

Director of Engineering Report

Ju1 18, 2012

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

Argenta Collection System:

- *Contractor is Dawn, Inc.*
- *Work is complete and accepted.*
- *We are holding the last payment until Dawn submits final Lien Waivers.*

2011 Eastside Booster Pump Station Project: This project includes relocating the electrical cabinets to a new location, eliminating confined space entry into the pump area of the station, and installation of hatches over the pumps.

- *Contractor: Otto-Baum*
- *Pump Station is operational*
- *Change Order #1 is before the Board for consideration*
- *Final Pay Estimate should be next month – Waiting for Lien Waivers to be submitted.*

2011 LEVEE Improvement Project: This project is considered maintenance by IEPA. The purpose of the project is to increase the elevation of the levee consistent with a 100 year Army Corps of Engineers certified levee.

- *Contractor: Christy Foltz:*
- *All work on the LEVEE is complete*
- *Working through final quantities with C-F to finalize last payment.*

2011 Trestle Improvement Project: This project includes Replacement of the 4 concrete North Stevens Creek trestles (reusing existing piers) and repair the New Main Interceptor trestle.

- *Contractor: ECI; Contract end date: July 20, 2012*
- *As of June 30, 255 days into a 270 day contract; 59% Elapsed time - Work is 76% complete*
- *Contractor is mobilizing the week of July 18, 2012 to begin rehab work on trestle #5.*
- *The structural review of Trestle Design has been completed by Hanson and trestle support issues have been resolved. During the course of the structural review, SDD authorized Hanson to discuss the HOBAS pipe used in the trestle applications with the manufacturer. This was outside the original scope of work discussed with Hanson, however, due to deflection concerns raised in the independent review it was necessary to have further investigation done on the HOBAS material supplied by the contractor.*

Structural review of the HOBAS pipe supplied has found the pipe is not acceptable.

Meeting was held with ECI/HOBAS/BGM/SKS on recommendations to resolve the pipe deflection issue. HOBAS has recommended relocating the cradles in which the pipe rests. The district is requiring a third party structural review of the pipe deflection before accepting a change to the support plan – we will continue to use Hanson for this review.

2011 High Efficiency Blower Replacement Project:

- *Contractor: LEANDER Construction, Sub for Transformer: Bodine*
- *Placeholder: We have received an expected ship date of 8/14/12 for the K4 rated transformer.*

2011 Primary Clarifier #1 & #2 Rehab: This project includes the removal and replacement of the primary clarifiers #1 and #2 drive mechanisms; the replacement of the bridge; and replaces electrical conduit and controls.

- Contractor: Joseph J Henderson % Son, Inc. (JJH) Contract Award: 1/30/12; Notice of Award 1/30/12
- Notice to Proceed was issued on March 22, 2012.
- *Submittal review continues on this project. Concrete repair work on the clarifier is the next task on the schedule. That will be followed by lining the tank interiors.*

2012 District Roofing Rehab: This year's roofing contract work consists of a complete tear off and re-roof of the Effluent Pump Station (Bldg 325) and rehabilitation of the admin/laboratory building (Bldg 045).

- *Contractor: King-Lar Roofing; Contract Award: 5/23/12; Notice of Award: 5/24/12*
- *Work is approximately 70% complete.*
- *We are currently negotiating a change order with King-Lar for the installation of various roof fall protection devices. If successful, this will be brought as a change order to the contract at a future date.*

2012 District Road Rehabilitation: This year's roads rehabilitation work consists of asphalt, concrete repair and sealing, and A2 treatments at Hickory Point, Larkdale, Lost Bridge, Applewood, St Louis Bridge, Finley Creek, Wyckles Rd, and Country Club pump stations and Lincoln Park, McKinley and 7th Ward CSO's.

- *This project was bid this month.*
- *There is a contract award before the board for consideration.*

2012 BioMass to Energy Project: To continue with upgrading the digester complex and reducing the energy needs of the district, the district is evaluating grant opportunities again in 2012 to look at opportunities to tap into DCEO Public Sector Energy Grants, DECO Public Sector Biogas Grants, and an Illinois Clean Energy Foundation Biogas/Biomass Grant. .

