NEBRASKA
Good Life. Great Journey.
DEPARTMENT OF TRANSPORTATION

## County Bridge Match Program Selected Proposals January 11, 2019

| NACO District | Lead County | Bridge County | Structure Number | Local Bridge ID | Location | Cost Estimate | Estimated CBMP Funding |
|---|---|---|---|---|---|---|---|
| Southeast | Cass | Cass | C001303805 | P-30-31-2200 | 1 mile S and 1.5 miles W of Eagle | $88,344 | $48,589 |
| Southeast | Cass | Cass | C001303860 | S-25-36-4600 | 2 miles S and 1 mile W of Nehawka at stream | $57,120 | $31,416 |
| Southeast | Cass | Otoe | C006602405 | | 2 miles N and 3.5 miles W of Douglas at stream | $118,169 | $64,993 |
| Southeast | Cass | Otoe | C006610715 | | .05 mile W and 2.6 miles N of Douglas at stream | $89,370 | $49,154 |
| Southeast | Gage | Gage | C003402910P | O-E 1/2-33-1 | Jct US77/L-34F 5.5 miles E and 2.9 miles S at Mud Creek | $399,483 | $150,000 |
| Southeast | Gage | Pawnee | C006700505 | T1N R9E S28NW | 4 miles W and 8.3 S of Burchard at Mission Creek | $406,357 | $150,000 |
| Southeast | Gage | Pawnee | C006704105P | T3N R12E S33 | E of Table Rock at Taylor Branch | $50,000 | $27,500 |
| Southeast | Otoe | Otoe | C006601410 | | S and 2.2 miles W of Palmyra at stream | $469,217 | $146,341 |
| Southeast | Otoe | Otoe | C006610270 | CLOSED | 1 mile S of Union at Wolf Creek | $50,000 | $26,829 |
| Southeast | Otoe | Otoe | C006653860 | | 3 miles E of Julian at stream | $50,000 | $26,829 |
| Southeast | Pawnee | Pawnee | C006701815 | T2N R10E S11S | 5 miles E of Burchard at Balls Branch | $339,325 | $150,000 |
| Southeast | Pawnee | Gage | C003401330 | M-E-12-2 | 3 miles W and 2 miles S of Beatrice at stream | $174,324 | $95,878 |
| Southeast | Pawnee | Pawnee | C006700810P | T3N R10E S24 | NW of Steinauer at Turkey Creek | $50,000 | $27,500 |
| Southeast | Pawnee | Pawnee | C006700605 | T3N R10E S8SE | 1.5 miles N and 4.5 miles W of Steinauer at stream | $34,260 | $18,843 |
| Southeast | Pawnee | Johnson | C004911705 | | 1.4 miles E and 1.8 miles N of Vesta at Beatty Creek | $92,448 | $50,846 |
| Southeast | Pawnee | Nemaha | C006400610P | | Jct N67/S-64G .06 miles W and 1.8 miles N at Buck Creek | $70,848 | $38,966 |
| Southeast | Pawnee | Nemaha | C006421530 | | 1.2 miles E and .07 mile S of Brock at stream | $84,240 | $46,332 |
| Southeast | Saline | Saline | C007603425 | F 26 N 5 | 4.6 miles N and 1.1 miles E of Western at stream | $165,000 | $90,750 |
| Southeast | Saline | Jefferson | C004822610 | | Jct US136/N15 2 miles N and 1.8 miles W at Whiskey Run | $160,000 | $88,000 |
| Southeast | Saline | Jefferson | C004832310 | | 9 miles W and .05 mile N of Plymouth at stream | $10,000 | $5,500 |
| Southeast | Sarpy | Sarpy | C007703105P | 46 | 3.8 miles S of Papillion at stream | $250,000 | $95,652 |
| Southeast | Sarpy | Sarpy | C007702505 | 72 | 1.5 miles E and 1.4 miles S of Springfield at stream | $275,000 | $104,348 |
| Southeast | Saunders | Saunders | C007804505 | | .09 miles S and 2.5 mile W of Memphis at Mosquito Creek | $406,217 | $150,000 |
| Northeast | Cuming | Cuming | C002000807 | | Jct US275/N15 2 miles N and 1.5 miles E at stream | $10,000 | $5,500 |
| Northeast | Cuming | Cuming | C002000823 | | Jct N9/N51 3 miles N and .75 miles W at stream | $10,000 | $5,500 |
| Northeast | Cuming | Cuming | C002000727 | | 3 miles W and 1.75 miles N of ALOYS at stream | $10,000 | $5,500 |
| Northeast | Cuming | Cuming | C002001215 | | 2 miles N of Wisner at stream | $10,000 | $5,500 |
| Northeast | Cuming | Cuming | C002014445 | | 3 miles S and 7 miles E of West Point at stream | $163,592 | $89,975 |
| Northeast | Cuming | Burt | C001100110 | | 4 miles S of N32 on 25th Road | $213,465 | $117,406 |
| Northeast | Dodge | Dodge | C002702125 | 203 | 7 miles N and 3.5 E of North Bend at Maple Creek | $350,000 | $150,000 |
| Northeast | Dodge | Dodge | C002714507 | 143 | N of Fremont, Yager Road between S & T at ditch #7 | $175,000 | $96,250 |
| Northeast | Dodge | Washington | C008902010 | C8902010 | 1 miles N and 1.2 miles E of Fontanelle at Brown Creek | $250,000 | $137,500 |
| Northeast | Dodge | Washington | C008912040 | C89-12040 | 2.4 mile W of Blair at stream | $150,000 | $82,500 |
| Northeast | Dodge | Washington | C008902403 | C-8902403 | E and 4.5 miles N of Arlington at Little Bell Creek | $50,000 | $27,500 |
| Northeast | Madison | Madison | C005912410 | | 4.5 miles S and 6.5 miles W of Battle Creek at Drainage Way | $71,400 | $39,270 |
| Northeast | Madison | Madison | C005903450 | | 1 mile N and 1.5 miles E of Madison at stream | $66,912 | $36,802 |
| Northeast | Madison | Platte | C007100319 | BF 19-3 | JCT N45/N91 2 miles W and 6.7 miles S at stream | $84,240 | $46,332 |
| Northeast | Madison | Colfax | C001910850 | A-22-2.2 | 1.2 miles S and 2.2 miles E of Howells at stream | $66,912 | $36,802 |
| Northeast | Pierce | Pierce | C007004130 | | 4 miles S and 1 mile E of Mclean at Yankton Slough | $350,000 | $100,000 |
| Northeast | Pierce | Pierce | C007001820 | | 4 miles S and 1.5 miles E of Mclean at Yankton Slough | $350,000 | $100,000 |
| Northeast | Wayne | Wayne | C009001545 | | 2 miles W and 2.7 miles N of Carroll at stream | $65,280 | $35,904 |
| Northeast | Wayne | Thurston | C008700705 | | 2 miles W of Pender at stream | $84,240 | $46,332 |

| NACO District | Lead County | Bridge County | Structure Number | Local Bridge ID | Location | Cost Estimate | Estimated CBMP Funding |
|---|---|---|---|---|---|---|---|
| Central | Custer | Custer | C002138305 | 12 | 3 miles N and 9 miles E of Broken Bow at Clear Creek | $170,000 | $31,022 |
| Central | Custer | Custer | C002136010P | 244 | 1.5 miles N and 10 miles E of Callaway at Ash Creek | $95,000 | $17,336 |
| Central | Custer | Custer | C002116005P | 502 | 2 miles N and 3.5 miles E of Callaway at Spring Creek | $150,000 | $27,372 |
| Central | Custer | Custer | C002117205P | 429 | 4 miles S and 4 miles W of Callaway at stream | $98,000 | $17,883 |
| Central | Custer | Custer | C002145425 | 181 | 2 miles NW of Berwyn at stream | $95,000 | $17,336 |
| Central | Custer | Custer | C002138605 | 565 | 1 mile SE of Octono at stream | $160,000 | $29,197 |
| Central | Custer | Custer | C002119210 | 646 | 9 miles S and 5 miles W of Mason City at Cat Ceek | $98,000 | $17,883 |
| Central | Custer | Custer | C002158010P | 528A | 11 miles E and 1.2 miles N of Oconto at Deer Creek | $160,000 | $29,197 |
| Central | Custer | Custer | C002108505 | 576A | 16 miles E of Oconto at stream | $70,000 | $12,774 |
| Central | Hamilton | Hamilton | C004101910 | | Jct US34/S-41B 2 miles E and 2 miles N at Lincoln Creek | $240,000 | $132,000 |
| Central | Hamilton | York | C009302105 | SEC 10E T9N R | 2 miles W and 1.5 mile N of McCool Jct at stream | $250,000 | $137,500 |
| Central | Sherman | Sherman | C008211320 | -165 WPA at 4 corne | 3 miles E and S of Litchfield at stream | $23,000 | $12,650 |
| Central | Sherman | Sherman | C008202105P | C-209 Dzingle | S and 1.2 miles W of Loup City at Cob Creek | $33,000 | $18,150 |
| Central | Sherman | Sherman | C008202605 | C-179 Hollywood | 4 miles N and E of Litchfield at Clear Creek | $126,000 | $69,300 |
| Central | Valley | Valley | C008814710 | | .05 mile N of North Loup at Myra Creek | $344,000 | $134,771 |
| Central | Valley | Valley | C008804905 | | 1 mile E of North Loup at Mira Creek | $5,000 | $2,471 |
| Central | Valley | Valley | C008802015P | | 4.1 miles E of Ord at stream | $65,000 | $32,120 |
| Central | Valley | Valley | C008820925 | | S and 10 miles W of Ord at Turtle Creek | $62,000 | $30,638 |
| West Central | Frontier | Frontier | C003206710P | 100525.04 | 12.5 miles E and 7.5 miles S of Stockville at Deer Creek | $490,000 | $150,000 |
| West Central | Frontier | Red Willow | C007302505 | | 2.5 miles W and .05 mile S of Marion at Beaver Creek | $55,000 | $30,250 |
| West Central | Hitchcock | Hitchcock | C004402305P | | Jct US6/N25A 2.3 miles S at Bobtail Creek | $610,000 | $150,000 |
| Panhandle | Scotts Bluff | Scotts Bluff | C007901905 | 10-J | 5.5 miles S and 4 miles W of Mitchell at Fort Laramie Canal | $140,000 | $77,000 |
| Panhandle | Scotts Bluff | Scotts Bluff | C007902405 | L-5 | 3.2 miles E and 5 miles S of Lyman at Kiowa Creek | $90,000 | $49,500 |
| Panhandle | Scotts Bluff | Scotts Bluff | C007933725 | 19-F-1 | 4.2 miles E and 1.5 miles S of Mitchell at stream | $90,000 | $49,500 |

# APPLICATION FORM County Bridge Match Program 2018

| Applying County | Cass | Date of Application | 11/28/2018 |
|---|---|---|---|
| Agency Name | Cass County | Contact Person Title | Highway Superintendent |
| Contact Person Name | Lenny Thorne | Address Line 1 | 13860 12th |
| E-mail | lennyt@cassne.org | Address Line 2 | Weeping Water, NE |
| Phone Number | (402) 296-9353 | zip code | 68463 |
| NACO District | Southeast | | |

| Proposal Name / Location | CBMP2018 - C001303805, C001303860, C006602405, C006610715 |
|---|---|
| Multi-County Proposal | Yes |
| Proposal Priority Number | 3 |

| Instructions |
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| required input |
| changes allowed |
| locked - no input |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| C001303805 | P-30-31-2200 | 1W 1S OF EAGLE at STREAM | Cass | 30.00 | 22.00 | Steel Stringer/Multi-beam or Girder | Local |
| C001303860 | S-25-36-4600 | 2S 1W OF NEHAWKA at STREAM | Cass | 26.00 | 20.00 | Steel Stringer/Multi-beam or Girder | Local |
| C006602405 | | 2N 3.5W DOUGLAS at STREAMS | Otoe | 28.00 | 16.00 | Steel Stringer/Multi-beam or Girder | Local |
| C006610715 | | .5W 2.6N DOUGLAS at STREAM | Otoe | 30.00 | 15.50 | Steel Stringer/Multi-beam or Girder | Local |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C001303805 | No | No | 20 |
| C001303860 | No | No | 20 |
| C006602405 | No | No | 10 |
| C006610715 | No | No | 25 |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C001303805 | Replace | Culvert Pipes | | | County Forces | $88,344 | $48,589 | 3-108" x 44' CMPS |
| C001303860 | Replace | Culvert Pipes | | | County Forces | $57,120 | $31,416 | 2-96" x 48' CMPS |
| C006602405 | Replace | Culvert Pipes | | | County Forces | $118,169 | $64,993 | 3-120" x 43' CMPS |
| C006610715 | Replace | Culvert Pipes | | | County Forces | $89,370 | $49,154 | 3-108" x 45' CMPS |
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| | | | * **Length and Width not required for Culverts. Please provide culvert size in comments.** | | total | $353,003 | $194,152 | OK |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Corrugated metal culvert pipes are a cost-effective replacement alternative for deficient bridges in the State of Nebraska.
The design and construction process is streamlined with the utilization of standard plan and construction practices.
Local culvert suppliers are available and competitive, often resulting in cheaper material prices to the County.
Culvert construction will be completed by County forces, an innovative approach that reduces cost and utilizes the local County assets.
Typical culvert pipe construction can be completed within 1-2 weeks which minimizes the impact to local resident, agricultural and commercial traffic.
Corrugated metal culvert pipe's primary innovation is the simplicity of their design and construction. Metal culvert pipes, with prefabricated headwall & turndowns are quickly and easily installed by most experienced road crews. Additional innovations include; the use of standardized sheet pile and cable tie-back retaining systems, relative ease of transporting and off-loading materials, utilization of 3 x 1 and 5 x 1 corrugation (resulting in stronger culverts and a reduction in wall thickness) and inlet and outlet aprons (scour reduction.)
Historically, culvert maintenance activities and costs are minor in comparison to other replacement structures. Load and/or equipment restricting guardrail is typically not required which is particularly beneficial to regional agricultural and commodity transportation.
A considerable number of streams in the eastern part of Nebraska are significantly degraded. Proper culvert design is often utilized to stabilize the streambed and adjacent banks upstream of the structure.
The replacement's required size may remove the structure from the bridge inventory.
This proposal is being submitted by multiple counties, in a cooperative effort to streamline the design, bid, and build process through project bundling. Innovative, because counties have not actively reached across established map lines in the name of cooperation and efficiency.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Corrugated metal culvert pipes are a cost effective and efficiently constructed alternative to an expensive bridge replacement.
Standardized design and construction practices provide a significant cost and time savings to the owner.
Culvert construction will be completed by County forces resulting in a considerable cost and time savings.
Guardrail is typically not required, therefore no material, construction, or maintenance costs for guardrail are associated with the project.
Additional savings are realized throughout the culvert's anticipated life-span (50-75 years) in costs associated with general maintenance and repair.
Culvert pipe replacement structures are generally simpler and relatively inexpensive when compared to box culverts or bridges. Typical culvert pipe construction (including removal of the existing structure) can be completed within 1-2 weeks resulting in lower direct project costs (overall) and minimizes the impact to local resident, agricultural and commercial traffic.
Removal of a structure from the bridge inventory would save time and costs associated with general management and inspection.
It is anticipated that each county in the bundling package will recognize savings in engineering and construction costs. Design fees for a standard culvert crossing is significantly less costly than a traditional bridge or concrete box culvert. The bidding of a "materials, only" bundled project reduces the monetary and time costs associated with the contracting process.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Corrugated metal culvert pipe standardization of design and construction can be utilized by all Counties in Nebraska.
The process of collaboration between Counties can easily be shared and is available to all Counties. A derivative of the cooperation between counties will likely be education, through the exchange of ideas that will occur throughout the process. The engaged entities will discuss and implement what has/hasn't been efficient or successful and incorporate those "lessons learned" into future replacement projects. Successful results are easily conveyed to other Counties, culvert pipes provide a time-saving, quality product at low cost.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The use of corrugated metal culvert replacement structures provides significant long-term maintenance cost savings.
Properly sized corrugated metal culvert pipes are considered durable and expected to require minimal maintenance over their expected service life of 50-75 years.
The lack of guardrail facilitates the ease of mowing and snow plow operations. There are no costs associated with guardrail maintenance, if damaged.
Maintenance activities and costs associated with deck repair are non-existent over the life of the culvert.
If the culvert is utilized to control a degraded stream, there are significant benefits to upstream structures in the basin. Maintenance and/or replacement of these structures can be minimized or eliminated due to the positive effects of stream stabilization.
Removal of a structure from the bridge inventory would save time and costs associated with general management and inspection.
The County expends considerable resources to complete the required maintenance activities on deficient bridges. Normal operations include the replacement and repair of timber/concrete decks, abutment back-wall, pile, wing, stringer, and guardrail. Additional costs are associated with bank stabilization (scouring) and the backfill of roadway settlement. Replacement with this type of structure will eliminate many of these costs' of time, material and labor.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In general, each stream crossing is significant to the local individuals, communities and agricultural related activities occurring in rural Nebraska.
The width and weight restrictions of structurally deficient bridges may limit the required access to property and create an inconvenience to the residents of the area who utilize them daily, or during agriculturally related "heavy traffic" times of the year. Additionally, these rural roadways may function as a vital route for localized traffic between the smaller communities of the area.
Specifically, this project provides the following functions to the local individuals, Cass/Otoe Counties, and the State of Nebraska:

C001303805:
The structure/roadway is used as a bus and emergency services route. It is the best, and fastest, route to the homes located on the east section.
The detour is 4 miles and considered excessive.
The structure/roadway is vital to agricultural "farm to market" traffic.
Replacement of the structure will provide continuity to several bridges that have been recently replaced to the west.
The bridge is considered "necessary" to provide access to existing homes in the area.

