

WASC 2183 ●

BALLINCOLLIG

Study on the Future

Binder on Shelves

The Royal Gunpowder Mills

Ballincollig, Co. Cork

***A Study on the future of this Monument
Conservation – Preservation – Tourism potential***



Tourism & Heritage Consultancy

October 2007

1. Contents

1.	CONTENTS.....	2
2.	EXECUTIVE SUMMARY.....	6
	<i>Map of Royal Gunpowder Powder Mills.....</i>	<i>9</i>
3.	PRESENT STATUS OF THE ROYAL GUNPOWDER MILLS AND REGIONAL PARK....	12
	<i>Designations.....</i>	<i>12</i>
	<i>Protected Structure Responsibilities</i>	<i>12</i>
	<i>Park Management</i>	<i>12</i>
	<i>Car Parking.....</i>	<i>12</i>
	<i>Present status of Regional Park.....</i>	<i>12</i>
	<i>Woodland Management</i>	<i>13</i>
	<i>Paths for the Disabled.....</i>	<i>13</i>
	<i>Signage.....</i>	<i>13</i>
	<i>Safety Audit</i>	<i>13</i>
	<i>Buildings Conservation Plan</i>	<i>15</i>
	<i>Site decontamination.....</i>	<i>15</i>
	<i>Tidy Towns.....</i>	<i>15</i>
	<i>Visitor Facilities.....</i>	<i>15</i>
	<i>Site coordination.....</i>	<i>16</i>
	<i>Site Security.....</i>	<i>17</i>
4.	AN APPROACH TO CO-ORDINATED SIGNAGE.....	18
	DETAILED SIGNAGE PROPOSALS	21
	<i>1. Advance signage.....</i>	<i>21</i>
	<i>2 - Directional signage from town centre</i>	<i>22</i>
	<i>3 - Signage requirements in the Royal Gunpowder Mills and Regional Park areas.....</i>	<i>23</i>
	<i>4 - Amenity Walks and nature areas signage</i>	<i>24</i>
	<i>5 - Building Information Panels.....</i>	<i>24</i>
	<i>6 - Public Information Panels</i>	<i>24</i>
5.	VISITOR CENTRE FUTURE.....	26
	<i>Visitor Centre.....</i>	<i>26</i>
	<i>Restored Incorporating Mill.....</i>	<i>28</i>
	<i>Cork County Heritage Unit.....</i>	<i>28</i>
	<i>Cholaiste Cholm / UCC</i>	<i>29</i>
6.	MARKETING ISSUES	30
	<i>Introduction.....</i>	<i>30</i>
	<i>What is to be marketed?.....</i>	<i>30</i>
	<i>The Irish domestic market.....</i>	<i>30</i>
	<i>The marketing mix.....</i>	<i>31</i>
	<i>Who should be involved in marketing and promotion?.....</i>	<i>31</i>
	<i>Who carries marketing responsibility for the Royal Gunpowder Mills?.....</i>	<i>31</i>
	<i>Marketing Budget.....</i>	<i>31</i>
7.	SITE INTERPRETATION	33
	INTRODUCTION.....	33
	<i>Building Analysis</i>	<i>38</i>
	<i>Recommendations on the clearing of growth from key buildings.....</i>	<i>38</i>

DONALDSON Tourism & Heritage Consultancy
Feasibility Study - The Royal Gunpowder Mills, Ballincollig, Co. Cork

CANAL CLEARANCE.....	39
<i>Western section</i>	39
<i>Incorporating Mills area</i>	40
<i>Goat's Island area</i>	40
<i>Middle Section</i>	40
<i>Original Canal</i>	41
<i>Eastern section short canals</i>	41
EXCAVATION.....	41
<i>Tramway</i>	41
<i>Corning House / Mill near Beech Walk</i>	42
<i>Press House beside the River Lee</i>	42
<i>Site Tours</i>	43
<i>The Royal Gunpowder Mills site layout</i>	45
<i>Building Analysis</i>	46
INTRODUCTION.....	46
<i>Accommodation for Mill workers</i>	46
<i>Barn, Cow Sheds and Cow House</i>	47
<i>Blacksmith's Shop</i>	47
<i>Boat turning area</i>	47
<i>Bridges</i>	47
<i>Building – use uncertain</i>	48
<i>Original Canal</i>	48
<i>Cart House</i>	48
<i>Charcoal Burning Houses or Cylinder Houses</i>	48
<i>Charge Houses</i>	49
<i>Cooperage</i>	49
<i>Corning House</i>	49
<i>Cottage</i>	49
<i>Culm Yard</i>	49
<i>Dispensary</i>	49
<i>Dressing House</i>	50
<i>Drying House</i>	50
<i>Dusting Houses</i>	50
<i>Dwelling</i>	50
<i>Fire Engine House</i>	50
<i>Foreman's House</i>	51
<i>Forge</i>	51
<i>Glazing House</i>	51
<i>Guard Houses & Watch Houses</i>	51
<i>The Round Tower Watch House</i>	51
<i>The Grand Watch House</i>	52
<i>Mill Keeper's House / Watch House</i>	52
<i>Other Watch Houses</i>	52
<i>Gun Stand</i>	53
<i>Harness Makers Shop</i>	53
<i>Houses</i>	53
<i>Lime Kiln</i>	53
<i>Magazines</i>	54
<i>Mills</i>	55
<i>Charcoal Mill</i>	56
<i>Mixing House</i>	56
<i>Press House</i>	56
<i>Refineries</i>	57
<i>Roads</i>	57

<i>Sawmills</i>	57
<i>Shed</i>	58
<i>Sieve House</i>	58
<i>Sluice Gates</i>	58
<i>Stables</i>	59
<i>Stave Shed</i>	59
<i>Steam Stove & Drying Houses</i>	59
<i>Stores</i>	60
<i>Stove</i>	61
<i>Straining Shop</i>	61
<i>Timber Drying House</i>	61
<i>Tramway</i>	62
<i>Water Engine House</i>	62
<i>Weighing House</i>	63
<i>The Weir</i>	63
<i>Wheelers Shop</i>	63
<i>Workshops</i>	63
8. SURVIVING MOVABLE ARTIFACTS	64
INTRODUCTION	64
<i>Tube in Charge House No 2</i>	64
<i>Metal Bar</i>	64
<i>Metal Flange</i>	65
<i>Mooring Rings</i>	65
<i>Turbine</i>	65
<i>Fireplaces</i>	66
<i>Hydraulic Press</i>	66
<i>Steam Valve</i>	66
9. WILDLIFE OF THE REGIONAL PARK.....	67
<i>UCC Study</i>	67
10. BEST PRACTICE IN UK	68
<i>Introduction</i>	68
THE GUNPOWDER MILLS VISITOR CENTRE AT WALTHAM ABBEY IN ESSEX.....	68
<i>Advance Signage</i>	68
<i>Site Designations</i>	69
<i>Brief History</i>	69
<i>Opening Times & Admission costs</i>	69
<i>Staffing</i>	69
<i>Site layout</i>	70
<i>Canals</i>	70
<i>Visitor Centre</i>	70
<i>Retail area</i>	72
<i>Information Panels</i>	72
<i>Powdermills buildings</i>	73
<i>Nature and wildlife</i>	74
<i>Summary</i>	74
<i>Website</i>	74
<i>Site marketing</i>	75
<i>Site signage</i>	75
<i>Volunteers</i>	75
<i>Visitor handling</i>	75
<i>Ongoing management and maintenance funding</i>	75

.....	77
THE OARE GUNPOWDER WORKS AND COUNTRY PARK NEAR FAVERSHAM IN KENT	77
<i>Introduction</i>	77
<i>Advance Signage</i>	77
<i>Site Designations</i>	77
<i>Opening Times</i>	77
<i>Brief History</i>	77
<i>Site layout plans</i>	78
<i>Visitor Centre</i>	78
<i>Walks</i>	79
<i>Viewing areas</i>	79
<i>Information Panels</i>	79
<i>Powdermills buildings</i>	80
<i>Nature and Wildlife</i>	81
<i>Gunpowder Trail</i>	81
<i>Summary</i>	82
<i>Website</i>	82
<i>Site marketing</i>	82
<i>Volunteers</i>	82
<i>Ongoing management and maintenance funding</i>	82
THE CHART MILLS IN FAVERSHAM IN KENT	83
<i>Introduction</i>	83
<i>Advance Signage</i>	83
<i>Brief History</i>	83
<i>Staffing</i>	83
<i>Site Layout</i>	84
<i>Information Panels</i>	84
<i>Buildings</i>	85
<i>Summary</i>	85
<i>Website</i>	85
<i>What we can learn from the UK experience?</i>	86
11. FIVE YEAR PLAN 2007 – 2012	88
<i>Introduction</i>	88
<i>Cork County Council legacy</i>	88
<i>Cork County Council – Royal Gunpowder Mills funding</i>	88
<i>Policy recommendations</i>	88
<i>Present projects</i>	95
12. POTENTIAL FUNDING SOURCES.....	97
INTRODUCTION	97
<i>Funding by other agencies</i>	97
<i>Cork County Council</i>	97
<i>The Heritage Council</i>	97
<i>Faillte Ireland EU Capital Programme</i>	97
<i>Department of the Environment, Heritage & Local Government</i>	98
LEADER.....	98
<i>Funding projections</i>	98
<i>Potential capital investment 2008 - 2012</i>	100

2. Executive Summary

This study was commissioned by the Cork County Historic Monuments Advisory Committee of Cork County Council under the direction of the Cork County Archaeologist. A most useful and positive contribution to this work was made by Ger Power, Head of Finance, Cork County Council when this report was at draft stage.

The study is presented in two volumes the first of which is a Data Base prepared by this consultant that details over 100 buildings and structures associated with the Royal Gunpowder Mills site at Ballincollig. Approximately 65% of these buildings and structures survive today.

The main study first reviews the present status of the Royal Gunpowder Mills and Regional Park and then considers a coordinated approach to the signage of the Royal Gunpowder Mills and Regional Park. A six level approach to external and internal signposting is recommended.

The Study recommends the early transfer of the Heritage Unit of Cork County Council to the old Heritage Centre in Ballincollig at the eastern end of the site. Consideration is then given to an outline approach to the marketing of the Royal Gunpowder Mills and Regional Park.

The next section of this Report considers the issue of interpretation at the Royal Gunpowder Mills and continues with a building analysis and recommendations on priority buildings for stabilization and clearance. The issue of movable artifacts presently on site is next considered and the wildlife of the Regional Park area is briefly discussed in the context of the Study carried out by UCC in 2005.

Best practice in terms of some of the main UK Gunpowder Mills is then examined and key points from the three centres visited in Britain are highlighted. A five year plan for the development of the Royal Gunpowder Mills at Ballincollig is next considered. This encapsulates the recommendations made earlier in this Report and suggests an implementation programme. In all a total of 32 recommendations for action are made.

The key recommendation is that Cork County Council commits significant annual funding to the Power Mills to allow the Authority to exercise its responsibilities towards this Record of Protected Structures (RPS) site under the Planning and Development Act 2000.

The final section of the Report suggests how the funding of the five year plan in the period 2008 to 2012 might be approached. If the recommended funding levels can be achieved over the planning period then an investment of €1,000,000 in the Regional Park / Royal Gunpowder Mills is possible.

Map of Royal Gunpowder Powder Mills

The Ordnance Survey map on the previous page illustrates the location of the Royal Gunpowder Mills site in the context of the River lee and Ballincollig. The site area is highlighted in green.

Introduction

The Royal Gunpowder Mills at Ballincollig¹ is an industrial archaeological site of enormous national and international importance. In about 1993 the word 'Royal' was dropped from usage by Cork County Council. The view then was that the use of this had a negative impact on visitor numbers. This consultant who was involved with the project in the early dates never received any evidence to support this view. It is strongly recommended that the full title be used in the future.

In late October 1977 Cork County Council commissioned An Foras Forbartha to prepare a report on the Ballincollig Gunpowder Mills. This report was asked to consider the feasibility of the restoration of some of the buildings for amenity purposes and highlighted the restoration potential of the Incorporating Mills area. A pilot study carried out by Cork County Council in 1985 identified six stages in a conservation and restoration programme for the Incorporating Mills area in the eastern section. A few years later the Incorporating Mills area was to the public in 1987.

It is also a site that is little understood or appreciated by the people of Ballincollig or Cork County. However the site which forms the Ballincollig Regional Park is widely used and appreciated as a riverside recreational area of some beauty. Hammond² has described this site as follows "...Ballincollig Gunpowder complex is of national and international importance, illustrating a manufacturing process, technology, and way of life of a bygone era.....". In 1943 the Irish Tourist Association examined Ballincollig and the mills area as part of a national survey of potential visitor development³. The linear length of the Powdermills site is approximately 2.5 kms, and the site finally closed in 1903 just over one hundred years ago. An Foras Forbartha reported on the Powder Mills in May 1978 followed by a BSM investigation in 1979. Cork County Council carried out a study on the site in 1985. The Incorporating Mills area opened to the public in 1987.

The industrial archaeological importance of the site is therefore little understood or appreciated despite study work completed in the past. The Powdermills at Ballincollig rank as the most important and largest industrial archaeological site in Cork County and in Ireland. It occupies a total of 52.6 hectares (130 acres) along the southern bank of the River Lee. This site ranks as the second largest industrial archaeological site in Europe⁴

In terms of importance the Royal Gunpowder Mills at Ballincollig rank with the gunpowder mills at Waltham Abbey and at Faversham north and east of London in Britain. Indeed Ballincollig had some links with these sites as they were all at one time owned and managed by the British Government. The mills at Ballincollig also had periods of private ownership.

The point has been made above that the site is little understood. It is an enormously complex linear site. The 18th and 19th century gunpowder manufacturing process was a long and complicated one and the Ballincollig site has the remains of approximately 67

buildings and structures associated with this process. The majority of these buildings are roofless and badly overgrown. Another 36 buildings or structures are not believed to survive today. In 1805 the site had approximately 60 buildings.

The visitor is offered absolutely no interpretative on-site assistance and the site dedicated Visitor Centre is now closed. The surviving canal system is equally complicated in layout and totally confusing to even the most serious visitor. The canal system totals an estimated 6.4 kms (4 miles).⁵ The late George Kelleher estimated that the canal system had the ability to produce a water power output of 350 horse power which was quite considerable for its time. The canal system is important in wildlife terms and this potential of the site is also undeveloped. The Oare Gunpowder Works near Faversham in Kent have been successful in developing and marketing the wildlife aspect of their important gunpowder mills site.

This site has the potential to become one of the most interesting and educational valuable industrial archaeological sites in Ireland. However this will require major commitment from Cork County Council and the Cork County Historic National Monuments Advisory Committee who have shown great interest in the potential of the site.

The Regional Park⁶ which is the Gunpowder site is a most popular recreational area for the residents of Ballincollig and further afield. However the signage of walking routes is at the best limited and basic. Again there is no attempt made to offer an interpretative approach to the flora and fauna of the Regional Park. This is another lost opportunity.

3. Present status of the Royal Gunpowder Mills and Regional Park

Designations

The Royal Gunpowder Mills is a designated archaeological site (SMR C0073-043-) and a protected site as Natural Heritage Area (NHA) No. 94. It is also listed in the Record of Monument and Places (RMP) and in the Record of Protected Structures (RPS).

Protected Structure Responsibilities

As a protected structure Cork County Council considers it to be of special interest from an architectural, historical, archaeological point of view. The RPS forms part of the County Development Plan. The legislation which protects such structures is the Local Government (Planning and Development) Act, 1999. All the Local Government (Planning and Development) Acts from 1963 to 1999 have now been consolidated in the Planning and Development Act 2000. Part IV of 2000 Act. The owner must ensure that neither a protected structure, nor any element of a protected structure that contributes to its special interest, is endangered through harm, decay or damage, whether over a short or long period, through neglect, through direct or indirect means. The protection applies to all parts of the structure that contribute to its character and special interest, including its interior, surrounding land or 'curtilage', any other structures on that land, their interiors, and all fixtures and features of these structures.

Park Management

Cork County Council employs four staff to manage the maintenance of the Regional Park / Royal Gunpowder Mills. The annual budget for the management of the Regional Park appears to be approximately €150,000 which seems low for the area covered by the Park.

Car Parking

Good car hard surfaced car parking facilities have been provided by Cork County Council at the western entrance to the site. At the eastern entrance the GAA car park was open and used by visitors to the Regional Park / Royal Gunpowder Mills until recently. The gate is now closed (August 2007) and visitors have to park on the roadside in the litter and mud near the old Heritage Centre. This is a situation that needs urgent resolution.

Present status of Regional Park

The present public perception of the Regional Park is probably that the presentation of the park area is satisfactory. For example litter control on main pathway areas is really quite good but no work is underway in respect of the Royal Gunpowder Mills; canals are not being cleared of fallen trees and washed-in or dumped debris on an ongoing basis. Some of the old canals have considerable quantities of dumped litter and other rubbish.

Woodland Management

The Heritage Unit of Cork County Council has submitted an extensive proposal under the NeighbourWood Scheme for the development of woodland and associated projects in the Regional Park. The NeighbourWood Scheme operated by the Forest Service of the Department of the Marine and Natural Resources is currently being reviewed following its launch in 2001. The first scheme came to the end of its five year cycle at the end of 2006. If the funding application (100% grant sought) for the Regional Park is successful the work will include the following areas –

- Removal of the non-native Sycamore
- Some new planting of Oak, Holly, Rowan and other native species
- Limited Information Panels and directional signage.

