

Appendix 3-7

Waste Management Plan

Crown Square Galway Construction Waste Management Plan



CONSTRUCTION WASTE MANAGEMENT PLAN

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Introduction: Construction and Demolition Waste

This document sets out the Waste Management Plan (WMP) for the construction phase associated with the Crown Square Project, Galway. It set out measures and off-site disposal for construction / demolition waste.

The WMP describes how Hazardous and Non-Hazardous Construction and Demolition Waste (C&DW) streams generated on the project will be segregated, collected, re-used / recycled / disposed of and recorded to ensure comprehensive Waste Management records are maintained by JJ Rhatigan & Company, to minimise the environmental impact of waste generated by on-site activities. The WMP will fully comply with all statutory requirements with respect to the disposal of waste.

Waste Management is carried out in accordance with regulatory requirements, the Company Environmental Management System (EMS) and Safety Management Systems. These are certified to the ISO 14001:2015 Environmental and Safe-T-Cert Safety Standards.

See appended:

1. *I.S EN ISO 14001:2015 Environmental Certification*
2. *Safe-T-Cert Certification and Letter*

General Information

Name of the Contractor:	JJ Rhatigan & Company
Name of Project Manager:	TBA
Address of Contractor:	Wolfe Tone House Father Griffin Road Galway
Name of Waste Management Coordinator:	TBA
Address of Development:	Crown Square Mervue Galway

Location of the Construction Site

The site is located at the former Crown Equipment site at Mervue with road frontage to the Monivea and Joyce Roads. The Crown factory has been demolished.

The Mervue and IDA Business Parks as well as the Eircom telecommunications centre are immediately adjacent.

