

**MINUTES**  
**OPERATIONS & ENGINEERING COMMITTEE MEETING**  
**SEPTEMBER 8, 2020 (VIRTUAL)**

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Attendants: Messrs. Boland, DiSantis, Hurst, Kern, Knapp, Lehman, Lucas, Mullen, Pileggi, Pisani, Willert, and Mesdames Amadio, Bonnett, Caulk, Nichols, and Sage.

1. ROLL CALL: Eight members of the DELCORA Board of Directors were present at the meeting constituting a quorum.

The following were present for the bid opening: a representative from Philips Brothers; Justin Merry; and a guest at 610-636-0138. There were no other members of the public present.

2. PLEDGE OF ALLEGIANCE: All parties present at the meeting recited the Pledge of Allegiance.

3. BID OPENING:

- Contract No. TEW-2008-C – Annual Electrical Maintenance Services

Mr. Hurst stated that there were three bids received.

	<u>1 YEAR TERM BID AMOUNT</u>	<u>2 YEAR TERM BID AMOUNT</u>
Ford Brothers Electrical Co., Inc.	\$259,800.00	\$525,000.00
Hobbs & Company, Inc.	\$469,300.00	\$960,065.00
Philips Brothers Electrical Contractors	\$198,200.00	\$398,460.00

Mr. Mullen stated that these bids will be reviewed by Staff and our Solicitor's office, and consideration of award will be placed on the agenda for the September 15<sup>th</sup> Board meeting.

4. MONTHLY REPORT – DIRECTOR OF OPERATIONS & MAINTENANCE: Mr. DiSantis highlighted certain items in the written report. Mr. DiSantis stated that there were no violations at the WRTP during the month of August, however, not all cBOD data had been received in time for this report but he felt that those results will not significantly change anything. Special mention was made of the flows for the month of August which was a very wet month with two significant rain events on August 4<sup>th</sup> and 7<sup>th</sup>. The August daily average flow rate was 10 MGD higher than in July. He also noted though that the year-to-date flow of approximately 35 MGD was fairly typical. He also stated that NPDES permit compliance sampling was good with a cBOD of 8 mg/L and TSS of 11 mg/L; below the permit limits of 19 mg/L for cBOD and 30 mg/L for TSS, respectively. Monthly cBOD removal was approximately 98%. Under solids handling, there were approximately 2,000 dry tons treated. Also, there was slightly higher polymer usage, gas usage was about the same, and processing costs were also about the same as last month but a bit higher than the year-to-date average.

Mr. DiSantis noted the extremely high flows listed in the Station Meter Reading table under Daily Average Flows and Peak Flows. As an example, he stated that Edgmont Township had an average daily flow of 120,000 GPD but had a single daily flow of 220,000 GPD due to one rain event. These numbers show the significant impact of wet weather events on inflow and infiltration. He also mentioned that despite the wet weather, 94% of flow from the Central Delaware Pump Station went to the WRTP. There were twenty-three reportable incidents during the month. Fifteen were wet weather sanitary sewer overflows (SSOs) caused by two significant rain events on August 4<sup>th</sup> and August 7<sup>th</sup>. Of the other reportable incidents, eight were related to emissions; one was caused by a roof leaking onto equipment during a roof repair (this was addressed with the contractor); a few failed equipment incidents; and several incidents caused by procedural errors by staff; all issues have been addressed and resolved. There was one violation at the Thornbury Township WWTP for exceeding the instantaneous total residual chlorine (TRC) limit caused by a failure of the pump used for dechlorination resulting in a high level of chlorine. There were no other violations at the remote systems and no maintenance system failures during the month. Regarding trucked waste, Mr. DiSantis reported that there were 25.29 million gallons received. It is expected that budget will be met as to revenue and that revenue is still pacing ahead of budget. Mr. DiSantis had no additional comments to the written report. The Committee had no questions regarding the written report.

5. MONTHLY REPORT – DIRECTOR OF ENGINEERING: Mr. Hurst noted that in lieu of a detailed review of the written report he would focus on the Easter Service Area (ESA) Program portion of the report. He noted that DELCORA staff, in consultation with the ESA engineers, had determined that the tunnel approach for ESA conveyance is a much better approach for DELCORA and its rate payers as compared to the pipeline approach. The estimated cost of the pipeline approach has increased to \$50-\$100 million beyond the budget. This is due to several unforeseen impacts. First is the impact of the newly identified Norwood Landfill & Dump. Second is the impact of the new rules from PADEP for managing soil such as the soil removed from a trench from the pipeline alignment. The third impact is additional costs to re-route the pipeline to avoid impacts on Chester neighborhoods. Another impact is uncertainty of future wet weather flows from the satellite/contributing municipalities. This issue has come to light after Brown & Caldwell's analysis of data from the approximately 140 ESA flow meters. This analysis has shown there are very leaky collection systems and that there is more potential for wet weather flows than is currently seen at the DELCORA pump stations. There is a possibility that the municipalities or conveyance authorities could deliver higher wet weather flow rates in the future than are presently seen. In this case, the pipeline approach would not accommodate these flows but the tunnel would accommodate these greater wet weather flows. If greater wet weather flow were realized in the future, additional pumping and treatment units at WRTP would be needed. But, at least the conveyance would be in place using the tunnel approach. To proceed with the tunnel approach, Mr. Hurst requested that the Mott MacDonald amendment be approved by the Board.

Mr. Hurst went on to explain overlaps between the proposed Long Term Control Plan (LTCP) and the tunnel-based ESA program. There are three overlaps. First, the LTCP requires storage for CSO 18 and CSO 19. If the tunnel is constructed, this storage would be accomplished within the tunnel. The second overlap is the installation of high rate treatment at Chester Pump Station. Another overlap is a commitment that PADEP is requiring for DELCORA to work with the satellite systems to reduce wet weather flows. The Brown and Caldwell analysis is a first step to fulfill this commitment. The satellite engineers have been briefed on the general Brown and Caldwell findings; however, the specific peak flows that were calculated by the Brown and Caldwell analysis have not been sent to the satellite communities. We are evaluating how best to convey the leaky system issue to the impacted satellites.

Ms. Nichols asked for clarification on the storage requirements. Mr. Hurst explained the location of CSO 18 and CSO 19, and how the storage could be integrated into the tunnel. Mr. Hurst had no additional comments to the written report. The Committee had no other questions regarding the written report.

Due to the large amount of capital projects, Mr. Boland suggested that a subcommittee of the Operations & Engineering Committee be created to meet more often during the month in order to keep the Board members more up to date on the ongoing capital projects. Following discussion, it was the consensus to create an O&E subcommittee consisting of: Mr. Mullen as Chairman, Mr. Boland, Mr. Kern, Mr. Lucas, and Ms. Nichols. Mr. Willert stated that Ms. Caulk will coordinate with Mr. Hurst to schedule the subcommittee meetings which will be held onsite at the plant in the large conference room to allow for social distancing.

6. MONTHLY REPORT – ENGINEERING ADVISOR: Mr. Lehman highlighted several on-going projects on the written report, which had been provided to all Board members in advance of today's meeting. He stated that the two primary projects worked on during August were the annual SWMM modeling reports which are used for part of the monthly DMR submission for the WRTP to PADEP and the continued support of the metering program across the county. The other projects listed on the report remain on hiatus status due to various reasons. Mr. Lehman had no additional comments to the written report. The Committee had no questions regarding the written report.

7. CHANGE ORDERS: Mr. Mullen stated that there were no Contract Change Orders at this time.

8. REQUEST FOR APPROVAL OF CONTRACT CLOSE-OUT & FINAL PAYMENT: Mr. Mullen stated that there were no Contract Close-Outs at this time.

9. AUTHORIZATION FOR PROFESSIONAL SERVICES:

- A. Gannett Fleming, Inc. – Proposal Dated August 10, 2020 – For Professional Engineering Services To Provide A Polymer Feed System Location Feasibility Study As Additional Scope Under The Sludge Cake Pump Design (Amendment No. 2) – Total Additional Amount Not To Exceed \$40,200.00 (Capital Funds)

Mr. Hurst stated that this proposal provides for continuation of work on the cake pumps. We intend to reconfigure the polymer system that feeds the belt presses and as part of that work, a feasibility analysis needs to be completed.

It was the consensus of the Committee to recommend Board approval of the above proposal. This item will be placed on the agenda for the September 15<sup>th</sup> Board meeting.

