



Lewis
& Clark

REGIONAL WATER SYSTEM

1990



2015

Project Membership

SOUTH DAKOTA

BERESFORD
CENTERVILLE
HARRISBURG
LENNOX
MADISON
PARKER
SIOUX FALLS
TEA
LINCOLN CO. RWS
MINNEHAHA CWC
SOUTH LINCOLN RWS

MINNESOTA

LUVERNE
WORTHINGTON
LINCOLN-PIPESTONE RW
ROCK COUNTY RW

IOWA

HULL
ROCK RAPIDS
SHELDON
SIBLEY
SIOUX CENTER

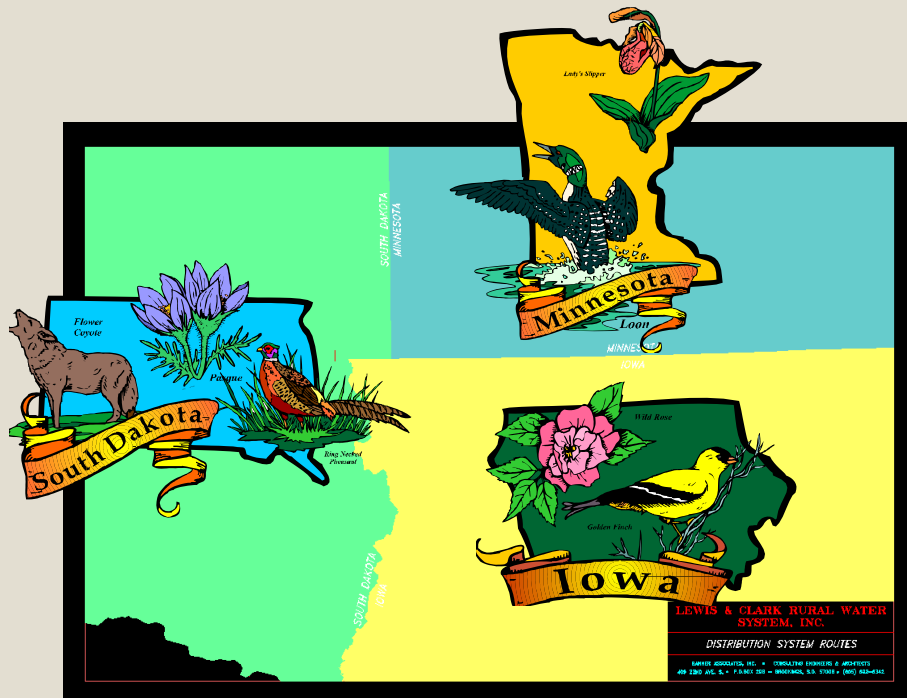
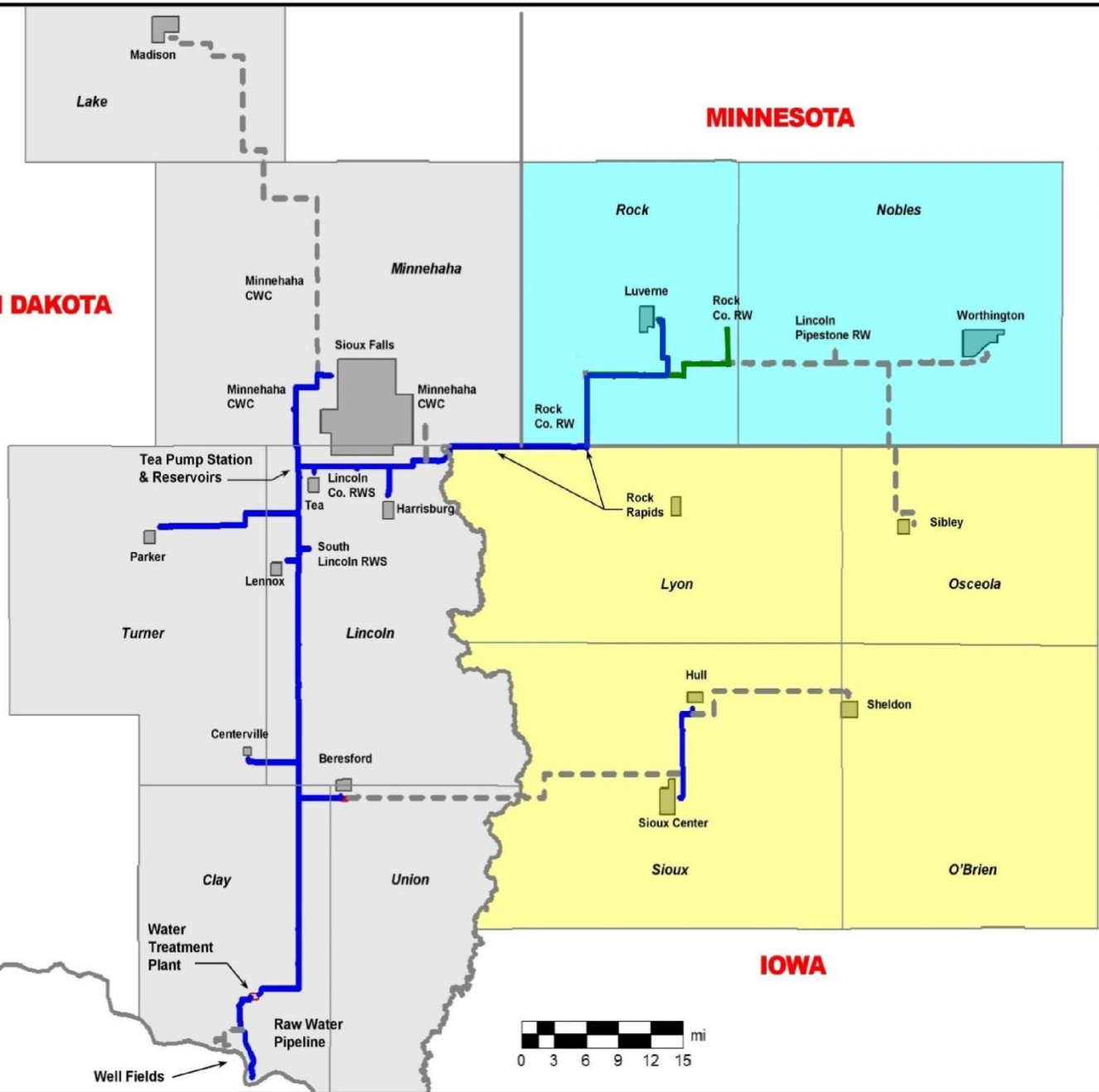


