

Memorandum



Date: June 18, 2024

To: Honorable Chairman Oliver G. Gilbert, III
and Members, Board of County Commissioners

Agenda Item No. 8(O)(1)

From: Daniella Levine Cava
Mayor

A handwritten signature in blue ink that reads "Daniella Levine Cava".

Resolution No. R-546-24

Subject: Resolution Ratifying the Award of Contract No. S-20181, Emergency Project to Rehabilitate CDWWTP Step Feed Piping

Executive Summary

This item seeks ratification of the award of Contract No. S-20181, Emergency Project to Rehabilitate CDWWTP Step Feed Piping (the Contract) to Metro Equipment Service, Inc (Metro Equipment) in an amount not to exceed \$8,756,930.00.

On December 22, 2023, the Miami-Dade Water and Sewer Department (WASD) declared an emergency to remove/mitigate hydraulic restrictions at the Central District Wastewater Treatment Plant (CDWWTP). There have been multiple sewer overflows at the CDWWTP, which pose a danger to the environment, safety, and public health. A Declaration of Emergency was made to initiate a construction contract as soon as possible to begin work in removing and mitigating the hydraulic restrictions that are believed to be contributing to the sewer overflows.

Recommendation

It is recommended that the Board of County Commissioners (Board) ratify the action of the County Mayor or County Mayor's designee, as authorized under Section 2-8.2.12 of the Miami-Dade County Code related to WASD's Consent Decree and Capital Improvement Programs Acceleration Ordinance (WASD's Acceleration Ordinance) for the funded project identified below and on Exhibit A.

Capital Improvement Project

Item 1 – Recommendation awarding Contract No. S-20181- Emergency Project to Rehabilitate CDWWTP Step Feed Piping. This item requests ratification of an award of a contract to Metro Equipment Service, Inc. in an amount not to exceed \$8,756,930.00, with a total contract period of 471 days. The contract was fully executed and attested by the Clerk's Office on April 16, 2024.

Delegation of Authority

This Contract was awarded pursuant to WASD's Acceleration Ordinance, which delegates authority to the County Mayor or County Mayor's designee to award certain projects, and among other things, negotiate and settle claims, and execute change orders that do not exceed ten percent (10%) of the base contract amount, subject to ratification by the Board.

Scope

This Contract will be performed at the CDWWTP, 3989 Rickenbacker Causeway, Miami, 33149, which is located in Commission District 7 represented by Commissioner Raquel Regalado.

Fiscal Impact / Funding Source

The fiscal impact to the County will be \$8,756,930.00. The funding sources for this Contract are: Future WASD Revenue Bonds, WASD Revenue Bonds Sold, Wastewater Connection Charges, and Wastewater Renewal. The Contract was issued on an emergency basis and will be funded from a project from the Consent Decree Wastewater Treatment Plants Projects in the FY 2023 - 24 Adopted Budget and Multi-Year Capital Plan.

Track Record/Monitoring

WASD's Deputy Director of Planning, Regulatory Compliance & Capital Infrastructure, Marisela Aranguiz-Cueto, P.E., will oversee the implementation of this Contract.

Due Diligence/Safety Information

Due diligence was conducted by W ASD and the Internal Services Department (ISD) in accordance with ISD's Procurement Guidelines to determine responsibility, including verifying corporate status; performance; safety record, including Occupational Safety and Health Administration (OSHA) records; and compliance data. The lists that were reviewed include: convicted vendors, debarred vendors, delinquent contractors, suspended vendors, and federal excluded parties. There were no adverse findings related to Metro Equipment's responsibility. This information is being provided pursuant to Resolution No. R-187-12.

Background

Headworks 1 Permanent Repair

On September 20, 2023, the CDWWTP headworks experienced a failure that caused an internal plant spill of over 10 million gallons. Immediate temporary repairs were completed in September 2023. The scope of work for Contract No. S-20181 provides for a permanent repair of Headworks 1.

Plant 2 Step Feed Piping Hydraulic Restriction Retrofit

Since November 5, 2020, the CDWWTP has experienced six (6) sewer overflows caused by flows exceeding the capacity of the existing piping. Details of the overflows are shown below.

SWO #	Incident Date	Volume (gal)	Recovered Volume (gal)	Untreated/ Treated	Surface Water
2020-6114	11/5/2020	976	950	Untreated	No
2022-851	2/11/2022	8,500	6,000	Untreated	No
2022-3994	6/4/2022	7,650,000	6,900,000	Untreated	Atlantic Ocean
2022-7601	9/27/2022	165,000	163,000	Untreated	No
2022-8479	10/13/2022	10,000	9,500	Untreated	No
2022-9587	11/20/2022	228,225	195,000	Untreated	Atlantic Ocean

Sewer overflows pose an imminent danger to the environment, safety, and public health. These sewer overflows resulted in the Florida Department of Environmental Protection (FDEP) opening discussions with Miami-Dade County for a new Consent Decree to require corrective actions.

