

RECOVERING LOSS FROM FOOD PROCESSING STREAMS

Use of clarifiers, decanters, hydrocyclones, DAF and Save-Alls during wastewater treatment equals lost by-product & lost profits !

The Problem:

In meat processing, it is not uncommon to discover that as much as 1,000-2,000 ppm of saleable by-product is lost to effluent treatment as unwanted sludge.

The Solution:

One Baleen '120-Series packaged plant can reclaim around 4 metric-tonnes per hour of meal/fat/fibre from 2,000GPM of effluent (subject to survey). At profit/savings of US\$50 per Tonne and 4,000 operating hours (Per Year) it's not difficult to see that Baleen provides for a solid return on investment (measured in months).

Pre-requisites:

- 0.05" (1.25mm) pre-screen or similar (ideal but not essential)
- Onsite/offsite screenings/by-product management
- Concrete foundation and Utility requirements (subject to site survey)

Nota Bene:

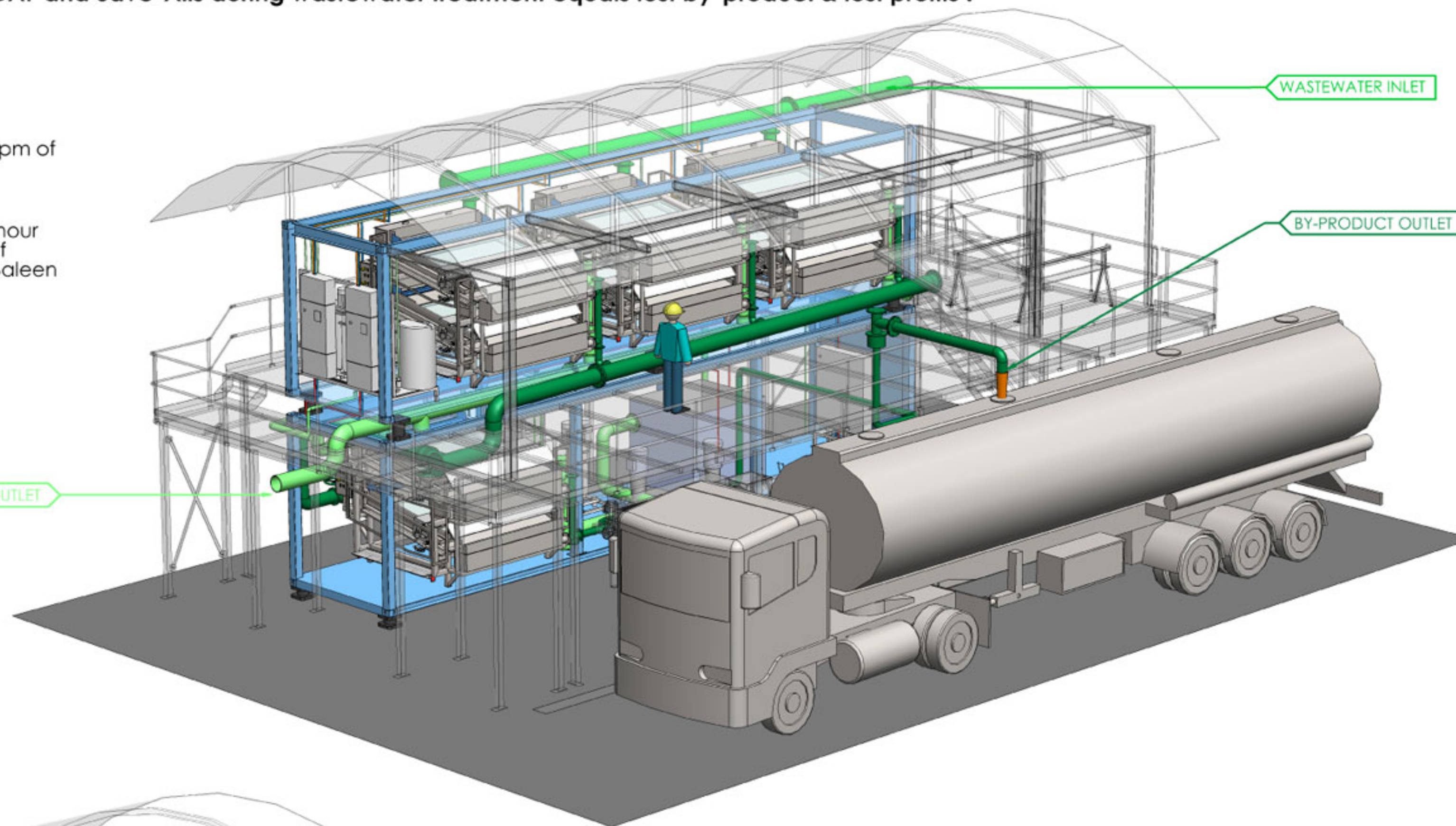
ppm = mg/L = g/kL, 2,000GPM = 456kL/hr, US\$50 = AU\$70 (Sept '15)