It is planned that this work programme will run over a four year implementation period until the end of 2011. A Woodland Management Programme for the first four years is included in the project and hopefully this will be taken on by Cork County Council; at the end of that four year period. The total cost of the above project is estimated at €200,000.

Paths for the Disabled

Cork County Council has prepared an extensive development programme of paths for the disabled in the Regional Park / Royal Gunpowder Mills area. This will largely involve the redevelopment of the existing spinal path that runs east-west through the site. An estimated linear length of 2,500 metres is involved of tarmac pathway 2.5 metres wide. Work on Phase 1 of three phases started in October 2007. There is a potential completion of the programme by the end of 2008. The first phase will involve work on the path from the western entrance along by the sports field as far as the Weir and return to the eastern car park. Re-grading and re-leveling is involved together with the construction of picnic areas and shelters.

Signage

Signage to the Royal Gunpowder Mills is non – existent. In the advance signposting for Ballincollig or at the town entrance there is absolutely no reference to the presence of the mills. This represents a lost tourism opportunity for a town on the Killarney to Cork City route used by so many visitors. While it is of course essential that the closed Visitor Centre was not indicated in any way by signage, the main powder mills itself could have been and should have been properly signed since 1988.

It is essential that there is a coordinated approach to the signposting of both the Regional Park and the Royal Gunpowder Mills.

Safety Audit

A draft of the Safety Audit carried out for Cork County Council by Phoenix Consulting on the Gunpowder Mills property has recently been received by the Council (August 2007). It is critically important that this Audit does not result in various parts of the overall complex being closed permanently to the public. The complex must be seen as a

totality and the removal of any buildings from visitor access will compromise the overall impact of this archaeological heritage site of international importance. The addressing of any safety issues that may result from the Audit should be done in the context of the overall five year plan for the site proposed in this Report.

The audit results in as far as the effect the heritage area were as follows –

Low risks -	2
Medium risk -	11
High risk -	4

This represents approximately 21.5% of the risk areas detailed in that audit. These areas are detailed in the following table.

Site	Audit Reference	Risk level
Round Tower Watch House (internal)	2.13	Medium
Sluice Gates	2.15	Medium
Damaged stone wall in eastern section	2.21	Medium
Footbridges	2.24 2.32	Medium
Expense Magazine No. 1 <i>The location of this risk is not clear from the audit document</i>	2.26	Medium
Sorensen,s Gate Footbridge	2.27	Medium
Sorensen,s Gate grating	2.28	Medium
Front of Heritage Centre	3.1	Medium
Side entrance to Heritage Centre and back of building	3.3	Medium
Wooden footbridges at back of Heritage Centre	3.6	Medium
Charge House No. 1 near Heritage Centre	3.9	Medium
Incorporating Mills area in eastern section	3.7	High
Powder Mills ruins in eastern section	2.35	High
Watch House in ruins <i>The location of this risk is not clear from the audit document</i>	2.63	High
Round Tower ruin alongside canal <i>The location of this risk is not clear from the audit document</i>	2.33	High
Restored Incorporating Mill	3.10	Low

Restored Incorporating Mill – wheel pits

3.12

Low

It is most encouraging to see that the Royal Gunpowder Mills heritage area has come through this audit relatively well. The planned Conservation Plan for the Powder Mills will seek methods of improving building safety without compromising archaeological integrity.

Buildings Conservation Plan

Cork County Council plans in 2008 to have a Buildings Conservation Plan prepared for the complex. Many buildings are being damaged by tree growth that has undermined the walls of buildings and other structures. Urgent attention is therefore required. Following the publication of the Buildings Conservation Plan it is recommended that a small group of *Friends of the Powder Mills* be assembled that can work on the careful removal of trees and briars from the various buildings and structures under strict professional archaeological and conservation guidance. Chapter 8 of this Feasibility Study suggests what buildings require tree and briar removal. A sum of approximately €20,000 will need to be provided for this plan in early 2008.

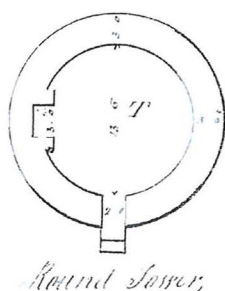
Site decontamination

Site decontamination was carried out at both Waltham Abbey and Faversham before the sites were opened to the public. This process has never been undertaken at Ballincollig. As the site has been open to the public for many years without problems in this regard it may not be necessary to carry out this complex and costly decontamination process. Professional advice on this matter is however recommended.

Tidy Towns

Suggestions have been made that signposting of the Regional Park is required in the context of the 2005 Baseline Survey commissioned by Ballincollig Tidy Towns Committee of the Flora and Fauna of the Park. It is recommended that this signage be deferred pending agreement on the implementation of the overall signage recommendations made in the present Report.

Visitor Facilities



Visitor facilities at the Regional Park / Royal Gunpowder Mills are practically non-existent with the exception of a few picnic seats and benches, at least one of which is inappropriately located beside one of the earliest buildings on the site.

It is recommended that active consideration be given to the restoration of the Round Tower Watch House at the western entrance. This is one of the earliest buildings on the site and is shown on the 1818 drawings as the 'Round Tower Watch House', but is not marked on the 1896 drawings. It has an external diameter of 19'6" and the rectangular structure attached to the tower is of later

date. The building was occupied in July 1943 and is now believed to store machinery and Park maintenance tools. It is further recommended that this building be used as a teas / coffees and light refreshments outlet in the period June to August initially on Saturdays and Sundays and Bank Holidays. A public toilet will be required to support this facility. It is understood that there may be problems in regard to waste disposal for toilets and pumping uphill to the Ballincollig system might be required. This building was mentioned in the *Safety Audit Report*.

Simple interpretative panels should be provided in the building to provide some site orientation for visitors who enter the Powder Mills from the western approach. This building has been in need of roof repairs for many years and this issue must be addressed urgently by Cork County Council.



Site coordination

It is recommended that a Royal Gunpowder Mills / Regional Park Management Group be established in Cork County Council that will direct future policy for the Mills and the Regional Park. The following Group membership is suggested –

- Heritage Unit
- Planning Department
- Finance Department
- Manager Regional Park
- County Archaeologist
- Engineer in charge of disabled pathways project
- Cork County Historic Monuments Advisory Committee
- Environment Department
- County Cork Heritage Forum
- Ballincollig Heritage Association

It is recommended that the Group be Chaired by the Divisional / Functional Manager with responsibility for the Mills and Regional Park area – Southern Division Hinterland.

The work of this group focus on the coordination of three strands of work at the Royal Gunpowder Mills / regional Park as follows –

1. Work of an industrial archaeological nature
2. NeighbourWood development
3. Disabled pathways development

Site Security

There are security issues in regard to the Royal Gunpowder Mills / Regional Park site. In the early morning and evening time before / after closing times there are problems in regard to the use of motor bikes that use existing pathways through the site. Informal new pathways are being created in the same way with consequent conservation damage.

It is strongly that existing breaches in the 400 metre metal fencing that is supposed to secure the site be repaired. A serious breach has occurred at the rear of Innishmore estate, and this is mentioned at 2.36 in the *Safety Audit Report*. It is further recommended that on site security patrols during periods of site closure be seriously considered. Discussions on security with the Gardai are recommended. The development of the new disabled pathway through the Regional Park / Royal Gunpowder Mills area hopefully will not encourage further use of motorised vehicles in the Park during closed periods as has happened in the past.

4. An approach to co-ordinated signage

It has been pointed out earlier in this Report that the present signage for the Royal Gunpowder Mills and the Regional Park is practically non-existent. The few signs that do exist are in poor condition and neglected. The Safety Audit Report at 2.2 indicates the following requirements '*Walking routes clearly marked*' and '*Map layout of the parks four entrances*'.

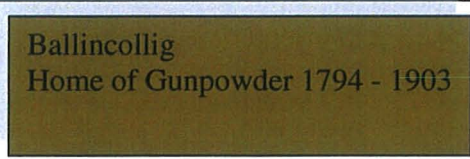


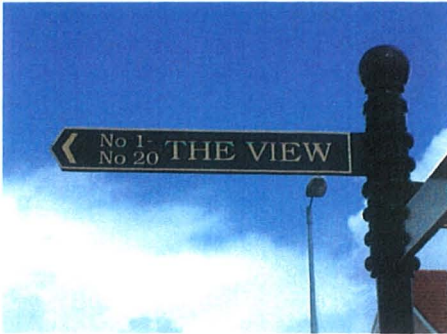

The sign illustrated here is located at the pedestrian entrance at Innishmore; the supporting poles are rusty and the sign itself is badly defaced and damaged. One of the most important industrial archaeological sites in Ireland deserves so much better



treatment in terms of public identification.


It is strongly recommended that a six level colour coordinated signposting and information system is provided for the Royal Gunpowder Mills and Regional Park. The proposed approach is summarised as follows.

1. Advance road signage subject to NRA requirements. The case must be made by Cork County Council to the NRA that this is a site of true national and international importance.
2. Fingerpost signs from Ballincollig to Powder Mills, Regional Park and British Military Graveyard
3. Signage within Regional Park to 24 individual Powder Mills buildings believed to have high interpretative potential. This programme to be followed by signage of a further 21 buildings with medium interpretative potential.
4. Amenity Walks some of which are already signed
5. Information panels at individual Powder Mills buildings
6. Public Information Panels

Format for Signs	No.	Content	Colour	Format
	1	Advance road signage for Ballincollig branding in context of	Green	Rectangular

Format for Signs	No.	Content	Colour	Format
		Gunpowder Mills		
	2	<p>Directional Fingerpost signage from town centre to -</p> <p>Regional Park</p> <p>Royal Gunpowder Mills</p> <p>Old British Military Graveyard</p>	Gold on black to match other fingerposts planned for town centre	Fingerpost
	3	Royal Gunpowder Mills buildings	Number sequence starting at 1	Colour coded Oak Posts 1 metre out of ground and 0.5 metre in ground with steel bar through to prevent turning or removal.

Format for Signs	No.	Content	Colour	Format
	4	Amenity walks and nature areas	Arrows to be used	Continuation of present limited format as illustrated left.
	5	Individual building information panels for Royal Gunpowder Mills buildings. Vertical panel mounting required on some buildings.	Number sequence keyed to Oak Posts	Weather proof panels with stainless steel framework.

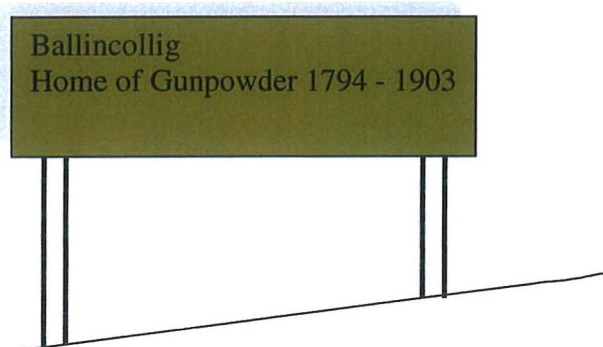
Format for Signs	No.	Content	Colour	Format
	6	Public information panels at strategic locations that inform the public in regard to the Royal Gunpowder Mills, Amenity Walks and the old British Military Graveyard.	Green frame	Stainless steel frame with vandal proof glass

Detailed signage proposals

1. Advance signage

The Powdermills should be incorporated into advance signage for Ballincollig on key approach roads. Such signs were in place up to a few years ago and mysteriously disappeared. Such inclusion is warranted on the basis that the site is of acknowledged national and international importance. This case must be made by Cork County Council to the NRA in the context of their 'Policy on the Provision of Tourist & Leisure Signage on National Roads'.

A suggested layout for new advance signage is indicated below.



It is recommended that these new signs be located at or near the following locations on the main approaches to Ballincollig.

- a. Poulavone Roundabout from N22
- b. On approach from Bye-Pass Link Road
- c. Western Roundabout – name??
- d. Inniscarra Bridge area on both sides of the bridge

2 - Directional signage from town centre

Directional fingerpost signposting from the town to the three entrances – western, Innishmore and eastern is required. No such signposting exists at the present time thus making it difficult for visitors to the town to access the site. This signage should also include directional signage to the old British Military Graveyard⁷ located just off the access road to the eastern entrance to the Powder Mills.

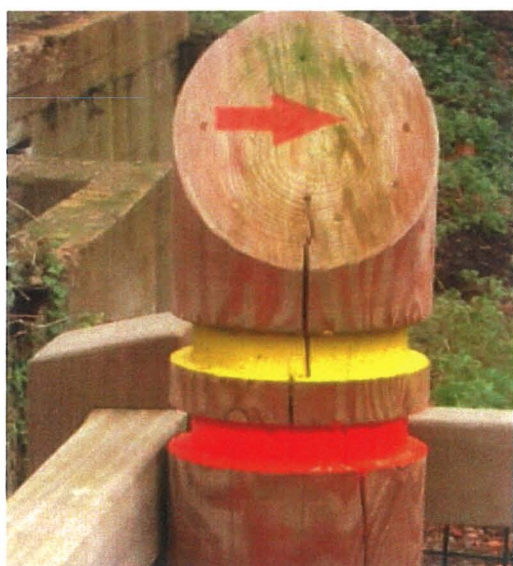
The following signage format is recommended as it is understood that there are plans to provide coordinated signage in Ballincollig to various local facilities and services. The Tidy Towns Committee is supporting this concept.



3 - Signage requirements in the Royal Gunpowder Mills and Regional Park areas

No signage exists at the present time to any of the Royal Gunpowder surviving 103 buildings and structures that have been identified in the Powder Mills Data Base developed by this Consultant.

A comprehensive set of fingerpost signs are believed to have been ordered for the Regional Park many years ago by Cork County Council with the cooperation of the then Cork Kerry Regional Tourism Authority. These signs were never erected and their whereabouts is not known to the author. It has been suggested that a total of 23 signs were ordered. Some signs were found by this consultant at the extreme eastern end of the Incorporating Mills area in deep under-growth in December 2006.



It is recommended that a comprehensive series of weather colour coded Oak posts 1 metre out of ground and 0.5 metre in ground with steel bar through the bottom to prevent turning or removal be provided within the Royal Gunpowder Mills / Regional Park area for the various buildings and sites associated with the gunpowder manufacturing process. The example illustrated here is from the Oare Works near Faversham in Kent. The colour coded system will allow the clear identification of different routes through the Royal Gunpowder Mills / Regional Park area.

It is recommended that an expanded version of the well established numbering system devised by Cork County Council for an earlier site brochure be used. It is also used in *Ballincollig Royal Gunpowder Mills* by Jenny Webb and Anne Donaldson, published by Nonsuch 2006. However the identification of additional buildings by this consultant requires that the established numbering system be extended beyond the 34 numbered structures on the County Council site brochure mentioned above. A total of 118 buildings and structures are listed in the site Data Base prepared for this Feasibility Study of which 67 are believed to survive in some form or other.

Each of these posts will require (a) a colour code or codes (b) an arrow and (c) a number for the appropriate Royal Gunpowder Mills building(s).

The proposed disabled path through the Regional Park / Royal Gunpowder Mills site will have a tarmacadam surface and a width of approximately 2.5 metres. It is recommended that the proposed Oak post directional signage will direct the public to individual buildings located on / off this spinal path.

4 - Amenity Walks and nature areas signage

Some very limited walks signposting exists such as that for *Beech Walk*, *Riverside Walk* and the *Canal Walk*. This amounts to just four signs for the complete Regional Park site.



Based on the information available in the 2005 baseline Survey of the Regional Park it is recommended that some signposting be provided for areas of special nature interest within the Regional Park / Royal Gunpowder Mills areas. This will tie in with the NeighbourWood project.

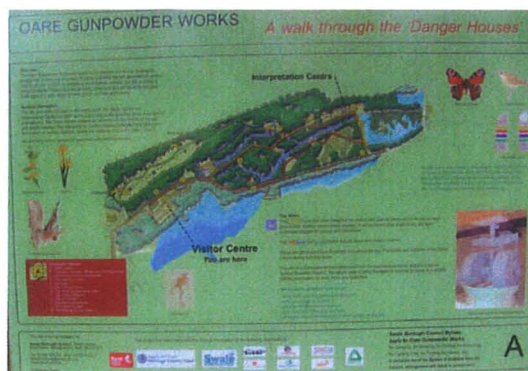
5 - Building Information Panels

It is recommended that as buildings are cleared and or excavated that an information panel be provided at each building to explain the function of that building in the context of the overall Powdermills site. The format illustrated in the following photographs is recommended. See Section 8 of this Feasibility Study that deals with site interpretation.



6 - Public Information Panels

Recommendations on the provision of public Information Panels at strategic locations within the Royal Gunpowder Mills site and in Ballincollig are made as follows. The illustrations below of public information panels are from the Oare Works near Faversham in Kent.



Recommended locations:

1. Car Park at western entrance
2. Car Park at eastern entrance
3. Inside pedestrian entrance at Innishmore
4. Town Shopping Centre in exterior plaza area – possible on the reverse of the proposed Tidy Towns Committee Ballincollig services panel
5. Along Main Street at eastern end near Aldi

It is possible that these panels can be funded by individual sponsor support for individual panels. The suggested concept for these information panels is that they will all be basically the same in terms of content and thus reduce production costs. The panels should be steel or oak framed with vandal proof glass or Perspex. The provision of these information panels is a recommendation also of the Safety Audit Report.