While WASD continues to collaborate with FDEP to finalize the new Consent Decree, WASD has been studying the CDWWTP hydraulic flows to identify any flow restrictions that might contribute to these sewer overflows. In its current configuration, CDWWTP headworks has eight (8) connections from a raw sewer main into four (4) oxygenation tanks. These eight (8) connections consist of one (1) 48-inch connection and one (1) 36-inch connection to each oxygenation tank.

The four (4) 36-inch connections were identified as hydraulic restrictions that contributed to the sewer overflow; the overflow risk can be mitigated by upgrading each 36-inch connection to a 48-inch connection. In November 2023, CDM Smith evaluated plant hydraulics under various plant configurations and flow conditions and observed, in part, that “the step feed pipe in Plant 2 needs to be upsized to 48-inch in order to pass 175 mgd; the maximum allowable flow for Plant 2 with a 36-inch step feed pipe is 145 mgd.” See Contract Award Recommendation at Technical Memorandum, Section 2.4, attached hereto as Exhibit B.

The upgrade of each 36-inch connection is complicated and involves long lead time purchases, plant shutdowns, and limitations on scheduling of work based upon unpredictable sewer flows. This work cannot be completed in the wet/hurricane season, which runs from May 15th to November 1st each year.

WASD has determined it to be in the best interests of County residents and the environment to immediately resolve the issue through an emergency declaration. By initiating a construction contract as soon as possible, WASD intends to achieve as much work as possible to remove/mitigate the restrictions prior to the start of the next wet/hurricane season. By not taking action, it is very likely that the Plant will experience additional sewer overflows that could impact the surrounding community and environment, including Biscayne Bay.

WASD acknowledges the hydraulic restriction at Plant 2 is just one factor that is contributing to the overflow issue. At the same time, WASD is also taking significant steps in the planning and design of multiple projects, as well as enhancing routine maintenance on existing equipment, in order to further assist with mitigation of overflows.

Exhibit A includes the details for the competitively bid award being ratified through this item and contains the following information for the Contract:

- Item Number
- Department Name
- Type of Solicitation
- Contract Type
- Contract No. / Project No.
- Project Name
- Firm Awarded
- Commission District
- Contract Amount
- Funding Source(s)
- Operations and Maintenance Costs
- Estimated Start Date/Estimated End Date

Honorable Chairman Oliver G. Gilbert, III
and Members, Board of County Commissioners
Page 4

- Contract Measures: SBE Goods & Services; SBE-A/E; SBE-Construction; and CWP Program (See also Exhibit C)
- Brief Project Description

A copy of the Contract is available from the Intergovernmental Affairs Division of WASD upon request.

Attachments



Jimmy Morales
Chief Operating Officer

Exhibit A

Ratification of Contract Awards Authorized by the WASD Accelerate Ordinance

Item No.	Dept. Name	Type of Solicitation	Contract Type	Contract No.		Project Name	Firm Awarded	Commission District	Contract Amount	Funding Source(s)	Operations and Maintenance Costs	Est. Start Date	Contract Measures				Brief Project Description
				Contract No.	Project No.								SBE Goods & Services	SBE A/E	SBE Construction	CWP Program	
1	WASD	Emergency	Construction Contract	Contract No. S-20181		Emergency Project to Rehabilitate CDWWTP Step Feed Piping	Metro Equipment Service, Inc.	District 7 (Raquel Regalado)	\$8,756,930.00	Future WASD Revenue Bonds, WASD Revenue Bonds Sold, Wastewater Connection Charges, and Wastewater Renewal	Operations and Maintenance Cost: None, these repairs are part of a larger system and there are no separate operating or maintenance costs	Notice to Proceed Date: March 4, 2024 Completion Date: No later than May 15, 2025	none	n/a	none	n/a	On December 22, 2023, the Miami-Dade Water and Sewer Department (WASD) declared an emergency to remove/mitigate hydraulic restrictions at the Central District Wastewater Treatment Plant (CDWWTP). There have been multiple sewer overflows at the CDWWTP, which pose a danger to the environment, safety, and public health. The Declaration of Emergency was made to initiate a construction contract as soon as possible to begin work in removing and mitigating the hydraulic restrictions that are believed to be contributing to the sewer overflows.

Total Dollar Value of Award: \$8,756,930.00

MDC005

EXHIBIT B

Memorandum

MIAMI-DADE
COUNTY

Date:

To: Roy Coley, Director
Water and Sewer Department

From: Marisela Aranguiz-Cueto, P.E., *mae*
Deputy Director of Planning, Regulatory Compliance, and Capital Infrastructure
Water and Sewer Department

Subject: Award Recommendation for Contract S-20181, Emergency Project to
Rehabilitate CDWWTP Step Feed Piping

