

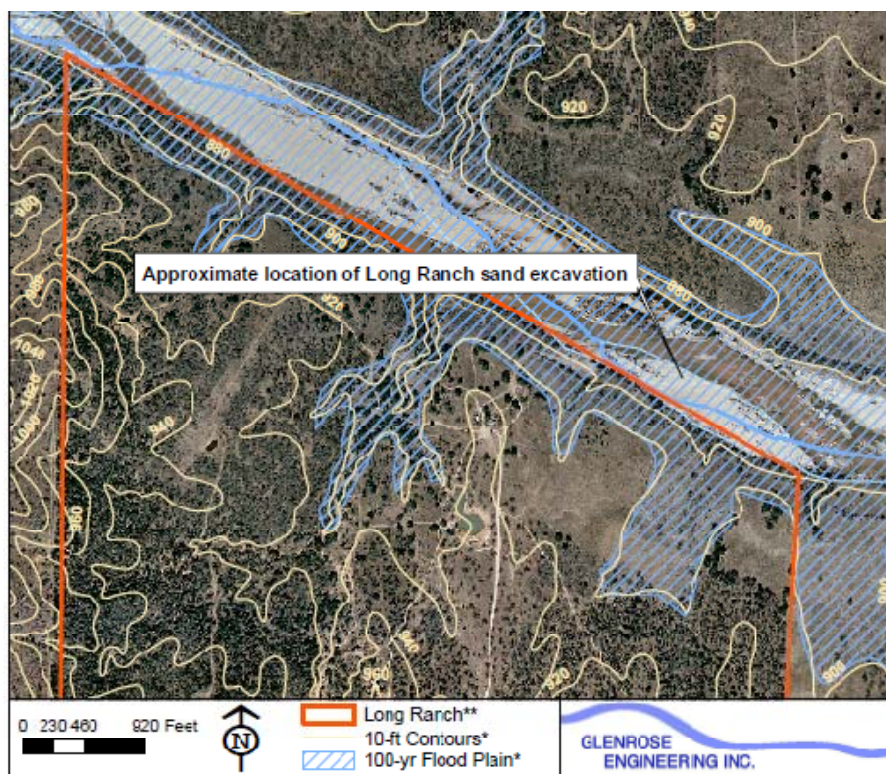
April 1, 2010

Judge Wayne Brascom  
Precinct 1 Commissioner Johnnie B. Heck  
Llano County, Texas  
801 Ford Street; Room 101  
Llano, Texas 78643

**Subject: Llano County Floodplain Permit Requirements for the Long Ranch Sand Pit**

Dear Judge Brascom and Commissioner Heck:

I am a civil engineer licensed by the State of Texas. At the request of Ms. Patricia Bowen, Ms. Seawillow Schmidt, Mr. Leo Perron, Mr. Preston Perron, Ms. Tracy Kirby, Mr. Richard Azar and Mr. John Robinson, I have reviewed the application and information associated with the Llano County Floodplain Permit for sand or gravel dredging within the 100-year floodplain on the Joe Long Ranch. As is indicated on the map below, the proposed gravel bar sand excavation



\* Information source: Capital Area Council of Governments  
\*\* As delineated by the applicant

**Figure 1. Long Ranch Sand Excavation and 100-Year Floodplain**

is well within the 100-year floodplain. Photograph 1, included with this letter, illustrates the relationship of the operations to ordinary Llano River flow.

Based on my experience and review, the sand and gravel operations violate Llano County floodplain regulations in the following areas:

1. Llano County Flood Damage Prevention Order Article 4 Section B (4) requires the Floodplain Administrator to assure that all necessary permits have been obtained from those Federal, State or local governmental agencies from which prior approval is required. The applicant has not performed a detailed engineering study. The applicant has not submitted the results of such a study as a basis for a Conditional Letter of Map Revision (COLMR) to the Federal Emergency Management Agency (FEMA); nor has FEMA approved any such a letter.<sup>1</sup>
2. Llano County Flood Damage Prevention Order Article 4 Section C (1) (iii) requires the application to include the *“location, dimensions and elevations of proposed landscape and terrain alterations.”* The application does not include information about the location, dimensions or elevations of the proposed sand excavation pits. It does not include locations, dimensions or elevations of concrete barricades or sand piles located on the gravel bar and within the 100-year floodplain.
3. The sand and gravel operations are substantially different than the operations described within the permit application. The floodplain application that I reviewed represents operations within the 100-year floodplain area as limited to excavation: *“2 )the operation of equipment within the flood plain (trucks and loaders) is only for the purpose of retrieving sand from the ranch along the river.”*<sup>2</sup> The applicant has, however, placed concrete barricades perpendicular to the river flow, as shown in Photograph 2. The photograph was taken by Ms. Seawillow Schmidt on March 14, 2010. These concrete barricades will affect

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<sup>1</sup> . Personal conversation with Mr. Ronnie Moore, Llano County Flood Administrator, Friday, March 26.

