

Clay County Precinct 1 Roads Affected by Ringgold Lake Project

The following is a list of several Clay County roads that would be directly affected if the proposed Ringgold Lake Project is allowed to happen. Every reasonable effort has been made to come to cost totals that are both realistic and that have been seemingly overlooked in the planning phase of this proposed project. Material cost breakdowns were mainly shown in area number 1, Riverland Road.

Important Note: Any prices or estimated prices of materials are based on prices effective as of May 2023. Any projected costs, such as labor and equipment, are based solely on what we can figure from contacting professional contractors, searching the internet, and using combined experience in relation to road and bridge construction and maintenance. No engineering firm has been used in any step of preparing this work. These dollar figures are conservative estimates as of the day this was prepared, and are virtually guaranteed to rise.

1. Riverland Rd.

From the tee at Prairie Flower Rd, Boddy Rd, and Riverland Rd intersect going north to the creek past the railroad tank car in the creek. This part of the road will need to be built up and 6" of rock added. Riff raff rock on the east side of the road to stop erosion, according to the map water could be against the road. Best solution for longer life would be to replace railroad car with a bridge.

Location: At center of rail car: N 33.93297 , W 098.08807

Approximate flood distance north: 353 ft. to point of N 33.93396 , W 098.08816

Approximate flood distance south: 563 ft. to point of N 33.93135 , W 098.08806

Road width 20 ft. Easement width 40 ft. at narrowest close to creek.

Option 1: Build a bridge. This would be the longest lasting solution as water is projected to be present at all times, coupled with the fact that this area is very prone to flooding during and after heavy rains. The presence of a lake would accelerate and worsen the flood occurrences.

Option 2: Build up the road by approximately 6 feet for a distance of approximately 916 feet. The existing railroad tanker car would need to be removed and replaced by one, possible two, 10 to 12 foot diameter tin horns. Since this area is likely to have continuous water present, it needs to be kept in mind that metal tin horns will rust at an accelerated pace when continually exposed to water, not just when they are needed for the water to run its normal course after rains.

Option 3: The same amount of buildup of the road as above, but have reinforced concrete culverts designed and installed for the creek crossing.

With Option 1, a true price cannot be figured without consulting one or more engineering firms. However, based on the height and distance required, a conservative estimate could be considered at \$4,000 per linear foot, depending on materials used and finished width, at a distance of approximately 1,000 feet, calculating at an estimated \$4,000,000.

With Options 2 and 3, the material calculations, based on May 2023 prices, would be roughly the same, with the exception of prices of tin horns versus concrete culverts. The price of dry fill dirt, at a length of 916 feet, a width of 20 feet, and a depth of 72 inches, calculates out to approximately 6,870 tons of material, at an estimated price of \$3 per ton, equaling \$20,610. There will also need to be a minimum of 6 inches gravel to cover the road, at a length of 916 feet and a width of 20 feet, calculating out to approximately 435 tons of material, at a price of \$8.00 a ton, equaling \$3,480.80. The current price of a 10 foot diameter by 30 foot length tin horn is \$13,381.88, a 12 foot diameter by 30 foot length tin horn being \$18,281.25. At these diameters, a 20 foot section must be connected to a 10 foot section with a band. If a concrete culvert is to be used, figure on a minimum of 2.5 to 3 times the material cost alone, as well as more labor hours and road closure hours. An engineer would be needed to figure the sizes needed.

Other money will most likely be added for the equipment, fuel, labor, freight, disposal fees of certain materials, etc. that will be involved in such a project. At this site, an excavator will be required to remove the existing rail car. A dozer, loader, and backhoe will be needed to clear the existing area of trees and unusable dirt and gravel material, and that waste material as well as the rail car will need to be hauled off of the site. An excavator or a crane will be needed to install the new culverts (tin horns), and a loader, backhoe, and possibly excavator will be needed to fill around and on top of the new tin horns. Fill dirt can then be hauled in, approximately 275 loads if loading at 25 tons per load. A packer will be needed throughout this process, as well as a motor grader, backhoe, and likely an excavator. After all of the fill dirt has been brought in, packed down, and made ready for a road, the gravel will need to be hauled in, approximately 18 loads if hauling 25 tons per load. A motor grader will be needed at all times, as well as a packer. Oversized fill material will likely be needed for the ditches at the sides of the new road for erosion. A conservative estimate of 10 to 15 loads would likely be required. Existing fence at the work site would likely be removed or destroyed during the construction process, so this would need to be redone as well. Keep in mind that during this process of construction the road would have to be closed to through traffic. Depending on weather and other conditions, this single site project could take weeks. Also keep in mind the damage to the roads going to and leaving the site that is guaranteed to occur when hauling over 300 loaded trucks and trailers, as well as the heavy equipment that will be needed in and out of the area. A total cost of either option 2 or option 3 would likely come in a bit cheaper than building an actual bridge, but would likely top \$2 million.

Please be reminded that a total cost for either of these options is also just a conservative estimate.

2. Prairie Flower Rd.

West of the Prairie Flower Rd, Boddy Rd, and Riverland Rd tee there is a low point with two sets of double tin horns. The lowest of the two sets flood currently with bigger rains. If the lake backs up at flood stage this area would likely stay under water.

Location: At center of first set of double tin horns: N 33.92527 , W 098.09759 Elevation 872 ft.

