



DIRECTOR OF ENGINEERING REPORT

Nov 18, 2020

District Engineering manages projects, consultants, contractors, and equipment suppliers. Consultant reports and Project Managers reports are included in this section along with details regarding the status of the associated study, design, or construction projects.

ACTIVE PROJECTS

2020 Roads and Site Work Project – DIV A

SCOPE: Annual maintenance is performed at various locations throughout the District facilities. The work is divided into two (2) divisions – ROADS and CONCRETE (site work). DIV A - road work is in the immediate area surrounding the vehicle storage building where asphalt is being replaced; along with the oil and chip at the Wyckles facility that was damaged during the valve replacement project.						
Contractor: DIV A – ROADS – Dunn Company Engineer: SDD						
Advertise	Pre-Bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Scheduled Completion
08/19/20	08/27/20	09/10/20	09/23/20	10/12/20	10/07/20	60 days
Submittals Reviewed: 3 shop drawings submitted /3 complete Requests for Information (RFIs): 2 received /2 answered Owner Requests for Proposal/Change Order (RFPCO): 0 issued /0 outstanding						

- **Key Activities:** Dunn Company completed the installation of the Asphalt work this last period. A suitable weather window has closed on the application of sealcoating and A2 work at Wyckles required in the contract and has been approved to be installed in the spring.

Coordinating work by Christy-Foltz began this last month and is ongoing.

20-11 Masonry Project:

SCOPE: The 054 building and 017 building have several locations where spalling bricks needed replaced and mortar needed tuckpointed. Staff generated a scope of work for the repairs.						
Contractor: OttoBaum Inc. Engineer: SDD						
Advertise	Pre-bid	Bid Open	Final Award	Notice to Proceed	Pre-Construction	Scheduled Completion
09/18/20	10/01/20	10/13/20	10/21/20	11/06/20	11/09/20	60 days 01/08/21
Submittals Reviewed: Requests for Information (RFIs): Owner Requests for Proposal/Change Order (RFPCO):						

Key Activities: OttoBaum was awarded this work last period and performance bond, insurance and NTP has been issued. Contractor began work on 11/9/20.

NON-CONSTRUCTION ACTIVITY



DIRECTOR OF ENGINEERING REPORT

Nov 18, 2020

DESIGN: South Shores Interceptor Rehab (Engineer -Farnsworth Group)

<u>Milestone schedule:</u>	<u>Design</u>
Begin Work	07/20/20
Finalize Easement work	09/18/20-SDD to Obtain from Owners
Submit Loan Application	10/16/20
Finalize Bid Documents	10/23/20
Receive Bids	01/07/21
Award (Notice of Intent to Award)	01/21/21
Construction Begin	03/2021 (assumed by-pass money available)

90% Design review was completed this week. Inclusion of additional appendices for contractor clarity are being incorporated into the specifications. As part of this review a construction cost estimate was reviewed and exceeded the current amount of IEPA SRF reserved funds for this project. Therefore, staff has reached out to the Agency to discuss steps required to increase the SRF funding amount.

Because this is an IEPA funded project, there is also an Ordinance for an Authorized Representative before the board for consideration under the consent agenda. Loan Application and SRF documents will begin being submitted once the Authorized Representative is assigned.

Bid documents are on track to be completed by the end of this month. Staff is working with Volkert Inc. to obtain the easements necessary for the construction access points.

DESIGN: Digester #3 Floating Cover Replacement (Engineer – Donohue & Associates)

This digester has had an ongoing issue with methane/hydrogen sulfide gas accumulation in the attic space. Additionally, the brick facia on all digesters is compromised. The brick is bulging and splitting, and needs replaced. The overall project will involve SDD procuring the Digester cover directly from a manufacturer; and bid a separate installation contract.

<u>Milestone schedule:</u>	<u>Procurement</u>	<u>Design</u>
Begin Work	07/10/20	07/22/20
Finalize Bid Documents	08/31/20	10/25/20 11/17/20
Receive Bids	09/30/20	12/01/20
Award	10/21/20	12/16/20
Construction Begin		04/2021 (assumed 6-month lead time)

95% Plans and Specifications were reviewed with the Engineer on 11/12/20. There we minor tweaks to the plans/specs. We expect the project to be advertised on 11/17/20 in preparation for a Bid Opening of 12/15.

