



**WRAP Quality Manual for the
production of aggregates from
inert waste**

Godstone Highways Depot
Ringway Infrastructure Services
Ltd

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1. Introduction

This Quality Manual has been produced by MTS Environmental Ltd on behalf of the contractors, Ringway Infrastructure Services Ltd (Ringway). This document demonstrates that Ringway has adequate controls and testing regimes in place at their Godstone Highways Depot to ensure the successful recovery of inert waste materials into finished recycled aggregate products which comply with industry specification. Ringway aims to reduce the amount of waste sent to landfills to provide a sustainable future.

This Quality Manual strictly follows guidance from a Quality Protocol outlined in the Waste and Resources Action Programme 'WRAP'. In addition, the specific European Standards listed below have been utilised as guidance during the production of this quality plan:

- Unbound mixtures Specification BS EN 13285:2003
- Aggregates for unbound and hydraulically bound materials for use in Civil Engineering work and road construction BS EN 13242:2002+A1:2007
- Tests for general properties of aggregates BS EN 932:1997

This document has been produced as part of the Environmental Management Systems (EMS) in place at Ringway Godstone Highways Depot and should be read in conjunction with the site-specific EMS. References are made to the EMS throughout this document.

2. Definitions

CA	Contracts Administrator
DS	Depot Supervisor
EMS	Environmental Management System
EA	Environment Agency
FPC	Factory Production Control
MTN	Material Transfer Note
NCN	Non-Conformance note
OD	Operations Director
SM	Site Manager
WRAP	Waste Resources Action Programme
WTN	Waste transfer note

3. Related Documentation

Table 1 below outlines related documents, which may have some relation to this quality manual.

Table 1 - Related documents

Document	Authority	Reference	Validity period/Issue
Waste Carriers License	Environment Agency	Reg No. CBDU97224	20/06/22 – 08/07/2025
Environmental Permits	Environment Agency	TBC	TBC

4. Site Location

4.1.1 This document relates to all activities involving the recovery of non-hazardous and inert wastes at Godstone Highways Depot, all references to ‘the site’ in this document relate to this site which holds an environmental permit (permit number: TBC).

4.1.2 The site is located off Oxted Road, Church Town, Godstone, Tandridge, Surrey, RH9 8BP (Figure 1). The approximate national grid reference for the site is TQ 35419 51952. The site is immediately surrounded by open agricultural land and trees.

Figure 1 – Site location plan



5. Organisation & Responsibilities

5.1 Site Manager

The Site Manager has overall responsibility for recycling operations, which include:

- Liaison with the Depot Supervisor in relation to material quality output/input
- Health and Safety matters
- Ensuring all plant is adequately serviced and maintained
- Implementation and review of the Factory Production Control (FPC)
- Ensuring all documentation is complete including the reporting of non-conforming products
- Ensuring Products are tested and meet relevant European specification
- Carrying out weekly site inspections

5.2 Operations Director

The Operations Director has the following responsibilities:

- Overall responsibility of the Ringway Godstone Highways Depot
- Liaising with the site manager regarding all major issues
- Review and auditing of FPC

5.3 Compliance Administrator

The Compliance Administrator has the following responsibilities:

- Control/input of all waste/material movements.
- Monitoring of waste streams

5.4 Depot Supervisor

The Depot Supervisor has the following responsibilities:

- Removal of class x (non-conforming materials) during the production process
- Inspection of all stockpiles and processing equipment
- Liaising with the Site Manager if any discrepancies are found
- Informing the Site Manager of any maintenance needs of all plant used
- Stockpiling raw/recycled material into segregated areas
- Operation of all recycling operational plant
- Ensuring Waste Transfer notes are completed for all material/waste movements in and out of the site
- Maintaining the quarantined bay

6. Method Statement of Production

6.1 Waste Acceptance Criteria

Wastes that will be permitted at the operator's site are presented in the Ringway Godstone EMS (Table 2). The waste acceptance criteria and waste management details are also outlined in the Ringway Godstone EMS.

6.2 Waste Recovery Process & Equipment

The steps below outline Ringways' aggregates from waste production process. (Please refer to Appendix B for a more detailed process for specific products).

1. All suitable and accepted waste materials will be stockpiled into allocated areas based on their EWC code. If crushing is required, waste will be allocated to temporary storage prior to crushing.
2. Any foreign or non-conforming products will be moved to the quarantine bay.
3. Where necessary, foreign material (class x) will be handpicked from the stockpile and put into appropriate skips.
4. Materials are fed into the wash plant for treatment and separated into products which are discharged into segregated holding bays.
5. Where crushing is required, the waste will be fed into a suitable crusher via a loader then re-stockpiled. The material will then be fed into a Static Screener, where a 50mm vibrating screen and 20mm deck (varies depending on the end product) will distribute products into particle size categories. Speed, angle of screen and size of screen will be altered, as required, to meet material specifications. An additional screener will be utilised to increase the range of particle size where necessary.
6. All class x (non-conforming items) for example plastics and wood, will be handpicked from stockpiles.
7. All class x materials removed will be put into designated skips based on the material type. Waste from all skips will either be recycled or disposed of by a fully licensed operator.

