

# **Miami River Commission's Stormwater Subcommittee Public Meeting Minutes July 2, 2025**

The Miami River Commission (MRC) Stormwater Subcommittee's public meeting convened July 2, 2025, 10 AM, 1407 NW 7 ST. The attendance sheet is attached.

**I. "Miami River Basin Water Quality Improvement Plan" Agency Quarterly Implementation Progress Reports** – Ms. Juliet Ruggiero, Miami Dade County's Department of Environmental Resource Management's (DERM), distributed and presented a report covering January – March 2025 in advance of the meeting. The most alarming water quality violations were detected at Wagner Creek testing stations WC04 in February had E. coli Bacteria of 9,804 (cfu/100ml) and in March had 9,208 when the safe water quality standard is only 130 (cfu/100ml).

## **II. Discussion Regarding Collapsing Shoreline Along South River Drive West of 27 Ave**

The MRC Stormwater Subcommittee's April 2025 public meeting minutes state:

"NW South River Drive from 27 Ave to 20 ST proceeds along a portion of the Miami River which has an unconsolidated shoreline, and several large and growing areas where the shoreline is collapsing into the River. When one of several large sink holes previously grew past the street's steel safety barrier, the City of Miami placed temporary plastic barricades around the hole to keep pedestrians and cars from falling into the Miami River. As the shoreline sink hole(s) grew larger over time, the ground under one of the plastic barriers fell into the River, along with the temporary barricade. Now the large sink hole (one of several) is slightly into the actual street's paved asphalt, and erosion has hollowed out under a portion of the street, where there is no longer solid ground beneath a portion of the street's asphalt. School buses etc. drive on this street (which has no sidewalks, no drainage, no curb and gutter, etc.) On March 6, 2023 the MRC adopted a unanimous resolution stating in part, "encouraging the City of Miami to apply for a TAP (FDOT – TPO) grant or seek a State / Federal cost share / earmark to repair the additional 2 adjacent shoreline collapses, while constructing a public Riverwalk and new stretch of the riverfront portion of South River Drive from NW 20 ST to NW 27 Ave, featuring landscaping, decorative lighting, etc.

The eastern most section of the subject collapsed shoreline is around a broken stormwater outfall (owned by FDOT) which drains 27 Ave. During the MRC's March 6, 2023 public meeting FDOT representatives presented construction engineering documents to repair this collapsed area, while planning to reconstruct a small portion of NW South River Drive (still with no sidewalks, no drainage, no curb and gutter, etc.) The distributed MRC Urban Infill and Greenways subcommittee's September 23, 2024 public meeting minutes with this item on the agenda state, "The FDOT representatives stated the City of Miami indicated they maintain this portion of South River Drive, but do not own it, and the City granted a permit for the planned FDOT repair. The City of Miami clarified that the permit issued for the FDOT collapsed shoreline restoration project was issued for work and Maintenance of Traffic within the City right-of-way (25 feet from Southerly R/W line of the Miami Canal to the south).

Attendees reviewed and discussed several maps and plats previously emailed from the City of Miami, Miami-Dade County, and or SFWMD. For the eastern half of the subject riverfront portion of NW South River Drive (east of the stone bridge over tributary), the City of Miami and Miami-Dade County Representatives stated they believe South River Drive and the shoreline are part of the Miami River ROW, and therefore owned by SFWMD. Armando Vilaboy, SFWMD, provided numerous titles etc. supporting SFWMD's belief that they only own the water in the subject area, and no land. Mr. Vilaboy indicated if SFWMD is wrong, and the City and County are correct in that SFWMD indeed owns the shoreline and this portion of South River Drive, SFWMD does not own or reconstruct streets therefore would be unable to assist with the needed project, but SFWMD would be willing to provide ownership of the subject area to the City free of charge. Ms. Molina, Miami-Dade County, stated since the City has been maintaining the subject portion of South River Drive, therefore the City could claim ownership from SFWMD. The City clarified that the City only has maintenance responsibilities within its right of way. Ms. Molina agreed to research the amount of impact fees the County recently collected from the immediate areas 3 large developments which are currently under construction, and if those impact fees may be used for the subject project. City of Miami Public Works Director Santana indicated he will be discussing these issues in the future with the City Manager.