C001303860:
The structure/roadway is utilized as a bus and emergency services route.
The detour for this structure is 3 miles and considered excessive. If required, use of the detour would impact the general area negatively and cause significant traffic problems.
The roadway/bridge is heavily utilized by local and agricultural traffic. It is the main east-west road from Elmwood to Lancaster County.
The structure/roadway provides continuity to multiple structures that have been recently replaced within several miles.
The structure is considered "necessary" for the area and needs to be replaced to improve the safety for the traveling public and agricultural producers.

C006602405:
The roadway/bridge is utilized as a bus and mail route.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**85%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| Applying County | Gage | Date of Application | 11/29/2018 |
|---|---|---|---|
| Agency Name | Gage County | Contact Person Title | Highway Superintendent |
| Contact Person Name | Galen Engel | Address Line 1 | 823 S 8th |
| E-mail | gengel@gage.nacone.org | Address Line 2 | Beatrice, NE |
| Phone Number | (402) 223-1395 | zip code | 68310 |
| NACO District | Southeast | | |

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|---|---|
| Proposal Name / Location | CBMP2018 - C003402910P, C006700505, C006704105P |
| Multi-County Proposal | Yes |
| Proposal Priority Number | 1 |

| Instructions |
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| required input |
| changes allowed |
| locked - no input |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| C003402910P | O-E 1/2-33-1 | JCT US77/L-34F 5.5E 2.9S at MUD CREEK | Gage | 52.00 | 19.60 | Steel Truss - Thru | Other Arterial |
| C006700505 | T1N R9E S28NW | 4W 8.3S OF BURCHARD at MISSION CREEK | Pawnee | 52.00 | 15.90 | Steel Truss - Thru | Local |
| C006704105P | T3N R12E S33 | NCL TABLE ROCK at TAYLOR BRANCH | Pawnee | 150.00 | 20.10 | Steel Truss - Thru | Local |

## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C003402910P | No | No | 275 |
| C006700505 | No | No | 45 |
| C006704105P | No | No | 35 |

## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C003402910P | Replace | Precast Deck Panels | 91.75 | 28.00 | Contract | $399,483 | $150,000 | 3-Span Concrete Deck Slab |
| C006700505 | Replace | Precast Deck Panels | 91.75 | 28.00 | Contract | $406,357 | $150,000 | 3-Span Concrete Deck Slab |
| C006704105P | Remove | Not Applicable | 0.00 | 0.00 | Contract | $50,000 | $27,500 | Remove from Inventory |
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| | | | * **Length and Width not required for Culverts.** | | total | $855,840 | $327,500 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Pre-cast deck panel bridges are a quickly constructed, cost-effective replacement alternative for deficient bridges in the State of Nebraska.
The design, fabrication, and construction process is streamlined with the utilization of standard plan and construction practices with typical bridge construction completed within 6 weeks.
An experienced pool of contractors active in Nebraska results in a competitive environment, reducing replacement structure cost to Counties.
The fabrication of the combination driving surface/structural beam at an off-site location reduces construction time significantly. There are currently a number of local suppliers that can produce the deck slab units which can easily be installed by most experienced bridge crews. Contractor innovation of the construction process continues to reduce the required time and material expenditures, reducing overall cost to the owner.
Pre-cast concrete deck slab units provide additional benefits regarding permitting and design. Bridge submergence is common and acceptable on the rural county roadways of Nebraska. Low superstructure height reduces the road grading requirements and environmental impacts are minimized by reducing or eliminating channel modification. Permitting requirements are minimized, accordingly.
This proposal is being submitted by multiple counties, in a cooperative effort to streamline the design, bid, and build process through project bundling. Innovative, because counties have not actively reached across established map lines in the name of cooperation and efficiency. Additionally, it is presumed that bundled project bids will result in lower pricing due to their regional nature.
In addition to the replacement projects, Pawnee County is proposing removal of Structure C006704105P from the traveled way and NBIS structurally deficient list.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Pre-cast deck slab bridges are typically significantly less costly than traditional cast in place or girder bridges, with cost savings of in the order of 20-25%.
The counties of Nebraska rarely use de-icing agents therefore steel sheet pile abutments are often utilized as a quick, economical alternative to reinforced concrete. The lack of field cast concrete, which requires curing and is susceptible to weather delay reduces replacement structure installation time.
In general, heavy equipment requirements are minimized, as most construction can be performed with smaller equipment.
Installation time is typically in 6-weeks or less, which is typically half the time of traditional bridges. This results in lower overall cost and a reduction of impacts to the traveling, agricultural, and commodity community.
Additional saving's are realized throughout the bridges' anticipated life-span, expected beyond 75 years, in costs associated with general maintenance and repair.
Removal of Structure C006704105P from the inventory will result in a considerable cost and time savings to the County and State. Replacement structure construction, maintenance, mowing, snow removal, rating and inspection activities will not be necessary.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Pre-cast deck slab bridge design and construction is a standardized process in the State of Nebraska, information regarding the process can easily be shared and repeated within other Counties.

A derivative of the cooperation between counties will likely be education, through the exchange of ideas that occurs throughout the process. The engaged entities will discuss and implement what has/hasn't been efficient or successful and incorporate those "lessons learned" into future replacement projects.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The structure is considered extremely durable and expected to require minimal maintenance over it's expected use beyond 75 years.
The County expends considerable resources to complete the required maintenance activities on deficient bridges including the replacement and repair of timber/concrete decks, abutment back wall, pile, wing, stringer, and guardrail. Additional costs are associated with bank stabilization (scouring) and the backfill of roadway settlement. Replacement with this type of structure will reduce or eliminate many of these costs of time, material and labor.
Removal of structure C006704105P from the inventory will eliminate the maintenance requirements for the bridge, saving a considerable amount of expenditures in the long term.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In general, each stream crossing is significant to the local individuals, communities and agricultural related activities occurring in rural Nebraska. The width and weight restrictions of structurally deficient bridges may limit the required access to property and create an inconvenience to the residents of the area who utilize them daily, or during agriculturally related "heavy traffic" times of the year. Additionally, these rural roadways may function as a vital route for localized traffic between the smaller communities of the area. Specifically, this project provides the following functions to the local individuals, Gage/Pawnee County and the State of Nebraska:

C003402910P:
The structure/roadway is utilized as a bus and mail route.
The paved roadway/bridge is designated as an emergency services route for access to the towns of Blue Springs and Wymore.
The detour length is 10 miles for restricted traffic. An un-restricted detour (agriculture and truck traffic) would increase to 14 miles along HWY77.
The structure/roadway is utilized for local, agricultural equipment, and commodity traffic (farm to market) to local elevators.
Commercial trucks utilize the roadway for transportation of goods to/from Blue Springs and Wymore.
The structure/roadway is the most practical route from Blue Springs and Wymore to Beatrice, and is heavily traveled.
The structure is considered "necessary" to local traffic. Currently, most commercial/agricultural traffic is restricted (detoured) because of inadequate weight limits (posting) and narrow width.

C006700505:
The structure/roadway are currently utilized as a bus and emergency services route.
The restricted detour for this structure is 5 miles (there are structurally deficient bridges on the detour route.) This is considered excessive.
There is significant agricultural traffic (farm to market) that utilizes the structure/roadway. The route is the primary roadway south to/from HWY8.
The structure is considered "necessary" to local traffic. It provides direct access to a local community church and agricultural properties in the area.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**100%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Otoe** | **Date of Application** | **11/26/2018** |
| **Agency Name** | **Otoe County** | **Contact Person Title** | **Highway Superintendent** |
| **Contact Person Name** | **Jon Brinkman** | **Address Line 1** | **0** |
| **E-mail** | **roadswest@otoe.nacone.org** | **Address Line 2** | **Nebraska City, NE** |
| **Phone Number** | **(402) 873-9586** | **zip code** | **68410** |
| **NACO District** | **Southeast** | | |

| | |
|---|---|
| **Proposal Name / Location** | CBMP2018 - C006601410, C006610270, C006653860 |
| **Multi-County Proposal** | No |
| **Proposal Priority Number** | 1 |

| **Instructions** |
|---|
| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C006601410** | | .3S 2.2W PALMYRA at STREAM | Otoe | 50.00 | 16.00 | Steel Stringer/Multi-beam or Girder | Collector |
| **C006610270** | CLOSED | 1W US73 CASS CL at WOLF CREEK | Otoe | 77.00 | 14.00 | Steel Truss - Thru | Local |
| **C006653860** | | 3E US73 NEMAHA CL at STREAM | Otoe | 86.00 | 15.80 | Steel Stringer/Multi-beam or Girder | Local |

## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C006601410 | No | No | 195 |
| C006610270 | No | No | 5 |
| C006653860 | No | No | 25 |

## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C006601410 | Replace | Precast Deck Panels | 100.70 | 28.00 | Contract | $469,217 | $146,341 | 3-Span Concrete Deck Slab |
| C006610270 | Remove | Not Applicable | 0.00 | 0.00 | Contract | $50,000 | $26,829 | Remove from Inventory |
| C006653860 | Remove | Not Applicable | 0.00 | 0.00 | Contract | $50,000 | $26,829 | Remove from Inventory |
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| | | | * **Length and Width not required for Culverts.** | | total | $569,217 | $199,999 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Pre-cast deck panel bridges are a quickly constructed, cost-effective replacement alternative for deficient bridges in the State of Nebraska.
The design, fabrication, and construction process is streamlined with the utilization of standard plan and construction practices with typical bridge construction completed within 6 weeks.
An experienced pool of contractors active in Nebraska results in a competitive environment, reducing replacement structure cost to Counties.
The fabrication of the combination driving surface/structural beam at an off-site location reduces construction time significantly. There are currently a number of local suppliers that can produce the deck slab units which can easily be installed by most experienced bridge crews. Contractor innovation of the construction process continues to reduce the required time and material expenditures, reducing overall cost to the owner.
Pre-cast concrete deck slab units provide additional benefits regarding permitting and design. Bridge submergence is common and acceptable on the rural county roadways of Nebraska. Low superstructure height reduces the road grading requirements and environmental impacts are minimized by reducing or eliminating channel modification. Permitting requirements are minimized, accordingly.
In addition to the replacement project, Otoe County is proposing the removal of structures C006610270 and C006653860 from the traveled way NBIS structurally deficient list.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Pre-cast deck slab bridges are typically significantly less costly than traditional cast in place or girder bridges, with cost savings in the order of 20-25%.
The counties of Nebraska rarely use de-icing agents therefore steel sheet pile abutments are often utilized as a quick, economical alternative to reinforced concrete. The lack of field cast concrete, which requires curing and is susceptible to weather delay reduces replacement structure installation time.
In general, heavy equipment requirements are minimized, as most construction can be performed with smaller equipment.
Installation time is typically in 6-weeks or less, which is typically half the time of traditional bridges. This results in lower overall cost and a reduction of impacts to the traveling, agricultural, and commodity community.
Additional savings are realized throughout the bridges' anticipated life-span, expected beyond 75 years, in costs associated with general maintenance and repair.
Removal of structures C006610270 and C006653860 from the inventory will result in a considerable cost and time savings to the County and State. Replacement structure, construction, maintenance, mowing, snow removal, rating and inspection activities will not be necessary.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Pre-cast deck slab bridge design and construction is a standardized process in the State of Nebraska, information regarding the process can easily be shared and repeated within other Counties.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The structure is considered extremely durable and expected to require minimal maintenance over it's expected use beyond 75 years.
The County expends considerable resources to complete the required maintenance activities on deficient bridges including the replacement and repair of timber/concrete decks, abutment back wall, pile, wing, stringer, and guardrail. Additional costs are associated with bank stabilization (scouring) and the backfill of roadway settlement. Replacement with this type of structure will reduce or eliminate many of these costs of time, material and labor.
Removal of structures C006610270 and C006653860 from the inventory will eliminate the maintenance requirements for the bridges, saving a considerable amount of expenditures in the long term.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In general, each stream crossing is significant to the local individuals, communities and agricultural related activities occurring in rural Nebraska. The width and weight restrictions of structurally deficient bridges may limit the required access to property and create an inconvenience to the residents of the area who utilize them daily, or during agriculturally related "heavy traffic" times of the year. Additionally, these rural roadways may function as a vital route for localized traffic between the smaller communities of the area. Specifically, this project provides the following functions to the local individuals, Otoe County, and the State of Nebraska:

C006601410:
The structure/roadway is currently utilized as a mail route and an emergency services route.
The structure/roadway is currently utilized as a bus route for the Palmyra/Bennet consolidated school district and carries considerable school traffic in addition to the school buses.
The detour route length is 7.5 miles for un-restricted traffic.
The structure/roadway is utilized for local, commercial and rural agricultural traffic. There is continuity to other recent county projects in the area. The structure is 1 1/2 miles west of project HRRR-7915(1) that will be let in 2019.
The structure/roadway provides local and agricultural traffic between Palmyra and Bennet (main local road.)
The structure is “necessary” to the local traffic. Currently, most commercial/agricultural traffic is restricted (detoured) because of an inadequate weight limit (posting) and narrow width.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**100%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Pawnee** | **Date of Application** | **11/27/2018** |
| **Agency Name** | Pawnee County | **Contact Person Title** | Highway Superintendent |
| **Contact Person Name** | Chris Rauner | **Address Line 1** | PO Box 65 |
| **E-mail** | clerk@pawnee.nacone.org | **Address Line 2** | Pawnee, NE |
| **Phone Number** | (402) 852-2981 | **zip code** | 68420 |
| **NACO District** | **Southeast** | | |

| | |
|---|---|
| **Proposal Name / Location** | CBMP2018 - C006701815, C003401330, C006700810P |
| **Multi-County Proposal** | Yes |
| **Proposal Priority Number** | 1 |

| **Instructions** |
|---|
| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C006701815** | T2N R10E S11S | 5E OF BURCHARD at BALLS BRANCH | Pawnee | 30.00 | 19.80 | Steel Stringer/Multi-beam or Girder | Local |
| **C003401330** | M-E-12-2 | 3W 2S OF BEATRICE CBD at STREAM | Gage | 25.00 | 20.70 | Steel Girder and Floorbeam System | Local |
| **C006700810P** | T3N R10E S24 | .1NW OF STEINAUER at TURKEY CREEK | Pawnee | 40.00 | 18.00 | Steel Girder and Floorbeam System | Local |

## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C006701815 | No | No | 55 |
| C003401330 | No | No | 40 |
| C006700810P | No | No | 20 |

| Proposal Construction Details | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **NBI Structure Number** | **Proposed Action** | **Proposed Structure Type** | **Proposed Length (ft)*** | **Proposed Total Width (ft)*** | **Workforce** | **Total Estimated Bridge Cost** | **Anticipated Reimbursement from CBMP** | **Comment** |
| C006701815 | Replace | Concrete Box Culvert | | | Contract | $339,325 | $150,000 | 3-14'x14'x40' CBC |
| C003401330 | Replace | Concrete Box Culvert | | | Contract | $174,324 | $95,878 | 2-12'x12'x40' CBC |
| C006700810P | Remove | Not Applicable | 0.00 | 0.00 | Contract | $50,000 | $27,500 | Remove from Inventory |
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| | | | * **Length and Width not required for Culverts.** | | total | $563,649 | $273,378 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Concrete box culverts are a cost-effective alternative for the replacement of deficient bridges in the State of Nebraska.
The design and construction process is streamlined with the utilization of standard plan and construction practices. An experienced pool of contractors active in Nebraska results in a competitive environment, reducing replacement structure construction cost to counties.
Typical concrete box culvert construction is completed within 60 calendar days which minimizes the impact to local resident, agricultural and commercial traffic.
Historically, concrete box culvert maintenance activities and costs are minor in comparison to other replacement structures.
Load and/or equipment restricting guardrail is typically not required which is particularly beneficial to local and regional agricultural and commodity transportation.
A considerable number of streams in the eastern part of Nebraska are significantly degraded. Proper box culvert design is often utilized to stabilize the streambed and adjacent banks upstream of the structure.
This proposal is being submitted by multiple counties, in a cooperative effort to streamline the design, bid, and build process through project bundling. Innovative, because counties have not actively reached across established map lines in the name of cooperation and efficiency. Additionally, it is presumed that bundled project bids will result in lower pricing due to their regional nature.
In addition to the replacement projects, Pawnee County is proposing removal of Structure C006700810P from the traveled way and NBIS structurally deficient list.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Concrete box culverts are cost effective and an efficiently constructed alternative to an expensive bridge replacement.
Standardized design and construction practices provide a significant cost and time savings to the owner.
Guardrail is typically not required, therefore no material, construction, or maintenance costs for guardrail are associated with the project.
Additional savings are realized throughout the culvert's anticipated life-span, expected beyond 100 years, in costs associated with general maintenance and repair.
It is anticipated that each county in the bundling package will recognize savings in engineering and construction costs by awarding the contract to a single contractor with one set of contract documents. Flexibility is gained by the contractor by having multiple sites in the same geographic area to allocate time, equipment, and other resources.
Removal of Structure C006700810P from the inventory will result in a considerable cost and time savings to the County and State. Replacement structure construction, maintenance, mowing, snow removal, rating and inspection activities will not be necessary.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Box culvert standardization of design and construction can be utilized by all Counties in Nebraska. The process of collaboration can easily be shared and is available to all Counties. A derivative of the cooperation between counties will likely be education, through the exchange of ideas that will occur throughout the process. The engaged entities will discuss and implement what has/hasn't been efficient or successful and incorporate those "lessons learned" into future replacement projects.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The use of concrete box culvert replacement structures provides significant long-term maintenance cost savings.
The structure is considered extremely durable and expected to require minimal maintenance over it's expected use, beyond 100 years.
The lack of guardrail facilitates the ease of mowing and snow plow operations. There are no costs associated with guardrail maintenance, if damaged.
Maintenance activities and costs associated with deck repair are non-existent over the life of the culvert.
If the concrete box culvert is utilized to control a degraded stream, there are significant benefits to upstream structures in the basin. Maintenance and/or replacement of these structures can be minimized or eliminated due to the positive effects of stream stabilization.
The County expends considerable resources to complete the required maintenance activities on deficient bridges. Normal operations include the replacement and repair of timber/concrete decks, abutment back-wall, pile, wing, stringer, and guardrail. Additional costs are associated with bank stabilization (scouring) and the backfill of roadway settlement. Replacement with this type of structure will eliminate many of these costs of time, material and labor.
Removal of structure C006700810P from the inventory will eliminate the maintenance requirements for the bridge, saving a considerable amount of expenditures in the long term.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In general, each stream crossing is significant to the local individuals, communities, agricultural and commerce related activities occurring in rural Nebraska.
The width and weight restrictions of structurally deficient bridges may limit the required access to property and create an inconvenience to the residents of the area who utilize them daily, or during agriculturally related "heavy traffic" times of the year.
Additionally, these rural roadways may function as a vital route for localized traffic between the smaller communities of the area. Specifically, this project provides the following functions to the local individuals, Pawnee/Gage Counties and the State of Nebraska:

C006701815:
The structure/roadway is currently used as an emergency service route. Fire service would respond from the west and would need to cross the bridge to access residents on the east side.
The restricted detour is 5.5 miles (deficient structures on route) and considered excessive.
The structure experiences heavy usage from agricultural operations in the area.
The structure is the main route to the east of Burchard.
The structure is considered "necessary" to the area. The detour route is excessive, considering the amount of traffic the bridge/roadway experiences during planting/harvest.

C003401330:
The roadway/bridge is utilized as mail route.
The project is used as an emergency services route for residents in the area. If the structure were closed, there will be only one way in/out for residents and/or emergency services, if necessary.
The detour route length is 3 miles for un-restricted traffic. During wet weather, part of the detour may be limited to some traffic, due to the road condition.
The roadway/bridge is utilized for local, commercial and agricultural operation (farm to market) traffic. North bound traffic crosses the bridge to access a golf course.
The roadway intersects HWY136 south of the structure and connects to a gravel "collector route" to Beatrice and the Community College. Local and guest traffic commuting to/from Beatrice and the College from the south utilize the roadway/bridge.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**90%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Pawnee** | **Date of Application** | **11/29/2018** |
| **Agency Name** | **Pawnee County** | **Contact Person Title** | **Highway Superintendent** |
| **Contact Person Name** | **Chris Rauner** | **Address Line 1** | **PO Box 65** |
| **E-mail** | **clerk@pawnee.nacone.org** | **Address Line 2** | **Pawnee, NE** |
| **Phone Number** | **(402) 852-2981** | **zip code** | **68420** |
| **NACO District** | **Southeast** | | |

| | |
|---|---|
| **Proposal Name / Location** | CBMP2018 - C006700605, C004911705, C006400610P, C006421530 |
| **Multi-County Proposal** | Yes |
| **Proposal Priority Number** | 3 |

| **Instructions** |
|---|
| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C006700605** | T3N R10E S8SE | 1.5N 4.5W OF STEINAUER at STREAM | Pawnee | 25.00 | 16.10 | Steel Stringer/Multi-beam or Girder | Local |
| **C004911705** | | 1.4E 1.8N OF VESTA at BEATTY CREEK | Johnson | 32.00 | 16.00 | Steel Stringer/Multi-beam or Girder | Local |
| **C006400610P** | | JCT N67/S-64G .6W 1.8N at BUCK CREEK | Nemaha | 31.00 | 16.20 | Steel Stringer/Multi-beam or Girder | Other Arterial |
| **C006421530** | | 1.2E .7S OF BROCK at STREAM | Nemaha | 32.00 | 16.00 | Steel Stringer/Multi-beam or Girder | Local |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C006700605 | No | No | 10 |
| C004911705 | No | No | 25 |
| C006400610P | No | No | 65 |
| C006421530 | No | No | 35 |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C006700605 | Replace | Culvert Pipes | | | Contract | $34,260 | $18,843 | 2-72" x 40' CMPS |
| C004911705 | Replace | Culvert Pipes | | | County Forces | $92,448 | $50,846 | 3-108" x 48' CMPS |
| C006400610P | Replace | Culvert Pipes | | | County Forces | $70,848 | $38,966 | 2-108" x 52' CMPS |
| C006421530 | Replace | Culvert Pipes | | | County Forces | $84,240 | $46,332 | 3-108" x 40' CMPS |
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| | | | * **Length and Width not required for Culverts.** | | total | $281,796 | $154,987 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Corrugated metal culvert pipes are a cost-effective replacement alternative for deficient bridges in the State of Nebraska.
The design and construction process is streamlined with the utilization of standard plan and construction practices.
Local culvert suppliers are available and competitive, often resulting in cheaper material prices to the County.
Culvert construction will be completed by County forces, an innovative approach that reduces cost and utilizes the local County assets.
Typical culvert pipe construction can be completed within 1-2 weeks which minimizes the impact to local resident, agricultural and commercial traffic.
Corrugated metal culvert pipe's primary innovation is the simplicity of their design and construction. Metal culvert pipes, with prefabricated headwall & turndowns are quickly and easily installed by most experienced road crews. Additional innovations include; the use of standardized sheet pile and cable tie-back retaining systems, relative ease of transporting and off-loading materials, utilization of 3 x 1 and 5 x 1 corrugation (resulting in stronger culverts and a reduction in wall thickness) and inlet and outlet aprons (scour reduction.)
Historically, culvert maintenance activities and costs are minor in comparison to other replacement structures. Load and/or equipment restricting guardrail is typically not required which is particularly beneficial to regional agricultural and commodity transportation.
A considerable number of streams in the eastern part of Nebraska are significantly degraded. Proper culvert design is often utilized to stabilize the streambed and adjacent banks upstream of the structure.
The replacement's required size may remove the structure from the bridge inventory.
This proposal is being submitted by multiple counties, in a cooperative effort to streamline the design, bid, and build process through project bundling. Innovative, because counties have not actively reached across established map lines in the name of cooperation and efficiency.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Corrugated metal culvert pipes are a cost effective and efficiently constructed alternative to an expensive bridge replacement.
Standardized design and construction practices provide a significant cost and time savings to the owner.
Culvert construction will be completed by County forces resulting in a considerable cost and time savings.
Guardrail is typically not required, therefore no material, construction, or maintenance costs for guardrail are associated with the project.
Additional savings are realized throughout the culvert's anticipated life-span (50-75 years) in costs associated with general maintenance and repair.
Culvert pipe replacement structures are generally simpler and relatively inexpensive when compared to box culverts or bridges. Typical culvert pipe construction (including removal of the existing structure) can be completed within 1-2 weeks resulting in lower direct project costs (overall) and minimizes the impact to local resident, agricultural and commercial traffic.
Removal of a structure from the bridge inventory would save time and costs associated with general management and inspection.
It is anticipated that each county in the bundling package will recognize savings in engineering and construction costs. Design fees for a standard culvert crossing is significantly less costly than a traditional bridge or concrete box culvert. The bidding of a "materials, only" bundled project reduces the monetary and time costs associated with the contracting process.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Corrugated metal culvert pipe standardization of design and construction can be utilized by all Counties in Nebraska.
The process of collaboration between Counties can easily be shared and is available to all Counties. A derivative of the cooperation between counties will likely be education, through the exchange of ideas that will occur throughout the process. The engaged entities will discuss and implement what has/hasn't been efficient or successful and incorporate those "lessons learned" into future replacement projects. Successful results are easily conveyed to other Counties, culvert pipes provide a time-saving, quality product at low cost.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The use of corrugated metal culvert replacement structures provides significant long-term maintenance cost savings.
Properly sized corrugated metal culvert pipes are considered durable and expected to require minimal maintenance over their expected service life of 50-75 years.
The lack of guardrail facilitates the ease of mowing and snow plow operations. There are no costs associated with guardrail maintenance, if damaged.
Maintenance activities and costs associated with deck repair are non-existent over the life of the culvert.
If the culvert is utilized to control a degraded stream, there are significant benefits to upstream structures in the basin. Maintenance and/or replacement of these structures can be minimized or eliminated due to the positive effects of stream stabilization.
Removal of a structure from the bridge inventory would save time and costs associated with general management and inspection.
The County expends considerable resources to complete the required maintenance activities on deficient bridges. Normal operations include the replacement and repair of timber/concrete decks, abutment back-wall, pile, wing, stringer, and guardrail. Additional costs are associated with bank stabilization (scouring) and the backfill of roadway settlement. Replacement with this type of structure will eliminate many of these costs' of time, material and labor.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In general, each stream crossing is significant to the local individuals, communities and agricultural related activities occurring in rural Nebraska. The width and weight restrictions of structurally deficient bridges may limit the required access to property and create an inconvenience to the residents of the area who utilize them daily, or during agriculturally related "heavy traffic" times of the year. Additionally, these rural roadways may function as a vital route for localized traffic between the smaller communities of the area. Specifically, this project provides the following functions to the local individuals, Pawnee/Johnson/Nemaha Counties, and the State of Nebraska:

C006700605:
The detour for the structure is 3 miles to un-restricted traffic.
The structure is used heavily for local agricultural operations.
The structure is considered "necessary" to the local area, as it provides a "farm to market" route for farmers in the area.
Local farmlands would be in-accessible without the structure.

C004911705:
The structure/roadway is currently used as bus and mail routes.
The detour for the structure is 3 miles.
The structure is heavily utilized as a "farm to market" route for local agricultural operations.
The project would provide continuity to other recently replaced structures in the area. The county has recently completed culvert projects to the south of this structure, this is the last structure to replace on this stretch of roadway.
The structure is considered "necessary" to local traffic and would be utilized more often by local farmers and heavy machinery to avoid heavy traveled roadways.

C006400610P:
The structure/roadway is used as bus, mail, and emergency service routes.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**85%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Saline** | **Date of Application** | **11/8/2018** |
| **Agency Name** | Saline County | **Contact Person Title** | Highway Superintendent |
| **Contact Person Name** | Bruce Filipi | **Address Line 1** | PO Box 865 |
| **E-mail** | scroads@diodecom.net | **Address Line 2** | Wilber, NE |
| **Phone Number** | (402) 821-2737 | **zip code** | 68465 |
| **NACO District** | **Southeast** | | |

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|---|---|
| **Proposal Name / Location** | Saline-Jefferson |
| **Multi-County Proposal** | Yes |
| **Proposal Priority Number** | 1 |

| **Instructions** |
|---|
| **required input** |
| changes allowed |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C007603425** | F 26 N 5 | 4.6N 1.1E OF WESTERN at STREAM | Saline | 51.00 | 20.00 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C004822610** | | JCT US136/N15 2N 1.8W at WHISKEY RUN | Jefferson | 32.00 | 15.80 | Steel Stringer/Multi-beam or Girder | Local |
| **C004832310** | | 9W .5N OF PLYMOUTH at STREAM | Jefferson | 41.00 | 16.00 | Steel Truss - Thru | Local |

## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C007603425 | No | No | Yes |
| C004822610 | No | No | 60 |
| C004832310 | No | No | 10 |

**C007603425 is also on N1 Jefferson Co P2**

## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C007603425 | Replace with non-bridge size | Concrete Box Culvert | 14.00 | 17.00 | Contract | $165,000 | $90,750 | 1 - 14' x 10' CBC |
| C004822610 | Replace | Concrete Box Culvert | 37.00 | 12.00 | Contract | $160,000 | $88,000 | 2 - 12' x 10' CBC |
| C004832310 | Remove | Other | 0.00 | 0.00 | County Forces | $10,000 | $5,500 | |
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| | | | * **Length and Width not required for Culverts.** | | total | $335,000 | $184,250 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Saline and Jefferson Counties propose to bundle these two new construction projects in an effort to reduce costs by greatly reducing the contractor's mobilization costs. Saline and Jefferson County have teamed up on the previous two rounds of the the County Bridge Match Program with great success. Additionally, we have used this cost savings method outside of the County Bridge Match Program on another project which included a box culvert in both Counties. Jefferson County will also permanently remove Structure No. C004832310 from its inventory. The structure is currently posted as closed and the County is in favor of removing the bridge and permanently closing the road. By selectively removing structures like this one from the inventory the County is greatly reducing future maintenance costs.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

We believe the biggest cost and time savings will come from bundling these two projects. Bundling of projects across County lines has been shown to be an effective means to lower overall costs during the first two rounds of the County Bridge Match Program. We have also used this method on two County funded projects with great success. Bundling the projects allows the contractor to plan his construction schedule for the upcoming construction season. This greater certainty in workload has been shown to lead to reduced pricing.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Two years ago, Saline and Jefferson Counties bundled a group of projects together with great success. Last year, both counties agreed to include two neighboring counties in a new group of projects in order to promote the value and efficiency of bundling projects statewide. Last year's example further displayed to all counties that this innovative approach can be used not only for the County Bridge Match Program, but also on future projects. Saline and Jefferson County believe that this approach will be a valuable tool for them moving forward and will encourage all Counties to try this approach in the future.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

We will be replacing two structures which all have some timber members. Timber bridges have significant annual maintenance costs. By replacing these structures with concrete box culverts we will be eliminating these costs. Concrete box culverts that are properly sized have a proven history of low maintenance requirements in Nebraska.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

This proposal is significant to both counties because we are expanding on the success of the last two years of experience with the bundling of projects across county lines. Additionally, each structure serves a vital role in our farm to market local road network.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**100%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Sarpy** | **Date of Application** | **11/30/2018** |
| **Agency Name** | Sarpy County | **Contact Person Title** | Highway Superintendent |
| **Contact Person Name** | Rich Weber | **Address Line 1** | 15100 S 84th St |
| **E-mail** | weberr@sarpy.com | **Address Line 2** | Papillion, NE |
| **Phone Number** | (402) 537-6912 | **zip code** | 68046 |
| **NACO District** | **Southeast** | | |

| | |
|---|---|
| **Proposal Name / Location** | 75th St. / 120th St. |
| **Multi-County Proposal** | No |
| **Proposal Priority Number** | 3 |

| **Instructions** |
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| **required input** |
| changes allowed |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C007703105P** | 46 | 3.8S PAPILLION at STREAM | Sarpy | 46.00 | 17.00 | Steel Truss - Thru | Local |
| **C007702505** | 72 | 1.5E 1.4S SPRINGFIELD at STREAM | Sarpy | 51.00 | 17.00 | Steel Truss - Thru | Local |
| **Add a Structure?** | | | | | | | |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C007703105P | No | No | 200 |
| C007702505 | No | No | 100 |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C007703105P | Replace | Prestressed Concrete Girder | 55.00 | 30.00 | Contract | $250,000 | $95,652 | Simple Span |
| C007702505 | Replace | Prestressed Concrete Girder | 60.00 | 30.00 | Contract | $275,000 | $104,348 | Simple Span |
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| | | | * **Length and Width not required for Culverts.** | | total | $525,000 | $200,000 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

This Proposal combines 2 structures in Sarpy County. Both existing structures are Fracture Critical, single span, steel pony truss structures. These structures will be replaced with a single span PPCB bridge. NU girders, inverted T beams, or other prestressed beam units will be considered to most economically meet hydraulic design criteria while limiting any potential grade raise which would add to the project costs.