5. Visitor Centre future

Visitor Centre

The Visitor Centre developed by Cork County Council with European Union financial support opened in 1988 and subsequently closed in 1998 having been opened for a ten year period – the minimum required as a condition of the original grant aid. The building is now being used for non-tourism purposes by Cork County Council and other commercial organisations. The Visitor Centre building was never considered as being especially suitable for its task and was a difficult building to manage from a visitor point of view.

The building



This consultant does not feel that this building makes an architectural statement of any significance. It does not blend well with the existing gunpowder buildings in the immediate area, especially the nearby restored Charge House. Externally the building is now in need of maintenance.

Reasons for closure

The closure of the Visitor Centre effectively deprived the public of access to the eastern end of the Royal Gunpowder Mills site – the Incorporating Mills.

Cork County Council decided to close the Visitor Centre after a ten year period of operation basically because the operation was not viable and lost money in each year of operation. The highest number of visitors recorded in any one year was 7,000. The Heritage Centre would probably have required about 20,000 annual visitors to ensure financial viability. It must be acknowledged that the support that the centre received from the Ballincollig area was very poor and this is in contrast to the significant efforts made by the Ballincollig Enterprise Board in 1986 – 1987 to have the centre developed.

It can be argued that in agreeing to run the Heritage Centre at the time that Cork County Council was getting involved in tourism management, an area outside of their normal activities. If there had been a suitable established local organisation in Ballincollig with appropriate experience the centre might have survived a little longer. This is not to imply any criticism of Cork County Council who have done so much in the past for the powder mills.

The Heritage Centre closed in 1998 and in that year attracted less than 3,500 years. By that time it was loosing €70,000 per annum - a major sum nearly ten years ago. To the

credit of Cork County Council they had little choice at that time but to close the Heritage Centre.

Summary - Reasons for Heritage Centre closure

In summary the following are seen as the key reasons why the centre was not successful

- a. Insufficient home and overseas marketing activity
- b. Major unsustainable annual losses
- c. Poor visit support from the Ballincollig area
- d. Difficult building to manage
- e. Inadequate budget for interpretation

Marketing

Cork County Council did allocate marketing and promotional funds for the Heritage Centre. However the level of marketing expenditure and marketing activity never reached a level whereby the Royal Gunpowder Mills had any significant standing in Irish heritage tourism. For example this consultant coordinated the marketing activity of Cork Kerry Tourism for many years and the centre was infrequently represented at national promotions and never at overseas promotions. This activity would have been essential in profile building terms.

The product

There was an issue as to whether the product, ie The Royal Gunpowder Mills site and the associated Heritage Centre were of the required standard to attract the required visitor numbers. There is no doubt that the powder mills site could have been of great interest to home and especially overseas visitors given a higher level of marketing activity. However the Visitor Centre as indicated above was not a satisfactory building from a management point of view and did not blend with the surrounding heritage buildings. There were problems with the building from the early days of opening and water leakage into the Audio Visual area was an especially difficult problem for the staff.

It was however the interpretation of the Royal Gunpowder Mills site in the Heritage Centre that probably gave rise to most disappointment. The basic problem in the view of this consultant is that the budget for interpretation was far too low and the resulting interpretation told only part of the overall story that could have been brought to the attention of visitors.

Restored Incorporating Mill

The restored Incorporating Mill is also abandoned and the doors are permanently closed. Natural growth has taken over most of the central canal restored some years ago.



Long grass and trees are further invading this part of the overall site. It is extremely discouraging to see that so much good work done by Cork County Council some years ago now seems to be abandoned to the ravages of nature.

Two recommendations are offered in respect of the eastern part of the overall Royal Gunpowder Mills as follows – (a) that

formal public access be restored as quickly as possible. This can be achieved by bridging the Canal near the present iron wicket gate at the eastern entrance to the site and (b) that the Incorporating Mills area be developed as a public Riverside Park. This will involve the careful removal of trees and vegetation that are presently putting buildings at risk and the provision of this area with gravel pathways. Some grass cutting is being carried out here from time to time and informal public access therefore seems to be encouraged.



Cork County Heritage Unit

It is understood that the old Powder Mills Heritage Centre is presently occupied by the Non Domestic Water Rates Group who is expected to be using this building for the next 18 to 24 months.

If, as seems likely, that the original Visitor Centre will not reopen to the public then it is strongly recommended that the Cork County Council Heritage Unit is relocated to this building. At least this will provide the building with a heritage presence which was the original intention behind the development of the building

The following are some important points for consideration in this regard.

1. There is a compelling logic that the County Cork Heritage Unit be based at an archaeological and heritage site of national and international importance.
2. Give the extensive work programme that Cork County Council is to start shortly at the Regional Park on paths development and the proposed NeighbourWood Scheme project a permanent Council presence on site is logical.

3. The move of the Heritage Unit to Ballincollig would demonstrate clearly to the people of Ballincollig the commitment of the County Council to the Royal Gunpowder Mills.
4. The presence of the Heritage Unity at the old Visitor Centre might in time allow some limited public access to view the Royal Gunpowder Mills artifacts still in the building some of which are privately owned.

Cholaiste Cholm / UCC

The Ballincollig Heritage Association through Jenny Webb and UCC have suggested that transition years students in Cholaiste Cholm could have a role in providing a heritage presence at the old Heritage Centre. This would provide practical experience for students interested in business studies and heritage. It appears that UCC would be interested in this concept and could provide input through Post-Graduate students.

It is recommended that this concept be discussed with Cork County Council at an early date

6. Marketing Issues

Introduction

The successful marketing of the Royal Gunpowder Mills will first of all require a formal recognition from Cork County Council and Council Members of the national and international importance of the site. Hopefully by the end of 2007 major works programmes will have started in regard to walkways and woodland development. The third key strand is the provision of capital funding to allow development of the archaeological heritage of the site.

What is to be marketed?

A multi-themes approach to the marketing of the Royal Gunpowder Mills site is strongly recommended. The marketing of the archeological aspect of the site alone will have a low level specialist interest appeal only and will target perhaps less than 5% of the real market for the site. The suggested themes to be marketed are as follows –

1. Industrial archaeology, history and excavation
2. Wildlife
3. Walks and the River Lee
4. Botany
5. Skate Board Park
6. Canoeing
7. Sports Fields
8. Game Angling for Salmon subject to Licence and Permit
9. Schools educational visits
10. Regular summer guided walks

We see therefore that there are ten themes that can be marketed or promoted to different audiences. The successful marketing of the site will require a targeted campaign to each of the above market segments. Realistically in the short term (2 years) the main market will be the Irish domestic market living within a 24 km radius of Ballincollig (15 miles).

The Irish domestic market

In 2006 a total of 3.83 million home holiday trips were taken in Ireland. Just over one quarter (26%) of all home holidaymakers visited the Cork Kerry Region while 31% of all home holiday nights were spent in this Region. In terms of heritage 17% of all home holidaymakers in 2006 visited heritage or interpretative centres. Gardens and National Parks were each visited by 21% of domestic visitors. Hiking and walking attracted 17% of visitors and angling 16%. Therefore the various themes available at the Regional Park / Royal Gunpowder Mills fit well with the expressed interest of Irish holidaymakers in 2006.

The marketing mix

In marketing terms the marketing mix is about the range of coordinated activities that are undertaken to promote an enterprise. In the case of the Regional Park / Royal Gunpowder Mills the following are the elements that are recommended in this mix of marketing activities –

1. Regional Park / Royal Gunpowder Mills web-site with a well developed links policy to and from this site
2. Site specific brochure
3. Advertising
4. Logo development
5. Media – press, radio, TV
6. Royal Gunpowder Mills Newsletter to issue three times each year
7. Tourist Information Offices in Cork and Kerry
8. Consumer shows – Dublin Holiday World Experience January
9. Site signage on main approaches to Ballincollig and from Ballincollig

Who should be involved in marketing and promotion?

Cork County Council alone does not have the sole responsibility for the marketing of the Regional Park / Royal Gunpowder Mills. The successful marketing of the site will require the cooperation and positive involvement of a number of bodies and agencies in the area. The active involvement of the following is recommended –

1. Cork County Historic Monuments Advisory Committee
2. Cork County Council
3. Failte Ireland South West
4. Ballincollig Business Association or community based organisation that might replace this body in the future
5. Ballincollig Heritage Association
6. LEADER
7. O'Flynn Construction
8. Ballincollig Tidy Towns Committee
9. Businesses in Ballincollig

Who carries marketing responsibility for the Royal Gunpowder Mills?

Obviously one organisation must have responsibility for the coordination of the marketing of the Royal Gunpowder Mills / Regional Park. it is recommended that the Ballincollig Business has such responsibility for marketing coordination. Ideally that organisation should have a wider responsibility for the overall marketing of all aspects of business in Ballincollig.

Marketing Budget

One of the problems that the now closed Royal Gunpowder Mills Heritage Centre had was that the marketing provision was inadequate in terms of annual budget. One of the consequences was that the Heritage Centre lost money each year and this had to be supported financially by Cork County Council.

It is recommended that in year one a minimum cash marketing budget of €25,000 be provided and this should be increased by not less than 7.5% per annum. How this money might be provided is a separate issue but an approach to LEADER (East Cork Area Development) in 2008 may be worthwhile. It is expected that this LEADER group will include the Ballincollig area from 1st January 2008.

The first year in which serious marketing activity is to be undertaken is recommended as being from January 2009 when the future of the Royal Gunpowder Mills will have become somewhat clearer.

7. Site interpretation

Introduction

Over 100 buildings and structures (existing or non existent) have been identified by this consultant in the Royal Gunpowder Mills site that have varying potential in interpretative terms. The following table attempts to classify surviving Powder Mills buildings and structures into three categories based on their present potential contribution to site interpretation, without major financial investment.

These categories are defined as follows –

High Potential – buildings survive with roofs or structures that are relatively intact and there is high potential for interpretation.

Medium Potential – generally only walls survive and useful from the point of view of site interpretation.

Low potential – generally only foundations survive (actual buildings may have been constructed of timber) or buildings are now private property with no public access. Where foundations only survive potential for interpretation is strictly limited in scope.

The number allocated to each building or structure is the number of the Record in the two volumes Data Base of site buildings and structures developed by this consultant. The letter code associated with each building represents the following -

A – Remove all briars and treat roots to prevent re-growth

B – Remove trees and roots and briars and treat roots to prevent re-growth

Red – consider excavation

High Potential	Medium Potential	Low potential
Inniscarra Bridge 62 - A	Harness Makers Shop south-west of Old Magazine and quite close to original Canal 117 - B	Glazing House north-west of Grand Watch House 11

High Potential	Medium Potential	Low potential
Sluice Gates near Inniscarra Bridge 63	Press House Traverse near Sluice Gates at western section 2 - A	East – west Tramway nothing remains and would require excavation 22 - E
Weir 4	Grand Watch House 12 - B	Mixing House on western side of Sawmill by River Lee 43
Expense Magazine west of Grand Watch House 10 - A	Sawmill (new) on left side of eastern section path just before 2 nd short Canal 114 - B	Small building at bridge near Grand Watch House on old road to site from Main Road 13
Accommodation for labourers at 'Long Range' - 58	Expense Magazine near footbridge at 'Violin Corner' 41 - B	Watch House on banks of River Lee west of Old Magazine 15
Accommodation for labourers at 'Short Range' - 60	Press House West of Innishmore Footbridge 7 - B	Watch House at western end backing onto boundary wall at Skate Park 16
Coal Store in eastern section beside Canal 26 - B	Corning House / Mill Beech Walk 5 - B	Press House close to Grand Watch House now a mound of stone and rubble 18
Sawmill in eastern section – 48 - B	Dusting House & Press House on original Canal near Sports Field 6 - B	Old road just east of Grand Watch House on O'Flynn's land 24

High Potential	Medium Potential	Low potential
Incorporating Mills in eastern section including one restored Mill 56 - B	Press House beside River Lee east of Weir 8 - B	Small low rectangular stone structure just east of Grand Watch House 25
Workshops in eastern section opposite Cooperage 1 & 2 – 53 - A	Weighing House and Weigh Bridge in eastern section – 47 - B	Indications of older bridge beside present pedestrian bridge at ‘Violin Corner’ – 37
Timber drying House in eastern section beside pathway 55 - B	Charcoal Burning House by River Lee eastern section 32 - B	Guard House near ‘Violin Corner’ at east side of modern footbridge - 40
Oriel House Hotel (part of) 1	Bridge Guard House beside present bridge at entrance to eastern section (private house today?) 97	Fire Engine House in Incorporating Mills area, mound of stone remains 42
Cooperage 1 & 2 in eastern section 51 - B	Dusting House beside Tramway towards footbridge, and south of Coal Store 30 - B	Offices in eastern section, now a private house 52
Charge Houses in eastern section 57 - B	Small square building near Coal Store possibly Watch House 27 - A	Stove / Empty Cask Store foundations west of Old Magazine No. 2 73
Charcoal Mill in eastern section	Mill Keeper’s House / Watch House in	Magazine No. 1 south west of Coal Store and Old Magazine

High Potential	Medium Potential	Low potential
54 - B	Incorporating Mills area 38 - A	74
Magazine No. 2 eastern section close to River Lee 21 - A	Two storey post 1828 building near Cooperage 44 - B	Corning House on original Canal south of Violin Corner 79
Canals – Old Canal southern site boundary, and all Canals 31 - C	Oil Store beside Canal leading to Sawmill in eastern section 44 - A	Drying House for bags, in front of eastern end of Saltpetre Refinery 90
Blacksmith's Shop (?) near Cooperage 1 & 2 in eastern section 72 - B	Sluice gates (smaller) near Inniscarra Bridge 64	Sieve House south west of Old Magazine and Coal Store – just north of original Canal. Not located 94
Storekeeper's Store in eastern section 49 - B	Boat Turning area? (At same location as Steam Stove & Drying House Record No. 17) 19 - B	Sieve Store alongside original Canal in western section where Canal turns east 104
Brimstone Refinery in eastern section 46 - B	Stone Bridge at Grand Watch House 23 - B	Cooperage in front of Cooperage 1 & 2 by edge of pathway 110
Saltpetre Refinery in eastern section 45 - B	Straining Shop eastern section by present pathway 33 - B	Engine House for Sawmill immediately in front of Saltpetre Refinery building 115

High Potential	Medium Potential	Low potential
Watch House at main entrance to eastern section (may be private property?) 14		Nitrate Store immediately to west of Saltpetre Refinery building at original Canal 116

Round Tower Watch House
3

Steam Stove & Drying Houses east of Grand Watch House 17		
---	--	--

The following 37 buildings identified from site maps of 1806, 1828, 1834, 1876, and 1891 are not believed to survive today (numbers refer to Data Base Record number) -

34,59,65,66,68,70,71,75,76,77,81,83,84,
85,86,87,88,89,91,92,93,94,95,96,98,99,100,101,
102,103,105,106,118,108,112,113,118.

61 - Magazine at Rock Island in Cork Harbour now a Crematorium.

69 - Large private house in the eastern section formerly Powdermills Offices.

Building Analysis

The following Table gives a summary analysis of the buildings identified from surviving site maps and on-site observation.

Status	Number of buildings and structures	% of Buildings and structures
High Interpretative potential	24	23.3%
Medium Interpretative potential	21	20.4%
Low Interpretative potential	22	21.3%
Buildings / structures not believed to survive today	36	35.0%
Totals:	103	100%

In summary an estimated one quarter of identified buildings are believed to have high interpretative potential. One fifth of all buildings identified have low interpretative potential and in many cases only faint outlines of foundations have been identified. Approximately one third of buildings identified from old site maps are not believed to survive today.

Recommendations on the clearing of growth from key buildings

It is recommended that a well organised programme of building conservation and safety stabilization work be undertaken for key buildings on an ongoing annual basis under the coordination of the County Archaeologist with the Cork County Historic Monuments Advisory Committee of Cork County Council in association with Cork County Council. In some cases this will mainly involve the careful removal of trees and saplings from the interior of buildings that are presently damaging surviving structures.

From the above Table it will be seen that work is recommended on a total of 24 buildings or structures are considered to have high interpretative potential. These buildings should form the first priority for attention. A second phase of building conservation and stabilization should then follow in respect of the 21 buildings identified to have medium interpretative potential.

