Monthly Executive Report

Capital Program and Financial Update

February 29, 2020

Safe, clean waterways

Issued March 18, 2020

DISCLAIMER

The outline for this report was developed by the Louisville MSD Enterprise Program Manager. This monthly report was prepared by Louisville MSD staff using the best available information. Contributions were made from Engineering, Finance, and Project Controls. Additional information will be incorporated into this report as deemed appropriate.

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Acronyms & Abbreviations

BCE	Business Case Evaluation
BMP	Best Management Practice
CCWQTC	Cedar Creek Water Quality Treatment Center
CD	Consent Decree
CIP	Capital Improvement Program
CMOM	Capacity, Management, Operations, and Maintenance Program
CP	Commercial Paper
CRRP	Critical Repair and Replacement Plan
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
DRGWQTC	Derek Guthrie Water Quality Treatment Center
DRI	Drainage Response Initiative
EAC	Estimate-at-Completion
EPM	Enterprise Program Manager
FEMA	Federal Emergency Management Agency
FEPS	Final Effluent Pump Station
FFWQTC	Floyds Fork Water Quality Treatment Center
FPS	Flood Pump Station
FY	Fiscal Year
HCWQTC	Hite Creek Water Quality Treatment Center
IOAP	Integrated Overflow Abatement Plan
IT	Information Technology
LTCP	Long Term Control Plan
LWC	Louisville Water Company
MHI	Median Household Income
MFWQTC	Morris Forman Water Quality Treatment Center
MS4	Municipal Separate Storm Sewer System Program
MSD	Metropolitan Sewer District
NMC	Nine Minimum Controls
NOA	Notice of Advisement
NOI	Net Operating Income
NTP	Notice to Proceed
PM	Project Manager
PMIS	Project Information Management System
PS	Pump Station
RFP	Request for Proposals
SRF	State Revolving Loan Fund Program
SSDP	Sanitary Sewer DP
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VFD	Variable Frequency Drive
WIFIA	Water Infrastructure Finance and Innovation Act
WQTC	Water Quality Treatment Center
YTD	Year-to-Date

SECTION 1: EXECUTIVE SUMMARY

The Louisville and Jefferson County Metropolitan Sewer District (MSD) provides wastewater, stormwater and flood protection services to a population of nearly 800,000 throughout the service area. The MSD operating budget supports the day to day operation and maintenance of all infrastructure, while the capital budget supports the major infrastructure investments through its Capital Improvement Program (CIP). The organization continues to complete important projects; comply with Consent Decree and regulatory requirements; and repair/replace critical assets. This report provides a summary of the financial position and the progress made through February 29, 2020 with respect to Fiscal Year 2020 (FY20) program health and regulatory compliance.

FINANCIAL POSITION

Overall, MSD's FY20 Statement of Net Position is progressing favorably according to budget. Service Charge revenue from Wastewater and Stormwater is at 101.6% of the monthly YTD budget. Service Charge revenue is 8.2% higher than last year. Service and Administrative Costs are 5.8% below the monthly YTD budget. MSD has spent 56% of its $144 million Service and Administrative budget. Depreciation and amortization expense is $4.6 million higher than budget. Interest expense is $1.9 million, or 4%, higher than budget.

CAPITAL PROGRAM HEALTH

A high-level summary of the status of key performance criteria is presented in Table 1. More detailed information is presented throughout this report.

Table 1 – Summary of FY20 Capital Program Performance To-date

Key Programs and Initiatives	Status as of February 29, 2020
Consent Decree Compliance	No submittals.
Emergency Repairs & Reactive Equipment Replacements	In addition to the Biosolids and Harrods Creek Emergency projects, there are three additional active emergency projects: CSO016, DRGWQTC Substation U-13 Modifications, and the Upper Mill Creek FPS Pump #1 Repair.
FEMA Buy-Out Grants Program	Through February 29, 2020, MSD is working on 16 active grant projects that have received nearly $7 million in FEMA reimbursement. These projects will purchase 133 parcels to mitigate risks associated with public health from localized flooding. Grant projects are tracked separately due to the nature of the cost share with the federal government.
Drainage Response Initiative (DRI) Program	MSD continues to advance 42 DRI projects totaling nearly $2.6 million to address localized stormwater drainage issues (refer to Table 27). The projects are a combination of storm sewers, culvert replacements, bank repairs, and drainage swales.

CAPITAL BUDGET HEALTH

Significant program changes have occurred since the FY capital budget was approved in May 2019. Major schedule extensions and deferments, along with reprioritizing Biosolids processing equipment have readjusted the slate of active projects. Impacts to future fiscal years are being monitored and will be adjusted as needed by the CIP Management Team. Annual appropriation projects have been slow to significantly spend due to their nature of "as need basis". Ongoing construction projects continue to move forward.

FY20 capital expenditures for the Wastewater, Stormwater, and Support Services Programs totaled $84.9M ($86.2M including grants) with $17.4M spent during February 2020. This spend represents approximately 41.4% of the $205M FY20 budget. The total expenditures for FY20 are currently projected to be $173.2M, which is 15.5% below the FY20 budget.

A breakdown of the FY20 budget by CIP type is presented in Table 2 and Figure 1.

Table 2 – Analysis of Spending by Project Type

CIP Project Types	FY 2020 Budget	FY 2020 Actual Spending	FY 2020 Current Forecasted Spend	FY 2020 Projected Excess or (Shortfall)
Consent Decree (CD)	$114.7M	$62.0M	$90.2M	$24.5M
Wastewater (Non-CD)	$56.6M	$13.3M	$60.8M	($4.2)M
Stormwater & Flood Protection	$12.4M	$4.9M	$12.6M	($0.2)M
Support Systems	$21.3M	$4.7M	$9.6M	$11.7M
Total	**$205.0M**	**$84.9M**	**$173.2M**	**$31.8M**

Notes:

- *"Current Forecasted Spend" evolves throughout the year as project schedules and estimates change.*
- *Appropriation Projects are included in this Table and Figure 1.*
- *Grants are not included in this Table as they were not included in the $205M FY20 CIP budget.*

CIP PRIORITIES FOR OPERATIONS

The intent of the CIP is to enhance, support, and streamline utility operations by 1) providing capital funding for new equipment, 2) replacing aging infrastructure, 3) reducing sewer overflows, and 4) improving the reliability of facilities. The FY20 CIP was developed in conjunction with MSD Engineering, Finance, and Operations staff. The top CIP priorities from an operational perspective include the following capital needs:

- District-Wide Biosolids Program
- Morris Forman Water Quality Treatment Center (WQTC) Sedimentation Basin Rehabilitation
- Broadway Interceptor Sewer Renewal (to be included in the Large Diameter Sewer Project)
- Flood Pump Stations (FPS) Asset Management and Emergency Repairs

FINANCING SOURCE OPPORTUNITIES

MSD is committed to leveraging federal, state, and local partnerships wherever possible in order to maximize benefits to the community. Although the dollar value compared to MSD's capital plan is small, pursuing non-traditional funding sources like grants and low-interest loans have a positive impact on the CIP as a whole.

MSD was successful in garnering Water Infrastructure Finance and Innovation Act (WIFIA) and State Revolving Fund (SRF) low-interest loan financing. MSD is also working closely with the US Army Corps of Engineers (USACE) to

determine how the results of the draft Flood Protection System Feasibility Study can apply to the projects noted in MSD's Critical Repair and Replacement Plan (CRRP).

WIFIA Loan Program

On December 31, 2019, MSD submitted a WIFIA loan application for the long-term Morris Foreman Biosolids Project estimated to cost $198M. The WIFIA loan program will support 49% of the total project cost, while a combination of revenue bonds and cash will be utilized for the remainder. A summary of these costs is shown in the following table. The following information was provided with the loan application.

- Technical evaluation of the alternatives considered for a long-term Biosolids management program
- Update of MSD's Financial Rate Model to include the 15-year CIP
- Draft RFP for advancing a progressive design-build project for this Biosolids program
- Various detailed loan application attachments as required by USEPA

Table 3 – CIP Projects Eligible for WIFIA Funding

WIFIA Letter of Interest	Funding Timing	Total Cost	WIFIA Loan	Other Funding
Biosolids Facility	FY21 – FY25	$198,000,000	$97,020,000	$100,980,000

SRF Program

MSD is an active participant in the SRF loan program. The projects listed below are being considered as candidates for submittal for the FY21 SRF Program. Project selection is based upon established SRF criteria that emphasizes median household income (MHI) along project routes. The SRF loan applications were submitted in December for the projects in Table 4.

Table 4 – CIP Projects Under Consideration for SRF Program Funding

Project Type	Budget ID | Project Description	Estimated Cost
PUMP STATION REPLACEMENT OR ELIMINATION PROJECTS	Shively Area Suite PS Upgrades	$4,600,000
	Shively Area Suite PS Eliminations	$4,200,000

USACE Flood Protection System Federal Appropriation

A federally-funded flood protection system feasibility study was drafted by the USACE and is out for public comment through February 29, 2020. The recommendations from the study may position MSD for future federal appropriations to reduce Ohio River flooding risks. The USACE is evaluating reliability improvements for all 16 MSD FPS including Paddy's Run FPS. MSD received the Draft USACE Preliminary Feasibility Study Report on November 15, 2019. During discussion with MSD staff, the USACE indicated the scope of this effort will fund reliability improvements and exclude capacity improvements. The CRRP identified the need for both reliability and capacity improvements at the FPSs. The timing for the reliability improvements will be dictated by the USACE and preliminary talks have suggested design would start in FY21 with construction occurring in FY22-FY23. The USACE would be managing this project(s) so MSD would have little input, if any, on the schedule. The cashflow is still under discussing at the executive level. Updated information will continue to be provided with the Monthly Executive Report. MSD's legal and planning groups continue to work groups continue to work out the details of the interlocal agreements needed to advance this work.

Table 5 – CIP Projects Eligible for USACE Funding

Project	Estimated USACE Participation	Other Funding
Paddy's Run FPS Improvements	$13,650,000	$60,350,000
10th Street FPS Improvements	$3,278,700	$750,000
17th Street FPS Improvements	$2,105,300	$2,944,700
27th Street FPS Improvements	$5,694,400	$6,325,600
34th Street FPS Improvements	$2,811,900	$1,020,000
4th Street FPS Improvements	$0	$12,920,000
5th Street FPS Improvements	$2,159,700	$958,500
Beargrass Creek FPS Improvements	$24,629,200	$72,250,800
Bingham Way FPS Improvements	$0	$6,590,000
Lower Mill Creek FPS Improvements	$5,355,300	$8,094,700
Pond Creek FPS Improvements	$24,168,200	$9,750,000
Riverport FPS Improvements	$2,089,500	$4,020,500
Shawnee Park FPS Improvements	$12,050,100	$30,679,900
Starkey FPS Improvements	$5,386,000	$4,360,000
Upper Middle Creek FPS Improvements	$11,765,300	$37,274,700
Western Parkway FPS Improvements	$1,820,500	$15,649,500
TOTAL	**$116,964,100**	**$273,938,900**

FINANCIAL STATEMENT OVERVIEW

The financial information is provided in Section 3 of this Monthly Executive Report starting on page 48. Key highlights of information relevant to the current reporting period is provided herein.

Revenues

- Total Operating Revenue is $212.5 million compared to a budget of $206.8 million, an increase of $5.7 million, or 2.8%. Total Operating Revenue is $10.0 million, or 7.1%, higher than one year ago.

- Wastewater Service Charges total $157.5 million compared to a budget of $154.7 million. This is an increase of $2.8 million, or 1.8%. Wastewater Service Charges are $10.3 million, or 7.1%, higher than the same period last year. The year over year increase is being driven by a 6.9% rate increase enacted on August 1, 2019. Additionally, residential water consumption was 350 million gallons higher during the months of August, September, and October 2019 compared to the prior year due to dry weather conditions. This resulted in about $1.6 million in additional wastewater service charge revenue.

- Stormwater Service Charges are $49.8 million compared to a budget of $49.4 million. This is an increase of $0.4 million, or 0.8%. Stormwater Service Charges are trending in line with budget projections for FY20. Stormwater Service Charges are $3.5 million, or 7.6%, higher than last year. The year over year increase is being driven by a 6.9% rate increase enacted on August 1, 2019.

- Other Income totals $5.0 million compared to a budget of $2.6 million. This is an increase of $2.4 million, or 92.8%. Capacity Charges are driving the positive budget variance for Total Operating Revenue as well. Other Income is $1.5 million, or 43.4%, higher than last year.

Operating Expenses

- Service & Administrative costs total $93.3 million compared to a budget of $97.9 million, a favorable variance of $4.5 million, or 4.7%. Chemicals and Bad Debt continue to run high to budget ($0.2 million combined). Salaries, Labor Related Overhead, Contractual Services and Other Operating Expenses are trending below budget ($4.7 million combined). Service and Administrative costs are $0.02 million, or 0.03%, higher than last year.

- Depreciation and Amortization expense totals $65.2 million compared to a budget of $60.0 million. This is an increase of $5.2 million, or 8.7%. There were several large capital projects that were capitalized at June 30, 2019 that were not accounted for in the depreciation budget developed in the spring of 2019 and these items are driving the budget variance in FY20. Depreciation and Amortization expenses is $12.3 million higher, or 23.4%, than one year ago.

- Total Operating Expenses are $136.6 million compared to a budget of $132.4 million. This is an increase of $4.1 million, or 3.1%. Total Operating Expenses are $13.4 million, or 10.9%, higher than the same period last year.

Net Income

- Net Operating Income (NOI) is $75.9 million compared to a budget of $74.3 million. This is an increase of $4.1 million, or 2.1%, and is $2.0 million, or 2.7%, higher than one year ago.

- Investment Income is $11.0 million compared to a budget of $10.2 million. This is an increase of $0.8 million, or 7.5%. Investment income is $0.2 million, or 8.1%, lower than one year ago.

- Interest expense is $57.5 million, or 4.5%, higher than budget. This variance is being driven by lower capitalized interest in FY20. Interest expense is $4.0 million, or 7.5%, higher than last year.

- Change in Net Position before Swaps totaled $29.4 million compared to a budget of $29.5 million. This is a decrease of $0.09 million, or 0.3%, and is $2.4 million, or 7.6%, lower than one year ago. Change in Net Position including the mark to market change on swaps totaled $17.0 million compared to $31.0 million on year ago, a difference of $14 million, or 45.2%.

MBE/WBE Expenditure Report

MSD is committed to promoting and maximizing utilization of minority and women-owned businesses. The Finance Department tracks monthly utilization as reflected in the following figure.

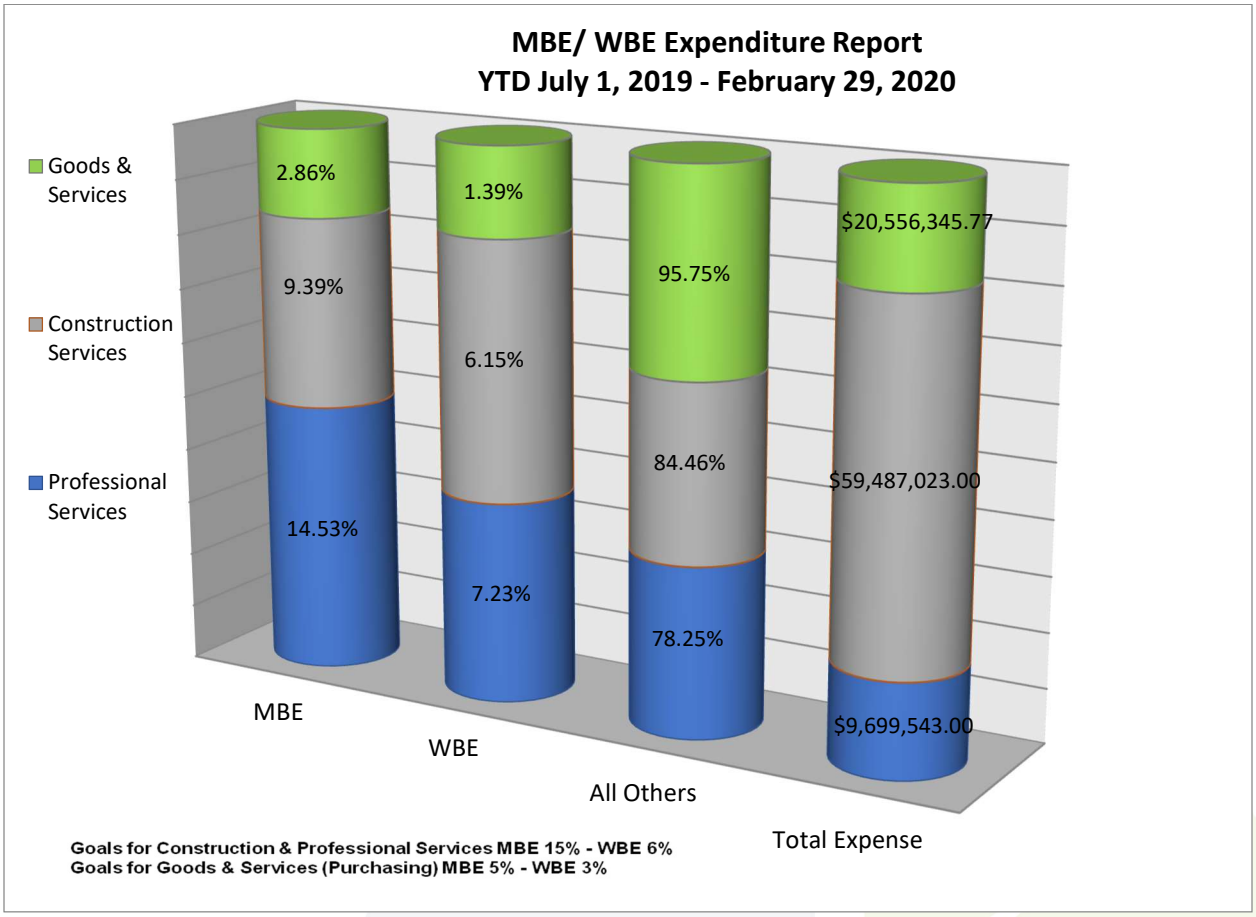


Figure 1 – MBE/WBE Expenditure Chart

SECTION 2: CIP MONTHLY ACTIVITY REPORT

The CIP Monthly Executive Report is prepared to provide MSD's Executive Director and MSD Board with a high-level understanding of progress made with implementing the FY20 CIP, including Consent Decree, regulatory compliance commitments, CRRP implementation, and high priority asset management needs. The following information is presented in this report:

- Overall performance related to FY20 CIP
- Comparison of FY spending to the approved FY20 budget
- Discussion of change management activities occurring during the reporting period
- Forecast of upcoming procurement activities
- Summary of progress made for each of MSD's 25 capital program areas

Significant program changes have occurred since the FY capital budget was approved in May. Major schedule extensions and deferments, along with several large emergency projects, have readjusted the slate of active projects. Impacts to future fiscal years are being monitored and will be adjusted as needed by the CIP Management Team. Annual appropriation projects are also underway and the ongoing construction projects are moving forward.

FY20 capital expenditures for the Wastewater, Stormwater, and Support Services Programs totaled $84.9M ($86.2M including grants) with $17.4M spent during February 2020. This spend represents approximately 41.4% of the $205M FY20 budget. The total expenditures for FY20 are currently projected to be $173.2M, which is 15.5% below the baseline spending budget.

FY20 CAPITAL BUDGET BASIS

The FY20 CIP budget of $205M was approved by the Board in April 2019. The approved budget was based upon total expenditures forecasted at that time for the projects scheduled to be active during the Fiscal Year July 1, 2019 through June 30, 2020. Therefore, the amounts included in the FY budget for discrete capital projects may not represent each project's total estimated cost. Rather it represents a level of anticipated spending for the project during the FY.

It is important to recognize several projects span across multiple fiscal years and construction spending is dependent upon the Contractor's actual progress with the work contracted. Complex construction projects, such as tunnels, are difficult to predict exactly how spending will occur each month. Variations in starting project activities, equipment deliveries, weather delays, subsurface conditions, etc. can affect the speed of monthly and annual spending. MSD works collaboratively with Contractors for large capital projects to develop a monthly spend forecast for the duration of the project. These spend forecasts are updated by the Contractor on monthly basis which further complicates the task of simultaneously forecasting expenditures for hundreds of active CIP projects.

MSD staff are charged with balancing the spend forecast for all active projects and developing recovery strategies, as needed.

Monthly CIP Management Team Meeting

To facilitate collaboration with implementing and reporting on the CIP, MSD created a CIP Management Team comprised of representatives from Executive Offices, Engineering, Finance, and Operations. The following MSD staff members participated in the February 25, 2020 meeting: Voting Members – Angela Akridge, Brian Bingham. Technical Support Staff – John Loechle, Stephanie Laughlin, David Johnson, Dan French, Yajaira Morphonios, Wolffie Miller. Consultants – Leisha Pica, Sharma Young

The following information was discussed at the meeting:

1. FY20 CIP
   - Ms. Pica expressed concern with lack of spending on this year FY CIP and how that will potentially impact the "carry forward" in to FY21. A spending analysis will be presented at the next meeting.
2. FY21 CIP
   - Most of the CIP development meetings have been held and a draft CIP is being developed. It will be presented at the March CIP meeting.
3. SRF Follow Up
   - Ms. Laughlin is coordinating with KIA Division of Water on the projects. There is a scheduled call on March 4th to discuss KIA's general position on design-build project delivery, income guidance and potential work group.
4. USACE FPS
   - Ms. Laughlin and Mr. Miller had a call with the USACE project manager last week. USACE communicated that they no longer have full concurrence from the internal USACE team on the methodology. This is primarily due to a very recent change in vertical leadership. Even though there was a memo signed by USACE staff on methodology, objections with the process remain.
   - This could result in schedule delays, as well as putting some of the reliability improvements at risk of not getting funded. USACE is also looking at grouping FPS projects instead of individual projects. If the benefit/cost ratio (BCR) score is >1 the bundle would qualify for funding.
   - Ms. Laughlin reported that Mr. Sydnor is going to reach out to Andrew Swafford at McConnell's office to inquire if they have heard about this USACE review/methodology change. There was supposed to be a signed agreement late January which is now pushed back to April 29th. At this time the final report should be submitted to USACE agency team. The USACE is currently maintaining end of September milestone.
   - For FY21-25 CIP budget development, Ms. Pica will include a line item for a USACE FPS Reliability Improvements Project based upon previous estimated costs.
   - Ms. Laughlin is meeting with operations staff to determine which projects MSD should advance in FY21 that will lead to a request for future credit from USACE. May be challenge if pursue design-build for Paddy's Run.
5. Change Management NOAs - MS. Morphonios presented five NOAs over $100k for CIP Mgmt Team consideration.
   - Raintree & Marian: Project was on hold, NOA requests that the project be put back into progress ($125k). Pre-approved by Mr. Loechle. No internal issues with advancing this project. Adequate reserve available. Ready to move forward. Mr. Bingham: approved. Ms. Akridge: approved
   - Upper Floyds Fork Interceptor: Bid higher than Engineer's estimate. EAC increase by $170k with only a porting impacting FY20. Mr. Bingham: approved Ms. Akridge: approved.

- MF OGA Demolition: Change of scope results in an increased EAC. Impact on FY20 $1.1M with balance to FY21. Mr. Bingham: conditionally approved. Ms. Akridge: conditionally approved if funds spent this year otherwise delay past FY21.
- Sewer & MH Condition Assessment: EAC increase by $270k with $40k forecasted for this year. New project not in FY20 CIP. Mr. Bingham: approved. Ms. Akridge: approved.
- IT request for new project FY21 but requesting to start now so that most of the project will be completed in FY20. $2.8M for FY20 and $1.7M for FY21.
    - There was no one to answer questions so the NOA was put on hold until more information can be obtained. A meeting next week is anticipated.

6. Three Forks USACE
    - Mr. Miller reported that MSD may need to increase estimate to pay USACE and perform less work internally. An additional meeting will be scheduled to discuss further.
7. Ms. Akridge had the following requests:
    - Blueprint 2025 and regulatory compliance issues as a standing agenda item
    - Agenda delivered a week before the meeting
    - Calendar look ahead for meeting topics
    - Blueprint 2025 presentations: Stormwater Master Plan progress (Laughlin), AM Criticality (French)
    - MER: Board wants report before the meeting – preferably a week before.
8. Mr. Bingham reported that after a meeting with Oldham County about development issues they have a more complete picture of their capital needs and their suggestions for SRF funds. There will be further coordination with Ms. Laughlin regarding SRF utilization.
9. WIFIA: Ms. Laughlin reported that there has been an email request for the CIP associated with the WIFIA project. Next call is March 10.
10. Fairmount Road Interceptor – Ms. Laughlin reported that the project is being presented at Thursday's Gateway meeting. There is a $3M estimate increase with some impact to Phase 1. However, there will be positive outcomes which include long-term flexibility as buildout occurs along Bardstown Rd.
11. Mr. French reported that Ms. Dodds is pushing forward workflows for IPS production teams. The GIS team is working to develop regional sewer maps and outreach to the National Weather Service to develop in-house data sets for storm frequency analysis. Also working with MSD staff on a community benefits application.

FY20 CIP OVERALL PERFORMANCE

The FY20 CIP approved $205M of total spending to address critical asset management needs, regulatory compliance requirements, and to maintain MSD's bond ratings (Moody's Aa3 and Standard & Poor's AA). Through February 29, 2020, MSD has spent approximately 41.4% of the approved FY 2020 budget (excluding grants). The remaining work necessary to be completed during FY 2020 is forecasting a spend of $173.2M, approximately 15.5% below the approved budget.

Table 6 - Capital Budget Performance Summary

Financial Category	Value	Comments
Approved FY20 Budget	$205.0M	Approved by MSD board April 2019
FY 2020 Expenditures to Date	$84.9M	Invoices Paid = 41.4% of approved budget
Remaining FY 2020 Projected Spending	$88.3M	Forecasted remaining spend in FY 2020
Current Forecast for Total FY 2020 Spend	$173.2M	Actuals plus forecasted remaining spend total
Difference from Approved Budget	$31.8M	15.5% below approved FY 2020 budget

Note: The forecast will continue to evolve throughout the FY based on changes to the program including project schedules and estimates.

CAPITAL PROGRAM FINANCIALS

The performance of the capital program is summarized in this section. The following topics are noted.

- Overview of monthly project activities
- Comparison of FY spending to the approved FY20 budget
- Discussion of change management activities
- Forecast of upcoming procurement activities for CIP projects

MONTHLY PROJECT ACTIVITIES

MSD's working definitions for each project's schedule activity are as follows:

- Initiation/ Procurement Activity: The time when a project in the approved CIP is waiting for planning to be completed; a design Project Manager (PM) assignment; or a consulting Professional Services Agreement Notice-to-Proceed (NTP).
- Design Activity: The time from when a project is transitioned from planning to preliminary design through final design, through bidding, until the NTP is issued for construction.
- Construction Activity: The time from when a project is issued a NTP through achievement of Substantial Completion of the contracted scope of work.
- Closeout/Warranty Phase Project: The time when contracted work has been Substantially Completed and the Project Manager is waiting to receive the final pay application and/or finalize the warranty walkthrough inspection.
- Completed Project: The time when the final pay application has been processed but a close-out letter remains pending.

A summary of status of projects active during the reporting period is provided in Table 7.

Table 7 – Summary of Active Non-Appropriation Projects During Reporting Month

Current Project Activity	Number of Projects	Lifetime Actuals
Initiation & Procurement	15	$ 937,412
Design	26	$ 1,092,257
Construction	32	$ 181,996,937
Closeout/Warranty	18	$ 227,892,930
Completed	3	$ 4,031,203
TOTAL	**94**	**$ 415,950,739**

Emergency Contracts to Repair Infrastructure Damage

When emergencies become larger than internal resources can handle and/or present immediate public safety dangers, emergency contracts are executed. MSD has issued several emergency contracts under Chief Engineer and Executive Director authority. Many of these emergencies are due to ongoing heavy rain events and saturated soils undermining of pipe infrastructure and drainage runoff has washing away and/or eroding drainage systems.

Details of the emergency contract work for FY20 through the current reporting period are included in the Table 8. The emergency projects listed below were charged to the FY20 Renewal and Replacement - Budget ID G20001.

Table 8 – Year-to-Date Emergency Contract Work

Note: T&M = time and materials contract; LS = lump sum contract.

