



CASE STUDY:

GUNNER RANCH

250,000 GPD MEMPAC™ - M250
Madera, CA



DESIGN PARAMETERS

MODEL SUPPLIED: **MEMPAC-M250**

INFLUENT PARAMETERS

AVERAGE DAILY FLOW	250,000 GPD
BIOCHEMICAL OXYGEN DEMAND	400 MG/L
TOTAL SUSPENDED SOLIDS	400 MG/L
INFLUENT TYPE	MUNICIPAL

EFFLUENT QUALITY

BIOCHEMICAL OXYGEN DEMAND	< 10 MG/L
TOTAL SUSPENDED SOLIDS	< 10 MG/L

“ We needed an easily expandable and affordable plant that would also meet the mission-critical needs of Valley Children’s Hospital. Because of the work of Troy and his team, we are still on schedule, even in the midst of the Corona Virus Epidemic, which is no small feat. I would heartily recommend Cloacina for your wastewater needs.

Michael R. Gunner
Vice President of Project Management

PROJECT TEAM

GUNNER RANCH, INC

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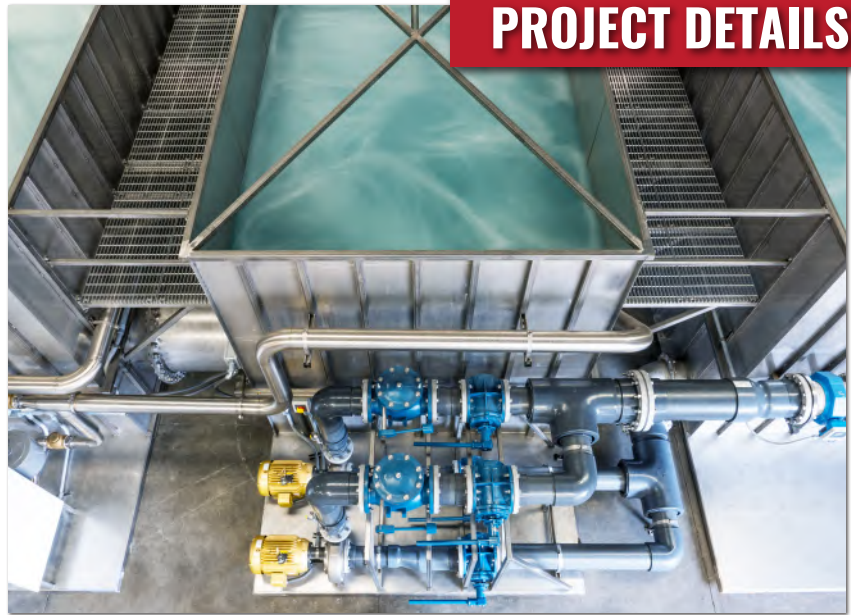
FLUID RESOURCE MANAGEMENT

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MKN & ASSOCIATES

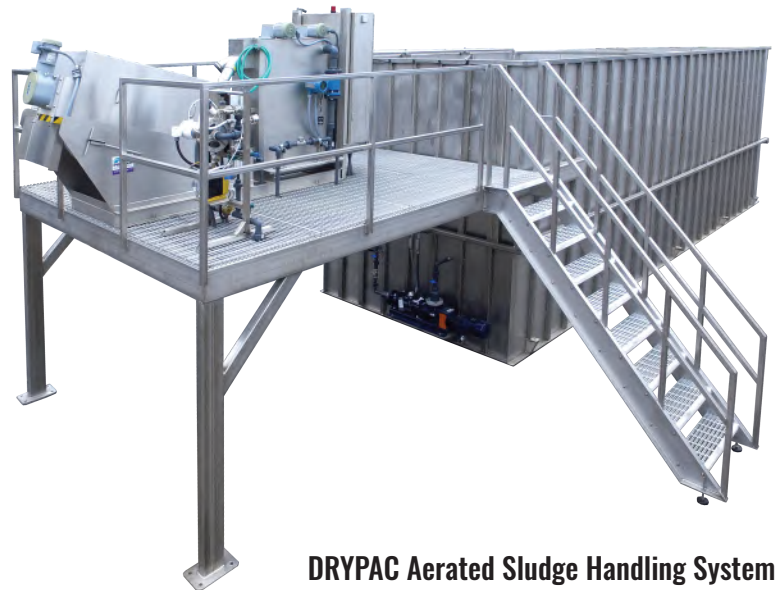
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PROJECT DETAILS



OVERVIEW

This was a phased project capable of treating up to 1.5 MGD comprised of three separate .5 MGD package wastewater treatment plants. This project was a design/build effort with Fluid Resource Management (FRM) and other sub-contractors. Cloacina’s scope included providing a lift station, Mempac-M250 package treatment plant with UV disinfection and a DRYPAC Aerated Sludge Handling System, all with a fully integrated controls system including remote monitoring and alarming.