- *DECO Public Sector Biomass to Energy grant application was signed off in the \$500,000 which has been upgraded from the \$200,000 reported last month.*
 - *500-kW high efficiency combined heat and power (CHP) engine (replacement of 1 co-gen unit)*
 - *Installation of gas cleaning system*
 - *There is a Professional Services Agreement before the board for consideration on this project.*

2012 Energy Efficiency Projects: Grant amount of \$538,512 was received July 5th, 2012. It reflects the following projects:

- Replacement of Waste Activated Sludge Mixers (6)
- Channel Aeration Blowers (2 replacements and modification of control)
- Primary Sludge Modifications (piping changes to reduce pumping required)
- Power Factor Correction (*PFC is the ratio of real power over apparent power. Real power is the power that actually does the work to run motors, lights, etc. Apparent power is the total power consumed by the "localized system". Low power factors are caused by inductive loads, because inductive loads use current to create magnetic fields and then the magnetic fields produce the desired work (such as an induction motor), this is called reactive power and increases the total power consumed. PFC can be accomplished in a variety of ways, one of which is installing capacitors in AC circuits to decrease the magnitude of reactive power – which is a portion of the total power required to run a motor.)*)
- *The board approved a conditional professional services award on this project last month. The first project schedule/design meeting was held on July 12th.*

2012 Roads Rehab Project: Each year the district does ongoing annual maintenance on the roads around the treatment plant and at the outside facilities (pump stations, CSO's, Wyckles). There is going to be significant road work inside the plant with the High Strength Waste Receiving Station project this year, so most of the work in this years project is work is at our outside facilities.

- This years project has been bid and is before the board for considerations

INTERGOVERNMENTAL ACTIVITIES

- Ongoing Argenta road maintenance follow-up with Ron Grider.

Other Activities:

Preparation of Bid Spec for 85 HP: There is a motion for consideration before the board.

South Shores Drive Bridge Replacement: Bridge is being raised 3 feet as it is being replaced. We have an interceptor at the current level of the bridge, subsequently to raise the bridge, we must raise the interceptor.

- *Placeholder: Work waits for IDOT review/approval.*

Water Tower Maintenance Contract: SDD is preparing to take bids for the multiple year management of the water tower as a district asset. The water tower is in need of several maintenance items, most notably the interior coating of the tank, and the exterior coating on the tank. Evaluation done last spring showed the interior lining of the tank had begun blistering and needed immediate attention. The bids documents being developed are for Painting, Lining, and virtually all physical components of the water tower maintenance is covered in the proposals.

- *We are in the final reviews of this specification before going out to bid.*

DAF Upgrades: District maintenance staff is working closely with the district asset manager on the pending upgrades to the DAF units. Several valves/pumps have been replaced in the DAF building this last period, and plans are to keep progressing through the DAF's to bring 2, 3, 4 and 5 into solid operable condition.

PROPOSED BOARD ACTION

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

- 1. Change Order #1 – Eastside Booster Pump Station project**
- 2. Purchase of Equipment**
- 3. Professional Services Agreement – 2012 Energy Efficiency Project**
- 4. 2012 Roads Rehabilitation 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

BAINBRIDGE

July 6, 2012

GEE & Associates

MILANSKI

1670 South Taylorville Road, Decatur, Illinois 62521
(217) 423-8600 FAX (217) 423-8677

ENGINEERING STATUS REPORT

The following is a brief summary of the Projects involving Bainbridge, Gee, Milanski and Associates. Charles Hunsinger and Curt Cassidy will attend the meeting. chunsinger@bgmenengineering.com

ARGENTA SANITARY SEWER CONSTRUCTION (08-076C)

This project consists of the construction of a sanitary sewer collection system for the entire Village of Argenta. The Contractor is Dawn Contractors, Inc. from Joliet, Illinois.

All work is complete. The oil and chip streets are bleeding due to the hot weather. The Contractor is working with the Village to spread rock chips to keep the oil tracking to a minimum. The final payment estimate is being disputed by the Contractor. Final waivers have not been submitted by the Contractor.

TRESTLE IMPROVEMENTS CONSTRUCTION (09-063)

The project consists of replacing 4 concrete trestles on the North Stevens Creek Interceptor and repair to the 60" Main Interceptor trestle.

The contractor is scheduled to start repairs to Trestle 5 week of July 16. A plan to modify the trestle supports for trestles 1 through 4 has been finalized. The Contractor is working on a plan to make the changes and a cost for the changes. He will be sharing in the cost of the modifications.

2011 LEVEE IMPROVEMENTS CONSTRUCTION (09-043)

This project consists of raising the levees around the treatment plant. The levee along the river and Stevens Creek will be raised with a concrete wall.

All the construction is complete. We are waiting for the Contractor to submit quantities for a final payment estimate.

