buildings are national monuments in the care of the National Monuments Service of the Office of Public Works and as such Ministerial Consent is required for all repair works from the Department of Environment Heritage and Local Government.



All repair works to these churches have been carried out by the Office of Public Works for the last 100 years or so and these buildings are still more than adequately monitored and maintained by the Office of Public Works Teams on an on-going basis. There are however a number of proposals that with further design development and research may then be applied to the benefit of the structures. The works will be considered in the future depending on priorities within the National Monuments Service.

- The remains of possible previous vaults or arches to the lower portions of the south wall of the South Church need to be further investigated with a view to stabilization without obscuring the detail. This will require local excavation and inspection in the vicinity of the missing stonework to discover sound base wall or ground. The detailed repair should aim to stabilize without hiding the fact that this outer face of the wall is a later addition.
- The outwards lean of the walls is not thought, from first visual appraisal, to be of concern particularly if the repairs to the base of the south wall of the South Church are carried out. However these walls will be more accurately recorded on the next site visit and, if long term monitoring is considered advisable, suggestions made as to how this may be carried out.
- The cause of water penetration through the damp proof course to the top of the wall particularly at the west end of the south wall of the South Church should be investigated and eliminated. Softening of the line of the damp proof courses to the wall tops throughout should be considered but this will be best tackled with the possible re-pointing mentioned below.
- The cement based mortars should be carefully removed and replaced with a lime based mortar that is softer and therefore sacrificial to the adjoining stone. Removing the existing mortar may prove to be an exceptionally onerous task and trial samples will be required. Removing early concrete from deep fissures will be impossible and should not be attempted but location and details recorded as part of any on going works. Re-pointing should be carried using a lime mortar. The specification will need to be developed following analysis of any historic mortars remaining on site.
- Future detailed building study in association with archaeological excavation might allow the building to be presented in a more meaningful way, especially as regards to its formal chancel.

2.1 The High Crosses

These two structures are dealt with elsewhere in other correspondence and therefore don't form part of this report.

3.1 Round Tower

The round tower stands just short of 30m tall and of approx 5m diameter. It is constructed of rubble stone masonry of limestone and greywacke with andstone door and window surrounds. The tower was only viewed from ground level at the time of the initial visit and no access to the inside or upper portions of the tower were gained.

The tower has a bow, the centre of the bow points roughly to the northwest. For a bow to develop in a building such as this after construction would require the consistent use of a weaker type of fabric to the inner southeast side of the bow or long term erosion of the mortar to the southeast elevation. These scenarios are unlikely. It is more likely that the building started to move during construction. The weight of even a small fraction of the height of the tower would prove a heavy load for the small base area of ground on which it stands. The direction of the incline of the lower half of the tower indicates that the ground to the northwest side may have been more compressible than that to the southeast.

If regarded closely it can be seen that the lower part of the tower is relatively straight sided, albeit inclined to the northwest. The upper portion of the tower is the part that has the distinct curvature. The inherent indication is that discernable movement commenced when approximately one third height of the tower had been constructed and thereafter the masons made corrections to bring the tower back on line. The tower probably went on moving whilst the later work was being carried out. More detailed surveys beyond the remit of this study would throw more light on the extents of movements relative to the phases of construction.

The mortar to the joints is a very pinky brown colour and is most probably a mortar made of “roman cement”. This is likely to be coincidental with repair works carried out by the Royal Society of Antiquaries of Ireland and the OPW in the 1870’s. Roman cement is a natural cement



*Round Tower - doorway detail
Note weathering of sandstone*



*Round Tower – west elevation
Modern instrumentation will
allow remote surveying of
inclination and establishment of
current location for future
reference*

and, whilst not usually as strong or as brittle as the ordinary Portland cement of more recent times, is usually considered to be too hard for rubble stone masonry that should be set with lime mortar. However initial inspection on site shows that the Roman mortar is generally holding well and does not seem to be accelerating erosion to the adjacent stone edges. More recent reading of notes of the works being carried out in 1874 indicate that “best Portland cement” may have been used to re-point the inner face of the tower and a “good lime mortar” to re-point the outer face, the use of “pinnings” was advocated in both faces. Large fissures near the top of the south side of the tower may have been filled with “cement and good grouting stuff”. Notes from a year later indicate that this re-pointing process may have been halted but still indicate the use of “cement concrete” for filling open joints to the inner faces. The suggestion is also present that some of the remaining tower cap may have been dismantled at this stage and concrete copings introduced. None of this is obvious from ground level and until access is gained the history and current condition can only be guessed at.