<sup>2</sup> Memorandum from Brad Shaw to Ron Moore regarding Work Stoppage Order B. C.

river flow and flood elevations in a manner different from sand and gravel excavation. They will potentially raise river flow elevations. These concrete barricades represent a hazard to navigation during high flow conditions. During flood events they are likely to be moved by the force of water, affecting navigation and safety of the river as it flows through downstream properties.

4. In addition to placing concrete blocks within the river floodplain, the sand and gravel operation is storing excavated sand on the gravel bar, as shown in Photograph 3. Sand and gravel storage within the Llano River 100-year floodplain is significantly different than the excavation operation represented in the floodplain permit application. Sand storage on the Llano River gravel bar can raise flood elevations and damage downstream property from the deposition of eroded sediment. These consequences arising from sand storage are significantly different than the limited excavation operation described in the permit application. Regulations require that these consequences be considered by FEMA and Llano County before a floodplain development permit is issued.
5. Llano County Flood Damage Prevention Order Article 4 Section C (d) requires “*a description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.*” There may be significant alteration of the Llano River channel and flow patterns from placement of the concrete barricades, from sand storage, and from the proposed sand and gravel excavation. The application fails to describe any alterations.
6. Llano County Flood Damage Prevention Order Article 4 Section C (2) (c) requires approval or denial of a Development Permit based in part on “*the danger that materials may be swept onto other lands to the injury of others.*” Because neither the concrete barricades nor the sand storage were described in the permit application, there was no opportunity for the Floodplain Administrator to deny the permit based on this relevant factor.
7. Llano County Flood Damage Prevention Order Article 4 Section C (2) ( d ) requires approval or denial of a Development Permit based in part on “*the compatibility of the proposed use with existing and anticipated development.*” No information was included in the permit application regarding the incompatibility of the proposed sand and gravel operation with ranching, wildlife, and endangered species habitat on the permitted or

adjacent properties. There was no opportunity for the Floodplain Administrator to deny the permit based on this relevant factor.

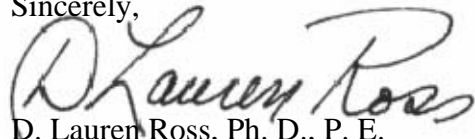
8. Llano County Flood Damage Prevention Order Article 4 Section C (2) ( g ) requires approval or denial of a Development Permit based in part on “*expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site..*” Without a detailed engineering report, no information was included in the permit application regarding these factors. There was no opportunity for the Floodplain Administrator to deny the permit based on these relevant factors. A detailed engineering report must address sand excavation, sand storage, and the concrete barrier placement on flood water flow and sediment transport.
9. Llano County Flood Damage Prevention Order Article 4 Section C (2)( i ) requires approval or denial of a Development Permit based in part on “*the availability of alternative locations, not subject to flooding or erosion damage, for the proposed use..*” No information was included in the permit application regarding options for sand and gravel mining outside the 100-year floodplain regulated by Llano County and FEMA. There was no opportunity for the Floodplain Administrator to deny the permit based on this relevant factor.

Llano County Flood Damage Prevention Order provides for penalties of up to \$500 for each violation of the ordinance and each day of violation constitutes a separate offence.

In summary, the Joe Long Ranch sand and gravel operation failed to provide necessary information required by Llano County as a basis for a Floodplain Development permit. The sand and gravel operation includes placement of concrete barricades and sand storage operations that are substantially different than the activities represented to the County as occurring within the 100-year floodplain. Deviations from the information provided constitute a material alteration of the Llano River floodplain with potentially significant consequences to flood elevations, navigation and safety.

Please let me know if I can provide additional information or answer any questions.

Sincerely,



D. Lauren Ross, Ph. D., P. E.  
Registered Texas Engineer Number 56647  
Glenrose Engineering, Inc.  
Texas Board of Professional Engineers Number F4092



Copy to:

Mr. Ronnie Moore, Llano County Floodplain Administrator  
Mr. Brad Rockwell, attorney  
Mr. Leo Perron  
Ms. Patricia Bowen  
Ms. Seawillow Schmidt  
Mr. Preston Perron  
Ms. Tracy Kirby  
Mr. Richard Azar  
Mr. John Robinson

*1 April 2010*



**Photograph 1. Sand and Gravel Operation With the Llano River  
Floodplain**





**Photograph 2. Concrete Barricades Above Long Ranch Sand and Gravel Excavation**



**Photograph 3. Sand Piles Stored within the Llano River Floodplain**