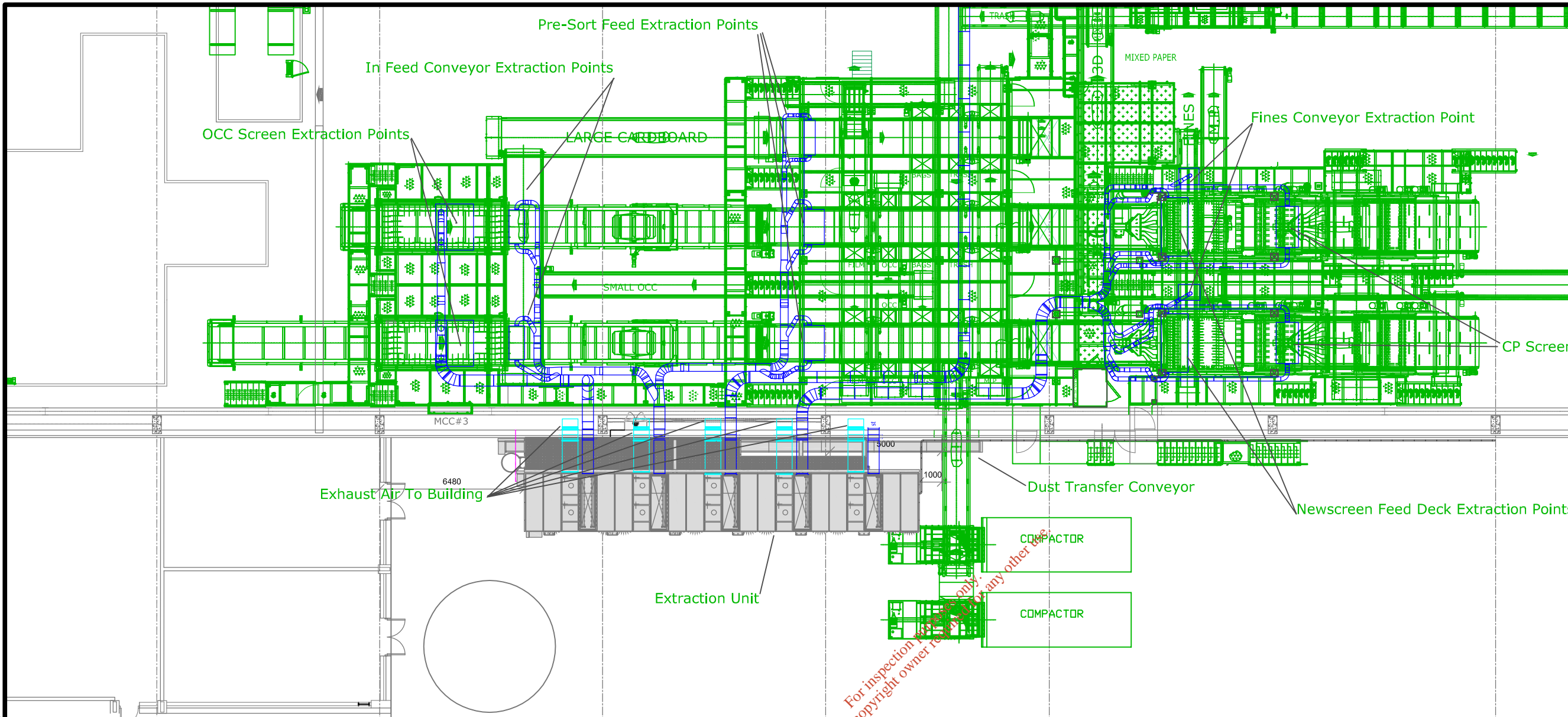
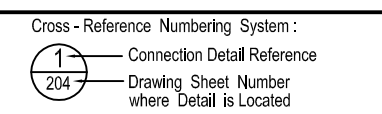


Appendix 1 - Revised Drawings of the Dust Extraction System

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1. All Dimensions are in millimeters (mm) unless noted otherwise.
2. All levels are in meters and relate to the Ordnance Survey Datum Malin Head.
3. The location of existing services is based on information provided by the service provider. The contractor is responsible for contacting all service providers prior to commencing work in any area to locate the precise location of services.