In the main Table above the following codes have been used to identify buildings where recommendations for action have been made –

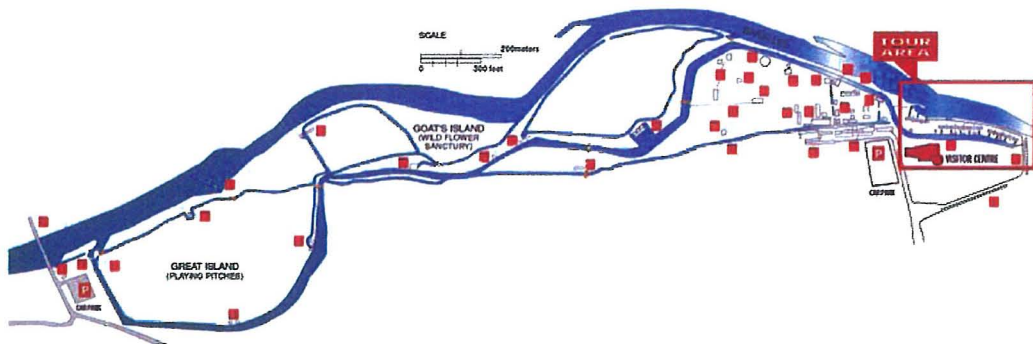
A – Remove all briars and treat roots to prevent re-growth

B – Remove trees and roots and briars and treat roots to prevent re-growth

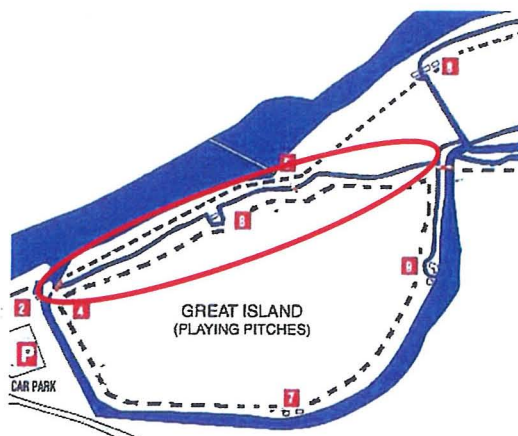
Buildings identified in red - consider excavation

Canal clearance

Water power was needed to provide motive power for the manufacturing process and the availability of the River Lee was a key factor in the decision to locate the mills at Ballincollig. The network of Canals has been well mapped on the site map (see next page) developed by Cork County Council some years ago. Dumped rubbish and silt needs to be removed from nearly all Canals and water flow should be reinstated. The drawings here illustrate the River Lee and the total canal system. It is recommended that a four year six phase programme of canal clearance and water reinstatement be followed and the following phasing of this programme is recommended. Ongoing canal maintenance will of course be required to prevent a return to the present overgrown situation.

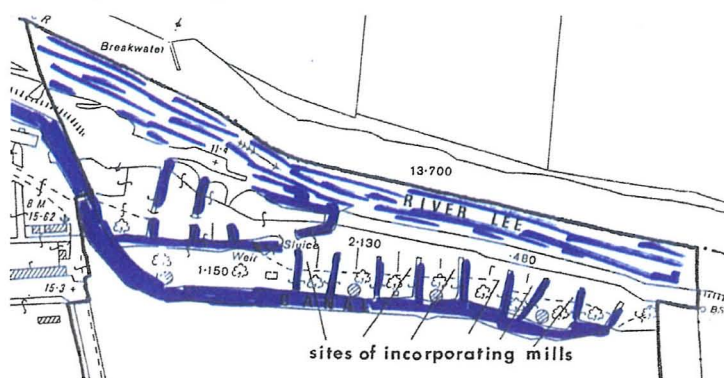


Western section



The western section of the site in the Beech Walk and Weir area. This includes the site of the Corning House / Mill which is recommended for excavation elsewhere in this report. Excavation here will need to be completed before water reinstatement can be considered in this canal section. The clearance of the original canal built by Leslie in 1794 to the south side of the Sports Field should not be carried out during this phase.

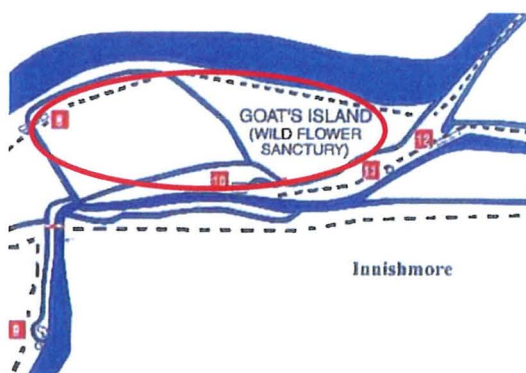
Incorporating Mills area



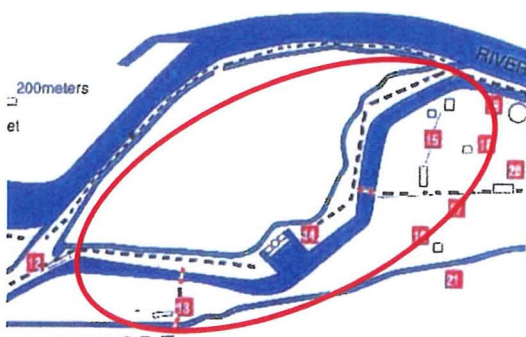
This area of 4 acres includes the area restored by Cork County Council from 1985 onwards originally but which is now badly overgrown. The canals in this area were restored in the 1986 – 1988 period. The work here will include any necessary repairs to the restored Incorporating Mill. A recommendation has

been made in this Report that this enclosed area be developed as a riverside Park.

Goat's Island area



This area includes Goat's Island and the area west of this to where it meets the western section discussed above. The original Leslie's canal to the south should not be included in this stage.



Middle Section

Middle section of site including Boiler house area – building No.14 on Cork County Council site map. The original canal built by Leslie should not be cleared at this stage.

Original Canal

Leslie's original canal running from western car park to end of Incorporating Mill section in the east. There is probably up to 1.5 miles involved in this section and part of this canal appears to run through O'Flynn's lands.



Eastern section short canals

This work programme includes the short north – south running canals in the eastern section that link Leslie's original canal with the sawmill and other process buildings.

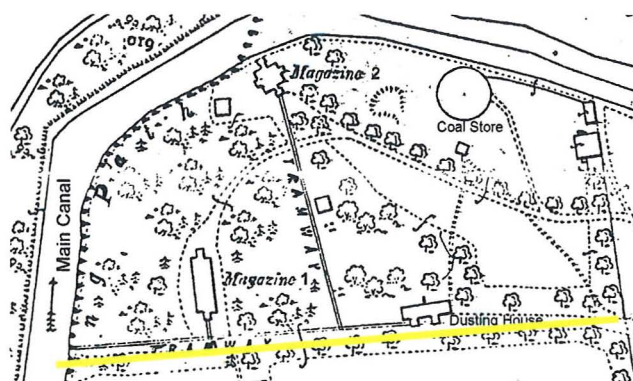
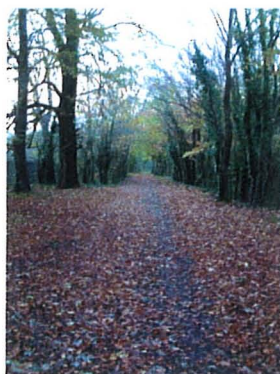
Excavation

Professionally lead excavation is recommended in the case of just three buildings or structures as detailed below. It is suggested that consideration be given to the involvement of suitable local volunteers in this excavation work. Before the involvement of such volunteers begins it is further suggested that a one day seminar be provided through Cork County Council by the Cork County Archaeologist to inform the volunteer group of best practice in terms of archaeological survey, recording and excavation.

Tramway

The route of the old Tramway in the eastern section of the site is worthy of excavation. It is recommended here that a series of transverse sections across the line of the old Tramway (part highlighted in yellow on map) be excavated to see what remains if any can be recovered of the Tramway. Foundations should at least survive. It is recommended that this excavation be completed before Phase 111 of the pathway development for the disabled commences. There is a possibility here of using toughened glass as a walking surface here to allow the public to view the recovered foundations.

(Record No. 22)



Corning House / Mill near Beech Walk.

This is a building that has a high profile location beside a much used public walkway. Excavation here will help to raise public awareness of the Royal Gunpowder Mills. Here mill cake was broken into pieces using a mechanical mallet and forced through sieves.
(Record No. 5)



At this site following excavation consideration might be given to the development of an elevated viewing area as done in at the Oare Gunpowder Works near Faversham in Kent illustrated below.



Press House beside the River Lee

This building is located east of the Weir (Record No. 8) and was the location of a major explosion in 1859 when there were five fatalities. Contemporary surviving reports indicate that 'the site of one of the buildings is now a large lake'. Some of the stone lined canal that provided water for this mill survives together with a large metal ring. Again this is a high profile public location. At the Press House the mill cake was pressed between copper plates to extract water using a hydraulic Press.



Site
e
T
o
u
r
s
Site
e
t
o
u
r
s
h
a
v
e



been conducted by Jenny Webb Chair of the recently established Ballincollig Heritage Association. These tours have attracted large enthusiastic crowds. It is recommended that these tours be established on a more formal basis by Jenny Webb in cooperation with Cork County Council. It is further recommended that the Public Liability Insurance necessary for these tours be funded in full on an annual basis by Cork County Council. Another option is that the Insurance cover is arranged by Cork County Council and covers named individuals only who may conduct such Tours. The following outline of the proposed Tour Programme has been provided by Jenny Webb.

“The product I hope to develop is a guided interpretative walk through the Regional Park where the complex gunpowder manufacturing process is explained by reference to the surviving structures and to the canal system. The social history relating to the workers at the site is also an area of great interest and this, along with the history of ownership of the mills, will also be covered in the tour.

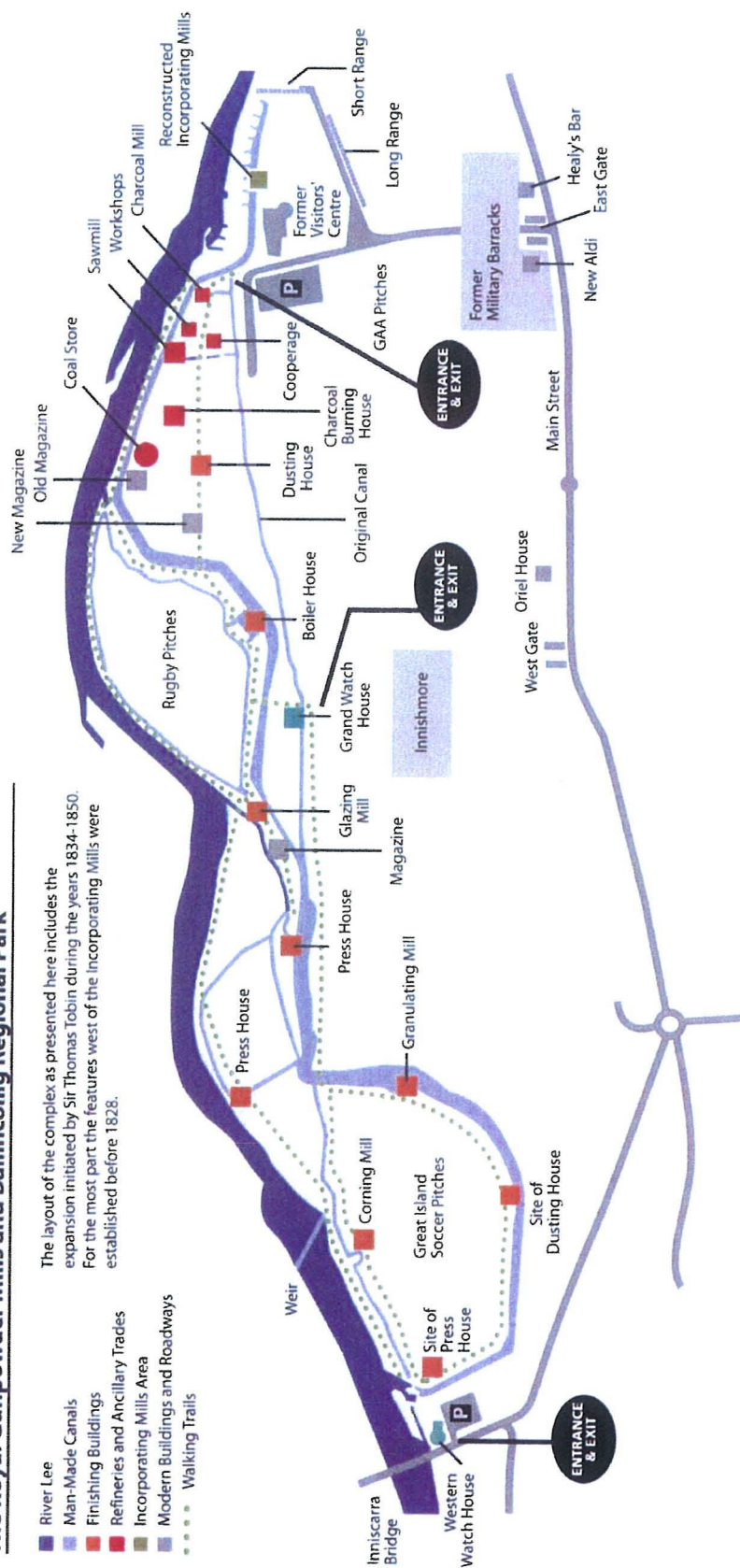
The visitor will experience a fascinating two hour tour of the second biggest gunpowder factory in Europe. In this they will be assisted by a booklet, including map of the site, and a guide who will give an expert exposition and commentary on the site as a whole, the buildings and their uses in the manufacture of gunpowder and how the whole complex was linked by the canal system.

The local hotel, Oriel House, with connections of its own to the gunpowder mills, has expressed interest in corporate hospitality tours and other large hotels in the area (especially with its close proximity to Blarney and Cork City) would also welcome this initiative. It could also be linked to existing walking tours of Ireland.”

The Royal Gunpowder Mills and Ballincollig Regional Park

The layout of the complex as presented here includes the expansion initiated by Sir Thomas Tobin during the years 1834-1850. For the most part the features west of the Incorporating Mills were established before 1828.

- River Lee
- Man-Made Canals
- Finishing Buildings
- Refineries and Ancillary Trades
- Incorporating Mills Area
- Modern Buildings and Roadways
- Walking Trails



The Stages of Making Gunpowder



This flier is sponsored by Cork County Council Heritage Unit in association with Heritage Week 2007.

For more information, see www.ballincollig.wordpress.com



The Royal Gunpowder Mills site layout

The drawing on the previous page illustrates the general layout of the Royal Gunpowder Mills site. This is a recent map produced by the Ballincollig Heritage Association in association with Cork County Council for Heritage Week 2007. This drawing represents about 20% of the building either surviving on site or known to have existed.

For clarity purposes this drawing illustrates the locations of the main buildings associated with the three stage gunpowder manufacturing process.

Building Analysis

Introduction

An analysis was carried out of the surviving buildings and foundations of buildings. All sites were photographed and data had been collated in a Data Base using FileMaker Pro. This Data Base currently records a total of 118 buildings and structures that are relevant to the Gunpowder Mills site. This had been developed from an analysis of surviving drawings and maps of the site that date from 1806, 1828, 1834, 1876 and 1891.

This section of the Report examines briefly some of these buildings and structures in general terms. This analysis is important in the context of which buildings may be highlighted in the future as a contribution to overall site interpretation.

Accommodation for Mill workers.

Today there are two surviving sets of buildings built originally to house mill workers and these are *The Long Range* and *The Short Range* close to the GAA building at the eastern end of the site. The Long Range appears on the 1806 site drawings as '*Cabins for 32 labourers*'. The 1828 drawing names this row of houses as *Waltham Abbey Row*, indicative of the close links between the two gunpowder manufacturing sites. This row was approximately 270' long. *The Short Range* first appears on the 1828 drawings where it is identified as '*Coopers Row*'. In 1837 it was reported that this row houses 54 families.

The 1806 drawings mark '*Cabins for 30 labourers*' located at what was to be named on the 1828 drawings as Faversham Square, located at the junction of the roads from Macroom (main road) and the road up from Inniscarra Bridge. This accommodation is not marked on the 1834 drawings and appears to have had a relatively short period of existence. Faversham Square was the location of the Munster Headquarters of the RIC and the building was burnt in 1920.

The 1806 drawings mark '*Two houses for Foremen and cabins for 20 labourers*', and this row is named '*Old Row*' on the later 1828 drawing. These cabins were located along the eastern side of the present Football Pitch. By 1834 this row is indicated as being in ruins. It should be noted that the Gunpowder Mills closed for the period 1815 – 1834. Nothing survives of these buildings today.

The Constitution or Cork Advertiser in an article on 15th May 1856 recorded that 'each family resides in a little cottage, with a small piece of ground attached, rent free...' The paper went on to comment that the cottages were maintained and presented to the highest standard.

Summary

The provision of accommodation for mill workers appears to have declined after 1828 but the mills had closed in 1815 and reopened in 1834 when they were purchased by Thomas

Tobin and Charles Horsfall. After 1828 the cabins along the two sides of the Football Pitch were abandoned.

Barn, Cow Sheds and Cow House

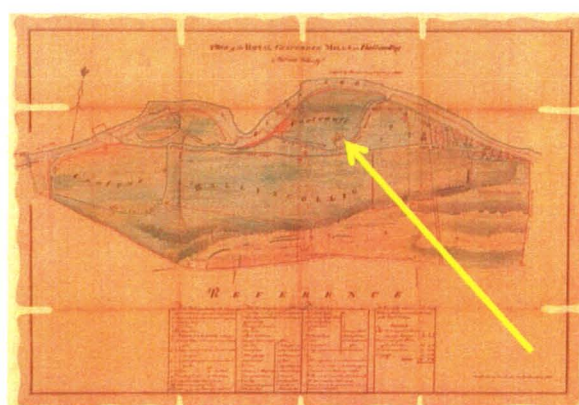
The 1876 and 1891 site drawings indicate that buildings were provided for cows. It is possible that by this period that the mill owners were obliged to provide milk for their employees. These buildings were located in the eastern section of the site, south of the original canal and west of the main office building that survives today. This location was effectively along the present laneway running parallel to the original canal at the eastern entrance to the site.

