

Director of Engineering Report

Dec 17, 2014

District staff manages projects, consultants, contractors and equipment suppliers. Consultant reports and Project Managers reports are included in this section and detail the status of the associated study, design, or construction projects.

Active Projects

2013 Digester Complex Improvements Project: This project consists of upgrades to the primary digesters' mixing systems with 4 Linear Motion Mixers to replace the current Pearth mixing systems; the addition of an electrical building to gain NFPA 820 code compliance in the primary digester complex; installation of automated drip traps and condensate collectors in the digester complex; and replacement of the waste gas burner to a separate location away from the digester complex.

Grant Funding

- Illinois Clean Energy Community Foundation (ICE) - Clean Energy grant - \$188,164.
- DCEO - Energy Reduction in the mixing systems –Grant amount - \$188,000.

Contractor: Leander Construction (LCI)

Contract Changes being worked through:

- *Future changes:*
 - (a) *O&M platforms on digester lids – Change Order price is being negotiated. – Owner Request*
 - (b) *Coating changes to skirt and underside of lid on Digesters 4, 3, and 1. The price of this change is being negotiated. – Owner Request*
 - (c) *Digester Lid Shoes Replacement (T&M) – Owner Request*
 - (d) *Contract time extension- The length of the adjustment remains in question. Staff is working with LCI on construction sequence modifications in an effort to expedite the construction. Construction sequence is changing dramatically in the schedule on the next 3 digesters, and pending changes to the CPM schedule, no contract modifications are being made.*
- *Key activities: Digester #4 has been cleaned. Lid shoes are being replaced and coating subcontractor is mobilizing again to begin coatings on digester walls.*

2014 Sludge Thickening Project

- *Contractor: Christy Foltz, Inc; Contract Award – 10/3/14; NTP: 10/20/14*
- *4 RFI's have been answered; 1 shop drawing reviewed.*
- *Contractor is preparing shop drawings and CPM schedule. Expect to review schedule in January.*

2014 Odor Control Upgrades – Phase 2: The concrete underneath the “odor control covers” has experienced significant degradation since the installation. Inspection under the covers indicates a loss of 1” – 1-3/4” of surface concrete. The P2 channel, which carries all the flow through the plant into the aeration basins, is experiencing this same deterioration.

- *Design Engineers: Clark Dietz (CDI)*
- *Facility Plan Amendment approval and construction permit were both received from IEPA this period.*
- *Bids were opened as planned on 11/24/14.*
- *There is a contract award before the board for consideration.*

2014 Nitrification Aeration Tank – Diffuser Replacements

- *This period, the district received a Notice to Proceed from DCEO formalizing the grant for the diffuser installation; this reserves funds up to \$787,500 for this project.*
- *Design is on-going and is addressed in the Technical Director report.*

2014 East Side Separation Sewer Rehab: The Eastside Separation Sewer was constructed in 1983. The intent was for it to be a dedicated sewer to transport various flows around the combined sewers within the central core of the City of Decatur. Pump station flows were routed into the East Side Separation Sewer from Eastside Booster pump station, Country Club pump station, Lost Bridge pump station, and the Damon Ave pump station. The Separator Sewer discharges into a junction structure feeding the Sanitary Districts two main interceptors on the East side of South Main Street; just west of Christy-Foltz. The projected rehabilitation method is cured-in-place lining this sewer.

- The approved Facility Planning Amendment (FPA) has been received.
- *Schedule : Adv – 9/09/14; Prebid – 10/08/14, Bid Open – 12/02/14*
- *Bids were opened as scheduled. There is a contract award before the board for consideration.*

2014 STL Bridge and Faries Park Force main Replacement Project: The district has budgeted to replace the cast iron sections of these force mains. These force mains have both experience failures within the previous 12 months. The project consists of replacement of approximately 1800 linear feet of 10" cast iron FM to the south Faries Park pump station and 2100 LF that is a 10" cast iron FM that runs North from Saint Louis Bridge pump station.

