



MAINTAINING QUALITY OF LIFE

Water quality impacts everyone

How we treat our wastewater and discharge it to the river impacts not only our river and our local quality of life, but also the river and quality of life of communities downstream all the way to the Gulf of Mexico.

Changes in downstream states affect us

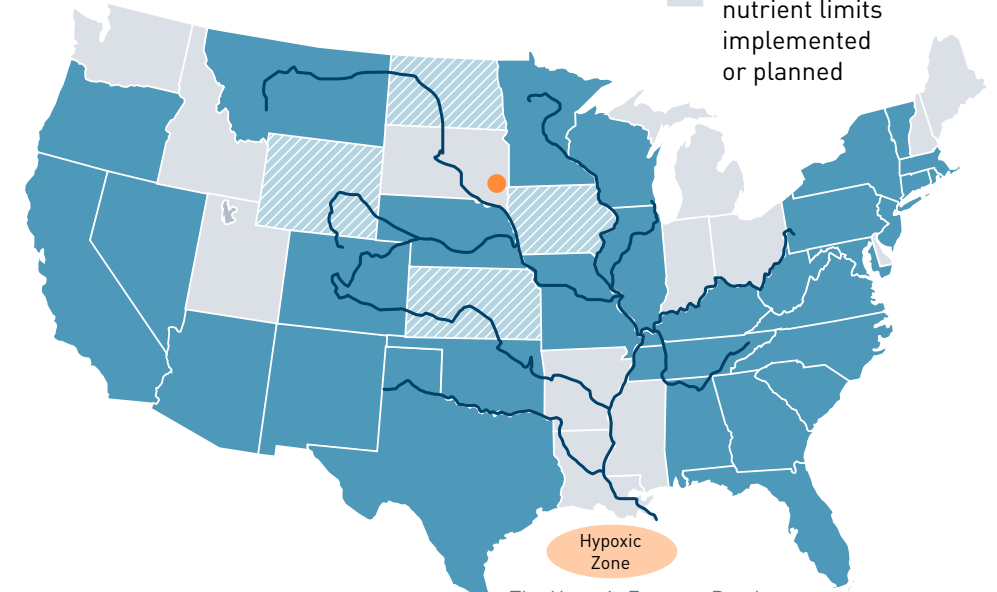
Our treated wastewater moves down the river and impacts water quality in states downstream. When those downstream states see unsustainable changes in their water quality, they look at upstream sources for partners in improving water quality.

Why plan for these changes now?

This Master Plan anticipates future regulations and our proactive planning approach will result in cost-effective investments.

Regulations are becoming stricter nationwide

- States that have or will have some nutrient regulations in place by 2019
- States that are planning for nutrient reduction
- States that have no nutrient limits implemented or planned



The Hypoxic Zone, or Dead Zone is the area in the Gulf of Mexico devoid of life due to nutrient discharge from Mississippi River

NEXT STEPS IN 2018



PLANNING FOR THE NEXT 20 YEARS

69%↑ IN SERVICE AREA POPULATION

Year	Sioux Falls	Additional regional communities	Total
2016	174,360	0	174,360
2021	211,252	0	211,252
2026	232,688	0	232,688
2031	266,738	0	266,738
2036	295,000	0	295,000

Investing in our Wastewater System

WHY ARE WE DOING THIS NOW?

AGING INFRASTRUCTURE
Our treatment facility is 10 years past its design life

Our facility and sewer pipe system needs expansion and improvement to continue to serve our customers.

GROWING CUSTOMER BASE
120,640 new customers are anticipated by 2036

Our facility is already at 82% capacity and expansion is needed to meet the needs of new development.

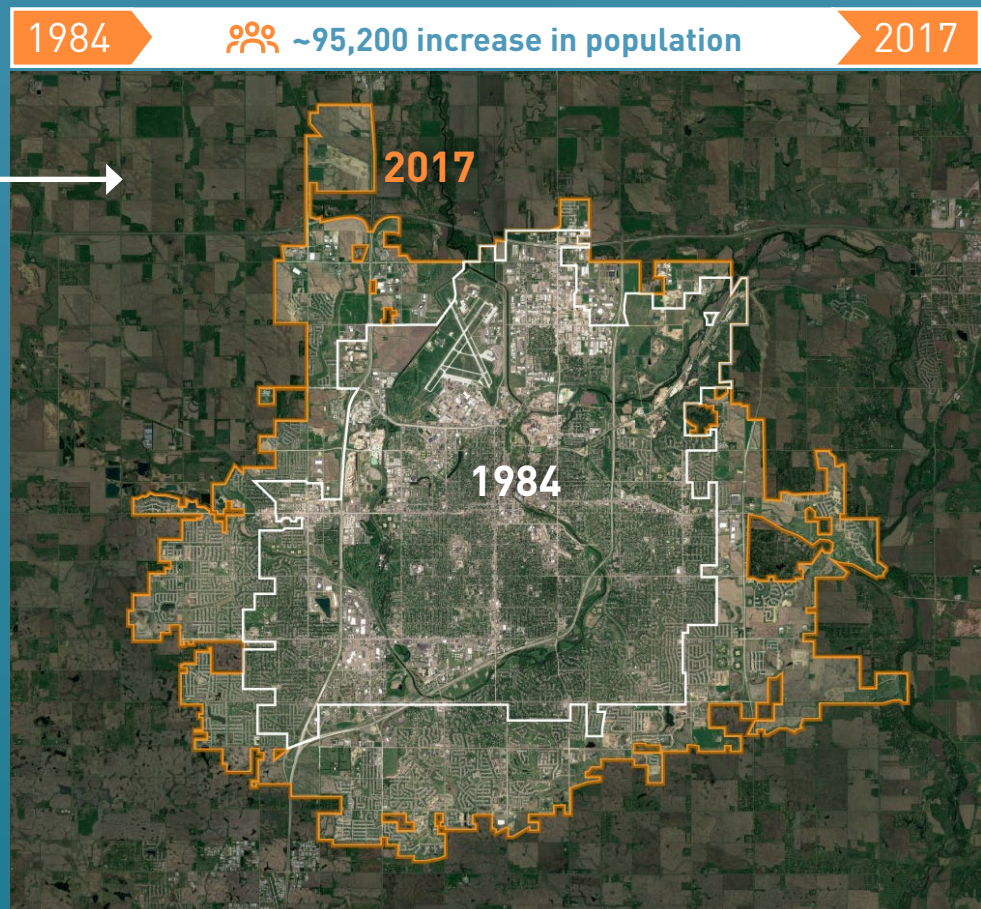
FUTURE REGULATIONS
Water quality regulations will be stronger in the future