City of Miami Public Works Director Santana stated the City of Miami owns the western half of the subject riverfront portion of South River Drive (west of the stone bridge over the tributary) in addition to 4 City of Miami owned riverfront folios which are managed by the City of Miami Parks Department. Director Santana suggested the MRC contact City of Miami Assistant City Manager Barbara Hernandez, whom oversees the Parks Department, as they are leading the City's efforts to repair the 2 large and growing collapsed portions of the shoreline in these City owned riverfront folios, and Public Works will coordinate with the Parks Department to include reconstructing this City owned portion of South River Drive in the subject future City of Miami project.

In addition to the TAP (FDOT / TPO) grant opportunity, attendees noted the subject project ("repair the additional 2 adjacent shoreline collapses, while constructing a public Riverwalk and new stretch of the riverfront portion of South River Drive from NW 20 ST to NW 27 Ave, featuring landscaping, decorative lighting, etc.") is a good fit for a large Federal grant."

Attendees reviewed and discussed a new color-coded aerial exhibit prepared by the MRC, showing the subject area and noting ownership of the 4 connecting areas. Attendees noted since the City of Miami owns a 25' wide easement between the private properties and the street, therefore there is sufficient space to shift the street towards the upland, which increases the space for the public Riverwalk. Attendees noted there is a new residential development under construction in the subject area, with another planned development in planning, therefore the number of pedestrians and vehicles will be increasing. Jim Murley noted the following next four steps to bring this MRC recommendation to fruition:

- 1) Resolve Ownership
- 2) Design
- 3) Funding including City Applying for grants
- 4) Construction

The MRC continues to recommend enforcing the shoreline ordinance by making expedited emergency repairs to the collapsed shoreline and encouraging the City of Miami to apply for a TAP (FDOT – TPO) grant, Federal Grant, or seek a State / Federal cost share / earmark to construct a public Riverwalk featuring a new seawall, and a new stretch of the riverfront portion of South River Drive from NW 20 ST to NW 27 Ave, featuring landscaping, decorative lighting, drainage, curb and gutter, etc.”

A City of Miami representative stated the City commenced design only on the section they agree they own and are responsible for, which is the western half located to the north west of the low tributary fixed bridge. The City of Miami issued a permit to the Miami River Rapids Developer to reconfigure the subject portion of South River Drive, therefore perhaps they do own it.”

The SFWMD recently met with Miami-Dade County on this issue. Ms. Molina, Miami-Dade County, emailed that the County is currently reviewing the information provided by the SFWMD at the meeting. Jim Murley noted considering the adjacent development is finishing construction the traffic on this dangerous street will significantly increase, therefore these needed repairs are time sensitive in order to provide public safety. Attendees thanked FDOT which is about to start repairing their 1 outfall and portion of collapsing shoreline close to 27 Ave.

### **III. Discussion Regarding Collapsing Shoreline Along Wagner Creek South of NW 20 ST**

Mr. Carlos Ortega, City of Miami, emailed and presented the following update:

The consultant provided the 30% phase plans on 5-30-2025 and it is currently under review. The following is a description of the components of the project:

- \* Stabilizing the embankment using sheet piles adjacent to the AC Delco property and using geoweb/geocell in all other areas. Embankment will be elevated as needed to meet minimum elevation requirements.
- \*Implementing a midblock crossing on NW 19th Terrace, rather than extending the sidewalk.
- \* Constructing a new sidewalk path along the west bank of the canal.
- \*Reconstructing the roadway, as illustrated in the exhibit.
- \* Installing fencing, guardrails, drainage/outfall adjustments/upsizing with manatee grates where necessary.
- \*Installing tidal valves within the project limits



The city is anticipating completing the review of the 30% phase plans by mid-July 2025.

Updated May 2025 Project Estimate Cost: \$3,209,096.81.

The City of Miami applied for a \$2,336,954 Resilient Florida Implementation Grant but the application was denied. The FL Legislature included \$2,000,000 for this project in the approved State's FY 25-26 Budget, but the line item was vetoed by Governor Ron DeSantis.