There is some damage to the sandstone of the door surround occurring in the form of “onion” weathering where thin layers are spalling off. This is resulting in loss of carved detail to one of the few tooled elements of this tower.

3.2 Proposed maintenance of the Round Tower

As for the churches, Ministerial Consent needs to be sought prior to any repair works being carried out.

The list below is a very initial suggestion. These proposals will need to be elaborated upon when a more thorough inspection of the tower is carried out.

- The top of the tower was not seen at the time of the initial visit. It is recommended that the top and the upper portions of the tower require further inspection.
- The requirement for lightning protection should be assessed by a stone specialist along with possible routes for the earth.



*Wall to east side of graveyard
Note this wall continued to meet
the south wall before the east
entrance was made late C19th*



*C19th gateway to south elevation
Junction between phases of the
wall just behind tree.
Note pinker colour of mortar to
more recent wall to right hand side*

- It would be valuable to take a recording of the location of the top of the tower relative to the base at this point in time for future reference.
- The spalling of the stonework around the doorway should be assessed and measures to reduce the speed of erosion taken.

4.1 Graveyard Wall

The graveyard is surrounded by a boundary wall, this appears on the first Ordnance survey in a roughly square shape with a truncated corner to the southwest and entrance gate to the west side. By 1871 this wall is noted in “Bell 1870-1, 452; OPW 31424/82” as being “very much broken down in places”. It would appear from this and later annuals that the graveyard wall was demolished and rebuilt between 1871 and 1874 approximately 2m out from the original to facilitate a pathway inside the wall all around the graveyard. At a similar time the east entrance and its flanking walls was made to access the new road to the east. These two walls are referred to in the “OPW files 1874:31421/82” as “38 yards of intended crosswalk have been made and partially planted with evergreen shrubs”.

The graveyard wall is approximately 250m long in circumference and the two east entrance flanking walls approximately 40m each. The wall varies in height from approximately 1.2 to 1.8m. The wall follows the natural contours of the land but in some instances because of the different uses inside and out is now in places retaining up to approx 0.5m of ground.



*Boundary wall – south elevation.
Trees to east planted very close to wall*

The graveyard circumferential wall is of rubble stone construction generally set in lime mortar with a stone on edge coping. The two lengths of wall either side of the east entrance closely

resemble the graveyard wall but were perhaps constructed in a different building phase as the stones appear to be set in a “roman cement” type mortar.

Further changes to the east side were instigated in the late 20th century, most likely as part of a FÁS scheme, creating a curved entrance way to the extreme east end of the walls and also to remove the 1874’s evergreen planted banks (probably created with spoil from clearing the churches to floor level) and install the tarmac access paths.

There are signs of local repair to the western parts of the wall through the ages rather than whole scale repair throughout. These repairs have been carried out with a variety of mortars.

There are currently local areas of mortar loss and loose stonework particularly to the southern external elevation. There are also a couple of places where the stone work has cracked indicating some ground movements possibly as a result of tree roots.

The “soft top” plant growth to the top of the wall adds to its character and does little harm, indeed may be helping the cohesion of the coping. However there are some instances where larger plant types have seeded into the wall top and the roots of these plants if left to grow will start to force the stonework apart. There are also some instances where the lower branches of the larger trees are in close proximity to the wall



*Boundary wall to south elevation
Note “soft top” plant growth is beneficial and should not be removed. However where pointing and stones are missing they must be replaced*



*Boundary wall to northwest corner
These tree branches are damaging the coping and causing stones to come loose as can be seen in the foreground*

4.2 Proposed maintenance of the Graveyard wall

Whilst the Graveyard wall is not currently in the care of the National Monuments section of the Office of Public Works it is nonetheless considered to be part of the “National Monument” of Monasterboice and therefore any repair works to the wall will require ministerial consent from the Department. Any physical changes to the structure such as new gateways etc also require planning approval of the local council for works to protected structures. Works involving any excavation will require Ministerial Consent.

The list below is an initial suggestion. These proposals will need to be elaborated upon when a more thorough inspection of the walls has been carried out.

