

MARTIN SANITARY DIVERSION DRAIN
INTRA-COUNTY DRAINAGE BOARD
APRIL 11, 2022
10:00 A.M.
AGENDA

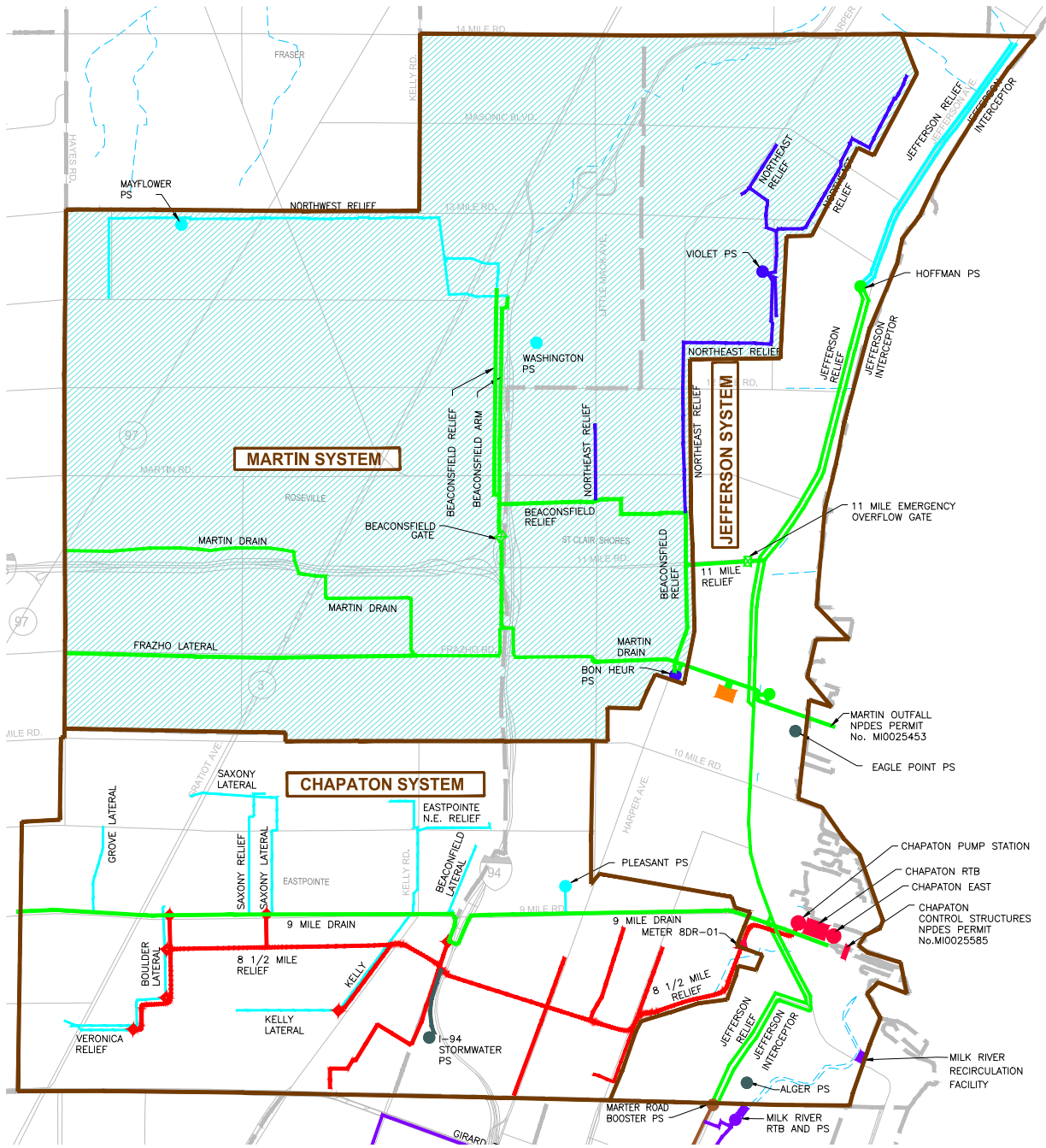
**NOTE: THIS MEETING WILL BE HELD IN PERSON WITH TELECONFERENCE
OPTION FOR PUBLIC**

**Call in Number: 1-470-241-5845
Access Code: 912 949 977**

	Page
1. Call of meeting to order and roll call	
2. Approval of Agenda for April 11, 2022	
3. Approval of Minutes for March 14, 2022	3
4. Public Participation	
5. News Articles – Combined Sewer Overflows	5
6. Project & Operations Update – Vince Astorino	12
7. Consideration for approval of invoices (see attached)	14
8. Financial Report – Bruce Manning	15
9. Adjourn	

Hard copy is intended to be 8.5"x11" when plotted. Scale(s) indicated and graphic quality may not be accurate for any other size.