DESIGN: Lake Shore Pump Station Rebuild (Engineer - Clark-Dietz Engineers, Inc)

The Lake Shore pump station was originally built in 1953, modified in 1976, and subsequently modified again in August 2000 when ADM installed a force main to bypass the flow around the pump station. The original design of the pump station was for the 4 shaft driven pumps with the drive motors upstairs and the pumps 2 stories below. Staff has modified the pumps to be dry pit submersible style pumps to improve the reliability of the pumps, however access to the lower level is restricted and the pipe gallery is undersized and is a very difficult environment to perform any



maintenance. Access to the wet-well is through a side entry door which requires a confined space entry and houses valves that are difficult to access. This pump station is scheduled for rebuild.

Milestone schedule:	Design
Begin Work	07/20/20
Preliminary Engineering Report	09/18/20
50% Design Review	09/25/20
95% Design Review	10/30/20
Finalize Bid Documents	11/30/20

A planning coordination meeting with ADM was held this last period. Discussed with them the existing Pump Station and ADM bypass piping layout, the new pump station, pathway of the existing 30" force main from Lake Shore to the East Side Booster pump station and the CIPP lining of the abandoned 20" force main. No areas of concern were raised at that meeting other than the need for construction coordination during reinstatement operations.

95% review of planning documents was completed this last period, with minimal changes to the design. Project design is on schedule for Advertising the first week of December 2020.

STUDY: ARC FLASH STUDY Main Treatment Facility

Industrial Technology Group (ITG) from Champaign, IL was awarded a professional services agreement on 01/22/2020 to update the main treatment plant ARC FLASH STUDY.

<<No Update>> Project is 80% complete. Writing of the Final Report has begun. ITG is performing additional investigation on wire sizing installed. Staff expects to receive draft one-line diagrams and review copy of the Arc Flash Study this next month.

PLANNING: PHOSPHORUS REMOVAL

There are several plant configurations by which a WWTF can be set up to perform Phosphorus removal. Many of the processes can be "finicky" to operate, in large part due to rain/storm events and the ability of the treatment plant to select the correct Polyphosphate-accumulating organisms (PAOs). Many facilities are finding the resiliency of their BNR systems is significantly improved with the inclusion of a fermentation / selector reactor. A fermenter/selector reactor is also expected to reduce or eliminate the District's need to import carbon from outside sources to allow the BNR process to work.

Negotiations with Black and Veatch for the design of a fermenter/selector reactor system is ongoing. The design scope is intended to be large enough to allow SDD to perform pilot tests on potential treatment trains and still be utilized as an integral part of the final BNR process. Black and Veatch is revising fee estimate and preparing a high-level construction cost estimate at this time.

UPCOMING PROJECTS:

Relocation of Grit Drying Bed: Plans are 80% complete. Staff is preparing a preliminary construction estimate at this time. The plan is for relocation of the grit drying facilities that are used to empty vector truck contents on to for drying before they are ready to haul to the landfill. This is a facility that is often used by the District and City contractors when sewer cleaning and CIPP lining operations are ongoing.



DIRECTOR OF ENGINEERING REPORT

Nov 18, 2020

2020 Roofing Project: Each year the SDD Asset Management Program plans for rehabilitation on roofing systems on the district facilities. With the major construction SDD undertook with the West Headworks Upgrades, the 2019 project was placed on hold. Staff began planning for the resumption of the program this year and 16 roofs that were scheduled in 2019 and 2020 have been inspected and specifications for repairs are being developed. Staff expects these will be ready to advertise in December 2020.

Replacement of Sludge Transfer Pump: <<No Update>> Staff is preparing plans for the procurement and installation of a replacement transfer pump. This pump moves sludge from the main treatment plant to the Wyckles Facility.

Sodium Bisulfite Tank Replacement: <<No Update>> Development of project plans to replace the two sodium bisulfite tanks is ongoing.

Hatch Replacements: Staff is working on an RFQ for the replacement of several hatches that are in need of repair around the treatment plant.