- *Schedule: Adv: 10/1/14; Prebid: 10/14/14, Bid Open: 11/11/14, Award: 11/19/14*
- *Contractor: Burdick Plumbing and Heating*
- *Notice of Award was provided this last period, insurance as submitted was not satisfactory and is being reworked prior to issuing Notice to Proceed.*

2014 Bleach Building Modifications Project: *Currently, bleach is delivered to storage tanks at the front of the plant and pumped to other storage tanks at the south end of the plant prior to use. The district has experienced operational issues with the transfer operation and is looking to eliminate the process step of transfer pumping. This project increases the size of the bleach building for local storage of the bleach, which will eliminate the need to transfer from one tank to another.*

- *Contractor: Christy-Foltz; Bid Award: 6/26/14; Notice to Proceed: 7/11/14*
- *Future Change Items:*
 - *Paint the structural steel prior to installing the siding – Owner Requested*
 - *Relocation of manhole – Unknown condition*
 - *Concrete tank removal – Unknown condition*
 - *Change asphalt drive to concrete (No cost change) – Owner Requested*
- *Project is progressing... Grading work is suspended due to weather. Electrical conduit is in place; Bodine Electric is finishing wiring pulls. Aside from grading, punch list work is all that remains.*

2014 Roofing Rehabilitation Project: The district asset management program calls for the replacement/repairs of roofing on an annual basis. This year's project includes replacements of roofs on Bldgs 259 and 314, restoring EPDM roofs on plant bldg 217 and asphalt shingle replacement at 835 – Larkdale and 810-Damon Ave Pump stations.

- *Contractor: Craftmasters; Notice of Award: August 25, 2014*
- *Work is substantially complete. Contractor has punch list work to finish.*

2014 Roads Rehab Project: The district asset management program calls for the replacement/repairs of roads around the treatment plant on an annual basis. Most of this year's work is around the Nitrification Clarifiers on the West end of the plant.

- *Contractor: Dunn Co.; Award: 8/21/14*
- *Work is complete. There is a final Change Order before the board for consideration.*

2014 Manhole Inspection Project: This project includes the digital data capture and 360° photography of all of the district manholes. This is major step forward for the SDD asset management program in underground assets at the district.

- Contractor: Terra Contracting, LLC; Agreement Date: August 25, 2014
- Contractor is recording MH inspection data; to date data on 400 manholes has been gathered.

2014 Hatch Replacement Project: This project will replace the hatches at Finley Creek, Damon PS and Larkdale PS. It will be a total of 10 double leaf hatches and 3 single leaf hatches will be replaced in the project. The project is replacing hatches that have reached the end of their asset life and is installing safety grating at that time.

- Contractor: Burdick Plumbing and Heating; Award: 10/15/14; NTP: 10/31/14
- Contractor shop drawings have been received and being reviewed.

2014 Sewer Cleaning and Televising Project: As an ongoing part of the Districts asset management plan (AMP), the district puts out a sewer cleaning and televising contract for approximately 40,000 linear feet annually.

- Contractor: Telescan, Inc; Contract Award: 11/19/14; NTP: Pending
- Contractor is preparing Bonds and Insurances; after approval Notice to proceed will be provided.

INTERGOVERNMENTAL ACTIVITIES

- None

Other Activities:

I participated as a discussion panelist in the Clean Water Energy Summit in Oakbrook IL on 12/8/14.

BioMass to Energy Project:

- The district has received \$500,000 DCEO Public Sector Biomass to Energy grant for this project.
- Grant application was submitted for \$308,048 to DCEO Public Sector Combined Heat and Power Pilot Program – will have informal notice from DCEO in 30-60 days.
- We will be submitting a Letter of Inquiry to Illinois Clean Energy by Jan 13th, 2014 for an additional grant.

PROPOSED BOARD ACTION

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

- 1. Contract Award – 2014 Odor Control Upgrades – Ph 2 Project**
- 2. Contract Award – 2014 Eastside Separation Sewer Rehab Project**
- 3. Change Order - 2014 Roads Rehab Project**

Further details can be found in the Summary of Motions.

If there are any questions, please contact me by telephone at 422-6931 ext 216, or by email at DonM@sdd.dst.il.us



MEMORANDUM

To: Don Miller
Sanitary District of Decatur
From: Terrence K. Boyer, P.E.
Clark Dietz, Inc
Date: **December 12, 2014**
Subject: Projects Update for November 2014

Odor Control Upgrades Phase 2

Tasks This Month: Perform pre-bid meeting, issue addenda, SRF loan coordination, open bids, prepare bid tabulation.

