

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

25-04-23..FW23A/0111
FINGAL CO CO PL DEPT

Circular Economy Hub
Huntstown
Dublin 11

Volume 2 : EIAR and Appendices



Irish Recycling Ltd

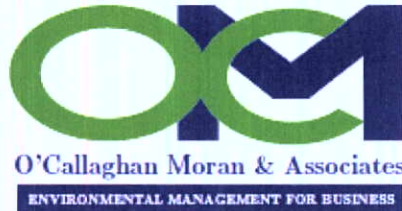


April 2023

O'Callaghan Moran &
Associates
Unit 15,
Melbourne Business Park,
Model Farm Road,
Cork.

021-434 5366
admin@ocallaghanmoran.com
www.ocallaghanmoran.com

Unit 15
Melbourne Business Park
Model Farm Road
Cork T12 WR89



T: 021 434 5366
E: admin@ocallaghanmoran.com
www.ocallaghanmoran.com

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CIRCULAR ECONOMY HUB

HUNTSTOWN

FINGAL

Prepared For: -

Rathdrinagh Land Unlimited Company T/A Irish Recycling Ltd

Prepared By: -

O'Callaghan Moran & Associates
Unit 15 Melbourne Business Park
Model Farm Road
Cork.

April 2023

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GLOSSARY OF ACRONYMS

AA: Appropriate Assessment

ACA: Architectural Conservation Area

CDP: County Development Plan

CFRAM: Catchment Flood Risk Assessment and Management

CGS: County Geological Sites

CEMP: Construction Environmental Management Plan

CH4: Methane

CO2: Carbon Dioxide

CSO: Central Statistics Office

C&D: Construction & Demolition

DAA: Dublin Aviation Authority

DMURS: Design Manual for Urban Roads and Streets

DAFM: Department of Agriculture, Food and Marine

DCHG: Department of Culture, Heritage and the Gaeltacht

DECC: Department of the Environment, Climate and Communications

DHLGH: Department of Housing, Local Government and Heritage

DTCAGSM: Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media

DoT: Department of Transport

EIA: Environmental Impact Assessment

EIAR: Environmental Impact Assessment Report

EPA: Environmental Protection Agency

ESB: Electricity Supply Board

EU: European Union

FRA: Flood Risk Assessment

GSDS: Greater Dublin Strategic Drainage Study

GHG: Greenhouse Gases

HSE: Health Service Executive

IAA: Irish Aviation Authority

LAP: Local Area Plan

LCA: Landscape Character Assessment

LECP: Local Economic and Community Plan

MSW: Municipal Solid Waste

NCCAF: National Climate Change Adaptation Framework

NDP: National Development Plan

NEEAP: National Energy Efficiency Action Plan

NHA: Natural Heritage Area

(p)NHA: (proposed) Natural Heritage Area

NIAH: National Inventory of Architectural Heritage

NPF: National Planning Framework

NIS: Natura Impact Statement

NPWS: National Parks and Wildlife Service

NRA: National Roads Authority

NSAI: National Standards Authority of Ireland

NSOOR: Newbridge Southern Outer Orbital Route

NTA: National Transport Authority

NZEB: Nearly Zero Energy Building

OPW: Office of Public Works

PFRA: Preliminary Flood Risk Assessment

RBMP: River Basin Management Plan

RMP: Record of Monuments and Places

RPS: Record of Protected Structures

RSA: Road Safety Audit

RWMP: Resource and Waste Management Plan

SAC: Special Area of Conservation

SDGs: Sustainable Development Goals

SEA: Strategic Environmental Assessment

SEAI: Sustainable Energy Authority of Ireland

SEAP: Sustainable Energy Action Plan

SFRA: Strategic Flood Risk Assessment

SHD: Strategic Housing Development

SI: Statutory Instrument

SID: Strategic Infrastructure Development

SPA: Special Protection Area

SuDS: Sustainable Drainage Solutions

TII: Transport Infrastructure Ireland

TTA: Traffic and Transport Assessment

UNFCCC: United Nations Framework Convention on Climate Change

WHO: World Health Organisation

1. INTRODUCTION

This Environmental Impact Assessment Report (EIAR) examines the potential impacts and significant effects on the environment of a proposal by Rathdrinagh Land Unlimited Company, trading as Irish Recycling Ltd (IRL) to develop Phase 1 of a Circular Economy Hub at Huntstown, Fingal.

1.1 The Applicant

IRL is part of the SRETAW Group, which owns the nearby Huntstown Bioenergy Anaerobic Digestion Plant and has recently been granted planning permission for the development of a plastic waste recycling plant in Portlaoise.

1.2 Development Overview

The proposed development is Phase 1 of the proposed 9.863 ha Huntstown Circular Economy Hub (Hub). It comprises a Materials Recovery Facility (MRF), that will process household, commercial, industrial and construction and demolition wastes and a Food Container Cleaning Plant (FCCP) that will clean plastic food containers.

A MRF is the first step in the recovery and recycling chain and its purpose is to sort a wide range of wastes into recoverable and recyclable streams, with the objective of achieving a 98% recovery rate. The proposed FCCP will provide a centralised washing/sterilisation facility for plastic food trays and crates to allow the multiple re-use of these items.

1.3 Need for Environmental Impact Assessment (EIA)

The need for EIA derives from European Union (EU) Directive 85/337/EEC, as amended by Directives 97/11/EC 2003/35/EC, 2009/31/EC, 2011/92/EU and 2014/52/EU) on the assessment of the effects of certain public and private projects on the environment (EIA Directive).

The EIA Directive was initially transposed into Irish law by the European Communities (Environmental Impact Assessment) Regulations, 1989 (S.I. No. 349 of 1989), with subsequent amendments under the Planning and Development Regulations 2001 (SI No. 600 of 2001), as amended. The most recent amendment of the Directive was transposed by the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. 296 of 2018).

The primary objective of the EIA Directive is to ensure that projects that are likely to have ‘significant effects’ on the environment are subject to an assessment of their likely impacts.

The Environmental Protection Agency (EPA)’s *Guidelines on the Information to be contained in Environmental Impact Assessment Report* (May 2022) define a staged process to determine if a proposed project requires EIA.

An initial determination is required to establish if the project type falls into any of the activities listed in Annexes I and II of the EIA Directive, as transposed by Parts 1 and 2 of Schedule 5 of the Planning and Development Regulations (PDR) 2001, as amended. If a project is listed in Part 1 then EIA is required. If it is listed in Part 2, but is of a type where the need for EIA is based on a threshold, then it must be assessed against the thresholds specified in Part 2 of Schedule 5. If the project exceeds the threshold EIA is mandatory.

If the project is not listed in Part 1, but is listed in Part 2 and is below the relevant threshold there is no statutory requirement for EIA; however regard must be had to the EIA Directive's 'wide scope and broad purpose' and it may be necessary to go beyond the general project description and consider the component parts and/or any processes in accordance with Schedule 7 of the PDR. If any such parts or processes are significant the proposed project as a whole may fall within the requirements of the Directive.

The proposed development is not listed in Part I of the Schedule 5, but the proposed MRF is listed in Part 2 of the Schedule 'Facilities for the disposal of waste with an annual intake of more than 25,000 tonnes'. For the purposes of the EIA Directive the term 'disposal' included recycling. As the annual waste intake in the MRF will exceed 25,000 tonnes an EIA is required.

1.4 Purpose of an EIAR

An EIAR is defined in the EIA Regulations¹ as '*a report of the effects, if any, which proposed development, if carried out, would have on the environment and shall include the information specified in Annex IV of the Environmental Impact Assessment Directive.*'

An EIAR is prepared by the developer and is submitted to a Competent Authority as part of a consent process. The Competent Authority uses the information provided in the EIAR to assess the environmental effects of the project and, in the context of other considerations, to help determine if consent should be granted. The information in the EIAR can also be used by other parties to evaluate the acceptability of the proposed project and its effects and to inform their submissions to the Competent Authority.

Article 5 of the EIA Directive requires the information to be provided in the EIAR to at least include:

- (a) a description of the project comprising information on the site, design, size and other relevant features of the project;
- (b) a description of the likely significant effects of the project on the environment;
- (c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
- (d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;

¹ <http://www.irishstatutebook.ie/eli/2018/si/296/made/en/print>

- (e) a non-technical summary of the information referred to in points (a) to (d); and (f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.

To ensure the completeness and quality of an EIAR it must be prepared by competent experts.

1.5 EIA Scoping

The objective of scoping is to identify the key areas of concern related to a project and identify those 'effects' that may reasonably be seen as 'likely'. 'Likely' effects are those that are planned to take place (e.g. earth works, land take, building construction) and those that are the inevitable consequences of the normal operation of the project (e.g. emission, traffic, resource consumption).

The scoping should also determine the need for evaluating reasonably foreseeable 'worst-case' scenarios. This can be achieved by ensuring the description of the project is sufficiently detailed to avoid uncertainty over the direct, indirect and cumulative 'likely significant effects'. Where uncertainty arises, for example where difficulties are encountered in compiling the required information needed to determine the appropriate methodologies, then the 'worst case' effects of the alternative methodologies should be assessed.

An EIA must assess the likely significant effects on the following:

- (a) population and human health;
- (b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
- (c) land, soil, water, air and climate;
- (d) material assets, cultural heritage and the landscape;
- (e) the interaction between the factors referred to in points (a) to (d).

The effects must include the expected impacts associated with the vulnerability of the project to risks of major accidents and/or relevant disasters.

O'Callaghan Moran & Associates (OCM) completed a scoping exercise based on the nature of the proposed development, the available baseline information on the subject site and the feedback from the pre-application meeting held with Fingal County Council.

Although the proposed FCCP is not a type of project that requires an EIA, as it will be constructed and operated in conjunction with the MRF its cumulative impacts were assessed. As the proposed development has no defined lifetime, a detailed assessment of the decommissioning stage was scoped out.

1.6 EIAR Methodology

This EIAR presents an evaluation of the likely significant environmental impacts and applicable mitigation and monitoring measures associated with the construction and operation of the proposed development.

The EIAR addresses all of the aspects listed in Schedule 6 of the Planning and Development Regulations 2001 (SI No. 600 of 2001) (as amended), having regard to the requirements of Article 5(1) and Annex IV of Directive 2011/92/EU as amended by Directive 2014/52/EU (the EIA Directive).

The information contained in the EIAR complies with the requirements of Article 5 (1) (a) to (e), Article 3(1) (a) to (e) and Annex IV of Directive 2014/52/EU on the effects of certain public and private projects on the environment. The overall approach took into consideration the guidance and recommendations in the following:

- EPA *Advice Notes for Preparing Environmental Impact Statements (2003)*.
- European Commission's *Environmental Impact Assessment of Projects - Guidance on Screening (2017)*.
- European Commission's *Environmental Impact Assessment of Projects - Guidance on Scoping Report (2017)*.
- European Commission's *Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report (2017)*.
- Government of Ireland *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018)*.
- EPA *Guidelines on the Information to be contained in Environmental Impact Assessment Reports (May 2022)*.

Additional legislation and guidance pertinent to the particular environmental factor under consideration is referenced in the relevant Chapters of this EIAR.

The assessment of the effects on climate and water included the implications for climate change. The assessment of impacts on biodiversity included an evaluation of the significance of effects on Natura 2000 Sites. The effects on population and human health took into consideration the likely effects of traffic, noise, air quality impacts, major accidents and/or natural disasters and the existing local amenities.

The cumulative impacts of existing and permitted projects within one kilometre zone of influence (Zoi) of the subject site were included in the assessment of the effects on Land & Soil, Air, and Population and Health. This Zoi was determined by the fact that such impacts are effectively mitigated by distance.

The Zoi for climate was defined by the national boundary given Ireland's binding commitments to meet national greenhouse gas emission targets. The Zoi of the Materials Assets: Traffic & Transport was defined by the consultation with Fingal County Council. The Zoi for Cultural Heritage was determined by the Archaeologist.

The ZOI for Biodiversity and Water was determined by the viable pathways between the subject site and Natura 2000 Sites in Dublin Bay. The ZOI for the Landscape & Visual Impact Assessment was determined by the public view points, including existing residences, permitted developments and the public roads.

The EIA Directive and transposing regulations do not generally require assessment of the need for a proposed development, land-use planning, demographic issues and detailed socio-economic analysis and the EPA Guidance (2022) states that this should be avoided in an EIAR, unless issues such as economic or settlement patterns give rise directly to specific new developments and associated effects². Given the nature of the proposed development detailed assessments of these aspects have not been considered.

The EIAR follows a grouped format structure, where each relevant topic is dealt with in a separate chapter that describes the baseline conditions (receiving environment), the direct and indirect significant impacts associated with the proposed activity, and the measures to avoid, prevent, reduce or, if possible, offset any identified significant adverse impacts and assesses the effects and the residual impacts.

The interactions between impacts on different environmental factors are addressed, as is the potential for the cumulation of many minor or significant effects, including effects of other projects to create larger and more significant effects.

To avoid repetition Chapter 3 is a detailed description of the Project Characteristics and in the subsequent Chapters only those aspects of the development that are relevant to the environmental factor being assessed are described. Similarly, where as a result of interaction(s) between two or more factors there is a need for mitigation measures already described in detail in other Chapters these are cross referenced and not repeated.

1.7 Anticipating, Avoiding &, Mitigating Significant Effects

The anticipation of impacts is the most effective means of avoiding adverse effects when applied at the design stage of a project. This involves forming preliminary opinions, usually in the absence of complete data, on the approximate significance, magnitude, character, duration and type of the likely effects.

The anticipation of effects allows the exploration of potential ways to avoid them by sharing the preliminary opinions with the members of the project design team to facilitate changes to the proposed design and method of operation. Where significant adverse effects are likely to occur alternative options must be evaluated to determine the combination that presents the best balance between the avoidance of significant adverse environmental effects and achieving the project objectives.