Blacksmith's Shop

The 1806 drawing marks a Blacksmith's Shop beside the main Cooperage No. 1 & No. 2 in the eastern section of the site. Successive drawings through to the 1891 drawing mark this facility and in that year it is marked as 'Smithy'. The need for the Blacksmith's Shop on site is obvious given the fact that for example in 1857 the site is reported as having 60 horses for drawing barges on the canal system.

Boat turning area

All drawings of the Powdermills site from 1806 indicate a very large widening of the canal at the Steam Stove and Drying Houses east of the Grand Watch House. This wide area may have been a mooring area for canal barges or an area where canal barges could turn. This area was also a source of water for the Steam Stove and perhaps for on site fire appliances. The drawing illustrated here is from 1806 the earliest found for the Royal Gunpowder Mills.



Bridges

A number of modern pedestrian bridges were erected by Cork County Council in the 1990s when some restoration work was carried out on the site. At the site of the modern footbridge (Record 37) at 'Violin Corner' there is evidence

of the steel supports for a much earlier bridge and a Watch House was located here also.

Throughout the site there are many small pedestrian stone bridges that were built at various stages of site development. These are well built structures and carry some of the existing pathways throughout the site. At the Grand Watch House there is a very attractive stone bridge (Record No.23) illustrated here that carried an early road into the site. This is not a well known structure.

Building – use uncertain

A small stone structure (Record No.13) of uncertain use is located on O’Flynn’s lands to the side of what remains of the early road into the site from the main road by the Grand Watch House in the Innishmore area. This could have been an early Watch House but The nearby Grand Watch House has existed since at least 1806 and the security need for a second Watch House is not clear.

Original Canal

The original east-west canal was built by Charles Leslie and John Travers in 1794. This can be traced from the western entrance through to the eastern entrance. Part of this canal runs through the O’Flynn lands. Two short north–south smaller canals were taken off this main canal in the eastern section to provide water power to the Sawmill and Charcoal Mill. The eastern section of Leslie’s canal is heavily overgrown and some sections of the canal here appear to run through private property.

Cart House

This building was located south of original canal in eastern section to the left on the lane that now leads towards the Nursing Home.

Charcoal Burning Houses or Cylinder Houses

The Charcoal Burning Houses or Cylinder Houses (Record No.32) were located in the eastern section of the site close to the banks of the River Lee. On the 1806 drawing a single Charring House is shown at this location. The 1828 drawings show two Cylinder Houses indicating the importance of this process in the Powdermills. Nine piles of timber are marked on this drawing presumably being here stored before going through the charring process. This is interesting because the mills had closed in 1815 and were not to reopen until 1834.

Charcoal Burning was carried on at this location at least up to the period of the 1891 drawings. In the larger of the two buildings there is a fine brick archway that is illustrated in the Data Base at Record No.32. The 1891 drawing refers to a Charcoal Burning House & Store. The Store was probably the smaller of the two buildings that survive today.



Charge Houses

The Charge Houses or Charge Magazines are located in the eastern section of the site and the 1896 drawing records three buildings. By 1828 this had been increased to four and these four Charge Houses appear on the drawings examined up to 1891. No. 1 Charge House was restored by Cork County Council but is now closed.



Cooperage

The existing remains of the Cooperage (Record No. 51) in the eastern section of the Powdermills site is marked on the 1828 drawing but not on the earlier 1806 drawing. The building is marked on succeeding drawings and on the 1891 drawing is marked as '*Cooperage 1 & 2 & Cask Store*'. The 1828 drawing shows the building with an extension to the front approximately 16' wide by 23' long. No sign of this extension survives today. It was in place in 1891, The surviving building contains an impressive fire-place at each end of the rectangular building. A second Cooperage is marked on the 1891 drawing in front of the larger Cooperage with the Weigh Bridge in between.

Corning House

The Corning House was the building where pieces of mill cake were forced mechanically through a sieve to break them down into smaller pieces. The remains of two Corning Houses survive at the Powdermills site. The more impressive of the two is that on Beech Walk (Record No.5) where the foundations and wheel pit and water power system are clearly visible. The gunpowder mixture was transformed into grains in these buildings. This building is shown on the 1806 drawings and on the other drawings consulted up to 1891 where this building is marked as 'Corning Mill No. 2'. The second Corning House was located on the original canal south of Violin Corner (Record No.79). This building is marked on the 1806 drawing and by 1891 is identified as 'Corning House No. 1'. This building was larger than the Beech Walk structure. Therefore both these buildings have a long history on the site.

Cottage

A 'Cottage for a watchman' is marked on the 1828 drawing near the corner of No. 1 Old Row and the row of workman's cabins along two sides of the present Football Pitch. Nothing survives of this cottage.

Culm Yard

The drawings from 1806 and 1828 mark a 'Culm Yard' south of the main Powdermills area and just off a road running north-south between the main road and the Powdermills. Culm is coal dust or anthracite slack.

Dispensary

The powdermills from at least 1876 had its own Dispensary and this was located very close to the existing bridge over the original canal at the eastern entrance to the site. , and

the Cork Constitution of 15th May 1856 notes that '*A medical man is attached to the mills to attend those employed*'. Reports of the explosion in 1859 continue to mention the presence of a '*medical man*' on site. The old Dispensary building is not easy to identify today, however it may have been the existing private dwelling immediately on the left on entry to the eastern section of the site.

Dressing House

The dressing house is marked on the 1876 and 1891 drawings and was located west of Violin Corner. This was quite close to the rectangular expense magazine located near the modern footbridge at Violin Corner. A recent search for this building (February 2007) failed to locate any remains.

Drying House

This building was located in front of the eastern end of the Saltpetre Refinery. This was the drying house for bags.

Dusting Houses

From at least 1806 a Dusting House and Press House were located on the bank of the original canal (Record No. 30) in the western section of the site beside the existing Sports Field. A substantial Traverse survives today and together with the foundations of the Dusting House and Press House. The Traverse structure was made of a high oblong stone structure in filled with earth and smaller stones. The 1891 drawing marks the Western Dust House No. 1. The Press House had ceased to operate from at least 1876 and probably earlier.

A second Dusting House (Record No. 30) was located beside the old tramway in the eastern section of the site, not far from the surviving Coal Store. It is marked on the 1806 drawing and on those from 1876 and 1891 where it is indicated as Dust House No. 2.

Dwelling

The 1876 drawing marks this dwelling (Record No. 103) as 'Dwelling for Officer' (exact wording unclear). It was located on the north side of the original canal near the eastern entrance on the laneway leading to the present Nursing Home.

Fire Engine House



The Fire Engine House was located between the No. 2 and No. 3 Charge Houses in the eastern section. Today a large pile of earth, stone and grass marks the site. The Fire Engine House is marked on the 1828 drawings and a building at this location is also indicated on the 1834 and 1876 drawings. The 1943 (Irish Tourist Association) ITA Parish Survey photographed a Fire Engine at the Powdermills. However no reference has been found to the location of a Fire Engine House after 1876. This photograph illustrates an early hand-pump fire engine used at the powdermills.

Foreman's House

The 1828 drawing marks a 'Foreman's House' located at the junction of the main Macroom road with the road from Inniscarra Bridge. This would have been beside Faversham Square.

Forge

The Forge (Record No. 87) based on the 1828 drawings was located in front of Cooperage No. 1 and No. 2. The 1806 drawing marks a 'Saw Lodge' at the same location. This building does not seem to appear as a Forge on later site drawings.

Glazing House

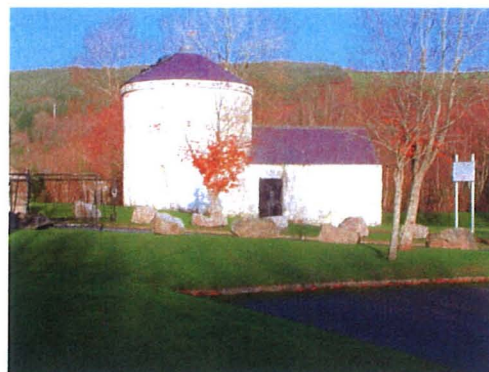
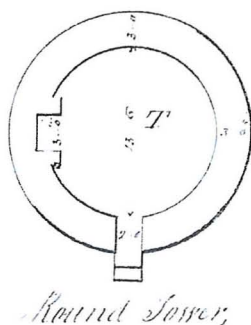
A Glazing House (Record No. 11) was located north of the Grand Watch House in the central site section. From the 1806 drawing onwards in time a Glazing House was located here. Little remains today of this extensive building apart from remains of foundations.

Guard Houses & Watch Houses

Given the dangers of the gunpowder manufacturing and the potential criminal value of the completed product security on site was always of paramount importance. A total of nine Guard Houses or Watch Houses have been identified on site by this Consultant. There may well have been others which have not survived the passage of time.

The Round Tower Watch House

The most unusual of the Watch Houses was the Round Tower Watch House at the western entrance. This building first appears on the 1828 drawing with the above name. The 1834 drawing marks a circular structure in this location, obviously the same Watch House. By 1876 it was being called a Watch House and by 1891 the 'Watchman's House' though on that drawing is shown as being rectangular. This may well be a drafting error. The rectangular section of this building is a later addition. It is understood that the building was occupied until the 1950s and now serves no useful public purpose.



The Grand Watch House

The Grand Watch was located at the main site entrance in the eastern or Innishmore section of the Royal Gunpowder Mills. Since 1828 it has appeared on all drawings consulted as the Grand Watch House which may indicate that this was always the main entrance the Royal Gunpowder Mills site, or the entrance used by the many employees of the various operating Companies. This is a two storey rectangular building of some scale with a frontage of 44' that had three window bays on the front elevation. It is believed to



have been inhabited until the 1950s. Leslie's original canal ran in front of this building and a stone bridge is visible to the front. It appears that the original access road to the Grand Watch House from the then Main Road now runs in part through O'Flynn's land and this is a situation that might be examined.

Mill Keeper's House / Watch House

This building surviving in part today first appears on the 1806 drawing as 'Station (?) for Mill Keeper. The remains of this building are located in the eastern section between Charge House No. 1 and No. 2. It was marked as the Mill Keeper's House on the 1828 drawing. By 1891 and probably before that it had become a Watch House.



Other Watch Houses

Other Watch Houses were located on the banks of the River Lee west of the Old Magazine, and west of the canal in the western section close to the Traverse. The new Skate Park constructed by Cork Council backs close to the back wall of this Watch House. Further Watch Houses have been identified beside the Coal Store, at the main entrance to the eastern section by the present main road, and east of the original canal south of the Corning House near the bend in the canal.

A Watch House is marked on the 1828 drawing at the location of the modern footbridge at Violin Corner. In 1876 this is called a Guard House and by 1891 the building is called the '*Old Watch House*'. Today nothing remains of this building that was located right beside an older bridge over the canal at this point.

Another Watch House was located beside the present bridge over the canal at the eastern entrance to the site. This is marked on the site drawings from 1828, 1834 and 1876.



At the present Eastgate entrance (eastern section) a derelict building survives which was a Guard House – Record No. 14. The roof of this building appears to have been burnt recently. This building is illustrated here and is in poor repair.

Gun Stand

The 1891 drawing records a Gun Stand (Record No. 118) at the eastern side of the site between the entrance area and the Charcoal Mill. No evidence survives today of this Gun Stand.

Harness Makers Shop

The presence of a Harness Makers Shop (Record No. 117) points to the importance of horses on the powdermills site where they were used to pull the canal barges. They were also used to bring the gunpowder to Cork City. This building was located south-west of the Old Magazine and quite close to the original canal in the eastern section. This building first appears on the 1891 drawing.

Houses

As one would expect number of houses are indicated on the various site drawings consulted. These were used as Powder Mills Offices and houses for the management that ran the site on a day to day basis. For example part of what is now The Oriel House Hotel was used '*For respective Officors and Offices*'. Originally this building was made up of three buildings for this purpose and is marked on the 1806 drawing. A number of other office buildings were located in the general location of the present Oriel House Hotel.

Lime Kiln

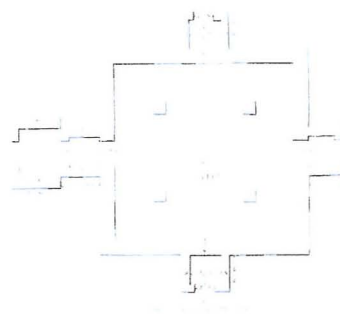
The drawings from 1806 and 1828 mark a Lime Kiln just east of The Oriel House Hotel. It is now shown on later drawings.

Magazines



Magazines were used for the temporary storage of the manufactured gunpowder before transportation to Cork City and to the Magazine at Rock Island (now a Crematorium) in Cork Harbour. Gunpowder was normally stored in 45kg oak barrels manufactured on site⁸. Expense Magazine No 1 (Record No. 10) was located on the banks of the original Canal, west of the Grand Watch House built into a sunken area. There are indications of some surviving mooring rings on the canal bank below directly below this structure.

This building first appears on the 1891 site drawings.



Magazine No. 2 (Record No. 21) was located in the eastern section close to the bank of the River Lee. This is a square one storey vaulted structure that had been built by 1806 and continued in use for the lifetime of the Powder Mills. This building had two entrances and two Guard Houses, or Sentry Boxes.

Another Expense Magazine (Record No. 41) is marked on the 1891 drawings as being located near the present footbridge at Violin Corner. This is a simple rectangular building part of the walls of which survives. The existing narrow footpath runs along the top of the foundations on one side of the building.

New Magazine No. 1 (Record No. 74) is indicated as such on the 1891 drawing. It appears that this building has had many different uses since its first appearance on the 1806 drawings where it is called a Press House. By 1828 it was identified as the Old Press House. A building is marked on this site on the 1834 drawing and by 1876 it was being used as a Canister Store. The Magazine may have been used by T.W. Murray & Co until 1971. It was located south-west of the Coal Store.

A further Magazine (Record No. 75) appears on the 1806 drawing in the eastern section behind the Straining Shop. This is an old building and appears on the 1806 drawings as a

'Magazine to be converted to a Cooperage'. By 1876 this building was used as a 'Waggon Shed' and by 1891 it was identified as a 'Cart Shed'. These presumably were the wagons that brought the gunpowder to Cork Harbour for export?

Mills

At the Incorporating Mills the three main ingredients used in the manufacture of Gunpowder were mixed together. The main Incorporating Mills (Record No. 56) were located in the eastern section of the site. It is rather sad to see that this area is now badly overgrown since the important restoration work carried out by Cork County Council. A site of international and national importance deserves so much better in maintenance terms.



The 1806 drawing shows that the Mills constructed in 1793 contained four pairs of stones and this had increased to eight by 1824. By 1891 the milling process had grown to 24 mills having 12 pairs of stones.

There is much potential here to create a small 1.62 ha (4 acre) linear Park area with the larger Regional Park. There appears to be at least one original opening in the stone boundary wall to the river then this should be re-opened to allow views to the River Lee at the far side of the wall. This is illustrated below from both sides of the wall.



Charcoal Mill



The Charcoal Mill (Record No. 54) is located at the eastern end of the site and is marked on the 1896 drawing as being a 'Composition Mill and Mixing House'. From at least 1829 onwards the building was used as Charcoal Mill. The central brick lined wheel pit survives as does the Mill Race from the original Canal that powered the Mill.

Mixing House

The Mixing House where the three gunpowder ingredients were mixed was located on the western site of the Sawmill by the River Lee. On the 1806 drawings the building is identified as a 'Corning House to be converted to a Saltpeter Mill'. From 1828 onwards the building was identified as Mixing House. Today only the foundations of this building survive together with several millstones. It is difficult to locate the remains of this building.

Press House

There were several Press Houses on the site operating at different times. The best known of these is the highly visible Press House (Record No. 2) near the Sluice Gates at the



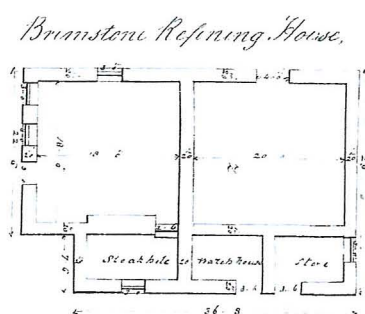
western end of the site. It is regrettable that it was considered appropriate by Cork County Council to locate a new Table / Seats unit so close to one of the earliest surviving buildings on site. The 1896 drawing marks this as a 'Dusting House and Press House'. By 1876 it was marked as a 'Press Ho (unused)' and by 1891 as the 'Old Screw Press House west'. The central stone faced oval earthen core was used to

separate the Press and Dusting Houses for safety reasons. The gunpowder in Mill Cake form was transported by boat along the original Canal to here where water was removed from the Mill Cake by pressing between rollers.

Another Press House (Record No. 7) was located west of the Innishmore footbridge and part of the hydraulic machinery survives on site. A building is marked on this site from 1876 onwards and by 1891 was recorded as 'Press House No. 1'.

The third Press House recorded from 1806 was located beside the River Lee east of the Weir and this is recorded in the Data Base as Record No. 8). It was at this location that a major explosion took place in 1859 resulting in the loss of five lives. This is the third pair of Wilk's combined Press and Dusting Houses and by 1891 was called 'Press House No. 2). The foundations and wheel pit are still visible together with a large circular steel rim in the stone lined canal that provided water to this building.