B. Mott MacDonald – Proposal Dated August 20, 2020 – For Professional Engineering Services For A Revision To The Pipeline Design Scope Of Work – Replacing The Proposed Pipeline From Darby Creek Pump Station To W RTP With A Deep Rock Tunnel (ESA Pipeline Contract 2; Segments 3 And 4) Relative To The Eastern Service Area Program – Total Revised Amount Not To Exceed \$3,407,501.00 (Capital Funds)

Mr. Mullen stated that the overview of this proposal was explained in Mr. Hurst's report summary above.

It was the consensus of the Committee to recommend Board approval of the above proposal. This item will be placed on the agenda for the September 15<sup>th</sup> Board meeting.

10. AUTHORIZATION TO ADVERTISE FOR BIDS:

- Contract No. P2020-06 – Janitorial Services
- Contract No. P2020-07 – Phosphoric Acid 85%
- Contract No. P2020-08 – Primary Clarifier Parts
- Contract No. P2020-09 – Unleaded Gasoline And Diesel Fuel With Tracking System
- Contract No. TC-2009-C – T-28 Construction And PS-5 Modifications

Ms. Caulk stated that the four Purchasing contracts listed above are standard annual contracts up for renewal.

Mr. Hurst stated that the construction contract listed above is currently in the design phase and should be ready for bid sometime between December and February.

It was the consensus of the Committee to recommend Board approval of the above authorizations to advertise. These items will be placed on the agenda for the September 15<sup>th</sup> Board meeting.

11. RESOLUTION NO. 2020-12 – AUTHORIZING THE EXECUTION OF THE PENNDOT MASTER CASTING AGREEMENT FOR A PERIOD OF NINE YEARS (10/1/2020 – 9/30/2029):

Mr. Hurst stated that this is a standard agreement renewal with PennDOT involving street work projects, such as raising manholes. This agreement will become null and void once the final transfer of DELCORA to Aqua occurs. Aqua has its own casting agreement with PennDOT.

It was the consensus of the Committee to recommend Board approval of the above resolution. This item will be placed on the agenda for the September 15<sup>th</sup> Board meeting.

12. AUTHORIZATION TO PURCHASE:

- Purchase One (1) 4" Godwin Pump To Replace An Existing 4" Godwin That Is Beyond Repair And Has Reached The End Of Its Service Life – Purchase Is Through A PA COSTARS Contract – Total Amount Not To Exceed \$30,700.00

Mr. DiSantis stated that the current pump was purchased in 2008 and has been used consistently since then. It would cost approximately \$26,000 to repair it; therefore, it was determined to be more cost effective to purchase a new one.

It was the consensus of the Committee to recommend Board approval of the above purchase. This item will be placed on the agenda for the September 15<sup>th</sup> Board meeting.

13. ADVISOR APPOINTMENT:

- Engineering Advisor Services For Fourth Quarter 2020 – Weston Solutions, Inc. – Total Amount Not To Exceed \$2,500.00 Per Quarter

It was the consensus of the Committee to recommend Board approval of the above Advisor Appointment. This item will be placed on the agenda for the September 15<sup>th</sup> Board meeting.

ADJOURNMENT: It was moved by Mr. Lucas, seconded by Mr. Knapp, and unanimously carried to adjourn the regular meeting at 4:03 p.m.



## INTER-OFFICE MEMORANDUM

**TO:** Robert J. Willert, Executive Director

**FROM:** Michael J. DiSantis, Director of Operations and Maintenance

**SUBJECT:** Board Report for the September 8, 2020, O & E Committee Meeting

**DATE:** September 4, 2020

- I. PROCESS INFORMATION – As of the date of this report, there were no violations at WRTP during the month of August. Please note that cBOD data is through 8/27. August data points of interest are:

A.	<u>Liquid Process Averages:</u>	<u>Month:</u>	<u>YTD:</u>
1.	Flow	41.03 MGD	34.98 MGD
2.	TSS	11 mg/L	13 mg/L
3.	cBOD <sub>5</sub>	8 mg/L	8 mg/L
4.	cBOD <sub>20</sub> % Removal	98.34%	97.1%
5.	cBOD <sub>20</sub> Loading	3,080 lbs.	4,465 lbs.
B.	<u>Solids Processing:</u>	<u>Month:</u>	<u>YTD:</u>
1.	Dry Tons Treated -	2,066.40	2,056.25
2.	Dry Tons/Day -	66.66	67.42
3.	Total Gallons Pumped -	11,881,333	12,205,955
4.	Average Feed Solids -	4.20%	4.09%
5.	Average Cake Solids -	21.59%	22.49%
6.	Pounds of Polymer/DT -	187.62	184.86
7.	MCF/DT -	5.25	4.34
8.	Monthly Cost/DT -	\$39.25	\$35.22

C. Station Meter Readings: (Total flow values are in mg and daily flow is in mgd.)

<b>August 2020</b>	<b>Total Flow</b>	<b>Daily Avg</b>	<b>High Daily</b>	<b>Low Daily</b>
Darby Creek	630.27	20.33	54.05	15.01
Muckinipates	139.04	4.49	11.87	3.22
Central Delaware	312.75	10.09	25.95	7.05
Chester	295.41	9.53	27.08	6.05
Marcus Hook	31.29	1.01	3.03	0.54
Eddystone	18.14	0.59	1.64	0.35
Naamans Creek	70.87	2.29	4.68	1.60
Chi Pit	20.22	0.65	1.09	0.45
Chester-Ridley	153.86	4.96	9.70	3.48
Edgmont	3.72	0.12	0.22	0.10

II. MONTHLY FACILITY ACTIVITIES

A. Operations Highlights/Key Events

1. The plant received 94% of the flow from the Central Delaware Pump Station. Rain events impacted the flow split with PWD.
2. There were 23 reportable incidents during the month. Fifteen incidents were wet weather SSOs caused by two (8/4 and 8/7) rain events. There were eight emissions incidents. One was caused by rain getting into PS-4 while the building was having the roof replaced. This was addressed with the contractor. Another incident was caused by a failed solenoid on an RTO poppet valve. We have increased our frequency of maintenance to address this issue. Another incident was caused by rain being drawn into an RTO fan. Four incidents were caused by procedural errors by staff which have since been addressed.
3. August was a very wet month with two very significant rain events resulting in the average daily flow for the month to be ~10 MG higher than last month and ~6 MGD higher than the YTD. In addition to wet weather operation, the operational focus continued to be facilitating tank outages and process interruptions caused by on-going construction. Overall plant performance and effluent quality continued to be good. Our key process indicators were all good with the average SVI of 57, primary clarifier %TSS removal at 64%, and GBT filtrate averaging 83 mg/L TSS. Phosphoric acid addition for nutrient deficiency continued as needed. In solids handling, both incinerators were in service 94% of the month. As a result, ten loads were hauled to compost during the month. While there was an increase in polymer usage, it remained within operational targets. Natural gas usage remained steady as well as below operational targets. This led to operating costs meeting operational goals. Chemical addition to address the air quality in building B-3 also continued. In remote operations, there was a violation for exceeding the instantaneous TRC limit at the Thornbury Township WWTP.

We found the cause to be an issue with the pump used for dechlorination so this was an isolated incident.

B. Maintenance Highlights/Key Events

1. There were no system failures during the month. In addition to routine planned facility and collection system O&M; work on in-house projects and support of capital projects remains a significant focus of the maintenance departments. During the month, Central Maintenance also worked on belt filter press repairs, performed incinerator and related systems' repairs, primary clarifier inspections and repairs, various pump repairs, and providing labor to support plant operations. Sewer Maintenance continued to focus on area line cleaning and televising, air relief inspections and maintenance, response to One-Calls and sewer complaints, metering support, various line repairs and replacement, W RTP work, remote systems work, and support of capital projects.

C. Trucked Waste Business

1. During the month, 25.29MM gallons were received. Projected revenue for the month is expected to meet our monthly target and the year-to-date revenue is still pacing ahead of budget.

MJD:bab

attachments (NPDES DMR/Strategic Plan Reports)

cc: M. Warholic

C. Lenton

W. Smith

C. Mariani

S. Gober

File



## Cummings, Meghan

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**From:** depgreenporthelpdesk@state.pa.us  
**Sent:** Friday, August 14, 2020 11:59 AM  
**To:** DiSantis, Michael; DiSantis, Michael; Raymond Rios; Piro, Ian; Mariani, Chris; Petrova, Mihaela; Cartafalsa, James  
**Subject:** Your eDMR Report Has Been Received For Permit No. PA0027103

This email is to confirm that the following report was received by DEP through the eDMR system:

**Facility Name:** DELCORA STP  
**Permit Number:** PA0027103  
**Report Frequency:** Monthly  
**Report Type:** DMR  
**Reporting Period:** 07/01/2020-07/31/2020  
**Report Due Date:** 08/28/2020

**Submitted By:** Michael DiSantis  
**Submission Id:** 221269  
**Submission Status:** Received  
**Submission Type:** Original

To view the details of this report, access the eDMR system through DEP's [GreenPort](#) and select the link for View/Revise Submitted.



DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY  
P.O. Box 999 • Chester, PA 19016-0999

August 14, 2020

**SUBMITTED ONLINE VIA PADEP eDMR SYSTEM**

William Collins  
Water Quality Specialist – Water Management  
PA Department of Environmental Protection  
2 East Main Street  
Norristown, PA 19401

Dear Mr. Collins:

Enclosed are DELCORA's Discharge Monitoring Report, Laboratory Data Reports, and CSO Report for July 2020. There were no violations during the month.

Parameter averages for July 2020 were: Flow – 31.47 MGD; cBOD<sub>5</sub> – <5 mg/L; TSS – 7 mg/L; cBOD<sub>20</sub> % removal – 97.54%; and cBOD<sub>20</sub> – <2,295 lbs/day.

Should any further information be required concerning this report, please contact me at 610-876-5523, ext. 264.

Respectfully submitted,

*Electronically signed & submitted*

Michael J. DiSantis  
Director of Operations and Maintenance

MJD:mc  
enclosures

cc: w/enclosures  
US EPA - NPDES DMR (3WP42) – can access through DEP website  
Delaware River Basin Commission – can access through DEP website  
C. Mariani via email with server link  
File

ADMINISTRATION

☐ 610-876-5523  
☐ FAX: 610-876-2728

CUSTOMER SERVICE/BILLING

☐ 610-876-5526  
☐ FAX: 610-876-1460

PURCHASING & STORES

☐ 610-876-5523  
☐ FAX: 610-497-7959

PLANT & MAINTENANCE

☐ 610-876-5523  
☐ FAX: 610-497-7950



**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**BUREAU OF CLEAN WATER**  
**DISCHARGE MONITORING REPORT (DMR)**

NAME: DELCORA  
 ADDRESS: 100 EAST FIFTH STREET P.O. BOX 999, CHESTER PA,  
 19016-0999  
 FACILITY: DELCORA STP  
 LOCATION: 3201 W FRONT ST. CHESTER PA, 19013-1829  
 STAGE: Final Effluent

PA0027103  
 PERMIT NUMBER

001  
 OUTFALL NUMBER

Reporting Frequency: Monthly  
 DMR Effective From: 07/01/2020  
 DMR Effective To: 07/31/2020  
 Permit Expires: 04/30/2018  
 Permit Application Due: 11/01/2017  
 No Discharge: ☐

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
FROM	2020	07	TO	2020	07
		01			31

## PARAMETERS REPORTED VALUES

PARAMETER		QUANTITY OR LOADING			QUANTITY OR CONCENTRATION			SAMPLING FREQUENCY	SAMPLING TYPE
		VALUE	UNITS	VALUE	VALUE	UNITS			
pH (00400)	Sample Measurement	***	***	6.4	***	6.66	S.U.	1/day	Grab
	Permit Requirement	***	***	6.0 Inst Min	***	9.0 IMAX		1/day	Grab
Total Suspended Solids (00500)	Sample Measurement	2049	4413	***	7.0	14.0	mg/L	1/day	24-Hr Composite
	Permit Requirement	11000 Avg Mo	Wkly Avg	***	30.0 Avg Mo	45.0 Wkly Avg		1/day	24-Hr Composite
Oil and Grease (00550)	Sample Measurement	< 1312	***	***	< 5.0	< 5.0	mg/L	1/day	Grab
	Permit Requirement	5000 Avg Mo	***	***	15.0 Avg Mo	30.0 IMAX		1/day	Grab
Ammonia-Nitrogen (00610)	Sample Measurement	***	***	***	1.27	***	mg/L	2/month	24-Hr Composite
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	***		2/month	24-Hr Composite
Nitrite as N (00615)	Sample Measurement	***	***	***	< .1	< .1	mg/L	2/month	24-Hr Composite
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	Monitor & Report Daily Max		2/month	24-Hr Composite
Nitrate as N (00620)	Sample Measurement	***	***	***	5.1	6.07	mg/L	2/month	24-Hr Composite
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	Monitor & Report Daily Max		2/month	24-Hr Composite
Total Kjeldahl Nitrogen (00625)	Sample Measurement	***	***	***	-4.84	***	mg/L	2/month	24-Hr Composite
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	***		2/month	24-Hr Composite
Cyanide, Total (00720)	Sample Measurement	***	***	***	0180	***	mg/L	1/month	24-Hr Composite
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	***		1/month	24-Hr Composite
Chloroformomethane (34306)	Sample Measurement	***	***	***	.0052	***	mg/L	1/month	Grab
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	***		1/month	Grab
Cadmium, Total (01027)	Sample Measurement	***	***	***	< .0002	***	mg/L	1/month	24-Hr Composite
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	***		1/month	24-Hr Composite
Copper, Total (01042)	Sample Measurement	***	***	***	.0041	***	mg/L	1/month	24-Hr Composite
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	***		1/month	24-Hr Composite
Lead, Total (01051)	Sample Measurement	***	***	***	< .0010	***	mg/L	1/month	24-Hr Composite
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	***		1/month	24-Hr Composite
Zinc, Total (01062)	Sample Measurement	***	***	***	.0310	***	mg/L	1/month	24-Hr Composite
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	***		1/month	24-Hr Composite
Dichloromomethane (02101)	Sample Measurement	***	***	***	.0047	***	mg/L	1/month	Grab
	Permit Requirement	***	***	***	Monitor & Report Avg Mo	***		1/month	Grab
Flow (00050)	Sample Measurement	31.47	46.69	***	***	***	***	Continuous	Measured
	Permit Requirement	Monitor & Report Avg Mo	Monitor & Report Daily Max	***	***	***		Continuous	Measured
Total Residual Chlorine (TRC) (00060)	Sample Measurement	***	***	***	.4	1.0	mg/L	1/day	Grab
	Permit Requirement	***	***	***	.5 Avg Mo	1.0 IMAX		1/day	Grab



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF CLEAN WATER  
DISCHARGE MONITORING REPORT (DMR)

Sample Measurement Permit Requirement	***	***	***	***	***	575 Monitor & Report Avg Mo	887 Monitor & Report Daily Max	mg/L	2/week 2/month 1/day 1/day 1/day 1/day 1/day 1/day 1/week	24-Hr Composite 24-Hr Composite Grab Grab 24-Hr Composite 24-Hr Composite 24-Hr Composite 24-Hr Composite
Total Dissolved Solids (TDS)	***	***	***	***	***	5	435.2	No /100 ml	2/week	24-Hr Composite
Fecal Coliform (74059) (May-Sep)	***	***	***	***	***	200	1000	No /100 ml	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) (80082)	***	***	***	***	***	Geo Mean < 5.0	1000	mg/L	1/day	Grab
Sample Measurement Permit Requirement	< 1320	3195	10500	10500	10500	19.0	25.0	mg/L	1/day	24-Hr Composite
BOD, carbonaceous, 20 day, 20 C (80087)	< 2295	10500	10500	10500	10500	Avg Mo	Wkly Avg	***	1/day	24-Hr Composite
Sample Measurement Permit Requirement	< 2295	10500	10500	10500	10500	Avg Mo	Wkly Avg	***	1/week	24-Hr Composite
Facility Sampling Point Comments										



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF CLEAN WATER  
DISCHARGE MONITORING REPORT (DMR)

NAME: DELCORA  
ADDRESS: 100 EAST FIFTH STREET P.O. BOX 998, CHESTER PA, 19016-0999  
FACILITY: DELCORA STP  
LOCATION: 3201 W FRONT ST, CHESTER PA, 19013-1829  
STAGE: Percent Removal

PA0027103  
PERMIT NUMBER

001  
OUTFALL NUMBER

Reporting Frequency: Monthly  
DMR Effective From: 07/01/2020  
DMR Effective To: 07/31/2020  
Permit Expires: 04/30/2018  
Permit Application Due: 11/01/2017  
No Discharge: ☐

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
2020	07	01	2020	07	31

FROM

TO

## PARAMETERS REPORTED VALUES

PARAMETER	QUANTITY OR LOADING			QUANTITY OR CONCENTRATION			SAMPLING FREQUENCY	SAMPLING TYPE
	VALUE	UNITS	VALUE	VALUE	UNITS	VALUE		
BOD, carbonaceous, 20 day, 20 C (60387)	---	---	---	97.54	---	---	1week	24-Hr Composite
	---	---	---	89.25	---	---	1week	24-Hr Composite
	---	---	---	Min Mo Avg	---	---		

