Report to Congress for Future Water Resources Development (WRRDA 7001) Submission Package

Proposal Name: Lower Brule Shoreline Stabilization Project

Submission Date: 08/08/2017

Proposal ID Number: 90af1465-7755-46be-b204-fb0e785719a9

Purpose of Proposal: The purpose of this project is to protect the health, safety and well-being of the Lowe r Brule Sioux Tribe community, tribal infrastructure and economy by stopping the imminent threat of dest ructive erosion caused by the USACE Big Bend Project reservoir, Lake Sharpe, since its completion in 196 5. In a 9-mile section in front of the town of Lower Brule, the lake is advancing at a rate of between 8 and 30 feet a year, threatening the community. Beginning in 1978, the Tribe has asked for help from the US ACE to stop the erosion, and several studies by USACE, other agencies and universities produced abundan t data confirming the problem. Section 4003(d) WRDA 2014 directed USACE to assess the infrastructure needed to reduce shoreline erosion, mitigate additional loss of land, contribute to environmental and ecosys tem improvement, and protect existing community infrastructure, including roads and water and waste-wa ter related infrastructure. The Lower Brule Sioux Tribe has worked hard to find a solution. In 2007 th e Tribe and USACE successfully completed a pilot shoreline protection project that could be applied to oth er areas of Lake Sharpe; between 2010 and 2014, the Tribe and USGS precisely measured shoreline erosion rates at the threatened town of Lower Brule. In 2014, the USACE NW Division Commander deployed a F orward Engineer Support Team (FEST) to develop shoreline stabilization alternatives. The FEST recomm ended breakwater structures to deflect the force of the waves and ice causing the erosion. In 2017 the Trib e commissioned a Shoreline Stabilization Summary Report to evaluate the FEST findings and breakwater designs and develop a permanent solution. The Tribe is seeking congressional authorization/appropriation to move forward with this Lower Brule Reservation Shoreline Stabilization Project. The abstract for t he Shoreline Stabilization Project further articulates the need for this action. This abstract has been uplo aded under “supporting documentation.”

1. Administrative Details

Proposal Name: Lower Brule Shoreline Stabilization Project

by Agency: Lower Brule Sioux Tribe

Locations: SD

Date Submitted: 08/08/2017

Confirmation Number: 90af1465-7755-46be-b204-fb0e785719a9

Supporting Documents

File Name	Date Uploaded
LBST support letters.pdf	08/08/2017
LBST ProposalMap.pdf	08/08/2017
abstract Lower Brule SHORELINE STABILIZATION PROJECT.pdf	08/08/2017
USACEproposal-blm-08AUG17.pdf	08/08/2017
Daugaard letter for project support.pdf	08/30/2017

2. Provide the name of the primary sponsor and all non-Federal interests that have contributed or are expected to contribute toward the non-Federal share of the proposed feasibility study or modification.

Sponsor	Letter of Support
Lower Brule Sioux Tribe (Primary)	Federal agencies that partner with the Lower Brule Sioux Tribe on Missouri River issues (BIA, BOR, NRCS, USACE, USGS) and the State of South Dakota and its Congressional delegation support this request for funding, which is to modify an authorized project to stop constant erosion of Tribal land, caused by the Big Bend Project reservoir, Lake Sharpe, since its completion in 1965. Section 4003 (d) WRDA 2014 directed USACE to assess the infrastructure needed to reduce shoreline erosion, mitigate additional loss of land, contribute to environmental and ecosystem improvement, and protect existing community infrastructure, including roads and water and waste-water related infrastructure. The USACE NW Division Commander deployed a Forward Engineer Support Team (FEST) to develop shoreline stabilization alternatives. The FEST recommended breakwater structures to deflect the force of the waves and ice causing the erosion. In 2017 the Tribe commissioned a Shoreline Stabilization Summary Report to evaluate the FEST findings and breakwater designs and develop a permanent solution. The Tribe is seeking congressional authorization and appropriation to move forward with this Lower Brule Reservation Shoreline Stabilization Project. Support letters from the USGS, and Resolution 2017-183 from the Lower Brule Sioux Tribe for this submission under Section 7001 of WRRDA 2014 are uploaded under "support letter". The Governor of South Dakota has sent his letter directly to the Subcommittees.

3. State if this proposal is for a feasibility study, a modification to an authorized USACE feasibility study or a modification to an authorized USACE project. If it is a proposal for a modification, provide the authorized water resources development feasibility study or project name.

[x] Modification to an Authorized USACE Project : Flood Control Act of 1944, Missouri River Basin Program, Big Bend Dam Project

4. Clearly articulate the specific project purpose(s) of the proposed study or modification. Demonstrate that the proposal is related to USACE mission and authorities and specifically address why additional or new authorization is needed.