Approximate flood distance east: 435 ft. to point of N 33.92525 , W 098.09606

Approximate flood distance west: 298 ft. to point of N 33.92527 , W 098.09863

Road width 20 ft. Easement width 62 ft. fence to fence.

Option for Correction:

Replace the four existing tin horns with larger tin horns, build up the road in the area that is likely to see the most flooding. Again, the cost is estimated, but with material, labor, and road closure expense, as well as an engineering plan for the project, it would be likely in excess of \$100,000.

3. Prairie Flower Rd. north of Cueba Lane

There is a steel topped bridge and two railroad tank cars at the creek. The map shows that the lake water will be under the bridge and in the rail cars at all times. With the current steel plate mud walls the bridge will not be able to handle water at all times. Also, the two rail cars are steel and would deteriorate if under water at all times. This area is very common to flood during heavy rains as it is, several feet above the bridge. Replacing the existing bridge and rail cars with a new raised bridge would seem to be the best course of action. The probable estimated cost of a 1,000 foot spanned bridge is the same as the first Riverland Road location, approximately \$4 million.

Location: At center of the bridge: N33.89071 , W 098.13125 Elevation 851 ft.

Approximate flood distance north: 768 feet to the point of N 33.89294 , W 098.13116

Approximate flood distance south: 342 feet to the point of N 33.88972 , W 098.13124

Road width 20 feet. Easement width 68 feet fence to fence

4. Moser Rd

Will need larger tin horn, road will need to be built up, oversized fill material on sides for erosion as needed.

Location: From center of existing tin horn: N 33.86609 , W 098.16349 Elevation 843 feet.

Approximate flood distance east: 320 feet to the point of N 33.86606 , W 098.16239

Approximate flood distance west: 334 feet to the point of N 33.86611 , W 098.16460

Road width at tin horn 16 feet. Easement width 56 feet fence to fence.

Taking into account the cost of materials, labor, possible legal expense of securing landowner easement because the road would have to be widened as it is built up, and engineering costs, an estimate of \$300,000 to \$500,000 would be conservative for this site.

5. Henry Sheer Rd.

In the flood area the road will need to be built up, existing tin horns replaced with larger tin horns, and 6 inches of gravel as surface. There is a business at the end of this road so traffic will have to be able to come and go.

Location: Approximate center point of low area: N 33.83843 , W 098.16386 Elevation 847 feet.

Approximate total distance road will need to be raised: 0.4 miles. Build up would be approximately 4 feet plus 6 inches gravel cover.

Road width 20 feet. Easement width approximately 40 feet.

An engineer would be needed to know the exact size of culverts for the nearly half mile of road that would need to be raised, and this project would likely need to be done in stages, as the business at the end of the road has only one method of entry and exit, which is Henry Sheer Road. A conservative estimated cost would likely be \$250,000 to \$300,000

6. Thaxton Rd @ Cambridge Rd

At the intersecting corner there is a gate to the road to the Old Cambridge Cemetery. The map shows that when the lake is full of water, part of this road will be under water, even more during flood stage. No width or distance is known, as the gate is kept locked except by appointment due to vandalism concerns. As the only point of entry to the cemetery is at this intersection, and this cemetery is believed to be the oldest in Clay County, with the first burial date readable being from 1852. While we cannot

assume a price to keep the road out of water, there is no doubt that this location will need to be addressed.

Location: At gate: N 33.82397 , W 098.14740 Elevation 865 feet.

7. Daniels Rd.

At lowest point there are two set of double tin horns, and this area is common to flood during and after heavy rains. The road will need to be built up approximately 0.5 miles at a raised height of approximately 6 feet, with an additional 6 inches of gravel cover, as well as replacement of existing tin horns with larger ones. Other option would be a bridge for the area. One residence is at the end of this road, past this low area, it is unknown if any other access to or from is available.

Location: From center of south set of double tin horns: N 33.83162 , W 098.09646 Elevation 876 ft.

Approximate road width 20 feet. Easement width unattainable at this time, will be approximately 40 feet.

Due to the length of road needed to be raised, as well as the area already prone to flooding during heavy rains, a bridge would be the best permanent solution. This would be a longer span than those on either the Riverland Road or Prairie Flower road, at least twice the length, and therefore twice the price, at an estimated \$8 million, possibly more.

Conclusion:

With a total cost close to \$17 million, possibly even higher, it is unreasonable and frankly impossible to expect Clay County to shoulder this burden. These costs need to be considered and put into the overall cost of the Ringgold Lake project, at the expense of the City of Wichita Falls, not Clay County. Citizens of Clay County live and work on these roads, and many use these roads as part of their daily commute. These are public roads that are maintained by Clay County at taxpayer expense. All of these areas are in Precinct 1, whose yearly operating budget, of which road and bridge is only one of many line item expenses, is just under \$600,000. Clay County not only does not have the money to cover this overlooked expense, but should not be so much as asked to shoulder any of the financial burden associated with any of these problem areas that will arise if this lake comes to fruition.

As a reminder, none of these estimated costs were prepared neither by an engineering firm, nor with any consultation of an engineering firm, and as such, any and all estimated costs will likely be higher than we can estimate.

Thank you.

Prepared by Ben Pharries, Commissioner, Clay County Precinct 1, with posthumous appreciation to my predecessor Richard Lowery, and with the assistance of Jack Pickett, Clay County Precinct 2 Commissioner, and Chase Broussard, Clay County Precinct 4 Commissioner.