MARTIN SYSTEM MAP
Macomb County, MI
Southeast Macomb Sanitary District
Wastewater Master Plan



SYSTEM LEGEND

(AS OF DATE OF PUBLICATION)

- SYSTEM BOUNDARY

DISTRICT LEGEND

(AS OF DATE OF PUBLICATION)

- 8 1/2 MILE RELIEF DRAIN DRAINAGE DISTRICT
- SOUTHEAST MACOMB COUNTY WASTEWATER DISPOSAL SYSTEM
- MARTIN SANITARY DIVERSION DISTRICT
- SOUTHEAST MACOMB SANITARY DISTRICT
- NORTHEAST SEWAGE DISPOSAL SYSTEM
- MILK RIVER INTERCOUNTY DRAIN DRAINAGE DISTRICT
- LOCAL MUNICIPALITY
- OTHER

ASSET LEGEND

- PUMP STATION
- FLOW CONTROL STRUCTURE
- RETENTION TREATMENT BASIN
- GRAVITY INTERCEPTOR
- OVERFLOW POINT

An adjourned meeting of the Intra-County Drainage Board for the **MARTIN SANITARY DIVERSION DRAIN** was held in the Office of the Macomb County Public Works Commissioner, 21777 Dunham Clinton Township, Michigan on March 14, 2022, at 10:02 A.M.

PRESENT: Candice S. Miller, Chair
Harold Haugh, Member
Bryan Santo, Member

ALSO PRESENT: Brian Baker, Chief Deputy; Stephen Downing, Construction and Maintenance Manager; Norb Franz, Communications Manager; Veronica Klinefelt, Macomb County Board of Commissioners; Bruce Manning, Finance Manager; Pam Sonnenberg, Administrative Assistant; Tom Stockel, Construction Supervisor; Don VanSyckel, Macomb County Board of Commissioners, Sarah Wojdyla, Drain Account Specialist

PRESENT VIA TELECONFERENCE: Vince Astorino, Operations & Flow Manager

The meeting was called to order by the Chair, Candice Miller. A motion was made by Mr. Haugh, supported by Mr. Santo to approve the agenda as presented.

Adopted: YEAS: 3
NAYS: 0

Minutes of the meeting of February 14, 2022 were presented. A motion was made by Mr. Santo, supported by Mr. Haugh to approve the minutes as presented.

Adopted: YEAS: 3
NAYS: 0

The meeting was opened to public participation, then closed, there being no comments from the public.

Mr. Astorino updated the board that there was one wet weather event on February 16, 2022. One rain gauge registered 2.1 inches of rainfall. That equated to a 19.3 million gallon discharge from that facility. The water quality numbers were 3 counts per 100ml. There were no issues.

Next, Mr. Astorino updated on the Martin Flushing Improvement Project. The gates are still on schedule for April 12th. D'Agostini came in and did a walk through and will start mobilizing this week to get all of the work done so that when the gates arrive, the project is ready to go.

In regards to the Martin In-System Storage design project, we've just received 60% drawings on that project. It's moving along well. We are working with SEMSD putting together an agreement with them because we will be working within their pipe. We have been working together through the whole project.

Mr. Haugh asked Mr. Astorino if the City of St. Clair Shores was aware of the April 12th start date and Mr. Astorino confirmed that they are aware because it will impact the ballfields there. Mr. Haugh then asked if it will impact Roseville at all and Mr. Astorino said that it should not impact Roseville at all.

A motion was made by Mr. Haugh, supported by Mr. Santo to receive and file the project updates by Mr. Astorino.

Adopted: YEAS: 3
NAYS: 0

The Chair presented the invoices totaling \$81,359.58 to the board for review and approval.

A motion was made by Mr. Santo, supported by Mr. Haugh to approve the invoices as presented.

Adopted: YEAS: 3
NAYS: 0

A motion to receive and file the financial report given by Mr. Manning was made by Mr. Haugh and supported by Mr. Santo.

Adopted: YEAS: 3
NAYS: 0

Mr. Haugh added that he would like to publically congratulate the Macomb County Public Works Office on the great brochures we are producing.