The purpose of this project is to protect the health, safety and well-being of the Lower Brule Sioux Tribe c ommunity, tribal infrastructure and economy by stopping the imminent threat of destructive erosion cause d by the USACE Big Bend Project reservoir, Lake Sharpe, since its completion in 1965. In a 9-mile section in front of the town of Lower Brule, the lake is advancing at a rate of between 8 and 30 feet a year, threate ning the community. Beginning in 1978, the Tribe has asked for help from the USACE to stop the erosi on, and several studies by USACE, other agencies and universities produced abundant data confirming the problem. Section 4003(d) WRDA 2014 directed USACE to assess the infrastructure needed to reduce shore line erosion, mitigate additional loss of land, contribute to environmental and ecosystem improvement, and protect existing community infrastructure, including roads and water and waste-water related infrastructur e. The Lower Brule Sioux Tribe has worked hard to find a solution. In 2007 the Tribe and USACE suc cessfully completed a pilot shoreline protection project that could be applied to other areas of Lake Sharpe; between 2010 and 2014, the Tribe and USGS precisely measured shoreline erosion rates at the threatened t own of Lower Brule. In 2014, the USACE NW Division Commander deployed a Forward Engineer Support Team (FEST) to develop shoreline stabilization alternatives. The FEST recommended breakwater structur es to deflect the force of the waves and ice causing the erosion. In 2017 the Tribe commissioned a Shoreline Stabilization Summary Report to evaluate the FEST findings and breakwater designs and develop a perma nent solution. The Tribe is seeking congressional authorization/appropriation to move forward with this L ower Brule Reservation Shoreline Stabilization Project. The abstract for the Shoreline Stabilization P roject further articulates the need for this action. This abstract has been uploaded under “supporting doc umentation.”

5. To the extent practicable, provide an estimate of the total cost, and the Federal and non-Federal share of those costs, of the proposed study and, separately, an estimate of the cost of construction or modification.

	Federal	**Non-Federal**	**Total**
Study	$0	$0	$0
Construction	$44,000,000	$0	$44,000,000

Explanation (if necessary)

The USACE FEST report on the solution to the damaging erosion along the Lower Brule Sioux Reservatio n shoreline of Lake Sharpe contains total cost estimates for the construction of the breakwater islands and other protective structures necessary to resolve the problem permanently. The estimated total cost is $43,6 16,973 (2014 dollars). This cost includes near-shore revetment construction and bank restoration, and bre akwater island construction. This figure not include costs for project engineering and design; engineering during construction; supervision and administration. Lower Brule Sioux Tribe requests specifically appropr iated funds to cover the non-Federal share of construction.

6. To the extent practicable, describe the anticipated monetary and nonmonetary benefits of the proposal including benefits to the protection of human life and property; improvement to transportation; the national economy; the environment; or the national security interests of the United States.

The monetary benefits of this proposal are substantial for the USACE and for the Lower Brule Sioux Tribe. Permanently stopping the erosion will end a history of expenditures by the USACE and the Tribe on studi es and solutions to this problem since the 1960s, and its implementation will avoid the exorbitant cost of sa ving the town of Lower Brule and the critical infrastructure of the Tribe, including water intakes, wastewa ter treatment and transportation/road systems, and the agricultural and recreational lands that are a majo r part of the Tribe's economic base. The Tribe will be able to develop projects and steer funding towards r econstruction rather than protection and build facilities in support of fishing and other forms of recreation focused on the lake that will have a direct, positive effect on the Lower Brule economy. Indirect monetary and nonmonetary benefits will emerge quickly, as in the absence of the material threat of erosion, the Tribe will be able to more easily develop and sustain cultural, social, and economic priorities associated with thei r lands and settlements and improve general health and wellbeing in all its communities.

7. Does local support exist? If 'Yes', describe the local support for the proposal.

[x] Yes

Local Support Description

Federal agencies that partner with the Lower Brule Sioux Tribe on Missouri River issues (BIA, BOR, NRC S, USACE, USGS) and the State of South Dakota and its Congressional delegation support this request for funding, which is to modify an authorized project to stop constant erosion of Tribal land, caused by the Bi g Bend Project reservoir, Lake Sharpe, since its completion in 1965. See also #2 Statement of Support.