Figure 1 - System Map

SOUTH DAKOTA

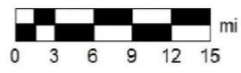
MINNESOTA

IOWA



Legend -- April 2016

- Pipeline Operational (154.9 miles)
- Pipeline Installed (1.0 miles)
- Construction Underway (10.0 miles)
- Future Construction (145.6 miles)



Project Background

- 🔥 L&C critical to improving the quality of life and expanding economic development in the tristate region
- 🔥 Non-profit, wholesale provider of water
- 🔥 Incorporated in 1990 and authorized by Congress in 2000 after 10 years of hearings in Washington DC
- 🔥 Generally speaking our funding is 80% federal, 10% states and 10% locals but Sioux Falls has a 15% local cost share

Project Background

- 🔥 Owned and governed by the 15 cities and 5 rural water systems who are members – each has a seat on the board
- 🔥 Service area when completed is 5,000 square miles, which is the size of Connecticut
- 🔥 Water drawn from a series of wells that tap into an aquifer along the banks of the Missouri River near Vermillion, SD



Operations Status

- 🔥 Started delivering water to the first 11 members in July 2012
- 🔥 System is being built for 45 million gallons a day (MGD) with the ability to expand to 60 MGD in the future, but current capacity is 36 MGD
- 🔥 Of the 45 MGD, Sioux Falls has reserved 28 MGD
- 🔥 Thirteen members receiving water now.



Operations Status

- 🔥 Rock County RWD in MN – was connected in 2015 (1st connection)
- 🔥 Luverne was connected in March 2016
- 🔥 Sept. 2016 Magnolia Meter Building was complete and delivering water RCRWD (2nd connection) and one of two connection points for Lincoln Pipestone RWS.
- 🔥 LPRWS serves 13+ counties in MN, 50+ towns and cities



Operations Status

- 🔥 Population Served: 200,000 +/- will be over 300,000 when complete
- 🔥 Miles of Distribution Pipe: 156 miles currently, will have about 300 miles when complete
- 🔥 Average GPD: 14.6 million gallons per day, 16% higher than last year
- 🔥 Peak day so far: 22 million gallons in August of 2016

Construction Status

- 🔥 Groundbreaking was held in August 2003,
- 🔥 Construction is 67% +/- complete currently
- 🔥 The 20 members and 3 states pre-paid 100% of their share of the project (combined \$154M local share), so schedule to complete construction was completely dependent upon federal funding

Construction Status

- 🔥 Since 2009 federal funding has come in drips, so for a few years (2011 – 2013) construction, engineering and easement acquisition were at a standstill
- 🔥 Members had no choice but to turn to the states for “federal funding advances” to keep construction moving forward
- 🔥 These are zero interest loans that will be paid back at an undetermined time in the future once all 20 members are connected, using future federal funding as the re-payment