There being no further business, it was moved by Mr. Haugh, supported by Mr. Santo, that the meeting of the Martin Sanitary Diversion Drain Board be adjourned.

Adopted: YEAS: 3
NAYS: 0

The meeting was adjourned at 10:10 a.m.



Candice S. Miller, Chair
Macomb County Public Works Commissioner

STATE OF MICHIGAN
COUNTY OF MACOMB

I certify that the foregoing is a true and correct copy of proceedings taken by the Intra-County Drainage Board for the Drainage District shown on the attached set of minutes, on March 14, 2022 the original of which is on file in the Public Works Commissioner's Office. Public notice of the meeting was given pursuant to Act No. 267, Public Acts of Michigan, 1975, including, in the case of a special or rescheduled meeting or a meeting secured for more than 36 hours, notice by posting at least 18 hours prior to the time set for the meeting.



Candice S. Miller Chair
Macomb County Public Works Commissioner

DATED: 03/14/22

The Detroit News

MACOMB COUNTY

Macomb public works leader urges action on contaminants, combined sewer overflows

The Detroit News

Published 9:09 p.m. ET March 7, 2022

Macomb County Public Works Commissioner Candice Miller said Monday the state should take more steps to keep contaminants from entering the Great Lakes and other waterways and address combined sewer overflows.

Miller was reacting to a joint study conducted by Wayne State University's Healthy Urban Waters program and the University of Florida reviewing water samples pulled from the corridor between Lake Huron and Lake Erie.

The Free Press reported Monday that the joint study found that antibiotics, acetaminophen, cocaine, the diabetes drug metformin, nicotine, PFAS and caffeine were detected in water samples.

Miller said many pesticides, pharmaceuticals and other compounds can enter the waterways through storm water runoff during major rain events leading to combined sewer overflows, including from Wayne, Oakland and Macomb counties.

"This study shows why it is so important for all of us to take the issue of combined sewer overflows much more seriously. Just because the State of Michigan permits this activity doesn't make it OK," Miller said. "This study is a wakeup call for communities to separate their combined systems, and or build bigger retention basins. We can't just keep passing this issue on to future generations when what we're doing is negatively impacting our drinking water."

Several compounds, such as prescription drugs, are not fully broken down by humans and are secreted in their waste. In areas where sanitary sewers are not separate from storm sewers, the combined flow including runoff of pesticides and fertilizers from agricultural areas, and chemicals from industrial sites, reducing CSO's helps.

Miller's office said the Michigan Department of Environment, Great Lakes, and Energy in 2020 rejected a county request to increase the storage capacity at the Chapaton Retention Treatment Basin on Nine Mile Road in St. Clair Shores.

The plan, which involved expanding the storage canal linking the underground storage basin to Lake St. Clair, would have reduced combined sewer overflows by up to 70%, representatives said.

Last year, Miller noted a detailed assessment of the decades-old Chapaton pumps was launched after summer rainstorms strained the facility.

In 2021, Chapaton and the Martin Drain Retention Treatment discharged 411 million gallons and 405 million gallons of treated combined sewer overflows into Lake St. Clair, the Public Works office reported.

Macomb County Public Works engineers continue to design and develop projects to help reduce the overflows, Miller's office said.

“Every little bit of reduction helps,” Miller said. “Water quality equals quality of life, and the problem of CSO’s — and even the occasional discharge of raw, untreated sewage that has occurred in other counties in violation of discharge permits — is not something that should just be passed along to future generations to solve.”

MICHIGAN

Water samples show nicotine, cocaine, antibiotics in Great Lakes waterways



Keith Matheny

Detroit Free Press

Published 6:02 a.m. ET March 7, 2022 | Updated 8:21 a.m. ET March 7, 2022

Artificial sweeteners, pharmaceuticals, pesticides and nonstick compounds were found in multiple water samples in the corridor between Lake Huron and Lake Erie, including the Detroit River and Lake St. Clair, a new study found.

Drugs detected in the water included nicotine, cocaine, antibiotics, acetaminophen pain reliever, the diabetes drug metformin, even contrast dye from CT scans, the study by Wayne State University's Healthy Urban Waters program and the University of Florida found. They're found in very minute concentrations, down to the parts per trillion.

Known as contaminants of emerging concern, many are only detectable now because of advancements in the sensitivity of laboratory technology. While some of the detected chemicals are known to cause public health or environmental harm, for the majority, it remains unstudied and unknown.

"I wanted to look in a real-world environment to see what was out there, what we should be concerned about," said Tracie Baker, an environmental toxicologist at the University of Florida and adjunct professor at Wayne State University.

