


# Edge Engineering Group

## First Street Environmental Inspection and Report July 2022

|  |  |                              |  |
|--|--|------------------------------|--|
| <b>Project:</b> First Street River Restoration                                     |  | <b>Owner:</b> City of Casper |  |
| <b>Location:</b> North Platte River – Poplar Street Bridge to BNSF railroad Bridge |  |                              |  |
| <b>Date:</b> 7/27/2022   |  | <b>Hours:</b>                |  |
| <b>Day:</b>  |  |                              |  |
| <b>Weather:</b> Hot and Dry  |  |                              |  |
| <b>Site Conditions:</b> North Platte Flow Rate 2,910 cfs                           |  |                              |  |

|                      |                                |  |
|----------------------|--------------------------------|--|
| <b>Submitted To:</b> | Jolene Martinez, Scott Baxter, |  |
| <b>Prepared By:</b>  | Jason Knopp                    |  |
| <b>Report Number</b> | 22-09 July 22                  |  |

### Recommendations:

- Reseed and replant in the areas outlined in the attached drawings.

### Activities and Observations:

- 7/27/2022 - Edge Engineering (Edge) arrived on-site at 3:00pm. Inspection started on river right at the BNSF railroad bridge and progressed south along river right until reaching the fisher statue, the inspection then jumped over to river left starting at the first street bridge and working north to the BNSF railroad bridge. Edge took 66 pictures, which may be viewed upon request.

Overall vegetation of the entire project site is approximately 50 to 60 percent coverage with large areas showing little to no growth. These areas are outlined on the attached maps. Of the areas where vegetation has occurred, the larger growth is consistent with weeds with some of the native grasses and plantings starting to grow under the canopy of the weeds.

The instream structures were difficult to visually inspect at the time due to the higher flows in the river.

The willows that were planted closest to the waters edge have taken root and have started to establish. The farther away from rivers edge the less the willow stakes survived.



**Willow stakes in first burrito rap growing, willows in second burrito rap did not survive**



**Wetland at stormwater outlet – River right just south of BNSF Bridge**



**Constructed overflow channel and wetlands, river right**



**Constructed overflow channel and wetlands, river right**



**Limited vegetation river right, approximately Sta. 23+00**



**Limited vegetation river right, approximately Sta. 23+00**



**Vegetation in the contractor's staging area has reestablished to 70% coverage or better**



**Vegetation on construction access ramp is approximately at 10% coverage**



**River bank slope adjacent/south of access ramp river right, willows next to rivers edge established. Away from rivers edge is 10 to 20% coverage.**



**What river right slope south of the access ramp should look like, undisturbed area**





**River Left, Sta. 0+00 to 4+00. Willow stakes in first burrito established, second burrito rap willow stakes did not grow. Bench revegetation was approximately 20% coverage with the adjacent backslope at approximately 40 to 50% coverage.**



**River left sta. 2+00**



**River left sta 7+00 to first street bridge. Vegetation is approximately 30% coverage**



**River left sta 7+00 to first street bridge. Vegetation is approximately 30% coverage**



**River left sta 7+00 to first street bridge. Vegetation is approximately 30% coverage**



**River left 7+00 to first street bridge**



**River left 7+00 to first street bridge**



**River left from first street bridge to 13+00.**



**River left from sta. 13+00 to 15+00, more than 70% coverage with a majority of all growth being weeds**



**River left from sta. 13+00 to 15+00, more than 70% coverage with a majority of all growth being weeds**



**River left from sta. 15+00 to 17+00, 10 to 20% coverage**



**River left from sta. 15+00 to 17+00, 10 to 20% coverage**



**River left from sta. 15+00 to 17+00, 10 to 20% coverage**



**River left from sta 17+00 to BNSF Railroad, 70% coverage with a majority of weeds**



**River left from sta 17+00 to BNSF Railroad, 70% coverage with a majority of weeds**



As a registered Professional Engineer in the State of Wyoming, I certify this inspection in conformance outlined in WDEQ published documents.

A handwritten signature in blue ink, appearing to read 'J. Knopp', is displayed on a light beige rectangular background.

Jason Knopp, P.E.

