

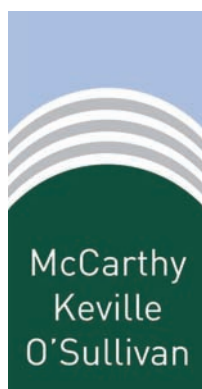
Environmental Impact Statement

Mr. Binman Ltd.
EPA Licence Review Application

*For inspection purposes only.
Consent of copyright owner required for any other use.*



Planning & Environmental Consultants



Document Issue Sheet

Client	Mr. Binman Ltd.
Project Title	Mr. Binman EPA Licence EIS
Project Number	081005
Document Title	Environmental Impact Statement
Document Number	081005-2009.01.08 – F

Rev.	Status	Issue Date	Author(s)	Approved By	Issue Date
01	Draft	19/12/2008	Lorraine Meehan (PM) Jen Fisher Dervla O'Dowd Pat Roberts	Brian Keville	18-19/12/2008
02	Final	08/01/2009	Lorraine Meehan	Brian Keville	08/01/2009

1. Introduction

1.1 Introduction

Mr. Binman Ltd. operates a waste transfer station and recycling centre at Luddenmore, Grange, Killmallock, Co. Limerick. Under Waste Licence No. W0061-02 issued by the Environmental Protection Agency (EPA), Mr. Binman Ltd. is permitted to accept 87,500 tonnes up to 105,000 tonnes of waste per annum at this facility. Mr. Binman Ltd. proposes to increase this capacity to 200,000 tonnes per annum by 2012, subject to approval from the EPA.

In September 2007, the EPA confirmed that the most appropriate way of increasing the annual waste acceptance limit beyond 105,000 tonnes was through a review of the facility's existing waste licence. Mr. Binman Ltd. submitted an application for a review of the waste licence to the EPA in July 2008. Following consultation between Mr. Binman Ltd. and the EPA with the Forward Planning Section of Limerick County Council, an Environmental Impact Assessment (EIA) of the proposed increase in tonnages to be accepted at the facility was deemed necessary.

McCarthy Keville O'Sullivan Ltd. was appointed as Environmental Consultants on this project and commissioned to complete an EIA, which fulfils the requirements set out by the EPA in the 'Guidelines on the Information to be contained in Environmental Impact Statements' and Schedule 6 of the Planning and Development Regulations 2001, relating to the information to be contained in an Environmental Impact Statement (EIS). This EIS has been prepared on behalf of the applicant Mr. Binman Ltd., and identifies and plans for the mitigation of all potential impacts that will arise as a result of the proposed development.

1.2 The Applicant

Mr. Binman Ltd. was established in 1994 and today is one of the largest independent waste recovery operators in the country, employing approximately 330 people. The company collects non-hazardous household, commercial and construction and demolition waste from approximately 60,000 customers in the Mid-West and South-East Regions. The majority of the waste collected by Mr. Binman Ltd. is brought to the transfer station at Luddenmore for sorting and the recovery of recyclable materials. The applicant also operates the Clearpoint Materials Recovery Facility in Carrick-on-Suir, South Tipperary and has local offices in Limerick City, Luddenmore, Gort, Ennis, Clonmel and Carrick-on-Suir.

1.3 Brief Description of the Proposed Development

Mr. Binman Ltd. proposes to gradually increase the annual tonnage of waste accepted at the transfer station from 105,000 tonnes to 200,000 tonnes per annum by 2012. Non-hazardous household waste will account for approximately 56% of the total waste collected, while non-hazardous commercial waste and construction and demolition waste will account for approximately 41% and 3%, respectively.

The increase in tonnage can be accommodated by the existing site infrastructure. Planning permission has already been obtained from Limerick County Council for any works that would have been necessary to handle the additional tonnage, and therefore the proposed increase to 200,000 tonnes per annum will not require any further construction or planning permission applications.

Where the proposed development is referred to in this EIS, it is making reference to the increased throughput of material at the facility, increasing from the existing 105,000 tonnes per annum to the proposed 200,000 tonnes per annum by 2012.

1.4 Need for the Proposed Development

In 1998, the Department of the Environment and Local Government (DoELG) issued the policy statement, *'Changing our Ways'*, which highlighted the need for a new national approach to waste management planning. The document stated that an adequate, national infrastructure would be required in order to facilitate the achievement of the following targets by 2013:

- A diversion of 50% of overall household waste away from landfill.
- A minimum 65% reduction in biodegradable wastes consigned to landfill.
- The development of waste recovery facilities employing environmentally beneficial technologies, as an alternative to landfill.
- Recycling of 35% of municipal waste.
- Recycling at least 50% of C&D waste within a five-year period, with a progressive increase to at least 85% over fifteen years.

Though primarily directed at Local Authorities, *'Changing our Ways'* envisaged greater participation by the private sector in the provision of waste management services and infrastructure. Since 1998, the DoELG has also issued *'Preventing and Recycling Waste: Delivering Change'* (2002) and *'Taking Stock and Moving Forward'* (2004). The 2002 policy statement identified that there remained a clear need to rapidly develop an integrated network of appropriate facilities for the collection, sorting and treatment of recyclables. It stated that these facilities must be designed to generate good quality segregated waste that is suitable for delivery to reprocessing and biological treatment facilities. *'Taking Stock and Moving Forward'* (2004) states that the previous three years had seen a very significant response on the part of the private waste industry, as rising landfill prices and limited disposal capacity. One of the key points outlined in this document is that Local Authorities must pay particular attention to ensuring effective engagement with the private waste industry.

It is a specific objective of the Replacement Waste Management Plan for the Limerick/Clare/Kerry Region 2006 to ensure the provision of adequate infrastructure for the Region. The Plan states that the Local Authorities of Counties Limerick, Clare and Kerry and Limerick City recognise the value of private investment in realising this aim.

Increasing the waste tonnage acceptance limit at the Mr. Binman Ltd. facility in Luddenmore will ensure that more waste generated in the Mid-West Region is recycled or transferred to the Materials Recovery Facility at Clearpoint in Carrick-on-Suir for optimum recycling. This will assist considerably in minimising the quantity of waste sent direct to landfill and will contribute significantly to meeting Ireland's targets for diversion of waste from landfill.

1.5 Purpose and Scope of the EIS

The purpose of this EIS is to document the current state of the environment in the vicinity of the subject site in an effort to quantify the possible effects, if any, of the proposal on the environment. The assessment process that led to the compilation of this document served to highlight any areas where mitigation measures may be necessary in order to protect the surrounding environment from any negative impacts of the proposed increase in tonnage to be accepted at the facility.

The objective of this process is to facilitate the most efficient and positive design of the facility in order to plan for the identified effects so that measures are in place to ensure the environment is protected before any negative impacts are allowed to occur.

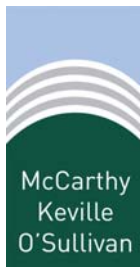
1.6 Structure and Content of the EIS

This Environmental Impact Statement uses the grouped structure method to describe the existing environment, the potential impacts of the proposed development thereon and the proposed mitigation measures. Background information relating to the proposed development, scoping and consultation undertaken and a description of the proposed development are presented in separate sections. The grouped format sections describe the impacts of the proposed development in terms of human beings, flora and fauna, soils and geology, water, air, noise and climate, landscape, cultural heritage and material assets such as drainage, site services, traffic and transportation and waste management, along with the interaction of the foregoing.

The EIS also includes a non-technical summary, which is a condensed and easily comprehensible version of the EIS document. The non-technical summary is laid out in a similar format to the main EIS document and comprises a description of the proposed development followed by the existing environment, impacts and mitigation measures presented in the grouped format.

1.7 Project Team

The following companies and staff were responsible for completion of the EIA:



McCarthy Keville O'Sullivan Ltd.

- Planning and Environmental Consultants
Block 7, Galway Financial Services Centre, Moneenageisha Road, Galway

Responsibility for EIS Sections:

Overall EIA Coordinators. Introduction; Background to the Proposed Development; Scoping & Consultation, Description of the Proposed Development; Human Beings, Flora & Fauna; Soils & Geology, Water, Landscape, Material Assets.

Staff Involved in the preparation of the EIS:

Lorraine Meehan B.Sc. (Env.)
Jen Fisher B.Sc. (Ecology)
Dervla O'Dowd B.A., B.Sc. (Env.)
Pat Roberts B.Sc. (Env.)

Michael Punch & Partners

97 Henry Street, Limerick



Responsibility for EIS Sections:

Site services, Planning Drawings, Drainage, Structural Engineering, Traffic Impact Assessment

Staff Involved in the preparation of the EIS:

Frances Judge B.E.

Byrne Environmental Consulting Ltd.
35 Jamestown Park, Ratoath, Co. Meath

Byrne Environmental
CONSULTING LTD

Responsibility for EIS Section:
Air, Climate and Noise

Staff Involved in the preparation of the EIS:
Ian Byrne M.Sc.

Byrne Mullins & Associates
7 Cnoc na Greine Square, Kilcullen, Co. Kildare

**BYRNE MULLINS &
ASSOCIATES**

Responsibility for EIS Section:
Cultural Heritage

Staff Involved in the preparation of the EIS:
Martin Byrne M.A.

CST Group
NIB Building, Stephen Street Sligo

CST Group

Responsibility for EIS Sections:
Traffic Impact Assessment

Staff Involved in the preparation of the EIS:
Francis Fidgeon B.E.

For information purposes only.
Consent of copyright owner required for any other use.

2. Background to the Proposed Development

2.1 Site Location

The Mr. Binman Ltd. waste transfer station and recycling centre is located in the townland of Luddenmore, approximately three kilometres southeast of the village of Ballyneety, Co. Limerick. The site location is shown on Figure 2.1 and the site boundary on Figure 2.2. Limerick City is located approximately eleven kilometres northwest of the site. The site of the waste transfer station is surrounded by agricultural land. A residential property is located adjacent to the western boundary of the site.

2.2 Site Access

The waste transfer station and recycling centre is accessed via the local road through Luddenmore, which adjoins the R512 Regional Road at Sheahan's Cross to the west of the site. The R512 travels in a north-south direction, linking Limerick City to the north with Killmallock and Fermoy in the south. There are two entrances to the waste transfer station from the local road. The western-most entrance provides access to the site office, while the second leads to the transfer station yard and is used by the waste collection vehicles. Planning permission was granted to Mr. Binman Ltd. by Limerick County Council in September 2007 for the construction of a new car park with spaces for 166 cars and two buses, with access road and bus turning area. (Planning Reference No. 05/3128). Construction of the new access road and car park has not yet commenced.

2.3 Physical Characteristics of Site and Surrounding Lands

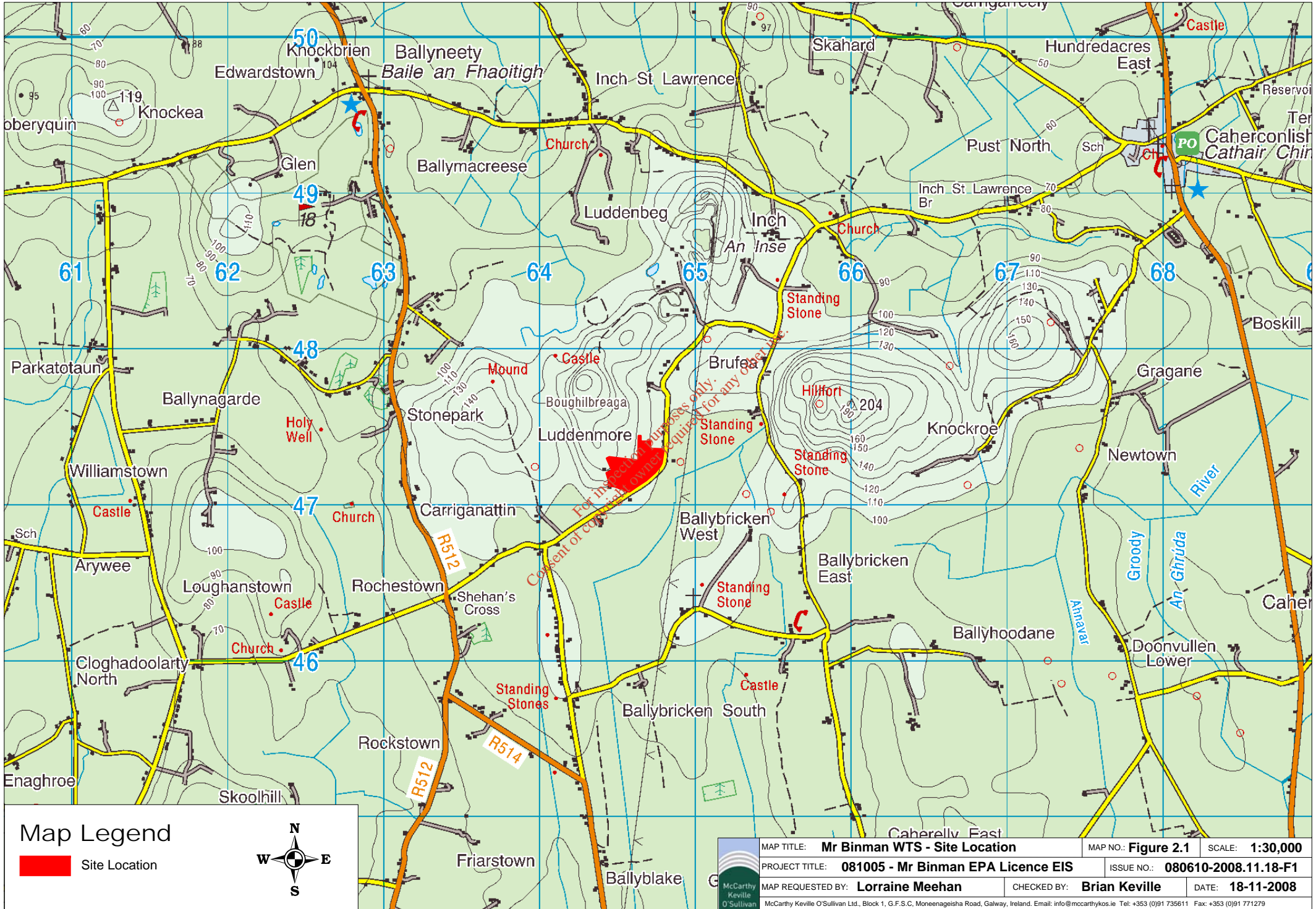
The total area of the proposed development site measures 7.0 hectares. The site is currently used for commercial purposes, with land-cover comprising waste-sorting sheds, an office and canteen building, agricultural sheds and a concrete yard. A full description of the components of the waste transfer station and recycling centre is provided in Chapter 3 of this EIS.