Industry Benefit:

By-product Recovery for revenue (Stage 1- Resource Separation, as shown);
SPN land avoidance/reduction;
Inline DAF energy/consumable savings & improved discharge compliance;
'Fit for Purpose' water re-use opportunity (Stage 2 - Barrier Filtration);
Rapid Return On Investment (Basis: SPN US\$0.08/lb & By-product US\$0.12/lb).

Benefit to the Environment:

Baleen delivers dramatic treatment-plant energy-savings (viz. DAF alternative) and in-process water-savings (viz. Drum Screen spraywater recycle or other re-use opportunity).



PERSPECTIVE VIEW 1
ITEMS GHOSTED FOR CLARITY

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Functional Description:

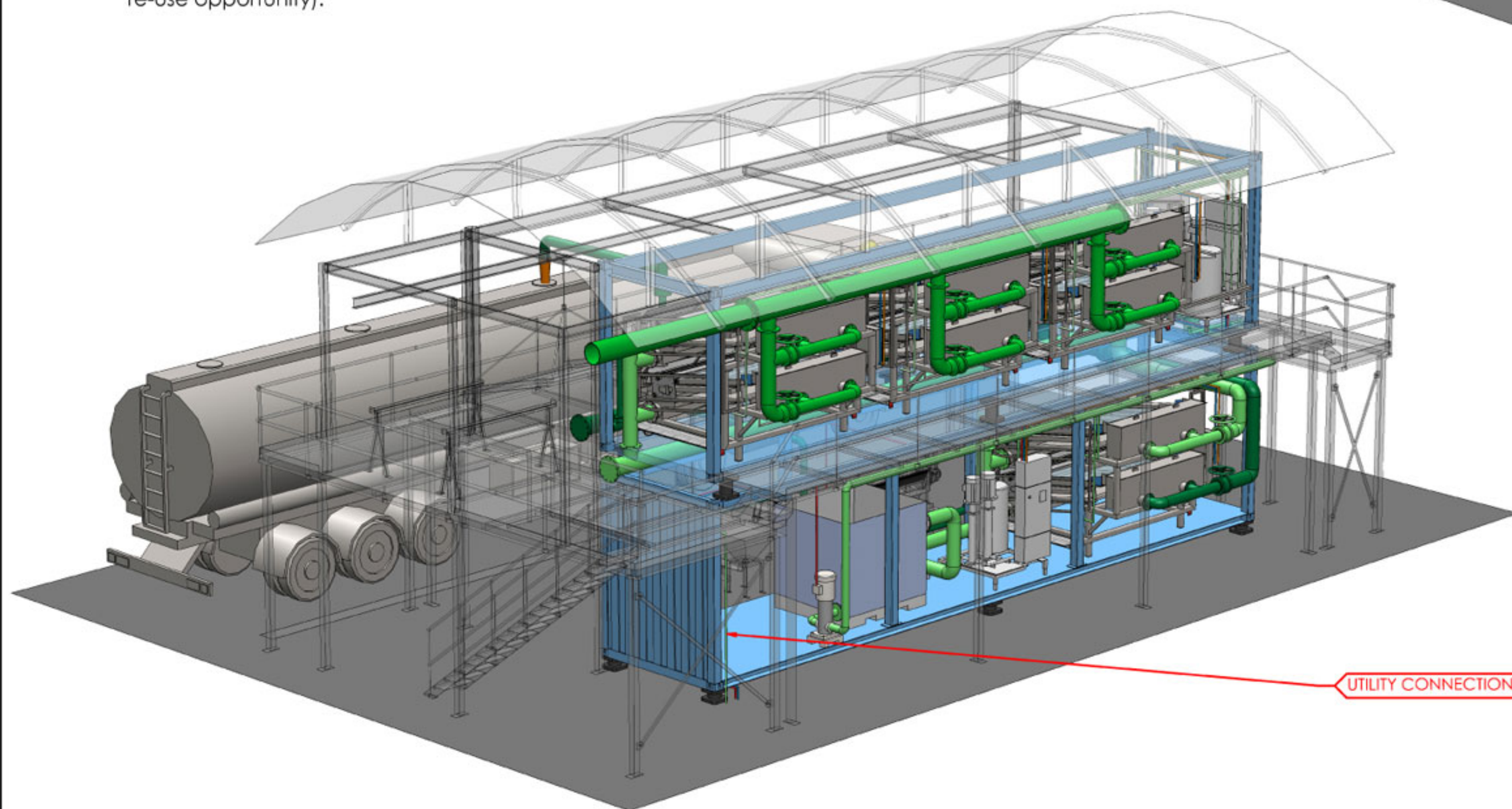
Baleen is readily integrated into existing operations using gravity pipework with clean by-product delivered for immediate offsite cartage. More than 10-years of continuous service in this industry confirms Baleen can consistently yield by-product of 12-14% solids content, which can be mechanically thickened to as much as 15-30% if required.