The design of these structures will utilize standard design elements familiar to contractors in the state of Nebraska.

Innovative elements of this proposal include the bundling of the 2 projects to realize cost savings benefits of a single contractor. The relative proximity of the 2 structures will have the added benefit of reducing mobilization costs within the construction schedule.

Due to the limited access to S. 75th Street south of the bridge location, interruption of traffic flows during construction will have a big impact on local traffic flows. The use of Accelerated Bridge Construction (ABC) techniques for the design of this bridge will be considered during the design phase. The nature of the simple span structure will allow for several innovative techniques to be considered. These include the use of precast abutment units or precast superstructure and deck unit combinations. Limiting the duration of the bridge closure will be critical to the success of the bridge replacement project.

It will be the intent of these designs to minimize or remove completely any impacts to the local stream. The simple span structures will not require any construction activity within the channel limits reducing construction cost and complexity. This will also eliminate the potential for impacts to wetlands which will also reduce the effort needed to permit the projects.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

The use of standard bridge design elements and a design that does not require pier substructure units will save both time and money for this project. The savings applies both to the design of the structure and the construction phase. A single span design eliminates the need for falsework that would be required for slab bridges and RCB culverts.

The potential use of ABC methods noted above would have the benefit of limiting time impacts to the traveling public and local residents. Knowledge gained from these practices on this project would only improve their potential for use on future projects while increasing the efficiency and reducing costs of such practices.

The elimination of a load posted, single span structure and replacement with a structure meeting all current design specifications will improve traffic flow and eliminate the need for alternative routes for truck traffic to an area that is expanding and vital to the growth of Sarpy County.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

The use of standard bridge design elements for a bridge replacement increases the efficiency and expertise of bridge contractors. Increased familiarity with the design will have a beneficial impact on bridge replacements throughout the state utilizing similar standard design elements.

Any knowledge gained through the use of innovative design techniques could be shared at the State and Local levels through a post construction review. Cooperation with the Association of General Contractors will provide beneficial information to any and all contractors that may implement these techniques throughout the state. A presentation of the project goals and knowledge gained could be shared through a presentation at the NACO winter conference after the project is completed.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The biggest savings is realized in the elimination of two existing Fracture Critical thru truss bridges. Maintenance costs of new PPCB bridges is essentially zero for the foreseeable future. The structure will no longer require the extensive Fracture Critical inspection techniques required for thru truss bridges.

The replacement design will review the need to protect the channel through the use of riprap and other grade control measures, eliminating any continued degradation of the channel in the project vicinity and protecting all residential developments directly upstream of the structure.

The proposed bridge will be of adequate width for the existing roadway traffic volume, improving on the reduced width (one-lane) of the existing structures. The new structure will also remove the existing load postings required and eliminate the need for alternative truck routes.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

These bridge locations are vital to the continued growth of Sarpy County. Being one of the few areas in the state with an increasing population, it is necessary to replace aging infrastructure in areas that will continue to grow. With the replacement of one lane, load posted bridges in an area of with significant development potential, user safety will be greatly improved. The potential impacts to the County with the continued deterioration of the existing structure and its closure in the near future would have devastating impacts to local traffic and require an emergency replacement that would be neither cost efficient or innovative in nature. The ability to replace this structure at this time is significant in that it will be replaced under controlled conditions and not due to unforeseen influences outside of the County's control.

Sarpy County is currently planning improvements to the South half of the County with the installation of a new Waste Water Treatment Plant and water resources infrastructure. Continual updating and replacement of the roadway system infrastructure is needed to keep pace with planned growth and development. These projects align with the goal of providing for infrastructure improvements that support the growth of the community and enhance quality service to County residents, as noted in the Sarpy County Strategic Plan.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**100%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

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|---|---|---|---|
| **Applying County** | **Saunders** | **Date of Application** | **11/29/2018** |
| **Agency Name** | **Saunders County** | **Contact Person Title** | **Highway Superintendent** |
| **Contact Person Name** | **Steve Mika** | **Address Line 1** | **426 N Broadway** |
| **E-mail** | **smika@co.saunders.ne.us** | **Address Line 2** | **Wahoo, NE** |
| **Phone Number** | **(402) 443-8124** | **zip code** | **68066** |
| **NACO District** | **Southeast** | | |

| | |
|---|---|
| **Proposal Name / Location** | CBMP2018 - C007804505 |
| **Multi-County Proposal** | No |
| **Proposal Priority Number** | 1 |

| **Instructions** |
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| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C007804505** | | .9S 2.5W OF MEMPHIS at MOSQUITO CREEK | Saunders | 40.00 | 16.00 | Steel Girder and Floorbeam System | Local |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C007804505 | No | No | 30 |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C007804505 | Replace | Precast Deck Panels | 91.75 | 28.00 | Contract | $406,217 | $150,000 | 3-Span Concrete Deck Slab Bridge |
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| | | | * Length and Width not required for Culverts. Please provide culvert size in comments. | | total | $406,217 | $150,000 | OK |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Pre-cast deck panel bridges are a quickly constructed, cost-effective replacement alternative for deficient bridges in the State of Nebraska.
The design, fabrication, and construction process is streamlined with the utilization of standard plan and construction practices with typical bridge construction completed within 6 weeks.
An experienced pool of contractors active in Nebraska results in a competitive environment, reducing replacement structure cost to Counties.
The fabrication of the combination driving surface/structural beam at an off-site location reduces construction time significantly. There are currently a number of local suppliers that can produce the deck slab units which can easily be installed by most experienced bridge crews. Contractor innovation of the construction process continues to reduce the required time and material expenditures, reducing overall cost to the owner.
Pre-cast concrete deck slab units provide additional benefits regarding permitting and design. Bridge submergence is common and acceptable on the rural county roadways of Nebraska. Low superstructure height reduces the road grading requirements and environmental impacts are minimized by reducing or eliminating channel modification. Permitting requirements are minimized, accordingly.
This project will utilize an innovative, new pre-cast segmental panel back-wall/wing-wall design in lieu of standard sheet pile construction. The new design technique will allow contractors the ability to fabricate the panels "in-house" and eliminate the sheet pile requirements for deck slab bridges. A time/cost saving is anticipated with refinement of the process.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Pre-cast deck slab bridges are typically significantly less costly than traditional cast in place or girder bridges, with cost savings of in the order of 20-25%.
The counties of Nebraska rarely use de-icing agents therefore steel sheet pile abutments are often utilized as a quick, economical alternative to reinforced concrete. The lack of field cast concrete, which requires curing and is susceptible to weather delay reduces replacement structure installation time.
In general, heavy equipment requirements are minimized, as most construction can be performed with smaller equipment.
Installation time is typically in 6-weeks or less, which is typically half the time of traditional bridges. This results in lower overall cost and a reduction of impacts to the traveling, agricultural, and commodity community.
Additional saving's are realized throughout the bridges' anticipated life-span, expected beyond 75 years, in costs associated with general maintenance and repair.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Pre-cast deck slab bridge design and construction is a standardized process in the State of Nebraska, information regarding the process can easily be shared and repeated within other Counties.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The structure is considered extremely durable and expected to require minimal maintenance over it's expected use beyond 75 years.
The County expends considerable resources to complete the required maintenance activities on deficient bridges including the replacement and repair of timber/concrete decks, abutment back wall, pile, wing, stringer, and guardrail. Additional costs are associated with bank stabilization (scouring) and the backfill of roadway settlement. Replacement with this type of structure will reduce or eliminate many of these costs of time, material and labor.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In general, each stream crossing is significant to the local individuals, communities and agricultural related activities occurring in rural Nebraska. The width and weight restrictions of structurally deficient bridges may limit the required access to property and create an inconvenience to the residents of the area who utilize them daily, or during agriculturally related "heavy traffic" times of the year. Additionally, these rural roadways may function as a vital route for localized traffic between the smaller communities of the area. Specifically, this project provides the following functions to the local individuals, Saunders County and the State of Nebraska:

C007804505:
The structure/roadway is used as bus and emergency service routes.
The detour for the structure is 6 miles for restricted traffic and is considered excessive.
The structure is utilized for agricultural production and local traffic. Agricultural operations utilize the roadway as a "farm to market" route.
The structure provides continuity to other recently completed projects in the area, including structure C007804305P constructed in 2018.
The structure is considered "necessary" to the area. The roadway is a main access to an arterial paved roadway.
The existing structure is fracture and scour critical and has a low load rating.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**100%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Cuming** | **Date of Application** | **11/28/2018** |
| **Agency Name** | **Cuming County** | **Contact Person Title** | **Highway Superintendent** |
| **Contact Person Name** | **Chris Howser** | **Address Line 1** | **200 S Lincoln Rm 202** |
| **E-mail** | **chowser@cumingcounty.ne.gov** | **Address Line 2** | **West Point, NE** |
| **Phone Number** | **(402) 380-2582** | **zip code** | **68788** |
| **NACO District** | **Northeast** | | |

| | |
|---|---|
| **Proposal Name / Location** | CBMP2018 - C002000807, C002000823, C002000727, C002001215 |
| **Multi-County Proposal** | No |
| **Proposal Priority Number** | 2 |

| **Instructions** |
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| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C002000807** | | JCT US275/N15 2N 1.98E at STREAM | Cuming | 25.00 | 28.50 | Steel Stringer/Multi-beam or Girder | Local |
| **C002000823** | | JCT N9/N51 3N .75W at STREAM | Cuming | 25.00 | 28.50 | Steel Stringer/Multi-beam or Girder | Local |
| **C002000727** | | 3W 1.75N OF ALOYS at STREAM | Cuming | 25.00 | 28.60 | Steel Stringer/Multi-beam or Girder | Local |
| **C002001215** | | 2N OF WISNER at STREAM | Cuming | 30.00 | 28.60 | Steel Stringer/Multi-beam or Girder | Local |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C002000807 | No | No | 45 |
| C002000823 | No | No | 20 |
| C002000727 | No | No | 60 |
| C002001215 | No | No | 50 |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C002000807 | Rehab | Not Applicable | | | County Forces | $10,000 | $5,500 | Bracing |
| C002000823 | Rehab | Not Applicable | | | County Forces | $10,000 | $5,500 | Bracing |
| C002000727 | Rehab | Not Applicable | | | County Forces | $10,000 | $5,500 | Bracing |
| C002001215 | Rehab | Not Applicable | | | County Forces | $10,000 | $5,500 | Bracing |
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| | | | * **Length and Width not required for Culverts. Please provide culvert size in comments.** | | total | $40,000 | $22,000 | OK |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

The intent of the proposal is to remove several bridges from the structurally deficient list by performing only the rehabilitation work required. The bridge bracing will be installed by County forces and will require minimal material and construction costs. The rehabilitation components will be pre-fabricated and assembled on-site. Road closure, due to construction activities will be kept to a minimum. These design modifications will prolong the useful life of the existing structures that are, otherwise in acceptable condition.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

The required modifications (bracing) will improve the structural evaluation, which will remove each structure from the Structurally Deficient list. The existing structures are considered to be in satisfactory condition, otherwise making replacement at this time unnecessary. The proposed modifications' design, material, construction and time costs are significantly less that those required for a replacement structure. Bridge "out of service" time is minimized, reducing the impacts to the local community.

| Criteria 3 – Sustainability or transferability of innovation (0-10 points) |
| --- |
| **Describe how the innovation can be shared and used by other Counties.** |
| The bracing design and construction methods utilized can easily be shared.  Standardized plans can be modified for site specific requirements for use in all Counties. |

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The required bracing will provide additional stability to the structure, reducing wear that will necessitate repair. The modifications will extend the life of the existing bridges and replacement should not be required well into the future. The proposal will require minimum expenditure of time, cost, material and construction to extend the life, and provide use-able existing bridges to the local agricultural and commodity community.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In general, each stream crossing is significant to the local individuals, communities and agricultural related acitivities occurring in rural Nebraska. The width and weight restrictions of structurally deficient bridges may limit the required access to property and create an inconvienance to the residents of the area who utilize them daily, or during agriculturally related "heavy traffic" times of the year. Additionally, these rural roadways may function as a vital route for localized traffic between the smaller communities of the area. Specifically, this project provides the following functions to the local individuals, Cuming County and the State of Nebraska:

C002000807:
The roadway/bridge is primarily utilized for rural (farm and feedlot) agricultural operation traffic. Significant heavy traffic utilizes the route as it provides access to Highway 15.
This structure is considered "necessary" to the local traffic. Agricultural traffic is restricted because of an inadequate weight limit (posting) and narrow width.

C0020000823, C002000727:
The detour route lengths are 4 miles for un-restricted traffic.
The roadway/bridges are primarily utilized for rural (farm and feedlot) agricultural operation traffic. Several of the largest feedlot operations in the County operate in the general area of the bridges. Operation traffic must detour around the bridges due to their low tonnage.
These structure's are considered “necessary” to the local, commercial and agricultural traffic. Increases in the rating via bracing will improve the transport of commercial and agricultural traffic and provide a significant benefit to the areas business and residents.