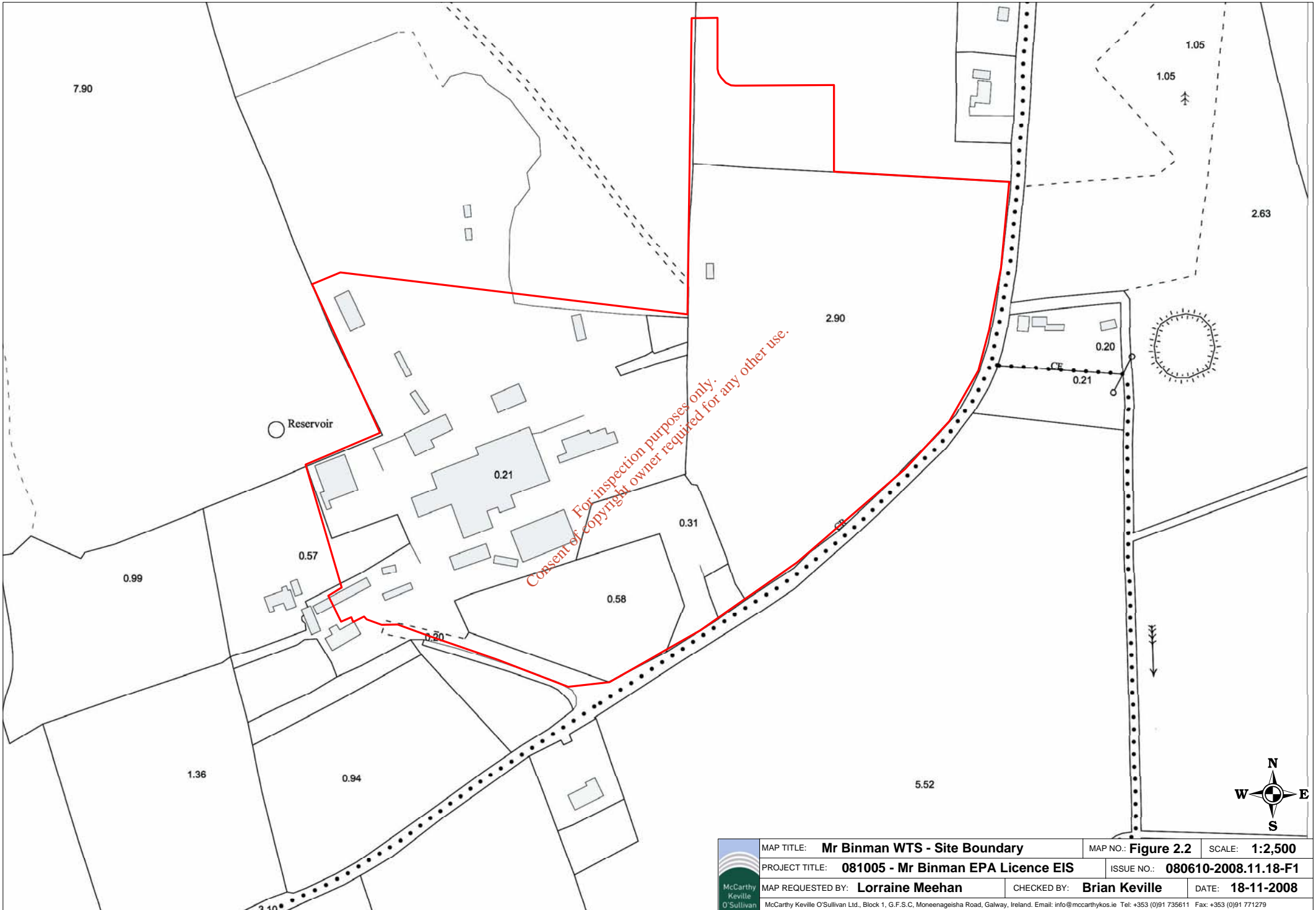
Land-use in the vicinity of the Mr. Binman Ltd. facility is primarily agricultural. The fields surrounding the site are currently used for grazing by cattle. The site of the waste transfer station and recycling centre was also used for agricultural purposes prior to the setting up of the facility in 1994. A quarry operated by Roadstone is located approximately 500 metres northeast of the site.

The topography of the Luddenmore area encompasses rolling hills with occasional abrupt changes in slope, caused primarily by the differential weathering of volcanic rocks compared to limestones, which weather more easily. The transfer station is located on the southern slopes of a hill that measures 170 metres O.D. at its highest point, with the upper parts of the site at a level of approximately 140 metres O.D. and the lower boundary of the site at a level of approximately 100 metres O.D. The principal soil type in the area is derived from Limestone Glacial Till. There is one nature designated area within a five-kilometre radius of the waste transfer station. Skoolhill Natural Heritage Area is located approximately three kilometres southwest of the site.

2.4 Planning History

The EPA Licence Review is part of a programme of improvements at the Mr. Binman Ltd. Luddenmore facility that, along with the existing controls in place, will ensure the activity does not





	MAP TITLE: Mr Binman WTS - Site Boundary	MAP NO.: Figure 2.2	SCALE: 1:2,500
	PROJECT TITLE: 081005 - Mr Binman EPA Licence EIS	ISSUE NO.: 080610-2008.11.18-F1	
	MAP REQUESTED BY: Lorraine Meehan	CHECKED BY: Brian Keville	DATE: 18-11-2008
	<small>McCarthy Keville O'Sullivan Ltd., Block 1, G.F.S.C. Moneenageisha Road, Galway, Ireland. Email: info@mccarthykos.ie Tel: +353 (0)91 735611 Fax: +353 (0)91 771279</small>		

cause environmental pollution. The planning drawings in Figures 2.3 to 2.5 show the infrastructural changes that have been granted planning permission by Limerick County Council in recent years and have since been carried out or are due to be carried out in the near future.

Since the preparation of the first drawing, as shown in Figure 2.3, the following applications have been granted planning permission by Limerick Co. Council:

- Offices/canteen etc retention (Planning Reference No. 05/2484)
- Fire Appliance Bay (Planning Reference No. 05/2485)
- Entrance road (Planning Reference No. 05/3128)

Two additional applications, which are not included in Figure 2.3, have also since been granted planning permission:

- Roof over Opti-Bag and Timber Storage Bays (Planning Reference No. 08/245), as shown on Figure 2.4.
- New car park (Planning Reference No. 07/2466), as shown on Figure 2.5.

2.5 Strategic Planning Context

This section of the Environmental Impact Statement (EIS) sets out the strategic and statutory planning context for the proposed development at the Mr. Binman Ltd. waste transfer station and recycling centre at Luddenmore, Kilmallock, Co. Limerick. It examines the regional and local planning policy context established by the Mid Western Regional Planning Guidelines 2004, the Limerick/Clare/Kerry Regional Waste Management Plan, and the Limerick County Development Plan 2005 – 2011.

2.5.1 National Waste Management Policy

2.5.1.1 'Changing Our Ways' 1998

In 1998, the then Department of the Environment and Local Government (DoELG) issued the policy statement, *'Changing our Ways'*, which set out a new national approach to waste management planning. The statement highlighted the need for a new approach to the delivery of waste infrastructure and services. The goals presented in this document were firmly grounded in the internationally recognised waste management hierarchy of options: prevention, minimisation, reuse, recycling, recovery and disposal, where prevention is the most preferred option and disposal the least preferred.

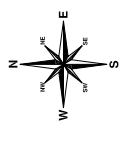
The overall outlook envisaged by the DoELG policy statement included a significantly reduced reliance on landfill in the medium to long term. The document also sought a radical reduction in the number of landfill sites throughout the country, with a move away from small sites serving sub-county areas to larger facilities serving whole counties or regions. It sought to avoid the development of new facilities where the expansion of existing facilities is available. The document promoted the intensification of efforts to extend the life of existing strategically important landfills, which are capable of meeting EPA operational requirements, and stated the importance of utilising the potential of the private sector to contribute in the delivery of public services.

Though primarily directed at local authorities, *'Changing our Ways'* envisaged greater participation by the private sector in the provision of waste management services and infrastructure. It stated that an adequate, national infrastructure to meet waste management needs should facilitate the achievement of the following targets by 2013:



LEGEND

- EXISTING PRIVATE PROPERTY/BUILDINGS (FAMILY HOME & AGRICULTURAL BUILDINGS)
- OTHER LAND OWNED BY CLIENT
- RETENTION PLANNING APPLICATION 04/2002
- PRIVATE AGRICULTURAL SHED FOR MURSHANN
- PLANNING APPLICATION 05/2485
- FIRE APPLIANCE SHED AND MEDICAL CENTRE
- RETENTION PLANNING APPLICATION 05/2484
- UNLOADING AREA & EXTENSIONS
- EXISTING DRIVEWAY
- REMAINING INDUSTRIAL BUILDING 01/446
- PLANNING GRANTED
- PROPOSED NEW ENTRANCE ROAD



For inspection purposes only.
 Copyright owned by Michael Punch & Partners

Rev. Descr.	P.F. (M)
Appr.	Agreement

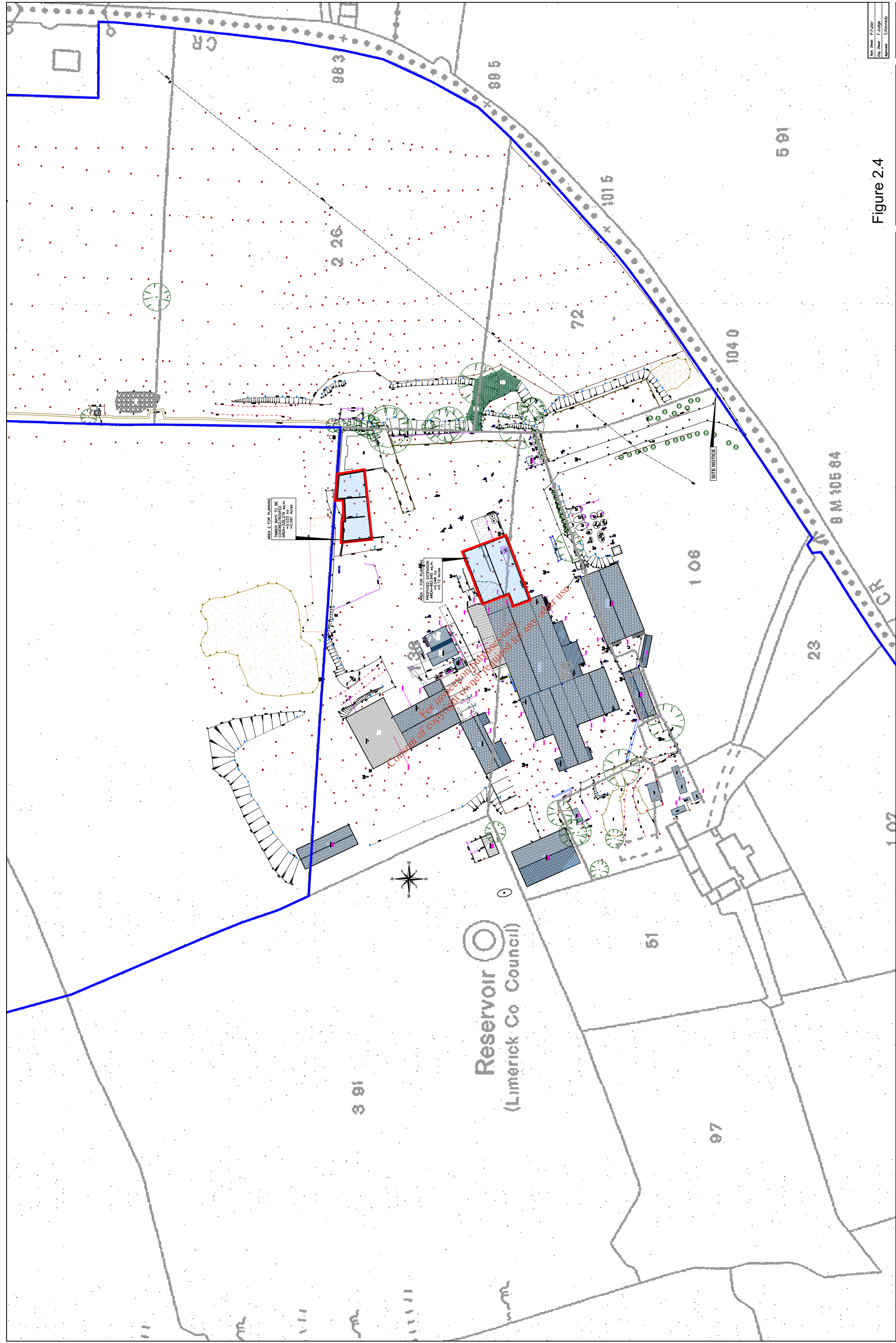
PROJECT INFORMATION

Client	MURSHANN
Project No.	021-073-031 P0
Issue No.	01
Issue Date	14-06-2006
Issue Description	Final Planning Application