Avoidance measures are identified through the consideration of alternatives e.g. site location, site layouts, technologies or operational plans and mitigation and any monitoring measures. Consideration of alternatives in the early design stages usually affords the greatest potential for avoidance of significant adverse effects.

² Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA 2022).

1.8 Cumulation of Effects

Cumulative assessment provides the baseline for full environmental assessment of the potential effects arising from the proposed development in combination with other relevant plans and projects. The assessment of the cumulative impacts took into consideration the existing land use settlement patterns, local infrastructure, environmental setting and the existing operational and permitted activities in the vicinity of the subject site.

1.9 Assessment of Effects

Effects were assessed in terms of the likely natural or physical changes to the environment resulting either directly, or indirectly from the proposed development taking into consideration a 'baseline' scenario, cumulative effects, worst case and accidents. Effects are, where possible, described in terms of, quality, significance, extent & context, probability, duration and type listed in the EPA 2022 Guidelines. Effects are also described in accordance with guidance relevant to the particular topic being assessed and, where this occurs, they are referenced in the Chapters.

Quality.

- Positive: A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
- Neutral: No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
- Negative: A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).

Significance.

- Imperceptible: An effect capable of measurement but without significant consequences.
- Not Significant: An effect that causes noticeable changes in the character of the environment, but without significant consequences.
- Slight: An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
- Moderate: An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
- Significant: An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
- Very Significant: An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
- Profound: An effect which obliterates sensitive characteristics.

Extent & Context.

- Extent: Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
- Context: Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?).

Probability:

- Likely Effects: The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
- Unlikely Effects: The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

Duration:

- Momentary seconds-minutes.
- Brief <1 day.
- Temporary <1 year.
- Short-term 1-7 years.
- Medium Term 7-15 years.
- Long Term 15-60 year.
- Permanent >60 years.
- Reversible effects that can be undone, for example through remediation or restoration.
- Frequency: how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly).

Type.

- Indirect: Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
- Cumulative: The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
- Do Nothing: The environment as it would be in the future should the subject project not be carried out.
- Worst Case: The effects arising from a project in the case where mitigation measures substantially fail.

- Indeterminable: When the full consequences of a change in the environment cannot be described.
- Irreversible: When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
- Residual: The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
- Synergistic: Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of air pollutants to produce smog).

The significance of an effect was determined by a combination of objective (scientific) and subjective (social) concerns and the potential for the development to either have significant effect on an aspect of the environment that has been formally or systematically designated as being of importance, or to significantly alter the existing character of some aspects of the environment.

Prevention and mitigation measures and monitoring were only considered for those effects that were deemed likely to be significant.

1.10 Residual Impacts

Residual impacts are the final or intended effects that occur after the proposed mitigation measures have been implemented. It is not always either possible, or practical to mitigate all adverse effects. The effects that remain after all assessment and mitigation are the remaining environmental 'costs' of a proposed development that could not be reasonably avoided and are a key consideration in deciding whether a development should be permitted or not.

1.11 Consultation

1.11.1 Planning Authority

A pre planning application meeting was held with Fingal County Council.

1.11.2 Uisce Eireann

A meeting was also held with Uisce Eireann to obtain an understanding of the development constraints imposed by the way leaves for the Greater Dublin Orbital Sewer Route running through the development site.

1.12 Project Team: Competent Experts

The EIAR was completed by a project team co-ordinated by O'Callaghan Moran & Associates (OCM) who also prepared a number of Chapters. The field surveys and site specific assessments completed by the Project Team were;

- Archaeological Testing comprising information review and trench excavations by Kilkenny Archaeological & Historical Heritage Consultants.

- Ecological Assessments by Dixon Brosnan Ecological Consultants, which included habitats, mammal, bat and bird, surveys and an Appropriate Assessment Screening.
- Noise & Vibration Assessment by Damian Brosnan Acoustics.
- Traffic and Transport Assessment by Trafficwise.
- Air Quality and Climate Assessments by Katestone.
- Landscape Design Plan prepared by Park Hood.
- Intrusive geotechnical site investigations completed by Hamnar Site Investigation Services Ltd and a non-intrusive geophysical assessment completed by Apex Geophysics Ltd.
- Engineering Services Design Report prepared by Coyle Consulting Engineers.
- Aeronautical Assessment completed by O'Dwyer Jones Partnership.
- Glint & Glare Assessment prepared by Macroworks.
- Construction Environmental Management Plan and Resource and Waste Management Plan prepared by OCM.

The field surveys, assessments and plans were completed and prepared in accordance with best practice and, in the expert opinion of the authors, are considered sufficient to assess the potential significant effects associated with the proposed development.

1.13 Difficulties in Compiling the Required Information

Where difficulties were encountered in compiling the required information these are described in the relevant Chapters.

2. EXISTING SITE DESCRIPTION

This Chapter provides an overview of the proposed development area (site) and is not intended to provide the full baseline information on the receiving environment on which the assessment of impacts is based. This level of detail is provided in Chapters 5 to 14.

2.1 Site Location

The site location is shown on Figure 2.1. It is close to the M50 to the south and the N2 to the east and is 2.4 km south of Dublin Airport, in an area zoned for heavy industry in the Fingal Development Plan 2023 to 2029.

2.2 Surrounding Land Use

The surrounding land use (Figure 2.2) is a mix of quarrying, utilities and agricultural. Huntstown Quarry, which includes an inert soil recovery site, is to the west; Huntstown Bioenergy, which is an anaerobic digestion plant owned by the applicant, is 150m to the west; Huntstown Power Station, which is a Tier 2 Seveso Site, is approximately 280m to the north-west and there is an Eirgrid 220 kv Substation to the south-east.

The adjoining lands to the east, south and west are currently used for agriculture. The southern runway of Dublin Airport is approximately 2.4 km from the north-eastern boundary. The nearest private residences are on the North Road, approximately 50m from the eastern site boundary. There is a farmhouse approximately 270m south-west of the southern boundary.

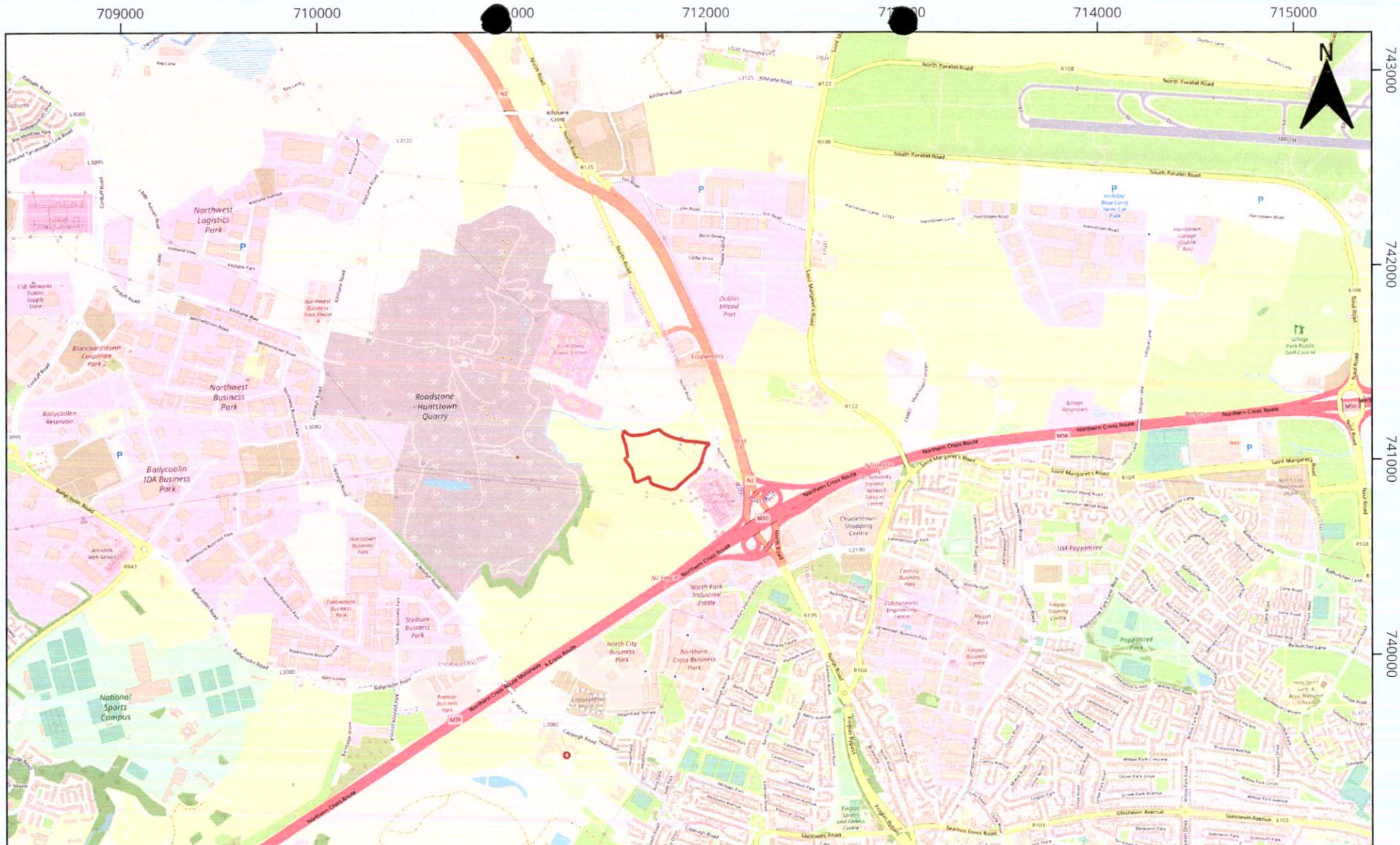
2.3 Site Layout

The existing layout is shown on Drawing No. 220620. The site encompasses 9.863 hectares and comprises two fields, both of which has been for agricultural purposes and a section of the Substation service road. A hedgerow running north south divides the fields. The western field had been used for animal grazing, but is no longer used for this purpose. The eastern field had been used for tillage but is currently uncultivated.

The ground levels rises from ca 78m Ordnance Datum (OD) at the site boundaries to a localised high point of 88m OD in the centre of the site. Historically this high point had been quarried for sand and gravel, but is now covered in scrub.

There are two 38 kv and one 110 kv overhead powerlines running from south-east to north-west across the north-eastern part of the site, and a 10 kv line running from south-west to north-east through the centre of the site, off of which is a south-east to north-west spur. Currently works are on-going to remove the overhead lines and lay them underground inside the eastern and northern site boundaries in accordance with planning permission FW21A/0144.

Uisce Eireann permanent and temporary wayleaves for the Greater Dublin Orbital Sewer route run from north to south through the site.



O'Callaghan Moran & Associates
 Unit 15 Melbourne Business Park,
 Model Farm Road, Cork.
 Tel. (021) 4345366
 email: info@ocallaghanmoran.com

CLIENT

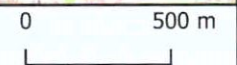
Irish Recycling Ltd

TITLE

Site Location

DETAILS

— Site Boundary



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FIGURE 2.1



The user or recipient of this survey data understands and acknowledges this data may be inaccurate or contain errors or omissions and the user or recipient assumes full responsibility for any risks or damages resulting from, arising from, or in connection with any use of or reliance upon data displayed herein. Although significant care has been exercised to produce surveys that satisfy survey accuracy standards, these surveys are only as accurate as the source data from which they were compiled. Although all reasonable steps have been taken to locate all features visible at the time of the survey, there is no guarantee that all will be shown on the drawing, as some above ground features may have obstructed the survey. Wherever possible, areas unable to be surveyed will be labelled as "UTS".

The Company shall not be liable for any inaccuracy of the data provided beyond the specified scale or accuracy, or for any matters resulting from their use for purposes other than that stated in the Contract. No liability shall attach to the Surveyor in respect of any consequential loss or damages suffered by the Client.

The Client must promptly notify the Company of any errors in mapping of which it becomes aware. If misleading, inaccurate or otherwise inappropriate information is brought to the Company's attention or the Company itself identifies any such imprecision or error in a survey, it shall use its reasonable endeavours to fix or remove it and if necessary in certain instances, the Company being on notice of any such misleading, inaccurate or otherwise inappropriate information, it will re-conduct the survey and reproduce the data to within the specified scale or accuracy.



SYMBOLS (CONVENTION)		LINES (CONVENTION)	
	Boundary Wall		Boundary Wall
	Road		Road
	Railway Track		Railway Track
	Stream		Stream
	Fence		Fence
	Hedge		Hedge
	Ditch		Ditch
	Wall		Wall
	Boundary Fence		Boundary Fence
	Boundary Wall with Opening		Boundary Wall with Opening
	Boundary Fence with Opening		Boundary Fence with Opening
	Boundary Wall with Gate		Boundary Wall with Gate
	Boundary Fence with Gate		Boundary Fence with Gate
	Boundary Wall with Post and Rail		Boundary Wall with Post and Rail
	Boundary Fence with Post and Rail		Boundary Fence with Post and Rail
	Boundary Wall with Post and Rail and Opening		Boundary Wall with Post and Rail and Opening
	Boundary Fence with Post and Rail and Opening		Boundary Fence with Post and Rail and Opening

Rev. Date By Description

75 The Paddocks
Navan
Co. Meath
mob: 0857693168
Email:
info@geosurvey.ie
Website:
www.geosurvey.ie



TITLE	TOPOGRAPHICAL SURVEY		
PROJECT	Huntstown Caldwell Co. Dublin	CRD	ITM
CLIENT	Rathdrinagh Land Unlimited	DATUM	MALIN HEAD
SCALE	1:1000	DATE	30.06.2022
DRAWN A.S./A.S.	DATE 30.06.2022	SHEET A1	DRG. NO. 220620

311000

312000

313000

Huntstown
Powerstation

Energia
Bioenergy

Eirgrid Electricity
Transmission Station

Huntstown
Quarry

Kilometer

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



O'Callaghan Moran & Associates,
Unit 15 Melbourne Business Park,
Model Farm Road, Cork.
Tel. (021) 4345366
email: info@ocallaghanmoran.com

CLIENT

Irish Recycling Ltd

TITLE

Surrounding Landuse

Details:

— Site Boundary

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Figure 2.2

241000



2.4 Road Network

The road network in the vicinity of the site is shown in Figure 2.3. At present a farm gate on the northern boundary is the only access point and is only suitable for farm vehicles. The service road that provides access to the 220kV Substation from North Road runs along the eastern site boundary and also provides access to agricultural lands and a farm house with a large farm yard and sheds to the south west of the site.

