

Project:

Østfold Avfallssortering IKS – MRF

Title:

APPENDIX A11

INTERFACES



C1		For Contract			
B1	15.09.22	For Tender	LIF	PT	ASE
A1	23.06.22	For Internal control	LIF	PT	PT
Revision	Date	Text	Author	Checked	Approved
Developer's logo:			Contract number:	Version :	Number of pages:
		<small>Entsorgungstechnik Innentechnik und Genehmigungsmanagement</small>	2022_01	B1	Page: 1 of 10

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1 GENERAL

The Contractor has to deliver equipment as specified in the present tender documents. Any items which are not specified, but needed for the operation, shall be included in the supply.

The delivery shall be complete starting with the feeding conveyor and include every machinery and conveyor to produce the requested output baled fractions as defined in Appendix A.

2 INTERFACES

The Client will provide the building and the necessary concrete foundations in accordance with a mutually agreed progress plan.

The Client is also providing the necessary openings in the building or the surface of the building in accordance with a mutually agreed progress plan.

2.1 Interfaces with other parallel Contractors / Client

If no contractual responsibility for physical connections and drawing for interfaces to collateral work (parallel contractors) is conclusively regulated in their contracts, the contractors have to promptly find an agreement amongst themselves or ultimately involve the Client, if they fail to agree.

2.1.1 Fixtures

Foundation bolts, dowels, screw anchors, screws for steel construction including nuts and washers as well as needed fixtures for piping and wiring for the system (cable trays, conduits) are to be supplied with the machinery and equipment.

2.1.2 Brackets

All pipes shall preferably be mounted on steel structures for the sorting plant. The maximum spans and loads to the suspension points are to be taken into account. Necessary structural engineering calculations must be prepared by the Contractor and shall be included in the contract sum.

No pipes, cable ladders etc. can be fasten to the building structure.

2.1.3 Expansion joints

All equipment and piping must be equipped with expansion joints to absorb any thermal and other forces.

2.1.4 Dedusting filter, stack

Embedded items for the foundation of the chimney shall be supplied by the Contractor in due time for the concrete works. Installation of such embedded items including concrete foundation and hook-up of lightning protection system by Client.

For the filter unit: Embedded items to be supplied by Contractor, concrete foundations to be supplied by Client.

2.1.5 Wall openings

Preparation of openings by Client according to instructions by Contractor, as per Appendix C2.

Closing of openings and necessary sealing off the wall is delivered by Client.

2.2 Interface list

The following list is showing the interfaces between Civil and other parallel Contractors and Main Contractor for the electrical- and mechanical process plant:

X = Responsible.

Description	Client	Contractor	Comments
General			
Cleaning after own work	X	X	Client civil built / process
Marking of own work	X	X	Acc. to Appendix A6
Site preparation and operation	X		See list below for more details
Openings in walls/fire sealing	X		
2 Building			
20 Building generally	X		
21 Ground and foundations	X		
Foundation for machinery	X		Concrete
Foundation for machinery		X	Steel structure and embedded parts
22 Primary building parts	X		
23 Outer walls	X		
Gates, doors etc.	X		
24 Inner walls	X		
25 Floors	X		
Coating of building parts	X		
27 Inventory	X		
28 Stairs, balconies etc.	X		Admin etc. Not inside process hall