Facility Sampling Point Comments



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF CLEAN WATER  
DISCHARGE MONITORING REPORT (DMR)

NAME: DELCORA  
ADDRESS: 100 EAST FIFTH STREET/P.O. BOX 999, CHESTER PA, 19016-0999  
FACILITY: DELCORA STP  
LOCATION: 3201 W FRONT ST, CHESTER PA, 19013-1829  
STAGE: Raw Sewage Influent

PA0027103  
PERMIT NUMBER

001  
OUTFALL NUMBER

Reporting Frequency: Monthly  
DMR Effective From: 07/01/2020  
DMR Effective To: 07/31/2020  
Permit Expires: 04/30/2018  
Permit Application Due: 11/01/2017  
No Discharge: ☐

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
FROM 2020	07	01	TO 2020	07	31

## PARAMETERS REPORTED VALUES

PARAMETER	QUANTITY OR LOADING			QUANTITY OR CONCENTRATION			SAMPLING FREQUENCY	SAMPLING TYPE
	VALUE	UNITS	VALUE	VALUE	UNITS	VALUE		
Biochemical Oxygen Demand (BOD5) (00310)	Sample Measurement	75003	***	271.57	ng/L	***	2/week	24-H Composite
	Permit Requirement	Monitor & Report Avg Mo	***	Monitor & Report Avg Mo	***	***	1/week	24-H Composite
Total Suspended Solids (00350)	Sample Measurement	94142	***	315.42	ng/L	***	1/day	24-H Composite
	Permit Requirement	Monitor & Report Avg Mo	***	Monitor & Report Avg Mo	***	***	1/day	24-H Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) (00382)	Sample Measurement	70072	***	298.53	ng/L	***	1/day	24-H Composite
	Permit Requirement	Monitor & Report Avg Mo	***	Monitor & Report Avg Mo	***	***	1/day	24-H Composite
Facility Sampling Point Comments								



**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**BUREAU OF CLEAN WATER**  
**DISCHARGE MONITORING REPORT (DMR)**

**ATTACHMENT DETAILS**

File Name	Attachment Type	Uploaded Time	Attachment Comments
Hauled in Municipal Waste Form_July 2020.xls	Hauled in Municipal Waste Form	2020-08-13T10:22:15-04:00	
DMR In/PRF (CBODTSS,BOD)_July 2020.pdf	Laboratory Analytical Report	2020-08-13T10:20:36-04:00	
Hauler Totals_FORM 43 A Trucked Waste_July 2020.xlsx	Other	2020-08-13T10:22:45-04:00	Hauler Totals FORM 43 and Trucked Waste July 2020
Daily Effluent Monitoring Form_July 2020.xlsx	Daily Effluent Monitoring Form	2020-08-14T10:02:35-04:00	
Sludge Hauled_July 2020.xlsx	Other	2020-08-13T10:28:16-04:00	Sludge Hauled July 2020
DELCORA Lab Analytical Report (Effluent)_July 2020.pdf	Laboratory Analytical Report	2020-08-14T10:54:51-04:00	
MUR Lab Analytical Report_7-7-2020.pdf	Laboratory Analytical Report	2020-08-13T10:54:15-04:00	
MUR Lab Analytical Report_7-21-2020.pdf	Laboratory Analytical Report	2020-08-13T10:54:23-04:00	
DMR Laboratory Accreditation ALS_July 2020.doc	Laboratory Accreditation Form	2020-08-13T10:17:28-04:00	
DMR Laboratory Accreditation DELCORA_July 2020.doc	Laboratory Accreditation Form	2020-08-13T10:17:47-04:00	
Sewage Sludge Biosolids Production and Disposal Form_July 2020.xls	Sewage Sludge / Biosolids Production and Disposal Form	2020-08-13T10:28:57-04:00	
Sludge Incinerated (DELCORA)_July 2020.pdf	Laboratory Analytical Report	2020-08-13T10:27:49-04:00	
July 2020 SWMM Report.xlsx	CSC Detailed Outfall Report Form	2020-08-13T10:28:46-04:00	
DMR Laboratory Accreditation MUR_July 2020.doc	Laboratory Accreditation Form	2020-08-13T10:16:04-04:00	
DELCORA Analytical Lab Report (Effluent outfall)_July 2020.pdf	Laboratory Analytical Report	2020-08-13T10:19:36-04:00	
DELCORA Analytical Lab Report (Influent)_July 2020.pdf	Laboratory Analytical Report	2020-08-13T10:19:38-04:00	
ALS Analytical Lab Report (Effluent)_July 7 2020.PDF	Laboratory Analytical Report	2020-08-13T10:18:41-04:00	
DMR Cover Letter_June 2020.doc	NMR Data	2020-08-14T11:56:22-04:00	
Daily Influent Monitoring Form_July 2020.xlsx	Daily Effluent Monitoring Form	2020-08-13T11:19:47-04:00	
Hauled in Residual Wastes Form_July 2020.xlsx	Hauled in Residual Waste Form	2020-08-13T10:24:35-04:00	
Influent & Process Control Form_July 2020.xls	Influent and Process Control Form	2020-08-13T10:28:15-04:00	
Influent & Process Control Analytical Lab Report_July 2020.pdf	Laboratory Analytical Report	2020-08-13T11:21:16-04:00	
In/PRF Calculations_July 2020.xlsx	Other		In/PRF Calculations July 2020

**PERMIT VIOLATIONS**

Non-Compliance ID	Event Start Date	Event End Date	Parameter	Link Type	Reported Value	Permit Limit	Unit	Sampling Point	Cause Of Non-Compliance	Corrective Action	Comments
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**UNAUTHORIZED DISCHARGES**

Non-Compliance ID	Event Start Date	Event End Date	Date and Time Discovered	Substance Discharged	Event Location	Volume (gal)	Duration (hrs)	Receiving Waters	Impact On Waters	Cause Of Discharge	Date and Time DEP Notified Orally	Comments
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**OTHER PERMIT VIOLATIONS**

Non-Compliance ID	Non-Compliance Type	Sampling Point	Parameter	Reported Value	Permit Limit	Comments
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**COMMENT DETAILS**

Comments	Operator Name	Operator Certification Number	Operator Contact Number
	Michael J. D'Santis	T0403	(610) 876-5523

**SUBMISSION INFORMATION**

SUBMITTED BY GREENPORT USER	*Pursuant to the Pennsylvania Electronic Transactions Act - Act 69, effective January 15, 2002, you are about to engage in an electronic transaction with the Commonwealth of Pennsylvania. You are submitting official information. You certify under penalty of law that this document and all attachments were prepared under your direction or supervision in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. Based on your inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of your knowledge and belief, true, accurate and complete. You are aware that any false statement may be subject to substantial civil and criminal penalties, including 18 P.S. section 4904 (relating to unsworn falsification to authorities).			TELEPHONE		DATE	
	disantism	Michael D'santis		(610)	876-5523	2020	08
		SUBMITTED BY FULL NAME	AREA CODE	NUMBER	YEAR	MO	DAY

# OPERATIONS STRATEGIC PLAN REPORT

## AUGUST 2020

<b>Missed Samples Per Month</b>	<b>#</b>	<b>YTD</b>
Goal is zero	0	0
<b>Deviations from Required Sampling Or Analytical Protocol</b>	<b>#</b>	
Goal is 100% compliance	0	0
<b>Samples with Analytical Results Outside of QA/QC Standards</b>	<b>#</b>	
Goal is 100% compliance	21	78
<b>Hours in Training for Month</b>	<b>#</b>	
Total DEP Approved	18.5	117.0
<b>DEP Certified Operators</b>	<b>#</b>	
Regulations Require One	12	



# CENTRAL MAINTENANCE MATRIX

## AUGUST 2020

		CURRENT MONTH	YTD
<b>Work Order Aging</b>		<b>#</b>	
31-60 days		31	
61-90 days		17	
Over 90 days		44	
<b>Work order hours/Available hours</b>		<b>%</b>	<b>%</b>
**Mechanical Maintenance		92%	91%
Electrical Maintenance		88%	87%
Instrument Maintenance		91%	92%
**Includes all Preventive Maintenance			
<b>Work Ratio Hours</b>		<b># / %</b>	<b># / %</b>
Corrective		1110 / 33%	7894 / 30%
Preventive		2205 / 65%	18283 / 68%
Predictive		56 / 2%	646 / 2%
<b>System Failures</b>		<b>#</b>	<b>#</b>
<b>Hours in Training</b>		<b>#</b>	<b>#</b>
Mechanics/Helpers		NA	NA
Electricians		NA	NA
Instrument Techs		NA	NA
<b>Call-Ins</b>		<b>#</b>	<b>#</b>
WRTP		28	234
Pump Stations		17	93