Repair Location	Date Began	Status (As of 3/13/20)	Contractor	Amount	Procurement Type
Riverfront PS Force Main Repair	7/1/2019	Complete	Pace Contracting	$56,010.00	Single Bid (T&M)
Mockingbird Valley Trail Culvert Replacement	7/1/2019	Complete	EZ Construction Company	$140,344.59	Single Bid (T&M)
15th and Wilson Sewer Repair	8/14/2019	Complete	MAC	$213,296.88	Bidding (LS)
Shawnee FPS Motor #3	8/22/2019	Complete	JCI	$112,130.00	Single Bid (T&M)
Beargrass FPS Bay Gate #4	9/13/2019	Complete	A&D Constructors	$109,615.54	Bidding (LS)
11508 Shelbyville Road Sewer Repair	9/25/2019	Complete	Robinson Pipe Cleaning	$10,450.00	Single Bid (T&M)

Repair Location	Date Began	Status (As of 3/13/20)	Contractor	Amount	Procurement Type
Breckinridge Lane and Springhill Rd. Sewer Repair	10/21/2019	Complete	Basham Construction	$58,899.35	Single Bid (T&M)
Mill Creek Bank Repair Project	10/18/2019	Complete	Basham Construction	$70,000.00	Single Bid (T&M)
1300 Ellison (Lining Project)	10/18/2019	Complete	Leak Eliminators	$54,802.75	Single Bid (T&M)
1300 Ellison (Point Repair)	10/18/2019	Complete	Robinson Pipe Cleaning	$54,072.70	Single Bid (T&M)
DRGWQTC Substation U-13 Modifications	11/1/2019	Active	CE Power	$106,840.00	Single Bid (T&M)
Fairmount FM Repair	11/27/2019	Complete	MAC	$36,600.00	Single Bid (T&M)
CSO 016	2/26/2020	Active	TBD	$300,000.00	Three Bid (T&M)
Upper Mill Creek FPS, Pump #1 Repair	2/27/2020	Active	JCI	$400,000.00	Single Bid (T&M)
			Totals	**$1,723,061.81**	
			FY20 Budget (G20001)	**$2,000,000.00**	
			Remaining	**$276,938.19**	

CASHFLOW PERFORMANCE

A breakdown of the monthly spend forecast through February, as compared to actual spending, is presented in Table 9 and Figure 2. The actual monthly spend reflects invoices received in SAP during the month.

Table 9 – FY20 Evolving Spend Forecast and Actuals

FY20	Monthly Spend Baseline	Actual Monthly Spend
July 2019	$19.7M	$ (1.2M)
August 2019	$18.6M	$ 2.0M
September 2019	$18.2M	$15.3M
October 2019	$17.2M	$13.1M
November 2019	$18.9M	$13.1M
December 2019	$16.9M	$8.8M
January 2020	$16.8M	$16.4M
February 2020	$16.4M	$17.4M
March 2020	$15.6M	
April 2020	$15.4M	
May 2020	$15.2M	
June 2020	$16.1M	
FY Total	**$205M**	**$84.9M**

Note: The cashflow forecast and actuals exclude grant projects.

The cash forecast graph presents the monthly actual spending along with the current forecasted projected spending for the FY. The baseline compares the forecast to the projection used to develop the FY20 CIP.

- Submission and processing of construction invoices are contributing to lower than expected actuals.
- Slow spending of the appropriation projects due to their nature of “as need basis”.

The total FY20 spending projection is $173.2 or 84.5% of the approved budget.

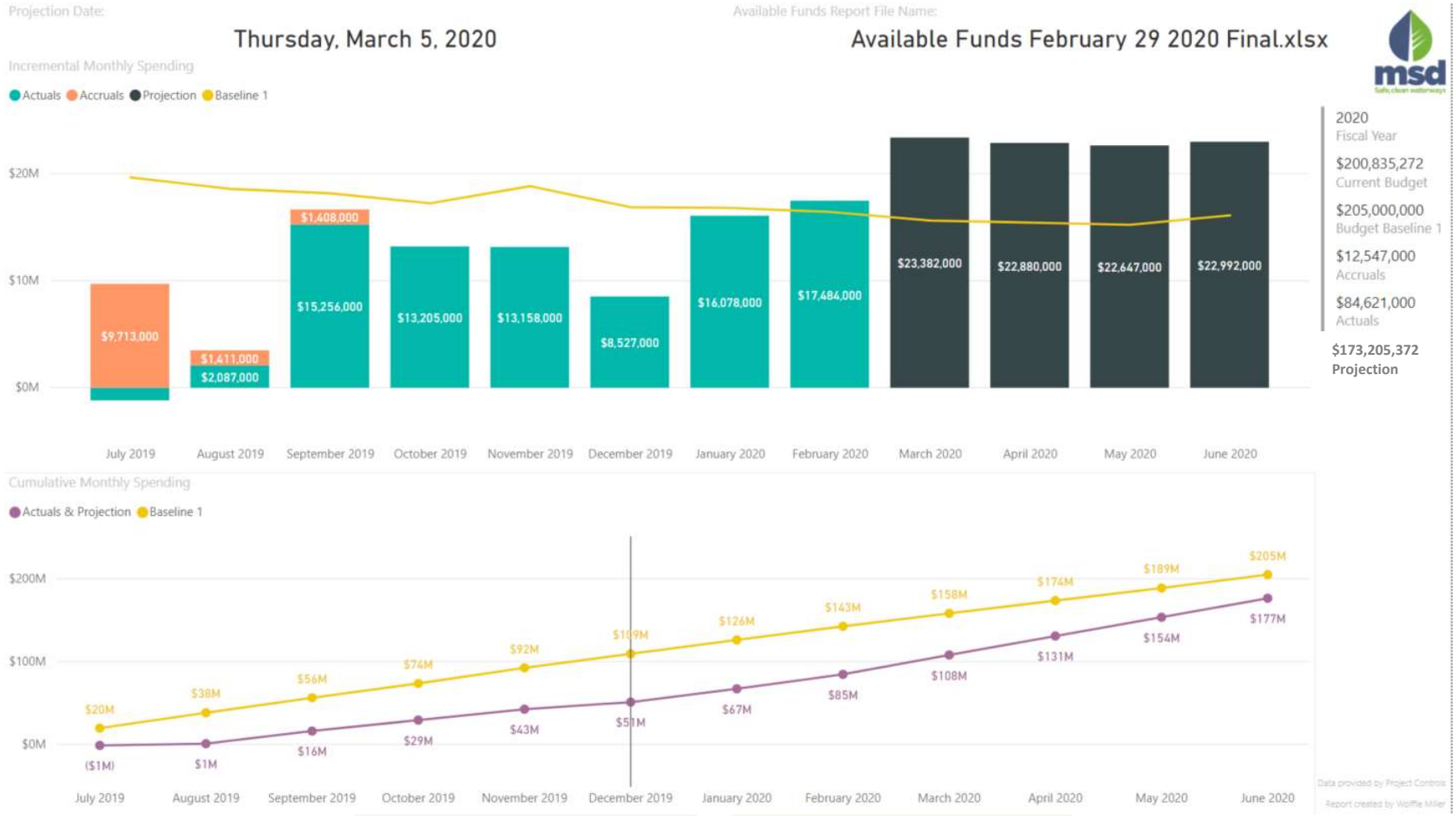


Figure 2 – FY20 Cashflow Forecast

Projects Removed from Cashflow

The FY20 CIP represents a list of projects forecasted to have spending during the fiscal year. However, from time to time, some projects must be removed from the cashflow forecast for a variety of reasons. Projects tend to be removed from the cashflow for the following reasons:

- Cancelled: The project has been determined to no longer be a priority for the CIP or has been integrated into a different CIP project.
- Interrupted: The project requires additional coordination or evaluation in order to proceed with spending during the FY20 CIP. The interruption time is anticipated to be short and spending is expected to reoccur during the FY.
- On-Hold: The project requires more consideration and spending may or may not reoccur during the FY.
- Future: The project has been reprioritized to a different FY.

When projects are removed from the cashflow forecast, they cause a negative impact – meaning spending will not occur as forecasted. A summary of the projects removed from the cashflow forecast during the year and the corresponding impact to the FY20 baseline cashflow forecast is provided in Table 10.

A significant impact to the cashflow was the cancellation of the I-64 and Grinstead Basin project. Although the project did not have any budget assigned for FY20, the forecast (as of August 30th) was considering a $17M spend because the project is under litigation. The current spend for this project is about $1M and that amount has been accrued for FY19. Therefore, the FY20 had an impact of $17M. The total YTD negative impact to the cashflow for projects whose status have changed is $33.9M as summarized in Table 10.

Table 10 – YTD CIP Projects with Negative Impact to Cash Flow

CIP Project Types	Number of FY20 Projects	Approved Budget	FY20 Actual Spending	FY20 Projected Excess or (Shortfall)
Cancelled Projects	8	$1.8M	$0	$18.8M
Interrupted Projects	0	$0.0M	$0.0M	$0.0M
On Hold Projects	6	$10.5M	$0	$10.5M
Future	10	$4.7	$0	$4.7M
TOTAL	**21**	**$17.0M**	**$0.0M**	**$34.0M**

The specific projects referenced as the “Number of FY20 Projects” in the above table are provided in Table 11 along with the reason for the change to the project status.

Table 11 –Project Explanations

CIP Project Status Types	Budget ID	Project Name	FY20 Baseline Forecast	Reason for Change
Cancelled Projects	**H09121**	I-64 AND GRINSTEAD BASIN	$17,000,000	The scope of this project was included in the ORT Project.
	H16061	FY20 WATER QUALITY MODELING - NONPOINT & POINT FOR MS4 & KPDES DISCHARGES	$225,000	Funds transferred to FY20 Env'l Data Collection. Budget ID closed out.
	C18226	CSO125 STORMWATER SEPARATION	$40,000	The scope of this project was included in the ORT Project.
	D18117	MFWQTC SOLIDS MIXER REPLACEMENT	$400,000	The assets associated with these projects are being addressed under the New Biosolids Facility Project or MFWQTC Emergency Dryer Replacement Project."
	D18120	MFWQTC CONDENSER WATER FOR DIGESTER	$334,750	
	G17033	LOUISVILLE GREEN MAJOR MAINTENANCE	$682,961	
	H18165	FY20 SEWER ASSESMENTS	$50,000	Re-prioritization
	H16007	FY20 CMOM WQTC CCP UPGRADES	$90,000	Re-prioritization
On-Hold Projects	**D16275**	CCWQTC WAS CYCLE AUTOMATION	$81,231	MSD commissioned Stand Associates to complete a Near Term Needs Assessment for the CCWQTC. Recommendations were made for prioritizing projects. In a follow up meeting with staff, the list was revised to start design of filters this year and these other projects in a future FY.
	D16276	CCWQTC DIGESTER DECANT ENHANCEMENT	$257,143	
	D20225	BELLS LN EQ BASIN WATER PRESURRE IMPROVEMENTS	$75,000	Due to restriction in meter /inadequate water pressure. LWC to replace meter. This project may be canceled.
	H09176	FOX HARBOR INLINE STORAGE	$111,824	Minor Modifications submitted to the EPA.
	G20134	HOLD FOR PERMANENT SOLUTION	$8,000,000	Project Implementation Realignment
	G20135	HOLD FOR PERMANENT SOLUTION IMPROVEMENTS	$2,000,000	Project Implementation Realignment
Future	**H09165**	BARDSTOWN ROAD PS IMPROVEMENTS	$582,189	Minor Modification Request to be submitted to the EPA.

CIP Project Status Types	Budget ID	Project Name	FY20 Baseline Forecast	Reason for Change
Future	F18515	PADDY'S RUN FPS CAPACITY	$144,085	Re-prioritization
	H09166	LUCAS LN PUMP STATION ILS 2021	$41,350	Minor Modification Request to be submitted to the EPA.
	H09179	DELL ROAD 2022	$885,776	Minor Modification Request to be submitted to the EPA.
	H09192	CINDERELLA PUMP STATION ELIMINATION	$110,985	Minor Modification Request to be submitted to the EPA.
	H09242	GUNPOWDER PUMP STATION 2021	$103,478	Minor Modification Request to be submitted to the EPA.
	H10043	RAINTREE ELIMINATION 2021	$225,788	Minor Modification Request to be submitted to the EPA.
	H10044	GOOSE CREEK PS IMPROVEMENTS	$837,285	Minor Modification Request to be submitted to the EPA.
	H10048	CAMP TAYLOR SYSTEM IMPROVEMENTS	$935,380	Minor Modification Request to be submitted to the EPA.
	H11306	MIDDLE FORK BG CREEK SSR PHASE 1	$723,050	Minor Modification Request to be submitted to the EPA.

Note: Projects are compared to all baseline forecasts.

Trending Top Projects

Forecasting spending for large capital projects is challenging, particularly for construction projects spanning multiple fiscal years. MSD does not have control over the rate of spending or progress of the Contractor and subcontractors performing the contracted work. Additionally, appears to be a lag between the time invoices are submitted by the Contractor and when the invoices are paid. A brief lag is normal given the rigorous review MSD Finance and Engineering teams perform including evaluation of work invoiced, retainage, and contract terms.

Table 12 presents data for the largest FY20 CIP projects including a comparison between contractor invoices and actual spending.

Table 12 – Evaluation of Actual Spending for Largest CIP Projects

Budget ID	Project	FY20 Approved Budget	Invoices approved by PM	FY20 Actual Spending	FY20 Projected Spending Remaining	FY20 Budget Projected Excess or (Shortfall)
H09133	OHIO RIVER TUNNEL	$62.2M	$29.9M	$29.1M	$15.7M	$17.4M*
H09127	ROWAN PUMP STATION DOWNTOWN CSO INTERCEPTOR	$16.4M	$14.0M	$13.4M	$3.5M	($0.5M)
H09141	LEXINGTON AND PAYNE CSO INTERCEPTOR	$16.2M	$13.4M	$11.7M	$3.9M	$0.6M

Budget ID	Project	FY20 Approved Budget	Invoices approved by PM	FY20 Actual Spending	FY20 Projected Spending Remaining	FY20 Budget Projected Excess or (Shortfall)
H14126	HITE CREEK WQTC EXPANSION PROJECT	$7.3M	$2.6M	$2.0M	$3.7M	$1.6M
	Total	**$102.1M**	**$59.9M**	**$56.2M**	**$26.8M**	**$19.1M**

*Budget from the ORT project was transferred to the FY20 Contingency Reserve to fund emergency projects.($10M)

The Hite Creek WQTC Expansion Project is spending at a lower rate than anticipated due to unforeseen conditions, significant contract modifications requested by MSD, and weather impacts.

CHANGE MANAGEMENT ACTIVITIES

Notice of Advisement (NOA)

NOAs are intended to document any change to a project scope, schedule, and budget. A standardized electronic form has been created by the MSD Project Controls Team. The formal NOA process was fully implemented in January. Table 13 lists NOA's processed during the month of February.

Table 13 – Notice of Advisement Log for February

ID	Project Name	Advisement Category
35	4th St Flood Pump Emergency Repairs	New Project
37	5433 Johnstown Road DIP	FY Budget; New Project
40	DRGWQTC Paving	Scope, EAC and FY Budget Reduction; Schedule impact
41	FY20 CMOM WQTC	Project Status: Canceled
51	Kings Highway Drainage Improvement Project	FY Budget; New Project
36	FY20 Sewer Assessments	Project Status: Canceled
49	Upper Floyds Fork Interceptor	EAC and FY Budget Increase
50	Main Office Data Center Reconfiguration	Scope, EAC and FY Budget Reduction
46	West County Force Main New Line	Project Status: On Hold
55	MFWQTC Sewer and Manhole Condition Assessment	FY Budget; New Project
53	Production Data Center Tech. Infrastructure Rehab*	FY Budget; New Project
52	MFWQTC OGA, PTO and Chlorine Rail Facility Demolition	Scope; EAC and FY Budget Increase; Schedule impact; Project Name change
56	FY20 Asset Management Assistance	New Project

*Not Approved.

Approved Change Orders – February 2020

The Change Orders processed by MSD during the reporting period are listed in the following table. This information is provided for informational purposes. In future reports, a programmatic evaluation of construction change orders during the FY will be provided.

Table 14 – Change Orders Processed during Reporting Period

Budget ID	Project	Original Contract Amount	Change Order Amount (this month)	Revised Contract Amount
H19095	*Collections Remote Terminal Units*	$129,600	$144,000	$417,600
C20188	*Ethel Avenue DIP*	$71,010	$42,000	$113,010
H09125	*Portland CSO Basin*	$28,175,316	$7,392	$29,245,472
H09127	*Rowan PS and Downtown Interceptor*	$25,899,973	$85,585	$25,751,394
K15053	*Tele-Inspection Truck*	$500,000	$40,000	$540,000

PROCUREMENT ACTIVITIES

A forecast of the upcoming procurement activities for the next 90 days is presented in Table 15. The bid dates represent anticipated times and may be adjusted depending upon project conditions.

Table 15 – Potential Upcoming Procurement Projects

Budget ID	Project Name	Advertising Date	Current Construction Estimate
D20017	CCWQTC Sodium Aluminate Building	4/19/2020	$479,393
D15024	MFWQTC Chiller Replacement	5/8/2020	$335,000
D20224	Bells Lane PAA System	5/12/2020	$145,500
D20278	DRGWQTC RAS Building Electrical Modifications	5/20/2020	$150,000
D18128	DRGWQTC Paving	5/31/2020	$322,000
A18354	Raintree Court and Marian Court Pump Station Elimination – Phase 1A	6/1/20	$89,285
D19039	CCWQTC Effluent Parshall Flume Upgrade	6/15/20	$1,1945,000

Bid Openings

Bids opened during the reporting month are shown in Table 16.

Table 16 – Bids opened during Reporting Month

Budget ID	Project Name	Bid Opening	Engineer's Estimate	Bid Award
H19142	Upper Floyds Fork Interceptor	2/4/20	$2,576,750	$2,823,832
F19276	FPS Auto Grease Systems Upgrades	2/11/20	$300,000	$348,900

Construction - Notice to Proceeds (NTP) Issued

Table 17 – NTP's Issued during Reporting Month

Budget ID	Project Name	Final Bid	Eng. Estimate
D20167	MFWQTC East Headworks HVAC	$101,900	$140,000

PROJECT INFORMATION BY PROGRAM

An overview of the FY20 CIP budget and the current forecasted annual spending is presented in Table 18. A detailed listing of the projects included in the FY20 CIP for each CIP Program is provided in this section.

Table 18 – FY20 Comparison of Budget to Projected Spending

Service Type Program	CIP Program	Approved Budget	FY20 Spending Projection	FY20 Spending Variance
Wastewater Service Type Programs	CMOM	$45.5M	$41.4M	($4.1M)
	Consent Decree (IOAP)	$114.7M	$90.3M	($24.4M)
	Development Infrastructure	$3.3M	$2.1M	($1.2M)
	NMC	$7.8M	$17.2M	9.4M
	Wastewater Total	**$171.3M**	**$151.0M**	**($20.3M)**
Stormwater & Flood Protection Service Type Program	Drainage Management	$2.3M	$4.0M	$1.7M
	Floodplain Management	$0.3M	$0.4M	$0.1M
	Ohio River Flood Protection	$6.9M	$5.5M	($1.4M)
	Stormwater Quality (MS4)	$2.9M	$2.7M	($0.2M)
	Stormwater Total	**$12.4M**	**$12.6M**	**$0.2M**
Support Service Type Program	Capital Equipment	$3.2M	$3.8M	$0.6M
	Facilities	$14.4M	$2.4M	($12.0M)
	IT & LOJIC	$3.7M	$3.4M	($0.3M)
	Support Systems Total	**$21.3M**	**$9.6M**	**($11.7M)**
Grand Total		**$205M**	**$173.2M**	**($31.8M)**

INTEGRATED OVERFLOW ABATEMENT PLAN AND CONSENT DECREE

All schedule milestones on Integrated Overflow Abatement Plan (IOAP) projects to mitigate sewer overflows across the service area have been met, requiring MSD to expend nearly $900M since entering into the Consent Decree in August 2005. Local waterways are safer and cleaner today as a result of these expenditures. This regulatory-required work has consumed the majority of MSD's capital expenditures; however, these projects have only addressed a fraction of the wastewater, stormwater and flood protection assets under MSD's purview. An unintended consequence of compliance with this Federal Order has been deferred asset management on the remaining infrastructure. The deterioration compounds over time, leading to increased risks to public health and safety as these assets begin to fail. The result has been more frequent failures requiring larger and larger emergency repairs.

MSD must make tough decisions and prioritize the limited capital dollars on those assets that pose the greatest risks to public health and safety. At this time, several SSO abatement projects must be deferred to allow focus on necessary work at the Morris Forman Water Quality Treatment Center and the Paddy's Run Flood Pump Station. In the meantime, MSD continues construction of the Waterway Protection Tunnel and is collecting data on overflow abatement projects implemented to date along with overflow activity in the remaining project areas. Preliminary analysis suggests that some of the remaining SSO abatement projects may not be necessary.

MSD maintains regular coordination and communications with the EPA and Kentucky Division of Water on Consent Decree progress. Those communications have focused on the increasing risks to public health and safety requiring the reprioritization of capital expenditures.

Table 19 - Schedule Float for Remaining LTCP Projects

Budget ID	LTCP Project	Amended Consent Decree Deadline	Schedule Float to CD Deadline (days)
Waterway Protection Tunnel Bundle			
H09127	ROWAN PUMP STATION	12/31/2020	145
H09133	OHIO RIVER TUNNEL	12/31/2020	-35
H09141	LEXINGTON & PAYNE CSO INTERCEPTOR	12/31/2020	237
H18176	DOWNTOWN CSO INTERCEPTOR	12/31/2020	145
H19247	I-64 & GRINSTEAD CSO INTERCEPTOR	12/31/2020	65

STATE AGREED ORDERS

Table 20 - Schedule Float

Budget ID	Project	State Agreed Order Deadline	Schedule Float to Order Deadline (days)
H19142	UPPER FLOYDS FORK INTERCEPTOR	12/31/20	0
A16073	MUD LANE INTERCEPTOR	12/30/20	182
Various	MF CAP	TBD	TBD

Sanitary Sewer Discharge Plan Progress

The suite of projects selected for the Final SSDP component of the IOAP will eliminate capacity-related SSOs up to site-specific levels of protection. The projects listed in Table 21 remain to fulfill SSDP project requirements of the Consent Decree. MSD is currently negotiating with the federal and state Regulators regarding the timing for completing the remaining IOAP projects. MSD is committed to completing projects in accordance with the outcomes of the on-going negotiations.

Table 21 -Remaining SSDP Projects

Budget ID	SSDP Project	Amended Consent Decree Deadline
A18354	RAINTREE DRIVE AND MARIAN COURT SYSTEM IMPROVEMENTS PHASE 1 – PUMP STATION ELIMINATIONS	TBD
H09180	RAINTREE DRIVE AND MARIAN COURT SYSTEM IMPROVEMENTS PHASE 2 – PIPE UPGRADES	TBD
H09165	BARDSTOWN ROAD PUMP STATION IMPROVEMENTS	TBD
H09176	FOX HARBOR IN-LINE STORAGE	TBD
H09242	GUNPOWDER PUMP STATION IN-LINE STORAGE	TBD
H09166	LUCAS LANE PUMP STATION IN-LINE STORAGE	TBD
H09179	DELL ROAD AND CHARLAINE PARKWAY INTERCEPTOR IMPROVEMENTS	TBD
H09196	LEVEN PUMP STATION ELIMINATION	TBD
H09182	MONTICELLO PUMP STATION ELIMINATION	TBD
H09192	CINDERELLA PUMP STATION ELIMINATION	TBD
H09164	IDLEWOOD IN-LINE STORAGE	TBD
H09186	MIDDLE FORK RELIEF INTERCEPTOR, WET WEATHER STORAGE, AND UMFLS DIVERSION 2 - PS DIVERSION AND STORAGE	TBD
H09200	SUTHERLAND INTERCEPTOR	TBD
H10048	CAMP TAYLOR PHASE 4 – REHAB AND OFF-LINE STORAGE	TBD
H10044	GOOSE CREEK PUMP STATION IMPROVEMENTS AND WET WEATHER STORAGE 2 – PUMP STATION AND FORCE MAIN UPGRADES	TBD
H09171	KAVANAUGH ROAD PUMP STATION IMPROVEMENTS	TBD
H09159	LITTLE CEDAR CREEK INTERCEPTOR IMPROVEMENTS	TBD
H09188	MELLWOOD SYSTEM IMPROVEMENTS AND PUMP STATION ELIMINATIONS PHASE 2	TBD

Table 22 – Summary of FY20 IOAP Program Projects

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
A18354 | Raintree Court and Marian Court Pump Station Elimination - Phase 1A	DESIGN	$0	$0	$0	$0
H09125 | Portland CSO Basin	CLOSEOUT	$1,650,906	$927,315	$0	$723,591
H09127 | Rowan Pump Station & Downtown CSO Interceptor	CONSTRUCTION	$16,412,382	$13,383,869	$3,504,876	($476,363)
H09133 | Ohio River Tunnel	CONSTRUCTION	$56,223,931	$29,188,302	$15,671,853	$11,363,776
H09141 | Lexington and Payne CSO Interceptor	CONSTRUCTION	$16,208,828	$11,655,513	$3,904,147	$649,168
H09164 | Idlewood Inline Storage	INITIATION & PROCUREMENT	$144,459	$0	$0	$144,459
H16035 | FY19 Green Infrastructure	CLOSEOUT	$1,388,549	$165,179	$973,370	$250,000
H16051 | FY20 Green Infrastructure	INITIATION & PROCUREMENT	$307,425	$0	$307,425	$0
H16053 | FY20 IOAP Post Const Compliance Assmt	INITIATION & PROCUREMENT	$425,000	$143,200	$279,450	$2,350
H18176 | Downtown CSO Interceptor RPR & CA Services	CONSTRUCTION	$650,885	$307,542	$273,131	$70,212
H18482 | FY20 Engineering Planning & Regulatory Compliance Support	INITIATION & PROCUREMENT	$1,500,000	$807,039	$392,961	$300,000
H19060 | Brown Forman Distillery Green Infrastructure Improvements	INITIATION & PROCUREMENT	$1,250,000	$0	$1,250,000	$0

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
H19247 | I-64 and Grinstead CSO Interceptor	CONSTRUCTION	$2,398,824	$3,963,730	$973,740	($2,538,646)
H20040 | FY20 CIP Task Assistance	INITIATION & PROCUREMENT	$1,100,000	$341,974	$758,026	$0
H20136 | IOAP Major Modification Development Assistance	INITIATION & PROCUREMENT	$113,636	$0	$50,000	$63,636
H20144 | Churchill Downs East Side Improvements GI	INITIATION & PROCUREMENT	$1,200,000	$1,200,000	$0	$0
H20168 | Louisville FC Stadium GI	Closed	$250,000	$250,000	$0	$0
GRAND TOTAL		$101,224,825	$62,333,663	$5,258,103	$63,636

WASTEWATER NON-IOAP PROGRAMS

Wastewater management is a vital component of MSD's system. The CIP projects included in the FY20 CIP for the following programs are presented in this section.

- Capacity, Management, Operations, and Maintenance Program
- Development Infrastructure Program
- Nine Minimum Controls Program

Capacity, Management, Operations, and Maintenance (CMOM) Program

MSD's Consent Decree requires implementation of a CMOM Program including major renewal and replacement projects at the Hite Creek, Floyds Fork, Cedar Creek, and Derek R. Guthrie WQTCs to ensure MSD can maintain effective wastewater collection, transmission, and treatment. CMOM compliance is required as a component in each WQTC KPDES permit. Additionally, the CMOM Program provides proactive asset management of sewers, pump stations, and major interceptors that make up most of MSD's collection system. A list of active FY20 CMOM related projects is provided in Table 23.