**Edge Engineering Group, LLC**

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| JOB #:   | 22-09     | REV # | DATE | DESCRIPTION | BY |
|----------|-----------|-------|------|-------------|----|
| DATE:    | 7/29/2022 |       |      |             |    |
| DRAWN:   | JK        |       |      |             |    |
| CHECKED: | XXXXX     |       |      |             |    |

### NRRR FIRST STREET




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| JOB #    | 22-09     | REV # | DATE | DESCRIPTION | BY |
|----------|-----------|-------|------|-------------|----|
| DATE:    | 7/29/2022 |       |      |             |    |
| DRAWN:   | JK        |       |      |             |    |
| CHECKED: | XXXXX     |       |      |             |    |

**NRRR FIRST STREET**

**Edge Engineering Group**  
**First Street Environmental Inspection and Report**  
**August 2022**

|  |               |
|--|---------------|
| <b>Project:</b> First Street River Restoration <b>Owner:</b> City of Casper        |               |
| <b>Location:</b> North Platte River – Poplar Street Bridge to BNSF railroad Bridge |               |
| <b>Date:</b> 8/31/2022   | <b>Hours:</b> |
| <b>Day:</b> Wednesday  |               |
| <b>Weather:</b> Hot and Dry  |               |
| <b>Site Conditions:</b> North Platte Flow Rate approx. 2,900 cfs                   |               |

|                      |                               |   |
|----------------------|-------------------------------|---|
| <b>Submitted To:</b> | Jolene Martinez, Scott Baxter |   |
| <b>Prepared By:</b>  | Dale Anderson                 |   |
| <b>Report Number</b> | 22-09 August 2022             | <b>Reviewed by:</b>  |

**Recommendations:**

- Reseed and replant in the areas outlined in areas as noted in July 2022 inspection report (drawings from July 2022 are at end of this report, with recommended reseed and replant areas noted, provided here for ease of reference). In future inspections pay particular attention to river left in the area of Jonah Bank parking lot, as river stage and vegetation allows, to evaluate bank conditions.

**Activities and Observations:**

- 8/31/2022 - Edge Engineering (Edge) arrived on-site at 1:00pm. Inspection started on river right at the BNSF railroad bridge and proceeded south (upstream) along river right observing both banks until reaching a point just upstream of the fisherman statue. The inspection then moved to river left, at the upstream edge of construction, just downstream of the Poplar Street Bridge, moving downstream (north) to the First Street Bridge. Edge took 48 photos, which may be viewed upon request.

Water was observed flowing into the constructed wetland river right, just upstream of the BNSF bridge. However, the water level observed in the wetland did not appear to be as high as noted in the July inspection, and flow was not observed in most of the wetland.

Overall vegetation of the entire project site is essentially unchanged from the July 2022 inspection, at approximately 50 to 60 percent coverage with large areas showing little to no growth. Of the areas where vegetation has occurred, the larger growth appears to be predominantly weeds with some native grasses and plantings starting to grow under the canopy of the weeds.

The instream structures were difficult to visually inspect at the time due to the higher flows in the river.

As noted in the July 2022 inspection, in general, the willows that were planted closest to the water's edge have taken root and have started to establish. The farther away from river's edge the less the willow stakes survived.

One area of potential bank erosion was noted river left, in the upper reaches of the project area, in the area of the Jonah Bank parking lot (See photo below). It was not clear if this is an artifact of vegetation regrowth, or due to bank erosion. Direct observation from the river left bank was not feasible due to good willow growth along the river edge, combined with the high river stage that did not allow for access to the area. Recommend that this area be further evaluated during future inspections at times of lower river levels.



**Photo taken river right, looking across to Jonah Bank parking lot area. Note area of potential erosion along bank, just above river level. Due to good willow regrowth adjacent to river and lack of access due to river stage, closer observation was not possible. River level will be much lower next month for a closer inspection.**



**Willow stakes in first burrito rap growing, willows in second burrito rap did not survive. View looking generally downstream, 1<sup>st</sup> Street Bridge in upper left of photo.**



**Photo taken from river right looking generally downstream. Note BNSF bridge just visible in center right of photo. Note generally weedy appearance of much of the vegetation at this location.**



**Limited vegetation river right, approximately Sta. 23+00.**



**Limited vegetation river right, approximately Sta. 23+00.**





**Vegetation on construction access ramp is still sparse compared to area immediately upstream, adjacent to river. Note decrease in vegetation away from river upstream of construction access. View looking upstream from river right, Jonah Bank in upper right of photo.**



**River Left, looking upstream, 1<sup>st</sup> Street bridge in upper center of photo. Willow stakes in first burrito established, second burrito rap willow stakes did not grow.**



**View of river left, slightly downstream of 1<sup>st</sup> Street Bridge.**



**River left, approximately sta 7+00, looking toward 1<sup>st</sup> Street bridge in upper left of photo. Vegetation is approximately 30% coverage.**



**River left, approximately sta 7+00 to 1<sup>st</sup> Street bridge. Vegetation generally the same as July 2022 inspection.**

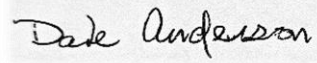


**River left, approximately 7+00 to first street bridge.**



**River left from picnic table. Note decrease in vegetation in area of Goodyear building, left center of photo.**

I certify this inspection was conducted in conformance outlined in WDEQ published documents.