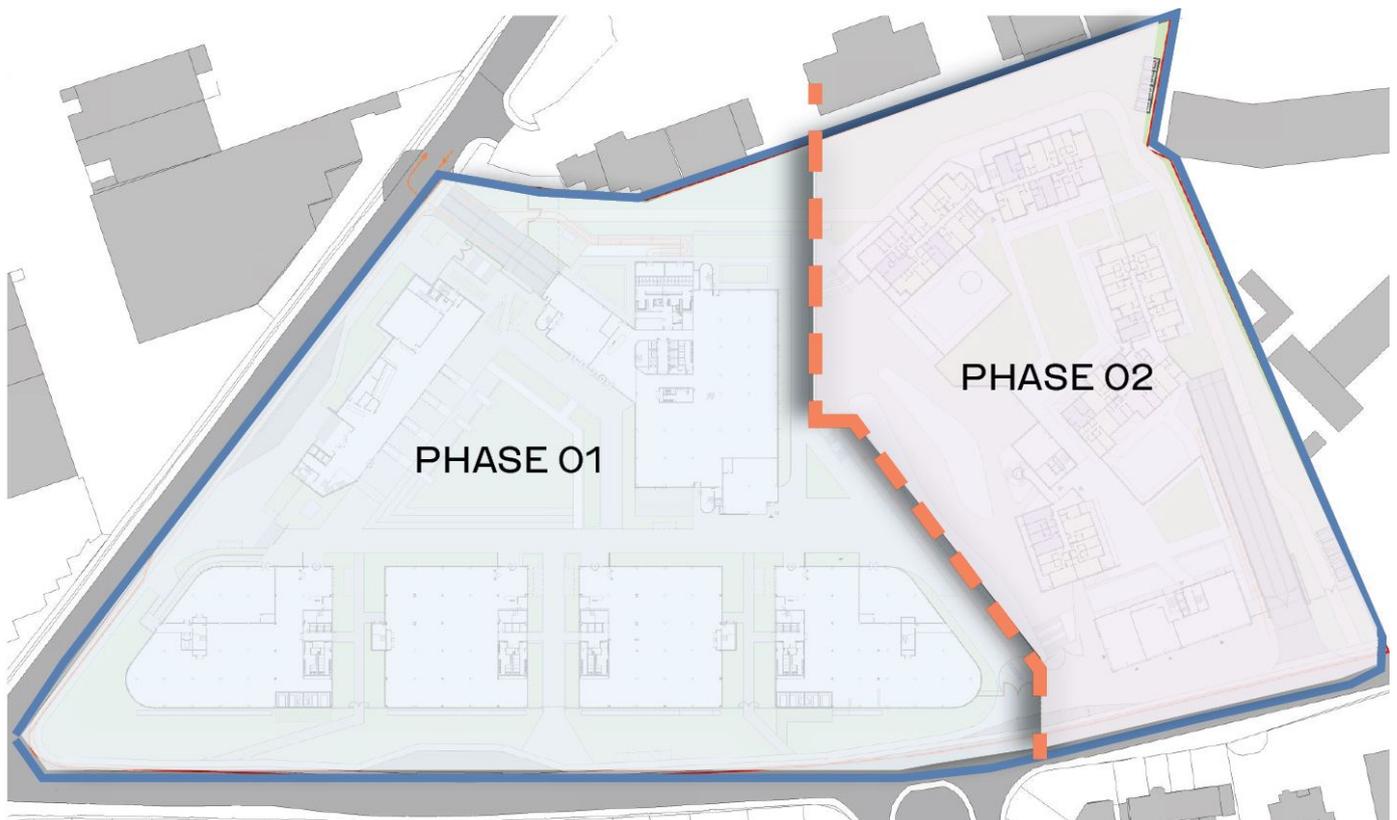
Crown Square, Galway —



Description of the Project

The development comprises commercial office, technology and hotel uses on an integrated campus with residential, leisure, local service and ancillary accommodation. Phase 1 will be to the west of the site along the Monivea and Joyce Roads and includes Basement, Commercial and infrastructure works. Phase 2 will front the eastern end of the Monivea Road frontage and extend to the northern site boundary over the Phase 1 Basement level completion. Phase 2 works encompasses Residential, Leisure and local service elements.

Phasing Diagram



Waste Management Hierarchy

JJ Rhatigan and Company have prepared this plan taking into consideration the “Waste Management Hierarchy (WMH)”. The WMH indicates an order of preference for action to reduce and manage waste. The hierarchy captures the progression of a material or product through successive stages of waste management, and represents the latter part of the life-cycle for each product.

The aim of the waste hierarchy is to extract the maximum practical benefits from products and to generate the minimum amount of waste. The proper application of the waste hierarchy can have many benefits. It can help prevent emissions of greenhouse gases, reduce pollutants, save energy, conserve resources, create jobs and stimulate the development of green technologies.



Waste Management Hierarchy



Preparation / Auditing of Waste Management Plan

The Waste Management Plan has been prepared in accordance with “Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects” published by the Department of the Environment, Heritage and Local Government.

JJ Rhatigan & Company Waste Management Plan will promote a coherent, integrated approach, whereby the management of construction and demolition waste is given due consideration throughout the duration of a project.

The effectiveness of the C&D Waste Management Plan and its implementation will be tracked through regular checks and audits carried out on site, which should focus on material inputs to the project and the waste outputs for each unit operation. Such internal auditing will be carried out by an appropriately trained and technically competent “C&D Waste Manager”.



Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects

Approval of Waste Management Plan

The Waste Management Plan will be submitted for approval and agreement with Galway City Council in advance of works commencing on site. The WMP Plan reflects the waste management hierarchy with waste prevention and minimisation being the first priority succeeded by reuse and recycling.

Waste Generated

All wastes generated on site will be categorised in accordance with the European Waste Catalogue (EWC) and the Hazardous Waste List (HWL). Each category is designated as either Hazardous or Non-Hazardous in the EWC publication.