The service road intersects North Road at a simple priority junction approximately 600m south of the Coldwinters N2 off-slip near the Dogs Trust property. North Road was formerly the N2 and had been directly connected to the M50 north of Finglas. The upgraded N2 and M2 road scheme bypasses the former N2 at its southern end and that section is now a cul-de-sac.

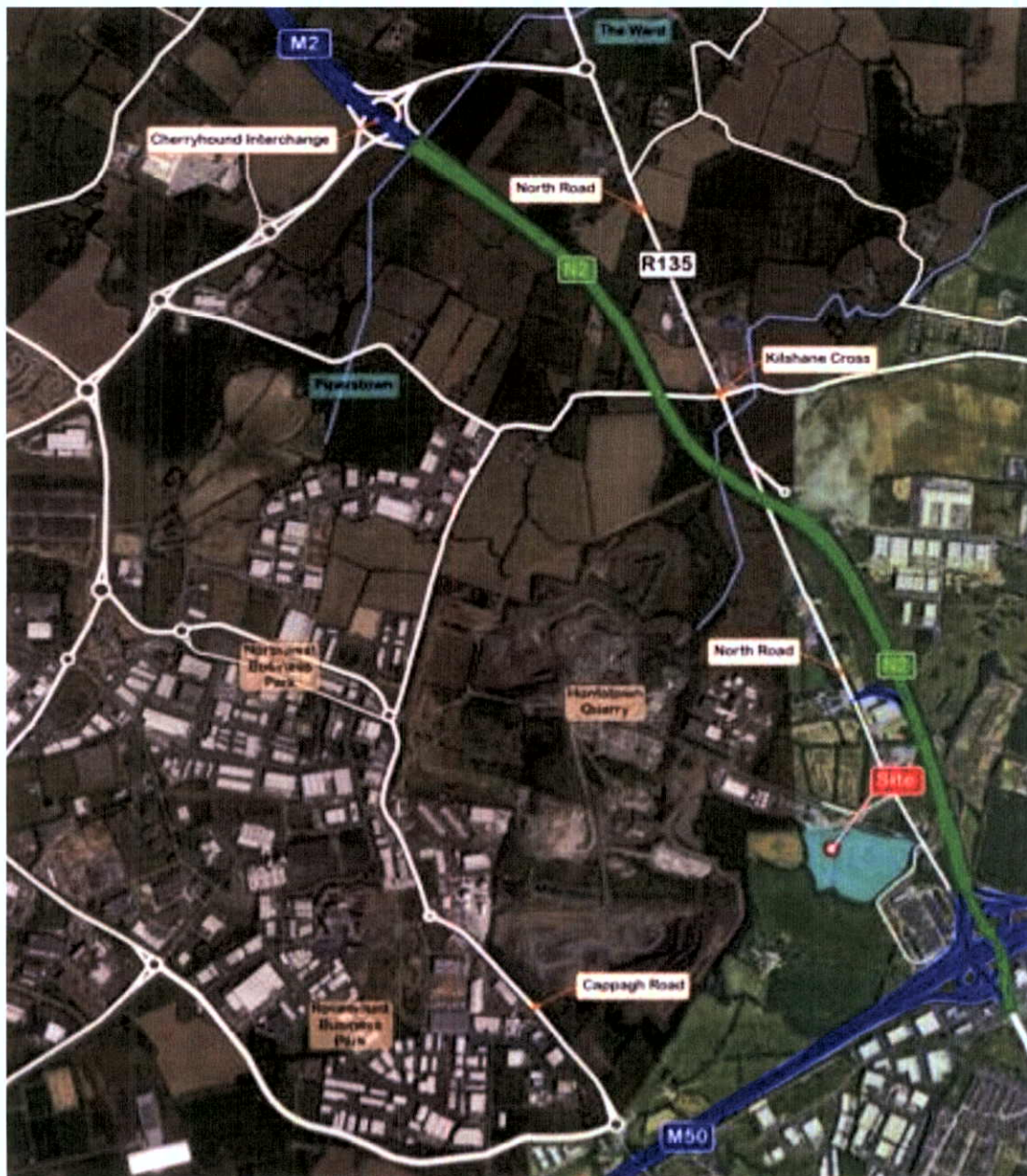


Figure 2.3 Road Network

2.5 Services

There are no existing connections to the Uisce Eireann mains supply, storm sewer and foul water network. There is an Uisce Eireann 150mm water main on North Road. The nearest connection point to the municipal foul sewer is also on North Road (Figure 2.4).

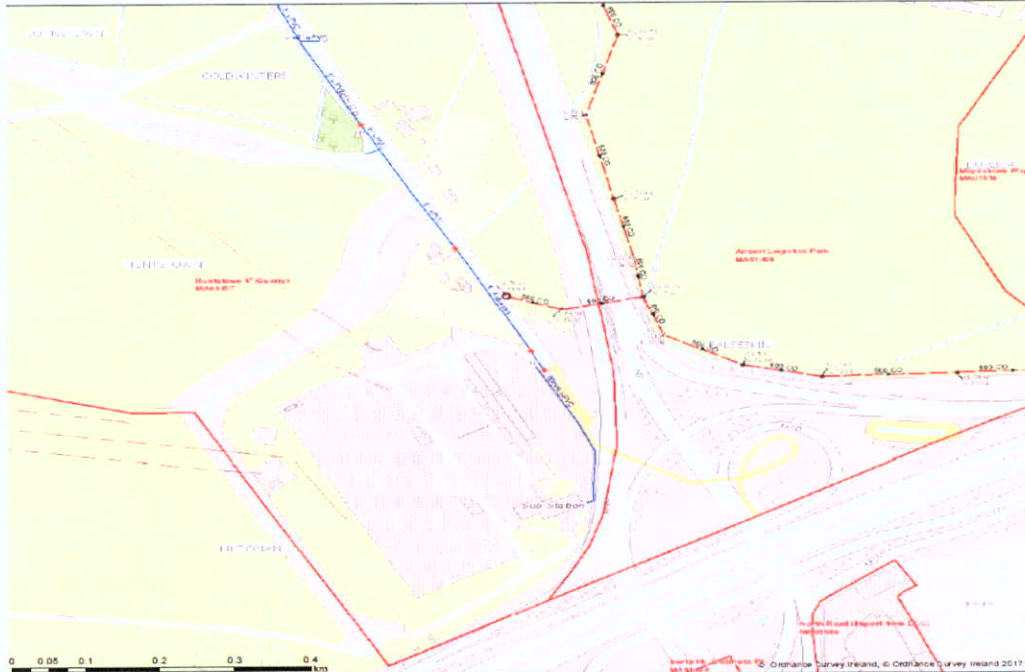


Figure 2.4 Uisce Eireann Services Drawing (Extract from Engineering Report)

2.6 Aviation Safety

The site is 2.4km from a main runway at Dublin Airport. It is well within the 13km radius of the airport identified as the area of potential bird hazard risk and is visible from the new Control Tower. It is also directly below the approach flight path to Casement Aerodrome.

3. PROJECT CHARACTERISTICS

This Chapter presents an overview of the European Union (EU) and national waste polices to provide a context for the proposed development. It describes the characteristics of the project, including the nature and scale of the development; building design considerations; services including water supply, sanitary wastewater, process wastewater and storm water management; landscape strategy; the operational stage processes and associated emissions and the construction stage works. It also identifies the permitted and proposed developments that have been taken into consideration for the assessment of cumulative effects.

3.1 Context

3.1.1 *European Commission Action Plan on the Circular Economy*

The purpose of the European Commission's (Commission) Action Plan on the Circular Economy³ is to transition the EU to an economy where the value of products, materials and resources is maintained for as long as possible and the generation of waste minimised. This transition is essential to the EU's efforts to develop a sustainable, low carbon, resource efficient and competitive economy.

The Commission recognises that recycling is a pre-condition for a circular economy, where resources and materials can be recycled, returned back to the economy and used again, meaning that what was once considered a waste becomes a valuable resource. To achieve this, materials at the end of their life cycle should be recovered through recycling and ideally reintroduced to the product lifecycle. These "secondary raw materials" can then be traded like primary raw materials.

3.1.2 *National Waste Action Plan for a Circular Economy*

In 2020, the government published its 'Waste Action Plan for a Circular Economy' to take cognisance of the Commission's Action Plan on the Circular Economy. The objective is to inform and direct waste planning and management in Ireland over the coming years. While the thrust of the Plan is to prevent waste arising through reuse, its objectives include ensuring measures are introduced to support sustainable economic models (for example by supporting the use of recycled over virgin materials).

The Plan promotes the development – for environmental and economic reasons – of adequate and appropriate treatment capacity to ensure that the full circularity and resource potential of materials is captured in Ireland.

In 2022, The Circular Economy and Miscellaneous Provisions Act 2022 was enacted to underpin Ireland's shift from a "take-make-waste" linear model to a more sustainable pattern of production and consumption, that retains the value of resources in the economy for as long as possible and significantly reduce greenhouse gas emissions.

³ https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en

3.1.3 Fingal County Development Plan 2023-2029

It is a strategic aim of the Fingal County Development Plan 2023-2029 to continue to support and promote Government policy on eliminating landfill; reducing the amount of waste produced, maximising waste as a source of products and renewable energy and prioritising waste prevention, re-use, recycling and recovery over the disposal of waste.

The Development Plan waste management policies and objectives support a move towards achieving a 'circular economy' which is essential if Fingal and the wider Eastern Region is to make better use of resources and become more resource efficient. The waste policies and relevant to the proposed development are:

- **Policy IUP 20 - Implementation of Existing Waste Management Policy:** Fingal County Council will continue to promote and support the objectives of the Eastern Midlands Region Waste Management Plan 2015-2021, or such plans as may be updated.
- **Policy IUP 21 – Transition from a Waste Economy Towards a Green Circular Economy:** Support the principles of transition from a waste management economy to a green circular economy and implement good waste management and best practices to enable Fingal to become self-sufficient in terms of resource and waste management to enhance employment and increase the value recovery and recirculation of resources.
- **Objective IUO28 – Eastern Midlands Region Waste Management Plan:** Implement the provisions of the Eastern Midlands Waste Management Plan 2015-2021, or any subsequent Waste Management Plan applicable within the lifetime of the Development 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 the requirements of the Plan
- **Objective IUO29 – Sustainable Waste Recovery & Disposal:** Provide for, promote and facilitate high quality sustainable waste recovery and disposal infrastructure/technology in keeping with the EU waste hierarchy, national legislation and regional waste management policy to adequately cater for Fingal's growing population.
- **Policy IUP 21 – Recycling/Re-Use:** Promote and encourage the establishment of re-use, recycling and repair activities to prevent and minimise waste generation and disposal in accordance with the Eastern Midlands Waste Management Plan 2015-2021 (or any subsequent plan).

3.1.4 Waste Management Plan for the Eastern-Midlands Region

The Waste Management Plan for the Eastern-Midlands Waste Region (EMWR) Plan is the framework for the prevention and management of wastes in a safe and sustainable manner. The scope of the EMWR Plan is broad and provides policy direction, sets out waste management objectives and is a roadmap of actions to achieve those objectives. The EMWR Plan is a statutory document prepared by the local authorities of the region and covers the period from 2015 to 2021. It remains in force until a new National Waste Management Plan is adopted.

Efforts to decouple waste generation from economic growth have not yet been successful and the economic recovery that started in 2014, in conjunction with population growth, has resulted in a continuing increase in the quantities of waste arising, both nationally and in the Greater Dublin Area.

The EMWR Plan estimates that the increase in municipal wastes (combined household and commercial) between 2012 and 2021 will be in the region of 2-3% annually. It concludes that growth at the higher rates presents a challenge to the region to ensure adequate collection and treatment capacity is required. Furthermore, the need to treat more of these wastes in the country in support of Circular Economy initiatives means that treatment capacity needs to increase above the projected rates, making the provision of capacity even more challenging.

To ensure that national and regional recovery and recycling targets are met, to minimise the amount of waste disposed to landfill and to roll out circular economy initiatives there is a need to increase indigenous waste recycling and recovery capacity.

3.1.5 Fingal Local Environmental Community Plan

It is a strategic policy of the Fingal Local Environmental Community Plan to ensure, from environmental, business and public health needs, that waste management remains a priority for local authorities, that the waste management regions continue to invest in promoting and facilitating reuse and recycling by residential and commercial sources, and that high standard options for treatment and final disposal of waste are available within the Greater Dublin Area.

3.2 Development Overview

The proposed development is Phase 1 of the Huntstown Circular Economy Hub (Hub). It comprises a Materials Recovery Facility (MRF), a Food Container Cleaning Plant (FCCP) and ancillaries.