Executive Summary

This memorandum seeks approval to award construction Contract No. S-20181, Emergency Project to Rehabilitate CDWWTP Step Feed Piping (the Contract) to the lowest responsive and responsible bidder, Metro Equipment Service, Inc. (Metro Equipment). On December 22, 2023, the Miami-Dade Water and Sewer Department (WASD) declared an emergency (see the Declaration of Emergency attached hereto as Exhibit A) to remove/mitigate hydraulic restrictions at the Central District Wastewater Treatment Plant (CDWWTP). There have been multiple sewer overflows at the CDWWTP, which pose a danger to the environment, safety, and public health. The Declaration of Emergency was made to initiate a construction contract as soon as possible to begin work in removing and mitigating the hydraulic restrictions that are believed to be contributing to the sewer overflows. The project is an emergency, which will be funded from a project in the Adopted Budget and Multi-Year Capital Plan—the Consent Decree Wastewater Treatment Plants Projects. The funding sources are Future WASD Revenue Bonds, WASD Revenue Bonds Sold, Wastewater Connection Charges, and Wastewater Renewal.

Recommendation

It is recommended that Contract S-20181 be awarded to Metro Equipment for a total compensation amount of \$8,756,930.00, with a total contract period of 471 calendar days.

Scope

This Contract will be performed at the CDWWTP located at 3989 Rickenbacker Causeway, Miami 33149 in Commission District 7, which is represented by Commissioner Raquel Regalado.

The scope of this Contract involves two (2) repairs at the CDWWTP with the following elements:

Headworks 1 – Permanent Repair: A new reinforced concrete slab 20 ft long 6 ft wide and 12 inches thick, cast in place on top of existing slab as well as concrete repairs to existing chamber ceiling (4'x20') and top 1' of both side of chamber walls (1'x 20'x2'). In addition, a new 24" access manhole with wall piece/blind flange set and a new 1.5" air release small pipe system tapped at blind flange will be installed.

Plant 2 Step Feed Piping Hydraulic Restriction Retrofit: Modify the existing 36" stainless steel connections to provide the same capacity as the 48" stainless steel connections. Replace the existing 36" stainless steel connection with a 48" stainless steel connection with Knife Gate Valves. The objective is to remove the current restriction, provide uniformity and reduce overflows during large storms. All equipment and appurtenances removed can be reused or will be returned to WASD for another use. This project is part of an extensive dry season focus on improving flows and reducing overflows at the CDWWTP and will be conducted along with several other critical

MDC006

RECEIVED BY CLERK
Circuit & County Courts
Miami-Dade County, Florida
FILED FOR RECORD
8:12:32 AM, 3/4/2024
CLERK OF THE BOARD

repairs. As a result, close coordination with CDWWTP Operations will be necessary to ensure that these efforts are planned in accordance with on-going projects and maintenance work to avoid any future overflows.

Delegated Authority

This project is a Capital Improvement Contract being processed under a Declaration of Emergency. It will be submitted to the Board of County Commissioners for ratification. At that time, WASD intends to request that the Board authorize WASD to utilize the WASD Consent Decree and Capital Improvement Program Acceleration Ordinance (Acceleration Ordinance), Section 2-8.2.12 of the Miami-Dade County Code, in order to manage the Contract.

Pursuant to the Acceleration Ordinance, the County Mayor or County Mayor's designee is authorized to amend and execute the Contract, subject to ratification by the Board of County Commissioners (Board). Pursuant to Sections 2-8.2.12 (4)(d) and (e) of the Code, the County Mayor or County Mayor's designee has the authority to, among other things, amend and/or extend the contract to complete any unfinished work, waive liquidated damages, negotiate, and settle claims, and execute change orders that do not exceed ten percent (10%) of the base contract amount.

Fiscal Impact/Funding Source

The fiscal impact to the County is \$8,756,930, which WASD has determined is a fair and reasonable amount for the project's defined scope of work.

The project is an emergency that will be funded from a project that is in the Adopted Budget and Multi-Year Capital Plan.

- Funding will be provided from Program 964120, Consent Decree Wastewater Treatment Plants Projects, FY 2023-24 Adopted Budget and Multi-Year Capital Plan, Volume 3, page 85.
- The funding sources are Future WASD Revenue Bonds, WASD Revenue Bonds Sold, Wastewater Connection Charges, and Wastewater Renewal.
- The life expectancy of the work for: (1) the Headworks 1 repair is 25 years, and (2) for the Plant 2 Step Feed is 50 years.
- Operations Cost Impact / Funding: None, these repairs are an integral part of a larger system and have no separate operating costs.
- Maintenance Cost Impact / Funding: None, these repairs are an integral part of a larger system and have no separate maintenance costs.
- The project does not include GOB funding or Art in Public Places.
- The IG Fee is included.

Vendor Selection & Track Record

On January 11, 2024, WASD received and opened the following three (3) bids in response to the Declaration of Emergency and activation of the WASD MCC 7360 ER Sub-Pool 1 Large Transmission Mains Emergency Pool (the Emergency Pool) for an open competitive solicitation among the Emergency Pool members.