- A full survey of this wall is recommended both sides with salient levels recorded to establish if the wall is retaining in excess of 0.5m and, if so, consideration needs to be made as to how to alleviate the retaining element.
- Judicious repairs are required where stonework is missing to prevent unravelling of the stonework set in a lime mortar- see below.
- Re-pointing too much of the wall, particularly on the outside elevations, is required. Re-pointing should be carried out using a lime mortar. The specification will need to be developed following analysis of historic mortars remaining on site. Where cement-based mortar repairs have been made in more recent decades these should be removed and replaced with the lime mix. Movement cracks in the wall should also be re-pointed. No movement was noted that requires more extensive repair at this stage.
- The “soft top” plant growth to the top of the wall should at all costs be left as is. There are some instances however where larger plant types, which grow woody stems, have seeded into the wall top and these should be treated with a topical herbicide. When the treatment has had time to act the plant should be cut off as close to the stonework as possible. Low branches of some of the larger trees should be cut where close to the wall to prevent attrition damage to the wall.

Appendix 9: Condition Survey Report for the Stone Fabric of the High Crosses

By John Savage and Dr. Joanne Curran, Stone Conservation Services, Consarc Conservation

1 Introduction

1.1 Brief

As part of the Monasterboice Conservation Study, Stone Conservation Services a specialist division of Consarc Design Group were requested to provide a condition assessment of the stone fabric for the three high crosses at Monasterboice and general overview of the stonework at this monastic site.

1.2 Approach

Condition assessments of the High Crosses were carried out by John Savage (stone specialist) and Dr Joanne Curran (geologist) over two site visits. Evaluation of the fabric was by visual assessment from the ground only and upper sections of the crosses were not inspected in close proximity. The three high crosses (Muiredach's Cross (South Cross), Tall Cross (West Cross) and North Cross) were surveyed and defects and areas of deterioration of the stonework marked up in detail on images.

1.3 Stone Types and Weathering Processes

The site is located in an area of Silurian greywacke (poorly sorted sandstone) and this stone type together with Carboniferous Limestone has been used in the construction of the walls, church ruins and round tower. Carboniferous sandstone and possibly Triassic sandstone have been used for dressings and quoin stones on the round tower and churches.

1.4 High Crosses

Sandstone is used for the three high crosses with a later section of Carboniferous Limestone and cement used to replace and repair the North Cross. The sandstone is pale grey, buff to fawn in colour. The stone comprises quartz grains with occasional mica flakes cemented with varying amounts of clay minerals, iron oxide and calcite. Small scale veins and fractures transgress the surface fabric of the stone and these are opened as weathering proceeds. For Muiredach's Cross and the Tall Cross (shaft and the head of the cross), the majority of the sandstone is quite uniform in colour and texture with minimal

iron oxide. The stone weathers to a uniform grey coloured surface and is often colonised by biological material. The base of the Tall Cross has visible rings or bands of iron oxide which form upstanding ridges as weathering of this stone has progressed. The sandstone of the North Cross has also a relatively high iron content which weathers to a rust-ginger colour. The sandstone for the high crosses is most likely to be Carboniferous (350 Million years in age). A small pocket of Carboniferous to Triassic (250 Million years old) rocks (sandstones and limestones) occurs close to this area and this material may have been sourced for the high crosses (National Soil Survey of Ireland 1980).

There appear to be three main natural weathering processes in operation:

- **Granular disintegration:** the gradual wearing away of the stone fabric by removal (dissolution) of cementing material or detachment through expansion and contraction of minerals caused by wetting and drying cycles and freeze thaw action. This leads to detachment of individual grains over time.
- **Scaling (<5 mm):** form when a hardened out surface breaks away from the underlying stone that has been weakened by a gradual loss of natural binding agent.
- **Biological weathering processes:** growth of biological material on the surface of the stone can also cause deterioration of the face. The surface of the sandstone is colonised by a range of organisms including white lichen.

Other weathering processes include intentional damage due to vandalism, and wear and damage caused by visitor contact.