The MRF is the first step in the recovery and recycling chain and its purpose is to sort a wide range of wastes into recoverable and recyclable streams, with the objective of achieving a 98% recovery rate. The wastes will include

- Source segregated household and commercial wastes comprising residual municipal solid waste (MSW);
- Source segregated household, commercial and industrial wastes comprising mixed and single stream dry recyclables (e.g. paper, cardboard, plastic, glass, metal);
- Source segregated household and commercial food waste ('brown bin')
- Source segregated and mixed construction and demolition (C&D) wastes

The recoverable materials will be sent off-site to authorised recovery facilities, for example waste to energy plants, cement kilns and soil recovery sites.

Initially the majority of the potential recyclables (metals, paper, plastic, cardboard, timber) will also be sent off site for further treatment to produce recyclates that can be reintroduced into the economy.

The EPA recently issued a draft protocol for the production of recycled aggregates from C&D waste that will meet End of Waste Status, meaning they can be used as an alternative to quarry won materials⁴. It is the intention to manufacture these aggregates in Phase 1. Subsequent Phases of the

⁴ <https://www.epa.ie/publications/corporate/consultations/-consultations/DRAFT-End-of-Waste-Criteria-for-Recycled-Aggregates-EoW-N001-2023.pdf>

Hub will include recycling facilities that will process other recyclables, for example plastics and timber into products that can be reintroduced into the economic cycle and replace virgin materials.

In response to growing sustainability pressures, in particular the need to eliminate/ minimise 'single use plastics', the food retail industry is moving towards the use of reusable food containers. The proposed FCCP will provide a centralised washing/sterilisation facility for large food retailers in the Greater Dublin Area to facilitate the multiple re-use of these items.

The washing system will include a pre-wash to remove visible dirt and debris, a main wash with detergents followed by a rinse. The water will be sourced from the mains supply. The process water will be treated in an on-site wastewater treatment plant with the majority of treated water recycled to the washing plant and a small amount discharged to the foul sewer.

3.3 Site Layout

The layout of the proposed Hub is shown on Drawing No P002 and the proposed layout of Phase 1 is shown on Drawing No. P001. Phase 1 comprises the MRF (5,302m²), FCCP (5,302m²), electrical substation (40.5m²), paved open yards, weighbridge, car and bicycling parking areas, surface and foul water drainage systems and landscaping.

The building positioning, heights, roof plans and stormwater drainage design took into consideration the constraints imposed by the proximity to Dublin Airport and the flight path to Casement Aerodrome. The landscape design approach was to retain and supplement the existing trees and hedgerows on the boundary

Phase 1 involves extensive 'cut and fill' across the footprint of the Hub to achieve formation levels and will result in the loss of ca 220m of the existing hedgerow boundary between the two fields and the scrub in the centre of the site. Pending the development of future Phases, the lands outside of Phase 1 will be returned to agricultural use. The overhead power lines that traverse the site are currently being relocated underground inside the eastern and northern site boundaries.

3.3.1 Landscape Strategy

The design approach was to retain the existing boundary trees and hedgerows and supplement them with native trees and shrubs that will benefit pollinators and reinforce biodiversity.

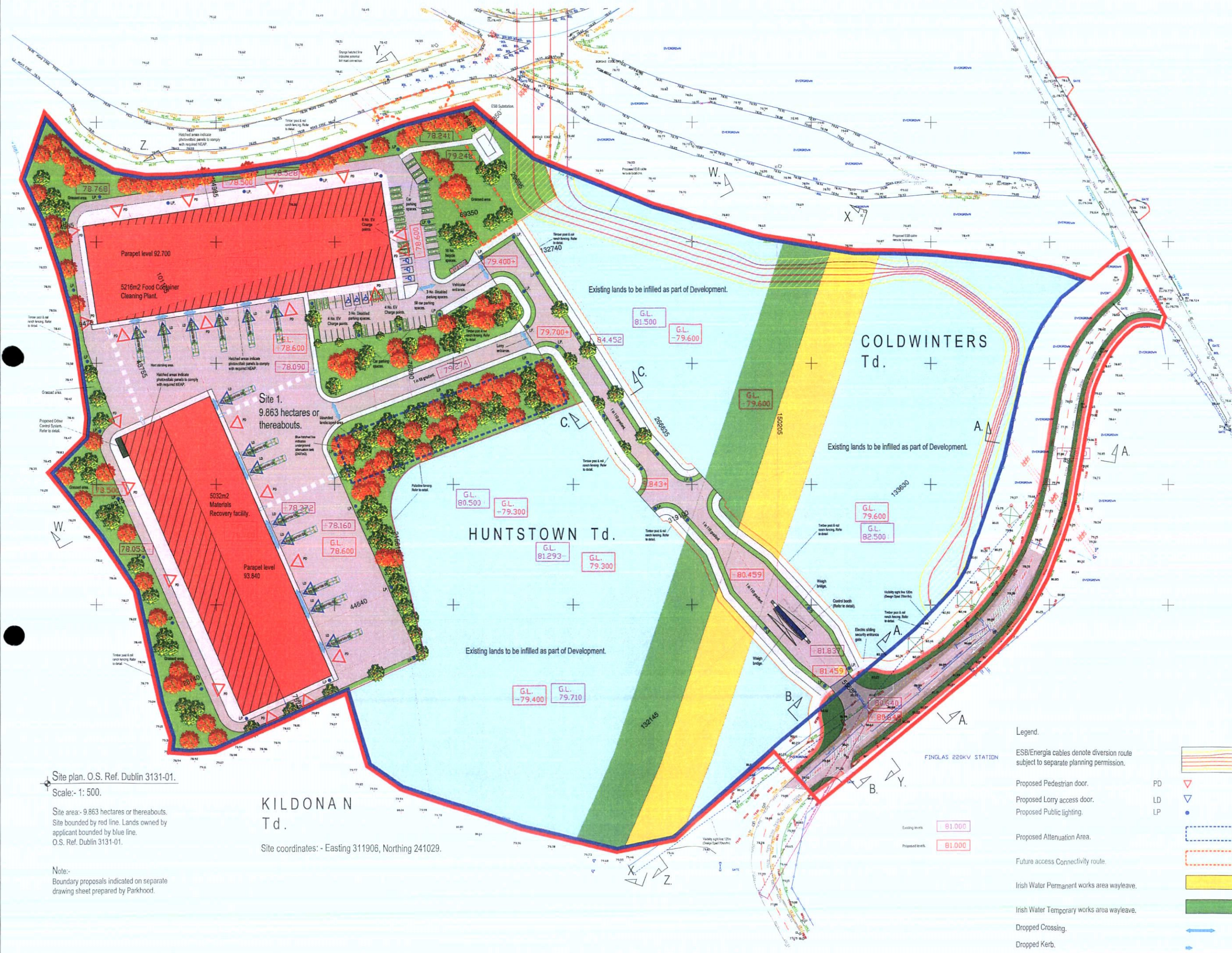
3.4 Access

The design of the entrance off the existing service road, the internal access road and manoeuvring areas took into consideration the recommendations of a Road Safety Audit.

3.5 Building Design & Layout

3.5.1 MRF

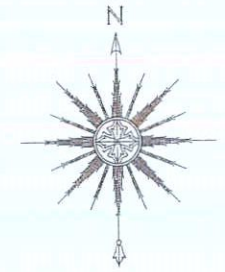
The building elevations and sections are shown on Drawing No P006. The building will be a steel portal frame structure, with external preformed and profile sheeting on the walls and low pitch roof cladding. It will be 13.4m to the eaves, with an upper ridge level of 15.14m above ground level (93.84m OD). The



Site plan. O.S. Ref. Dublin 3131-01.
 Scale:- 1: 500.
 Site area- 9.863 hectares or thereabouts.
 Site bounded by red line. Lands owned by applicant bounded by blue line.
 O.S. Ref. Dublin 3131-01.

Note:-
 Boundary proposals indicated on separate drawing sheet prepared by Parkhoo.

KILDONAN Td.
 Site coordinates: - Easting 311906, Northing 241029.



- Legend.
- ESB/Energia cables denote diversion route subject to separate planning permission.
 - Proposed Pedestrian door. PD
 - Proposed Lorry access door. LD
 - Proposed Public lighting. LP
 - Proposed Attenuation Area.
 - Future access Connectivity route.
 - Irish Water Permanent works area wayleave.
 - Irish Water Temporary works area wayleave.
 - Dropped Crossing.
 - Dropped Kerb.
 - Marked pedestrian route.

Coyle
 CIVIL & STRUCTURAL

No. 3 High Street, Monaghan Town,
 Co. Monaghan, H18 X635
 Tel: 047-72175
 Website: www.coylecs.ie
 E-mail: info@coylecs.ie

Project: Phase 1 of the proposed 9.863 ha Huntstown Circular Economy Hub comprising Materials Recovery Facility, Food Container Cleaning Plant & Ancillaries at Huntstown Td / Coldwinters Td, Fingal, Co. Dublin.

Client: Rathfriland Land Unlimited Company, Va Irish Recycling Limited.

Sheet Title: Site Layout Plan.

Project No: 22-039
 Drawing No: 2021
 Date: 17-04-23
 Scale: As shown
 Rev: P
 Checked:



Site plan. O.S. Ref. Dublin 3131-01.
 Scale:- 1: 500.
 Site area:- 9.863 hectares or thereabouts.
 Site bounded by red line. Lands owned by applicant bounded by blue line.
 O.S. Ref. Dublin 3131-01.

KILDONAN Td.
 Site coordinates:- Easting 311906, Northing 241029.

Legend.

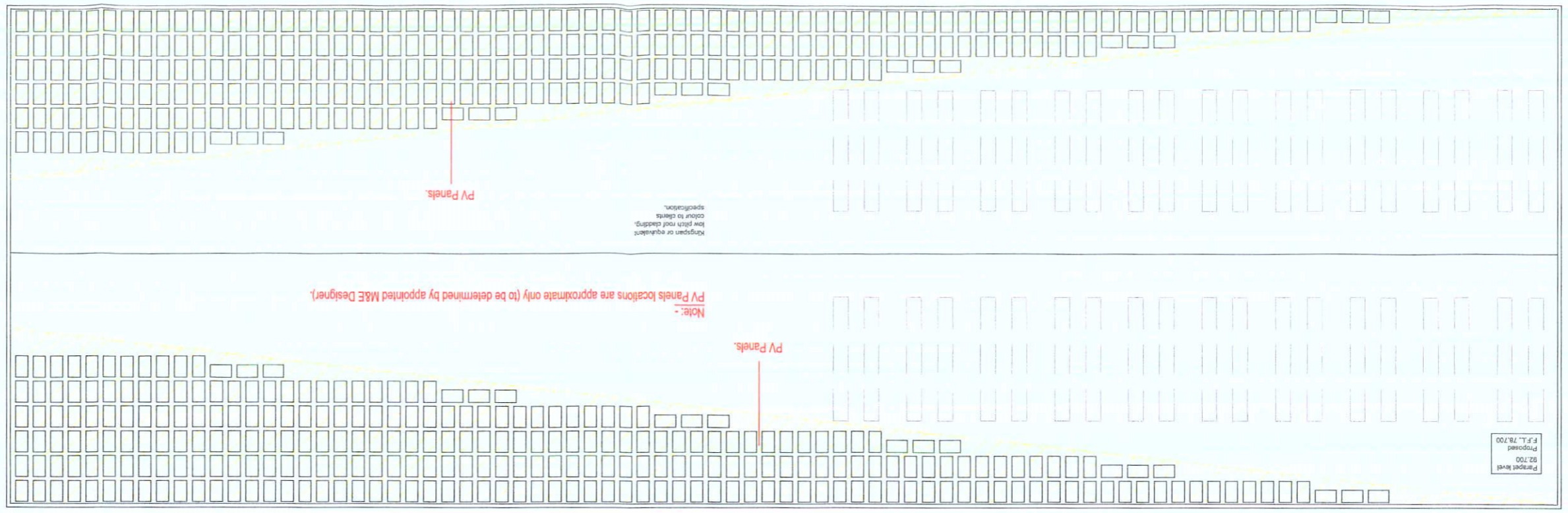
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- Dropped Kerb.
- Marked pedestrian route.

