


REGIONAL WATER SYSTEM

Explorer

Winter 2018

Lewis & Clark Named "System of the Year"

Conner, Munson, Weeldreyer and Harrisburg Honored

Lewis & Clark received the 2017 System of the Year Award at the SD Association of Rural Water Systems' annual conference in Pierre on January 11! This award recognizes the numerous successes L&C enjoyed in 2017, as well as the many challenges it overcame. Successes included: startup of the Madison "wheeling plan", connected Lincoln Pipestone RWS, 12 construction contracts underway, secured IA and MN federal funding advances, delivered a record 5.56 billion gallons, and had an incredibly low 0.4% water loss. Challenges included: repair of the treatment plant roof, repair and extension of the river bank stabilization, and improvements to the lime drying

beds. Congratulations to everyone who helped make 2017 a remarkable year!

Banner's Tim Conner was honored with the prestigious Friend of Rural Water Award for his long and distinguished career working with many cities and rural water systems. Tea's Sid Munson and Lennox's Dennis Weeldreyer were both recognized with the Spirit of Rural Water Award for their contributions to SDARWS. Sid was a long-time SDARWS employee and Dennis has served for six years on its board (Dennis' award will be presented at his final board meeting on April 5). Congratulations to Tim, Sid and Dennis!

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Accepting the System of the Year Award were (back row left to right) Water Operator Shawn Anderson, Director Scott Buss of MCWC, Operations Manager Jim Aven, Water Operator Jon Anderson, Water Operator Jeremy Hult, Director Sid Munson of Tea, (front row left to right) Director Don Sweeter of South Lincoln RWS, Office Manager Lori Seten, Chairman Red Arndt of Luverne and Executive Director Troy Larson

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In the annual water taste test there were seven finalists. There was a tie between the top two so after a “taste off” Harrisburg was declared the winner and Lennox second. Both cities use 100% L&C

water, so it is no wonder the judges had a hard time choosing. This is the third year in a row for water produced by L&C – Lincoln County RWS won in 2016 and L&C won in 2015. Congratulations to Harrisburg and hats off to the operations team for continuing to produce the best tasting water in the state!



Tim Conner received
the Friend of Rural
Water Award



Sid Munson (left)
received the Spirit of
Rural Water Award
from SDARWS
President Ron Gillen

Bank Stabilization Repairs and Extension Completed

The banks of the Missouri River, which L&C’s wells are adjacent to, are an ever changing area due to erosion from the river’s current. Protecting these banks is critical to the longevity of the wells. Quinn Construction of Rapid City completed repairs in January to damaged areas of the existing rip rap revetment, as well as extending the revetment another 2,250 feet to the north. The entire bank stabilization system is now roughly 1.5 miles.

Quinn’s contract originally called for repairs to 500 feet of existing revetment, but it was later discovered another 500 feet of repairs were needed so a change order was issued. The damage under the water line was worse than thought, so more rock was needed to make the repairs than planned. Final quantity adjustments have not yet been made, but the estimated cost of the extension is close to \$1.2M (federal funding will be used), and the estimated cost of the repairs is \$850,000 (reserve funds will be used). Larger diameter rock that will hopefully hold up better against the river’s current was used for

the extension and repairs, but it is anticipated future repairs of other portions of the original revetment, completed in 2007, will be needed.



Repairing an existing portion of the revetment.

National Rural Water Rally

Chairman Red Arndt and Executive Director Troy Larson attended the National Rural Water Rally in Washington, D.C. in February. They met with the members and staffs of the tristate congressional delegation, including recently appointed Senator Tina Smith, to discuss L&C's two main legislative priorities. The first is to ensure that in any infrastructure bill a high priority is placed on first completing projects like L&C where the federal government has already made a funding commitment before starting new ones. The second is to ensure fully vetted authorized projects like L&C are excluded from the earmark ban. Members of the delegation voiced their continued strong support for L&C.



