

OPERATING TECHNIQUES

For



SIMS
METAL
MANAGEMENT

Metal Recycling Facility

At

Northside,
South Dock,
Alexandra Dock,
Newport
NP20 2WE

EPR/CP3795FY (EAWML 30312)

Permit Holder:

Sims Group UK Limited
Long Marston
Stratford-upon-Avon
Warwickshire
CV37 8AQ

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Authorised by	Anthony Hiles	Issue date	April 2019

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1. GENERAL INTRODUCTION

1.1 Sims Group UK Limited currently operates EAWML 30312 (EPR/CP3795FY) at Northside, South Dock, Alexandra Dock, Newport.

1.2 The site receives, processes and recovers ferrous and non ferrous metals from scrap and acts primarily as a source of ferrous feedstock for the steel manufacturing industry.

1.3 A Fragmentiser is installed at the facility which produces fragmented steel and a number of other products. The shredder is currently mothballed. NRW will be informed should the shredding operation recommence in future. Materials will continue to be stored and may be treated with the aid of mechanical plant within the shredder area of the facility.

1.4 The site is leased from Associated British Ports and comprises of an area of approximately 12.43 hectares. Access is via the site gates and these are locked at all times when the site is non-operational. Visitors may only gain access if escorted or with specific permission.

1.5 The site undertakes a range of waste management activities including;

- Storage and treatment of ferrous and non ferrous metals;
- Storage and treatment of general mixed scrap metal;
- Storage and depollution of End of Life Vehicles;
- Storage of Waste Electrical and Electronic Equipment (WEEE);
- Storage of refrigeration equipment;
- Storage of batteries;
- Storage of tyres.

1.6 Relevant Regulations, Technical Guidance Notes and other documentation

In accordance with the Environmental Permitting (England and Wales) Regulations, operators are required to confirm whether their proposed operation will take place in line with standards set by any relevant Environment Agency Sector Guidance Note and legislation. Where the proposed operations will deviate from the relevant Guidance Note or where there is no guidance for the operation, the permit supporting information must include:

1. Description of the operation that will take place at the site
2. Justification of the measures that will be used to control emissions from the processes.

There is no specific Sector or Technical Guidance Note for all of the operations at Newport. However a number of documents are relevant to the operations and Sims operates in accordance with these:

- Guidance on the Best Available Treatment Recovery and Recycling Techniques (BATRRT) and treatment of Waste Electrical and Electronic Equipment Directive, DEFRA

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- Environmental Permitting Guidance Waste Electrical and Electronic Equipment Directive, DEFRA
- Environmental Permitting Guidance, the Waste Framework Directive, DEFRA
- Sector Guidance Note EPR5.06: Guidance on the recovery and Disposal of Hazardous and Non-hazardous Waste, Environment Agency

Relevant legislation covering the activities on site is as follows:

- Waste Framework Directive
- WEEE Directive
- Hazardous Waste Directive
- ELV Directive

The facility is a 'Newly Prescribed Activity' that was in operation on 7th January 2013. The facility may undertake the recovery of non hazardous waste with a capacity exceeding 75 tonnes per day involving the treatment via shredding of metal waste.

Section 5.4 A (1) b) (iv) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving the treatment in shredders of metal waste, including waste electrical and electronic equipment and end - of - life vehicles and their components.

The site also has the capacity to store more than 50 tonnes of hazardous waste at any one time.

Section 5.6 A (1) (a) Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any of the activities listed in Sections 5.1, 5.2, 5.3 and paragraph (b) of this Section, except-

- (i) temporary storage, pending collection, on the site where the waste is generated, or*
(ii) activities falling within Section 5.2

This 'Operating Techniques' document supersedes all previous Working Plans and Operating Techniques associated with EAWML 30312.

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2. SPECIFIED WASTE MANAGEMENT OPERATIONS

2.1 Description of the Site

The site occupies an approximate area of some 12.43 hectares, the location of the site, its boundaries and surrounding features of which are highlighted in Appendix 1.

The site is located at dockside. It is located in an essentially industrial area remote from residential developments with the nearest being 1.2 km away.

2.2 Operations

The principle activities at the site are processing of ferrous and non ferrous metal scrap for supply as feedstock to the steel making industry in the UK and abroad.

The facility is designed for the specialist recovery of ferrous metals; these may be light or heavy off-cut from manufacturing, obsolete machinery or other equipment from industry, bulky metal-based discards from commercial sector or scrap vehicles and white goods etc from scrap suppliers or members of the public.

WEEE wastes will be managed in accordance with the WEEE Directive and relevant legislative requirements.

Tyres will be accepted on site for storage prior to removal for processing at a suitably authorised facility.

Batteries will be accepted on site for storage prior to removal for processing at a suitably authorised facility. Lead acid batteries shall be stored in battery boxes or undercover, shrink-wrapped on pallets and drip trays.