Tasks Anticipated Next Month: Continue SRF loan coordination, prepare bid recommendation letter, prepare construction agreement, coordinate construction phase services.

Force Main Projects

Tasks This Month: Open bids, prepare bid tabulation, prepare bid recommendation letter, coordination with railroad, respond to Army Corps with wetlands and habitat study.

Tasks Anticipated Next Month: Prepare construction agreement, coordinate construction phase services, shop drawings.

Cogeneration Grant Application

Tasks This Month: Prepare report and supporting documentation, prepare grant application and submit to DCEO.


Tasks Anticipated Next Month: Respond to questions on grant application. Prepare ICE grant letter of intent.

Memorandum



Date: December 9, 2014

To: Don Miller, Director of Engineering
Tim Kluge, Director of Technical Services

From: Joe Pisula 

Re: Donohue's Monthly Activities Report

The following summarizes the assistance that Donohue is currently providing to the District:

Primary Digester Complex Improvements: Currently Donohue is providing Construction Related Services for this project that is now under construction. Construction is estimated to be about 65% complete and partial substantial completion has been achieved for Electrical Building #77. Donohue is reviewing shop drawings, contractor pay estimates, and change orders, addressing RFIs, and handling other construction issues as they come up. The District has been providing construction observation services since May 2014. Construction is currently forecasted to be complete by June 2015; however a time extension request of 90 days or more is forthcoming from the contractor. Funding of this project is covered by IEPA loan number L174876. *This work is covered by Donohue project number 12421.*

Sludge Thickening System Replacement Project – Design & Loan Administration: This contract's design and bidding work is complete. The only remaining task under this design project is the submission of Loan Reimbursement requests during construction. *This work is covered by Donohue project number 12618.*

Sludge Thickening System Replacement Project - Construction: The construction contractor, Christy-Foltz, Inc., is currently working on their Construction Schedule and they intend to mobilize to the site later this month. Shop drawings are now starting to trickle in, with reinforcing steel drawings submitted last week. Donohue has been retained to review shop drawings, contractor pay estimates, and change orders, and address RFIs and other construction issues as they come up. The project budget includes part-time construction observation by Donohue, only if needed. *This work is covered by Donohue project number 12756.*

Continuing Services Agreement: Donohue has in-place an active Continuing Services Agreement that covers minor tasks and work efforts that the District authorizes from time-to-time. Thus far, SDD has only authorized Task Order #001, which covered the design of minor structural repairs to a hatch in Building #217 and a cracked beam in Building #009. *The work under Task Order #001 was completed in September 2013 and no further work has been authorized by the District since then. This work is covered by Donohue project number 12525.*

Memorandum



Date: December 8, 2014

To: Don Miller, P.E., Director of Engineering

From: Joe Pisula

A handwritten signature in blue ink that reads 'Joe Pisula'.

Re: Project Status Report
Primary Digester Complex Improvements
IEPA Loan No. 174876

During the month of November 2014, Leander Construction, Inc. (LCI) started work on Primary Digester #4, by completing the transfer of that tank's contents to Digester #1, removing the old gas mixing system from Digester #4 and washing down the tank's interior walls and floors. Also, Primary Digester #2's linear motion mixer drive was repaired and brought back on line on November 10th and it appears to be running properly now. LCI's heating/ventilating subcontractor continues to work on air handling units and controls for the Primary Digester Complex.


As of today's date, LCI has turned in a total of one hundred fourteen (114) shop drawing submittals and Donohue has thus far reviewed and returned all of them, all in a timely manner. LCI has turned in seventy-three (73) Requests for Information (RFIs) on various issues and as of this date, Donohue has addressed all of those inquiries. Donohue has issued twenty-six (26) Requests for Proposal/Change Order (RFPCO) documents. The District staff is still negotiating the time extension to the contractor for not meeting Milestone #1 as well as for the overall project. *LCI's time extension request in this matter is still being negotiated and discussed.* Change Orders #1 through #5 have been negotiated and have been executed so far. Pending Change Order #6 will include the cost of adding access platforms to the digester mixers as well as changing the coatings on the remaining digesters' covers to a high-build coating that will bridge and cover small holes in the steel that was caused by corrosion. We expect that change order to be presented for action during the January 2015 Board meeting.