Waste Type (EWC Code)	Waste Type Description	Permitted Waste Collectors	Permitted/ Licensed Facility
17 01 01	Concrete	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 01 02	Bricks	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 01 03	Tiles & Ceramics	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 01 07	Mixture of concrete, bricks and tiles	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 02 01	Wood	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 02 02	Glass	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 02 03	Plastic	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 03 02	Bituminous mixtures	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 04 01	Copper, bronze, brass	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 04 02	Aluminium	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 04 03	Lead	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 04 05	Iron & Steel	Barna Recycling	Barna Waste. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 04 06	Tin	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 06 07	Mixed metals	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 05 03	Soil & stones containing dangerous substances	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway
17 05 04	Soil and Stones other than 17 05 03	Permitted Site – Recycled	*TBA after Ground Works Contractors are appointed
	Domestic / Food Waste	Barna Recycling	Barna Recycling. (E.P.A. Licenced Facility) Carrowbrowne Headford Rd. Co. Galway

Waste Types & EWC Codes

Licensed / Permitted Waste Haulage Contractor

JJ Rhatigan & Company propose to appoint Barna Recycling (or similar approved) as Waste Haulage Contractor for the Crown Square project. Barna Recycling is committed to providing the highest standards in the provision of waste management services. They are committed to providing a service that seeks to incentivise waste prevention and to encourage the segregation of waste so that it can be managed in accordance with the waste hierarchy, whereby waste prevention, preparing for reuse, recycling, and other recovery are preferred over the disposal of waste. (See *Waste Collection Permit below*).



NWCPD
National Waste Collection Permit Office

Offaly County Council
Ards an Chaisle
Chetwinde Road
Tullamore
Co. Offaly
Telephone: 087 935423
Email: contactus@nwcpd.ie

WASTE COLLECTION PERMIT

Waste Management (Collection Permit) Regulations, 2007 as amended

Offaly County Council as the National Waste Collection Permit Office being a nominated authority under Section 34(1)(aa) of the Waste Management Act 1996, has granted a waste collection permit to:

Applicant Name: Bruscar Bhearna Teo (herein called the permit holder)

Trading As: Barna Recycling

Permit Number: NWCPD-08-03604-06

Trading Address: Carrowbrowne Headford Rd Co. Galway

Registered Company Address: Carrowbrowne Headford Rd Co. Galway

Contact Phone Number: 091771619

Valid From: 13/09/17

Valid to and Expires on March 18, 2019

This permit, issued to the aforementioned permit holder, is subject to the attached schedule of conditions and authorises this permit holder to:

- Only collect the waste type(s) specified in Appendix A (List of Waste six digit codes)
- Only transfer waste to the facilities specified in Appendix B
- Only use vehicle(s) specified in Appendix C, and for household kerbside waste collection, only use vehicles listed Appendix C Table 2
- Only collect waste within the local authority areas specified in Appendix D

Any non-compliance with the conditions of this permit is an offence under the Waste Management (Collection Permit) Regulations, 2007 as amended and Section 34(1) of the Waste Management Act 1996.

Signed:  Date: 13/09/17
Programme Manager

Waste Collection Permit Number: NWCPD-08-03604-06 Page: 1 of 19
Version number: 4.3

Please note: Appendices are subject to change.

Waste Management Coordinator

JJ Rhatigan & Company will nominate a Waste Management Coordinator for the Crown Square project who will ensure compliance with the approved Waste Management Plan for the project. The Waste Management Coordinator will be assigned the authority to instruct all site personnel to comply with the specific provisions of WMP. He/she will coordinate with the Company Environmental Manager to ensure ongoing compliance.

At an operational level, the Senior Project Manager, Senior Engineer, Site Foremen and Foremen from each subcontractor on the site will be assigned the direct responsibility to ensure that the operations stated in this plan are complied with on an on-going basis.

Waste Targets for the Crown Square Project

JJ Rhatigan and Company have set the following exemplary target on the Crown Square project:

- Target - 92% of the Waste Generated on Site to be recycled.

Proposals for Minimisation / Reuse / Recycling

Construction will be planned to identify and implement ways to prevent, reduce, reuse and recycle waste, with a preference given to prevention, reusing and recycling of waste. The following hierarchy will be used, in order of preference, for management of all excavated materials and demolition and construction waste.