Description	Client	Contractor	Comments
Stairs, walkways in process hall		X	All steel stairs and walkways
29 Other building parts	X		
3 Plumbing / HVAC			
30 General	X		
31 Sanitary, water/sewer	X		
Warm / Cold water	X		
High Pressure 70 °C	X		
32 Heating	X		Permanent heating systems
33 Firefighting	X		
Sprinkler	X	X	Deluge/sprinkler for shredder and downstream conveyor to be part of Contractor scope
Firehoses	X		
Powder/gas extinguisher	X		
34 Gas and pressurized air		X	
Compressed air – process		X	Dew point = -40°C
Compressed air - instrumentation		X	Dew point = -40°C
Compressed air – for maintenance		X	Connection points distributed throughout process plant
35 Process cooling	X		Including AC in Control room etc.
		X	Including AC in MCC and Compressor room
36 Air treatment	X		
Ventilation – General building	X		Admin, changing rooms, MCC rooms, storage rooms, workshop, and storage hall.
Ventilation – Air inlet to process areas, incl. heating	X		Ductwork in process hall by Contractor.
Ventilation - Dedusting. process hall sorting		X	Including outlet with stack
Ventilation – air inlet/outlet to reception and storage halls	X		Fans, ductwork etc. to stack by Client, stack by Contractor
37 Comfort cooling	X		
38 Water treatment	X		For sorting plant (no process wastewater)
39 Other HVAC installations	X		
4 Electro			

Description	Client	Contractor	Comments
40 Electro general	X		For building and civil part
41 General installations	X		
42 High voltage supply	X		
43 Low voltage supply			
MCC room	X		
Supply for building and general consumers	X		
Main low voltage distribution board	X		Main switches for groups of equipment
Cabling from Main distribution board to MCC for electro mechanical plant		X	
MCC and cabling to process		X	
Cabling process		X	
Cable trays & ducting in MCC room and process plant		X	For 230 / 400V, signal cabling. Spare capacity for Client cabling for additional lights
44 Lighting			
General in building	X		
Special process areas		X	
45 Electrical heating building	X		
46 Back up power UPS 12 / 24 V.	X	X	For own equipment
5 Telecommunications			
50 Telecommunications, general	X		
51 Basic installations	X		
52 Integrated communication	X		
53 Telephone and callingsyst.	X		
Common	X		
Locally	X		
54 Alarm and signals			
Firealarm	X		
Process alarms and signals		X	
55 Sound and CCTV			
Cameras and monitors		X	
56 Automation systems			
Building	X		
Process		X	
6 Other installations			

Description	Client	Contractor	Comments
60 General.			
62 Personal and goods transport.			
Containers	X		
Elevators	X		
65 Waste and vacuum cleaning			
Vacuum cleaner			Vacuum cleaner not included in Scope of Supply
66 Process plant		X	
7 Outside area			
Generally	X		

During construction, installation and testing at site the following interfaces shall apply:

Cl: Client

Con: Contractor

1. Installation personnel		Provided by		Paid by	
		Cl	Con	Cl	Con
	1.1 Foremen, one English speaking		X		X
	1.2 Skilled labour pers.		X		X
	1.3 Auxiliary (unskilled) labour		X		X
	1.4 Travel expense of labour		X		X
	1.5 Accommodation		X		X
2. Site facilities	2.1 Offices	No. of persons:	X		X
	2.2 Office furnishing		X		X
	2.3 Telephone connections			X	X
	2.4 Phone calls (local and long distance)			X	X
	2.5 Internet service			X	X
	2.6 Standard Mail service		X		X
	2.7 Storing room for tools			X	X
	2.8 Heated indoor storage			X	X
	2.9 Preassembly area	m ² :	X		X
	2.10 Cold indoor storage			X	X
	2.11 Storage fixtures (shelves etc.)			X	X
	2.12 Outdoor storage area (at preassembly area)	m ² :	X		X
	2.13 Toilets, wardrobes, wash rooms	pers:	X		X
	2.14 Canteen facilities		X		X
	2.15 Parking area		X		X
	2.16 Cleaning of offices		X		X
	2.17 Cleaning of toilets, washrooms, canteen		X		X
	2.18 Extra reinforcement of the soil for mobile cranes			X	X
	2.19 First Aid Station – see also 7.6		X		X
3. Foundations	3.1 Piling and foundation		X		X
	3.2 Concrete floor		X		X
	3.3 Drilling holes and chipping			X	X
	3.4 Installation openings and their protection		X		X
	3.5 Anchor places for hoisting and pulling			X	X
	3.6 Measuring and line marking			X	X
	3.7 Anchor bolts, plates etc. cast in concrete.			X	X
	3.7.1 Fabrication			X	X
	3.7.2 Installation (according to Contractors instructions)		X		X