**IV. Discussion Regarding Collapsing Shoreline at NW North River Drive and NW 25 Ave**  
MRC Managing Director Bibeau reported the City owned shoreline at NW North River Drive and NW 25 Ave around a City owned stormwater outfall is collapsing into the Miami River.”

On April 16, 2025 Charles Alfaro, Assistant Director City of Miami Public Works, emailed, “We have a project 40-B253603 and a project manager and design consultant have been assigned. I am looping [@Marquez. Giraldo](#) for him to provide more details and any schedule they might have.”

**V. Discussion Regarding 169 NW South River Drive** – The City of Miami owns a crushed stormwater outfall, located beneath the County owned 169 NW South River Drive. The County riverfront parcel is a sanitary sewer easement where a sewer line tunnels beneath the Miami River to the sewage pump station on the opposite side of the River, there is often sanitary odor and sanitary manholes are clogged. MRC Director Bibeau emailed working Debbie Griner, WASD, on this.

**VI. Review Results of Wagner Creek Water Quality Cleaning and Sampling 1 Year Demo and Presentation of Plan Update Regarding FDEP's “Miami River Basin Stormwater Management” Grant Award** - Liber Lopez and Liber Lopez Jr, Fast Cleaning Solutions LLC, and Brett Bibeau, MRC, distributed and presented the following report:

**Bacterial Cleaning Machine in the Water (BCMW) Successful Water Quality  
Improvement Results in Wagner Creek  
May 2024 – May 2025**



Wagner Creek is amongst the most polluted waterways in the State of Florida. For decades the Miami-Dade County Department of Environmental Resource Management (DERM) has taken monthly water quality samples from three locations in Wagner Creek, which the overwhelming majority of the time showed massive exceedances in E-Coli and Enterococci Bacteria. The State of Florida's E.coli Bacteria standard is not to exceed 410 cfu/100mL, and the Enterococci Bacteria standard is not to exceed 130 cfu/100mL), yet DERM's monthly water quality samples often indicate very concerning levels of 10,000 – 40,000 cfu/100mL.

Fast Cleaning Solutions LLC (FCS) owns and operates the Bacterial Water Cleaning Machine (BCMW). The BCMW oxygenates the water while sampling six parameters (Ph., TDS, Salinity, EC, SG, and Temperature). The installed equipment, provided by FCS at no additional cost to third parties, was the BCMW water purification machine with organic disinfection and water monitoring. Water monitoring is performed in real time, with online access to facilitate tracking its characteristics. The BWCM features a solar panel that generates energy and powers the equipment that produces ionized air, various filters, and ultraviolet light, which disinfects the water.

FCS operated the BCMW equipment in a lake on the Kendall campus of Miami Dade College for over six months, which had a positive effect on improving the water and the ecosystem. Since then, we have made improvements to a newer and stronger model of the BCMW, featuring increased oxygenation.

**Table 1**

**The water treatment equipment was installed near DERM Water Quality Station location WC03 (Wagner Creek) on May 12, 2024. The following are a side-by-side comparison of DERM water quality testing results at station WC03 before and after the water treatment equipment was operating, and shows significant reduction in both Enterococci and E. coli bacteria.**

MIAMI RIVER WATER QUALITY IMPROVEMENT REPORT

Month	2023	2024	Reduction %
<b>Entero</b>			
April	2,060	323	-84.32%
May	428	168	-60.75%
June	6130	211	-96.56%
July	594	201	-66.16%
August	63	243	0.00%
September	359	52	-85.52%
October	187	24196	0.00%
November	7270	301	-95.86%
December	414	450	0.00%
	<b>2024</b>	<b>2025</b>	
January	443	288	-34.99%
February	19900	4106	-79.37%
March	2490	63	-97.47%
<b>Total</b>	<b>40,338</b>	<b>30602</b>	<b>76%</b>

Month	2023	2024	Reduction %
<b>E.Coli</b>			
April	1040	104	-90.00%
May	878	268	-69.48%
June	11000	1314	-88.05%
July	914	244	-73.30%
August	172	223	0.00%
September	4090	201	-95.09%
October	810	48400	0.00%
November	34700	305	-99.12%
December	1100	426	-61.27%
	<b>2024</b>	<b>2025</b>	
January	524	379	-27.67%
February	17300	9208	-46.77%
March	2747	441	-83.95%
<b>Total</b>	<b>75275</b>	<b>61513</b>	<b>82%</b>

As can be seen in the tables above, based on DERM's monthly water quality samples before and after the BWCM started servicing this location, levels of ENTEROS and E. Coli have dramatically decreased, except in August due to higher rainfall than the previous year, and in October, when measurements coincided with the canal closure by the developers with yellow blockers, resulting in high concentrations of contamination at the site. This is also reflected in the October measurements in table 1.

