

FLOOD REVIEW BOARD

Date: October 26, 2023

Time: 8:30 AM, MDT

Location: Lake Estes Conference Room, 3rd Floor, 200 W Oak St., Fort Collins and via Zoom meeting

Contact: Tina Kurtz, Larimer County Engineering Department

MEETING MINUTES

Staff Present: Tina Kurtz, Caryn Nezat, Traci Shambo, Amy White

Staff Online: Alan Kee

Board Members Present: Dr. Chris Thornton, Chad Morris, Jamis Darrow, Travis Rounsaville, John Hunt, Dr. Elisabeth Ervin-Blankenheim

Board Members Online: Mike Oberlander

Call to Order: Dr. Thornton opened the meeting at 8:31 a.m., MDT

Introductions

Item 1: Approval of September 28, 2023, Board meeting minutes

Motion:

Mr. Darrow motioned to approve the September 28, 2023, Board meeting minutes.

Dr. Ervin-Blankenheim seconded the motion.

Further Discussion:

None

Vote:

Mr. Hunt – Yes

Dr. Thornton – Yes

Mr. Morris – Yes

Dr. Ervin-Blankenheim – Yes

Mr. Oberlander – Yes

Mr. Darrow – Yes

Mr. Rounsaville - Yes

Motion passed [7-0], with 0 abstentions.



Item 2: A petition filed by Profile Rock Road HOA for a Floodplain Project Review under Section 12.1.6.H of the Larimer County Land Use Code for construction of a replacement bridge over the Cache la Poudre River, FEMA Zone A Floodplain Overlay District at the following location to wit: Section 36, Township 9 North, Range 74 West, Larimer County, CO

Applicants present: Chad Cantrell and Chris Holmes, JVA Consulting Engineers; Susan Cox, landowner; Brian Combs, landowner; Scott Brown, landowner

Ms. Kurtz introduced the project to the Flood Review Board and stated that this is a Floodplain Project Review for construction of a replacement bridge over the Cache la Poudre River in a FEMA Zone A Floodplain. The applicable Larimer County Land Use Code (LCLUC) Section for a Floodplain Project Review is LCLUC Section 12.1.6.H.

The original bridge, serving 6 homes, was removed in 2021 due to debris flow damage from the Cameron Peak fire. The replacement bridge will be the same size as the original bridge at 65 feet long by 13 feet wide and will have new concrete abutments. This will be a single span bridge unlike the original which had 2 piers. The replacement bridge is designed to pass 2,700 cfs with 1 foot of freeboard, which is approximately the 20-yr flood event.

Mr. Cantrell described that they plan to replace the bridge and as part of the replacement they will improve the structural loading to address the Fire Department needs, which will require removal of the abutments. The design will include a guardrail and will span the river in its entirety; therefore, the existing piers will not be reinstalled. They are considering either a poured in place concrete deck or timber deck. They are discussing with the contractor factors such as pricing and it was noted that both designs have the same thickness and will not have an impact on the model.

Mr. Hunt asked if the low chord is changing. Mr. Cantrell answered that the new chord elevation will be slightly above the previous low chord, which causes some minor grading of the approaches. It was noted by Mr. Hunt that it appears that the deck is about 1' higher than original structure and Mr. Cantrell stated that the change is more on the north end than the south end. Mr. Hunt also asked about the scour analysis for the spread footing and said that it appeared they intended to have the footing keyed into the shallow bedrock, but he pointed out that a sheet in the documents also stated that the footing would be on compacted subgrade. He recommended this be consistent in documents and Mr. Cantrell agreed that the team will change the note to be clear. Mr. Hunt pointed out that he is concerned that if the footers are not keyed into bedrock, the riprap will be washed away and compromise the structure. He recommended that they work closely with a geotechnical engineer to verify they are keyed into solid bedrock or treating the bedrock as necessary to ensure the foundation is on sound bedrock.

Mr. Oberlander pointed out that the abutment details do not match the site plan, specifically the south abutment is showing longer wingwalls. He also asked what happens to the bridge when it has 2' of water pushing on it in 100-year event. Mr. Cantrell said it will back up on the steel members but confirmed the structural engineer took this into account.



The Board discussed freeboard requirements and concerns with damage when there is not enough freeboard but at the end of the discussion, they noted that in this case the condition will be improved because there will be a clear span, which is better for clogging than the previous design with a pier.

Ms. Nezat clarified that the County has been working very closely with the property owners and other jurisdictions, such as the US Fish & Wildlife Service and US Forest Service, to provide a replacement bridge that is equal to or better than the prior condition.

Mr. Darrow asked if JVA did any floodplain mapping and they indicated that they did not since they did not find that it would be beneficial given the bridge was well above the floodplain and the floodplain map is not changing. Mr. Darrow also asked if there are any structures that will have a rise on them, and Mr. Cantrell answered that there is a home on the south bank but the home is several feet above the base flood elevation.

Mr. Oberlander added that he is comfortable since they have documents that the structure is designed to hold up to a 100-year flood.