REVISIONS

NO.	DESCRIPTION	DATE

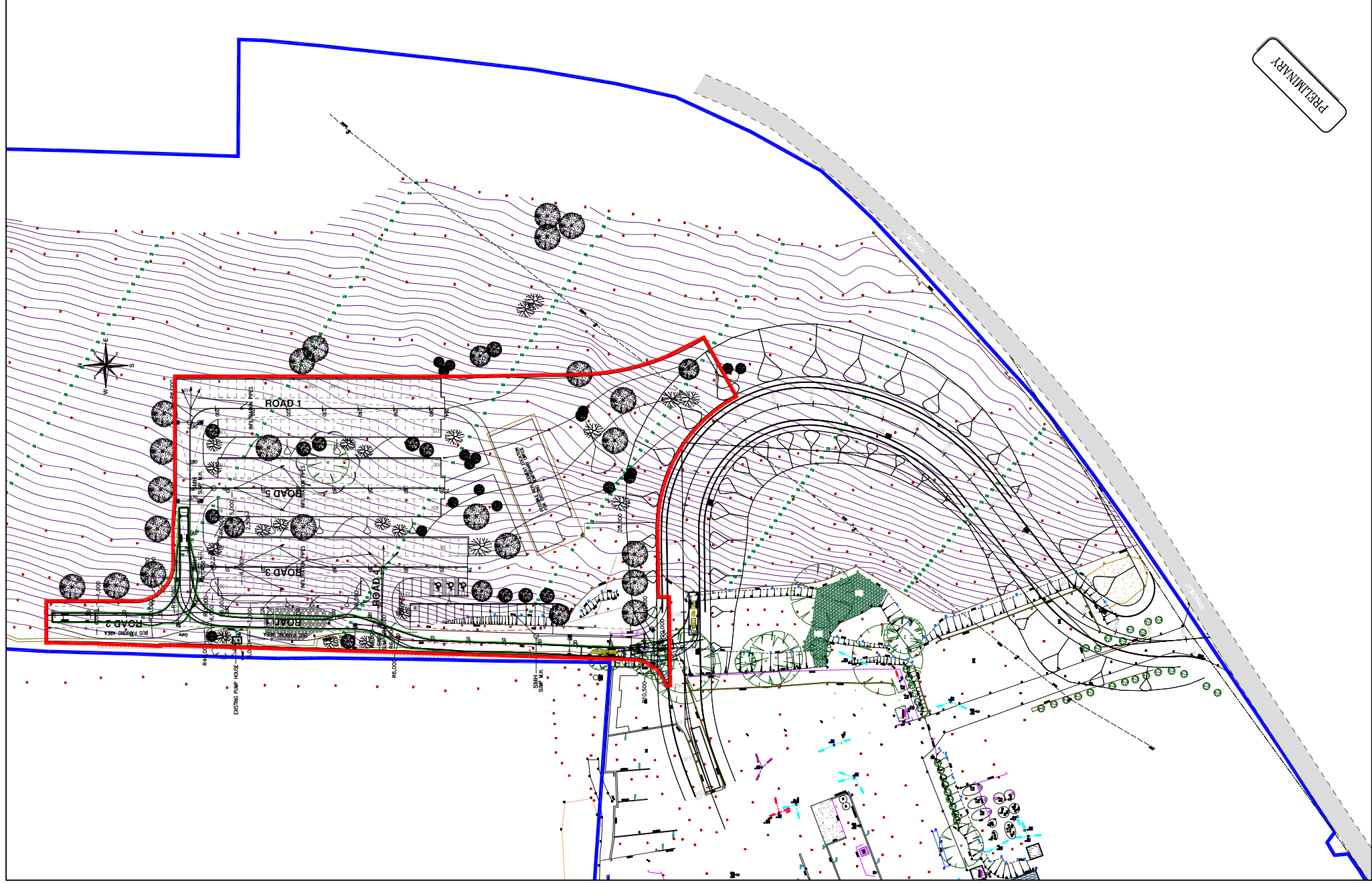
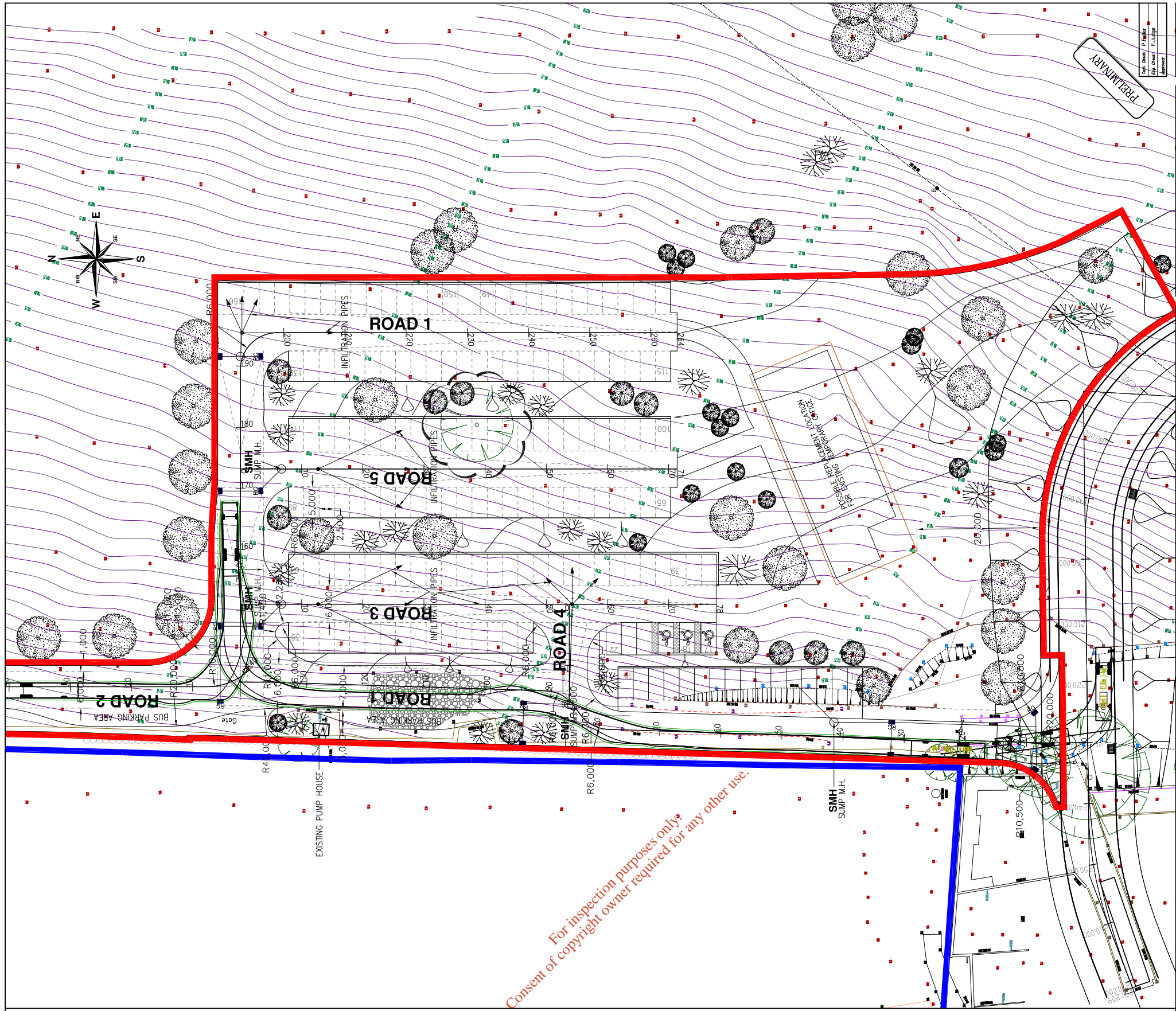
© Michael Punch & Partners LLC
 This drawing and any design herein is the property of the client.
 All drawings remain the property of the client.
 Approval does not constitute a guarantee, warranty, or endorsement of any product or company mentioned herein.
 Conditions of use are subject to the terms and conditions of the contract.



Reservoir
(Limerick Co Council)

Figure 2.4

<p>© Michael Punch & Partners LLC This drawing and any other drawings are the property of the drafter and shall remain the property of the drafter. All drawings shall be the property of the drafter. No part of this drawing shall be reproduced or transmitted in any form or by any means electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the drafter.</p>	<p>Ordinance Survey Ireland Licence No EN 0003707 © Ordnance Survey Ireland and Government of Ireland JORDANCE SURVEY REFERENCE 4852-C 4852-B 4852-A</p>	<p>DATE</p>
<p>Michael Punch & Partners CONSULTING ENGINEERS 17000 Highway 100, Suite 100 Limerick, Ireland Tel: +353 (0)21 452 2027 Fax: +353 (0)21 452 2028 www.mpp.ie</p>	<p>PLANNING PER TO COVER OPENING AREA & TOWER BAY FOR MR. BRINER & LUDWIG, CO. LIMERICK Site: SITE LAYOUT 1:500 Scale: 1:500 Drawn: P.F. (P.F.) Checked: S.K. (S.K.) Date: 12-2023 Rev: 071-391-002 P0</p>	<p>REV</p>
<p>DESCRIPTION</p>	<p>DATE</p>	<p>BY</p>



PRELIMINARY

DATE	11-11-2007
BY	J.P.
PROJECT	CARPARK FOR MRBANK AT LUDENMORE GRANGE, CO. LIMERICK
SCALE	1:500 & 1:250
PROJECT NO.	071-275-003 P5
CLIENT	Michael Punch & Partners
CONSULTING ENGINEERS	

REV.	DESCRIPTION	DATE
P1	ARCHITECT LAYOUT REVISED, CARPARK AREA REVISED	24-11-2007
P2	REVISED LMS SURVEY ADDED TO LAYOUT, GEOMETRY NOW COORDS CARPARK AREA	28-11-2007
P3	BUS BAY RELOCATED TO AVOID EXISTING PUMP HOUSE, TURNING BAY ADDED TO LAYOUT	03-12-2007
P4	HORIZONTAL ROAD GEOMETRY AND ROAD/CARPARK CENTRE LINES ADDED TO LAYOUT	03-12-2007
P5	ROAD JARVIS TURNING BAY REVISED, 2 NO. SPACES RELOCATED TO ACCOMMODATE EXISTING TREE	08-08-2008

LEGEND

- OTHER LAND OWNED BY CLIENT
- PLANNING APPLICATION FOR ACCESS
- AREA 1: 1:500 & 1:250
- AREA 2: 1:250

© Michael Punch & Partners Ltd
 This drawing and any other herein is the copyright of the client.
 All drawings remain the property of the consultants.
 Applied dimensions only to be taken from this drawing.
 Consultants to be informed immediately of any discrepancies before use.

Figure 2.5

- A diversion of 50% of overall household waste away from landfill
- A minimum 65% reduction in biodegradable wastes consigned to landfill,
- The development of waste recovery facilities employing environmentally beneficial technologies, as an alternative to landfill, including the development of composting and other feasible biological treatment facilities capable of treating up to 300,000 tonnes of biodegradable waste per annum,
- Recycling of 35% of municipal waste,
- Recycling at least 50% of C&D waste within a five-year period, with a progressive increase to at least 85% over fifteen years,
- Rationalisation of municipal waste landfills, with progressive and sustained reductions in numbers, leading to an integrated network of some 20 state-of-the-art facilities incorporating energy recovery and high standards of environmental protection,
- An 80% reduction in methane emissions from landfill, which will make a useful contribution to meeting Ireland's international obligations.

2.5.1.2 'Preventing and Recycling Waste: Delivering Change' 2002

The policy statement 'Preventing and Recycling Waste: Delivering Change' was published by the Department of the Environment and Local Government in 2002. This document evolved from and was grounded in the 1998 DoELG policy statement and stated that while 'Changing Our Ways' generated much good will, this had to be translated into action. In describing Ireland's infrastructural deficit, the 2002 policy statement states that strategic waste management planning, in line with 'Changing our Ways', identified that there remained a clear need to rapidly develop an integrated network of appropriate facilities for the collection, sorting and treatment of recyclables. These must be designed to generate good quality segregated waste that is suitable for delivery to reprocessing and biological treatment facilities. The document states that the primary collection infrastructure can readily be provided by or on behalf of local authorities, or by the private waste industry.

2.5.1.3 'Taking Stock and Moving Forward' 2004

During 2004 the Department of the Environment, Heritage and Local Government (DOEHLG) published 'Taking Stock and Moving Forward' in order to provide a review of progress on waste management modernisation since the publication of 'Changing Our Ways' in 1998 and to set out a programme of key points that would underpin future progress. With regards to the role of the private sector, the document states that the previous three years had seen a very significant response on the part of the private waste industry, as rising landfill prices and limited disposal capacity have opened up significant commercial opportunities in both waste recovery and disposal. Reflecting a significant process of consolidation within the waste industry, several large, well-resourced, private waste concerns have emerged. One of the key points presented in the 2004 document states that in updating the Regional Waste Management Plans, Local Authorities concerned must pay particular attention to ensuring effective engagement with the private waste industry.

2.5.2 Mid Western Regional Planning Guidelines 2004

Under the provisions of the Planning and Development Act 2000, the Minister for the Environment and Local Government directed each of the State's eight Regional Authorities to prepare and adopt Regional Planning Guidelines for their respective administrative areas. The Mid West Regional Planning Guidelines were published in 2004 and set out guidelines for the development of the Co. Clare, Co. Limerick, Limerick City and North Tipperary within the framework of the Government's National Spatial Strategy and other national, regional and local strategies.

The aim of the Mid West Regional Planning Guidelines is to provide a broad context within which the physical planning of the region can be co-ordinated and to provide a planning framework for the county, city and town authorities that are charged with the implementation of the Planning and Development Act at local level. The principles of sustainable development inform all of the regional policies, in particular securing a proper balance between social, economic, environmental and equity aspects of development.

The Mid West Region is divided into nine zones. The Mr. Binman Ltd. waste transfer station and recycling centre is located in Zone 1, the Limerick/Ennis/Shannon Zone, but lies in close proximity to the boundary with Zone 2, the Outer Core Area. Zone 1 is described in the Guidelines as having a high level of population growth, good internal and external accessibility, a large range of social and community facilities, and a strong settlement structure. Zone 2 exhibits many of the characteristics of Zone 1, but relies on transport access to avail of the facilities within Zone 1.

The key targets for the Mid West Region with regards to waste management are set out in Section 2.9 of the Planning Guidelines. They include the reduction of waste going to landfill and the promotion of prevention, minimisation, re-use and recycling of waste. Disposal is the least preferred option with regards to waste management. The Strategic Framework for the Region is set out in Section 5 of the Guidelines. The general strategy for waste disposal is presented in Section 5.6 and states:

“Waste disposal within the area is addressed through the regional waste management plans. There are two plans that apply to the region, one covering Clare, Limerick and Kerry and the other covering Tipperary and the Midland Counties. These strategies envisage the provision of a range of waste minimisation and waste disposal facilities. It is important that these strategies are regularly reviewed and that they are both implemented and updated in line with changing technology and best practice.”

2.5.3 Regional Waste Management Plans

2.5.3.1 Limerick/Clare/Kerry Waste Management Plan 2001

The 1998 Government policy statement ‘*Changing Our Ways*’ stated the need for a new approach by Local Authorities to environmental management, which involved constructive cooperation with both local communities and neighbouring Local Authorities. The Limerick/Clare/Kerry Waste Management Plan, which was adopted in 2001, is modelled on this policy document. It was prepared jointly by the Local Authorities of Limerick County, Limerick City, Clare and Kerry in accordance with the legislative requirements and policy statements to organise waste management in an integrated fashion on a regional basis. The Regional Waste Management Plan encompasses the planning, regulation, collection, recycling, recovery and disposal of non-hazardous wastes generated within the Mid West Region and sets out the policy for an integrated approach to waste management over a 25-year period. The Limerick/Clare/Kerry Regional Waste Management Office was founded in order to facilitate and coordinate the efforts of the partner Local Authorities in implementing the objectives and meeting the targets of the Regional Waste Management Plan, and to facilitate where possible the efforts of industry in preventing and minimising the production of waste in the Mid West Region.