A handwritten signature in black ink that reads "Dale Anderson". The signature is written in a cursive style and is set against a light gray rectangular background.

Dale Anderson

**Edge Engineering Group, LLC**

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| JOB #:   | REV # | DATE      | DESCRIPTION | BY |
|----------|-------|-----------|-------------|----|
| 22-09    |       |           |             |    |
| DATE:    |       | 7/29/2022 |             |    |
| DRAWN:   |       | JK        |             |    |
| CHECKED: |       | XXXXX     |             |    |

**NRRR FIRST STREET**



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| JOB #    | 22-09     | REV # | DATE | DESCRIPTION | BY |
|----------|-----------|-------|------|-------------|----|
| DATE:    | 7/29/2022 |       |      |             |    |
| DRAWN:   | JK        |       |      |             |    |
| CHECKED: | XXXXX     |       |      |             |    |

**NRRR FIRST STREET**



**Edge Engineering Group**  
**First Street Environmental Inspection and Report**  
**September 2022**

|  |  |
|--|--|
| <b>Project:</b> First Street River Restoration <b>Owner:</b> City of Casper        |  |
| <b>Location:</b> North Platte River – Poplar Street Bridge to BNSF railroad Bridge |  |
| <b>Date:</b> 9/17 & 9/20/2022  | <b>Hours:</b> 1420 on 9/17, 1330 on 9/20 |
| <b>Day:</b> Sat. and Tuesday   |  |
| <b>Weather:</b> Hot and Dry  |  |
| <b>Site Conditions:</b> North Platte Flow Rate approx. 480 to 490 cfs              |  |

|                      |                               |  |
|----------------------|-------------------------------|--|
| <b>Submitted To:</b> | Jolene Martinez, Scott Baxter |  |
| <b>Prepared By:</b>  | Dale Anderson                 |  |
| <b>Report Number</b> | 22-09 September 2022          | <b>Reviewed by:</b>  |

**Recommendations:**

- Reseed and replant in the areas outlined in areas as noted in July and August 2022 inspection reports (drawings from July 2022 are at end of this report, with recommended reseed and replant areas noted, provided here for ease of reference). In future inspections recommend attention to the following three areas as appropriate: 1) river left in the area of Jonah Bank parking lot, as river stage and vegetation allows, to evaluate bank conditions. 2) River left, just downstream of 1<sup>st</sup> Street Bridge – in area of monitoring wells. Bank erosion noted at low river flow just downstream of a rock structure. This is not visible during higher flow periods, and 3) river left slope adjacent to power company lot downstream of 1<sup>st</sup> Street bridge. Slope is eroding; area has been partially filled with rock, apparently to help slow erosion. This appears to be unrelated to construction, but long term could result in riverbank erosion in construction area.

## Activities and Observations:

- 9/17/2022 - Inspection started on river right at the BNSF railroad bridge and proceeded south (upstream) along river right observing both banks until reaching a point just upstream of the fisherman statue. Inspection was then interrupted until 9/20/22.
- 9/20/22 Inspection began river right just upstream of the fisherman statute to the upstream edge of construction. Inspection then moved to river left in the area of the Jonah Bank building, moving downstream until reaching a point just above the railroad bridge. Edge took 130 photos, which may be viewed upon request.

Water was observed flowing into the constructed wetland river right, just upstream of the BNSF bridge. Water was traced upstream, out of construction area, to a culvert adjacent to the trail along the river (see photo below).

Overall vegetation of the entire project site is essentially unchanged from the August 2022 inspection, at approximately 50 to 60 percent coverage with large areas showing little to no growth. Of the areas where vegetation has occurred, the larger growth appears to be predominantly weeds with some native grasses and plantings starting to grow under the canopy of the weeds.

As noted in the August 2022 inspection, in general, the willows that were planted closest to the water's edge have taken root and have started to establish. The farther away from river's edge the less the willow stakes survived.

The river level dropped since the August 2022 inspection; however, the river left bank near Jonah Bank is still difficult to access due to willow growth and larger cobbles in the area of the woody toe that is now exposed. However, it does appear that there has been some removal of finer grained material above the woody toe and cobbles (see photos). The woody toe and cobbles appear to be stable.

There is an area just downstream of the 1<sup>st</sup> Street bridge, river left, where the river appears to be eroding the bank, in the vicinity of a monitoring well cluster. This apparent erosion is not readily visible at higher flows, because the area is underwater. The area appears to be just downstream of a rock structure, and just upstream of an area of woody toe (see photos).