C002001215:
The roadway/bridge is primarily utilized for rural (farm and feedlot) agricultural operation traffic. Several feedlots operate in the general area. Significant heavy traffic utilizes the route in support of these operations.
The structure is considered “necessary” to the local traffic. Currently, most agricultural and commercial traffic is restricted because of an inadequate weight limit (posting). Electric utility maintenance during emergencies requires heavy truck traffic access. Increases in rating via bracing will improve the transport of commercial and agricultural traffic and provide a significant

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**77%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Cuming** | **Date of Application** | **11/29/2018** |
| **Agency Name** | **Cuming County** | **Contact Person Title** | **Highway Superintendent** |
| **Contact Person Name** | **Chris Howser** | **Address Line 1** | **200 S Lincoln Rm 202** |
| **E-mail** | **chowser@cumingcounty.ne.gov** | **Address Line 2** | **West Point, NE** |
| **Phone Number** | **(402) 380-2582** | **zip code** | **68788** |
| **NACO District** | **Northeast** | | |

| | |
|---|---|
| **Proposal Name / Location** | CBMP2018 - C002014445, C001100110 |
| **Multi-County Proposal** | Yes |
| **Proposal Priority Number** | 3 |

| **Instructions** |
|---|
| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C002014445** | | 3S 7E OF WEST POINT at STREAM | Cuming | 30.00 | 28.70 | Steel Stringer/Multi-beam or Girder | Collector |
| **C001100110** | | 4S N32 CUMING CL at STREAM | Burt | 30.00 | 24.50 | Steel Stringer/Multi-beam or Girder | Local |

## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C002014445 | No | No | 50 |
| C001100110 | No | No | 75 |

## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C002014445 | Replace | Concrete Box Culvert | | | Contract | $163,592 | $89,975 | 3- 12'x8'x40' CBC |
| C001100110 | Replace | Concrete Box Culvert | | | Contract | $213,465 | $117,406 | 3- 12'x12'x40' CBC |
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| | | | * **Length and Width not required for Culverts.** | | total | $377,057 | $207,381 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Concrete box culverts are a cost-effective alternative for the replacement of deficient bridges in the State of Nebraska.
The design and construction process is streamlined with the utilization of standard plan and construction practices. An experienced pool of contractors active in Nebraska results in a competitive environment, reducing replacement structure construction cost to counties.
Typical concrete box culvert construction is completed within 60 calendar days which minimizes the impact to local resident, agricultural and commercial traffic.
Historically, concrete box culvert maintenance activities and costs are minor in comparison to other replacement structures.
Load and/or equipment restricting guardrail is typically not required which is particularly beneficial to local and regional agricultural and commodity transportation.
A considerable number of streams in the eastern part of Nebraska are significantly degraded. Proper box culvert design is often utilized to stabilize the streambed and adjacent banks upstream of the structure.
This proposal is being submitted by multiple counties, in a cooperative effort to streamline the design, bid, and build process through project bundling. Innovative, because counties have not actively reached across established map lines in the name of cooperation and efficiency. Additionally, it is presumed that bundled project bids will result in lower pricing due to their regional nature.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Concrete box culverts are cost effective and an efficiently constructed alternative to an expensive bridge replacement.
Standardized design and construction practices provide a significant cost and time savings to the owner.
Guardrail is typically not required, therefore no material, construction, or maintenance costs for guardrail are associated with the project.
Additional savings are realized throughout the culvert's anticipated life-span, expected beyond 100 years, in costs associated with general maintenance and repair.
It is anticipated that each county in the bundling package will recognize savings in engineering and construction costs by awarding the contract to a single contractor with one set of contract documents. Flexibility is gained by the contractor by having multiple sites in the same geographic area to allocate time, equipment, and other resources.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Box culvert standardization of design and construction can be utilized by all Counties in Nebraska. The process of collaboration can easily be shared and is available to all Counties. A derivative of the cooperation between counties will likely be education, through the exchange of ideas that will occur throughout the process. The engaged entities will discuss and implement what has/hasn't been efficient or successful and incorporate those "lessons learned" into future replacement projects.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The use of concrete box culvert replacement structures provides significant long-term maintenance cost savings.
The structure is considered extremely durable and expected to require minimal maintenance over it's expected use, beyond 100 years.
The lack of guardrail facilitates the ease of mowing and snow plow operations. There are no costs associated with guardrail maintenance, if damaged.
Maintenance activities and costs associated with deck repair are non-existent over the life of the culvert.
If the concrete box culvert is utilized to control a degraded stream, there are significant benefits to upstream structures in the basin. Maintenance and/or replacement of these structures can be minimized or eliminated due to the positive effects of stream stabilization.
The County expends considerable resources to complete the required maintenance activities on deficient bridges. Normal operations include the replacement and repair of timber/concrete decks, abutment back-wall, pile, wing, stringer, and guardrail. Additional costs are associated with bank stabilization (scouring) and the backfill of roadway settlement. Replacement with this type of structure will eliminate many of these costs of time, material and labor.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In general, each stream crossing is significant to the local individuals, communities, agricultural and commerce related activities occurring in rural Nebraska.
The width and weight restrictions of structurally deficient bridges may limit the required access to property and create an inconvenience to the residents of the area who utilize them daily, or during agriculturally related "heavy traffic" times of the year.
Additionally, these rural roadways may function as a vital route for localized traffic between the smaller communities of the area. Specifically, this project provides the following functions to the local individuals, Cuming/Burt Counties, and the State of Nebraska:

C002014445:
The structure/roadway is used as a bus route for West Point and Oakland schools.
The structure/roadway is an emergency services route. While not the only route to access, it is the best roadway into the area for emergency vehicles.
The detour for the structure is 4 miles to un-restricted traffic. Bridge posting restrictions require current agricultural equipment detour during planting and harvesting.
The road is used heavily by the traveling public to travel to local villages including West Point, Oakland, and Uehling (all within a 10 mile radius).
The structure is utilized heavily by agricultural operations and is a "farm to market" route. If replaced, it would be utilized significantly more often.
The structure provides continuity to other recently completed projects on the route. Due to its location near the county line, is used by multiple villages in the area.

C001100110:
The structure/roadway are used as mail and bus routes.
The detour for the structure is 4 miles to un-restricted traffic.
The structure sees use mainly from agricultural operations in the area, along with residential traffic from multiple households in the area.
The structure is along a "farm to market" route for local farmers, and provides continuity to Highway 32.
The structure lies on the county line, and is used by residents from Cuming County as well.
The structure is considered "necessary" to the local area, as it provides access to local residences, and provides farmers with easier access to the many agricultural fields in the vicinity.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**87%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Dodge** | **Date of Application** | **11/6/2018** |
| **Agency Name** | Dodge County | **Contact Person Title** | Highway Superintendent |
| **Contact Person Name** | Scott Huppert | **Address Line 1** | 435 N Park |
| **E-mail** | dodgecoroads@hotmail.com | **Address Line 2** | Fremont, NE |
| **Phone Number** | (402) 727-2722 | **zip code** | 68025 |
| **NACO District** | **Northeast** | | |

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|---|---|
| **Proposal Name / Location** | Dodge/Washington Priority No. 1 |
| **Multi-County Proposal** | Yes |
| **Proposal Priority Number** | 1 |

| **Instructions** |
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| **required input** |
| changes allowed |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C002702125** | 203 | Rd. 11 Bet. M & N at MAPLE CREEK | Dodge | 137.00 | 24.00 | Steel Girder and Floorbeam System | Local |
| **C002714507** | 143 | Yager Rd. Bet. S & T at DITCH #7 | Dodge | 24.00 | 30.40 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C008902010** | C8902010 | 1N 1.2E FONTANELLE at BROWN CREEK | Washington | 56.00 | 19.30 | Steel Girder and Floorbeam System | Local |
| **C008912040** | C89-12040 | 2.4W BLAIR at STREAM | Washington | 24.00 | 16.00 | Steel Stringer/Multi-beam or Girder | Local |
| **C008902403** | C-8902403 | .4E 4.5N ARLINGTON at LITTLE BELL CREEK | Washington | 66.00 | 16.00 | Steel Truss - Thru | Local |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic | |
|---|---|---|---|---|
| C002702125 | No | No | 20 | **C002702125 is also on N2 Dodge Co P2** |
| C002714507 | No | No | 300 | |
| C008902010 | No | No | 50 | **C008902010 is also on N2 Washington Co P2** |
| C008912040 | No | No | 15 | |
| C008902403 | No | No | 35 | **C008902403 is also on N2 Washington Co P2** |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C002702125 | Rehab | Steel Girder | 137.00 | 28.33 | Contract | $350,000 | $150,000 | Remove Fracture Critical Span and replace span with Steel Girder |
| C002714507 | Replace | Concrete Box Culvert | 0.00 | 0.00 | Contract | $175,000 | $96,250 | Twin 12'x5'x60' Concrete box culvert |
| C008902010 | Replace | Concrete Box Culvert | 0.00 | 0.00 | Contract | $250,000 | $137,500 | Triple 14'x12'x34' Concrete Box Culvert |
| C008912040 | Rehab | Concrete Box Culvert | 0.00 | 0.00 | Contract | $150,000 | $82,500 | Twin 12'x5'x45 Concrete box culvert |
| C008902403 | Remove | Not Applicable | 66.00 | 16.00 | County Forces | $50,000 | $27,500 | Remove Structure |
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| | | | * **Length and Width not required for Culverts.** | | total | $975,000 | $493,750 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Dodge and Washington Counties are bundling 5 projects, 3 Concrete Box Culverts, 1 Bridge Rehabilitation project and 1 Bridge Removal that will remove the bridge from the bridge inventory system. It is believed that by bundling these projects will drive the construction cost down due to efficiencies in bidding, designing and construction.

Dodge County bridge C002702125 is a 3 span 137' bridge over Maple Creek. This creek is one of the major streams in the area. Replacing this bridge would cost in the vicinity of $1.3 million dollars but by rehabilitating the bridge, it can stay in service for years to come for less than $400,000. Initial inspections by engineers believe the center Fracture Critical thru girder span can be replaced with steel girders. This would make this bridge a 3 span steel girder and remove yet another Fracture Critical bridge from the state inventory.

Concrete Box Culverts are quickly becoming the workhorse for the county bridge system. These low cost and very low maintenance structures are being built by several different contractors across the state. 2 of the proposed box structures have the same span and height configuration which will make for efficient construction and familiarity from box to box. These structures are practically maintenance free and show very few problems if constructed and designed properly.

This proposal removes 4 Fracture Critical Bridges and a timber bridge from the inventory system. Fracture Critical and Timber bridges are known to be high maintenance. In addition to the risk of failure of these bridges, the semi-annual bridge inspection cost will be greatly reduced from the cost of the Fracture Critical Bridge inspections.

Washington County Proposes to remove structure C008902403, a Fracture Critical truss bridge. County Forces plan to remove the structure from the site and also remove the structure from the NBIS.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

1) Two of the proposed box culverts have the same span and rise, a contractor can utilize the same forms from one box to the other. In addition, crews quickly become accustomed to how the forming, shoring and false work needs to be done and greatly increases efficiency for the second box culvert.

2) The rehabilitation of the C002702125 will greatly reduce time due to the existing substructure being utilized, thus saving the time and cost for the construction of the substructures. In addition, by rehabilitating this structure, it will save on replacement cost of $1.3 million dollars. This Structure is on a main route for farm to market. Currently, the bridge has an 8 ton limit. By having this bridge un-posted will enable the area truckers a shorter route to their destination.

3) The bundling of the projects will enable both counties to receive the following:
• Efficiencies in lettings advertisements (fewer lettings)
• Group pricing of projects that a contractor passes on in the bid price
• Efficiencies in project management
• By a contractor having a group of projects, they can schedule their projects efficiently knowing what projects they have on their books and not having to bid on as many single site projects

| Criteria 3 – Sustainability or transferability of innovation (0-10 points) |
| --- |
| **Describe how the innovation can be shared and used by other Counties.** |
| Washington and Dodge Counties will share the results of the bundling process to others so that they can determine if the process works for them. Dodge and Washington Counties have been discussing bundeling of projects in the future. Both counties have projects adjacent to the county line that can be bundled. |

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

This proposal removes 4 Fracture Critical Bridges and 1 timber bridge from the inventory system. Fracture Critical and Timber bridges are known to be high maintenance. In addition to the risk of failure of these bridges, the semi-annual bridge inspection cost will be greatly reduced from the cost of the Fracture Critical Bridge inspections.

C008902010, C008912040 and C002714507will be replaced with Concrete Box Culverts. The Concrete Box Culvert has quickly become the main staple of the county infrastructure system. These structures can be built by many different contractors with minimal equipment. These structures are practically maintenance free and show very few problems if constructed and designed properly.

C002702125 spans Maple Creek. This structure is an open pile steel sub structure. Maple Creek carries tree debris from its very large drainage area. As a result, this debris becomes entangled in the substructure and Dodge County employees then have to remove the debris from the substructure. As part of this proposal, the bents will be evaluated to be partially encased in concrete 10' to 15' above flow line of Maple Creek to alleviated flood debris from being entangled. This will save the county time and money not having to clear debris from the structure after a storm event.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In Dodge County, C002702125 over the Maple Creek is a major structure to Dodge County. This structure carries traffic from the local farming community. This particular Road is one of a few that runs the entire length of the county from hwy 91 on the north end to the Platte River on the south. In addition, this road will also connect to the new highway 30 approximately 5.25 miles to the south.

C002714507: With City of Fremont set for expansion with the construction of the new Costco chicken facility, commercial and residential property has been expanding around the City of Fremont. C002714507 is on the edge of Fremont and located on Yaeger Road just 0.30 miles north of hwy 30. Yaeger Road is one of the only roads that passes UNDER highway 30, thus not needing to cross traffic on highway 30. There are plans for future development for both residential and commercial in this area. Currently, this road has an ADT of 300 vehicles per day. Replacing this structure is significant step in promoting this growth in Dodge County.

Washington County structure C008902010 will be yet another fracture critical bridge that the county removes from its list. Washington County has made great strides in replacing the fracture critical bridges within it's system. Once this structure is removed, Washington County will have only 8 fracture critical bridges left in its system. Currently the county has 2 replacements under contract for construction and 3 other fracture critical bridge replacements under design.

Washington County structure C008912040 services 2 residents plus the farming community. The existing bridge is a narrow 15.9 foot clearance and is posted at 11 tons. The county would like to replace this structure to make the crossing safer and eligible for heavier and wider loads to cross.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**100%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

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|---|---|---|---|
| **Applying County** | **Madison** | **Date of Application** | **11/29/2018** |
| **Agency Name** | **Madison County** | **Contact Person Title** | **Highway Superintendent** |
| **Contact Person Name** | **Richard Johnson** | **Address Line 1** | **707 Michigan Ave** |
| **E-mail** | **rcj@cableone.net** | **Address Line 2** | **Norfolk, NE** |
| **Phone Number** | **(402) 371-1255** | **zip code** | **68701** |
| **NACO District** | **Northeast** | | |

| | |
|---|---|
| **Proposal Name / Location** | CBMP2018 - C005912410, C005903450, C007100319, C001910850 |
| **Multi-County Proposal** | Yes |
| **Proposal Priority Number** | 1 |