When we began our year of free services to prove effectiveness, limited aquatic life was observed in this area, which coincides precisely with PH values outside the range of probable life, as shown in Table 2.

**Table 2.**

Monthly values after installing BCMW in 2024

Date	Temp F°	SG	Salinity	EC	TDS	PH
Mar-24	77	1.004	9526	16331	8166	9.95
Apr-24	79.1	1.003	9526	15597	7576	9.21
May-24	79.3	0.997	9098	16331	5804	8.48
Jun-24	82.2	0.999	8882	15222	5790	8.25
Jul-24	82.4	0.996	5915	12041	5680	8.01
Aug-24	82.3	0.998	4605	11050	5524	7.78
Sep-24	82.2	0.997	4539	7781	4942	7.53
Oct-24	82.4	0.996	6253	10259	5965	8.43
Nov-24	82.5	0.998	2548	1983	1020	7.86
Dec-24	79.4	0.997	1884	1081	765	7.79
Jan-25	79.8	0.996	1786	987	745	7.64
Feb-25	79.9	0.997	1652	956	732	7.76
Mar-25	80.6	0.998	1546	923	721	7.54
Apr-25	81.3	0.996	1498	846	689	7.76

Values in red: Values outside Parameters.

Values in green: Accepted values.

Values in black: Normal Values

Temperature: Temperature depends on the climate, but it is a parameter that influences PH, so it is taken as a comparison, to determine the influence of external contaminants. On these sample days, the water temperatures were in line with the temperatures of the city, so there was no alarming value. (Table 2)

Specific Gravity: Specific gravity is defined as the ratio of the density of a given substance to the density of water when both are at the same temperature. Normal range for fresh water, SG is approximately 1,000. In these samples there are no high values of this parameter, they are all close to 1,000. (Table 2)

Salinity: Measures the number of salts dissolved in water, less than 500 ppm for fresh water. Higher salinities may indicate saline water intrusion, especially in near Shore Rivers or pool discharges. (Table 2)

E.C: Electrical conductivity measures the ability of water to conduct an electrical current. The higher the concentration of dissolved charged chemicals (also known as salts) in the water, the greater the electrical current that can be conducted. It measures the capacity of water to conduct electricity, which is related to the concentration of dissolved ions (salts and minerals), its normal value should be between 50 and 1500  $\mu$ S/cm. Higher values may indicate the presence of contaminants or more mineralized waters. (Table 2)

TDS: Total Dissolved Solids (TDS) are all the good and bad elements in your drinking water. These can be organic and inorganic substances such as minerals, salts, metals, cations, or anions dissolved in water. The TDS level is measured in parts per million (PPM) and milligrams per liter (mg/L). Its normal value should be less than 500 ppm for fresh water. Higher levels may indicate contamination. (Table 2)

Ph: It measures the acidity or alkalinity of water on a scale of 0 to 14, its range must be between 6.5 and 8.5, so that conditions for aquatic life exist. Values outside this range may indicate contamination or unfavorable conditions for aquatic life. The U.S. Environmental Protection Agency recommends that the pH level of water sources should be at a pH measurement level between 6.5 to 8.5 on a scale that ranges from 0 to 14. (Table 2)

**Conclusions:**

1. After a year of comparing DERM's water quality samples at this location, the results provided by DERM, the BCMW reduced E. coli Bacteria by 82% and Enterococci Bacteria by 76%.
2. When we began this work, the water at this location had an unpleasant odor and was very turbid, with visible stains of oil and other contaminants, as shown in picture below. In the year that the BCMW operated near DERM water quality sample station WC03, aquatic vegetation visibly increased, which also helps improve water quality.