Senator
Tina Smith

Right: A completed portion of the extension showing the rip rap covered with soil, planted with vegetation and logs placed for habitat

Below: Rip rap placed for the
revetment extension



Minnesota – Segment 4 Construction Underway

S.J. Louis of Rockville, MN began construction in mid-September on Minnesota – Segment 4, a 15-mile segment between Adrian and Worthington. This \$10,785,600 contract consists of three diameters of PVC pipe – five miles of 24 inch, just over four miles of 20 inch, and close to six miles of 16 inch. They started boring under water crossings and highways, and then started installing pipe in late November. Before shutting down for the winter in late January, they completed 12 of the 20 bores and installed 19,492 feet of pipe. All the pipe has been delivered and staged. “It was both exciting and a relief to finally see pipe arriving in Worthington city limits,” said Director Scott Hain. The substantial completion deadline is November 2018.



A wide track backhoe is being used to straddle the trench



Administration's FY19 Budget Slashes Project Funding

FY18 Budget Not Yet Finalized

The administration's FY19 Budget was released on February 12 and only includes a miniscule \$100,000 for L&C. For FY18 the administration proposed \$3.65M. "We are incredibly disappointed and frustrated to see such a large cut in proposed funding. It makes no fiscal sense. **We could complete construction in five years with an estimated \$185M, but based on recent funding levels we estimate the project will not be completed until 2048 at a cost of \$240M because of inflation.** Until the earmark ban is changed to exclude fully vetted authorized projects, we hope the congressional delegation is able to continue securing

additional funding for the Rural Water Program so some of it trickles down to us," said Executive Director Troy Larson.

Because of the ongoing battles on Capitol Hill, the FY18 Budget has not yet been finalized. In addition to the administration's proposed funding of \$3.65M, L&C is hopeful the delegation is able to hold the additional \$48M for the Rural Water Program in the Senate's budget (House budget includes an additional \$43.8M). Because of the earmark ban, Reclamation then divides any additional funding among five rural water projects.

New Faces at Lewis & Clark



Clint Koehn

Construction Administrator Clint Koehn started in November, taking over for Dan Zulkosky, who became Tea's City Administrator in July. A native of the Canistota area and 2007 graduate of SDSU with a civil engineering degree, Clint worked for Banner Associates the last ten years. For all but a few months he was the on-site rep for 15 different L&C construction projects. He worked closely with contractors, engineers, consultants, landowners and L&C staff. "With his extensive project background, we expected Clint to hit the ground running and he certainly has. While we are thankful to have Clint on the team, he has basically been on the team for ten years," said Executive Director Troy Larson.



Jim Collins



Adam Jans

Jim Collins, Hull City Administrator and Economic Development Director, joined the Board in December. He took over for Aaron Kooiker, who after five years of service is now the City Administrator in Fairfield, IA. A native of Mason City and graduate of Iowa State University, Jim spent many years working in Mason City. He also spent part of his career in Ames, Indianola and Sioux City before moving to Hull last fall. Jim and his wife Jennifer have been married 30 years and have two grown sons.

Adam Jans, Parker Finance Officer and City Administrator, joined the Board in January. He took over for Ivan Friese, who retired after six years of service. Adam is a Parker native and 2006 graduate of Colorado Technical University with an Associate's Degree in Business Administration. He started with the city in 2013 and has been in his current role since 2016. Adam and his fiancé Amanda are planning a September wedding and have three children; ages ten years to six months. "A warm welcome aboard to Jim and Adam!

We know they will do their best to help keep construction moving forward and operations running smoothly," said Larson.

Pump Stations Nearing Completion Despite Delay

Gridor Construction of Buffalo, MN is nearing completion of their contract for a pump station-meter building east of Adrian, the Rock County pump station south of Luverne, and installing two pumps to the existing Rock Rapids-Rock County RWD pump station-meter building.

The two pumps have been installed and Gridor is on schedule to meet the May 2 substantial completion deadline for the Rock County pump station. There was a delay with the Adrian pump station-meter building. The pump supplier mistakenly ordered one pump instead of two, so the substantial completion deadline of December 25 was not reached until March 5. When the Rock County pump station reaches substantial completion Lincoln Pipestone RWS can begin receiving water at their Adrian connection, the second of two connections.



Process piping in the Rock County pump station



Construction underway last summer on the Adrian pump station-meter building



Rock County pump station and backup generator

Rock County Reservoir Nearing Completion

Preload of Louisville, KY has nearly completed construction of the four million gallon pre-stressed concrete reservoir six miles southwest of Luverne. Construction shut down for the winter in mid-November.