| **Instructions** |
|---|
| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C005912410** | | 4.5S 6.5W OF BATTLE CREEK at DRAINAGE WAY | Madison | 25.00 | 20.30 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C005903450** | | 1N 1.5E OF MADISON at STREAM | Madison | 30.00 | 18.30 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C007100319** | BF 19-3 | JCT N45/N91 2W 6.7S at STREAM | Platte | 30.00 | 30.00 | Steel Stringer/Multi-beam or Girder | Other Arterial |
| **C001910850** | A-22-2.2 | 1.2S 2.2E OF HOWELLS at STREAM | Colfax | 30.00 | 16.30 | Steel Stringer/Multi-beam or Girder | Local |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C005912410 | No | No | 55 |
| C005903450 | No | No | 55 |
| C007100319 | No | No | 105 |
| C001910850 | No | No | 40 |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C005912410 | Replace | Culvert Pipes | | | County Forces | $71,400 | $39,270 | 3- 96"x40' CMPS |
| C005903450 | Replace | Culvert Pipes | | | County Forces | $66,912 | $36,802 | 3- 84"x42' CMPS |
| C007100319 | Replace | Culvert Pipes | | | County Forces | $84,240 | $46,332 | 3- 108"x40' CMPS |
| C001910850 | Replace | Culvert Pipes | | | County Forces | $66,912 | $36,802 | 3- 84"x42' CMPS |
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| | | | * Length and Width not required for Culverts. Please provide culvert size in comments. | | total | $289,464 | $159,206 | OK |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Corrugated metal culvert pipes are a cost-effective replacement alternative for deficient bridges in the State of Nebraska.
The design and construction process is streamlined with the utilization of standard plan and construction practices.
Local culvert suppliers are available and competitive, often resulting in cheaper material prices to the County.
Culvert construction will be completed by County forces, an innovative approach that reduces cost and utilizes the local County assets.
Typical culvert pipe construction can be completed within 1-2 weeks which minimizes the impact to local resident, agricultural and commercial traffic.
Corrugated metal culvert pipe's primary innovation is the simplicity of their design and construction. Metal culvert pipes, with prefabricated headwall & turndowns are quickly and easily installed by most experienced road crews. Additional innovations include; the use of standardized sheet pile and cable tie-back retaining systems, relative ease of transporting and off-loading materials, utilization of 3 x 1 and 5 x 1 corrugation (resulting in stronger culverts and a reduction in wall thickness) and inlet and outlet aprons (scour reduction.)
Historically, culvert maintenance activities and costs are minor in comparison to other replacement structures. Load and/or equipment restricting guardrail is typically not required which is particularly beneficial to regional agricultural and commodity transportation.
A considerable number of streams in the eastern part of Nebraska are significantly degraded. Proper culvert design is often utilized to stabilize the streambed and adjacent banks upstream of the structure.
The replacement's required size may remove the structure from the bridge inventory.
This proposal is being submitted by multiple counties, in a cooperative effort to streamline the design, bid, and build process through project bundling. Innovative, because counties have not actively reached across established map lines in the name of cooperation and efficiency.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Corrugated metal culvert pipes are a cost effective and efficiently constructed alternative to an expensive bridge replacement.
Standardized design and construction practices provide a significant cost and time savings to the owner.
Culvert construction will be completed by County forces resulting in a considerable cost and time savings. Another advantage of using county forces is that the county can have control over when the work is done, enabling them to work around planting or harvesting season to limit the disruption to nearby farming operations.
Guardrail is typically not required, therefore no material, construction, or maintenance costs for guardrail are associated with the project.
Additional savings are realized throughout the culvert's anticipated life-span (50-75 years) in costs associated with general maintenance and repair.
Culvert pipe replacement structures are generally simpler and relatively inexpensive when compared to box culverts or bridges. Typical culvert pipe construction (including removal of the existing structure) can be completed within 1-2 weeks resulting in lower direct project costs (overall) and minimizes the impact to local resident, agricultural and commercial traffic.
Removal of a structure from the bridge inventory would save time and costs associated with general management and inspection.
It is anticipated that each county in the bundling package will recognize savings in engineering and construction costs. Design fees for a standard culvert crossing is significantly less costly than a traditional bridge or concrete box culvert. The bidding of a "materials, only" bundled project reduces the monetary and time costs associated with the contracting process.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Corrugated metal culvert pipe standardization of design and construction can be utilized by all Counties in Nebraska.
The process of collaboration between Counties can easily be shared and is available to all Counties. A derivative of the cooperation between counties will likely be education, through the exchange of ideas that will occur throughout the process. The engaged entities will discuss and implement what has/hasn't been efficient or successful and incorporate those "lessons learned" into future replacement projects. Successful results are easily conveyed to other Counties, culvert pipes provide a time-saving, quality product at low cost.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The use of corrugated metal culvert replacement structures provides significant long-term maintenance cost savings.
Properly sized corrugated metal culvert pipes are considered durable and expected to require minimal maintenance over their expected service life of 50-75 years.
The lack of guardrail facilitates the ease of mowing and snow plow operations. There are no costs associated with guardrail maintenance, if damaged.
Maintenance activities and costs associated with deck repair are non-existent over the life of the culvert.
If the culvert is utilized to control a degraded stream, there are significant benefits to upstream structures in the basin. Maintenance and/or replacement of these structures can be minimized or eliminated due to the positive effects of stream stabilization.
Removal of a structure from the bridge inventory would save time and costs associated with general management and inspection.
The County expends considerable resources to complete the required maintenance activities on deficient bridges. Normal operations include the replacement and repair of timber/concrete decks, abutment back-wall, pile, wing, stringer, and guardrail. Additional costs are associated with bank stabilization (scouring) and the backfill of roadway settlement. Replacement with this type of structure will eliminate many of these costs' of time, material and labor.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In general, each stream crossing is significant to the local individuals, communities and agricultural related activities occurring in rural Nebraska. The width and weight restrictions of structurally deficient bridges may limit the required access to property and create an inconvenience to the residents of the area who utilize them daily, or during agriculturally related "heavy traffic" times of the year. Additionally, these rural roadways may function as a vital route for localized traffic between the smaller communities of the area. Specifically, this project provides the following functions to the local individuals, Madison/Platte/Colfax Counties, and the State of Nebraska:

C005912410:
The structure/roadway are used as bus and emergency service routes.
The detour for this structure is 4 miles for un-restricted traffic.
Local resident and agricultural equipment primarily utilize the structure/roadway.
Replacement of this structure would provide continuity across Madison County (east-west) with no posted bridges.

C005903450:
The structure/roadway are used as bus and emergency service routes.
The detour for this structure is 4 miles to un-restricted traffic.
The structure/roadway is utilized primarily for agricultural traffic. Due to the close proximity to Madison; commercial traffic use is increasing to support agricultural operations.
The replacement of this structure would provide an un-restricted roadway from HWY81 to the Stanton County Line.

C007100319:
The structure/roadway is used as an emergency services route.
The detour for this structure is 4 miles to un-restricted traffic.
The structure provides access to a hog confinement facility and 2 residences in the mile. The roadway/bridge is utilized for commercial/agricultural operations in the area.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**85%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Pierce** | **Date of Application** | **11/27/2018** |
| **Agency Name** | Pierce County | **Contact Person Title** | Highway Superintendent |
| **Contact Person Name** | Brian McDonald | **Address Line 1** | PO Box 159 |
| **E-mail** | bmcdonald@jeo.com | **Address Line 2** | Norfolk, NE |
| **Phone Number** | (402) 371-6416 | **zip code** | 68701 |
| **NACO District** | **Northeast** | | |

| | |
|---|---|
| **Proposal Name / Location** | Randolph Southwest |
| **Multi-County Proposal** | No |
| **Proposal Priority Number** | 1 |

| **Instructions** |
|---|
| **required input** |
| changes allowed |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C007004130** | | 4S 1E OF MCLEAN at YANKTON SLOUGH | Pierce | 59.00 | 20.60 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C007001820** | | 4S 1.5E OF MCLEAN at YANKTON SLOUGH | Pierce | 46.00 | 16.00 | Steel Truss - Thru | Local |
| **Add a Structure?** | | | | | | | |

## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C007004130 | No | No | 50 |
| C007001820 | No | No | 25 |

**C007001820 is also on N2 Pierce Co P2**

## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C007004130 | Replace | Precast Deck Panels | 60.00 | 28.00 | Contract | $350,000 | $100,000 | add optional information |
| C007001820 | Replace | Precast Deck Panels | 60.00 | 28.00 | Contract | $350,000 | $100,000 | add optional information |
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| | | | * Length and Width not required for Culverts. Please provide culvert size in comments. | | total | $700,000 | $200,000 | OK |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

The county is proposing to bundle 2 precast concrete plank bridges located within a half of a mile of each other. This will streamline the bidding process by only requiring one project specification and minimize contractor mobilization costs. It will allow the contractor to work both structures at one time or allow them maximum flexibility in utilizing their crew. Work sequencing would allow the earthwork and removal on the second site to begin while the bridge is installed at the first. The Precast bridge plank bridges are modular construction which minimize construction costs and times. The structures are low profile which also minimizes approach grading requirements.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

By bundling 2 structures of the same type in one letting, we are able to reduce engineering costs for the county and reduce contractor mobilization costs. It will also minimize material shipping costs by reducing the possibility for light delivery loads. The contractor also has more flexibility in his operation by having two sites to work. The precast plank construction is somewhat modular and will minimize construction times and costs. We have found that they are less costly than a comparable girder bridge and the low profile plank minimizes approach grading. Weather delays are also reduced as all concrete is shop poured off site.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

There are a number of manufactures producing concrete plank and there is an experienced pool of contractors able to build the structures. The design process is fairly standardized. All of these features have lead to a sustainable alternative for bridge replacement. The innovation is readibly transferable to other counties as the design and construction process is already in place.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

Structure C000201820 is a truss bridge that requires an expensive fracture critical bridge inspection every two years. The replacement will allow for a standard bridge inspection at significant cost savings. Our experience with the precast plank bridges on low volume roads has shown minimal maintenance. Pierce county installed their first precast plank bridge approximately 25 years ago on the main road to a gravel pit and to date has done no maintenance to the structure beyond inspection. The bridge is in great condition and the structure type has proven to be low maintenance in the long term.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

Currently school busses cannot cross the structures resulting in delay as they have to backtrack back to Highway 81. The route causes detours for a number of smaller farming operations and separates a 5000 unit hog operation from its feed grinding operation. We are aware of the structures being overloaded significantly in the past and have requested increased patrolling of the structure to prevent overloads. We are concerned that overload damage to the structures could result in safety issues for the traveling public.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**100%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

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|---|---|---|---|
| **Applying County** | **Wayne** | **Date of Application** | **11/28/2018** |
| **Agency Name** | **Wayne County** | **Contact Person Title** | **Highway Superintendent** |
| **Contact Person Name** | **Mark Casey** | **Address Line 1** | **510 Pearl St** |
| **E-mail** | **roads@wayne.nacone.org** | **Address Line 2** | **Wayne, NE** |
| **Phone Number** | **(402) 375-1153** | **zip code** | **68787** |
| **NACO District** | **Northeast** | | |

| | |
|---|---|
| **Proposal Name / Location** | CBMP2018 - C009001545, C008700705 |
| **Multi-County Proposal** | Yes |
| **Proposal Priority Number** | 2 |

| **Instructions** |
|---|
| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C009001545** | | 2W 2.7N OF CARROLL at STREAM | Wayne | 51.00 | 18.20 | Steel Truss - Thru | Local |
| **C008700705** | | 2W OF PENDER at STREAM | Thurston | 32.00 | 20.00 | Wood or Timber Stringer/Multi-beam or Girder | Local |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C009001545 | No | No | 30 |
| C008700705 | No | No | 40 |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C009001545 | Replace | Culvert Pipes | | | County Forces | $65,280 | $35,904 | 3-84" x 40' CMP's |
| C008700705 | Replace | Culvert Pipes | | | County Forces | $84,240 | $46,332 | 3-108" x 40' CMP's |
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| | | | * **Length and Width not required for Culverts. Please provide culvert size in comments.** | | total | $149,520 | $82,236 | OK |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Corrugated metal culvert pipes are a cost-effective replacement alternative for deficient bridges in the State of Nebraska.
The design and construction process is streamlined with the utilization of standard plan and construction practices.
Local culvert suppliers are available and competitive, often resulting in cheaper material prices to the County.
Culvert construction will be completed by County forces, an innovative approach that reduces cost and utilizes the local County assets.
Typical culvert pipe construction can be completed within 1-2 weeks which minimizes the impact to local resident, agricultural and commercial traffic.
Corrugated metal culvert pipe's primary innovation is the simplicity of their design and construction. Metal culvert pipes, with prefabricated headwall & turndowns are quickly and easily installed by most experienced road crews. Additional innovations include; the use of standardized sheet pile and cable tie-back retaining systems, relative ease of transporting and off-loading materials, utilization of 3 x 1 and 5 x 1 corrugation (resulting in stronger culverts and a reduction in wall thickness) and inlet and outlet aprons (scour reduction.)
Historically, culvert maintenance activities and costs are minor in comparison to other replacement structures. Load and/or equipment restricting guardrail is typically not required which is particularly beneficial to regional agricultural and commodity transportation.
A considerable number of streams in the eastern part of Nebraska are significantly degraded. Proper culvert design is often utilized to stabilize the streambed and adjacent banks upstream of the structure.
The replacement's required size may remove the structure from the bridge inventory.
This proposal is being submitted by multiple counties, in a cooperative effort to streamline the design, bid, and build process through project bundling. Innovative, because counties have not actively reached across established map lines in the name of cooperation and efficiency.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Corrugated metal culvert pipes are a cost effective and efficiently constructed alternative to an expensive bridge replacement.
Standardized design and construction practices provide a significant cost and time savings to the owner.
Culvert construction will be completed by County forces resulting in a considerable cost and time savings.
Guardrail is typically not required, therefore no material, construction, or maintenance costs for guardrail are associated with the project.
Additional savings are realized throughout the culvert's anticipated life-span (50-75 years) in costs associated with general maintenance and repair.
Culvert pipe replacement structures are generally simpler and relatively inexpensive when compared to box culverts or bridges. Typical culvert pipe construction (including removal of the existing structure) can be completed within 1-2 weeks resulting in lower direct project costs (overall) and minimizes the impact to local resident, agricultural and commercial traffic.
Removal of a structure from the bridge inventory would save time and costs associated with general management and inspection.
It is anticipated that each county in the bundling package will recognize savings in engineering and construction costs. Design fees for a standard culvert crossing is significantly less costly than a traditional bridge or concrete box culvert. The bidding of a "materials, only" bundled project reduces the monetary and time costs associated with the contracting process.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Corrugated metal culvert pipe standardization of design and construction can be utilized by all Counties in Nebraska.
The process of collaboration between Counties can easily be shared and is available to all Counties. A derivative of the cooperation between counties will likely be education, through the exchange of ideas that will occur throughout the process. The engaged entities will discuss and implement what has/hasn't been efficient or successful and incorporate those "lessons learned" into future replacement projects. Successful results are easily conveyed to other Counties, culvert pipes provide a time-saving, quality product at low cost.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The use of corrugated metal culvert replacement structures provides significant long-term maintenance cost savings.
Properly sized corrugated metal culvert pipes are considered durable and expected to require minimal maintenance over their expected service life of 50-75 years.
The lack of guardrail facilitates the ease of mowing and snow plow operations. There are no costs associated with guardrail maintenance, if damaged.
Maintenance activities and costs associated with deck repair are non-existent over the life of the culvert.
If the culvert is utilized to control a degraded stream, there are significant benefits to upstream structures in the basin. Maintenance and/or replacement of these structures can be minimized or eliminated due to the positive effects of stream stabilization.
Removal of a structure from the bridge inventory would save time and costs associated with general management and inspection.
The County expends considerable resources to complete the required maintenance activities on deficient bridges. Normal operations include the replacement and repair of timber/concrete decks, abutment back-wall, pile, wing, stringer, and guardrail. Additional costs are associated with bank stabilization (scouring) and the backfill of roadway settlement. Replacement with this type of structure will eliminate many of these costs' of time, material and labor.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

In general, each stream crossing is significant to the local individuals, communities and agricultural related activities occurring in rural Nebraska. The width and weight restrictions of structurally deficient bridges may limit the required access to property and create an inconvenience to the residents of the area who utilize them daily, or during agriculturally related "heavy traffic" times of the year. Additionally, these rural roadways may function as a vital route for localized traffic between the smaller communities of the area. Specifically, this project provides the following functions to the local individuals, Thurston/Wayne Counties, and the State of Nebraska:

C009001545:
The structure/roadway is used as mail and emergency service routes.
The detour for this structure is 8 miles due to weight restricted structures along other routes. This is considered excessive.
The structure is utilized by lighter weight agricultural and residential traffic. Large vehicle use is restricted by the existing structure posting and width.
Additional agricultural and commercial traffic would utilize the route if the structure was replaced.
The structure provides continuity to other recently completed projects in the area, including a box culvert 1.5 miles northwest of the project and a CMP/bridge replacement 0.5 miles west.
The area has multiple agricultural operations in the area (Wayne and Cedar County) that utilize the roadway/structure as a "farm to market" route.