Product Features:

- Major part change-out in 15-30 minutes
- 'Hot Swap' automation to alleviate operational downtime
- Exceptionally low service requirement per annum

Technology Features:

- FAT certified, ready-to-install plant
- Packaged in customised 40-ft (12.5m) shipping containers
- 'Connect and Use' within 14-days of delivery
- Complete pipework, framework and utility connection provisions
- Locked-in process-performance monitoring
- Online density/flow log of recovered by-product volume
- Instrumentation and remote-monitoring for full auto-operation
- Detailed design (PFD, P&ID and 3D CAD) for optimum durability
- No chemical or potable water requirement for operation
- Compliant to international safety, electrical & building codes



PERSPECTIVE VIEW 2
ITEMS GHOSTED FOR CLARITY

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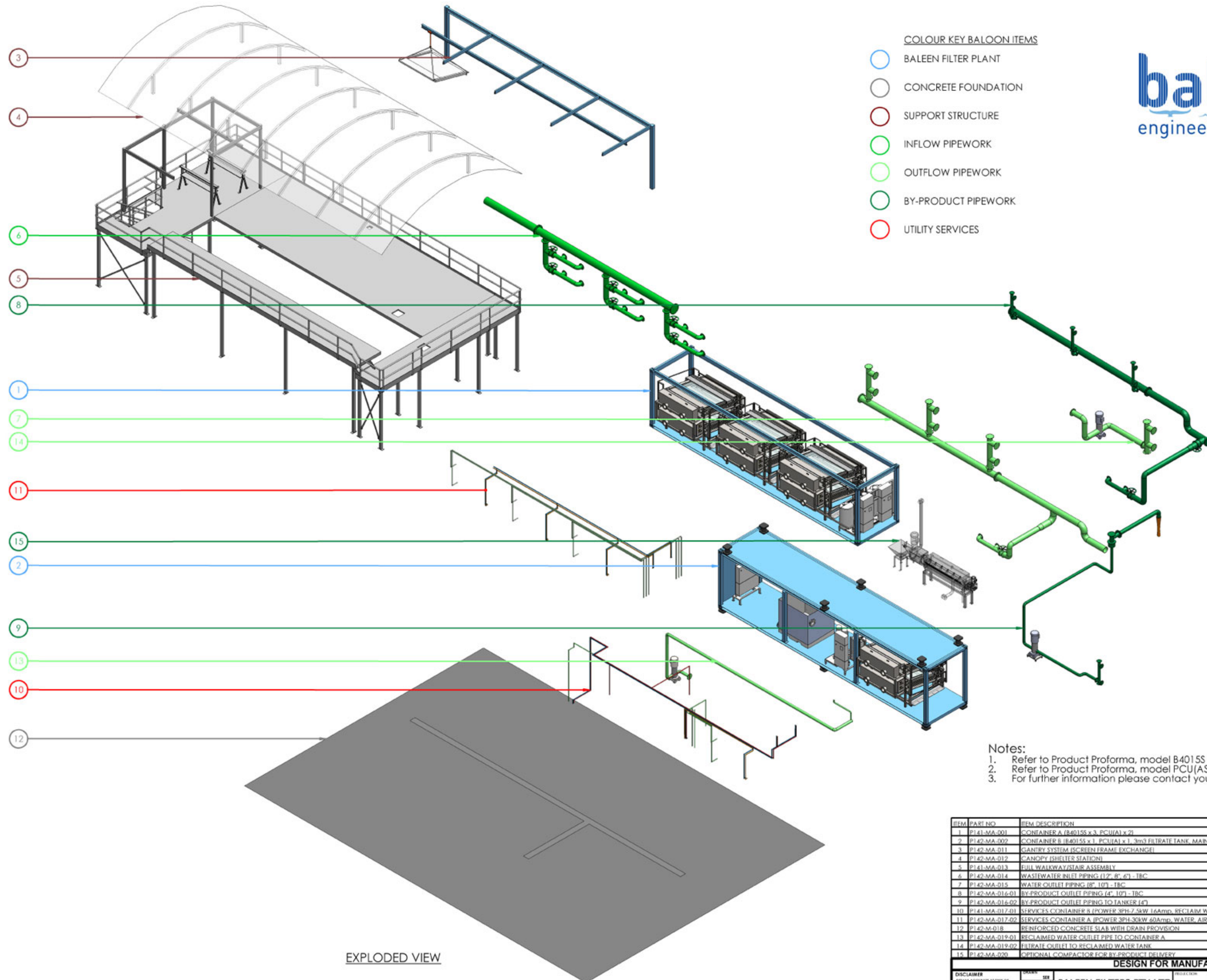
DESIGN FOR MANUFACTURE									
DISCLAIMER DETAILS ACCURATE AT TIME OF PRINTING. BALEEN FILTERS PTY LTD RESERVES THE RIGHT TO CHANGE ANY DETAILS.	DATE 20/10/2015	CHKD TRD	BALEEN FILTERS PTY LTD	PO BOX 1189, NORTH ADELAIDE SA 5006 AUSTRALIA Tel: +61 8 8354 4511 Fax: +61 8 8354 4522 email: info@baleenfilters.com	PROJECT CRUDE TALLOW	REV P142-B120-001 P	1 of 3	REV E	

Near 100% Primary Solids Removal from Wastewater = Water Reclamation Opportunity = Reduced Treatment Cost (by as much as 95%)



COLOUR KEY BALOON ITEMS

- BALEEN FILTER PLANT
- CONCRETE FOUNDATION
- SUPPORT STRUCTURE
- INFLOW PIPEWORK
- OUTFLOW PIPEWORK
- BY-PRODUCT PIPEWORK
- UTILITY SERVICES