6.3 Range of Products Produced

6.3.1 Ringway has the capability to produce a wide range of material classes at their Godstone site, by carrying out blending, crushing and screening activities using the on-site plant, to satisfy the demand to meet product specification needs. The plant can produce various segregated products including 6F5, recycled Type 1 and 1A fill. Table 2 below outlines the main product classes produced on site, although more classes can be produced subjected to client demand.

6.3.2 Other materials can be manufactured to order based on the design requirements of Ringway. If a specific material is required by the client, the site manager will update the quality manual with new materials quality controls.

6.3.3 All products produced comply with:

- Specification for highway works (SHW 500, 600 & 800)
- Unbound mixtures Specification BS EN 13285:2003
- Aggregates for unbound and hydraulically bound materials for use in Civil Engineering work and road construction BS EN 13242:2002+A1:2007

Table 2 – Products produced at the Ringway Godstone Highways Depot

Product	Material Description	SHW Reference
Class 6F5 Selected Granular Fill (coarse) - Capping	0/63mm Recycled Aggregate (Class 6F5)	Series 600 Table 6/1 & 6/5

Type 1 Sub-base	0/31.5mm Recycled Aggregate (Type 1)	Series 800 Clause 803, Table 8/5
Class 1A General Granular Fill	0/150mm Recycled Aggregate (Class 1A)	Series 600 Table 6/2

7. Testing

7.1 General

7.1.1 The Depot Supervisor will visually inspect product compliance during the process. If any irregularities, such as oversize materials or excessive fines are found, it will be reported to the Site Manager immediately and appropriate action will follow, which may involve re-washing, screening, crushing or hand picking. This will be recorded by the Depot Supervisor on daily process control sheets.

7.1.2 All laboratories used will be UKAS accredited.

7.1.3 Sampling will be carried out in accordance with BS EN 932-1.

7.1.4 Material produced will be tested in accordance with LQM/CIEH Suitable for Use Levels (S4UL) for commercial use to ensure compliance. These limits are stated in Table 3 below.

Table 3 – Suitable for Use Levels for commercial use

Contaminant	Commercial S4UL (mg/kg)
Antimony	7500 (GAC)
Arsenic	640
Barium	22000 (GAC)
Beryllium	12
Boron	240000
Cadmium	190
Chromium (III)	8600
Chromium (IV)	33
Copper	68000
Cyanide	34 (GAC)
Lead	2300 (C4SL)
Nickel	980
Mercury (Elemental)	58
Mercury (Inorganic)	1100
Mercury (Methyl)	320
Molybdenum	17000
Selenium	12000
Vanadium	9000
Zinc	730000
Phenol	1300
Acenaphthene	100000
Acenaphthylene	100000

Anthracene	540000
Benz(a)anthracene	180
Benzo(a)pyrene	36
Benzo(b)fluoranthene	45
Benzo(ghi)perylene	4000
Benzo(k)fluoranthene	1200
Chrysene	350
Dibenzo(ah)anthracene	3.6
Fluoranthene	23000
Fluorene	71000
Indeno(123cd)pyrene	510
Napthalene	1100
Phenanthrene	22000
Pyrene	54000
Benzene	90
Toluene	180000
Ethyl benzene	27000
o-xylene	33000
m-xylene	31000
p-xylene	30000
Methyl tert-butyl ether	24000 (GAC)

7.1.5 Testing will be done using the QED Hydrocarbon analyser for Total Petroleum Hydrocarbons (TPH) and the accepted inert limit is 500 mg/kg.

7.2 Class 6F5 Selected Granular Fill (coarse) – Capping

6F5 is an unbound mixture that complies with BS EN 13285. It is generally used as a coarse capping layer imported onto site. It can contain any material or a combination of materials. Ringway 6F5 will be a mixture of: Crushed concrete, bricks, ceramics, tarmac, limestone & recycled aggregate. Our 6F5 will comply with SHW 600 and BS EN 13285 and will not contain: more than 50% of bituminous materials, tar, un-burnt colliery spoil, argillaceous rock or chalk.

Table 4 - Testing requirements for 6F5

Property	Test Frequency	SHW Reference and requirement	Test Method
Grading	1 per month	SHW 600 Table 6/5	BS EN 933-1: 2012
Composition	1 per month of production working days	Not more than 1% class X	BS EN 933-11:2009
		Less than 50% Class Ra	
		Bitumen content not more than 2.0% (not	

		required if class Ra is 20% or less)	
Water adsorption	1 per year	WA ₂₄ NR	BS EN 1097-6
Resistance to fragmentation	1 per year	LA ₅₀	BS EN 1097-2
Sulphide suite	1 per year	Category _{NR} SHW 800 - Clause 801: Water soluble sulphate	BS EN 1744-1
Water content	1 per year	Category _{NR}	BS EN 1097-5:2008
Dry density and optimum moisture content	1 per year	Category _{NR}	BS EN 13286-4:2003

Table 5 - Grading requirement for 6F5

Sieve Size (mm)	Percentage by mass Passing		
	Typical Grading	Specification	
		Min	Max
125	100	100	100
80	93	75	99
40	67	50	90
20	42	30	75
10	28	15	60
2	14	0	35
0.063	9.5	0	12