2.5.3.2 Replacement Limerick/Clare/Kerry Waste Management Plan 2006 – 2011

The Local Authorities of Limerick City, Limerick County, Clare and Kerry agreed in June 2004 to review the 2001 Regional Waste Management Plan, and a Replacement Plan was published in June 2006. The Replacement Waste Management Plan for the Limerick/Clare/Kerry Region 2006 – 2011

details the progress made since the adoption of the 2001 Plan and sets out proposals for the minimisation and treatment of waste produced in the Region going forward.

It is an essential element of the 2006 Plan to ensure the provision of adequate infrastructure for the Region. The Plan states that the Limerick/Clare/Kerry Local Authorities recognise the value of private investment in realising this aim. It is also stated that the private waste sector has become increasingly involved in waste management in the Region, for example in 2004, 71% of household waste collected in the Region was collected by the private sector. Mr. Binman Ltd. is listed as a key collector within Limerick City, Limerick County and County Clare. In line with this increased participation, the roles and responsibilities of the private sector with regards to waste management, as set out in Section 18.5 of the Regional Waste Management Plan 2006 – 2011, include:

- Implementation of the requirements of the Waste Management Plan in line with the principles of the Waste Hierarchy.
- Ensure that waste does not cause environmental pollution.
- Ensure that all waste activities are adequately licensed or permitted.
- Compliance with the requirements of all waste permits/licences.
- Use of Best Available Technology.
- Explore and introduce innovative waste management technologies.
- Co-operate with Local Authorities in relation to the provision of waste collection services in peripheral areas.
- Assist local authorities to reduce the amount of uncollected waste in the Region.
- To promote education and awareness regarding waste management.

Part 3 of the 2006 – 2011 Regional Waste Management Plan sets out the anticipated developments and future trends for the Limerick/Clare/Kerry Region over the plan period. Table 2.1 shows the estimated growth rates for household waste in the Region until 2020. These household waste projections are based on the household projections and the waste per household growth rate targets. It is anticipated that household waste generation will slow over the plan period as the goals of the Waste Management Plan Implementation are achieved.

Table 2.1 Estimated Growth Rates for Household Waste in the Limerick/Clare/Kerry Region

Year	Annual Growth (%)	Year	Annual Growth (%)
2006	3.21	2014	2.45
2007	3.43	2015	2.47
2008	3.44	2016	2.49
2009	3.46	2017	2.46
2010	2.97	2018	1.98
2011	2.98	2019	2.00
2012	2.92	2020	2.03

The Replacement Waste Management Plan 2006 – 2011 sets targets for each of the major treatment options by 2013 as follows:

- Recycling 45%
- Thermal Treatment 41%
- Disposal 14%

2.5.3.3 Replacement Limerick/Clare/Kerry Waste Management Plan: Annual Report 2007

The first annual report on the Replacement Limerick/Clare/Kerry Waste Management Plan 2006 – 2011 was published in 2007 and details the progress made on the targets that were set for waste

generation rates, recycling rates, prevention awareness and prevention initiatives, infrastructural developments and enforcement. The report states that while considerable progress has been made in meeting the targets of the Replacement Waste Management Plan, significant challenges remain particularly in siting new waste infrastructure. Overall, a decrease in the amount of waste arising per person was recorded, which indicates that prevention awareness is taking effect. The report states however that between 2004 and 2006 there was an overall increase of almost 50% in waste generation within the Region. The figures presented in Table 2.2 show waste generation per sector during this period.

Table 2.2 Waste Generation per Sector 2004 – 2006 (Source: Replacement Limerick/Clare/Kerry Waste Management Plan 2006 – 2011: Annual Report 2007)

Waste Type	2004 (Tonnes)	2005 (Tonnes)	2006 (Tonnes)
Total Household Waste	169,039	171,005	160,270
Total C & D Waste	580,960	961,362	1,049,772
Litter & Street Cleaning	5,358	3,636	3,450
Total Commercial/Industrial	196,694	198,244	209,702
Total Arisings	952,506	1,334,246	1,423,194

The report states that the significant increase in the Construction & Demolition sector cannot be attributed solely to the increased number of developments but can also be attributed to the better recording systems now available.

2.5.4 Limerick County Development Plan 2005 – 2011

The policies and objectives of Limerick County Council with regards to waste management are set out in Chapter 8 of the County Development Plan 2005 – 2011. In relation to the overall strategy for Transport and Infrastructure within the county, it is a principle of the Planning Authority to promote the development and raise awareness of waste management issues by encouraging the minimisation, re-use, recycling and recovery of waste.

The following policies of Limerick County Council in relation to Waste Management are set out Section 8.2.2 of the County Development Plan 2005 – 2011:

- *Policy INF 30 – Regional Waste Management Plan: It is the policy of the Council to implement the provisions of the Waste Management Hierarchy and the Regional Waste Management Plan. All prospective developments in the county will be expected to take account of the provisions of the Regional Waste Management Plan and adhere to those elements of it that relate to waste prevention and minimisation, waste recycling facilities, and the capacity for source-segregation.*
- *Policy INF 21 – Education and Awareness: It is the policy of the Council to promote education and awareness on all issues associated with waste management, both at industry and community level. This will include the promotion of waste reduction by encouraging the minimisation, re-use, recycling and recovery of waste within the county.*
- *Policy INF 32 – ‘Polluter Pays Principle’: It is the policy of the Council to ensure the provision of quality cost effective waste infrastructure and services, which reflect and meet the needs of the community and to ensure that the ‘polluter pays’ principle is adhered to in all waste management activities.*
- *Policy INF 33 – Recycle Facilities: It is the policy of the Council to require the provision of bring banks or other appropriate recycling facilities as part of the overall development in the case of new or extended shopping centre developments and commercial neighbourhood centres, educational, sports, and recreational facilities. These facilities*

will be funded and maintained by the property developers, operational managers or occupiers as appropriate.

- *Policy INF 34 – Proposed Waste Disposal: In assessing planning applications regard will be had to the waste produced by proposed developments including the nature and amount produced and proposed method of disposal. Developments should ensure that production/disposal methods do not give rise to environmental pollution, result in undue loss of amenity or be detrimental to public health.*
- *Policy INF 35 – Construction & Demolition Waste Management Plans: It is the policy of the Council that all significant construction/demolition projects should include construction and demolition waste management plans. These plans should seek to focus on waste minimisation in general and optimise waste prevention, re-use and recycling opportunities and are required for developments of five or more housing units or commercial or industrial developments on sites in excess of 0.5 hectares.*
- *Policy INF 36 – Provision of Transfer Facilities: It is the policy of the Council to support the development of recycling sites/waste disposal sites or transfer stations and associated developments in appropriate locations, subject to normal planning and environmental sustainability considerations. In assessing applications for these types of development, the Planning Authority will have regard to the Groundwater Protection Plan and appropriate response matrix.*

The County Development Plan refers to the Protection of the Environment Act 2003, which states under Section 26(2)(c) that Development Plans are deemed to include the objectives contained in the Regional Waste Management Plan:

“The Development Plan for the time being in force in relation to the functional area of a Local Authority shall be deemed to include the objectives for the time being contained in the waste management plan in force in relation to that area”.

Under the same section of the Act it is stated that the objectives of the Waste Management Plan will override the objectives of the Development Plan, where there is a conflict between the two.

2.6 Scoping & Consultation

2.6.1 Scoping Document

Scoping is the process of determining the content, depth and extent of topics to be covered in the environmental information to be submitted to a competent authority for projects that are subject to an Environmental Impact Assessment (EIA). This process is conducted by contacting the relevant authorities and NGOs with interest in the specific aspects of the environment likely to be affected by the proposal. These organisations are invited to submit comments on the scope of the EIA and Environmental Impact Statement (EIS) and the specific standards of information they require. Comprehensive and timely scoping helps ensure that the EIA refers to all relevant aspects of the proposed development and its potential effects on the environment and provides initial feedback in the early stages of the project, when alterations are still easily incorporated into the design. In this way scoping not only informs the content and scope of the EIA, it also provides a feedback mechanism for the proposal design itself.

A scoping report, providing details of the application site and the proposed development, was prepared by McCarthy Keville O’Sullivan Ltd. and circulated on 17th November 2008 to the agencies,

NGO's and other relevant parties listed in Table 2.1. McCarthy Keville O'Sullivan Ltd. requested the comments of the relevant personnel/bodies in their respective capacities as consultees with regards to the EIA process.

Table 2.1 List of Consultees

No.	Name & Address of Consultee	Response
1.	Development Applications Unit (DAU), Department of the Environment, Heritage and Local Government, Dún Scéine, Harcourt Lane, Dublin 2	No response
2.	An Taisce, Tailor's Hall, Back Lane, Dublin 8	Letter Received 20 th Nov 2008
3.	Ms. Yvonne Furlong, Office of Climate, Licencing & Resource Use, Environmental Protection Agency, PO Box 3000, Johnstown Castle Estate, Co. Wexford	No response
4.	Mr. Michael Fitzsimons, Senior Fisheries Environmental Officer, Shannon Regional Fisheries Board, Ashbourne Business Park, Dock Road, Limerick	No response
5.	Headquarters, Mid-West Regional Authority, Friar Court, Abbey Street, Nenagh, Co. Tipperary	Letter Received 1 st Dev 2008
6.	Ms. Eileen Clifford, Engineering Services, Office of Public Works, Engineering Services Division, 51 St. Stephen's Green, Dublin 2	Letter Received 3 rd Dec 2008.
7.	Planning Section, Limerick Co. Council, County Hall, Dooradoyle, Co. Limerick	No response
8.	Water Services Section, Limerick Co. Council, County Hall, Dooradoyle, Co. Limerick	Letter Received 27 th Nov 2008
9.	Roads Section, Limerick Co. Council, County Hall, Dooradoyle, Co. Limerick	No response
10.	Regional Waste Management Office, Limerick Co. Council, County Hall, Dooradoyle, Co. Limerick	No response
11.	Mr. Tom O'Neill, Heritage Officer, Forward Planning Section, Limerick Co. Council, County Hall, Dooradoyle, Co. Limerick	Email Received 25 th Nov 2008

2.6.2 Scoping Responses

Copies of the scoping responses that had been received by McCarthy Keville O'Sullivan Ltd. by 19th December 2008 are included in Appendix 1 of this EIS. If further responses are received after this date, the comments of the consultees will be considered in the construction and operation of the proposed development, subject to the issuing of a new Waste Licence by the EPA with permission for the proposed increase in tonnage. This section of the EIS presents a summary of the main recommendations that were made in the replies to the scoping document. These recommendations have informed the EIA process and the contents of the EIS.

2.6.2.1 An Taisce

An Taisce referred to the recent EPA State of the Environment Report, which highlights the failure of Ireland to meet EU Directive targets on the diversion of organic waste from landfill. An Taisce stated that a detailed consideration of organic waste separation would be appreciated.

2.6.2.2 Water Services, Limerick County Council

The scoping response from the Water Services Section of Limerick County Council listed the issues that should be addressed in relation to the proposed development. These included: source of water supply, location of discharge of treated wastewater, location of disposal of treated wastewater, impacts on groundwater and impacts on the nearby water storage reservoir.

2.6.2.3 Heritage Officer, Limerick County Council

An email was received from Mr. Tom O'Neill, Heritage Officer with the Forward Planning Department of Limerick County Council. The points required to be addressed in the EIA, as listed in Mr. O'Neill's email, included traffic implications for the site, the possible pollution implications

caused by the expansion of activities, additional loading on the wastewater treatment system, the presence of leachate gathering activities, the relationship of the proposed development with the provisions of the Regional Waste Management Plan and the provision of cross-references to any relevant EPA comments or documentation.

*For inspection purposes only.
Consent of copyright owner required for any other use.*

3. Description of Proposed Operations

3.1 Existing Site Features

The Mr. Binman Ltd. waste transfer station and recycling centre is located at Luddenmore, Grange, Killmallock, Co. Limerick. The village of Ballyneety lies approximately three kilometres northwest of the site, and Limerick City is located approximately 11 kilometres to the northwest. The total surface area of the site measures 7.0 hectares. The surrounding lands are primarily agricultural in nature. Previous land-use on the site of the proposed development was also agricultural, prior to the setting up of the waste transfer station during the early 1990's. A house is located at the western boundary of the waste transfer station. Access to the site is obtained via the local road through the townland of Luddenmore, which adjoins the R512 Regional Road at Sheahan's Cross, approximately 1.3 kilometres west of the site.

Approximately 220 people are employed at the waste transfer station. The existing onsite infrastructure encompasses a weighbridge, a materials recovery facility comprising a mechanical separation plant and a picking line, a glass processing facility, transfer station with compactors and balers, a timber shredding area, construction and demolition waste processing plant, two garages, storage areas, wastewater treatment plant, bunded fuel storage, truck wash station, offices and a canteen. A description of each component is provided in this chapter of the EIS.

3.2 Existing Operations and Infrastructure

The information presented in this section of the EIS is based primarily on that prepared by the applicant and submitted to the EPA in July 2008 as part of the application for the review of waste licence W0061-02.