8. Does the primary sponsor named in (2.) above have the financial ability to provide for the required cost share?

[x] No

Primary Sponsor Letter of Support

(As uploaded)

LBST support letters.pdf

RESOLUTION NO. 2017-183
LOWER BRULE SIOUX TRIBE

APPROVE TO SUPPORT THE SUBMISSION TO CONGRESS, UNDER SECTION 7001 OF WATER RESOURCES REFORM & DEVELOPMENT ACT (WRRDA) 2014 FOR A NON-FEDERAL INTEREST MODIFICATION TO AN AUTHORIZED WATER RESOURCES DEVELOPMENT PROJECT FOR INCLUSION IN THE ANNUAL REPORT TO CONGRESS ON FUTURE WATER RESOURCES DEVELOPMENT

WHEREAS, *the Lower Brule Sioux Tribe is a federally recognized Indian Tribe organized pursuant to the Indian Reorganization Act of 1934; and*

WHEREAS, *as empowered by the Constitution and Bylaws, Article VI, Section 1, (e) the Tribal Council as authorized by law to safeguard and promote the peace, safety, morals, and general welfare of the Lower Brule Sioux Tribe and to regulate and conduct of trade and the use and disposition of property upon the reservation provided that any ordinance directly affecting nonmembers of the reservation shall be subject to review by the Secretary of the Interior; and*

WHEREAS, *a request to support the submission to Congress, under the Section 7001 of the Water Resources Reform and Development Act (WRRDA) 2014 for a non-federal interest modification to an Authorized Water Resources Development Project for inclusion in the Annual report to Congress on Future Water resources development; and*

NOW THEREFORE BE RESOLVED*, that the Lower Brule Sioux Tribal Council does hereby approve to support the submission to Congress, under the Section 7001 of the Water Resources Reform and Development Act (WRRDA) 2014 for a non-federal interest modification to an Authorized Water Resources Development Project for inclusion in the Annual report to Congress on Future Water resources development.*

CERTIFICATION

The foregoing resolution was duly adopted by the Lower Brule Sioux Tribal Council assembled in Regular Session with a quorum present on the 2nd day of August, 2017 by the affirmative vote of five members for, none against, none absent, and none not-voting.

Boyd Gourneau, Chairman
Lower Brule Sioux Tribe

ATTEST:

Orville Langdeau Jr., Secretary/Treasurer
Lower Brule Sioux Tribe

United States Department of the Interior
U.S. GEOLOGICAL SURVEY
Dakota Water Science Center

ND Programs Office
821 E. Interstate Avenue
Bismarck, ND 58503

SD Programs Office
1608 Mountain View Road
Rapid City, SD 57702

August 4, 2017

To whom it may concern:

We are aware that the Lower Brule Sioux Tribe is seeking funding for the Lake Sharpe Shoreline Stabilization Project with a goal of protection of critical Tribal infrastructure from the ongoing erosion along Lake Sharpe. In recent years, the U.S. Geological Survey has worked closely with the Tribe in an effort to quantify the erosion problem along Lake Sharpe and the drivers of that erosion. The erosion to date has been extensive and if allowed to continue, more infrastructure will be at risk. We do hope to have the results of our research published yet this calendar year and once complete can provide a copy of those results. We also realize the need to find a solution for mitigating this ongoing problem, which our research does not address. The U.S. Geological Survey is highly supportive of the Lower Brule Sioux Tribes request for this project.