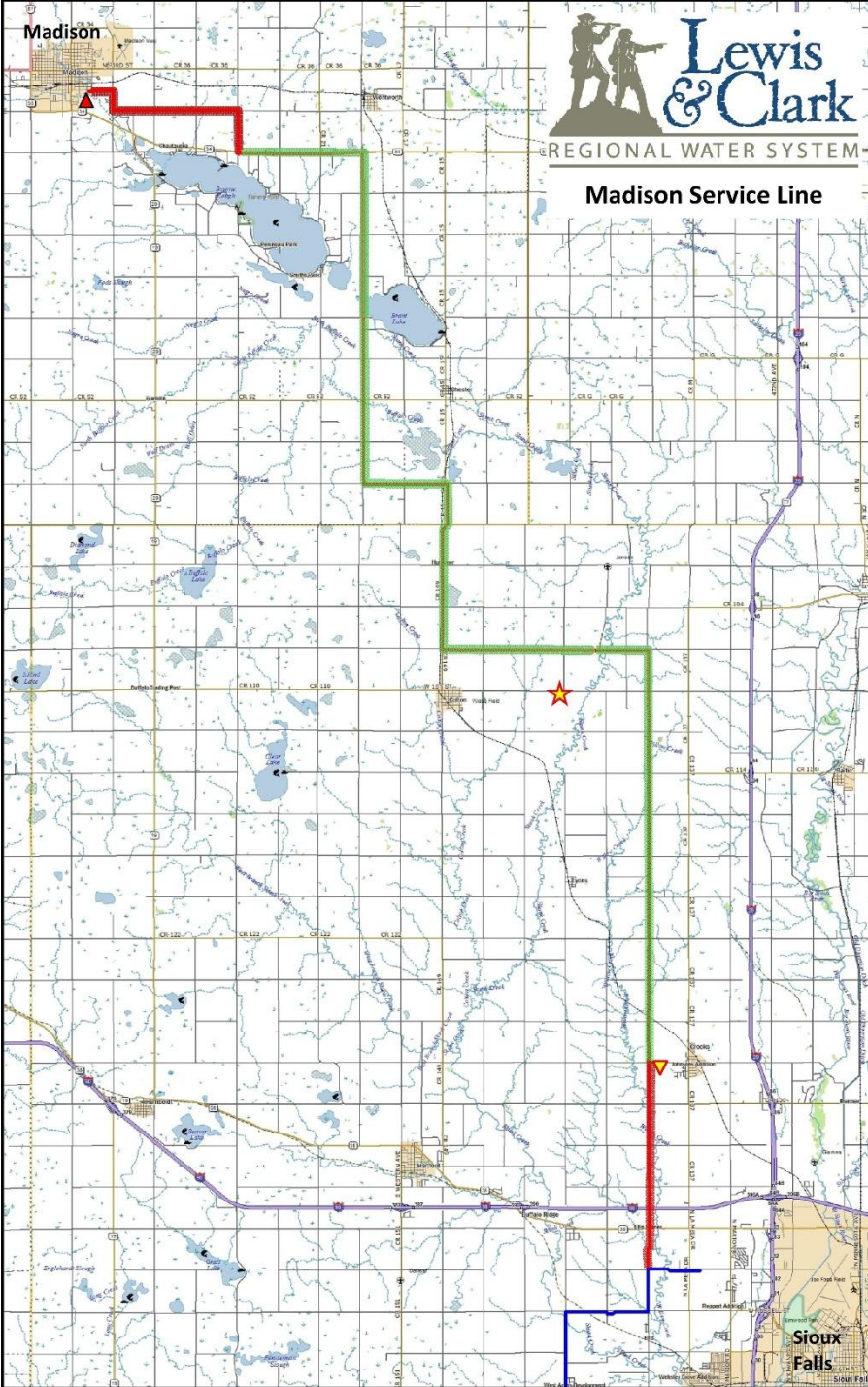
Rock Rapids – Rock County RWD Meter Building



Madison



Madison Service Line



Sioux Falls

Construction Status

- 🔥 SD approved a \$8.7M federal funding advance to construct two 5 mile segments of the Madison service line, which are part of the infrastructure needed to “wheel” 1 MGD to Madison
- 🔥 The 32 mile gap will be bridged by infrastructure from MCWC and Big Sioux CWS, which will address Madison’s water needs for the next 20 years so L&C can wait for federal funds (\$17M in today’s dollars) to eventually complete the service line
- 🔥 Plan took a great deal of cooperation & creativity – big thank you to Governor Daugaard, Legislature, DENR & BWNR!!

Construction Status

- 🔥 MN approved a \$22M advance in 2014 and another \$19M in 2015 to construct infrastructure in MN.
- 🔥 Funds were used to construct the line from the IA/MN border north to Luverne and then east to Adrian
- 🔥 Will ask the State of MN for a final advance of \$11.5M during the 2017 session to complete the line from Adrian to Worthington. We had it in the bonding bill for FY16.....
- 🔥 If all goes as planned, Worthington will be receiving water sometime in 2018, Huge Thanks! to Gov. Dayton and legislative leaders
- 🔥 Still trying to secure an advance from IA