Memorandum

Date: December 8, 2014

To: Donald B. Miller, P.E., Director of Engineering

From: Joe Pisula 

Re: Project Status Report
Sludge Thickening System Replacement Project
IEPA Loan No. 174983

During the month of November 2014, Christy-Foltz, Inc. (CFI) started preliminary activities on the project, including issuance of various purchase orders to suppliers and subcontractors, plus limited shop drawing preparation, and mobilization of a job trailer to the site.

As of today's date, LCI has turned in one (1) shop drawing submittal that being the reinforcing steel submittal. CFI has turned in four (4) Requests for Information (RFIs) on various issues and as of this date, Donohue has addressed all of those inquiries in a timely manner. No Requests for Proposal/Change Order (RFPCO) documents have yet been handled.

CFI has not yet provided Donohue or the District with a Critical Path Method (CPM) schedule for the project, but CFI has contacted a subcontractor in order to assist them in complying with the specification requirement for CPM scheduling. We hope to receive that schedule in early January 2015.

OUTSIDE FACILITIES MONTHLY REPORT
December 2014

TO: Don Miller, Director of Engineering

FROM: Paul Caswell, Asset Manager

- **DAMON Ave**
 - Check and gate valves for the 3 pumps are near the end of their asset life.
 - Purchased one set of valves for backup due to long lead time.
 - Cost ~ \$28,500.
 - Preparing specifications to bid installation of purchased valves plus acquisition of two more sets.
 - Total project cost ~ \$130,000

- **Stevens Creek Interceptor (42" section) – Exposed section of pipe**
 - There is a section of the 42" interceptor just West of Oakland Ave where the cover dirt over the interceptor has washed away due to storm water over the years (originally installed in 1953).
 - Acquiring access easement from property owner.
 - Plans and specifications will need to be prepared for bid due to repair cost.

- **Lake Shore Force Main (FM)**
 - District is working with ADM preparing to replace the air release valves and their isolation valves along the FM.
 - Do to condition of existing nipple taps to the FM new saddles taps will be needed and replacement of vault structure
 - Staff is getting proposals to replace structures.

- **Faries Pump #1**
 - A Dry Pit Submersible was purchased to replace the existing centrifugal drive shaft pump due to asset management plan
 - Pump replacement cost approx \$16,000.
 - Valve replacement cost approx \$3,300.
 - Pump base and reducing discharge elbow approx cost \$3,000
 - Pump is installed and waiting for a discharge elbow to be fabricated.

- **Lincoln Park Interceptor Pump #1**
 - Pump failed and was taken to Vandevander for failure analysis.
 - Pump failed due to Mechanical Seal Failure. Pump also has major wear to the Impeller and the Volute.
 - Repair cost is \$24,241.05
 - New pump Approx \$29,000
 - The cost is within the range to purchase new rather than rebuild the existing.
 - Pump is delivered and staff is researching volute/impeller coatings for extended life.

- **Lincoln Park Interceptor Pump #3**
 - Pump Failed and was found that bolts vibrated out of volute and twisted the electrical cord until the pump failed.
 - Pump cannot be repaired, new pump ordered for \$29,000.

Sanitary District Of Decatur

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

MONTHLY ACTIVITY SUMMARY

Main Plant Facility Maintenance Division

To: Don Miller

From: Fred McKinney / Craig Jones

Date Dec 1, 2014

For the month of November, these are the projects in progress.

Nitrification Clarifiers:

Installation of the number two nitrification clarifier scum trough has been put on hold until spring due to valve problems in the center structure.

DAF-113 bldg:

The D.A.F. units are all being brought up to proper working order, excluding numbers one and two.

Primary Digesters: 105-00-00

Two new burner assemblies for heat exchangers one and four are installed and two more are on site will be scheduled for installation soon. Two new pumps have arrived and are being installed.

Secondary Aeration Tanks:

Rehab of all tanks is completed.

Grit tank 204:

Sandblasting and painting of the Catwalk is complete. Painting of the Piping will be completed in the spring, due to the weather.

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

MEMORANDUM

TO: Don Miller

DATE: December 4, 2014

FR: Roger Dudley

RE: 2014 Bleach Building Modifications

Notice of Award was issued on June 26, 2014.

Notice to Proceed issued on July 14, 2014.

The contractor arrived on site on July 10, 2014 to unload District purchased building; delivery of materials began on August 1, 2014.

