RESOLUTION 2021-085

A RESOLUTION SUPPORTING THE SUBMITTAL OF THE CITY’S WATER RECLAMATION FACILITY SOUTH PLANT IMPROVEMENTS PROJECT TO THE STATE OF SOUTH DAKOTA’S WATER FACILITY PLAN AND AUTHORIZING STAFF TO TAKE FURTHER ACTION

WHEREAS, the City of Rapid City wishes to seek funding for the Water Reclamation Facility South Plant Improvements Project necessary for operation of its Water Reclamation Division; and

WHEREAS, The City of Rapid City’s Water Reclamation Facility Plan has identified the need for these improvements in order to meet current and future environmental regulations; and

WHEREAS, The City’s Water Reclamation Facility North Plant has reached the end of its useful life; and

WHEREAS, the Water Reclamation Division is eligible to submit a State Water Plan application to the Board of Water and Natural Resources to be placed into the State Facility Plan for future funding considerations of this City project; and

WHEREAS, the City Council and Mayor support the need for this project and support securing grant and loan funding from South Dakota Department of Agricultural and Natural Resources (DANR) for this project; and

WHEREAS, the Common Council adopts this Resolution to authorize Public Works staff to take any action necessary to apply for and to effectuate the application request.

NOW, THEREFORE, BE IT RESOLVED the Common Council authorizes the Mayor and Finance Director to take any action necessary for this application

BE IT FURTHER RESOLVED that the Common Council authorizes the Public Works Director or his designee to administer the application and to otherwise act on the City’s behalf to process and fulfill the terms of the SD DANR application.

I, Steve Allender, Mayor of the City of Rapid City, hereby certify that the foregoing resolution was passed by the City of Rapid City Common Council at a meeting held on the Seventh day of September, 2021.

CITY OF RAPID CITY

By ______________________________
       Steve Allender, Mayor

Attest

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Pauline Sumption, Finance Director
(seal)
TO: Dale Tech
FROM: Eduardo Lopez
Project Engineer

DATE: August 27, 2021

RE: Resolution No. 2021-085 A Resolution Supporting the Submission of an Application to The State of South Dakota for the Water Reclamation Facility South Plant Improvements

The Rapid City Water Reclamation Facility (WRF) is comprised of two parallel treatment trains: the North Plant and the South Plant. The North Plant utilizes older treatment technology that was constructed between 1967 and 1985. The South Plant was constructed in 2002 and utilizes newer technology and is a conventional activated sludge (CAS) process. The North Plant has reached the end of its useful life mechanically and does not have the capability to meet the anticipated lower ammonia and new nutrient requirements set to be introduced by the United States Environmental Protection Agency (EPA) and South Dakota Department of Agriculture and Natural Resources (DANR).

In 2016 a Water Reclamation Facility Plan was adopted by the City. The Facility Plan recommended expanding the South Plant to treat all wastewater flows and decommissioning the North Plant. In order to meet the anticipated lower ammonia and new nutrient requirements in a cost-effective manner, the South Plant Improvements will include additional improvements for biological nitrogen removal along with chemical phosphorus removal.

In consultation with HDR, Staff has prepared the attached pamphlet with supplemental information on the history of improvements at the WRF, an opinion of probable costs, and an outline of the importance and benefits of this project. Resolution No 2021-085 authorizes Staff to submit an application to the State of South Dakota to have the WRF South Plant Improvements project included in the States Water Facility Plan. Submitting the State Water Plan application allows the City to position itself to qualify for future funding opportunities that will be made available in the year of 2022. Once funding becomes available, Staff will evaluate the options and return to Council with a recommendation regarding funding.
Investing in our Water Reclamation Facility (WRF)

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.

Next Steps in 2021

- Preliminary Design
- Identify Construction Phasing
- Determine Current Project Investment

Regulations are becoming stricter nationwide

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

PLANNING FOR THE NEXT 20 YEARS

44% IN SERVICE AREA POPULATION

2020 2025 2030 2035 2040 2045

Accommodating a Growing Population

Investing in our Water Reclamation Facility (WRF)

WHY ARE WE DOING THIS NOW?

AGING INFRASTRUCTURE

Our treatment facility is 10+ years past its design life

GROWING CUSTOMER BASE

43,000 new customers are anticipated by 2045

FUTURE REGULATIONS

Water quality regulations will be stronger in the future

AVAILABLE FUNDING

Current water infrastructure provides opportunity for funding assistance

North Plant at WRF is past its useful service life and needs to be decommissioned.

New South Plant Improvements and Biosolids Handling expansion is needed to meet the permit requirements.

This plan prepares the facility for future regulations.

Outside funding minimizes impacts to rate payers.
A History of Reliable Service

Prefering Our Water Reclamation Facility (WRF) for the Future

In 2016, the City of Rapid City used a nationally-recognized wastewater planning and design firm to undergo a 12-month master planning process. These technical experts outlined a phased approach to prioritize improvements over the next 20 years. This plan is currently being updated to reflect present day and future planning period demands.

The North Plant will not meet permit or capacity requirements.

### Capitalize on Potential Federal Funding

- **1987 changes to CWA initiated the SRF program offering water and sewer loans vs. grants**
- **American Rescue Plan passed in March 2021**
  - Provides an estimated $971M of additional funds to the state of South Dakota
  - Administrative rules for the appropriation of these funds to be determined in 2022 legislative session
  - All or a portion of these funds could be allocated as SRF funds for water and wastewater projects
  - Costs incurred after March 3, 2021 are eligible
- **Additional Federal Infrastructure funding has passed the Senate and is under consideration in the House**
- **Key Funding Dates**
  - **October 1, 2021** - Submit new application for requested WRF improvements to be included in State Water Plan. Requires submittal of updated Facilities Plan
  - **January 1, 2022** - Submit funding application for improvements
  - **March 2022** - SRF Review Board makes recommendations for funding approvals including grants and principal forgiveness

#### PRELIMINARY OPINION OF PROBABLE COST

**No.** | **Item Description** | **Project Cost**
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1 | Clarifiers, Pumps, Blowers | $32,000,000
2 | Aeration Basin Expansion, PC Effluent Pump Station, and Administrative Building Expansion | $29,000,000
3 | Existing Biosolids Building HVAC and Electrical | $1,000,000
4 | Biosolids Concrete Tank | $4,000,000
5 | Biosolids Lagoon | $2,000,000
6 | Biosolids Handling Building and Equipment | $20,000,000
7 | Biosolids Lagoon* | $3,000,000
8 | Anoxic Basins and Internal Mixed Liquor Pump Station* | $54,000,000

Project Total: $145,000,000

*needed to meet nutrient requirements

**LEGEND**
- **Capacity Improvements - 2022**
- **Completed Improvements**
- **Nutrient Removal Improvements - 2032**
- **Deactivated as part of project**
- **Rehabilitate existing**