**Work Order Summary Report for Date  
Range: 8/1/2020 to 8/31/2020**

<b>Asset Type</b>	<b>Work Order Type</b>	<b>Labor Hours</b>	<b>Labor Cost</b>
<b>FLEET_ASSETS</b>		<b>0</b>	<b>5,901.79</b>
	GENERAL REPAIR	0	\$5,901.79
<b>SCHAMBER</b>		<b>105</b>	<b>2,861.24</b>
	CLEAN GRATES	89	\$2,397.69
	EMERGENCY CALL IN	4	\$90.87
	TIDE GATE/CHAMBER CLEANING	12	\$372.68
<b>SCONTROLVALVE</b>		<b>45</b>	<b>1,397.55</b>
	SERVICE AIR RELIEF VALVE	45	\$1,397.55
<b>SCSOREGULATOR</b>		<b>303</b>	<b>8,764.06</b>
	CSO INSPECTION	165	\$4,364.41
	REMOVE FLOATABLES/VAC DEBRIS FROM CHAMBERS	42	\$1,271.01
	RUN CORSSOVER/VAC DEBRIS FROM TRUNK LINES	96	\$3,128.64
<b>SGRAVITYMAIN</b>		<b>632</b>	<b>19,186.33</b>
	AREA LINE CLEANING	72	\$2,239.87
	CLEARING DEBRIS OR BRUSH	12	\$278.04
	COLD PATCH REPAIR	10	\$314.40
	EMERGENCY CALL IN	40	\$1,301.98
	GNET TV INSPECTION	128	\$3,968.92
	INSPECTION OF POSSIBLE CAVE IN	8	\$227.18
	INTERCEPTOR CLEANING	96	\$2,810.79
	MISCELLANEOUS	16	\$491.88
	MONTHLY LINE CLEANING	69	\$2,169.36
	PA ONE CALL LINE LOCATING	48	\$1,219.26

Asset Type	Work Order Type	Labor Hours	Labor Cost
	PIPE REPAIR	99	\$3,090.71
	SEAPORT PUMP	12	\$377.28
	SINKHOLE INVESTIGATION	23	\$696.67
SLATERALPOINT		205	6,895.41
	CLEAR LATERALS	7	\$212.03
	EMERGENCY CALL IN	40	\$1,872.60
	LATERAL REPAIR	44	\$1,354.48
	MISCELLANEOUS	5	\$151.45
	SEWER COMPLAINT INVESTIGATION	97	\$2,913.77
	TV INSPECTION	12	\$391.08
SMANHOLE		58	1,760.08
	CLEAN UP OVERFLOWS	15	\$465.85
	COLD PATCH REPAIR	8	\$242.32
	EMERGENCY CALL IN	26	\$772.40
	REPLACE COVER /REPAIR RING	9	\$279.51
SPUMPSTATION		148	4,012.85
	CHESTER / RIDLEY CREEK P.S.	45	\$1,381.15
	CHESTER PUMP STATION	48	\$1,060.29
	EMERGENCY CALL IN	16	\$363.48
	SEAPORT DRIVE	14	\$432.28
	SEAPORT PUMP	25	\$775.65
STREATMENTPLANT		248	8,209.48
	CLEAN GRIT PIT/LOAD CONTAINER	79	\$2,463.27
	EMERGENCY CALL IN	16	\$559.02
	PLANT CLEANUP	16	\$370.72
	PRF PUMP ASSISTANCE	3	\$97.77
	PS-6	30	\$940.90
	SLUDGE RECEIVING	11	\$486.83
	SLUDGE TRAILER SWITCH OUT	24	\$1,104.24
	T-15	5	\$157.20
	T-2	36	\$862.60
	THE BEAST	28	\$1,166.93

Asset Type	Work Order Type	Labor Hours	Labor Cost
SVARIOUS		437	13,281.20
	CLEAN SM GARAGE	12	\$377.28
	ENGINEERING SUPPORT	192	\$5,751.46
	EQUIPMENT MALFUNCTIONS AND REPAIRS	51	\$1,584.72
	MISCELLANEOUS	92	\$2,751.97
	PARTS /TOOLS/ EQUIPMENT PROCUREMENT	6	\$185.36
	STORM RELATED WORK	45	\$1,420.55
	VEHICLE INSPECTON	40	\$1,209.87
Grand Total:		2,180	\$72,269.97



## INTER-OFFICE MEMORANDUM

**TO:** Robert J. Willert, Executive Director  
**FROM:** Charles N. Hurst, Director of Engineering  
**SUBJECT:** Board Report for the September 8, 2020 O&E Committee Meeting  
**DATE:** September 8, 2020

### **CONSTRUCTION PROJECTS**

#### 1. INCINERATOR MAINTENANCE AND EMERGENCY REPAIRS (#TC-1801-C)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	Industrial Furnace Company, Inc.
Contract Amount:	\$686,750.00
Percentage Paid:	90.00% - through previous month
Notice of Award:	03/20/2018
Notice to Proceed:	04/04/2018
Substantial Completion:	03/31/2020
Final Completion:	05/30/2020

The close out process has been initiated. This project has been superseded by #TC-2001-C summarized as Item 12, below.

#### 2. PS-6 CONSTRUCTION, PHASE I (#TC-1707-C)

Funding:	Capital
Design:	Gannett Fleming
Inspection:	In-house
Electrical (Part D):	Philips Brothers Electrical
Contract Amount:	\$4,140,900.00
Notice of Award:	01/23/2017
Notice to Proceed:	05/30/2017
Substantial Completion:	09/21/2018
Final Completion:	11/21/2018 (Part D Final Completion 1/29/2021)

Construction is complete. General, Plumbing and HVAC contracts are closed out. Fiber Communication work remains prior to initiating the close-out process for Contract Part D Electrical. Change Order #1 was approved by the BOD for an extension in contract time to accommodate the remaining Fiber Communication work. PS-6 Fiber work was completed and will be billed for next month.

### 3. SOLIDS HANDLING UPGRADE 2016 (#TC-1608-C)

Funding:	Capital
Design:	GHD & Weston
Inspection:	In-house
General (Part A):	Allan Myers.
Contract Amount:	\$6,495,555.00
Percentage Paid:	99.69% - through previous month – FINAL
Electrical (Part B):	Philips Brothers Electric
Contract Amount:	\$1,833,200.00
Percentage Paid:	95% - through previous month
Notice of Award:	10/17/2017
Notice to Proceed:	12/04/2017
Substantial Completion:	01/03/2019
Final Completion:	02/01/2019

The close out process is on-going .

### 4. WRTP Plant Upgrades (#TC-1717-C)

Funding:	Capital
Design:	D'Huy Engineering, Inc. & Gannett Fleming
Inspection:	D'Huy Engineering, Inc.
General (Part A):	Allan Myers.
Contract Amount:	\$14,905,555.00
Percentage Paid:	98.77% through previous month
Electrical (Part B):	Philips Brothers Electric
Contract Amount:	\$6,220,777.00
Percentage Paid:	90.48% - through previous month
Notice of Award:	05/17/2018
Notice to Proceed:	06/04/2018
Substantial Completion:	12/25/2020
Final Completion:	02/23/2021

Allan Myers has installed the water lines to Lakeside #1 as well as removed the existing pad and then coated the new concrete. They installed the new bollards and

the new door to EB-2. They installed the grease line between T-25 and EB-2, and repaired the sidewalk. They installed the new grating at the chlorine contact tanks and cleaned-up around this area. They installed the walkways, rails, and grating at the grease receiving units. They worked on the bag house metals and worked on the ash site. They worked on replacing the utility water in B-3. Philips Brothers worked on the electrical installations for the belt filter press room as well as piping and wiring the Lakesides.