3.2.1 Waste Activities

All waste collected by Mr. Binman Ltd. in the Limerick area is brought back to the transfer station at Luddenmore. Existing operations at the site are divided into five main areas:

- Mechanical Biological Treatment (MBT) Plant/Transfer Station
- Dry Recyclable Processing/Picking Line
- Glass Plant
- Commercial Waste Processing Area
- C&D Waste Processing Area

The site layout is shown in Figure 3.1. The waste materials recycled or recovered at the facility include glass, timber, rubble, aluminium, ferrous metals, cardboard, paper, plastic, organic fines and refuse derived fuel. A flow diagram of the overall site operation is shown in Figure 3.2. Under EPA waste licence No. W0061-02, the activities permitted at the waste transfer station comprise those listed under Classes 12 and 13 of the Third Schedule and Classes 2, 3, 4, 10, 12 and 13 of the Fourth Schedule of the Waste Management Act 1996:

Third Schedule:

12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

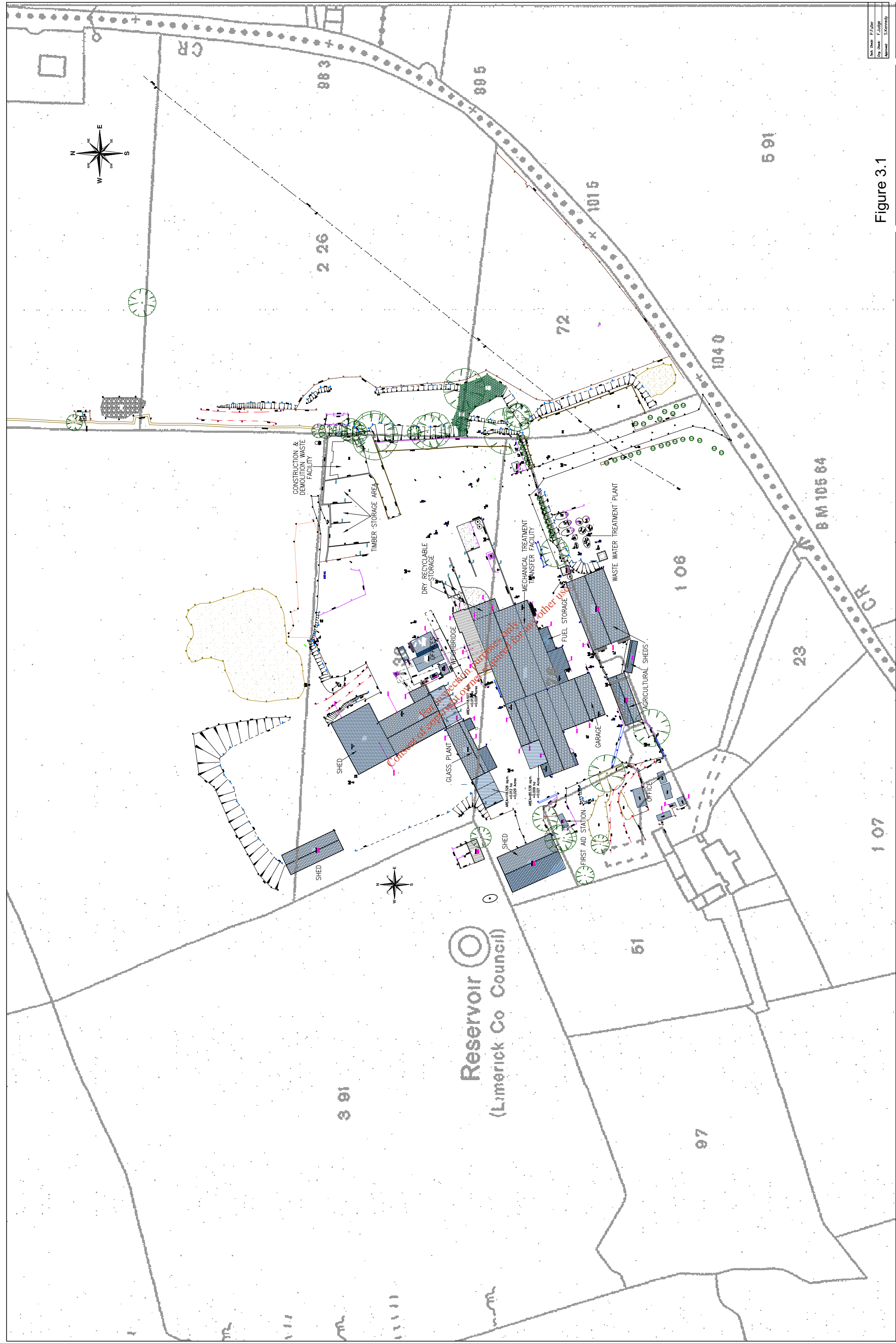
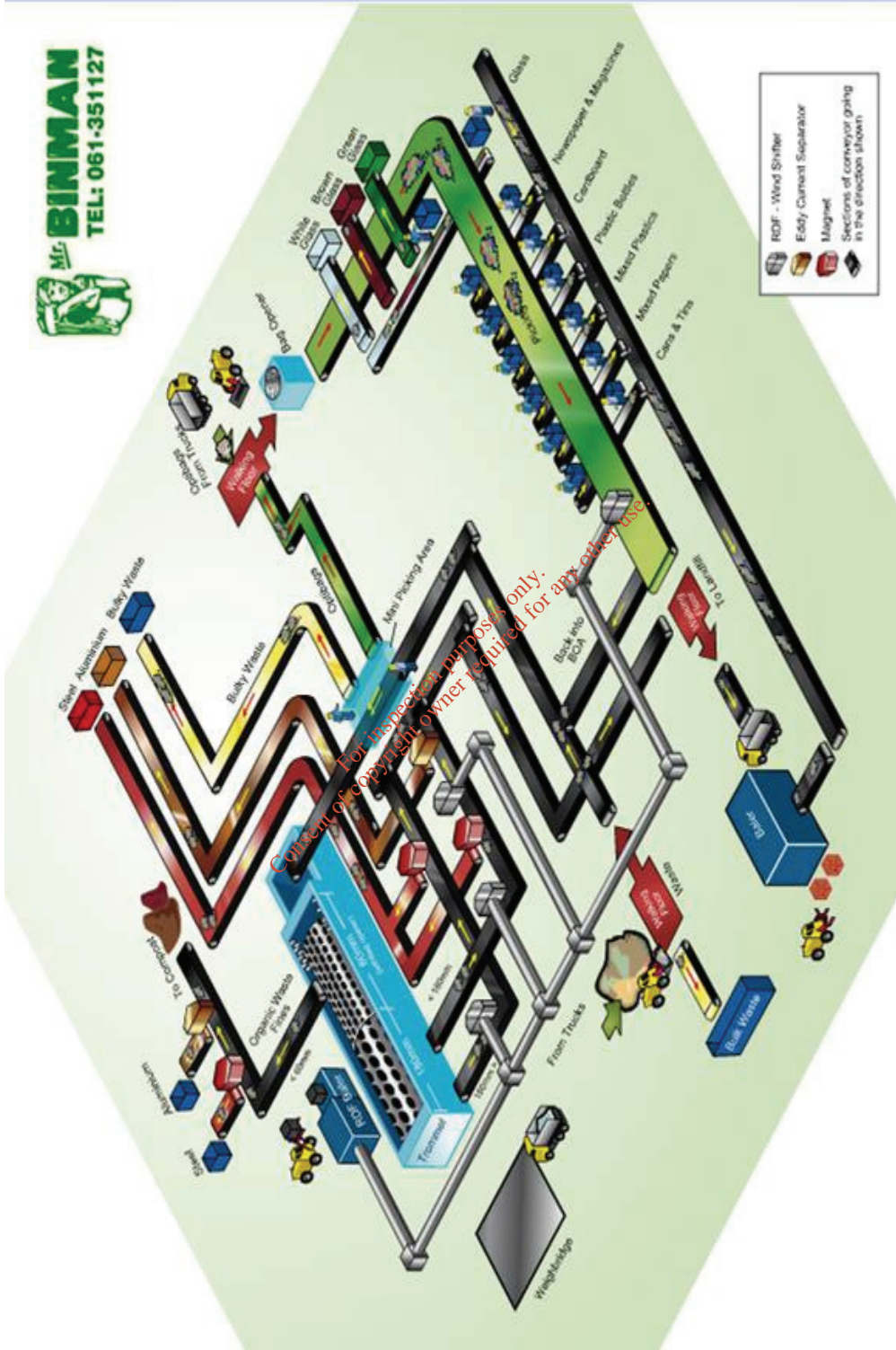


Figure 3.1

<p>© Michael Punch & Partners LLC This drawing and any other herein is the property of the drafter and shall remain the property of the drafter. All drawings shall be the property of the drafter. No part of this drawing shall be reproduced or transmitted in any form or by any means electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the drafter.</p>	<p>Ordnance Survey Ireland License No. 01/000707 © Ordnance Survey Ireland and Government of Ireland ORDNANCE SURVEY REFERENCE: 45504 45504 45504 45504</p>	<p>WASTE LICENCE REVIEW 2007 FOR MR BINMAN GRANGE LIMERICK THE EXISTING SITE LAYOUT Scale: 1:500 Date: 11/11/07 Drawn: P.F. (P.F.) Checked: S.K. (S.K.) Approved: S.K. (S.K.) Project No: 071-418-005 P0</p>
<p>DATE</p>	<p>REVISION</p>	<p>DESCRIPTION</p>

Figure 3.2 Process Flow Diagram for Waste Transfer Station



This is the principle activity at the facility. It involves the compaction of residual waste from the Mechanical Biological Treatment (MBT) plant or directly from collection vehicles in the transfer area prior to transportation to landfill.

13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than the temporary storage, pending collection, on the premises where the waste concerned is produced.

This class of activity involves the storage of materials that have been recovered from the waste prior to further processing either on site or at another facility. Recyclable materials stored on the site include glass, processed cullet, timber, metal, plastic, paper, cardboard and rubble.

Fourth Schedule:

2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).

This involves the segregation and shredding of timber, the separation, compaction and baling of cardboard, paper, plastic and refuse derived fuel from incoming waste streams. It also includes mechanical separation of the organic fraction of residual municipal waste and transfer of source segregated organic materials such as “brown bin” waste.

3. Recycling or reclamation of metals and metal compounds.

This involves the recovery of ferrous and non-ferrous metals, e.g. aluminium, from mixed waste streams using magnets, eddy current separators and manual separation.

4. Recycling or reclamation of other inorganic materials.

Inorganic materials that are recovered from the waste include rubble and glass. Segregated brown, green and clear glass is processed into cullet in the glass processing plant, which removes metal and ceramics before crushing the glass into cullet suitable for recycling back into glass bottles at Quinn Glass in County Fermanagh. Rubble is processed and crushed in the dedicated processing plant onsite and is suitable for reuse.

10. The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.

Partially stabilised biowaste is produced from the organic fines fraction of residual waste separated by a trommel. This material is suitable for further composting or energy recovery.

12. Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.

Waste materials suitable for recycling, reclamation, recovery or composting is transferred from the facility to an appropriate outlet for further processing.

13. Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than the temporary storage, pending collection, on the premises where such waste is produced.

This refers to the storage of glass, timber, rubble and similar waste streams prior to further processing or transport.

The operating hours of the waste transfer station are from 7:00am to 7:00pm Monday to Friday, and 7:00am to 2:30pm on Saturday, in accordance with licence conditions. Waste may be received at the facility between the hours of 8:00am and 6:30pm Monday to Friday, and 8:00am and 2:00pm on Saturday. Mr. Binman Ltd. also provides a civic amenity facility for members of the public, who may access the designated area of the site between the hours of 8:00am and 3:00pm Monday to Friday, and 8:00am to 12:00pm on Saturday, and deposit household waste for a fee. A Mr. Binman Ltd. employee assists members of the public in depositing waste in the assigned skips.

3.2.2 Weighbridge

On arrival at the facility, the collected waste is assessed, weighed, details recorded and then transferred to the relevant area. The weighbridge operates by means of an over-ground Avery scale. All vehicles carrying refuse into the site are weighed before and after tipping. The weighbridge, as shown in Plate 3.1, can weigh vehicles up to 60 tonnes. The Legal Metrology Service checks the weighbridge for accuracy once per year.



Plate 3.1 Weighbridge at the waste transfer station

3.2.3 Mechanical Biological Treatment/Transfer Station Facility

3.2.3.1 Mechanical Biological Treatment

A description of mechanical biological treatment is provided in the 'EPA National Waste Report 2006':

"The term mechanical biological treatment (MBT) is used to describe not one specific process, but rather a combination of different technologies brought together in an integrated process. MBT can enhance recycling performance where kerbside recycling is

already employed, by extracting a further fraction of residual recyclable material. An MBT plant combines mechanical processes to separate out dry recyclables such as glass and metals, and biological processes to drive out moisture and to handle the organic-rich fraction of the incoming waste. In addition to the separation of dry recyclables and organic material from the incoming waste stream, the plant can be designed to produce an energy-rich refuse derived fuel (RDF) comprising paper, plastics and other combustible fractions, that can be combusted in a waste-to-energy plant or in an industrial furnace. The organic-rich fraction is suitable for biostabilisation (producing a low grade compost) or anaerobic digestion.”

The majority of the mixed municipal waste entering the facility is processed through the MBT facility which uses a combination of mechanical and manual processing to separate mixed municipal waste into organic fines, refuse-derived fuel, ferrous metals, non-ferrous metals and residual waste for further recycling, recovery or disposal. The MBT facility is designed to operate with the transfer station area, which utilises compaction systems in order to optimise waste transfer to other outlets for further treatment.

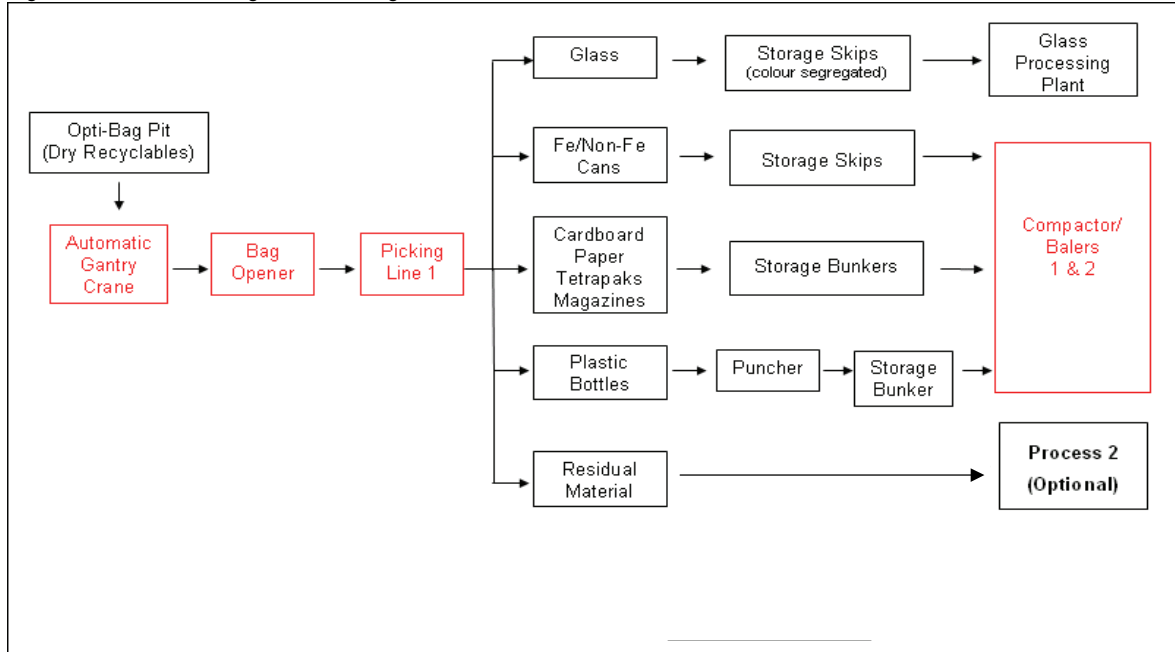
3.2.3.2 Process 1: Picking Line for Dry Recyclables

After waste enters the Mr. Binman Ltd. facility via the weighbridge, it is tipped from the recycling and dual compartment bin trucks into the main transfer shed or Opti-Bag area where it is inspected for contamination. From here the waste is transferred to Picking Station 1 via a bag opener. Picking Station 1 overhangs the floor at a height of 4.5 metres and is used to segregate dry recyclable materials into specific fractions including glass, plastic, cardboard, newspaper, ferrous metal and aluminium cans. Storage bunkers for cardboard, paper, magazines, plastic, glass and other recyclables are suspended from this picking station. Once these bunkers are full to capacity, all dry recyclables – with the exception of glass and cans – are conveyed to balers where they are automatically baled. The plastic bottles pass through a bottle perforator prior to baling to prevent them refilling with air which can cause bales to split. The bales are stored on-site prior to transportation off-site to reprocessing facilities for recycling.