This plan prepares the facility for future regulations.

A HISTORY of Reliable Service

In response to increased regulations in the 1970s, the current Sioux Falls Water Reclamation Facility leveraged federal grant dollars to cover 75% of the construction costs. Today, grant dollars are no longer available.

Over the past 35 years, the City constructed, maintained and updated the wastewater collection system and water reclamation facility that transports and treats our wastewater safely and effectively.



\$131M invested in our system over the last 10 years

2006 2008 2010 2012 2014 2017

Water Reclamation Facility Improvements Highlights

<p>2007 Headworks Improvements</p>	<p>2009 Process Pump Station Improvements</p>	<p>2010-11 Effluent Filter Room Improvements</p>	<p>2013 Trickling Filters Improvements</p>	<p>2017 Digester Improvements</p>
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🕒 Aging Infrastructure

👤 Growing Customer Base

Collection System Improvement Highlights



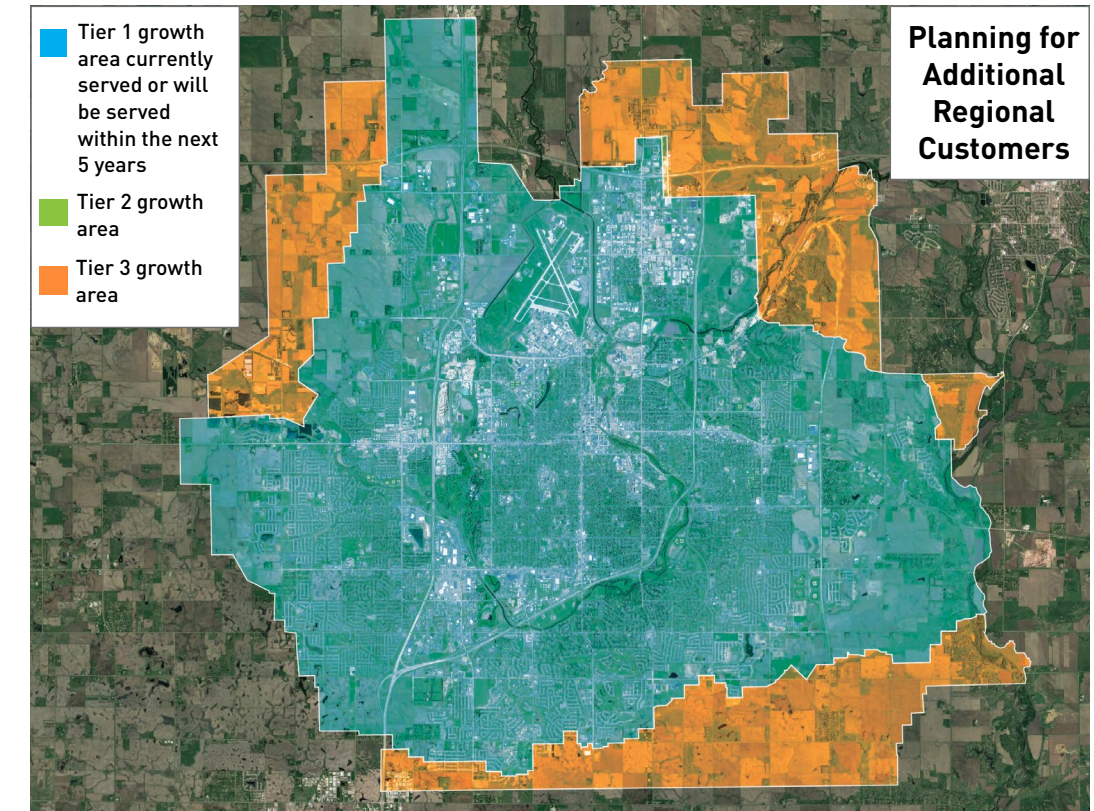
Major collection system improvements have been made over the last 10 years, including improvements to force mains and sanitary sewer pipes, replacement and extension of sanitary sewer pipes, and manhole replacement and relining.

PREPARING Our Wastewater System for the Future

The City of Sioux Falls used a nationally-recognized wastewater planning and design firm to undergo a 24-month master planning process. These technical experts outlined a phased approach to prioritize improvements over the next 20 years.

CURRENT FACILITY	
ANNUAL AVG RATING	21 MGD
PEAK MAX	35 MGD
FUTURE FACILITY	
ANNUAL AVG RATING	30.1 MGD
PEAK MAX	57 MGD

MGD = Million Gallons Per Day



2025 2036

RECOMMENDED PHASE 1

- 1A Treatment renovations
- 1B Biosolids handling facility renovations
- 1C Lagoons repurposed for equalization
- 1D Rehab preliminary/primary treatment
- 1E New liquid treatment
- 1F New disinfection

RECOMMENDED PHASE 2

- 2A New primary treatment
- 2B New nutrient removal improvements
- 2C New filtration