1.5 *Changes to Stone Fabric (PHOTO COMPARISON Figure 1 (e); Figure 2(e))*

To provide a general and anecdotal assessment of the timescale and rate of loss of sandstone fabric to the High Crosses in relatively recent times, we have compared the survey images taken in September 2008 with those published in ‘*Monasterboice and its Monuments*’ book by Helen Roe first published in 1981. It is not known when then photographs were taken, nevertheless, if we assume they were taken prior to 1981, the comparison highlights very crudely some changes in the stone surface over at least over the last 27 years. It must be emphasised that the relief and definition on the photographs is not equivalent. In 1981 the black and white photos were taken in summer with the light highlighting the relief quite well, whereas 2008 photos were taken in autumn when low

light does not highlight relief as well. However, comparison of the photographs serves a purpose by highlighting areas where there appears to be some increased and variable loss of carved detail and, just as importantly, areas where there appears to have been minimal loss over this time period. This is illustrated on Fig 1(e) the comparison of photos. This anecdotal comparison is subjective, however it appears to show variable loss of carved detail on the sloped surface of base stone between the two photos. This is in contrast to the photos of the carved detail at the end of the cross arm. For this higher level area of the cross, the definition and relative clarity of the carved detail is still visible although there may be an overall loss of surface due to natural weathering processes.

2 Visual assessment, threats and recommendations for the stone fabric of the three high crosses at Monasterboice

2.1 Muiredach's Cross(South Cross): Figure 1 (a) (b) (c) (d)

The condition assessment of Muiredach's Cross is illustrated on Figure 1 (a), (b), (c) and (d) which highlights the areas of stone fabric loss, fractures and scaling.

Current Condition of Muiredach's Cross (September 2008)

Cap-stone

The cap-stone shows areas of weathering and loss of detail through scaling and granular disintegration along fractures and weaknesses in the stone. This is caused by moisture ingress and egress (wetting and drying) through surface pores and fractures and other weaknesses in the fabric. Moisture dissolves the cement binding the quartz grains and over time and moisture freezes in pore space dislodges grains through freeze thaw action during the winter months. The high level of exposure of the cap-stone to rain and wind increases the rate weathering of the stone. There appears to be an open joint between the cap-stone and the central section of the cross. This could be allowing water ingress and should be investigated further to assess stability of Muiredach's Cross at this joint.

Ring and Head of the Cross

Areas of the head of the cross showing loss of detail and fabric include:

- Loss of a section of roll mould to the ring (see Figure 1 (b))
- Weathering along joints and fractures to the carved arms of the cross (see Figure 1 (d))

Shaft

Similar to the head of the cross, the shaft sandstone shows weathering along natural fractures and veins. At the junction between the shaft and the base there is an open joint allowing water ingress. This should be investigated further to assess stability of Muiredach's Cross at this joint.

Base

The splayed and carved base stone shows extensive loss of carved detail and weathering along joints and veins.

Changes to Stone Fabric (Figure 1 (e) PHOTO COMPARISON)

For Muiredach's Cross, Figure 1 (e) compares images taken in September 2008 showing section of the south face of the cross with black and white photos published in *'Monasterboice and its Monuments'* by Helen Roe, published in 1981. Visible loss of stone can be seen to the top of the base and this is likely to be due to damage and wear caused by visitors to the site. The photos also show that other areas of the cross appear to show little or no loss of stone fabric over this time period, and that the surface appears in good condition. It should be emphasised that comparison of the photographs does not give any indication of the condition and stability of the sub-surface fabric of the sandstone. Water ingress through the surface, open joints and fractures may be destabilising the stone fabric, however, without further survey and non-destructive testing, at present we have no knowledge of the subsurface condition of the fabric of the carved cross.

Threats to Muiredach's Cross

The main threats to Muiredach's Cross include:

- Continued accelerated loss of carved detail to the base and lower areas of the shaft due to wear and damage caused by visitors.
- Further deterioration of the cap-stone due to moisture ingress and natural weathering processes
- Potential risk of major loss of fabric due to fracturing at joints and/or subsurface fractures or voids within the fabric of the stone.

2.2 **Tall Cross (West Cross) Figure 2 (a) (b) (c) (d) (i) and (ii)**

The condition assessment of the Tall Cross is illustrated on Figure 2 (a), (b), (c) and (d) which highlights the areas of stone fabric loss, fractures and scaling.

Current Condition of the Tall Cross (September 2008)

Cap-stone

The cap-stone to the Tall Cross shows areas of weathering and loss of detail through scaling and granular disintegration along fractures and weaknesses. This is caused by moisture ingress and egress and frost action through surface pores and fractures in the fabric. There appears to be an open joint between the cap-stone and the head of the cross. This could be allowing water ingress and this should be investigated further and in more detail to assess stability of the Tall Cross.