Another Press House and Dusting House (Record No. 6) was located along the original Canal in deep undergrowth to the side of the Sports Field. This structure is marked on the 1896 drawings and continued in existence until at least 1891 when it is shown on the drawings from that year as 'Western Dust House No. 1'.



Refineries

There were two Refineries on site. The Saltpeter Refinery was located in the eastern section parallel to Leslie's original Canal and the Brimstone Refinery located nearby. Both buildings appear on the 1806 drawings and continued in use until the site finally closed. These buildings are heavily overgrown and would repay the removal of trees and briars in an attempt to make the structures more understandable.

Roads

There was obviously a detailed network of roads throughout the site and a number of the present footpaths seem to follow some of these old roads. For example the present pathway in the eastern section parallel to the green railing follows part of the line of the old Tramway. Part of an old roadway dating from at least 1891 now in the O'Flynn's land was discovered by this Consultant late in 2006. This lies just to the east of the Grand Watch House and the stone walls on each side of what remains of this road survive near this building. Indeed the Grand Watch House was the security building to the west side of this road that joined the then main road. It is recommended that O'Flynn's might be asked to clear any undesirable growth on this road under professional archaeological supervision. It is desirable that this strip of land be reunited with the Royal Gunpowder Mills.



Sawmills

The Sawmill played an important daily role in the life of the Royal Gunpowder Mills at Ballincollig from the earliest days of the

industry. The 1806 drawings identify a 'Saw Lodge' located in the eastern section in front of Cooperages No.1 and No. 2. The 1828 drawings renamed this facility as a 'Saw Pit'. However the 1828 drawings identified a far more substantial Sawmill located also in the eastern section on the banks of the River Lee and this building is illustrated here. The remains of a Turbine dating from 1855 survived here and this powered the Circular Saw and was constructed by the Hive Ironworks of Cork in that year. The floor here is partially flagged in stone and a narrow canal leads from the nearby River Lee and this provided the motive power for the Turbine.

As an excellent example of a very early Irish Turbine this is most important. It is almost certain that this larger sawmill would have replaced the much smaller Saw Pit marked on the 1828 drawings. The larger Sawmill is indicated on the various drawings up to 1891 when it is marked as the 'Old Sawmill'. The 1891 drawing marks an 'Engine Ho'(use) for Sawmill' in the area in front of the Saltpetre Refinery building. It is possible that this was a replacement for the earlier Sawmill illustrated above.

Shed

The 1891 drawings mark what was probably a dynamo shed (wording is unclear) located where the short westerly canal meets the main canal near the River Lee in the eastern section. This may have been part of an electric lighting installation.

Sieve House

The 1828 drawings mark a Sieve House south west of the Old Magazine and Coal Store just north of Leslie's original canal. This building has not been located and is thought not to survive.

Sluice Gates

The control of water flow was always a fundamental issue for the Royal Gunpowder Mills as water power was critical to the gunpowder manufacturing process and especially in the Incorporating Mills area in the eastern section. Water was also used for the transport of gunpowder ingredients and the finished product. The control of water flow was achieved through a number of sluice gates two of which survive in the western section. These were restored by Cork County Council some years ago but leakage is now evident. The larger of the two sluice gates fed water to the original Leslie's canal that ran west to east along the southern boundary of the site.



Stables

Horses and Ponies were used to draw the wagons along the eastern section Tramway and elsewhere on the site. In April 1858 60 horses were used for drawing barges along the canals and 14 wagons were needed to draw the Gunpowder to the Cork Docks or onwards towards Rocky Island in Cork Harbour. The 1806 drawings identify stables located on the right hand side along the present lane (where present Nursing Home is located) in the eastern section beside the original canal. By 1806 this is named as the Mill House Stables. A few years later the 1834 drawings identify two buildings at this location but do not name their function. The 1876 and 1891 drawings mark stables at the same location. The stables location may have been at the present Sewerage Works site.

Stave Shed

The Stave Shed provided an essential service to the gunpowder industry at Ballincollig. It was here that the timber barrels to hold the product were made by hand. The 1876 drawing (Record 98) marks 4 buildings or Stave Sheds immediately south of and beside the Cylinder House and Charcoal Burning House in the eastern section. The later 1891 drawing (Record 61) also mark Stave Sheds at this location. What may be another Stave Shed building appeared on the 1876 drawing immediately west of the canal running north to the main Sawmill on the banks of the River Lee in the eastern section. The 1891 drawing marks what may be another Stave Shed (Record No. 48) but the location is impossible to identify from the drawing.

Steam Stove & Drying Houses

The Steam Stove and Drying House was located east of the Grand Watch House in the central section. The oval shaped building houses the boiler that generated the heat to dry the gunpowder.

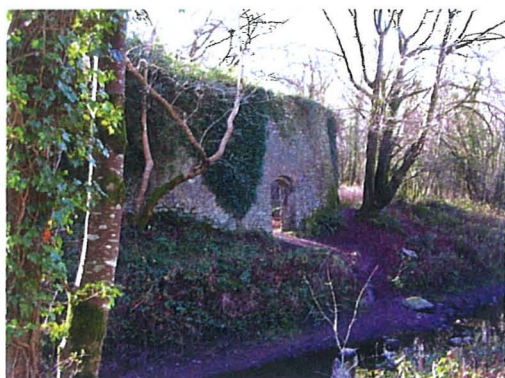
The 1806 drawings indicate 'Stoves' at this location and by 1826 this was called a Steam House. The 1834 drawings mark an unnamed building at the same location but by 1876 this building was recorded as being 'Stoving Houses'. This illustrates a serious historical problem of interpretation at the Royal Gunpowder Mills. In many instances the same building had a number of different uses over its life. By 1891 the drawings indicated 'Stoves No 1 & 2' with Boiler House in Centre. The inlet pipes and valves are still

visible. The foundations of the Drying House on the west side of the Steam Stove survive while the walls of the Drying House on the east side have survived. It is at this point that the canal widens considerable and may have been an area where boats were parked or turned.

Stores

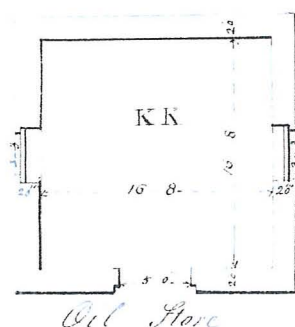
As would be expected there were a number of buildings on site identified as Stores and six such buildings have been identified.

Of all the Stores the Coal Store (Record 26) is the most spectacular. Coal was burned in the boiler of the Stove House to produce steam to dry the grains of Gunpowder, and coal was also used in the Charcoal Burning House. This high walled circular building is the most spectacular building that survives today and has major interpretative potential. From the 1828 drawings onwards in time there has been a Coal Yard or Coal Store at this location.



This building has the potential to be re-roofed as an interesting performance space. This is not included in the 5 year plan recommendations as much work is required on the total Royal Gunpowder Mills site before this can become a viable consideration.

Another interesting Store is the Oil Store that was located beside the canal in the eastern section that leads to the main Sawmill on the bank of the River Lee. This building first appears on the 1828 drawing and the building was marked here through to 1891. This building would have been used for storing oil for lighting and lubricating oil and is illustrated here together with an early drawing.



Stove

The early drawing from 1806 identified a 'Stove to be converted to an examining house' on the west side of Old Magazine No 2 in the eastern section of the site. By 1828 this was being called the 'Old Store' and by 1876 had become the Cask Store. The timber casks were used for storing the finished gunpowder. By 1891 the same building was called the 'Empty Cask Store'. Today only the foundations survive and are quite difficult to find but are identified by photograph at Data Base Record No. 73.

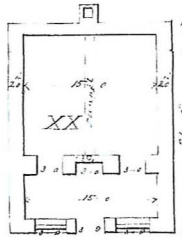
Straining Shop

This building is closely related to the refining process and in this building the impurities that rose to the top of the boiling pans in the Refinery were strained or skimmed off. The remains of this long one storey building with brick additions is to be found on the eastern section by the present pathway.



Timber Drying House

This building was located beside the pathway through the eastern section. In 1806 this was known as a 'Shed for Millwrights' and a few years later by 1828 it was known as a 'Drying House for Timber'. The 1891 drawing indicates that the building by that time had become Cooperage No. 4

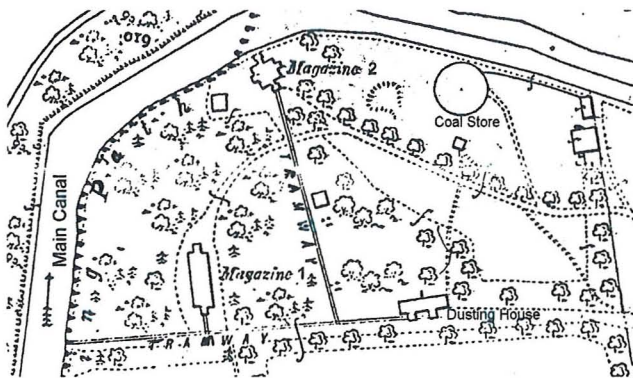


Drying House for Bags.



Tramway

Part of the the Tramway in the eastern section ran along the line of the existing wide pathway beside the metal fencing. This served the gunpowder Magazines. The drawing here illustrates the line of the Tramway and the photograph illustrates the Tramway from Waltham Abbey. Little information appears to be available about the wagons that were used on the Ballincollig Tramway. Elsewhere in



this Report the possible excavation of the foundations of part of the Tramway is proposed.



Water Engine House

A Water Engine House, probably a pump house was located in the Incorporating Mills area and was so identified on the 1828 drawing. The purpose of this was to facilitate the drawing of water from the River Lee for the nearby Barracks. Nothing of this structure survives today.

Weighing House



This building was located in the eastern section near the No.1 & No. 2 Cooperage. What survives of the building today is very badly overgrown though the Weigh Bridge was identified in 2006 by Jenny Webb and Anne Donaldson. This building first appears on the 1828 drawings and continued in use at least until 1891 when it was identified as a 'Weigh Bridge'. It is believed that some years ago part of the Weigh House mechanism was removed by Cork County Council for restoration.

The Weir



The Weir at the western end of the site was critical for the development of a head of water that would work through the canal system controlled by the sluice gates. The original weir was built by Charles Leslie in May 1795. The weir is marked on the 1806 drawing but omitted on the later 1828 drawings. By 1834 it is marked on those drawings as 'Old Weir broken down'. It should be remembered that the mills were closed from 1815 until 1834.

Wheelers Shop

The Wheelers Shop was located immediately west of Cooperage No. 1 & No. 2 in the eastern section. On the 1806 and 1828 drawings this building was used as a Wheelers or Wheelwrights Shop. It ceased to be indicated on the 1834 and 1876 drawings and appears again on the 1891 drawings as a Potash & Nitrate Store. Presumably the original function was the construction and maintenance of the timber wheels for the wagons that served the site. The Wheelers Shop may also have had the task of building the flat bottomed boats used for the transport of the gunpowder ingredients along the canal system.

Workshops

The most easily identifiable Workshops today survive in the eastern section directly opposite Cooperage No. 1 & No. 2. From 1806 onwards these three buildings seemed to have had the function of Millwrights Shop and Store, and from 1876 the storage of copper seems to have been an additional function of these buildings. Other Workshops and later stores appear to have been located at the rear of Cooperage No. 1 & No. 2 and south of the original canal.

8. Surviving movable artifacts

Introduction

Various artifacts have been found on-site by this Consultant and it is recommended that they be removed to safe keeping where they can eventually be viewed by the general public. The Cork Public Museum may be a suitable home for these artifacts if the Heritage Centre at The Royal Gunpowder Mills does not reopen to the public in the near future. However it is important that these artifacts be made available to the public through display and that this display also includes the material currently housed in the old Heritage Centre. It is recommended that the Cork City Museum be asked to prepare a short report on how best the identified movable artifacts can be displayed for the benefit of the public.

It is possible that some of the artifacts now in the old Heritage Centre that have been loaned to that building could be re-housed with the permission of the owners in the new Shopping Centre in Ballincollig. It may be worth having discussions with O'Flynn Construction about the possible use of one or two of the restored Coach House windows for this purpose. Another display possibility may be Oriel House Hotel, a building that has close Royal Gunpowder Mills associations.

The following 'movable' artifacts have been noted in the Royal Gunpowder Mills site and photographed.

Tube in Charge House No 2

A long tube possibly of metal or lead was seen in Charge House No 2 or No. 3 late in 2006. It was noted inside the locked entrance of the charge house.



Metal Bar



A long metal bar about 13' long can be seen on the grass beside the smaller of the Sluice Gates near the western entrance. This has metal 'box' inserts that may have originally held timber bars. The original use is uncertain but was probably associated with one of the nearby Sluice Gates.

Metal Flange

A large circular metal flange survives at the site of one of the Press Houses (record No. 8) on the banks of the River Lee east of the Weir. This flange or steel rim is presently located in the base of the stone lined canal that brought water from the River Lee to this Press House. The original purpose of this flange is uncertain but it may have been one side of part of a water driven wheel.



Mooring Rings

There are remains of what appear to be mooring rings or small parts of mooring facilities on the canal-side below the Expense Magazine (Record No. 10). These have been set into the riverside rock using molten lead.



Turbine

Part of a very early Turbine (record No. 48) survives in its small vertical shaft at the Sawmill in the eastern section. Evidently this was one of the earliest Turbines used in Ireland and dates from 1855. This was built by the Hive Iron Works of Cork.

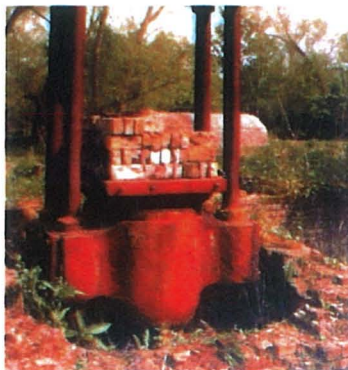
Fireplaces

The two Fireplaces structures one at either end of Cooperage Nos. 1 & 2 in the eastern section survive. While these structures cannot be removed in one piece vandalism could destroy them for ever. It is recommended that these be formally recorded and the records lodged in the Cork Public Museum.



Hydraulic Press

Part of the Press House machinery (right) survives in the wall of the old Press House west of the Innishmore footbridge. The weight of this means that it is unlikely to be vandalized but any future wall collapse might bury this interesting iron artifact. The photograph on the right shows a more modern version of the same Hydraulic Press from Waltham Abbey but the operating principle remains the same.



Steam Valve

One of the large steam valves survives at the Steam Stove & Drying Houses between the two buildings.

9. Wildlife of the Regional Park

UCC Study

In 2005 the Ballincollig Tidy Towns Committee commissioned a Flora and Fauna Study of the Regional Park. This work was carried out by an interested group of ecologists in UCC, supported by the Heritage Council. The Study was published in 2006.

The objective of the Study was to produce a baseline Flora and Fauna survey of the Regional Park.

The largest area of the Regional Park is presently occupied by grassland some of which remains in an undisturbed state. The winter survey recorded a total of 52 bird species within the park. In the summer survey period 50 species were recorded. In all 59 different bird species were recorded in the Regional Park during the survey of which 41 occur in both winter and summer. A total of 56 species of Butterflies and Moths were recorded for the Regional Park of which 12 were butterflies and 44 Moth species. Bats of which there are possibly nine species in the park, together with Otters and Foxes are among the wild mammals known to inhabit various parts of the site.

The Survey Report at Appendix 111 gives detailed recommendations on Bat protection in the event that any trees need to be removed in the area. Thirty bat boxes have been erected in the Regional Park (for example along Beech Walk) by the local bat group.

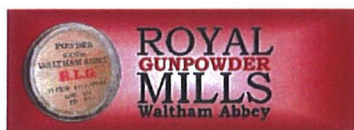
It is understood that this Study is now with Cork County Council (1st August 2007) for examination in the context of the NeighbourWood project for the Regional Park.

10. Best Practice in UK

Introduction

It was considered important when reviewing the future of the Royal Gunpowder Mills at Ballincollig to see how gunpowder mills in the UK are presented and managed. The consultant was of the view that lessons could be learnt for Ballincollig in terms of presentation, management and marketing from this exercise.

It was decided to examine three gunpowder sites in England with a view to seeing how they had developed the sites as public and tourism facilities with a view to establishing some aspects of best practice that might be applied to the Ballincollig site. The sites chosen were Waltham Abbey at Waltham Abbey in Essex, the Oare Works near Faversham and the Chart Mills in Faversham in Kent.



The Gunpowder Mills Visitor Centre at Waltham Abbey in Essex

The Waltham Abbey complex is located in the village of Waltham Abbey north of London. The site occupies approximately 175 acres and 21 important historic buildings are extant. Of the total site 70 acres are open to the public. The importance of the Waltham Abbey site in nature and wildlife terms is high. The site forms part of the very large Lee Valley Regional Park (4,000 hectares - 10,000 acres) that stretches from Ware in Hertfordshire to the Thames at East India Dock a distance of 42 kms (26 miles). The Waltham Abbey site and complex, where buildings from modern and older periods survive, does not have as many parallels with the Ballincollig site as does the Oare Works.

Advance Signage

There is some advance signage in the village of Waltham Abbey as illustrated below.



The large sign at the site entrance area illustrated above right is most informative and comprehensive.

Site Designations

Site of Special Scientific Interest covers two thirds of total acreage and is located at the northern end of the site. Only public access to this area is by a Land Train journey that lasts for forty minutes.

