



Holliday

SAND AND GRAVEL COMPANY

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VIA EMAIL TRANSMISSION

Matthew Sailor
Regulatory Project Manager
U.S. Army Corps of Engineers--Kansas City Regulatory Office
601 East 12th Street, Room 402
Kansas City, Missouri 64106

Re: Missouri River Dredge Permit NWK-2011-00363

Dear Matt:

Please accept the following comments from Holliday Sand & Gravel Company ("Holliday") on our request for renewal of our Missouri River commercial dredging permit. We believe our comments will serve to inform interested parties that Holliday's River dredging, as requested in its U.S. Army Corps of Engineers ("USACE") permit application, is sustainable and critical to the infrastructure of greater Kansas City (KC) and as such is clearly in the public's interest.

Critical Demand for Sand

As construction in KC ramps up, the demand for sand is projected to soon exceed all available sources. As you know, concerns about bed degradation have reduced the volume of sand that Holliday can dredge in the Kansas City Segment of the Missouri River, up to 79% less. Much of the reduction has been supplemented in river segments upstream and downstream of KC. Regardless, we are predicting an annually increasing shortfall of tonnage beginning in 2015 as construction in the region ramps up. At this time there is no reliable alternate source for this growing shortfall of quality concrete sand that should begin this year.

Progress on Evaluating and Addressing Degradation

Holliday continues to participate in and help fund the Missouri River Degradation Study that seeks to determine the impacts, causes and solutions to bed degradation. However, the bed computer model that is a significant element of the Degradation Study remains incomplete and flawed; accordingly, Holliday agrees with the USACE's decision not to include the preliminary draft results of the model as part of the agency's evaluation of applications in this current permit cycle.¹ In the meantime, as the Degradation Study continues, changes have already occurred that suggest reduced degradation: the KC area river dike structures that intentionally cause scouring of the bed and preserve the navigation channel were lowered by the Corps thus decreasing the scouring effect, KC area dredging tonnages were significantly reduced, and dredge limits were imposed in five-mile reaches, moving dredge locations further from KC. Unfortunately, a once in a lifetime reservoir discharge event occurred in 2011 and has set back the progress from these significant changes.

Nevertheless, we are encouraged by the bed recovery that is evident from the recent river surveys, showing an increase in water surface elevations since 2009 from River Mile 280-390. Comparison of river cross-section surveys completed in 2009, 2012, and 2013 by the USACE indicate that the channel bed of the Missouri River has actually aggraded (material has deposited) from River Mile 325 to RM 370. This information was presented by the USACE at the February 9, 2015 meeting - see *2015 Annual Missouri River Dredgers Update Meeting*. This reach of river includes where Holliday has been dredging sand for construction materials over the same time period. Though it is a small improvement, it is significant considering the high flows and scour that occurred during the record 2011 scour event.

Data also presented shows the average slope line of the construction reference plane water surface profile has increased approximately 0.5 feet through this reach over this same time period. This bed aggradation represents approximately 2.5 to 3.0 MTONs of bed material deposition in this reach over this 3 to 4 year time period from 2009 to 2013. We believe much of this bed recovery actually occurred after the high flow event in 2011, although cross section surveys are not detailed enough to confirm this hypothesis. In summary we note that both channel bed and associated water surface elevations have increased in this reach with a combination of ongoing dredging by Holliday within the regulatory limits and an extremely high flow event in 2011.

Isn't Dredging the Problem?

It's not that simple - there's plenty of sand in the Missouri River and it's constantly being replenished from upstream reaches. Reducing dredging is not the answer to bed degradation.

The US Geological Survey (USGS) measures suspended bed material sediment discharge on the Missouri River at Kansas City and summarized annual bed material sediment loads in their report *Characteristics of Sediment Data and Annual Suspended Sediment Loads and Yields for Selected Lower Missouri River Mainstem and Tributary Stations, 1976-2008*. For the time period from 1995 through 2006 (years that included an extreme drought) the **USGS reported that approximately 11.7 million tons per year of bed material sediment (very fine sand or coarser material) was transported by the Missouri River through Kansas City**. This quantity of sediment load is at least 10 times greater than the bed material sediment

¹ The USACE officially took this position during the agency's annual meeting with the Missouri River dredgers on February 9, 2015. If the USACE changes course during its processing of Holliday's permit application, Holliday hereby incorporates by reference into this comment letter the numerous submittals we have made to the USACE critiquing the model's development and implementation, including without limitation, Holliday's letters from January 30, 2015, November 20, 2014, and September 24, 2014.

dredged by Holliday on an annual basis since 2009, indicating that the sediment inflow to this reach adequately replenishes the bed material sediments extracted through ongoing dredging operations.

Is River Dredging really necessary?