Engineering Window Replacements: Staff is working on an RFQ for replacement of windows in the Engineering offices.

INTERGOVERNMENTAL ACTIVITIES

Meeting with the CITY was held as planned on 10/28/20. The area NE of Fairview Plaza (Basin 5/6). City is attempting to address inflow and infiltration and is negotiating a contract with AECOM for these services. During this meeting, the CITY asked SDD if we would allow upsizing combined sewer systems. The CITY was directed to IEPA inquire if IEPA would allow it.

The Overhead Sewer Program (a system that raises the lowest opening in a home's plumbing to be well above the level of an overflowing **sewer**, which prevents water and **sewage** from backing up into the home) that is coordinated by the CITY reimburses homeowners for installing the systems. In FY 2021, the CITY intends to go to 100% reimbursement. SDD shares 25% cost with the CITY up to 10,000 each with a CITY cost cap of 250,000.

PROPOSED BOARD ACTION

For the Board's consideration from the Engineering Dept this meeting:

- 1. NONE**

Further details can be found in respective Summaries of Motion.

If there are any questions, please contact me by telephone at 422-6931 ext 216, or by email at DonM@sddcleanwater.org.

Sanitary District of Decatur
501 Dipper Lane * Decatur, Illinois 62522 * 217/422-6931

MEMORANDUM

TO: Don Miller
FR: Debra Martin
RE: 2020-09 Asphalt

DATE: November 12, 2020

- Scope of work:
 - Remove & replace existing bituminous concrete, replace existing Asphalt at Building 079 Parking Lot, patching various locations, crack sealing, & sealcoating of existing bituminous pavement, A-2 surface treatment. Project locations include the Main Treatment Plant & Wyckles Facility.
- Pre Construction Meeting 7-October-2020
- NTP 12-October-2020
- Work Progress
 - Building 079 parking lot has been completed
 - Digester Road paving and miscellaneous Patching completed
 - Sealing, Wyckles A2 placement to be completed TBD in spring 2021 due to weather

Sanitary District of Decatur
501 Dipper Lane * Decatur, Illinois 62522 * 217/422-6931

MEMORANDUM

TO: Don Miller
FR: Debra Martin
RE: 2020-11 Brick and Masonry Repair

DATE: November 12, 2020

- Scope of work:
- Replacement of damaged Brick Building 017 and 054 +/- 250 brick and infill of retired openings +/- 150 brick and Glass Block. Tuck pointing 2500 liner feet.
- Bid Opening 12-October-2020
 - Outto Baum provided Bid
 - There were 6 Plan Holders
- Pre Construction Meeting 9-November-2020
- NTP issued
- Completion Date Projected 28-December-2020
- Otto Baum has mobilized and begun work. Submittals are in review. Infill of opening in Building 054 is in progress.

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501 Dipper Lane Decatur, IL (217) 422-6931

MEMORANDUM

TO: Kent Newton

FROM: J. D. Malone

DATE: 11/11/2020

SUBJECT: Maintenance Monthly Activity Report for October 2020

Overall

The entire maintenance staff continues to work on staggered shifts split in to A and B groups. We have assigned each inside maintenance person specific buildings / areas to report to each morning. Everyone is working on completing all open work orders that can be safely completed by one person in each building they are assigned. While they are working in the buildings, they are also looking for any other issues that need attention and having work orders created. Outside maintenance staff is working as normal and limiting interactions between the two crews as much as possible. In the I&C department, we currently have two people reporting to the plant and two taking care of all outside pump station needs.

The replacement Ford F450 for the outside maintenance staff has arrived at Bob Ridings. I am completing obtaining quotes from Drake Scruggs and Koenig Equipment for installing the bed and replacement crane on the truck. This work should be completed late November / Early December 2020.

Work Orders Completed, Total of 1384

34 Corrective
4 Improvement / New
1298 PM
0 Process
0 Project
29 Safety
1 Training / Meeting
2 Asset Management
16 Proactive Work / Issues found during a PM

Systems Integrator and I&C Monthly Activity

Completed the installation of the two new Vulcan washer compactors including control panels with new wiring back to the 203 PLC cabinet, removing old cabinets, wiring, and updating SCADA. Replacement LED lighting was installed, and the building was thoroughly cleaned. Pictures are included below for your reference.