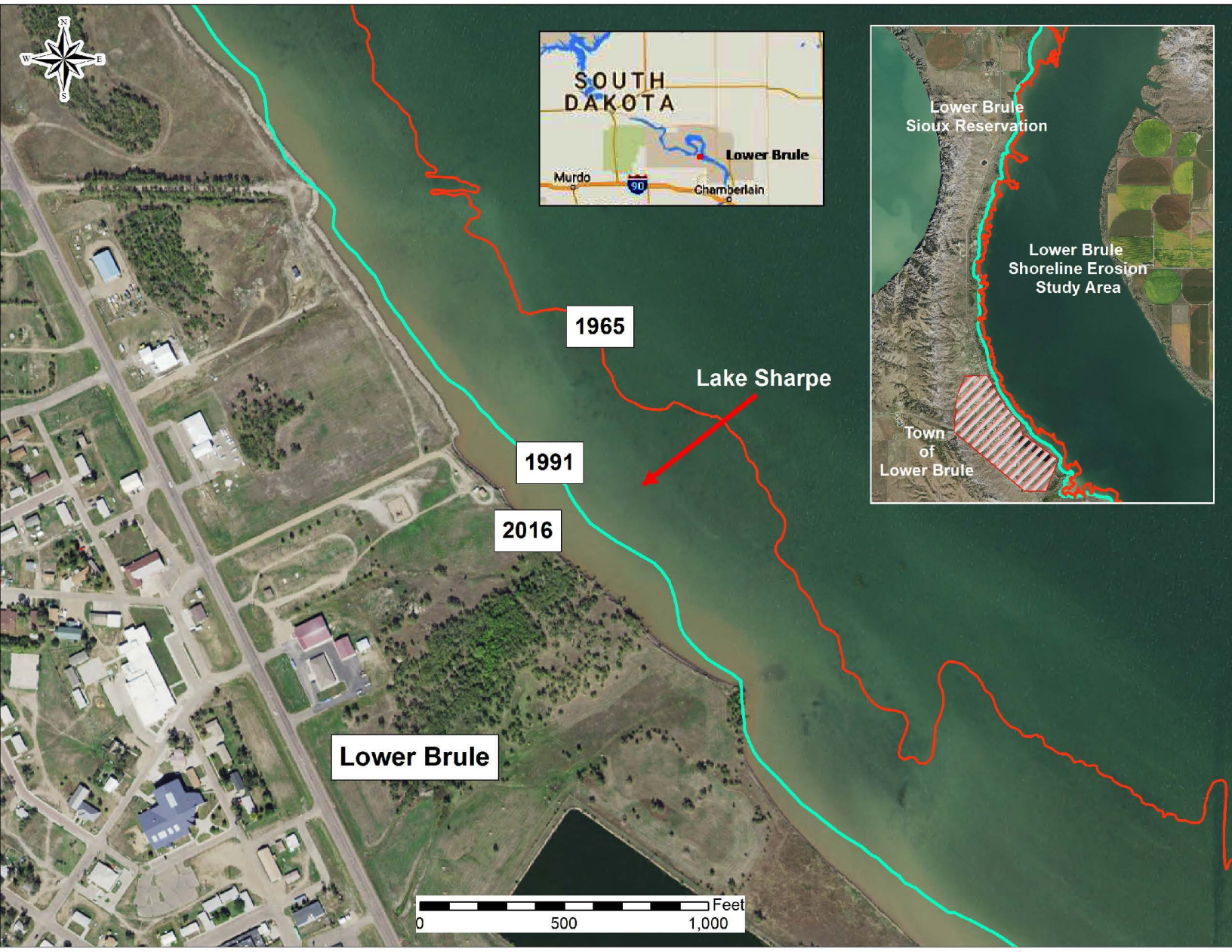
Sincerely,

Joyce E. Williamson
Director, Dakota Water Science Center

Map Document

(This is as uploaded, a blank page will show if nothing was submitted)

LBST ProposalMap.pdf


N
W
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SOUTH DAKOTA
Lower Brule
Murdo
90
Chamberlain
Lower Brule Sioux Reservation
Lower Brule Shoreline Erosion Study Area
Town of Lower Brule
1965
1991
2016
Lake Sharpe
Lower Brule
Feet
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Additional Proposal Information

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abstract Lower Brule SHORELINE STABILIZATION PROJECT.pdf

SHORELINE STABILIZATION PROJECT

LOWER BRULE SIOUX TRIBE

LOWER BRULE, SOUTH DAKOTA

JULY 2017

The Lower Brule Sioux Tribe seeks funding in the amount of $44 million for the Lower Brule Shoreline Stabilization Project to protect critical Tribal infrastructure, Tribal economic infrastructure and the town of Lower Brule from continuous, destructive erosion.

ABSTRACT

The construction of the Big Bend Dam on the Missouri River in central South Dakota by the U.S. Army Corps of Engineers in 1963 severely affected the culture and economy of the Lower Brule Sioux Tribe. The Lake Sharpe reservoir destroyed the Tribe's settlements and almost all its economically important lands, and the dislocation and subsequent hardships induced social traumas that continue today. The issue addressed here relates to an imminent threat to the Tribe – continuous, severe erosion by wind-driven waves and ice. Since 1964, Lake Sharpe has been advancing towards the town of Lower Brule at an alarming rate (between 8 and 30 feet a year) and will begin damaging crucial tribal infrastructure is less than 5 years.

The Corps has taken no preventative action for more than 50 years, despite its clear knowledge of the problem. Since the 1960s, several formal and informal Corps studies, and work by other agencies and universities, revealed the rate and extent of erosion. And the Lower Brule Tribal Council sought Corps and BIA help directly as the shoreline was "caving in very fast" (minutes of the Council meeting of October 4, 1978). When the Tribe once again brought up the severe erosion, on May 2, 1990, the Corps stated that "there was a 'Catch 22' that … study needs to be done before mitigation plans can begin" (Mary Flanderka, Big Bend Project).

After the Tribe turned to the USGS in 2010 for help, their findings once again demonstrated the continuous nature of the erosion and its threat to Lower Brule. Then, in 2014, the Corps NW Division Commander deployed a Forward Engineer Support Team (FEST) to develop alternatives for stabilizing the shoreline. The FEST recommended a permanent solution: a series of breakwater structures in the reservoir to deflect the force of the wind driven waves and ice causing the significant shoreline erosion.