Table 23 – Summary of FY20 Wastewater CMOM Program Projects

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
D20298 | DRGWQTC Artificial Intelligence Pilot	INITIATION & PROCUREMENT	$0	$0	$0	$0
A19090 | FY20 Construction Inspection	INITIATION & PROCUREMENT	$500,000	$278,690	$221,310	$0
A19208 | Broadway Interceptor Infrastructure Rehabilitation	INITIATION & PROCUREMENT	$0	$0	$0	$0
A20280 | Harrods Creek Force Main Repair	CONSTRUCTION	$6,000,000	$1,263,982	$4,736,018	$0
D16272 | CCWQTC Influent PS MCC Upgrades	DESIGN	$413,951	$39,950	$83,823	$290,178
D17032 | CCWQTC Tertiary Filtration	DESIGN	$0	$0	$0	$0
D18285 | ORFM Odor and Corrosion Control	DESIGN	$1,569,687	$7,016	$1,319,156	$243,515
D18292 | DRGWQTC Clarifier Grout Repair and RAS Gate Replacement	CONSTRUCTION	$1,364,927	$36,696	$99,197	$1,229,034
D18452 | FY20 MFWQTC Equipment RR	INITIATION & PROCUREMENT	$1,185,000	$347,389	$837,611	$0
D19039 | CCWQTC Effluent Parshall Flume Upgrade	DESIGN	$1,791,000	$45,814	$109,167	$1,636,019
D19227 | MFWQTC Primary Sludge Line Replacement	CONSTRUCTION	$436,598	$439,117	$100,029	($102,548)
D19285 | Bells Lane Phase 2	CONSTRUCTION	$112,500	$34,911	$48,659	$28,930
D19286 | SWPS Gas Monitoring	INITIATION & PROCUREMENT	$247,197	$0	$74,036	$173,161
D20017 | CCWQTC Sodium Aluminate Building	DESIGN	$650,096	$36,251	$172,394	$441,451
D20030 | FY20 CCWQTC Equipment RR	INITIATION & PROCUREMENT	$300,000	$0	$300,000	$0
D20032 | FY20 HCWQTC Equipment RR	INITIATION & PROCUREMENT	$300,000	$58,637	$241,363	$0
D20034 | FY20 FFWQTC Equipment RR	INITIATION & PROCUREMENT	$280,000	$74,568	$205,432	$0
D20036 | FY20 DRGWQTC Equipment RR	INITIATION & PROCUREMENT	$316,000	$117,032	$232,968	($34,000)
D20167 | MFWQTC East Headworks HVAC	CONSTRUCTION	$140,000	$0	$60,998	$79,002

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
D20222 | Bells Lane Grit Classifier Drain Line	CONSTRUCTION	$100,000	$421	$76,688	$22,891
D20223 | Bells Lane WWTF Polymer Feed System Improvements	DESIGN	$40,000	$0	$98,712	($58,712)
D20224 | Bells Lane PAA System	DESIGN	$200,000	$26,266	$91,939	$81,795
D20227 | FFWQTC Filter Evaluation	INITIATION & PROCUREMENT	$20,000	$15,487	$0	$4,513
D20262 | MFWQTC Groundwater Wells Study	INITIATION & PROCUREMENT	$40,000	$2,328	$15,539	$22,133
D20278 | DRGWQTC RAS Building Electrical Modifications	DESIGN	$34,000	$0	$97,135	($63,135)
D20284 | DRGWQTC Dewatering Emergency Contract	CONSTRUCTION	$4,000,000	$1,527,838	$4,694,432	($2,222,270)
D20286 | DRGWQTC Substation U-13 Modifications	CONSTRUCTION	$150,000	$0	$75,000	$75,000
D20291 | DRGWQTC Dewatering Emergency Phase 1	CONSTRUCTION	$4,000,000	$255,000	$4,997,143	($1,252,143)
E15033 | Shively Pump Station Generator	CLOSEOUT	$501,668	$428,888	$0	$72,780
E18446 | FY20 Systems Automation	INITIATION & PROCUREMENT	$150,000	$144,000	$6,000	$0
E18467 | FY20 CMOM Collection System Pump RR	INITIATION & PROCUREMENT	$250,000	$133,339	$116,661	$0
E19211 | FY20 Operations Renewal & Replacement	INITIATION & PROCUREMENT	$1,975,000	$7,800	$1,992,200	($25,000)
G18462 | FY20 Land Acquisition	INITIATION & PROCUREMENT	$500,000	$80	$499,920	$0
G20001 | FY20 Renewal & Replacement	INITIATION & PROCUREMENT	$1,645,927	$1,266,949	$433,051	($54,073)
G20150 | FY20 Contingency Reserve	INITIATION & PROCUREMENT	$3,798,125	$0	$3,848,125	($50,000)
G20248 | Inspection Software	INITIATION & PROCUREMENT	$142,000	$141,327	$673	$0
H14126 | HCWQTC Expansion	CONSTRUCTION	$7,287,271	$2,050,884	$3,720,103	$1,516,284

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
H16009 | FY20 CMOM Program Management Assistance	INITIATION & PROCUREMENT	$150,000	$0	$150,000	$0
H16013 | FY20 CMOM SCAP, AAM & FOG	INITIATION & PROCUREMENT	$150,000	$42,526	$132,474	($25,000)
H16045 | FY20 Plumbing Modification Program	INITIATION & PROCUREMENT	$500,000	$216,886	$283,114	$0
H16074 | Nightingale Rehab	CONSTRUCTION	$1,739,348	$10,760	$773,113	$955,475
H18172 | FY20 Information Governance Architecture	INITIATION & PROCUREMENT	$300,000	$49,887	$157,406	$92,707
H18503 | I-64 and Grinstead Infrastructure Rehabilitation	INITIATION & PROCUREMENT	$0	$0	$0	$0
H19088 | FY20 CMOM Grinder RR	INITIATION & PROCUREMENT	$250,000	$194,318	$0	$55,682
H19095 | FY20 PS RR	INITIATION & PROCUREMENT	$594,000	$136,777	$463,223	($6,000)
H20045 | FY20 Regulatory Compliance Support	INITIATION & PROCUREMENT	$300,000	$65,666	$234,334	$0
H20055 | FY20 CMOM I&C Implementation	INITIATION & PROCUREMENT	$125,026	$91,048	$33,978	$0
H20061 | FY20 CMOM Gravity Line Cleaning & Inspection	INITIATION & PROCUREMENT	$1,384,073	$740,263	$759,737	($115,927)
H20137 | FY20 PMIS	INITIATION & PROCUREMENT	$50,000	$0	$50,000	$0
H20147 | Western Outfall Infrastructure Rehabilitation	INITIATION & PROCUREMENT	$0	$0		$0
H20153 | SWPS Flood Repair	CONSTRUCTION	$609,556	$422	$251,339	$357,795
H20215 | Camp Taylor 2A SSR - Union St Sewers	CONSTRUCTION	$50,000	$36,901	$4,283	$8,816
H20263 | InfoAsset Planner Implementation	INITIATION & PROCUREMENT	$200,000	$15,000	$185,000	$0
H20268 | Cues Solid Fx Sonar/Lidar Profiling System	INITIATION & PROCUREMENT	$170,000	$0	$166,500	$3,500
H20297 | FY20 Asset Management Assistance	INITIATION & PROCUREMENT	$150,000	$0	$150,000	$0

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
H20298 | DRGWQTC Artificial Intelligence Pilot	INITIATION & PROCUREMENT	$0	$0	$232,000	($232,000)
GRAND TOTAL		$47,162,950	$10,381,114	$989,122	$138,111

Development Infrastructure Program

The 20-Year CRRP includes recommended projects to ensure adequate conveyance and treatment capacity is available in advance of development and population growth. This program is particularly important for avoiding community development initiatives facing moratoriums due to the rated capacity of the WQTCs being exceeded. The development program includes a combination of phased WQTC capacity upgrades and under capacity sewers and pump stations. The development infrastructure projects active in FY20 are listed in Table 24.

Table 24 – Summary of FY20 Development Program Projects

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
A16073 | Mud Lane Interceptor	CONSTRUCTION	$0	$0	$1,198,828	($1,198,828)
D18489 | Fairmont Road Pump Station Force Main Extension	INITIATION & PROCUREMENT	$164,303	$0	$360,070	($195,767)
G16048 | FY20 Development Infrastructure Support	INITIATION & PROCUREMENT	$85,000	$0	$85,000	$0
G16050 | FY20 Development Infrastructure Excess Cost Reimbursement	INITIATION & PROCUREMENT	$150,000	$1,422	$148,578	$0
H17117 | Floyds Fork Interceptor	INITIATION & PROCUREMENT	$0	$0	$227,436	($227,436)
H19142 | Upper Floyds Fork Interceptor	CONSTRUCTION	$290,476	$103,171	$406,837	($219,532)
GRAND TOTAL		$689,779	$104,593	$2,426,749	($446,968)

Nine Minimum Controls Program

MSD's Consent Decree requires compliance with the USEPA Nine Minimum Controls Program (NMC) that was initially developed as part of the Clean Water Act CSO Policy to address combined sewer system (CSS) best management practices (BMPs) that do not require significant construction. NMC projects tend to be technology based. NMC programmatic compliance is required in the Morris Forman WQTC KPDES Permit. The 20-year CRRP includes projects focused on NMC including Real-Time Control (RTC) assets in the combined sewer system and the Morris Forman WQTC Improvements. The FY20 approved budget included the NMC projects noted in Table 25.

Table 25 – Summary of FY20 Wastewater NMC Program Projects

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
D20304 | MFWQTC Headworks and Blower Building Repairs	DESIGN	$60,000	$0	$62,843	($2,843)
G20306 | MFWQTC Loading Design Criteria Evaluation	INITIATION & PROCUREMENT	$0	$0	$89,200	($89,200)
A20244 | Large Diameter Sewer Rehabilitation	INITIATION & PROCUREMENT	$200,000	$11,824	$0	$188,176
D15020 | MFWQTC Cake Pump Phase II	CONSTRUCTION	$1,394,682	$128,543	$786,637	$479,502
D17042 | MFWQTC Sedimentation Basin RR	DESIGN	$509,694	$0	$147,245	$362,449
D17131 | Biosolids Processing Solution	INITIATION & PROCUREMENT	$50,000	$0	$0	$50,000
D18114 | MFWQTC Lab Equipment Upgrade	DESIGN	$0	$0	$224,397	($224,397)
D18118 | MFWQTC Truck Unloading Station Pavement Repair	CONSTRUCTION	$66,930	$373	$38,252	$28,305
D18127 | DRGWQTC Hypo Containment	CLOSEOUT	$121,700	$0	$0	$121,700
D19028 | FY20 MFWQTC Upgrade PLCS	INITIATION & PROCUREMENT	$250,000	$113,796	$136,204	$0
D19043 | MFWQTC OGA PTO and Chlorine Rail Car Facility Demolition	DESIGN	$50,000	$4,027	$419,052	($373,079)
D19045 | MFWQTC Sodium Hypochlorite Building Relocation	DESIGN	$205,809	$99,381	$732,699	($626,271)
D19046 | MFWQTC Groundwater Well 10 Replacement	CONSTRUCTION	$179,325	$152,017	$36,278	($8,970)
D19048 | MFWQTC Radio Repeater	INITIATION & PROCUREMENT	$500,000	$0	$222,222	$277,778
D19223 | DRGWWPS Finite Element Analysis Phase 2	INITIATION & PROCUREMENT	$36,904	$4,462	$11,442	$21,000
D19275 | MDS Downstream Flow Meter	CONSTRUCTION	$279,481	$155,995	$138,015	($14,529)

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
D19307 | MFWQTC FEPS VFD Replacement	CONSTRUCTION	$1,600,000	$414,106	$477,653	$708,241
D20012 | SGC RTC Enhancements	DESIGN	$0	$0	$462,278	($462,278)
D20216 | FY20 Strand CCWQTC Engineering Support	DESIGN	$35,000	$5,006	$29,994	$0
D20217 | FY20 Hazen DRGWQTC Engineering Support	DESIGN	$35,000	$10,202	$24,798	$0
D20218 | FY20 Jacobs MFWQTC Engineering Support	DESIGN	$30,000	$5,048	$24,952	$0
D20219 | FY20 HDR MFWQTC Engineering Support	DESIGN	$35,000	$6,204	$28,796	$0
D20226 | Bells Lane & MF HW Bar Screen Grit Study	INITIATION & PROCUREMENT	$75,000	$29,100	$127,000	($81,100)
D20228 | MFWQTC Centrifuge Replacement	CONSTRUCTION	$360,000	$360,491	$493,006	($493,497)
D20230 | MFWQTC BOC/SHOC Fan Replacement	CONSTRUCTION	$125,000	$0	$125,000	$0
D20231 | FY20 MFWQTC FEPS Pump & Motor Repair	CLOSEOUT	$150,000	$0	$154,593	($4,593)
D20249 | Biosolids Management Strategy	INITIATION & PROCUREMENT	$500,000	$246,267	$253,733	$0
D20285 | MFWQTC LG Dryer Replacements	CONSTRUCTION	$10,000,000	$0	$9,411,765	$588,235
F14182 | MF FEPS Pump Repair & Motor	CLOSEOUT	$83,403	$56,480	$0	$26,923
H16056 | FY20 NMC	INITIATION & PROCUREMENT	$50,000	$38,008	$41,992	($30,000)
H18442 | FY20 RTC Support	INITIATION & PROCUREMENT	$700,000	$255,368	$444,632	$0
GRAND TOTAL		$17,682,928	$2,096,698	$14,992,635	$441,552

STORMWATER MANAGEMENT & FLOOD PROTECTION PROGRAMS

Stormwater management is a vital component of MSD's system, because it directly impacts the health and safety of all Louisville and Jefferson County residents. The CIP projects included in the FY20 CIP for the following programs are presented in this section.

- Stormwater Program
- Drainage Response Initiative (DRI) Program
- Floodplain Management Program
- Ohio River Flood Protection Program

Stormwater Quality Municipal Separate Storm Sewer System (MS4) Program

The MS4 Program is a drainage-related program to improve the quality of surface waters through controls on stormwater runoff quality in Jefferson County and to protect the public health, safety, and welfare by reducing the introduction of harmful materials into the MS4s that discharge into community streams. The CRRP identified several large stormwater retention basins with the potential for conversion of all or part of the basin to provide infiltration of stormwater.

MSD coordinates MS4 implementation with the agencies that share implementation of the MS4 Program, including Metro Louisville government, small cities that handle their own drainage, and the Kentucky Department of Transportation. A summary of the MS4 related projects in the FY20 CIP is presented in Table 26.

Table 26 – Summary of FY20 Stormwater MS4 Program Projects

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
H16033 | FY19 Env'l Data Collection	CLOSEOUT	$0	($5,208)	$0	$5,208
H16038 | FY19 MS4 Program	CLOSEOUT	$0	($15,334)	$0	$15,334
H16049 | FY20 Env'l Data Collection – MS4 & IOAP	INITIATION & PROCUREMENT	$650,000	$73,886	$576,114	$0
H16055 | FY20 MS4 Program	INITIATION & PROCUREMENT	$800,000	$124,432	$675,568	$0
H16059 | FY20 USGS Stream Monitoring	INITIATION & PROCUREMENT	$395,650	$283,860	$111,790	$0
H20086 | FY20 Tree Program	INITIATION & PROCUREMENT	$150,000	$104,222	$45,778	$0
H20089 | 3-Forks BGC USACE General Investigation	INITIATION & PROCUREMENT	$300,000	$50,000	$275,000	($25,000)
H20122 | FY20 MS4 Basin Retrofit - KCD	INITIATION & PROCUREMENT	$85,000	$0	$28,333	$56,667
H20123 | FY20 MS4 Water Quality SONDES	INITIATION & PROCUREMENT	$250,000	$84,221	$165,779	$0
H20145 | MS4 Thermal Imagery Flyover	INITIATION & PROCUREMENT	$115,000	$0	$180,000	($65,000)
H20154 | Grant Middle Fork Beargrass Creek 319	INITIATION & PROCUREMENT	$0	$14,081	$29,730	($43,811)

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
GRAND TOTAL		$2,745,650	$734,702	$2,088,092	($52,144)

Drainage Response Initiative (DRI) Program

Beginning in 2003, MSD initiated an aggressive program to address a wide variety of drainage issues that were pointed out by customers to address problems ranging from structural flooding to alleviating minor standing water problems. The 20-year CRRP includes an annual allocation ranging from $2.8 million to $5 million per year for the DRI Program. While MSD originally thought the DRI Program would be phased out as the backlog of customer drainage issues were resolved, customer drainage requests continue to be among the most common communication received by MSD. The active FY20 DRI projects are listed in the following table.

Table 27 – Status of Active DRI Projects

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Projected Excess or Shortfall
C19091 | FY20 DRI	INITIATION & PROCUREMENT	$2,560,000	$1,785,420	$774,580	$0
C20090 | FY20 Stormwater Asset Inventory & Analysis	INITIATION & PROCUREMENT	$230,000	$100,050	$79,950	$50,000
C20209 | FY20 DRI Inspection	INITIATION & PROCUREMENT	$150,000	$0	$150,000	$0
C20210 | FY20 Stormwater Hansen Clean Up	INITIATION & PROCUREMENT	$220,000	$100,438	$119,562	$0
F20003 | FY20 Viaduct Instrumentation	INITIATION & PROCUREMENT	$50,000	$6,638	$43,362	$0
H20164 | 346 S Peterson Ave Stream Restoration	DESIGN	$165,120	$16,916	$23,703	$124,501
GRAND TOTAL		$3,375,120	$2,009,462	$1,191,157	$174,501

Floodplain Management Program

The floodplain management projects having spending during FY20 are listed in Table 28.

Table 28 – Summary of FY20 Floodplain Management Program Projects

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
F19092 | FY20 Emergency Preparedness Plan	INITIATION & PROCUREMENT	$250,000	$86,089	$163,911	$0
G20252 | Vicars Property	INITIATION & PROCUREMENT	$25,000	$25,000	$0	$0

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
G20253 | Floyds Fork Ecosystem Study	INITIATION & PROCUREMENT	$30,000	$30,000	$0	$0
H11327 | Maple St Mitigation Grant	INITIATION & PROCUREMENT	$0	$0	$9,159,176	($9,159,176)
H16335 | Belquin Flood Mitigation	CLOSEOUT	$0	$94,690	$883,767	($978,457)
H16336 | Linwood Flood Mitigation	CLOSEOUT	$0	($129,095)	$785,040	($655,945)
H16338 | Wewoka West Park Flood Mitigation	CLOSEOUT	$0	$60,354	$1,305,610	($1,365,964)
H17164 | Riverside Srl Flood Mitigation	CLOSEOUT	$0	$18,150	$170,234	($188,384)
H17165 | Medford Rl Flood Mitigation	CLOSEOUT	$0	$0	$88,268	($88,268)
H17166 | W Indian Trail Rl Flood Mitigation	CLOSEOUT	$0	$0	$182,101	($182,101)
H17167 | Transylvania Beach N Rl Flood Mitigation	CLOSEOUT	$0	$79,000	($19,575)	($59,425)
H18317 | 2016 Riverside Dr Flood Mitigation	CLOSEOUT	$0	$59,960	$192,433	($252,393)
H18318 | West Indian Trail 2 Srl Flood Mitigation	CLOSEOUT	$0	$0	$60,521	($60,521)
H18319 | Hayfield Dundee #1 Flood Mitigation	CLOSEOUT	$0	$6,242	$29,427	($35,669)
H18321 | Transylvania Bch South Flood Mitigation	CLOSEOUT	$0	$16,669	$248,334	($265,003)
H18331 | Linwood Re-Scope/Krashey Way	CLOSEOUT	$0	$1,700	$99,809	($101,509)
H18356 | Whispering Hills	CLOSEOUT	$0	$9,655	$252,082	($261,737)
H18358 | Catheen Way/Belquin Re-Scope	CLOSEOUT	$0	$1,075,127	$784,011	($1,859,138)
H19064 | Grant Delaware Dr Acquisition	CLOSEOUT	$0	$0	$426,453	($426,453)
H19067 | Grant Elba Rl Acquisition	CLOSEOUT	$0	$0	$252,191	($252,191)
H19068 | Grant Elba Srl Acquisition	CLOSEOUT	$0	$0	$239,409	($239,409)
H19069 | Grant Easum Rd Acquisition	CLOSEOUT	$0	$0	$199,002	($199,002)
H19071 | Grant Riverside Acquisition	CLOSEOUT	$0	$0	$149,777	($149,777)

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
H20088 | FY20 Maple St Land Use Planning	INITIATION & PROCUREMENT	$40,000	$0	$40,000	$0
H20155 | Grant Sutherland Drive Hmgp	INITIATION & PROCUREMENT	$0	$0	$45,070	($45,070)
H20156 | Grant Sandstone Hmgp	INITIATION & PROCUREMENT	$0	$0	$95,180	($95,180)
H20157 | Grant Abbotts Beach & Orville Drive	INITIATION & PROCUREMENT	$0	$0	$27,917	($27,917)
H20158 | Grant 2018 Orville Drive	INITIATION & PROCUREMENT	$0	$0	$100,308	($100,308)
H20159 | Grant 2018 Transylvania Beach	INITIATION & PROCUREMENT	$0	$0	$236,171	($236,171)
H20160 | Grant 2018 Waldoah Beach Fma	INITIATION & PROCUREMENT	$0	$0	$335,205	($335,205)
H20161 | Grant 2018 Waldoah Beach Hmgp	INITIATION & PROCUREMENT	$0	$0	$86,429	($86,429)
H20162 | Grant 2019 Elba Drive Hmgp	INITIATION & PROCUREMENT	$0	$0	$79,860	($79,860)
H20163 | Grant 2018 Medford	INITIATION & PROCUREMENT	$0	$0	$73,163	($73,163)
H20282 | Maple Street Grant Phase 2	INITIATION & PROCUREMENT	$0	$36,500	$0	($36,500)
GRAND TOTAL		$345,000	$1,363,357	$4,052,752	($1,115,803)

Ohio River Flood Protection Program

In 1987, as part of the Memorandum of Agreement with the City of Louisville related to drainage and flood protection services, MSD assumed responsibility for the Ohio River Flood Protection System. In addition to capacity concerns, many flood pumping stations have original 1950's vintage electrical and mechanical equipment. For the most part, the stations are manually operated using control systems that cannot be repaired with off-the-shelf components. The 20-year CRRP includes rehabilitating and/or expanding 15 of the 16 flood pumping stations in MSD's system. Given the size of these facilities, the costs are substantial, but the risks being addressed are vital to Louisville's protection against catastrophic flooding. A listing of Ohio River Protection projects is provided in Table 29.

Table 29 – Summary of FY20 Ohio River Flood Protection Program Projects

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
F20305 | 4th St Flood Pump Emergency Repairs	CONSTRUCTION	$50,000	$0	$50,000	$0

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
F18234 | FY20 Floodwall Gates Actuators RR	INITIATION & PROCUREMENT	$22,000	$0	$22,000	$0
F18238 | FY20 Floodwall Closures And Vaults RR	INITIATION & PROCUREMENT	$100,000	$0	$100,000	$0
F18248 | FY20 Floodwall Levee Repair And Toe Drains RR	INITIATION & PROCUREMENT	$100,000	$0	$100,000	$0
F18252 | FY20 Levee And Floodwall RR	INITIATION & PROCUREMENT	$124,500	$0	$124,500	$0
F18302 | Paddy's Run FPS Pumps 1, 2 and 6 Rehab	CONSTRUCTION	$1,308,170	$1,000,840	$708,067	($400,737)
F19245 | Flood Gate 1 Replacement	CONSTRUCTION	$312,493	$9,395	$301,768	$1,330
F19267 | Pond Creek Emergency Pump Repairs	CONSTRUCTION	$543,536	$483,136	$580,181	($519,781)
F19276 | FPS Auto Grease Systems Upgrades	CONSTRUCTION	$409,021	$5,275	$104,057	$299,689
F19277 | Beargrass Creek FPS Wetwell Relief Gate	CONSTRUCTION	$233,526	$4,595	$136,622	$92,309
F20013 | Beargrass FPS Pump 8	CONSTRUCTION	$225,500	$491	$213,954	$11,055
F20211 | FY20 Floodwall Toe Drain Inspection	INITIATION & PROCUREMENT	$350,000	$0	$350,000	$0
F20212 | FY20 Closure Vault Roof Replacement	INITIATION & PROCUREMENT	$150,000	$0	$150,000	$0
H20213 | FY20 USACE FPS O&M Updates	INITIATION & PROCUREMENT	$50,000	$0	$50,000	$0
K18264 | FY20 FPS Equipment RR	INITIATION & PROCUREMENT	$660,000	$213,074	$446,926	$0
GRAND TOTAL		$4,638,746	$1,716,806	$3,438,075	$403,053

SUPPORT PROGRAMS

MSD owns a large inventory of rolling stock, information technology (IT) systems, and above-ground facilities that support MSD's operation of wastewater, stormwater drainage, and Ohio River flood protection infrastructure.

- Capital Equipment Program
- Facilities Program
- IT and LOJIC Programs

Capital Equipment Program

MSD owns more than 600 vehicles and portable equipment, ranging from passenger vehicles and pickup trucks to large excavators and sewer-cleaning trucks. This equipment is critical to MSD's ability to complete the preventive and corrective maintenance activities required to provide sustainable and reliable wastewater, stormwater, and flood protection services. The 20-year CRRP includes an annual allowance for equipment repair and replacement. The capital equipment allocations and projects are listed in Table 30.

Table 30 – Summary of FY20 Capital Equipment Program Projects

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
K15053 | FY19 Vehicles & Equip	CLOSEOUT	$1,687,813	$1,458,494	$229,318	$1
K16060 | FY20 Vehicles & Equipment	INITIATION & PROCUREMENT	$1,970,000	$116,512	$1,853,488	$0
K20274 | FY20 Capital Repairs Of Vehicles And Equipment	INITIATION & PROCUREMENT	$30,000	$19,663	$10,337	$0
GRAND TOTAL		$3,687,813	$1,594,669	$2,093,143	$ 1

Note: Regulatory Compliance includes critical equipment noted in the CMOM Report

Facilities Program

As part of the CRRP a facility condition assessment of more than 200 buildings and recommended corrective actions where deficiencies were noted. The main areas of deficiency were in roofs. The facility condition assessments also identified deficiencies in areas related to heating, ventilation, and air conditioning, building egress, signage and ancillary equipment, and indications of conditions that could eventually cause structural issues and even structural failure. The 20-year CRRP includes projects to address the specific needs at each facility. Facility projects active during FY20 are listed in Table 31.

Table 31 – Summary of FY20 Facilities Program Projects

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
D15024 | MFWQTC Chiller Replacement	DESIGN	$299,010	$58,746	$187,560	$52,704
D18128 | DRGWQTC Paving	DESIGN	$525,455	$14,497	$149,063	$361,895
D20016 | DRG Admin and RAS Buildings HVAC	DESIGN	$404,954	$48,841	$203,188	$152,925
G09535 | CMF Parking Surface	DESIGN	$585,142	$0	$354,254	$230,888
G18417 | FY20 Facility Roof Inspections	INITIATION & PROCUREMENT	$39,000	$0	$39,000	$0
G19252 | Districtwide Facility Security Upgrades	CLOSEOUT	$27,595	$26,259	$30,336	($29,000)

Budget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
G20018 | SWPS Site Security	DESIGN	$0	$0		$0
G20028 | WQTC Elevator Repairs	DESIGN	$1,013,675	$32,598	$257,043	$724,034
G20135 | Hold For Permanent Solution Improvements	INITIATION & PROCUREMENT	$0	$0	$0	$0
GRAND TOTAL		$2,894,831	$180,941	$257,043	$724,034

Information Technology (IT) and LOJIC

MSD maintains an extensive inventory of IT hardware and software that is essential to overall agency operations; this includes the MSD intranet system that is the backbone of MSD electronic communication and digital data generation, communication and storage, and regulatory compliance reporting. This hardware and software system is also responsible for supplying the internet connection to MSD's supervisory control and data acquisition (SCADA) system that controls more than 300 pump stations and control gates and serves as the platform for implementing the Real-Time Control (RTC) system. This RTC system is used to optimize use of MSD's conveyance facilities to cost-effectively maximize the use of existing facilities to reduce sewer overflows. Without adequate and updated IT systems, public health and safety could be at risk. This inventory is subject to periodic upgrade and replacement like all MSD's other assets.

The Louisville and Jefferson County Information Consortium (LOJIC) is a multi-agency partnership that began in 1997 with the mission of building and maintaining a comprehensive geographic information system (GIS) to serve all of Louisville and Jefferson County, Kentucky. MSD hosts the LOJIC systems, which similarly require periodic upgrades and replacements to hardware and software. The IT and LOJIC projects active in FY20 are listed in Table 32.

Table 32 – Summary of FY20 IT & LOJIC Program Projects

sBudget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
N16071 | Main Office Data Center Reconfiguration	CLOSEOUT	$250,000	$0	$11,111	$238,889
N18422 | FY20 IS Network Switch Replacement	INITIATION & PROCUREMENT	$50,000	$39,854	$10,146	$0
N18425 | FY20 Wireless-Mobile Deployment	INITIATION & PROCUREMENT	$50,000	$6,700	$43,300	$0
N18436 | FY20 IT Server Upgrades	INITIATION & PROCUREMENT	$75,000	$45,907	$29,093	$0
N19077 | Hansen Migration To Infor Cloud	CLOSEOUT	$666,617	$464,646	$201,971	$0
N20014 | FY20 Cable Management	INITIATION & PROCUREMENT	$200,000	$112,477	$87,523	$0
N20015 | FY20 Desktop Lifecycle	INITIATION & PROCUREMENT	$449,500	$295,749	$153,751	$0

sBudget ID & Project Name	Phase	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spending	FY20 Project Excess or Shortfall
N20069 | Refresh Disaster Recovery Center - Relocate To Nashville	CONSTRUCTION	$1,405,700	$789,476	$712,224	($96,000)
N20078 | Mobile Communications Replacement	INITIATION & PROCUREMENT	$250,000	$0	$125,000	$125,000
J16054 | FY20 LOJIC Hw Upgrades & Replacements	INITIATION & PROCUREMENT	$100,000	$57,999	$42,001	$0
J17037 | FY21/22 Aerial Imagery & Map Updates	INITIATION & PROCUREMENT	$0	$0	$90,909	($90,909)
J20022 | FY20 LOJIC Survey Control Maintenance	INITIATION & PROCUREMENT	$50,000	$0	$50,000	$0
GRAND TOTAL		$3,546,817	$1,812,808	$140,909	$218,981

SECTION 3: FINANCIAL REPORT

The Financial Report is prepared monthly to provide MSD's Executive Director and the MSD Board with a high-level understanding of MSD's financial position. The following information is presented in this report:

- Financial Statements
- Variances to Budget for Operating Expenses by Division
- Staffing vacancies and overtime
- One Water Staffing
- Cash
- Investments

Following are selected financial highlights for the month of February 2020.

- Service Charge revenue from Wastewater and Stormwater is at 101.5% of the YTD budget. Service Charge revenue is 7.2% higher than last year YTD.
- Service and Administrative Costs are 4.7% below the YTD budget. MSD has spent 64% of its $144 million Service and Administrative budget.
- Depreciation and amortization expense is $5.2 million higher than budget. Investment Income is $804 thousand ahead of budget.
- Interest expense is $2.4 million, or 4.5%, higher than budget.

MSD is implementing an Integrated Strategic Business Plan, Blueprint 2025. Critical Success Factor (CSF) 2 is to "Earn Community's Trust Daily as a Leading Provider of Wastewater, Stormwater and Flood Protection Services. One of the business functions under this CSF is responsiveness to supply chain partners which is measured by the number of invoices with Net 30 terms paid within 30 days of receipt of invoice. In FY18 MSD paid 74.4% of invoices within that time frame. That improved to 87.3% in FY19 and for FY20 year to date we are at 96.4% on time.