Coyle CIVIL & STRUCTURAL

No. 3 High Street, Monaghan Town, Co. Monaghan. H18 XE35
 Tel: 047-72175
 Website: www.coylecs.ie
 E-mail: info@coylecs.ie

Project: Phase 1 of the proposed 9.863 ha Huntstown Circular Economy Hub comprising Materials Recovery Facility, Food Container Cleaning Plant & Ancillaries at Huntstown Td / Coldwinters Td, Fingal, Co. Dublin.
 Client: Rathfragh Land Unlimited Company, via Irish Recycling Limited.
 Sheet Title: Master site plan
 Project No: 22039 Date: 17-04-23
 Drawing No: P002 Scale: As shown Rev: 01 Checked:





Proposed
Project Level
F.F.L. 78.700

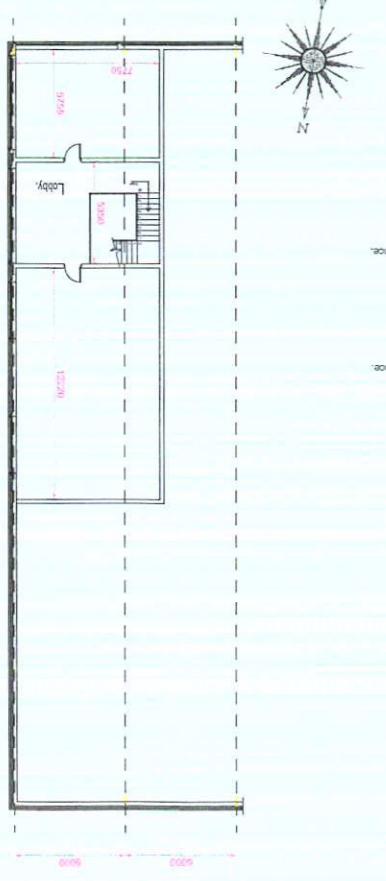
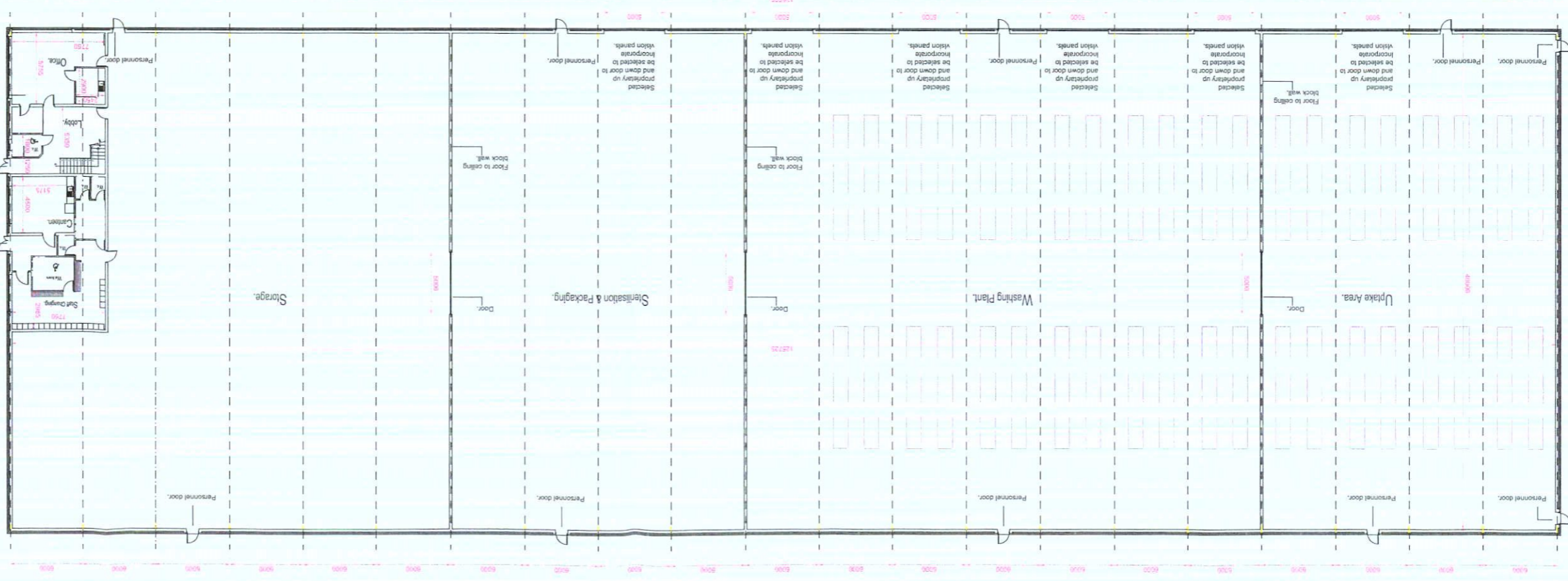
Project No.:	26-03-23
Client:	Rathfriland Land Unlimited Company, Va
Client:	Irish Recycling Limited.
Client:	Food Container Cleaning Plant floor plan & roof plan.
Project Title:	Food Container Cleaning Plant floor plan & roof plan.
Project No.:	26-03-23
Scale:	As shown.
Rev:	E
Checked:	

Project: Phase 1 of the proposed 9.863 ha Huntstown Circular Economy Hub comprising Materials Recovery Facility, Food Container Cleaning Plant & Ancillaries at Huntstown Td / Colkewillers Td, Fingal, Co. Dublin.



No. 3 High Street, Monaghan Town,
Co. Monaghan, H18 X655
Tel: 047-72175
Website: www.coylecs.ie
E-mail: info@coylecs.ie

NOTES:
This is a planning drawing and is therefore subject to change without notice. It is not to be used for construction purposes. It is the responsibility of the client to ensure that the drawing is used in accordance with the current building regulations. It is the responsibility of the client to ensure that the drawing is used in accordance with the current building regulations. It is the responsibility of the client to ensure that the drawing is used in accordance with the current building regulations.



roof will be surrounded by a parapet designed to effectively mitigate glint and glare from roof mounted solar panels.

The building floor plan is shown on Drawing No P005. An office and staff welfare facilities will be located in the southern end and there will be designated areas for the reception and processing of the materials. The residual MSW and the 'brown bin' waste will be handled in an area separated from the rest of the building by a partition wall and fitted with the odour control system.

Commercial, industrial and domestic source segregated and mixed dry recyclables (MDR) and construction and demolition (C&D) waste will be handled in different bays. There will be designated materials storage areas, and quarantine areas will be provided for the temporary storage of materials not suitable for recovery/recycling.

3.5.2 FCCP

The building elevations and sections are shown on Drawing No P004. The building will be a steel portal frame structure with external preformed and profile sheeting on the walls and low pitch roof cladding. It will be 12m to the eaves, with an upper ridge level of 14m above ground level (92.70m OD) and the roof will be surrounded by an anti-glint and glare parapet. The building floor plan is shown on Drawing No P003. An office and staff welfare facilities will be located in the eastern end and there will be designated materials reception, washing, sterilisation and storage areas.

3.6 Facility Management

All facility personnel will be provided with appropriate training and have the requisite qualifications and experience to complete their assigned tasks. An Integrated Management System (IMS) will be implemented that meets the requirements of International Standard Organisation (ISO) 14001 Environmental Management System and Occupational Health and Safety Assessment Series (OHSAS) 18001:2007.

3.7 Operational Hours & Staffing

The MRF and FCCP will operate 24 hours a day, 7 days a week and there will be approximately 30 full time staff comprising management, administration and general operatives.

3.8 MRF

3.8.1 Materials Intake

The incoming materials will be subject to a documented waste acceptance procedure that will require recording details of the source, type and quantity and the delivery vehicle registration number.

The wastes will be delivered by waste collectors that have up to date Waste Collection Permits and wastes will not be accepted from members of the public. All deliveries will be in fully enclosed vehicles and all vehicles will be weighed in at the weighbridge, where accompanying documentation will be checked. The driver will then be directed to the appropriate off-loading area inside the MRF.

Any delivery, which upon inspection at the weighbridge is deemed not to be suitable, will not be accepted. In such event facility personnel will record the name of the haulier, the registration number of the vehicle and the nature and origin of the waste and the vehicle driver will be instructed to return the materials to the producer. Records of all such incidents will be maintained.

Any materials identified as not being suitable following off-loading will, where practical, be loaded back onto the delivery vehicle for immediate removal from the MRF. If this is not possible, the material will be removed to a designated quarantine area inside the MRF, where it will be stored in suitable containers (e.g. skips) pending its removal. Records will be kept of the waste type, quantity, and ultimate disposal/treatment facility.

3.8.2 Processes

3.8.2.1 MSW

The residual MSW will be off loaded in the MSW/Brown Bin Bay which will be fitted with an odour control system. It will be inspected and unsuitable materials removed and brought to a quarantine area. The materials will then be processed to separate the recoverables/recyclable from the non-recoverable/recyclable. The processing line will include a bag shredder, trommel, overband magnet, eddy current separator and wind sifters to remove organic fines, ferrous and non-ferrous metals and plastics/paper (lights).

The metals will be sent to authorised metal recycling facilities. The organic fines will be sent to authorised biological treatment facilities (composting and anaerobic digestion plants). The 'lights' will be too contaminated to be recycled but are suitable for the production of solid recovered fuel (SRF) which is used in cement kilns as a replacement for fossil fuels. The residual materials, which contain some putrescible matter, are suitable for use as a refuse derived fuel (RDF) in waste to energy plants.

The operators of the Irish cement kilns and waste to energy plants require the SRF and RDF to be delivered loose and therefore the SRF and RDF will be transported off site daily in enclosed articulated trailers.

The kilns and waste to energy plants regularly close down for maintenance and when this occurs the SRF/RDF will be baled in an on-site baler to facilitate temporary term storage inside the building. Depending on the planned down time of the kilns/waste to energy plants and in the event of a major breakdown it may be necessary, as a contingency measure, to store the bales externally until the kilns/waste to energy plants come back into service.

3.8.2.2 Brown Bin

The 'brown bin' waste will also be off loaded in the MSW/Brown Bin Bay. The materials will not be processed, but bulked up and sent off-site to authorised biological treatment plants.

3.8.2.3 Dry Recyclables

The household mixed dry recyclables (MDR) will be off-loaded in the Recyclable Bay and then undergo manual and mechanical separation into separate recyclable streams (paper, cardboard, plastic, metals). This will include a picking station, optical and ballistic separators, magnets and eddy current separators. The segregated materials will be baled and stored inside the building pending transfer to authorised recycling facilities.

The commercial recyclables will be source separated and will arrive either already baled or loose. The bales will be stored inside the building, pending consignment. The loose materials will be off loaded in the Recyclable Bay and then baled, with the bales stored inside the building.

The recovered plastics include high density polyethylene (HDPE), low density polyethylene (LDPE), polyethylene terephthalate (PET) polypropylene (PPE) and polyvinyl chloride (PVC). Initially it is intended to send these to the plastic recycling plant in Portlaoise which has received planning permission and is at detailed design stage. This plant is designed to process the plastics to a point where they can replace virgin polymers in the manufacture of plastic products. Depending on market conditions a plastics recycling plant will be developed in future phases of the Hub.

3.8.2.4 C&D Materials

The C&D materials will be off loaded in the C&D Bay. They will comprise mixed and source separated materials (rubble, bricks, tiles, timber metals plastics and soil and stone, and timber). The mixed waste will be off-loaded and inspected, with non-conforming materials (e.g. paint tins, black bags etc) manually removed and sent either to a quarantine Area, or the MSW Bay. Bulky items and timber will be mechanically removed.

The remaining materials will be separated using a mechanical screener, magnets and a picking line and wind sifters. The outputs will include 'lights', metals, timber, soil and stone and rubble. The 'lights' will be moved to the MSW Bay for use in the manufacture of SRF.

End of Waste Recycled Aggregates

Source segregated concrete rubble and other selected materials will be processed (crushed and screened) to produce aggregates that meet the End of Waste criteria specified in the EPA's national protocol.

Waste Timber

Timber waste is particularly problematic for the waste management industry. It is primarily generated during construction, building maintenance and demolition activities. As wood is biodegradable it is not suitable for landfill. While clean timber is valuable as a carbon neutral fuel source, a significant amount of waste timber contains trace contaminants, such as paint, glue and preservatives, which make it unsuitable to use as a fuel.

IRL intends to trial a plant for the automated segregation of clean and contaminated wood waste and to evaluate processing capabilities to produce a wood fibre suitable for the manufacture of new products. This will involve mechanical segregation, shredding, metal and 'lights' (plastic) contaminant removal. If the trial is successful a full scale processing plant will be developed in future phases of the Hub.

3.8.3 *Materials Consigned*

All materials consigned from the MRF, with the exception of those that meet End of Waste criteria, will be sent to authorised waste facilities. All shipments will be weighed on the weighbridge and records of the waste haulier, waste types and quantities and the details of the end destinations will be recorded.

3.8.4 Wastewater

A power washer will be located in the MSW /Brown Bin Bay and used as required to clean the wheels of the waste transport vehicles. The washwater will be collected in the floor drains and discharged to the foul sewer.

3.8.5 Plant & Equipment

Operations will require the use of a range of fixed and mobile plant and an indicative list is shown in Table 3.1.

Table3.1 Plant and Equipment

Type of Plant	Units
Front Loading Shovel	2
Trommel or similar mechanical process	1/2
Baler	1
Air Compressor	1
Shredder	1
Conveyor	2
Bag Opener	1
Crusher & Screener	1
Forklift	2
Mechanical Grab	1
Teleporter	
Yardsweeper	1
Odour abatement system	1

The final layout of the fixed plant has not yet been determined. All key plant items will have 100% duty and 50% standby capacity. Additional supporting plant items may be hired in for use for short periods, if required to ensure continued site operations. Critical spares will be maintained on-site and a preventative maintenance programme will be implemented.

3.9 FCCP

3.9.1 Materials Intake

The reusable food containers will not be classed as waste and typically will arrive in boxes or on pallets covered in plastic wrapping. There will be a dedicated reception area inside the building where the trays/crates will be removed from the boxes/unwrapped. The containers will then be sent to the cleaning plant.

3.9.2 Processes

There will be a five-step process to clean and sanitise the containers:

- Pre-washing—remove visible dirt and debris;
- Washing—hot wash with detergents and water;
- Rinsing—rinse all remaining detergents and residue;
- Sanitising—treat and disinfect;
- Drying – air drying, and
- Packaging & Storage.

The sanitisation process involves passing the containers through a tunnel where sanitising agent, for example isopropyl alcohol (IPA) will be misted on the top, sides and bottom of each item. After drying, quality assurance testing will be carried out to confirm the trays are suitable for use. This will include using industry standard Adenosine Triphosphate (ATP) testing. The containers will then be packaged and stored in a dedicated area pending return to the customers.

3.9.2.1 Wastewater Treatment

The pre wash, hot wash and rinse water will be directed to a wastewater treatment plant located inside the building. This will comprise physico-chemical treatment and will not involve biological stages e.g. activated sludge. The water will flow by gravity to an underground chamber from where it will be pumped through a high level automatic fine screen to remove gross solids. It will then pass into an above ground balance tank fitted with a submersible agitator to keep the contents mixed.

