No. 18-30257

UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

ATCHAFALAYA BASINKEEPER, LOUISIANA CRAWFISH PRODUCERS ASSOCIATION-WEST, GULF RESTORATION NETWORK, WATERKEEPER ALLIANCE, and SIERRA CLUB and its DELTA CHAPTER,

Plaintiffs- Appellees,

v.

U.S. ARMY CORPS OF ENGINEERS,

Defendant,

BAYOU BRIDGE PIPELINE, LLC

Intervenor-Defendant- Appellant,

STUPP BROS., INC. D/B/A/ STUPP CORPORATION,

Intervenor-Defendant.

On Appeal from the United States District Court for the Middle District of Louisiana,
Case No. 3:18-cv-23-SDD-EWD

DECLARATION OF IVOR VAN HEERDEN PH.D. IN SUPPORT OF PLAINTIFFS' OPPOSITION TO STAY PENDING APPEAL

I, Ivor van Heerden, PhD, hereby declare as follows:

1. I am a resident of the state of Virginia.

2. I obtained a master's degree and PhD in Marine Sciences from Louisiana State University and have extensive experience on issues concerning the Atchafalaya Basin, the Mississippi, and Coastal Louisiana. I prepared a report on behalf of Plaintiffs on the Bayou Bridge Pipeline in July 2017, and later prepared a declaration in this matter in Support of Plaintiffs' Motion for Preliminary Injunction. I further testified at the hearing on the Motion for Preliminary Injunction. I submitted my curriculum vitae establishing my qualifications to offer fact and opinion testimony with my previous declaration in this matter.

3. On March 1, 2018, I reviewed the declaration of Charles Frey in support of Bayou Bridge Pipeline LLC's motion to stay the preliminary injunction.

4. On the whole, Mr. Frey's testimony illustrates why it is so critical that no further construction occur in the Basin at this time. In fact, resuming construction during flood season would cause significantly more harm than at other times of year.

5. In general, excavating a canal (so-called trench) and removing trees within the Basin produces a very efficient linear conduit for transporting suspended sediment from the river to the interior portions of the cypress swamp where it is deposited. This leads to shallowing, hypoxic conditions, and other physical

changes that destroy habitat and permanently convert these rich swamps into bottomland hardwood forests. At the same time, this process robs the Louisiana coast of sediment that it desperately needs—effectively causing irreparable environmental harm in two places from a single action. I discussed the mechanism for this extensively in my written submissions and testimony to the District Court.

6. High water exacerbates sedimentation issues that are a consequence of dredging/excavating these treeless channels and canal conduits; these pipeline canals, or trenches, are at least 6 feet deep, and about 40 feet wide. Due to increased velocity and flow of the main channels, vastly greater amounts of suspended sediment flows from the Atchafalaya River even further into the adjacent swamps during flood season. For reference during last fall (September/October) the Atchafalaya discharge at Simmesport was about 80,000 cubic feet per second (cfs). At the present time the discharge is about 470,000 cfs, almost 6 times as high. Attached as Exhibit 1 to this declaration is a true and correct copy of the USGS hydrograph of Atchafalaya at Simmesport for the last 12 months that I downloaded from the USGS website, also available at https://nwis.waterdata.usgs.gov/usa/nwis/uv/?cb_00060=on&cb_00065=on&format=gif_default&site_no=07381490&period=&begin_date=2017-02-26&end_date=2018-03-04 .

7. The flood cycle in the Basin begins with the Mississippi River beginning to rise in October, with the major flooding generally occurring in March, April, May and June, after which time the hydrograph generally drops. This is the most critical time to avoid digging trenches in the Basin.

8. The River is rising rapidly at an above-normal rate this year. Since January 28, 2018, the Atchafalaya River at Simmesport, Louisiana has risen from just over 6 feet to more than 34 feet as of March 3, 2018, and is on a sharp rise. In that same time frame, Butte La Rose has risen from a little over 3 feet to over 15 feet. Attached as Exhibit 2 to this declaration is a true and correct copy of the NOAA (National Oceanic Atmospheric Administration) Simmesport Stage Hydrograph that I downloaded from the USACE website, also available at http://rivergages.mvr.usace.army.mil/WaterControl/Districts/MVN/sms.gif, and attached as Exhibit 3 is the USGS Butte La Rose Stage Hydrograph that I downloaded from the USGS website, also available at https://waterdata.usgs.gov/nwis/uv?cb_00065=on&format=gif_stats&site_no=07381515&period=100&begin_date=2018-02-22&end_date=2018-03-01 .

9. We are already at a tipping point in losing major portions of the Atchafalaya Basin due to changes in hydrology and sedimentation. Therefore, clearing a new 75-foot wide channel and digging a new canal for pipeline placement—from one side of the Basin to another—during a flood season could be detrimental to the

Basin. Accordingly, while it was and is my opinion that clearing trees and digging a trench for the pipeline would cause significant and irreparable harm during any time of year, that harm would be significantly increased were it to take place at this time, as the company requests.

10. Based on review of past hydrographs and my own experience in the area since 1977, I expect the water to remain high in the Basin this year until at least the end of August, maybe longer.

11. The Frey declaration incorrectly suggests that the so-called wet season is due to rainfall Instead, it reflects rising Atchafalaya River waters in sympathy with the Mississippi River, to which it is intimately connected. The River rise is primarily due to the melt associated with large snow events that occurred this winter and will continue through the Spring in states along the Mississippi River. A large part of the snow melt and flooding in the U.S. drains into the Mississippi River. The Atchafalaya River takes 30% of the Mississippi flow. Therefore, what happens in the Mississippi happens in the Atchafalaya.

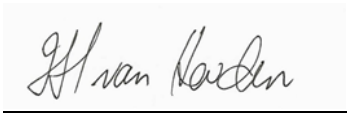
12. The statement in the Frey declaration that environmental damage would have been prevented in the normal course of continuing to construct the pipeline is also misguided. According to the data I received, the construction is only 3.7 miles into Basin on the west and 2.6 miles on the east with only 1 mile of excavated canal from Bayou L'Embarras toward the western Atchafalaya levee. Bayou

Bridge could not have finished the project this week. Even the Frey declaration acknowledges that flooding could occur within days. Because the sediment is transported by the conduits and the rising river, by digging more, Bayou Bridge would be creating more conduits, driving the problem.

13. My only recommendation in terms of remediation would be to infill the 1-mile trench, but that may be impossible as the river has risen so rapidly. This 1-mile trench could be a very efficient conduit for suspended sediment to get into prime cypress swamp during a large flood on the Atchafalaya River, something that the hydrograph data suggests is underway.

14. In fact, this remediation should have occurred already. A condition in Bayou Bridge's 408 permit, condition m, requires Bayou Bridge to backfill excavations and cease operations five days prior to landfall of an anticipated high river event. The permit defines such an event as one with a Carrollton gage reading of +11.0 feet or higher. This level was reached on 26th February, 2018. Attached as Exhibit 4 to this declaration is a true and correct copy of the Carrollton Gage located at the Corps of Engineers office in New Orleans that I downloaded from the USACE website, also available at http://rivergages.mvr.usace.army.mil/WaterControl/shefgraph-wotem2.cfm?sid=01300&d=62&dt=S . Note the steep rise of the hydrograph, similar to what we see on the Atchafalaya at Simmesport.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge. Executed this 5th day of March, 2018.



Ivor van Heerden, Ph. D.