Table 6 – Particle Size Distribution for 6F5

Overall Grading	G _E
Size Designation	0/80
Oversize Category	OC ₇₅
Maximum Fines	UF ₁₂

7.3 Type 1 Sub-base

Ringway offer two different variations of Type 1 crushed concrete which both comply with SHW 800 and BS EN 13285:

- Mix containing only clean crushed concrete
- Mix containing crushed concrete, crushed rock and recycled aggregates

Table 7 - Testing requirement for Type 1 unbound sub-base

Property	Test Frequency	SHW Reference and requirement	Test Method
Grading	1 per month	SHW 600 Table 6/5	BS EN 933-1: 2012

Composition	1 per month of production working days	Not more than 1% class X	BS EN 933-11:2009
		Not more than 25% Class Rg (glass)	
		Not more than 50% Class Ra	
Water adsorption	1 per year	WA ₂₄ NR	BS EN 1097-6
Freeze-thaw resistance (magnesium sulphate soundness)	1 per year	MS ₃₅	BS EN 1744-1
Resistance to fragmentation (LA)	1 per year	LA ₅₀	BS EN 1097-2
Frost Heave	1 per year	≤15mm	BS 812-124:2009
Liquid and plastic limits	1 per year	Non-Plastic	BS 1377-2:1990
Water content	1 per year	Category _{NR}	BS EN 1097-5:2008
Micro-Deval coefficient	1 per year	M _{DE} NR (no requirement – supplier will state the value for the aggregate used)	BS EN 1097-1:2011
Sulphide suite	1 per month	Category _{NR} SHW 800 - Clause 801: Water soluble sulphate	BS EN 1744-1
Dry density and Optimum moisture content	1 per year	Category _{NR}	BS EN 13286-4:2003

Table 8 - Grading requirement for Type 1 unbound sub-base

Sieve Size (mm)	Percentage by mass Passing		
	Typical Grading	Specification	
		Min	Max
63	100	100	100
31.5	90	75	99
16	50	43	81
8	50	23	66
4	20	12	53
2	10	6	42
1	5	3	32
0.063	2	0	9

Table 9 - Particle Size Distribution

Grading Category	G _C 32-0
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7.4 Class 1A General Granular Fill

1A is a well graded granular material used as a general fill. It consists of any material, or combination of materials, other than material designated as Class 3 in the Contract or recycled aggregate.

Table 10 - Testing requirement for 1A fill

Property	Test Frequency	SHW Reference and requirement	Test Method
Grading	1 per month	SHW 600 Table 6/2	BS EN 933-1

Table 11 - Grading requirement for 1A fill

Sieve Size (mm)	Percentage by mass passing		
	Typical Grading	Specification	
		Min	Max
300	100	100	-
125		95	100
0.063		0	15

Table 12 - Particle Size Distribution

Overall Grading	G_E
Size Designation	0/125
Maximum Fines	UF_{15}

7.5 Hydraulically Bound Materials (HBM)

HBM is a mix of concrete made from road planings and recycled Type 1; the raw materials are crushed to approximately 0-20mm, before the addition of cement and water, before the product is mixed together. HBM material produced at Godstone will comply with TRL 611 and SHW 800.

Initially, HBM material produced at the Godstone recycling facility will be mainly cement bound granular materials (CBGMs) also known as Cement Bound Macadams.

Table 13 – Binder Constituent Requirements for HBM

Binder or Binder Constituent	Application	Minimum addition for mix-in plant method of construction using batching by mass	Minimum addition for mix-in plant method of construction using volume batching and for mix-in-place construction
Lime (quicklime or hydrated)	used with another binder constituent	1.5%	2%
Cement	used with another binder constituent	2%	3%

	only binder constituent in cement bound granular mixtures (CBGM)	3%	4%
Hydraulic Road Binder	all applications	3%	4%

Table 14 – Aggregate Requirements for use in CBGMs

Clauses	821	822	823
HBM Designation	CBGM 5	CBGM 1	CBGM 2
Properties	Requirements		
Crushed or broken particles and totally rounded particles in coarse aggregate	C_{NR}		
Los Angeles Coefficient	LA₅₀	LA₅₀ / LA₆₀ (contract Specific)	LA₅₀
Acid Soluble Sulphate Content	Air-cooled blast furnace slag – AS_{1.0}		
	Other Aggregates - AS_{0.8}		
Total Sulphur Content	Air-cooled blast furnace slag – S_{2.0}		
	Other Aggregates - S_{1.0}		
Fines Quality	NR	Non-plastic	
Maximum Glass Content (ClassRgG %)	40	40	40
Maximum impurities (%X)	3	3	3