Ring and Head of the Cross

The head of the cross shows some weathering proceeding along fractures and other natural veins in the sandstone. The stone fabric of this section does not appear to be as weathered as the cap-stone (above) or the shaft (below).

Shaft

The portion of the shaft directly below the head of the cross is significantly more weathered than the head itself. This could indicate that the shaft was exposed for a period of time without the cross on top and then re-fixed into position at a later stage. This section appears to be an area of active weathering with granular disintegration and scaling proceeding (see Fig.2 (d) (i)). Accelerated weathering could be related to variations in hardness and/or surface permeability of the sandstone and/or slight variations in dimensions of the shaft and the head of the cross causing increased water run-off to the stone below and increased weathering. The lower sections of the shaft show significant areas of missing stonework on each side (see Figure 2(a)). It is unclear as to the cause of this loss of stone fabric, however, it seems most likely that this represents historic 'physical damage'. At the junction between the shaft and base there is an open joint allow water ingress and this should be investigated further and in more detail to assess stability of the Tall Cross.

Base Stone

The carved base shows extensive loss of carved detail and weathering associated with joints and veins. The base shows bands of iron oxide (often referred to as 'liesengang'). Iron rings or liesengang are common in relatively clay-rich sandstone and form during diagenesis, the iron in the clays migrates to fractures and forms bands or rings of iron. The iron oxide is a harder mineral and forms upstanding rings and the quartz grains are released by granular disintegration.

Loss of Stone Fabric to the Tall Cross, see Figure 2(e) PHOTO COMPARISON

Figure 2 (e) shows section of the west face of the Tall Cross for comparison of the September 2008 images to those published in 'Monasterboice and its Monuments' book by Helen Roe in 1981. Comparison of the images shows that the base has the most visible loss of stone, likely due to damage and wear caused by visitors to the site. The photo comparison also highlights areas where there seems to have been little or no loss of stone fabric and the surface appears reasonably stable over this time period. Similar to Muiredach's Cross, comparison of the photographs does not provide an assessment of the condition of the sub-surface fabric of the sandstone of the Tall Cross. Further investigation is required to establish the condition of the stone fabric with depth.

Threats to the Tall Cross

The main threats to the Tall Cross include:

- Stability of the Tall Cross. The significant loss of stone fabric at the lower section of the shaft and the active weathering to the top of the shaft below the head of the cross may have implications for the future stability of this high cross.
- Continued accelerated loss of carved detail of the base stone and lower areas of the cross shaft due to wear and damage caused by visitors.
- Further deterioration of the cap-stone due to moisture ingress.
- General risk of major loss of fabric due to fracturing at joints and/or subsurface fractures or voids within the fabric of the stone.

2.3 North Cross: Figure 3

The condition assessment of the North Cross is illustrated on Figure 3 which highlights

the areas of stone fabric loss, fractures and scaling.

Current Condition of North Cross (September 2008)

The North Cross and other carved stone remnants are within an area cordoned off by railings. The carved cross is set on a limestone shaft (later addition), on a sandstone base. The North Cross appears to be leaning (see Figure 3). In addition, the sandstone of the ring and the head of the cross appear to be face-bedded (bedding parallel to the outer surface of the cross). The vertical bedding planes are planes of weakness along which weathering of the sandstone proceeds as shown in Figure 3. The limestone shaft to this stone is a later addition and some areas have been repaired with cement.

Within the railings there are repaired and braced remnants of sandstone crosses, however, there is no conclusive evidence that these remnants are all part of the same cross.

Threats to the North Cross

The main threats to the North Cross include:

- Stability of the North Cross. A lean of 3-5° to the cross has implications for the stability of this structure and a potential risk of falling.
- Loss of carved detail due to weathering progressing along bedding planes.
- Accelerated weathering of sandstone lower shaft and base due to run off from limestone above.
- General risk of major loss of fabric due to fracturing at joints and/or subsurface fractures or voids within the fabric of the stone.

2.4 *Summary of main issues for carved stone high crosses at this site*

All of the natural weathering processes described in Section 1.4 (above) are occurring to a greater or lesser extent on each of the high crosses. Therefore only the processes that appear to be causing additional damage, over and above natural weathering, are noted below

Muiredach's Cross

Damage and wear by visitors appears to have caused some variable and increased loss of carved detail to the lower sections of Muiredach's Cross that appears to be at a faster rate than the natural weathering processes on other areas of the crosses.