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REV	DATE	DESCRIPTION	D	C	A
A	22.01.08	DUST EXTRACTION SYSTEM REVISED	PF	KMCG	KMCG

WASTE LICENCE

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DCC, FCC, SDCC & DLRCC



SIAC CONSTRUCTION

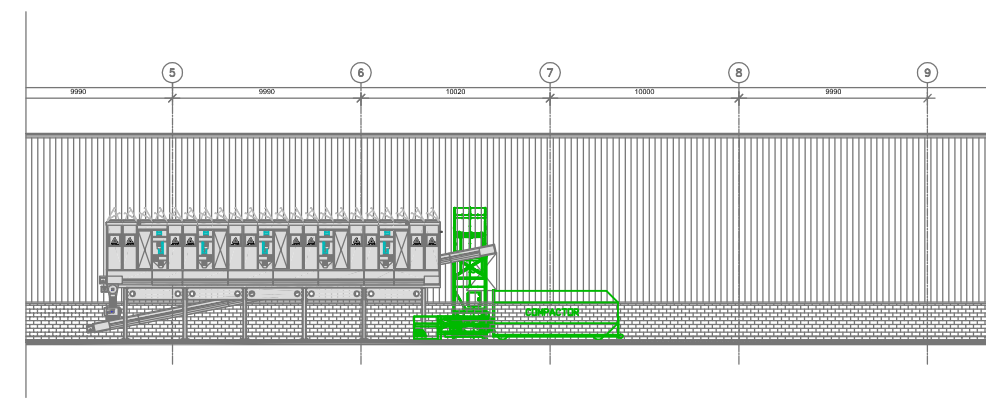
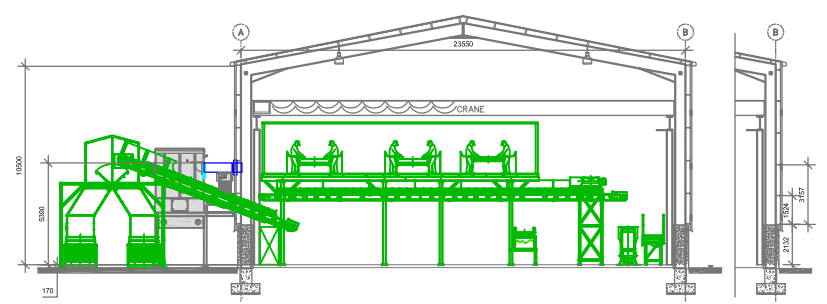
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BALLYMOUNT MATERIALS RECOVERY FACILITY

PROPOSED DUCT EXTRACTION SYSTEM

SCALES	DRAWN	CHECKED	APPROVED
1:100 @ A1	PF	KMCG	KMCG
1:200 @ A1	DATE	DATE	DATE
	JAN 08	JAN 08	JAN 08

DRAWING No. **DRAWING 12** REV **A**



V:\Drawings\30293\Drawings Civil-Structural\Waste Licence Application\LATEST 09.08.07\DRAWING 12 REV A.dwg, 22/01/2008 09:05:26

Technical design aspects NIHOT/MODESTA negative dust extraction system MKE 4300-hr (cp)

Energy saving concept negative pressure high efficiency filter systems

- Build in hr-fans efficiency 82 % type MX30-224-hr situated in top inlet section or extra top section
- Cascade arrangement offers optimal efficiency performance or energy saving when partly the extraction capacity is wanted. The difference to the use of inverters is there limited range technical spoken in behalf of maintaining the efficiency between 80 to 110 % and the performance level to the needed pressure KP(a) or Watergate.
- Interlocking hours selection of the hr-fans automatically arranged by PLC switchboard

Integrated and pre assembled design and delivery

- Build in hr-fans with the utilization of the rest heat or energy of the installed power consumers
- Pre separation by top inlet sections chambers arranged on the length of the system
- Turn-key electrical wiring during pre assembly stage in NIHOT/MODESTA factory

Internal big volume concept. to the design parameters total size and filter cloth or surface

- Filter sleeves diameter 150 mm. length 2.000 mm. means low upstream airspeed < 1 m/sec.
- Pre separation by top inlet sections chambers and low filter load about 90-120 and basic around 100 m/h. guarantees advantageous service intervals
- Big volume concept design mean no negative aspects by the normally chosen compact (circular) shapes
- Chain design and negative concept is skilled and suitable for heavily build or gross waste materials and high volume load as these are seen in the recycling, paper and woodworking industries.