Table 15 – Requirements for testing, control and checking of HBMs

Property	Test Frequency	SHW Reference and requirement	Test Method
Water Content of aggregate or soil sources on site	3 per 1000 m ²	SHW 800, Table 8/16	BS 1924-1, Clause 7.1
Grading of aggregate or soil sources on site	1 per 1000 m ²	SHW 800, Table 8/16	Aggregates - BS EN 1097-5 Soils - BS 1924-1, clause 7.1
Plasticity of aggregate or soil sources on site	1 per 1000 m ²	SHW 800, Table 8/16	BS 1924-1, clause 7.3
Constituents sourced off-site	Aggregates – Declaration of performance determined in accordance with 104.3 Cement – Declaration of performance determined in accordance with BS EN 197-1, National Annex NB.	SHW 800, Table 8/16	
Batching records for 'mix-in-plant' method of construction using batching by mass		SHW 800, Table 8/16	
Batching records for 'mix-in-plant' method of construction using batching by volume and mix-in-place		SHW 800, Table 8/16	
Spread checks for 'mix-in-place' method of construction at each stage of the mixing process (sub-Clause 870.3)	1 determination per 1000 m ² but not less than 4 per day	SHW 800, Table 8/16	
Mixture grading, including binder	1 per 1000 m ² but not less than 3 per day	SHW 800, Table 8/16	BS EN 933-1
Water content at final compaction	1 per 1000 m ² but not less than 3 per day	SHW 800, Table 8/16	BS 1924-2, clause 1.3
MCV at mixing and final compaction and, in the case of cohesive mixtures, during the mellowing period	3 per 1000 m ² but not less than 4 per day	SHW 800, Table 8/16	BS EN 13286-46
Pulverization (cohesive mixtures only)	2 per 1000 m ² but not less than 4 per day	SHW 800, Table 8/16	BS EN 13286-48

Depth of mixing for 'mix-in-place' method of construction at each stage of the mixing process (sub-Clause 870.4)	5 per 1000 m2 but not less than 4 per day	SHW 800, Table 8/16	-
In-situ wet density	5 per 1000 m2 or part thereof laid each day	SHW 800, Table 8/16	Sub-Clause 870.5
Laboratory mechanical performance	5 per 1000 m2 or part thereof laid each day	SHW 800, Table 8/16	BS 9227 Table 5
Strength after immersion in water	Laboratory mixture design procedure	SHW 800, Table 8/16	SHW 800 - Clause 880

7.6 In situ Cold Recycling Mixtures (foam base)

In situ cold recycled bitumen bound material shall be produced to form the foundation or main structural layer of road pavements. The primary aggregates shall be produced by the cold pulverisation of the existing road structure. The primary binder (stabilising agent) shall be a foamed bitumen, with cement or lime as an adhesion agent, with grading adjusted by the addition of a filler. Lime may also be used to modify any cohesive sub-grade soil incorporated in the pulverised layer.

Compliance Criteria for Process Control Tests On In Situ Cold Recycled Bound Material

Table 16 – Particle Size Distribution of Cold Recycling Mixtures

Siev (mm)	Requirements by mass passing (%)		
	Zone A	Zone B	Zone C
40	100	100	100
31.5	100	100	86-100
20	100	100	65-100
14	85-100	85-100	52-100
10	68-100	68-100	44-100
4	38-74	38-94	26-74
2	26-58	26-84	18-58
0.5	13-38	13-64	8-38
0.25	9-28	9-51	5-28
0.063	5-21	5-38	3-21

Table 17 – Compliance Criteria of process control tests on in situ Cold Recycled bound material

Material Property or Characteristic	Individual Results	Mean from Test Set
Relative In Situ Density	93% (min)	95% (min)
Aggregate Grading	Compliance with Particle Size Distribution	
Added Bitumen content	Target = 0.6%	N/A
Moisture Content	+/- 3% (optimum)	+/- 2% (optimum)

Layer Thickness	+/- 25 mm	+/- 15 mm
Cement Content	Target = +/- 2%	Target = +/- 1%
Indirect Tensile Stiffness Modulus (ITSM) – dry specimens	2000 MPa (min)	2500 MPa (max)
ITSM – water saturated specimens	1,500 MPa (min)	2,000 MPa (min)
Percentage air voids content	12% (max)	9% (max)

Table 18 – Compliance Criteria of process control tests on in situ Cold Recycled bound material – core specimens from the works

Material Property or Characteristic	Individual Results	Mean from Test Set
Core Density relative to refusal density	93% (min)	95% (min)
Air Voids Content	9% (max)	7% (max)
Layer Thickness	+/- 25 mm	+/- 15 mm
ITSM - dry	2000 MPa (min)	2500 MPa (max)

8. Factory Production Control

Ringways' Factory Production Control (FPC) system is set up in accordance with Annex C of BS EN 1342:2002+A1:2007 to comply with the legal requirements of the European Construction Products Directive. This FPC ensures that product characteristics are maintained, and non-conforming products are dealt with appropriately.

8.1 Responsibility & Management

Please refer to section 5.

8.2 Management Representative and Review

The Site Manager is the appointed person to ensure the FPC is maintained. The FPC will be audited and reviewed on an annual basis by the Site Manager and Highways Manager. The FPC will be held in the main office at Ringway.

8.3 Incoming waste materials

8.3.1 All waste received at the Godstone depot must be accompanied by a waste transfer note. All waste transfer notes will be recorded and kept for a minimum of two years.