Open joints between the cap-stone and the head of the cross, and the shaft and base stone are allowing water ingress which may be causing deterioration of the internal fabric of the cross.

The structural condition of the internal fabric is not known and further non-destructive external and internal testing should be carried out to provide more information.

Tall Cross

Significant loss of sandstone to the lower sections and the high degree of weathering below the main central cross section may cause structural problems.

Damage and wear by visitors appears to have caused some loss of carved and surface detail to the lower sections of the Tall Cross. This decay and loss of detail appears to be at an increased rate and occurring more variably in comparison to surface loss due to natural weathering on other higher level areas of the crosses.

Open joints between cap-stone and the head of the cross, and the shaft and base stone of the Tall Cross is allowing water ingress which may be causing deterioration of the internal fabric.

North Cross

The North Cross appears to be leaning which may indicate that the cross is unstable.

Loss of carved detail is evident due to weathering progressing along bedding planes on the ring and the head of the cross.

The relatively new section of the North Cross shaft is limestone (not sandstone as original) with some cement repairs. Water run off from the limestone and cement to the sandstone below will accelerate weathering of the sandstone base below.

Open joints between head of the cross, the shaft, and base stone of the North Cross are allowing water ingress which may be causing deterioration of the internal fabric.

3 Recommendation for conservation of carved High Crosses

3.1 *No physical contact with the crosses*

Given the anecdotal evidence from the Monasterboice Tour Guides Committee, visitors to the site must be prevented from touching the crosses and causing accelerated wear and damage to the lower sections of Muiredach's Cross and the Tall Cross.

3.2 *Survey and Record – setting a baseline*

Without further knowledge of the internal fabric of the sandstone and the stability of the structures at the major joints, it is not possible to put forward conservation protocols for the crosses that are fully informed. However, for all three high crosses, exposure to environmental conditions at this site is causing weathering of the sandstone through granular disintegration, scaling and flaking by wetting and drying and freeze-thaw action. In addition, biological colonisation can cause loss of stone fabric.

High definition laser scanning would accurately record the carved surface of the crosses in three dimensions, and is required as a matter of urgency to set a baseline for further analysis.

It is our recommendation that the additional non-destructive surveys including, but not limited to, Ground Penetrating Radar¹, or Probe Permeability testing², be carried out prior to any decisions being made regarding the treatment of the high crosses.

3.3 *Assess rate of deterioration*

Rates for the weathering processes are not currently known. Comparison of photo images is anecdotal and do not provide an accurate assessment of how quickly weathering proceeds. The photos show that some areas of the stone fabric that are subject to weathering processes over the last 20-30 years.

¹ Ground Penetrating Radar survey assesses the structural stability to identify the presence of any subsurface fractures, joints or voids that constitute a potential risk to the fabric of the crosses.

² Probe Permeability survey tests the stone surface to record patterns of moisture absorption and their association with subsurface fractures and voids.

The most accurate way of assessing the rate and progression of deterioration would be to establish a programme to regularly re-scan the vulnerable areas of the crosses with high definition laser scanning, from which the rate of weathering can be calculated.

3.4 *Consider further action if rate of decay is rapid.*

If, after analysis of the survey results, the rate of weathering to the crosses is found to be at an increased rate, consideration should then be given to identifying appropriate action to reduce the decay of the crosses by limiting the moisture absorption to the sandstone surface. Examples include covering the structures *in situ* or relocating the crosses to an indoor environment.

3.5 *Consider the impact of proposed actions*

The impact of changes in environmental conditions and potential damage to stone fabric during removal must be fully evaluated fully before any consideration is given to covering the structures *in situ* or moving them to an indoor location.

Analysis of baseline survey data and an assessment of the impacts and risks for each option are required to make informed conservation decisions about the various options available to slow the rate of deterioration on the high crosses, and for their long term protection and preservation.