4. Transportation and storage		Provided by		Paid by	
		CI	Con	CI	Con
	4.1 Transportation of machinery and equipment to site		X		X
	4.2 Transportation of tools to site		X		X
	4.3 Reception and unloading of arrived goods from vehicle		X		X
	4.4 Loading and dispatch of departing goods		X		X
	4.5 Storing and sheltering		X		X
	4.6 Transport from storage to installation point		X		X
	4.7 Road maintenance at the installation and storage areas	X		X	
5. Installation	5.1 Cranes + operator		X		X
	5.2 Jacks, winches, tools and tackles		X		X
	5.3 Personal tools and special tools		X		X
	5.4 Welding machines		X		X
	5.5 Wearing parts of welding machines		X		X
	5.6 Gases for welding and cutting		X		X
	5.7 Transportation of gases		X		X
	5.8 Filler metals for welding, discs for grinding and cutting.		X		X
	5.9 Scaffolding		X		X
	5.10 Erection of scaffolds, liability for safety there of		X		X
	5.11 Shelters for cold, rain and wind		X		
	5.12 Electric power, in building and preassembly area,	X		X	
	5.13 Main electric power distribution board at site	X		X	
	5.14 Sub-boards for electric power distribution at site		X		X
	5.15 Compressed air		X		X
	5.16 Water	X		X	
	5.17 Lubricants		X		X
	5.18 Initial filling with lubricant		X		X
	5.19 Fuel for working machines		X		X
	5.20 Fire sealing for cable- and piping penetrations	X		X	
6. Insurances	6.1 Fire insurance for delivered equipment		X		X
	6.2 Fire insurance for working machines and tools		X		X
	6.3 Statutory insurances for Supplier's Personnel		X		X
	6.4 Burglary insurance for delivered equipment		X		X
	6.5 Burglary insurance for working machines and tools		X		X
	6.6 Transport insurance for delivered equipment		X		X
	6.7 Transport insurance for working machines and tools		X		X
	6.8 Erection All-Risks insurance		X		X
	6.9 General liability and products liability insurances		X		X

		Provided by		Paid by	
		CI	Con	CI	Con
7. Safety	7.1 Personal protective devices		X		X
	7.2 Safety equipment		X		X
	7.3 Fire guard service at site	X		X	
	7.4 Fire guard service at installation point		X		X
	7.4.1 During working hours		X		X
	7.4.2 After working		X		X
	7.5 Primary extinguishers		X		X
	7.6 First aid equipment and services		X		X
	7.7 Entry and working permits at site		X		X
8. Environmental	8.0 Provisional heating (if necessary) during installation phase	X		X	
	8.1 Heating of installation point		X		X
	8.2 Ventilation of installation point		X		X
	8.3 Waste removal from site (by Prime Contractor)	X	X	X	X
	8.4 Cleaning of installation site prior to Trial Period		X		X
	8.5 Cleaning of installation point, during and after installation		X		X
	8.6 Security guarding of site	X		X	
	8.7 Guarding of installation point		X		X
	8.8 General lighting	X		X	
	8.9 Lighting of installation point		X		X
	8.10 QA and inspection by authorities		X		X
	8.11 X-ray and ultrasonic inspections and review (if any)		X		X
	8.12 Repair paintings		X		X
	8.13 Final surface painting		X		X
	8.14 Cleaning of pipes and systems		X		X
	8.15 Pickling agents and inside pickling of pipes and systems		X		X
8.16 Protection of work area against glare and noise, protective shelters		X		X	
Other:	The Contractor is obliged to take part in all safety rules and other measures directed by the Client				
	The Client shall have the right to use scaffoldings and lifts provided by the Contractor if available				
	All workers at site shall carry and keep visible identity cards with a photo.				