Company Name	Base Bid	Allowances	Contingency	Total Bid*
Lanzo Construction Co Florida	\$4,125,000	\$223,750	\$412,500	\$4,761,250
Metro Equipment Service, Inc.	\$7,661,000	\$329,830	\$766,100	\$8,756,930
Ric Man Construction Florida Inc	\$12,174,052	\$465,221	\$1,217,405	\$13,856,678

*Total bid includes contingency & dedicated allowances

After the bid opening, Lanzo Construction Co. Florida withdrew their bid.

The following due diligence was performed to determine Metro Equipment was the lowest responsive and responsible bidder:

- WASD reviewed the bid submission and determined that Metro Equipment satisfied the requirements of the solicitation and determined that Metro Equipment was responsive.
- WASD held two (2) meetings with Metro Equipment. One meeting was held at the WASD Douglas building and one meeting was held at the CDWWTP site of the headworks repairs; both meetings were to discuss the Contractor's proposed means and methods for completing the scope of work.
- Pursuant to Resolution No. R-187-12, WASD performed a review of the vendor information in the Business Management Workforce System (BMWS). WASD discovered no adverse information. WASD determined that Metro Equipment was responsible.
- According to the contract history downloaded from the BMWS on January 30, 2024, Metro Equipment has been awarded two (2) contracts from the County with a total value of \$995,248.
- Metro Equipment has 54 evaluations in the ISD Capital Improvement Information System (CIIS) with a rating of 3.5 out of a possible 4.0 maximum.

WASD has concluded that the apparent lowest bidder, Metro Equipment, is both responsive and responsible. The total bid of \$8,756,930 is found to be appropriate for the contract scope of work. Therefore, it is recommended that Contract S-20181 be awarded to Metro Equipment for a total compensation amount of \$8,756,930, with a total contract period of 471 days.

WASD Contract Monitor

WASD Deputy Director, Planning Regulatory Compliance and Capital Infrastructure, Marisela Aranguiz-Cueto, P.E., will oversee the implementation of the Contract.

Background

Headworks 1 Permanent Repair

On September 20, 2023, the CDWWTP headworks experienced a failure that caused an internal plant spill of over 10 million gallons. Immediate temporary repairs were completed in September 2023. The S-20181 scope of work provides for a permanent repair of Headworks 1.

Plant 2 Step Feed Piping Hydraulic Restriction Retrofit

Since November 5, 2020, the CDWWTP has experienced six (6) sewer overflows caused by flows exceeding the capacity of the existing piping. Details of the overflows are shown in the table below.

SWO #	Incident Date	Volume (gal)	Recovered Volume (gal)	Untreated/Treated	Surface Water
2020-6114	11/5/2020	976	950	Untreated	No
2022-851	2/11/2022	8,500	6,000	Untreated	No
2022-3994	6/4/2022	7,650,000	6,900,000	Untreated	Atlantic Ocean
2022-7601	9/27/2022	165,000	163,000	Untreated	No
2022-8479	10/13/2022	10,000	9,500	Untreated	No
2022-9587	11/20/2022	228,225	195,000	Untreated	Atlantic Ocean

Sewer overflows pose an imminent danger to the environment, safety, and public health. These sewer overflows resulted in the Florida Department of Environmental Protection (FDEP) opening discussions with Miami-Dade County for a Consent Decree to require corrective actions to be taken. While WASD continues to collaborate with FDEP to finalize the Consent Decree, WASD has been studying CDWWTP hydraulic flows to identify any flow restrictions that might contribute to these sewer overflows. In its current configuration, CDWWTP headworks has eight (8) connections from a raw sewer main into four (4) oxygenation tanks. These eight (8) connections consist of one (1) 48-inch connection and one (1) 36-inch connection to each oxygenation tank.

The four (4) 36-inch connections were identified as hydraulic restrictions that contributed to the sewer overflow; the overflow risk can be mitigated by upgrading each 36-inch connection to a 48-inch connection. In November 2023, CDM Smith evaluated plant hydraulics under various plant configurations and flow conditions and observed, in part, that “the step feed pipe in Plant 2 needs to be upsized to 48-inch in order to pass 175 mgd; the maximum allowable flow for Plant 2 with a 36-inch step feed pipe is 145 mgd.” See Exhibit B attached hereto.

The upgrade of each 36-inch connection is complicated and involves long lead time purchases, plant shutdowns, and limitations on scheduling of work based upon unpredictable sewer flows. This work cannot be completed in the wet/hurricane season, which runs from May 15th to November 1st each year.

WASD has determined it to be in the best interests of County residents and the environment to immediately resolve the issue through an emergency declaration. By initiating a construction contract as soon as possible, WASD intends to achieve as much work as possible to remove/mitigate the restriction prior to the start of the next wet/hurricane season.

Alternatively, by not taking action, it is very likely that the plant will endure additional sewer overflows that will impact the surrounding community and environment, including Biscayne Bay. WASD acknowledges this restriction is just one contributing factor to the overflow issue. At the same time, the Department is also taking significant steps in the planning and design of multiple projects, as well as enhancing routine maintenance on existing equipment, in order to further assist with mitigation of systemwide, as well as plant, overflows.