8.3.2 Ringway will monitor waste streams and produce quarterly reports to the Environment Agency and other authorities upon request.

8.3.3 Ringway will only accept waste from approved/checked suppliers.

8.3.4 The following information is obtained as a minimum:

- Waste License or registration of exemption
- Waste carriers/broker registration details
- Material Details (WTN)
- Job Code (location of arising)
- Demolition or building contractors details/supplier details
- Date of demolition/arising/production

8.3.5 Location of arising, demolition or building contractors details/supplier details and date of demolition/arising/production, will only be required before the first load is accepted. Site/stockpile investigation reports will also be reviewed to confirm the material is inert/non-hazardous.

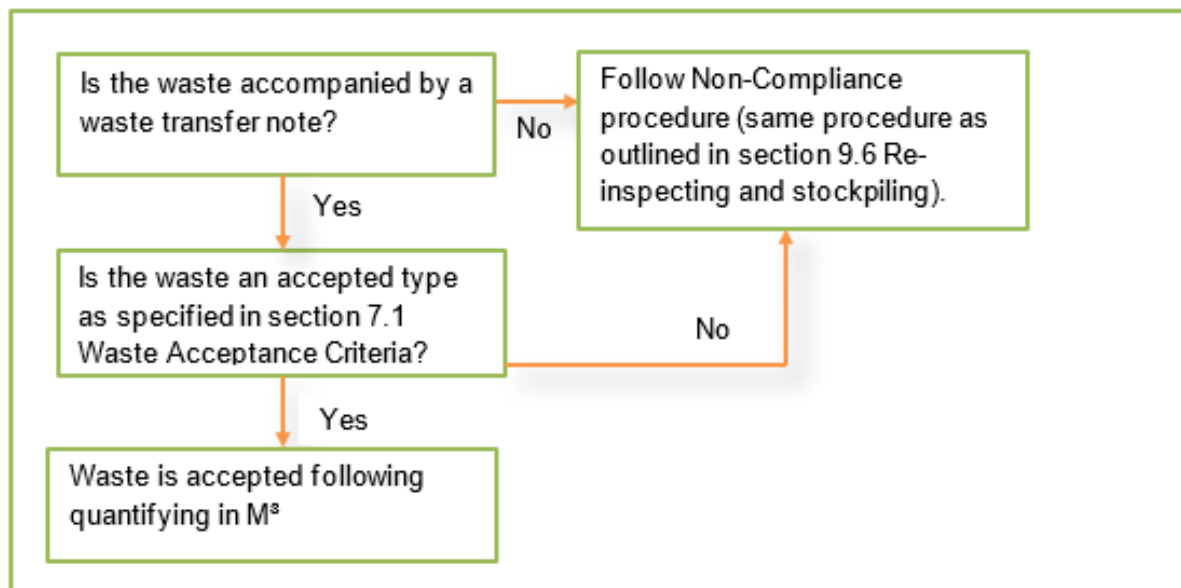
8.3.6 The person responsible for maintaining and recording the information is the Compliance Administrator (CA), who will ensure all WTNs are completed adequately and that they are maintained for the statutory time. WTNs will be posted, or handed in at reception, which will then be collected in bulk weekly by the CA.

8.4 Receipt of waste materials

8.4.1 The Depot Supervisor and/or drivers are responsible for inspecting the load on arrival. The Depot Supervisor is trained to Ringway procedures at accepting or rejecting incoming waste. The Depot Supervisor will ensure all WTNs are collected and stored at Ringway temporarily.

8.4.2 The procedure in Figure 2 is applied with relation to the acceptance of waste.

Figure 2 – Waste acceptance process at Godstone Depot



8.5 Quantifying and Categorising

8.5.1 The Depot Supervisor and/or vehicle drivers will assess the load by estimating the value in m³. Each load will be given a EWC code. EWC codes are located in MTN books.

8.5.2 Once the load has been categorised, it will be tipped in the corresponding stockpile. The feedstock categories are:

- Mixed CD& E Waste
- Concrete Waste
- Bituminous Bound Waste
- Bricks and Masonry
- Unbound Granular Materials (including Spent Railways Ballast)
- Trench Arising
- Secondary Materials
- Waste soils