Mechanical Reddler chain conveyor transport for dosing waste materials dust and chips to transport system

- Limited height by using the rectangular shape of the chain filter - basic design choice
- Integral or entire railings or bearing of the Reddler chain conveyor in overall length
- High volume capacity of waste material load and provides outstanding high reliability of the system

Innovation energy by optional insulation of the filter for thermal and acoustical norm and legislation

- Thermal 50 PU insulation of the total filter housing and optional inclusive extra outside upholstering in RAL colour
- Acoustical absorbing upholstering inside hr-fan compartments

Filter cleaning systems MFR

- MFR-cp filter cleaning compressed air - Continuous system chosen depending the dust type, by heavy waste load and depending company working hours up to 24 hours on 7 days this cleaning system will be required. Frequency compressed air cleaning automatically by pressure difference control measure and by PLC guidance. Low energy consumption by basic design NIHOT/MODESTA means limited consumption when designing on low filter loads

Electrical switchboard

- Cascade adjustment hr-fans and integral PLC Siemens with display or touch screen. And safety circuits for reliability and controlling all mechanical components



Accordingly legislation and norm regulations

- CE machine directive + 94/9/EG (ATEX 95) and concept analyse ATEX 137 zone
- Normative NEN-EN12779 directive - CADES
- Health and Safety legislation UK and Europe and outside regulations NER for emissions to dust and noise.
- NEN60204 and NEN1010 EMC electrical regulations

Delivery and mounting on location

- Quick or swift installation of the dust extraction for reliable implementation of the extraction mainly by pre assembled delivery of the system
- Limited mounting time on location and reduced cost for our the mechanics and limited inconvenience on sight
- Ducting system QA or MLS premises short mounting time and high quality project standards.

Reliability dust extraction

- By the design of build in hr-fans in the clean air are the main reason for the reliability and occurring failures of some hr-fans does not disrupt the performance of the dust extraction system.
- Stable and solid heavily build chain conveyor base on entire railings or bearing of the Reddler chain for occurring blockades by waste materials. Big volume concept design in combination with chain system provides during limited waste amount 1-2 m³ the system can be down for short period of time due to problems in the transport system or when changing the stock in containers, trailers or silos.

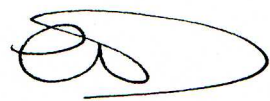
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ATTACHMENT 1 - PERFORMANCE TABLE												
no.	description machines		D.	number	D.	number	D.	number	syst.	in work	capacity	D.
			mm		mm		mm		no.		m ³ /h	total
	Dedusting recycling GP Ireland											
	OCC Screens	250 x 1	140 x 1			x			1	ja	5.803	287
	OCC Screens	250 x 1	140 x 1			x			1	ja	5.803	287
	Picking Belt Cabin	200 x 2	160 x 2			x			2	ja	9.274	362
	NEW Screens	200 x 1	200 x 1			x			2	ja	5.655	283
	NEW Screens	200 x 1	200 x 1			x			2	ja	5.655	283
	NEW Screens	200 x 1	200 x 1			x			2	ja	5.655	283
	Extra separation	351 x 1	350 x 1						3	ja	17.368	496
Total capacity of machinery →											55.213	
Number of integrated hr-fans			16	x	3.950 m ³ /h	=	63.200 m ³ /h					
no.			Air velocity m/sec				▼		▼ CAPACITY ▼			
									TOTAL		IN WORK	
1	Main ducting dust controll	500	Max. cap. Duct	17672 m ³ /h	25			11.607		11.607		
2	Main ducting dust controll	500	Max. cap. Duct	17672 m ³ /h	25			26.239		26.239		
3	Main ducting dust controll	500	Max. cap. Duct	17672 m ³ /h	25			17.368		17.368		
									55.213		55.213	
Filtersleeve diameter		150	mm	Filter load		96	by total calculated capacity					
Number sections MKF		12		Filter surface		576	total surface filterplant MKF					