First section of 24" Steel Pipe in MN

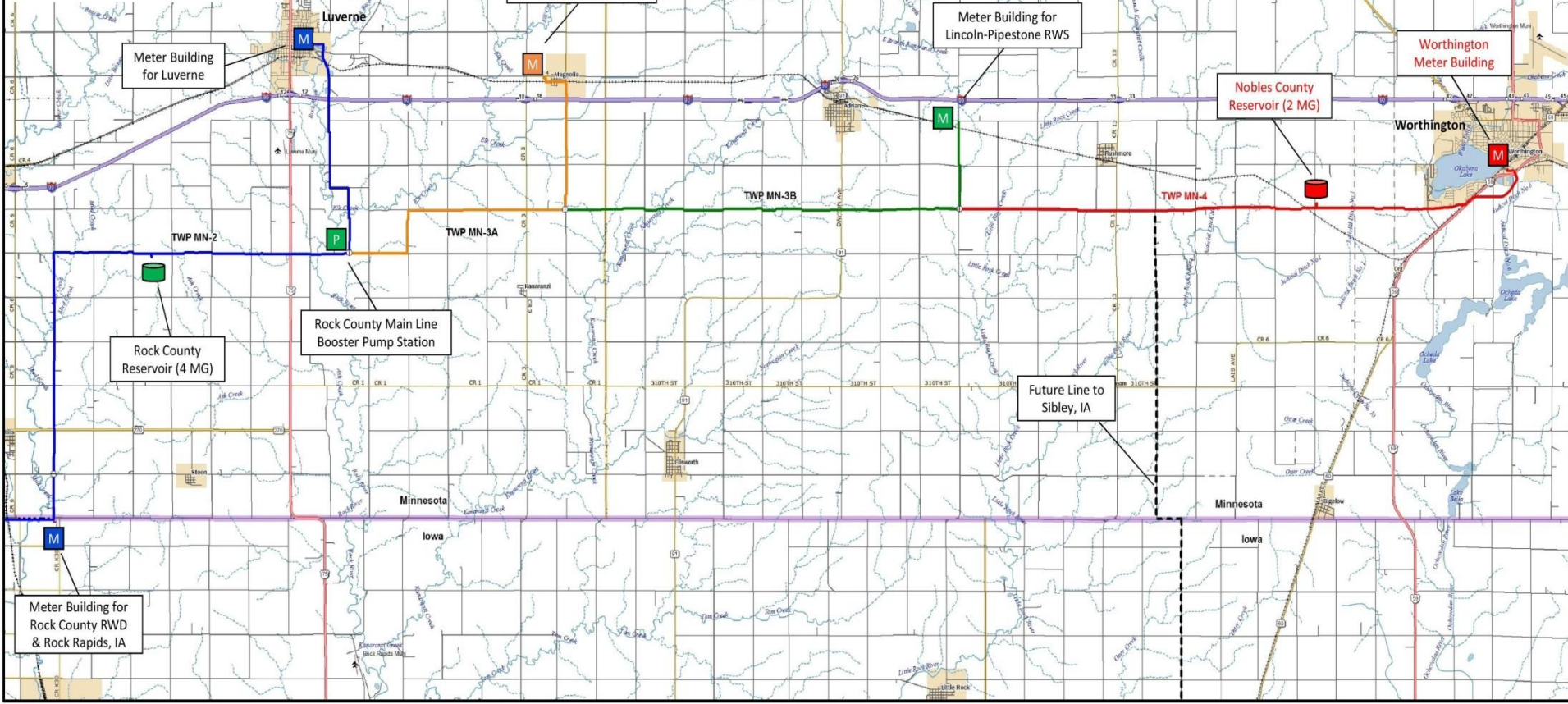


Nine Sections of 24" Steel Pipe on Each Truckload





Figure 2



**Lewis & Clark Regional Water System
Existing and Planned Facilities in Minnesota**

- | | | | |
|--|---|--|-------------------------------------|
| | Pipeline or Facility Installed or Operational | | Meter Building (some include pumps) |
| | Pipeline or Facility Under Construction | | Main Line Booster Pump Station |
| | Pipeline or Facility in Design (Funded) | | Storage Reservoir |
| | Pipeline or Facility in Design | | |

Federal Funding Status

- There are six Bureau of Reclamation authorized Rural Water Program projects in the nation – two in MT, two in NM, one in ND and L&C
