5B Effluent Debt Service & Operational Cost Allocations

The addition of the Effluent Disk Filtration process will incur costs that need to be included in future District budgets. The allocation of the P&I has already been established early in 2021 and is the top line of the attached allocation table.

For future budgeting, we need to determine the allocation percentages to the operational costs. The estimated annual costs were taken from the Donohue report and are the best estimates we have until the disk filters begin to operate and we have actual numbers.

Any references to "current use" or "existing allocation" is in reference to the McMahon report titled Sewer Service Rate Study prepared on behalf of the District in January 2008. This report was accepted and implemented for budgeting for 2009 and remains in place to date. None of the inputs necessary for filtration are new to the District and have already been in use for many years. As a result of District's experience and its long used and accepted cost allocations, each filtration parameter has been matched with a closely related existing use and its allocation.

Electricity – power consumption for the filtration equipment is primarily consumed by the continuous operation of rapid mixing that provides aggressive mixing for the metal salt and then a slowly steady mixing once the polymer is added and the chemical floc forms prior to filtration. The attached table containing suggested allocations is the current use allocation of electric power now being used at the plant. Attempting to separate power used for effluent filtration from the power consumption of the existing plant would at best be an estimate.

Flocculant – Iron Salt – Floc formation for the disk filters same steps that are used in the Actiflo process. The allocation on the table is identical to the ferric sulfate which is used in the Actiflo liquids process for primary treatment. These chemical in question is also a liquids process and provides tertiary treatment.

Flocculant – Polymer – use of polymer is required in order to build a floc that is large enough to be filtered out and backwashed back to the head of the plant. The District already uses two polymers in other stages of the treatment. Actiflo operations requires the same chemical conditioning being used to create floc ahead of the disk filters. The Dissolved Air Floatation units use polymer to build solids and float them to the surface where thickened sludge is skimmed off the surface and pumped to the ATAD. The polymers used are not allocated in the same percentages on the rate parameters. The allocation on the table is identical to the Actiflo polymer which is used in a liquids process to produce permit compliant effluent just like the effluent filtration polymer.

Biosolids – A primary purpose for installation of the disk filters is to remove suspended solids. The additional removal of solids along with the formation of chemical solids will result in more solids being produced and removed by HOVMSD. We anticipate the filter feed before chemical conditioning to average 15-20 mg/L and the effluent to be 5 mg/L or less after filtration. Those solids will ultimately be processes into a Class A product and end up in the storage tanks and need to be land applied.

Filter Project Debt Service and Operational Cost Allocations

	Est Annual Cost	Demand	Volume	BOD	TSS	Phos	NH3	Chlorides	
CWF P&I (filter project)			15	15	35	35			Commission action March 2021
Electricity - Filters	23000	9	16	23	21	12	19		Current allocation for WWTF electric
Flocculant - Polymer	33000		25	25	25	25			Actiflo- polymer allocation
Coagulant - Iron Salt	183000		25	25	25	25			Actiflo - ferric sulfate allocation
Biosolids	39000			28	48	24			Hauling and Land application