

## APPENDIX 1 – Detailed Breakdown for Repairs and Plant Replacement

### 2.3 Filter Media Change at Tides and Dover

Tides	Sand Filters – Refurbish & Replace Filter Medium to 3 Vessels including shot Blast to Remove Scale and 3 New Man Access Doorways	£23,998.00	Completed	The filter medium was last replaced ten years ago and was due for replacement in order to ensure that the quality of the pool water is maintained. Refurbishment & Replacement of Filter Medium to 3 Vessels including Re-lining with 3 Coat Epoxy Paint system and increasing the size of the man access hatches to the three vessels as the existing 400mm opening no longer complies with current access legislation. £11,326 (Plus PC sum for nozzles £10,474 & PC sum for upper bell mouth £900 & £1298 for PAC dosing system [total discounted cost £23,998])
Dover	Sand Filters – Refurbish & Replace Filter Medium to 3 Vessels including shot Blast to remove Scale and recoat the interior of the vessels with a 3 coat paint system. Provide 1 New Man Access Doorway	£22,800.00	Completed	The filter medium was last replaced ten years ago and was due for replacement in order to ensure that the quality of the pool water is maintained. Refurbishment & replacement of filter medium to 3 vessels including Re-lining with 3 Coat Epoxy Paint system and increasing the size of the man access hatch to the teaching pool vessel as the existing 400mm opening no longer complies with current access legislation. £19,475 (Plus PC sum for nozzles £3,000 & PC sum for upper bell mouth £900)
<b>Sub Total for Filter Media Change</b>		<b>£46,798.00</b>		

### 2.9 Renewal of Plant at Tides and Dover

Tides	Replacement of Swimming Pool Chlorine Chemical Dosing Unit	£2,750.00	Completed	The dosing system was replaced as the existing system had failed parts were not available and the pool was being hand dosed (for approximately two weeks)
Tides	Replacement & Relocation of Flow Meter	£2,365.00	Ordered	The existing flow meter is not working. The old style gauges use mercury which is no longer permitted hence the unit must be replaced. £1,865 to install the flow meter and £500 estimated for access to be provided by DDC
Dover	Replacement of Teaching Pool circulating Pump	£2,622.00	Completed	One of the teaching pool circulating pumps failed. The system was running on a single pump with no redundancy. In order to ensure resilience in water quality a replacement was required.
Dover	Replacement of Swimming Pool Chlorine Chemical Dosing Unit	£2,915.00	Completed	This system treats the pool water by introducing Chlorine. The existing very old FlocDos Poly Aluminium Chloride dosing system had failed and parts were not available so it could not be repaired.

Dover	Replacement of a 2 PAC Dosing system to Main pool and teaching pool	£2,138.00	Ordered	This system doses the pool water with PAC which acts as a coagulant binding smaller particles to larger ones to increase the filters efficiency, it is introduced around 2m upstream of the filters after the pumps . The existing system had been inoperable for many years and these systems are now deemed essential in order to maintain water quality.
Dover	Replacement of Section of Damaged Pipe to Teaching Pool	£2,858.00	Completed	The suction pipe from the teaching pool has a fracture in one of the stub flanges this was weeping and drawing in air. This was causing the pump to cavitate and was increasing ware. Options were to drain the pool or employ the use of divers to remove the pool outlet grill and bund and seal the outlet so that the defective pipe section could be replaced. That later option was chosen and the heavily corroded valve was changed at the same time.
<b>Sub Total First Half of 2013 Plant Replacement</b>		<b>£15,648.00</b>		

### 2.9 Renewal of Plant at Tides and Dover

Tides	Replacement of Primary hot water pump head number 2	£1,426.00	Desirable	One of the existing pump units on a twin head pump has failed. The system is still operational on a single pump but has no standby duty. Should the existing pump fail the centre will be left without hot water.
Tides	Modifications to Pool Make-Up tank Ball Valve	£1,000.00	Desirable	The tank ball valve are has been bent in order for it to fit into the tank. The valve does not operate in this configuration and requires modification. One possible solution may be to install two smaller valves that fit in the tank and deliver the required flow.
Tides	Remedial Works to the Flume	£15,000.00	Desirable	The Flume structure is significantly corroded and the flume slide is in need of resurfacing within the next 18 months. Such remedial work will extend the life of the flume. Alternatively, in time the flume will have to be closed however this may involve further modifications as the Flume water provides circulation in the smaller pools.
Tides	Replacement Flume Pump	£8,000.00	Desirable	The standby duty Flume pump has failed. Leaving the Flume operating on a single pump. Should this fail the flume would be inoperable and water quality may suffer due to a lack of circulation of the pool water. In order to ensure resilience the pump should be replaced.
Tides	Remedial Works to Corroded Electrical Control Panels	£2,000.00	Essential	Both of the electrical control panels in the lower plant room show signs of significant corrosion. In order to maintain the integrity of the enclosures required under BS7671 the panels need repairing.