In summary, the combination of the permanent repairs at Headworks 1 and the mitigation of the hydraulic restriction at Plant 2 should greatly assist in the avoidance of future overflows.

Contract Manager Name/Phone/Email

Paul Adams / 786-863-9425 / paul.adams@miamidade.gov

Project Manager Name/Phone/Email

Christine Wartman / 786-552-0231 / Christine.Wartman@miamidade.gov

Applicable Ordinances and Measures

Table below depicts the applicable legislative policies.

Title	Legislation	Notations
Small Business Enterprise - Construction	Code Section 10-33.02 & Implementing Order 3-22	Emergency Contract No Measure
Small Business Enterprise - Services	Code Section 2-8.1.1.1.1 & Implementing Order 3-41	Emergency Contract No Measure
Small Business Enterprise - Goods	Code Section 2-8.1.1.1.2 & Implementing Order 3-41	Emergency Contract No Measure
Responsible Wages and Benefits	Code Section 2-11.16 & Implementing Order 3-24	Heavy
Sea Level Rise	Ordinance 14-79	No, repair is internal to existing structure
Sustainable Buildings Program	Implementing Order 8-8	
Buy American Iron & Steel Procurement Program	Code Section 2-8.2.6.1	
Office of Inspector General Fee	Code Section 2-1076	

Project Chronology

Event	Projected Date
1. Pre-bid Meeting Date if applicable	
2. Bid opening date	January 11, 2024
3. Planned Bid Award date	TBD
4. Planned pre-construction meeting	TBD
5. Planned Notice to proceed	TBD
6. Planned groundbreaking	TBD
7. Planned completion date	TBD

The balance of this page is intentionally left blank

SIGNATURE PAGE

S-20181, Emergency Project to Rehabilitate CDWWTP Step Feed Piping

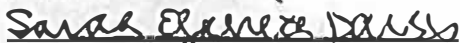


David Clodfelter
OMB DIRECTOR

2/21/2024

DATE

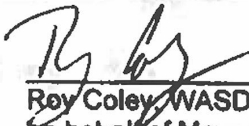
Approved as to legal sufficiency



Sarah E. Davis
Assistant County Attorney

2/14/24

DATE



Roy Coley, WASD Director
on behalf of Mayor Daniella Levine Cava

2-29-27

DATE

From: Coley, Roy (WASD)
To: Aranguiz-Cueto, Marisela (WASD)
Cc: McCarley, Billie Jo (WASD); Adams, Paul (WASD); Curiel, Juan A. (WASD); Torres, Marcelino (WASD); Pfister, Thomas M. (WASD); Hernandez, Sandra (WASD); Pou, Leo A (WASD); Osorio, Marcel (WASD); Wartman, Christine L. (WASD); Valdes, Alexis J. (WASD); Aquino, Jeffrey (WASD); Curiel, Juan A. (WASD); Garcia, Mario (WASD); Perez-Jacome, Nelson L. (WASD); Ferguson, James (WASD); Doyon, Cynthia (WASD); Caveda, Ana T. (WASD)
Subject: RE: Declaration of Emergency for Central District Plant 2 Hydraulic Restriction Project
Date: Friday, December 22, 2023 9:18:55 AM
Attachments: image002.png
image003.png

Agreed

Roy Coley, MBA

Director

Miami-Dade Water and Sewer Department

786-552-8200

www.miamidade.gov/water

Connect With Us on [Facebook](#) | [Twitter](#) | [Instagram](#) | [YouTube](#)



From: Aranguiz-Cueto, Marisela (WASD) <Marisela.Aranguiz-Cueto@miamidade.gov>
Sent: Friday, December 22, 2023 9:06 AM
To: Coley, Roy (WASD) <Roy.Coley@miamidade.gov>
Cc: McCarley, Billie Jo (WASD) <BillieJo.McCarley@miamidade.gov>; Adams, Paul (WASD) <Paul.Adams@miamidade.gov>; Curiel, Juan A. (WASD) <Juan.Curiel@miamidade.gov>; Torres, Marcelino (WASD) <Marcelino.Torres@miamidade.gov>; Pfister, Thomas M. (WASD) <Thomas.Pfister@miamidade.gov>; Hernandez, Sandra (WASD) <Sandra.Hernandez@miamidade.gov>; Pou, Leo A (WASD) <Leo.Pou@miamidade.gov>; Osorio, Marcel (WASD) <Marcel.Osorio@miamidade.gov>; Wartman, Christine L. (WASD) <Christine.Wartman@miamidade.gov>; Valdes, Alexis J. (WASD) <Alexis.Valdes@miamidade.gov>; Aquino, Jeffrey (WASD) <Jeffrey.Aquino@miamidade.gov>; Curiel, Juan A. (WASD) <Juan.Curiel@miamidade.gov>; Garcia, Mario (WASD) <Mario.Garcia2@miamidade.gov>; Perez-Jacome, Nelson L. (WASD) <Nelson.Perez-Jacome@miamidade.gov>; Ferguson, James (WASD) <James.Ferguson@miamidade.gov>; Doyon, Cynthia (WASD) <Cynthia.Doyon@miamidade.gov>; Caveda, Ana T. (WASD) <Ana.Caveda@miamidade.gov>
Subject: Declaration of Emergency for Central District Plant 2 Hydraulic Restriction Project