"There was a lot of research in the past 50 years — since the Rouge River caught on fire — that's focused on legacy contaminants like heavy metals, dioxins, PCBs. What my group was interested in doing was looking more specifically at some of the emerging contaminants that we don't necessarily think about as toxic; that people aren't really looking for in our rivers and lakes."

Water samples were collected in the spring and fall of both 2018 and 2019 at six sites:

The mouth of the Clinton River;
Lake St. Clair Metropark

Northeast Belle Isle

Southwest Belle Isle

The mouth of the Rouge River near Zug Island

The Detroit River International Wildlife Refuge/Trenton Channel.

"We wanted them to be places where people were going, places of recreation," Baker said. "We also wanted areas near industry, drinking water intakes, and wastewater effluent."

Contaminants of emerging concern are known to enter the environment through runoff from residential, agricultural, industrial or military sites; particularly in significant rain events that lead to combined sewer overflows. Many of the compounds, such as prescription drugs, aren't fully broken down by humans, are secreted in their waste, and wastewater treatment plants aren't optimized to remove them — and there are no regulatory requirements that they be removed.

The Florida-Wayne State study, published last month in the peer-reviewed *Journal of Great Lakes Research*, detected and quantified 50 compounds across the six tested sites. Upstream sites showed more significant concentrations of pesticides and their breakdown products, likely arising from agricultural runoff. Pharmaceuticals and personal care products were found in higher concentrations near more populated areas, locations downstream of large wastewater treatment plant outflows.

Synthetic sweeteners acesulfame potassium and sucralose were detected in the highest concentrations of any compound class, most particularly at the two most downstream testing sites.

The sweeteners are commonly seen in wastewater effluent because they are water soluble and resistant to human metabolism, Baker said.

There's not much scientific research showing the sweeteners as having a negative impact on human health or the environment, "but there's not a lot of research that's been done on it, either," she said.

Antibiotics were found consistently across sampling at the two most downstream testing sites.

"The persistence of sulfamethoxazole in aquatic environments, even at low levels, can drive antibiotic resistance with implications for human, animal and ecosystem health," the study states.

Other pharmaceuticals consistently detected across sampling included:

acetaminophen, a non-aspirin pain reliever;
lidocaine, a topical local anesthetic;
atenolol, a beta-blocker used to treat high blood pressure;
gemfibrozil, a lipid regulator used to treat high cholesterol and triglycerides
iohexol, used as a contrast dye for CT scans and similar procedures.

Though not consistently detected, the diabetic medication metformin and the anticonvulsant carbamazepine were found at multiple sites and during multiple sampling events.

The stimulant caffeine, found in coffee, tea and soft drinks, was also consistently found across sampling events near Zug Island, the study found. Previous studies have shown caffeine exposures at elevated levels create toxicity and anxiety-like behavior in a variety of species, including fish and other aquatic organisms. Research further shows the outcomes are worse for exposed animals when they are also subjected to artificial sweeteners at the same time, the study states.

Nicotine, cocaine and their breakdown products were also detected near the Zug Island site, but at relatively small concentrations and not consistently across sampling events. As nicotine is often used as an insecticide, it has the potential to impact zooplankton, the tiny aquatic organisms at the bottom of the food web upon which fish rely, the study found.

"I was surprised by the number of pharmaceuticals — antibiotics, and the contrast agent really surprised me," Baker said.

Per- and polyfluoroalkyl substances, or PFAS — the nearly ubiquitous nonstick compounds used in industry and consumer products now known as "forever chemicals" because of their resistance to breaking down in nature — were also found in the Wayne State/Florida study, at every testing site.

Two of the most well-known PFAS compounds, known as PFOS and PFOA, have been phased out of most industrial and consumer uses in the U.S. in recent years, as more is learned about their harmful health and environmental effects. They've been replaced by supposedly safer "short-chain" PFAS compounds, the name deriving from them having fewer carbon atoms. But research is now showing the short-chain PFAS compounds also persist in nature without breaking down and also harm public health.

The Wayne State-Florida study found 12 PFAS compounds, short- and long-chain, in water and sediment samples across the tested sites.

"Those are easily, by far, what we are seeing the most of," Baker said. "Because they are forever chemicals, they are just staying around for a long time. But now we are also starting to see the shorter chains, now that they are being used in production and products."