Critical Success Factor 4 of Blueprint 2025 is to "Ensure Financial Stewardship and Sustainability of Community Resources". Operating budget utilization is a key business function under this CSF and is measured as the annualized operating spend as a percentage of the approved operating budget. We are projecting we will spend 99% of the operating budget.

MSD has 2 fixed-to-floating interest rate swap agreements outstanding. There was a $6.2 million mark-to-market adjustment to these swaps in February. Their negative value increased to $85.4 million.

MSD did not issue any new commercial paper (CP) in February. Total outstanding CP remained at $155 million as of February 29, 2020.

FINANCIAL STATEMENTS

Statement of Revenue, Expense and Change in Net Position

Table 33 – Statement of Revenues, Expenses and Changes in Net Position

Louisville & Jefferson County Metropolitan Sewer District
Statement of Revenues, Expenses, and Changes in Net Position
February 29, 2020

	YTD Actual	YTD Budget	YTD Variance	% YTD Variance	YTD Prior Year	YTD Variance	% YTD Variance
Wastewater Charges							
Residential	$ 89,274,287	$ 85,141,993	$ 4,132,294	4.9%	$ 81,929,744	$ 7,344,543	9.0%
Commercial	51,626,872	49,279,866	2,347,006	4.8%	48,136,313	3,490,559	7.3%
Industrial	14,984,976	17,838,282	(2,853,306)	-16.0%	15,430,475	(445,499)	-2.9%
Other Wastewater	4,998,461	6,410,706	(1,412,245)	-22.0%	5,051,654	(53,193)	-1.1%
Free Wastewater Charges	(3,300,185)	(3,924,824)	624,639	-15.9%	(3,353,784)	53,599	-1.6%
Total Wastewater Charges	**157,584,410**	**154,746,023**	**2,838,387**	1.8%	**147,194,402**	**10,390,008**	7.1%
Stormwater Charges							
Residential	18,388,070	18,427,140	(39,070)	-0.2%	17,046,777	1,341,293	7.9%
Commercial	27,738,600	27,884,706	(146,106)	-0.5%	25,780,060	1,958,540	7.6%
Industrial	3,170,148	3,005,407	164,741	5.5%	2,917,445	252,702	8.7%
Other Stormwater	2,173,077	1,780,426	392,651	22.1%	2,080,884	92,193	4.4%
Free Stormwater Charges	(1,608,698)	(1,649,591)	40,893	-2.5%	(1,495,270)	(113,428)	7.6%
Total Stormwater Charges	**49,861,197**	**49,448,088**	**413,109**	0.8%	**46,329,896**	**3,531,301**	7.6%
Total Service Charges	**207,445,607**	**204,194,111**	**3,251,496**	**1.6%**	**193,524,298**	**13,921,309**	**7.2%**
Other Operating Income	**5,092,479**	**2,641,888**	**2,450,591**	**92.8%**	**3,551,418**	**1,541,061**	**43.4%**
Total Operating Revenue	**212,538,086**	**206,835,999**	**5,702,087**	**2.8%**	**197,075,716**	**15,462,370**	**7.8%**
Operating Expenses							
Salaries & Wages	33,143,052	34,401,665	(1,258,613)	-3.7%	31,965,314	1,177,738	3.7%
Labor Related Overhead	15,721,529	17,422,490	(1,700,961)	-9.8%	14,673,821	1,047,708	7.1%
Utilities	11,868,419	12,097,033	(228,614)	-1.9%	12,255,809	(387,391)	-3.2%
Materials & Supplies	4,671,248	4,682,539	(11,291)	-0.2%	5,549,825	(878,578)	-15.8%
Contractual Services	20,238,723	20,263,465	(24,742)	-0.1%	20,003,119	235,605	1.2%
Chemicals	3,108,142	3,072,107	36,035	1.2%	3,215,963	(107,821)	-3.4%
Fuel	807,301	947,700	(140,399)	-14.8%	936,159	(128,859)	-13.8%
Insurance Premiums & Claims	1,381,859	1,414,602	(32,743)	-2.3%	1,377,455	4,405	0.3%
Bad Debt	2,150,615	2,000,000	150,615	7.5%	2,756,608	(605,993)	-22.0%
Other Operating Expense	1,031,284	1,639,512	(608,228)	-37.1%	1,358,483	(327,200)	-24.1%
Mapping/Insurance Recovery	(760,189)	-	(760,189)	0.0%	(759,547)	(642)	0.1%
Capitalized Overhead	(22,001,415)	(25,464,689)	3,463,274	-13.6%	(23,034,300)	1,032,885	-4.5%
Capital Expenses (over)/under applied	-	-	-	0.0%	-	-	0.0%
Net Service and Administrative Costs	**71,360,567**	**72,476,424**	**(1,115,857)**	**-1.5%**	**70,298,709**	**1,061,858**	**1.5%**
Depreciation	64,211,825	59,058,544	5,153,281	8.7%	51,877,811	12,334,014	23.8%
Amortization	1,046,340	962,344	83,996	8.7%	1,002,172	44,168	4.4%
Total Depreciation/Amortization	**65,258,165**	**60,020,888**	**5,237,277**	**8.7%**	**52,879,983**	**12,378,182**	**23.4%**
Total Operating Expenses	**136,618,732**	**132,497,312**	**4,121,420**	**3.1%**	**123,178,692**	**13,440,040**	**10.9%**
Net Operating Income	**75,919,354**	**74,338,687**	**1,580,667**	**2.1%**	**73,897,024**	**2,022,330**	**2.7%**
Non-Operating Revenue (Expenses)							
Gain/Loss Disposal of Assets	31,908	-	31,908	0.0%	(677,745)	709,653	-104.7%
Investment Income	11,063,950	10,290,868	773,082	7.5%	12,036,774	(972,824)	-8.1%
Interest Expense	(57,574,997)	(55,089,784)	(2,485,213)	4.5%	(53,548,186)	(4,026,810)	7.5%
Total Non-Operating Revenue (Expenses)	**(46,479,138)**	**(44,798,916)**	**(1,680,222)**	**3.8%**	**(42,189,157)**	**(4,289,981)**	**10.2%**
Contributions	-	-	-	0.0%	164,812	(164,812.00)	0.0%
Change in Net Position Before Swaps	**29,440,216**	**29,539,771**	**(99,556)**	**-0.3%**	**31,872,679**	**(2,432,463)**	**-7.6%**
Change in Fair Value of Swaps	(12,422,094)	**0.00**	(12,422,094)	**0.0%**	(795,635)	(11,626,459)	**1461.3%**
Change in Net Position After Swaps	**$ 17,018,122**	**$ 29,539,771**	**$ (12,521,650)**	**-42.4%**	**$ 31,077,044**	**$ (14,058,922)**	**-45.2%**

Comparative Statement of Net Position

Table 34 – Comparative Statement of Net Position

Louisville & Jefferson County Metropolitan Sewer District Comparative Statement of Net Position February 29, 2020				
	YTD February 2020	YTD June 2019	Variance	Percent
Current Assets				
Unrestricted Cash & Cash Equivalents	93,094,649	80,472,544	12,622,104	15.68%
Sewer & Drainage Receivable	20,848,030	19,488,925	1,359,104	6.97%
Assessment Warrants Receivable	227,503	277,123	(49,621)	-17.91%
Miscellaneous Receivables	8,454,274	8,148,457	305,817	3.75%
Inventories	4,870,837	4,622,556	248,281	5.37%
Prepaid Expenses	2,501,294	2,960,661	(459,368)	-15.52%
Restricted Funds	121,676,216	129,198,027	(7,521,811)	-5.82%
Accrued Interest Receivable	957,091	957,091	-	0.00%
Total Current Assets	**252,629,892**	**246,125,385**	**6,504,507**	**2.64%**
Non-Current Assets				
Utility Plant in Service	3,994,420,885	3,984,619,134	9,801,751	0.25%
Accumulated Depreciation	(1,390,729,031)	(1,326,461,293)	(64,267,738)	4.85%
Construction in Progress	569,206,420	460,501,098	108,705,322	23.61%
Net Fixed Assets	**3,172,898,274**	**3,118,658,938**	**54,239,336**	**1.74%**
Non-Current Receivables	**30,418,977**	**31,644,191**	**(1,225,214)**	**-3.87%**
Total Assets	**3,455,947,143**	**3,396,428,514**	**59,518,629**	**1.75%**
Total Deferred Outflow of Resources	**51,139,060**	**52,018,217**	**(879,157)**	**-1.69%**
Total Assets & Deferred Outflow of Resources	**3,507,086,203**	**3,448,446,731**	**58,639,472**	**1.70%**
Current Liabilities				
Miscellaneous Accounts Payable	7,379,268	10,567,565	(3,188,297)	-30.17%
Accounts Payable - Construction	12,919,656	19,755,737	(6,836,081)	-34.60%
Contract Retainage	10,904,135	12,189,582	(1,285,447)	-10.55%
Accrued Interest Payable	30,070,882	17,818,521	12,252,360	68.76%
Current Maturities of Bonds Payable	40,380,000	42,200,000	(1,820,000)	-4.31%
Current Maturities of Subordinate Debt	554,908	644,985	(90,077)	-13.97%
Deposits Payable	2,926,085	2,928,178	(2,094)	-0.07%
Accrued Salaries & Wages	1,412,462	1,924,627	(512,165)	-26.61%
Accrued Workers' Comp Insurance	2,436,875	2,325,612	111,264	4.78%
Employee Comp Absences Payable	3,812,817	3,350,024	462,793	13.81%
Total Current Liabilities	**112,797,088**	**113,704,832**	**(907,744)**	**-0.80%**
Non-Current Liabilities				
Long-Term Senior Debt Payable	1,911,915,000	1,914,340,000	(2,425,000)	-0.13%
Long-Term Subordinate Debt Payable	383,272,644	348,452,601	34,820,042	9.99%
Other Long-Term Liability	213,604,659	215,402,582	(1,797,924)	-0.83%
Total Non-Current Liabilities	**2,508,792,303**	**2,478,195,184**	**30,597,119**	**1.23%**
Total Liabilities	**2,621,589,390**	**2,591,900,016**	**29,689,375**	**1.15%**
Total Deferred Inflow of Resources	**97,927,099**	**85,995,123**	**11,931,976**	**13.88%**
Total Liabilities & Deferred Inflow of Resources	**2,719,516,489**	**2,677,895,139**	**41,621,350**	**1.55%**
Net Position	**787,569,714**	**770,551,592**	**17,018,122**	**2.21%**
Total Liabilities, Deferred Inflow of Resources and Net Position	**3,507,086,203**	**3,448,446,731**	**58,639,472**	**1.70%**

Financial Statement Overview

Revenues:

- Total Operating Revenue is $212.5 million compared to a budget of $206.8 million, an increase of $5.7 million, or 2.8%. Total Operating Revenue is $10.0 million, or 7.1%, higher than one year ago.

- Wastewater Service Charges total $157.5 million compared to a budget of $154.7 million. This is an increase of $2.8 million, or 1.8%. Wastewater Service Charges are $10.3 million, or 7.1%, higher than the same period last year. The year over year increase is being driven by a 6.9% rate increase enacted on August 1, 2019. Additionally, residential water consumption was 350 million gallons higher during the months of August, September, and October 2019 compared to the prior year due to dry weather conditions. This resulted in about $1.6 million in additional wastewater service charge revenue.

- Stormwater Service Charges are $49.8 million compared to a budget of $49.4 million. This is an increase of $0.4 million, or 0.8%. Stormwater Service Charges are trending in line with budget projections for FY20. Stormwater Service Charges are $3.5 million, or 7.6%, higher than last year. The year over year increase is being driven by a 6.9% rate increase enacted on August 1, 2019.

- Other Income totals $5.0 million compared to a budget of $2.6 million. This is an increase of $2.4 million, or 92.8%. Capacity Charges are driving the positive budget variance for Total Operating Revenue as well. Other Income is $1.5 million, or 43.4%, higher than last year.

Operating Expenses:

- Service & Administrative costs total $93.3 million compared to a budget of $97.9 million, a favorable variance of $4.5 million, or 4.7%. Chemicals and Bad Debt continue to run high to budget ($0.2 million combined). Salaries, Labor Related Overhead, Contractual Services and Other Operating Expenses are trending below budget ($4.7 million combined). Service and Administrative costs are $0.02 million, or 0.03%, higher than last year.

- Depreciation and Amortization expense totals $65.2 million compared to a budget of $60.0 million. This is an increase of $5.2 million, or 8.7%. There were several large capital projects that were capitalized at June 30, 2019 that were not accounted for in the depreciation budget developed in the spring of 2019 and these items are driving the budget variance in FY20. Depreciation and Amortization expenses is $12.3 million higher, or 23.4%, than one year ago.

- Total Operating Expenses are $136.6 million compared to a budget of $132.4 million. This is an increase of $4.1 million, or 3.1%. Total Operating Expenses are $13.4 million, or 10.9%, higher than the same period last year.

Net Income:

- Net Operating Income (NOI) is $75.9 million compared to a budget of $74.3 million. This is an increase of $4.1 million, or 2.1%, and is $2.0 million, or 2.7%, higher than one year ago.

- Investment Income is $11.0 million compared to a budget of $10.2 million. This is an increase of $0.8 million, or 7.5%. Investment income is $0.2 million, or 8.1%, lower than one year ago.

- Interest expense is $57.5 million, or 4.5%, higher than budget. This variance is being driven by lower capitalized interest in FY20. Interest expense is $4.0 million, or 7.5%, higher than last year.

- Change in Net Position before Swaps totaled $29.4 million compared to a budget of $29.5 million. This is a decrease of $0.09 million, or 0.3%, and is $2.4 million, or 7.6%, lower than one year ago. Change in Net Position including the mark to market change on swaps totaled $17.0 million compared to $31.0 million on year ago, a difference of $14 million, or 45.2%.

SUPPLEMENTAL FINANCIAL REPORTING

The supplemental financial reporting section is provided for additional insights into various components of the financial statements.

Number of Customers & Revenue by Customer Class

Table 35 – Customers and Revenue by Customer Class

	Number of Customers February		Revenue Per Customer Class February		Budget Per Customer Class February	
	FY 2020	**FY 2019**	**FY 2020**	**FY 2019**	**FY 2020**	**FY 2019**
Wastewater						
Residential	220,969	221,359	11,250,704	10,677,734	10,325,942	9,931,599
Commercial	21,365	21,433	5,095,301	4,744,946	4,863,908	4,678,158
Industrial	393	386	1,960,792	1,234,166	1,837,748	1,767,566
Sub-Total:	242,727	243,178	18,306,797	16,656,846	17,027,598	16,377,323
Stormwater						
Residential	215,628	215,114	2,522,153	2,461,642	2,447,354	2,251,458
Commercial	14,840	14,896	3,469,744	3,272,604	3,445,557	3,169,762
Industrial	311	299	391,378	330,604	347,760	319,924
Sub-Total:	230,779	230,309	6,383,275	6,064,850	6,240,672	5,741,144
Grand Total:			**$ 24,690,072**	**$ 22,721,696**	**$ 23,268,269**	**$ 22,118,467**

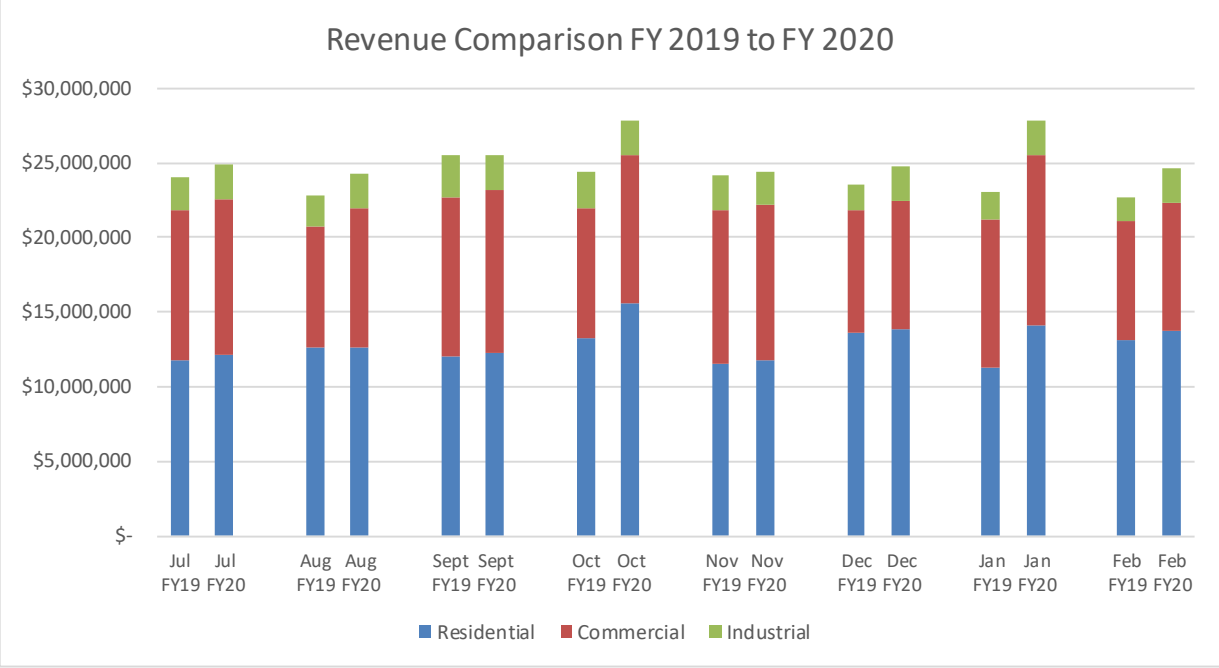
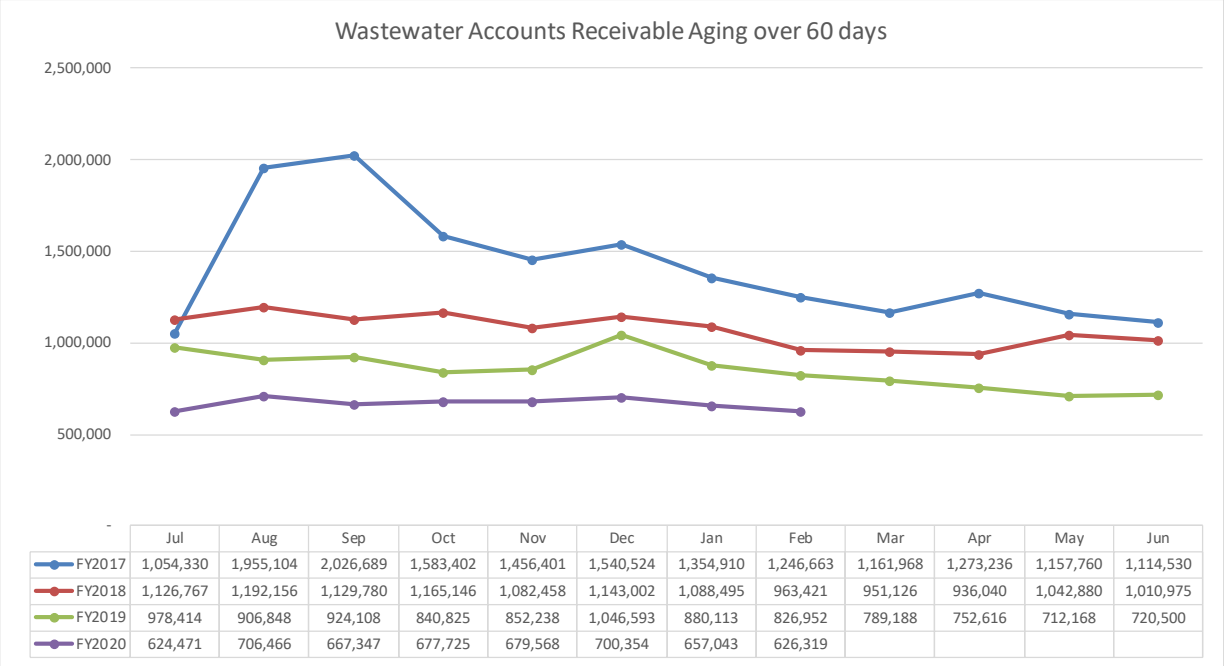


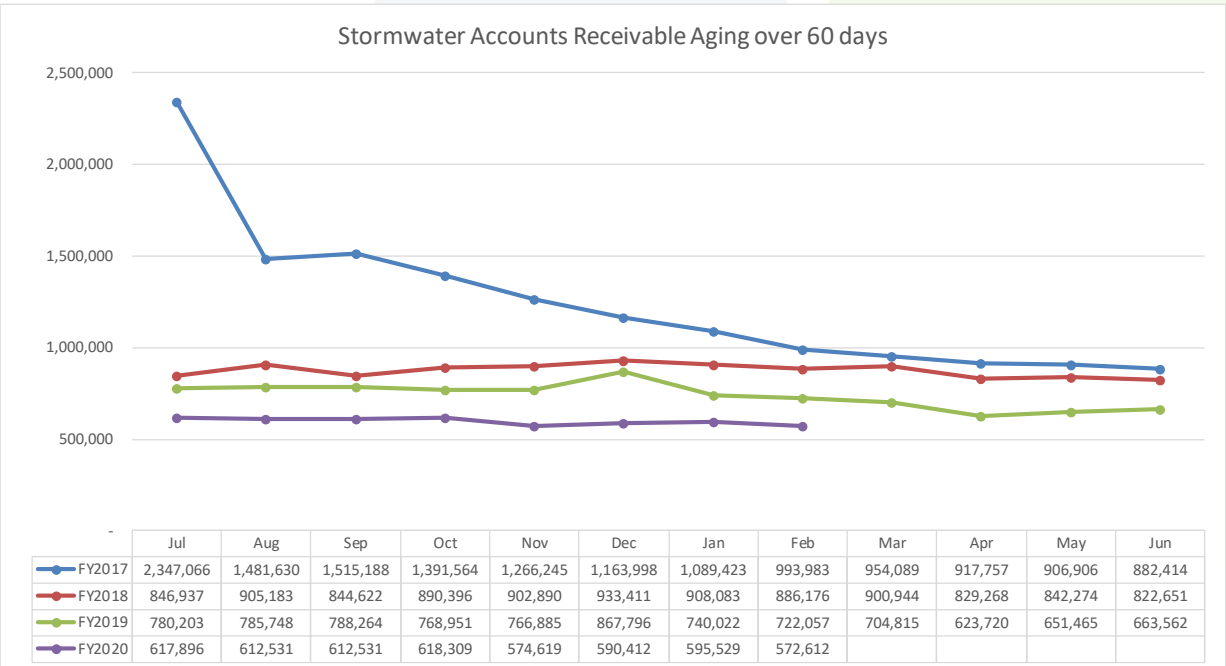
Figure 3 – Revenue Comparison FY 2019 to FY20 Charts

Accounts Receivable Aging

The following charts reflect MSD customer account balances unpaid 60 days or more after the invoice due date for Wastewater and Stormwater accounts. These accounts represent past due balances and are at a higher risk of write off.



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY2017	1,054,330	1,955,104	2,026,689	1,583,402	1,456,401	1,540,524	1,354,910	1,246,663	1,161,968	1,273,236	1,157,760	1,114,530
FY2018	1,126,767	1,192,156	1,129,780	1,165,146	1,082,458	1,143,002	1,088,495	963,421	951,126	936,040	1,042,880	1,010,975
FY2019	978,414	906,848	924,108	840,825	852,238	1,046,593	880,113	826,952	789,188	752,616	712,168	720,500
FY2020	624,471	706,466	667,347	677,725	679,568	700,354	657,043	626,319				



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY2017	2,347,066	1,481,630	1,515,188	1,391,564	1,266,245	1,163,998	1,089,423	993,983	954,089	917,757	906,906	882,414
FY2018	846,937	905,183	844,622	890,396	902,890	933,411	908,083	886,176	900,944	829,268	842,274	822,651
FY2019	780,203	785,748	788,264	768,951	766,885	867,796	740,022	722,057	704,815	623,720	651,465	663,562
FY2020	617,896	612,531	612,531	618,309	574,619	590,412	595,529	572,612				

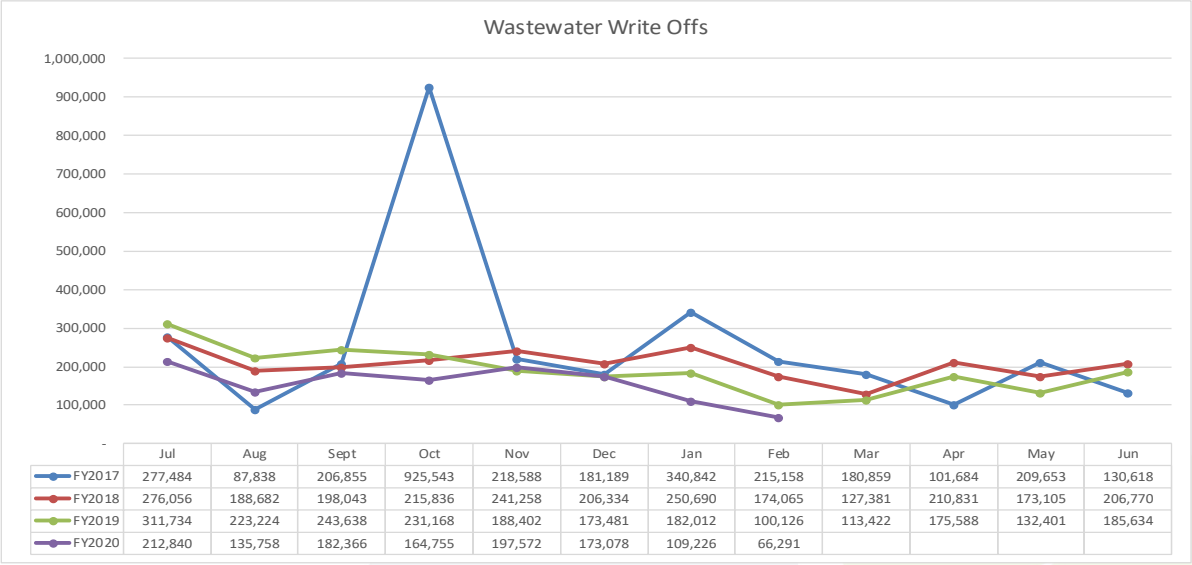
Figure 4 –Accounts Receivable Aging Charts

Wastewater & Stormwater Bad Debt

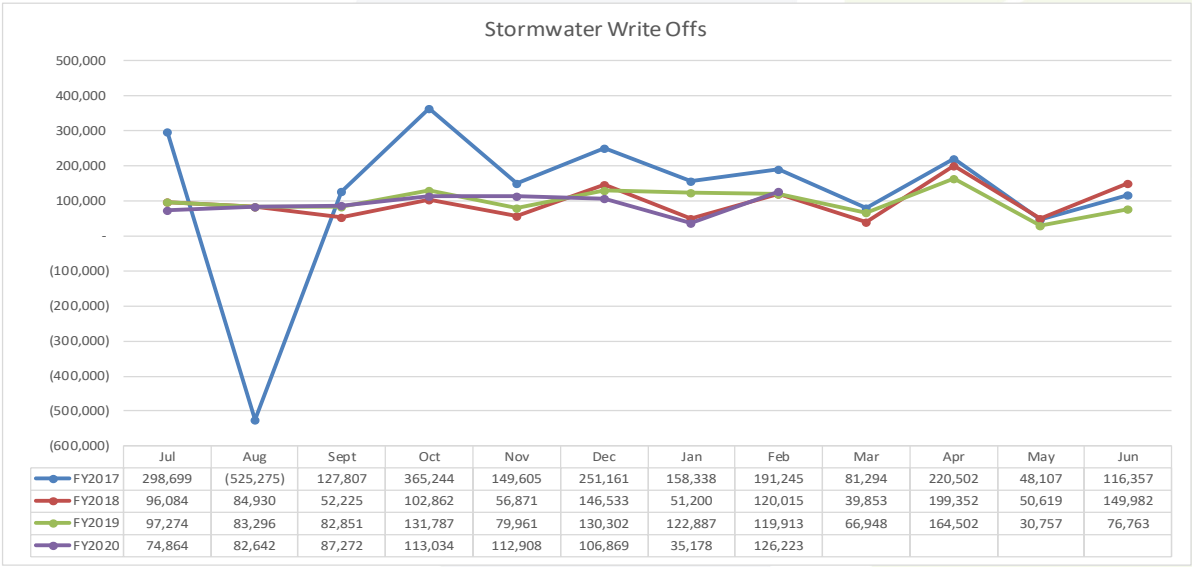
MSD uses the Allowance method to account for its accounts receivable. Bad Debt expense is recorded on a monthly basis to maintain the Allowance based on historical collection experience and a review of current account balances. Accounts that remain outstanding after management has exerted reasonable collection efforts are write off through a charge to allowance for doubtful accounts and a credit to accounts receivable. Accounts written off are turned over to a third party for subsequent collection efforts.

Wastewater write offs as a percentage of revenue were 0.36% for the month of February and are 0.78% year to date. This is below the FY19 percentage of 1.04%. Stormwater write offs as a percentage of revenue were 1.98% for the month of January and are 1.49% year to date. This is below the FY19 percentage of 1.72%.

The following charts reflect monthly write offs of uncollectible Wastewater and Stormwater accounts.