From the balance tank the water will be pumped to a diffused air floatation (DAF) unit (80m³/hour capacity). Flocculants and coagulants will be added to enhance the removal of solids. The treated effluent will discharge to an above ground buffer tank from where it will be pumped back to the washing plant. Sludge accumulating in the DAF unit will be pumped to a fully enclosed sludge holding tank, where it will be stored before being sent off-site for treatment.

To maximise the efficiency of the DAF unit it is necessary to continually bleed a small volume (ca 1m³/hour) of the treated wastewater to the foul sewer and replace this with water from the mains supply.

3.10 Services

A detailed description of the water supply, surface water and foul water drainage systems is in the Engineering Planning Report prepared by Coyle Civil & Structural Engineers. The Report is in Appendix 3.1 and should be consulted in relation to the detailed design calculations.

3.10.1 *Water Supply*

Water will be obtained from the Uisce Eireann 150mm water main on North Road as shown on Drawing No C100. The mains supply will be augmented by rainwater harvesting, with the water used as grey water in the welfare facilities. A ring main fitted with six fire hydrants will be installed.

NOTES:-
 This is a planning drawing only and is therefore limited in its capacity to convey the total information, details & specification necessary to complete the works. Any work carried out that is not covered here will be the responsibility of the persons carrying them out. If any situation arises which would cause a contravention of the building regulations, then the Engineer should be consulted. Otherwise the Engineer cannot be held responsible. As these drawings are prepared as planning drawings only, it is strongly recommended that the Engineer be consulted for the preparation of full working drawings. It is the Client's responsibility to appoint a Qualified Engineer to supervise the project during the construction stage and to prepare structural working drawings for the builder.
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 All dimensions to be taken on site. Do not scale any dimensions from this drawing. This drawing is to be read in conjunction with all other relevant drawings and specifications etc that are issued.
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- AV On-line Air Valve as per STD-W-22
- SV Sluice Valve as per STD-W-15
- WH Washout Hydrant as per STD-W-30A with Scour Chamber as per STD-W-30B
- H Off-line Hydrant as per STD-W-19
- WM Electromagnetic Meter chamber as per STD-W-26



Drainage Layout.
 Scale:- 1: 500.



Coyle
 CIVIL & STRUCTURAL

No. 3 High Street, Monaghan Town,
 Co. Monaghan. H18 X635
 Tel: 047-72175
 Website: www.coylecs.ie
 E-mail: info@coylecs.ie

Project: Phase 1 of the proposed 9.863 ha Huntstown Circular Economy Hub comprising Materials Recovery Facility, Food Container Cleaning Plant & Ancillaries at Huntstown Td / Coldwinters Td, Fingal, Co. Dublin.

Client: Rathdrinagh Land Unlimited Company, t/a Irish Recycling Limited.

Sheet Title: Drainage & Watermain Layout - Sheet 1

Project No.: 22-039	Date: 05-04-23
Drawing No.: C-100	Scale: As shown
Rev: A	Checked: PC

3.10.2 Foul Water

The foul water drainage system is shown on Drawing No C100. Given the gradient from the site to the Uisce Eireann foul sewer on North Road 300mm diameter pipes are required to achieve the optimum self-cleansing velocity.

3.10.3 Surface Water Drainage

The drainage system is shown on Drawing No C 100. As there are no water courses or storm sewers in or adjacent to the development site the drainage system comprises:

- Permeable paving in car parking areas;
- Rainwater harvesting on building roofs, and
- Attenuation storage cell with a soakaway.

There will be separate drainage systems for the building roofs and the open paved areas. The run-off from the roofs will be collected in 10m³ underground harvesting tanks for use as 'grey water'. Surplus run-off will discharge to the attenuation cell.

The car parking areas will be provided with permeable paving; however as the remaining open paved areas will be trafficked by heavy goods vehicles permeable paving cannot be used there.

Run-off from the areas trafficked by the HGVs will be directed to an oil interceptor and then into an underground attenuation storage cell, from where it will infiltrate to ground. The storage cell will have a capacity of 2,407m³.

In the event there is a need for the external contingency storage of baled SRF/RDF, as a precautionary measure rainwater run-off from the storage areas will temporarily be diverted to the foul sewer by activating valves located in two inspection chambers.

3.10.4 Power Supply

Electricity will be obtained from a renewable energy utility provider and an electrical substation will be installed in the north east of the site. Solar panels will be installed on the building roofs, as shown on Drawings No. P003 and P005. The buildings will not be over shadowed so the maximum daylight usage will be achieved.

3.10.5 Lighting

The lighting scheme will be designed to minimise the impact external lighting upon faunal populations by retaining dark areas around the external boundaries. The scheme will optimise the lighting configuration to achieve recommended illuminance levels, while minimising light spill through a combination of column location and height, luminaire wattage and optical setting.

3.11 Materials Storage

At the MRF the unprocessed and processed materials will be stored in accordance with a Materials and Waste Storage Plan agreed with the EPA. The Plan will specify the types and maximum quantities of wastes that will be on site at any one time, identify the storage locations and will take into consideration the EPA Guidance Note: Fire Safety at Non-Hazardous Waste Transfer Stations, (2013) and the EPA Guidance on Fire Risk Assessment for Non-Hazardous Waste Facilities, 2016.

At the FCCP the materials storage area will comply with Hazard Analysis & Critical Control Point (HACCP) procedures to ensure the cleaned and sterilised containers are not cross contaminated by either incoming containers, or the cleaning process itself.

3.12 Oil & Chemical Storage

Transport vehicles will not be refuelled at the site. The forklifts used in the FCCP will be electrically powered. Diesel for the mobile plant used in the MRF will be stored in a bunded tank (2,000 litres) in a designated area inside the building.

The bund design will have regard to the EPA guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004) and will provide 110% of the capacity of the storage tank. The fuel dispensing unit will also be inside the bund.

Hydraulic and lubricating oil used in plant maintenance will be stored on a spill pallet in a designated area inside the MRF. Detergents used in the FCCP washing system will be stored on a bunded pallet in a designated area adjacent to the system.

3.13 Fire Safety Management

3.13.1 General Prevention Measures

To prevent/reduce risk of arson there will be a security fence around Phase 1 and the entrance gate will be locked in the event of a temporary closure.

Members of the public will not have access to the MRF and the FCCP and only authorised personnel will be permitted inside the buildings. Visitors will be informed of the safety and fire prevention procedures that must be followed while they are on site and there will be a policy of only smoking in designated areas.

Safe systems of work will be provided and service contractors will be obliged to undergo safety inductions before getting access to operational areas. The inductions will address fire procedures, behaviour on site, housekeeping and specific high risk jobs i.e. hot works procedure & permits.

The use of portable electrical heaters will be prohibited and the electrical systems in the buildings will be subject to regular inspections.

Emergency exit doors will be provided in all of the buildings and fitted with emergency exit signs with back-up lighting.

3.13.2 Fire Spread

The separation distances between the buildings means that a fire outbreak in one will not spread to the other. In the MRF the internal separation distances between materials storage areas/bays will comply with the requirements of the EPA Guidance Note: Fire Safety at Non-Hazardous Waste Transfer Stations, (2013) and the EPA Guidance on Fire Risk Assessment for Non-Hazardous Waste Facilities, 2016.

3.13.3 Fire Detection Systems

An automatic fire detection (for example ceiling mounted heat and smoke detectors) and alarm systems certified to IS 3218 will be installed in both buildings that cover all internal areas, supplemented by a manual break glass system. The detection systems will be subject to annual checks by a fire safety contractor.

3.13.4 Fire Suppression

The ring main will be fitted with six hydrants that comply with the Uisce Eireann Water Infrastructure Standard Details (STD-W-19). Fire extinguishers will be positioned at strategic locations throughout the site and the positions recorded in Fire Register. The extinguishers will be subject to annual inspection and replenishment/replacement as required by a fire safety contractor. Site staff will be trained to extinguish small fires with appropriate hand held fire. If staff members cannot tackle a fire safely and effectively, the evacuation of all personnel will be the primary priority.

3.14 Resource Consumption and Energy Efficiency.

3.14.1 Electricity

The operation of the MRF and the FCCP washing plant will be significant consumers of electricity. Prior to equipment fit out IRL will engage with equipment suppliers to ensure the optimum energy efficiency of the electrical motors. In the operational stage IRL will conduct regular energy efficiency audits and implement the recommendations.

The proposed development includes a solar panel installation on the roofs of both the MRF and the FCCP. The electricity generated will be used directly in site operations

3.14.2 Fuel/Oil

Fuel oil will not be used in the materials processing and container washing and diesel powered HGVs will not be refuelled on site. It is estimated that the annual diesel consumption by the mobile plant operating in the MRF will be approximately 5,000 litres. It is the intention to use compressed natural gas (CNG) fuelled and electrically powered vehicles to transport materials from the facility. Hydraulic and lubricating oil and grease will be used in plant maintenance and it is estimated that approximately 500 litres will be used annually.

3.15 Safety and Hazard Control

All facility personnel and visitors will be obliged to comply with IRL's safety guidelines regarding access and on-site traffic movement. All site personnel will be provided with and obliged to wear, personal

protective equipment (PPE) appropriate for their particular functions. PPE includes facemasks, gloves, safety glasses, steel-toed footwear, overalls, reflective jackets and helmets.

3.16 Accidents & Emergencies

An emergency is an accident/incident that has the potential to result in environmental pollution and/or harm to human health. An Accident Prevention Policy and Emergency Response Procedure (ERP) will be prepared prior to the start of operations.

3.17 Emissions

Potential and actual emissions associated with the proposed development include, rainwater run-off, sanitary wastewater, process wastewater, noise, odours, dust and vehicle exhausts. Sanitary wastewater and treated process wastewater will discharge to the Uisce Eireann foul sewer. Surplus rainwater run-off will infiltrate to ground.

The noise sources include the conveyors, extrusion plant, washing plant and vehicle loading and movement. Vehicle movements on the yard are potential sources of dust during dry periods. The residual MSW and 'brown bin' wastes will be sources of odours. Petrol, diesel and compressed natural gas fuelled vehicles will be sources of exhaust gas emissions.

3.18 Emission Controls

The site design and method of operation facilitates the implementation of the following proposed emission controls, which in the case of the MRF are based on the requirements of the EU Best Available Techniques (BAT) Reference Document for Waste Treatment (2018.).

3.18.1 Noise

All materials reception and processing will be carried out inside the buildings. If considered necessary from a Health & Safety perspective acoustic screens will be installed on individual plant items.

3.18.2 Surface Water & Groundwater

The open yards and building floors will be paved and subject to regular inspection, with damaged areas repaired. All tank and drum storage areas will be impervious to the stored materials. An adequate supply of containment booms and/or suitable absorbent material will be kept on-site to contain and absorb any spillage and staff will be trained in the appropriate response actions. There will be an oil interceptor on the surface water drainage system serving the open yards and the permeable paving in the car parking areas will be designed to filter out oil.

3.18.3 Air

3.18.3.1 Dust

Waste processing will be located inside the MRF. The paved yards and building floors will be cleaned regularly using a road sweeper and the open yards will be damped down in dry periods.

3.18.3.2 Vehicle Exhausts

The diesel fuelled heavy goods vehicles transporting materials to the facility will be fitted with Selective Catalytic Reduction (SCR) systems. A diesel fuel additive (AdBlue) is used in the SCR to reduce the nitrous oxide levels in the exhaust gases.

3.18.3.3 Odours

The only materials accepted at the facility that will be significant source of malodours are the residual MSW and the 'brown bin' wastes that will be processed in the MRF. An odour management system comprising the extraction of odorous air and its treatment in an odour control unit (OCU) consisting of a dust filter to remove dusts and a carbon filter to reduce odour levels will be installed in the MSW/Brown Bin Bay.

Prior to the installation of the system the walls and ceiling will be inspected and a thick foam spray will be applied to all cladding joints and other parts of the building fabric that could be susceptible to air leaks. The objective is to achieve an air leakage rate of $< 2\text{m}^3/\text{m}^2/\text{hour}$. Rapid action doors will be fitted to the vehicle access points.

Air will be drawn from the building using an extraction fan and a system of internal ceiling mounted ducts provided with grills. The fan will have the capacity to achieve 2 air changes per hour. The air will pass through the dust filter before entering the carbon filter. A damper will be fitted to the inlet of the unit to allow the air flow to be balanced. The treated air will vent to atmosphere via a single stack.

The detailed design of the odour management system will be submitted to the EPA for its prior approval before it is installed. The installation will be the subject of a Quality Assurance Plan to ensure it is installed and commissioned in accordance with the approved design parameters.

3.19 **Regulatory Approval**

3.19.1 *MRF*

The materials that will be accepted and processed in the MRF are wastes and, as the annual waste intake will exceed 50,000 tonnes, an Industrial Emissions Licence issued by the EPA is required to allow it to operate. The EPA Licence will specify the operational and infrastructural controls that must be implemented and the emission limit values that must be achieved to ensure that operations do not give rise to environmental pollution or impairment of amenity outside the facility boundary.

The EPA Licence will also specify the monitoring that must be carried out to demonstrate compliance with the Licence requirements. In addition, the EPA will conduct regulatory compliance inspections and its own independent monitoring.

3.19.2 *FCCP*

The reusable containers cleaned in the FCCP will not be classed as wastes and therefore an authorisation under the Waste Management Act 1996, as amended is not required. The treated washwater will be a trade effluent and its discharge to the foul sewer requires a trade effluent discharge licence from Uisce Eireann.

3.20 Decommissioning

Although the MRF does not have a defined lifetime, the EPA licence will require the preparation of a Decommissioning Management Plan (DMP). The scope will include the removal of all wastes and hazardous substances, clean out of all tanks and buildings, removal of plant and equipment, including processing lines and the disconnection of service. The DMP will identify the actions that will be taken to ensure that the decommissioning works will not cause environmental pollution and, when complete, ensures the former MRF will not present any significant risk of environmental pollution.