Director et al,

Recently, the Florida Department of Environmental Protection (FDEP) began discussions with Miami-Dade County for a Consent Decree, citing multiple sewer overflows at the Central District Wastewater Treatment (listed below). While the Water and Sewer Department (WASD) works collaborative with FDEP to finalize the Consent Decree, we are also working diligently to identify and address any hydraulic restrictions that pose an imminent danger to the environment, safety and public health. To that end, one hydraulic restriction has been identified and it is in the best interest of County residents and the environment to immediately resolve the issue through an emergency

declaration. By initiating a construction contract as soon as possible, WASD intends to achieve as much work as possible to remove/mitigate the restriction prior to the start of the next wet/hurricane season. Alternatively, by not taking action, it is very likely that the plant will endure additional sewer overflows that will impact surrounding community and environment, including Biscayne Bay. As WASD acknowledges this restriction is one contributing factor, the Department is also taking significant steps in the planning and design of multiples projects, as well as enhancing routine maintenance on existing equipment, that will further assist in the mitigation of systemwide, as well as plant, overflows.

In summary, the identified hydraulic restriction constitutes an emergency situation posing an imminent danger to the environment, safety and public health and as such an emergency declaration is warranted to immediately begin the procurement process that will alleviate this situation and assist in the avoidance of future overflows.

SWO #	Incident Date	Volume (gal)	Recovered Volume (gal)	Untreated/Treated	Surface Water
2020-6114	11/5/2020	976	950	Untreated	No
2022-851	2/11/2022	8,500	6,000	Untreated	No
2022-3994	6/4/2022	7,650,000	6,900,000	Untreated	Atlantic Ocean
2022-7601	9/27/2022	165,000	163,000	Untreated	No
2022-8479	10/13/2022	10,000	9,500	Untreated	No
2022-9587	11/20/2022	228,225	195,000	Untreated	Atlantic Ocean

Marisela

Marisela J. Aranguiz-Cueto, P.E.
Deputy Director
Miami-Dade Water and Sewer Department
3071 SW 38th Avenue, Miami, FL 33146
E. marisela.aranguiz@miamidade.gov
O. 786-552-8894
www.miamidade.gov/water
Connect With Us on [Twitter](#) | [Facebook](#)



TA-03 Rev 01 – Plant-Wide Hydraulic Model Technical Memorandum Central District Wastewater Treatment Plant Ocean Outfall Legislation Program

CDWWTP – Oxygenation Trains and Clarifiers (CT-3B)

Prepared for

Miami-Dade Water and Sewer Department
(WASD)

September 2023 (Revised November 2023)



CDM Smith Inc.
4000 Ponce De Leon Blvd, Ste. 720
Miami, FL 33146

2.3 Hydraulic Model Simulation Approach

The 2023 updated model was used to evaluate plant hydraulics under various plant configurations and flow conditions. Table 2.2 listed detailed flows and configurations in each scenario. The flows listed under "Headworks" were loaded into the upstream end of each plant headworks. The downstream end of the model, the outfall/transfer pump station wet well, used elevation 6 feet as the boundary condition. The PHF scenarios are listed as Scenario 3; the MDF Scenario is listed as Scenario 2; and the ADF Scenario is listed as Scenario 1 to match the Process Model Technical Memorandum. Filter backwash flow is not included in these scenarios listed below but was evaluated and documented in Section 2.5.

Table 2.2 – 2023 Plant Hydraulics Evaluation Scenarios

Scenario	Plant	Headworks Flow (mgd)	# of Screens	# of OTs	# of FSTs	Step feed	RAS (mgd)	Centrate/ Filtrate (mgd)
3-a	1	160	4	4	10	Y	63.1	4.55
	2	175	4	4	10	Y 48"	63	4.55
3-b	1	130	3	3	9	Y	63.1	4.55
	2	175	4	4	10	Y 48"	63	4.55
3-c	1	160	4	4	10	Y	63.1	4.55
	2	145	3	3	9	Y 48"	63	4.55
3-d	1	160	4	4	10	Y	63.1	4.55
	2	145	4	4	10	Y 36"	63	4.55
2	1	151	4	4	10	Y	63.1	4.55
	2	151	4	4	10	Y 48"	63	4.55
1	1	71.5	3	3	9	N	50.05	3.96
	2	71.5	3	3	9	N	50.05	3.96

Note: Plant 1 and 2 have four screens each and four oxygenation tanks (OTs) each; Plant 1 has 10 final settling tanks (FSTs), Plant 2 has 10 settling tanks.