Years of operational experience by Holliday support our conclusion that river dredging is by far the most economical and efficient method for obtaining sand in KC. In our experience, there is no reliable or economical alternative available for concrete sand produced by Missouri River dredging. Holliday also has determined that the average annual savings to the cost of KC area construction from Missouri River sand dredging is likely in excess of ten million dollars every year as compared to other sources of aggregate such as pit mining. This is in contrast to the determination of the USACE when the current Missouri River dredge permits were issued in 2011. Indeed, the authors of the Missouri River Commercial Dredging Environmental Impact Statement ("EIS") completed for the issuance of the revised permits in 2011 concluded that land based pits could fully replace the shortfall from the reductions in Missouri River dredging. Based on our experience operating a Missouri River floodplain pit, we know that the excess fines and clays that must be removed increase costs and stifle the production of quality concrete sand which accounts for 75% of the demand in KC.

As it turns out, pits have not developed into a viable alternate source for concrete sand, though they have helped supply finer sand products and gravel. When the current Missouri River dredge permits were issued in 2011, Holliday made comments requesting another 800,000 tons in the Waverly segment (downstream of KC), stating:

"There are not sufficient alternate sources of sand in the Kansas City Segment."

This amount was not approved for the 2011 permits, and the USACE response stated:

*"The USACE has received letters from the Master's Dredging Company and Missouri Sand Company LLC (see letters in Appendix A) rebutting this assertion and providing credible information about existing and planned sand mining operation with ample reserves of sand that meets the requirements and can fulfill the market needs now and in the future."*²

Holliday can now say that since 2011 the two operational and one planned land sand pits have not developed into viable sources of concrete sand. As we predicted, the two existing pits have had serious deposit problems and will not be able to meet the shortfall of quality concrete sand needed to replace the reduction in Holliday's permit in the Kansas City segment, and to a greater extent, the increased demand we are now experiencing as the economy improves.³

What was an educated and experience based prediction in 2011 has now become established fact. A land based pit sand deposit in the ground does not guarantee a reliable, quality product. Because of geology and economics, Missouri River sand pits continue to be very difficult to operate, and are not going to supply the increased regional demand for concrete sand.

² Commercial Sand and Gravel Dredging on the Lower Missouri River Record of Decision, March 2011, Section 4, Alternative Analysis, page 3-37,38

³ Holliday in fact operated one of these pits for many years before selling it.

Meeting the Increasing Demand for Construction Sand

To prevent shortages and significant negative economic impacts to the region's construction industry during the next five year permit cycle, Holliday has requested that its existing tonnage allocations be preserved for the Kansas City and St. Joseph segments, and that its tonnage allocation in the Waverly Segment (downstream of the Blue River) be ramped up 10% each year to meet our projected increase in construction market demand. If the demand is not there, the increased quota in the Waverly Segment will not need to be dredged. Holliday is not requesting any increase in dredging in the KC or St. Joseph segments.

The Waverly Segment of the Missouri River has been aggrading, has very limited structural risk, and will in no way contribute to any potential degradation impacts upstream in the Kansas City Segment. Based on the recent stream bed surveys, we have calculated a net deposition of approximately 1.1MM tons in the upper Waverly Segment, between River Miles 345 to 357, from the time period 2009 to 2013 (0.75 feet average aggradation multiplied by 500 foot width between tips of dikes, by 12 miles long by 90 lbs/ft³ is approximately 1.1 million tons of sediment aggradation). Considering the historic 2011 scouring event, this clearly shows a stable and aggrading reach.

Providing this additional tonnage allocation to Holliday is also consistent with the analyses contained in the *Missouri River Commercial Dredging EIS* and decisions outlined in the USACE accompanying Record of Decision. To protect from increased demand from the construction industry, Holliday had requested additional tonnage in the stable to aggrading Waverly Segment in its comments on the Final EIS. The USACE response stated:

*"The USACE cannot increase the annual limit in the Waverly segment because the Final EIS (USACE 2011) did not consider an alternative with a higher annual extraction limit. However, in the next permit cycle the USACE may be able to increase the annual extraction limit in the Waverly segment if the segment continues to be stable or aggrading under Alternative B during the next five years."*⁴

It is now the next permit cycle and the Waverly segment continues to be stable AND is aggrading, thereby qualifying for additional dredging greater than the USACE's Alternative B criteria. The significant economic benefit of removing a small portion of the sand flowing past Kansas City is clearly in the public's interest, and reasonable amounts of Missouri River dredging remain very much necessary to meet the demand for construction materials in the KC Metro. With the existing close monitoring and adaptive management, as much dredging as possible should be allowed to continue that does not have a determinable, detrimental impact on bed degradation. Holliday's requested tonnage serves the needs of our area while being consistent with the USACE's permit application review criteria as applied to Missouri River commercial dredging.

Thank you for your time and consideration, and for including these comments in the record as support for reissuing NWK-2011-00363 with the requested revised dredging tonnage in the Waverly segment.

⁴ Commercial Sand and Gravel Dredging on the Lower Missouri River Record of Decision, March 2011, Section 4, Alternative Analysis, page 3-41

Sincerely yours,

Holliday Sand & Gravel Company

A handwritten signature in black ink that reads "Michael R. Odell". The signature is written in a cursive style with a large, prominent "M" and "O".

Mike Odell

Vice President - Operations

CC:

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