	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY2017	277,484	87,838	206,855	925,543	218,588	181,189	340,842	215,158	180,859	101,684	209,653	130,618
FY2018	276,056	188,682	198,043	215,836	241,258	206,334	250,690	174,065	127,381	210,831	173,105	206,770
FY2019	311,734	223,224	243,638	231,168	188,402	173,481	182,012	100,126	113,422	175,588	132,401	185,634
FY2020	212,840	135,758	182,366	164,755	197,572	173,078	109,226	66,291				



	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY2017	298,699	(525,275)	127,807	365,244	149,605	251,161	158,338	191,245	81,294	220,502	48,107	116,357
FY2018	96,084	84,930	52,225	102,862	56,871	146,533	51,200	120,015	39,853	199,352	50,619	149,982
FY2019	97,274	83,296	82,851	131,787	79,961	130,302	122,887	119,913	66,948	164,502	30,757	76,763
FY2020	74,864	82,642	87,272	113,034	112,908	106,869	35,178	126,223				

Figure 5 –Wastewater and Stormwater Bad Debt Charts

Comparative Operating Budget Performance

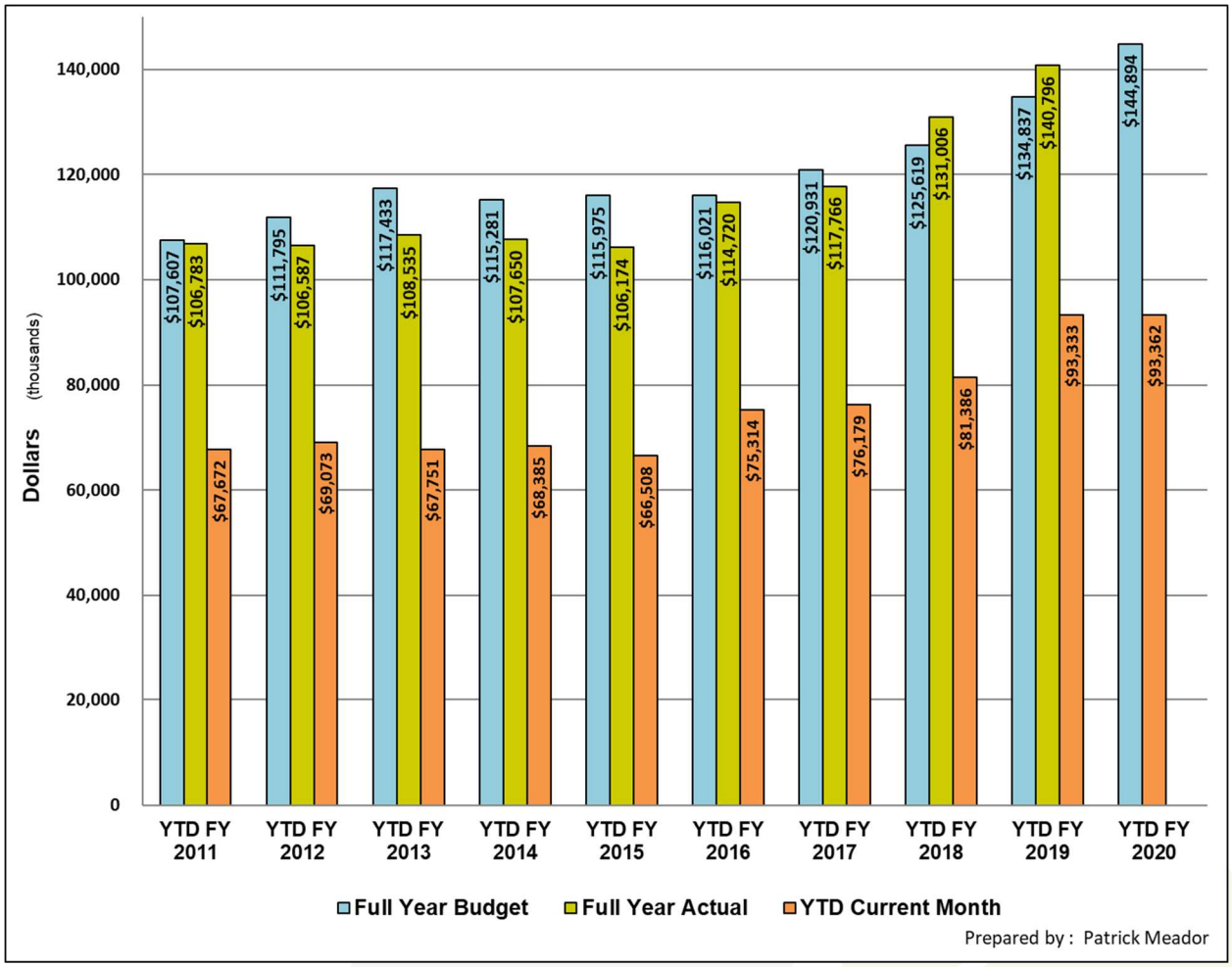


Figure 6 – Comparative Operating Budget Performance Chart

Comparative Total Operating Budget Expenditures

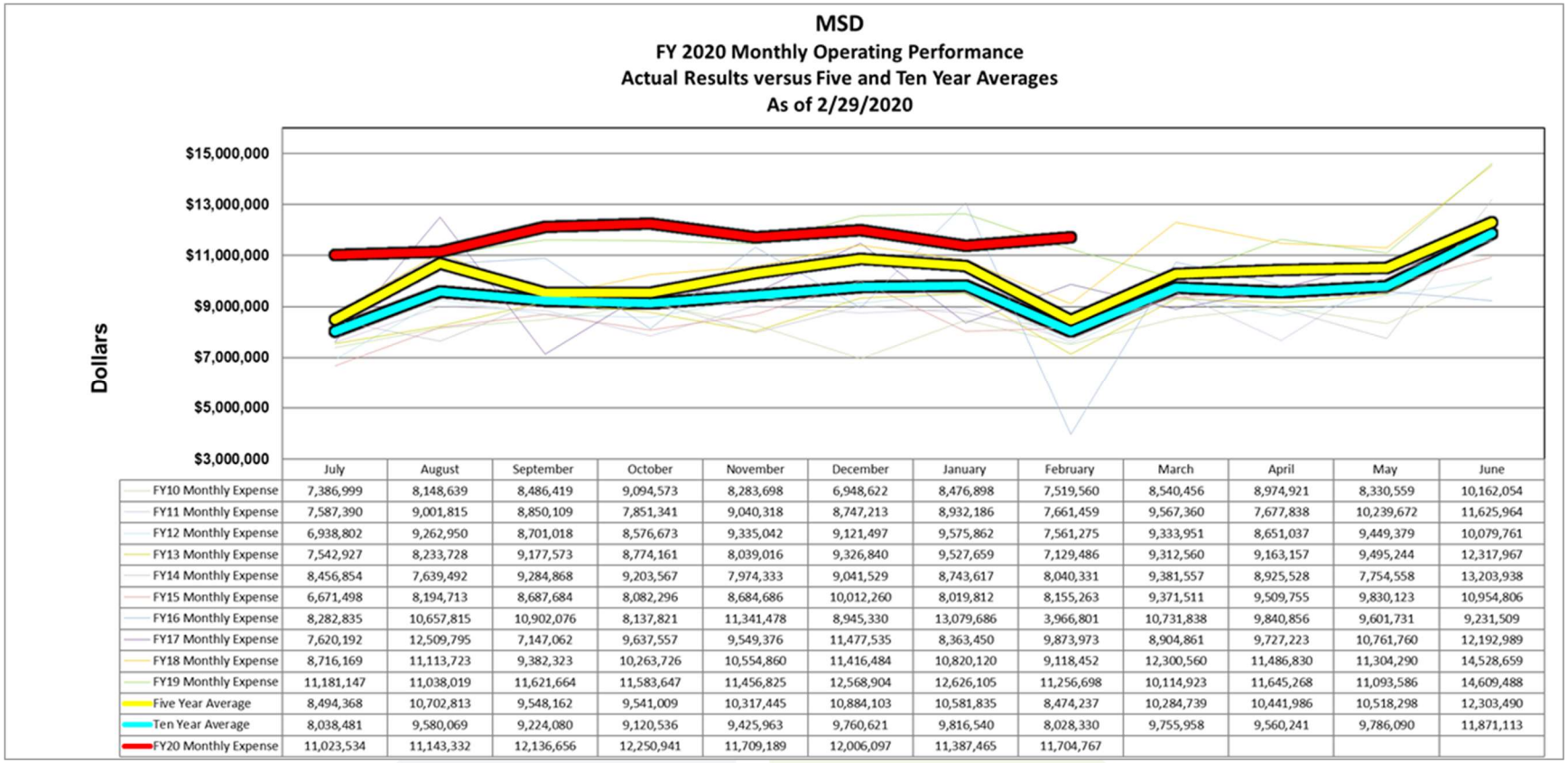
Table 36 – FY20 Operating Expense

		YTD Actuals											
Fiscal Year	**Annual Budget**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
FY15	115,975,014	6,671,498	14,866,211	23,553,895	31,636,191	40,321,276	50,333,536	58,353,348	66,508,611	75,879,722	85,389,477	95,219,201	106,174,406
FY16	116,021,156	7,762,835	16,440,660	28,342,724	37,926,793	46,102,024	58,298,571	68,378,257	75,313,842	86,045,680	95,886,535	105,489,677	114,719,776
FY17	120,930,511	7,620,192	20,131,479	27,277,326	36,914,606	46,463,982	57,941,517	66,304,967	76,178,939	85,083,800	94,811,091	105,572,784	117,765,773
FY18	125,619,049	8,716,633	19,830,607	29,212,214	39,475,941	50,030,801	61,447,285	72,267,405	81,385,856	93,686,417	105,173,247	116,477,537	131,006,196
FY19	134,837,024	11,181,510	22,219,166	33,840,830	45,424,477	56,881,302	69,450,206	82,076,580	93,333,009	103,447,932	115,093,201	126,186,788	140,796,276
FY20	144,894,334	11,022,883	22,166,195	34,303,521	46,554,463	58,263,652	70,269,749	81,657,215	93,361,982				
		Percent Expended YTD of Total Actual											
FY15		6.28%	14.00%	22.18%	29.80%	37.98%	47.41%	54.96%	62.64%	71.47%	80.42%	89.68%	100.00%
FY16		6.77%	14.33%	24.71%	33.06%	40.19%	50.82%	59.60%	65.65%	75.01%	83.58%	91.95%	100.00%
FY17		6.47%	17.09%	23.16%	31.35%	39.45%	49.20%	56.30%	64.69%	72.25%	80.51%	89.65%	100.00%
FY18		6.65%	15.14%	22.30%	30.13%	38.19%	46.90%	55.16%	62.12%	71.51%	80.28%	88.91%	100.00%
FY19		7.94%	15.78%	24.04%	32.26%	40.40%	49.33%	58.29%	66.29%	73.47%	81.74%	89.62%	100.00%
	5 Year Average	6.82%	15.27%	23.28%	31.32%	39.24%	48.73%	56.86%	64.28%	72.74%	81.31%	89.96%	100.00%
		Performance Matrix Results - FY19											
FY19 YTD Budget		12,393,613	25,003,405	36,272,823	47,446,810	59,055,598	70,597,955	79,911,548	90,168,171	101,859,456	112,641,582	124,345,473	134,837,024
FY19 YTD Total		11,181,510	22,219,166	33,840,830	45,424,477	56,881,302	69,450,206	82,076,580	93,333,009	103,447,932	115,093,201	126,186,788	140,796,276
Variance of Actual to Budget		(1,212,103)	(2,784,239)	(2,431,993)	(2,022,333)	(2,174,296)	(1,147,749)	2,165,032	3,164,838	1,588,476	2,451,619	1,841,315	5,959,252
FY19 Performance Level Matrix Results		**90.22%**	**88.86%**	**93.30%**	**95.74%**	**96.32%**	**98.37%**	**102.71%**	**103.51%**	**101.56%**	**102.18%**	**101.48%**	**104.42%**
		Performance Matrix Results - FY20											
FY20 YTD Budget		12,622,114	25,860,317	37,867,298	50,002,244	62,573,202	74,943,028	86,701,893	97,941,113	109,345,922	120,875,627	133,474,142	144,894,335
FY20 YTD Total		11,022,883	22,166,195	34,303,521	46,554,463	58,263,652	70,269,749	81,657,215	93,361,982	0	0	0	0
Variance of Actual to Budget		(1,599,231)	(3,694,122)	(3,563,777)	(3,447,781)	(4,309,550)	(4,673,279)	(5,044,678)	(4,579,131)	(109,345,922)	(120,875,627)	(133,474,142)	(144,894,335)
FY20 Performance Level Matrix Results		**87.33%**	**85.72%**	**90.59%**	**93.10%**	**93.11%**	**93.76%**	**94.18%**	**95.32%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Budget Matrix Results				
	Budget	**Actual**	**Percentage**	**5 Yr Average**
FY15	115,975,014	106,174,406	91.55%	**99.30%**
FY16	116,021,156	114,719,776	98.88%	
FY17	120,930,511	117,765,773	97.38%	
FY18	125,619,049	131,006,196	104.29%	
FY19	134,837,024	140,796,276	104.42%	

ASSUMPTIONS: Matrix results assume a typical weather year and no extraordinary events exceeding contingency reserve.

Comparative Monthly Operating Expenditures



	July	August	September	October	November	December	January	February	March	April	May	June
FY10 Monthly Expense	7,386,999	8,148,639	8,486,419	9,094,573	8,283,698	6,948,622	8,476,898	7,519,560	8,540,456	8,974,921	8,330,559	10,162,054
FY11 Monthly Expense	7,587,390	9,001,815	8,850,109	7,851,341	9,040,318	8,747,213	8,932,186	7,661,459	9,567,360	7,677,838	10,239,672	11,625,964
FY12 Monthly Expense	6,938,802	9,262,950	8,701,018	8,576,673	9,335,042	9,121,497	9,575,862	7,561,275	9,333,951	8,651,037	9,449,379	10,079,761
FY13 Monthly Expense	7,542,927	8,233,728	9,177,573	8,774,161	8,039,016	9,326,840	9,527,659	7,129,486	9,312,560	9,163,157	9,495,244	12,317,967
FY14 Monthly Expense	8,456,854	7,639,492	9,284,868	9,203,567	7,974,333	9,041,529	8,743,617	8,040,331	9,381,557	8,925,528	7,754,558	13,203,938
FY15 Monthly Expense	6,671,498	8,194,713	8,687,684	8,082,296	8,684,686	10,012,260	8,019,812	8,155,263	9,371,511	9,509,755	9,830,123	10,954,806
FY16 Monthly Expense	8,282,835	10,657,815	10,902,076	8,137,821	11,341,478	8,945,330	13,079,686	3,966,801	10,731,838	9,840,856	9,601,731	9,231,509
FY17 Monthly Expense	7,620,192	12,509,795	7,147,062	9,637,557	9,549,376	11,477,535	8,363,450	9,873,973	8,904,861	9,727,223	10,761,760	12,192,989
FY18 Monthly Expense	8,716,169	11,113,723	9,382,323	10,263,726	10,554,860	11,416,484	10,820,120	9,118,452	12,300,560	11,486,830	11,304,290	14,528,659
FY19 Monthly Expense	11,181,147	11,038,019	11,621,664	11,583,647	11,456,825	12,568,904	12,626,105	11,256,698	10,114,923	11,645,268	11,093,586	14,609,488
Five Year Average	8,494,368	10,702,813	9,548,162	9,541,009	10,317,445	10,884,103	10,581,835	8,474,237	10,284,739	10,441,986	10,518,298	12,303,490
Ten Year Average	8,038,481	9,580,069	9,224,080	9,120,536	9,425,963	9,760,621	9,816,540	8,028,330	9,755,958	9,560,241	9,786,090	11,871,113
FY20 Monthly Expense	11,023,534	11,143,332	12,136,656	12,250,941	11,709,189	12,006,097	11,387,465	11,704,767				

(February Average & Actual results lower due to short period's impact on Salary & Labor Related Overhead expenses.)

FY16 February decrease due to reclasses of $6.5mil for Bad Debt and $2.0mil for Capital expenses from Operating, and also recording insurance reimbursements of $1.750mil for flooding at MFWTP.

Figure 7 – Comparative Monthly Operating Expenditures

Operating Expense Summary

Table 37 – Operating Expense Summary

Operating Expenses	FY20 YTD Budget	FY20 YTD Actual	FY19 YTD Actual	Variance Actual to Budget	Variance Actual to Prior Year
Salaries & Wages	34,401,665	33,143,052	31,964,834	(1,258,613)	1,178,218
Labor Related Overhead	17,422,490	15,721,529	14,673,821	(1,700,961)	1,047,708
Utilities	12,097,033	11,868,419	12,255,809	(228,614)	(387,391)
Materials & Supplies	4,500,539	4,671,248	5,666,006	170,709	(994,758)
Contractual Services	20,445,465	20,238,723	19,124,981	(206,742)	1,113,742
Chemicals	3,072,107	3,108,142	3,215,963	36,035	(107,821)
Fuel	947,700	807,301	936,159	(140,399)	(128,859)
Insurance Premiums & Claims	1,414,602	1,381,859	1,377,455	(32,743)	4,405
Bad Debt	2,000,000	2,150,615	2,756,608	150,615	(605,993)
Other Operating Expense	1,639,512	1,031,284	1,354,775	(608,228)	(323,491)
Mapping Recovery - LOJIC	0	(760,189)	0	(760,189)	(760,189)
System Roll-up Variance	0	0	6,598	0	(6,598)
TOTAL	97,941,113	93,361,982	93,333,009	(4,579,131)	28,973

DIVISIONS	FY20 YTD Budget	FY20 YTD Actual	FY19 YTD Actual	Variance Actual to Budget	Variance Actual to Prior Year
Corporate Costs	7,348,012	8,667,736	10,264,909	1,319,724	(1,597,173)
Engineering	8,851,115	7,351,208	6,990,200	(1,499,907)	361,008
Executive	6,402,174	5,754,617	5,235,164	(647,557)	519,453
Finance	2,079,391	1,807,582	1,815,413	(271,809)	(7,831)
Human Resources	1,833,432	1,843,812	1,476,897	10,380	366,915
Information Technology	7,185,859	6,836,516	4,951,347	(349,343)	1,885,170
Legal Services	2,490,090	1,388,312	1,615,053	(1,101,778)	(226,740)
OPERATIONS GROUP	59,793,783	58,631,228	59,978,176	(1,162,555)	(1,346,948)
Supply Chain	1,957,257	1,841,159	999,254	(116,098)	841,905
Mapping Recovery - LOJIC	0	(760,189)	0	(760,189)	(760,189)
System Roll-up Variance	0	0	6,598	0	(6,598)
TOTAL	97,941,113	93,361,982	93,333,009	(4,579,131)	28,973

OPERATIONS GROUP	FY20 YTD Budget	FY20 YTD Actual	FY19 YTD Actual	Variance Actual to Budget	Variance Actual to Prior Year
COLLECTIONS - (Metro)	17,500,108	20,749,766	19,374,847	3,249,658	1,374,919
DRAINAGE & FP - (I&FP)	11,127,124	9,256,924	8,893,353	(1,870,200)	363,571
PERFORMANCE	881,446	410,969	523,583	(470,477)	(112,613)
SUPPORT - (Phy Assets)	5,934,593	5,002,462	6,205,987	(932,131)	(1,203,526)
TREATMENT - (MFWTP)	24,350,512	23,211,107	24,980,406	(1,139,405)	(1,769,300)
Operations Group Total	59,793,783	58,631,228	59,978,176	(1,162,555)	(1,346,949)

Operating Expense by Division

Table 38 – Operating Expense by Division

	CORPORATE COSTS		ENGINEERING		EXECUTIVE		FINANCE		HUMAN RESOURCES	
Operating Expenses	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act
Salaries & Wages	(1,688,534)	10,700	5,700,472	4,790,718	2,476,096	2,455,084	1,225,941	1,086,081	1,057,312	1,025,683
Labor Related Overhead	1,342,322	960,965	2,551,619	2,078,753	1,022,439	1,027,244	548,822	465,873	451,929	620,403
Utilities	0	0	2,893	3,636	265,830	255,197	0	89	0	0
Materials & Supplies	0	851	73,236	37,932	232,327	100,662	37,668	6,869	11,150	11,745
Contractual Services	4,287,622	4,152,489	409,225	337,024	1,798,368	1,500,638	210,883	223,374	257,965	156,214
Chemicals	0	0	0	0	0	0	0	0	0	0
Fuel	0	0	0	0	0	(150)	0	0	0	0
Insurance Premiums & Claims	1,406,602	1,376,017	0	0	0	0	0	0	0	0
Bad Debt	2,000,000	2,150,615	0	0	0	0	0	0	0	0
Other Operating Expense	0	16,100	113,670	103,145	607,114	415,942	56,077	25,296	55,076	29,768
Settlement Accounts	0	0	0	0	0	0	0	0	0	0
Mapping Recovery - LOJIC	0	0	0	0	0	0	0	0	0	0
System Roll-up Variance	0	0	0	0	0	0	0	0	0	0
Total	7,348,012	8,667,736	8,851,115	7,351,208	6,402,174	5,754,617	2,079,391	1,807,582	1,833,432	1,843,812

	INFORMATION TECHNOLOGY		LEGAL		OPERATIONS GROUP		SUPPLY CHAIN		TOTAL	
Operating Expenses	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act
Salaries & Wages	1,984,571	1,857,795	789,807	523,545	21,757,082	20,270,341	1,098,918	1,123,103	34,401,665	33,143,052
Labor Related Overhead	867,327	706,769	330,567	196,041	9,807,915	9,210,609	499,550	454,873	17,422,490	15,721,529
Utilities	875,800	677,600	0	44	10,952,510	10,931,853	0	0	12,097,033	11,868,419
Materials & Supplies	535,242	167,471	20,004	2,689	3,560,337	4,334,301	30,575	8,729	4,500,539	4,671,248
Contractual Services	2,771,805	3,397,746	1,304,612	628,209	9,234,041	9,649,912	170,944	193,117	20,445,465	20,238,723
Chemicals	0	0	0	0	3,072,107	3,108,142	0	0	3,072,107	3,108,142
Fuel	0	0	0	0	947,700	807,451	0	0	947,700	807,301
Insurance Premiums & Claims	0	0	0	5,843	8,000	(0)	0	0	1,414,602	1,381,859
Bad Debt	0	0	0	0	0	0	0	0	2,000,000	2,150,615
Other Operating Expense	151,114	29,135	45,100	31,942	454,091	318,619	157,270	61,337	1,639,512	1,031,284
Settlement Accounts	0	0	0	0	0	0	0	0	0	0
Mapping Recovery - LOJIC	0	0	0	0	0	0	0	0	0	(760,189)
System Roll-up Variance	0	0	0	0	0	0	0	0	0	0
Total	7,185,859	6,836,516	2,490,090	1,388,312	59,793,783	58,631,228	1,957,257	1,841,159	97,941,113	93,361,982

Operating Expense by Division - Continued

	COLLECTIONS		DRAINAGE & FP		PERFORMANCE MATRIX	
Operating Expenses	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act
Salaries & Wages	8,036,490	12,354,541	4,201,415	1,420,844	572,883	284,120
Labor Related Overhead	3,578,613	3,379,558	1,962,477	1,854,556	293,903	127,138
Utilities	2,130,000	1,574,410	2,923,834	3,742,397	0	0
Materials & Supplies	1,209,365	1,346,921	636,931	729,028	3,200	2,061
Contractual Services	1,830,198	1,355,015	1,333,003	1,487,181	4,770	(2,882)
Chemicals	623,050	679,207	0	1,018	0	0
Fuel	8,000	9,251	5,000	1,916	0	0
Insurance Premiums & Claims	0	0	8,000	0	0	0
Bad Debt	0	0	0	0	0	0
Other Operating Expense	84,392	50,862	56,464	19,985	6,690	533
Settlement Accounts	0	0	0	0	0	0
Mapping Recovery - LOJIC	0	0	0	0	0	0
System Roll-up Variance	0	0	0	0	0	0
Total	17,500,108	20,749,766	11,127,124	9,256,924	881,446	410,969

	SUPPORT		TREATMENT		OPERATIONS GROUP	
Operating Expenses	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act	FY20 YTD Bud	FY20 YTD Act
Salaries & Wages	2,251,961	2,066,188	6,694,333	4,144,649	21,757,082	20,270,341
Labor Related Overhead	991,990	919,834	2,980,932	2,929,523	9,807,915	9,210,609
Utilities	0	0	5,898,676	5,615,046	10,952,510	10,931,853
Materials & Supplies	1,118,243	904,239	664,598	1,352,052	3,632,337	4,334,301
Contractual Services	563,009	281,549	5,431,061	6,529,049	9,162,041	9,649,912
Chemicals	0	0	2,449,057	2,427,916	3,072,107	3,108,142
Fuel	924,335	792,315	10,365	3,969	947,700	807,451
Insurance Premiums & Claims	0	0	0	0	8,000	0
Bad Debt	0	0	0	0	0	0
Other Operating Expense	85,055	38,336	221,490	208,903	454,091	318,619
Settlement Accounts	0	0	0	0	0	0
Mapping Recovery - LOJIC	0	0	0	0	0	0
System Roll-up Variance	0	0	0	0	0	0
Total	5,934,593	5,002,462	24,350,512	23,211,107	59,793,783	58,631,228

Staffing by Division

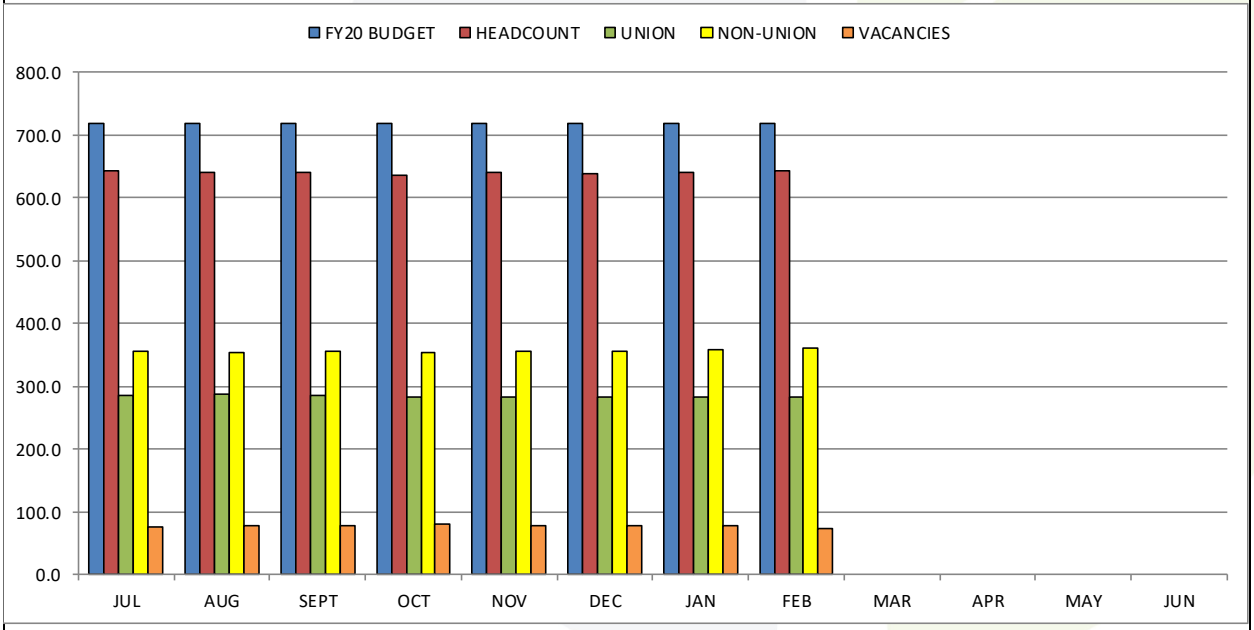
Table 39 – Staffing by Division

FY 2020
MSD STAFFING
February

	UNION	NON-UNION	HEADCOUNT	VACANCIES	FY20 BUDGET
ENGINEERING	0.0	87.0	87.0	14.0	101.0
EXECUTIVE	0.0	44.0	44.0	3.0	47.0
FINANCE	0.0	21.0	21.0	4.0	25.0
HUMAN RESOURCES	0.0	16.0	16.0	2.0	18.0
INFORMATION TECH	0.0	30.0	30.0	2.0	32.0
LEGAL	0.0	7.0	7.0	4.0	11.0
OPERATIONS	284.0	133.0	417.0	44.0	461.0
SUPPLY CHAIN	0.0	22.0	22.0	1.0	23.0
ALL DIVISIONS	284.0	360.0	644.0	74.0	718.0

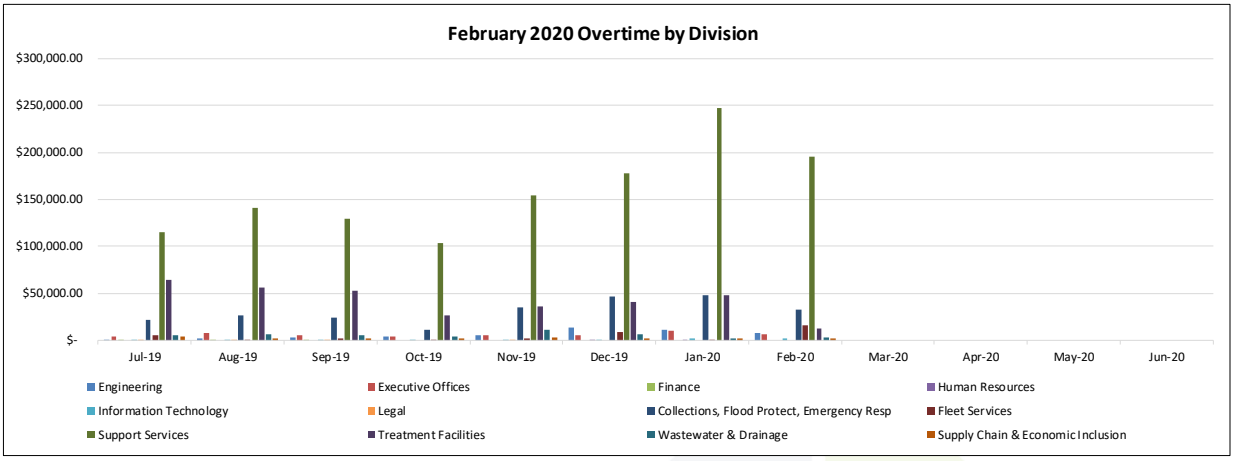
(Non-Union and Headcount Totals include One Water Employees that are listed in Figure 12.)