Each scenario simulates a specific plant headworks flow, RAS flow, and configuration for the number of screens, oxygenation tanks, and final settling tanks:

- Scenario 3-a establishes the baseline under 335 mgd PHF, with all headworks screens, oxygenation tanks, and final settling tanks in operation.
- Scenario 3-b was designed to evaluate the PHF if one oxygenation tank, one settling tank, and one headworks screen are offline in Plant 1, with the headworks flow shown being the maximum flow that meets freeboard requirements (see below for freeboard requirement).
- Scenario 3-c was designed to evaluate the PHF if one oxygenation tank, one settling tank, and one headworks screen are offline in Plant 2, with headworks flow shown being the maximum flow that meets freeboard requirements (see below for freeboard requirement).
- Scenario 3-d was designed to test what flows can pass through Plant 2 if the step feed pipe in Plant 2 remained a 36-inch pipe.
- Scenario 2 simulates maximum daily flow (MDF) of 302 mgd with all trains in both plants in operation.
- Scenario 1 simulates average daily flow (ADF) of 143 mgd with one train offline in each process in both plants.

The MDF and ADF were derived through process modeling that is documented in the Process Modeling TM.

The model results were evaluated for each scenario based on the following criteria:

- No overflows at any of the treatment processes
- Freeboard of no less than 1 foot in any process unit
- Avoid or minimize submerging effluent weirs in each process unit during peak flows
- Nearly an equal flow split between process units with less than 20 percent variation at PHF and less than 10 percent variation at ADF and MDF

2.4 Hydraulic Improvements Analysis Results

Appendix F listed simulated hydraulic grade lines and flows throughout Plant 1 and Plant 2 for all scenarios in Table 2.2.

The following observations can be derived based on the results:

- PHF of 335 mgd (160 mgd Plant 1 and 175 mgd Plant 2) can pass through both plants with the upgrades listed in Section 2.2 with more than 1 foot freeboard and no weir submergence.
- Neither plant can handle PHF of 335 mgd with one train out of service. The maximum flow rate for Plant 1 with one train off is 130 mgd and the maximum flow rate for Plant 2 with one train off is 145 mgd.
- The step feed pipe in Plant 2 needs to be upsized to 48-inch in order to pass 175 mgd; the maximum allowable flow for Plant 2 with a 36-inch step feed pipe is 145 mgd.
- The plants can handle MDF of 302 mgd with a total of one train out of service in either of the two plants. The interconnection channel gate at HW#1 would need to be opened if the one train out of service is in Plant 1.
- The plants can handle ADF of 143 mgd with one train out of service in both plants.

The mixers located in the oxygenation tanks were also evaluated for proper submergence of the blades. Model results showed that at PHF the tops of the mixer blades are approximately 11 inches above the surface of the water. The depth of the mixer blades will be adjusted in design based on results from the modeling of ADF and PHF water levels for each chamber of the oxygenation tanks. The change in water level in the basin between ADF and PHF is no more than 0.25 ft and therefore proper submergence of the mixer blades will not be a concern once the mixer blades are adjusted to the proper elevation based on manufacturer recommendations.

2.5 Filter Backwash Hydraulic Analysis

CDM Smith also investigated the hydraulic implications of sending effluent filter backwash to the head of the oxygenation tanks at PHF (based on Scenario 3-a). Backwash flow of 9.34 mgd was equally split between Plants 1 and 2 and loaded to where RAS flows enter the oxygenation tanks.

Adding filter backwash to the head of the Oxygenation Tanks does not have any negative impact on freeboard or weir submergence for either plant.

For the RAS system modeling of Plant 1, half of the total 9.34 MGD was added upstream of Oxygenation Trains 1 through 3 at the same location that centrate and filtrate are added. Under this condition with 61 MGD RAS, 2 MGD WAS, 3.96 MGD centrate/filtrate, and 4.67 MGD filter backwash, the RAS pumps in proposed RAS PSs 4 and 5 were able to maintain the required capacity RAS PSs 1 through 3 were all slightly deficient by approximately 2-percent difference in meeting the 4,400 gpm design peak hour flow



EXHIBIT C
Office of Small Business Development
Project Worksheet

Project/Contract Title: Emergency Project To Rehabilitate CDWWTP Step Feed Piping Received Date: 4/30/2024
Project/Contract No: S-20181 Funding Source: Other
Department: Water & Sewer
Estimated Cost of Project/Bid: \$8,756,930.00
Description of Project/Bid: Emergency Project To Rehabilitate CDWWTP Step Feed Piping.

Contract Measures		
Measure	Program	Goal Percent
No Measure	SBE - Con	
No Measure	SBE - Goods & Services	
No Measure	CWP	

Reasons for Recommendation

SMALL BUSINESS ENTERPRISE- CONSTRUCTION (SBE-Con).
SBD reviewed this project pursuant to Implementing Order 3-22 for SBE-Con measures. Project information analyzed included the project's scope of services, estimated project cost, minimum requirements/qualifications and funding source. These indicate an SBE-Con No Measure is appropriate for this contract.
Please Note: Pursuant to an emergency declaration by WASD, this project was awarded to Metro Equipment Service, Inc.