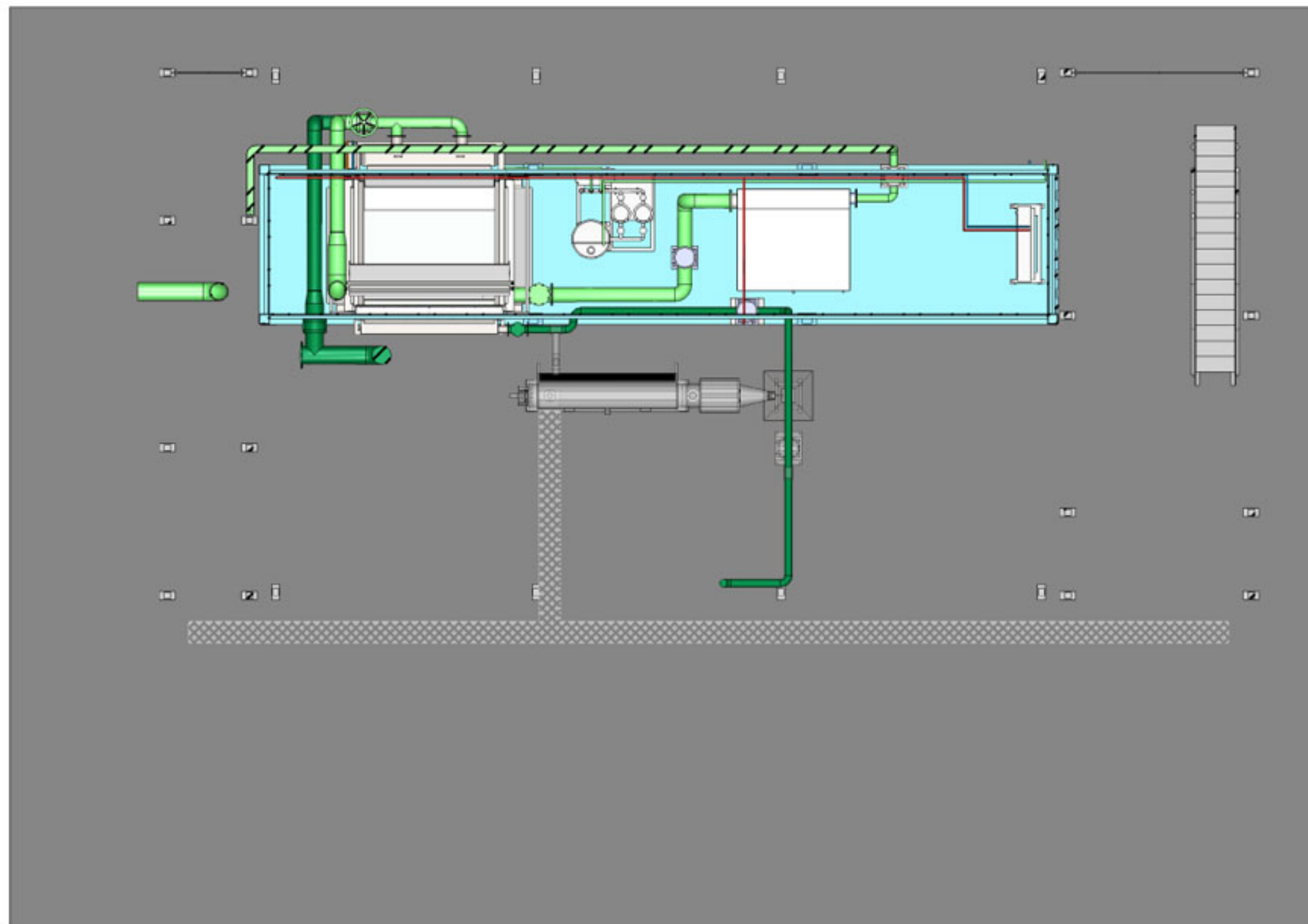
EXPLODED VIEW

Notes:

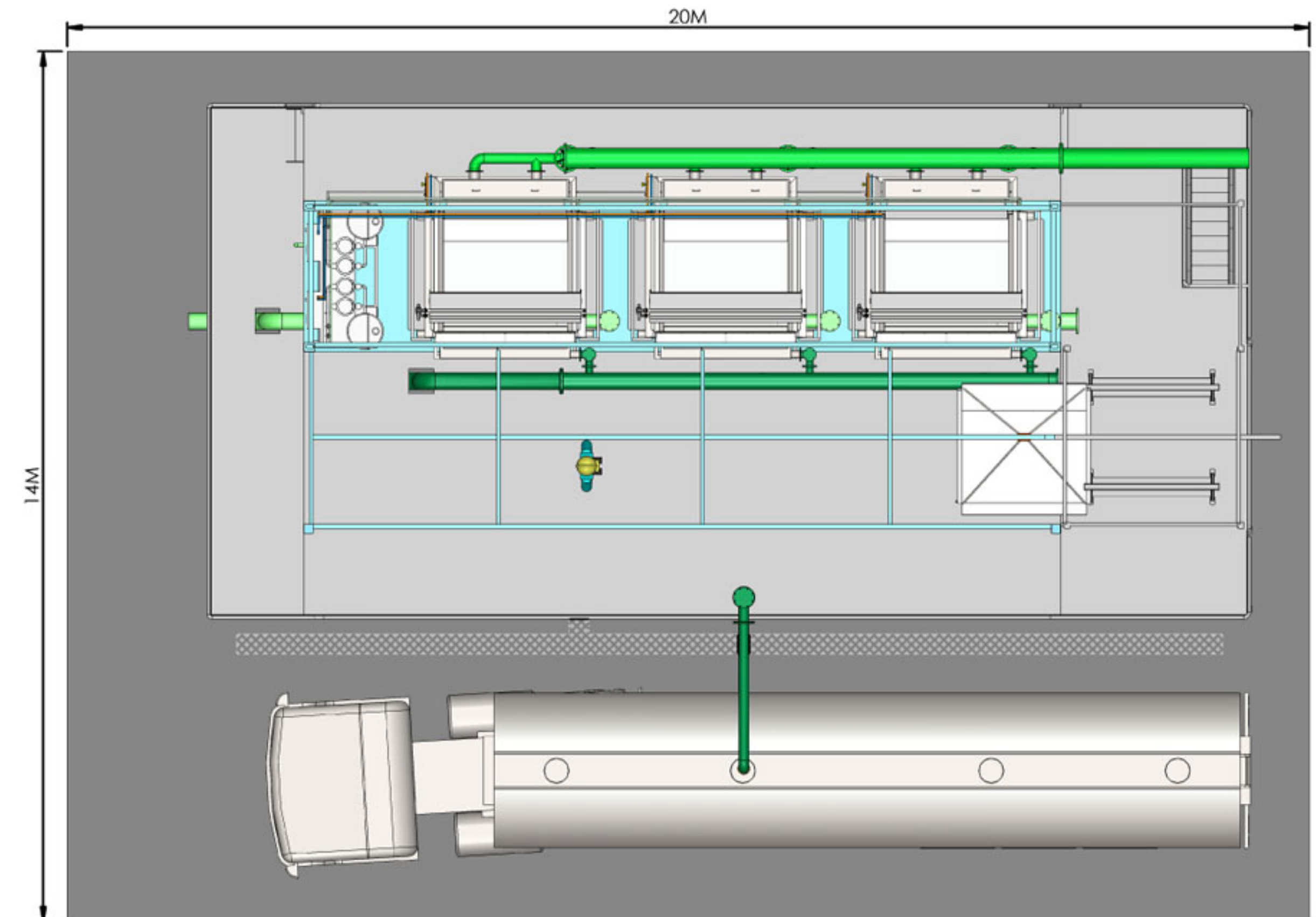
- Refer to Product Proforma, model B401SS for filter details.
- Refer to Product Proforma, model PCU(AS) for utility details.
- For further information please contact your local Baleen representative.

ITEM	PART NO	ITEM DESCRIPTION	REV
1	P141-MA-001	CONTAINER A (B401SS x 3, PCU(A) x 2)	1
2	P142-MA-002	CONTAINER B (B401SS x 1, PCU(A) x 1, 3m3 FILTRATE TANK, MAIN DISTRIBUTION BOARD, PUMPS 4" MAIN TO 2")	1
3	P142-MA-011	GANTRY SYSTEM (SCREEN FRAME EXCHANGE)	1
4	P142-MA-012	CANOPY (SHELTER STATION)	1
5	P141-MA-013	FULL WALKWAY/STAIR ASSEMBLY	1
6	P142-MA-014	WASTEWATER INLET PIPING (12" 8" 6") - TBC	1
7	P142-MA-015	WATER OUTLET PIPING (8" 10") - TBC	1
8	P142-MA-016-01	BY-PRODUCT OUTLET PIPING (4" 10") - TBC	1
9	P142-MA-016-02	BY-PRODUCT OUTLET PIPING TO TANKER (4")	1
10	P141-MA-017-01	SERVICES CONTAINER B (POWER 3PH-7.5kW 16AMP, RECLAIM WATER, AIR 12CFM 68Psi)	1
11	P142-MA-017-02	SERVICES CONTAINER A (POWER 3PH-30kW 60AMP, WATER, AIR 40CFM 68Psi)	1
12	P142-M-018	REINFORCED CONCRETE SLAB WITH DRAIN PROVISION	1
13	P142-MA-019-01	RECLAIMED WATER OUTLET PIPE TO CONTAINER A	1
14	P142-MA-019-02	FILTRATE OUTLET TO RECLAIMED WATER TANK	1
15	P142-MA-020	OPTIONAL COMPACTOR FOR BY-PRODUCT DELIVERY	1