Extent of the Shredder Installation (currently non operational) (Section 5.4 A (1) b) (iv)

STU – Shredder:

Annex II (R codes) – R3: Recycling/reclamation of organic substances which are not used as solvents

R4: Recycling/reclamation of metals and metal compounds

R5: Recycling/reclamation of other inorganic compounds

DAA:

Downstream Separation - Further separation of fragmentised waste following shredding:

Annex II (R codes) - R3: Recycling/reclamation of organic substances which are not used as solvents

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R4: Recycling/reclamation of metals and metal compounds

R5: Recycling/reclamation of other inorganic compounds

Shredder infeed storage and immediate output:

Annex II (R codes):

R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)

2.3 Other Waste Activities Remaining Under the Permit

Other permitted treatment activities include the manual sorting of scrap, separation, grading, shearing, screening, shredding, baling, compacting, crushing and hot cutting and treatment of WEEE. These activities may be carried out with the aid of mechanical plant.

The site is an Authorised Treatment Facility (ATF) for the depollution of End of Life Vehicles. End of Life Vehicles will be depolluted in accordance with ELV Regulations and applicable legislation. Relevant site operatives are trained in Sims internal Safe Working Procedures for the depollution of ELVs.

No wastes are disposed of at the site.

Classification of the Waste Management Operations – Waste Directive Codes:

Annex II (R codes):

R3: Recycling/reclamation of organic substances which are not used as solvents

R4: Recycling/reclamation of metals and metal compounds

R5: Recycling/reclamation of other inorganic compounds

R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)

2.4 Locations of the Waste Management Operations

Sims Plans NWP 0305 & NWP 0303 show the entire area of the site and detail key features of the facility including infrastructure and drainage and storage locations.

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Due to the constantly changing operational and commercial pressures of the metal industry, a degree of flexibility with regard to the storage locations is required. Depending of operational demands at any one time, it may be necessary to relocate specified activities within the overall licensed area. However, in the event of such demand, the overriding principle will always be that the operation will be carried out in such a manner to prevent any harm or risk to the environment.

2.5 Permitted Waste Types

<u>Shredding STU & Infeed Storage DAA</u>	
Material	EWC code
Waste Metal from Agriculture	02 01 10
Ferrous metal filings and turnings	12 01 01
Ferrous metal dusts and particles	12 01 02
Non- Ferrous metal filings and turnings	12 01 03
Non ferrous metal dusts and particles	12 01 04
Metallic Packaging	15 01 04
Mixed Packaging	15 01 06
End of Life Vehicles (depolluted)	16 01 06
Ferrous metal from ELV	16 01 17
Non-ferrous metal from ELV	16 01 18
Hazardous components from ELV	16 01 21*
Non Hazardous components from ELV	16 01 22
Non Hazardous WEEE	16 02 14
Non Hazardous components removed from WEEE	16 02 16
Copper, Bronze, Brass from construction and demolition waste	17 04 01
Aluminium from construction and demolition	17 04 02
Lead from construction and demolition	17 04 03
Zinc from C&D wastes	17 04 04
Iron & Steel from construction and demolition	17 04 05
Tin from construction and demolition	17 04 06
Mixed metal from construction and demolition	17 04 07
Cables	17 04 11
Insulation materials other than those mentioned in 17 06 01 and 17 06 03	17 06 04
Ferrous metal from bottom ash	19 01 02
Iron & Steel from Shredding	19 10 01
Non-ferrous from Shredding	19 10 02
Ferrous metal from other waste facilities (mechanical treatment)	19 12 02
Non-ferrous metal from other waste facilities (mechanical treatment)	19 12 03
Non Hazardous WEEE – household/ local authority	20 01 36
Plastics	20 01 39
Metals – household/ local authority	20 01 40

<u>Output Storage DAA</u>	
Iron & Steel from Shredding	19 10 01
Non-ferrous from Shredding	19 10 02
Fluff-light fraction and dust other than those mentioned in 19 10 03	19 10 04
Other fractions other than those mentioned in 19 10 05	19 10 06

Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	19 12 12
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Non DAA / STU Waste Activities	
Material	EWC code
Waste Metal from Agriculture	02 01 10
Waste from paint or varnish removal	08 01 17*
Waste from paint or varnish removal other than those mentioned in 08 01 17	08 01 18
Single-use cameras containing hazardous batteries	09 01 11*
Single-use cameras containing batteries other than those mentioned in 09 01 11	09 01 12
Waste glass in small particles and glass powder containing heavy metals	10 11 11*
Ferrous metal filings and turnings	12 01 01
Ferrous dusts and particles	12 01 02
Non- Ferrous metal filings and turnings	12 01 03
Non – Ferrous dusts and particles	12 01 04
Paper and cardboard packaging	15 01 01
Plastic packaging	15 01 02
Wooden packaging	15 01 03
Metallic Packaging	15 01 04
Mixed Packaging	15 01 06
Glass packaging	15 01 07
Textile packaging	15 01 09
Tyres	16 01 03
End of Life Vehicles (polluted)	16 01 04*
End of Life Vehicles (depolluted)	16 01 06
Ferrous metal from ELV	16 01 17
Non-ferrous metal from ELV	16 01 18
Catalytic Converters	16 01 21*
Non Hazardous components from ELV	16 01 22
Transformers and capacitors containing PCBs	16 02 09*
Discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09	16 02 10*
Discarded equipment containing chlorofluorocarbons, HCFC, HFC	16 02 11*
Discarded equipment containing free asbestos	16 02 12*
Discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12	16 02 13*
Non Hazardous WEEE	16 02 14
Hazardous components removed from discarded equipment	16 02 15*
Non Hazardous components removed from WEEE	16 02 16
Lead batteries	16 06 01*
Ni-Cd batteries	16 06 02*
Mercury containing batteries	16 06 03*
Alkaline batteries	16 06 04
Other batteries and accumulators	16 06 05
Separately containing electrolyte	16 06 06*
Copper, Bronze, Brass from construction and demolition waste	17 04 01
Aluminium from construction and demolition	17 04 02
Lead from construction and demolition	17 04 03