Glass and cans are stored in enclosed bays as required by the facility's EPA Licence, where the glass is segregated into three different colours: blue/green, clear and brown, before being sent to the on-site glass processing plant. Once baled, cardboard, paper, steel and aluminum cans and baled plastics are sent to a number of recycling facilities for further recycling. Larger steel items are also sent onwards for further recycling.

An overview of the dry recyclable picking line process is presented in Figure 3.3. Any remaining residual waste material is conveyed onwards to Process 2 of the MBT plant for further recovery.

Figure 3.3 Schematic Diagram of Picking Line (Process 1)



3.2.3.3 Process 2: MBT Facility for Residual Municipal Waste

Residual municipal solid waste (MSW) from Process 1 is tipped on to the transfer shed floor where it is inspected for unacceptable waste materials. It is then transferred onto a walking floor and transferred via a conveyor onto Picking Station 2. Following pre-sorting, the residual MSW passes through a 20-metre long trommel (cylindrical rotating screen). The trommel is divided into two sections. The first section has 60-millimetre (mm) screens, which remove most of the organic rich fraction. This section of the trommel is fitted with knives, which ensures all waste is removed from bin bags to enable treatment. It is important that all bags are opened at this stage to ensure maximum recovery of materials. Waste of <60 mm in size is primarily the organic rich fraction of the residual MSW and is suitable for composting or energy recovery in a plant off-site.

The second section of the trommel consists of 180 mm screens, the purpose of which is to split the remaining fraction into two even streams: undersize (<180 mm) and oversize (>180 mm). This enables further recovery operations. Both waste streams run through a series of air knives and magnets to recover the lightweight fraction and any ferrous metals within the waste stream. The paper and lightweight plastics suctioned off by the air knives here is also utilised as high calorific Refuse Derived Fuel (RDF). This material is sent to the baler and specialised wrapper. The RDF is double wire baled and wrapped in plastic sheeting to aid storage and transportation. The magnets are positioned above a drop in the conveyor belt, which minimises contamination by allowing any overlying material to fall off so only the ferrous material is retrieved by the magnet. The magnet precedes the eddy current separator in order to minimise contamination by ferrous metals.

The undersize material undergoes further treatment comprising kinetic separation and eddy current separation, which removes plastic bottles and non-ferrous metals respectively. This fraction contains a high proportion of recyclables, as most fall through the 180 mm screen. Plastic bottles are returned to Picking Station 1. Residual material is conveyed into the refuse compactor and the compacted waste is sent to landfill. An overview of the stages carried out in Picking Station 2 is shown in Figure 3.4.

3.2.3.4 Critical Parts of MBT Process

Bag Opener (Schlitz-O-Mat)

The Schlitz-O-Mat is a stationary machine that is designed to open and empty plastic sacks or bags filled with waste and/or recyclable materials, and to allow those materials to be passed on regularly to sorting or preparation units.

Trommel

The screen drum is part of a waste-separation installation, which is started in a certain order operated from a central point. The drum screen separates fractions of <60 mm, <180 mm and >180 mm. The waste is carried by a conveyor and dumped into the input cone. The rotation motion of the drum, the angle of inclination of three degrees and the installed carriers convey the waste through the screen drum. The carriers each time carry the materials until they are in front of the screen. This separates the bulk.

Chain Conveyor

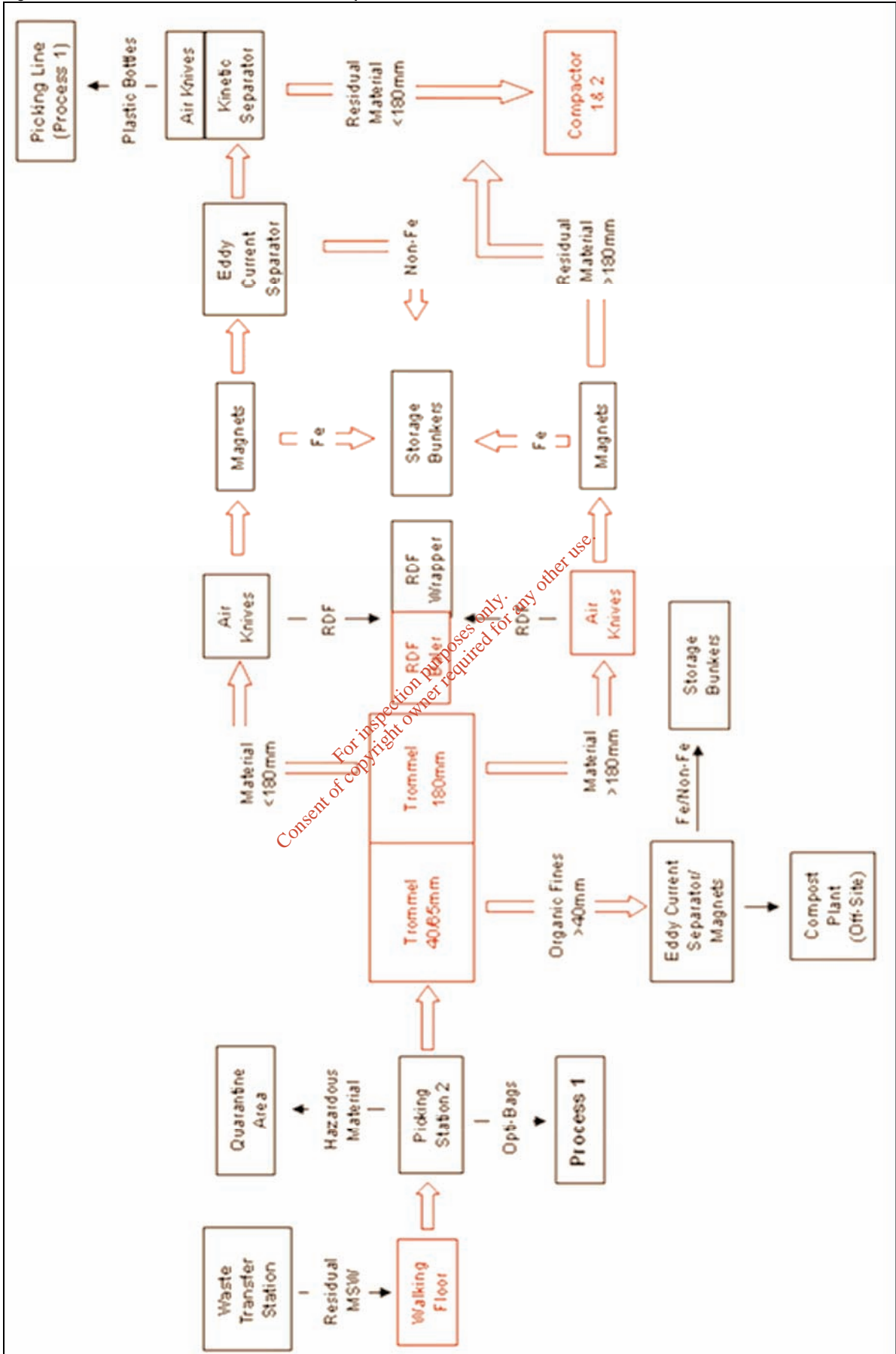
The BOA Chain conveyor is used to transport heavy-duty material still to be processed. BOA Chain conveyors are very suitable for the transport of old paper, build and demolition refuse, etc.

Conveyor Belts

The purpose of conveyor belts within the mechanical plant is to carry materials from one piece of equipment to another for the purposes of treatment. There are approximately 30 conveyor belts in total throughout the plant, as shown in Plate 3.2.

For inspection purposes only.
Consent of copyright owner required for any other use.

Figure 3.4 Schematic Overview of Mechanical Separation Plant (Process 2)



For inspection purposes only.
 Consent of copyright owner required for any other use.



Plate 3.2 Conveyor belt system within MBT plant

Walking Floor

The walking floor is used to dump and then gradually and equally transport processed materials or materials to be processed. The BOA walking floor is highly suitable for moving old paper, household rubbish etc.

Refuse Compactor

The compactor produces bales of refuse. Both the primary and the spare compactors are referred to as the pierce transfer station and are capable of compacting the same amount of material.

Balers

The BOA 2040S is a fully automatically operating baling press for compressing many different types of materials and processing them into bales. These materials include; paper, cardboard, TETRA, plastic, PET bottles, cans, household refuse etc. The material to be processed is compressed and then bound, which produces a compact bale that can be stacked well and transported effectively. The material to be processed can be transported to the machine by means of a conveyor belt or air transport and then dumped in the feeding hopper.

3.2.3.5 Maintenance

Good maintenance is essential for the adequate and trouble-free operation of the mechanical separation plant. By adhering to a stringent maintenance regime in line with manufacturers recommendations, breakdowns are kept to an absolute minimum. There is a full-time professionally trained maintenance and repair team on-site who carry out all such works at the facility. If any of the critical components of the mechanical separation plant break down, spare parts are kept in storage for the immediate repair. The service department of BOA Machinefabriek

B.V. is always available for consultation on the repair and ordering of spare parts. A 24-hour delivery service is available on all parts if any parts are not in store on-site.

There is adequate storage onsite to enable repairs to be carried out if the available equipment has to be delivered. However in line with the conditions of the facility's waste licence, if a critical part of the plant cannot be repaired during the working hours of the facility, waste will be sent to landfill via the refuse compactors. The plant will be bypassed via a drawbridge and waste will be loaded into the compactors via walking floor and/or loading shovel. The waste is stored on the transfer shed floor for a short period of time until enough material has accumulated to fill the refuse compactor. The compactor produces bales of refuse.

Daily maintenance of the refuse compactors includes ensuring that the main plate and ram remain clean. The maintenance team consists of the operators that actually run the compactor and onsite electricians. Any spare parts required can be obtained from Pierce Engineering, which manufactured and installed the compactors, and is based in Wexford. Electrical parts can be obtained from any general electrical wholesaler.

A copy of the Emergency Response Procedure for the waste transfer station is shown in Appendix II of this EIS.

3.2.4 Automated Glass Crushing Plant

3.2.4.1 Process Description

The glass processing plant is designed to crush waste glass into a cullet and remove contamination such as ceramics, plastic wrappers, corks, rings, etc. A glass crusher breaks the glass into small pieces, which allows for the removal of these contaminants by a combination of a magnet, an eddy current separator and a turbine. The screened and crushed glass is then removed to storage bunkers. The plant can only process one glass colour at a time. Incoming glass is therefore sorted according to colour, as shown in Plate 3.3.

The main components of the glass plant include a hopper, the manual removal of colour contamination via picking line, a magnet for removal of loose materials, crusher, vibrating screen for the removal of plastic, corks and rings, vertical conveyor, ceramic remover, cyclone, eddy current separator for the removal of aluminium packaging, out-feed belt and storage bays. The processing of waste glass comprises the following steps:

- The hopper is loaded using a loading shovel.
- The glass falls through the hopper and onto the picking line. Any pieces of contamination are manually picked out here.
- The glass then runs through a magnet. Any metal contamination is taken out here (see Plate 3.4).
- The glass is processed through a glass crusher.
- It is then processed through a vibrating screen for the removal of plastic, corks and rings.
- The glass is conveyed via a vertical conveyor to the ceramic remover.
- A cyclone is used for the removal of lightweight wrappers.
- An eddy current separator is employed for the removal of aluminium packaging.
- The out-feed belt conveys the crushed glass to the storage bays (see Plate 3.5). When a sufficient quantity of cullet has been collected it is transported to Quinn Glass in County Fermanagh for further recycling.

A schematic overview of the glass plant process is shown in Figure 3.5.

Figure 3.5 Schematic Diagram of Glass Processing Plant

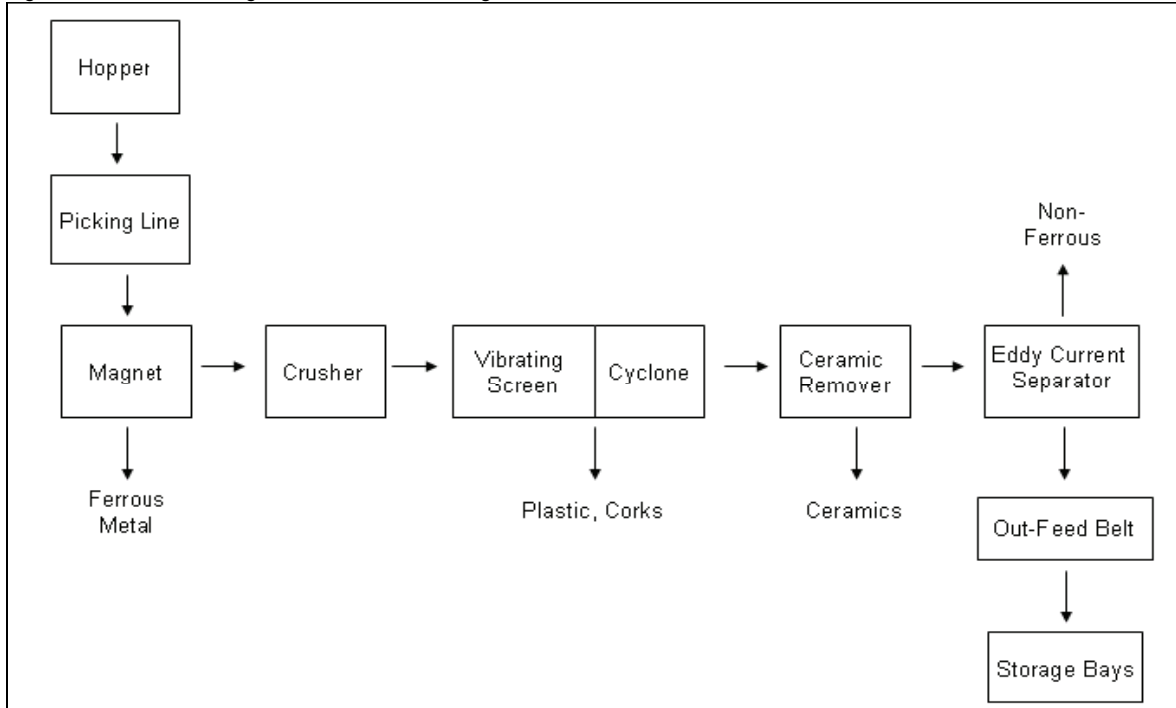


Plate 3.3 Storage bunkers for aluminium cans and glass



Plate 3.4 Removal of metal contaminants from waste glass stream by magnet



Plate 3.5 Storage bunkers for crushed glass

3.2.4.2 Critical Parts

All spare parts for the glass plant are kept in storage and can be located quickly in case of emergency. In the case of breakdown, the operator may be able to repair the fault, or if not, a member of the maintenance team is called in to address the problem. As the plant is a vital part of the Mr. Binman Ltd. operation, maintenance problems are taken care of swiftly and efficiently by an expert team.