Tides	Replacement pool vacuum	£2,500.00	Essential	The pool vacuum cleaner has failed. Currently one cleaner is being transported between centres. Environmental health have identified that should an emergency arise when debris needs urgently cleaning from the pool this practise would cause an unacceptable delay.
Dover	Replacement of Boilers Module	£4,500.00	Desirable	The boilers at Dover Leisure Centre consist of 18 boiler modules, fitted in three banks. One of the banks of six failed and was shut down and capped several years ago and has been used for spare parts to repair the other 12 modules. Over a period of time these parts were exhausted and the leisure centre now runs of just 9 modules. During this years annual service three of these modules were found to be leaking! We are approaching a critical point where further failures will result in inadequate heat output. In order to retain resilience a spare module should be purchased and stored in the boiler room as a standby replacement. (The lead-in-time for obtaining a replacement module is one week).
<b>Sub Total Plant Currently in Need of Replacement</b>		<b>£34,426.00</b>		
<b>Sub Total Contingency for Future Plant Replacement</b>		<b>£50,000.00</b>		

#### 2.17 Legionella Risk assesment Works at Tides and Dover

Dover	Replacement of Defective Valves to Calorifiers	£8,047.00	Completed	The Calorifiers should have been internally inspected and de-scaled on a annual basis. This has not been happening and is recommend in ACOP L8 as part of effectively controlling Legoinella. In winter the calorifiers are struggling to maintain temperature to effectively control Legoinella. Your leisure are responsible for this annual inspection and descale however, the calorifiers cannot be descaled as the valves do not hold. Replacement of the defective valves enables the calorifiers to be isolated on an individual basis for future maintenance & inspection.
<b>Sub Total Legionella Risk Assesment Work Completed</b>		<b>£8,047.00</b>		

## 2.17 Legionella Risk assesment Works at Tides and Dover

Tides	Legoinella risk: Replacement Pool Slide Water Curtain & Whirlpool Pump	£3,881.00	Essential	This pump has been out of action for sometime. However, following the refurbishment of the Sand Filters and replacement of the Filter Medium it has become evident that this circulation contributes to the mixing of the chemical dosing in the whirlpool and slide plunge pool. It is advisable to replace the pump in order to ensure consistence with the water quality. Quote for replacement pump £2,881.00 and £750 estimate for installation.
Tides	Legoinella risk: Extra Over Cost for Descale of Calorifiers Outside Working Hours & Installation of Additional Isolation Valves	£5,000.00	Essential	The Calorifiers should have been internally inspected and descaled on a annual basis. This has not been happening and is recommend in ACOP L8 as part of effectively controlling Legoinella. Your leisure are responsible for this annual inspection and descale however, the calorifiers have no provision to isolate them on an individual basis. This means that they cannot be descaled whilst the centre is in use. Estimate of cost to be met by DDC
Tides	Legoinella risk assesment remedial works	£5,500.00	Essential	Following the legionella risk assesment a number of remedial actions have been identified some of which are Dover District Councils responsibility to rectify - Pipe dead legs have been identified they are deemed to present a high risk under ACOP L8 paragraph 162 and require tracing and cutting back estimate £500. Cold Water storage Tank 2 has no lid ACOP L8 paragraph 151&152 rerquires a cover and vent that complies with the water supply fittings regulations. Cold Water Storage Tank 1 is located in an enviroment that promotes heat gain. ACOP L8 paragraph 152 rerquires that tanks should be placed in a cool place to prevent heat gain estimate £4000. Cold Water Storage Tank 1has a vent pipe that may discharge into the tank. ACOP L8 paragraph 152 rerquires that vent pipe should discharge to an external drain via a tundish estimate £250
Tides	Legoinella risk: Modifications to Cold Water main running at High level Through the main pool	£10,000.00	Essential	The tank feed main from the plant room to the dry side runs through the main pool hall at high level. The water delivered from this pipe at times fails to meet the minimum temperature requirement as stated in ACOP L8 guidance for effective control of Legoinella. Further investigation is required in order to identify the best solution. A possible option is to install a chemical dosing rig and this estimate is based on this approach.

Dover	Legionella risk assessment remedial works	£3,000.00	Essential	Following the legionella risk assesment a number of remedial actions have been identified some of which are Dover District Councils responsibility to rectify - Pipe dead legs have been identified they are deemed to present a high risk under ACOP L8 paragraph 162 and require tracing and cutting back estimate £500. Non insulated hotwater pipework is causing heat gain within the system. ACOP L8 appedix 1 checklist 2 requires cold water to be circulated at less than 20C. the hot water pipework requires tracing and insulating estimate £2,500. The coldwater storage tank lids have been identified as not being WRAS approved and the feed and expansion pipes to these tanks vent into the tanks not tun dishes. This does not met ACOP L8 guidelines however the risk is identified as medium and the centre life is limited
Dover	Legoinella risk: Insulation of Calorifiers	£4,000.00	Essential	The current insulation to the calorifiers has deteriorated and is ineffective. Given the issues with achieving sufficient temperature and the potential risk of Legoinella growth by not achieving effective thermal disinfection it is necessary to replace and upgrade the insulation. This will also have significant benefit to energy consumption.
Dover	Legoinella risk: Insulation of Dry Side Hot Feed	£1,500.00	Desirable	The plastic pipe which feeds the Dry Side hot water has no insulation its length is circa 50m and water temperature will drop rapidly over this run. The hot water is recirculated but the temperature loss reduces the stored water temperature. Causing increased demand from the boilers to ensure sufficient temperature is maintained.

**Sub Total Legionella Risk Assesment Work Required £32,881.00**

**Sub Total for Filter Media Change £46,798.00**

**Sub Total First Half of 2013 Plant Replacement £15,648.00**

**Sub Total Plant Currently in Need of Replacement £34,426.00**

**Sub Total Contingency for Future Plant Replacement £50,000.00**

**Sub Total Legionella Risk Assesment Work Completed £8,047.00**

**Sub Total Legionella Risk Assesment Work Required £32,881.00**

**Total £187,800.00**