SMALL BUSINESS ENTERPRISE - GOODS & SERVICES (SBE-G&S).
An analysis of the factors contained in section VIII. B. of Implementing Order 3-41 & Ordinance 14-41 indicates a No Measure is appropriate as no SBE-G&S opportunities could apply.

CWP Not Applicable: Not in a DTA.
No subcontracting opportunities were identified for this project.

Living Wages: YES ☐ NO ☒ Highway: YES ☐ NO ☒ Heavy Construction: YES ☒ NO ☐
Responsible Wages: YES ☒ NO ☐ Building: YES ☐ NO ☒

SBD Director

Date 5/2/2024



MEMORANDUM

(Revised)

TO: Honorable Chairman Oliver G. Gilbert, III
and Members, Board of County Commissioners

DATE: June 18, 2024

FROM: 
Gen Bonzon-Keenan
County Attorney

SUBJECT: Agenda Item No. 8(O)(1)

Please note any items checked.

- ☐ "3-Day Rule" for committees applicable if raised
- ☐ 6 weeks required between first reading and public hearing
- ☐ 4 weeks notification to municipal officials required prior to public hearing
- ☐ Decreases revenues or increases expenditures without balancing budget
- ☐ Budget required
- ☐ Statement of fiscal impact required
- ☐ Statement of social equity required
- ☐ Ordinance creating a new board requires detailed County Mayor's report for public hearing
- ☒ No committee review
- ☐ Applicable legislation requires more than a majority vote (i.e., 2/3's present ____, 2/3 membership ____, 3/5's ____, unanimous ____, CDMP 7 vote requirement per 2-116.1(3)(h) or (4)(c) ____, CDMP 2/3 vote requirement per 2-116.1(3)(h) or (4)(c) ____, or CDMP 9 vote requirement per 2-116.1(4)(c)(2) ____ to approve
- ☐ Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required

Approved _____ Mayor
Veto _____
Override _____

Agenda Item No. 8(O)(1)
6-18-24

RESOLUTION NO. R-546-24

RESOLUTION RATIFYING ACTION BY THE COUNTY MAYOR OR COUNTY MAYOR'S DESIGNEE RELATED TO MIAMI-DADE WATER AND SEWER DEPARTMENT'S CONSENT DECREE AND CAPITAL IMPROVEMENT PROGRAMS ACCELERATION ORDINANCE PURSUANT TO SECTION 2-8.2.12 OF THE CODE OF MIAMI-DADE COUNTY, FLORIDA, SPECIFICALLY APPROVAL OF THE AWARD OF CONSTRUCTION CONTRACT S-20181 BETWEEN MIAMI-DADE COUNTY AND METRO EQUIPMENT SERVICES, INC. FOR AN EMERGENCY PROJECT TO REHABILITATE CENTRAL DISTRICT WASTEWATER TREATMENT PLANT (CDWWTP) STEP FEED PIPING IN AN AMOUNT NOT TO EXCEED \$8,756,930.00; AND AUTHORIZING THE COUNTY MAYOR OR COUNTY MAYOR'S DESIGNEE TO EXERCISE THE PROVISIONS CONTAINED THEREIN

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board ratifies the action of the County Mayor or County Mayor's designee, as authorized by section 2-8.2.12 of the Code of Miami-Dade County, specifically, the approval of the award of Contract S-20181 between Miami-Dade County and Metro Equipment Service, Inc. for an emergency project to rehabilitate the CDWWTP Step Feed Piping in an amount not to exceed \$8,756,930.00 and authorizing the County Mayor or County Mayor's designee to exercise the provisions contained therein. A copy of award is attached to the accompanying memorandum as Exhibit B.

The foregoing resolution was offered by Commissioner **Anthony Rodriguez** ,
 who moved its adoption. The motion was seconded by Commissioner **Eileen Higgins**
 and upon being put to a vote, the vote was as follows:

Oliver G. Gilbert, III, Chairman	aye		
Anthony Rodríguez, Vice Chairman	aye		
Marleine Bastien	aye	Juan Carlos Bermudez	aye
Kevin Marino Cabrera	aye	Sen. René García	absent
Roberto J. Gonzalez	aye	Keon Hardemon	aye
Danielle Cohen Higgins	absent	Eileen Higgins	aye
Kionne L. McGhee	aye	Raquel A. Regalado	aye
Micky Steinberg	aye		

The Chairperson thereupon declared the resolution duly passed and adopted this 18th day of June, 2024. This resolution shall become effective upon the earlier of (1) 10 days after the date of its adoption unless vetoed by the County Mayor, and if vetoed, shall become effective only upon an override by this Board, or (2) approval by the County Mayor of this Resolution and the filing of this approval with the Clerk of the Board.



MIAMI-DADE COUNTY, FLORIDA
 BY ITS BOARD OF
 COUNTY COMMISSIONERS

JUAN FERNANDEZ BARQUIN, CLERK

By: **Basia Pruna**
 Deputy Clerk

Approved by County Attorney as
 to form and legal sufficiency.

SED

Sarah E. Davis