Appendix 9-Figures

Fig. 1 (a)	SOUTH CROSS: EAST FACE
Fig. 1 (b)	SOUTH CROSS: WEST FACE
Fig. 1 (c)	SOUTH CROSS: NORTH FACE
Fig. 1 (d)	SOUTH CROSS: SOUTH FACE
Fig. 1 (e)	WEST CROSS: WEST FACE Photo Comparison
Fig. 2 (a)	WEST CROSS: EAST FACE
Fig. 2 (b)	WEST CROSS: WEST FACE
Fig. 2 (c)	WEST CROSS: NORTH FACE
Fig. 2 (d) (i)	WEST CROSS: SOUTH FACE
Fig. 2 (d) (i)	WEST CROSS: SOUTH FACE
Fig. 2 (e)	WEST CROSS: WEST FACE Photo Comparison
Fig. 3	NORTH CROSS

Fig 1. (a) SOUTH CROSS: EAST FACE



Fig. 1 (b) SOUTH CROSS WEST FACE



Fig. 1 (c) SOUTH CROSS: NORTH FACE



Fig. 1 (d) SOUTH CROSS: SOUTH FACE

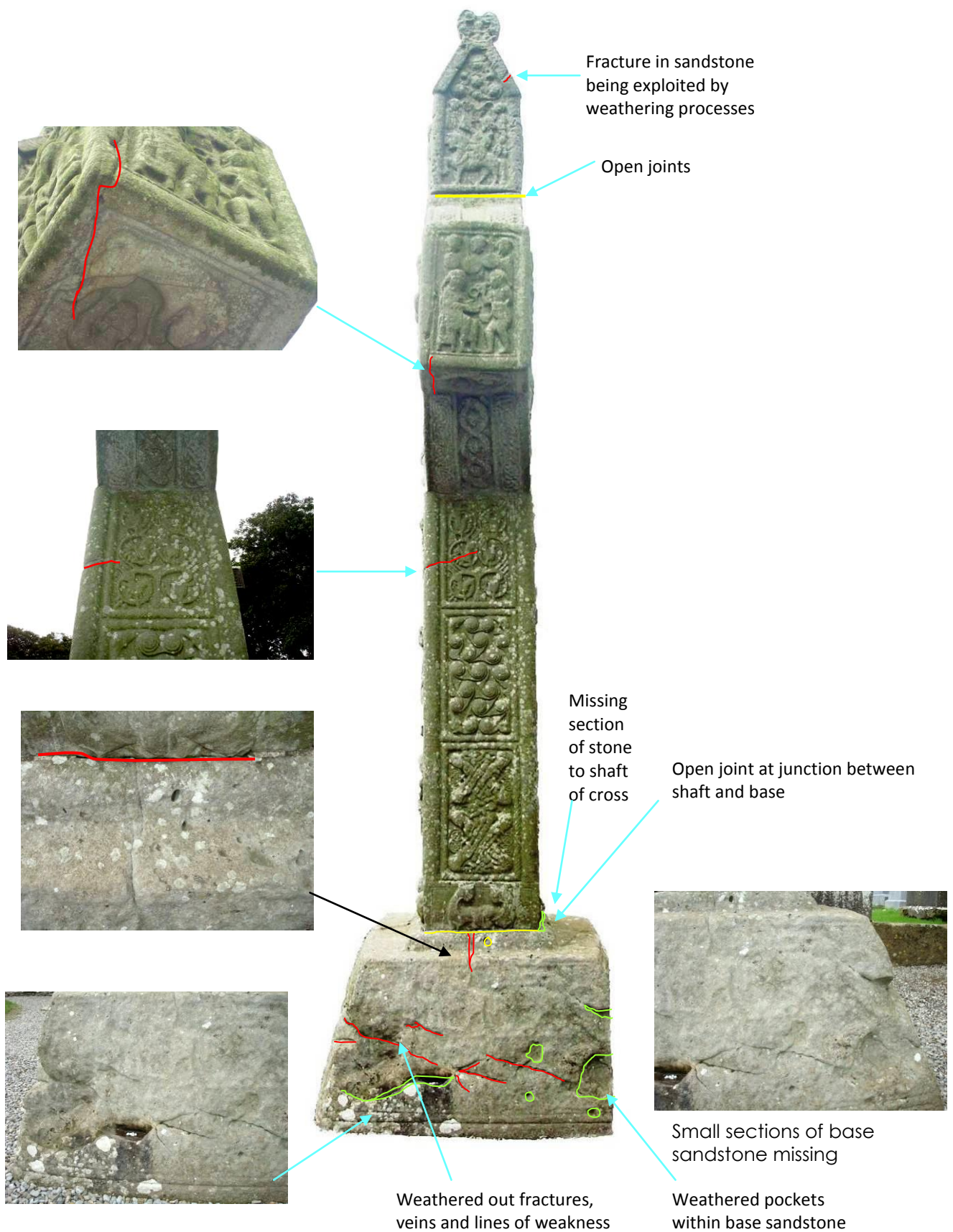


Fig 2 (e) WEST CROSS: WEST FACE
PHOTO COMPARISON



Black & White Photo taken ~1981



Note:
Loss of
carved
detail to
the base
stone

Images form September 2008 Survey

Fig. 2 (a) WEST CROSS: EAST FACE



Fig. 2 (b) WEST CROSS: WEST FACE





Fig. 2 (c) WEST CROSS: NORTH FACE



Fig 2 (d) (i) WEST CROSS: SOUTH FACE

