

REPORT TO: EXECUTIVE
Date: 4th FEBRUARY 2019
**TOPIC: MATERIALS RECOVERY FACILITY -
INFRASTRUCTURE**
REPORT BY: HEAD OF OPERATIONAL SERVICES

1 INTRODUCTION

- 1.1 As a direct result of the Recycle More project, which includes the three-weekly residual collection service, the amount of recycling we now collect has increased significantly from the level 18-months ago.
- 1.2 The existing equipment in the process hall is often at maximum capacity to bale the collected materials. The equipment is old a regularly breaks down or needs additional maintenance and is now in need of replacement.
- 1.3 If Members wish to extend the three-weekly trial to other areas or district wide, the problem with the process hall will be further exacerbated, so the recycling infrastructure must be addressed in the first instance.

2 RECOMMENDATIONS

- 2.1 Members are requested to approve the recommendation to replace the Process Hall recycling plant and equipment to the estimated value of £760,000 (subject to exchange rates).
- 2.2 Members are requested to recommend to Full Council a variation to the capital programme to the value of £760,000 and to release the funds required.
- 2.3 Members requested to approve the recommendation to give delegated power to the Head of Operational Services in consultation with the Portfolio Holder to award the contract following a procurement process.

3 REASONS FOR RECOMMENDATIONS

- 3.1 The existing Process Hall equipment is beyond its useful life and is unable to cope with the current level of materials that we need to process. Breakdowns and stoppages are now a regular feature adding further pressure to an already over stretched service. For the first 9-months of the financial year breakdowns and the recovery of breakdowns has cost the authority £44,264.00 which has not been budgeted for.

4 REPORT

- 4.1 The Recycle More project has influenced our residents to recycle more than ever before resulting in the existing facility used to process the recycled materials not being capable of keeping up with the throughput. The occurrence of breakdowns are approximately twice per week with more major breakdown being monthly. Breakdowns are not restricted to one particular component and there are regular problems with any one of the three existing balers, conveyors and ancillary equipment.
- 4.2 With the rise in materials collected and the increase proposed the existing processing facility is not adequate. The existing equipment is now past its proposed life and replacement is required. Various options have been considered including not operating our own plant and sending it elsewhere for processing, updating all of the plant and equipment in its entirety, and just replacing the baler / balers with a bigger one to speed up the baling process. Two independent suppliers have been to site (with no commitment) and both advise that the existing conveyors are too narrow for our current and future purposes. So even if we did purchase a baler/ balers only, new or otherwise, it would be no more efficient on speed as the feed mechanism cannot take more material as the process can only go as fast as the belts.
- 4.3 This is exacerbated with the collection of Trade Recycling where the containers and material is much larger than domestic for which the current equipment is not designed to take. This then creates breakdowns and increased risks to unblock the machinery. Whilst we could withdraw from offering a trade recycling service which would reduce some of the down time with the present equipment, it would not negate the need to replace longer term.
- 4.4 Second hand equipment is a possibility but it is unlikely that we will be able to purchase all the components at the same time and get total compatibility with the various pieces of equipment. The warranty and servicing ability of any supplier will also cause management problems if a composite machine is considered. A considerable number of components make up the full processing plant including in-floor feeding conveyors; picking conveyors, an overband magnet and Eddie current separator and a twin ram baler.
- 4.5 The other option is not to process any of the materials ourselves and instead send it to a third party processor. This will avoid the capital costs and reduce staff numbers within the process hall, however there is a limited local market for reprocessing with the nearest being Exeter City Council, or even further away in Bristol. Haulage costs can be volatile with ever increasing fuel prices and any third party processor will charge a "gate" or processing fee as well as offering no income for the materials taken. There is also a risk that with events such as China's restrictions on plastics and cardboard being repeated bulk facilities will become saturated, either increasing processing costs or worst case turning work away.
- 4.6 The final option is to totally change our collection methodology and to move away from kerbside sort and collect materials co-mingled. Co-mingled means collecting all of the recycling in a wheeled bin, however glass and food waste would need to be collected separately. Whilst this would mean that we didn't need to make the

capital investment into the plant and equipment we would need to replace our kerbside sort vehicles with split bodied refuse collection vehicles and introduce a separate collection for food waste. A desktop analysis has been undertaken to assess the viability of this option.