- President only proposed \$26.26M in the FY16 Budget for overall Rural Water Program construction (\$2.775M for L&C)
- BoR report shows even if \$50M is appropriated annually for construction of the six projects, and assuming 4% inflation, the remaining federal cost share would increase from \$1.4B today to \$1.8B by 2065, path to infinity.....

Beresford – South Lincoln RWS Dairy Meter Building



Federal Funding Status

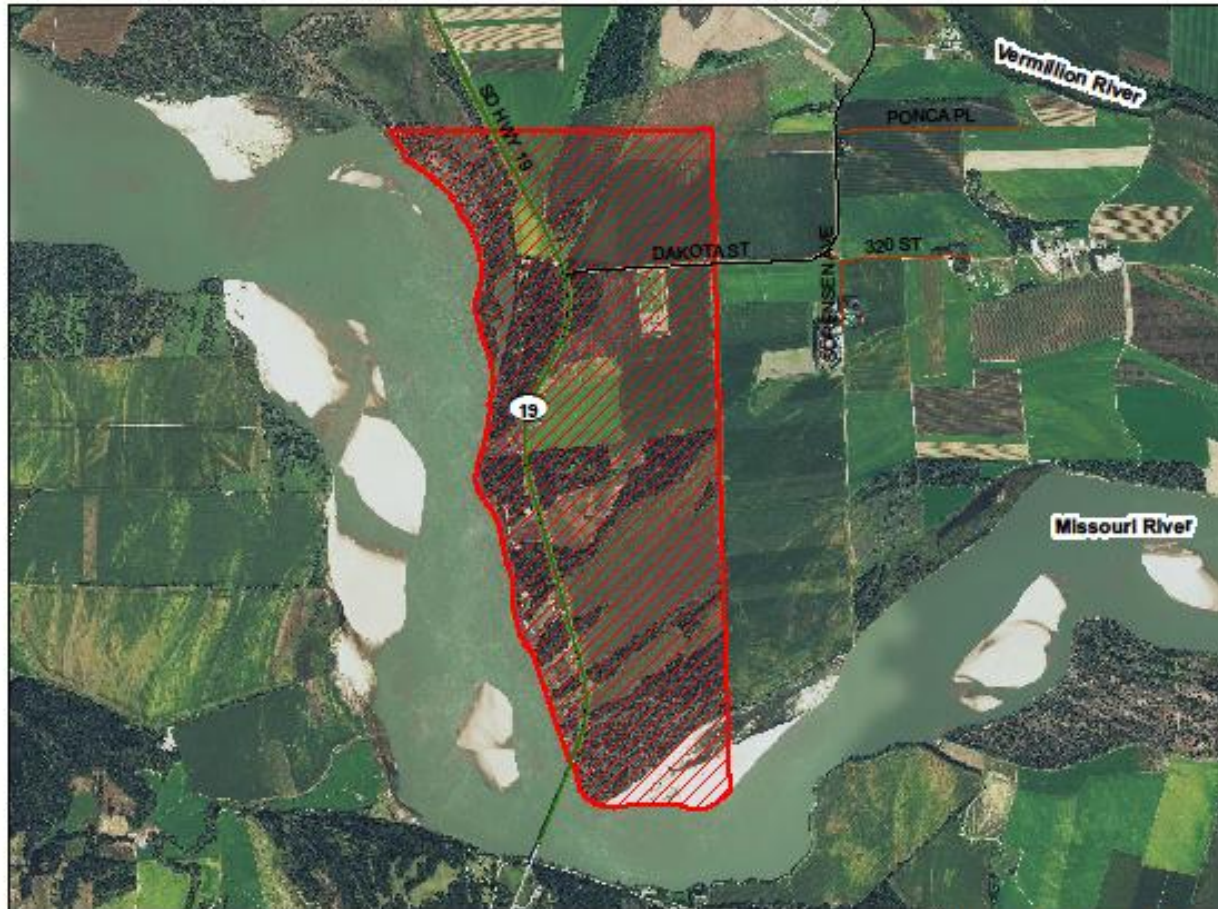
- 🔥 Tristate congressional delegation worked hard to secure additional funds for BoR's Rural Water Program, bringing the FY16 total to \$65.5M
- 🔥 BoR ultimately brought up L&C's FY16 total to \$9.54M (from the \$2.775M in the President's budget)
- 🔥 FY17 \$10M???
- 🔥 Congressional delegation has worked tirelessly to secure additional funding for L&C. Bi partisanship at its finest