3.21 Construction Stage

3.21.1 Works Programme

It is estimated that construction will begin within 6 months of the grant of planning permission and will last for approximately 14 months.

3.21.2 Construction Compound

The exact location of the compound will be confirmed in advance of the start of the works and agreed with Fingal County Council. The compound will include a site office and welfare facilities, hardstanding for plant and machinery and designated waste storage areas. It will be serviced with electrical power from an on-site generator and will include portable toilet facilities.

3.21.3 Site Preparatory Works

Site preparatory works will be carried out by the Main Contractor and will include:

- Setting of access control to the development areas;
- Provision of secure compound for the storage of all on-site machinery and materials;
- Confirming the buffer distances from sensitive locations including tree root zones;
- Provision of temporary fencing; and
- Erection of signage.

Prior to the commencement of the works the Main Contractor will check records and drawings to establish the location of existing buried services/utilities. Where it is necessary to disconnect services/utilities during the works for an extended period, temporary alternative provisions will be made.

3.21.4 Working Hours

The normal working hours will be 07:00 to 19:00 Monday to Friday (excluding bank holidays) and 08:00 to 14:00 Saturdays. Works will not be carried out on Sundays and Public Holidays. Subject to the agreement of Fingal County Council out of hours activities may be required for certain elements e.g. connections to water mains and foul sewer.

3.21.5 Plant & Equipment

Construction materials will be delivered in heavy goods vehicles and concrete mixing trucks. The construction plant items will include tracked excavators, dozers, dump trucks, telescopic handlers, backhoe loaders, lifting platforms, mobile cranes, mobile generators and asphalt paving machines

3.21.6 Excavation Works

Top soils and subsoils will be excavated to establish formation levels for the buildings and roads and for underground services, including the surface water attenuation system.

3.21.7 Concrete Works

Concrete batching will take place off site. Excess concrete will be removed from the site and concrete washout will not be permitted. Concrete pouring will be monitored to minimise the risk of significant accidental discharges. Accidental spills will not be hosed down and will be immediately cleaned up.

3.21.8 Materials – Source and Transportation

The selection and specification of construction materials will be informed by the local availability of these materials. Subject to the necessary constraints of performance, durability and cost, construction materials will be sourced from local suppliers and manufacturers, where possible.

3.21.9 Oils and Chemical Storage

All oils, fuels, paints and other chemicals will be stored in a secure, bunded, hardstand area. The retention capacity of any bulk oil storage tanks will at a minimum be 110% of the tank. For drum storage, a bund capacity of 25% of the maximum volume of material stored is required. Generators will have an integral double contained fuel storage tank. The refuelling and servicing of mobile plant and equipment will only be carried out in the Contractor's Compound. Spill clean-up equipment and materials will be provided and staff trained in their proper use.

3.21.10 Surface Water Management

As there are no surface water courses within or adjacent to the site, specific surface water management measures are not required.

3.21.11 Groundwater Management

The construction does not require dewatering. The oil and chemical storage and handling procedures (Section 3.21.9) are designed to minimise the risk to soil and groundwater from accidental spills.

3.21.12 Traffic Management

A Traffic Management Plan (TMP) will be prepared prior to the start of the construction stage and submitted to Fingal County Council for its approval. Traffic will include:

- Private vehicles use by construction site staff;
- Construction vehicles (excavators and dump trucks);

- Materials delivery vehicles, typically heavy goods vehicles (HGV).

3.21.13 Resource and Waste Management Plan

A Preliminary Resource and Waste Management Plan (RWP) has been prepared that describes the measures that will be implemented in the Design Stage and the Construction Stage to 'design out' waste, minimise the volumes of waste generated, ensure that the wastes that do arise are managed appropriately and maximise the recycling/recovery of those materials. A copy of the Preliminary RWMP is in Appendix 3.2.

3.21.14 Construction Environmental Management Plan

A Preliminary Construction Environmental Management Plan (CEMP) has been prepared that describes the prevention and mitigation measures that will be implemented in the Construction Stage to minimise the risk of adverse environmental impacts, nuisance and impairment of amenity value. A copy of the Preliminary CEMP is in Appendix 3.3.

3.21.15 Health and Safety

As required by the Safety, Health and Welfare at Work (Construction) Regulations 2013, the Main Contractor will prepare a Health and Safety Plan that addresses site specific health and safety issues from the start to the completion of the construction stages.

The Main Contractor will ensure that 'Site Induction' training is provided to all construction staff and ensure all site staff have current 'Safe Pass' cards. All construction staff will receive a full safety briefing and will be provided with all of the safety equipment required for their assigned tasks.

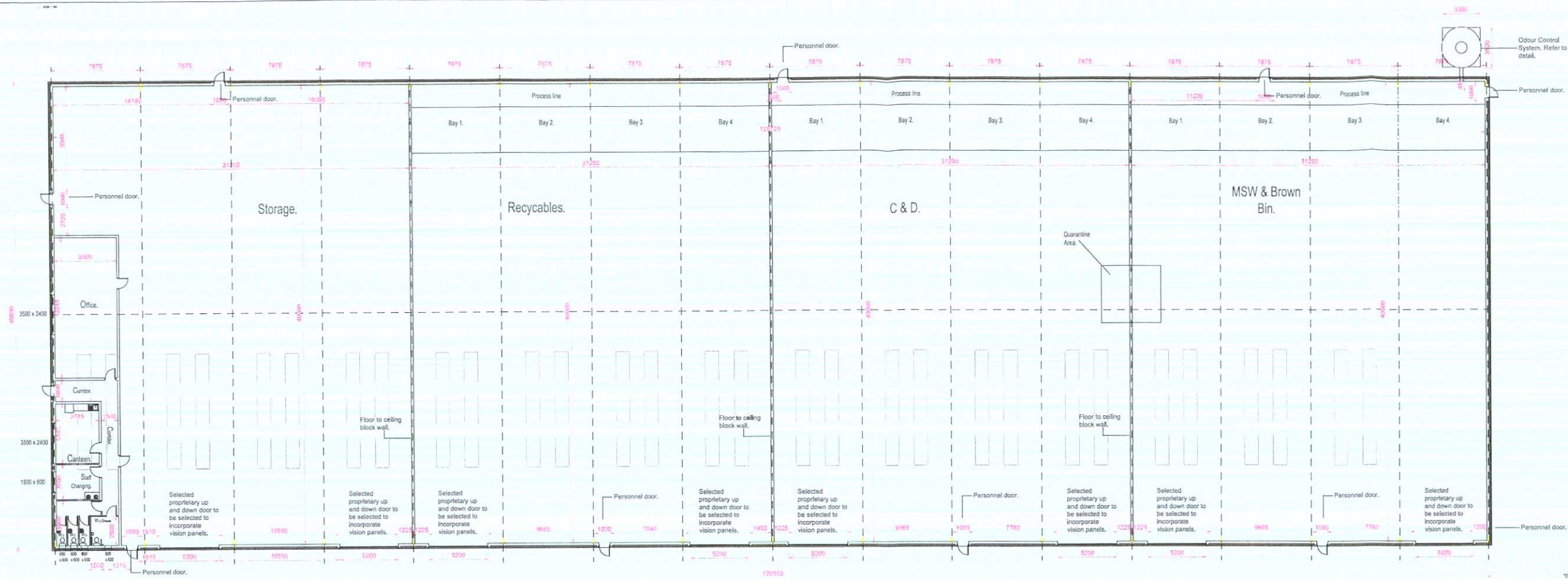
3.21.16 Site Security

The Main Contractor will be responsible for site security in the construction stage, including erecting and maintaining adequate fencing.

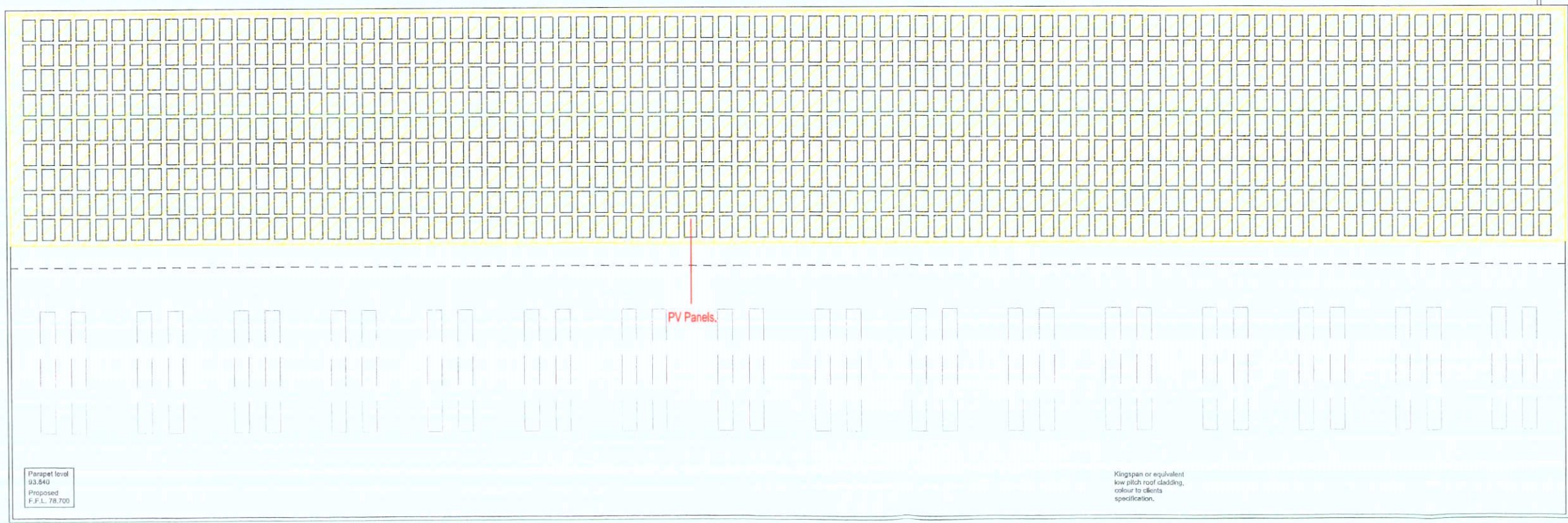
3.22 Cumulation

3.22.1 Cumulative Projects

The existing and permitted developments that were included in the cumulative assessment are Huntstown Quarry, which includes an inert soil recovery site; Huntstown Bioenergy anaerobic digestion plant; Huntstown Power Station, which is a Tier 2 Seveso Site; a proposed data centre to the north of the development area (FW21A/0151) and a proposed electrical substation (FW22A/0213) to the west.



Floor Plan. Floor Area:- 5032m².
Scale 1:200



Parapet level
93.840
Proposed
F.F.L. 78.700

Kingspan or equivalent
low pitch roof cladding,
colour to clients
specification.

NOTES:
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No. 3 High Street, Monaghan Town,
Co. Monaghan, H18 X635
Tel: 047-72175
Website: www.coylecs.ie
E-mail: info@coylecs.ie

Project: Phase 1 of the proposed 9.863 ha Huntstown Circular Economy Hub comprising Materials Recovery Facility, Food Container Cleaning Plant & Ancillaries at Huntstown Td / Coldwinters Td, Fingal, Co. Dublin.

Client: Rathdrinagh Land Unlimited Company, t/a Irish Recycling Limited.

Sheet Title: Materials Recovery Facility floor plan & roof plan.

Project No.: 22-039.	Date: 18-04-23.
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Rev: F.	Checked:

Materials Recovery & Transfer Facility Roof Plan.
Scale 1:200

4. ALTERNATIVES

4.1 Introduction

This Chapter describes the reasonable alternatives to the proposed development that were considered, including location, layout, design, technologies and mitigation measures. It also describes the 'Do Nothing Scenario'

4.2 Location

Waste management is deemed to be an industrial activity. The Waste Management Plan for Eastern-Midlands Region (2016 -2021) does not identify specific locations for future waste activities, but does state that the proper siting of these activities, including expansion of existing facilities, is the most appropriate method of the planning hierarchy to address the potential for impact on the environment.

In the absence of national guidelines on the siting of waste management facilities IRL conducted a scoping study of potentially suitable locations in the Greater Dublin Area. The key site selection criteria were:-

- Appropriate land zoning (industrial/general employment);
- Environmental sensitivity;
- A single landholding large enough (8 to 10 ha) to allow the progressive development of recycling and recovery capacity on one campus, and
- Proximity and accessibility to sources of the wastes arising, existing recycling and recovery facilities and to food retail outlets.

IRL conducted a review of all industrial and general employment zoned lands, taking into consideration the other key site selection criteria. The review identified the proposed development site as the most suitable location for the Circular Economy Hub.

The Fingal County Development Plan permits the development of waste disposal and recovery facilities in areas zoned for General Employment (GE) and Heavy Industry (HI). In the GE zoning waste disposal and recovery (excluding high impact) is a permitted use, whereas in the HI zoning waste disposal and recovery (high impact) is permitted.

The Development Plan does not define 'high impact', but the land use objective for HI zoning is to facilitate opportunities for industrial uses, activities and processes, which may give rise to land use conflict if located within other zones. Such uses, activities and processes would be likely to produce adverse impacts, for example by way of noise, dust or visual impacts. In this context, areas zoned for HI are deemed to have a low environmental sensitivity.

The site is accessed by the North Road and is adjacent to the N2 and M50. The national road connections to the M50 provide ready access to the sources of waste generation in the Greater Dublin Area and to the retail outlets that will be the sources of the food containers.

The M50 provides access to Dublin Port for the export of recyclables/ recoverables pending the expansion of national capacity and the M50 / M7 connection provides access to the permitted plastics recycling plant in Portlaoise.