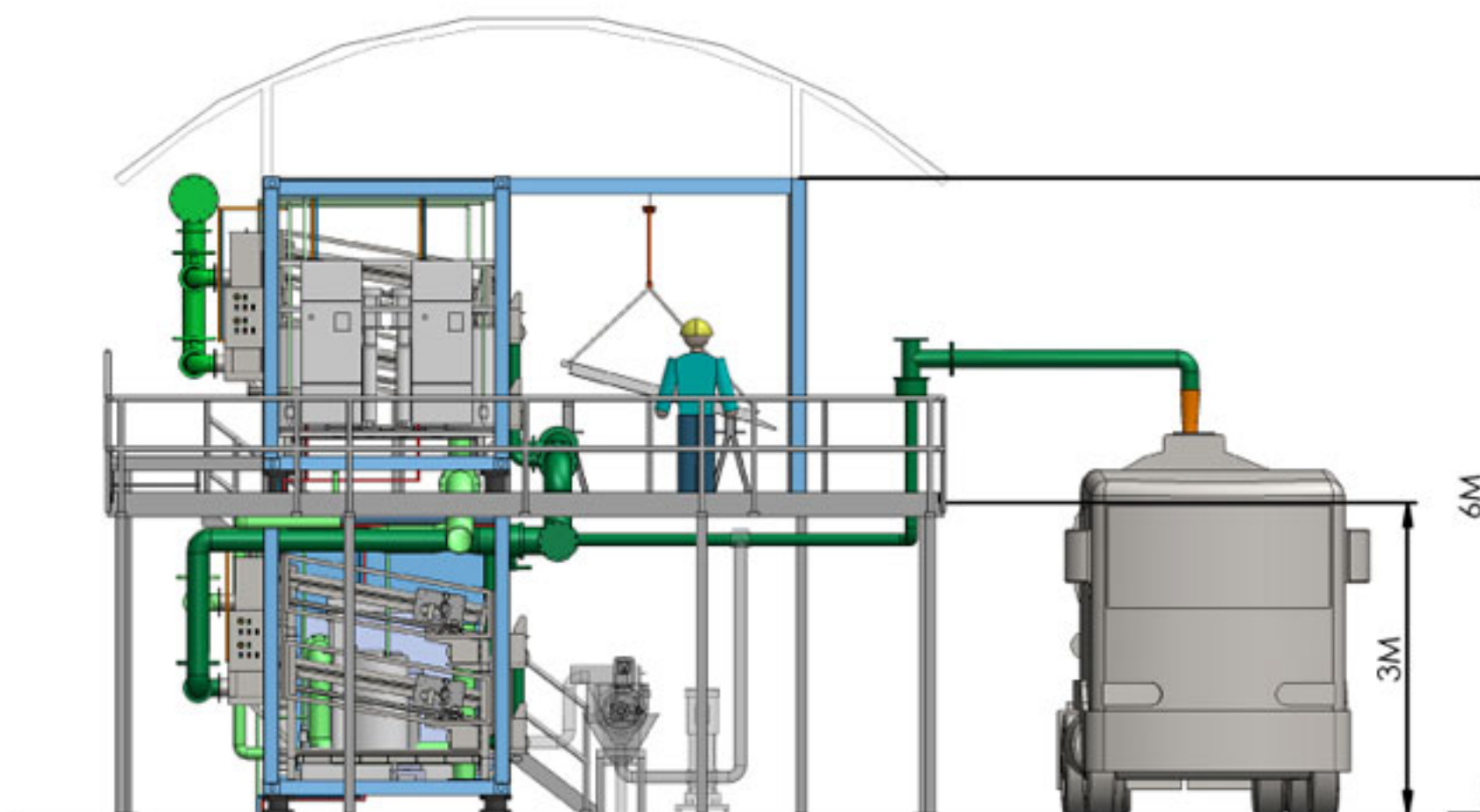
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DATE: 14/09/2015		PO BOX 1189, NORTH ADELAIDE SA 5006 AUSTRALIA		REV: 01		CRUDE TALLOW	
CHECKED: YBO		Tel: +61 8 8354 4311 Fax: +61 8 8354 4322 Email: info@baleenfilters.com.au		REV: 01		P142-8120-002 P	
DATE: 14/09/2015		All dimensions in mm unless otherwise specified		REV: 01		2 of 3	