Remaining work consists primarily of painting the structure and final site grading. The original substantial completion deadline was March 16, but an extension to April 20 was approved due to weather related delays.



Concrete being poured for the dome roof



After spraying the panels with a base layer of shotcrete (thin concrete), 183 miles of pre-stressed wire were wrapped around the reservoir in several alternating layers of wire and shotcrete



Senator Amy Klobuchar (center) toured construction of the Rock County reservoir on August 27. Joining her were from (left to right): Luverne councilwoman Caroline Thorson, Chairman Red Arndt, Rock County commissioner Stan Williamson, Rock County commissioner Gary Overgaard, Rock County commissioner Sherri Thompson and Executive Director Troy Larson

Lincoln Pipestone RWS Connected to Lewis & Clark!

Congratulations to Lincoln Pipestone RWS! On November 1 they finally started receiving water from L&C at Magnolia, becoming the 14th connected member. Magnolia is a joint connection point for LPRWS and Rock County RWD. RCRWD started receiving water at Magnolia a year and a half ago, but LPRWS first needed to complete a pump station and 22 miles of pipeline between Magnolia and Edgerton. LPRWS has 1.1 million gallons a day of reserved capacity and is able to access

half of it at Magnolia. Their second connection, near Adrian, is expected to be operational this summer. "The good folks at Lincoln Pipestone have been waiting a long time for this water. I have fond memories of the many trips to St. Paul in the early-to-mid 90's with the late Lyle Trautman. He and the other visionary leaders at Lincoln Pipestone are to be commended for all their hard work through the years to help make this happen," said Chairman Red Arndt.

Scale Contract Awarded

L&C awarded a \$175,390 contract in December to Webster Scale of Webster, SD for a certified truck scale at the treatment plant. Contractors are paid by the ton to remove lime sludge, a by-product of the treatment process, from the drying beds. Adding the scale is necessary to reduce the cost of hauling the sludge, as trucks are currently traveling 20 miles round-trip to the nearest scale. June 1 is the deadline to have the scale installed.

Webster Scale Inc.



Portable contractor Webster scale in use

MCWC-East Service Line is “Rocking”

Winter Brothers Underground of Sioux Falls started construction in late July on the 3.5 mile MCWC-East service line along Six Mile Road in southeast Sioux Falls. The biggest challenge was the large amount of rock their boring crew encountered as they drilled under roads and sewer lines. There are seven bores on this project and rock played a role in every one of them. Six of the bores were completed and all the 16 inch PVC pipe has been installed except the northern most 1,100 feet, which is the crossing under Arrowhead Parkway (a.k.a. E. 10th St.). Because of the large amount of rock encountered, including remains from an old railroad, the original design for the crossing is no longer feasible. Banner engineers are coordinating with the contractor and Sioux Falls utility officials on an alternative crossing design. Construction is anticipated to resume this spring. The substantial completion deadline is not until November 2018, so the contractor is well ahead of schedule.



Sioux Center Pipeline Update

During the 2017 session the Iowa Legislature approved a \$2.25M federal funding advance for FY18 and committed another \$4.75M in FY19 for the pipeline between Sioux Center and the Big Sioux River, as well as the Sioux Center meter building. The FY18 funds are being used to acquire easements and complete the design of the pipeline and meter building. The FY19 funds will be used to construct as much of the pipeline as possible starting at Sioux Center and heading west.

As part of the design phase, L&C was required to conduct geomorphic surveys of the route. TRC, Banner's consultant from Laramie, WY, conducted the surveys over a three week period in November. They identified 25 locations near drainage ways to be surveyed and hand-augered 240 holes that were ten inches in diameter and three to ten feet deep. Soil from the digging was then sifted through. Fortunately, no prehistoric artifacts were discovered. Easement acquisition is anticipated to start in April and the goal is to award a construction contract by September.