Given the impending threat, the Tribe commissioned a private engineering company, Louis Berger, Inc. to help speed up the resolution process. The Shoreline Stabilization Summary Report (2017) summarized here evaluated the FEST findings and configured its breakwater design solution in ways that permanently arrest continuous erosion and its associated losses and enhance environmental, cultural, and social conditions. The estimated cost is $44 million.

PROPOSED PROJECT

The Lower Brule Sioux Tribe has taken the initiative to address the critical issue of erosion because stopping this destruction is crucial to the safety and wellbeing of the town and community. To this end, the Tribe has commissioned a private engineering company, Louis Berger, to help find a solution. Their combined efforts are outlined in the **Shoreline Stabilization Summary Report (2017)** (submitted separately).

The Shoreline Stabilization Summary Report evaluated the design options put forth in the FEST findings and selected an alternative that best addresses and arrests continuous erosion and its associated losses, as well as the environmental, cultural, and social consequences. The recommended alternative, the **Shoreline Stabilization Project**, is a series of breakwater-like islands constructed in the lake in shallow water not far from the shoreline–an approach similar to the Tribe's pilot project in 2007. The estimated cost is $44 million.

The proposed project will permanently stop the erosion, saving the town of Lower Brule and the critical infrastructure of the Tribe, including water intakes, wastewater treatment and transportation systems, and the agricultural and recreational lands that are a major part of the Tribe's economic base. Unabated, the community of Lower Brule will be forced to relocate once again. Time is of the essence in making a decision and committing resources to shoreline stabilization. The problem of rapid advancing erosion has been studied formally for almost 40 years, and with as few as 10 more years of inaction, the only alternative will be to move the town again.

RECOMMENDATION

NW**PROPOSAL BACKGROUND: HISTORY, PLANNING AND DESIGN**

As part of the 1944 Pick-Sloan Flood Control Act, the U.S. Army Corps of Engineers (Corps) constructed two dams in the central Missouri River valley of South Dakota: Fort Randall Dam (1950) and Big Bend Dam (1963). By 1964, the reservoirs had adversely affected the Lower Brule Sioux Tribe (LBST or Tribe). The flooding destroyed 25,767 acres of the Lower Brule Reservation valley floor—45% of the total flooded acreage of Lake Sharpe. The Tribe lost their settlements and their economically important lands, forests, fields, river channels, and sandbars. They were forced to move to higher ground, which mainly consisted of dry, infertile soil suitable only for grazing, and were relocated in a planned settlement that ignored many generations of dispersed social organization. This was the fourth forced relocation of the Lower Brule people by the federal government in less than 100 years.

Opposing the siting of Big Bend Dam near the Town of Fort Thompson in 1959, the Lower Brule Sioux Tribal Chairman J.W. Thompson said, "It is the wish of our people that no land be taken from us. With us, the point is simple. When our land is gone, our way of life is gone, our tribes are destroyed" (Lawson, 2009, p. 164).

In the early 1960s, the Lower Brule people experienced what is recognized today as "traumatic stress syndrome" as they watched the water of Lake Sharpe rise to cover their homes. This traumatic stress remains today as the community watches Lake Sharpe move ever closer to what they thought was a safe town. The lake continues to advance because the crashing of waves and the impacts of shifting ice floes against the banks cause year-round erosion. In front of the town of Lower Brule, this erosion has already forced the Mni Wiconi rural water system to move its intake into deeper water and carried recreation areas and protective tree belts out into the lake. The water is now rapidly encroaching on the town itself. As of July 2017, the water is less than 400 feet from the Bureau of Indian Affairs (BIA)-3 road right of way and 80 feet from the edge of the sewage lagoon system.

Big Bend Dam was built, in part, to facilitate the stability of the mainstem reservoir system and damaging surges from Oahe Dam. Its reservoir, Lake Sharpe, operates as a stable pool without the changes in elevation that occur in other reservoirs in the system.

At first, there seemed to be little concern for shoreline erosion because of the near-constant-elevation levels of the lake. Subsequent to Big Bend Dam construction, however, it became clear that there was significant shoreline erosion at Lower Brule that posed a threat to the town and its already limited resources. Lower Brule was the only community within the shoreline area of Lake Sharpe and Lake Francis Case not fortified with rock stabilization as a protection against potential erosion.

The Lower Brule Tribal Council (the Council) recognized this problem in the 1970s and sought USACE and BIA help, as indicated in the minutes of the Council meeting of October 4, 1978.