As of this date, the contractor has constructed the proposed building addition, constructed the electrical duct bank, applying finish coat to the structural steel and constructed the concrete pavement around the bleach building. As of this date, 6 field orders have been issued.

The project is estimated to be 90% complete. Projected completion is the end of December 2014.

Project consists of removal of exiting building and containment wall, constructing an 1800 square foot addition, rerouting exiting electrical duct bank, erecting a new building purchased by the District along with site improvements.

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

MEMORANDUM

TO: Don Miller

DATE: December 4, 2014

FR: Roger Dudley

RE: 2014 Roads Rehabilitation

Notice of Award was issued on August 21, 2014.

Notice to Proceed issued on September 16, 2014.

Contractor has completed the 5" depth pavement replacement as of this date. The 7" depth replacement will be completed due to unfavorable weather conditions.

Project consisted of 7" & 5" existing bituminous pavement removal & replacement within the main treatment plant.

With ambient air temperatures not favorable for bituminous concrete pavement construction, the project shall be closed out and the remaining portion of the project to be completed next fiscal year.

Change order is before the board for approval with a reduction in contract price of \$22,168.32.

SANITARY DISTRICT OF DECATUR

501 DIPPER LANE, DECATUR, IL 62522

MEMORANDUM

TO: DON MILLER

DATE: December 8, 2014

FROM: PAUL CASWELL

SUBJECT: 2014 CLEAN AND CCTV PROJECT PROGRESS REPORT #1

The project was awarded to TSI during the November Board Meeting.

I am reviewing Performance Bond and insurance. Notice to Proceed will be provided this week.

Thank you

SANITARY DISTRICT OF DECATUR

501 DIPPER LANE, DECATUR, IL 62522

MEMORANDUM

TO: DON MILLER

DATE: December 8, 2014

FROM: PAUL CASWELL

SUBJECT: 2014 HATCH REPLACEMENT PROJECT PROGRESS REPORT #1

The project was awarded to Burdick Plumbing and Heating during the October Board Meeting.

Notice of Proceed was delivered on November 3, 2014. Project completion time is 90 days or February 1, 2014

The District has reviewed hatch submittals and provided comments to Burdick for revise and re-submit.

Thank you

SANITARY DISTRICT OF DECATUR

501 DIPPER LANE, DECATUR, IL 62522

MEMORANDUM

TO: DON MILLER

DATE: December 8, 2014

FROM: PAUL CASWELL

SUBJECT: 2014 MANHOLE INSPECTION PROJECT PROGRESS REPORT #1

The project was awarded to Terra Contracting during the August Board Meeting.

Project kickoff meeting was on October 6th, 2014.

Work started on October 16th, 2014.

On December 5, 2014 Terra Contracting has completed 550 inspections.

Inspections are ongoing to complete the approximate 1250 MH inspections.

The project will be put on hold if extended forecast does not rise above 30 degrees.

Thank you

SANITARY DISTRICT OF DECATUR

501 DIPPER LANE, DECATUR, IL 62522

MEMORANDUM

TO: DON MILLER

DATE: December 8, 2014

FROM: PAUL CASWELL

SUBJECT: 2014 ROOF REPLACEMENT AND REHABILITATION PROGRESS REPORT #3

The Project is substantially complete; I am putting together any punch list items with SDD/Garland.

- Larkdale PS shingle roof replacement – COMPLETE
- Damon PS shingle roof replacement – COMPLETE
- Bld 217, Grit Pump Bld roof coating – COMPLETE
- Bld 314, Secondary Return Sludge PS – COMPLETE
- Bld 259, Nitrification Return Sludge PS – COMPLETE

Thank you

SANITARY DISTRICT OF DECATUR

501 DIPPER LANE, DECATUR, IL 62522

MEMORANDUM

TO: DON MILLER

DATE: December 8, 2014

FROM: PAUL CASWELL

SUBJECT: ST LOUIS BRIDGE AND FARIES FORCE MAIN REPLACEMENT PROGRESS
REPORT #1

The project was awarded to Burdick Plumbing at the November Board Meeting.

We have received payment/performance bond and insurance but the insurance did not meet requirements.

Thank you

SUMMARY MAINTENANCE PROACTIVE HOURS (METRIC for 2013/14)