Brief History

Milling is believed to have started at Waltham Abbey in the early 17th century. In 1825 Charles Wilkes was appointed Storekeeper at Waltham Abbey and he had been appointed Superintendent at the Royal Gunpowder Mills in Ballincollig in 1804. Some years later in the period late 1831 to March 1832 some of the Ballincollig Machinery was transferred to Waltham Abbey. By 1870 a total of 32 pairs of Incorporating Mills were in use at Waltham Abbey producing 27,000 barrels of gunpowder per year and employing 150 people. In 1943 the mills closed and were shortly after reopened as a military Research Establishment and the site finally closed in 1991.

English Heritage started work on the site in 1993 and this work was completed in 1996. A total of £7.5 million (€11.2 million) was spent on development of the site as a visitor attraction. The Heritage Lottery Fund support was of critical importance.

In March 1997 a specially established Trust took over the total property from the Ministry of Defense for £1.00. The Trust then formed an operating Company which manages the day to day management of the site. The operating Company has leased the property from the Trust. The site opened to the public in May 2001.

Opening Times & Admission costs

The site is open to the public on Weekends and Bank Holidays from 28th April to 7th October 2007. The site also opens on Wednesdays during the summer school holidays. The adult charge is £6.00 and children are charged £3.50. A family ticket⁹ in 2007 costs £19.00. The Road Train at the northern section of the site costs an additional £1.50 per adult. A dwell time of 3 to 4 hours is recommended for a site visit. In 2007 the Waltham Abbey site will run 12 special events and this approach in the past has attracted large visitor numbers.¹⁰

Staffing

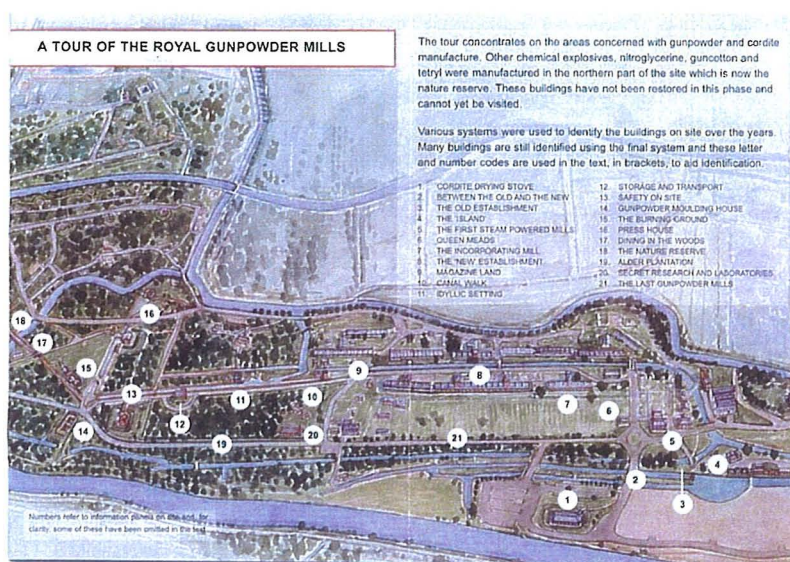
The Operating Company employs the following permanent paid staff –

5. Company Manager
6. Marketing Manager
7. Volunteer Development Manager
8. Visitor Services Manager
9. Two Administrators

The permanent core staff is augmented in the summer by seasonal staff.

Site layout

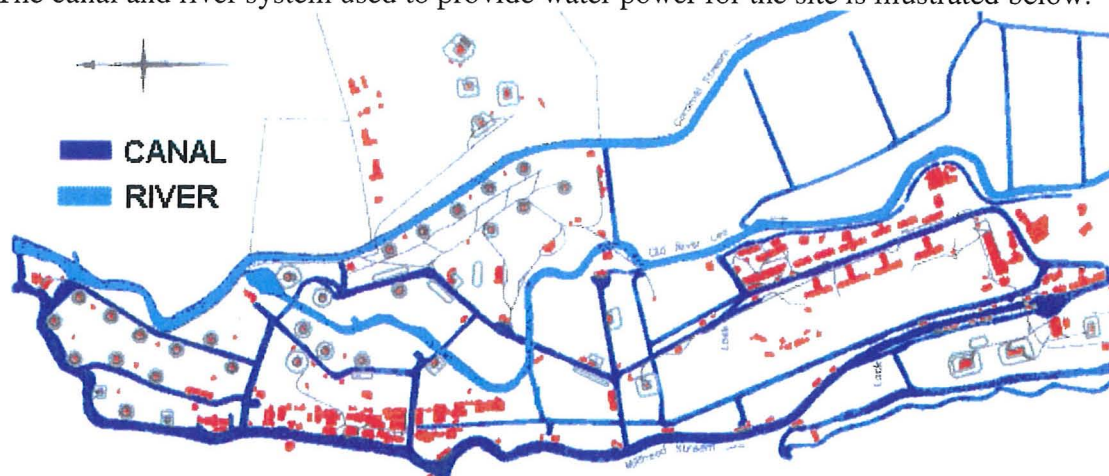
The site layout is illustrated in the following image.



The Waltham Abbey site is a long linear one and in that sense is similar to Ballincollig. The public access to the northern section of the site is by Road Train only.

Canals

The canal and river system used to provide water power for the site is illustrated below.

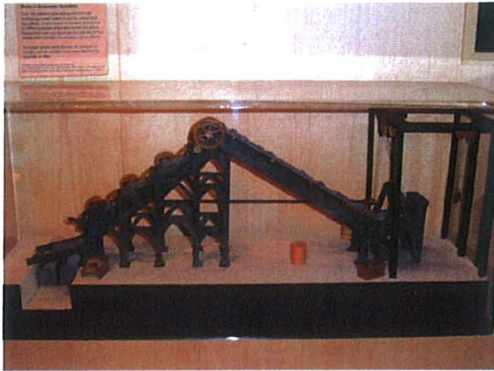


There are indeed parallels here with the river and canal system at Ballincollig.

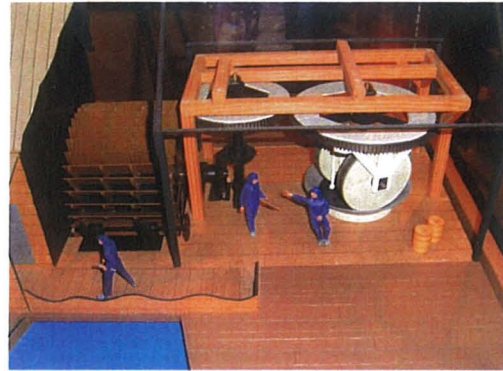
Visitor Centre

The Visitor Centre is a purpose built two storey building of relatively modern design. The exhibitions here cover the gunpowder manufacturing process and other military

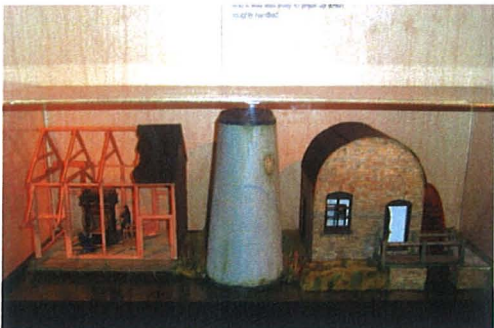
related subjects such as military vehicles. The gunpowder exhibits are especially interesting and very well presented, and good use is made of models to illustrate various aspects of the gunpowder manufacturing process. The following photographs illustrate some aspects of the gunpowder exhibitions.



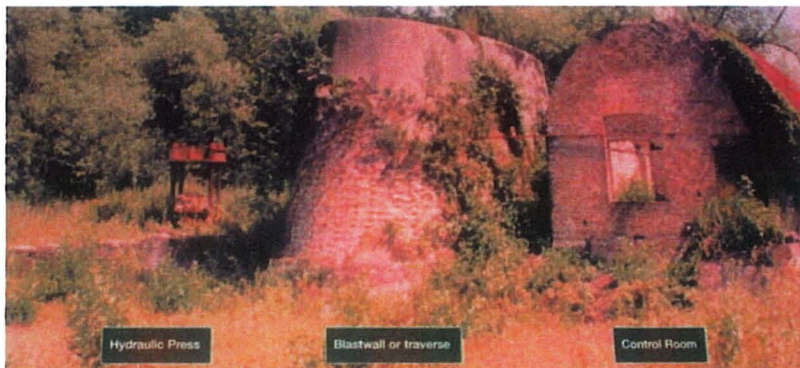
Granulating Mill model



Incorporating Mill model



Press House and Traverse model



Surviving remains of Press House Control Room and Traverse



Illustration of gunpowder manufacturing process

Retail area

The Waltham Abbey site shop is well developed and the interior is illustrated in the photograph on the left.

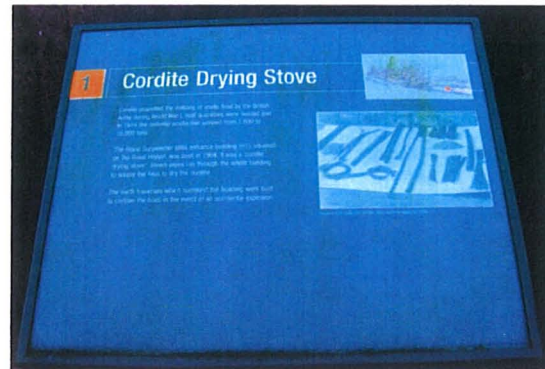


The graphics illustrated on the retail area wall (right) have a very strong nature orientation rather than that of gunpowder mills interest. This illustrates the fact that in promotional terms the Waltham Abbey site has a multi-purpose approach to marketing. The gunpowder aspect of the site is just one of a number of interest areas that are promoted.

A Café facility is also available in a designated building.

Information Panels

Information panels similar to those examined at the Oare Works in Faversham have been provided also at Waltham Abbey and are illustrated below.



Powdermills buildings

The Waltham Site is quite complex largely because of the large range of buildings representing industrial activity at different periods. The production and development of explosives continued here for a period of 300 years, unlike the site at Ballincollig. The later manufacture at Waltham Abbey of guncotton, nitroglycerine, cordite paste and tetryl resulted in the adaptation of some earlier buildings and the development of new ones. When explosives manufacturing ceased the site became a research establishment for non-nuclear explosives and propellants.



Surviving Press House with central traverse in 1998



Last of surviving Incorporating Mills at Waltham Abbey in 1950s

The drawing below is based on a 1735 engraving of the Waltham Abbey gunpowder mills and illustrates what the early development at Ballincollig may have looked like. However development at Ballincollig did not begin until some fifty nine years later in 1794.



Nature and wildlife

In wildlife terms the site is important and this plays a key role in the promotion of educational visits for schools to Waltham Abbey. The northern section of the site is of 120 acres and access is by Road Train only. This area is an SSSI site. From the 18th Century onwards there was much planting in this area of Alder, Crack Willow and Alder Buckthorn. There is now an experimental coppice regime for this part of the site where Deer are also an attraction. The largest Heronry in Essex is located here and a Wildlife Tower is an added visitor attraction.

Summary

The diversification of the remaining buildings at Waltham Abbey tends to give a lack of cohesion to this large site. Though the Ballincollig site is difficult to interpret it is much easier that at Waltham Abbey. However the large degree of historical diversification at Waltham Abbey has allowed the development of a wide ranging and well thought out educational programme for school children and other visitors.

Website

An excellent website for the Waltham Abbey complex has been developed and can be found at www.royalgunpowdermills.com. A series of ten main menus give access to a further series of most useful sub-menus. The website includes an on-line archive that has over 8,000 entries. This archive covers a wider historical interest than just Waltham Abbey and holds records of mills and people associated with the milling industry from around the UK.

Site marketing

The annual marketing budget falls within the range of £15,000 to £17,000 per annum (€22,300 to €25,300). This appears low for the quality of the annual events and educational programmes that the site promotes. The marketing of the site goes beyond the purely gunpowder heritage interest and includes Victorian life, wartime village life, Gunpowder, Treason and Plot, and Victorian Christmas. A good Schools Explorer Programme has been developed.

Site signage

Internal site signage is less helpful than that experienced at the Oare Works near Faversham. The old numbering system used for the various buildings in the past has been continued. Fingerpost as illustrated below have also been used.



Volunteers

Waltham Abbey has an active site volunteer's programme and there are approximately 80 volunteers on the site list. Of these approximately 20 / 30 are considered to be active and reliable. The management advises that without the help of the unpaid volunteers the annual opening of the site to the public would be impossible. The volunteers are formally Registered as such and this has evidently greatly facilitated the issue of Employers Liability Insurance. The active volunteers sign-up for designated roles on site

Visitor handling

In 2006 the Waltham Abbey site was visited by 18,000 visitors of which approximately 5,000 were children.

Ongoing management and maintenance funding

The Ministry of Defense lodged £5 million with the Trust Fund the interest on which is used for annual operating expenditure. Fluctuating annual interest rates make this funding system unpredictable and not totally satisfactory. For example in 1996 when UK interest rates were at 8% the Trust Fund yielded approximately £400,000 to the operating Company. Present interest rates at 4% are yielding £200,000 to the operating Company per year. The annual running cost is between £300,000 and £400,000 and approximately one third is received back in revenue from site visits. These figures indicate that (a) the

site is not viable alone on visitor receipts and this is accepted by the operating Company and (b) that operational costs are just about met by the above funding scenario. The Company does not have a Bank Overdraft.



The Oare Gunpowder Works and Country Park near Faversham in Kent

Introduction

The Oare Gunpowder Works and Country Park¹¹ are located 2.5 miles from the centre of the attractive village of Faversham in Kent. The first impression of this linear site is that this site in gunpowder mills and environmental terms is closely aligned to the Gunpowder Mills at Ballincollig. On further detailed examination of the site this first impression is confirmed. The remaining gunpowder works buildings and canals are located along an 800 metre length of the valley of a minor stream that drained into Oare Creek. Part of the site had been destroyed by previous gravel extraction.

Advance Signage

Advance road signage for the Oare Works and Country Park is extremely poor and of little help to the visitor. No signage is evident until one arrives quite close to the entrance to the site.

Site Designations

The following official Designations are associated with this site –

Scheduled Ancient Monument

Site of Special Scientific Interest – part of site

Scheduled Ancient Monument

Kent Wildlife Trust designated as part of larger Site of Nature Conservation Interest.

Opening Times

The site is open to the public daily and it is understood that approximately 20 to 30 volunteers are involved in helping to run the site.

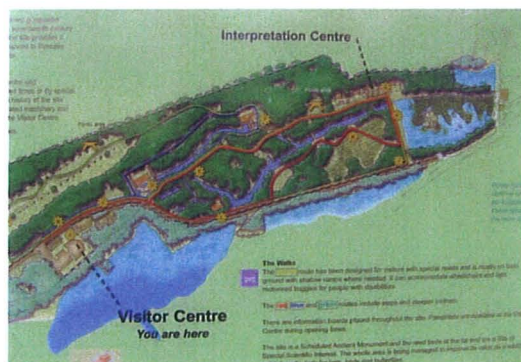
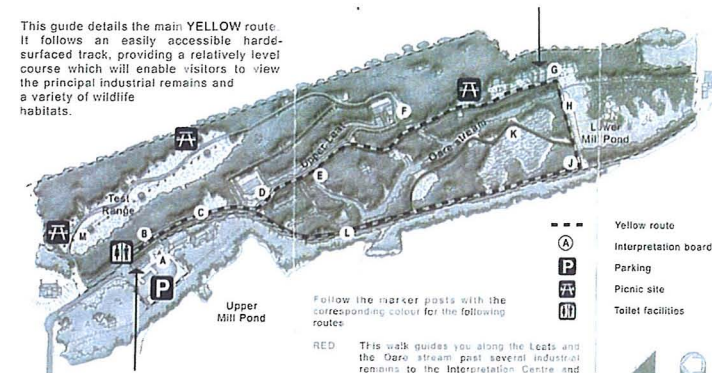
Brief History

The Oare gunpowder mills trace their origin to 1690 when they were founded by Huguenot refugees. The mills were purchased by the British Board of Ordnance in 1759, and in 1832 they transferred to private hands having closed in 1815. Curtis & Harvey took over the mills in 1898 and subsequently ownership transferred to Nobel Industries and then to ICI. The ownership route for these gunpowder mills was quite similar to that at Ballincollig. The mills finally closed in 1934. Restoration works started in 2001 and this work was completed in 2005. The site is owned by Bretts Aggregates and is leased to Swale Borough Council on a 150 year lease. A Heritage Lottery grant of £885,500 (€1.32

million) was awarded to the project and other funds were raised from other sources. As at Waltham Abbey a decontamination Survey took place before work started on the development of public access the site.

Site layout plans

The following diagrams illustrate the layout of the Oare Works site.



Visitor Centre

A Visitor Centre has been developed in the old Cooperage but this was closed on the day of the site visit, but this building is illustrated here. The Visitor Centre usually opens at weekends from April to November from 10.30 am to 4.30 pm. The gunpowder mills at Ballincollig also had a cooperage that dates from at least 1828 and the walls of this building survive in part together with two large interesting fire places. In 2006 a total of 3,234 visitors were recorded to the Visitor Centre and this figure includes 9 group visits average 20 in each party and 10 school group visits.