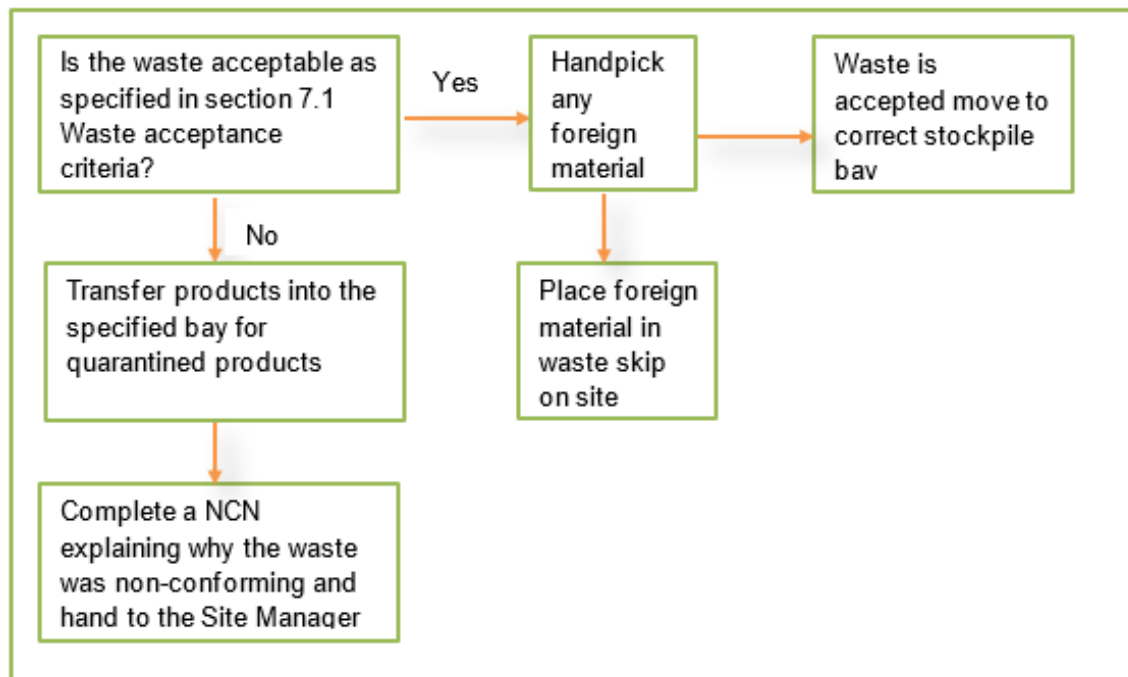
8.6 Re-Inspecting and stockpiling

8.6.1 All feedstock materials are separated, to avoid cross contamination. Each feedstock has an assigned area and stockpile.

8.6.2 All stockpiles are signed so any individual on site can identify the material/waste type.

8.6.3 During tipping, the load will be inspected by the Depot Supervisor and/or vehicle drivers. The following procedure in Figure 3, will be followed when tipping.

Figure 3 – Procedure for re-inspecting and stockpiling at Godstone Depot



8.6.4 All non-conforming products will be recorded on an NCN and stored at Godstone. These will be collected weekly by the Compliance Administrator, who will discuss with the supplier why the load was rejected, and the actions required to avoid any further rejections on future loads.

8.6.5 The NCN notes will be recorded and held for a minimum of 2 years.

8.7 Production

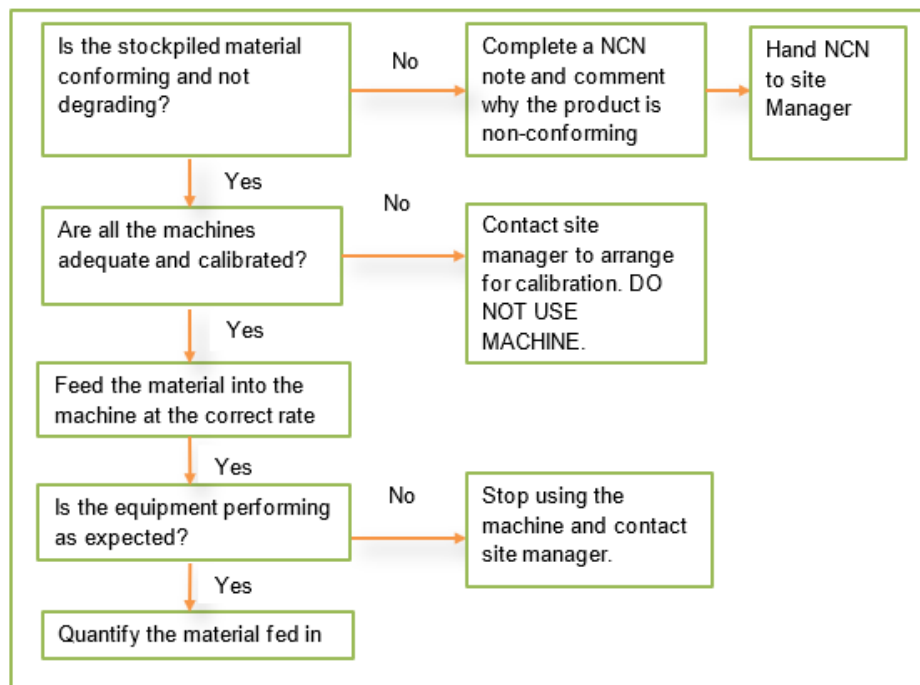
8.7.1 Before production, the Depot Supervisor is trained to inspect:

- The stockpiled material is not degrading before it is fed into the process
- The material is still acceptable
- The material is fed in at the right rate
- The material fed in is quantified
- The correct machine is being used
- The machine is calibrated
- The equipment is performing as expected.

8.7.2 Any non-conformant materials will be transferred to a quarantine bay, where it will be treated and sent back to the stockpile or, failing quality, back to the supplier or registered waste disposal site.