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MEMORANDUM



Performing audits on all outside pump stations

Verifying and adding proper voltage stickers on all power feeds and panels

Adding updated laminated I/O lists

Replacing bad or broken panduit covers inside panels

Taking pictures of completed work for pump station files to be added to engineering server

Updating and adding new MCC / PLC drawings

Upgrading PLC's for 30 outside minor pump stations. Each I&C Technician will be installing at least 5 PLC's, updating the programs, and testing new installations for in house training.

Working with Architectural Expressions to complete the installation of the 2 main and 1 transfer switch at Damon Ave pump station.

Working with Kirby Risk on replacing MCC's at the 210 and 231 buildings in plant and the Larkdale MCC in town.

Completed all routine PM's.

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MEMORANDUM

System Integrator is working with each I&C Technician on training opportunities during the installation of the washer compactors and new PLC's.

Mechanical Maintenance Monthly Activity

Wes Littrell completed his one-month training period with the Outside Maintenance staff. To limit exposure / mixing of staff, Wes will stay with Outside Maintenance for the foreseeable future.

We are in the process of winterizing all disinfection equipment. The bleach tanks have been rinsed and cleaned out. The water lines will be drained / blown clear and all peristaltic pump hoses will be removed.

The outside maintenance staff has been monitoring the Wyckles Sludge Storage facility for the land application of biosolids. The equipment has all functioned well and the process has gone smoothly to this point.

We utilized the rented Bobcat with the Forestry attachment to clear the area surrounding the emergency bypass ditch on the east side of the plant. With the vegetation cleared, we can now access the concrete ditch to clear it of mud / vegetation. We also utilized the unit to begin to clear the SDD owned lot on Wyckles road.

M.I.S. Department Monthly Update

- Network Administration, Helpdesk, Troubleshooting and Repair
 - Ongoing network administration.
 - Upgrade of SDD internet service
 - Testing of new SIP lines
 - Acquiring equipment to set up for plantwide wireless network access points. This system will be utilized with the upgraded CMMS system to allow system access in remote areas of the plant.

Mimecast Email Security

SANITARY DISTRICT OF DECATUR

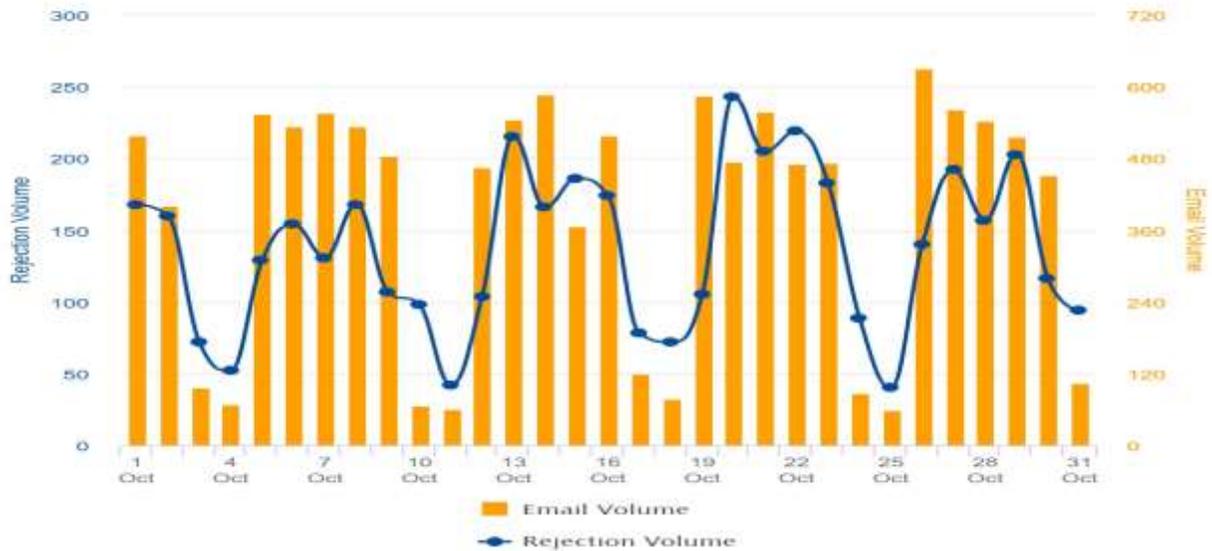
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MEMORANDUM