#### 5. MARCUS HOOK PUMP STATION & CHESTER RIDLEY CREEK PUMP STATION ELECTRICAL UPGRADES (#PR-1804-C)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	Philips Brothers Electrical Contractors, Inc.
Contract Amount:	\$789,127.00
Percentage Paid:	76.66% - through previous month
Notice of Award:	09/19/2018
Notice to Proceed:	10/15/2018
Substantial Completion:	03/14/2019
Final Completion:	05/03/2019 - Maintenance Alternate: 10/31/2020

Philips Brothers continues to complete maintenance projects at various locations. Philips Brothers completed the replacement of two electrical poles and the 15kV feeder from the pole to the high voltage switch at Muck Pump Station. They removed pump motors at Chester pump station and performed some wire/conduit modifications. They removed a vibrating motor from Darby Creek Pump Station so it could have bearing work performed on it. Additionally, Philips Brothers responded to a call out to Pocopson to investigate motors tripping out during ATS transfers. They identified loose screws in the ATS, fixed the issue and replaced the ATS controller. Philips Brothers assisted with installing conduits between the Pocopson Preserve Pump Station and the lagoons with 3 quazite boxes and installed a receptacle to temporarily feed an outlet for the upgraded aeration system. Philips Brothers also removed and replaced a VFD at Darby Creek Pump Station including the servicing of the VFD motor. Philips Brothers supplied and installed two generators at WRTP at each substation to support Plant operations during a PECO outage. Power Solutions was utilized for an emergency call-out to Chester Pump Station to diagnose, resolve, and test issue with low voltage tie circuit breaker. At WRTP, Philips Brothers installed, welded and installed wiring for six rotorks in B-3/incinerator. No maintenance work was completed during this past month. Philips Brothers will bill next month for the work associated with transporting the next motor to be serviced and later reinstalled at Chester Pump Station.

## 6. HVAC ENERGY SAVINGS UPGRADE (#TC-1716-C)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	CM3 Building Solutions
Contract Amount:	\$6,883,486.00
Percentage Paid:	84.95% - through previous month
Notice of Award:	9/13/2017
Notice to Proceed:	9/13/2017

Phase 2 work continues. Phase 3 has been approved and work is initiated. All roof fans in PS-3 and PS-4 installed; gravity and mechanical louvers are installed and opened. Louvers need to be wired and controls added for operation. B-4 work continues; curbing and structural reinforcement for air handlers and new fans is complete. Building duct work complete; all units wired, controls need to be installed and programmed for system to go online. B-3 air quality improvement project recommendations are complete. New exhaust duct is in construction. Scheduled start date late September.

## 7. SEWER MAINTENANCE (#SEW-1905-CO)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	A. J. Jurich, Inc.
Contract Amount:	\$1,141,981.00
Percentage Paid:	71.65% - through previous month
Notice of Award:	06/19/2019
Notice to Proceed:	07/16/2019
Final Completion:	08/31/2020

August maintenance work included:

- Complete Pump replacement at Chester Pump Station
- Final Paving on pipe repair on Avenue of the States Outfall in KC Lot
- Gate repair in T-2 at WRTP



8. PAVING RESTORATION SERVICES – ANNUAL (#SEW-1902-CO)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	A. F. Damon, Inc.
Contract Amount:	\$959,742.50 – 2 Year Contract
Percentage Paid:	65.43% - through previous month
Notice of Award:	11/20/2018
Notice to Proceed:	02/01/2019
Substantial Completion:	01/31/2021
Final Completion:	02/28/2021

No work this month.

9. WRTP SUBSTATION NO. 2 REPLACEMENT (#TC-1904-C)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	Philips Brothers Electrical
Contract Amount:	\$1,442,777.00
Percentage Paid:	76.22% - through previous month
Notice of Award:	04/16/2019
Notice to Proceed:	05/10/2019
Substantial Completion:	12/11/2021
Final Completion:	01/29/2021

Substation in service and online. SCADA fiber is completely pulled and tested and being placed in service by Automation. New Press room MCC being installed in hallway of B-3; VFD's installed old lunchroom. Conduit being replaced in press room. Junction boxes installed and conduit run. Conduit ran for CM3 work. Electrical feeders being pulled early September.

10. SPRINGHILL FARM WWTF PUMP STATION AND SANITARY FORCE MAIN PROJECT (#PFR-1903-C – RE-BID) - CONTRACT 1: GENERAL CONSTRUCTION

Funding:	Capital
Design:	Entech Engineering, Inc.
Inspection:	In-House
Contractor:	A. J. Jurich, Inc.
Contract Amount:	\$480,304.00
Percentage Paid:	0% - through previous month

Notice of Award:	12/17/2019
Notice to Proceed:	02/12/2020
Substantial Completion:	10/09/2020
Final Completion:	11/09/2020

PADEP WQM Permit was received. Pettinaro started work on the adjacent force main project on May 19, 2020. Pettinaro contractor is drilling into rock and continues to be behind schedule. The wet well, valve vault and air release valve structures have been set. Pumps, Meter and ARV are installed, and discharge piping has been installed between the chambers. The site is backfilled to subgrade.

11. SPRINGHILL FARM WWTF PUMP STATION AND SANITARY FORCE MAIN PROJECT (#PFR-1903-C– RE-BID) - CONTRACT 2: ELECTRICAL/SCADA CONSTRUCTION

Funding:	Capital
Design:	Entech Engineering, Inc.
Inspection:	In-House
Contractor:	AJM Electric, Inc.
Contract Amount:	\$198,543.00
Percentage Paid:	2.29% - through previous month
Notice of Award:	12/17/2019
Notice to Proceed:	02/12/2020
Substantial Completion:	10/09/2020
Final Completion:	11/09/2020

PADEP WQM Permit was received. Contractor has installed the SCADA panel and cable trough. Conduits are run through the attic and connect exterior with panels in new control room. Underground duct bank is installed.

12. INCINERATOR MAINTENANCE AND EMERGENCY REPAIRS (#TC-2001-C)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	Industrial Furnace Company, Inc.
Contract Amount:	\$686,750.00
Percentage Paid:	10.26% - through previous month
Notice of Award:	04/22/2020
Notice to Proceed:	05/05/2020
Substantial Completion:	03/31/2022
Final Completion:	05/30/2022

IFCO did not conduct work this month.

### 13. SPRINGHILL FARM SANITARY SEWER FORCE MAIN EXTENSION (#PFR-2004-C) – GENERAL CONSTRUCTION

Funding:	Capital
Design:	Entech Engineering, Inc.
Inspection:	In-House
Contractor:	A. J. Jurich, Inc.
Contract Amount:	\$76,295.00
Percentage Paid:	0% - through previous month
Notice of Award:	05/20/20
Notice to Proceed:	06/15/2020
Substantial Completion:	09/14/2020
Final Completion:	10/13/2020

PADEP WQM Permit was received. Pettinaro started work on the adjacent force main project on May 19, 2020. Pettinaro contractor is drilling into rock and continues to be behind schedule. Force main installation is expected to start the week of September 9<sup>th</sup> and last three weeks.

## **DESIGN**

### 1. CSO LONG TERM CONTROL PLAN UPDATE

The LTCP Semi-Annual Report No. 9 was submitted on December 30, 2019. On January 30, 2020, the USEPA issued a letter to respond to the LTCP Update that was submitted to USEPA on February 12, 2019. The letter identified 11 deficiencies and requested additional information in 11 other areas. The EAP letter included an offer to meet to discuss items. This meeting occurred on February 26, 2020. There was an updated LTCP submitted to EPA and PADEP on July 15, 2020 in accordance with the commitments made during the February 26<sup>th</sup> meeting.

### 2. ESA ALTERNATIVES

In response to escalated costs for the treatment of the Eastern Service Area (ESA) flow at Philadelphia's Southwest Water Pollution Control Plant, DELCORA determined that it will redirect its flow away from Philadelphia and instead send it to WRTP. A team of consultants to complete the design has been hired. The initial stages of design are underway as detailed on a Design Contract basis below. At the program level, HDR is leading permitting efforts to coordinate the Design Contract firms for a meeting with the Army Corps of Engineers regarding program-wide permitting. In February 2020, DELCORA convened a Value Engineering workshop of national wastewater experts to review the design and provide suggestions on improvements that would increase value (either reduce cost or increase function). The suggestion to consider a tunnel alternative was an outcome of the Value Engineering workshop. To support consideration of a tunnel, Gannett Fleming completed the drilling of 5 test borings DELCORA facilities. These borings

showed rock conditions that are very favorable for tunnel construction. Also, a preliminary meeting was held with PennDOT representatives to introduce the project and start the dialogue about their concerns and requirements for tunnel or pipeline construction. Concurrently, the design of the pipeline approach proceeded. As the pipeline design proceeded, new challenges were identified that increase the pipeline estimated costs. These included the impacts of the newly identified Norwood Dump & Landfill, new PADEP requirement for soil management, pipeline routing changes to reduce impacts on residents, and impacts caused by uncertainty about future wet-weather peak flows from satellite communities. The tunnel design proceeded such with the goal of identifying the challenges and costs of the tunnel approach. The tunnel approach achieves a large amount of storage in the tunnel. This attenuates the wet-weather peak flows, so the requirements/costs of wet-weather treatment are dramatically reduced. The outcome of the concurrent pipeline and tunnel showed that the recent developments in pipeline approach have resulted in a pipeline cost greater than the budget while the tunnel approach is on budget. Specific tasks on the individual design contracts are listed below.