8.7.3 The procedure for production is summarized in Figure 4 below.

Figure 4 - Procedure for Production



8.7.4 Table 15 below summarizes the daily control process. Daily process control sheets will be completed each day by the Depot Supervisor and stored for a minimum of 2 years on site. A template of the daily process sheet can be found in Appendix E of this Quality Manual.

Table 19 - Daily Process Controls

Characteristic	Testing Procedure	Location of sampling/testing	Frequency	Remedial actions on non-conforming properties/materials
Deterioration	Visual Inspection	Stockpiled Material	Daily and during use	If deterioration will improve with time (i.e., moisture content too high) leave. Although if deterioration cannot be improved inform the site manager and move to non-conforming bays.
Oversize/Undersize material	Visual inspection	Stockpiled Material	Before use	Remove oversize material with riddle bucket before use or change screen size.
Acceptability	Apply acceptance criteria and inspect visually	Stockpiled Material	During use and arrival of waste	Reject non-acceptable materials
Class x materials (wood/plastic/metal etc.) no more than 1% in mass	Visual inspection	Stockpiled Material	Before/exit of screening plant	Remove class x materials by hand picking before/after use and move to appropriate waste skip.
Moisture content	Visual inspection	Stockpiled Material	Daily and before use	Leave to dry if moisture content seems too high. Or spray if moisture content is too low. The Site supervisor will test regularly for moisture contents
Feed Rate	Visual Inspection	Feeding station	Every 5 tonnes or if output is unusual	Inspect feeding station and speed up/slow feed rate. The angle of the initial screen can be changed if required.
Maximum and minimum size	BS EN 933-1	Exit of screening/crushing plant	Every 50 batches or if plant is acting unusual	Check the size of screens and check for any damage or malfunction to screener/crusher. Reprocess material or

				assign to a different product category.
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8.8 Finished Products

8.8.1 The testing procedures are outlined in Section 7.

8.8.2 Any non-conforming products will be assessed by the Depot Supervisor. If the non-conforming products can be easily improved, it will be carried out by the Depot Supervisor and will then be subject to further testing. If the non-conforming product cannot be improved, it will be placed in the quarantine bay as specified in Section 8.6.

8.8.3 All product stockpiles will be segregated to prevent cross contamination and deterioration.

9. References

9.1 Standard Publications

1. British Standards Institution (2002) Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction. BS EN 13242:2002+A1:2007.London
2. British Standards Institution (2010) Unbound mixtures - Specifications. BS EN 13285.London
3. British Standards Institution (2009) Testing aggregates Part 124: Method for determination of frost heave. BS 812-12.London
4. British Standards Institution (1997) Tests for general properties of aggregates Part 1. Methods for sampling. BS EN 932-1.London
5. British Standards Institution (1997) Tests for geometrical properties of aggregates Part 1: Determination of particle size distribution - Sieving method. BS EN 933-1.London
6. British Standards Institution (2009) Tests for geometrical properties of aggregates Part 11: Classification test for the constituents of coarse recycled aggregate. BS EN 933-11.London
7. British Standards Institution (2010) Tests for mechanical and physical properties of aggregates Part 2: Methods for the determination of resistance to fragmentation. BS EN 1097-2.London
8. British Standards Institution (2000) Tests for mechanical and physical properties of aggregates — Part 6: Determination of particle density and water absorption. BS EN 1097-6.London
9. British Standards Institution (2009) Tests for thermal and weathering properties of aggregates — Part 2: Magnesium sulphate test. BS EN 1367-2.London
10. British Standards Institution (1990) Methods of test for Soils for civil Engineering purposes — Part 2: Classification tests. BS EN 1377-2.London
11. British Standards Institution (2009) Tests for chemical properties of aggregates Part 1:Chemical analysis. BS EN 1744-1.London
12. British Standards Institution (1990) Methods of test for Soils for civil Engineering purposes — Part 4: Compaction-related tests. BS EN 1377-4.London