Sanitary District Of Decatur

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

MONTHLY ACTIVITY SUMMARY

Main Plant Facility Maintenance Division

To: Don Miller

Fr: Fred McKinney / Craig Jones

Date July 6, 2012

Work Orders:

For the month of June, these are the totals of work orders completed.

WORK ORDER SUMMARY	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	June-12
Total # Work-Orders Completed	807	804	1,038	882	796	942	839	836	928
Total # PM Work Orders Completed	729	656	803	733	656	811	734	678	787
COMPLETED BY TYPE									
Weekly PM's	586	569	640	607	548	655	572	532	632
Safety PM's			24	22	32	47	6	23	20
6 Month PM's	96	16	110	79	58	76	130	112	110
Yearly PM's	47	33	29	25	18	33	27	11	25

Effluent Building 325: #1 plant water has been rebuilt and is installed. #2 plant water has been removed for rebuild.

Nitrification Aeration:

Tank #2, #3 & #5 Domes have been acid cleaned and are showing large improvement in air transfer.

Nitrification Clarifiers:

Number two clarifier will have a new scum plate installed this summer.

W.A.S. room 112:

The new #8 Thickened sludge pump has arrived and has been installed and running. The #3 feed pump has arrived and being installed at this time.

D.A.F.113:

The # 4 Recirc Pump has been reconditioned and reinstalled. Two completely new pump units have been ordered and will be here at the end of the month. They will be installed upon arrival.

CC. Monte Cherry
Kent Newton

SANITARY DISTRICT OF DECATUR
501 Dipper Lane Decatur, Illinois
(217) 422-6931 Fax (217) 423-8171

MONTHLY REPORT
June 2012

TO: Don Miller, Director of Engineering

FROM: Randy McEldowney, Outside Facilities Manager

- **CSO Events**

- We had 2 events due to excessive rainfall. We received over 1" of rain this month.

- **St. Louis Bridge Pump #2**

- Pulled pump and took to BRI for repair. Pump went bad due to seal failure. Repair cost is \$12,155.58. New pump cost is \$28,607. Told BRI to repair. The pump has been reinstalled and is running

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- **Wyckles Pump #2**

- Pulled pump & took to BRI for repair. Repair cost is \$22,000. New pump cost is \$40,700. We are bidding out a new pump on July 13th.

- **Larkdale Pump #1**

- Pulled pump & took to DIE for repair. Waiting on an estimate. Repair cost is \$30,000. New pump cost is \$49,370. We are looking into other options to replace pump.

- **Lost Bridge Pump #3**

- Pulled pump- impeller bolt broke and the impeller had fallen off and damaged the shaft and impeller. Ordered new parts- cost of all parts \$5600. They will be in 4 to 6 weeks. The parts are in and we are in the process of rebuilding pump

- **Wyckles Barge Pump**

- Pump locked up took to BRI for repair. Waiting on estimate.

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

MEMORANDUM

TO: Don Miller

DATE: July 10, 2012

FR: Roger Dudley

RE: 2011 PRIMARY CLARIFIERS #1 & #2 REHABILITATION PROJECT
PROGRESS REPORT #5

Project consists of removal & replacement of clarifier mechanism in primary clarifiers #1 & #2, coating the interior walls and channels of both clarifiers.

Notice of Award was issued on January 30, 2012.

Contractor insurance and bonds have been approved.

Notice to Proceed was issued on March 22, 2012.

Contractor has been on site on several occasions to verify existing elevations and conditions.

Contractor safety compliance meeting held on June 5, 2012 at the District office.

Clarifier equipment submittal has been approved and returned to contractor.

Contractor Schedule has been received.

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

MEMORANDUM

TO: Don Miller

DATE: July 10, 2012

FR: Roger Dudley

RE: 2012 ROOF REPLACEMENT & REHABILITATION PROJECT PROGRESS REPORT #2

This project consists of complete tear off and reroof of Effluent Pump Station (Bldg. 325) & rehabilitation of the Administration Bldg. & Laboratory Bldg. (Bldg. 045).

Notice of Award was issued on May 24, 2012.

Notice to Proceed was issued on June 18, 2012.

Effluent Pump Station (Bldg. 325) is estimated to be 95% complete.

Bldg. 045 is estimated to be 50% complete.

Awaiting pricing from contractor to install anchor points on these roofs for fall protection.