1. Prevention of potential waste generation.
2. Minimisation / reduction of potential waste generation.
3. Reuse and/or recycle materials within the site.
4. Find a beneficial reuse for the materials on another site subject to approval.
5. Transport off site for recycling.
6. Transport off site for recovery.
7. Transport off site for disposal.



Implementation Protocols and Parties Responsible

ID	Activity	Responsibility
1.1	Skips delivered to site/collected from site. A numbered docket accompanies the skip. The docket contains the date of collection/delivery, and the truck registration number.	Project Manager
1.2	Skips located at designated waste generation points on site. For large volume C&D waste streams, specific locations will be identified.	Project Manager
1.3	All site personnel / subcontractors etc are responsible for correct filling of skips.	Project Manager Waste Management Coordinator
1.4	Encourage employees through appropriate environmental awareness training sessions, to; <ul style="list-style-type: none"> • Reduce waste by, for example, properly storing and handling of construction materials. • Reuse materials, for example, boarding and fencing can be reused many times before they need to be thrown away. • Save and reuse materials such as paints, thinners, either on-site or at another location. 	Project Manager
1.5	Any hazardous waste streams will be disposed of at the earliest opportunity by a permitted Hazardous Waste Contractor to avoid possible contamination of other C&DW streams.	Project Manager
1.6	The Waste Management Coordinator notifies appropriate approved Waste Disposal Contractors for Waste Disposal when collection is due.	Waste Management Coordinator
1.7	The skip is then transported to the Licenced Waste Facility and weighed. The weight record is recorded on the weighbridge operating system, showing the time of weighing, the quantity of waste and the truck registration number.	Waste Collector
1.8	The Waste Disposal Contractors will provide a report on a monthly basis, showing the total quantity of waste collected from site, the quantities of the different materials recovered for recycling and the quantity of material either sent for landfill or for use as Refuse Derived Fuel. This report will also include the number of the service docket for skips which can be cross referenced with the weighbridge report.	Waste Disposal Contractor Project Manager
1.9	The Project Manager / Waste Management Coordinator will ensure that all Waste Disposal Contractors used by JJ Rhatigan & Company have the appropriate waste disposal permit/licence to collect and transport waste in accordance with Waste Management Regulations.	Project Manager Waste Management Coordinator
2.0	Waste Statistics Reports will be provided for all skips showing date of collection, skip size, waste type, weight, docket number and tonnage details. A pie chart will be provided for each skip showing the percentage of different waste grades and the breakdown of Waste v Recycling. A final Cumulative Waste Statistics Report will be presented in excel format over a number of sheets showing cumulative analysis of each skip and an overall pie-chart depicting the percentage recycling rate for each waste stream. The percentage of non-recyclable waste sent to landfill together with the tonnage will also be shown. <i>See EQS-19 (11) Rev 1 Skip Details overleaf</i>	Company Environmental Manager

EQS-19 (11) Rev 1 Skip Details

Waste Disposal Management - To be completed on site upon removal of skip
*Please note alternative sheet required for metal filled skips



Please affix relevant docket here

Site Name	Date	Docket No.

Skip Content (Please tick & write %)

- Rubble _____ %
- Concrete/ Bricks/ Tiles _____ %
- Timber _____ %
- Plasterboard _____ %
- Insulation _____ %
- Plastic _____ %
- Cardboard/ Paper _____ %
- Other materials _____ %
- _____ %
- _____ %

Subcontractor(s) Name _____

NOTE: Please ensure that the skip is full and compacted

Relevant construction debris and materials diverted from landfill

Target Materials	Steps Taken to Prevent / Minimise / Reuse / Reduce / Recycle / Recover
Final Excavation (Bulk Dig Complete)	Permitted Site - Recycled
Masonry	Offsite Waste recovery
Concrete	Offsite Waste recovery
Steel	Fully recycled off site
Timber	Fully recycled at Licensed Waste Recovery Facility
Hazardous Waste for example Asbestos	Removed to Licensed Hazardous Waste Facility by Licensed Hazardous Waste Contractor.
Packaging	Collected & Recycled off site