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Zinc from C&D wastes	17 04 04
Iron & Steel from construction and demolition	17 04 05
Tin from construction and demolition	17 04 06
Mixed metal from construction and demolition	17 04 07
Metal waste from C&D contaminated with dangerous substances	17 04 09*
Cables containing oil, coal tar and other dangerous substances	17 04 10*
Cables	17 04 11
Other insulation materials consisting of or containing dangerous substances	17 06 03*
Insulation materials other than those mentioned in 17 06 01 and 17 06 03	17 06 04
Ferrous metal from bottom ash	19 01 02
Iron & Steel from Shredding	19 10 01
Non-ferrous from Shredding	19 10 02
Fluff-light fraction and dust other than those mentioned in 19 10 03	19 10 04
Other fractions containing dangerous substances	19 10 05*
Other fractions other than those mentioned in 19 10 05	19 10 06
Paper and cardboard from the mechanical treatment of waste	19 12 01
Ferrous metal from other waste facilities (mechanical treatment)	19 12 02
Non-ferrous metal from other waste facilities (mechanical treatment)	19 12 03
Plastic & rubber from the mechanical treatment of waste	19 12 04
Glass from the mechanical treatment of waste	19 12 05
Other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances	19 12 11*
Fluorescent tubes and other mercury-containing waste	20 01 21*
Discarded equipment containing chlorofluorocarbons	20 01 23*
Batteries and accumulators	20 01 33*
Batteries and accumulators	20 01 34
Discarded electrical and electronic equipment containing hazardous components	20 01 35*
Non Hazardous WEEE – household/ local authority	20 01 36
Plastics	20 01 39
Metals – household/ local authority	20 01 40

Treatment Capacity Calculation (Section 5.4 A (1) b) (iv)

The 'daily treatment capacity' of the shredder STU is 6,240 tonnes, based on 24 hour operation, however 24 hour operation is not undertaken. Additionally the site permit restricts annual throughput to 859,600 tonnes.

2.6 Waste Quantities

The total tonnage accepted per annum is a maximum of 859,600 tonnes.

2.7 Hours of Operation

No limitations are imposed upon the hours of operation by the planning consent. The company will in normal circumstances operate during normal working day hours. However due to some operational requirements, in particular the loading of trains and ships during the night hours to ensure that the plant is working to its maximum capacity and efficiently, the site will be manned and operated to accept and process waste, carry out maintenance and services as and when necessary.

Lighting is provided in all areas. This lighting is activated from dusk to dawn each day irrespective of operations, thus facilitating safe working of all staff including security personnel.

2.8 Waste Acceptance Procedures

Pre Acceptance Procedure

There is a pre acceptance system in place to prevent acceptance of unsuitable wastes and ensure their suitability for the treatment process. This consists of checks undertaken by Commercial/ Site Management and could include information on the process giving rise to the waste, likely quantities and any hazardous associated with the waste.

For weighbridge traffic, pre acceptance system consists of provision of information via system of signage.

Waste Acceptance and Inspection Procedure

All vehicles bringing waste to the site will be directed to the weighbridge where the paperwork is scrutinised by the Weighbridge Operator to ensure it is in line with Duty of Care requirements and Hazardous Waste Regs. Such paperwork may include, weighbridge tickets, transfer notes, season tickets for contracted waste and hazardous waste consignment notes.

Weighbridge tickets are produced for all wastes delivered which contain the name of the supplier / producer, the registration number of the carrier's vehicle, details of waste type, time and date. Hazardous waste consignment notes are completed as necessary.

As far as possible all loads are visually assessed from the weighbridge, and may be rejected if the waste is found to be mis-described or non-permitted., If there are other irregularities with the paperwork, the Weighbridge Operator may also radio a designated site operative and request specific inspection of the load when deposited at the storage area. Further inspection follows before and during the unloading stage. If the site operative is unsatisfied with any particular item(s) or indeed the whole load, its removal off-site by the driver is required or, if the Company considers it to be best environmental option, the material is quarantined pending further investigation and possible referral to Natural Resources Wales.

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Non-conforming wastes will be placed immediately in a designated quarantine area until suitable disposal arrangements can be made. There will be no mixing of non-conforming (quarantined) wastes with authorised wastes. Non-conforming wastes will be stored separately where possible and when legislation requires. Any non-conforming wastes that are defined as Hazardous under the Hazardous Waste Directive will be handled and moved off site in line with the requirements of the Directive.

Where necessary the producer/customer and Natural Resources Wales will be informed of a rejected load and all details relating to the load recorded.

2.9 Waste Storage

Waste will be treated on impermeable pavement with sealed drainage system.