The North Road provides access to the Huntstown Bioenergy Plant which operates under an EPA licence that authorises the anaerobic digestion of up to 90,000 tonnes of 'brown bin' waste and organic fines.

While the amount of non recoverables/recyclables generated at the MRF will be small (ca 2% of the annual waste intake) the only management option for these materials is landfill. The N2 provides access to the Knockharley Landfill in County Meath and the M 11/N11 provide access to the Ballynagran Landfill in County Wicklow.

4.3 Alternative Site Layouts

The evaluation of alternative site layouts was determined by a combination of the site's physical constraints and relevant policy and guidance documents. The constraints were evaluated by the Design Team and the appropriate avoidance, prevention and mitigation measures were incorporated into the design.

The physical constraints are defined by:

- The site topography, ground conditions, biodiversity and access;
- Existing Uisce Eireann permanent and temporary wayleaves through the site for the Greater Dublin Orbital Sewer route;
- Future Eirgrid wayleaves through the site for underground lines, and

The design had regard to the following policy and guidance documents:

- Fingal County Development Plan 2023 -2029;
- Department of the Environment, Community and Local Government's Urban Design Manual (May 2009) (DMURS).

4.3.1 Iteration 1

This was a 'first pass' of Phase 1, including site access and the implications of the constraints that could be imposed by the rerouting of the overhead power lines. The proposed redline boundary was confined to Phase 1.

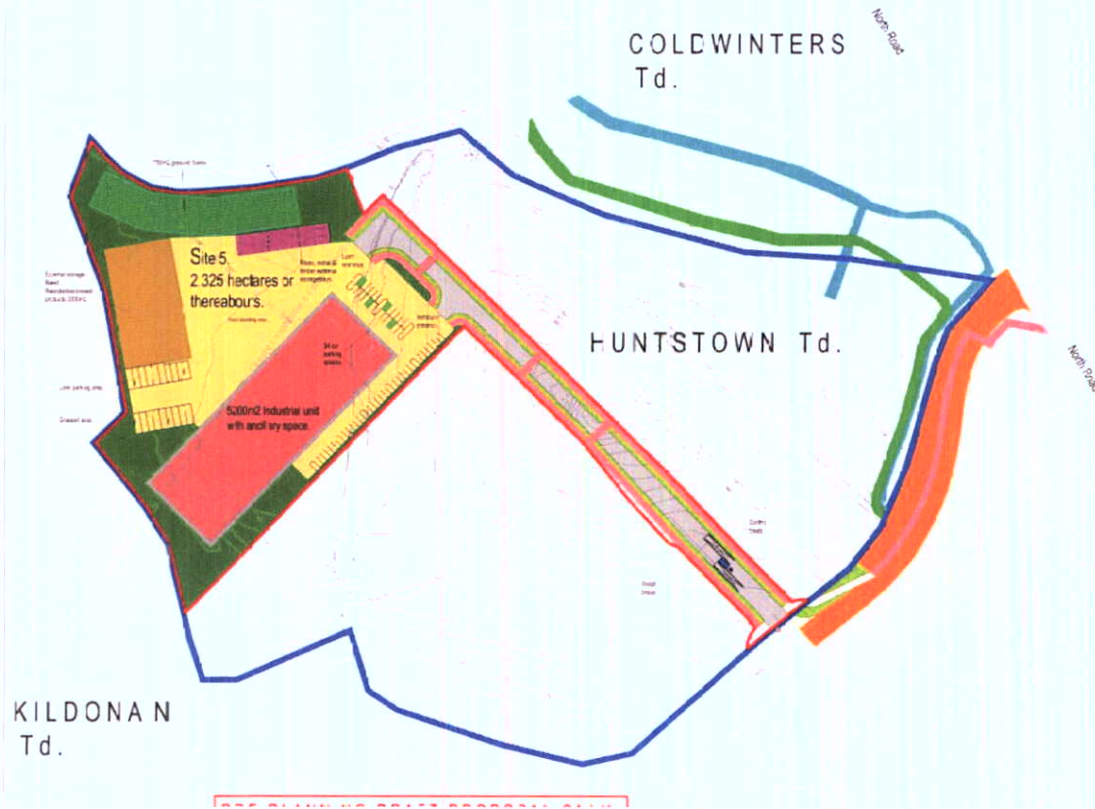


Figure 4.1 Iteration 1

4.3.2 Iteration 2

Iteration No. 2 was an initial pass at possible future phases and encompassed the entire landholding and assessed car parking, cycle paths and internal access and the potential routes of the underground power lines.



Figure 4.2 Iteration 2

4.3.3 Iteration 3

Iteration 3 assessed the intensification of land use across the entire site.

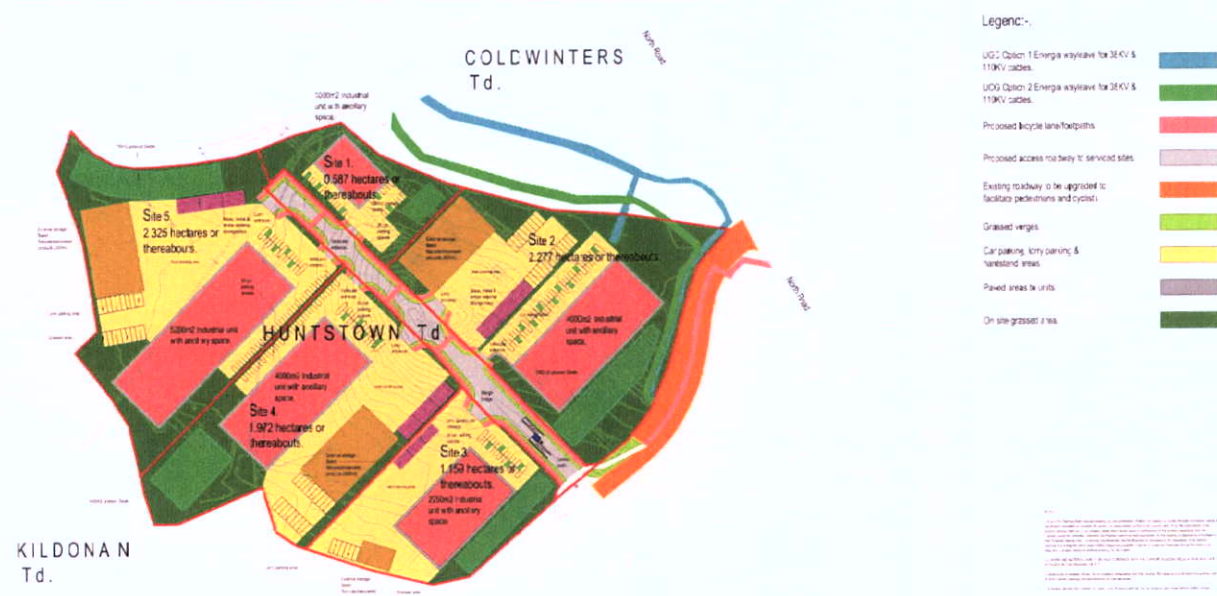
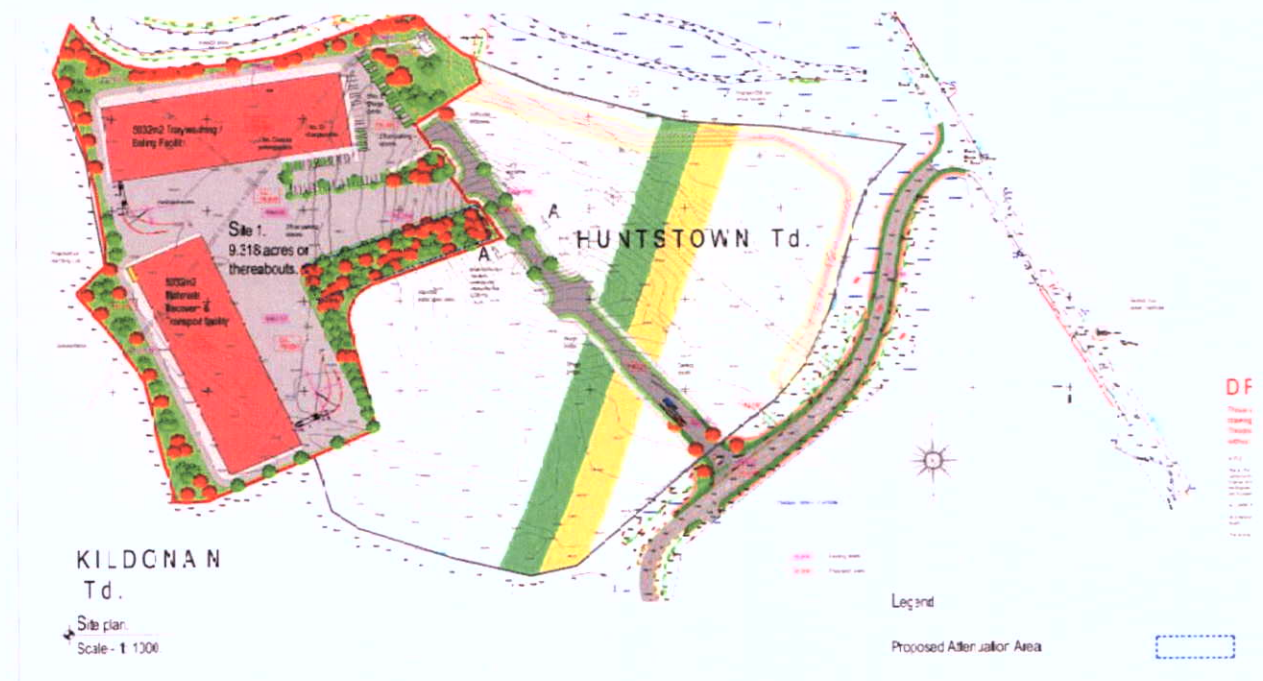


Figure 4.3 Iteration 3

4.3.4 Iteration 4

Previous layouts were based on the storm water design objective of avoiding the use of underground attenuation systems in favour of above ground systems (swales); however the proximity to Dublin Airport and the flight path to Casement Aerodrome required consideration of aviation safety and the assessment of the bird strike hazard and the glint and glare potential in the landscaping and drainage provisions. On the advice of aviation consultants O'Dwyer Jones Partnership the drainage system design was changed to remove the swales and, as an alternative, use an underground attenuation system.



The area of Phase 1 was increased to accommodate changes to the design of the Food Container Building to facilitate safe access to the buildings and incorporate landscaping measures.

4.3.5 Iteration 5

Iteration 5 assessed how the revised Phase 1 fitted into the overall master plan

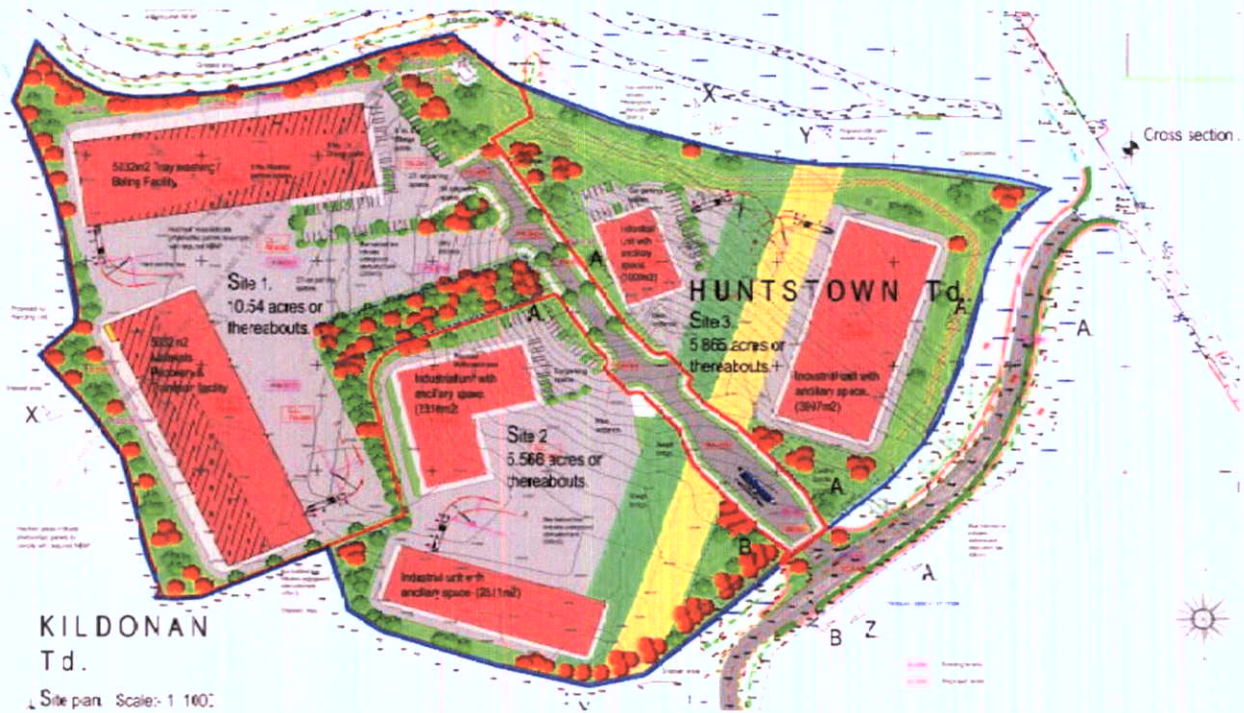


Figure 4.5 Iteration 5

4.3.6 Iteration 6 Final Layout

Iteration 6 is the Final Layout of Phase 1 and includes an extension of the redline boundary to include a section of the service road where alterations are required to facilitate the new vehicle entrance.



Figure 4.6 Iteration 6