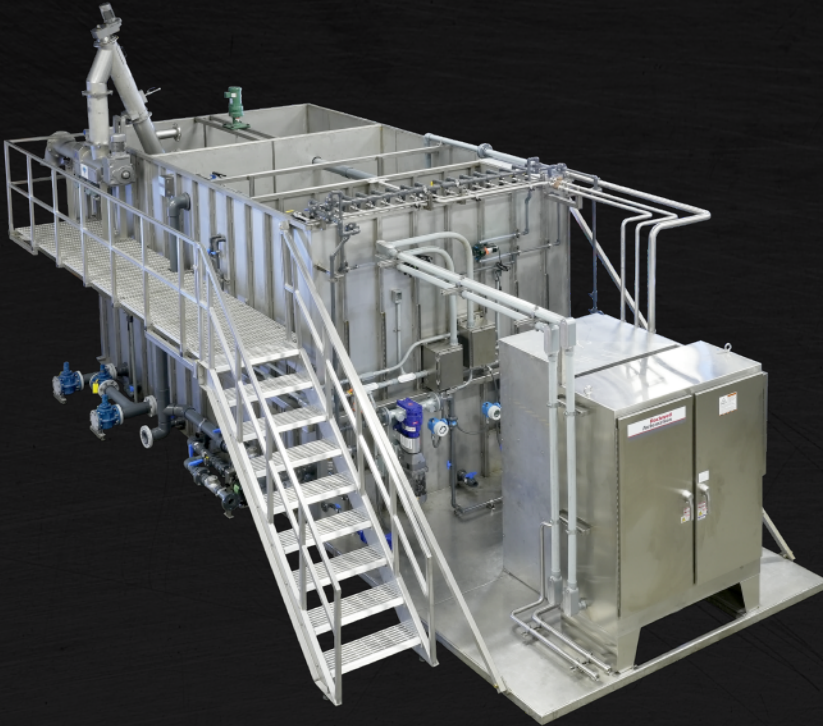




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RETAIL CENTER

11,000 GPD MEMPAC™ - X
Woodinville, WA



PROJECT TEAM



MANUFACTURER
TROY ELLISON
CLOACINA



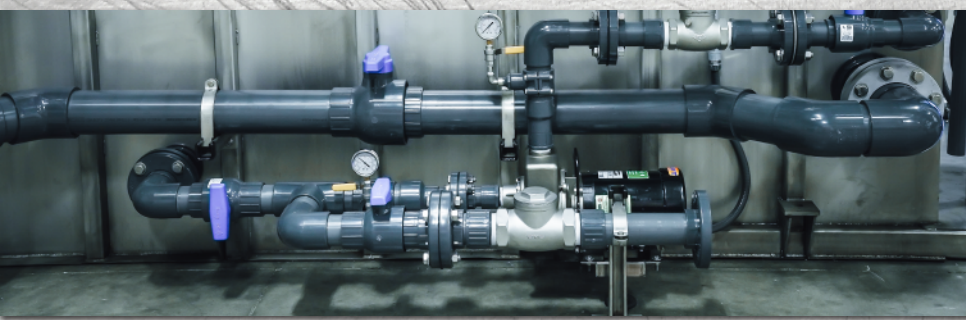
ENGINEERING
ROCKY ANDERSON
ADC ENGINEERING



INSTALLER
ADAM TISCHER
CLS SEPTIC

PROJECT OVERVIEW

Cloacina designed a MEMPAC-X expandable system for a mixed-use retail and commercial development which includes a Safeway, Starbucks, Subway, and various additional retail spaces. The wastewater from these sources was treated by the MEMPAC-X system and sent to a dosing tank on-site. Cloacina's system was designed to allow for a quick and easy expansion to a capacity of nearly 20,000 GPD as the shopping center continues to grow. The MEMPAC-X system also allows for the operator to manually switch the system between standard operation and a dedicated "sludge thickening mode", which pulls waste from the client-supplied sludge tank and forwards it through the membrane chamber.



DESIGN PARAMETERS

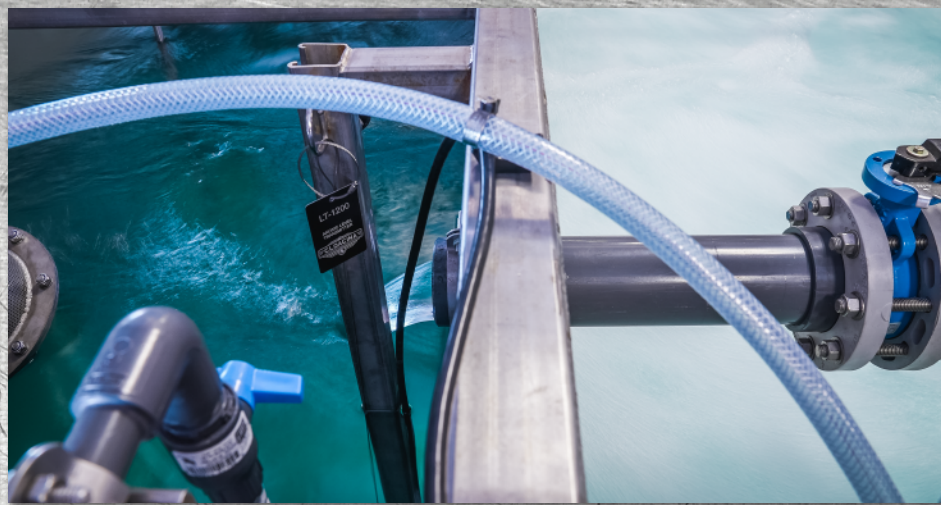
MODEL SUPPLIED: **MEMPAC-X**

INFLUENT PARAMETERS

AVERAGE DAILY FLOW	11,000 GPD
BIOCHEMICAL OXYGEN DEMAND	700 MG/L
TOTAL SUSPENDED SOLIDS	350 MG/L
INFLUENT TYPE	RESIDENTIAL AND INDUSTRIAL

EFFLUENT QUALITY

BIOCHEMICAL OXYGEN DEMAND	< 5 MG/L
TOTAL SUSPENDED SOLIDS	< 5 MG/L
TOTAL NITROGEN	< 8.5 MG/L



CLOACINA SUPPLIED THE FOLLOWING FOR THIS PROJECT:

EQUIPMENT: MEMPAC-X consisting of a single base tank with external equalization and external sludge storage

EQUALIZATION: External equalization equipment interconnected to a client supplied storage tank

HEADWORKS: 2mm perforated auger style with bypass and washer/compactor

SECONDARY TREATMENT/ACTIVATED SLUDGE: Biological Nutrient Removal (BNR)

CLARIFICATION: Duplex membranes used for clarification and membrane thickening

CONTROLS: Remote access, alarms and trending data

SLUDGE HANDLING: External sludge storage equipment integrated into a client supplied tank, membrane sludge thickening

SOUND ATTENUATION: Blowers were placed in a sound attenuated enclosure