Clean uncontaminated furnace ready scrap may be stored on areas of hardstanding. Hazardous wastes will be stored on impermeable pavement linked to a sealed drainage system with additional containment where appropriate.

Fluids will be stored in containers with appropriate secondary containment measures capable of holding at least 110% of the volume of the primary containment vessel.

All storage areas will be provided with spillage collection facilities including spill kits.

2.10 Waste Treatment Processes

Please see appendix 5 for process descriptions of installation activity.

Other (non installation) permitted treatment activities include the manual sorting of scrap, separation, grading, shearing, screening, shredding, baling, compacting, crushing and hot cutting and treatment of WEEE. These activities may be carried out with the aid of mechanical plant.

The site is an Authorised Treatment Facility (ATF) for the depollution of End of Life Vehicles. End of Life Vehicles will be depolluted in accordance with ELV Regulations and applicable legislation.

2.11 Energy Usage

Sims has an Energy Policy to ensure that energy is used efficiently at the site. This scope of the policy is extended to include this facility and to identify the energy consumption and methods of saving energy at the site.

In relation to the shredder STU; In order to improve energy efficiency the site minimises start up and ensures shredding at maximum efficiency to reduce hours run, the downstream is turned down when the machine is idling and maintenance procedures are adhered to (including electrical systems).

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2.12 Raw Materials and water

The set up of plant and equipment minimises the consumption of raw materials and water at the site.

3 EMISSION CONTROL AND MONITORING

3.1 Point Source Emissions

Point source emissions from the installation are limited to those detailed below:

Emissions to air from Air Cleaning

3.2 Surface Water Quality Monitoring and Reporting

Monitoring Programme

Samples will be taken on a quarterly basis from the monitoring points 'TSP-1', 'TSP-2' and 'SESP Biodisc' as specified on Appendix 3 Drawing No. NWP 0305.

The samples will be analysed as per the requirements specified in permit EPR/CP3795FY. Results will be submitted to Natural Resources Wales using 'Form water 1'.

3.3 Odour

As identified in the risk assessment the site will not pose a risk of odour related impact due to the nature of the waste and activities carried out. Nevertheless, during inspections the presence of any offensive odours will be noted and recorded in the Site Diary. The source of any problem will be investigated and dealt with as necessary to remove the problem. Any complaints received will be recorded in the Site Diary and actioned where appropriate.

3.4 Noise and Vibration

Activities on site are managed to minimize the risk of noise related impact. Nevertheless, during inspections the presence of nuisance noise will be noted and recorded in the Site Diary. The source of any problem will be investigated and dealt with as necessary to remove the problem. Any complaints received will be recorded in the Site Diary and actioned where appropriate.

3.5 Dust

As identified in the risk assessment the site will not pose a risk of dust related impact due to the nature of the waste and activities proposed. Nevertheless, during inspections the presence of any nuisance dusts will be noted and recorded in the Site Diary. The source of any problem will be investigated and

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dealt with as necessary to remove the problem. Any complaints received will be recorded in the Site Diary and actioned where appropriate.

4 MANAGEMENT

Sims Group UK Limited operates an ISO14001 accredited Environmental Management System which covers the facility.

The management system includes standard operating procedures and safe working procedures that minimise the environmental risks and impacts of the normal operations and include contingency plans to minimise the effect of breakdown, accidents etc. These include procedures relating to waste acceptance and environmental monitoring.

A planned programme of maintenance for all infrastructure, plant and equipment is specified in the management system. All plant is inspected and maintained in line with the manufacturer's instructions or other appropriate regime.

Sims Group UK Limited has a training and development programme designed to ensure that staff are suitably trained to undertake their duties. The roles and responsibilities of staff on site are clearly defined and training records for each member of staff maintained and reviewed regularly to ensure competence is maintained and up to date.

Key personnel have completed relevant competence assessment & Continuing Competence Assessment as applicable. Such staff will be on site to ensure that operations are undertaken in line with Sims Policy and Processes.

All contractors visiting the site receive an induction to ensure that they are aware of the scope of their work, the accident management/emergency procedures for the site and any other management systems appropriate to their role.

Sims Group UK Limited will have an Emergency Contingency and Accident Management Plan. In the event of an incident, details will be recorded and a full review undertaken. This review will include the following:

- Cause of the incident;
- Effectiveness of management technique
- Effectiveness of Emergency Contingency Plan and Procedures; and
- Recommendations for management technique and/or emergency procedure to reduce risk of future incidents.

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5 **SITE RECORDS**

The operator will ensure the following information is recorded:

- Site inspections by the operator or other body and any subsequent issues and corrective actions taken;
- Emergencies;
- Complaints and actions taken;
- Plant/equipment failure;
- A record of any rejection of waste;
- Any queries with Waste Carriers;
- Technically competent manager – times on site;
- Any incidents/accidents on site and actions taken;
- Security failures;
- Severe weather conditions.

All records will be held in the site office and will be available on request. All records, which are required under the conditions of the Environmental Permit, shall be maintained and kept secure from loss, damage or deterioration. Any records held electronically will be backed up on a regular basis.