One of the 240 hand-augered holes for the geomorphic survey

Meter Building Dedicated in Honor of Charlie Kuehl



Charlie Kuehl

Charlie Kuehl, a farmer near Canton, was part of the original L&C Board of Directors. He served as vice-chairman from 1990 until 1994 when he became chairman. Charlie served as chairman with great distinction until he passed away in 2006. He was passionate about rural water and was also an original board member for South Lincoln RWS and served many years as chairman of that system. In recognition of his many contributions in helping bring L&C to where it is today, the meter building near Lennox, which is a connection point for SLRWS, was dedicated in Charlie's honor on September 25. Charlie's wife Harriet and two of his three daughters – Sandy and Karla – were the guests of honor at the dedication. "Charlie was a visionary leader and dear friend. It is with great pleasure that we dedicate this meter building in his honor," said Chairman Red Arndt.



Harriet is ready to cut the ribbon with daughters Karla (left) and Sandy. Arndt (left) and former L&C chairman Gary Hanson are holding the ribbon. In the back row are L&C's Troy Larson, SLRWS's Lloyd Poppens, Centerville's Ben Bjordal, SLRWS's Bill Beck, SLRWS's Arlen Rops, Lincoln County RWS's Merlyn Smeenck, Lincoln County RWS's Robin Dykstra and L&C's Jim Auen

Pipe Coating Problem Delays Completion of Minnesota – Segment 3B

Carstensen Contracting's substantial completion deadline was November 17, 2017 for Minnesota – Segment 3B, a 12-mile stretch of pipeline between Magnolia and Adrian (10 miles of 24 inch steel pipe and 2 miles of 16 inch PVC). A problem with the blue protective exterior coating not adhering to the steel pipe as strongly as required by the specs prevented the contractor from meeting the deadline. "We were told the coating passed at the plant, but the adhesion quickly deteriorated after a relatively short period of time, particularly after being buried," said Executive Director Troy Larson. The problem, which will decrease the life span of the pipe if not addressed, was apparently discovered in August by the pipe manufacturer (AMERON). They found the machine that prepares the exterior of the steel pipe prior to coating was not functioning properly. Unfortunately, it is estimated up to nine miles of steel pipe with potentially defective coating was already installed.

Thirty sections of buried pipe were exposed and tested in different locations. Every one failed a "pull test", where a series of small dollies were glued to the coating and then a device was used to measure how much pressure was needed before the coating pulled off the pipe. "The extent of the problem is not yet known, so we do not know if



The circle to the left shows where a pull test was completed, with four more dollies ready for their pull tests

the coating on the entire nine miles is defective or if the problem is more isolated," said Larson.

Carstensen hired HDR Engineering last fall as an independent third party to examine the problem and provide recommendations on how to proceed. HDR's report was finalized in early March and L&C expects to soon receive a copy. "Carstensen and AMERON have repeatedly said they are committed to "making it right", so we look forward to working closely with them on a solution that will ensure our successors have confidence this segment of pipeline will last 50+ years as designed. We want Worthington to receive water by the end of this year, but we also want to make sure we are getting a high quality product," said Larson.

Below Right: Section of buried pipe exposed for pull tests





46986 Monty Street
Tea, SD 57064

Operations Update – Four Angle Wells to be Abandoned

Due to the high cost of maintaining the four angle wells, declining productivity and inability to rehabilitate them, the decision has been made to abandon them and drill adjacent vertical wells. Two vertical wells will be drilled in 2018 and two in 2019. “The angle wells were never in the original design; they were recommended by Reclamation’s Value-Engineering Review. They were supposed to save money and produce more water compared to vertical wells, but unfortunately neither turned out to be true,” said Operations Manager Jim Auen. An estimated \$1.5M of federal funding will be used to replace the wells.

Production wells naturally decline in capacity over time. L&C’s overall well production has declined from 37 million gallons a day (MGD) in 2012 to 30 MGD today. Rehabilitation of the seven vertical wells is an ongoing effort to restore capacity. There are a variety of methods used by contractors. One method has proven unsuccessful, so two more vertical wells will be rehabilitated this spring by different contractors to identify the method that works best.

Repairs were completed this fall on the treatment plant roof that was damaged by high winds in December 2016. The white membrane cover was meant to save energy, but has subsequently been found to be ineffective from an adhesion standpoint in northern climates due to

condensation. A black membrane cover that “breathes” was used to replace 29,000 square feet of the roof (see photos). A warranty claim is still pending. Vents and ballast will soon be installed to the original portions of the roof to extend its useful life.