3. With the water treatment we have implemented we have noticed an improvement in water quality both in the reduction of bacteria, turbidity and stabilization of the pH, which has allowed the increase of aquatic plants and oxygen in the water.

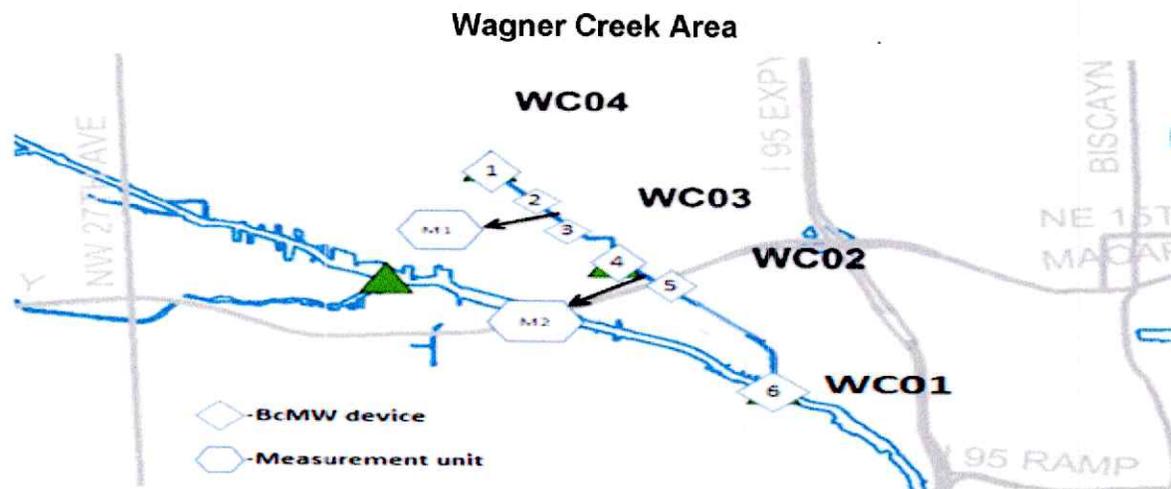


### Future Proposal to Clean Wagner Creek and Seybold Canal

Cleaning the entire Wagner Creek / Seybold Canal channel with a single water treatment unit (BCMw) is not sufficient; at least six units are needed in the locations shown on the map below: one at the end of Wagner Creek (near DERM Water quality testing station WC04), another between DERM Water quality testing stations WC04 and WC03, one near DERM Water quality testing station WC03, another between DERM Water quality testing stations WC03 and WC02, one near DERM Water quality testing station WC02, and one near DERM Water quality testing station WC01, at the beginning of Wagner Creek, where it connects to the Miami River. Two measurement units are also needed to measure water parameters at the inlet and outlet. One unit should be located near WC02 and the other near WC03

The cost of each unit is \$3,000 USD per month. With the necessary units installed, the monthly cost would be \$18,000 USD. The Miami River Commission (MRC) has contracts with the City of Miami, Miami-Dade County, the State of Florida, Downtown Development Authority, etc. to provide cleaning maintenance services on their respective areas of the Miami River. Fast Cleaning Solutions is one of the MRC's subcontractors on these contracts performing maintenance and cleaning of the riverbanks and surrounding streets. Based on the above, we propose that the public sector enter into a contract with the MRC for \$18,000 per month, which would be responsible for inspections, administration, accounting, as we currently do with all other contracts.

If approved, the Wagner Creek project will be the first clean water filter for the Miami River. Water enters and leaves Wagner Creek every six hours due to the rise and fall of the tides. The channel holds 12 million gallons of water at low tide and up to 16 million at high tide. Therefore, between 24 and 36 million gallons of clean water will flow into the river daily, depending on the tides. For decades we have seen failed water quality samples in Wagner Creek, and now we have a proven, effective, and affordable means to finally take action to improve the water quality in one of the most polluted waterways in the State of Florida.



Juliet Ruggiero, DERM, asked several questions which were answered by Mr. Lopez and Mr. Bibeau.

**VII. New Business**

The public meeting adjourned.

# Miami River Commission's Stormwater Subcommittee

## Public Meeting

July 2, 2025 - 10:00 AM

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