C008700705:
The structure/roadway is not used as the primary bus route, but is utilized as an alternate.
The structure/roadway is utilized as a mail route.
The current detour for this structure is 10-12 miles due to other un-improved roads parallel to HWY14. This is considered excessive.
The structure is important to multiple agricultural operations in the area (Thurston County and the Omaha Indian Reservation) and local traffic.
It is used heavily for harvest traffic, grain and livestock transport, and livestock waste transport. Several livestock and grain operations utilize the route.
The structure is "necessary" to local traffic and provides continuity across both Thurston and Cuming Counties.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**87%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Custer** | **Date of Application** | **11/21/2018** |
| **Agency Name** | Custer County | **Contact Person Title** | Highway Superintendent |
| **Contact Person Name** | Chris Jacobsen | **Address Line 1** | 43700 Ryno Road |
| **E-mail** | custer@qwestoffice.net | **Address Line 2** | Broken Bow, NE |
| **Phone Number** | (308) 872-5132 | **zip code** | 68822 |
| **NACO District** | **Central** | | |

| | |
|---|---|
| **Proposal Name / Location** | Contractor County Collaboration, C0021-38305, -36010P, -16005P, -17205P, -45425, -38605, -19210, -58010P, -08505 |
| **Multi-County Proposal** | |
| **Proposal Priority Number** | 1 |

| **Instructions** |
|---|
| **required input** |
| changes allowed |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C002138305** | 12 | 3N 9E OF BROKEN BOW #12 at CLEAR CREEK | Custer | 52.00 | 29.90 | Steel Girder and Floorbeam System | Local |
| **C002136010P** | 244 | 1.5N 10E OF CALLAWAY #244 at ASH CREEK | Custer | 25.00 | 22.20 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C002116005P** | 502 | 2N 3.5E OF CALLAWAY #502 at SPRING CREEK | Custer | 33.00 | 20.60 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C002117205P** | 429 | 4S 4W OF CALLAWAY #429 at STREAM | Custer | 25.00 | 20.20 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C002145425** | 181 | 2NW BERWYN #181 at STREAM | Custer | 24.00 | 18.20 | Steel Stringer/Multi-beam or Girder | Local |
| **C002138605** | 565 | 1SE OF OCONTO at STREAM | Custer | 33.00 | 18.60 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C002119210** | 646 | 9S 5W OF MASON CITY #646 at CAT CREEK | Custer | 33.00 | 16.40 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C002158010P** | 528A | 11E 1.2N OF OCONTO #528A at DEER CREEK | Custer | 32.00 | 20.20 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C002108505** | 576A | 16E OF OCONTO #576A at STREAM | Custer | 24.00 | 20.20 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **Add a Structure?** | | | | | | | |

## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C002138305 | no | no | 35 |
| C002136010P | no | no | 30 |
| C002116005P | no | no | 20 |
| C002117205P | no | no | 25 |

| | | | |
|---|---|---|---|
| C002145425 | no | no | 30 |
| C002138605 | no | no | 25 |
| C002119210 | no | no | 20 |
| C002158010P | no | no | 30 |
| C002108505 | no | no | 30 |
| | | | |

## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C002138305 | Replace with new structure | multi-culvert | | | Contractor | $170,000 | $31,000 | Estimated 120" RE CMP's |
| C002136010P | Replace with new structure | multi-culvert | | | County | $95,000 | $17,500 | Estimated 84" RE CMP's |
| C002116005P | Replace with new structure | multi-culvert | | | Contractor | $150,000 | $27,000 | Estimated 96" RE CMP's |
| C002117205P | Replace with new structure | multi-culvert | | | County | $98,000 | $18,000 | Estimated 96" RE CMP's |
| C002145425 | Replace with new structure | multi-culvert | | | County | $95,000 | $18,000 | Estimated 84" RE CMP's |
| C002138605 | Replace with new structure | multi-culvert | | | Contractor | $160,000 | $29,000 | Estimated 108" RE CMP's |
| C002119210 | Replace with new structure | multi-culvert | | | County | $98,000 | $17,500 | Estimated 84" RE CMP's |
| C002158010P | Replace with new structure | multi-culvert | | | Contractor | $160,000 | $29,000 | Estimated 108" RE CMP's |
| C002108505 | Replace with new structure | multi-culvert | | | County | $70,000 | $13,000 | Estimated 48" CMP's |
| | | | | | | | | |
| | | | * **Length and Width not required for Culverts.** | | total | $1,096,000 | $200,000 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

The County by implementing the use of both Contractor & County forces to replace multiple structures in an expedited process is offering to replace as many SD structures as they feel possible under the CBMP time constraints while maximizing the financial interest of the County (80%) and distributing the financial obligation of the CBMP program (20%).

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

The County will implement time and costs savings by: 1) Constructing over half of the structures with County Forces; 2) Holding "Material Lettings" for all the structures including those constructed by Contractors, thus reducing elevated overhead costs implemented by contractors for the material; 3) Grouping of projects with material of similiar diameter CMP's into singular lettings for better pricing as it allows awared Manufactures markets of scale cost savings based on volume and the opportunity to pass on savings due to the manufacturing process of single set-up & tear-down time of same size CMP'S.

| Criteria 3 – Sustainability or transferability of innovation (0-10 points) |
| --- |
| **Describe how the innovation can be shared and used by other Counties.** |
| We currently have the letting documents for "Material Lettings" and "Contractor Labor & Equipment Only Lettings" on file. We have been doing it for years with noticeable success and cost savings. |

| Criteria 4 – Long Term Maintenance Savings (0-5 points) |
| --- |
| **Describe how this proposal promotes savings of long term maintenance costs.** |
| Removal of all wooden structures and replacing them with heavy gauge culvert metal pipes. |

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

The elimination of a large group of restrictive SD bridges which improves route deliver of commodities and efficiencies for the tax payers throughout the County.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**73%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

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|---|---|---|---|
| **Applying County** | **Hamilton** | **Date of Application** | **10/22/2018** |
| **Agency Name** | **Hamilton County** | **Contact Person Title** | **Highway Superintendent** |
| **Contact Person Name** | **Kenneth Pawling II** | **Address Line 1** | **1509 A Street** |
| **E-mail** | **hwy-supt@hamilton.net** | **Address Line 2** | **Aurora, NE** |
| **Phone Number** | **(402) 694-6184** | **zip code** | **68818** |
| **NACO District** | **Central** | | |

| | |
|---|---|
| **Proposal Name / Location** | Hamilton/York Co |
| **Multi-County Proposal** | Yes |
| **Proposal Priority Number** | 1 |

| **Instructions** |
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| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C004101910** | | JCT US34/S-41B 2E 2.1N at LINCOLN CREEK | Hamilton | 30.00 | 26.00 | Steel Stringer/Multi-beam or Girder | Other Arterial |
| **C009302105** | SEC 10E T9N R | 2W 1.5N MC COOL JCT at STREAM | York | 22.00 | 20.00 | Steel Stringer/Multi-beam or Girder | Local |
| **Add a Structure?** | | | | | | | |

## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C004101910 | No | No | Yes |
| C009302105 | No | No | Yes |

## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C004101910 | Replace | Concrete Box Culvert | | | Contract | $240,000 | $132,000 | Triple 12'x10'x52' |
| C009302105 | Replace | Concrete Box Culvert | | | Contract | $250,000 | $137,500 | Triple 10'x9'x46' |
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| | | | * **Length and Width not required for Culverts.** | | total | $490,000 | $269,500 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

This is a proposal in which two Counties are working together to submit a project. Not only are two neighboring Counties working together, but we are requiring to separate engineering firms to work together on this submital. We (State, County, and Contract Engineering Firms) should all have the same common goal, to provide cost effective infrastrcuture projects, so why not ask all parties involved to work together. This might not only foster conversation and best practices sharing between local public agencies but also between all contractors involved. This will definately strengthen relationships between neighboring Counties.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

The Aspect of this approach that saves time and reduces cost, is that there is only one point of contact for the State office to correspond with. More projects completed with less avenues of communication that need to be maintained. We also have the potential for same contract builders to work on the two projects. This allows for the opportunity for contractors to become more efficient building concrete boxes, which benefits ALL parties involved.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Again, the way this project is innovative is we as neighboring Counties are willing to work together and share best practices. We are not only building relationships with our County neighbors, but with other Contractors that we may have not normally worked with. The more contractors that we can have bid and work on these projects, potentially impacts the cost of these projects. Competition between contractors can be a good thing for lowering costs of projects.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

Concrete box culverts require very little maintenace. The life span of a concrete box culvert is much greater than a bridge that could be used at the same location. We do not have all the maintenance input costs, for example guardrail that gets damage frequently. Concrete boxes also help control stream bed degredation, and the maintenance that is involved with it. The corrosion resistance of a concrete box culvert is far superior to that of steel in a steel bridge. In a "nut shell" life cycle costs are lower.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

For Hamilton County, this is a frequently traveled road by the motoring public. It has the ADT of 334. This is a road used by trucks coming from north to the near by dog food plant. Also located on this road is a Church that has a lot of Sunday morning traffic. Currently there is a bridge with weight limits of 10-15-21, which trucks do not yeild to. We have a significant potential accident that could happen should the bridge fail. Average daily traffic of 334 as of fall of 2018.
For York County, Road K is the first continueous gravel county road west of Highway 81 that runs the full length of York County from Fillmore County to Polk County. Road K is a school bus route for York Public schools and used by mostly local traffic that includes agriculture equipment and all types of vehicles.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**87%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Sherman** | **Date of Application** | **11/26/2018** |
| **Agency Name** | **Sherman County** | **Contact Person Title** | **Highway Superintendent** |
| **Contact Person Name** | **Roger Hofts** | **Address Line 1** | **47584 Hwy 92** |
| **E-mail** | **shcounty@qwestoffice.net** | **Address Line 2** | **Loup City, NE** |
| **Phone Number** | **(308) 745-1524** | **zip code** | **68853** |
| **NACO District** | **Central** | | |

| | |
|---|---|
| **Proposal Name / Location** | sherman county |
| **Multi-County Proposal** | No |
| **Proposal Priority Number** | 1 |

| **Instructions** |
|---|
| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C008211320** | C-165 WPA at 4 corners | 3E .1S OF LITCHFIELD at STREAM | Sherman | 30.00 | 20.00 | Steel Stringer/Multi-beam or Girder | Collector |
| **C008202105P** | C-209 Dzingle | .2S 1.2W OF LOUP CITY at COB CREEK | Sherman | 32.00 | 20.20 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C008202605** | C-179 Hollywood | 4N .2E OF LITCHFIELD at CLEAR CREEK | Sherman | 78.00 | 21.80 | Wood or Timber Stringer/Multi-beam or Girder | Collector |
| **Add a Structure?** | | | | | | | |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C008211320 | No | No | 65 |
| C008202105P | No | No | 40 |
| C008202605 | No | No | 34 |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C008211320 | Replace with non-bridge size | Culvert Pipes | 0.00 | 0.00 | County Forces | $23,000 | $12,650 | 120" |
| C008202105P | Replace | Culvert Pipes | 0.00 | 0.00 | County Forces | $33,000 | $18,150 | Twin 96" Arch |
| C008202605 | Replace | Culvert Pipes | 0.00 | 0.00 | County Forces | $126,000 | $69,300 | Quad 120" |
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| | | | * **Length and Width not required for Culverts.** | | total | $182,000 | $100,100 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Replacing these bridges with culverts and manufactured headwalls and sheet pile wings, is a low cost replacement of structurally deficient bridges that can accommodate todays agricultural equipment as well as the agricultural equipment of tomorrow. This proposal will replace three (3) bridges for the cost of one (1) small new bridge.In addition one (1) of these bridges will be removed from the N.B.I..

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Approximate time for replacement is Four (4) weeks per bridge or twelve (12) weeks for all Three (3) bridges. This is replacing Three (3) bridges in the time it would take to build One (1) new bridge. These projects will be constructed by county forces, so there is no wait for contractor availability. All projects will be completed in 2019.

| Criteria 3 – Sustainability or transferability of innovation (0-10 points) |
| --- |
| **Describe how the innovation can be shared and used by other Counties.** |
| This type of replacement can be done by all counties, as all culvert vendors can do this type of fabrication work. |

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

It is estimated these projects will have little or no maintenance costs.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

This proposal will provide a safe road facility for the traveling public as well as provide safe farm to market routes for the agricultural community. This is a cost effective way to replace deficient bridges where it is not cost effective to build a new bridge.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**100%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

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|---|---|---|---|
| **Applying County** | **Valley** | **Date of Application** | **11/20/2018** |
| **Agency Name** | Valley County | **Contact Person Title** | Highway Superintendent |
| **Contact Person Name** | Jay Meyer | **Address Line 1** | 125 S 15th St Ste 103 |
| **E-mail** | valcohwy@yahoo.com | **Address Line 2** | Ord, NE |
| **Phone Number** | (308) 728-3112 | **zip code** | 68862 |
| **NACO District** | **Central** | | |

| | |
|---|---|
| **Proposal Name / Location** | Valley County Bridge Sites |
| **Multi-County Proposal** | No |
| **Proposal Priority Number** | 1 |

| **Instructions** |
|---|
| **required input** |
| changes allowed |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C008814710** | | .5N OF NORTH LOUP at MYRA CREEK | Valley | 81.00 | 21.00 | Wood or Timber Stringer/Multi-beam or Girder | Collector |
| **C008804905** | | 1N N11 GREELEY CL at SOUTH BR. MIRA CREEK | Valley | 70.00 | 24.50 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C008802015P** | | 4.1E OF ORD at STREAM | Valley | 29.00 | 29.80 | Wood or Timber Stringer/Multi-beam or Girder | Collector |
| **C008820925** | | .2S 10W ORD at TURTLE CREEK | Valley | 30.00 | 24.40 | Wood or Timber Stringer/Multi-beam or Girder | Local |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C008814710 | No | No | 140 |
| C008804905 | No | No | 20 |
| C008802015P | No | No | 229 |
| C008820925 | No | No | 42 |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C008814710 | Replace | Precast Deck Panels | 96.00 | 34.00 | Contract | $344,000 | $134,771 | |
| C008804905 | Remove | Not Applicable | 0.00 | 0.00 | Contract | $5,000 | $2,471 | |
| C008802015P | Replace | Culvert Pipes | 40.00 | 24.00 | County Forces | $65,000 | $32,120 | Twin 108" Pipe |
| C008820925 | Replace | Culvert Pipes | 40.00 | 20.00 | County Forces | $62,000 | $30,638 | Twin 90" Pipe |
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| | | | * **Length and Width not required for Culverts.** | | total | $476,000 | $200,000 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

This proposal eliminates four (4) structurally deficient bridges; including the replacement of one (1) bridge, the removal of one (1) bridge and the replacement of two (2) bridges with culvert pipe structures. Structure No. C008814710 (14710) spans Mira Creek and would be reconstructed to remain a bridge. Structure No. C008804905 (04905) will be removed without replacement, and the road will be relocated. Structure C008802015P (02015P) and C008820925 (20925) would be replaced with culvert pipe structures.

14710 is on a Collector Road with moderate traffic and has year round flow. The structure leads to a large new dry fertilizer plant on the outskirts of North Loup, so it sees significant heavy truck traffic. Proposed structure would be a three span bridge to minimize debris accumulation and for increased road overtop return flow periods. The proposed structure will be designed to eliminate obstacles within the horizontal clear zone. 04905 is on a Local Road and has year round flow. County Forces will relocate the road west of the stream which will eliminate the need for a bridge crossing and allow removal of the three span bridge. There will be no channel impacts during road relocation.

At this location near North Loup, we are proposing a two for one deal since two bridges would be removed from the structurally deficient list for the price of one. Also, the two projects can be bid to contract together since they are less than three miles apart.

For 02015P and 20925, the installation of the culverts will be quicker and the roads will be reopened to traffic much faster than proposing to replace with bridges. Since the culverts will be replaced by County Forces, value will be added to the projects since County Forces are not for profit.

02015P is on a Collector Road but only sees flows when rain events occur. The proposed structure will be designed to eliminate obstacles within the horizontal clear zone and meet adequate return flow periods for road overtopping. 20925 is on a Local Road but only sees flows when rain events occur. The proposed structure will be designed to eliminate obstacles within the horizontal clear zone and meet adequate return flow periods for road overtopping.

By fabricating these culvert structures with headwalls and toewalls, scour potential has effectively been eliminated. Headwalls also reduce the footprint of the structure by reducing required pipe lengths. This generally eliminates the need for right-of-way acquisition and accommodates existing fence lines. Each of the proposed structures will be constructed within existing right-of-way.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

Bridge Structures
The two projects are within three miles of each other so they can be combined into one contract. The use of a single contract will reduce the cost since one contractor can easily remove 04905 while in the area replacing 14710. Time and mobilization costs will be greatly reduced with the close proximity of the projects.

Culvert Structures
Culvert pipe with manufactured headwalls have been used by Valley County for several other bridge replacement projects. These structure types have been designed to effectively meet roadway overtop expectations and have not required any routine maintenance. Several suppliers are readily available and have previous experience with fabrication of these structures. County Forces have successfully installed these structures with current crew and without needing to purchase specialized equipment. Since proposing three sites for replacement with similar structure types, material cost savings will occur.

Headwall installation reduces the footprint of the structure and allows for construction within existing right-of-way, resulting in cost and significant time savings since acquisition will not be needed.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

Bridge Structures
The removal of 04905 relieves the burden of funding and maintaining a new structure for both Valley County and Greeley County since the structure is on the county line.

Precast concrete deck panel bridges have proved to be long lasting structures and stand up to high flows. Readily available materials, local construction experience and favorable bidding market make these structure types attractive to local agencies.

Combining projects together into one bid leads to more competitive bidding from contractors since it is convenient for them to have more than one project in progress in a relatively small area.

Culvert Structures
Several suppliers are readily available and have previous experience with fabrication of culvert pipe structures. County Forces generally have the equipment needed to install these structures with current crew since large bridge construction machines like cranes and pile drivers are not required. If needed, repairs would be quick, cheap, and simple since culvert structures are much less complex than bridges and the matierials are high in availability.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

Bridge Structures
Proposed structure type of 14710 is precast concrete deck panel bridge which will have a lifespan requiring little to no maintenance. Current condition of bridge will require bridge repairs to maintain passenger car traffic, but even significant repairs would not accommodate agricultural equipment. Replacing this bridge with steel and concrete would eliminate the rotting and splitting issues that the existing timber bridge is currently facing.

Removing 04905 will result in major cost savings. There will be no cost of bridge replacement, no need for maintenance, nor will there be inspection costs. Also, with the road being relocated on the west side of the channel, there will be no need for heavy agriculture loads to detour around the structure.