Federal Funding Status

- 🔥 2004 – 2016 we have awarded \$342M in construction projects in SD, IA and MN
- 🔥 67% complete now, should reach 72% by end of 2017
- 🔥 \$200M worth of construction remaining in the 3 states before we are complete



Source Water Area for the Lewis & Clark Rural Water System EPAID #2288



Explanation

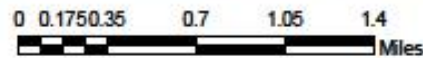
 Zone A

Publication Date: 11/17/15

Note: The future precision of the delineated protection zone boundary is subject to change due to changing conditions along surface water boundaries not accounted for by the current aerial photo.

This map is date specific. As additional data become available, interpretations may be revised, and the map may be updated by the Department of Environment and Natural Resources. Information shown on this map should not be used at scales larger than 1:24,000.

Created By: K. Fawcett



1:40,000

2014 Clay County Aerial Photo



Missouri River: Elk Point Aquifer

- 🔥 11 Wells currently installed can pump up to 36 MGD
- 🔥 Excellent formation by regional standards. 2800 gpm from some wells.
- 🔥 Deepest well is about 140', shallowest is 80'
- 🔥 4 angle wells drilled at a 24 degree angle





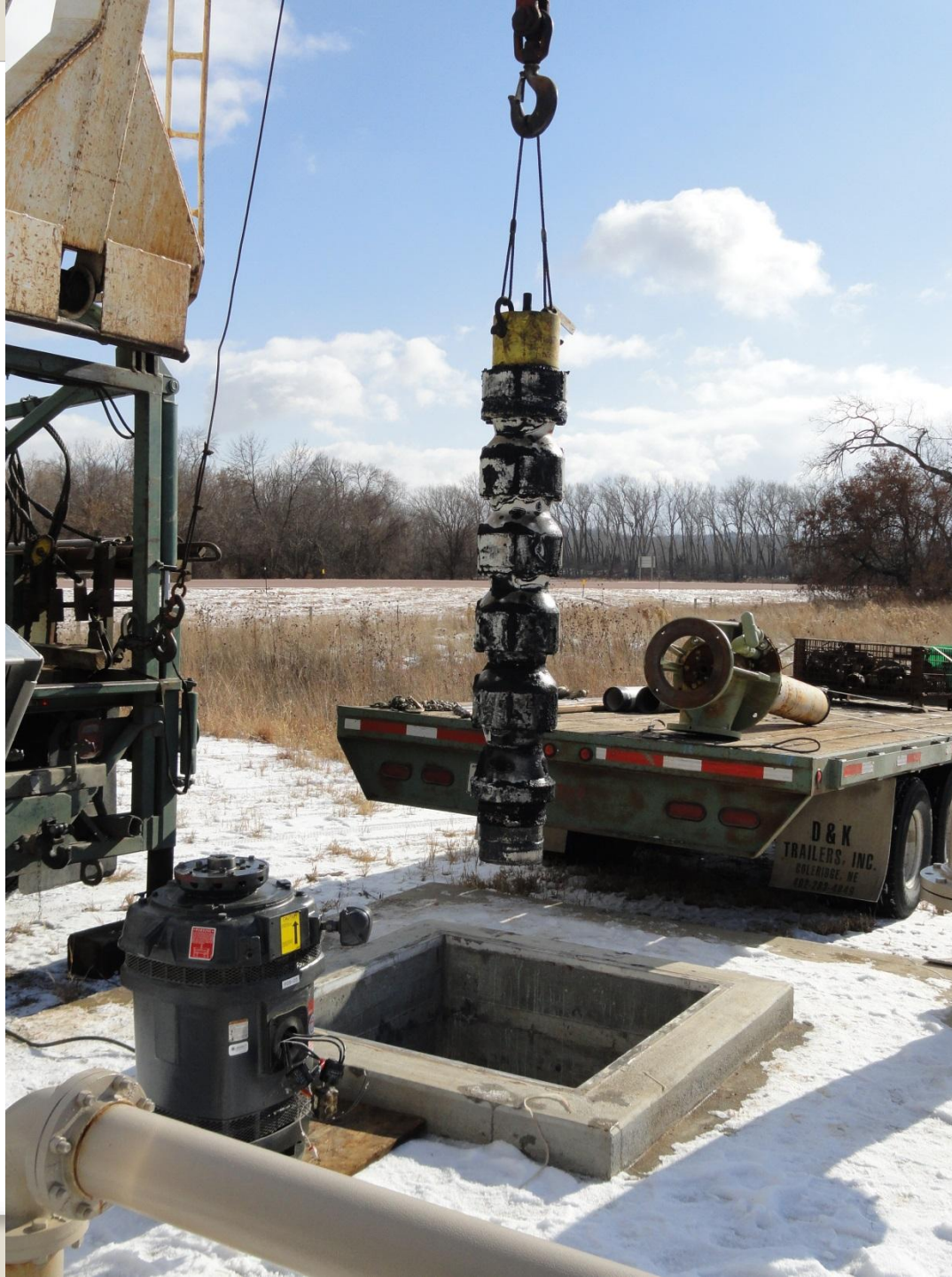
02/09/2011

















07/13/2012 07:38

Filter Backwashing



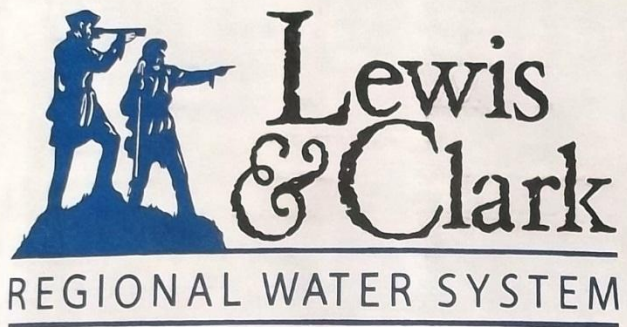
Water Quality

🔥 Water Source is the Missouri River: Elk Point Aquifer

🔥	Raw Water	Treated Water
🔥 pH	7.5	8.5
🔥 Iron	3.5 ppm	0.01 ppm
🔥 Mn	0.4 ppm	0.01 ppm
🔥 Total Hardness	320 ppm	150 ppm
🔥 Total Alkalinity	210 ppm	55 ppm