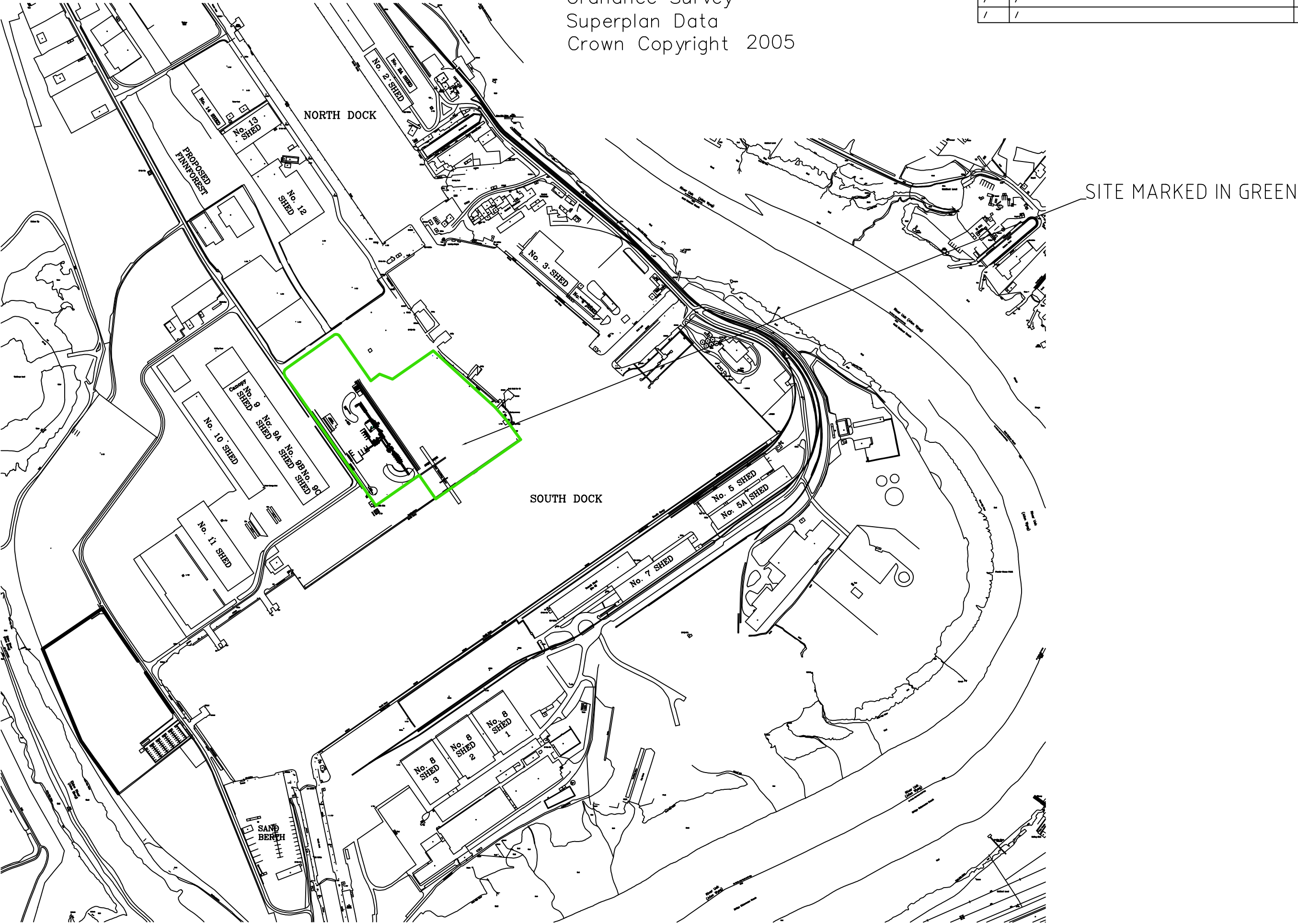
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Ordnance Survey
Superplan Data
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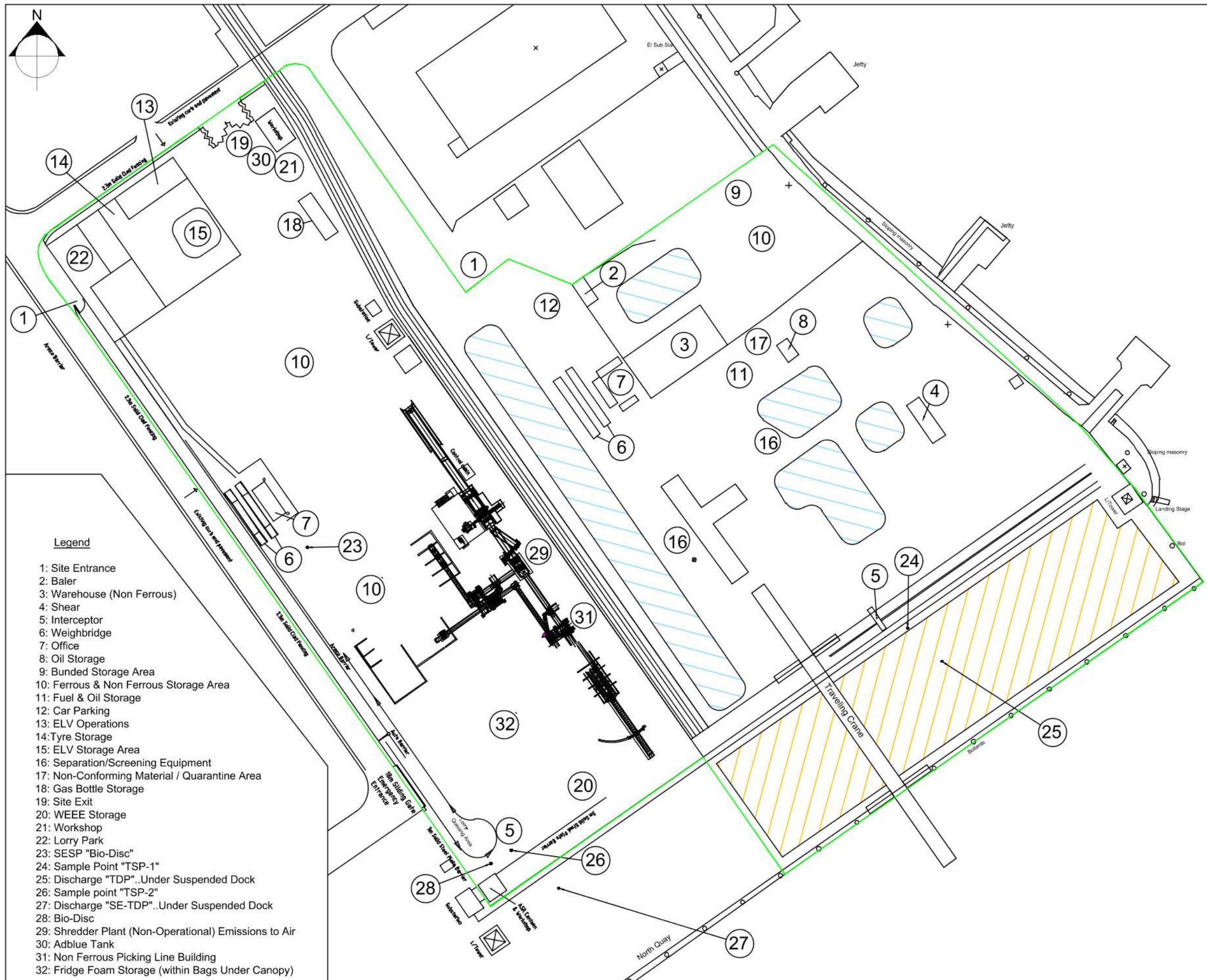
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Drawn by C J BANKS	Checked by L KELLY	Approved by - date 17_02_2010	Filename NPTWML	Date 17_02_2010	Scale 1:3750 on A1
SIMS GROUP UK LTD			NEWPORT DOCK SITE LOCATION		
NWP_0001			Rev No 003	Sheet 1/1	