More: PFAS contamination is Michigan's biggest environmental crisis in 40 years

More: Feds: Wurtsmith veterans could get cancer, other health problems from tainted base water

Examination of contaminants of emerging concern in our environment is important work, said Michael Murray, a biology instructor at Augusta University in Georgia and an adjunct professor in the University of Michigan's School of Environment and Sustainability, who was not involved in the Wayne State-Florida study. Murray, for more than 20 years until last fall, also served as staff scientist with the nonprofit National Wildlife Federation's Great Lakes Regional Center.

"There is definitely a lot we don't know on the human health end," he said. "But I think for a lot of chemicals, we know even less on the ecological end, fish and wildlife.

"PFAS is thousands of chemicals — potentially over 9,000 — and we really don't have even basic toxicity information on but maybe a couple of dozen or so."

Murray noted that many of the emerging contaminants are medicines and personal care products ending up in the environment through wastewater. But wastewater treatment plants weren't designed to capture them, and are under no regulatory obligation to do so.

But the region's largest wastewater treatment facility, run by the Great Lakes Water Authority, is paying some attention to contaminants of emerging concern. The authority collaborated with Baker on the study's examination of its effluent streams, and has a "rigorous industrial pre-treatment program that controls contaminants, including PFAS, directly at their source before entering waste streams," Cheryl Porter, chief operating officer for GLWA's Water and Field Services, said in a statement to the Free Press.

The agency also conducts occasional "unregulated contaminant monitoring sampling events," including a recent one for estrogen compounds and compounds often found in personal care products, Porter said.

"EPA uses the data obtained to determine where these contaminants occur and whether they need to be regulated," she said.

New and improved facilities at GLWA's Water Works Park and at its Lake Huron treatment plant "will provide us with the opportunity to further test and advance our treatment process beyond (only regulatory) compliance," Porter said.

Baker said her group is now beginning to look at how contaminants of emerging concern impact the organisms that live around them.

"This was kind of the beginning to know what's out there, and where are we finding it," she said. "Now we are looking in fish, in the blood and in the muscle of different fish species, focusing on fish that someone might eat."

The best solution to these contaminants is to capture them at the source where they are generated, or to not use them at all, and instead use some safer alternative, Murray said.

"We can clean up contaminated sites like Zug Island or specific areas of concern in the Great Lakes," he said. "But once these are disbursed all over, it's really hard to do much at that point."

Contact Keith Matheny: 313-222-5021 or kmatheny@freepress.com.



Candice S. Miller

Public Works Commissioner
Macomb County

To: Martin Sanitary Diversion Drainage District Board Members

CC: File

From: Vincent Astorino, Operations & Flow Manager

Date: April 11, 2022

Subject: Construction Projects Status Updates for the April 2022 Board Meeting

The following provides a status update for construction work completed within the Martin Sanitary Diversion Drain District (MSDDD) for the previous month.

Wet Weather Operations

No wet weather events for this past month.

Martin Flushing Improvements Project

Contractor: L. D'Agostini & Sons, Inc.

Engineering Consultant: AEW

Project Description:

This project consists of the installation of two small sluice gates and a concrete weir within the Martin Retention Treatment Basin (RTB) to aid in flushing sediment and debris. The existing piped flushing systems at the facility are largely abandoned and require the use of storm water or lake water to use as the water source. This adds cost since these sources ultimately become metered flow. In 2016, MCPWO obtained approval from EGLE for a pilot program to use dry-weather flow in the Martin Drain as the flushing water source. This program involves installing temporary stoplogs within the influent channel of the RTB to divert flow through the three main zones within the RTB. This program was successful but requires manned-entries to install and reconfigure the stoplogs. The completion of this project will provide remotely-operated gates and a passive weir to direct flow where needed.

Significant project tasks that have occurred over the past month:

1. Received, reviewed, and approved submittals from Contractor.
2. Sluice gates delivered to project site.

3. Contractor mobilizing to site to begin construction.

Construction Costs:

	Date (if applicable)	Amount
Original Contract Amount	10/19/21	\$610,049.34
Change Order	-	-
Revised Contract Amount	-	-
Total Spent to Date	-	-
Remaining Budget		\$610,049.34



