

# Canyon Lake Dam Restoration Preliminary Design

## Project Narrative

The existing Canyon Lake Dam and Spillway was constructed after a 1972 dam breach. In recent years, the spillway structure has seen increased seepage both under and through the concrete structure. A project is currently underway to reduce this seepage, but it is viewed as a short term solution. It is anticipated that a permanent solution would include replacement of the concrete dam and spillway structure.

The primary objective of the Canyon Lake Dam Restoration Project is to identify the best alternative for bringing the Canyon Lake Dam into compliance with current dam safety requirements, and to provide a long term solution to the current seepage situation. In addition to addressing the structural deficiencies of the existing structure, the solution should allow for river flow regulation, including the ability to drain the lake without significant discharge of silt and sediments to downstream reaches. The ability to drain the lake will permit controlled, mechanical removal of silts and sediments, improving the water quality and the habitat for the trout inhabiting the lake.

The project funded by this grant encompasses the engineering services required to develop the preliminary design for the restoration of the Canyon Lake Dam. The engineering work tasks are anticipated to include the following:

- Review existing background information on the Canyon Lake Dam
- Perform site and bathymetric surveys of existing conditions in the project area
- Develop recommendations for geotechnical investigations
- Perform global stability and seepage analyses of the existing structures
- Review existing hydraulic and hydrologic analyses to determine suitability for current project needs
- Determine the design flood, pool level operational requirements, and dam hazard classification
- Develop alternatives for restoration of the dam and spillway
- Provide conceptual-level designs and estimated costs for each alternative
- Determine easement acquisition needs and permit requirements
- Conduct stakeholder meetings to select the best alternative for final design and construction
- Prepare a project design report stating design assumptions, design life, design criteria, and references for the subsequent final design

## Canyon Lake Dam Restoration Preliminary Design

### Project Budget

Topographic Survey	\$5,000
Geotechnical Investigation	\$30,000
Engineering Analysis, Evaluation, Cost Estimating and Report Preparation	<u>\$102,200</u>
Total Budget	\$137,200

Application for Federal Assistance SF-424

Version 02

\* 1. Type of Submission:

- Preapplication
- Application
- Changed/Corrected Application

\* 2. Type of Application:

- New
- Continuation
- Revision

\* If Revision, select appropriate letter(s):

\* Other (Specify)

\* 3. Date Received:

Completed by Grants.gov upon submission.

4. Applicant Identifier:

5a. Federal Entity Identifier:

B-08-SP-SD-0486

\* 5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

\* a. Legal Name:

City of Rapid City

\* b. Employer/Taxpayer Identification Number (EIN/TIN):

466000380

\* c. Organizational DUNS:

057222119

d. Address:

\* Street1:

300 Sixth Street

Street2:

\* City:

Rapid City

County:

\* State:

South Dakota

Province:

\* Country:

USA: UNITED STATES

\* Zip / Postal Code:

57701

e. Organizational Unit:

Department Name:

Department of Public Works

Division Name:

Engineering

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

\* First Name:

Steve

Middle Name:

\* Last Name:

Schelske

Suffix:

Title:

Project Manager

Organizational Affiliation:

\* Telephone Number:

605-394-4154

Fax Number:

\* Email:

steve.schelske@rcgov.org

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9. Type of Applicant 1: Select Applicant Type:

C

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

\* 10. Name of Federal Agency:

NGMS Agency US Dept of Housing and Urban Development

11. Catalog of Federal Domestic Assistance Number:

14.251

CFDA Title:

Economic Development Initiative - Special Project, Neighborhood Initiative and Misc. Grants

\* 12. Funding Opportunity Number:

MBL-SF424FAMILY-ALLFORMS FY2008

\* Title:

MBL-SF424Family-AllForms  
EDI-SP

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

City of Rapid City, Pennington County, South Dakota

\* 15. Descriptive Title of Applicant's Project:

Canyon Lake Dam Restoration Preliminary Design

Attach supporting documents as specified in agency instructions.

[Add Attachments](#) [Delete Attachments](#) [View Attachments](#)

Application for Federal Assistance SF-424

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16. Congressional Districts Of:

\* a. Applicant

\* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

\* a. Start Date:

\* b. End Date:

18. Estimated Funding (\$):

* a. Federal	<input type="text" value="137,200"/>
* b. Applicant	<input type="text" value="52,800"/>
* c. State	<input type="text"/>
* d. Local	<input type="text"/>
* e. Other	<input type="text"/>
* f. Program Income	<input type="text"/>
* g. TOTAL	<input type="text" value="190,000"/>

\* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?

- a. This application was made available to the State under the Executive Order 12372 Process for review on :
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E.O. 12372.

\* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

Yes  No

21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

\*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:  \* First Name:   
Middle Name:   
\* Last Name:   
Suffix:

\* Title:

\* Telephone Number:  Fax Number:

\* Email:

\* Signature of Authorized Representative:  \* Date Signed:

**Application for Federal Assistance SF-424**

Version 02

**\* Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.