Also, on river left downstream of the 1<sup>st</sup> Street bridge, there is some erosion occurring that appears to be related to water runoff from a power company yard, eroding the higher portions of the riverbank. Rock has been dumped in the eroded area in an apparent attempt to address this problem. This issue does not appear to be related to river construction work; as noted above, it appears to be related to runoff from a power company yard (see photos).



**Photo of drainage leading toward wetland from culvert. Culvert is in concrete face top right of photo.**



**Photo of water flowing toward wetland. Culvert is behind dark colored vegetation in top center of photo. View looking generally northeast, away from river. BNSF railroad track is on top of slope at top of photo.**



**River right looking upstream, approximately 75 to 100 yards upstream of railroad bridge.**



**Photo taken from river right looking generally downstream. Note BNSF bridge visible in upper left of photo, and picnic table in center right of photo behind vegetation. Note exposed stream bank due to low flow condition. Note generally weedy appearance of much of the vegetation at this location, and sparse coverage of vegetation in some areas.**



View looking downstream, river right, from 1<sup>st</sup> Street Bridge.



**Vegetation on construction access ramp is still sparse compared to area immediately upstream, adjacent to river. Note decrease in vegetation away from river upstream of construction access. View looking upstream from river right, Jonah Bank just visible in upper right of photo.**



**View looking upstream river right, just above fisherman statute, Poplar Street bridge visible top center of photo.**



**River Left, looking upstream, from Jonah Bank area, Popular Street bridge in upper center of photo. Willow stakes in first burrito established, second burrito rap willow stakes did not grow. Note generally sparse vegetation in second burrito wrap.**





**View of woody toe looking upstream, river left, adjacent to Jonah Bank building. Poplar Street bridge visible at top of photo.**



**View of river left upper portion of the Jonah Bank area. Note apparent ledge approximately one foot high immediately above the woody toe and cobbles that are exposed due to lower river level.**



**View of river left bank just below fisherman statute, visible in upper left of photo. Note some grasses and willows establishing along high water level, general absence of vegetation just above that level.**



**View river left, looking upstream from 1<sup>st</sup> Street bridge. Note line of vegetation establishing along high water line, but sparse vegetation otherwise in construction area.**



**View of river left, slightly downstream of 1<sup>st</sup> Street Bridge. Note what appears to be a short distance of bank erosion between rock structure upstream and woody toe downstream. This is not readily visible at higher river levels.**



**View of river left, in the vicinity of the Goodyear building, showing apparent erosion area noted in previous photo. Eroded area is just right of smooth stream bank visible in far left of photo. Monitoring wells just visible in grass above the area. Note that this area had eroded significantly prior to construction – the bank was eroded back to the monitoring wells. Also note general absence of vegetation along bank to right of photo.**



**River left, looking downstream, Goodyear building visible in upper left of photo. Note weedy nature of vegetation, and Russian olive regrowth in foreground, and just to left of foreground Russian olives in the distance. Vegetation looks thicker than it is, most is weeds, actual coverage by grasses etc. is limited.**



**River left, looking downstream, railroad bridge visible in upper right of photo. Note sparse grass and willow regrowth, Vegetation generally the same as July and August 2022 inspections.**



**River left, downslope from power company yard. Note white gravel placed since construction, on top of burlap, to fill in bank erosion, apparently from runoff from paved area above.**



**View of edge of electric company yard, in area where runoff apparently overflows curb during some storm events. Note similar white gravel as in previous photo along fence.**



**View looking upstream from river left, approximately at power company yard. Note paucity of vegetation growth in construction area, and weedy nature of much of what is present. Some grasses and few willows along water line.**

I certify this inspection was conducted in conformance outlined in WDEQ published documents.



Dale Anderson

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| JOB #:   | 22-09     | REV # | DATE | DESCRIPTION | BY |
|----------|-----------|-------|------|-------------|----|
| DATE:    | 7/29/2022 |       |      |             |    |
| DRAWN:   | JK        |       |      |             |    |
| CHECKED: | XXXXX     |       |      |             |    |

### NRRR FIRST STREET






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| JOB #:   | 22-09     | REV # | DATE | DESCRIPTION | BY |
|----------|-----------|-------|------|-------------|----|
| DATE:    | 7/29/2022 |       |      |             |    |
| DRAWN:   | JK        |       |      |             |    |
| CHECKED: | XXXXX     |       |      |             |    |