- 4.7 Capital costs for a co-mingled service are approximately £1.87 million pounds. This cost consists of changing the vehicles from kerbside collection vehicles to split bodied RCV's, the purchase of separate food waste collection vehicles, and the purchase of approximately 46,000 wheeled bins to collect the co-mingled recycling from. The sale of our existing recycling fleet and existing process hall equipment has been factored into this. The annual revenue implications for moving to a co-mingled collection service is approximately £560,000 more than the existing kerbside collection service.
- 4.8 Whilst there are significant staff savings to be made (approximately £437,000 saving), there is also a significant cost to transporting the co-mingled material to a process plant (approximately £142,500) and a "gate fee" also has to be paid for each tonne of material processed (based on our 2017/18 tonnages collected the charge would be £226,650) . In addition, no material income will be generated at a loss of £629,000 (based on 2017/18 figures). The gate fee is considerably lower than that of the Landfill gate fee as the processor takes into account the value of the materials that they will recover/ recycle and offsets this against the total cost per tonne for sorting the materials. Sorting co-mingled waste requires extensive equipment and technology and is also labour intensive as many items have to be hand separated and sorted.
- 4.9 Whilst the level of capital investment for a co-mingled collection service is in-line with the capital investment needed for the existing service (predominantly due to the cost of replacing or recycling fleet over the next 4 years), the revenue costs for switching to a co-mingled collection service is approximately £500,000 more than maintaining our current type of service provision, after investing in a new processing system and it is for this reason that this option is not considered viable.
- 4.10 It is therefore recommended that new plant and equipment along with all the necessary ancillary equipment is purchased. If approved the process hall could be up and running to capacity by Christmas 2019 with improved reliability and throughput. The equipment will be able to not only cope with existing production but have the capacity to take the material if all the District were to recycle to its maximum ability along with increased trade recycling and also possible external additional business.
- 4.11 During the period of decommissioning the old equipment and installing the new, Exeter City Council has agreed to process our steel/aluminium and plastics which will see a reduction in our overall income of approximately £12,500. Cardboard will still be moved under our current arrangement along with glass and paper.
- 4.12 It is recommended that we configure the process hall with a series of new bulk storage bays to hold the separated plastics, steel, aluminium and cardboard. This will be achieved by a bulk storage bay for mixed materials that will be loaded onto

floor level conveyors that will then take the individual materials through a series of electro-magnets (to capture steel) and eddie current separators (to separate aluminium). These separated materials can then be forwarded on individually to a twin ram auto banding baler. Overhead gantries with picking stations also need to be included to allow for additional materials to be removed / recycled if we chose to expand the recycling service in the future, or if there is a market requirement to produce higher grade recycled.

4.13 Presently we require 4 operatives within the process hall to operate the three existing balers, the mechanical loader (Telehandler) and the two fork lift trucks. With the introduction of the new equipment it is envisaged that this number can be reduced to 3, creating a saving of £23,000 pa. With the introduction of the new twin-ram baler materials will be compressed and automatically banded to a greater density, which means that we will be able to get more weight of material on to the transport lorries resulting in a higher income per load of +5% which equates to an additional £17,500 per annum. The new plant and equipment will also allow for cardboard to be baled which will reduce our transport costs, as presently it is sent out as loose material and is shipped out at approximately 3 – 5 Tonnes per load, compared to 18 – 20 tonnes per load when it is baled.

5 RESOURCE IMPLICATIONS

5.1 Costs (capital)

Capital costs	2018/19	2019/20	2020/21	2021/22
(a) Capital expenditure (£000's)		760,000		
(b) Capital contributions / Funding (£000's)		nil		
Net capital costs (£000's) (a) - (b)		760,000		

Revenue implications	2018/19	2019/20	2020/21	2021/22
(c) Annual expenditure (£000's)				
Borrowing costs over 10 years		91,580	91,580	91,580
(d) Annual income (£000's)				
Increased income from volume		(17,500)	(17,500)	(17,500)
Loss of income during installation		12,500		
(e) Annual savings (£000's)				
Reduction in I x FTE		(23,000)	(23,000)	(23,000)
Net annual revenue (£000's) (c) - (d) – (e)		63,580	51,080	51,080

Subject to Members approving the recommendations of this report it is proposed that a soft procurement exercise be undertaken in April 2019 with the full procurement process then following in May 2019. Following the award of contract the installation date will be agreed with the chosen contractor and it is envisaged that the plant and equipment will be installed no later than October 2019, where testing will then be undertaken before the plant goes fully live at operating speed by the end of October 2019. Procurement will be subject to EU Procurement Rules due to the value of the contract.

6 CONSTITUTIONAL CONTEXT

Article or Appendix and paragraph	Referred or delegated power?	Key decision?
Part 3 Annexe 4	Delegated	Yes

7 STATEMENT OF CONFIDENTIALITY

7.1 This report contains no confidential information or exempt information under the provisions of Schedule 12A of 1972 Act.

8 BACKGROUND PAPERS

8.1 The background papers are available for inspection and kept by the author of the report.

9 STATEMENT OF INTERNAL ADVICE

9.1 The author (below) confirms that advice has been taken from all appropriate Councillors and officers.

Executive Member: Councillor Rodney Cann

Author: Ricky McCormack

Date: 9th January 2019

Reference: Document4