Prior Month - January	283.0	358.0	641.0	77.0	718.0
Prior Month - December	282.0	357.0	639.0	79.0	718.0
Prior Month - November	283.0	354.0	637.0	81.0	718.0
Prior Month - October	283.0	354.0	637.0	81.0	718.0
Prior Month - September	285.0	355.0	640.0	78.0	718.0
Prior Month - August	288.0	353.0	641.0	77.0	718.0
Prior Month - July	286.0	357.0	643.0	75.0	718.0



Overtime by Division

This report below represents a look into MSD's overtime expense on a month to month basis while comparing it to last year's total. For the month of February, MSD's total overtime expense decreased by 21% as compared to this time last year, with year to date totals continuing to be over budget.



February 2020 YTD Overtime	
Engineering	46,847.68
Executive Offices	48,840.24
Finance	1,543.83
Human Resources	278.52
Information Technology	6,189.67
Legal	389.07
Collections, Flood Protection, & Emergency Resp	246,678.79
Fleet Services	36,981.18
Supply Chain & Economic Inclusion	18,499.74
Support Services	1,262,728.43
Treatment Facilities	335,344.04
Wastewater & Drainage	46,691.58
YTD Total:	**2,051,012.77**
YTD Budget:	**1,695,539.00**

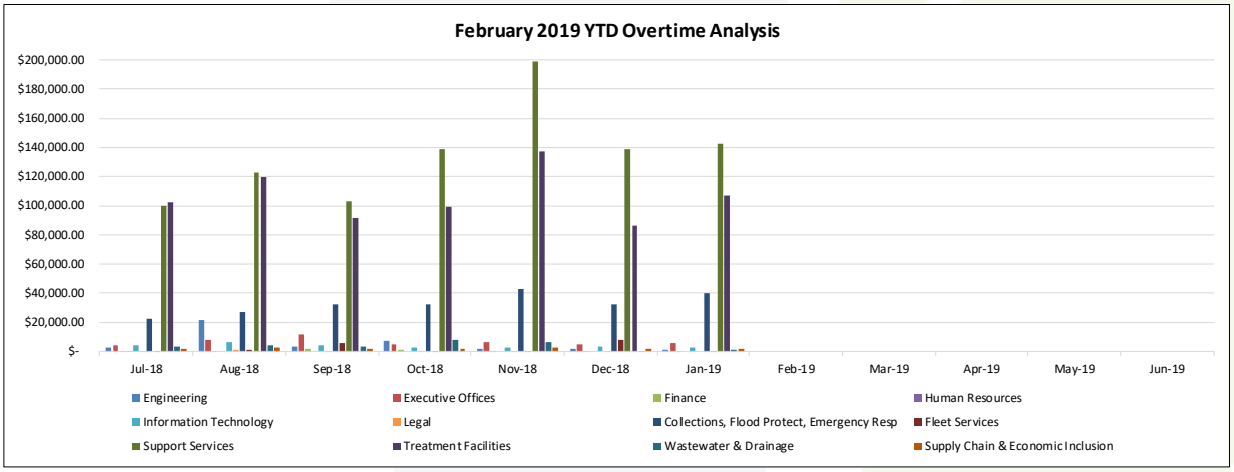


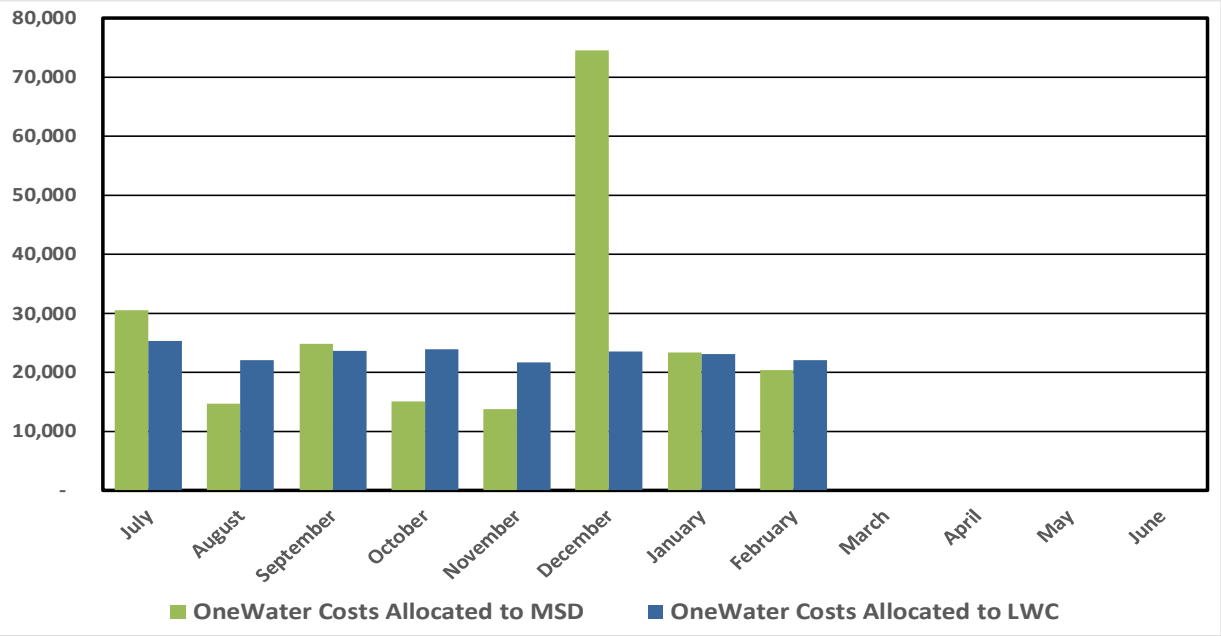
Figure 8 – Overtime by Division Chart

One Water Open Work Orders

The following tables display existing Work Orders between MSD and Louisville Water Company (LWC) for One Water costs. Work orders dictate the manner in which the expense is allocated between MSD and LWC. Work orders currently exist for One Water employee labor costs and for One Water projects.

Table 40 – One Water Open Work Orders

(This schedule only shows MSD related costs from Shared Services and does not reflect overall OneWater benefits/savings. Increasing the number of Shared Services Agreements will result in increasing OneWater benefits/savings.)



OneWater Costs Allocated to MSD by Shared Service Contract

Shared Service	MSD%	LWC%	July	August	September	October	November	December	January	February	March	April	May	June	TOTAL
Billing Services Feasability Study	50%	50%	-	-	-	-	-	47,739	-	-	-	-	-	-	47,739
Travel	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	47,739	-	-	-	-	-	-	47,739

OneWater Costs Allocated to LWC by Shared Service Contract

Shared Service	MSD%	LWC%	July	August	September	October	November	December	January	February	March	April	May	June	TOTAL
Billing Services Feasability Study	50%	50%	-	-	-	-	-	47,739	-	-	-	-	-	-	47,739
Travel	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-
			-	-	-	-	-	47,739	-	-	-	-	-	-	47,739

OneWater Costs Allocated to MSD by Employee

LWC OneWater Employees	MSD%	LWC%	July	August	September	October	November	December	January	February	March	April	May	June	TOTAL
IT Vice President	50%	50%	12,335	11,799	11,263	12,335	11,263	11,799	12,335	10,726	-	-	-	-	93,856
Project Liasion Director**	50%	50%	-	-	-	-	-	49,567	8,321	7,236	-	-	-	-	65,124
Vice President of Communications*	N/A	N/A	-	-	11,022	-	-	8,721	-	-	-	-	-	-	19,743
Manager of Education & Outreach*	N/A	N/A	-	-	-	-	-	1,822	-	-	-	-	-	-	1,822
Customer Service Director	25%	75%	15,473	268	-	-	-	-	-	-	-	-	-	-	15,741
Customer Service Manager	25%	75%	2,383	2,279	2,176	2,383	2,176	2,279	2,383	2,072	-	-	-	-	18,131
Customer Service Representative	20%	80%	431	431	431	431	431	431	431	431	-	-	-	-	3,446
			30,622	14,777	24,891	15,149	13,869	74,619	23,470	20,465	-	-	-	-	217,863

OneWater Costs Allocated to LWC by Employee

MSD OneWater Employees	MSD%	LWC%	July	August	September	October	November	December	January	February	March	April	May	June	TOTAL
Chief Innovations Officer*	N/A	N/A	11,938	8,758	8,816	10,124	7,920	9,677	9,436	7,714	-	-	-	-	74,383
Fleet Services Director	68%	32%	4,716	4,716	5,210	4,881	4,881	4,881	4,881	4,881	-	-	-	-	39,047
Fleet Services Administrator	68%	32%	3,368	3,368	3,595	3,443	3,443	3,443	3,443	3,443	-	-	-	-	27,547
Procurement Director	71%	29%	5,308	5,308	6,012	5,543	5,543	5,543	5,453	5,543	-	-	-	-	44,253
OneWater Buyer	60%	40%	-	-	-	-	-	-	-	522	-	-	-	-	522
			25,330	22,150	23,633	23,992	21,787	23,544	23,213	22,103	-	-	-	-	185,752

*Position work percentage is based on actual hours worked and fluctuates from month to month
**Project Liasion Director invoice covers period from June 2019 to December 2019.

CASH

The following section provides information on MSD's cash balances as well as actual and planned uses of cash.

Sources and Uses of Cash

The following schedule summarizes planned and actual sources and uses of cash for FY2020.

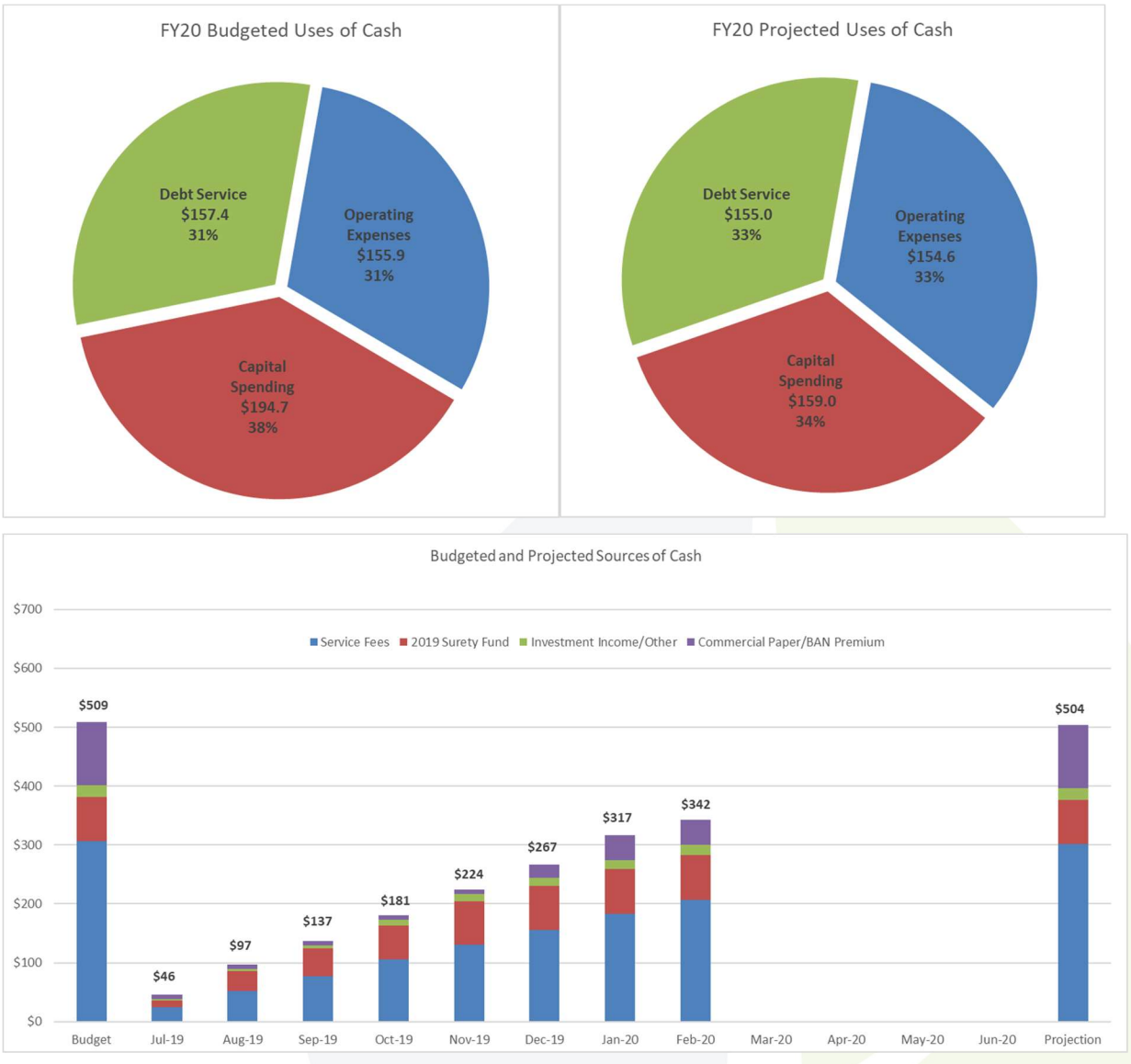


Figure 9 – Sources and Uses of Cash Charts

Revenue Fund Summary

Revenue Fund transactions are summarized by type for the last 12 months:

Table 41 – Revenue Fund Summary

Revenue Fund Actual Cash Activity
(000's)

	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
Revenue	26,133	31,802	24,726	29,499	26,389	28,241	30,184	31,863	25,481	33,726	26,470	27,766
Operating Expenses	(12,759)	(13,740)	(16,386)	(12,766)	(11,403)	(14,427)	(12,531)	(14,471)	(12,766)	(11,846)	(13,898)	(10,587)
Debit Service	(13,065)	(12,716)	(12,621)	(14,279)	(8,636)	(4,286)	(8,011)	(5,607)	(12,611)	(12,786)	(13,097)	(12,605)
Funds Available	309	5,346	(4,281)	2,454	6,351	9,528	9,642	11,785	103	9,094	(526)	4,574
Transfer In/Out	20,000	0	20,000	6,193	7,485	16,434	7,230	10,135	11,632	16,251	10,000	10,000
Captial Expenses	(9,040)	(10,555)	(9,695)	(14,066)	(12,622)	(8,199)	(10,477)	(11,635)	(17,899)	(10,382)	(8,956)	(13,886)
Net Change	11,269	(5,209)	6,024	(5,419)	1,214	17,763	6,395	10,284	(6,163)	14,963	518	689

Capital expense reflect total capital invoices paid in the month. Monthly spend numbers reported in the CIP Monthly Activity Report reflect capital invoices received during the period.

Revenue Fund & Construction Fund Balances

Revenue Fund and Construction Fund ending balances are summarized by type for the last 12 months below. The Construction Fund balances for February 2019 through May 2019 reflect only the Commercial Paper Construction Fund. Construction Fund balances for June 2019 through February 2020 include both the Surety Construction Fund and the Commercial Paper Construction Fund.

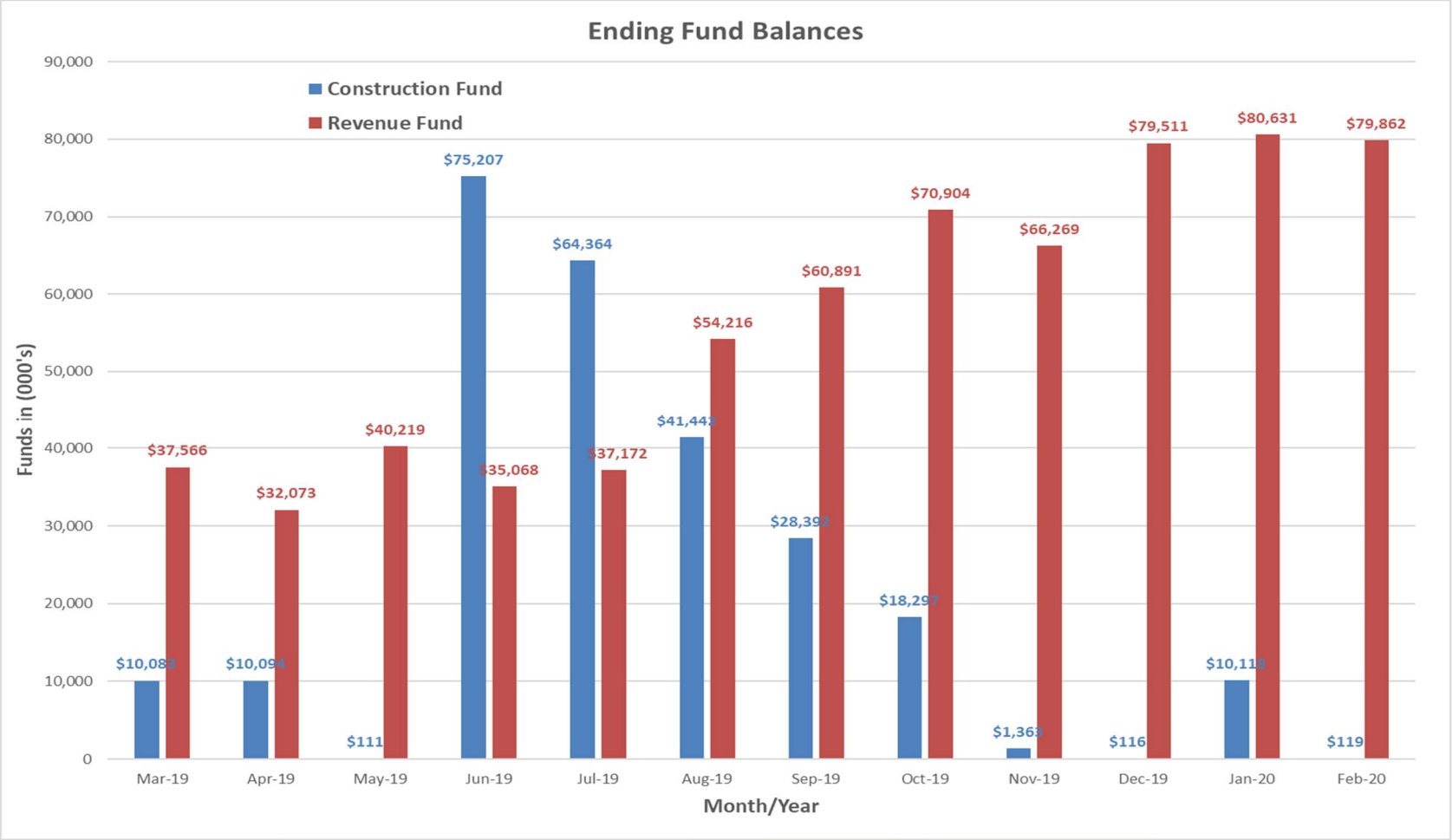


Figure 10 – Revenue Fund and Construction Fund Balances Chart

Commercial Paper Program Summary

MSD operates a $500 million Commercial Paper (CP) program to provide interim financing for its capital program. Liquidity support is provided by JP Morgan Chase and Bank of America, NA. Merrill Lynch, Pierce, Fenner & Smith Inc and JP Morgan Securities are dealers for the program. In February we rolled two $10 million CP note maturities, one $15 million maturity and one $5 million maturity. The average interest rate for the replacement CP notes was 1.10% and the new notes carry an average maturity of 84 days. In February we did not issued any new money CP.

The CP Construction Fund balance as of February 29th was $118,093.20. Outstanding CP notes are currently split 48.4% with JP Morgan and 51.6% with Bank of America.

CP Issuance Details

Currently Outstanding

Issuance Date	CUSIP	Principal	Rate	Term (# of days)	Maturity Date	Dealer (JPM/BAML)	Interest Cost	New Issuance or Roll?	SIFMA Index	Spread over (under) SIFMA
1/7/2020	**54658QBH6**	10,000,000	1.02%	62	3/9/2020	JPM	17,326.03	Roll	1.32%	-0.30%
1/10/2020	**54658NBF7**	20,000,000	1.04%	75	3/25/2020	BAML	42,739.73	Roll	0.94%	0.10%
1/13/2020	**54658NBG5**	10,000,000	1.03%	80	4/2/2020	BAML	22,575.34	New	0.94%	0.09%
1/14/2020	**54658NBH3**	10,000,000	1.03%	85	4/8/2020	BAML	23,986.30	Roll	0.94%	0.09%
1/16/2020	**54658QBJ2**	10,000,000	1.00%	120	5/15/2020	JPM	32,876.71	Roll	0.80%	0.20%
1/22/2020	**54658QBK9**	15,000,000	1.00%	75	4/6/2020	JPM	30,821.92	Roll	0.80%	0.20%
1/24/2020	**54658QBL7**	10,000,000	1.00%	76	4/9/2020	JPM	20,821.92	Roll	0.82%	0.18%
1/27/2020	**54658NBJ9**	10,000,000	1.08%	100	5/6/2020	BAML	29,589.04	Roll	0.82%	0.26%
1/29/2020	**54658NBK6**	10,000,000	1.07%	103	5/11/2020	BAML	30,194.52	Roll	0.82%	0.25%
1/31/2020	**54658NBL4**	10,000,000	1.05%	110	5/20/2020	BAML	31,643.84	New	0.94%	0.11%
2/3/2020	**54658NBM2**	10,000,000	1.05%	100	5/13/2020	BAML	28,767.12	Roll	0.94%	0.11%
2/6/2020	**54658QBM5**	15,000,000	1.07%	43	3/20/2020	JPM	18,908.22	Roll	1.01%	0.06%
2/11/2020	**54658QBN3**	5,000,000	1.13%	108	5/29/2020	JPM	16,717.81	Roll	1.01%	0.12%
2/12/2020	**54658QBP8**	10,000,000	1.16%	86	5/8/2020	JPM	27,331.51	Roll	1.01%	0.15%
Currently Outstanding:		**$ 155,000,000**					**$ 374,300**			
YTD:		**$ 805,000,000**					**$ 2,397,348**			

The Securities Industry and Financial Markets Association (SIFMA) publishes a 7-day high-grade market index comprised of tax-exempt Variable Rate Demand Obligations (VRDOs) with certain characteristics. The Index is calculated and published by Bloomberg and overseen by SIFMA's Municipal Swap Index Committee. This is a short-term interest rate index that we use to gauge the interest rates we receive on our CP placements.

Figure 11 – Interest Rate Trends

INVESTMENTS

Monthly reporting on MSD's investment activity is required by its Investment Policy.

Investment by Category

The following schedule itemizes MSD investments by type.

Table 42 – Investments by Type *Schedule*

Total by Category	Market Value	Face Value	Cost Value	Accrued Interest	Market Gain/Loss	Market Yield
Cash/Overnight Sweep	44,801,430.33	44,801,430.33	44,801,430.33	-	-	
Federated Gov Oblig*	67,022,704.74	67,022,704.74	67,022,704.74	-	-	1.23%
Investco Gov Agency*	9,040,741.85	9,040,741.85	9,040,741.85	-	-	1.49%
Dreyfus Cash Mgmt*	24,109,601.02	24,095,143.97	24,104,943.66	-	4,657.36	1.44%
First American Government*	118,093.20	118,093.20	118,093.20	445.22	-	1.18%
Federal Farm Credit Banks	1,024,310.00	1,000,000.00	1,000,000.00	3,225.00	24,310.00	2.64%
Federal Home Loan Banks	1,148,664.70	1,130,000.00	1,129,861.15	15,049.72	18,803.55	2.91-3.07%
US Treasury Note	38,685,512.20	38,452,000.00	38,297,831.46	358,877.56	387,680.74	1.37-2.34%
Municipal Obligations	29,119,445.75	28,735,000.00	28,688,004.55	353,314.10	263,618.84	2.07-4.98%
Certificate of Deposit	100,000.00	100,000.00	100,000.00	-	-	1.75%
	$ 215,170,503.79	**$ 214,495,114.09**	**$ 214,303,610.94**	**$ 730,911.60**	**$ 699,070.49**	

Total earning from investments FY2020 YTD: $12,404,738.72

February Investment Activity

The following schedule summarizes investment trade activity for February 2020.

Table 43 – Investments by Type Schedule

Account	Transaction Type	Category	Amount
2009B Debt Reserve	Redemption	City of Chicago	(5,220,322.23)
2009B Debt Reserve	Purchase	Dreyfus Cash Mgmt	5,160,000.00

Municipal Bond Investments

The following table provides detailed information on existing investments in Municipal Bonds.