**NRRR FIRST STREET**

**Edge Engineering Group**  
**First Street Environmental Inspection and Report**  
**October 2022**

|  |                            |
|--|----------------------------|
| <b>Project:</b> First Street River Restoration <b>Owner:</b> City of Casper        |                            |
| <b>Location:</b> North Platte River – Poplar Street Bridge to BNSF railroad Bridge |                            |
| <b>Date:</b> 10/25/22  | <b>Hours:</b> 1015 to 1215 |
| <b>Day:</b> Tuesday  |                            |
| <b>Weather:</b> Approx. 45 degrees, windy, partly cloudy                           |                            |
| <b>Site Conditions:</b> North Platte Flow Rate approx. 315 cfs                     |                            |

|                      |                               |   |
|----------------------|-------------------------------|---|
| <b>Submitted To:</b> | Jolene Martinez, Scott Baxter |   |
| <b>Prepared By:</b>  | Dale Anderson                 |   |
| <b>Report Number</b> | 22-09 October 2022            | <b>Reviewed by:</b>  |

**Recommendations:**

- Reseed and replant in the areas outlined in areas as noted in July and August 2022 inspection reports (drawings from July 2022 are at end of this report, with recommended reseed and replant areas noted, provided here for ease of reference). In future inspections recommend attention to the following three areas as appropriate: 1) river left in the area of Jonah Bank parking lot, as river stage and vegetation allows, to evaluate bank conditions. 2) River left, just downstream of 1<sup>st</sup> Street Bridge – in area of monitoring wells. Bank erosion noted at low river flow just downstream of a rock structure. This is not visible during higher flow periods, and 3) river left slope adjacent to power company lot downstream of 1<sup>st</sup> Street bridge. Slope is eroding; area has been partially filled with rock, apparently to help slow erosion. This appears to be unrelated to construction, but long term could result in riverbank erosion in construction area.

## Activities and Observations:

- 10/25/2022 - Inspection started on river right in the vicinity of the BNSF railroad bridge and proceeded south (upstream) along river right observing both banks until reaching a point just below the Poplar Street bridge. Moved to Jonah Bank area, and continued inspection downstream to approximately the BNSF railroad bridge.

Water was observed flowing (at a very low level – approx. 1 gallon/minute) into the wetland area river right, just upstream of the BNSF bridge. As in previous months, there was standing water in the wetland area, and a small amount of water was observed flowing from the wetland area toward the river. The inflow was traced upstream, out of construction area, to a culvert adjacent to the trail along the river.

Overall vegetation of the entire project site is essentially unchanged from the September 2022 inspection. Of the areas where vegetation has occurred, the larger growth appears to be predominantly weeds with some native grasses and plantings starting to grow under the canopy of the weeds.

As noted in the August and September 2022 inspections, in general, the willows that were planted closest to the water's edge have taken root and have started to establish. The farther away from river's edge the less the willow stakes survived. There are still areas where revegetation has not reached a 70% coverage level.

The river level dropped since the September 2022 inspection, allowing for closer inspection of the riverbank near Jonah Bank, and woody toe areas. The woody toe and cobbles appear to be stable, with no obvious undercutting of the woody toe, other than what is exposed.

There is an area just downstream of the 1<sup>st</sup> Street bridge, river left, where the river appears to be eroding the bank, in the vicinity of a monitoring well cluster. This apparent erosion is not readily visible at higher flows, because the area is underwater. The area appears to be just downstream of a rock structure, and just upstream of an area of woody toe (see photo). This area does not appear to have changed significantly since the September 2022 inspection.

Also, on river left downstream of the 1<sup>st</sup> Street bridge, there is some erosion occurring that appears to be related to water runoff from a power company yard, eroding the higher portions of the riverbank. Rock has been dumped in the eroded area in an apparent attempt to address this problem. This issue does not appear to be related to river construction work (see photo). This area does not appear to have changed significantly since the September 2022 inspection.



**Photo of drainage leading toward wetland from culvert. Culvert is in concrete face just visible at top center of photo.**



**View looking into wetland area, from location of previous picture.**



**Photo of small flow of water from wetland area toward North Platte River, beneath the BNSF railroad bridge.**



**River right looking upstream, approximately 75 to 100 yards upstream of railroad bridge. Concrete pad of Tate Picnic Area visible just below the trees in approximate center of photo.**



**Photo taken from river right, just upstream of Tate Picnic Area looking generally downstream. Note BNSF bridge visible in upper left of photo, picnic table barely visible at top of photo behind vegetation. Note exposed stream bank due to low flow condition. Note generally weedy appearance of much of the vegetation at this location, and sparse coverage of vegetation in some areas.**



**View looking upstream, river right. 1<sup>st</sup> Street Bridge visible at upper right of photo. Note locally bare areas in vegetation.**



**River right, looking upstream, just upstream of the former construction access ramp. Note spotty nature of vegetation. Strong willow growth along shoreline to right, good grass growth, with sporadic bare areas.**



**View looking upstream river right, just above fisherman statue, Poplar Street bridge visible top center of photo. Note good vegetation growth.**