All major parts of the plant are supplied by SFL Ltd., an engineering firm located in Kilkenny. Pumps etc. are supplied by Wilo Ltd., which is located in Raheen Industrial Estate, outside Limerick. Compressors are supplied by O’Kelly Electrical, Adare, Co Limerick.

3.2.5 Commercial Waste Processing Area

3.2.5.1 Process Description

All commercial recyclable materials such as cardboard, newspapers and plastic sheeting are sent directly to the commercial shed to be baled. This material requires less intensive hand sorting than the mixed dry recyclable material received from domestic waste, as it is already sorted (and often baled).

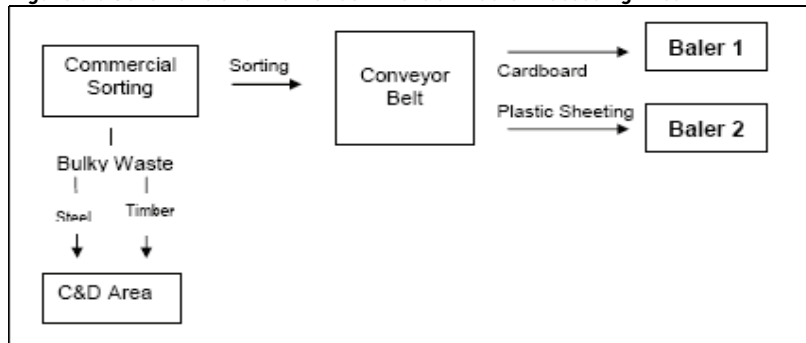


Plate 3.6 Bales of commercial cardboard/paper waste

There are two BOA 2040S balers available to the commercial waste processing area. The BOA 2040S is a fully automatically operating baling press for compressing many different types of materials and processing them into bales. These materials include; paper, cardboard, TETRA, plastic, PET bottles, cans, household refuse etc. The material to be processed is compressed and then bound, which results in a compact bale that can be stacked well and transported effectively.

The material to be processed can be transported to the machine by means of a conveyor belt or air transport and then dumped in the feeding hopper. Bulky materials are treated separately from the light commercial waste. A schematic overview of the process is shown in Figure 3.6.

Figure 3.6 Schematic Overview of Commercial Waste Processing Area



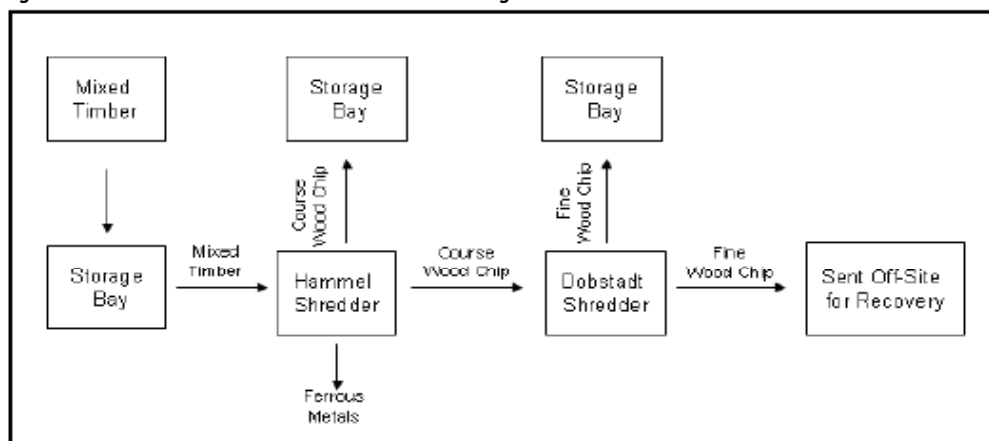
Good maintenance is essential for the adequate and trouble-free operation of the mechanical separation plant. By adhering to a stringent maintenance regime in line with manufacturers recommendations breakdowns are kept to an absolute minimum. There is a full-time professionally trained maintenance and repair team on-site who carry out all such works at the facility. If any of the critical components of the commercial recycling plant break down, spare parts are kept in storage for the immediate repair. The service department of BOA Machinefabriek B.V. is always available for consultation on the repair and ordering of spare parts. A 24-hour delivery service is available on all parts if any parts are not in store on-site.

3.2.6 Construction & Demolition Waste Processing Area

3.2.6.1 Process Description

The construction and demolition (C&D) waste processing area is divided between timber and other C&D waste. Timber is shredded and metals removed using dedicated shredders/magnets. C&D rubble is screened, and timber, plastic and metal contamination removed before it is crushed into uniform material suitable for re-use. A schematic overview of this process is shown in Figure 3.7.

Figure 3.7 Schematic Overview of Timber Processing Area



Timber Shredder

There are two timber shredders in operation at the site: the Hammell Shredder and the Dopstadt Shredder. The Hammell shredder is a low speed shredder, which is used to shred timber and metal. It incorporates the use of a magnet and removes any metal from the timber during

shredding. The Hammell shredder is used in conjunction with the Doppstadt shredder to shred timber. The timber processing area is shown in Plate 3.7.



Plate 3.7 Timber Processing Area

C&D Waste Crushing Unit

The C&D waste separation and crushing system consists of a trammel to screen light fractions, a magnet to remove ferrous material, a manual picking line to remove residual contamination including timber, plastics, etc., and a unit to crush the rubble to a uniform size suitable for reuse as road building material.

3.2.6.2 Maintenance

Good maintenance is essential for the adequate and trouble-free operation of the mechanical separation plant. By adhering to a stringent maintenance regime in line with manufacturers recommendations breakdowns are kept to an absolute minimum. There is a full-time professionally trained maintenance and repair team on-site who carry out all necessary works at the facility.

Spare parts for the Hammell Shredder are kept in storage and can be obtained from the manufacturer Wilkie Recycling Ltd., Aldermaston, Berkshire, U.K. Technical support is also provided by the company. Spare parts for the Doppstadt Shredder are also kept in storage and can be obtained from the manufacturer.

3.2.7 Organic Fines Storage and Skip-Sorting Shed

The shed located towards the rear of the site, as shown in Plate 3.9, is used for the temporary storage of organic fines, which have been collected from the MBT plant, prior to their disposal. At present, due to the lack of composting facilities in the region, the organic fines are sent to landfill. The shed is also used for the sorting of skips. The area of the site to the north of this building is used for repairing and painting skips.

3.2.8 Offices and Canteen

The office and canteen building, a view of which is shown in Plate 3.10, is located in the centre of the site. The canteen is located on the ground floor of this building, and offices are located on both floors. The ground floor of the building also houses the onsite laboratory, as described in Section 3.2.10 of this EIS.



Plate 3.9 Organic fines storage and skip-sorting shed



Plate 3.10 Office and Canteen Building

3.2.9 Wastewater Treatment Plant

Foul water from the transfer station (e.g. from the toilets and canteen) is drained to the onsite wastewater treatment plant. The water is firstly screened to remove papers, plastics and any other gross solids before it enters the wastewater treatment plant. The treatment processes include a grease trap, aerated influent storage, level control pumping chamber, primary settlement (2), two aerated moving bed biofilm reactors (MBBR), clarifier, pumping chamber, polishing filter and an effluent storage tank. At present, there are no discharges to ground from the treatment plant. The wastewater is collected from the onsite plant, as shown in Plate 3.11, and brought to Castletroy Wastewater Treatment Plant for further treatment.

The diversion of uncontaminated rainwater from roofed surfaces has minimised the hydraulic loading to the wastewater treatment plant and reduced fluctuations in flow due to adverse weather conditions. All other surface water from the yard is discharged via a new hydrocarbon interceptor/settlement tank, as shown in Plate 3.12. This new hydrocarbon interceptor is a Klargester NS 200 Class 1 full retention separator and built-in silt trap, and is the best available unit on the market. The recent installation of the oil interceptor at the site ensures that discharges of environmental significance do not occur. The Klargester hydrocarbon interceptor is located close to the eastern boundary of the site.

Drainage from the site is discussed further in Chapter 7 (Hydrology & Hydrogeology) of this EIS.



Plate 3.11 Treated wastewater is collected from the on-site treatment plant by truck



Plate 3.12 Oil Interceptor

3.2.10 Laboratory

In order to assure compliance with the emission limit values of the facility's EPA Waste Licence, an onsite laboratory has been set up and a full-time Environmental Analyst employed. The roles of the Environmental Analyst include the development and implementation of standard operating procedures for the sampling and monitoring of the wastewater treatment plant, stormwater, groundwater, dust and noise and all other environmental checks that are required to ensure full compliance with licence conditions. The laboratory is located on the ground floor of the canteen and office building in the centre of the site.

While substantial improvements have been made to the wastewater treatment plant in recent years, the information available to optimise control of the treatment plant is limited. The establishment of a laboratory onsite aims to improve plant operation and control, as daily monitoring data is available to allow changes to be made to the plant on a daily basis. This data will also provide critical analysis of the treatment plant performance over an extended period of time and will highlight improvements that can be made in order to assure compliance.

3.2.11 Garages and Fuel Storage Area

Two dedicated garages are located onsite for the maintenance and repair of waste collection vehicles, one of which is shown in Plate 3.13. The company employs seven full-time mechanics. A bunded refuelling area for the refuelling of trucks is also located onsite, as shown in Plate 3.14.



Plate 3.13 Onsite garage (building in right-hand side of photograph)



Plate 3.14 Onsite bunded fuel tank and refuelling area

The bunded fuel storage area is covered to prevent excess water collecting inside the bund. Any water that does accumulate inside the bund is removed off-site for further treatment, as necessary. The loading/unloading area, beside the bunded tank is surrounded by a interceptor grate in the ground, which drains to the hydrocarbon interceptor in the event of a small spill when filling a truck with fuel.

3.2.12 Access and Car-Parking

The Mr. Binman Ltd. waste transfer station is accessed via the local road through the townland of Luddenmore. There are two separate entrances into the site from this road. The first is used by site personnel and visitors to the reception office, while the second is used by the waste collection vehicles for access to the transfer station yard. The second roadway, as shown in Plate 3.15, is steep in gradient and has previously been identified as a safety risk, particularly for fully-laden waste vehicles. Planning permission was granted by Limerick County Council in 2007 for the construction of a new roadway into the site (Planning Reference No. 05/3128). Permission was also granted for the construction of a new car park with spaces for 166 cars and two buses, along with a bus turning area. Construction of the new access road and car park has not yet commenced.



Plate 3.15 Entrance roadway utilised by waste collection trucks

A transport safety management plan was reviewed and revised in 2008 to minimise risk due to transport and pedestrian movement within the facility. A Traffic and Transportation Assessment of the proposed development has been completed by Michael Punch and Partners Ltd. and is included in Chapter 11 of this EIS.

3.2.13 Future Infrastructural and Operational Improvements

The EPA Licence Review is part of a programme of improvements at the Mr. Binman Ltd. Luddenmore facility that, along with the existing controls in place, will ensure onsite activities do not cause environmental pollution. The proposed improvements to the Mr. Binman Ltd. facility were set out in the Licence Review application submitted to the EPA in July 2008.

3.2.13.1 Infrastructure

Access

The new entrance roadway and car park will allow safer access and egress to and from the facility, and will reduce dust emissions created by the existing gravel park during dry weather conditions. The location of the new road and car park, which will be constructed with a finished hard-standing, is shown in the planning drawings in Chapter 2 of this EIS. A new site boundary will be defined as part of the Licence Review application in order to accommodate the installation of the new roadway and parking facilities.

Drainage

Mr. Binman Ltd. is currently undergoing a programme to improve the sewerage and surface water drainage systems on-site. The purpose of this programme is to improve surface water discharges and ensure compliance with the Licence conditions. Although groundwater monitoring results for the facility to date confirm that there has been no impact to groundwater, it is proposed to seal all joints on hardstanding areas to further ensure there will be no impact on groundwater.

Emissions

There will be no discharges from the onsite wastewater treatment plant emission point until such time as it can be demonstrated that it is operating in compliance with the emission limit values. Foul water will be treated in the wastewater treatment plant to a standard of 20 mg/l BOD and 30 mg/l suspended solids.

Dust emissions will continue to be reduced by covering the timber storage area, dry recyclables area, other storage areas, the installation of a paved car park and roadway and relocation of a dust emission monitoring station to an appropriate location at the site boundary to ensure there is no impact offsite.

Civic Amenity Facilities

Mr. Binman Ltd. presently offers a civic amenity facility for members of the public, which will be developed further following the improvement of the site access roadway and addition of a new weighbridge.

3.2.13.2 Waste Handling Procedures

Several significant changes for the improvement of waste handling procedures at the facility were set out in the EPA Licence Review application submitted in July 2008.

Installation of pre-shredder

Currently all residual waste processed at the facility is fed directly onto the processing line of MBT facility using front shovel loaders. The material is not shredded. As a result, compacted waste may not be processed efficiently and may result in recyclable or recoverable materials being sent to landfill. Recent trials with pre-shredders have demonstrated that the amount of waste sent to landfill from the mechanical separation plant can be reduced by at least 11% by pre-shredding the waste. The use of a pre-shredder provides a more consistent feed rate than the current operation and presents the waste in a more uniform manner, resulting in a more efficient operation of the mechanical separation plant and will provide additional capacity. It also increases the efficiency of the MBT facility ability to separate bulky recoverable/recyclable materials, e.g. mattresses could be shredded to recover the metal and fabric.

Mr. Binman Ltd. plans to install a pre-shredder for mixed municipal waste prior to feeding the waste into the Mechanical Separation Plant. The best available shredder has been ordered and will be installed at the Mechanical Biological Treatment facility in late 2008. This will significantly improve the capacity of the facility.