APPENDIX 2

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Notes

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Legend

- Site Boundary
- Ferrous Storage Area
- Dockside Storage Area

Basemap sourced from SIMS Drawing No.
NWP 0303 Rev 005
(06/08/2014)

D	Minor Amendments	RJ	GS	APR 19
C	Minor Amendments	RJ	GS	OCT 18
B	Minor Amendments	RJ	GS	APR 17
A	Minor Amendments	RJ	GS	NOV 16
Rev	Description	By	CB	Date



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Client **SIMS Group UK Ltd.**

Project **Newport**

Title **Site Layout**

Status **DRAFT** Drawn By **RJ** PM/Checked by **GS**

Job Ref **JER6361** Scale @ A3 **1:1,500** Date Created **NOV 15**

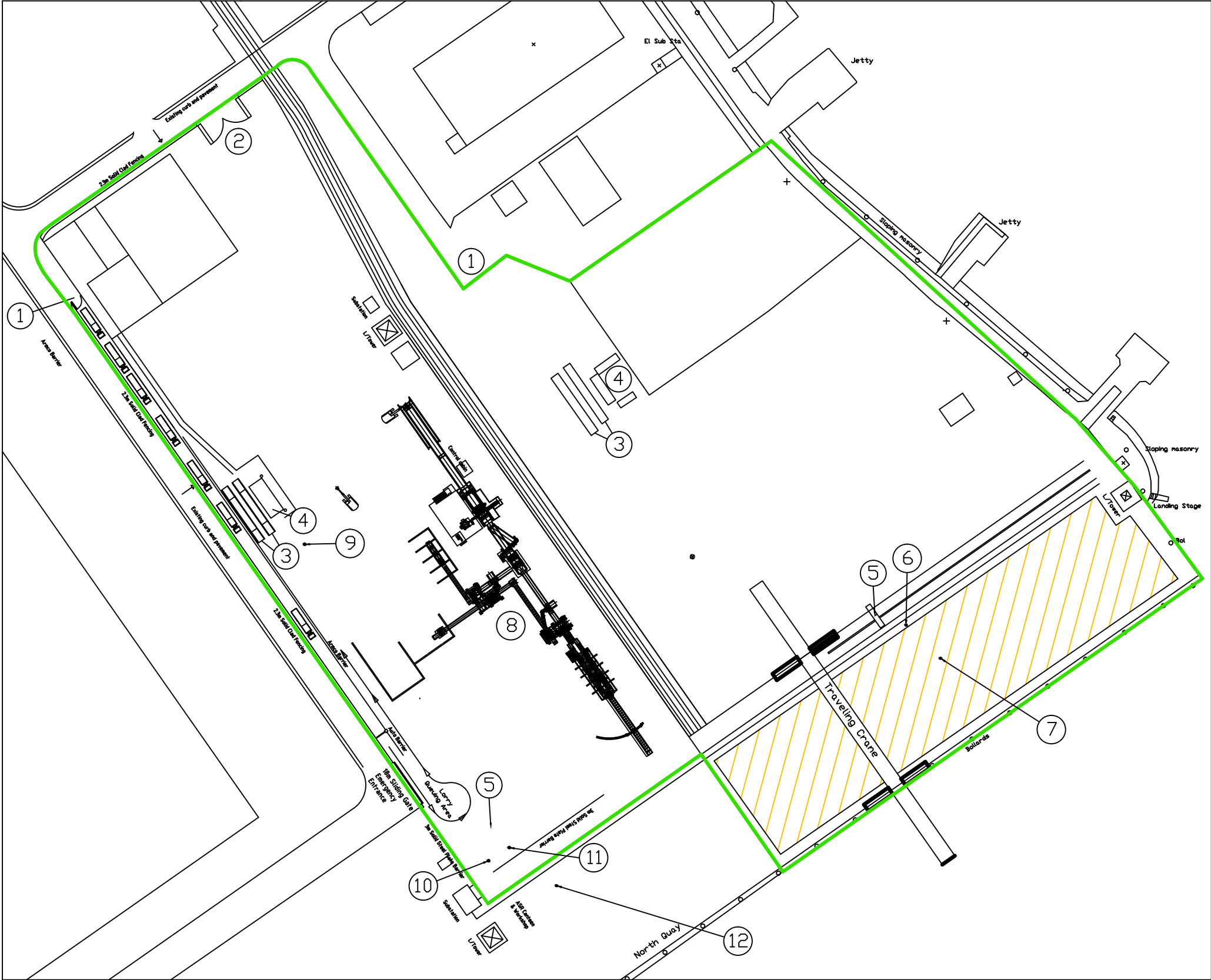
RPS Drawing / Figure Number **JER6361-020** Rev **D**

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APPENDIX 3

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RevNo	Revision note	Date	Signature	Checked
/	/	/	/	/
/	/	/	/	/
/	/	/	/	/



Legend

- 1: Site Entrance
- 2: Site Exit
- 3: Weighbridge,s
- 4: Office
- 5: Interceptor,s
- 6: Sample Point "TSP-1"
- 7: Discharge "TDP"..Under Suspended Dock
- 8: Shredder Plant
- 9: SESP "Bio-Disc"
- 10: Bio-Disc
- 11: Sample point "TSP-2"
- 12: Discharge "SE-TDP"..Under Suspended Dock

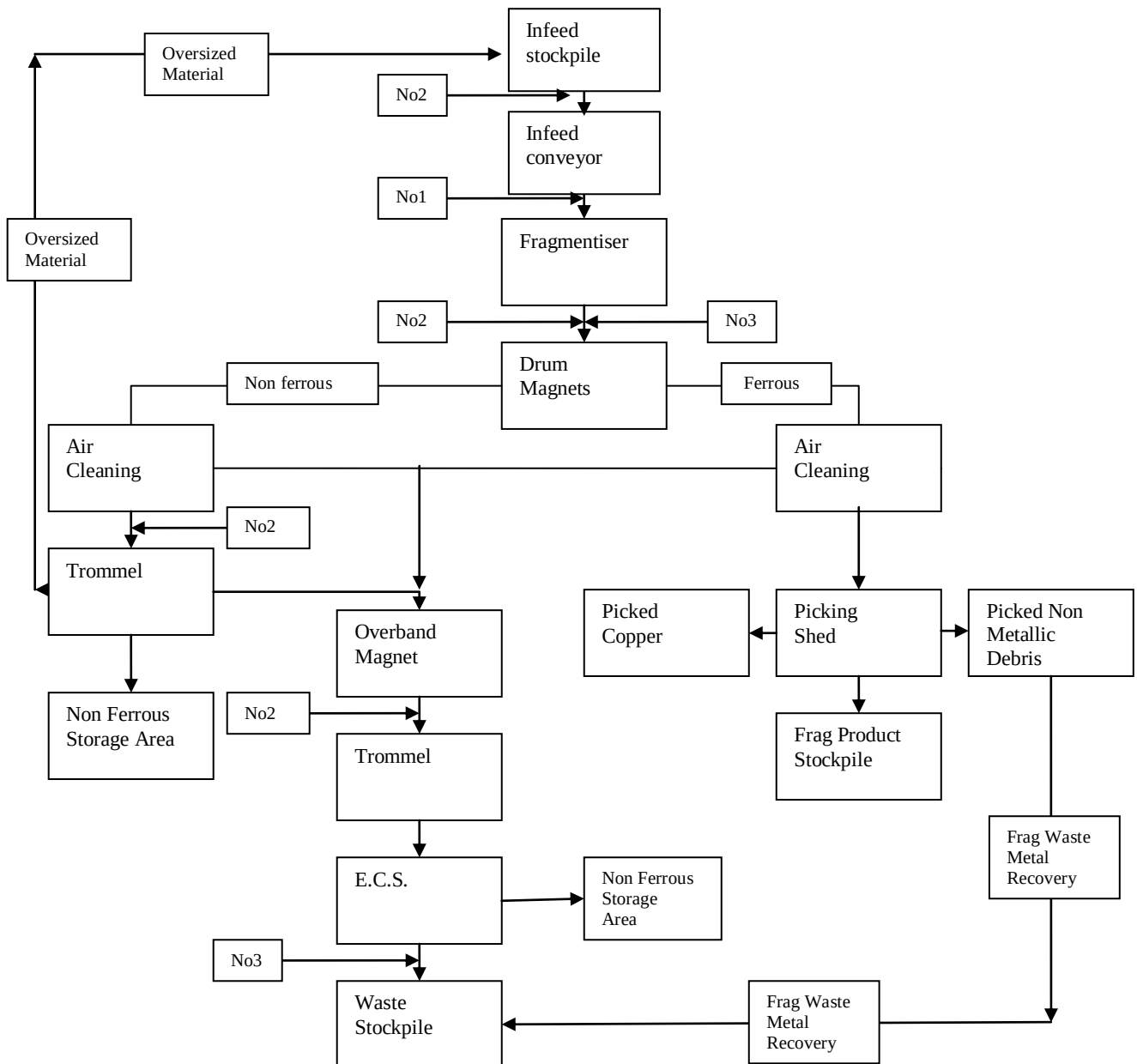
- Site Boundary Highlighted in Green
- Dockside Storage Area Highlighted