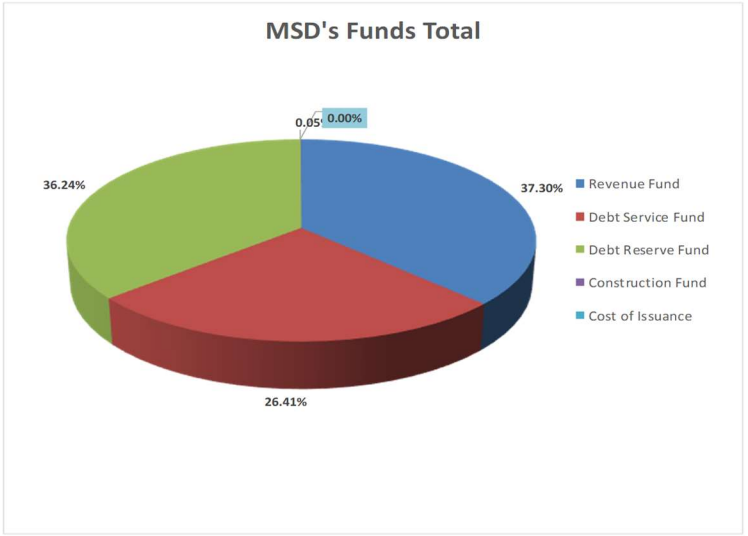
Table 44 – Municipal Bond Investments

Investments	Market Value	Face Value	Cost Value	Accrued Interest	Market Gain/Loss	Market Yield	Coupon Rate	Yield to Maturity	Duration	Moody's Rating	Maturity Date
City of Austin TX Water & Wastewater System	5,141,300.00	5,000,000.00	5,087,981.25	74,027.78	53,318.75	4.98%	5.13%	4.99%	20.7	Aa2	11/15/2040
City of Los Angeles Department of Airports	5,042,100.00	5,000,000.00	4,791,850.00	72,222.22	73,611.11	4.96%	5.00%	5.34%	20.2	Aa2	5/15/2040
City of New York NY	5,703,600.00	5,600,000.00	5,650,792.00	32,853.33	52,808.00	2.36%	2.40%	1.86%	1.7	Aa2	12/1/2021
County of Balitmore MD	577,774.80	570,000.00	555,197.10	929.67	22,577.70	2.07%	2.10%	4.05%	1.4	Aaa	8/1/2021
County of Baltimore MD	3,243,648.00	3,200,000.00	3,116,896.00	5,219.20	126,752.00	2.07%	2.10%	4.05%	1.4	Aaa	8/1/2021
JEA Water & Sewer System Revenue	632,060.10	630,000.00	633,412.50	12,950.00	(1,352.40)	4.98%	5.00%	4.96%	19.6	A2	10/1/2039
JEA Water & Sewer System Revenue	326,023.75	325,000.00	326,760.42	6,680.56	8,079.86	4.98%	5.00%	4.96%	19.6	A2	10/1/2039
JEA Water & Sewer System Revenue	606,978.35	605,000.00	608,277.09	12,436.11	(1,298.74)	4.98%	5.00%	4.96%	19.6	A2	10/1/2039
JEA Water & Sewer System Revenue	305,960.75	305,000.00	306,652.08	6,269.44	(691.33)	4.98%	5.00%	4.96%	19.6	A2	10/1/2039
NY State Thruway Authority Highway & Bridge Trust Fund	501,230.00	500,000.00	516,065.00	9,556.28	(14,835.00)	4.64%	4.65%	-35.93%	0.1	A2	4/1/2020
NY State Thruway Authority Highway & Bridge Trust Fund	501,230.00	500,000.00	516,065.00	9,556.28	(14,835.00)	4.64%	4.65%	-35.93%	0.1	A2	4/1/2020
NY State Thruway Authority Highway & Bridge Trust Fund	1,503,690.00	1,500,000.00	1,548,195.00	28,668.83	(44,505.00)	4.64%	4.65%	-35.93%	0.1	A2	4/1/2020
State of Louisiana Gasoline & Fuel Tax	5,033,850.00	5,000,000.00	5,029,861.11	81,944.40	3,988.89	4.97%	5.00%	4.95%	20.2	Aa3	5/1/2040
	$ 29,119,445.75	**$ 28,735,000.00**	**$ 28,688,004.55**	**$ 353,314.10**	**$ 263,618.84**						

Total Weighted Average Yield to Maturity: **0.75%**
Total Weighted Average Coupon Rate: **4.10%**
Total Weighted Average Market Yield: **4.05%**
Total Weighted Average Duration: **12.42**

MSD's Current Investment Model

Series	Revenue Fund	Debt Service Fund	Debt Reserve Fund	Construction Fund	Cost of Issuance	Total
2008A	-	-	935,514	-	-	935,514
2009A	-	-	4,416,477	-	-	4,416,477
2009B	-	-	15,039,013	-	-	15,039,013
2009C	-	3,246,929	13,604,681	-	-	16,851,610
2010A	-	5,214,334	18,371,159	-	-	23,585,493
2011A	-	4,814,464	-	-	-	4,814,464
2013A	-	1,200,059	23,559,921	-	-	24,759,980
2013B	-	2,386,345	-	-	-	2,386,345
2013C	-	1,292,137	352,869	-	-	1,645,006
2014A	-	908,601	-	-	-	908,601
2015A	-	1,973,878	150,040	-	-	2,123,918
2015B	-	2,736,672	-	-	-	2,736,672
2016A	-	1,426,808	-	-	-	1,426,808
2016B	-	1,740,302	-	-	-	1,740,302
2016C	-	13,835,110	-	-	-	13,835,110
2017A	-	7,425,871	1,539,202	-	-	8,965,073
2017B	-	950,955	-	-	-	950,955
2018A	-	628,404	-	-	-	628,404
2019 BAN Note	-	2,540,205	-	-	-	2,540,205
2019 Bond Fund	-	4,499,806	-	-	-	4,499,806
2019 BAN COI	-	-	-	-	-	-
Surety Construction Fund	-	-	-	-	-	-
CP 2018 A-1 & A-2	-	-	-	118,093	-	118,093
Cash	44,574,498	-	-	-	-	44,574,498
Certificate of Deposit	100,000	-	-	-	-	100,000
Money Market	35,588,158	-	-	-	-	35,588,158
	$ 80,262,656	**$ 56,820,878**	**$ 77,968,876**	**$ 118,093**	**$ -**	**$ 215,170,504**



Asset Description	Revenue Fund	Debt Service Fund	Debt Reserve Fund	Construction Fund	Cost of Issuance	Total
Cash	44,574,498	76,892	150,040	-	-	44,801,430
Certificate of Deposit	100,000	-	-	-	-	100,000
Money Market Funds	35,588,158	56,743,986	7,840,904	118,093	-	100,291,141
Muni-Bonds	-	-	29,119,446	-	-	29,119,446
US Treasury Bills	-	-	38,685,512	-	-	38,685,512
US Treasury Agency	-	-	2,172,975	-	-	2,172,975
Corporate Commercial Paper	-	-	-	-	-	-
	$ 80,262,656	**$ 56,820,878**	**$ 77,968,876**	**$ 118,093**	**$ -**	**$ 215,170,504**

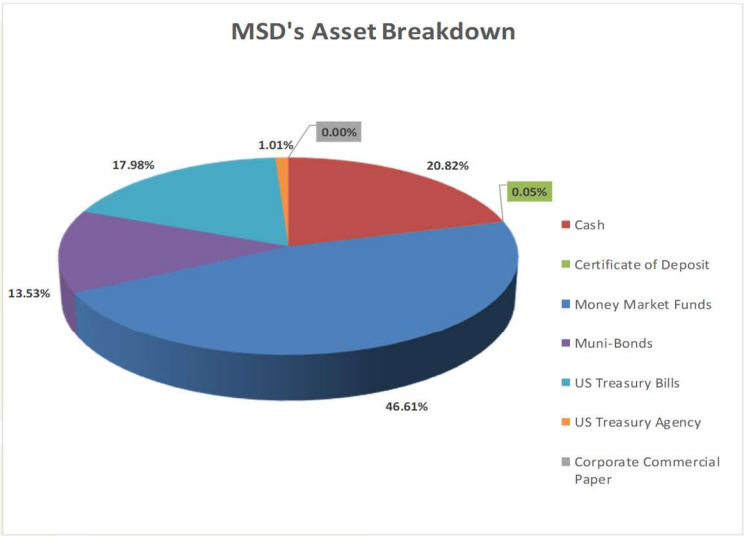


Figure 12 – Current Investment Model

CAPITAL MARKETS

Information is provided on capital market activity, so readers have insight into interest rate activity and market trends.

Interest Rate Forecasts

Interest Rate Forecasts

MMD YIELDS	3/9/2020	4/6/2020	2Q2020	3Q2020	4Q2020
2-Year	0.45%	0.45%	0.70%	0.85%	0.90%
5-Year	0.49%	0.55%	0.75%	0.95%	0.95%
10-Year	0.78%	0.80%	1.30%	1.60%	1.75%
30-Year	1.38%	1.40%	1.95%	2.15%	2.30%
TAXABLE YIELDS	**3/9/2020**	**4/6/2020**	**2Q2020**	**3Q2020**	**4Q2020**
Fed Funds	1.09%	0.00%	0.00%	0.00%	0.00%
3-Month LIBOR	0.77%	0.10%	0.05%	0.10%	0.20%
2-Year T Note	0.34%	0.15%	0.15%	0.20%	0.25%
5-Year T Note	0.42%	0.25%	0.35%	0.45%	0.60%
10-Year T Note	0.50%	0.45%	0.55%	0.75%	0.85%
30-Year T Bond	0.94%	0.85%	1.00%	1.25%	1.45%

Source: J.P. Morgan Research, *US Treasury Market Daily*, 3/9/2020, jpmm.com; J.P. Morgan Research, *US Fixed Income Markets Weekly*, 3/6/2020, jpmm.com; Thomson Reuters Municipal Market Data; Bloomberg; MMD forecasts as of 3/6/2020, UST forecasts as of 3/9/2020, current rates as of 3/9/2020

Figure 13 – Interest Rate Forecasts

Market Monitor

D. Market Monitor

RT TERM MUNICIPAL MARKET	3/9/2020	1-WEEK Δ	10Y AVERAGE
SIFMA Index	1.25%	10 bps	0.51%
1-Month LIBOR	0.72%	-63 bps	0.74%
SOFR*	1.10%	-49 bps	0.73%
SIFMA/1-Month LIBOR Ratio	172.44%	87.62%	68.45%
Tax-exempt MMF Flows 4-week Avg.[1]	-$657mm	-$599mm	--
LONG TERM MUNICIPAL MARKET	**3/9/2020**	**1-WEEK Δ**	**10Y AVERAGE**
AAA MMD (30-Year)	1.38%	-14 bps	3.17%
AAA MMD (30 – 2 Year)	0.93%	10 bps	2.42%
30-Year SIFMA Swap Rate[2]	0.59%	-49 bps	2.57%
30-Year 3M LIBOR Swap Rate[2]	0.63%	-64 bps	2.90%
All Muni Fund Flows 4-week Avg.[3]	$2,326mm	$3,021mm	--
CORPORATE SPREADS TO UST (BPS)	**3/9/2020**	**1-WEEK Δ**	**10Y AVERAGE**
J.P. Morgan JULI Index	224	61 bps	164
J.P. Morgan Domestic HY Index	738	168 bps	537
EQUITIES AND ENERGY ($)	**3/9/2020**	**1-WEEK Δ**	**YTD Δ**
S&P 500	2,747	-11.12%	-14.99%
DJIA	23,851	-10.68%	-16.42%
NASDAQ 100	7,948	-10.47%	-8.99%
WTI Crude Oil ($per bbl.)	31.13	-33.41%	-29.93

Source: J.P. Morgan; Bloomberg; Thomson Reuters Municipal Market Data; The Bond Buyer; Lipper FMI, iMoneyNet; *Average dating back to 8/22/2014 using historical indicative SOFR, Federal Reserve Bank of New York

Figure 14 – Market Monitor Forecasts

Baird Municipal Market Update

Kentucky Municipal Market Update

March 2020

Prepared by the Kentucky Public Finance Department of Baird for the Louisville & Jefferson Metropolitan Sewer District

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Rates Plummet in Response to Coronavirus:

- Treasuries reacted, *and more*, just as one would think in times of volatility and turmoil. Not much needs to be said – Coronavirus.
- 10-Year Treasury rate dipped below 1.00% for the first time in history.
- Risky assets plummeted. Yields declined massively as they hit record lows. Economic data were of no consequence. The markets are pricing in one 25 bps Fed rate cut by March 18th meeting and 50 bps by the April meeting.
- Municipal bonds (such as MSD's) serve as a relative safe-haven to investors.

Rates Drop in Response to Coronavirus:

The chart below illustrates just how severely US Treasury rates have dropped (as of March 2, 2020)

3/2/2020

Treasuries	Nominals	YTM %	5d chg. (bps)	1mo. chg. (bps)	YTD chg. (bps)
	1 yr	0.78	-56	-64	-79
	2yr	0.74	-51	-57	-83
	5yr	0.82	-39	-49	-87
	7yr	0.96	-33	-46	-87
	10yr	1.06	-31	-44	-85
	30yr	1.63	-20	-37	-76

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Mark to Market on Swaps

At February 29, 2020 MSD had 2 derivative instruments outstanding. Both swaps have termination dates of May 15, 2033. Both swaps are fixed-to-floating swaps. Payments are due on the fifteenth of each month. MSD pays fixed at 4.425% and receives 67% of 30-day LIBOR. MSD's swaps are measured at fair value using significant other observable inputs (level 2) with a mid-market derivative valuation using a 67% of LIBOR Fixed Payer Swap rate.

Credit Support Provider	Description	Maturity Date	Notional Amount	Outstanding Notional Amount	Clean Market Value	Accrued Interest	Market-to-Market Value
Wells Fargo NA	1999 - 1 - $225.732M 67% LIBOR Fixed Payer	5/15/2033	180,716,000.00	180,716,000.00	(68,062,872.01)	(307,738.12)	(68,370,610.13)
Bank of America NA	1999 - 2 -$56.433 67% LIBOR Fixed Payer	5/15/2033	56,433,000.00	45,284,000.00	(17,026,632.57)	(64,444.89)	(17,091,077.46)
			$ 237,149,000	**$ 226,000,000**	**$ (85,089,505)**	**$ (372,183)**	**$ (85,461,688)**

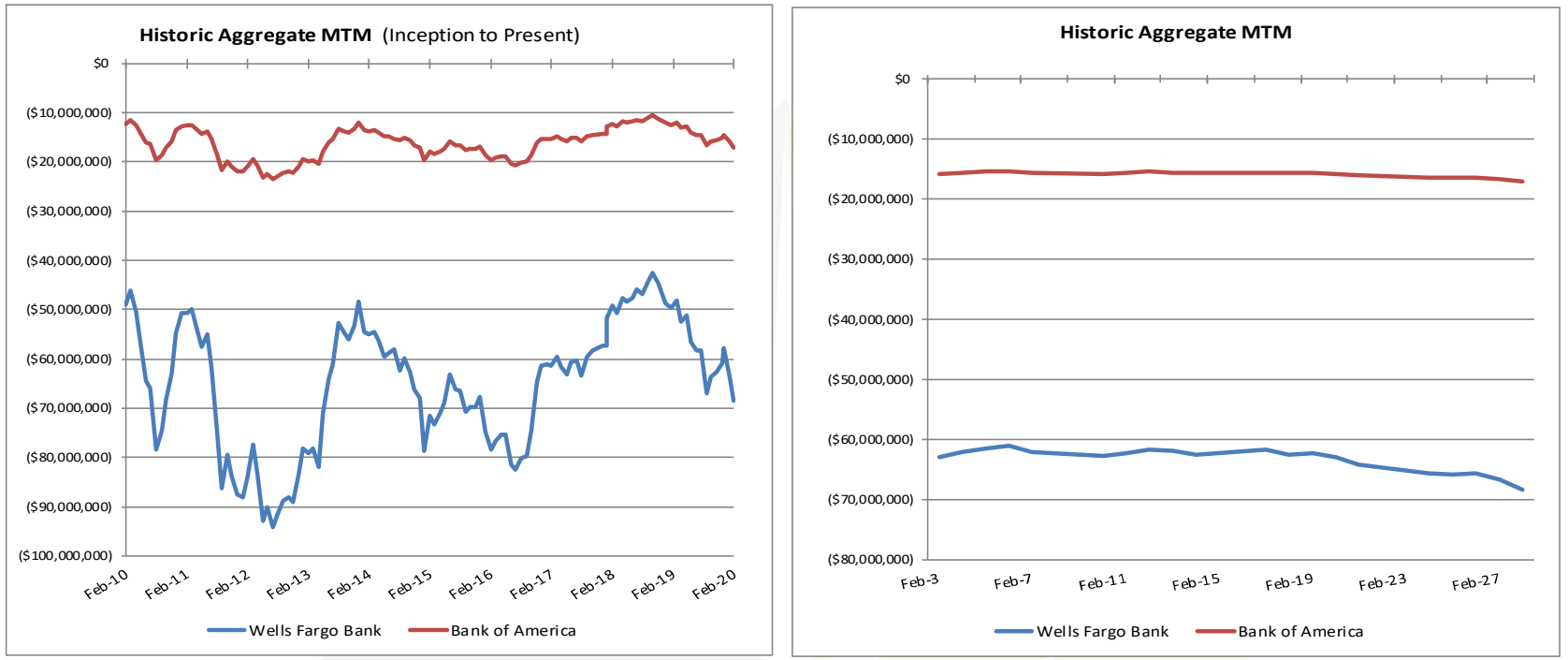
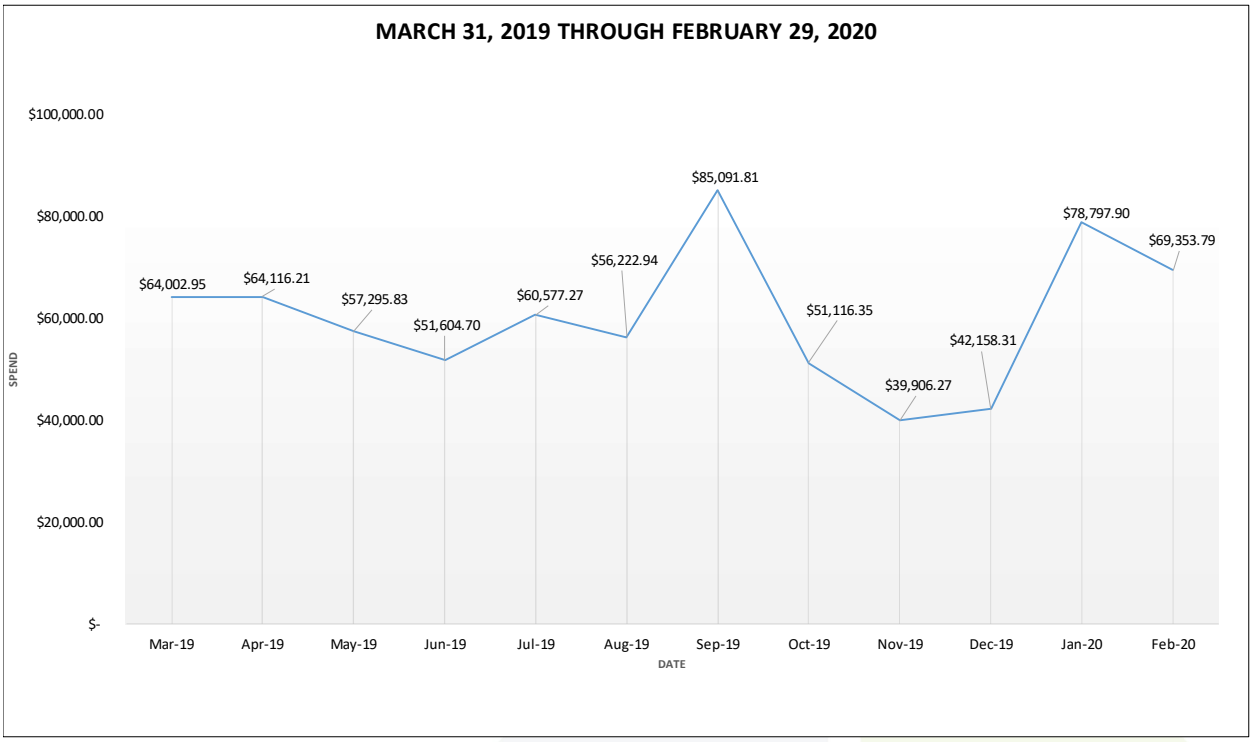


Figure 15 – Mark to Market on Swaps

MISCELLANEOUS REPORTS

MasterCard Program Total Spend

The Purchase Card Spend Report quantifies the total monthly spend amount for the last 12 months that has been charged to an employee's Purchase Card as well as all the Travel Cards.



Mastercard Purchase Cards Issue = 115

***Total P-Card Violations =**	**17**	**P-CARDHOLDERS BY DIVISION**	
Sales Tax -			
Split Charges -		**Executive Offices**	**Operations**
Missing Receipt -		Customer Relations & Communications - 2	Administration - 3
Personal Expenses -		Executive Offices - 4	Automation Controls - 3
Late Report -	16	Facilities, Safety & Security - 4	Collections Systems - 7
Supplies -	1		Emergency Response - 1
Prepay -		Legal - 3	Fleet - 5
Substitute Receipt -		Human Resources - 4	Flood Protections - 4
Travel Expenditures -		Finance - 2	Performance Metrics- 2
Lack of Business Description -		Information Technology - 5	Support Services - 2
		Supply Chain & Economic Inclusion - 11	Treatment Facilities - 11
			Treatment Facilities (Maintenance) - 18
		Engineering Divison	Wastewater & Drainage - 13
***Total Travel Card Violations**	**0**	Development & Stormwater - 2	Wastewater & Drainage (Sanitary) - 6
Lack of Travel Justification -		Engineering Technical Services - 1	
Substitue Receipt -		Records & GIS - 1	
**Violations are recorded one month in arrears*		Regulatory & GIS - 1	

Figure 16 – MasterCard Program Total Spend Chart

MBE/WBE Expenditure Report

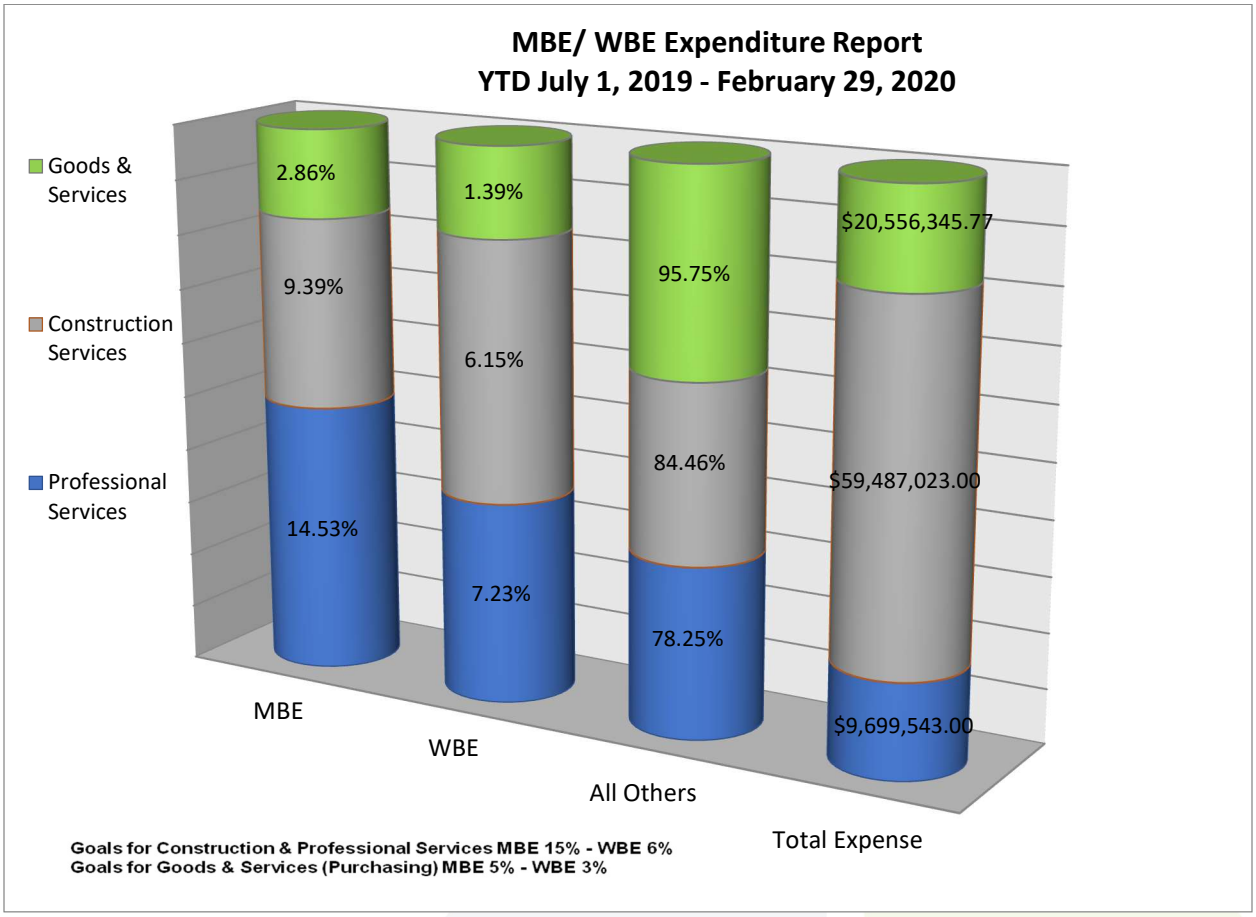


Figure 17 – MBE/WBE Expenditure Chart

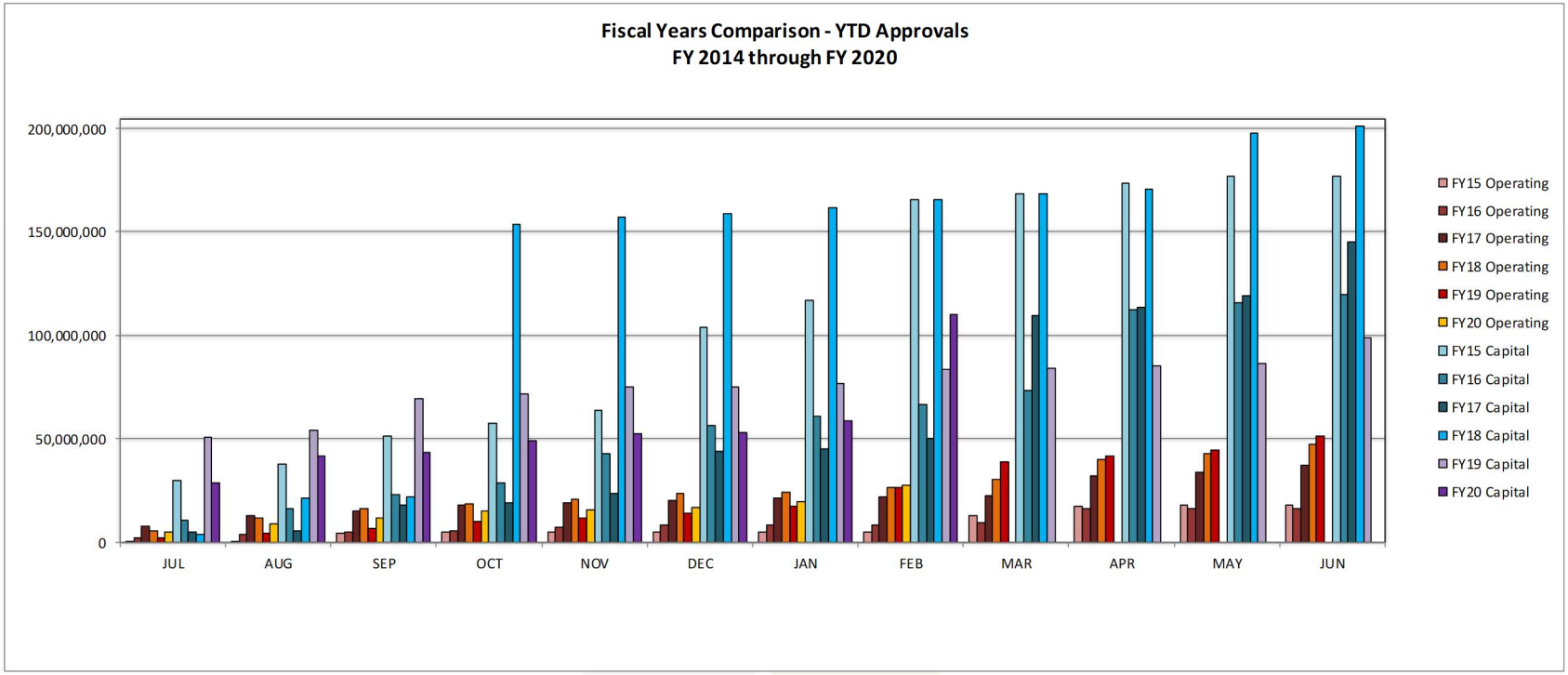
February Approvals for Operating and Capital Expenditures

Expenditures over $30,000 require a Board Report. Expenditures over $1,000,000 require Board Approval. This report includes all expenditures reported to or approved by the Board in the month of February.