Dr. Ervin-Blankenheim asked if there is a plan for sediment control during abutment rebuilding and Mr. Cantrell answered that they will require the contractor to install coffer dams while working on the riprap and abutment installation to mitigate for sediment control.

Mr. Oberlander asked if the County will watch the construction and inspect the work. Ms. White stated that there will be a building permit and the building inspectors will monitor the work. Ms. Shambo added that the Board could include a condition that a Professional Engineer certifies specific components of the work that are of particular concern.

Mr. Hunt suggests again that a geotechnical engineer certifies that the foundation is keyed into competent bedrock. He noted that if they do not encounter shallow bedrock, they would have to do drilled shafts, which would be difficult and would be back to the drawing board. When looking at soil borings, the Board agreed that bore results look hopeful that they can find competent bedrock.

Motion:

Mr. Hunt moved to recommend approval of the Profile Rock Road Bridge replacement in the Cache la Poudre Zone A Floodplain Overlay District Floodplain Project Review to the County Engineer with the following conditions:

Conditions:

1. The applicant provides a stamped Geotechnical Engineering Report asserting that the foundation on both sides of the structure is keyed into competent bedrock.
2. Reconcile the design plans with the construction drawings.

Mr. Rounsaville seconded the motion.

Further Discussion:



None

Vote:

Mr. Hunt – Yes
Dr. Thornton – Yes
Mr. Morris – Yes
Dr. Ervin-Blankenheim – Yes
Mr. Oberlander – Yes
Mr. Darrow – Yes
Mr. Rounsaville - Yes

Motion passed [7-0], with 0 abstentions

Item 3: A petition filed by Greg Ludlow for a Map Amendment under Section 12.1.6.G of the Larimer County Land Use Code for a Conditional Letter of Map Revision (CLOMR) in the Dry Creek FEMA Zone A Floodplain Overlay District at the following location to wit: Section 22, Township 4 North, Range 69 West, Larimer County, CO

Applicants Present: Suleyman Akalin, Galloway; Donald Hinson, Hinson Companies; Marek Klonowski, Northern Engineering

Ms. Kurtz introduced the project to the Flood Review Board and stated that this is a Map Amendment for a Conditional Letter of Map Revision (CLOMR) in the Dry Creek FEMA Zone A Floodplain. The applicable Larimer County Land Use Code (LCLUC) Section for a Map Amendment is LCLUC Section 12.1.6.G.

The applicants would like to use a parcel for a mixed-use development on both sides of Dry Creek within the current effective, model-backed, Zone A floodplain. The project boundary is within the Town of Berthoud, but the study boundary goes just into Larimer County to the west. The purpose of the CLOMR is to remove area from the floodplain for the proposed development.

Mr. Akalin showed the extent of the work. (See attached PowerPoint.) All grading is happening between the two major existing roads to the east and west (Highway 287 and Berthoud Parkway). He explained the duplicate effective modeling was truncated and the model used revised survey information and incorporated a culvert that was not in the original model. Results of the modeling effort are noted in the attached PowerPoint.

Mr. Hunt asked to see the cross-section plot on page 5.2 of the report because he wants to verify if the fill on right hand side encroaches into the floodplain at cross section 7571 compared to the corrected effective model. After looking at the cross-section in detail, it was noted that the fill is above 4,995', which is the 100-year flood elevation and therefore he was no longer concerned.

Mr. Rounsaville offered a suggestion to label the appendix to be clearer when submitting the information to FEMA.



Mr. Darrow had two points to consider but he does not expect that the points will ultimately change the results of the final model. He noted that clarifying these points may speed up the FEMA's CLOMR review time by addressing the comments before the submittal. His first point is that both the existing and proposed cross-section on the upstream side of the downstream bridge are showing as "permanent" ineffective areas and in the proposed condition, the crossing is not being shown as permanent ineffective flow so this may be showing extra conveyance that is not there. His second point is that cross section 7038 seems to show the right overbank in the corrective effective model with a n value = .05 but the proposed condition has n value = .035 in an area that is conveying water. He noted that unless there is a change that is reducing the n value, they may want to go back to n value = 0.05 for the entire right overbank. He recommends that the team considers this throughout the reach and if they are going to use different n values, they should ensure it is well documented on why as to not create an unnecessary comment from FEMA during their review process.

Motion:

Mr. Rounsaville motioned to recommend approval for signing the MT-2 form for the Ludlow Farms CLOMR in the Dry Creek Zone A Floodplain Overlay District Map Amendment to the County Engineer.

Mr. Morris seconded the motion.

Further Discussion:

NONE

Vote:

Mr. Hunt – Yes
Dr. Thornton – Yes
Mr. Morris – Yes
Dr. Ervin-Blankenheim – Yes
Mr. Oberlander – Yes
Mr. Darrow – Yes
Mr. Rounsaville - Yes

Motion passed [7-0], with 0 abstentions

Other items:

- Discussed upcoming agendas:

Meeting adjourned at 9:32 a.m., MDT.