**River left, looking upstream, from Jonah Bank area, 1<sup>st</sup> Street bridge in upper center of photo. Willow stakes in first burrito established, second burrito rap willow stakes did not grow. Note generally sparse vegetation in second burrito wrap.**





**View of woody toe looking upstream, river left, just upstream of Jonah Bank building. Note gravel bed up to bottom of woody toe, no apparent undercutting of woody toe.**



**View of river left bank just below fisherman statute, visible in upper left of photo. Note some grasses and willows establishing along high water level in approximate center of photo, general absence of vegetation just above that level.**



**View river left, looking downstream adjacent to Jonah Bank building with 1<sup>st</sup> Street bridge visible at top center of photo. Note line of vegetation establishing along high water line to right of photo, but somewhat sparse vegetation otherwise at this location.**



**Downstream of 1<sup>st</sup> Street Bridge, looking upstream, river left. Note slight indent just downstream (below) of boulders extending into river, with bank steeping due to local bank erosion. Monitoring well cluster is just out of sight in upper right of photo.**



**River left, looking downstream, All About Family Inc. building visible in upper left of photo. Note weedy nature of vegetation, and Russian olive regrowth in foreground. Vegetation is predominantly weeds, actual coverage by grasses and willows, etc. is limited.**



**Bank erosion noted in previous inspection, in area of power company yard. Note relatively sparse vegetation, less than 70% coverage overall.**



**View looking downstream from river left, note BNSF railroad bridge in upper right of photo. Note grasses and willows along water line to right, with barren areas in next burrito wrap away from riverbank. Much of vegetation present is weedy in nature.**

I certify this inspection was conducted in conformance outlined in WDEQ published documents.



Dale Anderson

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| JOB #:   | 22-09     | REV # | DATE | DESCRIPTION | BY |
|----------|-----------|-------|------|-------------|----|
| DATE:    | 7/29/2022 |       |      |             |    |
| DRAWN:   | JK        |       |      |             |    |
| CHECKED: | XXXXX     |       |      |             |    |

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|----------|-----------|-------|------|-------------|----|
| DATE:    | 7/29/2022 |       |      |             |    |
| DRAWN:   | JK        |       |      |             |    |
| CHECKED: | XXXXX     |       |      |             |    |

**NRRR FIRST STREET**

**Edge Engineering Group**  
**First Street Environmental Inspection and Report**  
**November 2022**

|  |                            |
|--|----------------------------|
| <b>Project:</b> First Street River Restoration <b>Owner:</b> City of Casper        |                            |
| <b>Location:</b> North Platte River – Poplar Street Bridge to BNSF railroad Bridge |                            |
| <b>Date:</b> 11/22/22  | <b>Hours:</b> 1100 to 1200 |
| <b>Day:</b> Tuesday  |                            |
| <b>Weather:</b> Approx. 37 degrees, windy, partly cloudy                           |                            |
| <b>Site Conditions:</b>  |                            |

|                      |                               |  |
|----------------------|-------------------------------|--|
| <b>Submitted To:</b> | Jolene Martinez, Scott Baxter |  |
| <b>Prepared By:</b>  | Jason Knopp                   |  |
| <b>Report Number</b> | 22-09 November 2022           | <b>Reviewed by:</b>  |

**Recommendations:**

- Reseed and replant in the areas outlined in areas as noted in July and August 2022 inspection reports (drawings from July 2022 are at end of this report, with recommended reseed and replant areas noted, provided here for ease of reference).

**Activities and Observations:**

- 11/22/2022 – Met with Whitney Lang with Wyoming Department of Environmental Quality (WYDEQ), Wyoming Pollutant Discharge Elimination System (WYPDES) at the Jonah Bank parking lot to look at areas along the river bank on river left that the ground appeared to be bright orange in nature. These orange areas were first discovered at the end of October.





**Red surface staining observed at the end of October**

The first location inspected is located immediately south of First Street bridge on river left. This is the largest and brightest area-stained orange. The other three areas where the ground appears orange are located north of First Street bridge on river left, these are much smaller in area and a lighter color of orange. (See attached map)

The red/orange color in the picture is created by a dye agent. The dye was heavy in nature which allowed it to settle quickly in the flowing current. It is a surface staining; the rocks are clean on the bottom side embedded in the river bed.



**Red Stained rock, top and bottom**

At the first location south of First Street bridge river left, a small pile of semi harden concrete grout; consistency of what someone would buy from Home Depot with a red dye added. This small pile was found in the water close the shore line. This is a high probability of illegal dumping as someone washed out a bucket of dyed concrete.