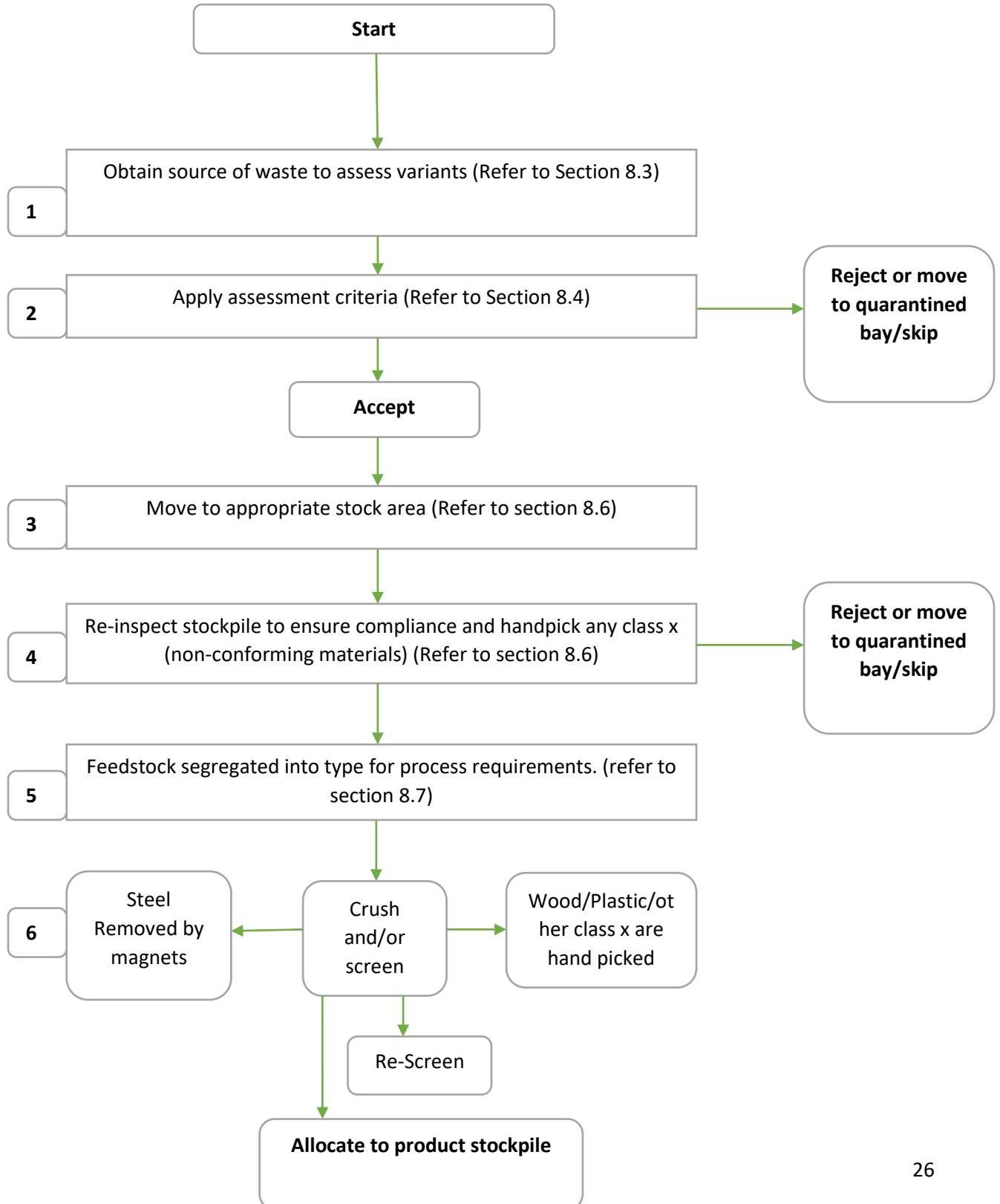
9.2 Other

1. WASTE AND RESOURCES ACTION PROGRAMME. The Quality Control Protocol for the production of aggregates from inert waste. Banbury: WRAP.

2. HIGHWAYS AGENCY. Manual of contract documents for highway works, Volume 1: Specification for Highway Works (SHW). London: TSO.

Appendix A

Generic flow chart for accepting and processing waste



Appendix B

Ringway method statement for the production of products

TBC – Require technical details of plant

Appendix C

Daily process control record is the site diary or DC01

DC01 - Daily Process Control record

Operator Name

Date

Guidance on control can be found in WRAP QP			Incoming waste		Production							
Time	Activity	Waste Type	Is the waste acceptable?	Estimation of quantity (M3)	Is the stockpile free from deterioration?	Is the stockpile material acceptable?	Are oversize/undersize parameters met?	Are Class x materials <1%?	Is feed rate Acceptable?	Are screened output sizes as expected?	Is the Moisture Content acceptable?	Is operational machinery working as expected?
06:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
07:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
08:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
09:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
10:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
11:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
12:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
13:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
14:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
15:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
16:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
17:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N
18:00			Y / N		Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N

Notes (If NO is answered for any section notes must be made of action, seek help from quality manual)

Appendix D

Non-conforming note template

Type Non-Conforming Identified	Visual	Sample Testing
Date:		
Time:		
Name:		
Signature:		
Product Type:		
Quantity of Non-Conformance:		
Remedial Action Taken (Quarantine, Reprocessing, Disposal, Rejection):		
Operator charged with investigating the non-conformity:		
Results of the investigation on causes of non-conformance:		
Corrective Action Taken on causes of non-conformance:		
Date: _____	Time: _____	
Name: _____	Signature: _____	

Appendix E

Daily inspection sheet template – under development

Appendix F

Grading Compliance sheet

Size (mm)	% Needed		
	6F5	Type 1	1A fill
Sample size (kg)	150	100	60
300			
125	1		85
80	9		
63		1	
40	15		
31.5		18	
20	15		
16		15	
10	25		
8		13	
6.3			
4		11	
2	23	10	
1		23	
0.5			
0.063	12	9	15

Size (mm)	%Passing		
	6F5	Type 1	1A fill
300			Max size
125	Max size		95-100
80	75-99		
63		Max size	
40	50-90		
31.5		75-99	
20	30-75		
16		43-81	
10	15-60		
8		23-66	
6.3			
4		12-53	
2	0-35	6-42	
1		3-32	
0.5			
0.063	0-12	0-9	0-15