Table 45 – February Approvals for Operating and Capital Expenditures

BOARD MEETING 2-24-20 / EXPENDITURE APPROVALS Vendor Name / Description of Procurement	Department / Cap Proj ID / Division	SAP Account / Name	Operating Expense	Capital Expense
Leonard Brush & Chemical Co / Janitorial Supplies	Various - Facilities	52130 - Cust & Watch / 53140 - Mat & Supp	$78,586	
Concentra Medical Ctrs / Drug Testing & Occupational Health Services	Various - Fac, Safety & Security	52140 -Professional	$93,000	
AECOM / Hydraulic Flood Study & Letter of Map Revision for Snider Branch	6901111 -Engineering	52140 -Professional	$34,000	
Bentley Systems / EB Document Mgmnt System	8350631 - Information Tech	52160 - Maintenance & Repairs	$128,098	
Innovyze / InfoWorks Annual Site License Fee	8330631 - Information Tech	52160 - Maintenance & Repairs	$33,540	
Dukes Root Control / Chemical Root Control	7222122 - Operations	52195 - Other Contract Services	$557,000	
Morse watchmans / Key Access Control System	5510111 -Fleet	52195 - Other Contract Services	$30,000	
Office Depot / Office Supplies	Various - Finance & IT Tech Services	53140 - Materials & Supplies	$60,000	
Core & Main / Storm Water Supplies	7232113 - Drainange / Ops	53140 - Materials & Supplies	$63,875	
Neenah Foundry / Industrial Castings	7232112 & 7232113 - Operations	53140 - Materials & Supplies	$60,000	
JR Hoe & Sons / Industrial Castings	7232112 & 7232113 - Operations	53140 - Materials & Supplies	$75,000	
Straeffer Pump & Supply / Inventory Items	7320072 - Operations	53140 - Materials & Supplies	$271,344	
DXP Enterprises / Rampart Inventory Items	7320072 - Operations	53140 - Materials & Supplies	$69,200	
Constellation New Energy / Natural Gas	Various - Operations	53320 - Natural Gas	$691,070	
Business First of Louisville / Advertising Space	5320311 - Communications	54400 - Advertising	$34,410	
Atomic Transport / Dewaterd Cake	7320072 - Operations	Not Provided	$1,752,000	
Santeck Environmental of Ky / Dewatered Cake	7320072 - Operations	Not Provided	$3,650,000	
DeBra-Kuempel / HVAC Preventative Maintenance & Repair Services	Various - Facilities	Not Provided	$334,790	
Black & Veatch Corp / DRGWTC Dewatering Project	D20284 - Operations	56202 - Planning		$2,000,000
Gonzalez Companies / Fairmount Rd Pump Station Force Main Ext Proj Phase	D18489 - Engineering	56204 - Design		$73,371
V-Soft Consulting / FY20 IPS Implementation Assistance	H16013 - Engineering	56208 - Program Mgmnt		$124,800
Flynn Brothers Contracting / Upper Floyds Fork Interceptor Project	H19142 - Eng Design / Construction	56216 - Construction		$2,823,832
Various Vendors / Dryer Trains at MFWQTC	D20285 - Operations	56216 - Construction		$40,000,000
Basham Construction / 4623 Preston Hwy DIP	C20267 - Engineering	56216 - Construction		$103,000
APE Enterprises / 8912 Mitchell Lane DIP	C20270 - Engineering	56216 - Construction		$33,500
TRC LLC / Bells Lane WWTF Grit Classifier Drain Relocation	D20222 - Engineering	56216 - Construction		$59,152
TEM Group / SWPS Flood Repair	H20153 - Engineering	56216 - Construction		$349,890
Louisville Urban League / Urban League Track & Field Facility	D18489 - Engineering	56216 - Construction		$994,694
Gardner Denver Nash / 2 ea Digester Gas Compressor Water Separators	D18452 - Operations	56217 - Equipment		$37,736
Waste Mgmnt / Dewater of Biosolids	D20291 - Operations	56219 - Other Expense		$5,000,000
		FEBRUARY TOTALS	$8,015,913	$51,599,974
		Y-T-D TOTALS	$27,722,225	$110,068,263

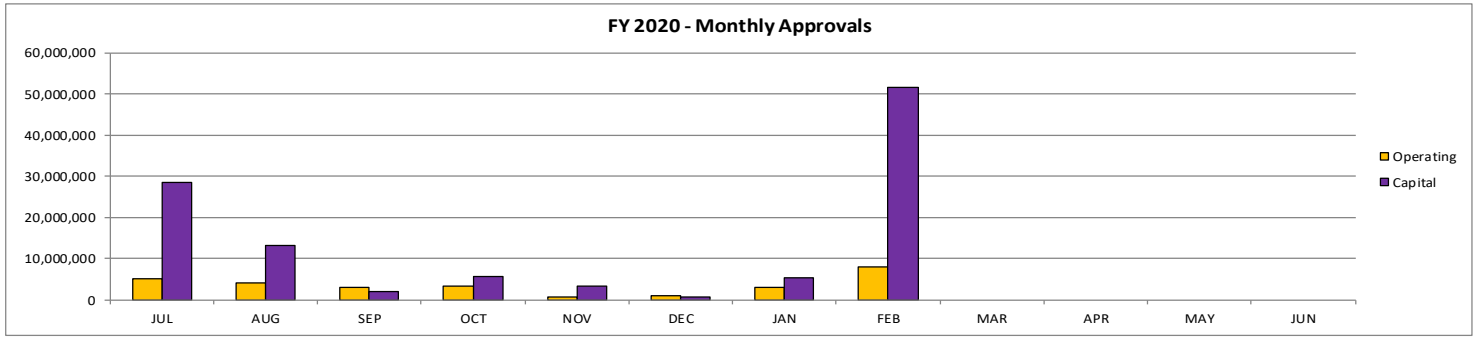
Approvals for Operating and Capital Expenditures – FY Comparison



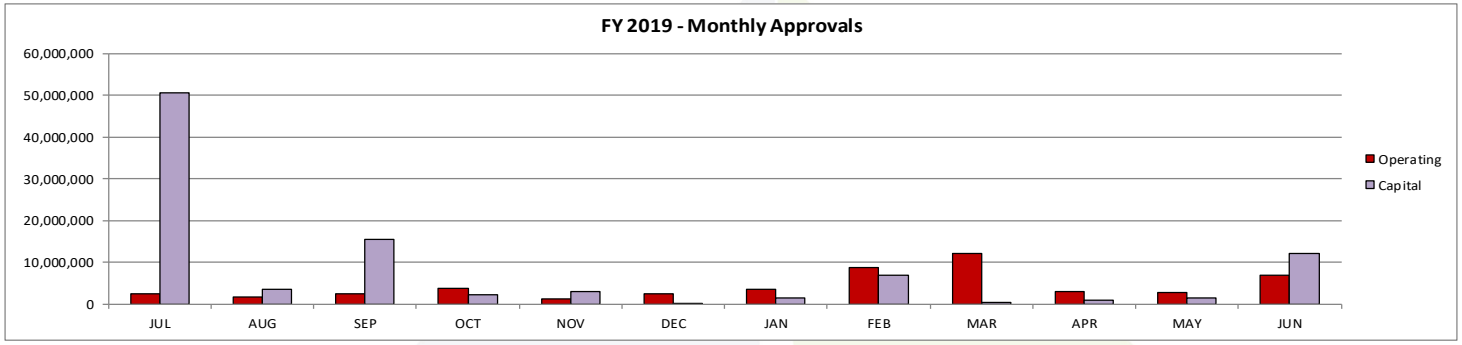
2020	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	5,171,975	9,167,175	12,092,790	15,283,389	15,939,414	16,783,076	19,706,312	27,722,225					27,722,225	20%
Capital	28,530,330	41,689,677	43,715,725	49,342,454	52,520,866	53,143,456	58,468,289	110,068,263					110,068,263	80%
Total	33,702,305	50,856,852	55,808,516	64,625,844	68,460,280	69,926,532	78,174,601	137,790,488	0	0	0	0	137,790,488	100%

Figure 18 – FY Comparison: YTD Operating and Capital Expenditure Approvals

Approvals for Operating and Capital Expenditures – Historical



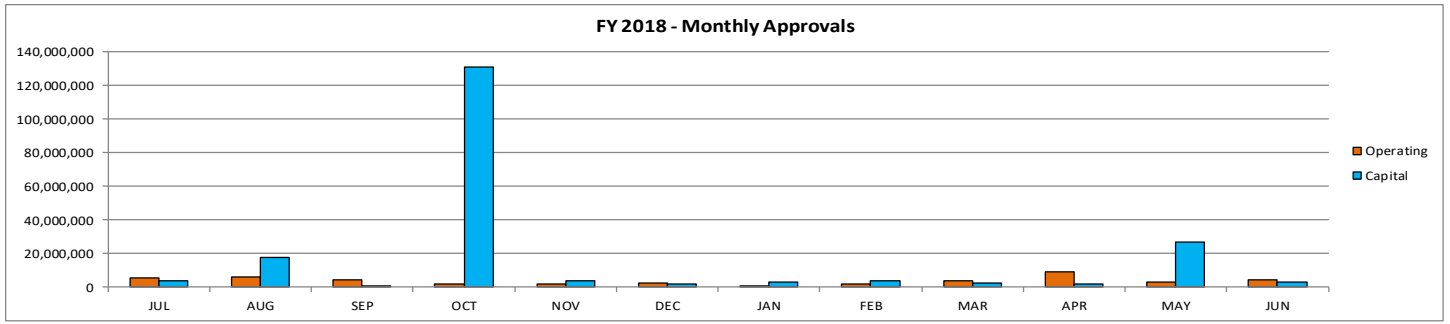
2020	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	5,171,975	3,995,200	2,925,615	3,190,599	656,025	843,662	2,923,236	8,015,913	0	0	0	0	27,722,225	20%
Capital	28,530,330	13,159,347	2,026,048	5,626,729	3,178,411	622,591	5,324,833	51,599,974	0	0	0	0	110,068,263	80%
Total	33,702,305	17,154,547	4,951,663	8,817,328	3,834,436	1,466,253	8,248,069	59,615,887	0	0	0	0	137,790,488	100%



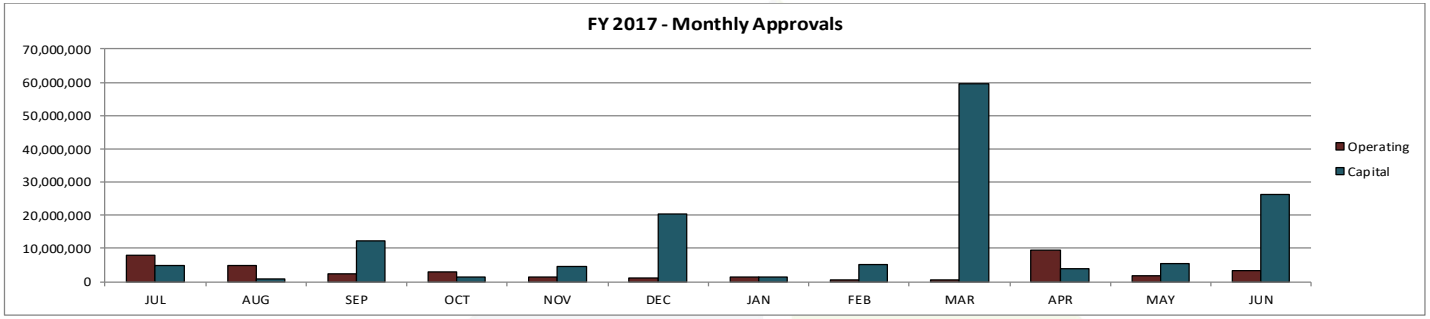
2019	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	2,478,791	1,760,365	2,378,894	3,749,522	1,208,976	2,610,629	3,548,302	8,719,359	12,191,342	3,145,870	2,768,280	6,979,387	51,539,718	34%
Capital	50,497,241	3,666,741	15,401,254	2,255,988	3,154,602	213,332	1,532,274	6,856,734	511,422	899,264	1,394,600	12,066,724	98,450,177	66%
Total	52,976,033	5,427,106	17,780,148	6,005,511	4,363,578	2,823,961	5,080,576	15,576,093	12,702,764	4,045,134	4,162,880	19,046,111	149,989,895	100%

Figure 19 – Historical: Operating and Capital Expenditure Approvals

Approvals for Operating and Capital Expenditures – Historical - Continued

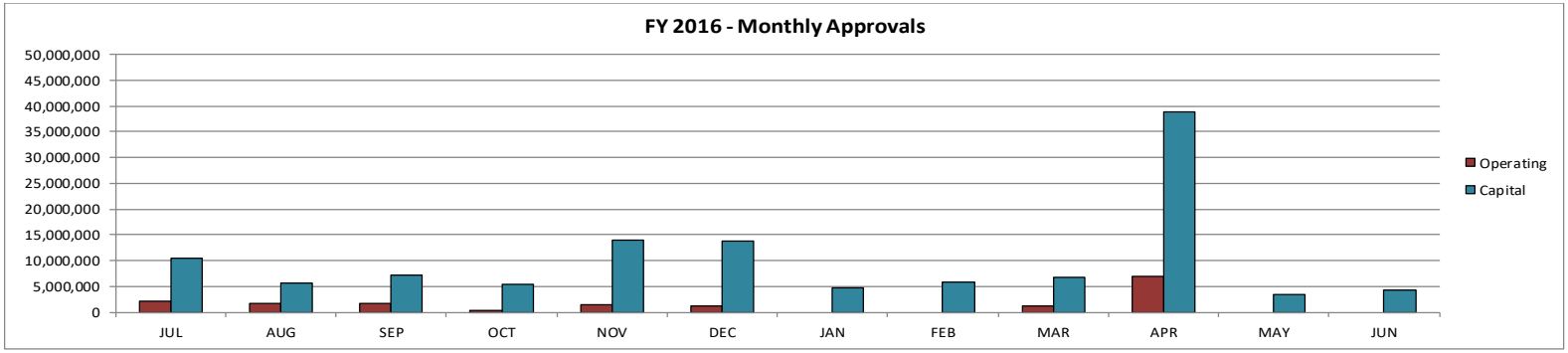


2018	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	5,595,785	6,019,744	4,617,131	2,186,235	2,285,815	2,859,668	723,504	2,177,792	3,861,491	9,573,598	3,200,079	4,483,767	47,584,609	19%
Capital	3,879,849	17,623,990	604,044	131,170,367	3,935,294	1,839,900	3,132,816	3,742,106	2,731,370	2,290,473	26,880,631	3,425,760	201,256,600	81%
Total	9,475,635	23,643,734	5,221,175	133,356,602	6,221,109	4,699,568	3,856,320	5,919,898	6,592,861	11,864,071	30,080,710	7,909,527	248,841,209	100%

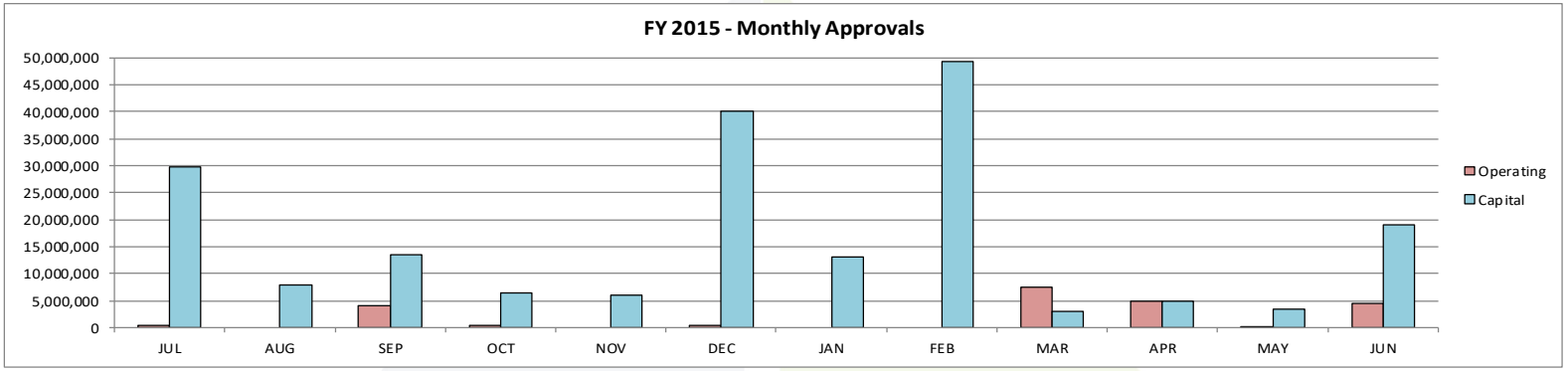


2017	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	7,831,807	4,921,765	2,268,959	2,967,898	1,276,073	946,342	1,283,110	439,598	539,286	9,508,388	1,594,106	3,414,365	36,991,697	20%
Capital	4,939,806	726,451	12,197,966	1,486,972	4,362,362	20,240,801	1,255,917	5,041,921	59,430,114	3,738,335	5,447,809	26,204,470	145,072,923	80%
Total	12,771,613	5,648,216	14,466,925	4,454,870	5,638,435	21,187,143	2,539,027	5,481,519	59,969,400	13,246,722	7,041,915	29,618,835	182,064,620	100%

Approvals for Operating and Capital Expenditures – Historical - Continued



2016	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	2,106,697	1,564,811	1,670,350	400,000	1,423,300	1,296,583	0	0	1,172,755	6,861,107	0	0	16,495,603	12%
Capital	10,546,131	5,648,074	7,102,873	5,391,209	13,917,934	13,671,522	4,630,083	5,736,777	6,672,460	38,850,000	3,336,465	4,367,515	119,871,042	88%
Total	12,652,828	7,212,885	8,773,223	5,791,209	15,341,234	14,968,105	4,630,083	5,736,777	7,845,215	45,711,107	3,336,465	4,367,515	136,366,646	100%



2015	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	524,000	524,000	4,560,001	4,894,791	4,894,791	5,316,592	5,316,592	5,316,592	12,716,704	17,702,399	17,952,399	17,952,399	22,442,272	10%
Capital	29,727,349	37,575,374	51,075,622	57,562,224	63,533,667	103,544,367	116,570,966	165,843,622	168,830,878	173,735,754	177,090,644	177,090,644	196,134,107	90%
Total	30,251,349	38,099,374	55,635,623	62,457,015	68,428,458	108,860,959	121,887,558	171,160,214	181,547,582	191,438,153	195,043,043	195,043,043	218,576,379	100%

Open Construction Orders Report

This report includes all Purchase Orders for Construction Contracts active in SAP.

Table 46 – Open Construction Orders

Date Created	Agreement #	P/O#	Vendor	Project Name	PO Amount	PO Amount Remaining Open	Completion Scheduled	Payment % Complete	Status
1/12/2017	4600006140	4500074669	Ulliman Schutte Construction	Southwestern Pkwy CSO Basin D/B Stage 2	$77,003,982	3,691,139	4/1/2019	95%	Design/Const Phase 2
6/13/2017	4600006516	4500076623	Basham Construction & Rental	Linwood Ave Flood Mitigation Demolition	$349,876	$112,679	12/31/2019	68%	Under Construction
7/24/2017	4600006571	4500077135	Thieneman Construction	I-64 & Grinstead CSO Basin Construction	$23,165,364	$17,381,910	12/15/2019	25%	Under Construction
11/13/2017	4600006692	4500078455	Shea-Traylor JV	Ohio River Tunnel & Shafts Package	$148,460,340	$75,848,448	12/31/2020	49%	Under Construction
11/27/2017	4600006711	4500078565	Garney Companies, Inc.	Lexington & Payne CSO Interceptor	$23,287,686	$6,226,814	7/4/2020	73%	Under Construction
2/22/2018	4600006785	4500079578	Basham Construction & Rental	Algonquin Meadows Flood Mitigation Demolition	$50,899	$4,724	6/30/2018	91%	Under Construction
2/22/2018	4600006786	4500079580	Basham Construction & Rental	Wewoka West Park Flood Mitigation Demolition	$143,265	$30,049	6/30/2018	79%	Under Construction
3/19/2018	4600006821	4500079829	Basham Construction & Rental	Riverside SRL Flood Mitigation Demolition	$158,340	$7,400	12/31/2018	95%	Under Construction
6/2/2018	4600006926	4500080787	Pace Contracting	Shively PS Electrical Improvements	$1,447,252	$77,629	10/31/2019	95%	Under Construction
7/11/2018	4600006976	4500081230	Pace Contracting	Rowan PS & Downtown CSO Interceptor	$25,751,394	$6,018,822	8/8/2020	77%	Under Construction
7/18/2018	4600006995	4500081321	TRC, LLC	FY18 Floodwall Closure Upgrades	$275,000	$51,151	12/31/2018	81%	Under Construction
7/18/2018	4600006996	4500081322	TRC, LLC	FY18 Concrete Repairs	$325,000	$142,458	12/31/2018	56%	Under Construction
7/30/2018	4600007009	4500081469	Allterrain Paving & Construction	5312 Alba Way DIP	$131,910	$8,675	7/31/2019	93%	Under Construction
12/5/2018	4600007184	4500083011	Leak Eliminators, LLC	1300 Ellison/St. Michael Cemetery Emergency	$108,875	$48,029	6/30/2019	56%	Under Construction
1/4/2019	4600007210	4500083306	Basham Construction & Rental	Riverside 2016 Demolition Project	$67,711	$9,451	3/31/2019	86%	Under Construction
2/4/2019	4600007280	4500083641	American Roofing & Metal Company	CMF Roof E & F Replacement	$3,085,865	$190,090	11/30/2019	94%	Under Construction
4/3/2019	4600007354	4500084331	Merrick Company LLC	Hatch & Cover Plate - Elevation 420 SWPS	$18,699	$8,400	8/16/2019	55%	Under Construction
4/12/2019	4600007364	4500084454	B&R Contracting	13904 Bear Camp Road Restoration	$5,000	$2,500	4/18/2019	50%	Under Construction
5/22/2019	4600007403	4500084905	MAC Construction & Excavation	Beargrass Creek Bank Repair	$397,962	$38,240	10/15/2019	90%	Under Construction
5/24/2019	4600007409	4500084925	Basham Construction & Rental	2901 Long Creek Way	$10,000	$7,559	5/15/2019	24%	Under Construction
5/24/2019	4600007410	4500084926	Pace Contracting	3402 Charlane Parkway Concrete Repair	$10,000	$6,955	5/24/2019	30%	Under Construction
6/7/2019	4600007427	4500085123	B&R Contracting	10609 Fairmount Falls Way DIP	$62,532	$17,332	8/31/2019	72%	Under Construction
6/24/2019	4600007439	4500085312	Walsh Construction	Logan CSO Basin Entrance Gate Replacement	$9,899	$9,899	10/15/2019	0%	Awaiting Start
6/28/2019	4600007447	4500085386	Grant Line Garden Center & Nursery	Story Avenue Green Infrastructure Maintenance	$2,869	$723	12/31/2019	75%	Under Construction
6/28/2019	4600007448	4500085387	Grant Line Garden Center & Nursery	Portland Green Infrastructure Maintenance	$6,044	$3,361	12/31/2019	44%	Under Construction
6/28/2019	4600007446	4500085385	MAC Construction & Excavation	Paddy's Run FPS Pumps 1 2 & 6 Rehab	$1,446,657	$545,823	4/13/2020	62%	Under Construction
7/3/2019	4600007451	4500085424	EZ Construction	MFWQTC Primary Sludge Line Replacement	$476,014	$75,727	2/8/2020	84%	Under Construction
7/9/2019	4600007455	4500085451	Allterrain Paving & Construction	Tycoon Way Tree Replacement	$4,500	$2,247	7/31/2019	50%	Under Construction
7/10/2019	4600007461	4500085481	Pace Contracting	Emergency T&M Riverfront PS FM Repair	$46,811	$46,811	12/31/2019	0%	Awaiting Start
8/1/2019	4600007489	4500085749	B&R Contracting	Whitegate Court Rip-Rap Installation	$5,000	$1,500	8/1/2019	70%	Under Construction
8/21/2019	4600007510	4500085978	Rennirt's Septic Service	6112/6205 Catheen & 6116 Gloria Ln Demolition	$28,865	$28,865	11/15/2019	0%	Awaiting Start
8/21/2019	4600007511	4500085979	Rennirt's Septic Service	908 West Indian Trail Demolition	$8,600	$8,600	11/15/2019	0%	Awaiting Start
8/27/2019	4600007518	4500086063	Robert Woodford	Rain Garden & Bioswale Maintenance	$7,850	$1,075	6/30/2020	86%	Under Construction
8/30/2019	4600007529	4500086111	Dugan & Meyers LLC	Hite Creek Expansion to 9MGD	$23,869,685	$22,080,805	11/30/2021	7%	Under Construction
9/3/2019	4600007530	4500086133	Hanka Builders, LLC	Belquin Re-Scope /Catheen Property Secure	$9,500	$950	12/30/2019	90%	Under Construction
9/10/2019	4600007537	4500086217	B&R Contracting	7 Overbrook Road DIP	$23,373	$5,000	9/30/2019	79%	Under Construction
9/16/2019	4600007546	4500086294	MAC Construction & Excavation	I-64 & Grinstead CSO Interceptor	$5,859,000	$5,630,014	2/28/2021	4%	Under Construction
9/20/2019	4600007557	4500086371	B&R Contracting	Westfield Road DIP	$23,530	$23,530	10/31/2019	0%	Awaiting Start
9/27/2019	4600007570	4500086452	B&R Contracting	1010 Mt. Holly Road DIP	$27,000	$27,000	10/31/2019	0%	Awaiting Start

Open Construction Orders Report - Continued

Date Created	Agreement #	P/O#	Vendor	Project Name	PO Amount	PO Amount Remaining Open	Completion Scheduled	Payment % Complete	Status
10/4/2019	4600007574	4500086512	Thieneman Construction	MFWQTC Cake Pump Phase II	$1,507,944	$1,434,144	10/1/2020	5%	Under Construction
10/11/2019	4600007581	4500086586	Pace Contracting	Riverfront PS FM Emergency T&M Repair	$50,000	$40,811	12/31/2019	18%	Under Construction
10/15/2019	4600007585	4500086635	K Weihe Construction	Applegate Lane DIP	$10,000	$10,000	11/29/2019	0%	Awaiting Start
10/22/2019	4600007597	4500086720	Allterrain Paving & Construction	Ethel Avenue DIP	$71,010	$71,010	1/31/2020	0%	Awaiting Start
10/25/2019	4600007599	4500086753	Allterrain Paving & Construction	7913 Oswego Circle DIP	$14,800	$14,800	12/6/2019	0%	Awaiting Start
10/28/2019	4600007602	4500086783	Robinson Pipe Cleaning	11508 Shelbyville Road Emergency Sewer Repair	$15,000	$4,550	12/31/2019	70%	Under Construction
10/29/2019	4600007603	4500086790	Thieneman Construction	DRGWQTC Grout Repair & Gate & Actuator Replace	$1,409,000	$1,388,750	5/31/2021	1%	Under Construction
11/13/2019	4600007611	4500086968	Layne Christensen Company	MFWQTC Groundwater Well #10 Replacement	$178,353	$26,336	3/31/2020	85%	Under Construction
11/13/2019	4600007612	4500086969	MAC Construction & Excavation	MDS Downstream Flow Meter Project	$272,300	$272,300	3/31/2020	0%	Awaiting Start
11/13/2019	4600007613	4500086978	TRC, LLC	Flood Gate 1 Replacement	$276,000	$276,000	4/30/2020	0%	Awaiting Start
11/14/2019	4600007614	4500086988	Advanced Paving & Construction	Camp Taylor 2A Union Street Sewers Replacement	$38,500	$4,775	6/11/2020	88%	Under Construction
11/18/2019	4600007624	4500087026	Seven Seas Construction	MFWQTC Truck Unloading Station Pavement Repair	$55,000	$55,000	3/31/2020	0%	Awaiting Start
11/19/2019	4600007625	4500087048	Basham Construction & Rental	1002 Oxmoor Woods Parkway Bank Repair	$81,180	$81,180	1/20/2020	0%	Awaiting Start
11/20/2019	4600007628	4500087061	DD Midori Construction	730 Waterford Road DIP	$46,000	$28,347	2/28/2020	38%	Under Construction
11/20/2019	4600007627	4500087060	Robinson Pipe Cleaning	Nightingale I&I Rehab	$2,980,279	$2,980,279	6/30/2021	0%	Awaiting Start
11/26/2019	4600007635	4500087136	Rush Paving	1400 Bernheim Lane DIP	$79,304	$15,509	2/28/2020	80%	Under Construction
11/27/2019	4600007639	4500087159	MAC Construction & Excavation	Mud Lane Interceptor	$1,753,000	$1,522,096	9/30/2020	13%	Under Construction
12/17/2019	4600007654	4500087343	Basham Construction & Rental	1009 Clay Avenue DIP	$9,600	$9,600	12/30/2019	0%	Awaiting Start
12/20/2019	4600007661	4500087387	Revrac Construction	967 Ida Way DIP	$47,387	$47,387	3/31/2020	0%	Awaiting Start
1/2/2020	4600007673	4500087457	MAC Construction	Harrods Creek FM Emergency Repair	$2,602,604	$1,590,137	6/30/2020	39%	Under Construction
1/3/2020	4600007675	4500087465	Ulliman Schutte Construction LLC	DRGWQTC Dewatering Emergency Project	$10,000,000	$9,877,180	6/30/2020	1%	Under Construction
1/3/2020	4600007676	4500087466	MAC Construction	Fairmount Rd FM Emergency T&M Repair	$35,000	$4,453	6/30/2020	87%	Under Construction
1/13/2020	4600007682	4500087557	B&R Contracting	1802 Timberhaven Trace DIP	$13,750	$3,750	1/30/2020	73%	Under Construction
1/13/2020	4600007684	4500087562	Allterrain Paving & Construction	1712 Sheridan Avenue DIP	$179,925	$179,925	6/30/2020	0%	Awaiting Start
1/13/2020	4600007685	4500087564	Allterrain Paving & Construction	East Pages Lane DIP	$78,170	$78,170	4/30/2020	0%	Awaiting Start
1/17/2020	4600007693	4500087620	EZ Construction	Beargrass Creek FPS Relief Flap Gate	$220,400	$220,400	5/31/2020	0%	Awaiting Start
1/23/2020	4600007695	4500087687	DD Midori Construction	9716 Hudson Lane DIP	$38,000	$38,000	4/30/2020	0%	Awaiting Start
1/23/2020	4600007696	4500087699	Hanka LLC	FY20 FEMA Buyout Demolitions	$125,000	$125,000	6/30/2020	0%	Awaiting Start
1/23/2020	4600007697	4500087700	Basham Construction & Rental	FY20 FEMA Buyout Demolitions	$125,000	$125,000	6/30/2020	0%	Awaiting Start
1/28/2020	4600007709	4500087742	K Weihe Construction	10701 Seven Oaks Drive Headwall Repair	$5,000	$5,000	2/21/2020	0%	Awaiting Start
1/30/2020	4600007711	4500087768	Abbico Contracting	903 Gagel Avenue DIP	$48,880	$48,880	5/31/2020	0%	Awaiting Start
2/7/2020	4600007715	4500087875	Derby City Pump & Valve Service	Beargrass Creek FPS Pump #8 Bearing Replacement	$187,500	$187,500	7/31/2020	0%	Awaiting Start
2/7/2020	4600007716	4500087882	Basham Construction & Rental	Recovery Road Pipe & Bank Repair	$10,000	$10,000	2/14/2020	0%	Awaiting Start
2/7/2020	4600007717	4500087883	Basham Construction & Rental	Mill Creek Emergency Bank Repair	$70,000	$70,000	6/30/2020	0%	Awaiting Start
2/7/2020	4600007719	4500087885	B&R Contracting	6010 Six Mile Lane DIP	$28,000	$28,000	2/28/2020	0%	Awaiting Start
2/13/2020	4600007723	4500087941	Tru Test LLC	FY20 CCTV Inspection	$4,000	$3,317	3/30/2020	17%	Under Construction
2/18/2020	4600007727	4500087994	Cardinal Services Inc.	FY20 FEMA Buyout Demotions	$125,000	$125,000	6/30/2020	0%	Awaiting Start
2/24/2020	4600007735	4500088061	Basham Construction & Rental	Linwood Re-Scope Mitigation Demolition	$59,900	$59,900	5/31/2020	0%	Awaiting Start
2/25/2020	4600007736	4500088074	TEM Group	Southwestern Pump Station Flood Repair	$349,890	$349,890	12/31/2020	0%	Awaiting Start
2/27/2020	4600007739	4500088113	Pro-Line Concrete Pumping	Mitchell Hill Road Concrete Pumping	$1,200	$600	3/30/2020	50%	Under Construction
2/27/2020	4600007740	4500088117	Basham Construction & Rental	Lowell Avenue Vacuum Excavations	$4,250	$4,250	3/1/2020	0%	Awaiting Start
2/28/2020	4600007741	4500088130	Awnings Above	CMF Awning Installation	$3,505	$3,505	4/4/2020	0%	Awaiting Start
				Totals	**$359,381,780**	**$159,843,115**			

Fiscal Year	Total Open PO's	Total Still Open	Total Amount Paid through Feb 2020	Amount Paid Feb 2020 Only
FY17	$77,353,858	$3,803,818	$73,550,040	$16,827
FY18	$196,713,146	$99,576,974	$97,136,172	$814,841
FY19	$31,715,417	$7,109,468	$24,605,949	$1,244,716
FY20	$53,599,359	$49,352,855	$4,246,504	$1,907,745

END OF REPORT