> Narrows Area – [Council member] John Estes asked to bring this subject up and have it in the minutes. It has been discussed before but nothing has ever come of it. This concerns the shoreline in the narrows -it is caving in very fast; he asked if the Corps of Engineers were supposed to do something about this. It is eroding faster than anticipated. Once it reaches the taking line they will probably request more land. John Estes made a motion to contact the Bureau to see what kind of answer the Corps can give on this. The motion was seconded by Kay Gourneau and carried with five for and none opposed. (LBST Council Minutes, October 4, 1978, pp. 6-7)

Twelve years later, in 1990, little had come of this request, as illustrated by an exchange between Tribal Chairman Michael B. Jandreau and federal government officials at the Tribal Council meeting on May 2, 1990, in response to a Corps request for a tree survey on Tribal land:

> Chairman Jandreau further stated that we are losing thousands of acres of soil so what good will your studies be when the most important problem is not being taken care of. What good will your study be if the land is no longer there because of siltation. Mary Flanderka [USACE Lake Sharpe Project] stated that erosion was everyone's concern and what they are planting to prevent erosion is washing away. What we should do is put cattail and willow in, but the only problem is the money. Chairman Jandreau stated that biological data is beautiful to have but just like range studies; if you don't have all the factors then it is just paper the study is no good. Mary Flanderka stated that there was a "Catch 22" that this study needs to be done before mitigation plans can begin, then funding will be available. George Wolf [USACE Lake Sharpe Project] stated that the only way erosion would become first priority is if there is a public building, park area or a road in danger that is the only way "rip rap" will be done and this came from Washington. Mary Flanderka stated that the Ultimate Erosion line was revised and that it was moved back 500 feet. Chairman Jandreau stated that in the survey I noticed that you were going to find out what effects windrows would have. If you are going to do this why can't you tell how erosion will change the study. Mr. Rumble [Mark Rumble, US Forestry Service] stated that this was taken out unless the Corps wanted it back in and to include the causes of erosion. Mary Flanderka said no.

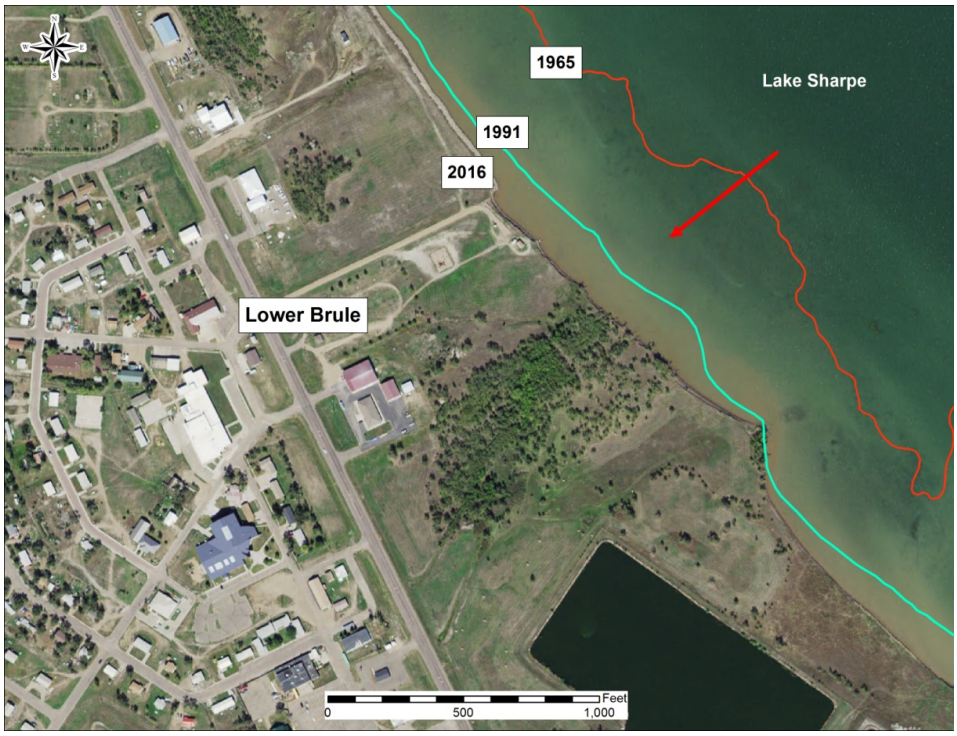
Within 15 years since the Corps moved the Tribe to the current site of Lower Brule, the Tribe started to raise evidence of their concerns about the advancing erosion to the Corps and to the BIA. As shown above, 12 years later, in 1990, the Corps had yet to resolve the erosion problem–Mary Flanderka [Corps] invoked a "Catch-22." Despite the clear threat to the Tribe and the town of Lower Brule, no action was taken. Nothing was done.

The USACE took no action over more than 50 years despite their clear knowledge of the problem. Since the 1960s, several formal and informal Corps studies, and work by other agencies and universities, provided abundant data confirming the Tribe's observations as first documented in 1978. For this reason, in 2004, the Tribe began its own regular program of measuring and documenting the loss of land along the most affected area: a 9-mile stretch on the western shoreline of Lake Sharpe along the Big Bend of the Missouri River that borders the town of Lower Brule and what remains of its prime agricultural land.