Figure 1 – Stainless Steel Sluice Gate Delivery

MARTIN SANITARY DIVERSION
03.15.22 - 04.05.22

<u>Funding Source</u>	<u>Apportionment</u>	<u>Manager</u>	<u>Vendor</u>	<u>Amount</u>	<u>Invoice Detail</u>	<u>Project Summary</u>	<u>Project Balance</u>
Martin Sanitary Diversion Drain	Chapter 20 Roseville - 78.09% St. Clair Shores - 21.91%	Astorino	Consumers Energy	\$ 589.83	Invoice #SKJX7-BBMH9 - 03.03.22	Monthly Utilities - 01.11.22 - 02.07.22	
		Astorino	DTE Energy	\$ 1,252.12	Invoice #22-116 - 03.18.22	Monthly Electric - 02.16.22 - 03.17.22	
		Astorino	Fishbeck	\$ 1,272.16	Invoice #409748 - 03.24.22	Flushing/SRF Project Plan	\$ 127,424.84
		Astorino	Fishbeck	\$ 19,451.63	Invoice #409764 - 03.24.22	In-System Storage 02.19.22-03.18.22	\$ 165,338.66
		Astorino	JCI Jones Chemicals Inc	\$ 6,788.74	Invoice #879526 - 02.22.22	Hypochlorite Solution	
		Astorino	JCI Jones Chemicals Inc	\$ 7,163.26	Invoice #881223 - 03.15.22	Hypochlorite Solution	
		Astorino	KHVPF	\$ 1,400.00	Invoice #47969 - 03.01.22	Draft and Revise Agreements - SEMSD	
		Astorino	Macomb County Treasurer	\$ 4,164.15	Invoice #22-105 - 03.10.22	Reimb Eq Fund - 2021 F-150 - Construction	
		Astorino	TREMCO/Weatherproofing Tech	\$ 618.00	Invoice #96452302 - 11.21.21	TREMCARE Renewal	
		Total			\$ 42,699.89		

YTD Budget

Fund: Martin Sanitary Diversion

As of Fiscal Period: Oct 1, 2021-Mar 31, 2022(50%)

DESCRIPTION	2022 FINAL BUDGET	ENCUMBERED	ACTUAL	REMAINING BUDGET	PCT UTILIZED
REVENUE ACCOUNTS					
Investment Inc-Interest	2,400		69	2,331	2.9%
Contribution from Community	600,000			600,000	100.0%
Reimb-Local Communities	1,011,270		1,011,270	-	100.0%
PY Revenue-Fund Balance	1,183,960			1,183,960	0.0%
<i>Total Revenue Accounts</i>	<i>2,797,630</i>	<i>-</i>	<i>1,011,339</i>	<i>1,786,291</i>	<i>36.1%</i>
EXPENSE ACCOUNTS					
Application/Permit Fee	6,000			6,000	0.0%
Dues, Training, Conf, Subs.	4,830			4,830	0.0%
Engineering					
-As Needed Engineering	25,000		2,536	22,464	10.1%
-Misc Sewer Repairs	20,000		116	19,884	0.6%
-Flushing System Upgrades-Design,Const, and CCA	795,040		862	794,178	0.1%
-In System Storage-Design and CCA	1,218,000		48,267	1,169,733	4.0%
-Design Basin Equipment Hatch	9,950			9,950	0.0%
-In System Storage-Design Money from SEMSD	333,000		12,620	320,380	3.8%
New Equipment	5,120		4,164	956	81.3%
Operating Supplies	44,880		17,355	27,525	38.7%
Other Professional Svcs	8,750		2,416	6,334	27.6%
Personnel Services	199,390		35,201	164,189	17.7%
Repair & Maintenance	58,800		22,403	36,397	38.1%
Scada System	26,320		5,524	20,796	21.0%
Utilities	42,550		30,021	12,529	70.6%
<i>Total Expense Accounts</i>	<i>2,797,630</i>	<i>-</i>	<i>181,485</i>	<i>2,616,145</i>	<i>6.5%</i>

	O&M Balance 9/30/2021	O&M	Total 3/31/2022
Cash - Operating	1,656,008	829,854	2,485,862
Accounts Receivable			0
Assets			0
Liabilities			0
Revenues		1,011,339	1,011,339
Expenditures		181,485	181,485
Equity	1,656,008		2,485,862

Detail of 2021 Equity

Design Basin Equipment Hatch	9,950	SolarWinds-Net Mgt Software	1,940
Misc Sewer Repairs	20,000	Obsolete Wireless Backhaul Links	3,230
ISS SEMSD Contribution	329,155	Fiber Optic improvements	3,220
Flushing System Upgrades-Design, Const, CCA	807,127	Firewall Hard Design/Config	2,580
CCTV of Dewatering Line and Influent and Effluent Boxes	25,000	Parking Lot Resurface	15,000
SCADA Reserves	14,090		
Capital Reserves	434,716		