Waste Storage & Segregation Area

Waste generated on site will need to be stored prior to removal by appointed Waste Haulage Contractor. For the Crown Square project JJ Rhatigan & Company propose the following measures:

- Cardboard/paper will to be stored separately in a dry location.
- Re-fuelling small plant will be carried out in a designated containment store with drip tray protection. Containment store will have appropriate signage directing operatives to this area.
- All other waste will be stored in skips.

Fuel products will be stored in a bunded tanks which has a bunded capacity of 110% of the maximum fuel storage allowable. Tanks will be stored at a height at an agreed suitable location on site. Typified by 'tank within a tank' construction, the bunded fuel tank is engineered for the safe, secure and responsible storage of diesel / oil. The inner tank is the primary fuel storage container, whilst the outer tank acts as a holding tank in the event of a spill.

The tank location and condition will be inspected on a daily basis to ensure it is fit for use. Drip Trays will be used on site whilst re-fuelling plant. Re-fuelling signage will be erected directing operatives to the containment areas. Refuelling of small plant will be carried out in designated areas with drip tray protection. Containment Areas will have appropriate signage directing operatives to this area.

Bunded EcoSafe Oil Tank

Waste Transport

Any waste removed from the site will only be transported by a Company who holds a valid Waste Collection Permit to transport such material. A copy of the Company Waste Permit will be kept on site. Any person transporting waste should have a copy of their Waste Collection Permit on the vehicle at all times. The Project Manager / Waste Management Coordinator will carry out spot checks on Waste Transport Vehicles and keep records of same.

Records

The Project Manager will retain current copies of all Waste Disposal Contractor Licences / Permits on site for inspection. Skip Dockets will be issued to Head Office at the start of each week for the previous weeks collection. Likewise, consignment and disposal note for any hazardous waste will be returned on a weekly basis. Following completion of the project all waste records will be archived in the Crown Square Project job file at Head Office.

Implementation of Best Practise

JJ Rhatigan & Company in developing this Site Waste Management Plan and managing the construction phase will implement the best practice approaches which will include the following:

1. Designing out waste;
2. Simplifying material components;
3. Using recycled content in construction;
4. Designing for deconstruction; and
5. Designing for flexibility and adaptability

JJ Rhatigan & Company aim is to minimise any adverse impacts that construction has on the environment. This will be implemented through the design process, materials selection, construction techniques, and operational methods. All Subcontractors, Specialists and Suppliers appointed to work on our behalf will be required to work in accordance with these principles. The waste to landfill objective is to reduce waste and use materials efficiently.

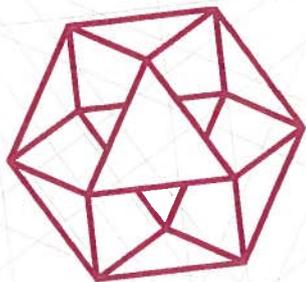
JJ Rhatigan & Company work to the following principles:

1. Forecast likely waste streams.
2. Reduce materials wasted in the Crown Square project.
3. Reduce the proportion of waste that is sent to landfill, our target is less than 8% of the waste generated on site will be sent to landfill.
4. Increase the use of recovered materials and materials with above average levels of recycled content.

Waste Data Monitoring and Reporting from Waste Management and Specialist Subcontractors - Traceability and Support Documentation:

The following records will be maintained:

1. Site traceability photographs of mixed waste skips / segregated skips and collection lorry registration with date record.
2. Collection Docket on removal from site with traceability records.
3. Breakdown of recycled waste referenced to collection docket.
4. Full breakdown and support documentation for recycled content with proof.
5. Records of any waste sent to landfill.
6. Diversion from landfill includes salvage of materials on-site, reuse of materials off-site, recycling of materials at a materials recovery facility and may also include donation of materials to charitable organisations that will reuse the material.
7. Overall tonnage of construction waste generated, overall tonnage of construction waste diverted from landfill, total percentage of construction waste diverted from landfill (%).
8. Waste Statistics Report for each Skip showing recycling percentage achieved.
9. Cumulative Waste Statistics Report showing overall recycling percentage achieved on the Crown Square Project.