REGIONAL WATER SYSTEM



Lewis & Clark
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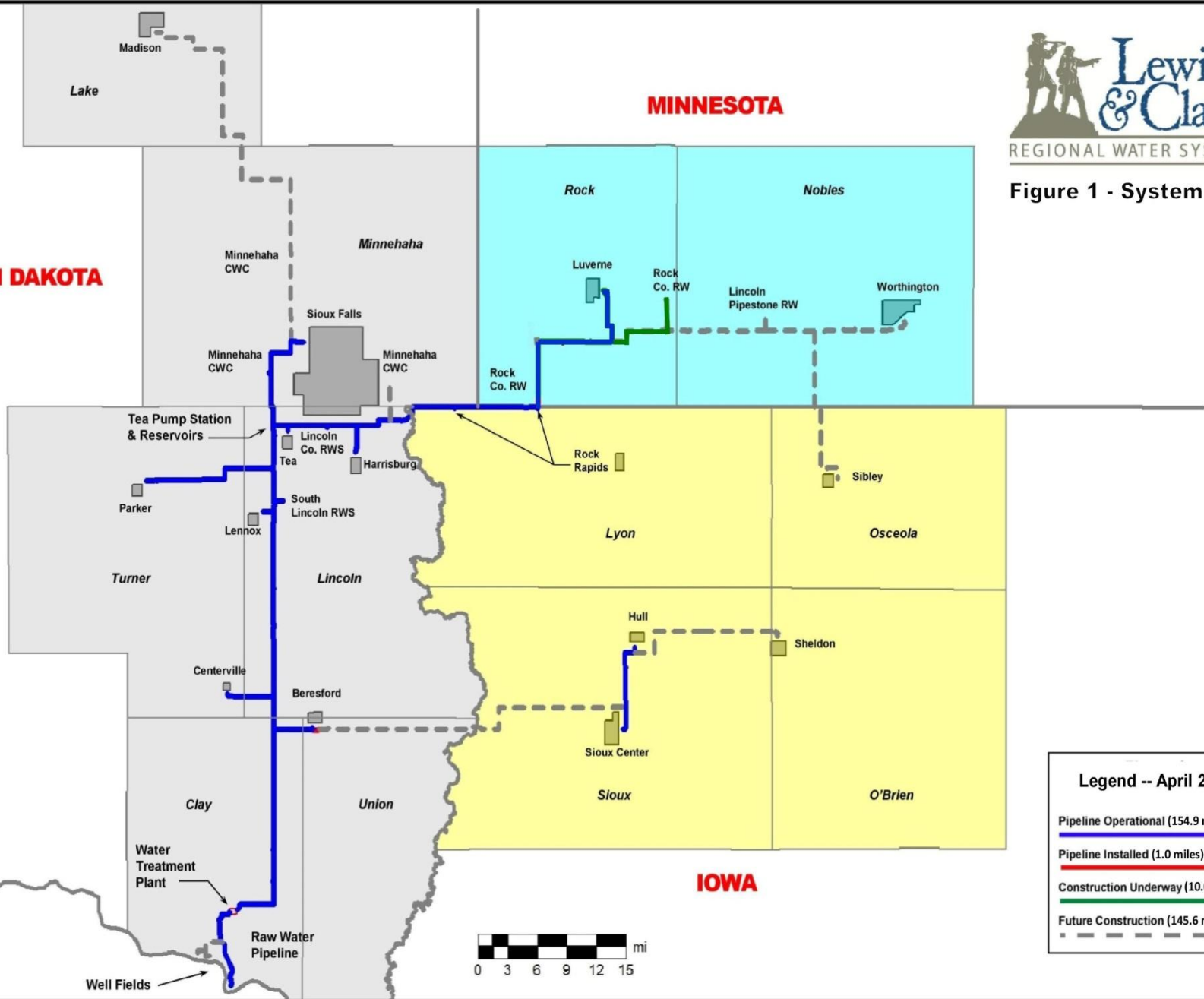
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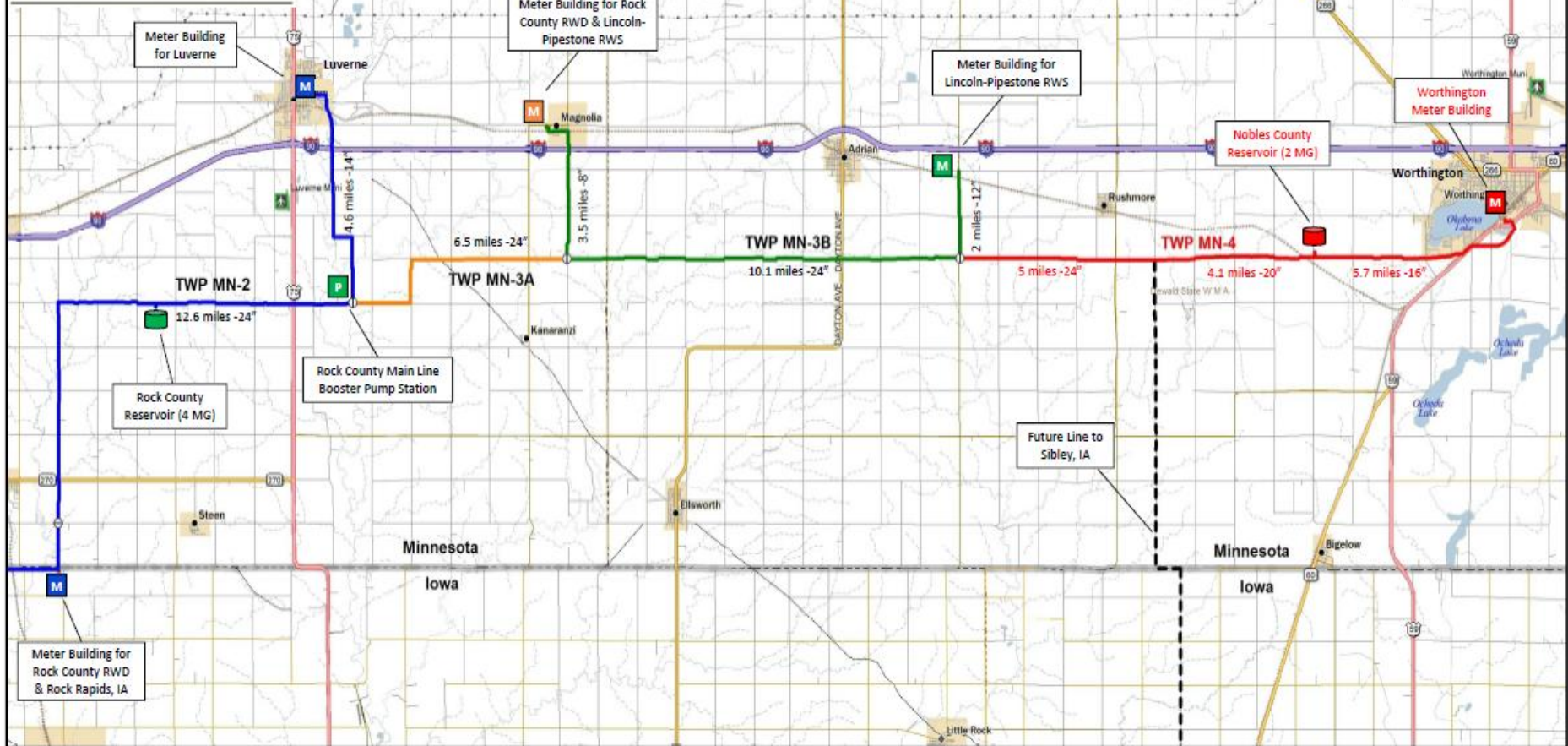