By the end of the 1990s, the Corps was using rock (riprap) to stabilize shorelines in front of archaeological sites along Lake Sharpe. The Tribe convinced the Corps to work in partnership and create a new form of shoreline protection that would stop erosion (in this instance, at a cultural site listed on the National Register of Historic Places) – and to reduce the damaging non-point source pollution (siltation) it was causing. In 2007, the Tribe successfully completed this pilot project, a barrier island close to the shore along archaeological site 39LM0225. The Tribe hoped to apply this solution to the increasing threats along the 9 miles of shoreline near the town.

In 2010, the Tribe developed another partnership with the U.S. Geological Survey (USGS). The goal of this partnership was to undertake precise scientific monitoring of erosion in selected places along a large, critical part of the 9-mile shoreline (generating data that the Corps could not ignore). To this end, the USGS used real-time kinematic (RTK) global navigation satellite system (GNSS) equipment; unmanned aerial system flights; bathymetric surveying; and, over a two-year period, trail cameras that captured daily photographs of shoreline erosion.

The map below shows the erosion since Lake Sharpe reached its operating level in 1965.



Finally, after continuing Tribal requests, in 2014, the USACE Commander of the Northwest Division deployed to the reservation a Forward Engineer Support Teams (FEST) to develop alternatives for stabilizing the shoreline. The FEST used results from the Tribe's work and other erosion studies to develop a conceptual design. From their findings, the FEST recommended a permanent solution: a series of breakwater structures that would deflect the force of the wind driven waves and ice causing the significant shoreline erosion. The structures integrate hard (rock) and natural elements, offering multi-purpose shoreline protection. Not only will this design effectively, permanently stem the erosion, it will also have positive, sustainable effects. The creation of a secure and living shoreline will reduce the harmful social and economic effects of life at the edge of Lake Sharpe and help to generate new economic activity, benefitting the entire Lower Brule community.

REFERENCES CITED

Lawson, Michael L. 2009 Dammed Indians Revisited: the Continuing History of the Pick-Sloan Plan and the Missouri River Sioux. South Dakota State Historical Society Press, Pierre, SD.

Lower Brule Tribal Council Minutes–October 4, 1978, and May 2, 1990.

Thompson, Ryan F. and John F. Stamm. 2017 Shoreline Erosion at Selected Areas along Lake Sharpe on the Lower Brule Indian Reservation in South Dakota, 2010–2015. USGS Scientific Investigations Report 2017.

Additional Proposal Information

(This is as uploaded, a blank page will show if nothing was submitted)

USACEproposal-blm-08AUG17.pdf

USACE Proposals for Report to Congress On Future Water Resources Development

http://www.wrrda7001proposals.us/

1. Administrative details:

Name of the proposal (Required):

Lower Brule Shoreline Stabilization Project

Agency preparing the proposal (Required):

POC Name: Clair Green

POC Phone: 605-730-1935

POC Email: clairgreenoffice@gmail.com

Applicable States: SD

2. Primary Sponsor, etc.

Primary Sponsor:

Lower Brule Sioux Tribe (LBST)

Statement of Support:

Federal agencies that partner with the Lower Brule Sioux Tribe on Missouri River issues (BIA, BOR, NRCS, USACE, USGS) and the State of South Dakota and its Congressional delegation support this request for funding, which is to modify an authorized project to stop constant erosion of Tribal land, caused by the Big Bend Project reservoir, Lake Sharpe, since its completion in 1965. Section 4003(d) WRDA 2014 directed USACE to assess the infrastructure needed to reduce shoreline erosion, mitigate additional loss of land, contribute to environmental and ecosystem improvement, and protect existing community infrastructure, including roads and water and waste-water related infrastructure.

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Support letters from the USGS, and Resolution 2017-183 from the Lower Brule Sioux Tribe for this submission under Section 7001 of WRRDA 2014 are uploaded under “support letter”. The Governor of South Dakota has sent his letter directly to the Subcommittees.

3. State if proposal is for feasibility, modification…

X Modification to an Authorized USACE Project

4. Clearly articulate the specific project purpose…

The purpose of this project is to protect the health, safety and well-being of the Lower Brule Sioux Tribe community, tribal infrastructure and economy by stopping the imminent threat of destructive erosion caused by the USACE Big Bend Project reservoir, Lake Sharpe, since its completion in 1965. In a 9-mile section in front of the town of Lower Brule, the lake is advancing at a rate of between 8 and 30 feet a year, threatening the community.