Email Volume Vs Rejected Mail

From 1 Oct 2020 To 31 Oct 2020

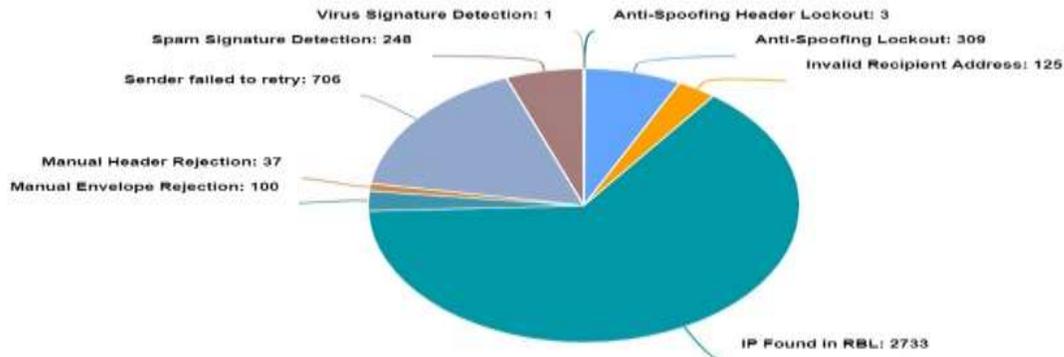
Total Email Count : 12073 Total Rejection Count : 4262



Rejection Overview

From 1 Oct 2020 To 31 Oct 2020

Total Rejection Count: 4262



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501 Dipper Lane Decatur, IL (217) 422-6931

MEMORANDUM

Email Statistics Report

From Nov - 2019 To Oct - 2020

Month-Year	Total Inbound email	Rejections (includes viruses & spam)	Legit Inbound Email	% Rejections	Total Outbound email	Total Internal email
Nov - 2019	5,600	3,341	2,259	59.66 %	884	3,220
Dec - 2019	7,676	4,476	3,200	58.31 %	906	5,465
Jan - 2020	6,604	3,281	3,323	49.68 %	1,207	5,632
Feb - 2020	8,553	4,772	3,781	55.79 %	1,382	5,089
Mar - 2020	8,176	3,422	4,754	41.85 %	1,849	6,204
Apr - 2020	7,971	3,984	3,987	49.98 %	1,295	6,787
May - 2020	7,250	3,380	3,870	46.62 %	862	5,473
June - 2020	7,441	3,306	4,135	44.43 %	1,370	5,854
July - 2020	8,416	4,242	4,174	50.40 %	816	5,189
Aug - 2020	7,644	3,806	3,838	49.79 %	1,017	4,504
Sep - 2020	7,999	3,898	4,101	48.73 %	1,373	5,133
Oct - 2020	8,845	4,262	4,583	48.19 %	1,335	6,155
Total	92,175	46,170	46,005		14,296	64,705
Mean	7,681.25	3,847.50	3,833.75	50.29 %	1,191.33	5,392.08

If you have any questions or would like additional information about the maintenance department and our activities, feel free to contact me.

Thank you,

James Malone, CPMM

Phone: (217) 422-6931 (x-226)

SANITARY DISTRICT OF DECATUR

501 Dipper Lane Decatur, IL (217) 422-6931

MEMORANDUM

North Drainage Maintenance 2020-04

Project Status Update

Work began 8/31/2020.

Final grading, fertilization, seeding, and installation of erosion control fabric have been completed. The grass seed has germinated in most areas. Pictures are included below to show the grass growth in the last month. The first picture in each series was taken 10-14 and the second picture was taken 11-11-2020. We will overseed with buffalo grass in the spring and mow as required.



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MEMORANDUM



J. D. Malone, CPMM