Covering of Waste Storage and Processing Areas

At the request of the EPA and to ensure compliance with licence conditions, Mr Binman Ltd. continues to cover all waste storage and processing areas, on a phased basis. The glass processing area was enclosed in 2005, the organic fines storage area in 2006, the glass bays in 2007 and the cardboard area in 2008. The programme for completion of these projects was submitted to the EPA as part of the Annual Environmental Report (AER) in March 2008.

Covering of the cardboard intake area provides an increased capacity handling area protected from the elements. This ensures the material does not become wet which would affect the recycling of the cardboard. Covering of the Opti-Bag intake area ensures all clean dry recyclables handled at the facility are fully protected from the weather ensuring the material remains dry and protecting the recyclable quality of the material. Enclosing this area also provides an extended area for handling dry recyclables prior to transfer to the dedicated MRF recycling facility at Clearpoint for optimum processing. Covering this area will also ensure potential littering is minimized from this area.

Planning permission was also granted by Limerick County Council in 2007 to enclose the timber storage/shredding area. Covering of this area of the site will significantly reduce dust generated from this point.

A storage area for biodegradable waste from brown bins will be required in 2009/2010 to allow transfer of biodegradable waste for composting or other treatment off-site.

3.3 Characteristics of the Proposed Development

3.3.1 General Description

The existing capacity of the Mr. Binman facility at Luddenmore is 87,500 tonnes up to 105,000 tonnes per annum. Mr. Binman Ltd. proposes to increase this capacity to 200,000 tonnes per annum by 2012, subject to approval from the Environmental Protection Agency (EPA). In 2007, the EPA confirmed that the most appropriate way of increasing the waste acceptance limit beyond 105,000 tonnes was through a review of the facility's existing waste licence, to be submitted to the EPA Licensing section. Subsequent communications between Yvonne Furlong (EPA) and Suzanne Dempsey (Mr. Binman Ltd.) identified the information that would be required as part of the review application. Mr. Binman Ltd. submitted this application for a review of waste licence W0061-02 to the EPA in July 2008. The information presented in this section of the EIS is based primarily on that prepared by the applicant and submitted to the EPA as part of the waste licence review application.

3.3.2 Waste Types and Quantities

The proposed annual quantities and nature of waste to be accepted at the facility are set out in Tables 3.1 and 3.2. It is proposed to increase the annual tonnage of waste accepted at the transfer station on a phased basis to 200,000 tonnes per annum by 2012.

Table 3.1 Proposed Annual Quantities of Waste

Year	Non-hazardous waste (Tonnes per annum)	Hazardous waste (Tonnes per annum)	Total quantity of waste (Tonnes per annum)
2008	135,000	0	135,000
2009	150,000	0	150,000
2010	170,000	0	170,000
2011	190,000	0	190,000
2012	200,000	0	200,000

Table 3.2 Breakdown of Existing and Proposed Waste Types and Quantities

Waste Type	Tonnes per annum (existing)	Tonnes per annum (proposed)	Total tonnes (over life of site)
Household	66,997	112,600	112,600
Commercial	48,433	81,400	81,400
Construction & Demolition	3,570	6,000	6,000
Total	119,000	200,000	200,000

Increasing the waste tonnage acceptance limit at the facility will ensure that more waste generated in the Mid-West Region is recycled at the Luddenmore facility or transferred to Mr. Binman Ltd.'s Materials Recovery Facility in Clearpoint for optimum recycling. This will aid significantly in minimising the quantity of waste sent direct to landfill, thereby contributing to the meeting of Ireland's targets for diversion of waste from landfill.

3.3.3 Facility Capacity

As part of Mr. Binman Ltd.'s licence review application, the EPA requested that the duty and standby capacities be calculated for all systems in order to demonstrate that the facility is capable of processing or transferring up to 200,000 tonnes of waste. Each section of site operations was subsequently reviewed and the following information submitted to the EPA:

- Total capacity of the each system based on operating time of seven days per week, 12 hours per day.
- Duty capacity of each system based on proposed operating time of 5.5 days per week, ten hours per day. This allows for an additional 0.5 days operating time as additional capacity, based on the proposed operating hours of six days per week.
- Standby capacity available based on the above data.

Reference was made to the US-EPA document, 'Waste Transfer Stations: A Manual for Decision Making' in estimating floor space capacities in the event of an emergency. However, the formulae for equipment capacities could not be applied directly as there is no formula relevant to the Mr. Binman Ltd. MBT/transfer station system, which operate together.

3.3.3.1 MBT Plant/Transfer Station

Domestic and commercial municipal solid waste is processed in the MBT plant, which mechanically separates the waste into three fractions via a trommel or drum screen. A description of each fraction is presented in Table 3.3.

Table 3.3 Separated Size Fractions of Municipal Solid Waste from MBT Plant

Fraction	Description
Organic fines 0 - 60 mm	Mainly organic material i.e. grass clippings and vegetable peelings. (Metal fines are removed via magnets and eddy current separator.)
Undersize fraction 60 - 180 mm	Contains ferrous and non-ferrous cans, which are removed via magnets and eddy current separators.
Oversize fraction > 180 mm	Contains light papers and plastics removed via wind shifters and baled for export as Refuse Derived Fuel (RDF).

The residual waste from the mechanical separation process is sent to landfill via refuse compactor in the transfer station. The refuse compactors in the transfer station can accept waste directly via transfer shed floor. The total and duty capacities of the MBT plant are shown in Table 3.4.

The plant currently processes approximately 1800 tonnes/week for 5.5 days a week. With the installation of the pre-shredder, it is anticipated that the efficiency of the facility will increase by approximately 11%. This will allow a total capacity of 4,200 tonnes of waste to be processed per

week. In the worst case scenario the plant only proposes to operate 5.5 days per week at a maximum rate of 47 tonnes per hour, processing approximately 2,585 tonnes per week.

Table 3.4 Total and Duty Capacity of MBT Plant

	Total Capacity	Total Capacity (with pre-shredder)	Duty Capacity
Days per week	7	7	5.5
Hours per day	12	12	10
Tonnes per hour	45	50	47
Tonnes per week	3,780	4,200	2,585
Tonnes per annum	196,560	218,400	134,420

The manufacturer, Hidding Milieutechniek, has set the availability of the installation at approximately 95%. This means that 5% of the production may be lost as a result of technical defects, not including the time required for regular maintenance. Therefore the total capacity for the plant with the installation of the pre-shredder is 4,421 tonnes per week. With the worst-case duty capacity of 2,585 tonnes per week, this allows for a standby capacity of 63%. In addition, 0.5 days per week of operating time is reserved for maintenance, which would otherwise provide an additional 9% standby capacity.

In the event of breakdown of the MBT Plant, residual waste may be sent to landfill directly via the transfer shed. The plant will be bypassed via a drawbridge and waste will be loaded into the compactors via walking floor and/or loading shovel. The MBT plant and transfer shed are confined to the same building and can be operated independently at the same time.

The waste is stored on the transfer shed floor for a short period of time until enough material has accumulated to fill the refuse compactor. There are two compactors available at any given time to compact all residual waste from the MBT processing and the transfer station floor. The total and duty capacity of the transfer station is shown in Table 3.5.

Table 3.5 Total and Duty Capacity of Transfer Station

	Total Capacity	Duty Capacity
Days per week	7	5.5
Hours per day	12	10
Total operating hours per annum	4,368	2,500
Tonnes per hour	100 (for two compactors)	50
Tonnes per 10-hour day	1,000	500
Tonnes per week	8,400	2,750
Tonnes per annum	436,800	143,000

Each compactor has the duty capacity to process 500 tonnes per day for 5.5 days per week. For the overall facility to process 200,000 tonnes per annum, the MBT facility will process 464 tonnes per day. When the MBT facility is operating, the compactors will process approximately 189 tonnes per day of residual waste from the MBT.

Assuming the worst-case scenario where there is no MBT processing available, the compactors be on standby and will process 464 tonnes per day. With a total compactor waste capacity of 1,000 tonnes per day, the two compactors are capable of transferring all waste materials accepted at the facility and have a standby capacity of over 100%. The combined capacity of the MBT Plant and Transfer Station minus residual waste from MBT Plant (36%) is 583,675 tonnes per annum, as shown in Table 3.6.

Table 3.6 Total Combined Capacity of MBT Plant and Transfer Station

	Quantity (Tonnes per annum)
Total Capacity of Transfer Station (based on compactor capacity)	436,800
Total Capacity of MBT Plant	229,492
Minus residual from MBT Plant (36%)	82,617
Total Capacity	583,675

The combined duty capacity of the MBT plant and transfer station, operating at 10 hours per day, 5.5 days per week at rates less than maximum design output is 228,525 tonnes per annum, as shown in Table 3.7.

Table 3.7 Duty Capacity of MBT Plant and Transfer Station

	Quantity (Tonnes per annum)
Duty Capacity of Transfer Station	143,000
Duty Capacity of MBT Plant	134,420
Minus residual from MBT Plant (36%)	48,391
Total Capacity	228,525

Based on these figures the combined standby capacity relative to the duty capacity are shown in Table 3.8.

Table 3.8 Standby Capacity of MBT Plant and Transfer Station

	Proposed Quantity (Tonnes per annum)	Standby Capacity
Standby Capacity Transfer Station	293,800	205%
Standby Capacity of MBT	95,072	70%
Combined Standby Capacity	355,150	155%

During normal operation of the facility the transfer area, MBT equipment and the compactors operate as a unit for all residual waste. Therefore the formulae provided in the US-EPA document, *'Waste Transfer Stations: A Manual for Decision Making'* cannot be applied directly. However, reference is made in this document to the estimation of the tipping floor space required to store a full day's waste in the event of a complete failure of all equipment. Based on the formula referenced in this document, and assuming the waste is piled 12 feet high, the required floor space for 464 tonnes of waste is 6,640 square feet (approximately 617 square metres). The tipping floor space currently available is approximately 7,670 square feet (approximately 712 square metres).

3.3.3.2 Dry Recyclables Sorting Station

Dry recyclables are manually processed via the sorting station or picking line. As part of the licence review it was proposed to develop the storage/transfer area for dry recyclables to allow for covered storage and transfer of excess dry recyclables to Mr. Binman Ltd.'s Clearpoint Materials Recovery facility in Carrick-on-Suir, which was designed to accept and process up to 50,000 tonnes of dry recyclable waste. The total and duty capacity of the dry recyclables sorting station is shown in Table 3.9.

Table 3.9 Total and Duty Capacity of Dry Recyclables Sorting Station

	Total Capacity	Duty Capacity
Days per week	7	5.5
Hours per day	12	10
Total operating hours per annum	4,368	2,860
Tonnes per hour	4.5	4
Tonnes per week	8,400	2,750
Tonnes per annum	19,656	11,440

The sorting station has a duty capacity of approximately 11,440 tonnes per annum based on a 5.5 day week. It is anticipated that the facility will accept approximately 21,398 tonnes per annum of loose dry recyclables at full capacity (200,000 tonnes per annum). The excess dry recyclables (9,958 tonnes) will be transferred to Carrick-on-Suir for further processing.

It is anticipated that at full capacity (200,000 tonnes per annum), the facility will accept approximately 68.58 tonnes per day of dry recyclable waste. Based on the US-EPA formula for calculating tipping areas, the floor space required is 5,371 square feet (approximately 499 square metres), assuming waste is piled 6 feet high. The floorspace to be provided is approximately 5,595 square feet (approximately 520 square metres) providing adequate capacity for the tipping area.

The standby capacity of the dry recyclables sorting station is 70%, as shown in Table 3.10.

Table 3.10 Standby Capacity of Sorting Station

	Proposed
Total Capacity	19,656 tonnes per annum
Duty Capacity	11,440 tonnes per annum
Standby Capacity	71%

3.3.3.3 Glass Plant

The total and duty capacities of the glass processing plant are shown in Table 3.11.

Table 3.11 Total and Duty Capacity of Glass Plant

	Total Capacity	Duty Capacity
Days per week	7	5.5
Hours per day	12	10
Total operating hours per annum	4,368	2,860
Tonnes per hour	3	3
Tonnes per week	252	165
Tonnes per annum	13,104	8,580

The plant has the duty capacity to process 30 tonnes per ten-hour operating day for 5.5 days per week. The standby capacity of the glass processing plant is 53%, as shown in Table 3.12.

Table 3.12 Standby Capacity of Glass Plant

	Proposed
Total Capacity	13,104 tonnes per annum
Duty Capacity	8,580 tonnes per annum
Standby Capacity	53%

3.3.3.4 Commercial Waste Processing Area

The commercial waste processing area consists of two balers with a waste acceptance area, which was recently expanded to facilitate acceptance of segregated commercial waste such as cardboard, paper, etc. The total and duty capacities of this area are shown in Table 3.13.

Table 3.13 Total and Duty Capacity of Commercial Waste Processing Area

	Total Capacity	Processing Capacity
Days per week	7	5.5
Hours per day	12	10
Total operating hours per annum	4,368	2,860
Tonnes per hour	10 (per 2 balers)	10 (per 2 balers)
Tonnes per week	840	550
Tonnes per annum	43,680	28,600

The standby capacity of the commercial waste processing area is 53%, as shown in Table 3.14.

Table 3.14 Standby Capacity of Commercial Waste Processing Area

	Proposed
Total Capacity	43,680 tonnes per annum
Duty Capacity	28,600 tonnes per annum
Standby Capacity	53%

3.3.3.5 Construction and Demolition Waste Processing Area

The total and duty capacities of the C&D waste processing area are shown in Table 3.15. The standby capacity of this area is 129%, as shown in Table 3.16.

Table 3.15 Total and Duty Capacity of C&D Waste Processing Area

	Total Capacity	Duty Capacity
Days per week	7	5.5
Hours per day	12	10
Total operating hours per annum	4,368	2,860
Tonnes per hour	30	20
Tonnes per week	2,520	1,100
Tonnes per annum	131,040	57,200

Table 3.16 Standby Capacity of C&D Waste Processing Area

	Proposed
Total Capacity	131,040 tonnes per annum
Duty Capacity	57,200 tonnes per annum
Standby Capacity	129%

The total and duty capacities of the timber shredding area are shown in Table 3.17. The standby capacity of this area is 205%, as shown in Table 3.18.

Table 3.17 Total and Duty Capacity of Timber Shredding Area

	Total Capacity	Duty Capacity
Days per week	7	5.5
Hours per day	12	10
Total operating hours per annum	4,368	2,860
Tonnes per hour	10	5
Tonnes per week	840	275
Tonnes per annum	43,680	14,300

Table 3.18 Standby Capacity of Timber Shredders

	Proposed
Total Capacity	43,680 tonnes per annum
Duty Capacity	14,300 tonnes per annum
Standby Capacity	205%