Beginning in 1978, the Tribe has asked for help from the USACE to stop the erosion, and several studies by USACE, other agencies and universities produced abundant data confirming the problem. Section 4003(d) WRDA 2014 directed USACE to assess the infrastructure needed to reduce shoreline erosion, mitigate additional loss of land, contribute to environmental and ecosystem improvement, and protect existing community infrastructure, including roads and water and waste-water related infrastructure.

The Lower Brule Sioux Tribe has worked hard to find a solution. In 2007 the Tribe and USACE successfully completed a pilot shoreline protection project that could be applied to other areas of Lake Sharpe; between 2010 and 2014, the Tribe and USGS precisely measured shoreline erosion rates at the threatened town of Lower Brule. In 2014, the USACE NW Division Commander deployed a Forward Engineer Support Team (FEST) to develop shoreline stabilization alternatives. The FEST recommended breakwater structures to deflect the force of the waves and ice causing the erosion. In 2017 the Tribe commissioned a Shoreline Stabilization Summary Report to evaluate the FEST findings and breakwater designs and develop a permanent solution. The Tribe is seeking congressional authorization/appropriation to move forward with this Lower Brule Reservation Shoreline Stabilization Project.

The abstract for the Shoreline Stabilization Project further articulates the need for this action. This abstract has been uploaded under “supporting documentation.”

5. Upload Map

6. Estimate of total costs.

Estimated Federal Study Cost - $0

Estimated Nonfederal Study Cost - $0

Total Study Cost Estimate $ 0

Estimated Federal Construction or Modification Cost: $44,000,000

The USACE FEST report on the solution to the damaging erosion along the Lower Brule Sioux Reservation shoreline of Lake Sharpe contains total cost estimates for the construction of the breakwater islands and other protective structures necessary to resolve the problem permanently. The estimated total cost is $43,616,973 (2014 dollars). This cost includes near-shore revetment construction and bank restoration, and breakwater island construction. This figure not include costs for project engineering and design; engineering during construction; supervision and administration.

Estimated Nonfederal Construction or Modification Cost: $0

Total Construction or Modification Cost Estimate:

Lower Brule Sioux Tribe requests specifically appropriated funds to cover the non-Federal share of construction.

7. Describe anticipated monetary and nonmonetary benefits of the proposal:

The monetary benefits of this proposal are substantial for the USACE and for the Lower Brule Sioux Tribe. Permanently stopping the erosion will end a history of expenditures by the USACE and the Tribe on studies and solutions to this problem since the 1960s, and its implementation will avoid the exorbitant cost of saving the town of Lower Brule and the critical infrastructure of the Tribe, including water intakes, wastewater treatment and transportation/road systems, and the agricultural and recreational lands that are a major part of the Tribe's economic base. The Tribe will be able to develop projects and steer funding towards reconstruction rather than protection and build facilities in support of fishing and other forms of recreation focused on the lake that will have a direct, positive effect on the Lower Brule economy. Indirect monetary and nonmonetary benefits will emerge quickly, as in the absence of the material threat of erosion, the Tribe will be able to more easily develop and sustain cultural, social, and economic priorities associated with their lands and settlements and improve general health and wellbeing in all its communities.

8. Does local support exist?

Yes

9. Does primary sponsor have financial ability…?

No

10. Upload additional documentation.

Map

Abstract

Letters of Support

Resolution

USGS Support Letter

Letter from Governor (sent directly to Subcommittees)

USACE Proposals for Report to Congress On Future Water Resources Development

http://www.wrrda7001proposals.us/

Additional Proposal Information

(This is as uploaded, a blank page will show if nothing was submitted)

Daugaard letter for project support.pdf

STATE OF SOUTH DAKOTA
DENNIS DAUGAARD, GOVERNOR

August 9, 2017

Lower Brule Sioux Tribe
Attn: Chairman Gourneau
PO Box 187
Lower Brule, SD 57548-0187

Chairman Gourneau,

I am writing to express my support for Lower Brule Sioux Tribe's proposed Shoreline Stabilization Project. As Governor of South Dakota, it is my job to enact policies that positively impact all state citizens, and I believe this project will have such an effect.

Since the construction of the Big Bend Dam, Lower Brule has experienced degradation of their shoreline into Lake Sharpe, which was not anticipated when the dam was built. Thus, no safeguards were put in place to prevent this erosion. Today, the shoreline is dangerously close to Lower Brule's sewer lagoon and creeping closer to their road and the community of Lower Brule. The tribe's proposed project would not only permanently prevent erosion, but would also preserve the tribe's infrastructure and agriculture, both of which are foundational to Lower Brule's economic development.

I strongly urge the necessary funds for Lower Brule Sioux Tribe's Shoreline Stabilization Project be authorized, so no further land is lost.

Sincerely,

Dennis Daugaard

Dennis Daugaard

DD:rg