The section below the main central cross is more weathered and scaling evident on this elevation.

The more weathered top to the shaft could indicate that the top of the cross shaft was exposed for a period of time before the central section was refixed.

Weathering along a natural weakness in the stone

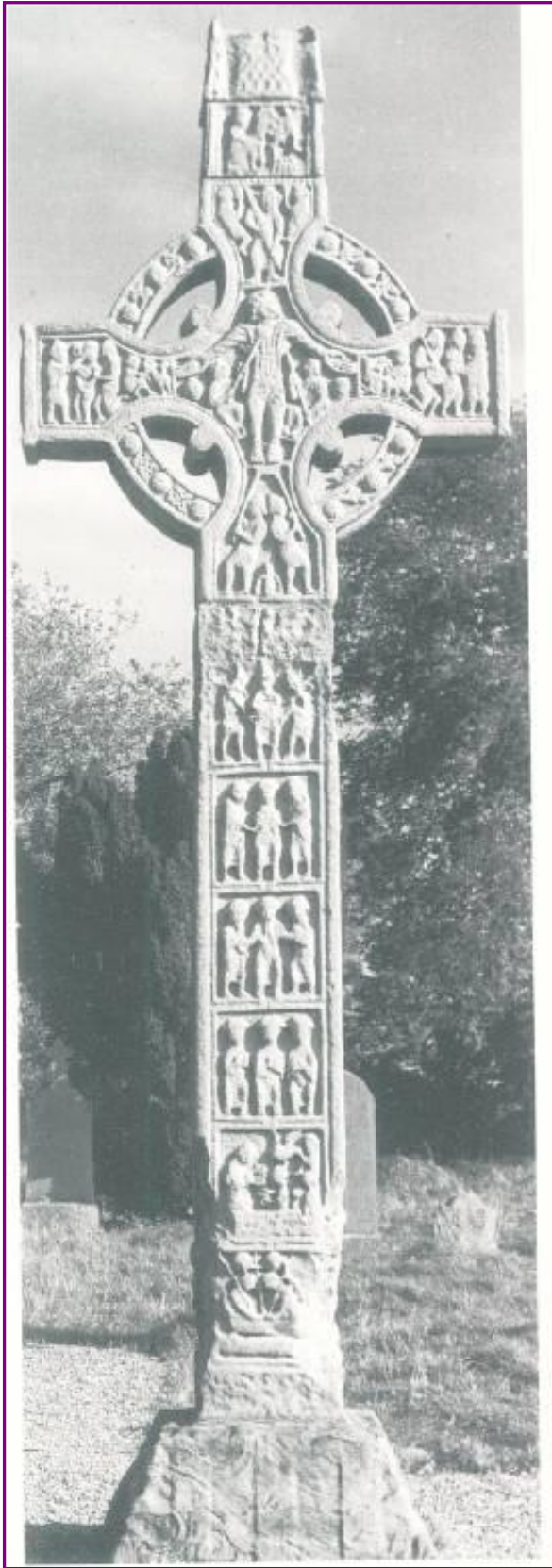
Sandstone scale appears loose

Loss of carved detail directly below central section



Fig 2 (d) (i) WEST CROSS: SOUTH FACE





Black & White Photo taken ~1981

Fig 2 (e) WEST CROSS: WEST FACE
PHOTO COMPARISON



Note:
Loss of
carved
detail to
the base
stone

Images from September 2008 Survey

Fig 3. NORTH CROSS



Limestone section



Weathered bedding plane or joint infilled as a repair

NOTE: Lean to North Cross.
Weathering of the sandstone cross
Appears to be proceeding along bedding planes
parallel to outer surface causing scaling.

Sandstone remnants. Have been
repaired and braced



Junction between limestone and sandstone,
Note also cement repair and open joints