Culvert Structures
Projects will be culvert type structures, requiring little to no maintenance throughout material lifespan. Culvert materials will meet NDOT Specifications for thickness and lifespan will be maximized since the streams only flow when rain events occur. Headwall and toe wall materials will be the same gauge as the culvert pipe material in order to extend the lifespan of the structure. With fewer parts than a bridge, the chance of pieces breaking and needing repaired is less.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

Bridge Structures
14710 has an agricultural surrounding as well as a nearby fertilizer plan and grain elevator. Detouring of agricultural equipment occurs due to the reduced load carrying capacity of the existing bridge. Legally loaded vehicles are restricted from crossing due to the 7 ton load posting.

04905 has an agricultural surrounding. Detouring of agricultural equipment occurs due to the reduced load carrying capacity of the existing bridge. Legally loaded vehicles are restricted from crossing due to the 3 ton load posting.

This proposal is significant to Valley County because it will allow the agricultural traffic to take the shortest route possible to their destination with the restricting bridges being replaced or removed. The improvement to the flow of traffic will be safer for the public since it will help keep heavy loads out of the town of North Loup.

Culvert Structures
Like most rural counties, Valley County has a lot of agricultural traffic, and the equipment is getting larger in size and weight. The structures in this proposal are undersized for today's agricultural traffic demand. Detouring of agricultural equipment occurs due to the reduced load carrying capacity of the existing bridges. The detouring is inconvenient and adds to the cost o traveling for the public, and safety becomes an issue if someone is unwilling to detour the bridge with a load higher than what is posted on the structure.

Currently posting status that restricts legal loads from using the county road network:
02015P is posted at 9 ton
20925 is posted at 9 ton

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**100%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Frontier** | **Date of Application** | **11/29/2018** |
| **Agency Name** | **Frontier** | **Contact Person Title** | **County Engineer** |
| **Contact Person Name** | **Bruce Raddatz** | **Address Line 1** | **515 West Ave** |
| **E-mail** | **braddatz@miller-engineers.com** | **Address Line 2** | **Holdrege, NE** |
| **Phone Number** | **308-995-6677** | **zip code** | **68949** |
| **NACO District** | **West Central** | | |

| | |
|---|---|
| **Proposal Name / Location** | Safer Roads-Frontier/Red Willow Counties |
| **Multi-County Proposal** | Yes |
| **Proposal Priority Number** | 1 |

| **Instructions** |
|---|
| **required input** |
| **changes allowed** |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C003206710P** | 100525.04 | 12.5E 7.5S OF STOCKVILLE at DEER CREEK | Frontier | 101.00 | 24.00 | Steel Truss - Thru | Other Arterial |
| **C007302505** | | 2.5W .5S OF MARION at BEAVER CREEK | Red Willow | 37.00 | 20.10 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **Add a Structure?** | | | | | | | |

## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C003206710P | No | No | 75 |
| C007302505 | No | No | 20 |

## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C003206710P | Replace | Prestressed Concrete Girder | 144.00 | 28.00 | Contract | $490,000 | $150,000 | 3 spans @ 48' |
| C007302505 | Replace | Culvert Pipes | | | County Forces | $55,000 | $30,250 | Twin 102" x 40' CMP culverts with metal headwalls on 0º skew |
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| | | | * **Length and Width not required for Culverts.** | | total | $545,000 | $180,250 | OK |
| | | | **Please provide culvert size in comments.** | | | | | |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

Frontier and Red Willow County will eliminate one of their structually deficient bridges. Frontier County will let bids for a conventional 3-span inverted tee (IT400) girder bridge. Since this type of bridge is common and familiar with bridge contrators, several competitive bids should be received. Red Willow County forces wil remove and replace their deficient bridge with twin corrugated metal culverts with metal headwalls. This replacement structure is identical to last years CBMP project so the experience gained will make the installation very efficient. By partnering, the two counties will be able to share their experience, man power and equipment.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

By installing CMP culverts instead of a traditional bridge, Red Willow County will save a lot of money and construction time will be a lot less. They have the necessary crew and equipment and experience to finish the project in a timely manner.

| Criteria 3 – Sustainability or transferability of innovation (0-10 points) |
| --- |
| **Describe how the innovation can be shared and used by other Counties.** |
| Several suppliers and bridge contrators are readily available and have the experience and expertise to fabricate or consturct the proposed projects. |

| Criteria 4 – Long Term Maintenance Savings (0-5 points) |
| --- |
| **Describe how this proposal promotes savings of long term maintenance costs.** |
| CMP culverts meeting NDOT standards will require very little maintenance over their life expectancy of 30-40 years. Maintenance of an inverted tee concrete girder bridge will also be minimal for 40+ years. |

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

This project if accepted will remove two deficient bridges. C003206710P-Frontier County. The existing structure is a single span riveted steel thru truss bridge which is structually deficient with a 2017 sufficiency rating of 33.9. Structure length is 101' and out-to-out deck width is 24'. Bridge railings are substandard as is the approach alignment. Deer creek is seriously encroaching on Road 411 about 650' north of the existing bridge. The bridge was programmed in 1996 (BR-1653(1) CN 70848) and a significant amount of engineering design has been completed (field survey, hydrologic and hydraulic study, preliminary realignment, plan-profile and cross-sections). Road 411, State classified as "other", is very important to Frontier County. It is a bus route and mail route. There is a lot of semi-truck traffic hauling corn to the ethanol plant in Cambridge and northbound trucks hauling distiller grains from the plant. Current ADT is not available. Posted sign values are 10T, 17T and 22T. This project is in the county's six year plan. C007302505-Red Willow County. The existing structure is a single span timber bridge built in 1935. Bridge width is only 20' and it is structually deficient with a 2017 sufficiency rating of 49.0 Bridge rail is substandard. If this bridge is replaced by CMP culverts, it wil be a significant improvement for the county.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**94%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Hitchcock** | **Date of Application** | **11/23/2018** |
| **Agency Name** | Hitchcock County | **Contact Person Title** | Highway Superintendent |
| **Contact Person Name** | Phillip Dixon | **Address Line 1** | 31085 280th Rd |
| **E-mail** | dixonphillip11@gmail.com | **Address Line 2** | Pleasanton, NE |
| **Phone Number** | (308) 388-3471 | **zip code** | 68866 |
| **NACO District** | **West Central** | | |

| | |
|---|---|
| **Proposal Name / Location** | Palisade South/2.5 miles south Palisade |
| **Multi-County Proposal** | No |
| **Proposal Priority Number** | 1 |

| **Instructions** |
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| **required input** |
| changes allowed |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C004402305P** | | JCT US6/N25A 2.3S at BOBTAIL CREEK | Hitchcock | 100.00 | 27.00 | Concrete continuous Slab | Other Arterial |
| **Add a Structure?** | | | | | | | |
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## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C004402305P | No | No | 215 |
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## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C004402305P | Replace | Precast Deck Panels | 126.00 | 28.00 | Contract | $610,000 | $150,000 | $0 |
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| | | | * Length and Width not required for Culverts. Please provide culvert size in comments. | | total | $610,000 | $150,000 | OK |

**Criteria 1 - Innovation (0-20 points)**

**Describe what is innovative about this proposal.**

This bridge replacement project in Hitchcock County will use precast deck panels so that the project will take less time to construct. The panels will be the new 4 ft. wide panels instead of the older 2 ft. wide panels making construction easier and quicker. The road this structure is on is the main traveled road to and from Palisade, ag markets and a hard surfaced highway for a large portion of North West Hitchcock County. The detour for this structure is a lengthy 7 miles so speed of construction is of essence. The plans for replacing a bridge with a bridge is also favorable for the environment as the depth of of the creek is 29 ft. from bridge deck to water line and the placement of a C.M.P. or Box Culvert structure would cause a lot of destruction to the environment in and around the creek banks and stream bed. The need for these structures to be of considerable length because of the depth of the creek would create a need for a large amount of fill material being placed in the creek and a large borrow area causing displacement of the environment.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

This proposal will save time and cost by using precast concrete panels that can be brought to the project and placed in few days, verses costs of labor, forming and removing forms for concrete deck and rails and the costly labor of tying rebar and pouring concrete at the project site. The project will be bid at the same time as a similar bridge replacement 3.5 miles north in Hayes County. This should allow Hitchcock and Hayes Counties to obtain savings of a contractor wanting to bundle both projects as their job and with time savings of labor costs working bridges together which should create very competitive bidding.

| Criteria 3 – Sustainability or transferability of innovation (0-10 points) |
| --- |
| **Describe how the innovation can be shared and used by other Counties.** |
| The innovation of planning projects in conjunction with other counties in surrounding areas should cause very competitive bidding with considerable cost savings to the counties. Contractors being able to bundle the projects in close surrounding such as Hitchcock and Hayes Counties and should be very favorable for them to be competitive and save costs for the counties. Making the projects similar in construction types should also bring savings to Hitchcock and Hayes Counties. |

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

Long term savings in maintenance costs should be conceived in this project by building a great bridge that would last maybe 100 years or more. Maintenance would be minimal as the structure would be very stable and well constructed to last many years. The bridge structure of long life verses a pipe structure of maybe 40 years of life would promote savings of early replacement and possible yearly costs of removal of debris. Concrete box structure would have similar life span to a bridge but would have costs of debris and silt removal which would be at considerable costs because of the depth of the creek.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

This project is on road classified as a Collector road that is the main road for farm to market traffic for Hitchcock County and its economic agriculture environment. Agriculture is the most significant economic income for Hitchcock County and a large area of the county must cross this proposed structure. Oil production has also become a economic factor in Hitchcock County and to keep this product in production and processing it must have traffic moving on roads and structures that are very viable. The original structure at this site has several timber piling 100% rotted away and loss of the structure would cause great determent for the traveling public of Hitchcock County because of the lengthy 7 mile detour it would cause loss of financials and time. We need to keep Hitchcock County, Nebraska and America strong by providing a great safe and reliable infrastructure.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**100%** **percent complete**

When your application is complete and you are ready to submit it for review go to:
http://dot.nebraska.gov/projects/tia/bridge-match/
Follow the instructions on the website for uploading this application and supporting documentation.

If you have questions or difficulties please contact:
Jodi Gibson
402-479-4337
jodi.gibson@nebraska.gov

**Thank you for your work on behalf of Nebraska's bridges!**

# APPLICATION FORM County Bridge Match Program 2018

| | | | |
|---|---|---|---|
| **Applying County** | **Scotts Bluff** | **Date of Application** | |
| **Agency Name** | Scotts Bluff County | **Contact Person Title** | Highway Superintendent |
| **Contact Person Name** | Linda Grummert | **Address Line 1** | 785 Rundell Rd |
| **E-mail** | lgrummert@scottsbluffcounty.org | **Address Line 2** | Gering, NE |
| **Phone Number** | (308) 436-6700 | **zip code** | 69341 |
| **NACO District** | **Panhandle** | | |

| | |
|---|---|
| **Proposal Name / Location** | 2018 Scotts Bluff County |
| **Multi-County Proposal** | No |
| **Proposal Priority Number** | 1 |

| **Instructions** |
|---|
| **required input** |
| changes allowed |
| **locked - no input** |

## Structure Information

| NBI Structure Number | Local Name | Location | County | Existing Length (ft) | Existing Total Width (ft) | Existing Type | State Classification |
|---|---|---|---|---|---|---|---|
| **C007901905** | 10-J | 5.5S 4W OF MITCHELL at FORT LARAMIE CANAL | Scotts Bluff | 61.00 | 25.80 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C007902405** | L-5 | 3.2E 5S OF LYMAN at KIOWA CREEK | Scotts Bluff | 32.00 | 26.00 | Wood or Timber Stringer/Multi-beam or Girder | Local |
| **C007933725** | 19-F-1 | 4.2E 1.5S OF MITCHELL at STREAM | Scotts Bluff | 22.00 | 26.50 | Wood or Timber Stringer/Multi-beam or Girder | Local |

## Eligibility

| NBI Structure Number | Min. Maintenance Road (yes/no) | Advertised for Construction bids? | Average Daily Traffic |
|---|---|---|---|
| C007901905 | No | No | 15 |
| C007902405 | No | No | 40 |
| C007933725 | No | No | 150 |

## Proposal Construction Details

| NBI Structure Number | Proposed Action | Proposed Structure Type | Proposed Length (ft)* | Proposed Total Width (ft)* | Workforce | Total Estimated Bridge Cost | Anticipated Reimbursement from CBMP | Comment |
|---|---|---|---|---|---|---|---|---|
| C007901905 | Rehab | Precast Deck Panels | 61.00 | 30.00 | County Forces | $140,000 | $77,000 | Currently closed. 200 loads of sugar beets from 2018 harvest caused failure of 8 stringers |
| C007902405 | Rehab | Precast Deck Panels | 32.00 | 30.00 | County Forces | $90,000 | $49,500 | Area has numerous pivots and small feedlots |
| C007933725 | Rehab | Precast Deck Panels | 22.00 | 30.00 | County Forces | $90,000 | $49,500 | Actual traffic counts are higher than SI&A sheet |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | * **Length and Width not required for Culverts.** **Please provide culvert size in comments.** | | total | $320,000 | $176,000 | OK |

### Criteria 1 - Innovation (0-20 points)

**Describe what is innovative about this proposal.**

During the 1980's Scotts Bluff County invested funds in the substructures of numerous bridges. They planned for the future by making the abutments wide enough to accomodate decks thirty feet wide. Most of the structures were steel sheetpile abutments with ten inch H-piling, and a few were concrete abutments with the ten inch H-piling. To stretch this funding as far as possible, timber superstructures were installed on these new abutments. I believe that Scotts Bluff County always intended that when the timber superstructures had served their purpose, and funding became available, they would complete these structures with steel beams and concrete decks. I propose to replace the timber stringers and timber decks with concrete deck slabs.

**Criteria 2 – Cost or time savings (0-5 points)**

**Identify aspects of this proposal that saves time and reduces costs.**

The concrete deck slabs install in as little as 1 day. The advance approach guard rail takes approximately 1 week to complete. The site is closed less than a week for the placement of the deck slabs, and placing fill back up to the approach. Replacing these structures with culverts is not possible due to high water flows. There will be only routine maintenance on these structures after the installation of the concrete deck slabs such as vegitation control and erosion repairs. The continuous process of replacing worn, broken or rotted deck plank and timber stringers will stop. Each year dry weather conditions cause deck plank to rapidly deteriorate. If the timber stringers have rotted areas on them it is difficult to make the deck plank stay in place as the bridge spikes ,which attach the plank, will not remain embedded in the stringer. Each year, just before harvest, there is an extensive effort to replace planks and stringers, if necessary, to avoid traffic incidents on the bridges which have timber superstructures.

**Criteria 3 – Sustainability or transferability of innovation (0-10 points)**

**Describe how the innovation can be shared and used by other Counties.**

If the future was planned for, as Scotts Bluff County did, these deck slabs are ecomonical and available from several vendors in Nebraska. As the completed projects accumulate, other counties across the state will be able to see the ideas that were implemented in the County Bridge Match Program. This upgrade to a structure insures that a county will have low maintenance costs for many years.

**Criteria 4 – Long Term Maintenance Savings (0-5 points)**

**Describe how this proposal promotes savings of long term maintenance costs.**

The use of the concrete deck slabs will complete these bridges as was intended by Scotts Bluff County many years ago. The steel, and steel and concrete, substrutures on these bridges have many more years of service in them. The increased load ratings of the concrete deck panels will meet the ever growing demands of the agricultural sector. Repairing these structures with timber superstructures and timber decks will not stand the test of time nor will they be able to withstand the test of heavy agricultural traffic.

**Criteria 5 – Project Significance (0-20 points)**

**Describe what makes this proposal significant to your county.**

The funds will be committed to 3 structures reducing the number of structural deficient bridges in Scotts Bluff County. The bridges are in various areas of the County so residents will be able to see funds being spent in their neighborhoods. Residents will be able to see a bridge go from being a posted bridge, with a low amount of tonage, to a bridge which has no posted tonage in just a few days. This investment will prove that there is concern for resident's safety and their ability to conduct their agricultural business.

## Criteria 6 – Needs (0-20 points)

**Calculated by scoring committee based on the counties SD bridges.**

## Criteria 7 – Equity (0-20 points)

**Determined by scoring committee based on the number of projects awarded to the county.**

## Submittal Instructions:

**98%** **percent complete**

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**Thank you for your work on behalf of Nebraska's bridges!**