ATTACHMENT 2 - PROJECT ITEMS					
no.	description	type	number	valuta	price
Dust extraction and controll system MKF4800-hr-cp conintuous					
2.	Negative pressure + high efficiency fans cascade + continuous 24 hours cyclus 6-7 days				
2.1	Modesta chainfilter negative pressure	MKF48	12		1
2.2	Compressed air cleaning system	MFR-cp	12		1
2.3	Rotary valve	MCS48	00		1
2.4	Firevalve 700*700 mm	LRK77	BR		4
2.5	Explosion reliefpanel	Fike6	25		8
2.6	Fire extinguish duct according	MKF48	12		24
2.7	Sections for pre-separation ducting	MSI	01		5
2.8	Sections for hr-fans build-in	MSI	02		5
2.9	Modesta fans high efficiency	MX HR/2	50		16
2.12	Internal electrical wiring	IB	16		1
2.13	Electrical switchboard	MES E-4	10		1
2.14	Additional electrical switchboard MFR-cp	MES E-4	08		1
2.18	Construction for level filter system 2.000 mm.	CON	160		1
2.19	Stairs and gangway for +2.500 mm. level filter	CON	160		1
3.1	Return air connections rectangular duct 700*700mm	LRK77	FI		4
3.2	Return air grid	LRK77	LB		4
3.3	Return air system to production area	estimation			4
4.	Mechanical conveyor transport system towards pressing container systems				exclusive
5.	Ducting materials for dedusting system				
5.1	Ducting materials according CAD drawing		500	MLS-1	
5.2	Ducting materials according CAD drawing		250	MLS-2	
5.3	Ducting materials according CAD drawing		MLS	OD	
5.4	Ducting materials according CAD drawing		MLS	VC	
5.5	Hoods for connection ducting and chute	medium size hoods		VC	
5.6	Hoods for connection ducting and chute	small size hoods		VC	
5.7	Hoods for connection ducting and chute	special enigeering		VC	
13.1	Project mounting and delivery costs	MKF			
13.2	Project mounting and delivery costs	CON			
13.3	Project mounting and delivery costs	LRK			
13.4	Project mounting and delivery costs	MLS-1			
13.5	Project mounting and delivery costs	MLS-2			
13.6	Project mounting and delivery costs	MLS-2			
13.7	Project mounting and delivery costs	E-MON MES			
13.8	Project mounting and delivery costs	Engineering			
13.9	Project mounting and delivery costs	Hotel+travel			
13.10	Transport costs assembled system MKF	MKF-4800-hr			



ATTACHMENT 3 - ELECTRIC OVERVIEW					
<i>nr.</i>	<i>description</i>	<i>type</i>	<i>kW</i>	<i>number</i>	<i>Total kW</i>
	MKF chain powersupply	KRK	0,55	1	0,55
	MKF rotary valve powersupply	MCS	0,55	1	0,55
	MKF filtercleaning	MFR cp	0,22	1	0,22
	High efficiency fans	MX/HR2 50	4,00	16	64,00
	High efficiency fans extension	MX/HR2 50	4,00	4	16,00
	Transport mechanical	by client			
Total installed power consumption in kW					81,32

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ATTACHMENT 4 - SPECIFICATIONS

Modesta chainfilter typ MKF4812 HR-cp

system	continuous	continuous 24 hours 7 days
filtercleaning typ	III	compressed air MFR-cp
		ASCO integrated model
compressed air pressure	6.0 - 8.0	bar (o)
use of compressed air max FAD	30.0 Nm ³ /h	by 10 min. interval

system	negative pressure	
	high efficiency energy	
diameter filtersleeves	150	mm.
filtersurface	576	m ²
filter sleeve medium	polyester naaldvilt	400 gr/m ²
dust emission	< 0,2	mg/m ³
filtration velocity or filterload	96	m/h
outside model	galvaniseerde plaat	Light-Grey
EC guidance compliant	94/9/EG ATEX-95/137	
	NEN-EN12779 CADES	

dimensions length	18.050	mm
wide	2.670	mm
hight	4.000	mm
weight fans included	13.000	kg

Explosie relief panel Fike

dimensions	625 x 625	mm
tested according	ISO 6718	
	EN 10204-3.1.B	

Dry exhuishuish ducting

typ	stortz koppeling
compliant with	NEN-EN12779

High efficiency fans

type	MX HR/224	
number	16	pieces
number extension option	4	pieces
power	4,0	kW
revs	2.820	tpm
capacity	3.450	m ³ /h
pressure	3.000	Pa
efficiency	80	%

Modesta ducting system MLS

material	galvanised steel plate	
duct connections	S = 0.7 - 1.0	mm.
	border end	MLS
norm	Klasse B (Eurovent 2.2) - III (DIN24914)	

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