Respectfully submitted

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

MEMORANDUM

TO: Don Miller – Project Manager

DATE: July 11, 2012

FR: Roger Dudley – Engineering Technician

RE: 2012 Roads Rehabilitation – Various Pump Stations & Main Treatment Plant

At 10:00 AM, July 9, 2012, sealed bids for 2012 Roads Rehabilitation – Various Pump Stations & Main Treatment Plant were opened. The project consists of milling, pavement replacement, coal tar emulsion, crack sealing and A-2 surface treatment at 4 Combined Sewer Overflow Facilities, 9 pump stations, Wyckles Facility & the main treatment plant.

One (1) set of specifications was sent to the prospective bidder. The following bid was returned:

<u>Contractor</u>	<u>TOTAL</u>
Dunn Company	
Division 1	\$8,165.00
Division 2	\$178.00
Division 3	\$123.50
Division 4	\$10,075.00
Division 5	\$51,225.00
Division 6	\$7,200.00
Division 7	\$21,450.00
Division 8	\$393.00
Division 9	\$294.00
Division 10	\$40,800.00
Division 11	\$468.50
Division 12	\$3,500.00
Division 13	\$293.00
Division 14	\$125.00
Division 15	\$9,000.00
 TOTAL - ALL DIVISIONS	 \$153,290.00

After review of the bid documents, it is the recommendation of the Engineering Department that the bid be awarded to Dunn Company, in the total amount of \$153,290.00 for the 15 divisions included in the project.

The recommended bid was \$5,140.00 below the Engineering Department estimate.



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Change Order

PROJECT <i>(Name and address):</i> Nelson Park Pump Station Decatur, IL	CHANGE ORDER NUMBER: 001 DATE: April 4, 2012	OWNER: <input checked="" type="checkbox"/> ARCHITECT: <input checked="" type="checkbox"/> CONTRACTOR: <input checked="" type="checkbox"/> FIELD: <input type="checkbox"/> OTHER: <input type="checkbox"/>
TO CONTRACTOR <i>(Name and address):</i> Otto Baum Company, Inc.	ARCHITECT'S PROJECT NUMBER: 4321 CONTRACT DATE: August 17, 2011 CONTRACT FOR: General Construction	

THE CONTRACT IS CHANGED AS FOLLOWS:

(Include, where applicable, any undisputed amount attributable to previously executed Construction Change Directives)

Provide material and labor for 480 volt electric supply through new Panel A to overhead crane assembly.	\$2,454.44
Provide material and labor to lower exhaust fan location for crane drive/controls housing clearance.	\$1,999.06

TOTAL ADDITIONS \$4,453.50

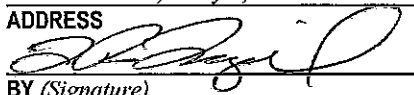
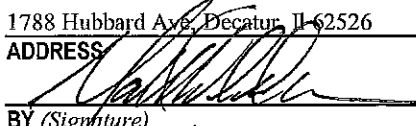
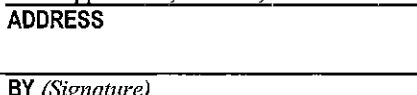
The original Contract Sum was	\$ 721,166.53
The net change by previously authorized Change Orders	\$ 0.00
The Contract Sum prior to this Change Order was	\$ 721,166.53
The Contract Sum will be increased by this Change Order in the amount of	\$ 4,453.50
The new Contract Sum including this Change Order will be	\$ 725,620.03

The Contract Time will be increased by Zero (0) days.

The date of Substantial Completion as of the date of this Change Order therefore is March 23, 2012

NOTE: This Change Order does not include changes in the Contract Sum, Contract Time or Guaranteed Maximum Price which have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

<u>Architectural Expressions, LLP</u> ARCHITECT <i>(Firm name)</i>	<u>Otto Baum Company, Inc.</u> CONTRACTOR <i>(Firm name)</i>	<u>Decatur Sanitary District</u> OWNER <i>(Firm name)</i>
<u>113 Illini Drive, Forsyth, IL 62535</u> ADDRESS	<u>1788 Hubbard Ave, Decatur, IL 62526</u> ADDRESS	<u>501 Dipper Lane, Decatur, IL 62522</u> ADDRESS
 BY <i>(Signature)</i>	 BY <i>(Signature)</i> MATT LEW	 BY <i>(Signature)</i>
<u>Lawrence R. Livergood, AIA</u> <i>(Typed name)</i>	<u>Don Allen</u> <i>(Typed name)</i>	<u>Don Miller</u> <i>(Typed name)</i>
<u>4/5/12</u> DATE	<u>6.25.12</u> DATE	<u> </u> DATE