A. Pipeline Contract 1 - Segments 1 and 2 (D19-01) – Scopes and fee revisions for the ESA Tunnel 10% Design have been awarded. AECOM collaborated with the Tunnel Design team to provide a 10% design at the end of August 2020. The 10% design deliverable is currently under review by DELCORA Engineering.

B. Pipeline Contract 2 - Segments 3 and 4 (D19-02) – Scopes and fee revisions for the ESA Tunnel 10% Design have been awarded. Mott MacDonald collaborated with the Tunnel Design team to provide a 10% design at the end of August 2020. The 10% design deliverable is currently under review by DELCORA Engineering.

C. Pump Station Upgrades and Equalization Basin Design Contract (D19-03): Detailed Condition Assessments including lidar scanning and hazardous material testing were conducted at remote pump stations to inform design. HDR submitted their Condition Assessment report and Code Compliance Review technical memo to DELCORA for review last month. With the assistance of DCJA, HDR completed a walkthrough of the Darby Creek Joint Authority site adjacent to Darby Creek Pump Station to complete a Phase I site assessment to review available environmental information, required before any acquisition of land if deemed necessary to meet design needs of the ESA Program. Final Asset Condition and Replacement Recommendation Report were delivered and are under review by the Engineering Department. HDR submitted An Opinion of Probable Cost regarding portions of conveyance design options developed during the VE. A field visit to the eastern pump stations was completed for the purposes of informing environmental permitting and survey work to support design. Ongoing work includes progress towards the 30% basis of design of the pump station upgrades as well as hydraulic analysis and modeling of the existing conditions. Scope and fee for the ESA Tunnel Pump Station Alternatives Analysis has been awarded. HDR collaborated with the Tunnel Design team to provide an Alternatives Analysis for the 50 MGD tunnel dewatering pump station design by the end of

August 2020. The Alternatives Analysis deliverable is currently under review by DELCORA Engineering.

D. Western Regional Treatment Plant Expansion & WBTT Upgrades Design Contract (D19-04): Kleinfelder produced an amended scope and fee, and a value engineering recommendation memorandum. They also produced a wet-weather flow characterization for Chester Pump Station and conducted a workshop to review the memorandum. They conducted site visits to review Chester Pump Station, and the dewatering and chlorination conditions at WRTP. They began work on developing a master site plan for WRTP as well as the dewatering alternatives evaluation.

### 3. CSO #5 PARTIAL SEPARATION – TOWNSEND STREET 48" COMBINED SEWER SEPARATION PROJECT

Engineer: Remington & Vernick Engineers  
Design Project Kick-off Meeting: March 28, 2019

This project is a component of the LTCP Update.

Plans are now about 90% complete. Utility companies are being contacted regarding conflict resolutions and relocations. RVE has submitted to PennDOT for plan approval. SAC's design consultants, HDR, Inc. and AKRF, Inc., have met virtually with DELCORA engineering and RVE, and they understand the required effluent conditions out of Memorial Park. They have submitted a design memo requesting DELCORA to review and evaluate the effect of their design on the proposed DELCORA Separation Plan. RVE will provide a proposal to conduct the evaluation and determine the effects on the DELCORA Separation Plans. DELCORA has authorized ERM to procure the easements at the Marketplace property for both the new and existing pipes.

### 4. CRUM CREEK PUMP STATION BYPASS FORCE MAIN – FINAL DESIGN

Engineer: Gannett Fleming, Inc.

Gannett Fleming and ERM are engaged in acquiring permission to access properties to continue design work. At this time, three of the five property owners have granted permission to enter their properties to survey. ERM has applied to PECO to the install force main through their easement. Engineer has surveyed and conducted SUE Level A and Geotechnical Investigation along north end of project (Crum Creek Pump Station to Amtrak. ERM has begun negotiations with Boeing for access. DELCORA has continued conversations with Boeing to acquire easement. Gannett Fleming has submitted to PADEP for WQM Part II permit on April 30<sup>th</sup>. Permit plans will include LIDAR survey in lieu of onsite survey due to COVID-19 and Boeing access licensing. GF has completed the topographical survey and initial SUE on the Boeing property. GF has submitted to Boeing for an agreement to conduct excavation of test pits, geotechnical borings. ERM has been negotiating

with AMTRAK for the access to survey and ultimately for the permanent easement required. The agreement for survey access has been returned for revision.

#### 5. BOROUGH OF UPLAND SEWER UPGRADE – CHURCH AND TENTH STREETS

Engineer: Catania Engineering Associates, Inc. (CEA)

CEA has submitted preliminary plans for DELCORA's review. CEA is prepared to submit plans to Upland Borough for their approval of the storm culvert abandonment scope.

#### 6. WRTP – LOWER DELAWARE RIVER IMPROVEMENTS

Engineer: Gannett Fleming, Inc. (GF)

Gannett Fleming has completed a review of the Seaport Drive DRI Relief Pump Station and submitted a final report on its operation. GF has completed design of a section of 48" interceptor pipe from PS-6 to the ending manholes of the Delaware River Interceptor (DRI) and West End Interceptor (WEI). The plan is to remove a 1.4' step in the last manhole of the DRI and to remove a hydraulically inefficient crossing and connection of the two interceptors. This improvement will result in more efficient flows in the DRI, WEI and PRF pipes reducing dry weather and wet weather hydraulic issues. These improvements are required to facilitate the flow increases projected in the Long-Term Control Plan Update (LTCPU). DELCORA received the WQM Part II Permit No.2320401 on May 8, 2020. Contractor, Allan Myers, has completed the connection to PS-6 and re-connected the PRF line, Covanta force main and Waste Receiving flows. Project is about 45% complete.

### **PRETREATMENT/LABORATORY**

#### 1. RULES & REGULATIONS, LOCAL LIMITS DEVELOPMENT, ENFORCEMENT RESPONSE PLAN, & STREAMLINING

No updates at this time.

#### 2. PERMIT ISSUES

No draft permits were issued in the month of August:

No final permits were issued in the month of August:

The following Industrial Users were issued a Notice of Violation in the month of August:

- Eldredge
- Cintas
- Esschem
- Congoleum

### 3. INDUSTRIAL USER SAMPLING AND INSPECTIONS

The following Industrial Users were sampled in the month of August:

- Monroe Energy
- Multiflex
- Choice Party Linen
- Delco Linen
- M. Cohen & Sons

No Industrial Users were inspected in the month of August.

### 4. MISCELLANEOUS

The following were sampled during the month of August:

- Monthly Plant Sampling
- Daily Fog
- Weekly Sludge Metals
- Weekly Remotes
- Annual Ash, Liquid Sludge and Grits and Screen
- Bimonthly Nutrient Testing

All were sent to the contract laboratories for analysis.

### **REGULATORY FILINGS/ISSUES**

- DRBC – Letter sent on February 12, 2018 addressing DRBC’s concerns about the acceptance of “out of basin” wastewater and the request for increased BOD and TDS waste load allocations.
- Met with DRBC on June 25, 2018 to discuss DRBC’s ongoing impact on DELCORA’s operations.
- Title V Permit was received December 21, 2018 – Effective December 17, 2018 – Expires December 17, 2023.
- DRBC Docket Modification for an increased cBOD20/cBOD5 Waste Load Allocation was posted for Public Comment on February 13, 2019.
- 2019 Chapter 94 Report for the Western Service Area was submitted to the PADEP via email link on April 28, 2020 (due to COVID-19 pandemic).
- WETT Report for the 3<sup>rd</sup> Quarter 2020 was submitted to PADEP on August 17, 2020.
- Municipal Incinerator Ash Residue Monitoring Report (Form 41) for the 3<sup>rd</sup> quarter 2020 was submitted to the PADEP on August 24, 2020.
- Title V Emissions Fee and Report for 2019 was submitted to the PADEP on August 14, 2020.

cc: (via email)  
M. DiSantis  
J. Pileggi  
C. Lenton  
I. Fitzgerald  
S. Labrum  
J. Centrone  
D. Dutton  
M. Sweeney  
J. Yochim  
T. Diewald  
File





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2 September 2020

Mr. Robert Willert  
Executive Director  
DELCORA  
100 East Fifth Street  
P.O. Box 999  
Chester, PA 19016

W.O. No. 05623.035.001.0001

RE: Summary of Activities for August 2020

Dear Mr. Willert:

The progress on current Weston Solutions, Inc. (WESTON®) authorized project assignments for DELCORA is summarized below.