The Visitor Centre does not cover its annual running costs and therefore is not viable. There is no admission charge and efforts are to be made in 2007 to encourage further voluntary donations especially from visitors. Some donations and profit from the sale of literature contribute towards overhead costs.



Walks

Four colour coded walks have been developed of varying length and subject matter. Access to these walks is available at all times. This signage system represents a low cost directional solution and is easily followed by the visitor and is effective.

Viewing areas

Very attractive viewing areas have been provided at various locations around the site. These are made of timber post and rail construction and are extremely effective. Two of these viewing areas are illustrated below. This approach to visitor management has much to recommend it in the context of the suggested excavation of the Corning Mill on Beech Walk at the Ballincollig site.



Information Panels

Information Panels have been provided around the site at key building and other locations. These panels address gunpowder and nature informational requirements. Some examples are illustrated in the following photographs.



These panels were manufactured by Broadway Maylan.

The water area to the south of the site is a pond created through earlier quarrying operations.

Powdermills buildings

The following photographs illustrate some of the archaeological heritage of the Oare site.



1 and 2 Incorporating Mills blast wall and machinery bases



Brick / stone lined canal



Leat or canal



1926 Electric Incorporating Mills



Old Magazine



Lower Millpond viewing area one of two reservoirs developed before 1700 to power water wheels

Nature and Wildlife

The Oare Gunpowder Works site is important from a wildlife point of view and the various information panels incorporate information on both the powder mills and items of wildlife interest.

An interesting development is the development of a Marshland Boardwalk. This area is being developed naturally so that a greater variety of plant species will be encouraged to the area. This in turn will attract additional insect species. The boardwalk is illustrated in the following photographs.



Gunpowder Trail

An interesting Gunpowder Trail brochure for the Faversham area has been published. This Trail has a total of 29 sites identified by map and text. The brochure highlights the considerable importance of the Faversham area in the manufacture of gunpowder.

Summary

The Oare site has many parallels with the Royal Gunpowder Mills at Ballincollig in environmental, historical and day to day control terms. The ownership / control parallels by a Local Authority are especially significant.

Website

The Oare Works does not have a dedicated site. However information on the mills is included on the Faversham site. This site can be found at www.faversham.org

Site marketing

Marketing is carried out by Swale Borough Council and Groundwork Medway Swale. This organisation is involved in social and economic regeneration in the area. There is no specific budget allocated to marketing activity. Some funding for marketing has been provided by Swale Borough Council and Groundwork Medway Swale. The local Mayor's office funded the function for the opening of the Visitor Centre and a local charity provided a grant towards the costs of another event.

Volunteers

A core of volunteers is used to run the Visitor Centre and they are also involved in woodland management and conservation. The volunteers are specifically managed by Groundwork Medway Swale.

Ongoing management and maintenance funding

The Swale Borough Council spends approximately £40,000 (€60,300) per annum on site management and maintenance. Visitor demand appears to indicate an early need for on site café / tearoom and a play area for younger children.

The Chart Mills in Faversham in Kent

Introduction

The Chart Mills are located in the village of Faversham in Kent, and the site was visited on 13th December 2006. This is the site of a restored Incorporating Mill. This site is difficult to find and is located off Stonebridge Way in the middle of a housing estate as illustrated in the following photograph. There has been a full restoration of the Incorporating Mill and like the restored mill at Ballincollig can work with a suitable water supply.



Advance Signage

There is no evident advance signage for the Chart Mills though the site is marked on the excellent local Faversham brochure map.

Brief History

In 1966 the remains of this mill was due to be scrapped but was saved by the very active local Faversham Society. This area has been an important explosives manufacturing centre for nearly 400 years. The Chart Mills formed part of the Home Works gunpowder manufacturing facility. They closed in the 1930s and fell into disrepair. The Chart Mills site had two waterwheels driving a set of four mills, and the pit of the other wheel and the circular bed stones can still be seen at the site as can some spare edge runners on the bank beyond, moved from another site. Later a steam engine was added; the site of which is buried under the houses opposite. It is understood that the development of the restored incorporating Mill at Ballincollig was informed by the work that had been previously done at Chart Mills by the Faversham Society. The edge runners stones for the mill came from the Oare Works.

Staffing

The mill is open to the public from April to October from 2.00 pm to 5.00 pm. Admission is free. The facility is staffed on a voluntary basis by members and friends of the Faversham Society. The mill attracts about 2,000 visitors per year.

Site Layout

The following photographs illustrate the layout of this rather small site.



View to restored Incorporating Mill



Restored Mill building



Mill building and waterway



Two other stone beds for a pair of mill wheels are illustrated here.

Information Panels

No external information panels were noted that would give some site data at times when the mill is closed to the public.

Buildings

The following photographs taken from the Faversham website illustrate some of the internal restoration work carried out by the Faversham Society, together with illustrations of the site before work commenced.



Chart Mills in 1960s



Chart Mills in 1967



Mill wheels

Summary

This is an interesting and important restoration site but housing development has compromised the overall effect and impact of the mill.

Website

The Chart Mills does not have a dedicated site. However information on the mills is included on the Faversham site. This site can be found at www.faversham.org

What we can learn from the UK experience?

The visit to the three gunpowder mill sites detailed above has highlighted the following key points that are relevant to the Ballincollig Royal Gunpowder Mills –

- a. The Royal Gunpowder Mills at Ballincollig ranks at least equal in importance to the sites at Waltham Abbey and the Oare Works. In 1857 Ballincollig employed 500 mill workers far in excess of the other two mills, and at one period Ballincollig and Waltham Abbey shared joint ownership.
- b. The heritage story at Waltham Abbey extends to 1991 when the Ministry of Defense closed the Research Establishment that they had opened in 1945. The diversification of the story to include more recent military developments in some ways takes from the earlier gunpowder manufacturing story.
- c. The Oare Works site has the strongest parallels with the Ballincollig Royal Gunpowder Mills both in terms of the gunpowder aspects of the site but also in environmental terms as the site at Oare is also a Country Park.
- d. It is rather ironic that in 1998 the Ballincollig Royal Gunpowder Mills Visitor Centre closed and gunpowder site development ceased. In 2001 the Waltham Abbey site opened to the public and in 2003 restoration works started at the Oare Works.
- e. The importance of good advance signposting – generally found to be less than what is required.
- f. The role of good on site signposting or directional aids and information panels – excellent at the Oare Works, not so good at Waltham Abbey.
- g. The key role of site volunteers – critical at all three sites visited.
- h. The importance of a good site dedicated website.
- i. Marketing and associated budgets – generally poor at the Oare Works site and much better structured and funded at Waltham Abbey.
- j. In each of the two main sites visited the role of nature and conservation from the visitor point of view is just as important if not more so, than the gunpowder mills aspect of the site.
- k. The development at the Oare Works on which the Local Authority has a long lease of 150 years has parallels with Ballincollig where the site is owned by Cork County Council.

- l. At the Oare Works some of the ongoing management responsibilities have been devolved by the Local Authority to an external Company - Groundwork Medway Swale.
- m. Significant capital funding through Heritage Lottery Funding was provided for Waltham Abbey and the Oare Works (€11.2 million and € 1,32 million respectively).
- n. The Trust Fund approach used at Waltham Abbey is especially interesting as a model for the provision of on-going funding for capital or operational purposes.

11. Five Year Plan 2007 – 2012

Introduction

This section of the Report considers the policy recommendations made in earlier chapters and allocates those policy recommendations to a year for implementation purposes.

Cork County Council legacy

It is strongly acknowledged that Cork County Council over many years have done much to present the Regional Park as a well managed and much appreciated public amenity. As owners and public custodians of the Royal Gunpowder Mills property Cork County Council needs to take a policy decision endorsed by the members of the County Council on the future of the powder mills. The situation in regard to the powder mills buildings and canal system will not remain static. Either a conscious and determined effort is made by Cork County Council and others to 'save' the powder mills or the present decline in building preservation will continue. The key issue in this consideration is the acknowledged national and international importance of the site.

Cork County Council – Royal Gunpowder Mills funding

On the basis that Cork County Council will hopefully decide to preserve the historical legacy represented by the powder mills complex it is recommended that a figure of €150,000 per annum for a five year period 2009 – 2012. Before inflation this figure will amount to €600,000.

This figure should be inflation indexed on an annual basis, and specifically allocated to the Historic Monuments Advisory Committee (HMAC) for capital works on the canal system and Powder Mills buildings over and above the normal allocation received by that committee. It is further recommended that a figure of €50,000 be allocated on the above basis to HMAC in 2008 to allow the following works to take place –

- | | |
|--|---------|
| 1. Conservation Study of key buildings identified in this report - | €20,000 |
| 2. Site signage - | €10,000 |
| 3. Excavation - | €20,000 |

An alternative capital funding mechanism is suggested here. That is the deposit by Cork County Council of a sum of €1.5 million the interest on which will go directly to HMAC for the above work. This has the advantage in that it will allow capital works to continue on into the future beyond the five year period suggested above and it is preferable.

Policy recommendations

The following policy recommendations have been made in this Study and they are drawn together here into a five year planning programme. An indication is given of the

recommended year or years of implementation for each policy together with a Report reference page.

Policy Recommendation	No	2008	2009	2010	2011	2012	Report Reference Page
Restoration of Round Tower Watch House as basic refreshment facility with interpretative panels.	1		✓				12
Establishment of Royal Gunpowder Mills / Regional Park Management Group	2		✓				13
Repair breaches in site security fencing – Safety Audit 2.36	3	✓					14
Consider provision of on site security during hours of closure	4	✓					14
Provision of advance Ballincollig signage on main approach roads	5		✓				18

Policy Recommendation	No	2008	2009	2010	2011	2012	Report Reference Page
Provision of fingerpost signage to Powder Mills, Regional Park and Military Graveyard	6		✓				19
Provision of oak colour coded directional posts to Powder Mills buildings as clearance progresses	7		✓	✓	✓	✓	20
Provision of amenity walks and nature signage in Regional Park and Powder Mills areas	8	✓	✓				21
Provision of building information panels as each building is cleared	9	✓	✓	✓	✓	✓	21

Policy Recommendation	No	2008	2009	2010	2011	2012	Report Reference Page
Provision of public Information Panels at 5 locations recommended in Report	10	✓					21
Re-establish formal access to Incorporating Mills area in eastern section	11			✓			23
Create public riverside park in Incorporating Mills area	12			✓			23
Transfer Cork County Council Heritage Unit to old Visitor Centre at Incorporating Mills area	13		✓				24
Marketing budget of €25,000 in year one to be provided	14		✓	✓	✓	✓	27

Policy Recommendation	No	2008	2009	2010	2011	2012	Report Reference Page
Dedicated Royal Gunpowder Mills website to be functional by 1 st April –or link from BHA / HMAC web-sites	15	✓					26
Clearance Programme for 24 High Priority status buildings	16		✓	✓	✓		28
Clearance Programme for 21 Medium Priority status buildings	17		✓	✓	✓		28
Transverse excavations through old Tramway	18	✓					36
Excavation of Corning House / Mill near Beach Walk	19	✓					37
Excavation of Press House beside River Lee (Record No. 8)	20	✓					37

Policy Recommendation	No	2008	2009	2010	2011	2012	Report Reference Page
Site Tours on regular basis	21	✓	✓	✓	✓	✓	38
Remove all movable artifacts from site for display in Cork Public Museum together with non-private artifacts presently in old Heritage Centre	22	✓					57
Privately owned artifacts in old Heritage Centre to be displayed ideally at Old Coach House at Ballincollig Shopping Centre	23	✓					57
Friends of the Royal Gunpowder Mills group to be established through Ballincollig Heritage Association	24	✓					12

Policy Recommendation	No	2008	2009	2010	2011	2012	Report Reference Page
Cork County Council to agree 'ring fenced' sum of €150,000 per year + inflation (€50,000 in 2008) for work on Powder Mills buildings..	25	✓	✓	✓	✓	✓	81
Canal clearance & water reinstatement – western section of site excluding Leslie's canal	26		✓				34
Canal clearance & water reinstatement – Incorporating Mills area	27		✓				35
Canal clearance & water reinstatement – Goats Island excluding Leslie's canal	28			✓			35
Canal clearance & water reinstatement – middle section	29			✓			35

Policy Recommendation	No	2008	2009	2010	2011	2012	Report Reference Page
Canal clearance & water reinstatement – Leslie’s original canal running west to east	30				✓		36
Canal clearance & water reinstatement – Short north south canals in eastern section	31				✓		36
Resolution of car parking difficulties at the eastern entrance	32	✓					9
Discussion on Cholaiste Cholm transition year students role in Heritage Centre	33	✓					24

Present projects

In the following table two projects currently being actioned by Cork County Council are detailed based on available information as of 13th August 2007.

Other projects	2007	2008	2009	2010	2011	Report Reference Page
Disabled access and paths development by Cork County Council. Projected €150,000 expenditure.	✓	✓	✓			10
Development of woodland areas in Regional Park under NeighbourWood Scheme. Projected €200,000 expenditure	✓	✓	✓	✓		10

12. Potential funding sources

Introduction

Funding by other agencies

It is of course proposed that other funding agencies should have a role in the funding of development at the Royal Gunpowder Mills as well as Cork County Council and this is discussed in the next and final section of this Report.

Some potential funding sources for the Royal Gunpowder Mills aspects of the Regional Park are as follows. It is strongly recommended that any grants received are taken as being over and above the suggested annual financial commitment by Cork County Council to the overall project.

Cork County Council

It has been suggested in the previous section of this Report that Cork County Council commits to the provision of €150,000 per annum for five years + inflation in the period 2009 – 2012 for work on the canal system and powder mills high priority and medium priority buildings. A figure of €50,000 for 2008 is recommended and detailed above.

The Heritage Council

It is recommended that application be made to The Heritage Council for grant aid towards the restoration of the Round Watch House at the western entrance to the Royal Gunpowder Mills / Regional Park. The buildings at risk grant scheme for 2008 is expected close by the end of March 2008 based on the closing date followed for the 2007 programme.

In 2007 The Heritage Council allocated Archaeology grants of €51,842 and a sum of €4,152,561 was allocated to the *Buildings at Risk* budget.

Failte Ireland EU Capital Programme

This consultant has had recent discussions (7th August 2007) with the Acting Chief Executive of Failte Ireland South West to see if any capital grant support may be available under the NDP or EU Capital Programmes for Tourism. Both these funding mechanisms are strongly driven by the development of new overseas visitors for Ireland. The Royal Gunpowder Mills has negligible if any overseas visitor demand and therefore an application under either of these funding mechanisms is unlikely to be successful. However in the years ahead if a synergy of maritime / warfare related projects was to be developed in Cork Harbour that included the Royal Gunpowder Mills an application might have a greater chance of success. The time scale for this might be at least five years.

Department of the Environment, Heritage & Local Government

Cork County Council will be aware of any possible grant sources from this Government Department and it is recommended that an early approach be made to them. This approach should be based on a specific detailed project or projects recommended in this report and detailed cost estimate should be available for that meeting.

LEADER

It is recommended that when the new community structure for LEADER is established in Ballincollig that an application is made to East Cork Area Development for grant aid in respect of the proposed signposting programme detailed elsewhere in this document.

Funding projections

In the following Table indicative funding projections are subject to individual agency discussions and agreement.

DONALDSON Tourism & Heritage Consultancy
Feasibility Study - The Royal Gunpowder Mills, Ballincollig, Co. Cork

Agency	2008	2009	2010	2011	2012	Total
Cork County Council – figures subject to addition for annual inflation	€50,000	€150,000	€150,000	€150,000	€150,000	€650,000
The Heritage Council - for Round Tower Watch House	€25,000					€25,000
The Heritage Council for other key buildings at risk						?
Dept. of the Environment.						?
LEADER For signage	€35,000	€35,000				€70,000
Cork County Council pathways development						€150,000
Cork County Council NeighbourWood project						€200,000

Total notional investment						€1,095,000
----------------------------------	--	--	--	--	--	-------------------

Potential capital investment 2008 - 2012

The above Table illustrates how a notional investment of just over €1,000,000 in the Royal Gunpowder Mills / Regional Park could be achieved in the period 2008 to 2012. This site of national and international heritage and industrial archaeological importance deserves nothing less in the view of this consultant.

¹ Bought by Cork County Council in April 1974 from Minister of Defense the powder mill lands and lands associated with the Military Barracks – ‘The Gunpowder Mill at Ballincollig’ George Kelleher, page 87

² Journal of the Ballincollig Community School Local History Society 1987, pages 14/15

³ Irish Tourist Association Topographical and General Survey.

⁴ Heritage Outlook Winter 2006 / spring 2006 – “Industrial Heritage in Ireland”. Article by Dr Colin Rynne, Lecturer Dept. of Archaeology UCC.

⁵ ‘The Gunpowder Mill at Ballincollig’ – George Kelleher, page 23

⁶ Owned and in the care of Cork County Council.

⁷ For comprehensive information see ‘British Military Graveyard 1810- 1922’ by Anne Donaldson 2005

⁸ Gillian Boazman, ‘Ballincollig Royal Gunpowder Mills: the vaulted magazine’ - JCHAS Vol. 112 (2007) 54-75. ‘Ballincollig Royal Gunpowder Mills: the vaulted magazine’

⁹ 2 adults and up to 3 children

¹⁰ This approach was also adopted by Paula Cogan a previous Manager of the Ballincollig Royal Gunpowder Mills Visitor Centre.

¹¹ Visited 13th December 2006