Drawn by C J BANKS	Checked by G SIDNEY	Approved by - date 10_06_2011	Filename NEWWML	Date 10_06_2011	Scale 1:1750 on A3
SIMS GROUP UK		SimsMM Newport Site Plan			
NWP 0305				Rev No 002	Sheet 1/1

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Newport Fragmentiser Operation ---- Schematic Flow



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APPENDIX 5

Newport shredder fragmentation process:

- a) Feed stock is loaded into the plant by way of hydraulic mobile cranes fitted with suitable scrap handling grabs and manipulating equipment. All feed materials are placed onto the horizontal loading section of the Infeed Conveyor. The conveyor is hydraulically driven and consists of a static frame, within which the steel fabricated belt carries the loaded feed materials. The uppermost section of the Infeed Conveyor is provided with heavy fabricated steel missile guards that extend over the Infeed chute of the shredder in order to prevent ejection of high velocity fragments.
- b) Feed materials fall from head section of the Infeed conveyor into the Infeed chute of the Fragmentiser. In the lower section of the Infeed chute, a double roller compression feeder device is fitted which is hydraulically driven and provides initial densification of feed materials and metered ingress of feed material into the shredding chamber of the Fragmentiser.
- c) The Fragmentiser is a top and bottom discharge hammer mill in which a circular six hammer pin type rotor is fitted. A vibration isolation system comprising spring dampeners is fitted between the concrete stanchions (on which the fragmentiser is mounted) and the fragmentiser itself. The shredding chamber of the fragmentiser is fitted with sizing grids and a kick out door for the safe removal of unshreddable materials. A PLC controlled water injection system for suppression of dust and noise emissions from the fragmentiser and separation plant (drum magnets) is fitted.
- d) Material entering the Fragmentiser is disintegrated by rotating hammers and an interactive shredding mechanism. Feed Material then leaves the shredding chamber to be separated into different constituent elements by the Magnetic Separation Plant (Drum Magnets).
- e) Material is then transported by conveyor to the Magnetic Separation Station Drum Magnets. Material falls by way of an enclosed chute on to the Twin Drum Magnet Double Deck Vibrating Conveyor. All materials are conveyed via the first section of the upper deck to the Primary Drum Magnet, the magnetic materials are lifted over the magnet drum, any remaining non magnetic material will again pass under the drum magnet onto the lower deck. The magnetic material is then presented to the Secondary Drum Magnet and lifted over the magnet drum, any remaining non magnetic material will again pass under the drum magnet onto the lower deck.
- f) The magnetic material and any residual 'Frag Waste' or light material and fines, is moved by conveyor to the closed loop triple cut Ferrous Cascade Air Separation Plant which works by way of a high speed counter air flow to the passage of main material to be cleaned as it falls through the Cascade Chamber. Light material and fines are removed by the exiting air flow and then separated by way of a cyclone. This light material is then

separated by conveyor to the Shredder Waste Metal Recovery section of the plant for further processing.

- g) Primary Ferrous product exits the Ferrous Cascade Chamber and is split via an open chute and vibrating conveyor into two equal portions. Each portion is then separately conveyed through a Picking Station which has two picking conveyors. The ferrous product is visually inspected and any oversize ferrous fragments, residual rubber fragments or copper bearing materials are manually removed and passed via chutes to the bunker storage area directly below the picking conveyors. The residual ferrous product is then recombined via a 'Y' chute and moved via a Radial Stacking Conveyor to the ferrous product storage area.