### **ANNUAL SWMM MODELING**

Proposal No.: 133462  
WESTON WO No.: 05623.034.006  
Start Date: August 2019  
End Date: December 2020  
Percent Complete: 64%

This project is for completion of monthly SWMM model runs and for submission of month-end reports and a year-end letter report for DELCORA's use and reference in the annual Chapter 94 Report. DELCORA's NPDES permit for the WRTP requires that information of the volume and duration of discharges from the Combined Sewer Overflows be reported monthly. PADEP accepts discharge information from a calibrated numerical model in lieu of measured flows. WESTON utilized the calibrated SWMM model created for the LTCP Revision.

During the month of August, WESTON simulated precipitation events for July and reported simulation results to DELCORA. The simulation is based on precipitation recorded on the rain gauge located at the WRTP. During the month of July, DELCORA experienced a total of 4.45 inches of precipitation over 10 separate days. This resulted in roughly 0 to 9 CSO overflow daily events per outfall depending on the sensitivity to rainfall. During small precipitation events, some outfalls with small drainage areas do not overflow, while other outfalls with large drainage areas overflow frequently. The results of the simulation are loaded into a PADEP form that is included in DELCORA's monthly DMR submission for the WRTP.

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DELCORA

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### **METERING PROGRAM**

Proposal No.: 137102  
WESTON WO No.: 05623.034.003  
Start Date: March 19, 2019  
End Date: Open  
Percent Complete: 66%

This project is to assist DELCORA in implementation of the Delaware County Metering Program. This program was initiated in 2005 to provide more accurate distribution of sewage flows to contributing communities in Delaware County. The program maintains and collects data from 122 flow meters deployed in sewers and incorporates data from 12 meters at pump stations. The sewer meters capture approximately 75% of the flow discharged. The remaining unmetered areas did not have a capture point that would provide reliable and repeatable data so they are estimated based on EDU counts for the unmetered areas. The unmetered areas are estimated using the EDU count for that area and the flow per EDU for the metered areas in the same municipality.

During the month of August, WESTON received the sewer flow meter data from DELCORA's flow metering contractor and pump station data from DELCORA staff. The data was loaded summary flow data for July to the apportionment spreadsheets and reviewed for any potential discrepancies. WESTON also updated the county-wide summary spreadsheets, the eastern authorities' summary spreadsheets, and summary spreadsheets for select municipalities for 2020. The monthly report and spreadsheets were submitted to DELCORA.

### **FORCE MAIN TEST COUPONS and ARV REPAIR**

Proposal No.: 137483  
WESTON WO No.: 05623.034.004  
Start Date: June 2019  
End Date: December 2019  
Percent Complete: 54%

The scope of services for this project include preparation of contract documents to obtain pipe coupons from the Eastern Force Main. The pipe coupons will be analyzed to determine the condition of the force main. The project also includes preparation of contract documents to clean and repair the ARV's located on the Central Bypass and Eastern Force Mains.

WESTON has completed the Project Kick-Off Data Collection and the Field Investigation phases of the work. Follow-up field investigation will be required at a few ARV locations to further verify the existing design information with the existing conditions. The project is currently in the Phase III Detailed Design scope of work.



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In October 2019, WESTON completed the design for one of the ARV locations, ARV-55, located on the Central By-Pass Force Main. Since this location does not have an existing ARV and it is located at a critical spot (creek crossing) along the force main the team decided to design and construct this ARV first. The results of this installation will be used to determine the improvements to the force main and the information will be implemented in the final design for the remaining locations. In December 2019 WESTON submitted an application to PennDOT for a Road Opening Permit. The permit approval was received on January 7, 2020; construction of the ARV will start when all material has been received. WESTON had no activity on this project during the month of August.

### **GENERAL ENGINEERING SUPPORT**

Proposal No.: 37717  
WESTON WO No.: 05623.021.107  
Start Date: March 21, 2006  
End Date: Open  
Percent Complete: 96%

This project, a continuation of the previous “General Engineering” project, provides on-demand support to DELCORA for various services at the direction and approval of the Executive Director.

WESTON had no activity on this project during the month of August.

### **CENTRAL FORCE MAIN AND CHESTER FORCE MAIN EVALUATION**

Proposal No.: 133118  
WESTON WO No.: 05623.033.004  
Start Date: July 2016  
End Date: Open  
Percent Complete: 75%

This project is to perform an engineering evaluation of the Central and Chester force mains to determine design parameters for sizing the future Crum Creek Pump Station equipment. The ultimate goal of the project is to determine how DELCORA can pump more flow from the CDPS to the Western Regional Treatment Plant (WRTP).

WESTON prepared and conducted modeling to evaluate the flow characteristics of both the Central By-Pass and the Chester force mains. The model took into account flow, pump discharge pressure, static conditions, pipe material, and pipe length and diameter. Flow conditions for the two force mains as well as the Kimberly Clark Pump Station and the total influent flow to the WRTP was also incorporated into the evaluation.



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WESTON ran several model scenarios for both dry weather and storm conditions. The modeling was conducted during 2018 and 2019 and approximately 20 scenarios were evaluated. Each scenario was run over a period of several hours and real time operating data from DELCORA's E-Ops was input into each model run. The results of each model scenario were consistent and showed that the performance of the Chester force main was very good and in line

After the first several model runs, WESTON and DELCORA staff performed a site assessment of the ARV locations. Where possible, the ARV's were cleaned, tested, and put back into service. Several of the locations could not be inspected due to faulty isolation valves. After this inspection additional model runs were conducted and the results were similar previous model results. WESTON met with DELCORA and discussed conducting additional field investigations and modifications to existing air release valve location. After further investigation it was decided to prepare contract documents to repair isolation valves, clean ARV's, and install new ARV's at locations where valves are missing. This work will be conducted under a separate project. WESTON had no activity on this project during the month of August.

### **FORCE MAIN TRANSIENT ANALYSIS**

Proposal No.: 132758  
WESTON WO No.: 05623.032.007  
Start Date: October 15, 2017  
End Date: December 2018  
Percent Complete: 90%

The scope of services for this project includes preparation of a transient analysis of the Eastern Force Main and Chester Force Main. The goal is to determine a maximum flow value from the CDPS to the W RTP without increasing the risk of a pressure surge.

DELCORA and WESTON met and reviewed the preliminary results of the analysis. The main pump stations were modeled for two scenarios and results indicate that additional vacuum relief valves are required on the force mains. WESTON completed the model for additional scenarios and submitted the draft report. During the month of August, WESTON and DELCORA discussed additional analysis associated with the project. The additional work will be a part of the Crum Creek Force Main project. The transient analysis that was part of another contract (Crum Creek Force Main) has been completed. The results indicated that there was no additional impact to the Chester and Eastern By-Pass Force Mains. WESTON has submitted a proposal to incorporate the recommendations included in the initial evaluation. WESTON had no activity on this project during the month of August.



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### **WRTP AS-BUILT PLAN**

Proposal No.: 133118  
WESTON WO No.: 05623.032.006  
Start Date: October 18, 2017  
End Date: Open  
Percent Complete: 97%

The scope of services for this project is to prepare a composite as-built plan of the WRTP in AutoCAD format that include both original plant information as well as new features added in recent years to document the existing site conditions specifically the underground utilities. The drawings are being prepared to facilitate a conversion to GIS for some of the features. WESTON had no activity on this project during the month of August.

### **UTILITY WATER SYSTEM REPLACEMENT BID & CONSTRUCTION PHASE SERVICES**

Proposal No.: 127597  
WESTON WO No.: 05623.031.003  
Start Date: January 2016  
End Date: Open  
Percent Complete: 98%

This project is to provide bid support services and construction phase services relating to the Utility Water System Upgrade project at the WRTP. The existing system is at the end of its life and the system is critical to treatment operations. Bids were received on March 7, 2016.

WESTON had no activity for this project during the month of August. The construction has been completed and the remaining effort includes preparation of the record drawings after receipt of contractor marked-up drawings.

Should you have any questions, please do not hesitate to contact me at (610) 701-3706.

Very truly yours,

**WESTON SOLUTIONS, INC.**

A handwritten signature in black ink, appearing to read "Roger W. Lehman".

Roger W. Lehman, P.E.  
Technical/Project Manager

cc: DELCORA Board of Directors  
C. Hurst, DELCORA