NSAI

Certificate of Registration of Environmental Management System to I.S. EN ISO 14001:2015

J.J. Rhatigan & Company

Wolf Tone House
Fr. Griffith Road
Galway

NSAI certifies that the aforementioned company has been assessed and deemed to comply with the provisions of the standard referred to above in respect of:-

General Building Contracting.

Approved by:
Fergal O'Byrne
Head – Business Excellence, NSAI



Registration Number: 14.0614
Original Registration: 17 August 2011
Last amended on: 28 February 2018
Valid from: 28 February 2018
Remains valid to: 16 August 2020

This certificate remains valid on condition that the Approved Environmental Management System is maintained in an adequate and efficacious manner. NSAI is a partner of IQNet – the international certification network (www.iqnet-certification.com)



All valid certifications are listed on NSAI's website – www.nsa.ie. The continued validity of this certificate may be verified under "Certified Company Search"



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THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

NSAI has issued an IQNet recognised certificate that the organisation:

J.J. Rhatigan & Company
Wolf Tone House
Fr. Griffith Road
Galway

has implemented and maintains a

Environmental Management System

for the following scope:

General Building Contracting

which fulfils the requirements of the following standard:

I.S. EN ISO 14001:2015

Issued on: 28 February 2018
First issued on: 17 August 2011
Expires on: 16 August 2020

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document

Registration Number: IE-14.0614



Alex Stoichitoiu
President of IQNet

Fergal O'Byrne
Head - Business Excellence, NSAI



IQNet Partners*:

AENOR Spain AFNOR Certification France APCER Portugal CCC Cyprus CISQ Italy CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany FCAV Brazil FONDONORMA Venezuela ICONTEC Colombia Inspecta Sertifiointi Oy Finland INTECO Costa Rica IRAM Argentina JQA Japan KFQ Korea MIRTEC Greece MSZT Hungary Nemko AS Norway NSAI Ireland NYCE-SIGE México PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia
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* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com



SAFE|CERT

Certificate of Achievement

Valid for 36 months from: 24th/25th May 2016

This is to certify that;

JJ Rhatigan & Company

Safe-T-Cert No: STC – 630803

is operating a Health and Safety Management System in accordance with the requirements of the Safe-T-Cert system and is hereby registered under the Scheme in respect of the following activities:

Building & Civil Engineering Contracting



Safe-T-Cert - Scheme Manager



IOSH - Chief Executive

CEF CONSTRUCTION
EMPLOYERS
FEDERATION



SSIP SAFETY
SCHEMES IN
PROCUREMENT



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Your ref: STC- 630803
Our ref: DC/NC

04 June 2018

Dear Mr Rhatigan

I would like to take this opportunity to congratulate you and your company for the outstanding results from your last Safe-T-Cert audit.

This is a great achievement and you should be rightly proud of it, the scheme and the auditing standard are of the highest order, which adds even greater credibility to this result.

Your challenge for the future is to maintain and build on this standard and to strive for ways to improve the way you manage your health and safety risk, but your excellent progress in the Safe-T-Cert scheme gives me confidence that you can do it..... best wishes for the future.

Yours sincerely

Bev Messinger
Chief Executive

IOSH Services Limited is a wholly owned subsidiary of the Institution of Occupational Safety and Health (IOSH). Registered in England and Wales (1816826). Registered office: as above.

IOSH
Founded 1945
Incorporated by Royal Charter 2003
Registered charity 1096790
Recognised by the ILO as an international NGO



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