**Small pile of harden concrete dyed red**

There are three additional areas where the rivers edge surface is stained in a similar color, north of First Street bridge on river left. These three areas are much smaller in size and are not stained as bright of a red color.

It is assumed that all four areas were most likely stained by the same individual, washing out concrete tools at the river's edge.



**You can see two of the small areas north of First Street bridge**

Overall vegetation of the entire project site is essentially unchanged from the September 2022 inspection. Of the areas where vegetation has occurred, the larger growth appears to be predominantly weeds with some native grasses and plantings starting to grow under the canopy of the weeds.


The river level dropped since the October 2022 inspection.

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**Edge Engineering Group**  
**First Street Environmental Inspection and Report**  
**December 2022**

|  |  |                              |  |
|--|--|------------------------------|--|
| <b>Project:</b> First Street River Restoration                                     |  | <b>Owner:</b> City of Casper |  |
| <b>Location:</b> North Platte River – Poplar Street Bridge to BNSF railroad Bridge |  |                              |  |
| <b>Date:</b> 12/12/22  |  | <b>Hours:</b> 345 to 500     |  |
| <b>Day:</b> Monday   |  |                              |  |
| <b>Weather:</b> Approx. 5 degrees, calm, cloudy                                    |  |                              |  |
| <b>Site Conditions:</b>  |  |                              |  |

|  |  |
|--|--|
| <b>Submitted To:</b> Jolene Martinez, Scott Baxter |  |
| <b>Prepared By:</b> Jason Knopp                    |  |
| <b>Report Number</b> 22-09 December 2022           | <b>Reviewed by:</b>  |

**Recommendations:**

- Reseed and replant in the areas outlined in areas as noted in July and August 2022 inspection reports (drawings from July 2022 are at end of this report, with recommended reseed and replant areas noted, provided here for ease of reference).

**Activities and Observations:**

- An additional 26 photos were taken and available upon request;
- 12/12/2022 – Inspection started on river right in the vicinity of the BNSF railroad bridge and proceeded south (upstream) along river right observing both banks until reaching a point just below the Poplar Street bridge. Moved to Jonah Bank area, and continued inspection downstream to approximately the BNSF railroad bridge.



**River right, behind Hose and Rubber shop**

The river has started to freeze or ice over, so inspection along the rivers edge and in the water was very limited due to personal safety. Some snow on the ground in spots, but a majority of the river banks were observed. Too early in the winter to see ice jams and the effect on the shore line and the structures.

Overall vegetation of the entire project site is essentially unchanged from the November 2022 inspection.



**Staging Area**



**Access ramp, below staging area**



**River left, below Jonah bank**



**River left, outlet below Jonah Bank looks good**






**Sparse vegetation river, left just upstream from 1<sup>st</sup> Street Bridge**

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**Edge Engineering Group**  
**First Street Environmental Inspection and Report**  
**January 2023**

|  |                          |
|--|--------------------------|
| <b>Project:</b> First Street River Restoration <b>Owner:</b> City of Casper        |                          |
| <b>Location:</b> North Platte River – Poplar Street Bridge to BNSF railroad Bridge |                          |
| <b>Date:</b> 1/20/23   | <b>Hours:</b> 310 to 410 |
| <b>Day:</b> Friday   |                          |
| <b>Weather:</b> Approx. 22 degrees, calm, sunny                                    |                          |
| <b>Site Conditions:</b>  |                          |

|                      |                               |   |
|----------------------|-------------------------------|---|
| <b>Submitted To:</b> | Jolene Martinez, Scott Baxter |   |
| <b>Prepared By:</b>  | Jason Knopp                   |   |
| <b>Report Number</b> | 22-09 January 2023            | <b>Reviewed by:</b>  |

**Recommendations:**

- Reseed and replant in the areas outlined in areas as noted in July and August 2022 inspection reports (drawings from July 2022 are at end of this report, with recommended reseed and replant areas noted, provided here for ease of reference).

**Activities and Observations:**

- There were 96 photos taken and are available upon request.
- 
- 1/20/2023 – Inspection started on river right in the vicinity of the BNSF railroad bridge and proceeded south (upstream) along river right observing both banks until reaching a point just below the Poplar Street bridge. Moved to Jonah Bank area, and continued inspection downstream to approximately the BNSF railroad bridge.



**Looking downstream at BNSF bridge**



**Looking upstream, First Street bridge in the background**

The river surface was frozen with some ice slabs pushing up on shore. There was a significant amount of snow, approximately 12 inches in depth, that blanketed the project site.

Overall vegetation is assumed to be unchanged from the December inspection, although inspection of surface erosion and vegetation was difficult.