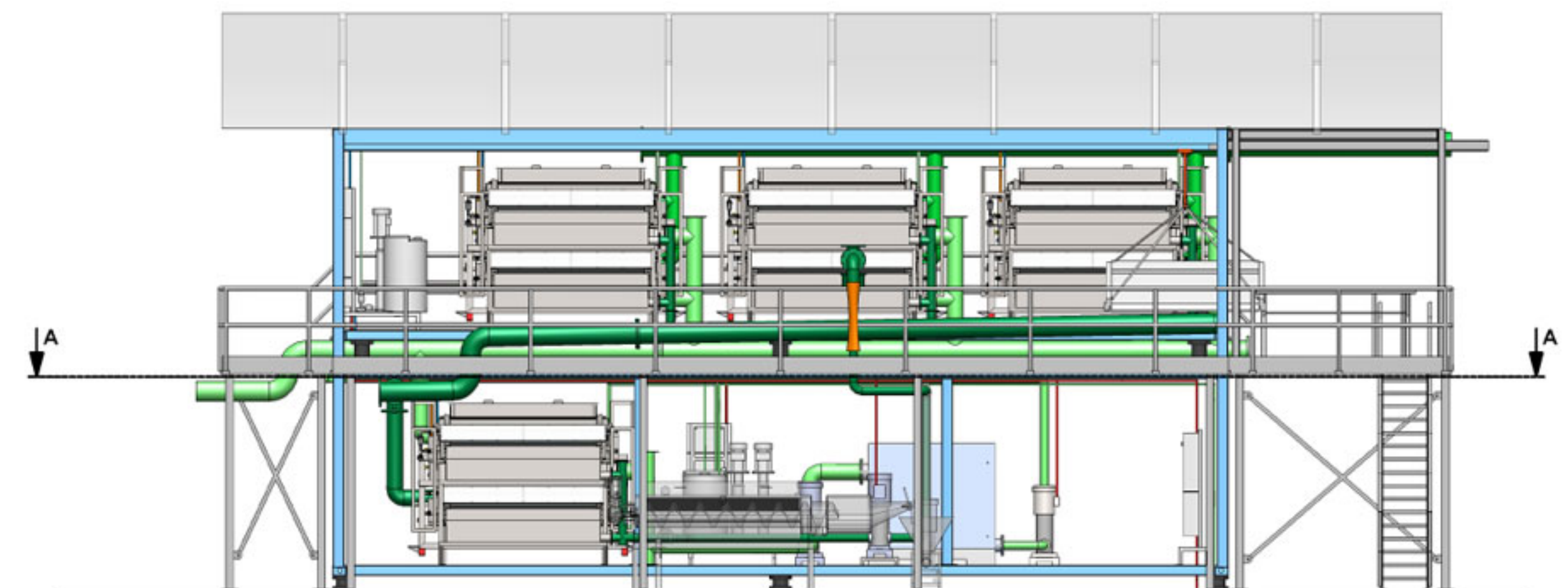
SECTION A - LOWER CONTAINER LAYOUT
BY-PRODUCT COMPACTOR & DRAINS GHOSTED, SUBJECT TO SITE SURVEY



PLAN VIEW
CANOPY OMITTED FOR CLARITY



SIDE ELEVATION



FRONT ELEVATION

Notes:

1. Wastewater inflow is pumped to Baleen plant, and filtered water outlet is by gravity.
2. By-product outflow is delivered by pump at a minimum of 12-14% solids content.
3. All ancillary works (utility services, concrete foundation, bunding provisions) to be supplied and installed by the client to Baleen's specifications.
4. By-product collection and handling (truck shown) is responsibility of the client.
5. For further information please contact your local Baleen representative.

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DESIGN FOR MANUFACTURE					
DISCLAIMER	DATE	DATE	DATE	DATE	DATE
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ALL DIMENSIONS IN mm UNLESS OTHERWISE INDICATED	14/09/2015	14/09/2015	14/09/2015	14/09/2015	14/09/2015
BALEEN FILTERS PTY LTD			FOOD RESOURCE RECOVERY		
PO BOX 1188, WOODVILLE ADELAIDE SA 5006 AUSTRALIA			PROJECT CRUDE TALLOW		
Tel: +61 8 8354 4511 Fax: +61 8 8354 4522 Email: info@baleenfilters.com			P142-8120-003 P		
3 of 3			E		