DRYPAC Aerated Sludge Handling System

For project videos, additional photos and more information, visit cloacina.com/gunnerranch



CLOACINA SUPPLIED THE FOLLOWING FOR THIS PROJECT:

EQUIPMENT: MEMPAC-M250 consisting of six stainless steel reactor tanks and skids, a UV system and a DRYPAC Aerated Sludge Handling System

LIFT STATION: Wet well, pumps and controls panel

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

SECONDARY TREATMENT/ACTIVATED SLUDGE: Biological Nutrient Removal (BNR) consisting of two anoxic tanks and three aeration tanks

CLARIFICATION: Membrane

CONTROLS: Remote access, alarms and trending data

SLUDGE HANDLING: DRYPAC Aerated Sludge Handling System, 18,000 gallon tank, aeration and Volute dewatering sludge press

DISINFECTION: UV Disinfection with UVT Analyzer and cooling pump system

PERFORMANCE

AVERAGE EFFLUENT (MG/L)

(FROM 10/16/2020 TO 02/16/2021)

BOD	<4.4 mg/L
TSS	<4.0 mg/L
AMMONIA	<2.6 mg/L
TKN	6 mg/L
NITRATE	<5.9 mg/L
PHOSPHORUS	<2.8 mg/L

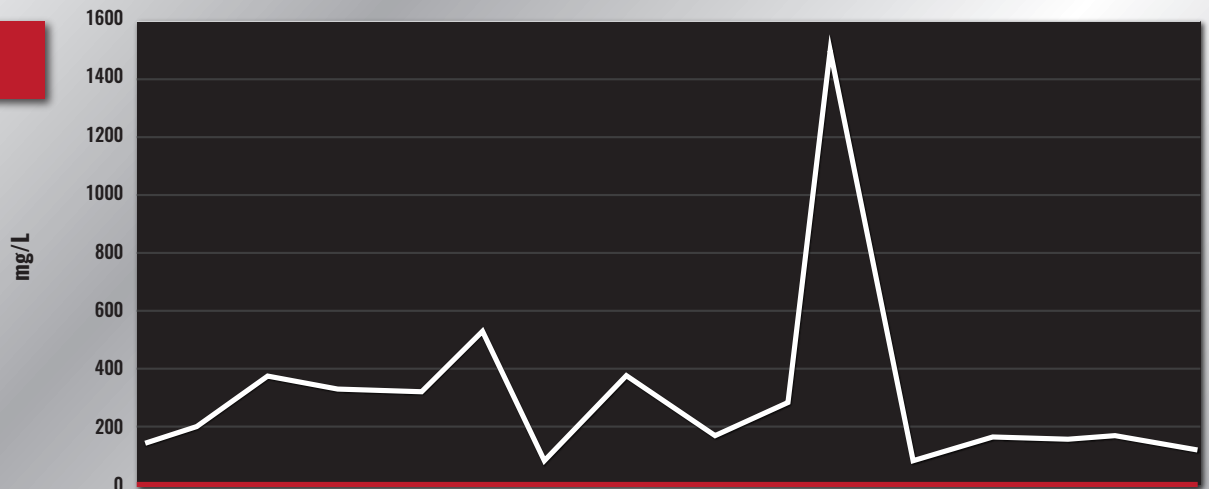
AVERAGE % OF REDUCTION

(FROM 10/16/2020 TO 02/16/2021)

BOD	97.9%
TSS	97.8%

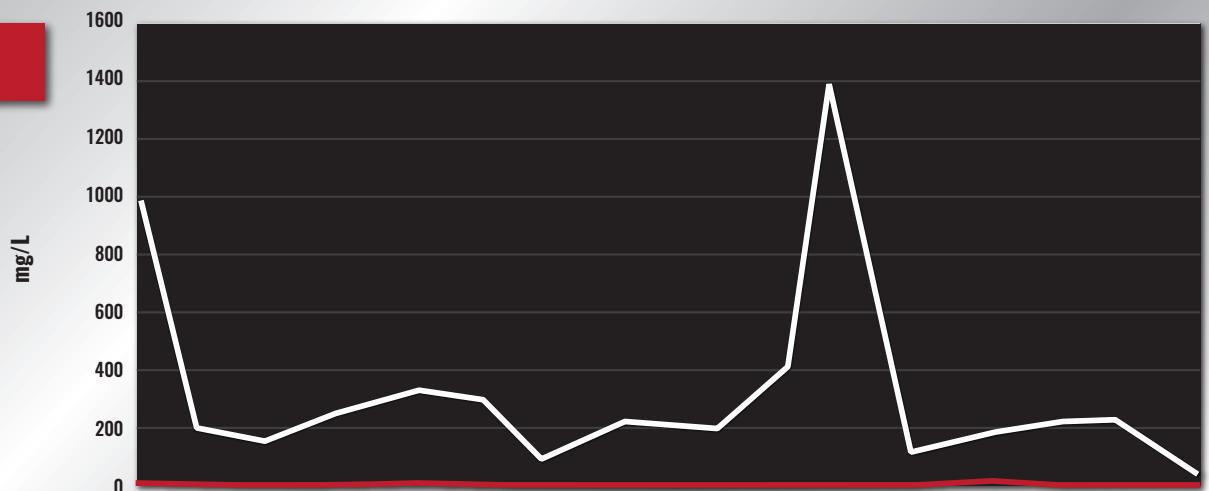


TSS



	10/16	10/21	10/28	11/04	11/12	11/18	11/24	12/02	12/11	12/18	12/22	12/30	1/07	1/14	1/19	1/27
— Influent TSS (24HC)	150	210	380	330	320	530	78	380	170	290	1500	79	170	160	170	120
— Effluent TSS (24HC)	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	5.0	<4	<4	<4

BOD



	10/16	10/21	10/28	11/04	11/12	11/18	11/24	12/02	12/11	12/18	12/22	12/30	1/07	1/14	1/19	1/27
— Influent BOD (24HC)	990	200	160	260	340	310	110	230	210	420	1400	120	190	230	240	52
— Effluent BOD (24HC)	8.4	<3	<3	<3	7.7	<3	<3	<3	<3	3.5	4.2	<3	14.0	<3	3.0	<3