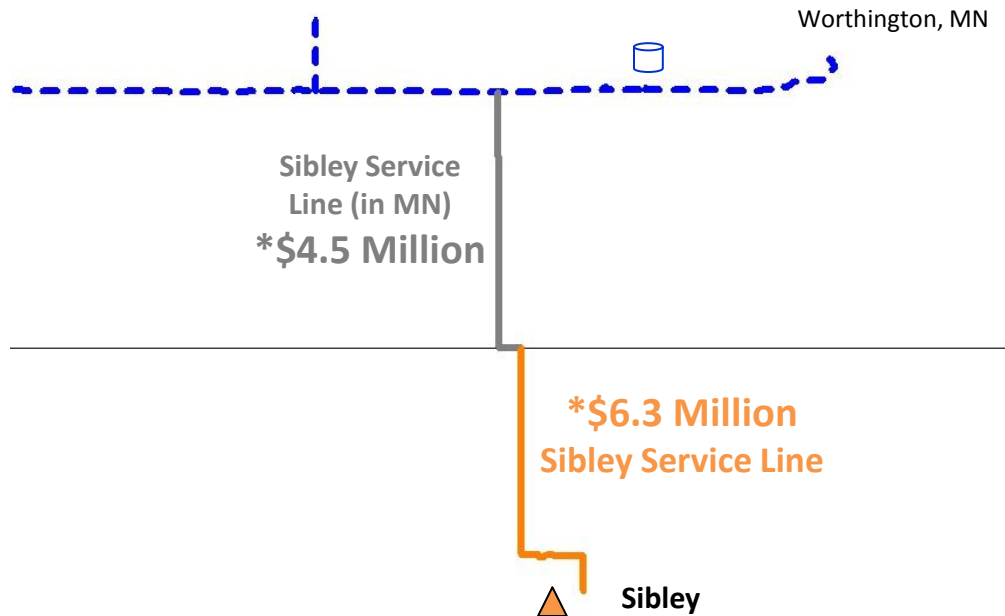
**Lewis & Clark Regional Water System
Existing and Planned Facilities in Minnesota**



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|  | Pipeline or Facility in Design (Not Funded) | | |




Future

- 🔥 More pipeline construction to hookup members, Worthington by 2018, Iowa members by 2025?
- 🔥 Still need \$200M+ to finish construction
- 🔥 If you build it, members will use it, 28%, 35%, 16% double digit increases in water demands the last few years
- 🔥 More wells to meet the demands for more water

Lewis & Clark Regional Water System Sibley Service Line

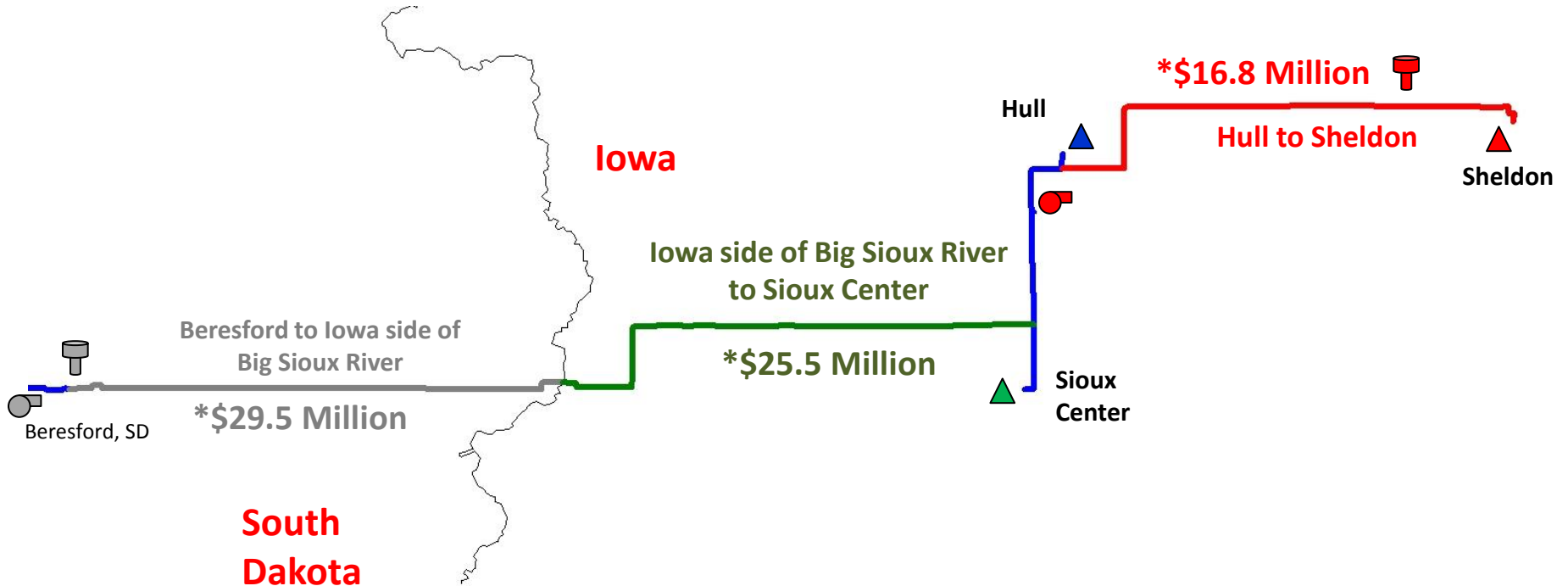





-  Meter Building (some include booster pumping)
-  Water Reservoir (Future)





-  Future L&C Pipeline Facilities
-  Sibley Service Line (located in Minnesota)
-  Sibley Service Line & Facilities (located in Iowa)

*Estimated cost listed above is indexed for inflation to the mid-point of construction. The prices shown include meter buildings, pump stations and reservoirs, as required.

Lewis & Clark Regional Water System Iowa Projects (excluding Sibley)



-  Meter Building (some include booster pumping)
-  Water Tower
-  Main Line Booster Pump Station

-  Existing L&C Pipeline Facilities
-  TWP SD-12 (and other projects located in South Dakota)
-  TWP IA-2 (and other projects located in Iowa)
-  TWP IA-3

*Estimated cost listed above is indexed for inflation to the mid-point of construction. The prices shown include meter buildings, pump stations and reservoirs, as required.