**River right, looking upstream at First Street Bridge**



**Repaired erosion area, river left**



**River left, looking upstream at Poplar Street Bridge**



**River left, looking upstream at Poplar Street Bridge**



**Ice slab pushed up on shore river left, below Jonah Bank at woody toe location**



**Ice slab pushing over wood toe, no damage viewed at this time**



**View under ice slab**



**Ice jam and outlet structure**



**River left, looking downstream at First Street Bridge**





**River left, looking downstream at First Street Bridge**



**River left, looking upstream towards Poplar Street Bridge**



**River left, just downstream of First Street Bridge, adjacent to the three monitoring wells**



**River left, looking downstream at BNSF Bridge**



**River left, erosion area on the back of the utility yard. A concrete apron was added to this area. Watch for erosion to occur past the concrete apron**




River left, looking downstream at BNSF Bridge

A handwritten signature in blue ink, appearing to read 'J. Knopp'.

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**Edge Engineering Group**  
**First Street Environmental Inspection and Report**  
**February 2023**

|  |                          |
|--|--------------------------|
| <b>Project:</b> First Street River Restoration <b>Owner:</b> City of Casper        |                          |
| <b>Location:</b> North Platte River – Poplar Street Bridge to BNSF railroad Bridge |                          |
| <b>Date:</b> 2/27/23   | <b>Hours:</b> 305 to 410 |
| <b>Day:</b> Monday   |                          |
| <b>Weather:</b> Approx. 35 degrees, 15 mph SW, sunny                               |                          |
| <b>Site Conditions:</b>  |                          |

|                      |                               |  |
|----------------------|-------------------------------|--|
| <b>Submitted To:</b> | Jolene Martinez, Scott Baxter |  |
| <b>Prepared By:</b>  | Jason Knopp                   |  |
| <b>Report Number</b> | 22-09 February 2023           | <b>Reviewed by:</b>  |

**Recommendations:**

- Reseed and replant in the areas as noted in July and August 2022 inspection reports (drawings from July 2022 are at end the of this report, with recommended reseed and replant areas noted)

**Activities and Observations:**

- There were 68 photos taken and they are available upon request.
- 
- 2/27/2023 – Inspection started on river right in the vicinity of the BNSF railroad bridge and proceeded south (upstream) along river right observing both banks until reaching a point just below the Poplar Street bridge. Moved to Jonah Bank area, and continued inspection downstream to approximately the BNSF railroad bridge.



**River right looking down stream at BNSF**



**Wetland channel, low area located river right sta. 22+00**



**Wetland channel/low area river right sta. 21+00**

The frozen river surface was starting to thaw but was still covered by a majority of ice. The river banks and ground surface were still covered in snow.

Overall vegetation is assumed to be unchanged from the November inspection, although inspection of surface erosion and vegetation was difficult due to the snow cover

The ice slabs that were being pushed up on shore were gone during this month's inspection, with no visible damage to the shore line or structures.



**J-Hook structure starting to become visible through the snow and ice river right sta. 16+00**



**Access ramp, river right sta. 12+00**



There are two local spots along the woody toe structure where some of the smaller filler material (gravel and rocks) have been removed from the top of the structure. This is very minor erosion but should be watched through spring flush and runoff. The two locations are located at approximate station 4+25 and 4+75 river left.

A concrete apron was installed river left, on the backside of the utility yard around sta. 22+50. The concrete apron was installed in replacement of recently placed rip-rap. This is another area to watch as we go through this years rainstorms.



Small erosion area river left sta. 4+25



**Small erosion area river left sta. 4+75, just upstream of outlet structure**





**River left looking downstream at first street bridge**



**River left sta. 11+00 looking upstream, sparse vegetation**



**Recently repaired erosion area river left just down stream from First Street Bridge**



**Sparse vegetation river left sta. 19+00**



**Concrete apron below utility yard river left sta. 22+50**



**River left looking downstream at BNSF railroad**

A handwritten signature in blue ink, appearing to read 'J. Knopp', is positioned at the top left of the page.

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| JOB #:   | 22-09     | REV # | DATE | DESCRIPTION | BY |
|----------|-----------|-------|------|-------------|----|
| DATE:    | 7/29/2022 |       |      |             |    |
| DRAWN:   | JK        |       |      |             |    |
| CHECKED: | XXXXX     |       |      |             |    |

### NRRR FIRST STREET



EDGE ENGINEERING GROUP  
 4760 ROSS RIDGE RD  
 CASPER, WY 82604  
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| JOB #:   | 22-09     | REV # | DATE | DESCRIPTION | BY |
|----------|-----------|-------|------|-------------|----|
| DATE:    | 7/29/2022 |       |      |             |    |
| DRAWN:   | JK        |       |      |             |    |
| CHECKED: | XXXXX     |       |      |             |    |

### NRRR FIRST STREET